School Infrastructure NSW
c/o Richard Crookes

Remedial Action Plan
Hunter River High School

36 Elkin Avenue, Heatherbrae NSW

22 May 2024

63780/147799 (Rev 3)

JBS&G Australia Pty Ltd

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Abbreviations

Term	Definition
ACM	Asbestos Containing Materials
AEC	Areas of Environmental Concern
AF	Asbestos Fines
AHD	Australian Height Datum
ASS	Acid Sulfate Soils
B(a)P	Benzo(a)pyrene
bgs	Below ground surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CEMP	Construction Environmental Management Plan
CLM Act	Contaminated Land Management Act 1997
COC	Chain of Custody
COPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DP	Deposited Plan
DQI	Data Quality Indicators
DQO	Data Quality Objectives
DSI	Detailed Site Investigation
EC	Electrical Conductivity
ENM	Excavated Natural Material
NSW EPA	NSW Environment Protection Authority
FA	Friable Asbestos
Ha	Hectare
HILs	Health Investigation Levels
HSLs	Health Screening Levels
JBS&G	JBS&G Australia Pty Ltd
LEP	Local Environmental Plan
LOR	Limit of Reporting
NATA	National Accreditation Testing Authority
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
OCP	Organochlorine Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PID	Photoionisation Detector
POEO Act	Protection of Environment Operations Act 1997
PPE	Personal Protection Equipment
QA/QC	Quality Assurance/Quality Control
RAP	Remedial Action Plan
RPD	Relative Percentage Difference
R&H SEPP	State Environmental Planning Policy (Resilience and Hazards) 2021
TRH	Total Recoverable Hydrocarbons
UCL	Upper Confidence Limit
VENM	Virgin Excavated Natural Material
VOC	Volatile Organic Compounds
WHSP	Work, Health and Safety Plan

1. Introduction & Objectives

1.1 Introduction

JBS&G Australia Pty Ltd (JBS&G) was engaged by School Infrastructure NSW (SINSW, the client) to prepare a Remedial Action Plan (RAP) for a portion of Hunter River High School, located at 36 Elkin Avenue, Heatherbrae, NSW (the site). The site is legally identified as part Lot 1 of deposited plan (DP) 120189 and part Lot 1 DP 540114 and covers an area of approximately 4.3 hectares (ha) predominantly comprising sporting fields, carparks and entrance road in the southeast of the school grounds. The site location and current site layout are shown in **Figures 1** and **2**, respectively.

The site has been subject to previous environmental investigation, comprising a preliminary site investigation (PSI) covering the whole school area (HC 2020a[1]), an additional targeted investigation of the site area (HC 2020b[2]) from which only a summary letter was available, and a targeted environmental site assessment (ESA) covering the site (WSP 2023[3]). WSP (2023) identified ACM, benzo(a)pyrene (B(a)P) and nickel exceedances throughout the fill material. There were also singular finds of trace friable asbestos and Total Recoverable Hydrocarbons (TRH) C16-C34 within the fill material. An asbestos management plan (AMP, WSP 2019) was present for the site, which reported the entire school grounds as asbestos impacted and outlined methodology to manage the impact. Considerations to all the investigations that have happened at the site, it has been deemed the entire fill profile is contaminated and will require remediation.

This report has been prepared in relation to the proposed development of Hunter River High School located at 36 Elkin Avenue, Heatherbrae. This report has been prepared to support:

- A development application for the construction of a gymnasium (Block Y), consisting of a basketball court, equipment storage, canteen kitchen, staff room, first aid room and change room amenities, construction of hardstand civic space north of the gymnasium, construction of full-size rugby field, the construction of new carpark consisting of sixty-five (65) parking spaces (including 6 accessible parking spaces), and the construction and connection of a reticulated sewer pipe.
- A Part 5 Activity Approval, development permitted without consent, for the construction of a new administration building, student learning hub and provision of essential services.
- A Part 5 Activity Approval, development permitted without consent, for the construction of a new linking road and kiss and drop bay between Adelaide Street and Elkin Avenue.

To facilitate the redevelopment of the site, the assumed site contamination issues and potential unexpected contamination finds will require remediation/management to enable the site to be considered suitable for the proposed redevelopment outlined in **Section 1.2**.

The RAP documented herein has been prepared with reference to relevant guidelines made or endorsed by the NSW Environment Protection Agency (EPA) inclusive of NEPC (2013[4]) and the Remediation of land requirements of *State Environmental Planning Policy (Resilience and Hazards) 2021* (R&H SEPP).

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1 *Preliminary Site Investigation: Hunter River High School, 36 Elkin Avenue, Heatherbrae*. Hunter Civilab, reference HC Ref: P2087-PSI-002-Rev0, dated 12 June 2020 (HC 2020a)

2 *Environmental Investigation: Hunter River High School, 36 Elkin Avenue, Heatherbrae*. Hunter Civilab, reference HC Ref: P2087-LR-001-Rev0, dated 3 July 2020 (HC 2020b)

3 *Targeted Environmental Site Assessment, 36 Elkin Avenue, Heatherbrae, NSW.* WSP, Ref: PS135419-CLM-REP-Hunter River_ HS TESA Client, dated 28 March 2023 (WSP 2023)

4 *National Environment Protection (Assessment of Site Contamination) Measure 1999*, as amended 2013. National Environment Protection Council (NEPC 2013).

1.2 Proposed Redevelopment Plans

The proposed building, hardstand, and landscape layout is shown in the redevelopment plans provided in **Appendix A**.

The proposed redevelopment will comprise construction of a new gymnasium, learning hub, admin building, new landscaping, paved areas, access roads and reforming the playing fields. Further discussion pertaining to the applicable land uses for the purpose of validation of the site is provided in **Section 7.4**.

The development will involve bulk earthworks predominantly raising site levels where new buildings are proposed and in reforming the southeast playing field and the northeast site corner. Some cutting below existing levels will occur to form carparks in the north and south corners and peripheral areas. A preliminary cut and fill plan for the proposed redevelopment is provided in **Appendix A**.

1.3 Objectives

The objectives of this RAP are to:

- Define the conceptual site model (CSM) of potential contamination source-pathway-receptor links for the proposed site development including identification of potential areas of contaminant exposure with consideration to the most conservative land use applicable to the site, being residential with accessible soils, which is also applicable to secondary education facilities (NEPC 2013 Land Use Setting C);
- Define the extent of additional characterisation/validation activities required to determine the suitability of site soils for potential beneficial reuse at the site;
- Determine the extent of remedial works required to make the site suitable for the proposed redevelopment;
- Establish a framework and methodologies to validate the remediation/management of site contamination identified as posing a potential risk, including protocols for addressing unexpected contamination finds including asbestos as may be encountered; and
- Include provision for management of environmental and safety risks during the implementation of the remedial works, and guidance for the any requirements of ongoing management of impacted materials retained on the site.

2. Site Condition & Surrounding Land Uses

2.1 Site Identification

The location of the site is shown in **Figure 1**, and the current layout is shown in **Figure 2**. The site details are summarised in **Table 2.1**.

Table 2.1: Site Details

Lot / DP Number	Part Lot 1 DP 120189 and part Lot 1 DP 540114
Street Address	36 Elkin Avenue, Heatherbrae, NSW
Local Government Authority	Port Stephens Council
Site Area	Approximately 4.3 ha
Current Zoning	R2 Low Density Residential *Port Stephens Local Environmental Plan 2013*
Previous Land Use	Agricultural (prior to 1966), then School (to present)
Current Land Use	Secondary School

2.2 Surrounding Land Use

The current land uses of adjacent properties or properties across adjacent roads are summarised below:

- North – Site is bound to the north and northwest by the remaining school property at Lot 1 DP 120189, and to the northeast by Elkin Avenue and free-standing residential dwellings south of Elkin Avenue, as well as a service station 230 m northeast at the junction of Adelaide Street and Speedy Lock Lane;
- East – Site is bound to the east and southeast by Pacific Highway and commercial/industrial properties beyond;
- South – Site is bound to the south by Pacific Highway and commercial/industrial properties beyond, and to the southwest by free-standing residential dwellings fronting Kingston Parade; and
- West – Site is bound to the northwest by the remaining school property at Lot 1 DP 120189 & DP 540114, to the west and southwest by freestanding residences along Kingston Parade, and beyond by agricultural land and the Hunter River beyond.

2.3 Natural Site Setting

The environmental setting of the site as outlined in WSP (2023) is presented in **Table 2.2**.

Table 2.2: Summary of Environmental Characteristics

Environmental Aspect	Characteristics
Topography	The general topography of the surrounding area comprises of an extensive alluvial plain on recent sediments in the Hunter Plain region and sits about 7 m above sea level.
Hydrology	The closest surface water body is the Hunter River located approximately 850 m west of the site. The north of the greater school grounds was situated within a flood plain, the site area does not fall within this area.
Geology	Reference to the 1:250 000 Geological Sheet indicates that the site is underlain by undifferentiated alluvial deposits. Typical lithology includes sand, silt, clay and gravel with some residual and colluvial deposits. Review of testpit and borehole logs from previous investigations (outlined in **Section 3**), indicates the average depth of fill across the site is approximately 0.3 m below ground surface (m bgs), with a maximum encountered fill depth of 0.6 m bgs in the northeast (TP10, HC 2020b, N.B. the testpit terminated in fill). Underlying natural materials comprised sand.
Hydrogeology	A search of publicly available registered groundwater bore data indicated there are 11 registered groundwater bores within 1 km of the site. The groundwater bores were used predominantly for monitoring purposes on private sites. The closest registered groundwater bore was located 43 m northeast of the subject site. The groundwater flow direction is expected to be west, following the overall flow path of the Hunter River towards the river mouth at Newcastle.
Acid Sulfate Soils (ASS)	The NSW Planning Portal indicated that most of the soil within the greater school property is classified as Class 4 – ASS is likely to be found beyond 2 m below natural ground surface.
Soil Landscape	Reference to the Newcastle 1:100,000 Soil Landscape Series Sheet indicated that the site falls within the Millers Forest and Tea gardens Variant A soils landscapes, classified as alluvial.
PFAS	The site is 500m northeast of the Heatherbrae: Total Fire Solutions PFAS investigation site. Due to the inferred westward groundwater flow the site is unlikely to be impacted with PFAS from that location. The site is not within the PFAS Management Area around RAAF Williamtown approximately 8 km east of the site, and not downgradient of the base. Additionally, no groundwater extraction activities are occurring at the site. The potential presence of PFAS at the site is considered to be very low.
Potentially contaminating surrounding land uses	A Service Station was located 230 m northeast of the site and was notified to EPA, however regulation under CLM Act is not required. It is unlikely to be a source of groundwater and vapour contamination to the site based on the reported westerly groundwater flow direction whereby the service station is not directly upgradient of the site.

2.4 Summary of Site History

A review of historical information based on the findings of previous investigations, indicates that the site was historically used for agricultural purposes (largely grazing and cultivation). Review of 1954 aerial imagery indicates that the site was vacant from structures, by 1966 school structures were present onsite and still standing today, historical aerials from HC (2020a) are included in **Appendix B**.

3. Previous Investigations

Environmental investigations, hazardous material surveys and geotechnical reports prepared for the site were reviewed and relevant information has been summarised in the proceeding sections.

The following reports were provided to JBS&G for assessment of previously completed investigations at the site:

1. Clearance Certificate – Asbestos Removal, Hunter River High School (8219) - 36 Elkin Avenue, Heatherbrae NSW 2324. WSP Australia Pty Ltd, reference 10 October 2019 (WSP 2019a.
2. Hunter River High School: Asbestos In Grounds Management Plan. WSP Australia Pty Ltd, reference 8219_ASB_101019_AMP, dated 14 October 2019 (WSP 2019b).
3. Hunter River High School Agriculture Plot: Asbestos Risk Assessment. WSP Australia Pty Ltd, reference 8219_ASB_190320_AgPlotRiskAssessment, dated 4 May 2020 (WSP 2020).
4. Preliminary Site Investigation: Hunter River High School, 36 Elkin Avenue, Heatherbrae. Hunter Civilab, reference HC Ref: P2087-PSI-002-Rev0, dated 12 June 2020 (HC 2020a).
5. Summary Letter – Environmental Investigation: 36 Elkin Avenue, Heatherbrae. Hunter Civilab, reference HC Ref: P2087-LR-001-Rev0, dated 3 July 2020 (HC 2020b).
6. Report on Geotechnical Investigation, School Upgrades: Hunter River High School, 36 Elkin Avenue, Heatherbrae. Prepared for NSW Department of Education, Project 216008.00 – R.001.Rev0, dated August 2022 (DP 2022).
7. Targeted Environmental Site Assessment, 36 Elkin Avenue, Heatherbrae, NSW. WSP, Ref: PS135419-CLM-REP-Hunter River_ HS TESA, dated 28 March 2023 (WSP 2023).

Historical sample locations are shown in **Figure 4**. Testpit / borehole logs from HC (2020b), DP (2022) and WSP (2023) are provided in **Appendix C**.

3.1 Clearance Certificate – Asbestos Removal (WSP 2019a)

WSP were engaged to provide air-monitoring and perform a clearance inspection following the removal of ACM fragments from the visible and accessible site surface at Hunter River High School. A surface sparrow pick was conducted across the entire site surface (where accessible) and a clearance was given.

It was noted that buried or partially buried ACM not visible on the exposed surface was not covered as part of this clearance. Additionally, the inspection did not include areas under dense vegetation, garden mulch, buildings or below/within stockpiled materials.

3.2 Asbestos In Grounds Management Plan (WSP 2019b)

WSP were engaged to write a site-specific asbestos management plan (SSAMP). The SSAMP details the approach to be taken by the Department of Education in managing asbestos in grounds by documenting procedures designed to minimise the risk of exposure to asbestos of all personnel on the site.

On 3 October 2019 it was deemed the entire school grounds was impacted with non-friable fibre cement fragments. The fragments were observed on the ground surface and where topsoil has been exposed due to erosion. A sparrow pick was performed on the visibly accessible ground surface and an asbestos clearance certificate was provided by WSP (2019a) following the successful remediation, as summarised above. It is noted ACM may be present below clean soils/fill.

Ongoing visual checks every three months are required to ensure grass cover is adequate. Turf is required to have periods of rest or be relayed is the surface becomes eroded. Adequate watering during drought periods is also recommended (taking into consideration water restrictions).

The following procedure is set out as a guide to follow where suspected ACM fragments have been found at the surface of DoE Facility grounds:

- Restrict access immediately;
- Do not attempt to dispose of / move material;
- Check asbestos in grounds asbestos register;
- Contact Department of Education as soon as practicable;
- Department of Education or their representatives will arrange inspections and testing if necessary by consultant from Department of Education hygienist panel;
- Department of Education or their representatives to arrange removal of ACMs / remediation of site;
- Once asbestos removal or remediation works have been completed, an asbestos clearance certificate will be issued to return area to normal use; and
- SSAMP is updated to include area into asbestos in grounds register.

If asbestos removal is to take place a Class A asbestos removalist must be engaged as best practice for all asbestos works. JBS&G notes Class B removalists are suitable for removal of non-friable ACM.

If asbestos fragments are identified, likely in the forms of asbestos cement sheeting (ACS), bituminous membrane or vinyl tiles, they are to all be picked by an appropriately licensed asbestos removalist. Air monitoring is required whilst all works are undertaken, and a clearance supplied upon completion of the works. Alternatively, impacted material can be encapsulated onsite or removed for disposal offsite, these works require permits and approval from Department of Education.

3.3 Agriculture Plot: Asbestos Risk Assessment (WSP 2020)[5]

WSP were engaged to undertake a risk assessment of the agricultural plot area at Hunter River High School, which is beyond the current investigation site. The purpose of this investigation was to determine the suitability of assessed exposed soil surfaces at the high school for continued access by sensitive human receptors.

A total of 42 testpits were advanced across the area in a grid pattern and an additional 8 surface material locations were sampled. During testpit excavation, the ground surface, walls and base of the excavations were visually inspected for visible fibre containing (FC) fragments. All soil samples were collected using the NEPM methodology with sieving of up to 10 litres of soil.

The surface soil was described as topsoil to a depth of 0.2 m bgl. Beneath the topsoil fill material in the form of brown silty sand was found with gravels, brick and building waste identified in the fill. Natural soil was found from0.4-0.8 m bgl and was described as sandy clay.

Asbestos fines (friable asbestos) were detected at a single testpit near the ground surface. No asbestos was detected at a sample beneath this location. Access to this location should be restricted immediately.

Due to the site uses and continued ground surface disturbance there is potential for additional potential asbestos containing material not identified to be uncovered within the agricultural plot.

[5] This investigation is located outside our site area but relates to the greater Hunter River High School.

3.4 Preliminary Site Investigation (HC 2020a)

Hunter Civilab (HC) were engaged to undertake a Preliminary Site Investigation (PSI) at Hunter River High School to assist with due diligence purposes as part of a development application. The PSI included the current investigation site.

The site was used as a secondary school at the time of the investigation. It included agricultural landuse on the west of the school, including cattle and some former cropping. The topography of the site was generally flat with the agricultural land on a lower plain. Some small stockpiles of material of unknown origin were identified on the western boundary behind the sports fields (i.e. beyond the current RAP site area). Information provided to HC specified an old asbestos trunk main, which was possibly damaged, in the agricultural area of the school (beyond the current site area), but it was unable to be located.

No obvious signs of gross contamination were noted during the site walkover.

The preliminary conceptual site model key findings were:

- Potential contamination sources at the site are limited based on historical land use; and
- Visible signs of gross contamination were not observed during the site inspection.

In summary, based on the desktop study and visual inspection no indication of gross contamination was identified however, data gaps are present and supplemental soil sampling should be conducted to provide further data to support the desktop assessment. Soil sampling is recommended with targeted sample locations should be conducted to support the data collected during the desktop assessment.

3.5 Summary Letter – Environmental Investigation (HC 2020b)

HC undertook an environmental investigation at Hunter River HS including the current site area, to provide preliminary summary of the potential subsurface contamination of the site prior to proposed future development. No laboratory analysis data was provided with the letter, which comprised a two-page letter, figure showing sampling locations, testpit logs, and photographs.

It was reported that 16 testpits were excavated across the investigation area at targeted locations, 10 of which were within the current site area as shown on **Figure 4**. Silty sand topsoil was found to be underlain by alluvial sands. TP11 and TP12 along the northern boundary adjacent to the enclosed basketball court contained additional fill layers of gravelly clay and gravelly sand. TP6 and TP7 contained a 0.05 m layer of coarse fly ash/slag material under the topsoil; the lateral extent is unknown, however is not reported in other locations.

No evidence of subsurface asbestos was observed in any testpit locations. An ACM fragment was found on the site surface near stockpiled soil towards the agricultural area, beyond the current site area.

Laboratory results from targeted soil sampling was summarised as follows:

- Concentrations for TRH, Benzene, Toluene, Ethylbenzene, Xylene (BTEX), organochlorine pesticides (OCP), and polychlorinated biphenyls (PCBs) were below the limit of reporting (LOR);
- All soil samples returned absent result for asbestos fibres;
- All heavy metals were at concentrations below NEPC (2013) health investigation/screening levels for the school land use (HIL/HSL-C); and
- PAH concentrations were below the LOR with exception of sample TP8 (0.2-0.3) in which returned concentrations above the LOR but below HIL-C criteria for Carcinogenic PAHs as

benzene(a)pyrene Toxic Equivalents (BaP TEQs) and Total PAH, and below ecological screening level (ESL) for BaP.

JBS&G notes from the testpit logs in **Appendix B** that no samples were collected by HC from surface soils (0-0.1m) with all samples from either subsurface topsoil (0.1-0.3 m) or fill (0.2-0.3 m) or natural sands below topsoil/fill.

3.6 Geotechnical Investigation (DP 2022)

DP were engaged to complete a geotechnical investigation in connection with proposed school upgrades at Hunter River High School, as per the current site boundary. The investigation included the drilling of seven boreholes and six cone penetration tests (CPTs) as shown in **Appendix E**.

The subsurface conditions are summarised below:

- Asphalt: Encountered in Bore / CPT 106 only to 0.04 m depth;
- Fill: Apparently moderately well compacted, typically comprising sand, gravelly sand or clayey sand fill, encountered in Bores/CPTs 106 and 107 and CPTs 108 to 111 up to 0.7 m depth. The sand fill encountered in Bore 107 included medium to coarse gravel with ash inclusions;
- Fill / Topsoil: Silty sand or sand with silt, encountered in Bores 101 to 105 to between 0.2 m and 0.3 m depth; and
- Sand / Silty Sand: Generally loose, then medium dense, with density generally increasing with depth, encountered in all bores and CPTs to the limit of investigation. The sand increases in density to dense from depths of about 4.5 m to 7.7 m.

The soil onsite was assessed for acid sulfate soil (ASS) features. From the testing none of the samples exhibited ASS qualities and therefore and ASS monitoring plan is not required prior to any constructions works or earthworks.

3.7 Targeted Environmental Site Assessment (WSP 2023)

WSP were engaged to complete a targeted environmental site assessments (TESA) for the proposed redevelopment site at Hunter River High School located at 36 Elkin Avenue, Heatherbrae, NSW. The purpose of the TESA was to determine the potential risks, extent and depth of any contaminated material in the specified targeted areas. The investigation was restricted due to the identification of archaeological heritage exclusion zones.

A total of 111 test pits were advanced across the proposed redevelopment site (the site) as shown in **Appendix E**. Subsurface conditions onsite identified fill between 0-0.4 m bgs pale brown or grey fine-grained sand with some discolouration, construction and demolition waste and traces of slag, gravel, brick , charcoal and other debris. Beneath the fill, natural pale brown or red/orange or yellow fine-grained sand was identified.

The results from the investigation were:

- B(a)P exceeded the adopted site criterion at TP1_08_0.1 and TP3_21_0.1;
- TPH C16-C36 Fraction (F3) exceeded the adopted site criterion at TP3_21_0.1;
- Fifteen locations nickel exceeded the ecological investigation levels (EIL);
- Exceedances are localised to the fill and the materials are not leachable;
- One non-friable fragment of asbestos was identified at TP2_14 and several fragments were identified during the heritage investigation works; and
- Trace levels of friable asbestos was identified at TP2_07 within the fill material but levels were below the adopted human health criteria.

WSP concluded that:

- The site is not suitable for the proposed development until further remediation has occurred;
- WSP recommends further investigations be undertaken within the archaeological exclusion zones;
- WSP recommend further sampling to delineate the hotspot impact identified at TP3_21, to reduce the volume of material classified as restricted solid waste; and
- The additional investigations will inform the RAP.

JBS&G has considered the recommendations for additional investigations made in WSP (2023) in light of the proposed remedial strategy outlined in proceeding sections and consider that additional investigations are not required given the remedial strategy adopted is for 'on-site insitu management of the soil by physical separation, and ongoing management' (i.e. cap and contain). The inherent assumption in the selection of this remedial strategy is that all fill materials are contaminated and therefore require management – as such, further investigations are considered redundant in this context. As such, there are no recommendations/requirements in this RAP for additional soil investigations to further assess/delineate soil contamination at the site.

4. Conceptual Site Model (CSM)

Based on the findings of previous investigations, the following conceptual site model (CSM) has been developed for the site.

4.1 Areas of Environmental Concern

Based on the review of the site history and of previous investigations, JBS&G's assessment and understanding of site conditions, potential areas/aspects of environmental concern (AEC) and associated contaminants of potential concern (COPC) have been identified and summarised in **Table 4.1.** A targeted program of 111 test pits was undertaken (WSP 2023) and analysis was complete for selected soil samples across the site.

Table 4.1 – Areas of Environmental Concern and Associated Contaminants of Potential Concern

AEC	AEC Description	Potentially Effected Media	Extent of AEC	COPC
1	**Fill Materials** Imported fill of unknown origin and/or reworked soil materials used to create former site levels, comprising materials of unknown character and/or origin	Soil	Site wide	Heavy metals, PAHs, TRH/BTEX, OCPs, foreign anthropogenic materials and asbestos
2	**Current and Former Site Structures** Contamination to soils from hazardous building materials utilised in historical and existing structures adjacent the site that have either been demolished and/or become friable.	Soil	Site wide	Lead and asbestos
3	**Groundskeeping Activities** Contamination to soils specifically vegetated areas due to the use of pesticides.	Soil	Site wide	Heavy Metals and OCPs
4	**Carparking** Use of paved areas by cars.	Soil	Carpark to the north of site	TRH/BTEX

4.2 Contaminated Media - Soils

4.2.1 Soils

Soil contamination identified at the site was assessed with respect to the applicable land use criteria, pursuant to NEPC (2013) – developed open space or recreational areas, which includes secondary education facilities (HIL/HSL C, NEPC 2013).

Borehole logs (**Appendix B**) from HC (2020b), DP (2022) and WSP (2023) identified fill across the site with an average depth of 0.4 m bgs, using data from 118 sample locations**.** Multiple test pits terminated in fill at 0.6 m bgs while other locations observed natural sand from the site surface.

HC (2022b) refers to coarse fly ash/slag material being observed at TP6 under the topsoil (0.3 m bgs) in a 0.1 m layer; the lateral extent is unknown. WSP (2023) identified slag in multiple test pits with two locations (TP1_08_0.1 and TP3_21_0.1) exceeding the adopted site assessment criteria for B(a)P. COPC in slag include heavy metals and PAHs including B(a)P. A review of the cut/fill plans indicates that majority of the site is proposed filling.

Other potential areas of soil contamination include pesticide use on playing fields and hydrocarbon contamination from leaks from parked cars. WSP (2023) identified one location (TP3_21_0.1) exceeding the adopted site criterion for TPH C16-C36 Fraction (F3).

WSP (2023) identified bonded ACM in one location (TP2_14) and during the heritage investigations multiple fragments were found as shown in Figure 4, Appendix E. Additionally, trace levels of friable

asbestos were identified at one location (TP2_07) within the fill. The inground asbestos management plan (WSP 2019b) indicates the entire school area is impacted with ACM.

Risks to ecological health are often considered in respect to the risks various compounds within the environment pose to ecological health under a given land use scenario and exist for the protection of soil processes, plant species and organisms that inhabit or contact soils. At fifteen locations during the WSP (2023) investigation nickel exceeded the EIL.

4.3 Potential for Migration

Contaminants generally migrate from site via a combination of windblown dusts, rainwater infiltration, groundwater migration and surface water runoff. The propensity for contaminants to migrate is dependent on:

- The nature of the contaminants (solid/liquid/gas and mobility characteristics);
- The extent of the contaminants (isolated or widespread);
- The location of the contaminants (surface soils or at depth); and
- The site topography, geology, hydrology and hydrogeology.

The contaminants identified are in solid form (e.g. ash/slag and asbestos) and liquid form (e.g. fuel/oil leaks and pesticides) and are therefore not likely to be transported by hydraulic forces (e.g. dissolution, suspended sediments).

Noting that the site is largely covered by grasses, vegetation, and/or buildings/hardstand (at the time of writing) and JBS&G consider the potential for the migration of solid contaminants via aeolian transport to be low.

4.4 Potential Exposure Pathways

Based on the contaminants of potential concern identified in soil media, as discussed above, the exposure pathways for the site during and following development works include:

- Potential dermal and oral contact to impacted soils as present at shallow depths and/or accessible by future service excavations across the extent of the site; and/or
- Potential oral and dermal contact to shallow groundwater as accessible by potential future deep excavations; and/or
- Potential vapour inhalation from potentially contaminated groundwater from offsite sources.

4.5 Receptors

Potential human populations who may be exposed to site impacts in the future (if they are not remediated or appropriate management is not implemented prior to or during development) include:

- Potential future secondary school (i.e. high school) students;
- Current and future workers of the site (teachers, support staff, groundskeepers, etc);
- Future construction and site maintenance workers;
- Future and current sub-surface excavation and intrusive workers; and
- Future ecological receptors (largely limited to flora established on playing fields and landscaped areas).

4.6 Preferential Pathways

Man-made preferential pathways are present throughout the assessment area, generally associated with fill materials, and at near surface depths over the remainder of the assessment area. Fill materials are anticipated to have a higher permeability than the underlying clayey soils.

Sub-surface services will be present as part of site redevelopment and preferential pathways can be created by the generally higher permeability backfill used to re-instate these trenches.

Based on a review of the site assessments outlined in **Section 3**, the following appraisal of site contamination has been developed for the site.

5. Remediation Options

5.1 Remediation Objectives

The goal for the remediation and/or management of environmental impact is to:

- Remove unacceptable risks to human populations from contaminated fill materials/soil contamination; and
- Undertake remedial works, and associated site development works (i.e. bulk excavation, waste disposal etc) in a manner that best complies with the principles of ecologically sustainable development (ESD).

5.2 Extent of Remediation

Based on the appraisal of site contamination presented in **Section 4.3**, the assumed extent of contamination requiring remediation at the site is presented in **Table 5.1**.

Table 5.1: Extent of Remediation

Location	Report Reference	Lateral Extent (m^2) assumed	Depth of Remediation	Approximate Volume (m^3)	Contaminant	Material	Remedial Strategy
Site wide fill	HC (2020b) / WSP (2023)	43,500	0-0.4	17,400	PAHs including B(a)P	Fly ash/ slag	See **Section 5.4.**
Site wide surface soil	WSP (2019b) / WSP (2023)	43,500	0-0.1	4,350	Asbestos	Asbestos	See **Section 5.4.**
Site wide fill	WSP (2023)	43,500	0-0.1	4,350	Nickel	Fill	See **Section 5.4.**
TP3_21	WSP (2023)	1,000	0-0.1	100	TRH (C16-C34) F3	Fill	See **Section 5.4.**

Due to the presence of multiple contaminants within fill, the remedial option will need to be applicable to all contamination.

As well as addressing the areas of site contamination as required to meet health risk outcomes for the site, the remedial and validation works have been further designed to ensure that the direct contact pathway, which is considered to be the primary source-receptor pathway, has been appropriately managed such that the site can be considered suitable for the land use.

5.3 Assessment of Remedial Options

The *National Environmental Protection (Assessment of Site Contamination) Measure 1999*, as amended 2013 (NEPC 2013) lists the following order of preference for soil remediation and management, which is endorsed by EPA:

- On-site treatment of the contamination so that it is either destroyed or the associated risk is reduced to an acceptable level;
- Off-site treatment of excavated soil so that the contamination is either destroyed or the associated risk is reduced to an acceptable level, after which the soil is returned to the site;

  Or, if these are not practicable,

- Consolidation and isolation of the soil on-site by containment within a properly designed barrier;
- Removal of contaminated soil to an approved site or facility, followed where necessary by replacement with appropriate material;

  Or,

- Where the assessment indicates remediation would have no net environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy.

Remedial options have been assessed for the proposed development as detailed in **Table 5.2** following.

Table 5.2: Assessment of Remedial Options

Option of Treatment	Applicability	Assessment
Option 1: Onsite treatment of the soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level.	Fill Contamination will not be able to be separated to allow for onsite treatment i.e., via thermal process for the ash/slag. PAHs/Heavy Metals PAHs and Heavy Metals potentially present in site soils are associated with fly ash/slag located at TP6. These can be remediated by thermal processes. However, this requires substantial investment in plant and equipment and substantial energy use.	Fill Not a suitable option. Remediation options are available for PAH/Heavy Metals contaminated fill contaminants, generally restricted to thermal treatment processes which are energy intensive. These options are not considered consistent with the Environmentally Sustainable Design (ESD) objectives for the site. However, to remove WH&S risk; the removal of asbestos via surface pick prior to remedial works is recommended.
Option 2: Offsite treatment of excavated soil so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level, after which the soil is returned to the site.	Fill Contamination will not be able to be separated to allow for onsite treatment i.e., via thermal process for the ash/slag. PAHs/Heavy Metals PAH/Heavy Metals potentially present in site soils are associated with fly ash/slag located at TP6. These can be remediated by thermal processes. However, this requires substantial investment in plant and equipment and substantial energy use. Asbestos The asbestos onsite is likely associated with imported fill of unknown origin rather than poor demolition of historic buildings.	Fill Not a suitable option. Not all contamination is able to be treated offsite.
Option 3: On-site in situ management of the soil by physical separation, and ongoing management.	Fill Fill materials have been found to contain concentrations of compounds that are able to be readily managed at the site, in particular that the contaminants are already bound to the ash/slag by thermal processes resulting in these byproducts, mitigating leaching potential. On this basis, the impacted soils are suitable for retention on the site in areas where human/ecological exposures can be restricted. Containment of asbestos requires long term management and notification on title and planning certificates which can devalue land and impose restrictions on future land use and requires to be legally enforceable.	Fill **This is the preferred option for the impacted soils.** Additionally, should unexpected finds be identified at the site during remediation / civil works, then this option is the preferred option. The retention of the materials will reduce the waste generation and resource requirements of the remediation of the site, as consistent with the ESD objectives. The proposed redeveloped site will be subject to areas of building, carparks and pavements which will provide physical separation between users of the redeveloped site and retained fill materials.

Option of Treatment	Applicability	Assessment
Option 4: Removal of contaminated soil/infrastructure to an approved site or facility, followed where necessary by replacement with clean fill.	Fill There are currently suitably licensed waste facilities in the region capable of accepting the identified contaminants within fill materials.	Fill Not the preferred approach as not consistent with ESD and waste minimisation principles. If isolated unexpected finds are identified, this would be an appropriate approach if on site retention were not feasible due to excess/surplus volumes.

5.4 Preferred Remedial Strategy

With consideration to the assessment of the established hierarchies for soil remediation options presented in **Section 5.3** and to the site-specific contaminants and environmental setting, the preferred strategy for remediation of the identified contamination is as follows:

- Site wide contamination by asbestos, low-level TRH, heavy metals and PAHs, and the preferred strategy for remediation is on-site in situ management of the soil by physical separation, and ongoing management (i.e. cap and contain).

It is noted the surface soils will be required to undergo onsite removal of visible ACM to reduce the WH&S risk for civil/construction works.

5.4.1 Fill Retention Strategy

A surface pick of asbestos is required for WH&S purposes; a clearance of surface will be undertaken upon completion of the pick (see **Section 6.2** for further information on requirements). All remaining fill is deemed to be classified as 'contaminated'.

As such, it is an objective of the proposed earthworks strategy that the amount of fill material retained at the site is maximised during redevelopment. It is proposed that fill materials may be retained in areas underlying buildings, carparks, playing fields and/or paved areas, where site levels can be raised to accommodate the additional materials, subject to appropriate consideration to site development plans and necessary approvals to satisfy planning requirements. Alternatively, preferential offsite disposal of natural materials can occur, and the retention of fill material for use as filling across the site where required and/or to be retained in purpose built borrow pits (i.e., over excavation of natural material for offsite disposal and reinstatement of excavations with site-won fill material). As such, details on the minimum requirements for the implementation and validation of a 'cap and contain' strategy are outlined in **Section 6.4.3**.

Based on the average thickness of fill material (approximately 0.4 m), as outlined in **Section 4.1**, it is anticipated that at least 17,400 m^3 of fill material is present on the site.

6. Remediation Plan

6.1 Site Establishment

All safety and environmental controls are to be implemented as the first stage of remediation works. These controls will include, but not be limited to:

- Locate and isolate all required utilities in the proximity of the works;
- Assess need for traffic controls;
- Work area security fencing;
- Site signage and contact numbers;
- Sediment fencing (attached to security fencing); and
- Stormwater runoff and sediment controls.

6.2 Ground Surface Emu Pick

Given the reported (WSP 2019b and WSP 2023) surface soils containing asbestos impact, prior to the commencement of earthworks/remediation, the remedial contractor will be required to complete an emu pick of visible ACM across the site surface.

The emu pick shall be completed by the remedial contractor by undertaking two 'stages' of systematic walkover/emu picking on 2 m spaced transects. The second emu pick stage will be completed on transects that are perpendicular to the orientation of the first event.

Following the completion of the emu pick, a suitably trained and experienced field scientist will be required to complete an asbestos clearance inspection of the ground surface within the central portion of the site. The clearance shall be undertaken in systematic walkovers on 2 m spaced transects. The first traverse will be completed on north to south orientated transects, and then again on east to west transects (perpendicular to the first traverse). If no asbestos is visually identified, a ground surface asbestos clearance certificate will be required to be issued. No soil samples are required to be collected during the emu pick process unless AF/FA is identified during the clearance inspection, consistent with NEPC (2013)[6].

Should additional ACM impacts be identified during the clearance inspection, the remedial contractor will be required to complete additional remedial works, and the process repeated until such time that no visible surface ACM is present.

6.3 Remedial Works

The following sections outline the scope of remedial works required to address the identified contamination within the site-won fill at the site.

It should be noted that all material movements on site involving contaminated soils will require to be tracked as per **Section 6.8**.

Fill material across the site should be remediated as per the following remediation works as outlined in **Section 6.3.1** via 'cap and contain'.

[6] This is on the basis that no AF/FA has been identified in soils at the site. Section 4.10 of NEPC (2013) states that where sites are contaminated with bonded ACM only, laboratory analysis is only required where more than 10% of the total bonded ACM is friable.

6.3.1 Impacted Soils 'Cap & Contain'

A 'cap and contain' physical separation strategy is deemed appropriate for the contaminants onsite. Contaminated fill may be retained within a suitable area of the site, i.e. below sufficient capping material, hardstand or engineered slab, restricting dermal and oral contact, as well as limiting the percolation of surface waters through the materials.

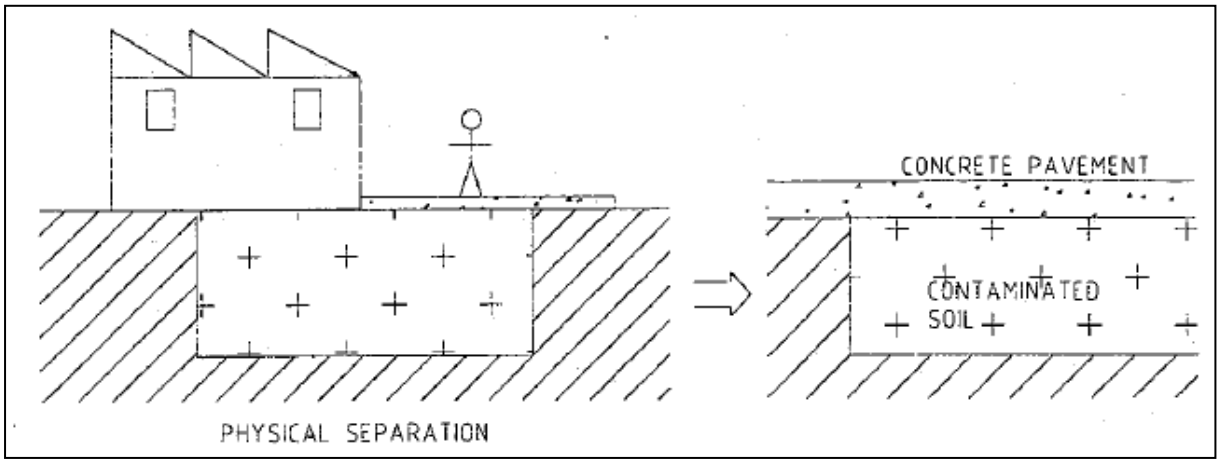
The principle of the on-site containment approach is to retain materials in-situ by providing physical separation between contaminated fill/soil materials and receptors (e.g. site users, flora, fauna etc). The physical separation approach prevents direct contact via permanent pavements/minimum soil thickness arrangement (i.e. physical separation), and implementation of a long-term EMP to maintain the physical separation arrangements.

Implementation of a 'physical separation' strategy as indicated in ANZECC (1999), in conjunction with appropriate control measures, are appropriate with respect to management of the health risk for contaminants at the site based on the current assumptions. However, assessment of unexpected contamination finds will be required to consider ANZECC (1999) guidelines, particularly for any contaminants that have not been identified previously at the site.

The minimum typical requirements in ANZECC (1999) for physical separation (i.e., capping layer) include:

- Permanent concrete floor slab or asphalt surfaced pavement. The pavement outside of the building/basement footprint shall be underlain by a marker layer; or
- A thickness of soil that is unlikely to be penetrated by future users of the site under the intended land use, underlain by a layer of 'marker layer' in areas of exposed site soil (i.e., landscaped beds). A minimum soil cover thickness of 0.5m is commonly adopted however thinner soil cover may be acceptable where site constraints limit separation thickness and additional controls are implements (e.g., geogrid on top of marker layer).

As shown schematically below:



Source: ANZECC (1999)

Given the specific development plans as understood at the time of preparation of this RAP, the proposed use of the site, the following physical separation arrangements are to be implemented within the extent of the site inclusive of accessible / open space areas:

- Material can remain where it is currently located, and a 'cap' can be placed above the material as outlined below;
- Cover of fill materials by permanent paved areas (includes concrete, asphalt, pavers and synthetic grass areas) – installation of a marker layer underlying the depth of the pavement/subgrade and overlying potentially contaminated material;

- Covering of fill materials in landscaped areas;
    - For grassed and shrub areas of the site, either:
        - Installation of the marker layer at a minimum depth of 0.3 m below final finished site levels;

          OR

        - Installation of the geogrid (geosynthetic materials that have an open grid-like appearance, and which make casual penetration more difficult) at a minimum depth of 0.2 m below final finished site levels;
    - Installation of the marker layer at a minimum depth of 0.7m below final finished site levels in areas of new tree planting (or as required for the depth of the plant's root-ball) and use of environmentally suitable materials placed above to the final levels;
    - In areas of existing plants that are to be retained, removal of at least 0.1m of impacted soils, installation of the marker layer at a minimum depth of 0.1m, and placement of wet-pour rubber or similar material to the finish level; and
- Within underground services trenches – in the event underground services are to be installed, the service infrastructure will require to be installed above a marker layer within suitable materials for potential human and/or ecological exposure. The marker layer is to be placed at the base and covering the walls of the trenches to the elevation of the surrounding area marker layer.

The marker layer shall consist of contrasting brightly coloured (e.g. orange) geofabric of suitable tensile strength and durability to ensure it remains intact upon completion of development works and into the future. The specific details of the proposed marker layer material will require to be approved by the validation consultant prior to application and the details then included in the validation report and long-term EMP documents in addition to survey plans showing the extent of its application both laterally and vertically within the site.

Material above the marker layer extending to the final finished ground level will be required to be environmentally suitable material for human and/or ecological exposure (as appropriate). These physical separation arrangements shall generally comprise growing media but may potentially comprise material originating from within the site validated as suitable for reuse in accordance the requirements outlined in **Section 7.4**, imported VENM, ENM or other material subject to a RRO/RRE issued by the EPA.

Where materials are proposed to be imported for use at the site under an EPA RRO/RRE (i.e. imported to the site), fill material will need to be further assessed for land use suitability. Sampling densities and analysis for COPC will be dependent on the volume, material type, source and subject to the Environmental Consultant's endorsement and acceptance.

Installation of physical separation arrangements shall be defined by survey as completed by a registered surveyor and/or building as-built drawings sufficient to identify:

- The lateral extent and upper depth height of known environmentally impacted materials (i.e. residual fill materials underlying the cover) within each remediation area/stage;
- The lateral extent and type of cover (e.g. permanent pavement, validated fill material, etc) within the remediation area/stage; and
- Confirmation, by photos or otherwise, of the installation of the 'marker layer' underlying the cover (as required).

6.3.2 Validation of Capping Layer

Soils which are to be capped will be subject to the following data recording process for future reference purposes:

- A location plan of the placed materials with co-ordinates based on an agreed grid system (e.g., GPS or relative to the lot boundaries);
- Survey in m AHD of the following:
  - Base of the placement location(s) prior to the material placement;
  - Placement locations once all materials have been placed;
  - Marker layers:
  - Capping layers; and
  - Subsequently the total placed volume of materials.
- Visual inspection and photographic record of the capping.

6.3.3 Environmental Management Plan (EMP)

In addition to the requirements of the validation report as per **Section 7.5**, the retention of contaminated soils at the site (i.e. exceeding land use criteria) will result in passive long term EMP requirements for portions of the site at the completion of the final development works, if this method is employed.

The EMP will need to be prepared with consideration to the EPA's *Site Auditor Guidelines 3rd Edition* (NSW PA 2020) and the *Guidelines for Consultants Reporting on Contaminated Sites* (NSW EPA 2020) to detail the ongoing management and monitoring requirements applicable to specific portions of the broader site. The details of the nature and extent of the management requirements will not be known until remediation/management works are conducted, and the validation data obtained.

It is anticipated that the EMP will be prepared for the relevant portions of the site following the completion of the Validation Report.

The EMP will document the following elements:

- A statement of the objectives of the EMP – i.e., to ensure continued suitability of the site following remediation.
- Identification of residual environmental contamination issues at the site that require ongoing management/monitoring to meet the EMP objectives, including the type of contamination and location within the site (including a survey plan of final capping extent prepared by a registered surveyor).
- Documentation of environmental management measures which have been implemented to address the identified environmental issues at the site.
- Description of management controls to limit the exposure of site users to known impacted material to acceptable levels.
- Description of responsibilities for implementing various elements of the provisions contained in the EMP.
- Timeframes for implementing the various control/monitoring, etc. elements outlined in the EMP.
- Environmental monitoring and reporting requirements (if required) for the future management of environmental impact underlying the site including:

- Appropriate monitoring locations and depth within and down-gradient of any residual contamination;
- Relevant assessment criteria to be used in evaluating monitoring results;
- Frequency of monitoring and reporting;
- Process for reviewing monitoring data and how decisions will be made regarding the ongoing management strategy;
- The length of time for which monitoring is expected to continue;
- The regulatory authorities involved and the management inputs required from each;
- The integration of environmental management and monitoring measures for soil;
- Health and safety requirements for particular activities;
- A program of review and audits;
- The provisions in the EMP are feasible (i.e. able to be implemented) and able to be legally enforceable (i.e., a mechanism exists, such as development consent conditions, Section 88b instruments, etc to give the plan a basis in law); and
- The relevant consent authority (where appropriate) is satisfied that the inclusion of a development consent condition relating to the implementation of the long term EMP is acceptable.

- Corrective action procedures to be implemented where long term EMP assessment criteria are breached.

6.4 Off-site Disposal of Material

Any material requiring disposal shall be classified in accordance with *Waste Classification Guidelines* NSW EPA (2014a) and relevant waste regulations by the Remediation Consultant. Disposal of waste to licensed waste facilities in accordance with relevant waste regulations will be undertaken by the Contractor. All waste tracking documentation including disposal dockets must be maintained by the Contractor and must be provided to the Principal and the Remediation Consultant for inclusion in the validation report.

Where in-situ waste classifications have been undertaken, appropriately documented inspections of the material by the environmental consultant during excavation to confirm consistency with the classification will be required.

6.5 Backfilling of Excavations

Upon confirmation of validation, where required excavations will be reinstated using suitable materials sourced from within the site (non-contaminated), or alternatively validated imported materials. If left without reinstatement, safety controls will be required to the excavation (e.g. temporary fencing, or grading surround levels).

6.6 Materials Importation

In accordance with the current NSW EPA policy, only material that does not represent an environmental or health risk at the receiving site may be considered for resource recovery. Imported materials will only be accepted to the site for reinstatement of remediation excavations if they meet the restrictions placed on these materials and meet the definition of:

- Virgin Excavated Natural Material (VENM) as defined in the *Protection of the Environment Operations Act* (1997) Schedule 1; or
- Excavated Natural Material (ENM) as defined in the ENM Exemption/Order; or
- Resource recovery materials as per an EPA exemption.

All material imported onto the site for remediation excavation reinstatement are required to be accompanied by appropriate documentation that has been verified by the appointed site contamination (environmental) consultant prior to importation to the site.

It should be noted that quarried natural materials are not considered to be a 'waste' under the POEO Act (1997) and therefore do not require full characterisation in accordance with the imported VENM procedure. Nonetheless, the appointed Environmental Consultant should be notified and supplied with source site documentation (i.e. VENM certificate or similar) for each quarry source site prior to importation to the site.

Reference should be made to **Section 7.2.7** for imported material characteristics, sampling densities, analytes and compliance with relevant EPA made or endorsed guidelines.

6.7 Materials Tracking

Movement of contaminated materials may be required at the site and all movements of these materials will require tracking utilising the 20 m grid provided in **Appendix D**. The civil contractor will be required to maintain records of material movements utilising an excel spreadsheet which will be developed in consultation with the Environmental Consultant to track the following information:

- Source area information including approximate extent, depth of material interval, and grid reference of material source;
- Assign any stockpiles a unique identifier (e.g. SP01, SP02, etc) for tracking purposes;
- Track stockpile movements to final placement areas, with surveys provided for the material placement to verify placement location;
- Provide estimated quantities of contaminated material movements for reconciliation purposes; and
- Track any materials imported and/or exported from the site (as required under **Section 7.4.3**).

This information will be required to be included within the Validation Report/s, outlined in **Section 7.5**.

Regular inspections by the environmental consultant of bulk earthworks involving fill materials will be undertaken for materials tracking purposes. Should unexpected finds be identified during this process, the Unexpected Finds Protocol (**Section 8.2**) will be implemented.

6.8 Validation

Validation of the remedial works will be conducted by the Environmental Consultant to demonstrate the remediation objectives have been achieved. This will include validation analytical data as well as observation of marker layer and capping placement and client/contractor-provided survey data to confirm containment extent and thickness as described in **Section 6.3.2**. Details of the validation program are provided in **Section 7**.

7. Validation Plan

7.1 Overview

Validation data is required to be collected to verify the effectiveness of the remediation works and document the condition of the site as being suitable for the proposed future uses.

Validation activities will be required for the following aspects:

- Collection of appropriate environmental data from excavations formed by the removal of contaminated soils;
- Collection of appropriate environmental data from all footprints of demolished site structures (e.g. buildings);
- Collection of appropriate environmental data from soils to be disposed of off-site or imported to the site;
- Validation of the marker and capping layers, should 'cap and containment' of contaminated soil occur at the site (if required);
- Tracking the movement of all soil and fill material on site;
- Tracking the movement of waste materials requiring off-site disposal;
- Assessment of materials imported to site; and
- Validation of any unexpected finds.

7.2 Data Quality Objectives

Data quality objectives (DQOs) have been developed for the validation assessment, as discussed in the following sections.

7.2.1 State the Problem

Historical activities at the site have resulted in contamination within the fill material that requires remediation so that the site can be made suitable for the proposed primary and secondary educational facilities.

During remediation activities, sufficient validation of site activities is required to demonstrate that the identified environmental and health-based risks to site users have been adequately managed to render the site suitable for the applicable land use scenarios, as outlined in **Section 7.4**.

7.2.2 Identify the Decision

The following decisions are required to be made during the validation works:

1. Is all contaminated material remaining onsite appropriately capped and contained?
2. Are there any aesthetic issues remaining following remediation works?
3. Are there any outstanding issues relating to the lawful offsite disposal and compliance with NSW EPA made or approved guidelines of materials from the site?
4. Are there any issues relating to the environmental suitability of imported soils/materials for their proposed end use?
5. Is an EMP required to address long term management of residual contamination at the site?
6. Is the site suitable for the proposed uses?

7.2.3 Identify Inputs to the Decision

The inputs to the decisions are:

- Previous investigation reports (**Section 3**);
- Detailed plans (**Appendix A**) provided by the client appropriate to identify the design details;
- Field observations in relation to inspection of excavated fill, excavation bases, walls and stockpiles for odours, sheen, discolouration, and other indicators of potential contamination;
- Soil characterisation/validation analysis data collected from the base and walls (where accessible or present) of remedial works area excavations;
- Waste classification and/or material characterisation data obtained during assessment of fill materials/soils;
- Materials tracking records;
- Importation assessment data and criteria;
- Disposal dockets and relevant documents in relation to appropriate disposal of material to be removed from site/site as part of the remediation works (landfill dockets, beneficial reuse/recycling dockets);
- Where contaminated materials are retained as part of the remedial strategy, survey data of marker layer installation and caping extent and thickness to validate physical separation from site users to in-situ/retained fill (if required); and
- Data quality indicators as assessed by quality assurance/quality control (QA/QC).

Specifically, sufficient data needs to be collected from each of the identified potentially impacted media (e.g. fill material) across the site for associated COPC.

7.2.4 Define the Study Boundaries

The site is legally identified as Part Lot 1 DP120189 and part Lot 1 DP540114 and covers an area of approximately 4.3 hectares (ha).

A plan showing the location of the site is provided as **Figure 1**, and a plan showing the boundaries of the site is provided as **Figure 2**.

The vertical extent of the remediation works is anticipated to be up to 0.6 m bgs to address contamination within the fill profile.

7.2.5 Decision Rules

The decision rules adopted to answer the decisions identified in **Section 7.2.2** and detailed in **Table 7.1** below.

Table 7.1: Decision Rules

Decision Required to be Made	Decision Rule
1. Is all contaminated material remaining onsite appropriately capped and contained?	Contaminated material remaining onsite capped in accordance with **Section 6.3.1** and **Section 6.3.2**. If the above is not met, the answer to the decision will be **No**. If the above is met, the answer to the decision will be **Yes**.
2. Are there any aesthetic issues remaining following remediation works?	If there are no remaining unacceptable odours, soil inclusions or soil discolouration in surficial soils (0-0.1 m bgs), the answer to the decision will be **No**. Otherwise, the answer to the decision will be **Yes**.
3. Are there any outstanding issues relating to the lawful offsite disposal and compliance with NSW EPA made or approved guidelines of materials from the site?	Excess soil/materials requiring off-site disposal are required to be classified in accordance with applicable EPA guidelines, immobilisation approvals and exemption documents as approved by the NSW EPA. If fill materials have been classified in accordance with EPA (2014a) *Waste Classification Guidelines* and/or immobilisation approvals and exemption documents as approved by the NSW EPA and waste disposal dockets have been provided demonstrating lawful disposal, then the answer to the decision is **No**. Otherwise, the answer to the decision is **Yes**, and additional documentation is required.
4. Are there any issues relating to the environmental suitability of imported soils/materials for their proposed end use?	If the criteria in **Section 7.4** are met, then the answer to the decision is **No**. Otherwise, the answer to the decision would be **Yes** and additional assessment and/or remediation would be required to demonstrate the objectives of this RAP have been achieved.
5. Is an EMP required to address long term management of residual contamination at the site?	Evaluation of the presence of residual fill material will be undertaken at the completion of the works. If the evaluation identified material with elevated contaminant concentrations on site beneath the physical barrier (if required), the answer to the decision is **Yes**. Otherwise, the answer to the decision is **No**.
6. Is the site suitable for the proposed uses?	Is the answer to any of the above decisions No? If **No**, can the outstanding issues be appropriately addressed by incorporation into the proposed EMP? If the answer to the above is **Yes**, or if the issues can be appropriately addressed by incorporation into the proposed EMP, the answer to the above decision is Yes, subject to implementation of the EMP. Otherwise, the answer to the decision is No and further remediation may be required.

7.2.6 Specify Limits of Decision Error

This step seeks to establish the decision maker's tolerable limits on decision errors, which are used to establish performance goals for limiting inherent uncertainty in the data. Data generated during this project needs to robust and reliable to facilitate decisions to be made with confidence.

Specific limits for this project were adopted in accordance with the appropriate guidance from the NSW EPA, NEPC (2013), appropriate data quality indicators (DQIs) used to assess QA/QC and standard JBS&G procedures for field sampling and handling.

To assess the useability of the data prior to making decisions, the data were assessed against pre-determined DQIs to assess precision, accuracy, representativeness, comparability, completeness and sensitivity (PARCCS parameters). The acceptable limit on decision error will be 95% compliance with DQIs.

The QA/QC program is documented in **Table 7.2**.

- **Precision** - measures the reproducibility of measurements under a given set of conditions. The precision of the laboratory data and sampling techniques is assessed by calculating the Relative Percent Difference (RPD) of duplicate samples for chemical COPCs. For asbestos precision is assessed by whether the identification results for duplicate samples were in agreement with the original sample.
- **Accuracy** - measures the bias in a measurement system. The accuracy of the laboratory data that are generated during this study is a measure of the closeness of the analytical results obtained by a method to the 'true' value. Accuracy is assessed by reference to the analytical results of laboratory control samples, laboratory spikes and analyses against reference standards. Note only applied to chemical COPC.
- **Representativeness** –expresses the degree which sample data accurately and precisely represent a characteristic of a population or an environmental condition. Representativeness is achieved by collecting samples on a representative basis across the site, and by using an adequate number of sample locations to characterise the site to the required accuracy.
- **Comparability** - expresses the confidence with which one data set can be compared with another. This is achieved through maintaining a level of consistency in techniques used to collect samples; and ensuring analysing laboratories use consistent analysis techniques; and reporting methods.
- **Completeness** – is defined as the percentage of measurements made which are judged to be valid measurements. The completeness goal is set at there being sufficient valid data generated during the study.
- **Sensitivity** – expresses the appropriateness of the chosen laboratory methods, including the limits of reporting, in producing reliable data in relation to the adopted site assessment criteria.

Table 7.2 Summary of Data Quality Indicators for Soil Validation Program

Data Quality Indicators	Frequency	Data Quality Criteria
Precision		
Split duplicates (intra laboratory)	1 / 20 samples	<30% RPD[1]
Blind duplicates (inter laboratory)	1 / 20 samples	<30% RPD[1]
Laboratory Duplicates	1 / 20 samples	<30% RPD[1]
Accuracy		
Surrogate spikes	All organic samples	70-130%
Laboratory control samples	1 per lab batch	70-130%
Matrix spikes	1 per lab batch	70-130%
Representativeness		
Sampling appropriate for media and analytes	All samples	-[2]
Samples extracted and analysed within holding times.	All samples	Soil: organics (14 days), inorganics (6 months)
Laboratory Blanks	1 per lab batch	<LOR
Trip spike	1 per lab batch	70-130% recovery
Storage blank	1 per lab batch	<LOR
Field blank[3]	1 per lab batch	<LOR
Rinsate sample	1 per sampling event/media	<LOR
Comparability		
Standard operating procedures for sample collection & handling	All Samples	All Samples
Standard analytical methods used for all analyses	All Samples	NATA accreditation
Consistent field conditions, sampling staff and laboratory analysis	All Samples	All samples[2]
Limits of reporting appropriate and consistent	All Samples	All samples[2]
Completeness		
Sample description and COCs completed and appropriate	All Samples	All samples[2]
Appropriate documentation	All Samples	All samples[2]
Satisfactory frequency and result for QC samples		95% compliance
Data from critical samples is considered valid	-	Critical samples valid
Sensitivity		
Analytical methods and limits of recovery appropriate for media and adopted Site assessment criteria	All samples	LOR<= Site assessment criteria

[1] If the RPD between duplicates is greater than the pre-determined data quality indicator, a judgment will be made as to whether the excess is critical in relation to the validation of the data set or unacceptable sampling error is occurring in the field.

[2] A qualitative assessment of compliance with standard procedures and appropriate sample collection methods will be completed during the DQI compliance assessment.

[3] Only applicable for PFAS.

7.2.7 Optimise the Design for Obtaining Data

The purpose of this step is to identify a resource-effective field validation sampling design that generates data that are expected to satisfy the decision performance criteria, as specified in the preceding steps of the DQO process. The output of this step is the sampling design that will guide development of the field sampling and analysis plan. This step provides a general description of the activities necessary to generate and select data collection designs that satisfy decision performance criteria.

The remediation validation and subsequent laboratory analysis program as outlined in the following sections will need to be implemented during site remediation activities to demonstrate the successful completion of works in compliance with the RAP goals. The validation/characterisation sampling and analytical program for the site is outlined in **Table 7.3**.

In addition to the sampling and analytical program, validation of the marker layer and capping placement is required to validate the site. Visual inspections and photographic log of the placed marker layers and survey of the marker layer and of the extent and thickness of capping layer are required to be included in the Validation Report.

Table 7.3: Sampling and Analytical Schedule

Validation Sample Type	Sampling Frequency	Analytes
Validation of Other Remedial Areas (E.g., Unexpected Finds)		
Base of Excavation	Visual and 1 sample per 100 m^2.	As appropriate to the contaminant of concern identified in an Unexpected Find. Where asbestos is the contaminant of concern, a field AQ and 500 mL asbestos soil sample is required for each validation sample location.
Walls of Excavation	Visual and 1 sample per 10 m of excavation wall and one per vertical 1 m, with a minimum of one per wall	
Export of Materials		
Classified in accordance with NSW EPA (2014) Waste Guidelines	Fill materials requiring additional classification for off-site disposal will be sampled by the Environmental Consultant as per the sampling density for stockpiled materials in NEPC (2013) or, if in-situ, with consideration to *in-situ* densities provided in EPA (2022).	Heavy metals TRH/BTEX PAH Asbestos (presence/absence: 40 g) Toxicity Leachate Procedure (TCLP) heavy metals and PAHs
VENM - Classified in accordance with EPA (2014a) and POEO Act 1997	VENM which requires off-site disposal will be subject to assessment/inspection to determine that the material meets the definition of VENM provided in POEO Act 1997 and EPA 2014a. Where sampling is required, a minimum of 5 samples will be collected per material type.	Appropriate desktop assessment by a trained/experienced environmental consultant. Analysis suite may include, but not be limited to: Heavy metals PAHs TRH/BTEX OCPs/PCBs EC/pH
Material Importation		
Imported VENM from another site, or products that contain VENM.	If adequate source site documentation is available (see **Section 7.4.2**), then no sampling is required, beyond visual inspection at the source site and when the material arrives to site. Minimum of 3 samples per source site/material type, with a subsequent frequency of one sample per 1000 m^3 for volumes greater than 3,000 m^3.	If chemical sampling is required: TRH/BTEX PAH Heavy Metals OCP/PCBs EC pH Asbestos (40g)
Quarry Natural Materials (e.g., aggregates and sand products only, e.g. blue metal, sandstone, shale).	Source site document review by Environmental Consultant and visual inspection at the site and when the material arrives to site.	NA.
Recycle Materials including 'quarry' products that are recycled, or products that contain recycled products.	Letter showing compliance with the Resource Recovery Order/Exemption (RRO/RRE) from the source facility and supplemented with analytical data at a density of 1 sample per 70 m^3. Visual confirmation/inspection once materials arrive to the site.	As per the exemption, as well as: TRH/BTEX PAH Heavy Metals OCPs/OPPs/PCBs Asbestos (40g)

Validation Sample Type	Sampling Frequency	Analytes
Imported ENM, or products that contain ENM materials.	As per the ENM RRO.	As per the exemption, as well as: OCPs/OPPs/PCBs Asbestos (500 mL)

7.3 Sampling Methodology

7.3.1 Sample Handling

During the collection of soil samples, features such as seepage, discolouration, staining, odours and other indications of contamination shall be noted on field reporting sheets/field logs.

Collected samples shall be immediately transferred to sample containers of appropriate composition. Sample labels shall record sample identification number and date and time of sampling. Sample containers shall be transferred to a chilled ice box for sample preservation prior to and during shipment to the testing laboratory. A chain-of-custody form shall be completed and forwarded with the samples to the testing laboratory, containing the following information:

- Sample identification;
- Signature of sampler;
- Date of collection;
- Type of sample;
- Number and type of container;
- Inclusive dates of possession; and
- Signature of receiver.

7.3.2 Asbestos Quantification

Where Asbestos Quantification (AQ) is required for further characterisation/validation purposes, the following methodology is required to be undertaken by the Environmental Consultant:

- Consistent with the sampling frequency outlined above, enough soil will be collected to enable the AQ sampling (minimum 10L sample);
- At each sample location, observable bonded ACM and fibrous asbestos (FA) will be quantified using methods advised in WA DoH (2009). Specifically, given that the fill-based soil is known to be fine grained, fill based soil will be quantified by spreading the material for inspection on a contrasting colour material (e.g., plastic sheeting);
- A minimum of one 10 L sample of spoil will be spread at a thickness of not more than 100 mm onto the contrasting colour material. All observable bonded ACM and FA per sample location will be collected in separate sample bags (i.e., one sample bag for bonded ACM and one sample bag for FA per each sample) for weighing to enable asbestos soil concentrations to be calculated;
- The approximate mass of the soil volume will be calculated using a soil density of 1.6 g/cm^3 [7], which is based on the predominant fill type at the site being sand dominated. Should other soil types become apparent during validation works, an adjusted soil density may be applied, reflective of the soil types encountered;
- At least one discrete 500 ml sample will be collected for laboratory asbestos analysis per 1 m depth interval at each sampling location (from the 10L sample), regardless of whether

[7] Field Geologist' Manual (3rd Edition), The Australian Institute of Mining and Metallurgy, 1989, Table 7.3.3 (Bulking factors for expansion of common rock materials, after excavation).

bonded ACM or FA is observed or not. Where possible, soil samples will be collected in the proximity of bonded ACM or FA;

- 500 ml samples will be laboratory analysed for asbestos in accordance with *AS 4964-2004: Method for the Qualitative Identification of Asbestos in Bulk Samples*;
- Bonded ACM and FA collected and bagged from each depth interval will be weighed in-house/at the testing laboratory using a calibrated scale with an accuracy of 0.01 g and the measured weight recorded; and
- A test pit log for each sampling location will be recorded, noting the presence (and type) or absence of observable asbestos, soil description, dimensions of test pit, volume of spoil sampled at each depth and other observable contamination indicators such as staining, malodorous materials, ash and slag.

Calculation of Bonded ACM or FA Concentration

Asbestos percentage will be calculated as per the formula below:

$$\%w/w\ asbestos\ in\ soil = \%\ asbestos\ content\ x \frac{(bonded\ ACM\ or\ FA)(kg)}{soil\ volume\ (L)\ x\ soil\ density\ (kg/L)}$$

For bonded ACM, an asbestos content of 15% will be used, in accordance with enHealth (2005). For FA, a conservative asbestos content of 100% will be used.

7.3.2.1 Sample Containers

During the collection of samples, features such as seepage, discolouration, staining, odours and other indications of contamination shall be noted on field reporting sheets/field logs.

Collected samples shall be immediately transferred to sample containers of appropriate composition. Sample labels shall record sample identification number and date and time of sampling. Sample containers shall be transferred to a chilled ice box for sample preservation prior to and during shipment to the testing laboratory.

A chain-of-custody form shall be completed and forwarded with the samples to the testing laboratory, containing the following information:

- Sample identification;
- Signature of sampler;
- Date of collection;
- Type of sample;
- Number and type of container;
- Inclusive dates of possession; and
- Signature of receiver.

7.3.3 Field Photoionisation Detector (PID) Screening (if required)

Where soil validation/characterisation samples may be required for volatile contaminants (i.e., for unexpected finds relating to TRH, BTEXN, VOCs) will be screened on site during works using a PID to assess the presence of VOCs including petroleum hydrocarbons. Samples obtained for PID screening will be placed in a sealed plastic bag for a period of approximately 5 minutes to equilibrate prior to a PID being attached to the bag. Readings will then be monitored for a period of approximately 1 minute or until values stabilised and the stabilised/highest reading was recorded. PID reading will be recorded on field notes during each sampling event. The PID calibration will be checked prior to each sampling event and the outcome documented in field notes.

7.3.4 Field Duplicate and Triplicate Preparation and QA/QC Requirements

Field soil/groundwater/vapour duplicate and triplicate samples for the validation assessment (including for samples collected by JBS&G for imported materials characterisation) will be obtained during sampling using the procedures outlined above at a frequency of 1 in 20 primary samples for both field intra-laboratory duplicates and field inter-laboratory duplicates. The samples will be filled with no headspace to reduce the potential for loss of volatiles and separately labelled as the primary, duplicate and triplicate samples before being placed in the same chilled esky for laboratory transport. QA/QC samples will be taken for chemical contaminants but not required for asbestos.

Trip spike, storage blank, field blank and rinsate samples will be collected as per **Table 7.2**. Trip spike and storage blank samples will be analysed where primary samples require organic (volatile to semi-volatile) analysis.

7.3.5 Laboratory Analyses

The testing laboratories are required to be NATA accredited for the analysis they perform and must meet the data quality standards outlined in **Table 7.2**.

7.4 Soil Validation Criteria

7.4.1 Validation of In-Situ Soils

Given fill materials from across the site are proposed to be utilised for cut and fill across the site (Secondary Education Facilities), analytical data from validation sampling at the lateral and vertical extents of remedial excavations shall be compared against the following criteria:

- HIL-C and HSL-C: Developed open space or recreational areas (applicable to Secondary Education Facilities);
- Generic and/or site-specific ecological investigation levels (EILs) derived through the methodology outlined in NEPC (2013);
- Ecological Screening Levels (ESLs) for TRH fractions, BTEX and benzo(a)pyrene in coarse grained soil for residential/open space land use (NEPC 2013); and
- Aesthetic considerations as per NEPC (2013) will also be assessed.

7.4.1.1 Application of Soil Assessment Criteria

For soils to be considered as meeting the health/ecological based assessment criteria (i.e., not posing an unacceptable risk), the following criteria will be adopted:

Either:

- All contaminant concentrations were less than the adopted site assessment criteria,

Or:

- The upper 95% confidence limit on the average concentration for each analyte (calculated for samples collected from consistent soil horizons, stratigraphy or material types) was below the adopted criterion;
- No single analyte concentration exceeded 250% of the adopted criterion; and
- The standard deviation of the results was less than 50% of the criterion.

7.4.2 Imported Materials

In accordance with current NSW EPA policy, only material that does not represent an environmental or health risk at the receiving site may be considered for resource recovery. Imported materials will only be accepted to the site if they meet the restrictions placed on these materials and satisfy requirements outlined in **Section 6.7.**

All materials imported onto the site are required to be accompanied by appropriate documentation that has been verified by the appointed Environmental Consultant for consistency/satisfaction of the relevant resource recovery order/exemption.

Where imported material is proposed to be imported to site for general filling across large portions of the site, analytical data will also be required to be compared to HIL/HSL-C (NEPC 2013) to ensure they are fit for use.

VENM

It should be noted that quarried natural materials are not considered to be a 'waste' under the POEO Act (1997), and are therefore exempt from the following protocol, with the exception that the appointed Environmental Consultant should be notified and supplied with source site documentation for each source site prior to importation to the site.

For VENM sourced to be imported from another site (i.e. not quarried natural material products), the Environmental Consultant will be required to review source site documentation with regard to the VENM definition provided to the POEO Act (1997), prior to material being imported. Where source site documentation cannot adequately demonstrate materials comply with the definition of VENM without chemical testing, then chemical sampling will be requested. The analyses undertaken will be consistent with the COPCs anticipated from the source site historical review, with minimum analytes and sampling frequencies per **Table 7.3**.

Analytical data associated with VENM sampling shall comply with the following criteria:

- Heavy metals = background concentrations, as per Olszowy et. al. (1995) (background concentrations); and
- All other COPCs (except for pH an EC) = non-detect.

ENM

The analytes of OCPs/OPPs, PCBs and asbestos are required to be analysed in addition to those outlined in the ENM Order, analytical data will require to be assessed against the Order, as well as the applicable land use criteria at their point of use.

Recycled Materials

For recycled materials, sampling of materials as per NSW EPA RRO/RRE is required to be undertaken by the facility in accordance with the exemption. In addition, where materials are proposed to be imported to the site under NSW EPA RRO/RRE, the material will need to be further assessed by Environmental Consultant for land use suitability in accordance with the validation requirements nominated in **Section 7.4.1**. All imported materials (including recycled materials) will be required to be inspected once they arrive at the site for to ensure materials are consistent with the material documentation, and for indicators of contamination (visual/olfactory indicators of contamination).

7.4.3 Off-site Disposal of Soils

Materials shall be classified in accordance with EPA (2014a) *Waste Classification Guidelines* or an appropriate exemption as created under the *Protection of the Environment Operations (Waste) Regulation 2014* (POEO Waste Regulation) and characterised in accordance with the requirements nominated in **Table 7.3**.

Material will require to be removed to a facility lawfully able to receive it.

7.5 Validation Report

At the completion of remediation works, a validation report will be prepared in general accordance with EPA (2017) and *Guidelines for Consultants Reporting on Contaminated Sites* (NSW EPA 2020), documenting the works as completed.

Validation reports can be prepared on a staged basis to facilitate progressive reoccupation of remediated areas of the site, subject to the requirements of the Principal Certifying Authority..

This report/s will contain information including:

- Details of the remediation works conducted;
- Update relevant portions of the site description and CSM as relevant to the data gap investigation;
- Present all sampling field notes and laboratory data including calibration certificates for field monitoring equipment, environmental monitoring etc.;
- Undertake an assessment of QA/QC for analytical data generated by the works and identify data that is reliable for use in characterising site;
- Sort data into data sets as required by the decision rules;
- Assess whether sufficient data has been obtained to meet required limits on decision error;
- Undertake assessment to the decision rules and identify any environmental data which causes decision rules to be failed;
- Provide a summary of waste disposal activities and volumes of waste removed from the site including supply of Integrated Waste Tracking Solution records for asbestos impacted material disposed from the site, and all waste disposal dockets confirming final waste disposal/landfill destination;
- Provide a summary of material importation activities (general fill soil/crushed rock, growing media, earthworks aggregates, drainage backfill etc), including material source, type, assessment of suitability, approximate quantities, date of importation, visual inspections upon arrival to site and final placement location;
- Document any variations to the strategy undertaken during the implementation of the remedial works;
- Results of all environmental monitoring undertaken during the course of the remedial works;
- Survey of the site development layout showing the land use boundaries;
- Survey data for any cap and contain strategy employed at the site (if required);
- Details of any environmental incidents occurring during the course of the remedial works and the actions undertaken in response to these incidents;
- Identify the requirements for the long term EMP (where appropriate) including inclusion of a survey clearly identifying the extent of the retained impacted material and associated capping (as required); and
- Provide a clear statement on the suitability of the site (or portions thereof) for the proposed use and requirements for any ongoing monitoring/management (where applicable).

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

8. Contingency Plan

In the unforeseen event that the proposed remediation works do not meet the validation criteria, or if the selected remedial strategy is unsuccessful, the following actions will be considered to ensure firstly the safety and health of people and the environment and secondly that the overall project objectives are achieved:

- Continued controlled excavation until validation is achieved; and
- Reassessment of remedial options for excavated materials, including:
  - Current remediation approach (Cap and Contain); or
  - Offsite disposal (as per **Section 7.4.3**).

8.1 Change in Development Plans

In the event that the development plans are changed from those available at the time of preparation of this RAP, review of the suitability of the proposed remedial strategy will be required by the Environmental Consultant.

8.2 Unexpected Finds Protocol

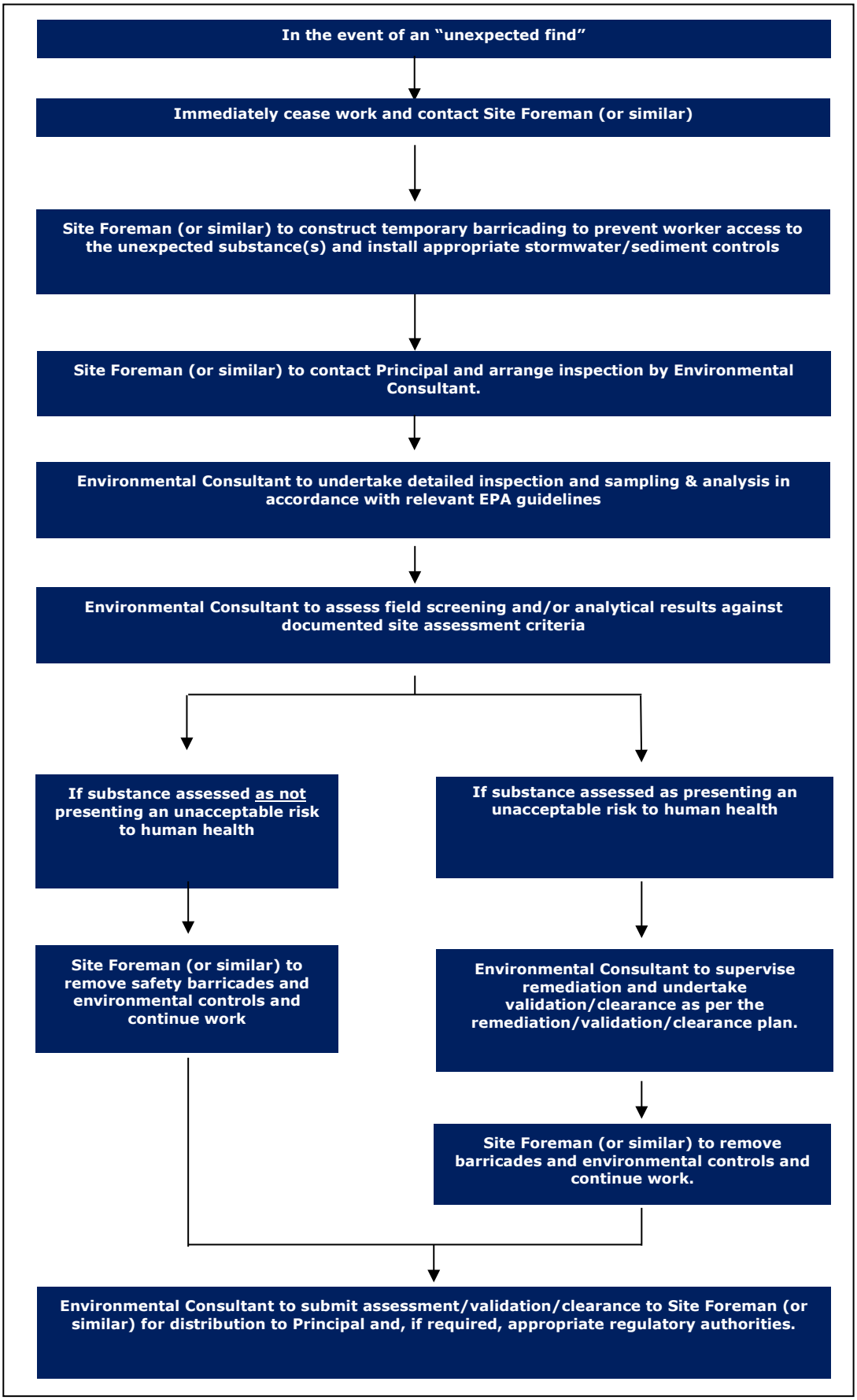
Ground conditions between sampling points may vary, and further hazards may arise from unexpected sources and / or in unexpected locations during remediation. The nature of any residual hazards which may be present at the site are generally detectable through visual or olfactory means, for example:

- Bottles / containers of chemicals (visible);
- Tar contaminated soils / fill materials (visible); and
- Volatile organic compound (VOC) contaminated soils (odorous) and vapours.

As a precautionary measure to ensure the protection of the workforce and surrounding community, should any of the abovementioned substances be identified (or any other unexpected potentially hazardous substance), the procedure summarised in **Flowchart 8.1** is to be followed.

An enlarged version of the unexpected finds protocol, suitable for use on-site, should be posted in the site office and referred to during the site-specific induction by the remedial / principal contractor.

Flowchart 8.1 – Unexpected Finds Protocol



9. Other Remediation Documents

9.1 Environmental Management

9.1.1 Preparation of a Remediation Environmental Management Plan (REMP)

Prior to commencement of remediation works, a REMP shall be prepared by the Principal Contractor or the Principal Contractor's Remediation Contractor, which documents the environmental monitoring and management measures required to be implemented during the remediation and construction related activities associated with the construction of the site.

The REMP shall address each of the nominated items in **Section 6.3** and shall include the Contingency Plan, referred to in **Section 8**, above. Additional environmental management requirements may be required as part of development consent.

9.1.2 Required Elements/Procedures

An assessment of the proposed activities and the associated elements required to be incorporated into the REMP is provided in **Table 9.1**. The REMP is required to address each of the required elements and procedures in full detail and to include detailed monitoring processes and procedures, corrective actions and reporting requirements.

Table 9.1: Required Elements of the REMP.

Element	Specific Minimum Requirements to be included in CEMP
1. Dust Control	Provisions for dust control if required.
2. Flora and Fauna	N/A
3. Heritage/Archaeological	N/A
4. Visual Impacts	N/A
5. Emergency Response	As appropriate. Procedures required for spill incident response including material storage breach.
6. Noise Control	Hours of operation. Boundary monitoring at commencement of work site activities with potential for environmental noise emissions. Potential noise monitoring at nearest receptors. Procedures for control and management of noise emissions, as appropriate (e.g., restricted hours).
7. Traffic	Controls on vehicle movements on public roads. Controls on transport in asbestos exclusion zones (if required)
8. Protection of Adjoining Structures	N/A
9. Odour Control	Procedures for management of potentially odorous works.
10. Handling of Contaminated Soil and Groundwater	Soil and water (if encountered) management (stockpiling, site access, excavation pump out, reinstatement).
11. Soil Storage/Placement Areas	Soil and water management (stockpiling, site access, excavation pump out, reinstatement). Bunding. Heavy vehicle/personnel decontamination. Interim storage requirements for materials requiring later treatment. Site drainage requirements, incorporating clean/dirty areas and modifications to existing surface water and drainage controls beneath retained pavements. Monitoring as required.
12. Sediment Control	Bunding. Collection/treatment/handling impacted sediments.
13. Operation of Site Office	As appropriate.
14. Asbestos Works	Required notifications, permits, signage and exclusion zones. Required personal (e.g. Class A or B removalist). PPE and decontamination. Staging of asbestos and non-asbestos works.

Element	Specific Minimum Requirements to be included in CEMP
15. Environmental Monitoring	Monitoring of dusts, noise, odour and fibres (if required). Monitoring as required for vibration and water releases. Inspection checklists and field forms.
16. Environmental Criteria	Soil criteria as sourced from RAP.
17. Material Classification	As detailed in this RAP.
18. Waste Management	All waste materials classified in accordance with the RAP are required to be disposed of at a licensed waste facility that are lawfully able to accept such materials. Material tracking in the form of disposal dockets will be required for the purposes of satisfying the validation report.
19. Community Relations Plan	Client to provide project specific communication protocols, incorporating nomination of specific contact persons & details and requirements for communications/response register.
20. Incident Reporting	As appropriate, including standard form/checklist.
21. Security and Signage	Secure site perimeter. Site boundary signage. Remediation exclusion zone signage where required.
22. EMP Review	As appropriate.
23. Training	As appropriate. Contamination awareness training for all workers.
24. Contact Details	Company/personnel details, including names/phone numbers for: - Principal Contractor - Site Auditor (if involved) - Environmental Consultant - Contractor - OH&S Compliance - Environmental Compliance

9.2 Health and Safety

9.2.1 Work Health and Safety Management Plan

A WHSP shall be prepared by the Remediation Contractor prior to commencement of remediation works. The Plan shall contain procedures and requirements that are to be implemented as a minimum during the works, in addition to the Contingency Plan, referred to in **Section 8**.

The objectives of the WHSP are:

- To apply standard procedures that minimises risks resulting from the works;
- To ensure all employees are provided with appropriate training, equipment and support to consistently perform their duties in a safe manner; and
- To have procedures to protect other site workers and the general public.

These objectives will be achieved by:

- Assignment of responsibilities;
- An evaluation of hazards;
- Establishment of personal protection standards, mandatory safety practices and procedures;
- Monitoring of potential hazards and implementation of corrective measures; and
- Provision for contingencies that may arise while operations are being conducted within the site.

9.2.2 Asbestos Works

In the event that asbestos impacts are identified during the course of remediation, all associated works shall be undertaken in accordance with the Work Health and Safety Regulation (2019),

SafeWork NSW (2019) *Code of Practice: How to Safely Remove Asbestos*, and SafeWork NSW (2019) *How to Manage and Control Asbestos in the Workplace*.

During the remedial works and only following the positive detection of asbestos impact present in site soils, perimeter asbestos in air monitoring will be conducted at each applicable remedial works area boundary when soil with asbestos is being disturbed. Air monitoring will be conducted on a daily basis at relevant locations whilst disturbance of asbestos contaminated areas takes place.

Air monitoring will be conducted during any ground disturbance activities within (asbestos) impacted soil within the site to verify that implementation of appropriate control measures have been successful at managing the risk of airborne fibre generation. Air monitoring will be undertaken in accordance with the requirements of the National Occupational Health and Safety Commission (NOHSC) Asbestos Code of Practice and Guidance Notes, in particular the *Guidance note for the estimation of airborne asbestos dust* [NOHSC 3002:2005].

Class A or B Asbestos Removalist are required to be present when working within the contaminated material at the site. If fill containing friable asbestos is required to be relocated a Class A Licensed Asbestos Removalist will be required to undertake the works.

9.2.3 Additional Consideration of Chemical Contaminants

In addition to general assessment of the potential for exposure to chemical contaminants the WHSP should also include specific consideration of additional contaminants may be encountered in fill materials.

As a precautionary measure, the WHSP should include the requirement for the plan to be revised in the event of an unexpected find of contaminated material during remediation and/or construction.

When working with contaminated materials in general, care needs to be taken to ensure that the contamination is not introduced to the worker via ingestion, inhalation or absorption. The WHSP must detail the PPE and decontamination requirements to be followed to control the risks posed by potential exposure to chemical contaminants at/within the site.

10. Regulatory Approvals/Licensing

Environment Planning and Assessment Act 1979/SEPP (Resilience and Hazards) 2021

With consideration to Chapter 4, Section 4.8 of the S&R SEPP, Port Stephens Local Environmental Plan 2013, the site and/or the remedial works are not considered to be:

- Designated development;
- On land declared to be a critical habitat;
- Likely to have a significant effect on a critical habitat or a threatened species, population or ecological community, or
- Development for which another State environmental planning policy or a regional environmental plan requires development consent, or
- In an area or zone to which any classifications to the following effect apply under an environmental planning instrument, including:
    - coastal protection,
    - conservation or heritage conservation,
    - habitat area, habitat protection area, habitat or wildlife corridor,
    - environment protection,
    - escarpment, escarpment protection or escarpment preservation,
    - floodway,
    - littoral rainforest,
    - nature reserve,
    - scenic area or scenic protection,
    - wetland, or
- Proposed to be completed in a manner that does not comply with a policy made under the contaminated land planning guidelines by the council for any local government area in which the land is situated (or if the land is within the unincorporated area, the Minister).

As such, the remediation works are classified as Category 2 Remediation Works as per the meaning provided Chapter 4 Remediation of land in the R&H SEPP. Remediation will not require development consent under the *Environmental Planning and Assessment Act 1997*.

The nature of remediation works is relatively straight forward, and it is considered most appropriate that remediation works is included with construction earthworks as ancillary to other development.

Environment Planning and Assessment Regulation 2000 – Schedule 3 Designated Development

It is not anticipated that the proposed remediation works will trigger the application of the regulation given that the works will not entail the treatment or storage of materials not originating from the site. Further, the proposed scope of works will not incinerate more than 1,000 m^3 per year, will not treat and store more than 30,000 m^3 of contaminated soil, and will not disturb an aggregate area of 3 ha of contaminated soil.

Protection of the Environment Operations Act 1997

All potential discharges from the remediation works will require to be maintained below applicable assessment criteria/threshold guidelines during the remediation works. This would apply to potential emissions in air and water. Levels of discharges are typically assessed at a site boundary.

Site specific environmental management plans, as prepared and maintained by remedial contractors, will require to ensure appropriate controls and monitoring criteria to assess compliance with these aspects.

The proposed remediation/validation activities are not required to be licensed under the POEO Act. The remediation area is less than 3 ha in area, does not propose handling of greater than 30,000 m^3 of contaminated fill and hence does not trigger the licensing requirements.

Protection of the Environment Operations (Waste) Regulation 2014

The regulations make requirements relating to non-licensed waste activities and waste transporting. The proposed works on site will not require to be licensed. Section 48 of the Reg. requires that wastes be stored in an environmentally safe manner. It is also stipulated that vehicles used to transport waste must be covered when loaded.

Provision is provided in the POEO Waste Regulation and EPA (2014a) guidelines for the EPA to approve the immobilisation of contaminants in waste (if required with unexpected finds).

Waste Classification Guidelines (EPA 2014a)

All wastes generated and proposed to be disposed off-site shall be assessed, classified and managed in accordance with this guideline. Where wastes require immobilisation prior to off-site disposal (to reduce the waste classification) an immobilisation approval shall be sought in accordance with Part 2 of this guideline. Immobilisations are only anticipated to be required with unexpected finds.

Asbestos Licensing requirements

Due to asbestos impacted fill at the site a Class A or B Asbestos Removalist is required to be present when working within the fill. If fill containing friable asbestos is required to be relocated a Class A Licensed Asbestos Removalist will be required to undertake the works.

11. Conclusions

11.1 Conclusions

Overall, it is considered that the proposed actions outlined in this RAP conform to the requirements of the *Contaminated Land Management Guidelines for the NSW Site Auditor Scheme (3rd Edition)* (EPA 2017) because they are: technically feasible; environmentally justifiable; and consistent with relevant laws policies and guidelines endorsed by NSW EPA.

Subject to the successful implementation of the measures described in this RAP and with consideration to the Limitations presented in **Section 12**, it is considered that the site can be made suitable for the intended uses and that the risks posed by contamination can be managed in such a way as to be adequately protective of human health and the environment.

11.2 Recommendations

It is recommended that the processes outlined in this RAP be implemented and that the following documentation be developed and implemented to ensure the risks and impacts during remediation works are controlled in an appropriate manner:

- A REMP, to document the monitoring and management measures required to control the environmental impacts of the works and ensure the validation protocols are being addressed; and
- A WHSP to document the procedures to be followed to manage the risks posed to the health of the remediation workforce.

Upon completion of the remediation works, the Validation Report/s are required to be prepared to verify remedial works were completed in accordance with this RAP.

12. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquiries.

Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

Figures

Legend

Approximate Site Boundary

JBS&G

Job No: 63780

Client: School Infrastructure

Version: R01 Rev A	Date 26/04/2023
Drawn By: AB	Checked By: AS

Scale 1:12,500

0 110 220

metres

Coord. Sys. GDA 1994 MGA Zone 56

36 Elkin Avenue
Heatherbrae, NSW

SITE LOCATION

FIGURE 1

File Name: 63780_HunterRiverHS_R01_Rev0

Legend

- Approximate Site Boundary
- NSW Cadastre

JBS&G

Job No: 63780	
Client: School Infrastructure	
Version: R01 Rev A	Date 26/04/2023
Drawn By: AB	Checked By: AS
Scale 1:2,000	

0 10 20
metres

Coord. Sys. GDA 1994 MGA Zone 56

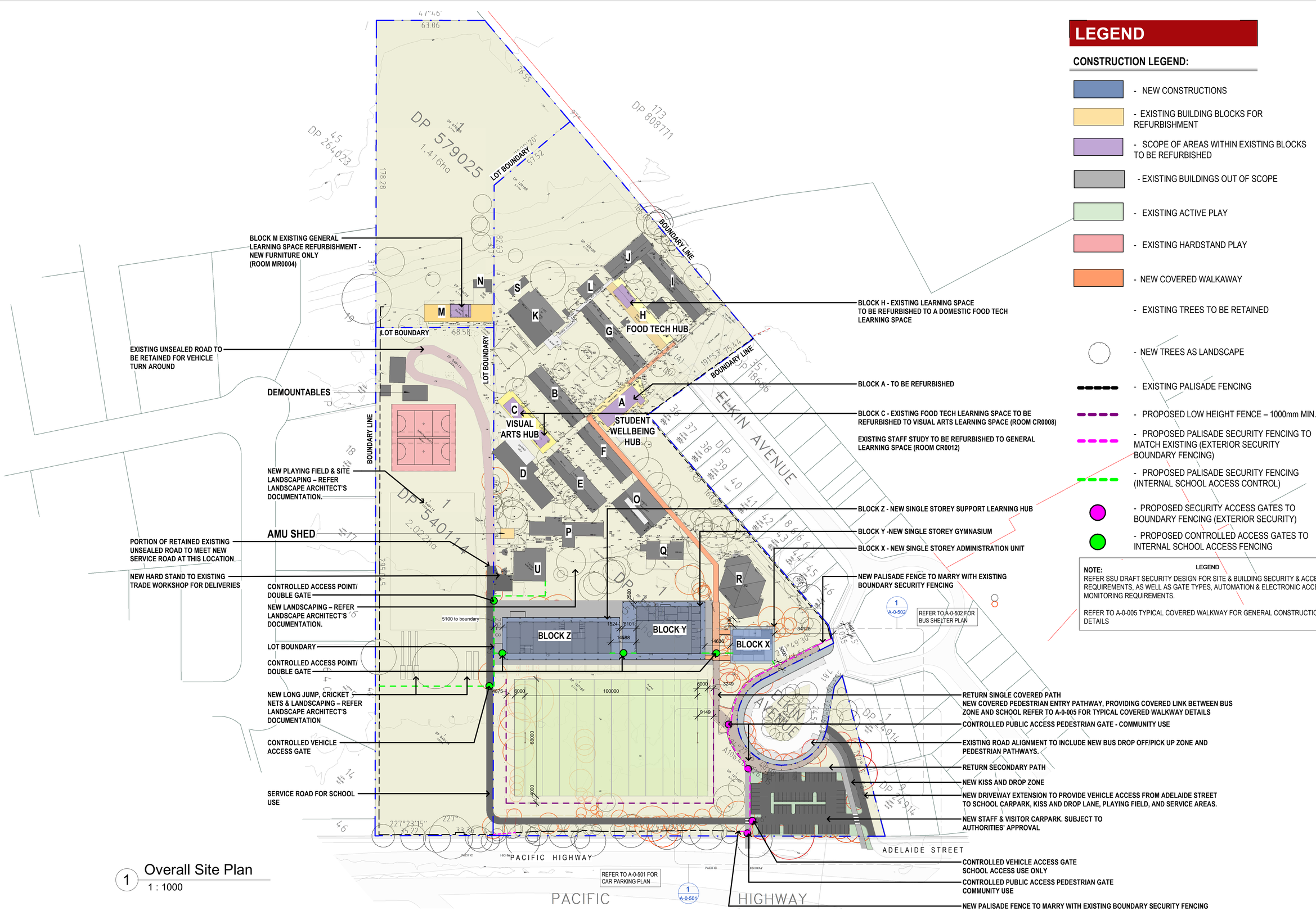
36 Elkin Avenue
Heatherbrae, NSW

SITE LAYOUT

FIGURE 2

File Name: 63780_HunterRiverHS_R01_Rev0
Reference: Nearmap - www.nearmap.com (Capture Date: 06/08/2022)

Appendix A Proposed Redevelopment Plans



1 Overall Site Plan
1 : 1000

LEGEND

CONSTRUCTION LEGEND:

- NEW CONSTRUCTIONS
- EXISTING BUILDING BLOCKS FOR REFURBISHMENT
- SCOPE OF AREAS WITHIN EXISTING BLOCKS TO BE REFURBISHED
- EXISTING BUILDINGS OUT OF SCOPE
- EXISTING ACTIVE PLAY
- EXISTING HARDSTAND PLAY
- NEW COVERED WALKAWAY
- EXISTING TREES TO BE RETAINED
- NEW TREES AS LANDSCAPE
- EXISTING PALISADE FENCING
- PROPOSED LOW HEIGHT FENCE – 1000mm MIN.
- PROPOSED PALISADE SECURITY FENCING TO MATCH EXISTING (EXTERIOR SECURITY BOUNDARY FENCING)
- PROPOSED PALISADE SECURITY FENCING (INTERNAL SCHOOL ACCESS CONTROL)
- PROPOSED SECURITY ACCESS GATES TO BOUNDARY FENCING (EXTERIOR SECURITY)
- PROPOSED CONTROLLED ACCESS GATES TO INTERNAL SCHOOL ACCESS FENCING

LEGEND

NOTE:
REFER SSU DRAFT SECURITY DESIGN FOR SITE & BUILDING SECURITY & ACCESS REQUIREMENTS, AS WELL AS GATE TYPES, AUTOMATION & ELECTRONIC ACCESS & MONITORING REQUIREMENTS.

REFER TO A-0-005 TYPICAL COVERED WALKWAY FOR GENERAL CONSTRUCTION DETAILS

EJE ARCHITECTURE
ACN 002 912 843| **ABN** 82 644 649 849
Nominated Architect - Bernard Collins | NSW Architects Registration No: 4438
P +61 2 4929 2353 | **F** +61 2 4926 3069 | **E** mail@eje.com.au | **W** www.eje.com.au
A 412 KING STREET, NEWCASTLE, NSW 2300

0 25mm 100mm 150mm ON ORIGINAL A1

NSW GOVERNMENT

REV	DATE	COMMENTS	DRN	CHKD	VRFD
E	15/07/2022	95% Schematic Design Issue	LD	HN	
F	29/07/2022	100% Schematic Design Issue	MJD	HN	
G	03/08/2022	Revised 100% Schematic Design Issue	MJD	HN	
H	05/08/2022	Revised 100% Schematic Design Issue	MJD	HN	
J	09/08/2022	Revised 100% Schematic Design Issue	MJD	HN	
K	25/08/2022	Final Schematic Design Issue	MJD	HN	
L	25/01/2023	Revised Carparking & Access Road For Review	MJD	HN	
M	07/03/2023	REQUESTED DESIGN CHANGES ISSUE	MJD	HN	
N	17/03/2023	REVISED DESIGN FOR COORDINATION	MJD	HN	
P	22/03/2023	REVISED BUS BAYS FOR COORDINATION	MJD	HN	
Q	11/04/2023	FINAL ISSUE FOR COORDINATION	MJD	HN	

PROJECT : **Hunter River High School Upgrade**

CLIENT : **School Infrastructure NSW**

SITE : **36 Elkin Ave, Heatherbrae, 2324**

DRAWING : **Overall Site Plan**

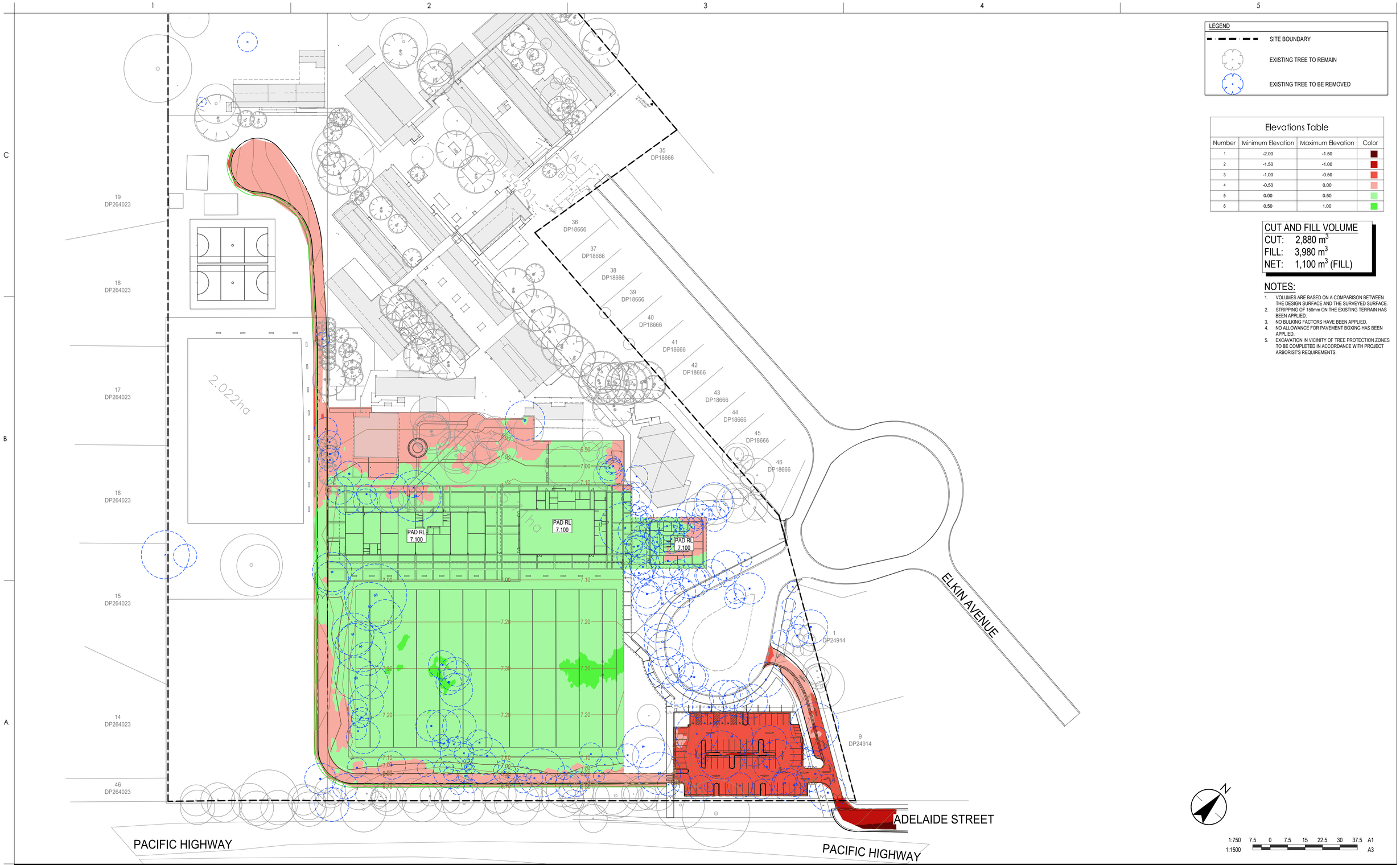
WORK IN FIGURED DIMENSIONS IN PREFERENCE TO SCALE. CHECK DIMENSIONS AND LEVELS ON SITE PRIOR TO THE ORDERING OF MATERIALS OR THE COMPLETION OF WORKSHOP DRAWINGS. IF IN DOUBT ASK. REPORT ALL ERRORS AND OMISSIONS.

Autodesk Docs://Hunter River High School/HRHS-EJE-ZZ-ZZ-M3-A-0001.rvt

PROJECT No :	DRAWN :	DATE :	SCALES :
14276	MJD	11/04/2023	As indicated@ A1 1 : 2000@ A3

PHASE :	BUILDING ID:	Level No:	DRAWING No :	REV :
DD	000	000	A-0-001	Q

EJE architecture



Notes

C	DRAFT REVISED SCHEMATIC DESIGN ISSUE	CPO	JMB	2023.03.24
B	FINAL PHASE 3 ISSUE	CPO	JMB	2022.08.08
A	100% SCHEMATIC DESIGN PROCESS	CPO	JMB	2022.07.29
Issued/Revision		By	Appd	YYYY.MM.DD

Issue Status

PRELIMINARY

NOT FOR CONSTRUCTION

This document is suitable only for the purpose noted above. Use of this document for any other purpose is not permitted.

Colour Disclaimer

This drawing has been documented in colour. This drawing is required to be printed in colour. Failure to do so may result inloss of information. Black and white printing may be used if specific black and white documents have been obtained from Stantec.

Notes

Stantec

Stantec Australia Pty. Ltd.
Level 6, Building B
207 Pacific Highway
St Leonards, NSW 2065
Tel: +61 2 8484 7000

Client/Project Logo

NSW Education School Infrastructure

Client/Project

SINSW

HUNTERS RIVER HIGH SCHOOL

HEATHERBRAE NSW 2324

File Name: HRHS-STNC-XX-XX-DR-C-100001.DWG	CPO	JMB	JMB	2022.07.29
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title

BULK EARTHWORKS PLAN

Project No.

Scale 1:750

Revision C

Drawing No. **HRHS-STNC-XX-XX-DR-C-100001**

Plotted: 3/04/2023 11:28:38 AM By: PCOCK, CONOR
U:\301\30909\PROJECT DOCUMENTATION\CIVIL\DRAWINGS & ISSUES\HRHS SHEET SET

ORIGINAL SHEET - ISO A1 COORD - MGA/YY-Zone DATUM - mAHD

Appendix B Historical Aerials from PSI HC 2020a

Aerial Imagery 2019

36 Elkin Avenue, Heatherbrae, NSW 2324

Scale: 0 50 100 150 200 Meters	Data Sources: Aerial Imagery © Aerometrex Pty Ltd	Coordinate System: GDA 1994 MGA Zone 56	Date: 04 June 2020

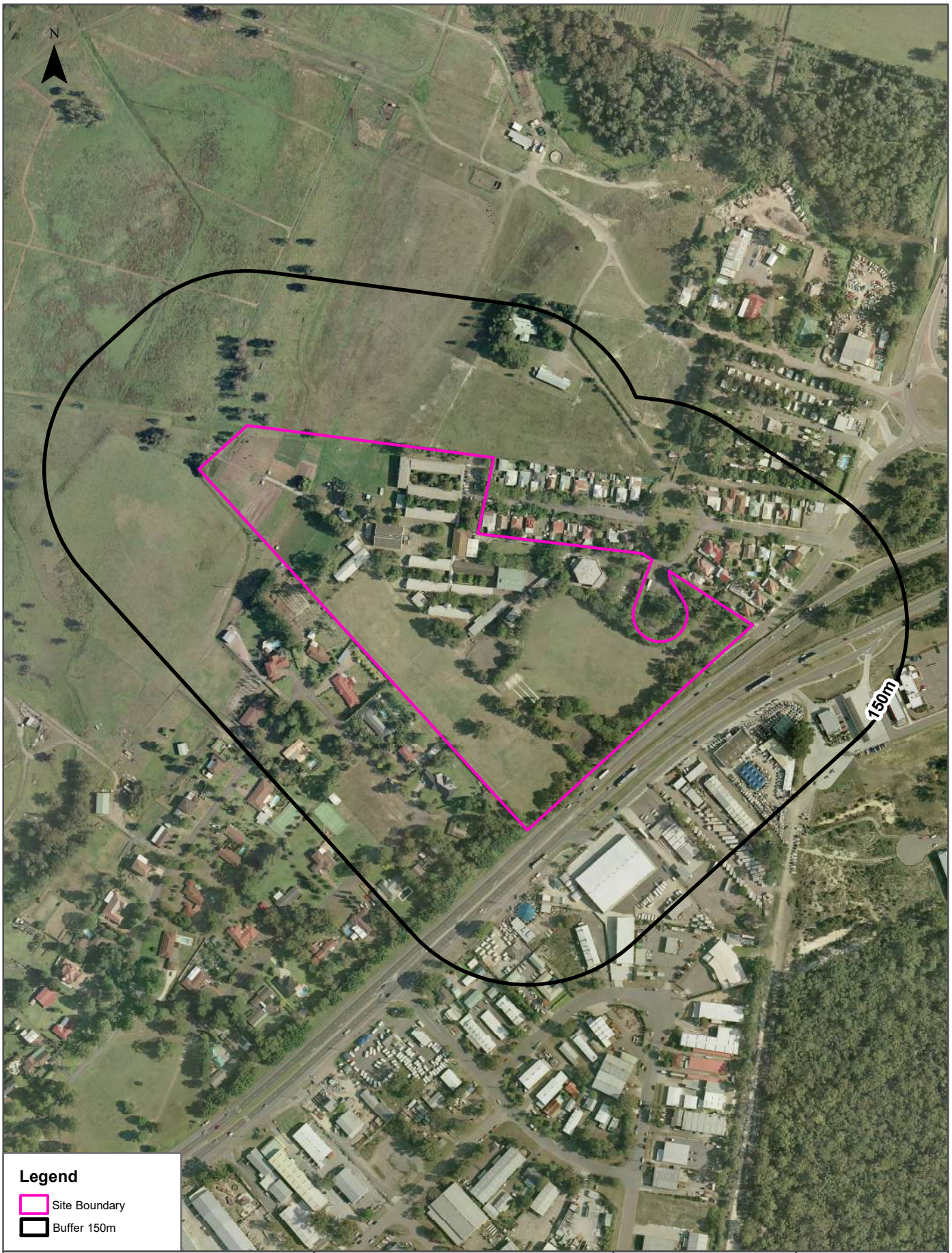
Aerial Imagery 2014

36 Elkin Avenue, Heatherbrae, NSW 2324

Scale: 0 50 100 150 200 Meters	Data Sources: Aerial Imagery © Aerometrex Pty Ltd	Coordinate System: GDA 1994 MGA Zone 56	Date: 04 June 2020

Aerial Imagery 2007

36 Elkin Avenue, Heatherbrae, NSW 2324



Scale: 0 50 100 150 200 Meters	Data Sources: Aerial Imagery © Aerometrex Pty Ltd	Coordinate System: GDA 1994 MGA Zone 56	Date: 04 June 2020

Aerial Imagery 1993

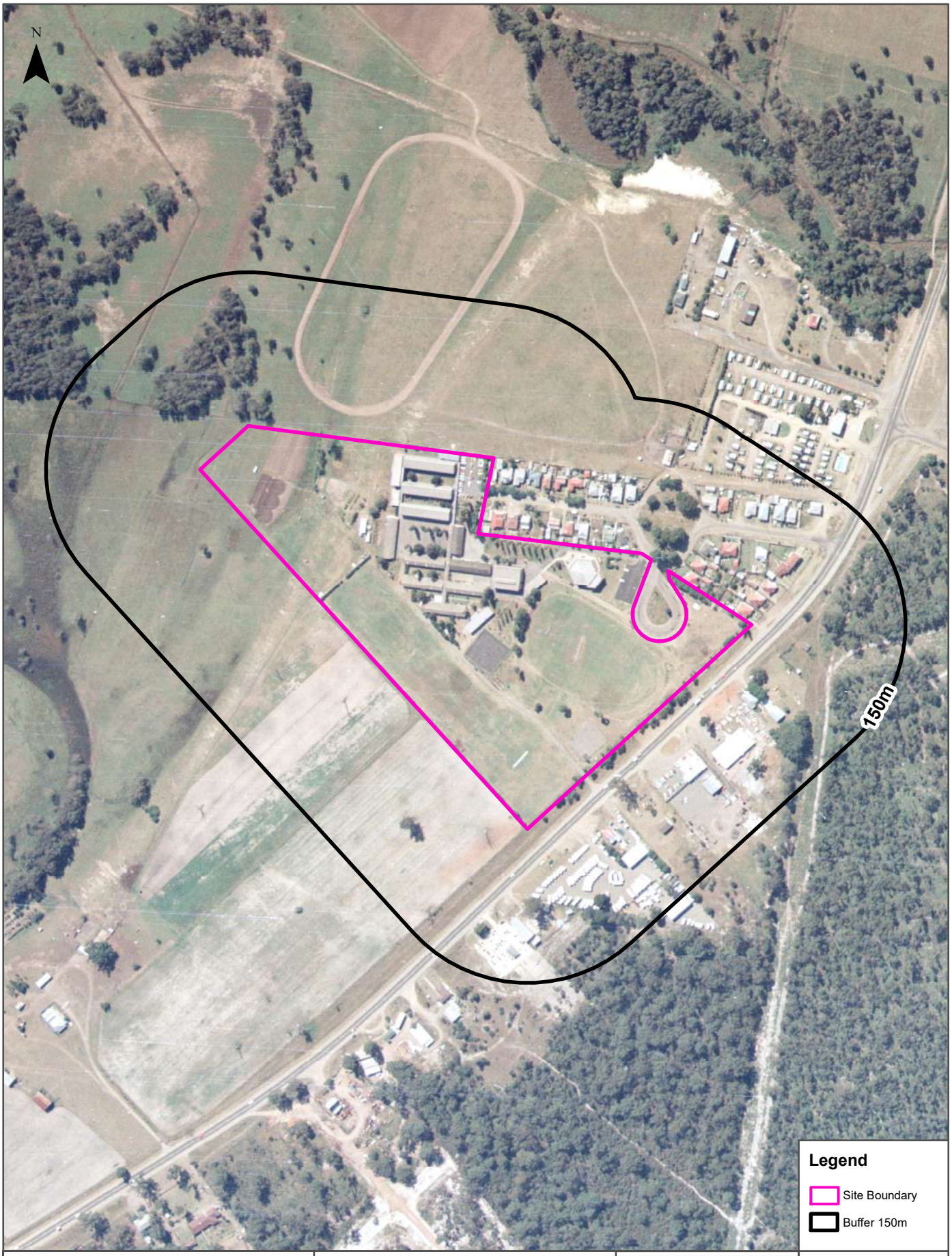
36 Elkin Avenue, Heatherbrae, NSW 2324

Aerial Imagery 1984

36 Elkin Avenue, Heatherbrae, NSW 2324

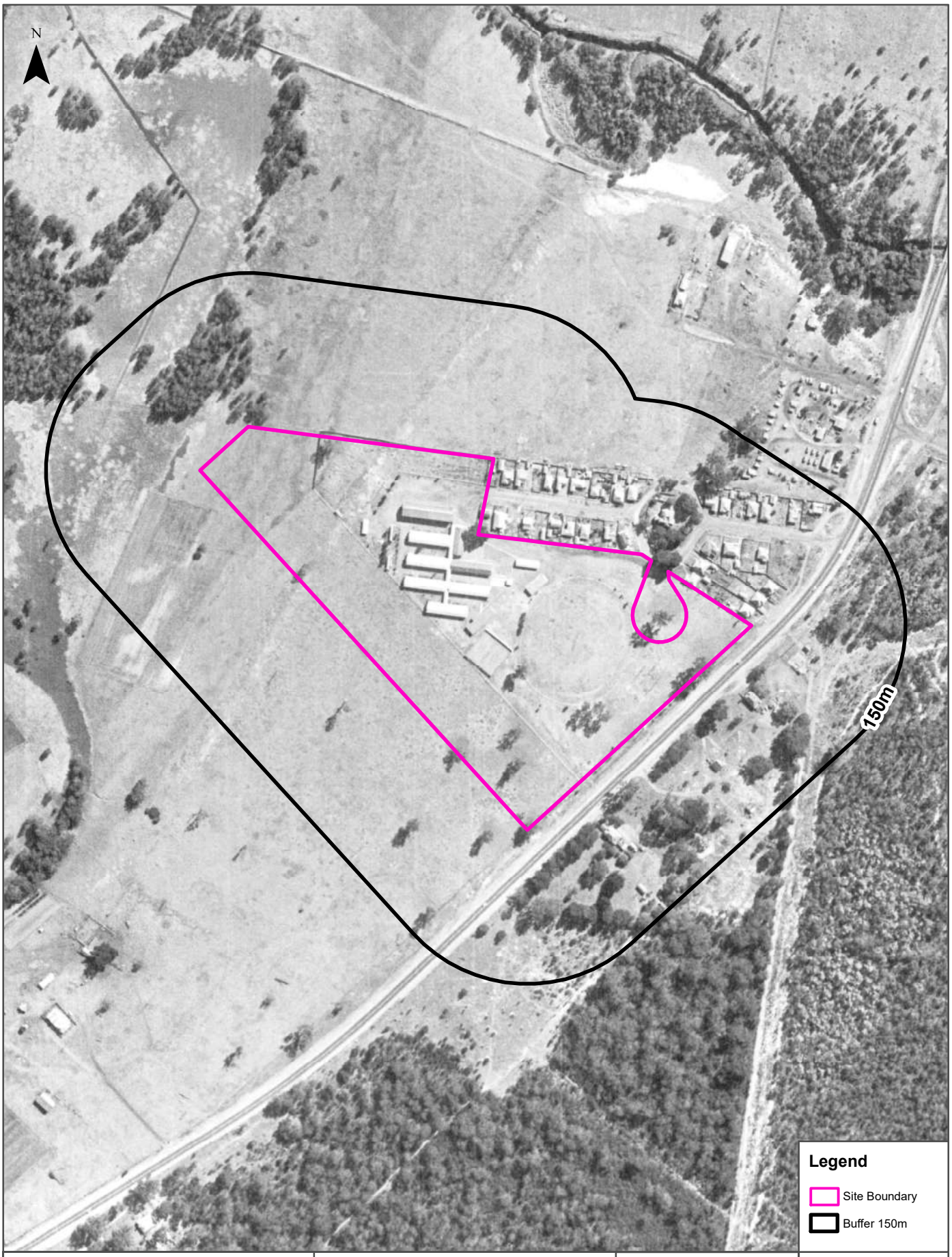
Aerial Imagery 1976

36 Elkin Avenue, Heatherbrae, NSW 2324



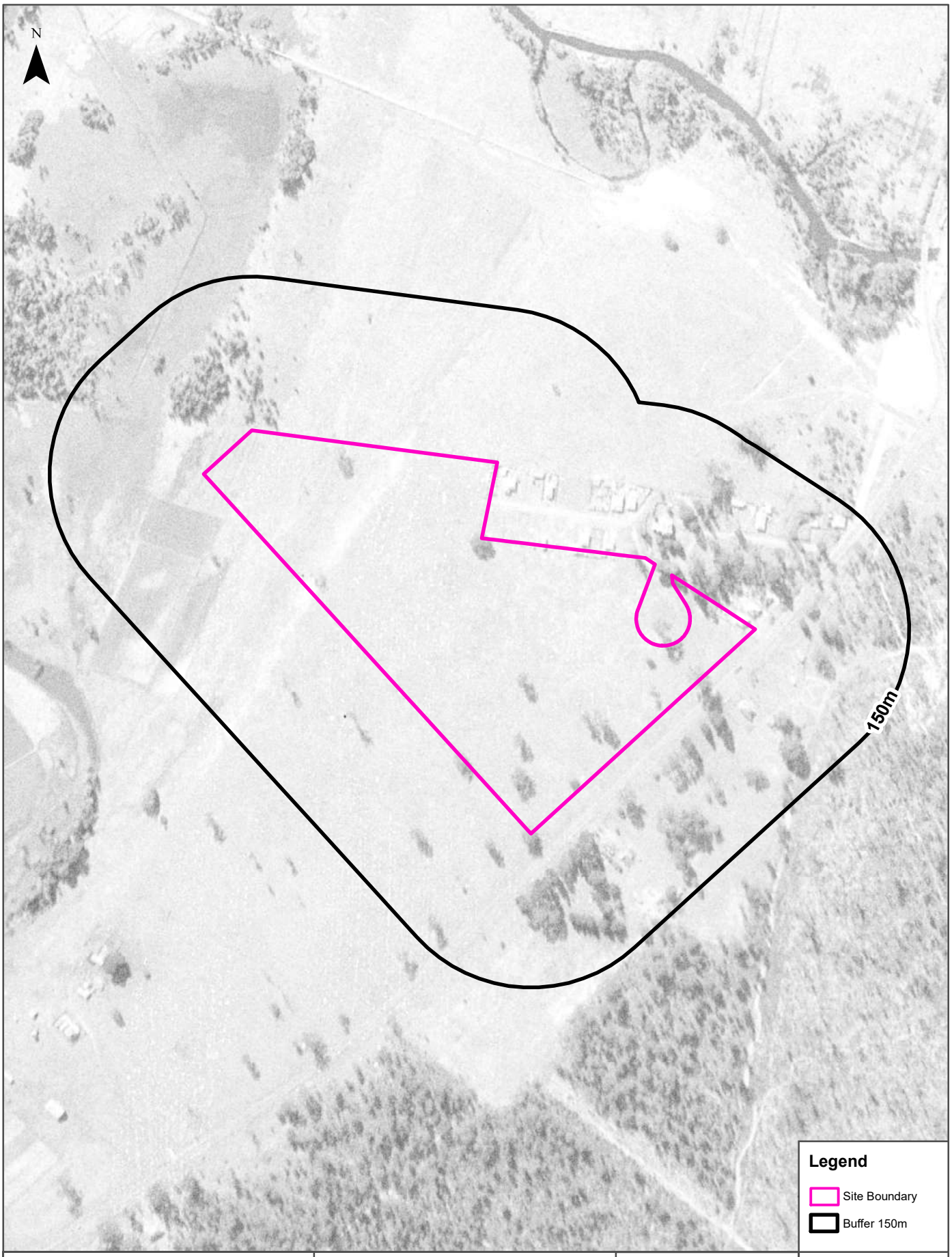
Aerial Imagery 1966

36 Elkin Avenue, Heatherbrae, NSW 2324



Aerial Imagery 1954

36 Elkin Avenue, Heatherbrae, NSW 2324



Appendix C Testpit / Borehole Logs (HC 2020b, DP 2022 and WSP 2023)

TESTPIT LOG REPORT

HOLE NO: TP1
FILE / JOB NO: P2087
SHEET: 1 OF 1

CLIENT : Northrop Consulting Engineers
PROJECT : PSI
LOCATION : Hunter River High School, 36 Elkin Avenue Heatherbrae

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
RIG TYPE: Excavator	CONTRACTOR:	DRILLER:
DATE LOGGED: 27/06/2020 DATE SAMPLED: 27/06/2020	LOGGED BY: JD	CHECKED BY: MA
EXCAVATION DIMENSIONS:	DATE START:	DATE FINISH:

TESTING & SAMPLING				MATERIAL						
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
					0.1			Silty SAND: dark brown, fine to medium grained			TOPSOIL
					0.2			0.20m SAND: light brown/orange, medium to coarse grained			ALLUVIUM
				ES 0.20-0.30	0.3						
					0.4						
					0.5						
					0.6						
				ES 0.60-0.70	0.7			0.70m Terminated at 0.70 m			

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

TESTPIT LOG REPORT

HOLE NO: TP2
FILE / JOB NO: P2087
SHEET: 1 OF 1

CLIENT : Northrop Consulting Engineers
PROJECT : PSI
LOCATION : Hunter River High School, 36 Elkin Avenue Heatherbrae

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
RIG TYPE: Excavator	CONTRACTOR:	DRILLER:
DATE LOGGED: 27/06/2020 DATE SAMPLED: 27/06/2020	LOGGED BY: JD	CHECKED BY: MA
EXCAVATION DIMENSIONS:	DATE START:	DATE FINISH:

TESTING & SAMPLING				MATERIAL						
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
								Silty SAND: dark brown, fine to medium grained			TOPSOIL
					0.2			0.20m			
				ES 0.20-0.30				SAND: dark brown/grey turns orange at depth, medium to coarse grained			ALLUVIUM
					0.4						
					0.6						
				ES 0.60-0.70							
					0.8						
					1.0			1.00m			
								Terminated at 1.00 m			

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

TESTPIT LOG REPORT

HOLE NO: TP3
FILE / JOB NO: P2087
SHEET: 1 OF 1

CLIENT : Northrop Consulting Engineers
PROJECT : PSI
LOCATION : Hunter River High School, 36 Elkin Avenue Heatherbrae

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
RIG TYPE: Excavator	CONTRACTOR:	DRILLER:
DATE LOGGED: 27/06/2020 DATE SAMPLED: 27/06/2020	LOGGED BY: JD	CHECKED BY: MA
EXCAVATION DIMENSIONS:	DATE START:	DATE FINISH:

TESTING & SAMPLING				MATERIAL						
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
				ES 0.10-0.20	0.1			Silty SAND: dark brown, fine to medium grained			TOPSOIL
					0.2			0.20m SAND: light brown, medium to coarse grained			ALLUVIUM
				ES 0.40-0.50	0.3 0.4						
					0.5			0.50m Terminated at 0.50 m			

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

TESTPIT LOG REPORT

HOLE NO: TP4
FILE / JOB NO: P2087
SHEET: 1 OF 1

CLIENT : Northrop Consulting Engineers
PROJECT : PSI
LOCATION : Hunter River High School, 36 Elkin Avenue Heatherbrae

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
RIG TYPE: Excavator	CONTRACTOR:	DRILLER:
DATE LOGGED: 27/06/2020 DATE SAMPLED: 27/06/2020	LOGGED BY: JD	CHECKED BY: MA
EXCAVATION DIMENSIONS:	DATE START:	DATE FINISH:

TESTING & SAMPLING				MATERIAL						
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
								Silty SAND: dark brown, fine to medium grained			TOPSOIL
					0.1						
					0.2			0.20m			
				ES 0.20-0.30 DUP1				SAND: light brown, medium to coarse grained			ALLUVIUM
					0.3						
					0.4						
					0.5						
					0.6						
				ES 0.60-0.70							
					0.7			0.70m			
								Terminated at 0.70 m			

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

TESTPIT LOG REPORT

HOLE NO: TP5
FILE / JOB NO: P2087
SHEET: 1 OF 1

CLIENT : Northrop Consulting Engineers
PROJECT : PSI
LOCATION : Hunter River High School, 36 Elkin Avenue Heatherbrae

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
RIG TYPE: Excavator	CONTRACTOR:	DRILLER:
DATE LOGGED: 27/06/2020 DATE SAMPLED: 27/06/2020	LOGGED BY: JD	CHECKED BY: MA
EXCAVATION DIMENSIONS:	DATE START:	DATE FINISH:

TESTING & SAMPLING				MATERIAL						
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
				ES 0.10-0.20	0.1			Silty SAND: dark brown, fine to medium grained			TOPSOIL
					0.2			0.20m SAND: light brown, medium to coarse grained			ALLUVIUM
				ES 0.40-0.50	0.3 0.4						
					0.5			0.50m Terminated at 0.50 m			

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

TESTPIT LOG REPORT

HOLE NO: TP6
FILE / JOB NO: P2087
SHEET: 1 OF 1

CLIENT : Northrop Consulting Engineers
PROJECT : PSI
LOCATION : Hunter River High School, 36 Elkin Avenue Heatherbrae

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
RIG TYPE: Excavator	CONTRACTOR:	DRILLER:
DATE LOGGED: 27/06/2020 DATE SAMPLED: 27/06/2020	LOGGED BY: JD	CHECKED BY: MA
EXCAVATION DIMENSIONS:	DATE START:	DATE FINISH:

TESTING & SAMPLING				MATERIAL						
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
					0.1			Silty SAND: dark brown, fine to medium grained			TOPSOIL
					0.2			0.20m			
				ES 0.20-0.30				FILL: Dark grey/black, flyash with slag, coarse grained			FILL
					0.3			0.30m			
								SAND: dark brown becomes orange, medium to coarse grained			ALLUVIUM
				ES 0.40-0.50	0.4						
					0.5						
					0.6						
					0.7			0.70m			
								Terminated at 0.70 m			

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

TESTPIT LOG REPORT

HOLE NO: TP8
FILE / JOB NO: P2087
SHEET: 1 OF 1

CLIENT : Northrop Consulting Engineers
PROJECT : PSI
LOCATION : Hunter River High School, 36 Elkin Avenue Heatherbrae

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
RIG TYPE: Excavator	CONTRACTOR:	DRILLER:
DATE LOGGED: 27/06/2020 DATE SAMPLED: 27/06/2020	LOGGED BY: JD	CHECKED BY: MA
EXCAVATION DIMENSIONS:	DATE START:	DATE FINISH:

TESTING & SAMPLING				MATERIAL						
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
				ES 0.20-0.30	0.1			Silty SAND: dark brown, fine to medium grained			TOPSOIL
					0.2						
				ES 0.40-0.50	0.3			0.30m SAND: light brown, medium to coarse grained			ALLUVIUM
					0.4						
					0.5			0.50m Terminated at 0.50 m			

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

TESTPIT LOG REPORT

HOLE NO: TP9
FILE / JOB NO: P2087
SHEET: 1 OF 1

CLIENT : Northrop Consulting Engineers
PROJECT : PSI
LOCATION : Hunter River High School, 36 Elkin Avenue Heatherbrae

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
RIG TYPE: Excavator	CONTRACTOR:	DRILLER:
DATE LOGGED: 27/06/2020 DATE SAMPLED: 27/06/2020	LOGGED BY: JD	CHECKED BY: MA
EXCAVATION DIMENSIONS:	DATE START:	DATE FINISH:

TESTING & SAMPLING				MATERIAL						
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
								Silty SAND: dark brown, fine to medium grained			TOPSOIL
				ES 0.10-0.20	0.1						
					0.2						
					0.3			0.30m			
								SAND: light brown, medium to coarse grained			ALLUVIUM
					0.4						
				ES 0.50-0.60	0.5						
					0.6			0.60m			
								Terminated at 0.60 m			

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

TESTPIT LOG REPORT

HOLE NO: TP10
FILE / JOB NO: P2087
SHEET: 1 OF 1

CLIENT : Northrop Consulting Engineers
PROJECT : PSI
LOCATION : Hunter River High School, 36 Elkin Avenue Heatherbrae

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
RIG TYPE: Excavator	CONTRACTOR:	DRILLER:
DATE LOGGED: 27/06/2020 DATE SAMPLED: 27/06/2020	LOGGED BY: MA	CHECKED BY: JD
EXCAVATION DIMENSIONS:	DATE START:	DATE FINISH:

TESTING & SAMPLING				MATERIAL						
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
				ES 0.20-0.30	0.1			Silty SAND: dark brown, fine to medium grained			TOPSOIL
				ES 0.50-0.60	0.2						
					0.3						
					0.4						
					0.5						
					0.6			0.60m Terminated at 0.60 m			

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

TESTPIT LOG REPORT

HOLE NO: TP13
FILE / JOB NO: P2087
SHEET: 1 OF 1

CLIENT : Northrop Consulting Engineers
PROJECT : PSI
LOCATION : Hunter River High School, 36 Elkin Avenue Heatherbrae

POSITION:	SURFACE ELEVATION:	INCLINATION: 90°
RIG TYPE: Excavator	CONTRACTOR:	DRILLER:
DATE LOGGED: 27/06/2020 DATE SAMPLED: 27/06/2020	LOGGED BY: JD	CHECKED BY: MA
EXCAVATION DIMENSIONS:	DATE START:	DATE FINISH:

TESTING & SAMPLING				MATERIAL						
Water	Penetrometer Testing Depth (m)	Penetrometer Testing Blows	Field Tests	Samples	Depth (m)	Graphic Log	Classification Symbol	MATERIAL DESCRIPTION Soil Type, Plasticity or Particle Characteristic, Colour, Secondary and Minor Components	Moisture Condition	Consistency/ Relative Density	STRUCTURE & Other Observations
					0.1			Silty SAND: brown, fine to medium grained			TOPSOIL
								0.15m			
								SAND: light brown, medium to coarse grained			ALLUVIUM
				ES 0.20-0.30 DUP2	0.2						
					0.3						
					0.4						
				ES 0.40-0.50							
					0.5			0.50m			
								Terminated at 0.50 m			

Additional Comments

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

WATER

Water table

Water inflow

SAMPLES & FIELD TESTS

U	-	Undisturbed Sample
D	-	Disturbed Sample
ES	-	Environmental Sample
B	-	Bulk Disturbed Sample
MC	-	Moisture Content
PP	-	Pocket Penetrometer
SPT	-	Standard Penetration Test
VS	-	Vane Shear

MOISTURE

D	-	Dry
M	-	Moist
W	-	Wet
<PL	-	Moist, below PL
~PL	-	Moist, approx. PL
>PL	-	Moist, above PL
~LL	-	Wet, approx. LL
>LL	-	Wet, above LL
PL	-	Plastic Limit
LL	-	Liquid Limit

CONSISTENCY/ RELATIVE DENSITY

VS	-	Very Soft
S	-	Soft
F	-	Firm
St	-	Stiff
VSt	-	Very Stiff
H	-	Hard
VL	-	Very Loose
L	-	Loose
MD	-	Medium Dense
D	-	Dense
VD	-	Very Dense

BOREHOLE LOG

CLIENT: NSW Department of Education
PROJECT: School Upgrades
LOCATION: Hunter River High School, 36 Elkin Ave, Heatherbrae

SURFACE LEVEL: 7.1 AHD
COORDINATE E:381562 **N:** 6372176
DATUM/GRID: MGA94 Zone 56
DIP/AZIMUTH: 90°/---

LOCATION ID: 101
PROJECT No: 216008.00
DATE: 12/07/22
SHEET: 1 of 1

CONDITIONS ENCOUNTERED								SAMPLE			TESTING AND REMARKS	
GROUNDWATER	RL (m) / DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(#)	CONSIS.(*) DENSITY.(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
No free groundwater observed	7 / 0.0	FILL/TOPSOIL/ (SP-SM) SAND, with silt, trace gravel; dark brown grey; sand fraction fine to medium; gravel fraction fine to coarse, sub-angular to sub-rounded; with rootlets, trace plastics		FILL and TOP	NA	M		ASS		0.01	DCP/150	5 10 15
	0.2	(SP) SAND, trace silt; pale grey; fine to medium 0.3-0.9m: pale brown grey		ALV	MD	M		ASS		0.5		
	0.9 / 1 / 6	(SP-SC) SAND, trace clay; brown orange; sand fraction fine to medium; clay fraction medium plasticity		ALV	MD	M		B ASS		0.85 1.0 1.1		
	1.3	(SP) SAND, trace silt, trace shell; pale brown yellow; sand fraction fine to medium; shell fraction fine		ALV	(MD)	M		D		1.5		
	2.0 / 5	Borehole discontinued at 2.00m depth Limit of investigation						D		2.0		
	3 / 4									3		

NOTES: (#)Soil origin is "probable" unless otherwise stated. (*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: 3T Excavator
METHOD: 300mm Auger
REMARKS: Coordinates obtained using a differential GPS unit typically accurate to ±0.1m

OPERATOR: Francis
CASING:

LOGGED: Chaplin

EXPORTED 29/07/22 14:51. TEMPLATE ID: DP_101.02.00_SOILLOG

BOREHOLE LOG

CLIENT: NSW Department of Education
PROJECT: School Upgrades
LOCATION: Hunter River High School, 36 Elkin Ave, Heatherbrae

SURFACE LEVEL: 7 AHD
COORDINATE E:381448 **N:** 6372001
DATUM/GRID: MGA94 Zone 56
DIP/AZIMUTH: 90°/---

LOCATION ID: 102
PROJECT No: 216008.00
DATE: 12/07/22
SHEET: 1 of 1

CONDITIONS ENCOUNTERED								SAMPLE			TESTING AND REMARKS	
GROUNDWATER	RL (m) / DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(#)	CONSIS.(*) / DENSITY.(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
No free groundwater observed	0.0	FILL/TOPSOIL/ (SM) Silty SAND; dark brown; fine to medium; abundant rootlets		FILL and TOP	NA	M		D		0.01	DCP/150	5 10 15
	0.25	(SP-SM) SAND, with silt; grey; fine to medium		ALV	MD	M		D		0.3		
	0.45	(SP-SM) SAND, with silt, trace clay; brown orange; fine to medium						D		0.5		
								B		0.7		
	6 1							D		1.0		
				ALV	MD	M						
		1.5m: Trace coarse gravel sized ferrous nodules						D		1.5		
	1.9			ALV	SCM	NA		D		1.9		
	1.95 5 2	(SP) SAND, with gravel; dark brown orange; fine to medium; fine sub-angular to angular gravel sized quartz and sub-rounded to rounded ferrous nodules						D		1.95 2		
		Borehole discontinued at 1.95m depth refusal on strongly iron cemented sub-litharenite										
	4 3									3		

NOTES: (#)Soil origin is "probable" unless otherwise stated. (*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: 3T Excavator
METHOD: 300mm Auger
REMARKS: Coordinates obtained using a differential GPS unit typically accurate to ±0.1m

OPERATOR: Francis
CASING:

LOGGED: Chaplin

EXPORTED 29/07/22 14:51. TEMPLATE ID: DP_101.02.00_SOILLOG

BOREHOLE LOG

CLIENT: NSW Department of Education
PROJECT: School Upgrades
LOCATION: Hunter River High School, 36 Elkin Ave, Heatherbrae

SURFACE LEVEL: 7 AHD
COORDINATE E:381418 **N:** 6371969
DATUM/GRID: MGA94 Zone 56
DIP/AZIMUTH: 90°/---

LOCATION ID: 103
PROJECT No: 216008.00
DATE: 12/07/22
SHEET: 1 of 1

CONDITIONS ENCOUNTERED								SAMPLE			TESTING AND REMARKS	
GROUNDWATER	RL (m) / DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(#)	CONSIS.(*) DENSITY.(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
No free groundwater observed	0.0	FILL/TOPSOIL/ (SM) Silty SAND; dark brown; fine to medium; with rootlets		FILL and TOP	NA	M		D		0.01	DCP/150	5 10 15
	0.3	(SP-SM) SAND, with silt; grey; fine to medium		ALV	L	M		D		0.45 0.5		
		0.45-0.7m: becoming pale grey						B		0.6		
	0.7	(SP-SM) SAND, with silt, trace clay; brown orange; fine to medium		ALV	L TO MD	M		D		0.7		
	6 1									1		
								D		1.5		
	1.7	(SP) SAND, trace silt; yellow orange; fine to medium		ALV	NA	M						
	5 2.0	Borehole discontinued at 2.00m depth Limit of investigation						D		2.0		
	4 3									3		

NOTES: (#)Soil origin is "probable" unless otherwise stated. (*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: 3T Excavator
METHOD: 300mm Auger
REMARKS: Coordinates obtained using a differential GPS unit typically accurate to ±0.1m

OPERATOR: Francis
CASING:

LOGGED: Chaplin

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BOREHOLE LOG

CLIENT: NSW Department of Education
PROJECT: School Upgrades
LOCATION: Hunter River High School, 36 Elkin Ave, Heatherbrae

SURFACE LEVEL: 6.9 AHD
COORDINATE E:381291 **N:** 6372095
DATUM/GRID: MGA94 Zone 56
DIP/AZIMUTH: 90°/---

LOCATION ID: 104
PROJECT No: 216008.00
DATE: 12/07/22
SHEET: 1 of 1

CONDITIONS ENCOUNTERED								SAMPLE			TESTING AND REMARKS	
GROUNDWATER	RL (m) / DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(#)	CONSIS.(*) / DENSITY.(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
No free groundwater observed	0.0 / 6	FILL/TOPSOIL/ (SP-SM) SAND, with silt; dark brown; fine to medium; with rootlets		FILL and TOP	NA	M		D		0.01	DCP/150	5 10 15
	0.25	(SP-SM) SAND, with silt; grey; fine to medium										
		0.5m: becoming pale grey		ALV	MD	M		D		0.5		
										0.6		
								B		0.8		
	1 / 1.2							D		1.0		
		(SP-SM) SAND, with silt, trace clay; brown orange; fine to medium		ALV	NA	W		D		1.5		
	2.0 / 5	Borehole discontinued at 2.00m depth Limit of investigation						D		2.0		
	3 / 4									3		
	3											

NOTES: (#)Soil origin is "probable" unless otherwise stated. (*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: 3T Excavator
METHOD: 300mm Auger
REMARKS: Coordinates obtained using a differential GPS unit typically accurate to ±0.1m

OPERATOR: Francis
CASING:

LOGGED: Chaplin

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BOREHOLE LOG

CLIENT: NSW Department of Education
PROJECT: School Upgrades
LOCATION: Hunter River High School, 36 Elkin Ave, Heatherbrae

SURFACE LEVEL: 6.8 AHD
COORDINATE E:381484 **N:** 6372139
DATUM/GRID: MGA94 Zone 56
DIP/AZIMUTH: 90°/---

LOCATION ID: 105
PROJECT No: 216008.00
DATE: 12/07/22
SHEET: 1 of 1

CONDITIONS ENCOUNTERED								SAMPLE			TESTING AND REMARKS	
GROUNDWATER	RL (m) / DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(#)	CONSIS.(*) / DENSITY.(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
No free groundwater observed	0.0 / 6.8	FILL/TOPSOIL/ (SC) Clayey Silty SAND; dark brown; fine to medium; with rootlets		FILL and TOP	NA	M		ASS		0.01	DCP/150	5 10 15
	0.25 / 6.55	(SP-SM) SAND, with silt; pale grey; fine to medium						ASS		0.5		
								ASS		0.7		
	1 / 5.8	0.6-1.7m: becoming pale grey, pale brown 1.0-1.3m: trace iron oxide nodules		ALV	MD	M		ASS		1.0		
								ASS		1.5		
	2.0 / 4.8	1.7-2.0m: yellow brown						ASS		2.0		
		Borehole discontinued at 2.00m depth Limit of investigation										

NOTES: (#)Soil origin is "probable" unless otherwise stated. (*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: 3T Excavator
METHOD: 300mm Auger
REMARKS: Coordinates obtained using a differential GPS unit typically accurate to ±0.1m

OPERATOR: Francis
CASING:

LOGGED: Chaplin

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BOREHOLE LOG

CLIENT: NSW Department of Education
PROJECT: School Upgrades
LOCATION: Hunter River High School, 36 Elkin Ave, Heatherbrae

SURFACE LEVEL: 7 AHD
COORDINATE E:381519 **N:** 6372164
DATUM/GRID: MGA94 Zone 56
DIP/AZIMUTH: 90°/---

LOCATION ID: 106
PROJECT No: 216008.00
DATE: 12/07/22
SHEET: 1 of 1

GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(#)	CONSIS.(*) / DENSITY.(*)	MOISTURE	REMARKS	SAMPLE TYPE	SAMPLE INTERVAL	DEPTH (m)	TESTING AND REMARKS: TEST TYPE	TESTING AND REMARKS: RESULTS AND REMARKS
No free groundwater observed		0.04	FILL/ ASPHALTIC CONCRETE; black		FILL	NA	NA						
			FILL/ (SC) Gravelly SAND, with clay; brown; sand fraction fine to coarse; gravel fraction fine to medium, sub-angular		FILL	NA	M		ASS		0.1		
		0.3			FILL	NA	M						
		0.34	FILL/ (SP-SM) SAND, with silt; dark brown; fine to medium										
			(SP-SM) SAND, with silt; pale brown; fine to medium		ALV	MD TO D	M		ASS		0.5	DCP/150	5 10 15
		0.8	(SP) SAND, trace silt; pale grey yellow; fine to medium										
	6	1							ASS		1.0		
			1.4m: trace roots										
			1.8m: pale yellow below						ASS		1.5		
					ALV	MD	M						
	5	2							ASS		2.0		
									ASS		2.5		
	4	3.0	Borehole discontinued at 3.00m depth Limit of investigation						ASS		3.0		

NOTES: (#)Soil origin is "probable" unless otherwise stated. (*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: 3T Excavator
METHOD: 300mm Auger
REMARKS: Coordinates obtained using a differential GPS unit typically accurate to ±0.1m

OPERATOR: Francis
CASING:

LOGGED: Chaplin

EXPORTED 29/07/22 14:51. TEMPLATE ID: DP_101.02.00_SOILLOG

BOREHOLE LOG

CLIENT: NSW Department of Education
PROJECT: School Upgrades
LOCATION: Hunter River High School, 36 Elkin Ave, Heatherbrae

SURFACE LEVEL: 6.7 AHD
COORDINATE E:381428 **N:** 6372083
DATUM/GRID: MGA94 Zone 56
DIP/AZIMUTH: 90°/---

LOCATION ID: 107
PROJECT No: 216008.00
DATE: 12/07/22
SHEET: 1 of 1

CONDITIONS ENCOUNTERED								SAMPLE				TESTING AND REMARKS	
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(#)	CONSIS.(*) DENSITY.(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
No free groundwater observed	6	0.0	FILL/ (SW-SM) SAND, with silt; dark brown; fine to coarse; with rootlets, black grey white medium to coarse sub-angular gravel sized ash inclusions		FILL	NA	M		ASS		0.1	DCP/150	5 10 15
		0.2	(SP-SM) SAND, with silt, trace clay; brown orange; fine to medium		ALV	MD	M		ASS		0.5		
	5	1							ASS		1.0		
		1.8-2.0m: becoming yellow brown					W		ASS		1.5		
	4	2.0	Borehole discontinued at 2.00m depth Limit of investigation						ASS		2.0		
	3										3		

NOTES: (#)Soil origin is "probable" unless otherwise stated. (*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: 3T Excavator
METHOD: 300mm Auger
REMARKS: Coordinates obtained using a differential GPS unit typically accurate to ±0.1m

OPERATOR: Francis
CASING:

LOGGED: Chaplin

EXPORTED 29/07/22 14:51. TEMPLATE ID: DP_101.02.00_SOILLOG

TEST PIT: 101

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					GP	FILL Sandy GRAVEL: angular, grey, sand is medium grained; with slag observed.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							0.10-0.12: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229305
			0.2									
			0.3							D		
			0.4									0.40-0.42: metal bar noted, minor visual evidence of contamination identified
			0.5									
			0.6	*0.60*	ES 0.60-0.62 m			SP	SAND: fine grained, yellow.	D		NATURAL
			0.7	*0.70*					Hole Terminated at 0.70 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 102

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, yellow, with organics.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine to medium grained, brown, with coarse grained gravel; charcoal and slag noted.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							0.10-0.12: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229306 0.12-0.40: minor visual evidence of contamination - soil discolouration, construction and demolition waste
			0.2									
			0.3							D		
			0.4									
			0.5									
				0.58				SP	FILL SAND: fine grained, grey black, with coarse grained gravel; charcoal gravel.	D		
			0.6		ES 0.60-0.62 m							
				0.62					Hole Terminated at 0.62 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 103

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0		ES 0.00-0.10 m			CL	TOPSOIL and FILL Sandy SILT: brown yellow, sand is fine grained; trace fine grained gravel; covered with grass - rubbish glass observed.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, yellow.			FILL
			0.1		ES 0.10-0.20 m PID 0.10 m 0 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229307 0.10-0.60: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste
			0.2		ES 0.20-0.60 m					D		
			0.3									
			0.4									
			0.5	0.50				SM	FILL Silty SAND: fine grained, grey, trace fine grained gravel; with slag observed.	D		
			0.6	0.60					Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 104

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					CL	TOPSOIL and FILL Sandy SILT: brown, sand is fine grained; trace fine grained gravel; grass - plastic observed.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, grey, with medium grained gravel; road base gravel layer.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229308 0.10-0.60: minor visual evidence of contamination - soil discolouration, construction and demolition waste
			0.2							D		
			0.3									
			0.4									
					ES 0.48-0.50 m							
			0.5	*0.50*				SM	FILL Silty SAND: fine grained, pale yellow brown.	M		
			0.6	*0.60*					Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 105

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					CL	TOPSOIL and FILL Sandy SILT: brown, sand is fine grained; grass.	D		TOPSOIL and FILL
				0.05				CL	FILL Sandy SILT: pale yellow brown, sand is fine grained; with fine grained gravel; slag, glass and plastic observed.			FILL
			0.1		ES 0.08-0.10 m PID 0.10 m 0 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229309 0.10-0.50: minor visual evidence of contamination - soil discolouration, glass, plastic, construction and demolition waste
			0.2							D		
			0.3									
			0.4	0.40				SP	SAND: fine grained, pale yellow brown.			NATURAL
			0.5		ES 0.48-0.50 m					M		
			0.6	0.60					Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 106

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
			0.0		ES 0.00-0.10 m			CL	TOPSOIL and FILL Sandy SILT: brown, sand is fine grained; covered with grass, abundant organics.	D		TOPSOIL and FILL 0.00-0.60: No visual or olfactory evidence of contamination identified TOPSOIL and FILL
				0.05				CL	FILL Sandy SILT: brown, sand is fine grained.			FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229310
			0.1		ES 0.10-0.50 m PID 0.10 m 0 ppm							
			0.2									
			0.3							D		
			0.4									
		Not Encountered		0.50				SP	SAND: fine grained, pale grey.	D		NATURAL
			0.5									
			0.6	0.60					Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 107

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0		ES 0.00-0.10 m			CL	TOPSOIL and FILL Sandy SILT: brown, sand is fine grained; with organics.	D		TOPSOIL and FILL
				0.05				CL	FILL Clayey SILT: brown, with fine grained sand.			FILL
			0.1		ES 0.10-0.50 m PID 0.10 m 0 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229311 0.10-0.50: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste
			0.2							D		
			0.3									
				0.40				SM	FILL Silty SAND: fine grained, pale grey.			
			0.4									
			0.5							D		
				0.60								
			0.6						Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 108

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine to medium grained, brown, with organics.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, brown, trace medium grained gravel; with plant rootlets.	M		FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229312 0.10-0.50: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							
			0.2									
			0.3									
			0.4									
			0.5		ES 0.48-0.50 m							
				0.50				SP	SAND: fine grained, grey.	D		NATURAL
			0.6	0.60					Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 109

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine to medium grained, brown, with organics.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, brown, trace medium grained gravel; with slag and gravel layer observed.	M		FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229313 0.10-0.50: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							
			0.2									
			0.3									
			0.4	0.40				SP	SAND: fine grained, dark grey yellow.	M		NATURAL
			0.5		ES 0.48-0.50 m							
			0.6	0.60					Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 110

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine to medium grained, brown, with organics.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, pale grey, with slag observed.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229314 0.10-0.50: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste
			0.2							D		
			0.3									
				0.40								
			0.4					SP	SAND: fine grained, grey.	D		NATURAL
					ES 0.48-0.50 m							
				0.50								
			0.5						Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 111

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine to medium grained, brown, with organics.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, brown and grey, with slag observed.	D		FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229315 0.10-0.42: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							
			0.2									
			0.3	0.30				SP	FILL SAND: fine grained, grey, with slag observed.	D		0.40-0.42: metal pipe observed
					ES 0.38-0.40 m							
			0.4									
			0.5									
			0.6	0.60					Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 112

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine to medium grained, brown, with organics.	D		TOPSOIL and FILL
				0.05				SM	FILL Gravelly Silty SAND: fine grained, brown, gravel is medium grained; with slag observed.	D		FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229357 0.10-0.50: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							
			0.2									
			0.3									
			0.4	0.40				SP	SAND: fine grained, orange, with slag observed.	M		NATURAL
			0.5		ES 0.48-0.50 m							0.48-0.50: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229358
			0.6	0.60					Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 113

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine to medium grained, brown, with organics.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, grey, with coarse grained gravel; with slag observed.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229359 0.10-0.12: QA07, QA07A
			0.2							D		
			0.3									0.30-0.32: visual evidence of contamination - soil discolouration, slag and gravel layer
				0.40				SW	SAND: fine to coarse grained, pale yellow, with slag observed.			NATURAL
			0.4							M		
					ES 0.48-0.50 m							0.48-0.50: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229360
				0.50					Hole Terminated at 0.50 m Target depth			
			0.5									

Comments

Checked JH
Date 28/3/2023

TEST PIT: 114

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine to medium grained, brown, with organics.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, brown, with medium grained gravel; with slag observed.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229361 0.10-0.50: minor visual evidence of contamination - soil discolouration, construction and demolition waste
			0.2							D		
			0.3									
			0.4	0.40				SM	Silty SAND: fine grained, dark orange, with slag observed.	D		NATURAL
			0.5	0.50	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			0.48-0.50: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229362

Comments

Checked JH
Date 28/3/2023

TEST PIT: 115

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine to medium grained, brown, with organics.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, brown, with coarse grained gravel; with slag observed.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229363
			0.2							D		
			0.3									0.30-0.32: gravel and conglomerate layer observed
			0.4	0.40				SM	Silty SAND: fine grained, pale yellow, with slag observed.	M		NATURAL
					ES 0.48-0.50 m							0.48-0.50: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229364
			0.5	0.50					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 116

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine to medium grained, brown, with organics.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, grey, with coarse grained gravel; with slag observed.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229365
			0.2							D		
			0.3									0.30-0.32: gravel and conglomerate layer observed
			0.4	0.40				SM	Silty SAND: fine grained, pale yellow, with slag observed.	M		NATURAL
					ES 0.48-0.50 m							0.48-0.50: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229366
			0.5	0.50					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 117

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 1
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine to medium grained, brown, with organics.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, brown, with slag observed.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229367 0.10-0.50: minor visual evidence of contamination - soil discolouration, construction and demolition waste
			0.2							D		
			0.3									
			0.4	0.40				SM	Silty SAND: fine grained, dark orange, with slag observed.	M		NATURAL
					ES 0.48-0.50 m							0.48-0.50: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229368
			0.5	0.50					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 201

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, grey.	D		TOPSOIL and FILL 0.00-0.10: organics observed TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229267, field pH = 7
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0 ppm			SP	FILL SAND: fine grained, grey.			FILL 0.10-0.20: organics observed FILL
			0.2							D		
			0.3									
			0.4		ES 0.43-0.45 m							0.44-0.45: danger tape observed - pit aborted
				0.45					Hole Terminated at 0.45 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 202

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, grey.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229268
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0 ppm			SP	FILL SAND: fine grained, grey, with coarse grained gravel.			FILL 0.10-0.50: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste FILL
			0.2									
			0.3							D		
			0.4		ES 0.48-0.50 m							
			0.5	*0.50*					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 203

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, grey, with coarse grained gravel.	D		TOPSOIL and FILL
				0.05				SP	FILL SAND: fine grained, grey, with coarse grained gravel.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 1.2 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample229269 0.10-0.50: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste
			0.2							D		
			0.3									
			0.4									
					ES 0.48-0.50 m							
			0.5	0.50				SM	Silty SAND: fine grained, brown, with coarse grained gravel.	D		NATURAL
			0.6	0.60					Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 204

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.20: organics observed TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, dark grey.	D		FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229271 0.10-0.50: minor visual evidence of contamination - soil discolouration, plastic, slag, construction and demolition waste
			0.1		ES 0.10-0.12 m PID 0.10 m 1.1 ppm							
			0.2									
			0.3									
			0.4									
			0.5	0.50				SP	SAND: fine grained, light grey.	D		NATURAL
			0.6	0.60	ES 0.58-0.60 m				Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 205

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, grey.	D		TOPSOIL and FILL 0.00-0.20: organics observed TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, grey.	D		FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229273, field pH = 7 0.10-0.12: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste
			0.1		ES 0.10-0.12 m PID 0.10 m 0.8 ppm							
			0.2									
			0.3									
			0.4									
			0.5	0.50				SP	SAND: fine grained, light grey.	D		NATURAL
			0.6	0.60	ES 0.58-0.60 m				Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 206

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, grey.			TOPSOIL and FILL 0.00-0.20: organics observed TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, grey.	D		FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.8 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229274
			0.2									
			0.3							D		0.30-0.32: Slag and gravel layer observed
			0.4									
				0.50				SP	SAND: fine grained, light grey.	D		NATURAL
			0.5		ES 0.58-0.60 m							
			0.6	0.60					Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 207

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, grey.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, grey.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.8 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229275 (asbestos identified) 0.10-0.12: QA05, QA05A
			0.2									0.15-0.20: minor visual evidence of contamination - soil discolouration, charcoal, construction and demolition waste
			0.3							D		
			0.4									
			0.5	0.50				SP	SAND: fine grained, light grey.	D		NATURAL
			0.6	0.60	ES 0.58-0.60 m				Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 208

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, grey.	D		TOPSOIL and FILL 0.00-0.10: large roots and organics observed TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, brown.	D		FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229276 0.10-0.60: minor visual evidence of contamination - soil discolouriation, slag, construction and demolition waste
			0.1		ES 0.10-0.12 m PID 0.10 m 0.7 ppm							
			0.2									
			0.3									
			0.4									
			0.5	0.50				SP	SAND: fine grained, light grey.	D		NATURAL
			0.6	0.60	ES 0.58-0.60 m				Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 209

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, brown.	D		FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229277 0.10-0.50: minor visual evidence of contamination - soil discolouration, plastic, construction and demolition waste
			0.1		ES 0.10-0.12 m PID 0.10 m 0.7 ppm							
			0.2									
			0.3									
			0.4									
			0.5	0.50				SP	SAND: fine grained, yellow grey.	D		NATURAL
			0.6	0.60	ES 0.58-0.60 m				Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 210

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, brown.	D		FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229278 0.10-0.20: plastic, large roots, organics observed
			0.1		ES 0.10-0.12 m PID 0.10 m 1 ppm							
			0.2									
			0.3									
			0.4									
				0.50				SP	SAND: fine grained, dark and light grey.	D		NATURAL
			0.5									
					ES 0.58-0.60 m							
				0.60								
			0.6						Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 211

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, grey, with coarse grained gravel.	D		TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, grey, with medium to coarse grained gravel.			FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229299 0.10-0.12: QA06, QA06A 0.13-0.50: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste
			0.1		ES 0.10-0.12 m PID 0.10 m 0.1 ppm							
			0.2							D		
			0.3									
			0.4									
			0.5	0.50				SP	SAND: fine grained, light grey.	D		NATURAL
			0.6	0.60	ES 0.58-0.60 m				Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 212

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, grey, with coarse grained gravel.			TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, grey.	D		FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229300 0.10-0.12: organics, tree roots observed 0.12-0.50: minor visual evidence of contamination - soil discolouration, slag, ceramic, construction and demolition waste
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							
			0.2									
			0.3									
			0.4									
			0.5		ES 0.48-0.50 m							
				0.50				SP	SAND: fine grained, pale grey.	D		NATURAL
			0.6	0.60					Hole Terminated at 0.60 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 213

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, grey, with coarse grained gravel.			TOPSOIL and FILL 0.00-0.15: tree roots and organics observed TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, grey, with coarse grained gravel.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.2 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample229301 0.10-0.50: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste
			0.2							D		
			0.3									
			0.4	*0.40*				SP	SAND: fine grained, grey pale pale pale grey and yellow.	D		NATURAL
					ES 0.48-0.50 m							
			0.5	*0.50*					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 214

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, grey, with coarse grained gravel.			TOPSOIL and FILL
			0.1	0.10								0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229302
					ES 0.10-0.12 m PID 0.10 m 0.1 ppm			SM	FILL Silty SAND: fine grained, grey, with coarse grained gravel.			FILL 0.10-0.50: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste FILL
			0.2							D		
			0.3		ES 0.30-0.31 m asbestos fragment sampled for analysis							0.30-0.31: FCS bulk sample 229379 (asbestos identified)
			0.4	0.40				SP	SAND: fine grained, grey pale pale pale pale.	D		NATURAL
					ES 0.48-0.50 m							
			0.5	0.50					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 215

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	FILL Silty SAND: coarse grained, grey, with coarse grained gravel.			FILL 0.00-0.50: minor visual evidence of contamination - soil discolourisation, slag, construction and demolition waste FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229303
			0.2							D		
			0.3									
			0.4	*0.40*				SP	SAND: fine grained, grey.	D		NATURAL
					ES 0.48-0.50 m							
			0.5	*0.50*					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 216

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 2
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	FILL Silty SAND: coarse grained, grey, with coarse grained gravel.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229304 0.10-0.50: minor visual evidence of contamination - soil discolourisation, slag, construction and demolition waste
			0.2							D		
			0.3									
			0.4	*0.40*				SP	SAND: fine grained, grey and orange.	D		NATURAL
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 301

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	Silty SAND: fine to coarse grained, light grey.	D		NATURAL 0.00-0.15: tree roots observed NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.4 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229247 0.10-0.12: QA03, QA03A
			0.2									0.15-0.45: No visual or olfactory evidence of contamination identified
			0.3									
			0.4		ES 0.43-0.45 m							
				0.45					Hole Terminated at 0.45 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 302

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	Silty SAND: fine to coarse grained, light brown.	D		NATURAL 0.00-0.45: No visual or olfactory evidence of contamination identified NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.3 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229249
			0.2									
			0.3									
			0.4		ES 0.45-0.50 m							
			0.5	*0.50*					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 303

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	Silty SAND: fine to coarse grained, brown light to pale brown.	D		NATURAL 0.00-0.45: No visual or olfactory evidence of contamination identified NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.2 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229250
			0.2									
			0.3									
			0.4		ES 0.43-0.45 m							
				0.45					Hole Terminated at 0.45 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 304

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	Silty SAND: fine to coarse grained, grey to yellow and pale grey.	D		NATURAL 0.00-0.10: roots and organics observed NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.3 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229251 0.10-0.45: No visual or olfactory evidence of contamination identified, field pH = 7
			0.2									
			0.3									
			0.4									
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 305

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SP	SAND: fine grained, grey.	D		NATURAL 0.00-0.45: No visual or olfactory evidence of contamination identified NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.6 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229252
			0.2									
			0.3									
			0.4									
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 306

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SP	SAND: fine grained, light grey to yellow.	D		NATURAL 0.00-0.15: organics observed NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.5 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229253
			0.2									0.15-0.45: No visual or olfactory evidence of contamination identified
			0.3									
			0.4		ES 0.48-0.50 m							
			0.5	0.50					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 307

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SP	SAND: fine grained, light grey.	D		NATURAL 0.00-0.45: No visual or olfactory evidence of contamination identified NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.5 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229254
			0.2									
			0.3									
			0.4									
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 308

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SP	SAND: fine grained, light grey to yellow.	D		NATURAL 0.00-0.15: organics observed NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.4 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229255
			0.2									0.15-0.45: No visual or olfactory evidence of contamination identified
			0.3									
			0.4		ES 0.48-0.50 m							
			0.5	0.50					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 309

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SP	SAND: fine grained, grey.	D		NATURAL 0.00-0.45: No visual or olfactory evidence of contamination identified NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.4 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229256
			0.2									
			0.3									
			0.4		ES 0.48-0.50 m							
			0.5	*0.50*					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 310

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SP	SAND: fine grained, grey.	D		NATURAL 0.00-0.45: No visual or olfactory evidence of contamination identified NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.5 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229257
			0.2									
			0.3									
			0.4									
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 311

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SP	SAND: fine grained, grey.	D		NATURAL 0.00-0.45: No visual or olfactory evidence of contamination identified NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.5 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229258
			0.2									
			0.3									
			0.4									
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 312

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	Silty SAND: fine grained, grey to orange.	D		NATURAL 0.00-0.45: No visual or olfactory evidence of contamination identified NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.4 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229259
			0.2									
			0.3									
			0.4		ES 0.48-0.50 m							
			0.5	*0.50*					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 313

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SP	SAND: fine grained, grey to orange.	D		NATURAL 0.00-0.45: No visual or olfactory evidence of contamination identified NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.4 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229260
			0.2									
			0.3									
			0.4		ES 0.48-0.50 m							
			0.5	*0.50*					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 314

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SP	SAND: fine grained, grey to orange.	D		NATURAL 0.00-0.45: No visual or olfactory evidence of contamination identified NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.4 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229261
			0.2									
			0.3									
			0.4		ES 0.48-0.50 m							
			0.5	*0.50*					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 315

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SP	SAND: fine grained, grey to orange.	D		NATURAL 0.00-0.45: No visual or olfactory evidence of contamination identified NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.4 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229262 0.10-0.12: QA04, QA04A
			0.2									
			0.3									
			0.4									
					ES 0.48-0.50 m							
			0.5	*0.50*					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 316

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SP	SAND: fine grained, grey to yellow.	D		NATURAL 0.00-0.05: organics and concrete observed NATURAL 0.05-0.45: No visual or olfactory evidence of contamination identified 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229263
			0.1		ES 0.10-0.12 m PID 0.10 m 0.5 ppm							
			0.2									
			0.3									
			0.4									
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 317

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SP	SAND: fine grained, pale grey to light grey with orange mottled.	D		NATURAL 0.00-0.10: organics observed NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.3 ppm							0.08-0.10: AF/FA sample 229264 0.10-0.45: No visual or olfactory evidence of contamination identified
			0.2									
			0.3									
			0.4									
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 318

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	Silty SAND: fine grained, light grey.	D		NATURAL 0.00-0.45: No visual or olfactory evidence of contamination identified NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.3 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229265
			0.2									
			0.3									
			0.4									
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 319

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	Silty SAND: fine grained, light grey.	D		NATURAL 0.00-0.45: No visual or olfactory evidence of contamination identified NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.4 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229266
			0.2									
			0.3									
			0.4									
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 320

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 18/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	Silty SAND: fine grained, light grey to orange.	D		NATURAL 0.00-0.45: No visual or olfactory evidence of contamination identified NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.4 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229267
			0.2									
			0.3									
			0.4									
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 321

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 3
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	Silty SAND: fine grained, brown to pale yellow.	D		NATURAL 0.00-0.15: organics and tree roots observed NATURAL
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229316
			0.2									0.15-0.45: No visual or olfactory evidence of contamination identified
			0.3									
			0.4									
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 401

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	FILL Silty SAND: fine grained, light grey, with coarse grained gravel.			FILL 0.00-0.40: building waste and terracotta observed FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.6 ppm					D		0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229279, field pH = 7
			0.2	0.20				SM	Silty SAND: fine grained, light grey.			NATURAL
			0.3							D		
			0.4									
			0.5	0.50	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 402

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, grey.	D		TOPSOIL and FILL 0.00-0.50: minor visual evidence of contamination - soil discolouration TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, grey.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.2 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229280
			0.2							D		
			0.3									
				0.40								
			0.4					SM	Silty SAND: fine grained, light grey.	D		NATURAL
					ES 0.48-0.50 m							
			0.5	*0.50*					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 403

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, grey.	D		TOPSOIL and FILL 0.00-0.10: organics observed TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, grey.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.4 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229281 0.10-0.20: minor visual evidence of contamination - soil discolouration, slag, concrete waste, construction and demolition waste
			0.2							D		
			0.3									
			0.4	0.40				SM	Silty SAND: fine grained, yellow.	D		NATURAL
			0.5	0.50	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 404

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, light grey.	D		TOPSOIL and FILL 0.00-0.15: large roots TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, grey.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 1.5 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229282 0.10-0.12: minor visual evidence of contamination - soil discolouration, slag, glass, construction and demolition waste
			0.2							D		
			0.3									
				0.40				SM	Silty SAND: fine grained, light grey.			NATURAL
			0.4							D		
					ES 0.48-0.50 m							
			0.5	0.50					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 405

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.25: organics, roots and plastic debris observed, minor visual evidence of contamination identified TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, light grey.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0.4 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229283
			0.2							D		
			0.3									
			0.4	0.40				SM	Silty SAND: fine grained, grey and orange.	D		NATURAL
					ES 0.48-0.50 m							
			0.5	0.50					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 406

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.20: roots, glass, plastic observed TOPSOIL and FILL
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 1.2 ppm			SM	FILL Silty SAND: fine grained, light grey.	D		0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229284 FILL
			0.2									
			0.3									
			0.4	*0.40*				SP	SAND: fine grained, orange.	D		NATURAL
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 407

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.20: roots and plastic debris observed, minor visual evidence of contamination identified TOPSOIL and FILL
					ES 0.08-0.10 m							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229285
			0.1	0.10	PID 0.10 m 1.7 ppm			SM	FILL Silty SAND: fine grained, brown.	D		FILL
			0.2									
			0.3									
			0.4	0.40				SM	Silty SAND: fine grained, orange.	D		NATURAL
					ES 0.48-0.50 m							
			0.5	0.50					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 408

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, light brown.	D		TOPSOIL and FILL 0.00-0.15: plastic debris observed TOPSOIL and FILL
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 1.8 ppm			SM	FILL Silty SAND: fine grained, grey.			0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229286 FILL 0.12-0.15: layer of slag and gravel observed, minor visual evidence of contamination identified
			0.2							D		
			0.3									
			0.4	0.40				SM	Silty SAND: fine grained, orange and yellow.	D		NATURAL
			0.5	0.50	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 409

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, light brown.	D		TOPSOIL and FILL 0.00-0.30: plastic and slag observed, minor visual evidence of contamination identified TOPSOIL and FILL
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.2 ppm			SM	FILL Silty SAND: fine grained, grey.			0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229287 FILL
			0.2							D		
			0.3									
			0.4	*0.40*				SM	Silty SAND: fine grained, orange.	D		NATURAL
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 410

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, light brown.	D		TOPSOIL and FILL 0.00-0.20: glass, plastic, large roots observed, minor visual evidence of contamination identified TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229288
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, grey.	D		FILL 0.10-0.12: QA11, QA11A FILL
			0.2									
			0.3									
			0.4	*0.40*				SM	Silty SAND: fine grained, orange.	D		NATURAL
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 411

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, light brown.	D		TOPSOIL and FILL 0.00-0.50: No visual or olfactory evidence of contamination identified TOPSOIL and FILL
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, brown.			0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229290 FILL
			0.2							D		
			0.3									
			0.4	*0.40*				SM	Silty SAND: fine grained, orange.	D		NATURAL
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 412

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, light brown.	D		TOPSOIL and FILL 0.00-0.20: plastic, roots and organics observed TOPSOIL and FILL
				0.05				SM	FILL Silty SAND: fine grained, brown.			FILL
			0.1		ES 0.10-0.12 m PID 0.10 m 0 ppm							0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229291
			0.2							D		
			0.3									
			0.4	0.40				SM	FILL Silty SAND: fine grained, orange.	D		
					ES 0.48-0.50 m							0.48-0.50: charcoal inclusions, minor visual evidence of contamination identified
			0.5	0.50					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 413

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, light brown.	D		TOPSOIL and FILL
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, brown.			0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229292 FILL 0.10-0.15: charcoal inclusions, minor visual evidence of contamination identified FILL
			0.2							D		
			0.3									
			0.4	0.40				SM	Silty SAND: fine grained, orange.	D		NATURAL
			0.5	0.50	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 414

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, light brown.	D		TOPSOIL and FILL 0.00-0.20: organics and plastic observed, minor visual evidence of contamination identified TOPSOIL and FILL
			0.1	*0.10*	PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, grey.	D		0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229293 FILL
			0.2									
			0.3									
			0.4	*0.40*				SM	Silty SAND: fine grained, orange.	D		NATURAL
			0.5	*0.50*					Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 415

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, light brown.	D		TOPSOIL and FILL 0.00-0.50: No visual or olfactory evidence of contamination identified TOPSOIL and FILL
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, brown.			0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229294 FILL
			0.2							D		
			0.3									
			0.4	*0.40*				SM	Silty SAND: fine grained, yellow and white.	D		NATURAL
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 416

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.20: organics and roots observed TOPSOIL and FILL
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, grey.			0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229295 FILL 0.10-0.12: charcoal and plastic observed, minor visual evidence of contamination identified FILL
			0.2							D		
			0.3									
			0.4	0.40				SM	Silty SAND: fine grained, light grey and white.	D		NATURAL
			0.5	0.50	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 417

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown, with clay.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229296
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, brown.	D		FILL 0.10-0.12: QA10, QA10A FILL 0.12-0.15: charcoal inclusions, minor visual evidence of contamination identified
			0.2									
			0.3									
			0.4	0.40				SP	SAND: fine grained, orange.	D		NATURAL
			0.5	0.50	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 418

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.20: organics observed TOPSOIL and FILL
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, brown.			0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229297 FILL 0.10-0.15: charcoal observed, minor visual evidence of contamination identified FILL
			0.2							D		
			0.3									
			0.4	0.40				SP	SAND: fine grained, orange.	D		NATURAL
			0.5	0.50	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 419

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 19/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, light grey.	D		TOPSOIL and FILL 0.00-0.10: plastic debris observed TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229298
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, light grey.	D		FILL 0.10-0.12: charcoal inclusions, minor visual evidence of contamination identified FILL
			0.4	*0.40*				SP	SAND: fine grained, white.	D		NATURAL
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 420

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, grey.	D		TOPSOIL and FILL 0.00-0.50: No visual or olfactory evidence of contamination identified TOPSOIL and FILL
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, light grey.			0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229369 FILL
			0.2							D		
			0.3									
			0.4	*0.40*				SP	SAND: fine grained, pale yellow.	D		NATURAL
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			0.48-0.50: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229370

Comments

Checked JH
Date 28/3/2023

TEST PIT: 421

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL Silty SAND: fine grained, brown.	D		TOPSOIL 0.00-0.20: organics and tree roots observed, no visual or olfactory evidence of contamination identified TOPSOIL
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	Silty SAND: fine grained, brown.			0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229371 NATURAL
			0.2							D		
			0.3									
			0.4	*0.40*				SP	SAND: fine grained, pale yellow.	D		
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			0.48-0.50: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229372

Comments

Checked JH
Date 28/3/2023

TEST PIT: 422

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL Silty SAND: fine grained, brown.	D		TOPSOIL 0.00-0.10: tree roots observed, no visual evidence of contamination TOPSOIL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229373
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	Silty SAND: fine grained, grey.	D		NATURAL
			0.2									
			0.3									
			0.4	*0.40*				SP	SAND: fine grained, pale yellow.	D		
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			0.48-0.50: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229374

Comments

Checked JH
Date 28/3/2023

TEST PIT: 423

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL Silty SAND: fine grained, brown.	D		TOPSOIL
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	Silty SAND: fine grained, grey, with coarse grained gravel.			0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229375 NATURAL 0.10-0.30: minor visual evidence of contamination - soil discolourisation NATURAL
			0.2							D		
			0.3									
			0.4	0.40				SP	SAND: fine grained, pale yellow.	D		
			0.5	0.50	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			0.48-0.50: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229376

Comments

Checked JH
Date 28/3/2023

TEST PIT: 424

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 4
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	*DEPTH* RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL Silty SAND: fine grained, brown.	D		TOPSOIL 0.00-0.10: tree roots observed TOPSOIL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229377
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	Silty SAND: fine grained, grey.	D		NATURAL 0.10-0.50: No visual or olfactory evidence of contamination identified NATURAL
			0.2									
			0.3									
			0.4	*0.40*				SP	SAND: fine grained, orange.	D		
			0.5	*0.50*	ES 0.48-0.50 m				Hole Terminated at 0.50 m Target depth			0.48-0.50: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229378

Comments

Checked JH
Date 28/3/2023

TEST PIT: 701

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.10: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229318
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.4 ppm			SM	FILL Silty SAND: fine grained, grey.	D		FILL 0.10-0.12: QA09, QA09A FILL
			0.2	*0.25*	ES 0.28-0.30 m			SP	SAND: fine grained, pale yellow.	M		NATURAL
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 702

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.30: No visual or olfactory evidence of contamination identified TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229319
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.3 ppm			SM	FILL Silty SAND: fine grained, grey.	D		FILL
			0.2	*0.25*	ES 0.28-0.30 m			SP	SAND: fine grained, pale yellow.	M		NATURAL
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 703

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.30: No visual or olfactory evidence of contamination identified TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229320
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, grey.	D		FILL
			0.2									
				0.25	ES 0.28-0.30 m			SP	SAND: fine grained, light grey.	D		NATURAL
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 704

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229321
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 0.3 ppm			SM	FILL Silty SAND: fine grained, brown.	D		FILL 0.10-0.12: QA08, QA08A FILL 0.12-0.30: No visual or olfactory evidence of contamination identified
			0.2									
				0.25				SP	SAND: fine grained, dark grey.	D		NATURAL
					ES 0.28-0.30 m							
			0.3	0.30					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 705

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229322
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 0.3 ppm			SM	FILL Silty SAND: fine grained, grey.	D		FILL 0.10-0.30: minor visual evidence of contamination - soil discolouration, construction and demolition waste FILL
			0.2									
				0.25				SP	SAND: fine grained, yellow.	D		NATURAL
					ES 0.28-0.30 m							
			0.3	0.30					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 706

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229323
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.3 ppm			SM	FILL Silty SAND: fine grained, grey.	D		FILL 0.10-0.15: minor visual evidence of contamination - soil discolouration, glass, construction and demolition waste FILL
			0.2									
				0.25				SP	SAND: fine grained, yellow.	M		NATURAL
					ES 0.28-0.30 m							
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 707

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229324
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.3 ppm			SM	FILL Silty SAND: fine grained, dark grey.	D		FILL 0.10-0.15: minor visual evidence of contamination - soil discolouration, charcoal, construction and demolition waste FILL
			0.2									
				0.25				SP	SAND: fine grained, pale yellow.	M		NATURAL
					ES 0.28-0.30 m							
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 708

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229325
			0.1	0.10	PID 0.10 m 0.3 ppm			SP	FILL Gravelly SAND: fine grained, dark grey, gravel is coarse grained.	D		FILL 0.10-0.20: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste FILL
			0.2	0.20				SM	Silty SAND: fine grained, pale grey.	M		NATURAL
				0.25				SP	SAND: fine grained, pale yellow.	M		
			0.3	0.30					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 709

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229326
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 0.3 ppm			SP	FILL Gravelly SAND: fine grained, dark grey, gravel is coarse grained.	D		FILL 0.20-0.25: coal tar, charcoal and conglomerate layer observed
			0.2	0.25	ES 0.28-0.30 m			SP	SAND: fine grained, yellow.	M		NATURAL
			0.3	0.30					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 710

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229327
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 0 ppm			SP	FILL Gravelly SAND: fine grained, dark grey, gravel is coarse grained.	D		FILL 0.10-0.20: charcoal, conglomerate and minor evidence of contaminaiton observed FILL
			0.2									
				0.25				SP	SAND: fine grained, pale yellow.	D		NATURAL
					ES 0.28-0.30 m							
			0.3	0.30					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 711

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.10: rootlets and organics observed TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229328
			0.1	0.10	PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, grey.	D		FILL
			0.2	0.25				SP	SAND: fine grained, orange.	D		NATURAL
			0.3	0.30					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 712

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229329
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.3 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.15: terracotta pipe fragments observed, minor visual evidence of contamination identified FILL
			0.2									
				0.25				SM	FILL Silty SAND: fine grained, grey.	D		
					ES 0.28-0.30 m							
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 713

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229317
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.3 ppm			SM	FILL Silty SAND: fine grained, pale grey.	D		FILL 0.10-0.30: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste FILL
			0.2									
				0.25				SM	FILL Silty SAND: fine grained, grey.	D		
					ES 0.28-0.30 m							
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 714

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.30: construction and demolition waste observed TOPSOIL and FILL
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.3 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229330 FILL
			0.2									
				0.25				SM	FILL Silty SAND: fine grained, grey.	D		
					ES 0.28-0.30 m							
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 715

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229331
			0.1	*0.10*	PID 0.10 m 0.2 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.30: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste FILL
			0.2	*0.25*				SM	FILL Silty SAND: fine grained, grey.	D		
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 716

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.30: No visual or olfactory evidence of contamination identified TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229332
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.3 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL
			0.2	*0.25*	ES 0.28-0.30 m			SM	FILL Silty SAND: fine grained, grey.	D		
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 717

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229333
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 0.2 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.30: minor visual evidence of contamination - soil discolouration, construction and demolition waste FILL
			0.2									
				0.25				SM	FILL Silty SAND: fine grained, grey.	D		
					ES 0.28-0.30 m							
			0.3	0.30					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 718

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229334
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.1 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.30: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste FILL
			0.2									
				0.25				SM	FILL Silty SAND: fine grained, grey.	D		
					ES 0.28-0.30 m							
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 719

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229335
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.3 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.30: minor visual evidence of contamination - soil discolouration, charcoal, construction and demolition waste FILL
			0.2									
				0.25				SM	FILL Silty SAND: fine grained, grey.	D		
					ES 0.28-0.30 m							
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 720

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229336
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.2 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.30: construction and demolition waste observed FILL
			0.2	*0.25*	ES 0.28-0.30 m			SM	FILL Silty SAND: fine grained, grey.	D		
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 721

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229337
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.2 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.30: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste FILL
			0.2	*0.25*				SM	FILL Silty SAND: fine grained, grey.	D		
					ES 0.28-0.30 m							
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 722

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229338
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.2 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.30: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste FILL
			0.2	*0.25*				SM	FILL Silty SAND: fine grained, grey.	D		
					ES 0.28-0.12 m							
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 723

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229339
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.2 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.30: minor visual evidence of contamination - soil discolouration, slag, construction and demolition waste FILL
			0.2	*0.25*				SM	FILL Silty SAND: fine grained, grey.	D		
					ES 0.28-0.30 m							
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 724

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229340
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0.3 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.30: minor visual evidence of contamination - soil discolouration, charcoal, construction and demolition waste FILL
			0.2									
				0.25				SM	FILL Silty SAND: fine grained, dark grey.	D		
					ES 0.28-0.30 m							
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 725

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 20/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.10: organics observed TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229341
			0.1	0.10	PID 0.10 m 0.2 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.30: minor visual evidence of contamination - soil discolouration, construction and demolition waste FILL
			0.2									
				0.25				SM	FILL Silty SAND: fine grained, dark grey.	D		
			0.3	0.30					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 726

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229342
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.30: minor visual evidence of contamination - soil discolouration, charcoal, construction and demolition waste FILL
			0.2									
				0.25				SM	FILL Silty SAND: fine grained, dark grey.	D		
					ES 0.28-0.30 m							
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 727

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229343
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.30: minor visual evidence of contamination - soil discolouration, construction and demolition waste FILL
			0.2	0.25				SM	FILL Silty SAND: fine grained, dark grey.	D		
			0.3	0.30	ES 0.28-0.30 m							0.28-0.30: charcoal inclusions
			0.4									
			0.5						Hole Terminated at 0.50 m Target depth			0.48-0.50: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229344

Comments

Checked JH
Date 28/3/2023

TEST PIT: 728

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.30: minor visual evidence of contamination - soil discolouration, construction and demolition waste TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229345
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 0.1 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.15: plastic debris observed FILL
			0.2	0.25	ES 0.28-0.30 m			SM	FILL Silty SAND: fine grained, dark grey.	M		0.28-0.30: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229346
			0.3	0.30					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 729

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229347
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.30: minor visual evidence of contamination - soil discolouration, construction and demolition waste FILL
			0.2									
				0.25				SM	FILL Silty SAND: fine grained, dark grey.	M		0.26-0.28: charcoal inclusions
					ES 0.28-0.30 m							0.28-0.30: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229348
			0.3	0.30					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 730

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.30: No visual or olfactory evidence of contamination identified TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229349
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL
			0.2									
				0.25	ES 0.28-0.30 m			SM	FILL Silty SAND: fine grained, dark grey.	M		0.28-0.30: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229350
			0.3	0.30					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 731

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229351
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL 0.10-0.30: minor visual evidence of contamination - soil discolouration, charcoal, construction and demolition waste FILL
			0.2									
				0.25				SM	FILL Silty SAND: fine grained, dark grey.	M		
					ES 0.28-0.30 m							0.28-0.30: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229353
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 732

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.30: minor visual evidence of contamination - soil discolouration, construction and demolition waste TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229353
			0.1	0.10	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, pale brown.	M		FILL
			0.2	0.20				SM	FILL Silty SAND: fine grained, dark grey.			
					ES 0.28-0.30 m					M		0.28-0.30: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample 229354
			0.3	0.30					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

TEST PIT: 733

Sheet 1 of 1

Project:	Hunter River TESA	Position:	Area 7
Location:	Hunter River High School	Coords:	151.7 m E -32.8 m N WGS84-56
Client:	NSW Department of Education	Contractor:	HTS
Job No.:	PS135419	Machine:	2T excavator Bucket Size: 300 mm toothless bucket

Date: 23/1/2023
Logged: GLB

Excavation					Sampling		Field Material Description					
METHOD	EXCAVATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	GROUP SYMBOL	SOIL/ROCK MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
E		Not Encountered	0.0					SM	TOPSOIL and FILL Silty SAND: fine grained, brown.	D		TOPSOIL and FILL 0.00-0.30: minor visual evidence of contamination - soil discolouration TOPSOIL and FILL 0.08-0.10: 10L sieve AF/FA sample (no asbestos identified), asbestos NEPM sample sample
			0.1	*0.10*	ES 0.10-0.12 m PID 0.10 m 0 ppm			SM	FILL Silty SAND: fine grained, pale brown.	D		FILL
			0.2	*0.25*	ES 0.28-0.30 m			SM	FILL Silty SAND: fine grained, dark grey.	M		
			0.3	*0.30*					Hole Terminated at 0.30 m Target depth			

Comments

Checked JH
Date 28/3/2023

Appendix D Material Tracking 20 m Grid

Legend

Approximate Site Boundary

JBS&G

Job No: 63780

Client: School Infrastructure

Version: R01 Rev A	Date 30/09/2022
Drawn By: AB	Checked By: AS

Scale 1:2,250

0 20 40

metres

Coord. Sys. GDA 1994 MGA Zone 56

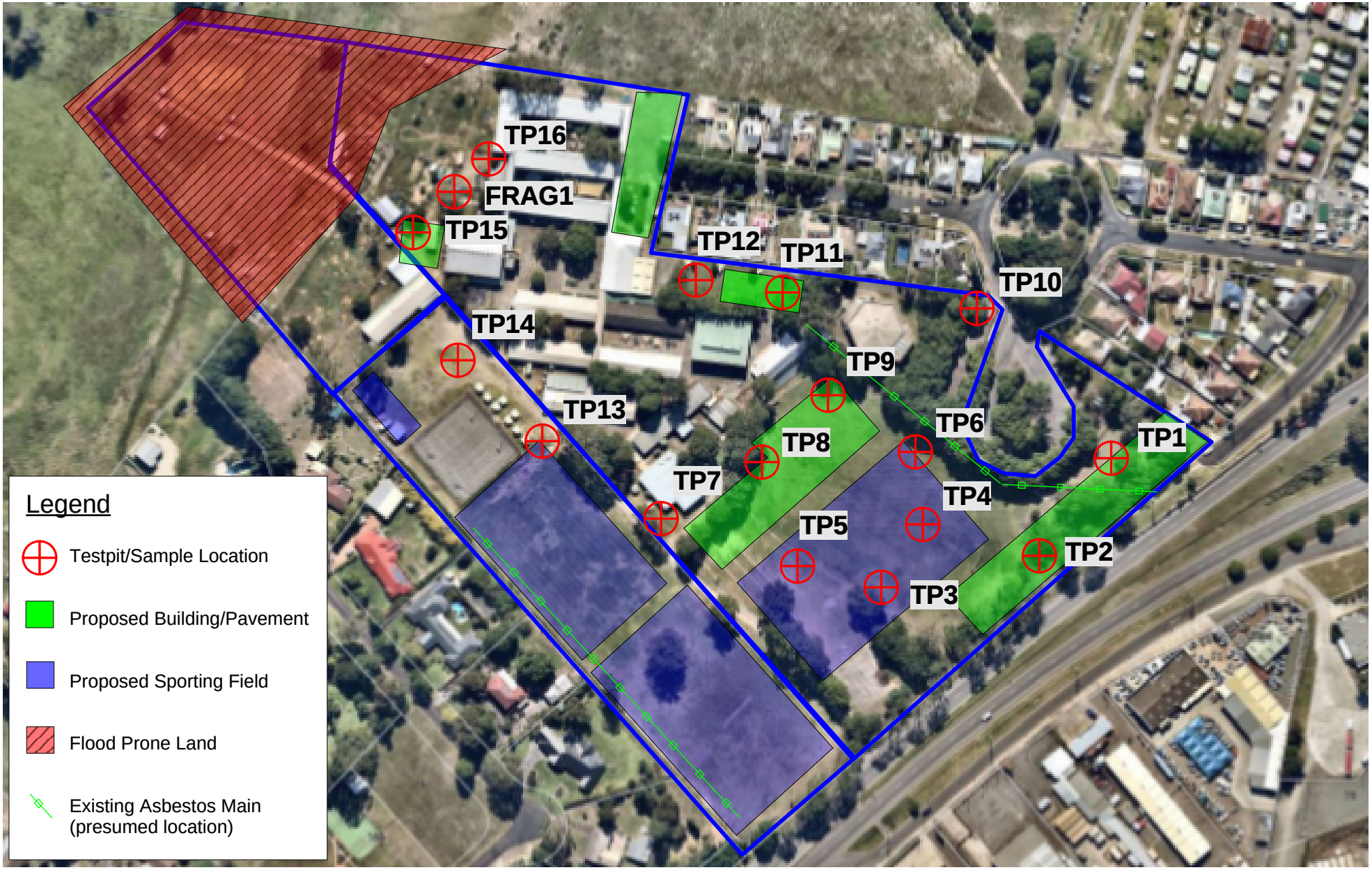
36 Elkin Avenue
Heatherbrae, NSW

MATERIAL TRACKING GRID (20M)

FIGURE 5

File Name: 63780_HunterRiverHS_R01_RevA
Reference: Nearmap - www.nearmap.com (Capture Date: 06/08/2022)

Appendix E Sampling Locations



Note:
(1) Base layer sourced from NearMap (2020).
(2) Overlay sourced from SHAC Masterplan RevB
(3) Scale bar is approximate.

Figure 1: Investigation Plan

Scale (m)
0 20 40

N
W E
S

LOCALITY

Legend

Approximate Test Location and Number

- Borehole
- Cone Penetration Test
- Combined (Borehole & CPT)
- 2m Contour
- Approximate Lot Boundary

0 15 30 45 60 75 90 105 m

Notes:
1. Base image from Metromaps (dated 19 September 2021).
2. Locality image from WhereIS Maps.
3. Test locations are approximate only and are shown with reference to existing site features.

Douglas Partners Geotechnics · Environment · Groundwater	CLIENT: NSW Department of Education	TITLE: Site and Test Location Plan School Upgrades Hunter River High School 36 Elkin Avenue, Heatherbrae	N
	OFFICE: Newcastle / DRAWN BY: KMF		PROJECT No: 216008.00
	SCALE: 1:1500 @ A3 / DATE: August 2022		DRAWING No:R.001.D.001
			REVISION: 0

wsp

Hunter River High School TESA

Figure 3

Investigation Area Test Pit Locations

Legend

- Property boundary
- Test Pit location
- Investigation Area 1
- Investigation Area 2
- Investigation Area 3
- Investigation Area 4
- Investigation Area 7

0 25 50 m

Coordinate system: GDA2020 MGA Zone 56

Scale ratio correct when printed at A3

1:3,000 Date: 06/10/2022

Data sources: MetroMap © Aerometrex 2022

Hunter River High School TESA

Figure 4

Asbestos identified location

Legend

- Property boundary
- Asbestos location

0 25 50 m

Coordinate system: GDA2020 MGA Zone 56

Scale ratio correct when printed at A3

1:3,000 Date: 13/02/2023

Data sources: MetroMap © Aerometrex 2022

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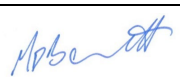
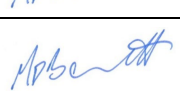
2	Alison Smith	Matthew Bennett	Matthew Bennett		10/05/2024
3	Alison Smith	Matthew Bennett	Matthew Bennett		22/05/2024