Asbestos Management Plan

(Incorporating an Environmental Management Plan)

Project

New Liverpool Primary School
Portion of 18 Forbes Street
Liverpool NSW 2170

Prepared for

ADCO Constructions Pty Ltd

Date

18/01/2024

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The findings presented in this report are based on specific data and information made available during the course of this project. To the best of Alliance’s knowledge, these findings represent a reasonable interpretation of the general condition of the site at the time of report completion.

No warranties are made as to the information provided in this report. All conclusions and recommendations made in this report are of the professional opinions of personnel involved with the project and while normal checking of the accuracy of data has been conducted, any circumstances outside the scope of this report or which are not made known to personnel and which may impact on those opinions is not the responsibility of Alliance.

Logs, figures, and drawings are generated for this report based on individual Alliance consultant interpretations of nominated data, as well as observations made at the time fieldwork was undertaken.

Data and/or information presented in this report must not be redrawn for its inclusion in other reports, plans or documents, nor should that data and/or information be separated from this report in any way.

Should additional information that may impact on the findings of this report be encountered or site conditions change, Alliance reserves the right to review and amend this report.

Executive Summary

Alliance Geotechnical Pty Ltd (Alliance) was engaged by ADCO Constructions Pty Ltd to prepare an asbestos management plan (AMP) for a portion of land at 18 Forbes Street, Liverpool NSW 2170 (refer **Figure 1,** with the 'site' boundaries outlined in **Figure 2**). The client also requested that the AMP incorporate relevant aspects of an environmental management plan (EMP), in the context of NSW EPA (2020b).

Since 2003, the NSW Department of Education (DoE) has had a separate fibro in grounds program to address school sites that have grounds asbestos related issues, which typically include types such as fragments of non-friable asbestos containing fibrous cement fragments.

At the commencement of the project, Alliance had the following project appreciation:

- The site is currently owned by NSW Department of Education, School Infrastructure;
- Friable and non-friable (bonded) asbestos containing materials identified onsite have been retained onsite in three purpose built containment cells, and in tree protection zones, capped with natural soils, and subject to soft landscaping turf and mulch.
- The reason for this AMP is to provide a strategy for the management of asbestos contamination in soil contained at the site.
- The purpose of this AMP is to document site management requirements to facilitate the mitigation of unacceptable human health exposure risks to onsite and offsite users from the contained asbestos in soil land contamination, within the scope of the proposed land use scenario.

The objective of this project was to prepare an asbestos management plan (AMP) for the site to address the following land contamination risks:

- Asbestos impacted soils in containment cell 1, containment cell 2 and containment cell 3; and
- Asbestos impacted soils in tree protection zones (TPZ).

This AMP contains information on:

- scope of work undertaken and limitations of this AMP;
- asbestos related regulatory requirements;
- organisational responsibilities;
- details of in-ground asbestos containing materials (ACM) where previous ACM ground works have been undertaken;
- risk assessment processes;
- management of in-situ asbestos containing materials in grounds;
- emergency response procedures; and
- safe working practices;
- training; and
- requirements for asbestos removal.

This AMP:

- comes into effect immediately upon the site transitioning from a construction phase to an operational phase; and

- will remain in force until such time as one or more of the following occurs:
    - this AMP is superseded by a new AMP; or
    - the contamination is remediated in such a way that ongoing management is no longer required.

In the event that ongoing management of contamination is no longer required, then it may be appropriate to remove the notation on the site's planning certificate, of the requirement for this AMP.

This AMP will be read in conjunction with any existing asbestos register for the school and the overarching Asbestos Management Plan for NSW Government Schools below:

- https://education.nsw.gov.au/content/dam/main-education/school-infrastructure-nsw/media/documents/DoE_Asbestos_Management_Plan_2015_F.pdf.

Alliance considers that the residual land contamination identified at the site, would not present an unacceptable human health risk (in the context of the adopted land use scenario), subject to this asbestos management plan being implemented.

This report must be read in conjunction with the ***Important Information About This Report*** statements at the front of this report.

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1 Introduction

1.1 Background

Since 2003, the NSW Department of Education (DoE) has had a separate fibro in grounds program to address school sites that have grounds asbestos related issues, which typically include types such as fragments of non-friable asbestos containing fibrous cement fragments.

Alliance Geotechnical Pty Ltd (Alliance) was engaged by ADCO Constructions Pty Ltd to prepare a asbestos management plan (AMP) for a portion of land at 18 Forbes Street, Liverpool NSW 2170 (refer **Figure 1,** with the 'site' boundaries outlined in **Figure 2**). The client also requested that the AMP incorporate relevant aspects of an environmental management plan (EMP), in the context of NSW EPA (2020b).

At the commencement of the project, Alliance had the following project appreciation:

- The site is currently owned by NSW Department of Education, School Infrastructure;
- Friable and non-friable (bonded) asbestos containing materials identified onsite have been retained onsite in three purpose built containment cells, and in tree protection zones, capped with natural soils, and subject to soft landscaping turf and mulch.
- The client requires a asbestos management plan (AMP) with an incorporated environmental management plan, to facilitate:
    - management of asbestos in ground to mitigate risk of exposure to asbestos in ground to personnel on site, including Department of Education (DoE), School Infrastructure NSW (SINSW) and public works advisory personnel, teaching staff, maintenance staff, students, maintenance contractors and other visitors; and
    - the client addressing relevant obligations under NSW Work Health and Safety Regulation 2017 and NSW Work Health and Safety Act 2011 as they relate to the presence of asbestos in ground.
- The client requires the structure and content of the AMP to be modelled on:
    - AECOM 2020, 'Asbestos in Grounds Management Plan, Casula Public School (4198), Casula, NSW', ref. 60535203, date 15 June 2020;
    - Safe Work & Environments (SWE) 2022, 'Asbestos in Grounds Management Plan, Liverpool West Public School, NSW', ref. S110973– SSAMP1.v1, date 15 August 2022;
- This AMP will be read in conjunction with any existing asbestos register for the school and the overarching Asbestos Management Plan for NSW Government Schools below:
    - https://education.nsw.gov.au/content/dam/main-education/school-infrastructure-nsw/media/documents/DoE_Asbestos_Management_Plan_2015_F.pdf.

1.2 Objectives

The objective of this project was to prepare an asbestos management plan (AMP) for the site to address the following land contamination risks:

- Asbestos impacted soils in containment cell 1, containment cell 2 and containment cell 3; and

- Asbestos impacted soils in tree protection zones (TPZ).

This AMP contains information on:

- scope of work undertaken and limitations of this AMP;
- asbestos related regulatory requirements;
- organisational responsibilities;
- details of in-ground asbestos containing materials (ACM) where previous ACM ground works have been undertaken;
- risk assessment processes;
- management of in-situ asbestos containing materials in grounds;
- emergency response procedures; and
- safe working practices;
- training; and
- requirements for asbestos removal.

1.3 Scope of Work

The following scope of works was undertaken address the project objectives:

- A desktop review of previous reports; and
- Data assessment and reporting.

The nominated scope of works was undertaken with reference to relevant sections of EPA (2020b), DIPNR (2004), SafeWork NSW (2022a) and SafeWork NSW (2022b).

1.4 Reason, Purpose and Timeframe

The reason for this AMP is to provide a strategy for the management of asbestos contamination in soil contained at the site.

The purpose of this AMP is to document site management requirements to facilitate the mitigation of unacceptable human health exposure risks to onsite and offsite users from the contained asbestos in soil land contamination, within the scope of the proposed land use scenario.

This AMP:

- comes into effect immediately upon the site transitioning from a construction phase to an operational phase; and
- will remain in force until such time as one or more of the following occurs:
    - this AMP is superseded by a new AMP; or
    - the contamination is remediated in such a way that ongoing management is no longer required.

In the event that ongoing management of contamination is no longer required, then it may be appropriate to remove the notation on the site's planning certificate, of the requirement for this AMP.

1.5 Enforceability

This AMP is considered to be enforceable based on:

- appropriate public notification of restrictions applying to the land, to ensure potential purchasers or other interested individuals are aware of the restrictions, has been made. Alliance understands that public notification will be achieved by an appropriate notation on the planning certificate issued under s. 10.7 of the Environmental Planning and Assessment Act and via uploading to internal and external facing DoE intranet (Asset Management System) and website;
- implementation of the AMP being an obligation under the Work Health Safety Regulation (2017);
- future development of the site (requiring planning consent) would take into consideration the notation on the planning certificate; and
- future development of the site (not requiring consent) would take into consideration that implementation of the AMP is an obligation under the Work Health Safety Regulation (2017).

The local planning consent authority does not require financial assurance in the context of implementing this report.

1.6 Active or Passive

The methods being implemented to manage residual contamination (i.e. ex-situ containment cells with capping layers, and in-situ capping in tree protection zones) are considered to be passive in nature, on the basis that the methods implemented (if left undisturbed) do not require human intervention to ensure the ongoing performance of those methods.

1.7 Responsible Parties

The parties responsible for implementation and review / maintenance of this report, and their associated tasks, are set out in **Section 5** and **Section 10**.

1.8 Location of Plan

The controlled master copy of this report will be held by the Principal within the cadastral site boundary, presented within **Figure 3**.

2 Site Identification

2.1 Site Details

Site identification details are presented in **Table 2.1**.

Table 2.1 Site Identification Details

Cadastral Identification	Portion of Lot 1 in Deposited Plan (DP) 1137425
Address	18 Forbes Street, Liverpool, NSW 2170
Geographic Coordinates (Google Earth 2023)	30°55'05"S & 150°55'59"
Site Area (approximate)	12,500m^2
Local Government Authority	Liverpool City Council
Current Zoning	SP2: Infrastructure – Health Services & Educational Facilities (Liverpool Local Environmental Plan 2008, as amended April 2023)

2.2 Site Layout

The layout of the site is present in **Figure 2**. The layout plan also includes locations on site of:

- Site boundary;
- Locations of areas onsite that require management.

The locations of containment cells 1, 2 and 3 and tree protection zones with retained contaminated soils onsite, is presented in **Figure 3** and **Appendix C.**

3 Site Environmental Setting

3.1 Geology

The Department of Minerals and Energy Geological Survey of NSW Penrith 1:100,000 Geological Series Sheet 9030 (Edition 1) 1991, indicates that the site is likely to be underlain by Bringelly Shale (a formation of the Wianamatta Group). Bringelly Shale is comprised of shale, carbonaceous claystone, laminite, fine to medium grained lithic sandstone, rare coal, and tuff.

A general summary of indicative site-specific geology likely to be encountered during future intrusive investigation works following the completion of site remediation / validation works is presented in **Table 3.1.1**, **Table 3.1.2, Table 3.1.3** and **Table 3.1.4** below**.**

Table 3.1.1 Site Specific Geology – Containment Cell 1

Unit	Description	Nominal Depth (m bgs)
Surface	Turf / Grasses	0.0-0.05
Topsoil turf underlay	Clayey SAND, fine to coarse, moist, greyish brown, low plasticity, trace fine grained gravels and rootlets.	0.05-0.15
Capping Layer	CLAY, red/orange, firm/stiff, high plasticity	0.15-1.2
Marker Layer	Geofabric	1.2m
Contaminated Soils	Gravelly SAND, black/dark grey (ash), fine to coarse grained. Or Sandy CLAY, pale brown to grey, trace gravels, soft to firm, medium plasticity Or Clayey SAND, brown/orange, fine to medium grained,	1.2-3.8
Natural	CLAY, high plasticity, stiff/very stiff, grey/orange.	3.8

Table 3.1.2 Site Specific Geology – Containment Cell 2

Unit	Description	Nominal Depth (m bgs)
Surface	Turf / Grasses	0.0-0.05
Topsoil turf underlay	Clayey SAND, fine to coarse, moist, greyish brown, low plasticity, trace fine grained gravels and rootlets.	0.05-0.15
Capping Layer	CLAY, red/orange, firm/stiff, high plasticity	0.15-1.5
Marker Layer	Geofabric	1.5m
Contaminated Soils	Gravelly SAND, black/dark grey (ash), fine to coarse grained. Or Sandy CLAY, pale brown to grey, trace gravels, soft to firm, medium plasticity Or Clayey SAND, brown/orange, fine to medium grained,	1.5-3.4
Natural	CLAY, high plasticity, stiff/very stiff, grey/orange.	3.4

Table 3.1.3 Site Specific Geology – Containment Cell 3

Unit	Description	Nominal Depth (m bgs)
Surface	Turf / Grasses	0.0-0.05
Topsoil turf underlay	Clayey SAND, fine to coarse, moist, greyish brown, low plasticity, trace fine grained gravels and rootlets.	0.05-0.15
Capping Layer	CLAY, red/orange, firm/stiff, high plasticity	0.15-1.0
Marker Layer	Geofabric	1.0m
Contaminated Soils	Gravelly SAND, black/dark grey (ash), fine to coarse grained. Or Sandy CLAY, pale brown to grey, trace gravels, soft to firm, medium plasticity Or Clayey SAND, brown/orange, fine to medium grained,	1.0-2.5
Natural	CLAY, high plasticity, stiff/very stiff, grey/orange.	2.5

Table 3.1.4 Site Specific Geology – Tree Protection Zone

Unit	Description	Depth (m bgs)
Surface	Mulch	0.0-0.05
Organic garden mix	Silty SAND, moist, fine to coarse grained, dark brown/grey, organics, leaves, mulch, roots and sticks.	0.05-0.15
Capping Layer	CLAY, red/orange, firm/stiff, high plasticity	0.15-0.25
Marker Layer	Geofabric	0.25
Contaminated Soils	Gravelly SAND, black/dark grey (ash), fine to coarse grained. Or Sandy CLAY, pale brown to grey, trace gravels, soft to firm, medium plasticity Or Clayey SAND, brown/orange, fine to medium grained,	0.25

3.2 Site Topography and Elevation

A review of available data on NearMap (2023) indicated that:

- The topography of the site is generally flat; and
- The surface of the site was located at an elevation of approximately 9-12 m Australian Height Datum (AHD). The regional topography slopes downwards to the Georges River further to the south-southeast.

4 Legislation, Regulation, Codes of Practice, Guidance and Approvals / Licensing

This AMP has been prepared with reference to the relevant sections of:

- Contaminated Land Management Act 2008;
- Contaminated Land Management Regulation 2013;

- NSW EPA 2014, ‘Waste Classification Guidelines – Part 1: Classification of waste’
- NSW EPA 2017, ‘Contaminated Land Management, Guidelines for the NSW Site Auditor Scheme (3rd edition)’, dated October 2017, ref: EPA 2017P0269.
- NSW EPA 2020, ‘Contaminated Land Guidelines: Consultants reporting on contaminated land’ dated May 2020, ref: EPA2020P2233.
- NSW Work Health and Safety Act 2011;
- NSW Work Health and Safety Regulation 2017;
- Protection of the Environment Operations Act 1997;
- Safe Work NSW 2022a, How to Manage and Control Asbestos in the Workplace: Code of Practice; and
- SafeWork NSW 2022b, ‘How to Safely Remove Asbestos: Code of Practice.

5 Responsibilities, Management Structure and Register of Contacts

5.1 Responsibilities

SINSW and/or DoE, as an organisation with management or control of a workplace (PCBU) has an obligation under Part 8.3 of the NSW Work Health and Safety Regulation 2017, to assess the risk of harm to the health and safety of any person arising from asbestos hazards.

Those responsible for the management of SINSW and/or DoE facilities and contractors are duty holders who have a duty of care. Each duty holder is required to comply with all relevant NSW legislation.

This AMP is designed for all duty holders where asbestos and asbestos containing materials is present in grounds. Duty holders include those responsible for the management of SINSW and/or DoE facilities, such as:

- School principal;
- Asset management directorate (AMU);
- AMU managers;
- Workers including voluntary staff; and
- Contractors working within the school.

5.2 Management Structure

The management structure (responsible parties) and responsibilities (tasks) for this AMP are presented in **Table 5.2**.

Table 5.2 Responsible Parties and Tasks

Responsible Party	Tasks
Landowner / SINSW Representative (Asset Management Unit)	Overall ownership of and responsibility for this AMP. Provide a copy of this AMP to the site occupant and contractors on site. Induct into, and train contractors on, the relevant aspects of this AMP. Ensure the Workplace Manager is implementing the relevant protocols and procedures in this AMP. Management review of this AMP. Implement relevant protocols and procedures in this AMP.
DoE Facility Manager	Issue 'permit to work' documents Ensure PPE requirements are met. Review contractor SWMS
Workplace Manager – School Principal	Provide a copy of this AMP to relevant parties prior to any works commencing on site. Perform routine inspections of remedial measures. Holds controlled master copy of the AMP. Ensure implementation of the relevant protocols and procedures in this AMP. Management review of this AMP. Ensure PPE requirements are met.
Business Manager	Induct into and train employees, contractors and visitors on, the relevant aspects of this AMP. Perform routine inspections of remedial measures. Ensure PPE requirements are met.
Employees	Implement all relevant protocols and procedures in this AMP.
Contractors	Implement all relevant protocols and procedures in this AMP.
Visitors	Implement all relevant protocols and procedures in this AMP.

5.3 Register of Contacts

A register of contact details of stakeholders considered relevant to the project, is presented in **Table 5.3.**

Table 5.3 Register of Contacts

Role	Primary Representative	Stakeholder	Contact
Emergency Services	Police / Fire / Ambulance	Police / Fire / Ambulance	000
Planning Authority	Liverpool City Council	Liverpool City Council	1300 362 170
WHS Regulatory Authority	SafeWork NSW	SafeWork NSW	131 050
Environmental Regulatory Authority	NSW EPA	NSW EPA	131 500
Landowner	Jonathon Le (Asset Management Unit)	Schools Infrastructure NSW	1300 482 651
School Principal	Ian Tapuska	Department of Education	0436 910 798
Business Manager	Sharyn Widdowson	Department of Education	0405 536 736

6 Asbestos In Grounds

6.1 Asbestos in Grounds Occurrences

Friable and non-friable (bonded) asbestos containing materials impacted soils have been contained on site:

- In three purpose built containment cells, comprising an overlying geofabric marker layer, a natural soil capping layer (nominally ~1m thick), topsoil material and turf; and
- Around the base of trees within a 2m radius of the tree trunk (where all asbestos impacted fill was not able to be removed due to the presence of tree protection zones (TPZ's) in the vicinity of tree roots, comprising an overlying geofabric marker layer, a natural soil capping layer (nominally ~0.2m thick) and either mulch or turf.
- Containment cell one is located within the southern portion of the site. Using the GPS coordinates presented in the survey plans provided by the client, the excavation footprint of CC1 comprised approximately 50m long, 35m wide and an excavation depth ranging between 3.868m bgl in the central-north to 3.814m bgl in the central-south (refer to **Appendix C**). Containment cell one contains a total of approximately 4,020m^3 of friable and bonded (non-friable) asbestos (refer to **Appendix C**);
- Containment cell two is located within the central southeast portion of the site. Using the GPS coordinates presented in the survey plans provided by the client, the excavation footprint of CC2 comprised approximately 10m long, 15m wide and an excavation depth ranging between 3.3m bgl in the east to 3.4m bgl in the west (Refer to **Appendix C**). Containment cell two contains a total of approximately 175m^3 of bonded (non-friable) asbestos (refer to **Appendix C**);
- Containment cell three is located within the central portion of the site. Using the GPS coordinates presented in the survey plans provided by the client, the excavation footprint of CC3 comprised approximately 20m long, 18m wide and an excavation depth ranging between 2.558m bgl in the central-north to 2.395m bgl in the central-south (Refer to **Appendix C**). Containment cell three contains a total approximately 325m^3 of bonded (non-friable) asbestos (refer to **Appendix C**); and
- The tree protection zones are located along the southeast, northeast and southwest boundary of the site (refer to **Figure 3**). Bonded (non-friable) asbestos is contained beneath the marker layers and cap materials.

The locations and extents of the asbestos in grounds occurrences (i.e. the three containment cells and relevant tree protection zones), are set out in **Figure 3** and **Appendix C.**

6.2 Asbestos in Grounds Register

The location, type, condition and accompanying risk assessment of asbestos identified in grounds at the site is recorded in the asbestos in grounds register presented in **Appendix A**.

6.3 Asbestos Health Effects

The Agency for Toxic Substances and Disease Registry (https://www.atsdr.cdc.gov/) advises that:

- Breathing asbestos can cause tiny asbestos fibres to get stuck in the lungs and irritate lung tissues.
- Scientific studies have shown that the following non-cancer diseases can be caused by breathing asbestos:

  - Asbestosis is scarring in the lungs caused by breathing asbestos fibres. Oxygen and carbon dioxide do not pass in and out of scarred lungs easily, so breathing becomes harder. Asbestosis usually occurs in people who have had very high exposures over a long time, but years may pass before any symptoms appear.
  - Pleural disease is a non-cancerous lung condition that causes changes in the membrane surrounding the lungs and chest cavity (pleura). The membrane may become thicker throughout (diffuse pleural thickening) or in isolated areas (pleural plaques), or fluid may build up around the lungs (known as a pleural effusion). Not everyone with pleural changes will have problems breathing, but some may have less efficient lung function.

- Asbestos exposure also increases the risk of developing certain cancers:
  - Lung cancer is a malignant tumour that invades and blocks the lung's air passages. Smoking tobacco combined with asbestos exposure greatly increases the chance of developing lung cancer.
  - Mesothelioma, is a rare cancer of the membrane that covers the lungs and chest cavity (pleura), the membrane lining the abdominal cavity (peritoneum), or membranes surrounding other internal organs. Signs of mesothelioma may not appear until 30 to 40 years after exposure to asbestos.

In addition to lung cancer and mesothelioma, asbestos exposure can also cause cancer of the larynx and ovary. Current evidence also suggests asbestos exposure may cause cancer of the pharynx, stomach, and colorectum.

7 Site Management Requirements

7.1 Inspections - General

In order to monitor the effectiveness of onsite management it is essential that the affected areas are regularly inspected. Visual inspections of the asbestos remedial measures should be carried out to ensure that they are maintained adequately. Re-inspections will be the responsibility of the principal or business manager. Such inspections should occur on the following occasions:

- At 3 monthly intervals for the first 24 month period and annually thereafter (e.g. a walkover of remediated areas to ensure that applications of mulch, turf, etc. have been maintained);
- As part of routine building inspections;
- After a period of prolonged heavy rain (e.g. a walkover of remediated areas to ensure that applications of mulch, turf, etc. have not been disturbed by heavy rain); and
- Whenever damage or disturbance has been reported (e.g. a walkover of remediated areas to ensure that applications of mulch, turf, etc. have not been disturbed by events such as vehicle trafficking).

Should areas of exposed soil or geo-fabric be identified where previous containment has occurred or where encapsulating measures appear to be damaged or are no longer effective, then these areas should be re-covered immediately. Some remedial measures, such as added surface layers of mulch and topsoils, may require ongoing maintenance to ensure that a sufficient barrier layer is in place.

Records of these inspections will be kept using the site management requirements checklists provided in **Appendix B** (Table 1 and Table 2).

7.2 Containment Cells

Inspections will be undertaken across the surface of the containment cell capping layer footprint. The inspections will be undertaken by a suitably competent person. The inspections of the landscaped areas will document the nature and extent of any grass dieback, erosion or cracking, and include a photographic record of the capped area (and the grass dieback, erosion and surface soil cracks observed).

A record of each inspection will be maintained by the Workplace Manager.

The inspection will be undertaken at 3 monthly intervals for the first 24-month period and annually thereafter, after the implementation date of this report.

7.3 Tree Protection Zones

Inspections will be undertaken across the tree protection zones within the south-eastern, north-eastern and south-western boundaries of the site. The inspections will be undertaken by a suitably competent person and document the nature and extent of any weathered / worn areas and any general wear and tear that could affect the integrity of the capping system below.

A record of each inspection will be maintained by the Workplace Manager.

The inspection will be undertaken at 3 monthly intervals for the first 24-month period and every six months, after the implementation date of this report.

7.4 Below Ground Works

For the purpose of this section of the report, below ground works could include minor construction works, and installation / maintenance of underground services including, but are not limited to, gas, water, power and telecommunications.

In the event that below ground works needs to be undertaken within CC1, CC2, CC3 and/or TPZ areas of the site, a notification of the intended works will be sent to the Workplace Manager for review and approval. Depending on the nature of the works, the following may also be required:

- an asbestos notification submitted to SafeWork NSW; and
- advice sought from suitably qualified arborist for subsurface works within TPZs.

It is noted that in the event below ground works constitutes some form of development, then it is anticipated that:

- development of the site (that requires planning authority consent) would take into consideration the AMP notation on the relevant planning certificate, and a consent condition issued that ensures appropriate management of the contamination during that development; and
- exempt or complying development of the site (not requiring planning authority consent) would take into consideration the implementation of the AMP as an obligation under the Work Health Safety Regulation (2017), and that an exempt or complying development project specific asbestos management strategy will be prepared.

Prior to the commencement of containment cell and/or TPZ capping layer disturbance, the work area will be securely fenced and access controlled. The asbestos in grounds register (refer to **Section 8.1**) on-site will be consulted to determine if any known asbestos containing materials are at risk of being disturbed. Entrance and exit to the site will be via a dedicated point which will contain the following features:

- Readily identifiable and delineated site access / egress point;
- Decontamination unit for all site personnel to remove PPE and dispose of contaminated items including hand wash and boot wash facility. The decontamination unit will be located in close proximity of the designated asbestos removal areas;
- Signage including “No Entry Without Required PPE” and a contact number for members of the public to direct any queries / complaints; and
- Emergency contact details.

Atmospheric monitoring will be undertaken (subject to the findings of the risk assessment in the relevant SWMS), or as may be recommended by a suitably experienced occupational hygienist / LAA.

Installation and/or maintenance works involving soil disturbance beneath the capping and marker layers will be undertaken by suitably licensed contractors.

Soils excavated from beneath the marker layer will be either:

- Stockpiled for burial beneath the marker layer during works completion (stockpiles will be placed on plastic sheeting, wetted down and covered with plastic); or
- Removed for offsite disposal, with reference to NSW EPA (2014a) or any guidance document that has superseded this In the event any of the marker layer is removed during installation / maintenance works, that section of marker layer will be replaced with orange geofabric, prior to underground services being installed/reinstated (in the same manner as the original orange geofabric marker layer).

Service trenches will only be backfilled with engineered gravels / sands with reference to **Section 7.8** of this report. Excavated material from beneath the marker layer will not be placed in service trenches.

All disturbed sections of the landscaping capping layer will be reinstated to a thickness comparable to the existing capping layer, which is nominally 1m thick over containment cells and 0.2m thick over TPZ, in addition to topsoil dressing.

Vegetation will be reinstated with turf rolls and maintained until soils are adequately covered and stabilised with grasses.

Wastes generated during installation and maintenance works will be removed from site for disposal, with reference to NSW EPA (2014a) or any guidance document that has superseded this. The contractor will maintain detailed records of each load of waste generated during remedial works, including:

- the location the waste was generated from;
- the classification of the waste;
- the date and time the waste was removed from the site;
- the vehicle registration number of the waste transport vehicle;
- the quantity of the load of waste removed from site;
- waste receipt docket from the waste receiving facility; and
- weighbridge docket from the waste receiving facility.

Waste regulations and guidance may be subject to amendment in the future and as such, personnel carrying out any works must ensure the latest relevant regulations and guidance are followed.

The following decontamination procedure will apply to all persons undertaking works on a containment cell requiring excavation beneath the high visibility marker layer:

- A decontamination unit will be erected at main entry/exit to the project location, within close proximity to the asbestos work zone. All personnel will adhere to the standard decontamination procedures alongside any instructions presented by the Class A Licensed Asbestos Removal Contractor. All personnel undertaking works within the asbestos works areas shall exit the contaminated zone via the decontamination unit installed at the site;
- Following completion of plant or machinery decontamination (i.e. using a HEPA fitted vacuum and/or wet wipes before being double bagged or placed in a seal tight container), the LAA shall undertake a visual clearance inspection of the plant or machinery for the presence of sediment, dust, and ACM prior to leaving the decontamination area;
- Cleaning of protective footwear, including removal of potentially contaminated material from the soles of the footwear; and
- Washing of hands (including prior to eating, drinking or smoking).

Plant and equipment will be appropriately decontaminated before leaving the works zone.

At the completion of the capping layer reinstatement works, an asbestos clearance certificate will be obtained from a licensed asbestos assessor or suitably competent person.

A record of the location of the underground service that was installed or subjected to maintenance, including photographs of reinstatement of marker layers and capping layers, will be kept and submitted to the school's Business Manager.

7.5 Repairs Due to Aging and Deterioration

The soil capping system will be protected from general deterioration by maintaining grass cover and/or mulch across the capped areas. General deterioration may appear as grass dieback or erosion.

Grass dieback will be repaired by planting new grass (and potentially replacement of the topsoil / growing medium). Mulch erosion will be repaired by reinstatement of new mulch (as required), to achieve surface coverage.
Minor cracks/erosion will be filled, using appropriate landscaping materials (refer to **Section 7.8)**. The repair works will be carried out by a suitably experienced contractor, with grass/mulch to be reinstated in repaired areas.

Major cracks will be investigated to establish the cause, and rectification works will be undertaken by a suitably experienced contractor. Grass will be reinstated by planting new grass (and potentially replacement of the topsoil / growing medium).

For repairs to the marker layer or where asbestos contaminated soils are disturbed, an asbestos clearance certificate will be obtained from a licensed asbestos assessor at completion of the repair works (prior to the capping layer being reinstated).

A record of the location of the repair, and the scope of work undertaken, including photographs of reinstatement of marker layers and capping layers, will be kept and submitted to the Workplace Manager.

7.6 Landscaping Management and Maintenance

The soil capping system overlain with grass will likely have management and maintenance such as lawnmowing, weeding and leaf removal to maintain the appearance in these areas as part of the site's usage. The soil capping system overlain with mulch will require management and maintenance such as replacement/reinstatement. Any personnel involved in maintenance activities will be made aware of the landscaping capping system beneath as to avoid accidental damage to the cap, particularly with any such activities that may intrude / penetrate the ground and risk damage to the marker layer placed beneath.

Personnel involved in routine management and maintenance within CC1, CC2, CC3 and TPZ areas of the site, do not require any specific PPE or controls with respect to asbestos unless there is a risk of damage to the capping system including the marker layer.

In the event that any activities do cause damage to the underlying capping system, a record should be maintained, with the work area being fenced off, relevant signage put in place, and sediment controls installed (where appropriate). Measures set out in **Section 7.4** for disturbing the capping layer will then be followed.

7.7 Asbestos Incident Procedure – Contingency Plan

This asbestos incident procedure aims to set out the steps to be taken for asbestos management when suspected ACMs have been found in DoE Facility grounds. Potential, however unlikely, scenarios where suspected ACMs may be found in DoE Facility grounds include:

- Illegal dumping of suspected asbestos waste - Dumped asbestos waste can be mixed with general builders' waste, which may include rubble and spoil.

- Single source at surface such as fibre cement sheeting (FCS) – This is usually due to demolition of a structure containing asbestos such as a building or fence where waste has been left at the surface or buried instead of being properly disposed of.
- Fill materials – Fill materials have been widely used in DoE Facilities, typically for landscaping / levelling purposes.
- Fill may also be present in building footprints. Fill generally comprises builders' rubble, typically bricks, although older fill often contains waste fibrous cement materials in addition to other building materials. Fill may also be generated on-site to build up depressions or level grounds.
- In-ground asbestos cement pipes – It is possible that asbestos cement drainage pipes may be present in-situ within the ground at DoE facilities. While such materials remain buried and in operation, they represent a low risk.

The following procedure is set out as a guide to follow where suspected ACMs 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 DoE AMU on 132 779 as soon as practicable and Incident Report and Support Hotline on 1800 811 523.
- DoE or their representatives will arrange inspections and testing if necessary, by consultant from DoE hygienist panel, DoE 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.
- Site specific AMP is updated to enter area into asbestos in grounds register.

In the event that an environmental management strategy in this report does not perform as designed (e.g. excessive ground disturbance, potholing or some other performance failure), one or more of the following contingency measures may be considered and implemented:

- removal of the capping material, and reinstating with a more suitable or alternatively designed capping system;
- treatment of the impacted soils in a way that reduces the unacceptable land contamination risk to an acceptable level;
- amend the land use scenario, to facilitate any alternative risk management strategy.

7.8 Material Importation and Backfilling

Should material importation and backfilling be required, then backfill material being imported onto site will be lawful and will be limited to:

- Virgin excavated natural material (VENM);
- Excavated natural material (ENM); and
- Other materials that:
    - have been certified as compliant with a NSW EPA issued resource recovery exemption and the placement on the site is within the constraints of the resource recovery exemption; and

- do not present an unacceptable human health or ecological exposure risk, in the context of the proposed land use scenario.

Material proposed for importing will be compatible with existing soil characteristics for site drainage purposes. Nominating engineering properties (compaction, density, moisture content) is not within the scope of this assessment report and may need to be specified by others.

8 Safe Working Practices

8.1 General

Prior to commencing any works to grounds on any DoE facility, the asbestos in grounds register (refer to **Appendix A**) on-site must be consulted to determine if any known asbestos containing materials are present that are at risk of being disturbed (https://education.nsw.gov.au/about-us/strategies-and-reports/our-reports-and-reviews/schools-asbestos-register).

If documented asbestos containing materials are present in the area and may be impacted upon by the proposed works, these works will be completed with reference to the controls outlined in **Section 7.4** of this plan.

If unknown materials or undocumented materials suspected of containing asbestos are encountered during works, such materials are to be treated as if they contain asbestos and any work that may impact on that material must immediately cease, pending sampling and analysis by a qualified person selected from the DoE hygienist panel. This will allow the DoE to determine what control methods are required.

8.2 Awareness Training

It is best practice that DoE Asset Management personnel and Facilities Maintenance Contractors who are not likely to be exposed to asbestos but work in areas where asbestos is, or may be present, in grounds be provided with asbestos awareness training. It is recommended that such training shall include the following:

- Overview of asbestos related legislation (State), standards and codes of practice.
- Information on the presence of asbestos in DoE Facility grounds, including the types of asbestos and typical locations where asbestos may be encountered.
- Information should be provided on the differences between friable and non-friable products.
- Highlighting the need to avoid disturbing in-situ asbestos containing materials.
- Procedures to be followed in the event disturbed asbestos containing materials are identified, or unknown materials / products suspected of containing asbestos are encountered, including the relevant point of contact within the DoE.
- Information about general methods of asbestos management and removal.
- Information about airborne asbestos air monitoring.

Asbestos awareness training is to be provided by a consultant selected from the DoE hygienist panel.

All employees and contractors undertaking works on, or in the immediate vicinity of, the land that is the subject of this report, will undergo training to ensure they understand their obligations under this report. Training will include:

- a site induction;
- familiarisation with the requirements of this report;
- familiarisation with site environmental controls; and
- targeted environmental training for specific personnel, for example, specific training in dust management, or use of relevant personal protective equipment (PPE); and

- environmental emergency response training.

Training records will be maintained, and will include:

- the date of the training;
- the name of the trainer;
- the scope of the training;
- the names of personnel trained on this AMP; and
- information on how competency was assessed.

The need for additional training or revised training will be assessed based on the outputs of monitoring and review of report implementation.

8.3 Permit to Work

If it is determined, after consulting the asbestos in grounds register, that ACM is present in the vicinity of the planned works, a permit to work authority will need to be issued to, and signed by, the contractor. Permit to work authorities will only be issued by the DoE Facility Manager. All asbestos works must be managed by an agent of DoE, such as Department of Public Works, following approval from the directorate. All asbestos works are to be undertaken outside of school hours.

Before being issued with a permit to work, individuals will be required to read and understand this AMP as well as copies of asbestos removal control plans or risk assessments prepared by DoE hygienist panel members. Individuals must be aware of their legal obligations in relation to health and safety specified in the NSW Work Health and Safety Act 2011 and the NSW Work Health and Safety Regulation 2017.

Workers engaged in the removal of asbestos and asbestos containing materials will not be issued with a permit to work unless they are employed by a company holding an asbestos removal licence issued by SafeWork NSW appropriate for the type of asbestos containing materials concerned.

The permit to work formally places a responsibility for compliance with this AMP and the NSW Work Health and Safety Regulation 2017 on the signatories.

The permit to work is designed to ensure appropriate work practices are employed in the vicinity of asbestos containing materials. The permit to work will document what asbestos is to be removed, encapsulated or otherwise protected, prior to the contracted maintenance or building works proceeding. The permit to work will also indicate whether other requirements such as use of personal protective equipment (PPE), the installation of barricading and airborne fibre monitoring are necessary and may provide recommendation for further consultation, sampling or investigation by a member of the DoE hygienist panel prior to permit and contract finalisation.

When a project involves a team of more than one worker, the person in charge of the team will be issued with the permit to work. That person will be responsible to ensure their workers are aware of their responsibilities. That person will also be responsible to ensure that each worker’s signature appears on the appropriate section of the permit.

When work is completed, or the permit to work expires (whichever occurs first), the permit shall be signed by the contractor and returned to the DoE Facility Manager to cancel it after ensuring that a safe situation exists. The DoE Facility Manager shall review any documentation provided by the DoE hygienist panel member, such as asbestos air monitoring and asbestos clearance inspection certificates and inspect the work area to ensure that it is fit for purpose prior to returning it to normal use. The AMU can provide assistance if required.

The DoE Asset Management Directorate shall be advised immediately by any site personnel of any incidents of non- compliance with the AMP that have occurred.

The DoE Facility Manager will maintain a register of all permits to work that have been issued and cancelled.

It will be a condition of engagement of contractors who are required to work on-site that a permit to work be issued and cancelled as required.

8.4 Contractor Health and Safety

Prior to undertaking any work that involves the removal, repair or disturbance of asbestos containing materials, a Safe Work Method Statement (SWMS) will be prepared that defines safe procedures to protect the health and safety of personnel. This statement should include the following measures, as a minimum:

- Confirmation of their review of the relevant asbestos register, asbestos removal control plan and other relevant documentation, prior to preparation of the SWMS.
- Review of risks associated with their possible exposure to asbestos or ACMs.
- All workers shall wear appropriate Personal Protective Equipment (PPE) for the work undertaken. This may include protective coveralls, gloves and safety boots.
- All workers shall wear appropriate Respiratory Protective Equipment (RPE) for the work undertaken.
- Decontamination procedures and measures (if applicable).
- Asbestos removal areas and buffer zones.
- Asbestos air monitoring samples (number and frequency).

The tasks to be undertaken must be reviewed against this report to determine what type of capping system and contaminated materials could be disturbed and what health and safety mitigation measures should be implemented.

In addition:

- A reference to all appropriate licences and insurances held by the contractor should be included.
- A reference as an additional safety measure that all works are to be undertaken outside school hours, should be included. Appropriate measures are to be included regarding this requirement.

The Safe Work Method Statement (SWMS) should be reviewed by the DoE Facilities Manager that engages the contractor as per the requirements of the permit to work.

8.5 Personal Protective Equipment

The following personal protective equipment (PPE) will be worn (as a minimum) by all persons undertaking works which involve disturbing contaminated soils beneath the capping layer of containment cell 1, containment cell 2, containment cell 3 and tree protection zones:

- Laceless steel capped safety boots / rubber roled work shoes / steel capped gum boots;
- Disposable latex/nitrile gloves, (non-penetrable);
- Disposable boot covers;
- Safety hard hat and glasses;
- Disposable coveralls (type 5, category 3 (EN ISO 13982–1) or equivalent that would meet this standard; and
- Minimum disposable half-face particulate respirator (P3 rated or higher).

9 Asbestos Removal

A detailed and site-specific work scope and technical specification will be developed by an agent of DoE or their representative prior to the removal of ACM from site. The removal of ACM shall be performed by a licensed asbestos removal contractor selected from the DoE hygienist panel (i.e. the appropriate licence for the removal of asbestos issued by SafeWork NSW).

It is DoE policy to engage a Class A licensed contractor as best practice for all occurrences of asbestos contaminated soil. The contractor will be engaged by an agent of DoE/SINSW from a panel approved by DoE and all engagements will be according to SafeWork NSW guidelines and follow the advice of the hygienist / competent (asbestos assessor) person engaged from the DoE hygienist panel.

9.1 Asbestos in Grounds General Removal Procedures

All works carried out that involves disturbance of ACM (including removal) will be administered by DoE or their representative.

All removals will be undertaken according to:

- Contaminated Land Management Act 2008.
- Contaminated Land Management Regulation 2013.
- NSW Work Health and Safety Act 2011.
- NSW Work Health and Safety Regulation 2017.
- How to Manage and Control Asbestos in the Workplace: Code of Practice.
- How to Safely Remove Asbestos: Code of Practice.
- NSW EPA Waste Classification Guidelines – Part 1: Classification of waste 2014.
- Other relevant documentation issued from time-to-time by SafeWork NSW or NSW EPA.

The advice of the hygienist / competent (asbestos assessor) person engaged from the DoE hygienist panel will be sought to conduct a risk assessment and determine the most appropriate control measures and remediation strategies prior to asbestos removal works getting underway.

10 Management Review

10.1 Review of Plan and Reporting

The final site AMP will be subjected to periodical management review, to ensure its ongoing applicability, suitability and effectiveness.

The review will be undertaken by the Workplace Manager, in consultation with the DoE Facility Manager.

The review will include:

- a check on whether relevant records are being adequately maintained; and
- identification of opportunities for improvement on implementation of this AMP.

A review of the plan will be undertaken every 12 months from the date of implementation of the final AMP.

Should the review identify a need to modify the final site AMP, the workplace manager will communicate that need to the landowner.

The report for the management review will include:

- Date of review and names of parties involved;
- Site identification details;
- A summary of planned disturbance work undertaken during the review period (if any);
- A summary of the findings of periodic inspections;
- A summary of unplanned disturbances and corrective / preventative actions implemented.
- Identification of opportunities for improvement; and
- Recommendations for amendments and/or removal of the AMP.

A record of each review report will be maintained by the Workplace Manager, and a copy of each review record forwarded to the land owner.

10.2 Plan Amendment and Cessation

Should a management review of the final AMP identify:

- a need to amend the plan in order to address an opportunity for improvement; or
- that management of existing / residual contamination can be ceased

Then a report containing

- information setting out the proposed amendment or intention to cease contamination management;
- reasoning to support the change or intention to cease;

will be submitted to the relevant regulatory authority and/or consent authority.

The final AMP will remain in force until approval to amend or cease has been received by the landowner.

11 Conclusions

Alliance considers that the residual land contamination identified at the site, would not present an unacceptable human health risk (in the context of the adopted land use scenario), subject to this asbestos management plan being implemented.

This report must be read in conjunction with the ***Important Information About This Report*** statements at the front of this report.

12 References

Alliance 2021a, Waste Classification Report, New Liverpool Public School, 18 Forbes Street, Liverpool NSW, Alliance Geotechnical Pty Ltd, ADCO Constructions Pty Ltd, 13798-ER-1-1, dated 29 September 2021.

Alliance 2021b, Supplementary Contamination Assessment Report, New Liverpool Public School, 18 Forbes Street, Liverpool NSW, Alliance Geotechnical Pty Ltd, ADCO Constructions Pty Ltd, 13798-ER-2-2, dated 8 December 2021.

Alliance, 2021c, Asbestos Management Plan, New Liverpool Public School, 18 Forbes Street, Liverpool NSW, Alliance Geotechnical Pty Ltd, ADCO Constructions Pty Ltd, 13798-ER-3-1, dated 26 November 2021.

Alliance 2022, Remedial Action Plan, New Liverpool Public School, 18 Forbes Street, Liverpool NSW, Alliance Geotechnical Pty Ltd, ADCO Constructions Pty Ltd, 13798-ER-4-1 (Rev 1), dated 16 December 2022.

Alliance 2023a, Interim Site Validation Report, New Liverpool Public School, 18 Forbes Street, Liverpool NSW, Alliance Geotechnical Pty Ltd, ADCO Constructions Pty Ltd, 13798-ER-7-1_Final, dated 24 March 2023.

Alliance 2023b, Interim Site Validation Report No.2, New Liverpool Public School, 18 Forbes Street, Liverpool NSW, Alliance Geotechnical Pty Ltd, ADCO Constructions Pty Ltd, 13798-ER-7-2_Final, dated 24 August 2023.

DIPNR 2004, ‘Guideline for the Preparation of Interim environmental management plans’

DUAP 1998, ‘Managing Land Contamination Planning Guidelines SEPP55 – Remediation of Land’, dated April 1999, ref: 98/65.

Clifton 2021, Inspection of asbestos cement sheet debris in surface soil ADCO Constructions area at the Liverpool Boys High School, 18 Forbes Street, Liverpool NSW, P. Clifton & Associates, ADCO Constructions Pty Ltd, dated 5 September 2021 (Clifton, 2021).

Coffey 2021a, Site Contamination Assessment, Liverpool New Public School, School Infrastructure NSW, NSW Department of Education (DoE), NSW754-SYDEN231101-R03-Rev1, dated 31 March 2021;

Coffey 2021b, Supplementary Contamination Assessment, New Liverpool Primary School, School Infrastructure NSW, NSW Department of Education (DoE), c/o CRBE, SYDEN231101-R04-Rev 0, dated 13 April 31, 2021;

National Environment Protection Council (NEPC) 2013a, ‘Schedule B(1) Guideline on Investigation Levels for Soil and Groundwater’, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

National Environment Protection Council (NEPC) 2013b, ‘Schedule B(2) Guideline on Site Characterisation’, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

National Environment Protection Council (NEPC) 2013c, ‘Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soil’, National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

National Environment Protection Council (NEPC) 2013d, 'Schedule B(4) Guideline on Site-Specific Health Risk Assessment Methodology', National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

National Environment Protection Council (NEPC) 2013e, 'Schedule B(5a) Guideline on Ecological Risk Assessment', National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

National Environment Protection Council (NEPC) 2013f, 'Schedule B(5b) Guideline on Methodology to Derive Ecological Investigation Levels in Contaminated Soils', National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

National Environment Protection Council (NEPC) 2013g, 'Schedule B(5c) Guideline on Ecological Investigation Levels for Arsenic, Chromium (III), Copper, DDT, Lead, Naphthalene, Nickel and Zinc', National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

National Environment Protection Council (NEPC) 2013h, 'Schedule B(6) Guideline on The Framework for Risk-Based Assessment of Groundwater Contamination', National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

National Environment Protection Council (NEPC) 2013i, 'Schedule B(7) Guideline on Derivation of Health-Based Investigation Levels', National Environment Protection (Assessment of Site Contamination) Measure (NEPM) as amended in May 2013.

NSW DPIE 2021, 'State Environmental Planning Policy (Resilience and Hazards) 2021'

NSW EPA 2017, 'Contaminated Land Management, Guidelines for the NSW Site Auditor Scheme (3rd edition)', dated October 2017, ref: EPA 2017P0269.

NSW EPA 2020b, 'Contaminated Land Guidelines: Consultants reporting on contaminated land' dated May 2020, ref: EPA2020P2233.

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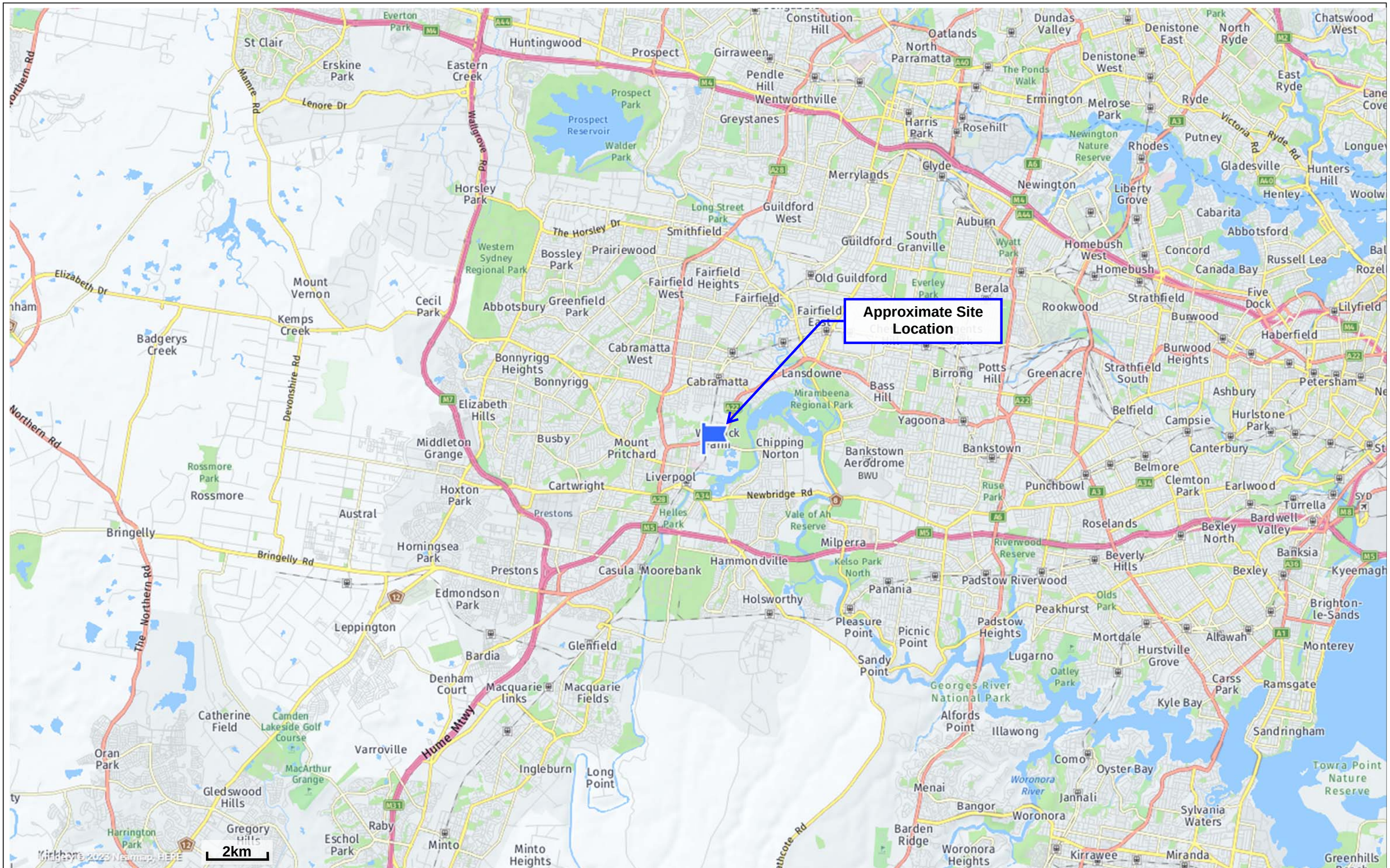
WA DOH 2009, 'Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia', dated May 2009.

FIGURES

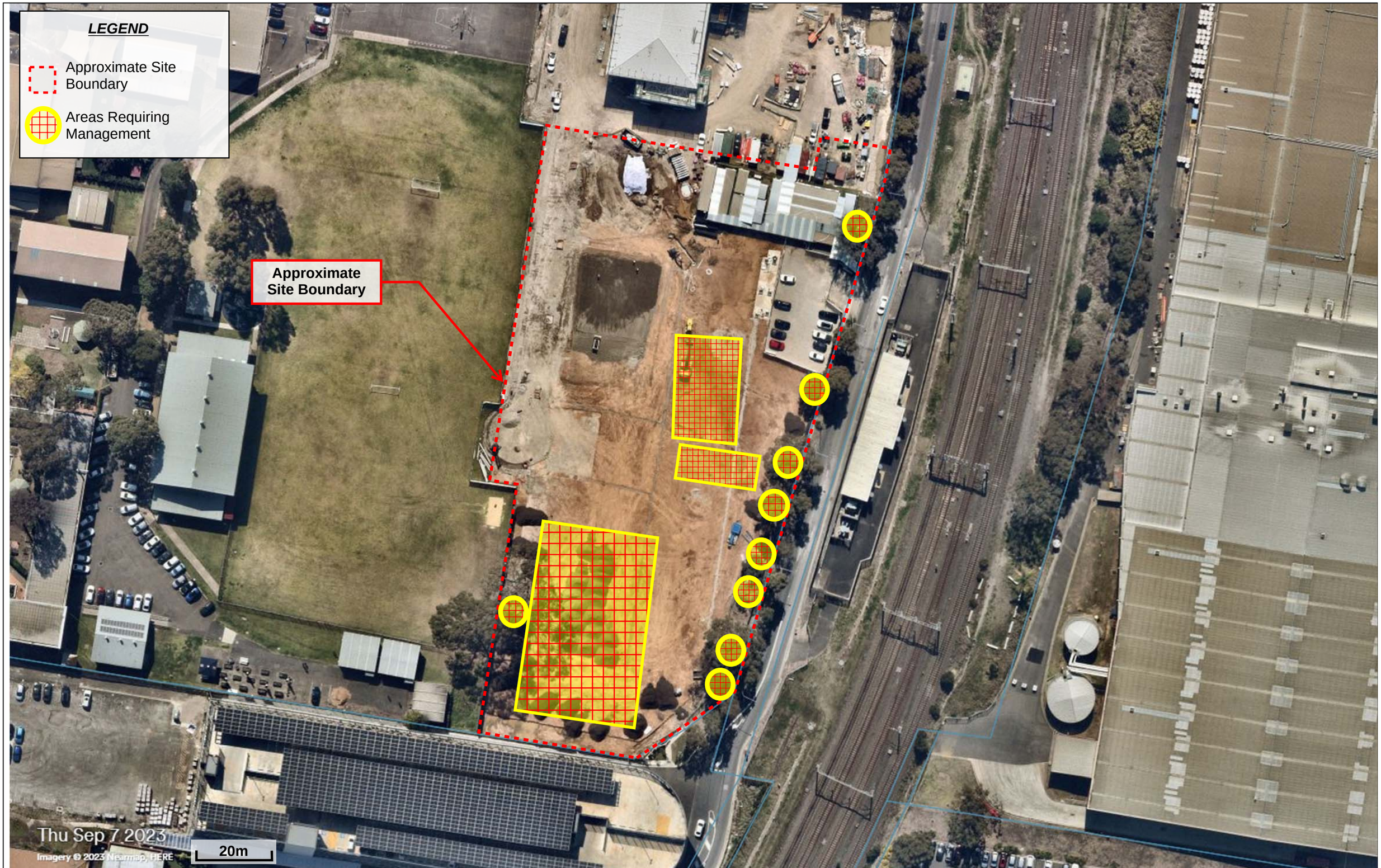


Site Locality

alliance

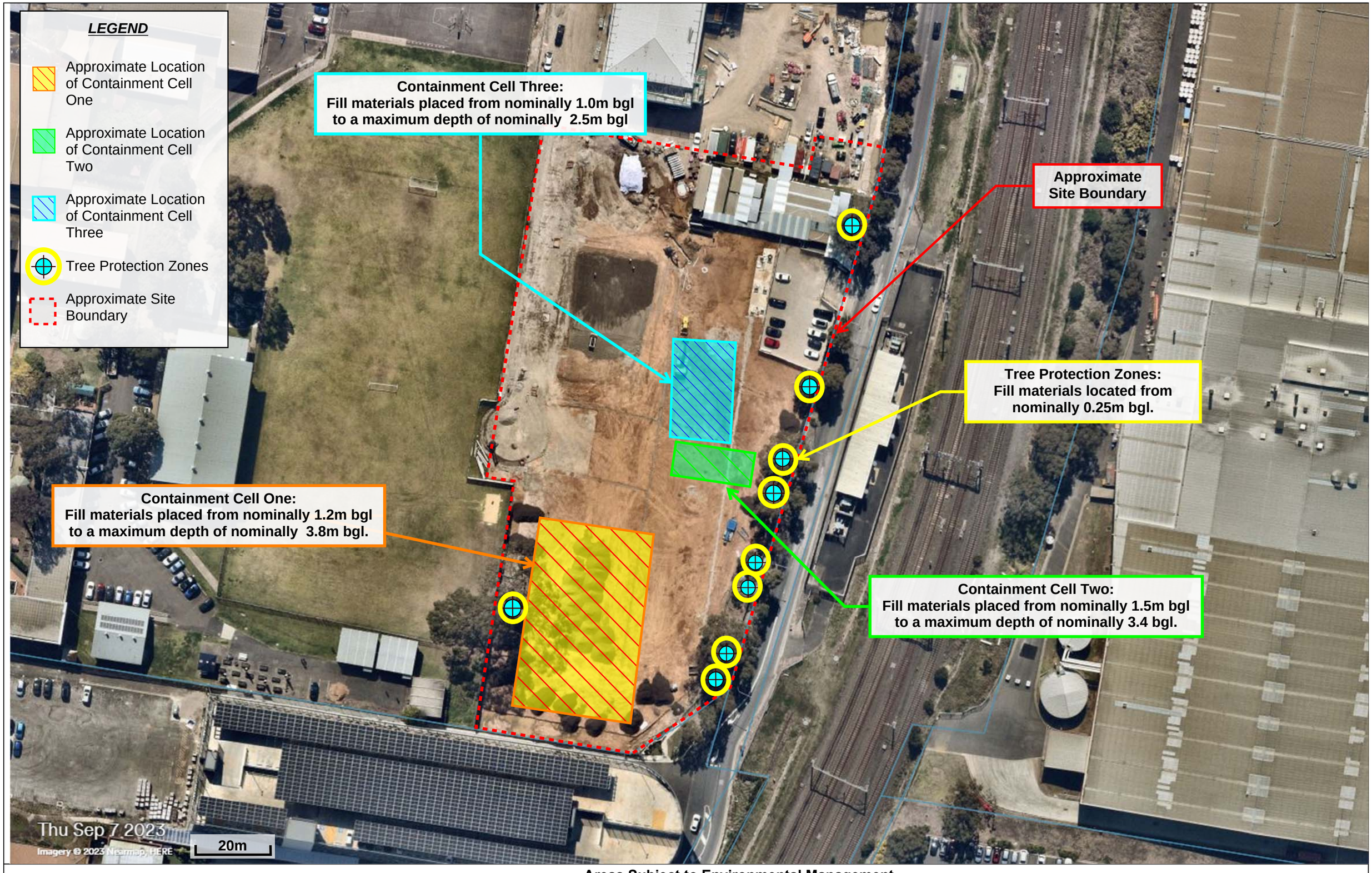
Client Name:	ADCO Constructions Pty Ltd	Figure Number:	1
Project Name:	New Liverpool Primary School	Figure Date:	01/11/2023
Project Location:	18 Forbes Street, Liverpool NSW 2170	Report Number:	13798-ER-8-1

N



Site Layout Plan

alliance	Client Name:	ADCO Constructions Pty Ltd	Figure Number:	2	N
	Project Name:	New Liverpool Primary School	Figure Date:	21/12/2023	
	Project Location:	18 Forbes Street, Liverpool NSW 2170	Report Number:	13798-ER-8-1	



Areas Subject to Environmental Management

alliance

Client Name:	ADCO Constructions Pty Ltd	Figure Number:	3
Project Name:	New Liverpool Primary School	Figure Date:	21/12/2023
Project Location:	18 Forbes Street, Liverpool NSW 2170	Report Number:	13798-ER-8-1

N

APPENDIX A – Asbestos Register

APPENDIX A: ASBESTOS IN GROUNDS REGISTER

Appendix A Asbestos in Grounds Register

Area	Location	Material Description	Extent	Maintenance Requirements
Containment Cell 1	Southern portion of the site (refer to **Figure 3).**	Friable and non-friable (bonded) asbestos containing materials (ACM).	Approximately 50m long, 35m wide and an excavation depth of approximately 3.8m below ground level (bgl). Impacted soils are located within this area of the site from approximately 1m bgl to 3.8m bgl. These impacted soils are located beneath a capping system (refer **Section 3.1**) which includes a geofabric marker layer and capping depth of nominally ~1m thick, presented in **Figure 3** and **Appendix C.**	Visual checks to ensure grass cover is adequate at three-monthly intervals. Periodic (3 monthly) resting of area may be required otherwise turf will require re-laying if the turf is dead or the surface becomes eroded. Adequate watering during drought periods is required to ensure healthy turf surfaced (this option may not be suitable during periods of extended drought when reservoir levels drop below 40%).
Containment Cell 2	Southeast portion of the site (refer to **Figure 3).**	Non-friable (bonded) asbestos containing materials (ACM).	Approximately 10m long, 15m wide and an excavation depth of approximately 3.4m bgl. Impacted soils are located within this area of the site from approximately 1m bgl to 3.4m bgl. These impacted soils are located beneath a capping system (refer **Section 3.1**) which includes a geofabric marker layer and capping depth of nominally ~1m thick, presented, presented in **Figure 3** and **Appendix C.**	Visual checks to ensure grass cover is adequate at three-monthly intervals. Periodic (3 monthly) resting of area may be required otherwise turf will require re-laying if the turf is dead or the surface becomes eroded. Adequate watering during drought periods is required to ensure healthy turf surfaced (this option may not be suitable during periods of extended drought when reservoir levels drop below 40%).

Area	Location	Material Description	Extent	Maintenance Requirements
Containment Cell 3	Central portion of the site (refer to **Figure 3).**	Non-friable (bonded) asbestos containing materials (ACM).	Approximately 20m long, 18m wide and an excavation depth of approximately 2.6m bgl. Impacted soils are located within this area of the site from approximately 1m bgl to 2.6m bgl. These impacted soils are located beneath a capping system (refer **Section 3.1**) which includes a geofabric marker layer and capping depth of nominally ~1m thick, presented, presented in **Figure 3** and **Appendix C.**	Visual checks to ensure grass cover is adequate at three-monthly intervals. Periodic (3 monthly) resting of area may be required otherwise turf will require re-laying if the turf is dead or the surface becomes eroded. Adequate watering during drought periods is required to ensure healthy turf surfaced (this option may not be suitable during periods of extended drought when reservoir levels drop below 40%).
Tree Protection Zones	Southeast, northeast and southwest portion of the site (refer to **Figure 3).**	Non-friable (bonded) asbestos containing materials (ACM).	Excavation within TPZ to approximately 0.2m. Impacted soils are located within these areas of the site (depicted in **Figure 3)** beneath a capping system (refer to **Section 3.1)** which includes a geofabric marker layer and capping depth of nominally 0.2m thick, presented in **Figure 3** and **Appendix C.**	Visual checks to ensure mulch cover is adequate at three-monthly intervals. Periodic (3 monthly) resting of area may be required otherwise mulch require re-laying if the surface becomes eroded.

APPENDIX B – Site Management Requirements Checklist

APPENDIX B: SITE MANAGEMENT REQUIREMENTS – CHECKLIST

Appendix B: Table 1 Interval Checklist

Area	**Location**	Inspection Details	Initial Inspection	Subsequent Three-Monthly Inspections			
			Date	Date	Date	Date	Date
Containment Cell 1	Southern portion of the site (refer to **Figure 2** and **Figure 3).**	Surface cover adequate? (Y/N) Marker Layer Visible? (Y/N) Suspected asbestos materials visible? (Y/N)					
Containment Cell 2	Southeast portion of the site (refer to **Figure 2** and **Figure 3).**	Surface cover adequate? (Y/N) Marker Layer Visible? (Y/N) Suspected asbestos materials visible? (Y/N)					
Containment Cell 3	Central portion of the site (refer to **Figure 2** and **Figure 3).**	Surface cover adequate? (Y/N) Marker Layer Visible? (Y/N) Suspected asbestos materials visible? (Y/N)					
Tree Protection Zones	Northeast, southeast and southwest portion of the site (refer to **Figure 2** and **Figure 3).**	Surface cover adequate? (Y/N) Marker Layer Visible? (Y/N) Suspected asbestos materials visible? (Y/N)					

APPENDIX B: SITE MANAGAMENT REQUIREMENTS – CHECKLIST

Appendix B: Table 2 Incident Inspection Checklist (e.g. following heavy rain or disturbance)

Area	**Location**	Inspection Details	Initial Inspection	Subsequent Incident Inspections			
			Date	Date	Date	Date	Date
Containment Cell 1	Southern portion of the site (refer to **Figure 2** and **Figure 3).**	Surface cover adequate? (Y/N) Marker Layer Visible? (Y/N) Suspected asbestos materials visible? (Y/N)					
Containment Cell 2	Southeast portion of the site (refer to **Figure 2** and **Figure 3).**	Surface cover adequate? (Y/N) Marker Layer Visible? (Y/N) Suspected asbestos materials visible? (Y/N)					
Containment Cell 3	Central portion of the site (refer to **Figure 2** and **Figure 3).**	Surface cover adequate? (Y/N) Marker Layer Visible? (Y/N) Suspected asbestos materials visible? (Y/N)					
Tree Protection Zones	Northeast, southeast and southwest portion of the site (refer to **Figure 2** and **Figure 3).**	Surface cover adequate? (Y/N) Marker Layer Visible? (Y/N) Suspected asbestos materials visible? (Y/N)					

APPENDIX C – Site Remediation Surveys

NOTE:
DRAWING CASE194701WW_D_1.2-REV 2.dwg - GROUND FLOOR CONCRETE SETOUT PLAN OVERLAID
IN GREY FOR REFERENCE PURPOSES ONLY

STOCKPILE LOCATION
TOTAL VOLUME: 99.6m

BURNSIDE

SYD. TRAIN NET.

Issue	Amendment	Date	

LEGEND
- 9.175 SURFACE LEVELS
- TREE ZONE
- CONTAINMENT PIT OUTLINE
- STOCKPILE LOCATION & VOLUME

CLIENT
ADCO CONSTRUCTION

PROJECT
NEW LIVERPOOL PUBLIC SCHOOL

DRAWING TITLE
S-PILE, TREE, & TANK SURVEY

TITLE INFORMATION
Lot: 1
Plan No.: 1137425
Title / Folio:
L.G.A.: LIVERPOOL
Parish: ST LUKE
County: CUMBERLAND

QUALITY ASSURANCE
Surveyor: JJ
Drawn: JL
Checked by: SL Date: 21.04.2023
Approved by: SL Date: 21.04.2023
COMPLETION OF QUALITY ASSURANCE IS EVIDENCE THAT THE SURVEY WORKS UNDERTAKEN AND THE DRAWING HAVE BEEN VERIFIED AS CONFORMING WITH THE REQUIREMENTS OF THE QUALITY PLAN. WHERE THE QUALITY ASSURANCE IS INCOMPLETE ALL INFORMATION ON THIS DRAWING IS INTENDED FOR PRELIMINARY PURPOSES ONLY AS IT IS UNCHECKED.

Date of Survey: 19.04.2023 Date of Plan: 21.04.2023
Datum: AHD Co-ords: -
Scale: 1:125 (Original size A1)
Cad ref : 201363-SPILE-TREES-TANK-SURVEY-001A.dwg Sheet 1 of 1
JOB NUMBER DRAWING NUMBER / ISSUE
201363 SPILE-TREES-TANK-SURVEY-001A

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LCG GLOBAL Pty Ltd
ABN: 90 605 142 110

NOTE:
DRAWING CASE194701WW_D_1.2-REV 2.dwg - GROUND FLOOR CONCRETE SETOUT PLAN OVERLAID IN GREY FOR REFERENCE PURPOSES ONLY

INITIAL BASE CONTAINMENT CELL VOLUME: 5,978.8m³

E 308898.204
N 6244905.484

E 308903.590
N 6244951.484

E 308904.789
N 6244953.610

E 308932.378
N 6244900.697

E 308934.020
N 6244901.950

E 308939.795
N 6244942.535

E 308940.899
N 6244941.161

E 308935.046
N 6244963.498

E 308938.904
N 6244973.905

E 308955.649
N 6244954.916

E 308960.753
N 6244964.801

STOCKPILE LOCATION
TOTAL VOLUME: 972.3m³

SYD. TRAIN LINE

BURNSIDE

LEGEND

- 9.175 SURFACE LEVELS
- 5.375 BOTTOM OF TANK
- 8.375 TOP OF TANK
- 8.129 MARKING LAYER LEVELS
- 8.129 FINAL SURFACE LEVELS
- TREE ZONE
- STOCKPILE LOCATION & VOLUME

LAWRENCE CONSULTING GROUP

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LCG GLOBAL Pty Ltd
ABN: 90 605 142 710

Issue	Amendment	Date
B	STOCKPILE VOLUME AMMENDED	08.05.2023
C	INITIAL CONTAINMENT TANK ADDED	09.05.2023
D	POST FILL LEVELS ADDED	29.05.2023
E	POST FILL LEVELS ADDED	01.06.2023
F	POST FILL LEVELS ADDED	01.06.2023

CLIENT
ADCO CONSTRUCTION

PROJECT
NEW LIVERPOOL PUBLIC SCHOOL

DRAWING TITLE
S-PILE, TREE, & TANK SURVEY

TITLE INFORMATION
Lot: 1
Plan No.: 1137425
Title / Folio:
L.G.A.: LIVERPOOL
Parish: ST LUKE
County: CUMBERLAND

QUALITY ASSURANCE
Surveyor: JJ SS
Drawn: JL
Checked by: SL Date: 01.06.2023
Approved by: SL Date: 01.06.2023
COMPLETION OF QUALITY ASSURANCE IS EVIDENCE THAT THE SURVEY WORKS UNDERTAKEN AND THE DRAWING HAVE BEEN VERIFIED AS CONFORMING WITH THE REQUIREMENTS OF THE QUALITY PLAN. WHERE THE QUALITY ASSURANCE IS INCOMPLETE ALL INFORMATION ON THIS DRAWING IS INTENDED FOR PRELIMINARY PURPOSES ONLY AS IT IS UNCHECKED.

Date of Survey: 29.04.2023
Date of Plan: 01.06.2023
Datum: AHD
Co-ords: -
Scale: 1:125
(Original size A1)
Cad ref : 201363-SPILE-TREES-TANK-SURVEY-001F.dwg
Sheet 1 of 1
JOB NUMBER
201363
DRAWING NUMBER / ISSUE
SPILE-TREES-TANK-SURVEY-001F

NOTE:
DRAWING CASE194701WW_D_1.2-REV 2.dwg - GROUND FLOOR CONCRETE SETOUT PLAN OVERLAID
IN GREY FOR REFERENCE PURPOSES ONLY

INITIAL BASE CONTAINMENT CELL VOLUME: 5,978.8m³

REVISION J INFORMATION
FINAL SURFACE LEVELS UPDATED

LCG LAWRENCE CONSULTING GROUP	CLIENT: ADCO CONSTRUCTION	PROJECT: NEW LIVERPOOL PUBLIC SCHOOL
DRAWING TITLE: S-PILE, TREE, & TANK SURVEY		

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LCG GLOBAL Pty Ltd
ABN: 89 605 140 710

Issue	Amendment	Date
F	POST FILL LEVELS ADDED	01.06.2023
G	ADDITIONAL TANK SURVEYED	26.10.2023
H	FINAL LEVELS ADDED	01.11.2023
I	TPZ CORNER COORDINATES ADDED	06.11.2023
J	TPZ SURFACE LEVELS ADDED	08.12.2023

LEGEND

9.175	SURFACE LEVELS
5.375	BOTTOM OF TANK
8.375	TOP OF TANK
8.129	MARKING LAYER LEVELS
8.129	FINAL SURFACE LEVELS
8.129	TREE ZONE - MARKING LAYER LEVELS

TREE ZONE - FINAL SURFACE LEVELS
FENCE LINE
EXCLUSION ZONE LIMIT LINE

TITLE INFORMATION

Lot:	1
Plan No.:	1137425
Title / Folio:	
L.G.A.:	LIVERPOOL
Parish:	ST LUKE
County:	CUMBERLAND

QUALITY ASSURANCE

Surveyor:	CA		
Drawn:	JF		
Checked by:	SL	Date:	08.12.2023
Approved by:	SL	Date:	08.12.2023

COMPLETION OF QUALITY ASSURANCE IS EVIDENCE THAT THE SURVEY WORKS UNDERTAKEN AND THE DRAWING HAVE BEEN VERIFIED AS CONFORMING WITH THE REQUIREMENTS OF THE QUALITY PLAN. WHERE THE QUALITY ASSURANCE IS INCOMPLETE ALL INFORMATION ON THIS DRAWING IS INTENDED FOR PRELIMINARY PURPOSES ONLY AS IT IS UNCHECKED.

Date of Survey:	08.12.2023
Date of Plan:	08.12.2023
Datum:	AHD
Co-ords:	-
Scale:	1:125
(Original size A1)	
Cad ref:	201363-SPILE-TREES-TANK-SURVEY-001J
Sheet	1 of 2

JOB NUMBER: 201363
DRAWING NUMBER / ISSUE: SPILE-TREES-TANK-SURVEY-001J

NOTE:
DRAWING CASE194701WW_D_1.2-REV 2.dwg - GROUND FLOOR CONCRETE SETOUT PLAN OVERLAID IN GREY FOR REFERENCE PURPOSES ONLY

INITIAL BASE CONTAINMENT CELL VOLUME: 5,978.8m³

REVISION J INFORMATION
FINAL SURFACE LEVELS UPDATED

BURNSIDE

LCG
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LCG GLOBAL Pty Ltd
ABN: 90 605 142 712

Issue	Amendment	Date
F	POST FILL LEVELS ADDED	01.06.2023
G	ADDITIONAL TANK SURVEYED	26.10.2023
H	FINAL LEVELS ADDED	01.11.2023
I	TPZ CORNER COORDINATES ADDED	06.11.2023
J	TPZ SURFACE LEVELS ADDED	08.12.2023

LEGEND

- 9.175 SURFACE LEVELS
- 5.375 BOTTOM OF TANK
- 8.375 TOP OF TANK
- 8.129 MARKING LAYER LEVELS
- 8.129 FINAL SURFACE LEVELS
- 8.129 TREE ZONE - MARKING LAYER LEVELS
- TREE ZONE - FINAL SURFACE LEVELS
- FENCE LINE
- EXCLUSION ZONE LIMIT LINE

CLIENT
ADCO CONSTRUCTION

PROJECT
NEW LIVERPOOL PUBLIC SCHOOL

DRAWING TITLE
S-PILE, TREE, & TANK SURVEY

TITLE INFORMATION
Lot: 1
Plan No.: 1137425
Title / Folio:
L.G.A.: LIVERPOOL
Parish: ST LUKE
County: CUMBERLAND

QUALITY ASSURANCE
Surveyor: CA
Drawn: JF
Checked by: SL Date: 08.12.2023
Approved by: SL Date: 08.12.2023

COMPLETION OF QUALITY ASSURANCE IS EVIDENCE THAT THE SURVEY WORKS UNDERTAKEN AND THE DRAWING HAVE BEEN VERIFIED AS CONFORMING WITH THE REQUIREMENTS OF THE QUALITY PLAN. WHERE THE QUALITY ASSURANCE IS INCOMPLETE ALL INFORMATION ON THIS DRAWING IS INTENDED FOR PRELIMINARY PURPOSES ONLY AS IT IS UNCHECKED.

Date of Survey: 08.12.2023
Date of Plan: 08.12.2023
Datum: AHD
Co-ords: -
Scale: 1:125
(Original size A1)
Cad ref : 201363-SPILE-TREES-TANK-SURVEY-001J
Sheet 2 of 2

JOB NUMBER
201363
DRAWING NUMBER / ISSUE
SPILE-TREES-TANK-SURVEY-001J

NOTE:
DRAWING CASE194701WW_D_1.2-REV 2.dwg - GROUND FLOOR CONCRETE SETOUT PLAN OVERLAID IN GREY FOR REFERENCE PURPOSES ONLY

REFER TO REVISION J FOR THE FINAL RLS TO TPZS

REFER TO REVISION J FOR THE FINAL RLS TO TPZS

REFER TO REVISION J FOR THE FINAL RLS TO TPZS

INITIAL BASE CONTAINMENT CELL VOLUME: 5,978.8m³

CURRENT SURVEY OF MARKING LAYER TO 1 X TPZ

BURNSIDE

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W: www.lcg.com.au

LCG GLOBAL Pty Ltd
ABN: 90 605 142 712

Issue	Amendment	Date
E	POST FILL LEVELS ADDED	01.06.2023
F	POST FILL LEVELS ADDED	01.06.2023
G	ADDITIONAL TANK SURVEYED	26.10.2023
H	FINAL LEVELS ADDED	01.11.2023
I	TPZ CORNER COORDINATES ADDED	06.11.2023

LEGEND

- 9.175 SURFACE LEVELS
- 5.375 BOTTOM OF TANK
- 8.375 TOP OF TANK
- 8.129 MARKING LAYER LEVELS
- 8.129 FINAL SURFACE LEVELS
- 8.129 TREE ZONE - MARKING LAYER LEVELS
- TREE ZONE - FINAL SURFACE LEVELS

CLIENT
ADCO CONSTRUCTION

PROJECT
NEW LIVERPOOL PUBLIC SCHOOL

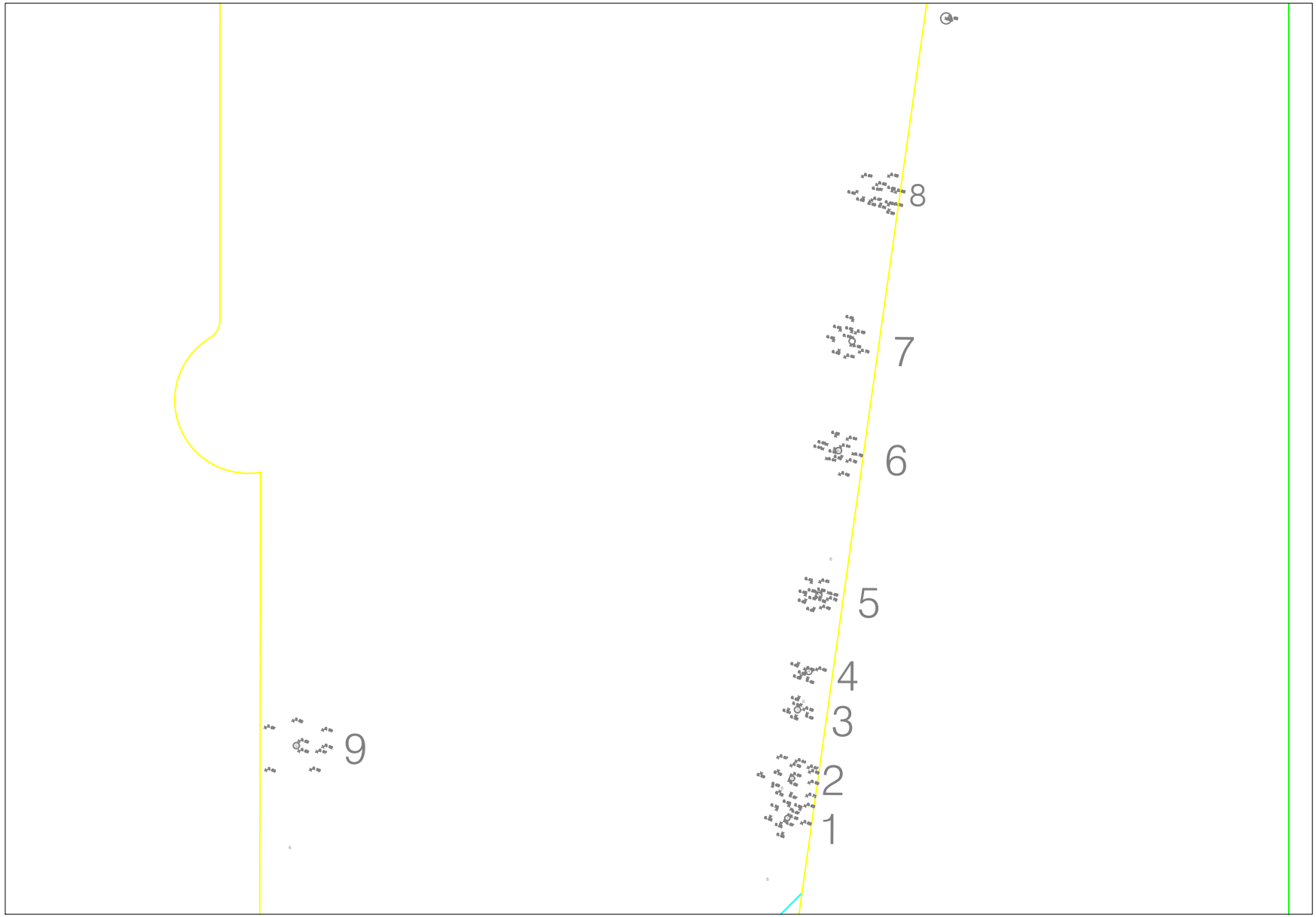
DRAWING TITLE
S-PILE, TREE, & TANK SURVEY

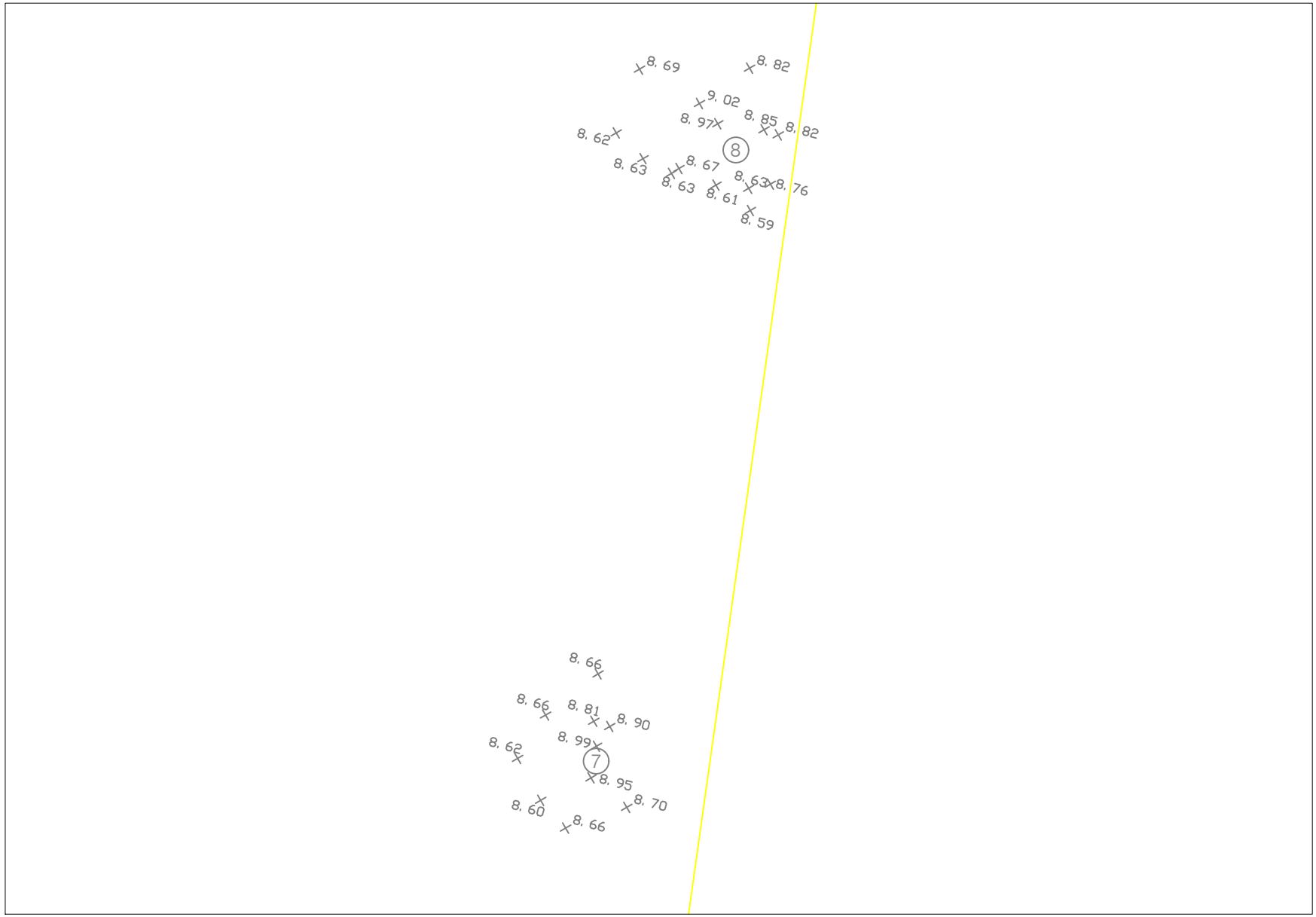
TITLE INFORMATION
Lot: 1
Plan No.: 1137425
Title / Folio:
L.G.A.: LIVERPOOL
Parish: ST LUKE
County: CUMBERLAND

QUALITY ASSURANCE
Surveyor: JJ SS
Drawn: JL
Checked by: SL Date: 06.11.2023
Approved by: SL Date: 06.11.2023
COMPLETION OF QUALITY ASSURANCE IS EVIDENCE THAT THE SURVEY WORKS UNDERTAKEN AND THE DRAWING HAVE BEEN VERIFIED AS CONFORMING WITH THE REQUIREMENTS OF THE QUALITY PLAN. WHERE THE QUALITY ASSURANCE IS INCOMPLETE ALL INFORMATION ON THIS DRAWING IS INTENDED FOR PRELIMINARY PURPOSES ONLY AS IT IS UNCHECKED.

Date of Survey: 26.10.2023
Date of Plan: 06.11.2023
Datum: AHD
Co-ords: -
Scale: 1:125
(Original size A1)
Cad ref : 201363-SPILE-TREES-TANK-SURVEY-001I.dwg
Sheet 2 of 2
JOB NUMBER 201363
DRAWING NUMBER / ISSUE SPILE-TREES-TANK-SURVEY-001I

SURVEY OF MARKING
LAYER TO TPZS

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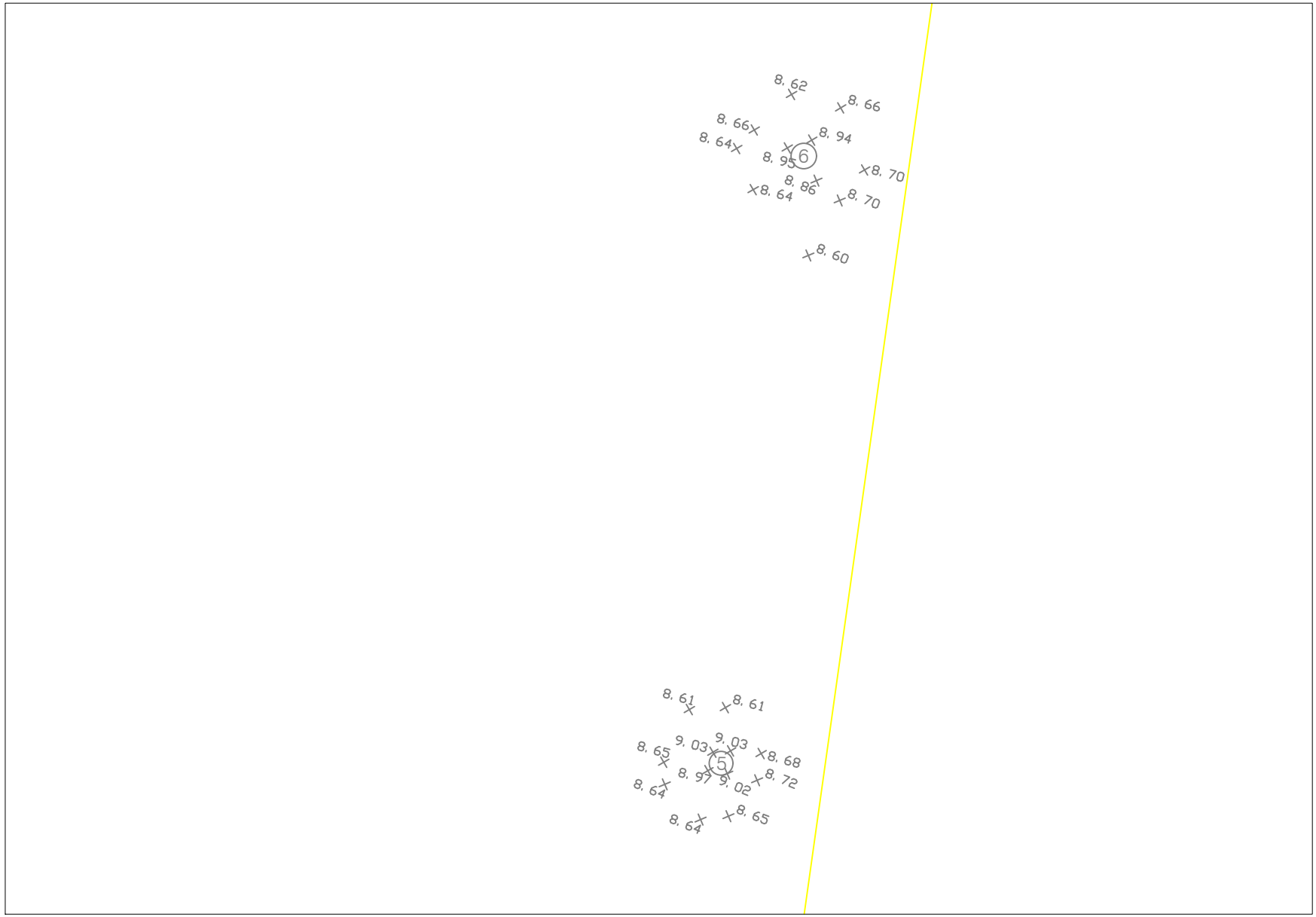
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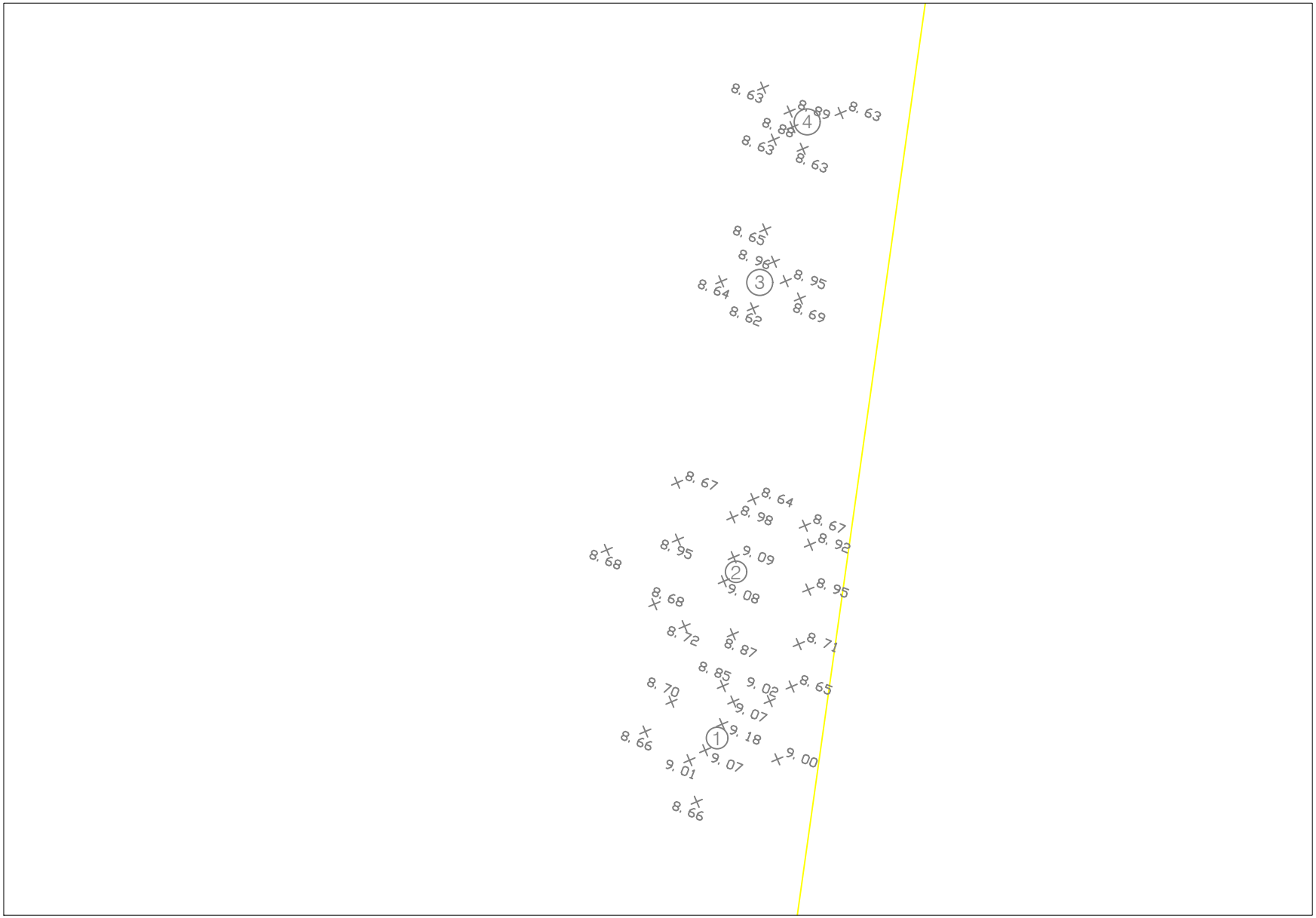
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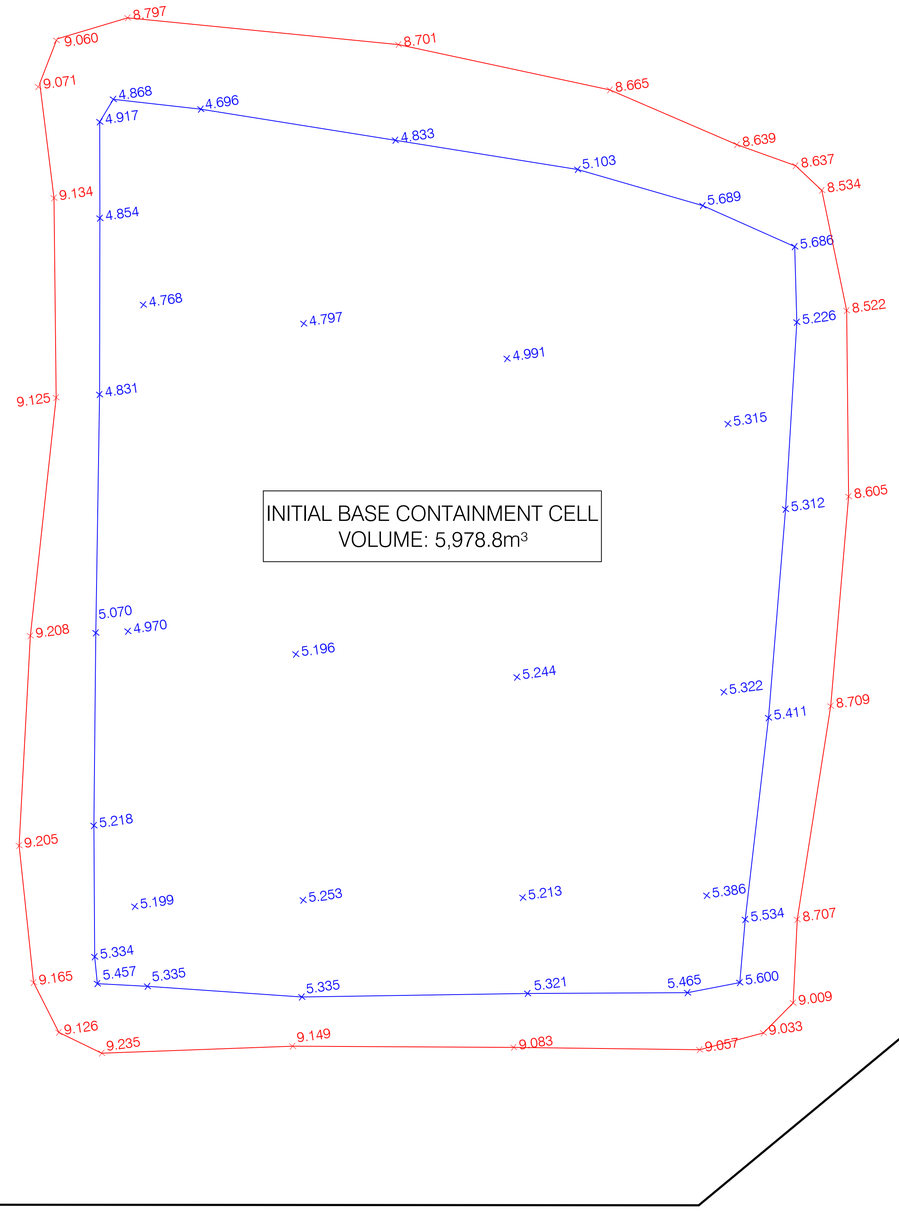

SHANE LAWRENCE REGISTERED SURVEYOR 21/03/2023

LCG LAWRENCE CONSULTING GROUP

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LCG GLOBAL Pty Ltd
ABN: 90 635 142 710

Issue	Amendment	Date
B	DEFINED BOUNDARY ON MGA 2020	10/02/2023

LEGEND

9.165 TOP OF TANK

5.436 BOTTOM OF TANK

CLIENT

ACE DEMO

PROJECT

NEW LIVERPOOL
PUBLIC SCHOOL

DRAWING TITLE

CONTAINMENT TANK VOLUME

TITLE INFORMATION

Lot: 1
Plan No.: 1137425
Title / Folio:
L.G.A.: LIVERPOOL
Parish: ST LUKE
County: CUMBERLAND

QUALITY ASSURANCE

Surveyor: LL
Drawn: JL
Checked by: SL Date: 21.03.2023
Approved by: SL Date: 21.03.2023

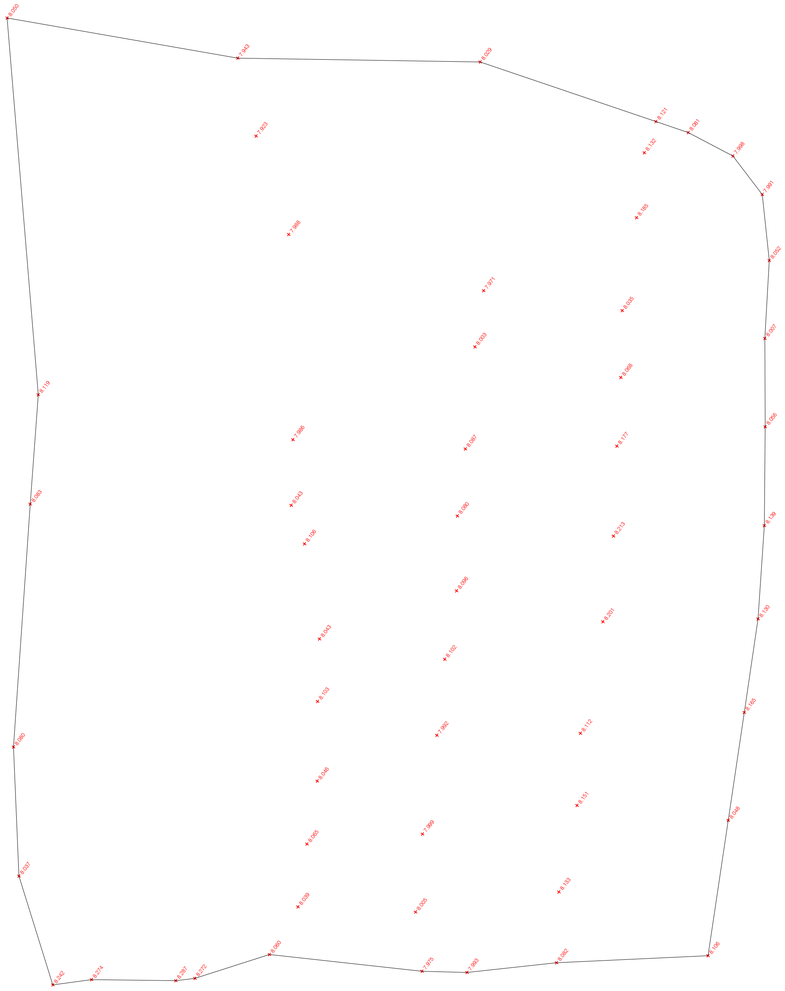
COMPLETION OF QUALITY ASSURANCE IS EVIDENCE THAT THE SURVEY WORKS UNDERTAKEN AND THE DRAWING HAVE BEEN VERIFIED AS CONFORMING WITH THE REQUIREMENTS OF THE QUALITY PLAN. WHERE THE QUALITY ASSURANCE IS INCOMPLETE ALL INFORMATION ON THIS DRAWING IS INTENDED FOR PRELIMINARY PURPOSES ONLY AS IT IS UNCHECKED

Date of Survey: 21.03.2023
Date of Plan: 21.03.2023
Datum: AHD
Co-ords: -
Scale: 1:100
(Original size A1)
Cad ref : 231565-CONTAINMENT-TANK-VOLUME-001A.dwg
Sheet 1 of 11

JOB NUMBER
231565

DRAWING NUMBER / ISSUE
CONTAINMENT-TANK-VOLUME-001A

INITIAL BASE CONTAINMENT CELL
VOLUME TO FIRST COVER LAYER
4020m³



SHANE LAWRENCE REGISTERED SURVEYOR 21/03/2023

LCG
LAWRENCE CONSULTING GROUP

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W: www.lcg.solutions

LCG SLSMA Pty Ltd
ABN: 90 635 142 710

Issue	Amendment	Date

LEGEND

x9.165 TOP OF FIRST COVER LAYER

CLIENT

ACE DEMO

PROJECT

NEW LIVERPOOL
PUBLIC SCHOOL

DRAWING TITLE

FIRST COVER LAYER VOLUME

TITLE INFORMATION

Lot:	1
Plan No.:	1137425
Title / Folio:	
L.G.A.:	LIVERPOOL
Parish:	ST LUKE
County:	CUMBERLAND

QUALITY ASSURANCE

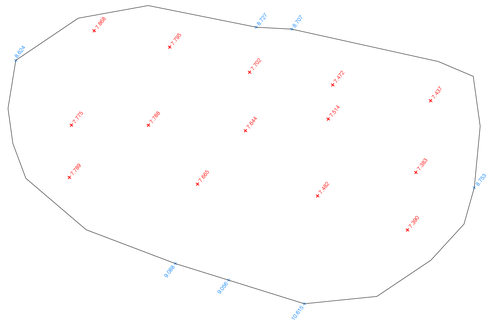
Surveyor:	SS	
Drawn:	PL	
Checked by:	SL	Date: 31.03.2023
Approved by:	SL	Date: 31.03.2023

COMPLETION OF QUALITY ASSURANCE IS EVIDENCE THAT THE SURVEY WORKS UNDERTAKEN AND THE DRAWING HAVE BEEN VERIFIED AS CONFORMING WITH THE REQUIREMENTS OF THE QUALITY PLAN. WHERE THE QUALITY ASSURANCE IS INCOMPLETE ALL INFORMATION ON THIS DRAWING IS INTENDED FOR PRELIMINARY PURPOSES ONLY AS IT IS UNCHECKED.

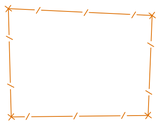
Date of Survey:	28.03.2023
Date of Plan:	31.03.2023
Datum:	AHD
Co-ords:	-
Scale:	1:100
(Original size A1)	
Cad ref :	231565-CONTAINMENT-TANK-VOLUME-002A.dwg
Sheet	1 of 1

JOB NUMBER: 231565
DRAWING NUMBER / ISSUE: CONTAINMENT-TANK-VOLUME-002A

INITIAL BASE CONTAINMENT CELL
VOLUME TO FINAL COVER LAYER
174.7m³



SHANE LAWRENCE REGISTERED SURVEYOR 21/03/2023



LAWRENCE CONSULTING GROUP

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W: www.lcg.solutions

LCG GLOBAL Pty Ltd
ABN: 93 630 140 710

Issue	Amendment	Date

LEGEND

- x9.165 BOTTOM OF CONTAINMENT CELL - SURVEYED 04.04.2023
- x9.165 TOP OF CONTAINMENT PERIMETER AT GROUND LEVEL - SURVEYED 04.04.2023
- TREE PROTECTION ZONE FENCE LINE

CLIENT
ACE DEMO

PROJECT
NEW LIVERPOOL PUBLIC SCHOOL

DRAWING TITLE
CONTAINMENT VOLUME SURVEY

TITLE INFORMATION

Lot:	1
Plan No.:	1137425
Title / Folio:	
L.G.A.:	LIVERPOOL
Parish:	ST LUKE
County:	CUMBERLAND

QUALITY ASSURANCE

Surveyor:	SS	
Drawn:	PL	
Checked by:	SL	Date: 04.04.2023
Approved by:	SL	Date: 04.04.2023

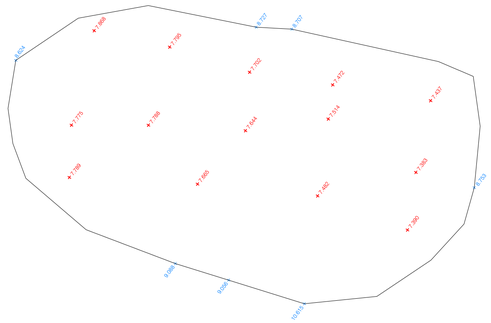
COMPLETION OF QUALITY ASSURANCE IS EVIDENCE THAT THE SURVEY WORKS UNDERTAKEN AND THE DRAWING HAVE BEEN VERIFIED AS CONFORMING WITH THE REQUIREMENTS OF THE QUALITY PLAN. WHERE THE QUALITY ASSURANCE IS INCOMPLETE ALL INFORMATION ON THIS DRAWING IS INTENDED FOR PRELIMINARY PURPOSES ONLY AS IT IS UNCHECKED

Date of Survey:	04.04.2023
Date of Plan:	04.04.2023
Datum:	AHD
Co-ords:	-
Scale:	1:100 (Original size A1)

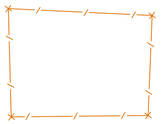
Cad ref : 231565-CONTAINMENT-TANK-VOLUME-003A.dwg Sheet 1 of 1

JOB NUMBER 231565 DRAWING NUMBER / ISSUE CONTAINMENT-TANK-VOLUME-003A

INITIAL BASE CONTAINMENT CELL
VOLUME TO FINAL COVER LAYER
174.7m³



SHANE LAWRENCE REGISTERED SURVEYOR 21/03/2023



LAWRENCE CONSULTING GROUP

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W: www.lcg.solutions

LCG GLOBAL Pty Ltd
ABN: 93 630 140 710

Issue	Amendment	Date

LEGEND

- x9.165 BOTTOM OF CONTAINMENT CELL - SURVEYED 04.04.2023
- x9.165 TOP OF CONTAINMENT PERIMETER AT GROUND LEVEL - SURVEYED 04.04.2023
- TREE PROTECTION ZONE FENCE LINE

CLIENT
ACE DEMO

PROJECT
NEW LIVERPOOL PUBLIC SCHOOL

DRAWING TITLE
CONTAINMENT VOLUME SURVEY

TITLE INFORMATION

Lot:	1
Plan No.:	1137425
Title / Folio:	
L.G.A.:	LIVERPOOL
Parish:	ST LUKE
County:	CUMBERLAND

QUALITY ASSURANCE

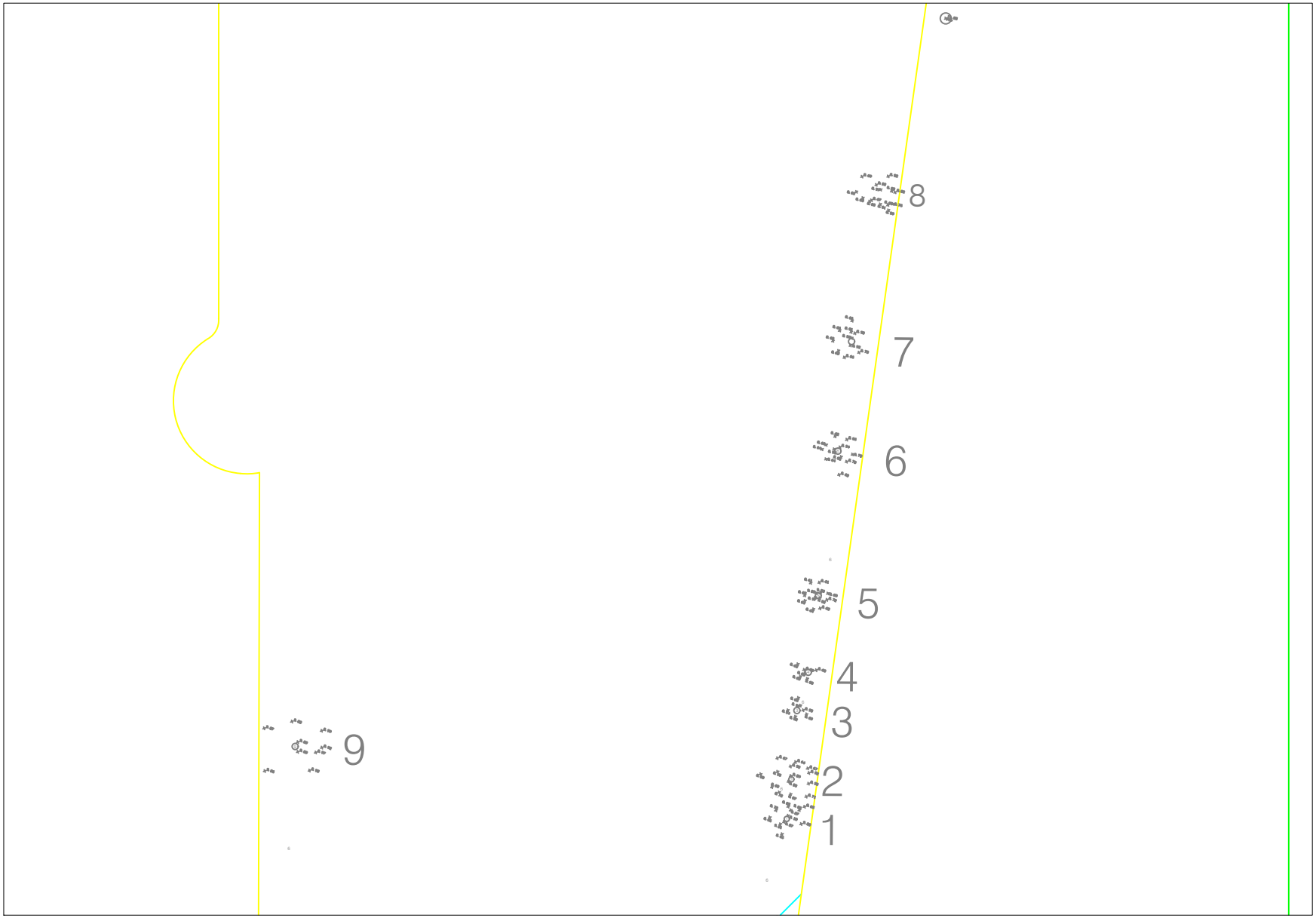
Surveyor:	SS	
Drawn:	PL	
Checked by:	SL	Date: 04.04.2023
Approved by:	SL	Date: 04.04.2023

COMPLETION OF QUALITY ASSURANCE IS EVIDENCE THAT THE SURVEY WORKS UNDERTAKEN AND THE DRAWING HAVE BEEN VERIFIED AS CONFORMING WITH THE REQUIREMENTS OF THE QUALITY PLAN. WHERE THE QUALITY ASSURANCE IS INCOMPLETE ALL INFORMATION ON THIS DRAWING IS INTENDED FOR PRELIMINARY PURPOSES ONLY AS IT IS UNCHECKED

Date of Survey:	04.04.2023
Date of Plan:	04.04.2023
Datum:	AHD
Co-ords:	-
Scale:	1:100 (Original size A1)

Cad ref : 231565-CONTAINMENT-TANK-VOLUME-003A.dwg Sheet 1 of 1

JOB NUMBER 231565 DRAWING NUMBER / ISSUE CONTAINMENT-TANK-VOLUME-003A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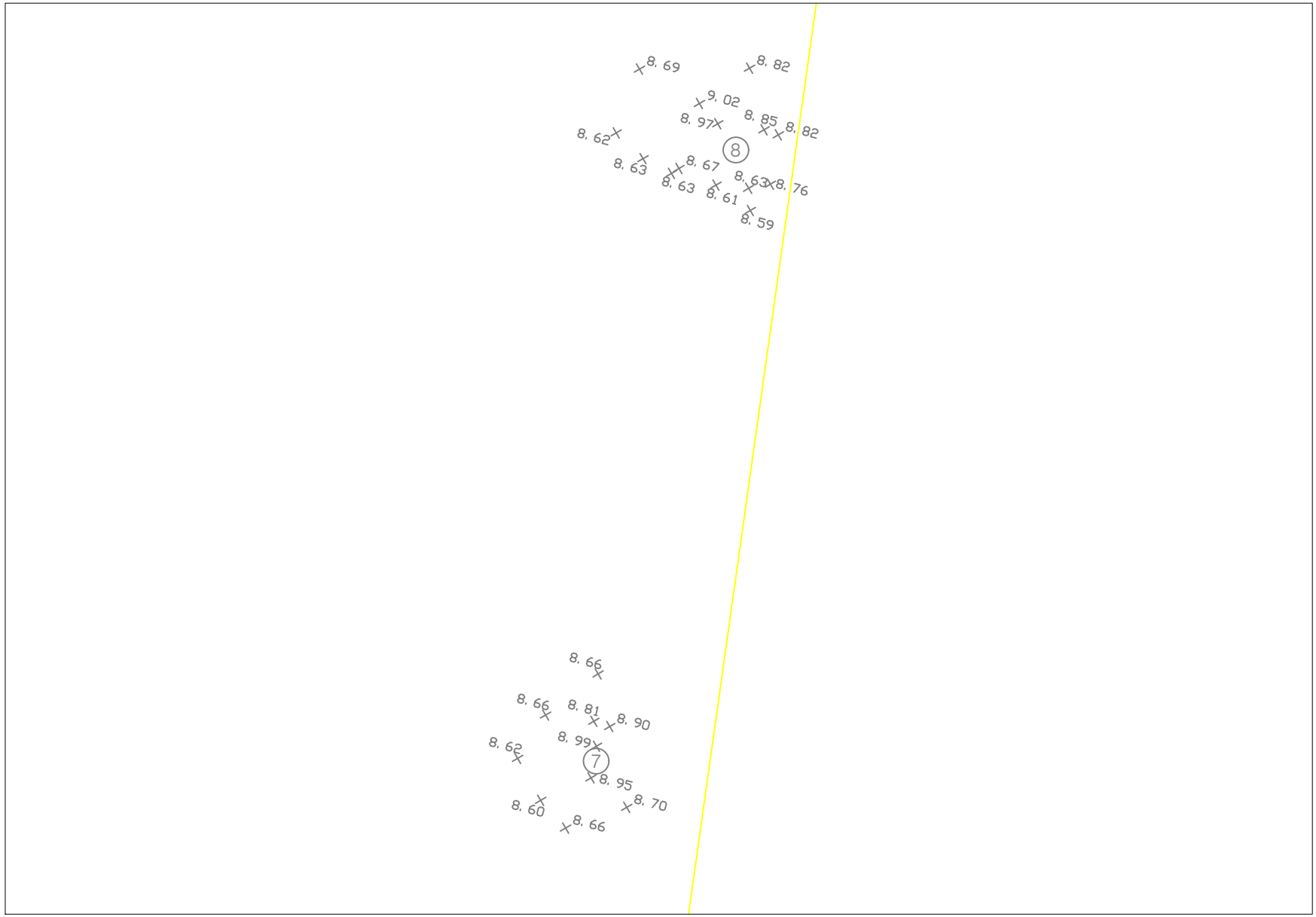
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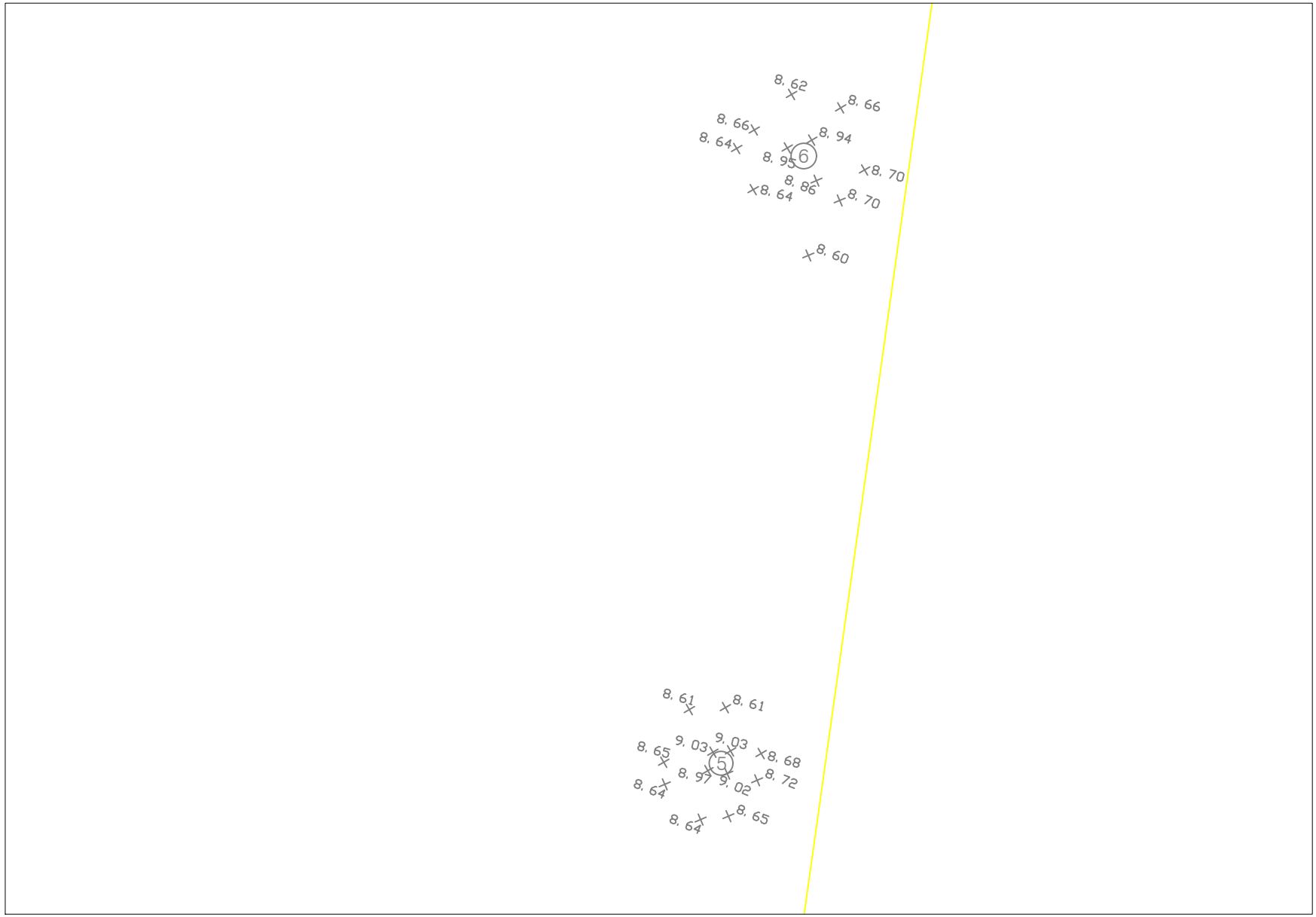
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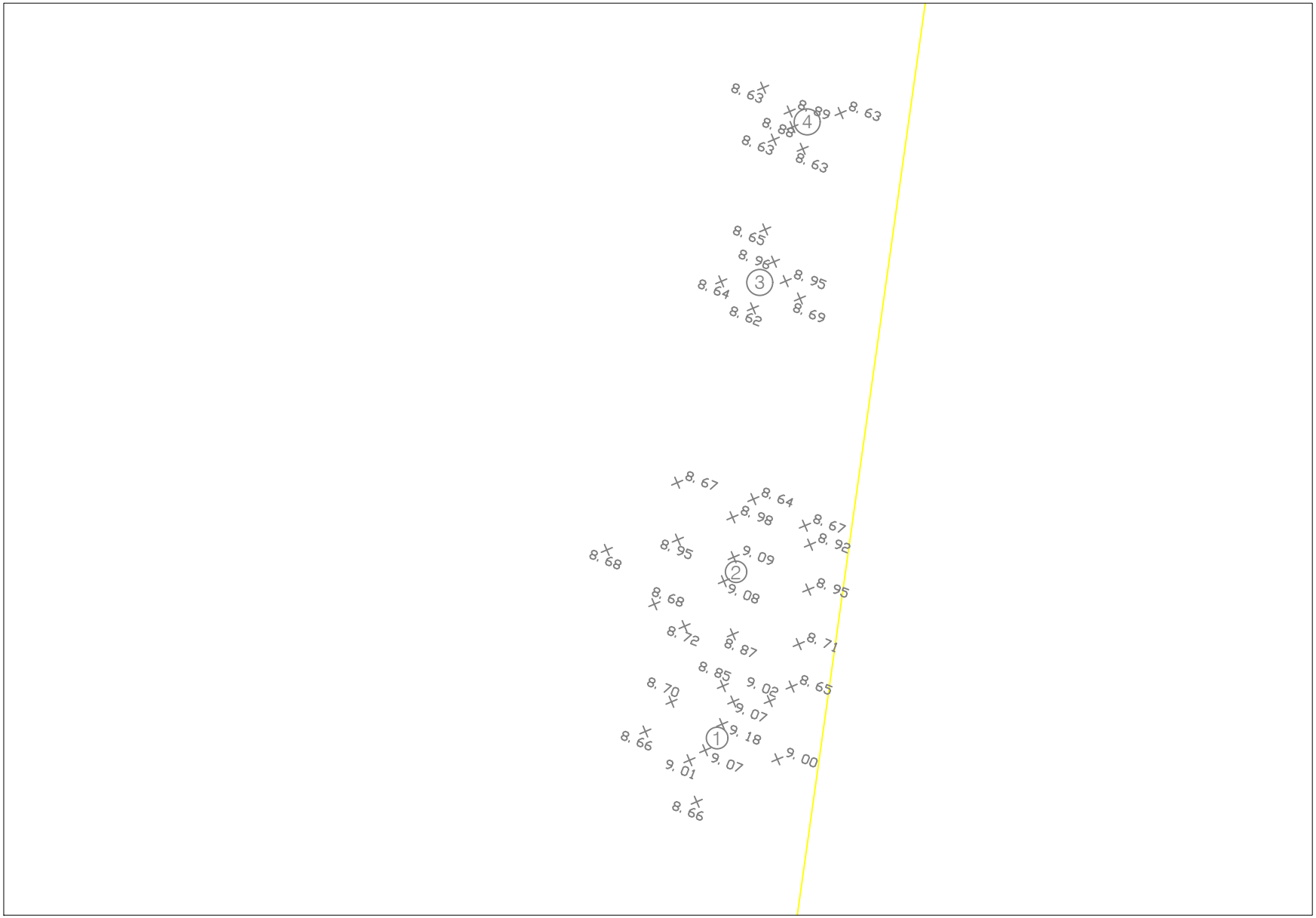
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