DHL Warehouse 3 & 4

Part Lot 1 DP1306448, 1953-2109 Elizabeth Drive, Badgerys Creek

Civil Infrastructure Report

SSD-70818708

DHL Supply Chain (Australia) Pty Ltd

23/10/2024

22-993

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1. Introduction

This report supports a State Significant Development Application (SSDA) (SSD-70818708) submitted to the NSW Department of Planning, Housing and Industry (DPHI) on behalf of DHL Supply Chain (Australia) Pty Ltd (DHL).

The SSDA constitutes a detailed development application (DA) insofar that it is linked to and is consistent with concept plan (SSD-70316465) by seeking consent for the construction and operation of two singular storey industrial buildings for use as a warehouse and logistics facility with 24 hour/ seven day a week operation plus car parking and associated landscaping within part (25 hectares) of Lot 1 in Deposited Plan 1306448 at 1953-2109 Elizabeth Drive, Badgerys Creek known as the DHL Masterplan site.

This SSDA represents the first of two (2) SSDAs proposed by DHL and will apply to the southern half of the DHL Masterplan site, known as "the site" (the Site) refer to Figure 3. Stage 2 relates to the northern half of the DHL Masterplan site, known as the DHL Stage 2 site and is subject to separate SSDA (SSD-70817958).

The project vision is to develop a world class warehouse and logistics facility which is fully integrated with its green infrastructure and Connection to Country. Having been informed by key landscape and Connecting to Country themes, the development of the site can deliver on the objectives that contribute to the Aerotropolis Vision which is to:

- Achieve a landscape led approach and starting with Country- the project has been guided by Cultural Design Principals and local leaders in the Aboriginal community.
- Create a new global gateway which will be a regionally and nationally significant employment area by providing for warehouse and logistics land uses in a highly sought-after location adjacent to the new Western Sydney Airport.
- Design a cool, green new city with a landscape approach that increases urban tree canopy, provides useable open space areas throughout and restores key riparian corridors on the site.
- Transitioning to an Aerotropolis through a sustainable, orderly and transformational development in the Western Sydney Aerotropolis,
- Retaining a green, biodiverse landscape informed by Country and an indigenous lens on maintenance and land management.

1.1. Background

The DHL Masterplan site occupies approximately 25-hectares (ha) of the larger 171.84ha site at 1953-2109 Elizabeth Drive, Badgerys Creek. The wider site is currently the subject of an existing SSDA (SSD-70316465).

SSD-70316465: 1953-2109 Elizabeth Drive 'Burrah Park'

SSD-70316465 is an SSDA which was issued SEARs on the 22 May 2024 and is currently in the process of finalising the application for lodgement following Test of Adequacy with the DPHI in September 2024.

SSD- 70316465 is seeking development consent for a concept plan including future development lots and building footprints. The development also seeks consent for the Stage 1 works which will include bulk earthworks across the site, infrastructure delivery, road access/intersections, internal road construction, civil infrastructure and utilities, stormwater infrastructure works and the construction of three (3) warehouse buildings.

The applicant for SSD- 70316465 is the trustee for Burrah Park Prop Trust 1 which is a joint venture entity, with ISPT Core Fund and UniSuper each holding an equal share.

DHL intend to develop part of the site for a logistics facility, the subject of this SSDA. The DHL Masterplan Site is known as Super lot 4a and 4b within the wider concept plan. Super lot 5B to the north of the DHL Logistics Facility SSDA lots have been sold to Canberra Data Centres (CDC) refer to Figure 3.

1.2. Site Description

The subject site is located within part of Lot 1 in Deposited Plan 1306448, at 1953-2109 Elizabeth Drive, Badgerys Creek. The site is approximately 25 hectares in size and situated north of the new Western Sydney Airport. It is located within the Penrith local government area (LGA) and is approximately 12.5km from Penrith Central Business District (CBD), 27km from Parramatta CBD, and 47km from Sydney CBD. The site is owned by a trustee for Burrah Park Prop Trust 1 which is a joint venture entity, with ISPT Core Fund and UniSuper each holding an equal share.

The site is currently used for agricultural purposes and is largely cleared of vegetation with areas of dispersed grass and scattered natural and/or planted tree growth. The site contains several farm dams, primarily within the central and southern areas. The location context and aerial plans are depicted in Figure 1 and Figure 2.

A map showing the site location is shown in Figure 1.



Figure 1- Location Context Area Plan

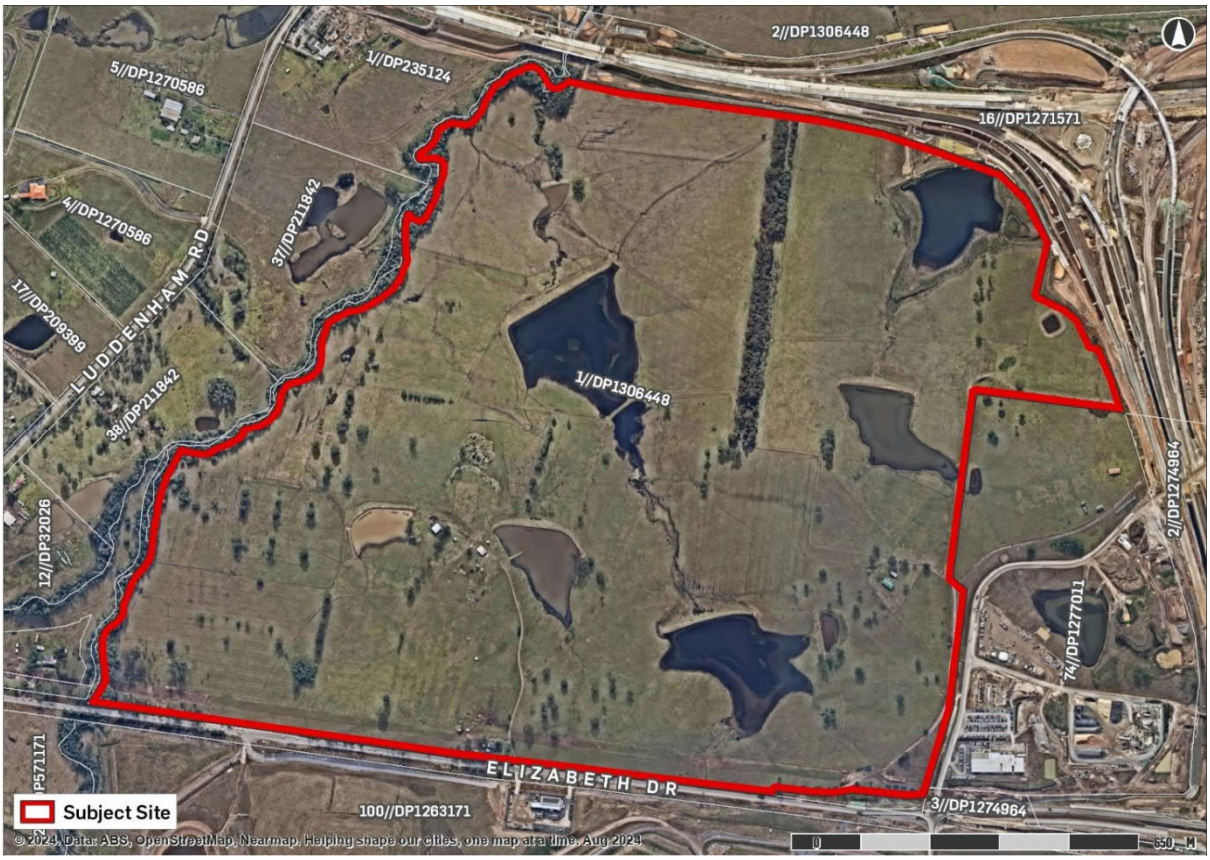


Figure 2 - Site Location Plan



Figure 3 - DHL Masterplan Site

1.3. Planning Approvals Strategy

Development consent is sought under Section 4.12(8) and Division 4.4. of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and Division 5 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) for the construction and operation of a warehouse and logistics facility (the Project) under Schedule 1 of *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP).

1.4. Project Description

Specifically, the SSDA seeks consent for:

Staged construction of warehouse buildings for use as a logistics centre with 24 hour/ day, seven days a week operation, comprising the following:

- Construction of two warehouses;
- Building fit out;
- Construction of hardstand, loading and carparking;
- Landscaping works; and
- Signage.

The two warehouses, designated as Warehouse 3 (WH03) and Warehouse 4 (WH04), are located in proposed lots 4.2 and 4.1 respectively within Superlot 4a in the new "Burrah Park" precinct proposed in SSD-70316465. The Site is bound by the proposed Estate Road 4 along the northern boundary, proposed Estate Road 2a along the southern boundary, proposed Estate Road 2 along the western boundary and the vacant land owned by the University of Sydney along the eastern boundary.

Each warehouse has been designed as a completely separable facility with separate entry and exit driveways, stormwater drainage systems, car parks, and other amenities.

A plan of the proposed development is presented in Figure 4.

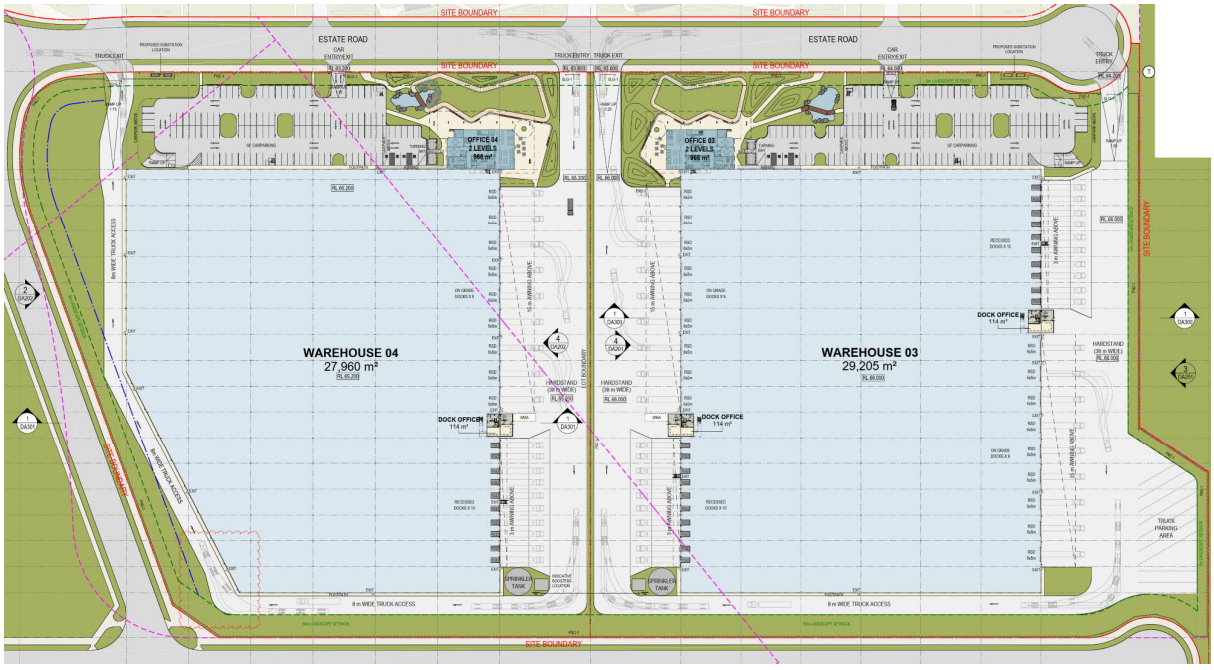


Figure 4: Warehouse 03 and 04

1.5. Relationship Between SSD-70316465 and SSD-70818708

The proposed Burrah Park estate development (SSD-70316465) will provide earthworks, road access, lead-in services, stormwater drainage, WSUD systems and other infrastructure, for the DHL detailed application (SSD-70818708). The proposed Estate Road 4 between DHL's WH01 & WH02 and WH03 & WH04 sites will connect DHL's sites with the rest of the Burrah Park estate. The primary access to the DHL site will be through Estate Road 1 which intersects with Elizabeth Drive at its southern end, allowing for all movements in and out of the estate. There is no expectation that the DHL SSDA will be approved in advance of the Burrah Park estate SSDA.

2. Compliance with SEARs

2.1. SEARs

This report responds to the NSW Planning Secretary's Environmental Assessment Requirements (SEARs) issued by the NSW Department of Planning, Housing and Infrastructure (DPHI) on 22 May 2024. Table 1 below summarises key issues relating to soil and water management that are listed in the SEARs, and where they are addressed in this report.

Table 1: Planning Secretary's Environmental Assessment Requirements

Key Issues Listed in the SEARs	Response
Ground and Water Conditions	
Assess potential impacts on soil resources and related infrastructure and riparian lands on and near the site, including erosion, salinity and acid sulfate soils	Refer to Section 6.
Provide a Surface and Groundwater Impact Assessment that assesses potential impacts on: • Surface water resources (quality and quantity) including related infrastructure, hydrology, dependent ecosystems, drainage lines, downstream assets and watercourses. • Groundwater resources in accordance with the Groundwater Guidelines.	Refer to Section 4.1.1 and 6.
Water Management	

Key Issues Listed in the SEARs	Response
Provide an Integrated Water Management Plan for the development that: • is prepared in consultation with the local council and any other relevant drainage or water authority. • Outlines the water-related servicing infrastructure required by the development (informed by the anticipated annual and ultimate increase in servicing demand) and evaluates opportunities to reduce water demand (such as recycled water provision). • details the proposed drainage design (stormwater and wastewater) for the site including any on-site detention facilities, water quality management measures and nominated discharge points, on-site sewage management, and measures to treat, reuse or dispose of water. • demonstrates compliance with the local council or other drainage or water authority requirements and avoids adverse impacts.	Refer to Sections 8.
Where water and drainage infrastructure works are required that would be handed over to the local council, or other drainage or water authority, provide full hydraulic details and detailed plans and specification of proposed works that have been prepared in consultation with, and comply with the relevant standards of, the local council or other drainage or water authority.	The development does not propose to hand over any drainage infrastructure works to the local council or other drainage or water authority.
Flood Risk	
Identify any flood risk on-site having regard to adopted flood studies, the potential effects of climate change, and any relevant provisions of the *NSW Flood Risk Management Manual*.	Flood risk and impacts by the development have been assessed as part of the estate developer's Flood Impacts and Risk Assessment report. Refer to the relevant report submitted under SSD-70316465.
Where the development could alter flood behaviour, affect flood risk to the existing community or expose its users to flood risk, provide a flood impact and risk assessment (FIRA) prepared in accordance with the Flood Impact and Risk Assessment – Flood Risk Management Guide LU01.	Flood risk and impacts by the development have been assessed as part of the estate developer's Flood Impacts and Risk Assessment report. Refer to the relevant report submitted under SSD-70316465.
Detail design solutions and operational procedures to mitigate flood risk where required.	Refer to Section 8.1.
Infrastructure Requirements and Utilities	

Key Issues Listed in the SEARs	Response
In consultation with relevant service providers: • assess the impacts of the development on existing utility infrastructure and service provider assets surrounding the site. • identify any infrastructure upgrades required on-site and off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained. • provide an infrastructure delivery and staging plan, including a description of how infrastructure requirements would be co-ordinated, funded and delivered to facilitate the development.	Refer to Section 9 and 0.

3. Statutory and Development Control Requirements

3.1. Statutory Planning Controls

The proposed development site is subject to the controls outlined within the following planning instruments:

3.1.1. Western Sydney Aerotropolis Development Control Plan Phase 2, 2022

The final version of the *Western Sydney Aerotrolopis Development Control Plan Phase 2 (WSA DCP)* was adopted in November 2022. It presents the latest precinct planning principles, objectives, and performance outcomes expected across the various precincts around the Aerotropolis to allow precinct planning and individual lot developments to progress.

3.1.2. Aerotropolis Precinct Plan, 2023

The current version (May 2023) of the Western Sydney Aerotropolis Precinct Plan (Precinct Plan) has been adopted and is in force under the provisions of the Aerotropolis SEPP. The Precinct Plan provides the place-based objectives and requirements to guide developments in the Aerotropolis in a consistent and sustainable manner over time.

3.1.3. Recognise Country: Guidelines for Development in the Aerotropolis, 2022

These guidelines are intended to assist in developing designs that recognise and respect the cultural and heritage values for lands in the Aerotropolis.

4. Site Characteristics

4.1. Site Geology

A desktop study and geotechnical investigation of the Site was prepared by Douglas Partners. This study identified that the site is underlain by the Bringelly Shale formation. This typically comprising of shale, carbonaceous claystone, laminite, fine to medium grained lithic sandstone and some coal bands and tuff.

4.1.1. Groundwater

According to the 'Detailed Site Investigation for Contamination' report and the 'Report on Salinity Investigation and Preliminary Salinity Management Plan' (June 2021) prepared by Douglas Partners for the Burrah Park estate development, groundwater within the area is expected to be saline and shallow, ranging from 0.7 to 4.3 meters below ground level. Groundwater flows are likely to be very low (typically <1 L/s) owing to the very low permeability of the underlying shale layers. No free groundwater was observed during Douglas Parters' site investigations. However, as noted in Douglas Partners' report, groundwater levels are affected by climatic conditions and soil permeability and will therefore vary over time.

As discussed in Section 5, the estate developer is expected carry out bulk earthworks for the Site and provide level pads suitable for large-scale industrial warehouse development. Further site trimming and detailed excavations shall be carried out by DHL's appointed contractor to prepare the site for construction. It is understood that the estate developer will address groundwater impacts as part of the estate-wide earthworks prior to the Site being turned over to DHL.

4.1.2. Salinity and Acid Sulfate Soils

According to the 'Report on Salinity Investigation and Preliminary Salinity Management Plan' (June 2021) prepared by Douglas Partners for the Burrah Park estate development, the site does not identify "to be within an area or close to an area of an identified risk for acid sulphate soils".

The same report advises that "the site has a moderate to high salinity potential", including the DHL site, as indicated by the green, yellow, red and white coloured areas in *Figure 5*. Further investigations and detailed recommendations on salinity controls will be necessary as part of the soil management strategies for the site to mitigate the levels of salinity, aggressivity and sodicity. These will need to be carried out prior to construction to inform the detailed designs for the development.

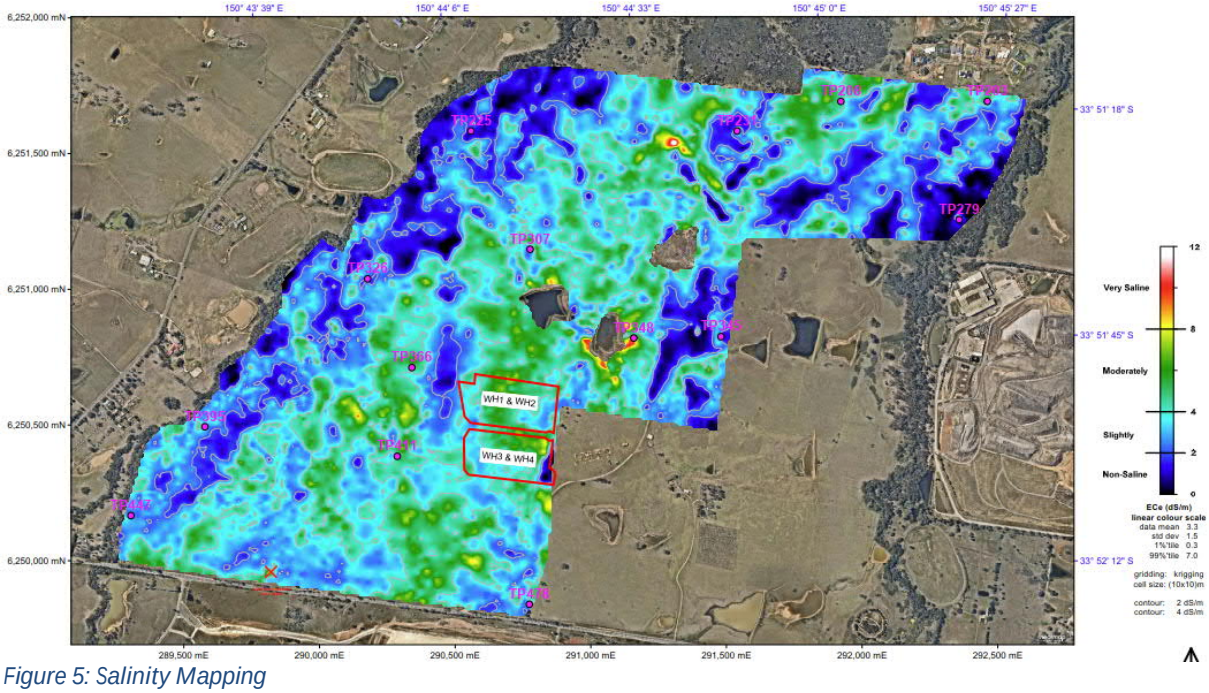


Figure 5: Salinity Mapping

4.2. Existing Topography and Catchments

4.2.1. Topography

The Site in its existing condition generally grades from east to west towards Oaky Creek and Cosgroves Creek. The site generally has slopes between 2% and 6%, with steeper sections around local gullies.

4.2.2. Existing Stormwater Drainage Catchments

The Site is predominantly pervious, other than some heavily compacted access tracks. A slight ridge crosses the Site diagonally from the south-eastern corner and heading west, splitting the site into two catchments, north and south. The southern catchment drains into a gully and an existing dam to the south of WH04 whilst the northern catchment drains into a gully and an existing dam approximately 100m northwest of the site. However, both dams drain into the same waterway that discharges into Cosgroves Creek.

4.2.3. External Stormwater Drainage Catchments

A portion of the adjacent property to the east drains towards the eastern boundary of WH03. This catchment is approximately 0.9 ha and overland flows will be diverted by the estate developer northwards along the eastern boundary to drain into Estate Road 4.

4.2.4. Post-Development Stormwater Drainage Catchments

On completion, the entirety of Lots 4.1 (WH04) and 4.2 (WH03) will drain into the piped drainage system under Estate Road 4.

5. Bulk Earthworks

5.1. Cut and Fill Requirements

Bulk earthworks by the estate developer are expected to form level pads for Lots 4.1 and 4.2 suitable for large-scale industrial warehouse development. Further bulk earthworks, site trimming and detailed excavations shall be carried out by DHL's appointed contractor to prepare the site for construction.

The cut and fill requirements have been determined through multiple design iterations and careful consideration of the following:

- Provision for connectivity to the surrounding estate roads, particularly Estate Road 4 which is the main street frontage and driveway connections for the Site.
- Connectivity to and interfaces with adjoining lands, in particular the Sydney University land to the east.
- Minimising the extent of retaining walls fronting proposed estate roads as much as possible.
- Avoiding extensive cut in bedrock sub-surface units.
- Achieving as close as possible to a balance of cut to fill to minimise the volume of material that needs to be imported or exported.
- Provision of a final design solution that addresses water management requirements, including stormwater quantity and quality management, stormwater drainage (major and minor system), flooding and discharges.

Based on the above criteria, the following bulk earthworks pad levels have been determined to be optimal for Lots 4.1 and 4.2.

- Lot 4.1 (WH04) = RL64.90m
- Lot 4.2 (WH03) = RL65.70m

Refer to drawings C1308 and C1408 in Appendix A for the proposed Cut and Fill Plan. A summary of the estimated cut and fill volumes across the site is presented in *Table 2.*

Table 2: Summary of Proposed Cut and Fill Volumes Across the Site

Item	Warehouse 3 (m^3)	Warehouse 4 (m^3)
Stripping of topsoil[1]	0	0
Excavation of existing farm dams[2]	0	0

Net cut (excluding topsoil stripping)	-16,773	-13,765
Net fill	1,972	1,684
Balance	14,801 (Export)	12,080 (Export)

[1] It is assumed that the development will proceed immediately upon formation of the earthworks pads by the estate vendor. Hence, topsoil stripping will not be necessary.

[2] It is assumed that desilting and filling of existing dams within the site will be carried out by the estate vendor.

It is noted that earthworks for both lots are currently generating excess material (export). This volume is subject to change and expected to reduce to near balanced pending further development and optimisation of the estate earthworks and the final pad level provided by the estate developer at the time of handover.

The volume of earthworks to be carried out including the amount of material to be exported or imported for the site is subject to change depending on the estate earthworks pad level provided at the time of handover.

The volumes presented in *Table 2* are based on the current design at the time of SSDA submission. Further detailed design of the infrastructure and on-lot works may alter these volumes. Negative balance indicates net cut and positive balance indicates net fill.

All imported materials will comply with the requirements of the Import Fill Protocol and geotechnical specifications for the development. Topsoil stripping, blending and placement will be undertaken by the estate developer in accordance with the geotechnical engineering specification for the project.

5.2. Retaining Walls

Where possible, batter slopes up to 1:4 will be provided to accommodate level changes. Where the provision of batters would exceed slopes of 1:4, retaining walls will be constructed adjacent to the road reserve or boundaries based on the approved civil and earthworks design.

The proposed location and extent of retaining walls are shown on the drawings. The type of wall systems to be used are subject to detailed design in coordination with the architect and landscape architect. These walls will be structurally designed and built to the manufacturers' specifications to suit the required heights and loading. All retaining walls >900mm high will have pedestrian barriers and vehicular safety barriers for walls >600mm high (where necessary) in accordance with the Australian Standards and Austroads Guidelines.

All retaining walls will be constructed on a staged basis and as required to suit the development levels, earthworks and stormwater works.

5.3. Batter Design

All batters will be vegetated and stabilised in accordance with Penrith City Council requirements. A typical 1 in 4 batter has been applied to the development, with the maximum localised batter being 1 in 3.

Any temporary batters constructed during the works will be in accordance with recommended maximum batter slopes as per the geotechnical investigation report and ongoing advice from the Level 1 geotechnical engineer. All temporary batters will be stabilised with appropriate methods and vegetated where necessary.

6. Ground and Water Management

Potential impacts of the development on soil and water resources, and measures proposed to reduce and how to mitigate these impacts during and after construction are discussed in detail in a separate report prepared by AT&L: "DHL Warehouse 3 & 4, Erosion & Sediment Control Plan, SSD-70818708".

7. Stormwater Drainage

7.1. Stormwater Drainage Design Criteria

Design criteria and requirements for the proposed Site stormwater management are referenced from the following documents:

- *AS 3500.3 – Plumbing and drainage – Stormwater drainage*
- Commonwealth of Australia (Geoscience Australia), *Australian Rainfall and Runoff: A guide to flood estimation*, 2019.
- NSW Department of Planning and Environment (DPE), *Western Sydney Aerotropolis Development Control Plan Phase 2, 2022*.
- *Technical Guidance for Achieving Wianamatta-South Creek Stormwater Management Targets, 2022*
- MUSIC Modelling Toolkit – Wianamatta, 2022.
- Wianamatta-South Creek Stormwater Management Targets, 2022
- Sydney Water, Stormwater Scheme Infrastructure Design Guideline (Draft), 2024

The following documents from Penrith City Council have also been used for reference:

- Penrith City Council, *Design Guidelines for Engineering Works for Subdivisions and Developments*, as amended 20 November 2013.
- Penrith City Council, *Penrith Development Control Plan 2014, Part C3 Water Management*.
- Penrith City Council, *Water Sensitive Urban Design (WSUD) Policy*, December 2013.
- Penrith City Council, *WSUD Technical Guidelines*, Version 4 – October 2020.

7.2. Proposed Site Stormwater Drainage

The proposed drainage network within the Site has been designed to safely convey major and minor flows prior to discharging into the external road drainage system which then drains into the estate detention basins to the north of the site and eventually draining into a tributary of Cosgroves Creek. The following criteria have been adopted for the proposed drainage system:

- Major system (pit and pipe network, overland flow paths and channels): 1% AEP
- Minor system (pit and pipe network): minimum 5% AEP and 1% AEP for trapped catchments.

The Time of Concentration for the Site shall be estimated in accordance with the AR&R. All sub-catchments within shall have a minimum time of concentration of five (5) minutes. The rainfall intensities used have been adopted from the Bureau of Meteorology's Design Rainfall Data System (2016).

Stormwater runoff from roofs will be drained directly into DHL's stormwater network. Runoff from pedestrian and vehicle trafficable areas such courtyards, footpaths, access roads and hardstand areas will be drained directly into the Site's piped drainage system before discharging into the external road drainage system. Excess roof runoff will also overflow into the Site's piped drainage system.

All stormwater pipes within the building will be rubber ring jointed uPVC with manufactured bends and fittings. All stormwater pipes in-ground and external to the building will be rubber ring jointed steel reinforced concrete pipes (375mm diameter and larger) and uPVC pipes (300mm diameter and smaller).

Stormwater drainage from the roof and through the building including all connections into the rainwater tanks will be designed by the building hydraulic engineer. Detailed design drawings of the building hydraulics will be made available during submission of documents for Construction Certificate approval.

Stormwater drainage concept plans showing the existing and proposed site stormwater drainage systems are enclosed in Appendix A.

8. Stormwater Management Strategy

This section summarises the proposed stormwater quantity and quality management strategy for the Site, including details of the proposed stormwater treatment train and characterisation of water quality at the points of discharge at the Site boundary against relevant water quality criteria.

8.1. Stormwater Management Strategy Objectives

The main objectives pertaining to the management of stormwater within the proposed development Site are summarised in *Table 3*.

Table 3: Stormwater Management Strategy Objectives

Focus	Objective	Comment
Stormwater quantity management	▪ To ensure post-development peak flow rates do not exceed the pre-development peak flow rates for a range of design storm frequencies and durations, up to and including the 1% AEP design event.	This objective is consistent with the Penrith DCP and the WSA DCP.
	▪ To limit the Mean Annual Runoff Volume (MARV) at the points of discharge to Cosgrove Creek to no more than 2 ML/ha/year	This objective is consistent with the WSA DCP and the Wianamatta-South Creek Technical Guidance.
Stormwater quality management	▪ To provide a stormwater treatment train to satisfy pollutant reduction targets outlined in the *Technical Guidance for Achieving Wianamatta-South Creek Stormwater Management Targets* (NSW DPE, September 2022)	These targets are significantly higher than those adopted in Penrith City Council's *WSUD Technical Guidelines.*
Stormwater drainage and flooding	▪ To provide a stormwater drainage system that complies with Penrith City Council design guidelines and specifications.	This objective is consistent with the WSA DCP and the Wianamatta-South Creek Technical Guidance.
	▪ Finished Floor Levels (FFL) of proposed buildings within the precinct shall have a minimum 500mm freeboard to 1% AEP overland flows.	This objective is consistent with the Penrith DCP and the WSA DCP controls for flood planning.

8.2. Proposed Stormwater Management Measures

An estate-based design approach has been adopted in the design of stormwater quantity and quality management measures whereby the various components are designed to complement and compensate between the individual lots and the overall estate to achieve the objectives listed in Section 8.1.

A general description of the proposed stormwater treatment train components is presented in the following sections with additional information and details provided in the Civil Engineering Report for SSD-70316465: 1953-2109 Elizabeth Drive 'Burrah Park'.

8.2.1. Regional Wetlands and Bio-retention Basins for Stormwater Treatment

Wetlands and bio-retention systems assist in improving urban stormwater quality to help make it fit for non-potable reuse with the additional function of enhancing evaporative losses.

Wetlands and bio-retention basins are proposed by the estate developer as part of the regional stormwater infrastructure to satisfy the Wianamatta-South Creek stormwater management targets for the entire estate. The estate developer has designed Lots 4.1 (WH03) and 4.2 (WH04) to drain into the proposed wetlands and bio-retention basin system (Basin B) located north-west of the Site, on the western side of Estate Road 1 as shown in *Figure 6 below.*

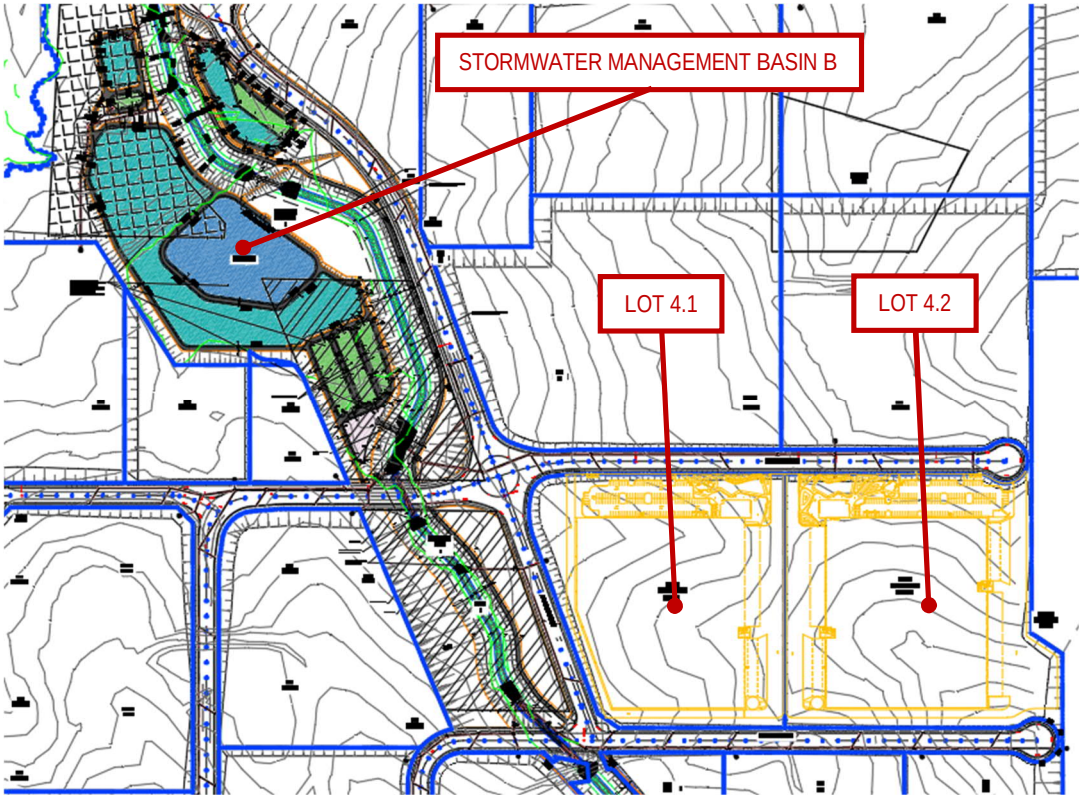


Figure 6: Wetland and Stormwater Storage Basin Location

8.2.2. Regional Stormwater Harvesting and Reuse Basin

Stormwater harvesting basins are also proposed by the estate developer as a means of reducing the volume of stormwater runoff discharging into the downstream natural waterways. These basins capture and store large quantities of stormwater for re-use and irrigation of residual undeveloped areas in the estate. They are typically located adjacent and downstream of wetlands and bio-retention systems for efficient capture of overflows from the wetlands and bio-retention basins.

Stormwater storage basins are proposed by the estate developer as part of the regional stormwater infrastructure to satisfy the Wianamatta-South Creek stormwater management targets for the entire estate. The estate developer has designed Lots 4.1 (WH03) and 4.2 (WH04) to drain into the proposed stormwater storage basin located north-west of the Site, on the western side of Estate Road 1 (Basin B) as shown in *Figure 6*.

Basin B has been designed by the estate developer in accordance with the Wianamatta-South Creek technical guide and Sydney Water's Draft Stormwater Scheme Infrastructure Design Guideline. Further details are available with the Civil Engineering Report for SSD-70316465 (Burrah Park).

8.2.3. Gross Pollutant Traps

A gross pollutant trap (GPT) is proposed for each lot, within the lot and immediately upstream of the estate road drainage discharge point. GPT's are designed to capture litter, debris, coarse sediment, as well as some oils and greases.

An Ocean Protect OceanSave OS-3300-450-OT GPT (or approved equivalent) is proposed for Lot 4.1 (WH03) and an OceanSave OS-3300-450-OT GPT (or approved equivalent) is proposed for Lot 4.2 (WH04). Final GPT sizing and models will be confirmed in the detailed design phase.

8.2.4. Stormwater Detention

The stormwater runoff from the lots and within the road reserve for the overall estate development is proposed to be collected via pits and pipes and connected into the proposed regional wetlands and stormwater storage basins which then overflow into the existing estate watercourses which double as in-line stormwater detention systems.

The estate developer has incorporated dams and embankments across the existing watercourses to temporarily detain stormwater to satisfy the Wianamatta-South Creek stormwater management targets for the entire estate. This stormwater detention system has been designed by the estate developer in accordance with the Wianamatta-South Creek technical guide and Sydney Water's Draft Stormwater Scheme Infrastructure Design Guideline.

The estate developer has designed Lots 4.1 (WH03) and 4.2 (WH04) to drain into the proposed stormwater detention basin located between Estate Road 1 and Basin B as shown in *Figure 6*. OSD systems are therefore not required within the individual DHL lots. Further details are available with the Civil Engineering Report for SSD-70316465 (Burrah Park).

8.2.5. Additional measures to Satisfy the MARV Reduction Requirement

It is understood that the estate developer has designed the regional stormwater infrastructure to adequately comply with the stormwater quantity and quality management objectives outlined in the Wianamatta-South Creek technical guide without the need for additional management measures to be provided across the various lots. However, additional stormwater management measures may still be provided over and above these minimum requirements.

Examples of measures that could be adopted in the Stormwater Management Strategy for the DHL's WH03 and WH04 development are summarised in *Table 4*. The adoption and details for these will be confirmed in detailed design phase.

Table 4: Additional Stormwater Management Measures

Additional Measures	Adopted in this Strategy?	Comment
Rainwater reuse	Yes	Recycled water to be used for landscape irrigation and toilet flushing. Details to be provided in detailed design phase
Passive landscape irrigation	Yes	Details to be provided in detailed design phase
Permeable pavements	Where Possible	Heavy duty pavement surrounding warehouse buildings are not suitable for permeable pavements. Permeable pavements may be adopted in exposed on-grade sections of the multi-storey car parks, footpaths and other lightly traffic pavements.
Bioretention	No	Provided in the overall estate development
Wetlands	No	Provided in the overall estate development

9. Utility Services

9.1. Utilities in the vicinity of the site

The estate developer shall provide access and connection points to all utility services at each lot's main street frontage on Estate Road 4 including the following:

- Potable water (Sydney Water Corporation)
- Sewer (Sydney Water Corporation)
- Recycled water (Sydney Water Corporation)
- Electrical (Endeavour Energy)
- Telecommunications (Telstra / NBN)
- Gas (Jemena), if required

All existing utility services within the site shall be demolished and removed as these are not appropriate for the proposed development.

9.2. Potable Water

The estate developer is liaising with Sydney Water in relation to the proposed water supply infrastructure that will service the estate and DHL's WH03 and WH04.

It is understood that a potable water supply (assumed 200mm diameter) will be reticulated from the new trunk mains currently under construction in Elizabeth Drive to each lot's main street frontage on Estate Road 4.

9.3. Wastewater

The estate developer is liaising with Sydney Water in relation to the proposed sewer infrastructure that will service the estate and DHL's WH03 and WH04.

It is understood that sewer connection (assumed 225mm diameter) will be reticulated along Estate Road 4 to provide connection to WH03 and WH04. This pipe will ultimately connect to the carrier main proposed on the western side of Cosgroves Creek.

9.4. Recycled Water

The estate developer has been liaising with Sydney Water in relation to the proposed recycled water supply infrastructure that will service the estate and DHL's WH03 and WH04.

It is understood that a recycled water supply (assumed 150mm diameter) will be reticulated along Estate Road 4 to provide connection to WH03 and WH04.

9.5. Electrical

The estate developer has been liaising with Endeavour Energy in relation to electrical supply infrastructure that will service the estate and DHL's WH03 and WH04.

It is understood that 22kV high voltage mains and connection points shall be provided along the proposed Estate Road 4 site frontage to WH03 and WH04 from a new zone substation proposed to be constructed within the estate.

9.6. Gas

There are no existing Jemena gas mains located within the vicinity of the Site. The proposed development does not require reticulated gas supply for the Site.

9.7. Telecommunications

The estate developer is expected to provide sufficient conduits along the proposed Estate Road 4 site frontage and liaise with telecommunications providers.

10. Infrastructure Staging

It is expected that all relevant estate infrastructure works including the intersection with Elizabeth Drive, Estate Road 1, Estate Road 4 and the associated utility services lead ins and reticulation shall be in place and operational prior to completion of the DHL development. All estate civil, stormwater and utilities infrastructure shall be delivered by the estate developer.

Construction on both WH03 & WH04 will be carried out concurrently as a single stage development.

APPENDIX A – Civil Engineering Drawings

CIVIL WORKS PACKAGE - DRAWING LIST	
DRAWING No.	WAREHOUSE 3
22-993-C1300	Lot 4.2 (WH03) Cover Sheet, Drawing List and Locality Plan
22-993-C1301	Lot 4.2 (WH03) General Notes
22-993-C1302	Lot 4.2 (WH03) General Arrangement
22-993-C1305	Lot 4.2 (WH03) Site Sections
22-993-C1308	Lot 4.2 (WH03) Bulk Earthworks Cut/Fill Plan
22-993-C1311	Lot 4.2 (WH03) Siteworks and Stormwater Drainage Plan Sheet 1
22-993-C1312	Lot 4.2 (WH03) Siteworks and Stormwater Drainage Plan Sheet 2
22-993-C1313	Lot 4.2 (WH03) Siteworks and Stormwater Drainage Plan Sheet 3
22-993-C1314	Lot 4.2 (WH03) Siteworks and Stormwater Drainage Plan Sheet 4
22-993-C1318	Lot 4.2 (WH03) Stormwater Drainage Details
22-993-C1320	Lot 4.2 (WH03) Pavement Plan Sheet 1
22-993-C1325	Lot 4.2 (WH03) Erosion and Sediment Control Plan Bulk Earthworks Phase
22-993-C1326	Lot 4.2 (WH03) Erosion and Sediment Control Plan Civil Works Phase
22-993-C1327	Lot 4.2 (WH03) Erosion and Sediment Control Plan Stabilisation Phase
22-993-C1330	Lot 4.2 (WH03) Erosion and Sediment Control Details Sheet 1
22-993-C1331	Lot 4.2 (WH03) Erosion and Sediment Control Details Sheet 2
	WAREHOUSE 4
22-993-C1400	Lot 4.1 (WH04) Cover Sheet, Drawing List and Locality Plan
22-993-C1401	Lot 4.1 (WH04) General Notes
22-993-C1402	Lot 4.1 (WH04) General Arrangement
22-993-C1405	Lot 4.1 (WH04) Site Sections
22-993-C1408	Lot 4.1 (WH04) Bulk Earthworks Cut/Fill Plan
22-993-C1411	Lot 4.1 (WH04) Siteworks and Stormwater Drainage Plan Sheet 1
22-993-C1412	Lot 4.1 (WH04) Siteworks and Stormwater Drainage Plan Sheet 2
22-993-C1413	Lot 4.1 (WH04) Siteworks and Stormwater Drainage Plan Sheet 3
22-993-C1414	Lot 4.1 (WH04) Siteworks and Stormwater Drainage Plan Sheet 4
22-993-C1418	Lot 4.1 (WH04) Stormwater Drainage Details
22-993-C1420	Lot 4.1 (WH04) Pavement Plan Sheet 1
22-993-C1425	Lot 4.1 (WH04) Erosion and Sediment Control Plan Bulk Earthworks Phase
22-993-C1426	Lot 4.1 (WH04) Erosion and Sediment Control Plan Civil Works Phase
22-993-C1427	Lot 4.1 (WH04) Erosion and Sediment Control Plan Stabilisation Phase
22-993-C1430	Lot 4.1 (WH04) Erosion and Sediment Control Details Sheet 1
22-993-C1431	Lot 4.1 (WH04) Erosion and Sediment Control Details Sheet 2

BURRA PARK

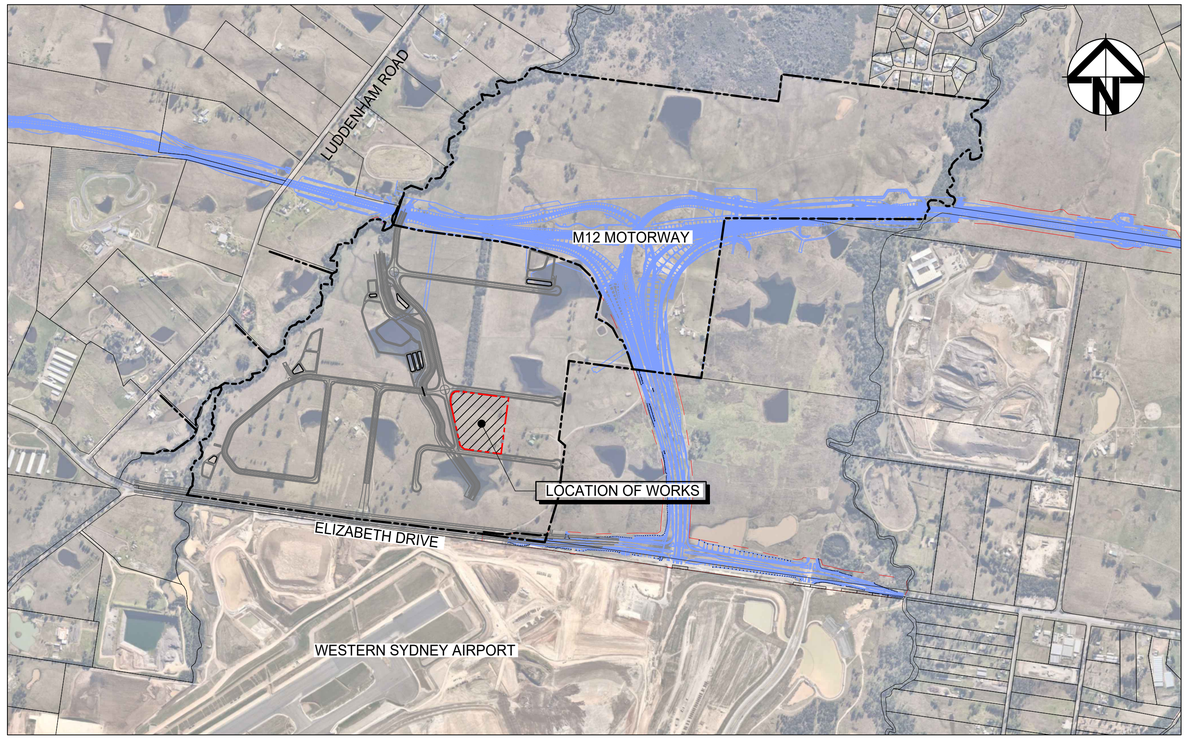
ELIZABETH DRIVE, BADGERYS CREEK

LOT 4.1 (WAREHOUSE 4)

CIVIL WORKS PACKAGE

SSDA - 70818708

DRAWING No.	DRAWING LIST
22-993-C1400	LOT 4.1 (WH 04) COVER SHEET, DRAWING LIST AND LOCALITY PLAN
22-993-C1401	LOT 4.1 (WH 04) GENERAL NOTES
22-993-C1402	LOT 4.1 (WH 04) GENERAL ARRANGEMENT
22-993-C1405	LOT 4.1 (WH 04) SITE SECTIONS
22-993-C1408	LOT 4.1 (WH 04) BULK EARTHWORKS CUT/FILL PLAN
22-993-C1411	LOT 4.1 (WH 04) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 1
22-993-C1412	LOT 4.1 (WH 04) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 2
22-993-C1413	LOT 4.1 (WH 04) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 3
22-993-C1414	LOT 4.1 (WH 04) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 4
22-993-C1418	LOT 4.1 (WH 04) STORMWATER DRAINAGE DETAILS
22-993-C1420	LOT 4.1 (WH 04) PAVEMENT PLAN SHEET 1
22-993-C1425	LOT 4.1 (WH 04) EROSION AND SEDIMENT CONTROL PLAN BULK EARTHWORKS PHASE
22-993-C1426	LOT 4.1 (WH 04) EROSION AND SEDIMENT CONTROL PLAN CIVIL WORKS PHASE
22-993-C1427	LOT 4.1 (WH 04) EROSION AND SEDIMENT CONTROL PLAN STABILISATION PHASE
22-993-C1430	LOT 4.1 (WH 04) EROSION AND SEDIMENT CONTROL DETAILS SHEET 1
22-993-C1431	LOT 4.1 (WH 04) EROSION AND SEDIMENT CONTROL DETAILS SHEET 2



LOCALITY PLAN
NTS

Issue	Description	Date
E	ISSUED FOR SSD APPROVAL	11-10-24
D	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
C	ISSUED FOR SSD APPROVAL	23-05-23
B	FOR COORDINATION	21-04-22
A	ISSUED FOR SSD APPROVAL	10-10-22

100mm on Original

THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L

Client: DHL

Scales: NTS
Grid: GDA2020
Height Datum: AHD

Drawn	NT
Designed	BL
Checked	CB
Approved	

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) COVER SHEET, DRAWING LIST AND LOCALITY PLAN

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
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Status: FOR APPROVAL
NOT FOR CONSTRUCTION

A1

Project - Drawing No.: 22-993-C1400

Issue: E

F:\22-993 DHL\6.0 Drgs\Civil\Final\SSDA\LOT 3.2\22-993-C1400.dwg

SITEWORKS NOTES

1. ORIGIN OF LEVELS:- REFER SURVEY NOTES.
2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO AT & L.
3. MAKE SMOOTH CONNECTION WITH EXISTING WORKS.
4. ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
5. ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMAPACTED IN 150mm LAYERS TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
6. PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.
7. ASPHALTIC CONCRETE SHALL CONFORM TO R.M.S SPECIFICATION R116.
8. ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S FORM 3051 (UNBOUND), R.M.S FORM 3052 (BOUND) COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1
   FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m OF BASECOURSE MATERIAL PLACED.
9. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S FORM 3051, 3051.1 AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH A.S 1289 5.2.1
   FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m OF SUB-BASE COURSE MATERIAL PLACED.
10. AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (9) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH R.M.S FORM 3051 AND 3051.1 WILL BE CONSIDERED, SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF AT & L.
11. SHOULD THE CONTRACTOR WISH TO USE A RECYCLED PRODUCT THE CONTRACTOR IS TO SEEK ACCEPTANCE OF THE PRODUCT FROM AT&L. THE PRICE DIFFERENCE BETWEEN AN IGNEOUS PRODUCT AND A RECYCLED PRODUCT SHALL BE CLEARLY INDICATED.
12. WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED BY OTHERS, (eg. ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY BOXALL SURVEYORS, BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. AT & L DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.

SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT AT & L.

THE FOLLOWING NOTES HAVE BEEN TAKEN DIRECTLY FROM THE ORIGINAL SURVEY DOCUMENTS.

NOTES
1. THE BOUNDARIES HAVE APPOROXIMATELY BEEN SURVEYED IN ACCORDANCE WITH CLAUSE 9 OF THE SURVEYING & SPATIAL INFORMATION REGULATION 2017
2. ALL AREAS AND DIMENSIONS HAVE BEEN COMPILED FROM PLANS MADE AVAILABLE BY NSW LAND REGISTRY SERVICES AND ARE SUBJECT TO FINAL SURVEY
3. ORIGIN OF COORDINATES HAS BEEN DERIVED USING GPS (GNSS) SURVEY FROM SSM33562
4. ORIGIN OF LEVELS ON A.H.D. IS TAKEN FROM SSM33562 R.L. 43.021 (A.H.D.) IN MAMRE ROAD USING GPS (GNSS) SURVEY METHODS.
5. CONTOUR INTERVAL 0.5 m
6. CONTOURS ARE INDICATIVE ONLY. ONLY SPOT LEVELS SHOULD BE USED FOR CALCULATIONS OF QUANTITIES WITH CAUTION
7. NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE. SERVICES HAVE BEEN PLOTTED FROM RELEVANT AUTHORITIES INFORMATION AND HAVE NOT BEEN SURVEYED. ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION ON OR NEAR THE SITE
8. 8/.4/7 DENOTES TREE SPREAD OF 8m, TRUNK DIAMETER OF 0.4m & APPROX HEIGHT OF 7m
9. SHOWS APPROXIMATE POSITION OF ROAD LINEMARKING AND IS INDICATIVE ONLY
10. BEARINGS SHOWN ARE MGA (MAP GRID OF AUSTRALIA) ADD APPROX. 1°00' FOR TRUE NORTH

CONCRETE NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. CONCRETE QUALITY
   ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

ELEMENT	AS 3600 F'c MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE
VEHICULAR BASE	32	60	20
KERBS, PATHS, AND PITS	25	80	20

   - CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL
   - PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.
3. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY AT & L.
4. CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE 40mm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE.
5. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
6. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED AND CURED IN ACCORDANCE WITH R.M.S SPECIFICATION R83.
7. REINFORCEMENT SYMBOLS:
   N DENOTES GRADE 450 N BARS TO AS 1302 GRADE N
   R DENOTES 230 R HOT ROLLED PLAIN BARS TO AS 1302
   SL DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 1304

   NUMBER OF BARS IN GROUP — BAR GRADE AND TYPE
   17 N 20 250
   NOMINAL BAR SIZE IN mm — SPACING IN mm

   THE FIGURE FOLLOWING THE FABRIC SYMBOL SL IS THE REFERANCE NUMBER FOR FABRIC TO AS 1304.
8. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:

KERBING NOTES

1. ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25MPa U.N.O IN REINFORCED CONCRETE NOTES.
2. ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON MIN. 100mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 95% MODIFIED DRY DENSITY (AS 1289 5.2.1).
3. EXPANSION JOINTS (E.J) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
4. WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
5. BROOMED FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
6. IN THE REPLACEMENT OF KERB AND GUTTER :-
   EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm U.N.O FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER NEW BASECOURSE AND SURFACE TO BE LAID 900mm WIDE U.N.O.

   EXISTING ALLOTMENT DRAINAGE PIPES ARE TO BE BUILT INTO THE NEW KERB AND GUTTER WITH 100mm DIA HOLE.

   EXISTING KERB AND GUTTER IS TO BE COMPLETELY REMOVED WHERE NEW KERB AND GUTTER IS SHOWN.

STORMWATER DRAINAGE NOTES

1. STORMWATER DESIGN CRITERIA:
   (A) AVERAGE RECURRENCE INTERVAL:
   1:100 YEARS MAJOR STORM (OVERLAND FLOW)
   1:20 YEARS MINOR STORM (PIPED NETWORK)
   (B) RAINFALL INTENSITIES:
   TIME OF CONCENTRATION:5 MINUTES
   1:100 YEARS= 219 mm/hr
   1:20 YEARS= 167 mm/hr
   (C) RUNOFF COEFFICIENTS:
   ROOF AREAS: C 100 =1.0
   EXTERNAL PAVEMENTS: C 100 =1.0
2. PIPES 300 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '3' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
3. PIPES UP TO 300 DIA SHALL BE SEWER GRADE uPVC WITH SOLVENT WELDED JOINTS.
4. EQUIVALENT STRENGTH VCP OR FRC PIPES MAY BE USED, SUBJECT TO THE APPROVAL OF PENRITH CITY COUNCIL.
5. ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE uPVC PRESSURE PIPE GRADE 6. ENSURE ALL VERTICALS AND DOWNPIPES ARE uPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.
6. PIPES TO BE INSTALLED TO TYPE HS1 SUPPORT IN ACCORDANCE WITH AS 3725 (2007) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
7. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 (1998) AND AS/NZS 3500 3.2 (1998).
8. PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY AT & L.
9. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
10. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
11. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
12. GRATES AND COVERS SHALL CONFORM TO AS 3996.
13. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
14. ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.

FINISHED SURFACE LEVELS

1. ALL FINISHED SURFACE LEVELS ARE ±1000mm U.N.O.

DEWATERING

ANY DEWATERING WORKS TO BE AS PER THE DEWATERING PROCEDURE AS CONTAINED WITHIN THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP).

DECOMMISSIONING / DEMOLITION

DEMOLITION OF EXISTING DWELLING TO BE CONDUCTED IN ACCORDANCE WITH THE PROVISIONS OF AS2601-2001 - DEMOLITION OF STRUCTURES BY CONTRACTORS EXPERIENCED IN THIS CLASS OF WORK AND HOLDING REQUIRED CURRENT PERMITS AND LICENSES AS REQUIRED.

EXISTING INTERNALS FENCING, CATTLE YARDS, UTILITIES AND OTHER REDUNDANT STRUCTURES TO BE DEMOLISHED AND REMOVED TO AN APPROVED WASTE MANAGEMENT FACILITY.

DAM DECOMMISSIONING TO BE COMPLETED AS PER THE DAM DECOMMISSIONING PROCEDURE AS CONTAINED WITHIN THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP).

EXISTING UNDERGROUND SERVICES NOTES

THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE.

AT & L CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.

CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.

CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.

CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

EMBANKMENT CONSTRUCTION SEQUENCE

1. STRIP VEGETATION AND TOPSOIL FROM EMBANKMENT AREA AND STOCKPILE TOPSOIL FOR LATER USE. CUT BACK AREA TO FIRM GROUND.
2. CONSTRUCT EMBANKMENT IN PRESENCE OF QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER IF NOT ROCK.
3. IN THE CASE WHERE THE EMBANKMENT AREAS SLUSH, GROUTING AND DENTAL CONCRETE MAY BE REQUIRED, AS DIRECTED BY A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER.
4. COMPACT CLAY STABILIZED WITH GYPSUM (3% BY DRY MASS, MINIMUM) AS APPROVED BY A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER INTO THE CUT-OFF TRENCH OF LAYERS NOT EXCEEDING 150mm LOOSE THICKNESS TO A DRY DENSITY EQUIVALENT TO 98% OF THAT DETERMINED BY STANDARD COMPACTION (AS 1289.5.1.1) AND AT A MOISTURE CONTENT OF -2% TO +2% OF OPTIMUM MOISTURE CONTENT.
5. GYPSUM STABILIZED NATURAL SOILS EXPOSED IN EMBANKMENT AREA WITH MINIMUM 3% GYPSUM BY DRY MASS AND COMPACT AS FOR #4. ALL TO THE APPROVAL OF A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER.
6. CONSTRUCT BODY OF EMBANKMENT WITH CLAYEY MATERIAL WON FROM SITE. COMPACT THE CLAYEY MATERIAL APPROVED BY A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER IN LAYERS NOT EXCEEDING 150mm THICKNESS TO A DRY DENSITY EQUIVALENT TO 98% OF THAT DETERMINED BY STANDARD COMPACTION (AS 1289.5.1.1) AND AT A MOISTURE CONTENT OF -2% TO +2% OF OPTIMUM MOISTURE CONTENT. MOST IMPORTANTLY, IF SHRINKAGE CRACKS OCCUR, AS DIRECTED BY A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER.
7. OVERFILL THE EMBANKMENT AND TRIM OFF, SO THAT THE ENTIRE BODY OF THE EMBANKMENT IS COMPACTED.
8. TRIM THE EMBANKMENTS BATTERS TO THE OVERFILLED MATERIAL, STABILIZE THE UPSTREAM CLAY BATTERS WITH WELL MIXED GYPSUM (3% BY DRY MASS, MINIMUM) AND COMPACT TO MIN. 98% STD -2% TO +2% OMC.
9. PLACE ROCK RIP-RAP AS SHOWN.
10. RECOVER TOPSOIL FROM STOCKPILE AND SPREAD OVER EMBANKMENT AND CUT BATTERS (A THIN COVER OF TOPSOIL ONLY HAS BEEN NOMINATED). ONLY LIGHTLY TRACK-ROLL THE TOPSOIL AND THEN LANDSCAPE IN ACCORDANCE WITH THE LANDSCAPE AREA DRAWINGS.
11. WATER AND FERTILIZE LANDSCAPE AS REQUIRED BY CLIMACTIC CONDITIONS TO ENSURE THE LANDSCAPE IS SUCCESSFUL.
12. AT THE COMPLETION OF WORK WRITTEN CONFIRMATION & CERTIFICATION IS TO BE PROVIDED FROM A QUALIFIED & EXPERIENCED GEOTECHNICAL ENGINEER THAT THE EMBANKMENTS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THESE DRAWINGS.

BEFORE YOU DIG www.byda.com.au

CONTRACTOR SHALL OBTAIN ALL CURRENT SERVICE AUTHORITY PLANS PRIOR TO COMMENCEMENT OF WORK

Issue	Description	Date
E	ISSUED FOR SSD APPROVAL	11-10-24
D	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
C	ISSUED FOR SSD APPROVAL	23-05-23
B	FOR COORDINATION	21-04-22
A	ISSUED FOR SSD APPROVAL	10-10-22

100mm on Original

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Client: DHL

Scales: NTS
Grid: GDA2020
Height Datum: AHD
Drawn: NT
Designed: BL
Checked: CB
Approved:

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) GENERAL NOTES

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North Sydney NSW 2060
ABN 96 130 882 405
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www.atl.net.au
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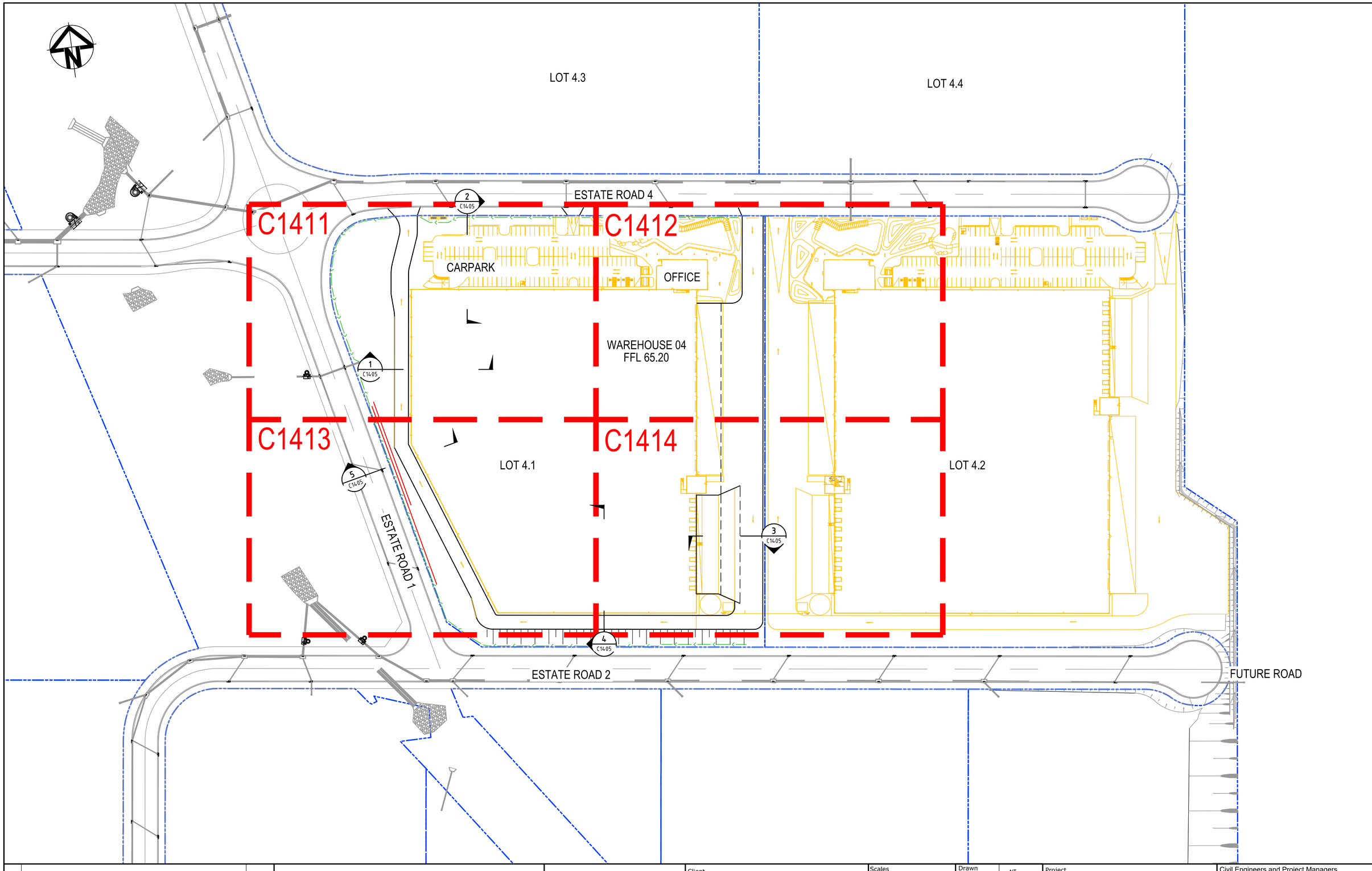
Status: FOR APPROVAL
NOT FOR CONSTRUCTION

A1

Project - Drawing No.: 22-993-C1401

Issue: E

F:\22-993 DHL\6.0 Drgs\Civil\Final\SSDA\LOT 3.2\22-993-C1401.dwg



Issue	Description	Date
G	ISSUED FOR SSD APPROVAL	24-10-24
F	ISSUED FOR SSD APPROVAL	11-10-24
F	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
E	ISSUED FOR SSD APPROVAL	23-05-23
D	FOR COORDINATION	21-04-22
C	ISSUED FOR SSD APPROVAL	10-10-22
B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD APPROVAL	09-09-22

0 20 40 60 80 100m

1 : 1000 @ A1 1 : 2000 @ A3

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Scales: 1:1000 @ A1

Grid: GDA2020

Height Datum: AHD

Drawn: NT

Designed: BL

Checked: CB

Approved:

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) GENERAL ARRANGEMENT

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info@atl.net.au

Status: FOR APPROVAL
NOT FOR CONSTRUCTION

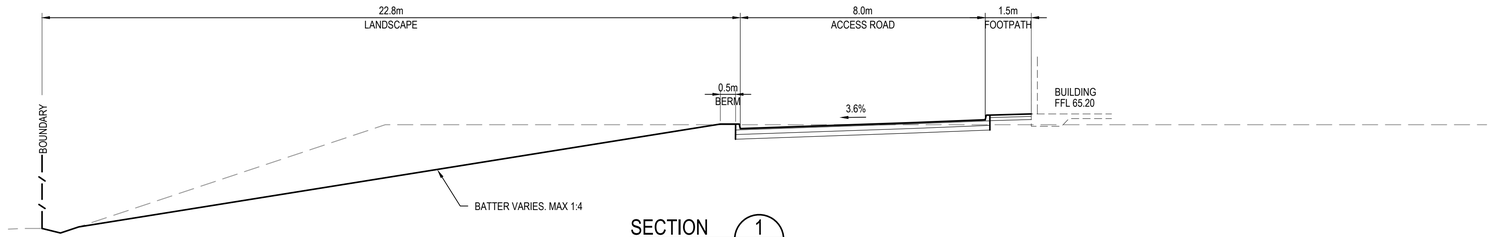
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Project - Drawing No.: 22-993-C1402

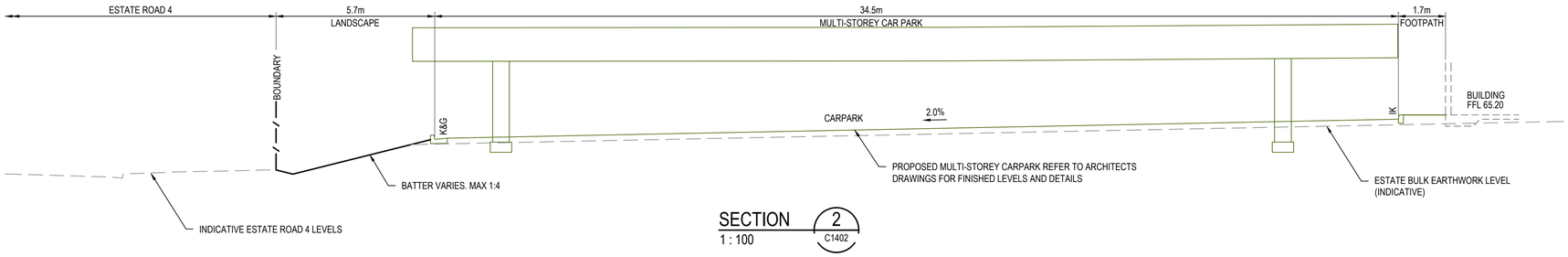
Issue: G

100mm on Original

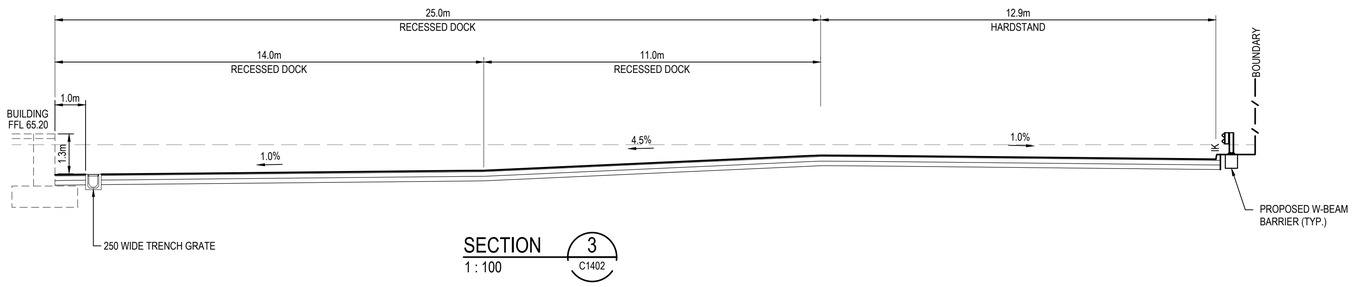
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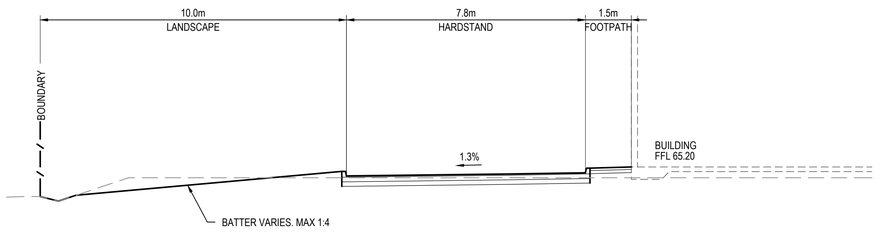
SECTION 1 (C1402)
1 : 100



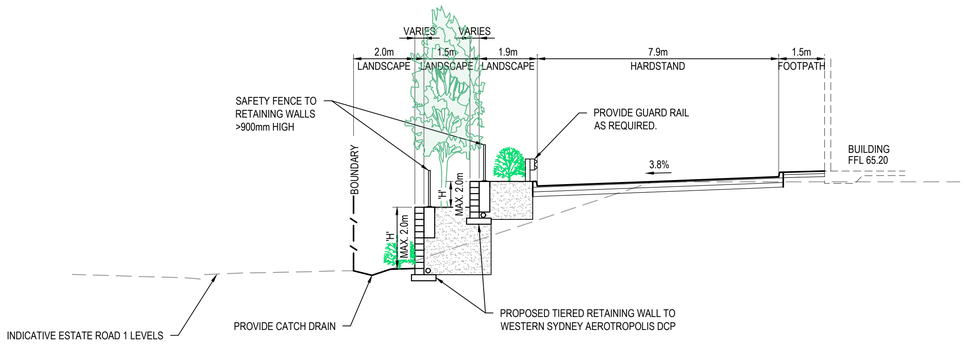
SECTION 2 (C1402)
1 : 100



SECTION 3 (C1402)
1 : 100



SECTION 4 (C1402)
1 : 100



SECTION 5 (C1402)
1 : 100

Issue	Description	Date
F	ISSUED FOR SSD APPROVAL	11-10-24
F	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
E	ISSUED FOR SSD APPROVAL	23-05-23
D	FOR COORDINATION	21-04-22
C	ISSUED FOR SSD APPROVAL	10-10-22
B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD APPROVAL	09-09-22

0 2 4 6 8 10m
1 : 100 @ A1 1 : 200 @ A3

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Client: DHL

Scales: 1:100 @ A1
Grid: GDA2020
Height Datum: AHD
Drawn: NT
Designed: BL
Checked: CB
Approved:

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) SITE SECTIONS

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Status: FOR APPROVAL
NOT FOR CONSTRUCTION

A1

Project - Drawing No.: 22-993-C1405

Issue: F

100mm on Original

F:\22-993 DHL\6.0 Drgs\Civil\Final\SSDA\LOT 3.2\22-993-C1405.dwg

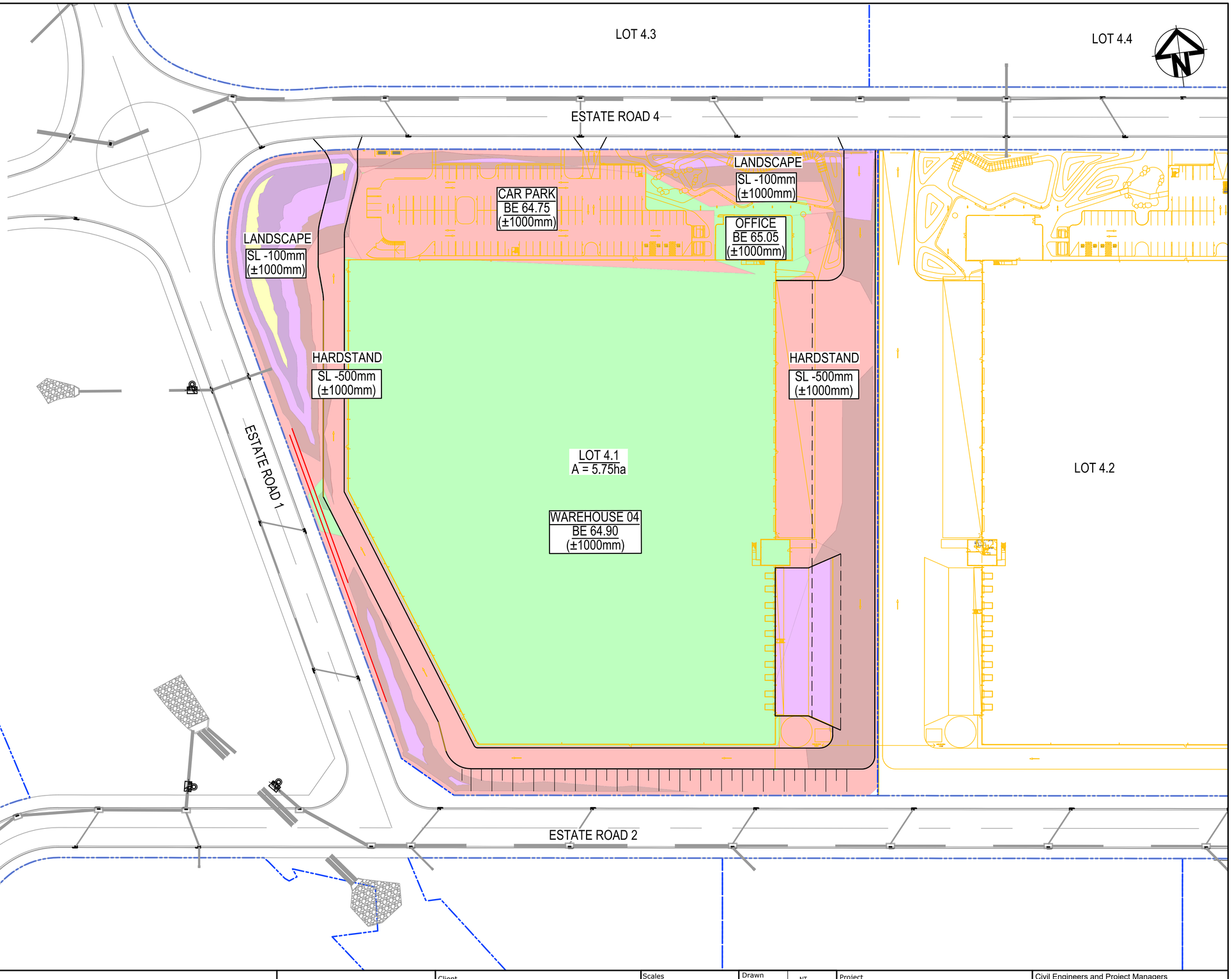
CUT\FILL DEPTH RANGE LEGEND				
Lower_value		Upper_value		Colour
-2.5	to	-2.0	m	
-2.0	to	-1.5	m	
-1.5	to	-1.0	m	
-1.0	to	-0.5	m	
-0.5	to	0.0	m	
0.0	to	0.5	m	
0.5	to	1.0	m	
1.0	to	1.5	m	
1.5	to	2.0	m	
2.0	to	2.5	m	

EARTHWORKS VOLUMES

A	B	C=A+B
NET CUT (cu.m)	NET FILL (cu.m)	BALANCE (cu.m)
-13,765	1,684	-12,080 (EXPORT)

NOTES

1. EARTHWORKS VOLUMES WERE CALCULATED BETWEEN THE DESIGN EARTHWORKS SURFACE AND THE ESTATE VENDOR'S EARTHWORKS SURFACE.
2. IT IS ASSUMED THAT ON-LOT EARTHWORKS WILL COMMENCE IMMEDIATELY AFTER COMPLETION OF THE ESTATE VENDOR'S EARTHWORKS. NO SITE STRIPPING NECESSARY.
3. EARTHWORKS VOLUMES DO NOT TAKE INTO ACCOUNT THE FOLLOWING :-
   - BULKING FACTORS
   - REMOVAL AND\OR REMEDIATION OF ANY EXISTING UNCONTROLLED FILL AND FARM DAMS.
   - STORMWATER AND UTILITY TRENCHING
   - PROPOSED RETAINING WALL AND UNDERGROUND TANK EARTHWORKS AND BACKFILL MATERIAL
   - SEDIMENT BASINS
4. ALL LEVELS ARE SUBJECT TO FURTHER COORDINATION WITH THE ESTATE WORKS. ALLOW FOR ±1000mm



Issue	Description	Date
F	ISSUED FOR SSD APPROVAL	24-10-24
E	ISSUED FOR SSD APPROVAL	11-10-24
D	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
C	ISSUED FOR SSD APPROVAL	23-05-23
B	FOR COORDINATION	21-04-22
A	ISSUED FOR SSD APPROVAL	10-10-22

0 15 30 45 60 75m

1 : 750 @ A1 1 : 1500 @ A3

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Client: DHL

Scales: 1:750 @ A1
Grid: GDA2020
Height Datum: AHD
GDA2020

Drawn: NT
Designed: BL
Checked: CB
Approved:

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) BULK EARTHWORKS CUT/FILL PLAN

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Status: FOR APPROVAL
NOT FOR CONSTRUCTION

A1

Project - Drawing No.: 22-993-C1408

Issue: F

100mm on Original

F:\22-993 DHL\6.0 Drgs\Civil\Final\SSDA\LOT 3.2\22-993-C1408.dwg

CONSTRUCT VEHICLE CROSSOVER
(REFER PENRITH CITY COUNCIL STANDARD
DRAWING SD004 FOR DETAILS)

CONSTRUCT VEHICLE CROSSOVER
(REFER PENRITH CITY COUNCIL STANDARD
DRAWING SD004 FOR DETAILS)

1.0m WIDE CATCH DRAIN @ MIN. 1.0%

CARPARK

ESTATE ROAD 1

OS-3300-450-OT GPT OR
APPROVED EQUIVALENT.
MODEL, SIZE AND
CONFIGURATION SUBJECT TO
DETAILED DESIGN.

PROVIDE RETAINING WALL
AS PER WESTERN SYDNEY
AEROTROPOLIS DCP

RW ≤4m HIGH

1.0m WIDE CATCH DRAIN @ MIN. 1.0%

NOTE:
DOWNPIPE CONNECTIONS AND SIZING
TO BE CONFIRMED AT DETAIL DESIGN.

LOT 4.1
WAREHOUSE 04
FFL 65.20

KEYPLAN

C1411 C1412 C1413 C1414

CONTINUATION ON DRAWING C1413

CONTINUATION ON DRAWING C1412

LEGEND:

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED RETAINING WALL
- 48.20 — PROPOSED CONTOUR
- PROPOSED FENCE
- PROPOSED BATTER
  TEMPORARY BATTER 1(V):1(H)
  PERMANENT BATTER 1(V):4(H)
  U.N.O
- FK — PROPOSED FLUSH KERB
  TO PCC SPECIFICATION
- K&G — PROPOSED KERB AND GUTTER
  TO PCC SPECIFICATION
- KO — PROPOSED KERB EDGING
  TO PCC SPECIFICATION
- IK — PROPOSED KERB EDGING INTEGRAL TO
  CONCRETE SLAB TO PCC SPECIFICATION
- IK2 — PROPOSED SLOTTED KERB EDGING
  INTEGRAL TO CONCRETE SLAB TO PCC
  SPECIFICATION
- PROPOSED SUBSOIL DRAINAGE LINE
- DRIVEWAY CROSSOVER CONSTRUCTED
  AS PART OF INFRASTRUCTURE
- PROPOSED KERB RAMP
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB
  INLET PIT WITH LINTEL
- PROPOSED STORMWATER LINE
- SW — PROPOSED UPVC ROOF WATER
  DRAINAGE LINE (MAX Ø300mm)
- GD — PROPOSED GRATED DRAIN
  250mm Class 'D' GRATE
- STORMWATER OVERLAND FLOWPATH
- PROPOSED CATCH DRAIN

NOTES:
1. ALL LEVELS SHOWN ARE ± 1000mm
2. ROOF WATER DOWN PIPE LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
3. RETAINING WALL EXTENTS AND LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
4. EXTERNAL / SUBDIVISION WORKS BY VENDOR. REFER SSD-18406916.

Issue	Description	Date
H	ISSUED FOR SSD APPROVAL	24-10-24
G	ISSUED FOR SSD APPROVAL	11-10-24
F	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
E	ISSUED FOR SSD APPROVAL	23-05-23
D	FOR COORDINATION	21-04-22
C	ISSUED FOR SSD APPROVAL	10-10-22
B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD APPROVAL	09-09-22

0 5 10 15 20
1 : 250 @ A1 1 : 500 @ A3

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Client: DHL

Scales		Drawn	NT
	1:250 @ A1	Designed	BL
Grid	GDA2020	Checked	CB
Height Datum	AHD	Approved	

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 1

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info@atl.net.au

Status: FOR APPROVAL
NOT FOR CONSTRUCTION

A1

Project - Drawing No.: 22-993-C1411

Issue: H

100mm on Original

F:\22-993 DHL\6.0 Drgs\Civil\Final\SSDA\LOT 3.2\22-993-C1411.dwg

CONSTRUCT VEHICLE CROSSOVER
(REFER PENRITH CITY COUNCIL STANDARD
DRAWING SD004 FOR DETAILS)

1.0m WIDE CATCH DRAIN @ MIN. 1.0%

Ø600 Ø300 Ø600 Ø300 Ø600

F 63.78 F 63.84

F 64.35

64.0 64.1 64.2 64.3 64.4 64.5 64.6

2.0%

CARPARK
FFL 65.05

OFFICE
FFL 65.35

F 65.05

Ø600

F 65.20 F 64.97 F 64.73

dp

1.2% 0.7% 0.8% 0.7% 1.2% 1.6%

65.1 65.0 64.9

F 64.80

24.0m 13.9m

RETAINING WALL.
REFER TO LOT 4.2 DESIGN FOR DETAILS.

CONTINUATION ON DRAWING C1411

CONTINUATION ON DRAWING C1414

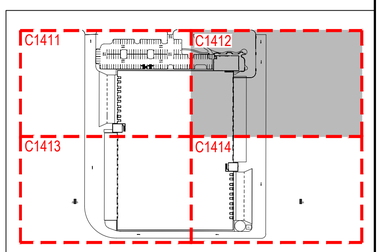
NOTE:
DOWNPIPE CONNECTIONS AND SIZING
TO BE CONFIRMED AT DETAIL DESIGN.

LOT 4.1
WAREHOUSE 04
FFL 65.20

LEGEND:

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED RETAINING WALL
- 48.20 PROPOSED CONTOUR
- PROPOSED FENCE
- PROPOSED BATTER
  TEMPORARY BATTER 1(V):1(H)
  PERMANENT BATTER 1(V):4(H)
  U.N.O
- FK PROPOSED FLUSH KERB
  TO PCC SPECIFICATION
- K&G PROPOSED KERB AND GUTTER
  TO PCC SPECIFICATION
- KO PROPOSED KERB EDGING
  TO PCC SPECIFICATION
- IK PROPOSED KERB EDGING INTEGRAL TO
  CONCRETE SLAB TO PCC SPECIFICATION
- IK2 PROPOSED SLOTTED KERB EDGING
  INTEGRAL TO CONCRETE SLAB TO PCC
  SPECIFICATION
- PROPOSED SUBSOIL DRAINAGE LINE
- DRIVEWAY CROSSOVER CONSTRUCTED
  AS PART OF INFRASTRUCTURE
- PROPOSED KERB RAMP
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB
  INLET PIT WITH LINTEL
- PROPOSED STORMWATER LINE
- SW PROPOSED UPVC ROOF WATER
  DRAINAGE LINE (MAX Ø300mm)
- GD PROPOSED GRATED DRAIN
  250mm Class 'D' GRATE
- STORMWATER OVERLAND FLOWPATH
- PROPOSED CATCH DRAIN

NOTES:
1. ALL LEVELS SHOWN ARE ± 1000mm
2. ROOF WATER DOWN PIPE LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
3. RETAINING WALL EXTENTS AND LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
4. EXTERNAL / SUBDIVISION WORKS BY VENDOR. REFER SSD-18406916.



KEYPLAN

Issue	Description	Date
G	ISSUED FOR SSD APPROVAL	11-10-24
F	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
E	ISSUED FOR SSD APPROVAL	23-05-23
D	FOR COORDINATION	21-04-22
C	ISSUED FOR SSD APPROVAL	10-10-22
B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD APPROVAL	09-09-22

0 5 10 15 20
1 : 250 @ A1 1 : 500 @ A3

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Client: DHL

Scales	1:250 @ A1
Drawn	NT
Designed	BL
Grid	GDA2020
Checked	CB
Height Datum	AHD
Approved	

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 2

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Status: FOR APPROVAL
NOT FOR CONSTRUCTION

A1

Project - Drawing No.: 22-993-C1412

Issue: G

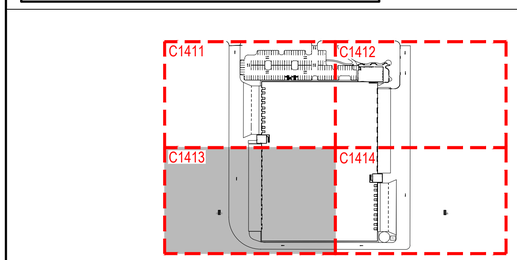
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LEGEND:

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED RETAINING WALL
- 48.20 — PROPOSED CONTOUR
- PROPOSED FENCE
- PROPOSED BATTER
  TEMPORARY BATTER 1(V):1(H)
  PERMANENT BATTER 1(V):4(H)
  U.N.O
- FK — PROPOSED FLUSH KERB TO PCC SPECIFICATION
- K&G — PROPOSED KERB AND GUTTER TO PCC SPECIFICATION
- KO — PROPOSED KERB EDGING TO PCC SPECIFICATION
- IK — PROPOSED KERB EDGING INTEGRAL TO CONCRETE SLAB TO PCC SPECIFICATION
- IK2 — PROPOSED SLOTTED KERB EDGING INTEGRAL TO CONCRETE SLAB TO PCC SPECIFICATION
- PROPOSED SUBSOIL DRAINAGE LINE
- DRIVEWAY CROSSOVER CONSTRUCTED AS PART OF INFRASTRUCTURE
- PROPOSED KERB RAMP
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER LINE
- SW — PROPOSED UPVC ROOF WATER DRAINAGE LINE (MAX Ø300mm)
- GD — PROPOSED GRATED DRAIN 250mm Class 'D' GRATE
- STORMWATER OVERLAND FLOWPATH
- PROPOSED CATCH DRAIN

NOTES:
1. ALL LEVELS SHOWN ARE ± 1000mm
2. ROOF WATER DOWN PIPE LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
3. RETAINING WALL EXTENTS AND LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
4. EXTERNAL / SUBDIVISION WORKS BY VENDOR. REFER SSD-18406916.



KEYPLAN

CONTINUATION ON DRAWING C1411

CONTINUATION ON DRAWING C1414

LOT 4.1
WAREHOUSE 04
FFL 65.20

NOTE:
DOWNPIPE CONNECTIONS AND SIZING TO BE CONFIRMED AT DETAIL DESIGN.

ESTATE ROAD 1

RW ≤ 4m HIGH

FALL

Ø750

64.8

64.9

65.0

F 64.72

4.0%

F 64.97

2.1%

Ø600

F 64.83

3.8%

1.0m WIDE CATCH DRAIN @ MIN. 1.0%

2.0m

RW ≤ 2m HIGH

PROVIDE RETAINING WALL AS PER WESTERN SYDNEY AEROTROPOLIS DCP

1.4%

8.0m

F 64.85

1.0%

1
4
BATTER

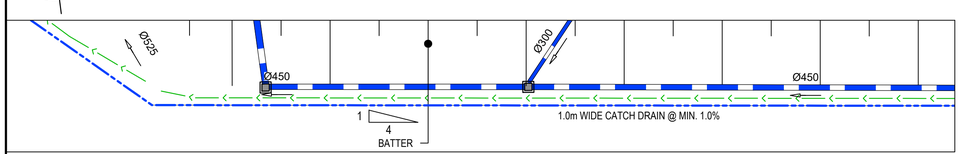
65.0

F 64.97

64.9

F 64.87

61.4
61.6
61.8
62.0
62.2
62.4
62.6
62.8
63.0



INSET A
1 : 250

REFER TO INSET A FOR CONTINUATION

Issue	Description	Date
H	ISSUED FOR SSD APPROVAL	24-10-24
G	ISSUED FOR SSD APPROVAL	11-10-24
F	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
E	ISSUED FOR SSD APPROVAL	23-05-23
D	FOR COORDINATION	21-04-22
C	ISSUED FOR SSD APPROVAL	10-10-22
B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD APPROVAL	09-09-22

0 5 10 15 20
1 : 250 @ A1 1 : 500 @ A3

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Client: DHL

Scales: 1:250 @ A1
Grid: GDA2020
Height Datum: AHD
Drawn: NT
Designed: BL
Checked: CB
Approved:

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 3

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Status: FOR APPROVAL
NOT FOR CONSTRUCTION

A1

Project - Drawing No.: 22-993-C1413

Issue: H

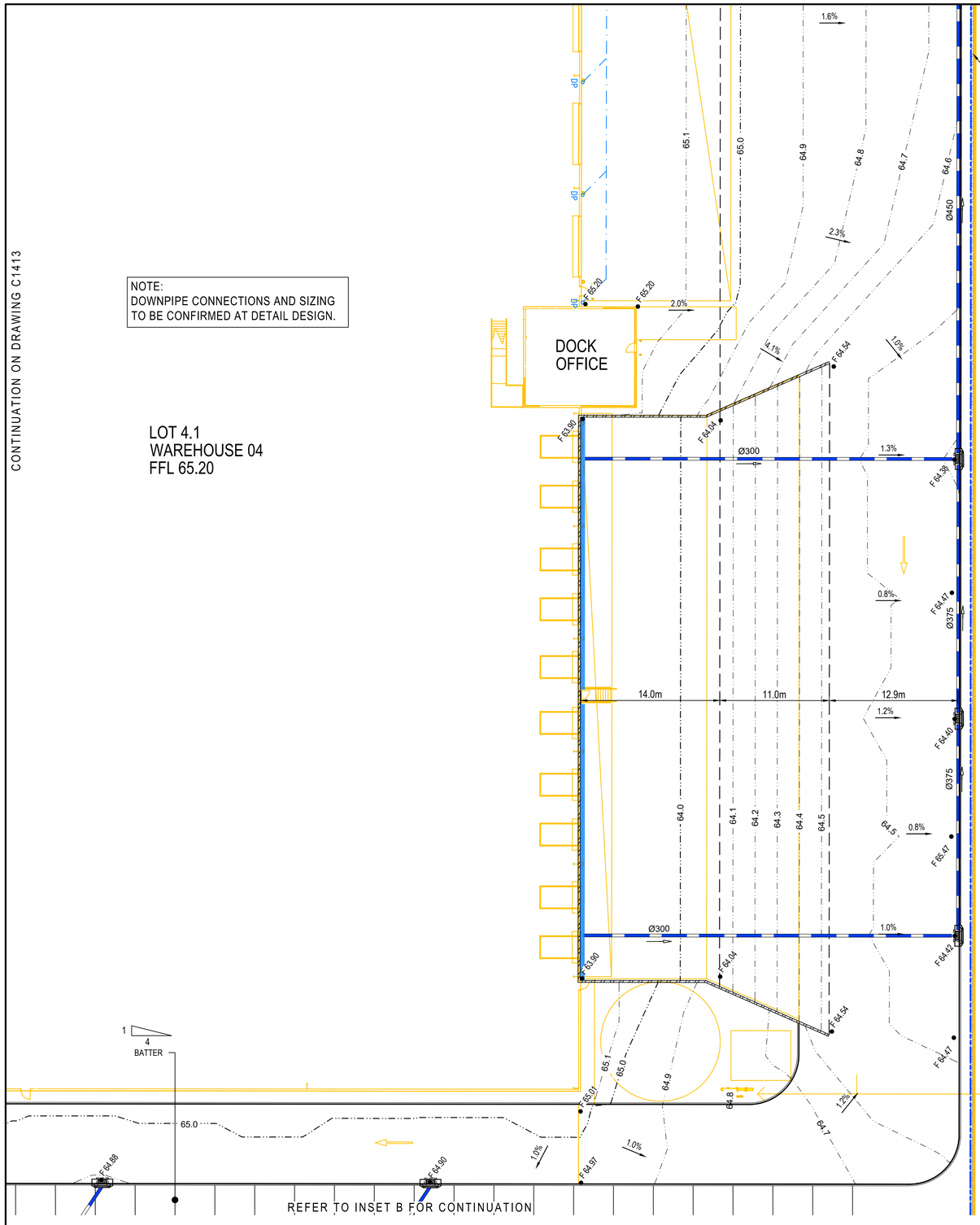
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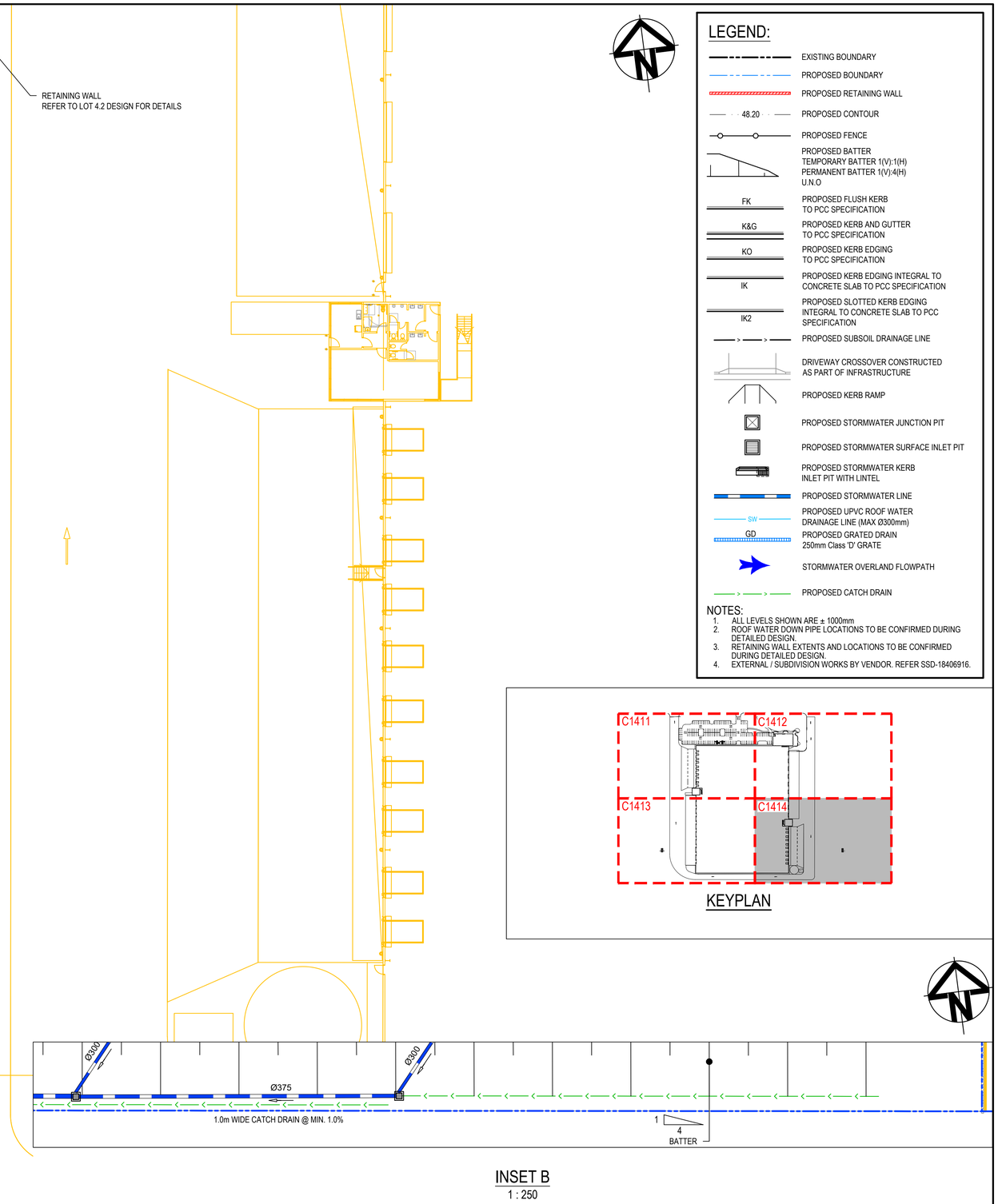
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CONTINUATION ON DRAWING C1413

NOTE:
DOWNPIPE CONNECTIONS AND SIZING TO BE CONFIRMED AT DETAIL DESIGN.

LOT 4.1
WAREHOUSE 04
FFL 65.20





INSET B
1 : 250

LEGEND:

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED RETAINING WALL
- 48.20 — PROPOSED CONTOUR
- PROPOSED FENCE
- PROPOSED BATTER
  TEMPORARY BATTER 1(V):1(H)
  PERMANENT BATTER 1(V):4(H)
  U.N.O
- FK — PROPOSED FLUSH KERB TO PCC SPECIFICATION
- K&G — PROPOSED KERB AND GUTTER TO PCC SPECIFICATION
- KO — PROPOSED KERB EDGING TO PCC SPECIFICATION
- IK — PROPOSED KERB EDGING INTEGRAL TO CONCRETE SLAB TO PCC SPECIFICATION
- IK2 — PROPOSED SLOTTED KERB EDGING INTEGRAL TO CONCRETE SLAB TO PCC SPECIFICATION
- PROPOSED SUBSOIL DRAINAGE LINE
- DRIVEWAY CROSSOVER CONSTRUCTED AS PART OF INFRASTRUCTURE
- PROPOSED KERB RAMP
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER LINE
- SW — PROPOSED UPVC ROOF WATER DRAINAGE LINE (MAX Ø300mm)
- GD — PROPOSED GRATED DRAIN 250mm Class 'D' GRATE
- STORMWATER OVERLAND FLOWPATH
- PROPOSED CATCH DRAIN

NOTES:
1. ALL LEVELS SHOWN ARE ± 1000mm
2. ROOF WATER DOWN PIPE LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
3. RETAINING WALL EXTENTS AND LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
4. EXTERNAL / SUBDIVISION WORKS BY VENDOR. REFER SSD-18406916.

KEYPLAN

Issue	Description	Date
G	ISSUED FOR SSD APPROVAL	11-10-24
F	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
E	ISSUED FOR SSD APPROVAL	23-05-23
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0 5 10 15 20
1 : 250 @ A1 1 : 500 @ A3

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Grid: GDA2020
Height Datum: AHD
GDA2020

Drawn: NT
Designed: BL
Checked: CB
Approved:

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 4

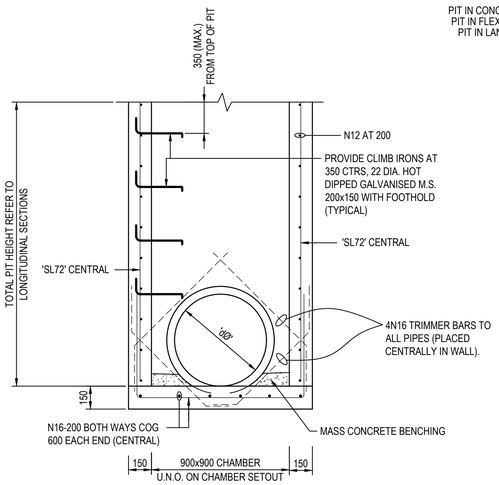
Civil Engineers and Project Managers
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info@atl.net.au

Status: FOR APPROVAL
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A1

Project - Drawing No.: 22-993-C1414
Issue: G

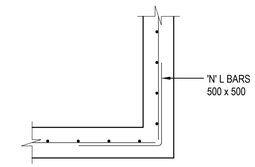
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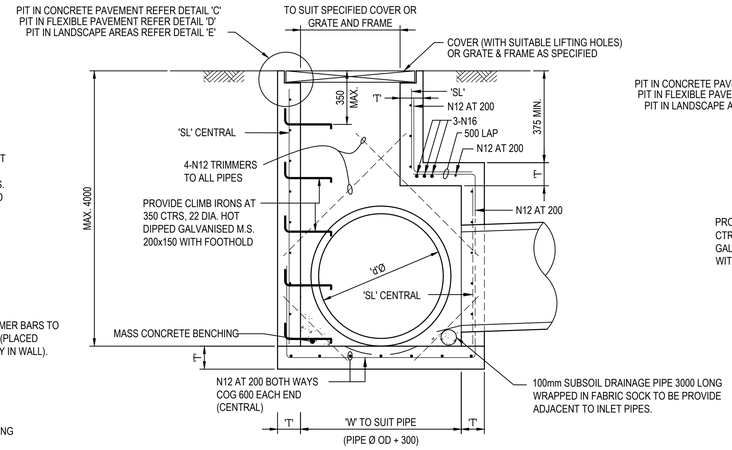
PIT CHAMBER DETAIL FOR PIPES UP TO 525Ø (TYPE 1)

SCALE: 1:20



TYPICAL CORNER DETAIL

SCALE 1:20



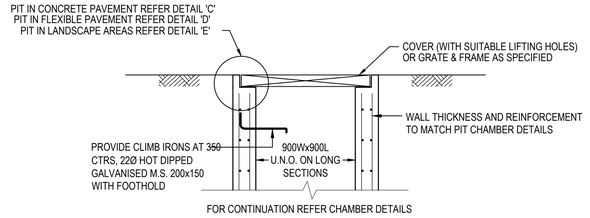
PIT CHAMBER DETAIL FOR PIPES FROM 600Ø TO 1200Ø TYPE 2

(ENLARGED CHAMBER)

SCALE: 1:20

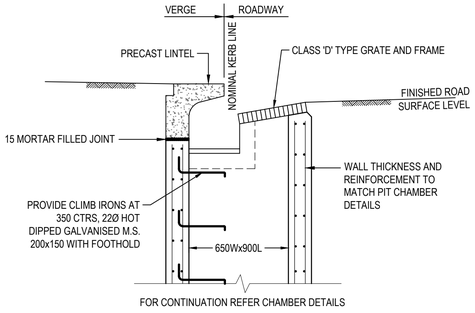
PIPE DIA. 'dØ'	WIDTH 'W' (U.N.O)	WALL 'T'	FABRIC/COV 'SL'
600	900	150	SL82
675	940	150	SL82
750	1020	150	SL82
825	1100	150	SL82
900	1180	200	SL82
1050	1350	200	SL92
1200	1510	200	SL102

CHAMBER DEPTH EXCEEDING 2m IN HEIGHT CERTIFIED APPROVED BY STRUCTURAL ENGINEER.



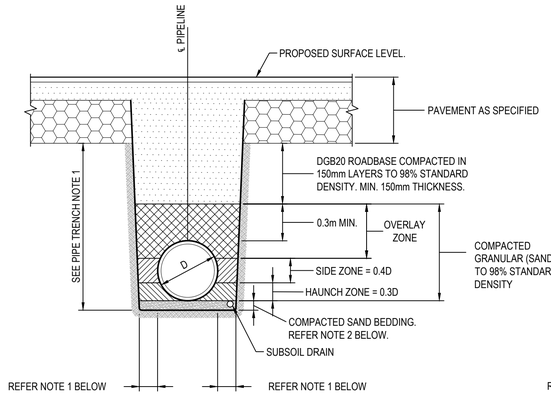
STANDARD SURFACE INLET OR SEALED JUNCTION PIT

SCALE: 1:20



STANDARD GRATED KERB INLET PIT WITH LINTEL

SCALE: 1:20

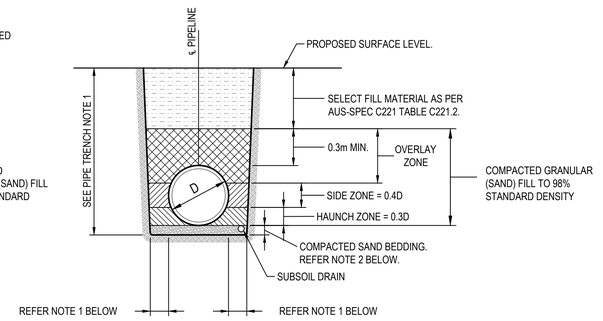


PIPE TRENCH BELOW PAVEMENT

N.T.S.

NOTE

1. ≥0.2D OR 0.3m (WHICHEVER IS GREATER)
2. 100mm FOR PIPE DIA. ≤1500

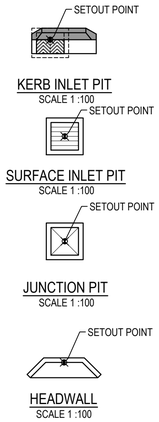


PIPE TRENCH BELOW LANDSCAPING (HS3)

N.T.S.

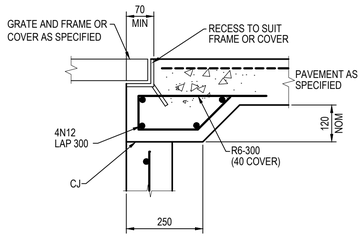
NOTE

1. ≥0.2D OR 0.3m (WHICHEVER IS GREATER)
2. 100mm FOR PIPE DIA. ≤1500



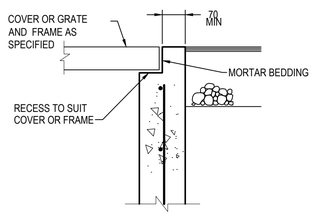
STORMWATER PIT SETOUT POINTS

REFER PIT SETOUT PLANS FOR ENLARGED CHAMBERS



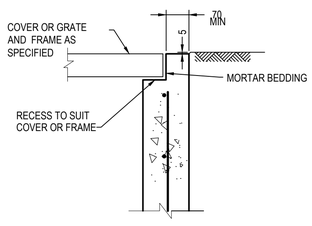
DETAIL "C"

SCALE 1:10



DETAIL "D"

SCALE 1:10



DETAIL "E"

SCALE 1:10

PIPE TRENCH NOTES

1. IN UNDERTAKING TRENCH EXCAVATION, THE CONTRACTOR SHALL PROVIDE ANY SHORING, SHEET PILING OR OTHER STABILISATION OF THE TRENCH NECESSARY TO COMPLY WITH OH&S REGULATION REQUIREMENTS. THE SIDES ARE NOT TO BE LOADED & SHALL BE KEPT CLEAR OF LOOSE MATERIAL ETC. SAFE ACCESS & EGRESS SHALL BE PROVIDED AT ALL TIMES.

2. THE TRENCH SHALL BE EXCAVATED TO A WIDTH 1.4 TIMES THE EXTERNAL DIAMETER OF THE PIPE, OR TO THE EXTERNAL DIAMETER OF THE PIPE PLUS 300mm ON EACH SIDE, WHICHEVER IS THE GREATER.

NOTE

1. STANDARD GULLY PITS REFER TO PENRITH COUNCIL STANDARD DRAWINGS FOR DETAILS
2. FOR INLET SIZE, PIT CHAMBER SIZE AND SETOUT REFER TO STORMWATER LONGITUDINAL SECTIONS.
3. REINFORCING MESH IS TO BE BENT TO LAP 300 AROUND ALL CORNERS. VERTICAL BARS ARE NOT TO BE CUT. ALTERNATELY PROVIDE N12 "L" BARS (500x500) AT 400 VERTICAL CTS.
4. COMPRESSIVE STRENGTH (F'c) FOR CAST IN SITU CONCRETE SHALL BE A MINIMUM 32 MPa AT 28 DAYS.
5. TOP OF BENCHING SHALL BE ⅖ OF OUTLET PIPE DIAMETER.
6. 100mm SUBSOIL DRAINAGE PIPE 3000 LONG WRAPPED IN FABRIC SOCK TO BE PROVIDE ADJACENT TO INLET PIPES.
7. ALL PITS SHALL BE PROVIDED WITH A LOCKING CLIP.
8. PIT GRATE TO BE 'WELDLOK' GULLY GRATE GG 78-50 OR APPROVED EQUIVALENT.
9. DURING INSTALLATION OF GRATE AND FRAME CONTRACTOR IS TO ENSURE CLEARANCE BETWEEN LINTEL AND OPENED GRATE (REFER TO INSTALLATION TOLERANCE).
10. PROVIDE STEP IRONS AS INDICATED FOR PITS DEEPER THAN 1200.
11. N12 AT 200 CENTRALLY PLACED MAY BE USED IN LIEU OF MESH. LAP 500 AT CORNERS
12. MINIMUM REINFORCEMENT COVER TO BE 45mm UNLESS NOTED OTHERWISE
15. CHAMBER DEPTH EXCEEDING 2m IN HEIGHT WILL BE DESIGNED AND APPROVED BY STRUCTURAL ENGINEER
16. CONCRETE STRENGTH: - UNLESS NOTED OTHERWISE

ELEMENT	f'c MPa (28 DAYS)	SLUMP	MAX AGG SIZE	CEMENT TYPE
PITS	32	80mm	20mm	GP

Issue	Description	Date
G	ISSUED FOR SSD APPROVAL	11-10-24
F	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
E	ISSUED FOR SSD APPROVAL	23-05-23
D	FOR COORDINATION	21-04-22
C	ISSUED FOR SSD APPROVAL	10-10-22
B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD APPROVAL	09-09-22

0 2 4 6 8 10m
1 : 100 @ A1 1 : 200 @ A3
0 500 1000 1500 2000mm
1 : 20 @ A1 1 : 40 @ A3
0 100 200 400 600 800 1000mm
1 : 10 @ A1 1 : 20 @ A3

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	AS SHOWN	Designed	BL
Grid	GDA2020	Checked	CB
Height Datum	AHD	Approved	

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) STORMWATER DRAINAGE DETAILS

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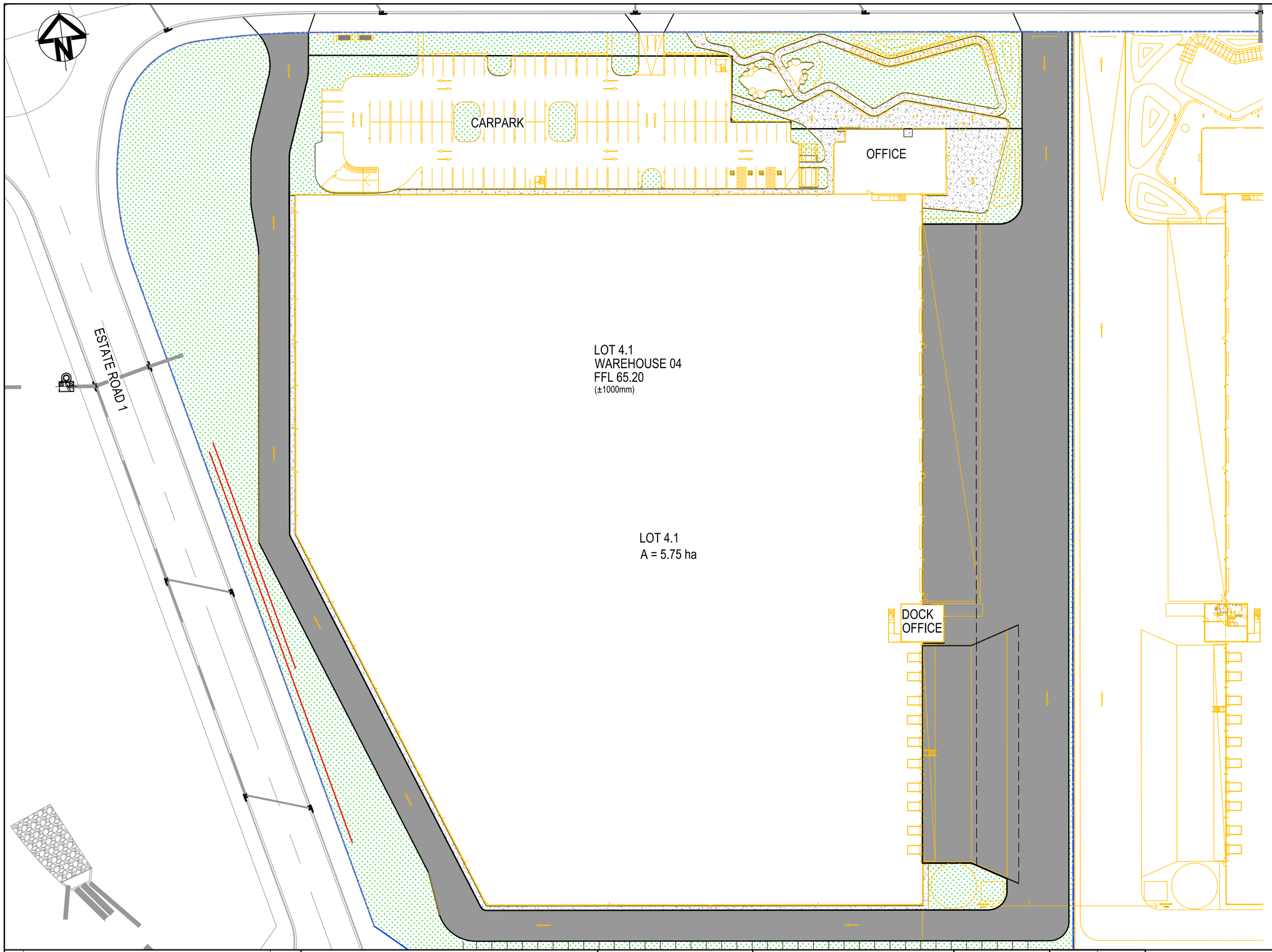
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Project - Drawing No.: 22-993-C1418

Issue: G

100mm on Original

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LEGEND

- HEAVY DUTY RIGID PAVEMENT
- ASPHALT PAVEMENT CARPARK AISLES
- PERMEABLE PAVEMENT
- LANDSCAPE
- FOOTPATH

NOTE : ALL ASPHALT TO HAVE JETCOOL SEALANT APPLIED TO ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

Issue	Description	Date
H	ISSUED FOR SSD APPROVAL	24-10-24
G	ISSUED FOR SSD APPROVAL	11-10-24
F	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
E	ISSUED FOR SSD APPROVAL	23-05-23
D	FOR COORDINATION	21-04-22
C	ISSUED FOR SSD APPROVAL	10-10-22
B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD APPROVAL	09-09-22

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

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Client: DHL

Scales	1:500 @ A1
Drawn	NT
Designed	BL
Grid	GDA2020
Checked	CB
Height Datum	AHD
Approved	

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Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) PAVEMENT PLAN SHEET 1

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Status: FOR APPROVAL
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Project - Drawing No.: 22-993-C1420

Issue: H

100mm on Original

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TEMPORARY STOCKPILE

INSTALL TEMPORARY STABILISED SITE ACCESS AT ALL CONSTRUCTION EXITS

STOCKPILE TO BE LOCATED TO SITE REQUIREMENTS.

SEDIMENT BASIN BY VENDOR. REFER SSD 18406916 ESC PLANS.

ESTATE ROAD 1

LOT 4.1
A = 5.75 ha

LOT 4.2

INSTALL TEMPORARY BARRIER SCREEN WITH DUST SCREEN AROUND SITE PERIMETER. REFER TO DETAILS.

CATCH DRAIN AND CHECKED DAMS BY VENDOR. REFER SSD 18406916 ESC PLANS.

TEMPORARY SEDIMENT FENCE BY VENDOR. REFER SSD 18406916 ESC PLANS.

LEGEND

- SEDIMENT FENCE (SD 6-8)
- CATCH DRAIN
- BARRIER FENCE W/ DUST SCREEN
- STRAW BALE FILTER (SD 6-7)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
- PROPOSED SITE ACCESS GATE

NOTES:

1) PROVIDE RAINFALL ACTIVATED FLOCCULANT/COAGULANT DOSING SYSTEM (IF NOT PROVIDED BY THE VENDOR) AT EACH SEDIMENT BASIN INFLOW POINT. FLOCCULANT/COAGULANT APPLICATION RATES TO BE DETERMINED THROUGH JAR TEST AS PER IECA REQUIREMENTS PRIOR TO START OF EARTHWORKS.

CPESC ENVIROCERT
TIM MICHEL
11555

Issue	Description	Date
F	ISSUED FOR SSD APPROVAL	11-10-24
E	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
D	ISSUED FOR SSD APPROVAL	23-05-23
C	ISSUED FOR SSD APPROVAL	10-10-22
B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD APPROVAL	09-09-22

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

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Height Datum	AHD
Drawn	NT
Designed	BL
Checked	CB
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Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) EROSION AND SEDIMENT CONTROL PLAN BULK EARTHWORKS PHASE

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ABN 96 130 882 405
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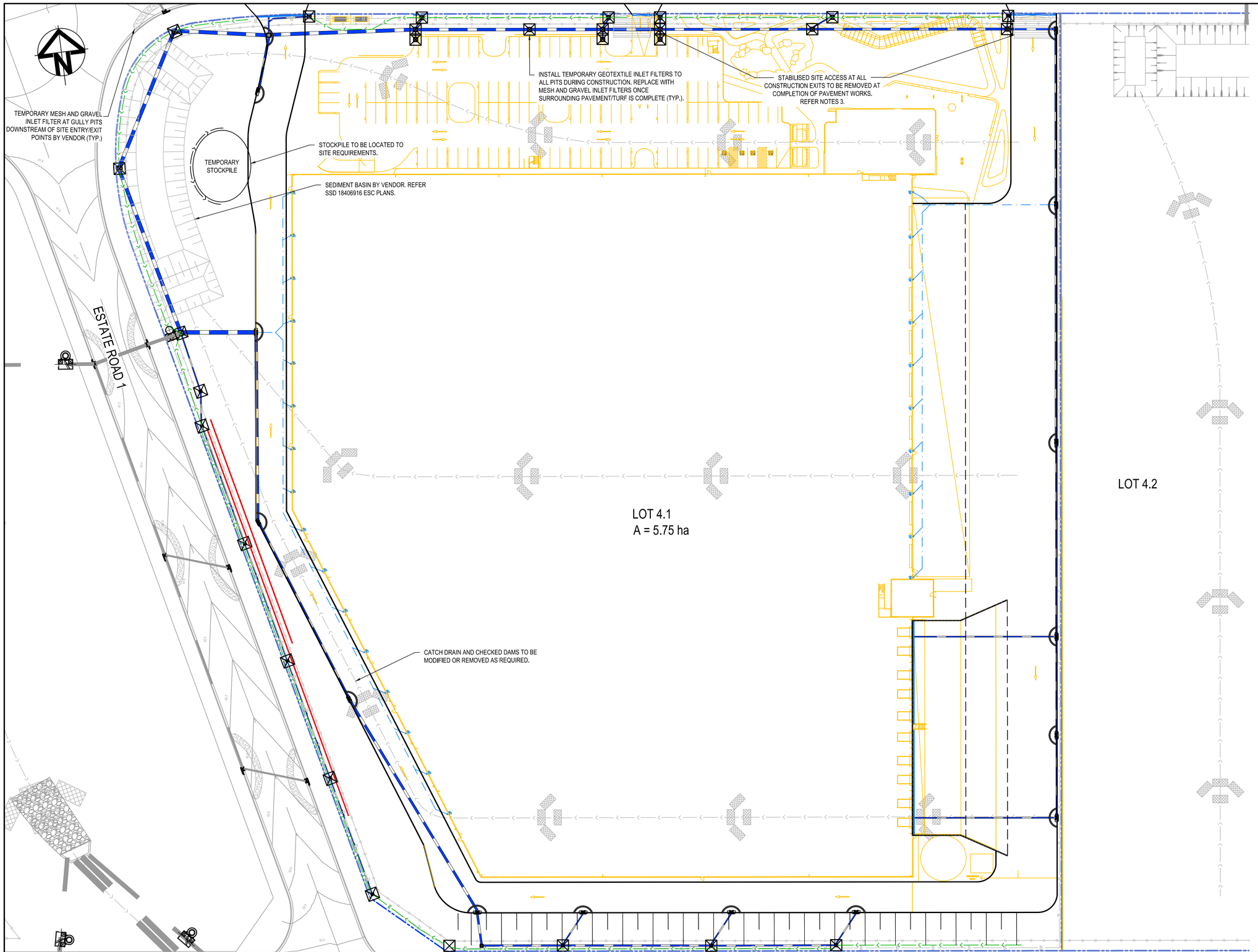
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Project - Drawing No.: 22-993-C1425

Issue: F

100mm on Original

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LEGEND

- SEDIMENT FENCE (SD 6-8)
- CATCH DRAIN
- BARRIER FENCE W/ DUST SCREEN
- STRAW BALE FILTER (SD 6-7)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- GEOTEXTILE INLET (SD 6-12)
- STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
- PROPOSED SITE ACCESS GATE

NOTES:

1) THE SEDIMENT BASIN MAY BE MODIFIED AND/OR REDUCED ONCE THE ASSESSED SOIL LOSS RATE IS ≤ 75 t / ha / yr. ANY MODIFICATION AND/OR REDUCTION MUST BE RE-CERTIFIED BY A CPESC.

2) THE SEDIMENT BASIN MAY BE REMOVED ONCE ALL CONSTRUCTION AND PAVING ACTIVITIES ARE COMPLETED AND DISTURBED SURFACES ARE ADEQUATELY STABILISED.

3) THE STABILISED SITE ACCESS MUST BE RETAINED UNTIL COMPLETION OF CONSTRUCTION AND PAVING ACTIVITIES.

CPESC ENVIROCERT
TIM MICHEL
11555

Issue	Description	Date
C	ISSUED FOR SSD APPROVAL	24-10-24
B	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
A	ISSUED FOR SSD APPROVAL	23-05-23

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

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Client: DHL

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Drawn	NT
Designed	BL
Grid	GDA2020
Checked	CB
Height Datum	AHD
Approved	

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) EROSION AND SEDIMENT CONTROL PLAN CIVIL WORKS PHASE

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ABN 96 130 882 405
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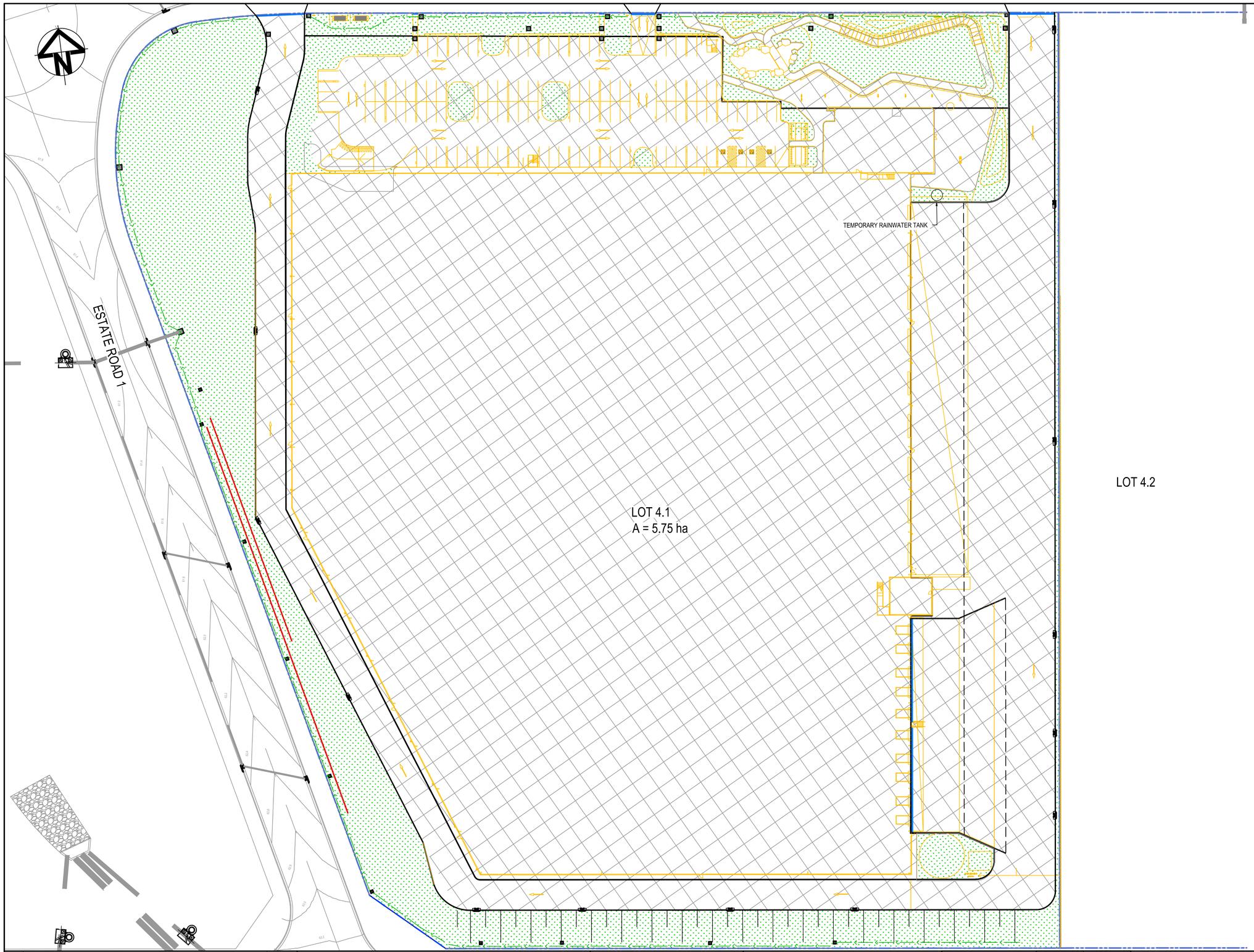
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Project - Drawing No.: 22-993-C1426

Issue: C

100mm on Original

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LEGEND

SURFACES TO BE STABILISED WITH TURF/PLANTING.
(REFER TO LANDSCAPE ARCHITECT'S DWGS)

SURFACES TO BE STABILISED WITH PAVEMENTS OR COVERED UNDER BUILDING ROOF.
(REFER TO LANDSCAPE ARCHITECT'S DWGS)

NOTES:

1) TURF, TREES AND PLANTS TO BE PLANTED AND PROTECTED AS EARLY AS POSSIBLE IN ACCORDANCE WITH THE LANDSCAPE ARCHITECT'S / SUPPLIER'S SPECIFICATIONS.

2) CONTRACTOR TO MAINTAIN ALL TURF AND PLANTING THROUGHOUT THE MAINTENANCE PERIOD IN ACCORDANCE WITH THE LANDSCAPE ARCHITECT'S / SUPPLIERS SPECIFICATIONS.

3) ALL PAVED SURFACES SHALL BE SWEPT CLEAN REGULARLY TO PREVENT LITTER AND SEDIMENT FROM ENTERING THE DRAINAGE SYSTEM.

4) TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MAY BE REMOVED AT COMPLETION OF ALL CONSTRUCTION AND STABILISATION WORKS.

5) LANDSCAPE IRRIGATION SYSTEM TO BE INSTALLED AND OPERATIONAL PRIOR TO PLANTING. IRRIGATION SYSTEM IS TO BE SUPPLIED FROM RAINWATER HARVESTING TANKS WITH AUTOMATIC SWITCH TO TEMPORARY WATER SUPPLY SYSTEM WHEN THE TANKS ARE EMPTY.

6) TEMPORARY RAINWATER TANKS TO BE REMOVED WHEN PERMANENT RECYCLED WATER SUPPLY IS AVAILABLE TO THE SITE.

CPESC ENVIROCERT
TIM MICHEL
11555

Issue	Description	Date
D	ISSUED FOR SSD APPROVAL	24-10-24
C	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
B	ISSUED FOR SSD APPROVAL	23-05-23
A	ISSUED FOR SSD APPROVAL	20-04-22

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

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Scales	1:500 @ A1
Grid	GDA2021
Height Datum	AHD
Drawn	NT
Designed	BL
Checked	CB
Approved	

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) EROSION AND SEDIMENT CONTROL PLAN STABILISATION PHASE

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Status: FOR APPROVAL
NOT FOR CONSTRUCTION

A1

Project - Drawing No.: 22-993-C1427

Issue: D

100mm on Original

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EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

1. THE SITE SUPERINTENDENT/ENGINEER WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED.
2. ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
   a. LOCAL AUTHORITY REQUIREMENTS
   b. EPA REQUIREMENTS
   c. LANDCOM'S "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
3. WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
4. CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN, AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.

LAND DISTURBANCE

6. WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:
   (A) INSTALL A WIND FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
   (B) INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
   (C) CONSTRUCT STABILISED CONSTRUCTION ENTRANCE TO LOCATION AS DETERMINED BY SUPERINTENDENT/ENGINEER. REFER DETAIL.
   (D) INSTALL SEDIMENT BASIN AS SHOWN ON PLANS.
   (E) INSTALL SEDIMENT TRAPS AS SHOWN ON PLANS.
   (F) UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.

EROSION CONTROL

7. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.
8. FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

SEDIMENT CONTROL

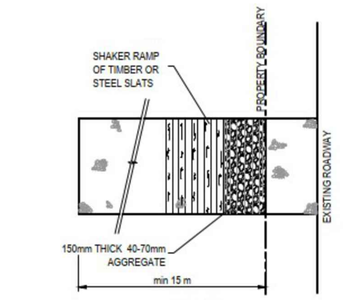
9. STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.
10. ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
11. WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
12. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.

OTHER MATTERS

13. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
14. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
   (A) PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
   (B) ENSURING THAT NOTHING IS NAILED TO THEM
   (C) PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS.
   (I) ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER
   (II) A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH
   (III) CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

STAGING

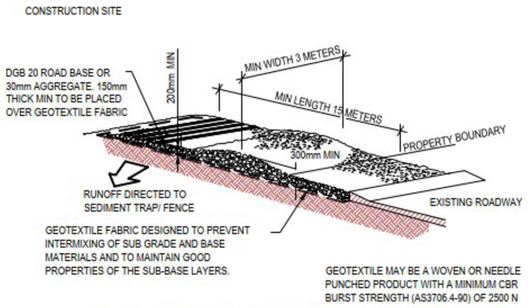
SUITABLE EROSION AND SEDIMENT CONTROLS SHALL BE DESIGNED, PROVIDED AND MAINTAINED BY THE CONTRACTOR THROUGHOUT ALL STAGES OF WORKS, INCLUDING AT COMPLETION OF THE BULK EARTHWORKS WHERE SHOWN ON AT&L DRAWINGS OR WHERE DIRECTED BY THE SUPERINTENDENT OR PENRITH CITY COUNCIL'S ENGINEERS.
SEDIMENT AND EROSION CONTROLS ARE TO BE DESIGNED AND DOCUMENTED BY A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC) ENGAGED BY THE CONTRACTOR AND APPROVED AS PART OF THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. SUCH CONTROLS SHALL BE IN ACCORDANCE WITH THE RELEVANT REQUIREMENTS IN THE LATEST VERSION OF THE MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION GUIDELINE (LANDCOM).



PLAN

STABILISED SITE ACCESS WITH SHAKER GRID

N.T.S.

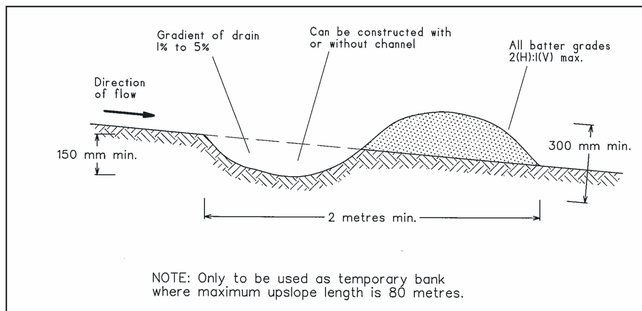


N.T.S.

NOTES:

1. THIS DEVICE IS TO BE LOCATED AT ALL EXITS FROM CONSTRUCTION SITE.
2. THIS DEVICE IS TO BE REGULARLY CLEANED OF DEPOSITED MATERIAL SO AS TO MAINTAIN A 50mm DEEP SPACE BETWEEN PLANKS.
3. ANY UNSEALED ROAD BETWEEN THIS DEVICE AND NEAREST ROADWAY IS TO BE TOPPED WITH 100mm THICK 40-70mm SIZE AGGREGATE.
4. ALTERNATIVELY, THREE(3) PRECAST CONCRETE CATTLE GRIDS (AS MANUFACTURED BY "HUMES CONCRETE MAY BE USED. 1, 2 & 3 ABOVE ALSO APPLY.

STABILISED SITE ACCESS WITH SHAKER GRID

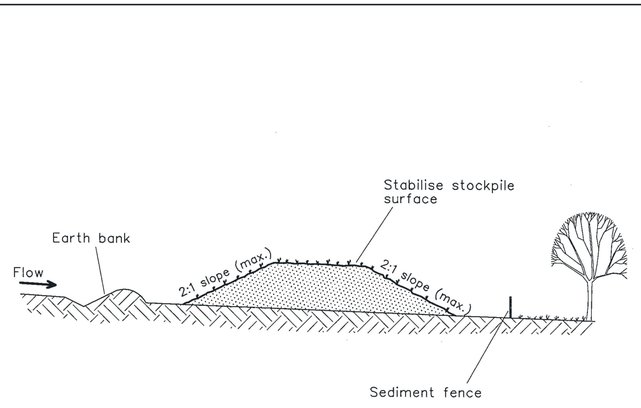


NOTE: Only to be used as temporary bank where maximum upslope length is 80 metres.

Construction Notes

1. Build with gradients between 1 percent and 5 percent.
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V shaped.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction.

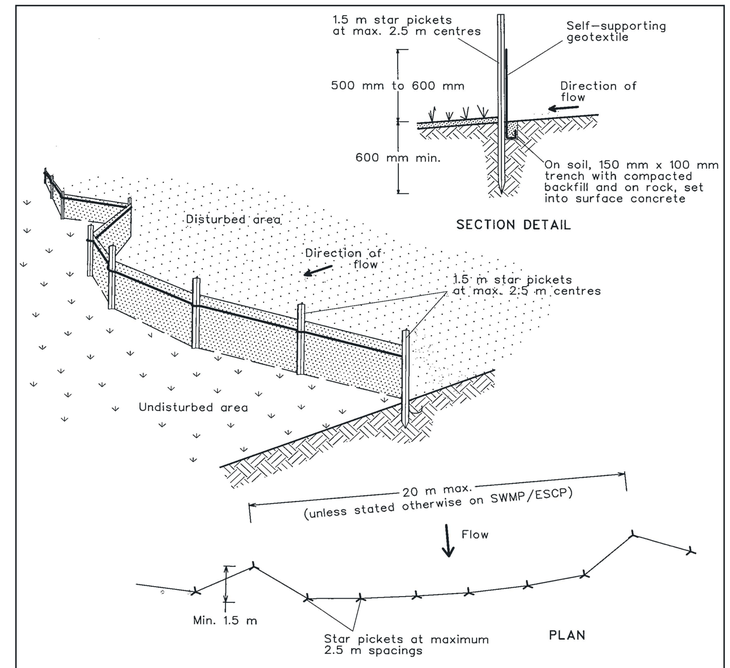
EARTH BANK (LOW FLOW) SD 5-5



Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES SD 4-1



Construction Notes

1. Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
3. Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
5. Join sections of fabric at a support post with a 150-mm overlap.
6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

SEDIMENT FENCE SD 6-8

CPESC ENVIROCERT
TIM MICHEL
11555

Issue	Description	Date
B	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
A	ISSUED FOR SSD APPROVAL	23-05-23

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Client: DHL

Scales: NTS
Grid: GDA2020
Height Datum: AHD

Drawn	NT
Designed	BL
Checked	CB
Approved	

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) EROSION AND SEDIMENT CONTROL DETAILS SHEET 1

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Status: FOR APPROVAL
NOT FOR CONSTRUCTION

A1

Project - Drawing No.: 22-993-C1430
Issue: B

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EROSION AND SEDIMENT CONTROL NOTES

PRELIMINARY BASIN SIZING - TYPE A SEDIMENT BASIN SIZING (REFER VENDOR WORKS CIVIL ENGINEERING PLANS BY HENRY & HYMAS FOR DETAILS)

THE SEDIMENT BASIN SHALL BE CONSTRUCTED ON A RATE PER HECTARE BASIS AND HAS BEEN IN ACCORDANCE WITH THE REQUIREMENTS OF THE INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) APPENDIX B SEDIMENT DESIGN AND OPERATION (REVISION - JUNE 2018). THE DISTURBED AREA WITHIN THIS CATCHMENT AT ANY ONE TIME SHOULD BE LIMITED TO AN AREA FOR WHICH EACH SEDIMENT BASIN HAS BEEN DESIGNED FOR. IF REQUIRED, EACH BASIN SHALL BE RE-SIZED IN ACCORDANCE WITH THE TABLE ADJACENT.

VALUES PRESENTED IN THE HENRY & HYMAS CIVIL DRAWINGS ARE BASED ON FULL SITE AREA. SUBJECT TO FUTURE DETAIL DESIGN. DISTRUBTED SITE AREAS (AND THUS BASIN AREAS) MAY CHANGE OR BE DISTRIBUTED TO MULTIPLE BASINS AS SITE CONDITIONS DICTATE. A REVIEW OF SIZING (AND UPSIZING) TO BE UNDERTAKEN DURING DETAILED DESIGN PHASE USING THE INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) APPENDIX B SEDIMENT DESIGN AND OPERATION (REVISION - JUNE 2018). DETAILED DESIGN OF BASIN TO BE UNDERTAKEN WHEN SITE CONDITIONS, SOIL CONDITIONS AND FINAL CONTRIBUTING CATCHMENTS ARE KNOW. FURTHERMORE, SITE CONDITIONS MAY VARY FROM THOSE DETAILED ABOVE IN THE TABLE ADJACENT.

JAR TESTING, IN ACCORDANCE WITH SECTION B3 OF THE INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) APPENDIX B SEDIMENT DESIGN AND OPERATION (REVISION - JUNE 2018) IS REQUIRED IN ORDER TO DETERMINE THE CHEMCIAL DOSING RATES OF SEDIMENT. IT IS RECOMMENDED THAT THIS ANALYSIS IS UNDERTAKEN PRIOR TO BASIN CONSTRUCTION AS THE FINDINGS MAY POTENTIALLY IMPACT THE SEDIMENT AND EROSION CONTROL (BASIN SIZING ALSO) ADOPTED. IT SHOULD BE NOTED THAT THE MOST SUITABLE FLOCCULANT AND/OR COAGULANT IS LIKELY TO VARY WITH SOIL TYPE. CONSEQUENTLY, THERE IS A NEED TO REVIEW THE EFFICACY OF CERTAIN PRODUCTS OVER TIME AS SOIL CHARACTERISTICS CHANGE DURING THE VARIOUS STAGES OF CONSTRUCTION.

BASIN MANAGEMENT

IN ACCORDANCE WITH THE BLUE BOOK, THE SEDIMENT BASINS WILL BE MANAGED AND MAINTAINED UNTIL THE CONTRIBUTING CATCHMENT UPSTREAM IS COMPLETED AND FULLY STABILISED ON MORE THAN 90% OF THE TOTAL AREA. A GENERIC BASIN MAINTENANCE STRATEGY IS DETAILED BELOW - NOTE THIS STRATEGY WILL NEED TO BE TAILORED TO SITE CONDITIONS AND PARAMETERS:

- AN AUTOMATED SYSTEM OF FLOCCULANT DOSING IS REQUIRED AND A SUITABLE SUPPLY OF FLOCCULANT/COAGULANT. DOSER AND SUPPLY OF FLOCCULANT TO BE PROVIDED ON LEVEL PAD 4MX4M WITHIN 10M OF DOSING POINT. SELECTION OF AUTOMATIC DOSING SYSTEM IS BASED ON-SITE CHARACTERISTIC AND JAR TESTING OF PRODUCTS ONSITE SPECIFIC TURBID WATER. AUTOMATIC DOSING SYSTEM MUST ACHIEVE PERFORMANCE TARGETS DETAILED BELOW.
- FURTHER DETAILS FOR BASIN MANAGEMENT ARE PROVIDED IN CHAPTER 6 AND APPENDIX E4 OF LANDON'S 'BLUE BOOK'.
- FURTHER DETAILED BASIN MANAGEMENT ARE PROVIDED IN IECA (INTERNATIONAL EROSION CONTROL ASSOCIATION) (2008) APPENDIX B SEDIMENT DESIGN AND OPERATION (REVISION - JUNE 2018), INTERNATIONAL EROSION CONTROL ASSOCIATION AUSTRALASIA.
- BASIN PERFORMANCE REQUIRMENTS AS FOLLOWS: AT LEAST 80% OF THE AVERAGE ANNUAL RUNOFF VOLUME (I.E. 80% HYDROLOGICAL EFFECTIVENESS) TO 50 MG/L TSS OR LESS, AND PH IN THE RANGE 6.5-8.5.
- JAR TESTING IS TO BE UNDERTAKEN TO SELECT THE APPROPRIATE COAGULANTS AND/OR FLOCCULATNS ALONG WITH DETERMINING THEIR OPTIMUM DOSE RATES. JAR TESTING IS TO BE UNDERTAKING IN ACCORDANCE WITH THE RECOMMENDATIONS AND TESTING PROCEDURE SPECIFIED IN THE CHAPTER 5 OF THE INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) CHEMICAL COAGULANTS AND FLOCCULANTS FACT SHEET (IECA 2018).
- TYPE A AND B BASINS REQUIRE A FAST ACTING COAGULANT AND FLOCCULANT TO PERFORM BASED ON THE JAR TESTING. A FACTOR OF SAFTEY (IN ACCORDANCE WITH ABOVE GUIDELINES) SHOULD BE APPLIED TO ALLOW FOR THE DIFFERENT SETTLING TIMES EXPERIENCED BY BASINS DUES TO DOSING, MIXING, FLOW VELOCITY AND WIND ACTION.
- REFER EROSION AND SEDIMENT CONTROL PLAN (ESCP PLAN) BY HENRY AND HYMAS, REFERENCE 240518.E&SC REV 1.0 FOR GENERIC BASIN MANAGEMENT AND OPERATION DETAILS.

BASIN MANAGEMENT (CONT.)

- MAINTENANCE AND OPERATING PROCEDURES REPORT TO BE PREPARED AT DETAIL DESIGN PHASE. REPORT TO INCLUDE THE FOLLOWING:
- DECANT WATER QUALITY OBJECTIVES.
- DESCRIPTION OF PROPOSED CHEMICAL TREATMENT OF THE BASIN, INCLUDING MINIMUM JAR TESTING PEFORMANCE REQUIREMENTS
- PERFORMANCE ASSESSMENT PROCEDURES
- GUIDANCE ON CORRECTIVE MEASURES BASED ON WATER QUALITY MONITORING OUTCOMES
- DESCRIPTION OF DE-WATERING TRIGGERS, INCLUDING TRIGGERS FOR TEMPORARY SHUT-OFF OF THE DECANT SYSTEM IN THE EVENT OF POOR WATER QUALITY
- DESCRIPTION OF DE-SILTING TRIGGERS
- DESCRIPTION OF THOSE CIRCUMSTANCES AND/OR WEATHER CONDITIONS THAT WOULD TRIGGER DE-WATERING OF THE BASIN PRIOR TO AN IMMINENT STORM.
- MAINTENANCE PROCEDURES AND PROTOCOLS INCLUDING DE-SILTING METHOD AND FREQUENCIES.

THE LONG TERM GROUND COVER FACTORS FOR THE CONSTRUCTION WORKS IS NOT TO EXCEED THE FOLLOWING LIMITS:

LAND	MAXIMUM C-FACTOR	REMARKS
WATERWAYS AND OTHER AREAS OF CONCENTRATED FLOWS, POST CONSTRUCTION	0.05	APPLIES AFTER TEN WORKING DAYS OF COMPLETION OF FORMATION AND BEFORE CONCENTRATED FLOWS ARE APPLIED. FOOT AND VEHICULAR TRAFFIC IS PROHIBITED IN THIS AREA AND 70% GROUND COVER IS REQUIRED.
STOCKPILES, POST CONSTRUCTION	0.10	APPLIES AFTER TEN WORKING DAYS FROM COMPLETION OF FORMATION. 60% GROUND COVER IS REQUIRED.
ALL LANDS, INCLUDING WATERWAYS AND STOCKPILES, DURING CONSTRUCTION.	0.15	APPLIES AFTER 20 DAYS OF INACTIVITY, EVEN THOUGH WORKS MAY BE INCOMPLETE. 50% GROUND COVER IS REQUIRED.

REFERENCE PARAMETERS - FOR CALCULATION OF SOIL LOSS (NOT USED IN ABOVE CALCULATIONS)

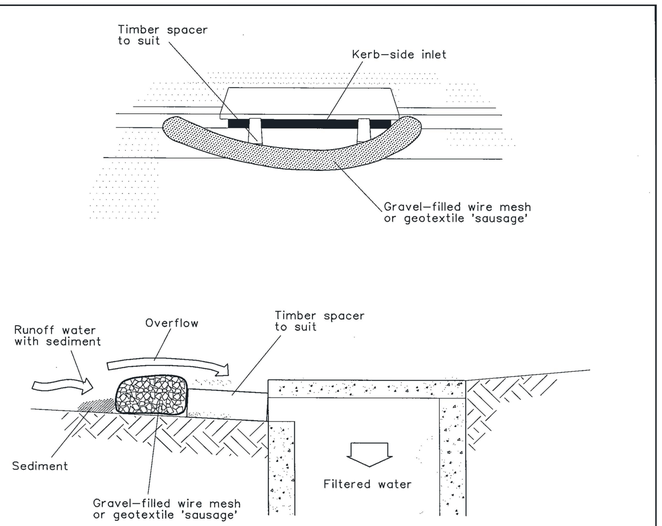
SEDIMENT BASIN SIZING TYPE D SOILS	
VOLUMETRIC RUNOFF COEFFICIENT, CV	6.4
80TH PERCENTILE 5 DAY TOTAL RAINFALL DEPTH, R	35mm
CATCHMENT AREA, A	VARIES
SETTLING ZONE VOLUME (PER HECTARE) 10 CV A R	124 x A
DISTURBED CATCHMENT AREA	VARIES
R K LS P C	143 x Ls
SEDIMENT ZONE VOLUME (0.17 A (R K LS P C))/1.3	18.7 x Ls
TOTAL SEDIMENT BASIN VOLUME REQUIRED :	REFER ADJACENT TABLE

* (LANDCOM MANAGING URBAN STORMWATER MANUAL REFERENCE)

2. THE FOLLOWING DESIGN PARAMETERS HAVE BEEN ASSESSED FOR THE SITE:

CONSTRAINT	VALUE	(SOURCE)*
RAINFALL EROSIVITY (R-FACTOR)	2200	APPENDIX B - MAP 10
LENGTH/SLOPE GRADIENT FACTOR, LS	VARIOUS	APPENDIX A - TABLE A1
SOIL ERODIBILITY (K-FACTOR)	0.05	(TABLE C19)
EROSION CONTROL PRACTICE FACTOR (P-FACTOR)	1.3	APPENDIX A - TABLE A2
COVER FACTOR (C-FACTOR)	1.0 (DURING EARTHWORKS)	APPENDIX A - FIGURE A5
CALCULATED SOIL LOSS, A (RUSLE EQUATION)	VARIES	A = R K LS P C
SOIL HYDROLOGIC GROUP	GROUP D	APPENDIX C TABLE 19
85TH PERCENTILE 5-DAY RAINFALL EVENT	35mm	TABLE 6.3A

* (LANDCOM MANAGING URBAN STORMWATER MANUAL REFERENCE)

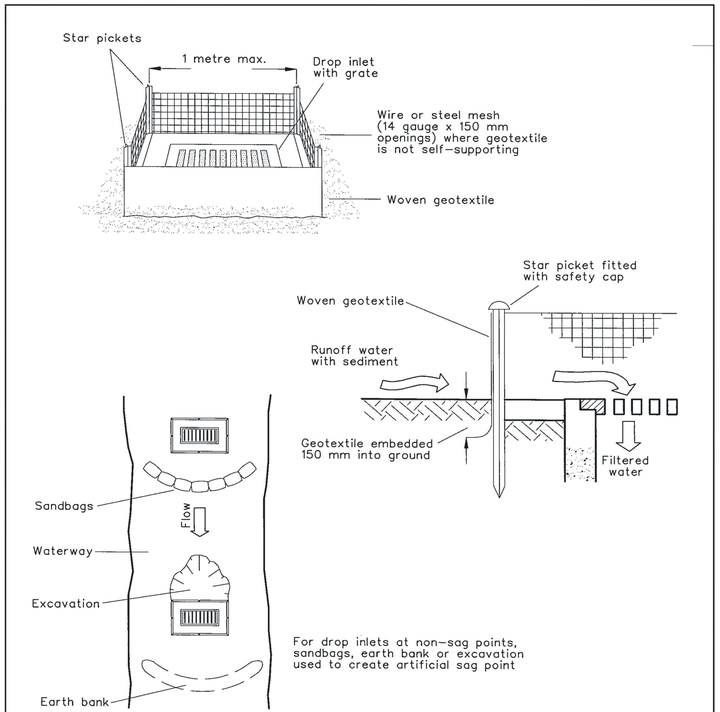


NOTE: This practice only to be used where specified in an approved SWMP/ESCP.

Construction Notes

1. Install filters to kerb inlets only at sag points.
2. Fabricate a sleeve made from geotextile or wire mesh longer than the length of the inlet pit and fill it with 25 mm to 50 mm gravel.
3. Form an elliptical cross-section about 150 mm high x 400 mm wide.
4. Place the filter at the opening leaving at least a 100-mm space between it and the kerb inlet. Maintain the opening with spacer blocks.
5. Form a seal with the kerb to prevent sediment bypassing the filter.
6. Sandbags filled with gravel can substitute for the mesh or geotextile providing they are placed so that they firmly abut each other and sediment-laden waters cannot pass between.

MESH AND GRAVEL INLET FILTER **SD 6-11**



Construction Notes

1. Fabricate a sediment barrier made from geotextile or straw bales.
2. Follow Standard Drawing 6-7 and Standard Drawing 6-8 for installation procedures for the straw bales or geofabric. Reduce the picket spacing to 1 metre centres.
3. In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
4. Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

GEOTEXTILE INLET FILTER **SD 6-12**

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Issue	Description	Date
B	ISSUED FOR UPDATED SSD APPROVAL	14-08-24
A	ISSUED FOR SSD APPROVAL	23-05-23

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GDA2020

Drawn	NT
Designed	BL
Checked	CB
Approved	

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.1 (WH 04) EROSION AND SEDIMENT CONTROL DETAILS SHEET 2

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Project - Drawing No.: 22-993-C1431
Issue: B

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BURRA PARK

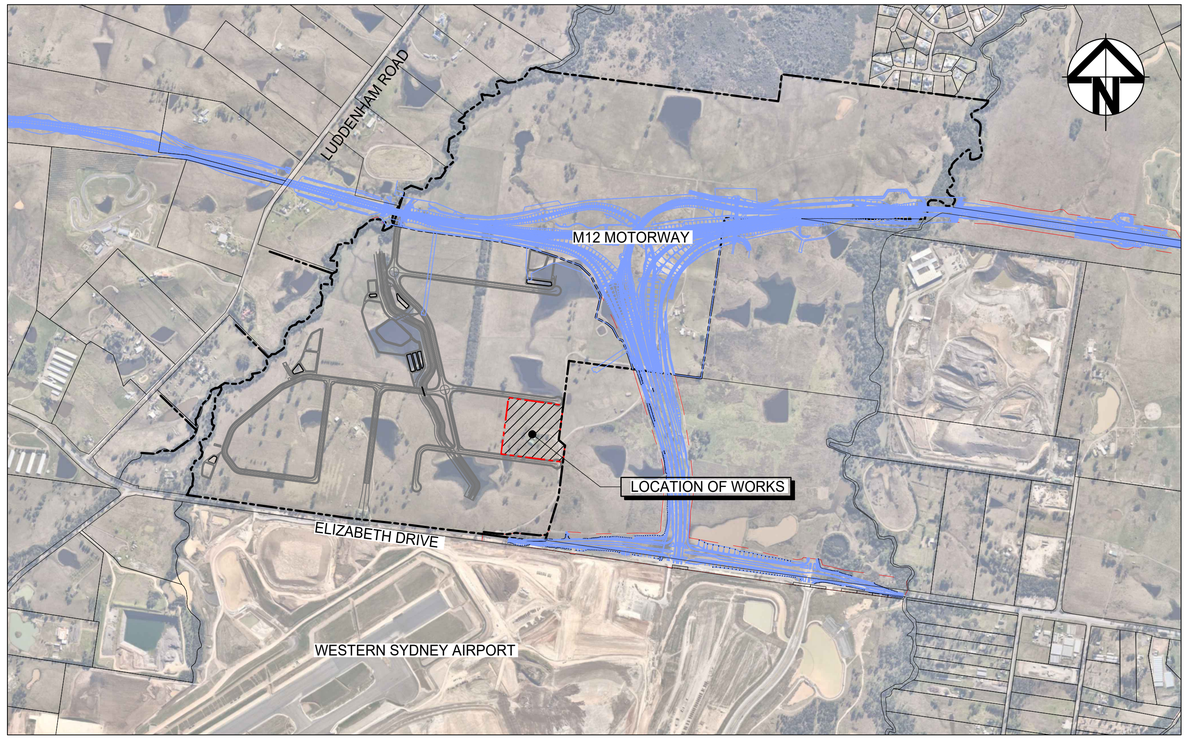
ELIZABETH DRIVE, BADGERYS CREEK

LOT 4.2 (WAREHOUSE 03)

CIVIL WORKS PACKAGE

SSDA - 70818708

DRAWING No.	DRAWING LIST
22-993-C1300	LOT 4.2 (WH 03) COVER SHEET, DRAWING LIST AND LOCALITY PLAN
22-993-C1301	LOT 4.2 (WH 03) GENERAL NOTES
22-993-C1302	LOT 4.2 (WH 03) GENERAL ARRANGEMENT
22-993-C1305	LOT 4.2 (WH 03) SITE SECTIONS
22-993-C1308	LOT 4.2 (WH 03) BULK EARTHWORKS CUT/FILL PLAN
22-993-C1311	LOT 4.2 (WH 03) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 1
22-993-C1312	LOT 4.2 (WH 03) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 2
22-993-C1313	LOT 4.2 (WH 03) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 3
22-993-C1314	LOT 4.2 (WH 03) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 4
22-993-C1318	LOT 4.2 (WH 03) STORMWATER DRAINAGE DETAILS
22-993-C1320	LOT 4.2 (WH 03) PAVEMENT PLAN SHEET 1
22-993-C1325	LOT 4.2 (WH 03) EROSION AND SEDIMENT CONTROL PLAN BULK EARTHWORKS PHASE
22-993-C1326	LOT 4.2 (WH 03) EROSION AND SEDIMENT CONTROL PLAN CIVIL WORKS PHASE
22-993-C1327	LOT 4.2 (WH 03) EROSION AND SEDIMENT CONTROL PLAN STABILISATION PHASE
22-993-C1330	LOT 4.2 (WH 03) EROSION AND SEDIMENT CONTROL DETAILS SHEET 1
22-993-C1331	LOT 4.2 (WH 03) EROSION AND SEDIMENT CONTROL DETAILS SHEET 2



LOCALITY PLAN
NTS

Issue	Description	Date
E	ISSUE FOR COORDINATION	11-10-24
WIP	ISSUE FOR COORDINATION	14-08-24
D	ISSUED FOR SSD APPROVAL	31-07-24
C	ISSUED FOR SSD APPROVAL	23-05-23
B	ISSUE FOR COORDINATION	24-04-23
A	ISSUED FOR SSD APPROVAL	10-10-22

100mm on Original

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Client: DHL

Scales: NTS
Grid: GDA2020
Height Datum: AHD

Drawn	NT
Designed	BL
Checked	CB
Approved	

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.2 (WH 03) COVER SHEET, DRAWING LIST AND LOCALITY PLAN

Civil Engineers and Project Managers
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Status: FOR APPROVAL
NOT FOR CONSTRUCTION

A1

Project - Drawing No.: 22-993-C1300

Issue: E

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SITEWORKS NOTES

1. ORIGIN OF LEVELS:- REFER SURVEY NOTES.
2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO AT & L.
3. MAKE SMOOTH CONNECTION WITH EXISTING WORKS.
4. ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
5. ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMAPACTED IN 150mm LAYERS TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
6. PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.
7. ASPHALTIC CONCRETE SHALL CONFORM TO R.M.S SPECIFICATION R116.
8. ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S FORM 3051 (UNBOUND), R.M.S FORM 3052 (BOUND) COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1
   FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m OF BASECOURSE MATERIAL PLACED.
9. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S FORM 3051, 3051.1 AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH A.S 1289 5.2.1
   FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m OF SUB-BASE COURSE MATERIAL PLACED.
10. AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (9) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH R.M.S FORM 3051 AND 3051.1 WILL BE CONSIDERED, SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF AT & L.
11. SHOULD THE CONTRACTOR WISH TO USE A RECYCLED PRODUCT THE CONTRACTOR IS TO SEEK ACCEPTANCE OF THE PRODUCT FROM AT&L. THE PRICE DIFFERENCE BETWEEN AN IGNEOUS PRODUCT AND A RECYCLED PRODUCT SHALL BE CLEARLY INDICATED.
12. WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED BY OTHERS, (eg. ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY BOXALL SURVEYORS, BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. AT & L DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.

SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT AT & L.

THE FOLLOWING NOTES HAVE BEEN TAKEN DIRECTLY FROM THE ORIGINAL SURVEY DOCUMENTS.

NOTES

1. THE BOUNDARIES HAVE APPOROXIMATELY BEEN SURVEYED IN ACCORDANCE WITH CLAUSE 9 OF THE SURVEYING & SPATIAL INFORMATION REGULATION 2017
2. ALL AREAS AND DIMENSIONS HAVE BEEN COMPILED FROM PLANS MADE AVAILABLE BY NSW LAND REGISTRY SERVICES AND ARE SUBJECT TO FINAL SURVEY
3. ORIGIN OF COORDINATES HAS BEEN DERIVED USING GPS (GNSS) SURVEY FROM SSM33562
4. ORIGIN OF LEVELS ON A.H.D. IS TAKEN FROM SSM33562 R.L. 43.021 (A.H.D.) IN MAMRE ROAD USING GPS (GNSS) SURVEY METHODS.
5. CONTOUR INTERVAL 0.5 m
6. CONTOURS ARE INDICATIVE ONLY. ONLY SPOT LEVELS SHOULD BE USED FOR CALCULATIONS OF QUANTITIES WITH CAUTION
7. NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE. SERVICES HAVE BEEN PLOTTED FROM RELEVANT AUTHORITIES INFORMATION AND HAVE NOT BEEN SURVEYED. ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION ON OR NEAR THE SITE
8. 8/.4/7 DENOTES TREE SPREAD OF 8m, TRUNK DIAMETER OF 0.4m & APPROX HEIGHT OF 7m
9. SHOWS APPROXIMATE POSITION OF ROAD LINEMARKING AND IS INDICATIVE ONLY
10. BEARINGS SHOWN ARE MGA (MAP GRID OF AUSTRALIA) ADD APPROX. 1°00' FOR TRUE NORTH

CONCRETE NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. CONCRETE QUALITY
   ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

ELEMENT	AS 3600 F'c MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE
VEHICULAR BASE	32	60	20
KERBS, PATHS, AND PITS	25	80	20

   - CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL
   - PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.
3. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY AT & L.
4. CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE 40mm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE.
5. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
6. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED AND CURED IN ACCORDANCE WITH R.M.S SPECIFICATION R83.
7. REINFORCEMENT SYMBOLS:
   N DENOTES GRADE 450 N BARS TO AS 1302 GRADE N
   R DENOTES 230 R HOT ROLLED PLAIN BARS TO AS 1302
   SL DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 1304

   NUMBER OF BARS IN GROUP — BAR GRADE AND TYPE
   17 N 20 250
   NOMINAL BAR SIZE IN mm — SPACING IN mm

   THE FIGURE FOLLOWING THE FABRIC SYMBOL SL IS THE REFERANCE NUMBER FOR FABRIC TO AS 1304.
8. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:

KERBING NOTES

1. ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25MPa U.N.O IN REINFORCED CONCRETE NOTES.
2. ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON MIN. 100mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 95% MODIFIED DRY DENSITY (AS 1289 5.2.1).
3. EXPANSION JOINTS (E.J) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
4. WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
5. BROOMED FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
6. IN THE REPLACEMENT OF KERB AND GUTTER :-
   EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm U.N.O FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER NEW BASECOURSE AND SURFACE TO BE LAID 900mm WIDE U.N.O.

   EXISTING ALLOTMENT DRAINAGE PIPES ARE TO BE BUILT INTO THE NEW KERB AND GUTTER WITH 100mm DIA HOLE.

   EXISTING KERB AND GUTTER IS TO BE COMPLETELY REMOVED WHERE NEW KERB AND GUTTER IS SHOWN.

STORMWATER DRAINAGE NOTES

1. STORMWATER DESIGN CRITERIA:
   (A) AVERAGE RECURRENCE INTERVAL:
   1:100 YEARS MAJOR STORM (OVERLAND FLOW)
   1:20 YEARS MINOR STORM (PIPED NETWORK)
   (B) RAINFALL INTENSITIES:
   TIME OF CONCENTRATION:5 MINUTES
   1:100 YEARS= 219 mm/hr
   1:20 YEARS= 167 mm/hr
   (C) RUNOFF COEFFICIENTS:
   ROOF AREAS: C 100 =1.0
   EXTERNAL PAVEMENTS: C 100 =1.0
2. PIPES 300 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '3' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
3. PIPES UP TO 300 DIA SHALL BE SEWER GRADE uPVC WITH SOLVENT WELDED JOINTS.
4. EQUIVALENT STRENGTH VCP OR FRC PIPES MAY BE USED, SUBJECT TO THE APPROVAL OF PENRITH CITY COUNCIL.
5. ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE uPVC PRESSURE PIPE GRADE 6. ENSURE ALL VERTICALS AND DOWNPIPES ARE uPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.
6. PIPES TO BE INSTALLED TO TYPE HS1 SUPPORT IN ACCORDANCE WITH AS 3725 (2007) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
7. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 (1998) AND AS/NZS 3500 3.2 (1998).
8. PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY AT & L.
9. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
10. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
11. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
12. GRATES AND COVERS SHALL CONFORM TO AS 3996.
13. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
14. ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.

FINISHED SURFACE LEVELS

1. ALL FINISHED SURFACE LEVELS ARE ±1000mm U.N.O.

DEWATERING

ANY DEWATERING WORKS TO BE AS PER THE DEWATERING PROCEDURE AS CONTAINED WITHIN THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP).

DECOMMISSIONING / DEMOLITION

DEMOLITION OF EXISTING DWELLING TO BE CONDUCTED IN ACCORDANCE WITH THE PROVISIONS OF AS2601-2001 - DEMOLITION OF STRUCTURES BY CONTRACTORS EXPERIENCED IN THIS CLASS OF WORK AND HOLDING REQUIRED CURRENT PERMITS AND LICENSES AS REQUIRED.

EXISTING INTERNALS FENCING, CATTLE YARDS, UTILITIES AND OTHER REDUNDANT STRUCTURES TO BE DEMOLISHED AND REMOVED TO AN APPROVED WASTE MANAGEMENT FACILITY.

DAM DECOMMISSIONING TO BE COMPLETED AS PER THE DAM DECOMMISSIONING PROCEDURE AS CONTAINED WITHIN THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP).

EXISTING UNDERGROUND SERVICES NOTES

THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE.

AT & L CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.

CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.

CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.

CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

EMBANKMENT CONSTRUCTION SEQUENCE

1. STRIP VEGETATION AND TOPSOIL FROM EMBANKMENT AREA AND STOCKPILE TOPSOIL FOR LATER USE. CUT BACK AREA TO FIRM GROUND.
2. CONSTRUCT EMBANKMENT IN PRESENCE OF QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER IF NOT ROCK.
3. IN THE CASE WHERE THE EMBANKMENT AREAS SLUSH, GROUTING AND DENTAL CONCRETE MAY BE REQUIRED, AS DIRECTED BY A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER.
4. COMPACT CLAY STABILIZED WITH GYPSUM (3% BY DRY MASS, MINIMUM) AS APPROVED BY A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER INTO THE CUT-OFF TRENCH OF LAYERS NOT EXCEEDING 150mm LOOSE THICKNESS TO A DRY DENSITY EQUIVALENT TO 98% OF THAT DETERMINED BY STANDARD COMPACTION (AS 1289.5.1.1) AND AT A MOISTURE CONTENT OF -2% TO +2% OF OPTIMUM MOISTURE CONTENT.
5. GYPSUM STABILIZED NATURAL SOILS EXPOSED IN EMBANKMENT AREA WITH MINIMUM 3% GYPSUM BY DRY MASS AND COMPACT AS FOR #4. ALL TO THE APPROVAL OF A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER.
6. CONSTRUCT BODY OF EMBANKMENT WITH CLAYEY MATERIAL WON FROM SITE. COMPACT THE CLAYEY MATERIAL APPROVED BY A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER IN LAYERS NOT EXCEEDING 150mm THICKNESS TO A DRY DENSITY EQUIVALENT TO 98% OF THAT DETERMINED BY STANDARD COMPACTION (AS 1289.5.1.1) AND AT A MOISTURE CONTENT OF -2% TO +2% OF OPTIMUM MOISTURE CONTENT. MOST IMPORTANTLY, IF SHRINKAGE CRACKS OCCUR, AS DIRECTED BY A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER.
7. OVERFILL THE EMBANKMENT AND TRIM OFF, SO THAT THE ENTIRE BODY OF THE EMBANKMENT IS COMPACTED.
8. TRIM THE EMBANKMENTS BATTERS TO THE OVERFILLED MATERIAL, STABILIZE THE UPSTREAM CLAY BATTERS WITH WELL MIXED GYPSUM (3% BY DRY MASS, MINIMUM) AND COMPACT TO MIN. 98% STD -2% TO +2% OMC.
9. PLACE ROCK RIP-RAP AS SHOWN.
10. RECOVER TOPSOIL FROM STOCKPILE AND SPREAD OVER EMBANKMENT AND CUT BATTERS (A THIN COVER OF TOPSOIL ONLY HAS BEEN NOMINATED). ONLY LIGHTLY TRACK-ROLL THE TOPSOIL AND THEN LANDSCAPE IN ACCORDANCE WITH THE LANDSCAPE AREA DRAWINGS.
11. WATER AND FERTILIZE LANDSCAPE AS REQUIRED BY CLIMACTIC CONDITIONS TO ENSURE THE LANDSCAPE IS SUCCESSFUL.
12. AT THE COMPLETION OF WORK WRITTEN CONFIRMATION & CERTIFICATION IS TO BE PROVIDED FROM A QUALIFIED & EXPERIENCED GEOTECHNICAL ENGINEER THAT THE EMBANKMENTS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THESE DRAWINGS.

BEFORE YOU DIG www.byda.com.au

CONTRACTOR SHALL OBTAIN ALL CURRENT SERVICE AUTHORITY PLANS PRIOR TO COMMENCEMENT OF WORK

Issue	Description	Date
E	ISSUE FOR COORDINATION	11-10-24
WIP	ISSUE FOR COORDINATION	14-08-24
D	ISSUED FOR SSD APPROVAL	31-07-24
C	ISSUED FOR SSD APPROVAL	23-05-23
B	ISSUE FOR COORDINATION	24-04-23
A	ISSUED FOR SSD REVIEW	10-10-22

100mm on Original

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Scales: NTS
Grid: GDA2020
Height Datum: AHD
Drawn: NT
Designed: BL
Checked: CB
Approved:

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.2 (WH 03) GENERAL NOTES

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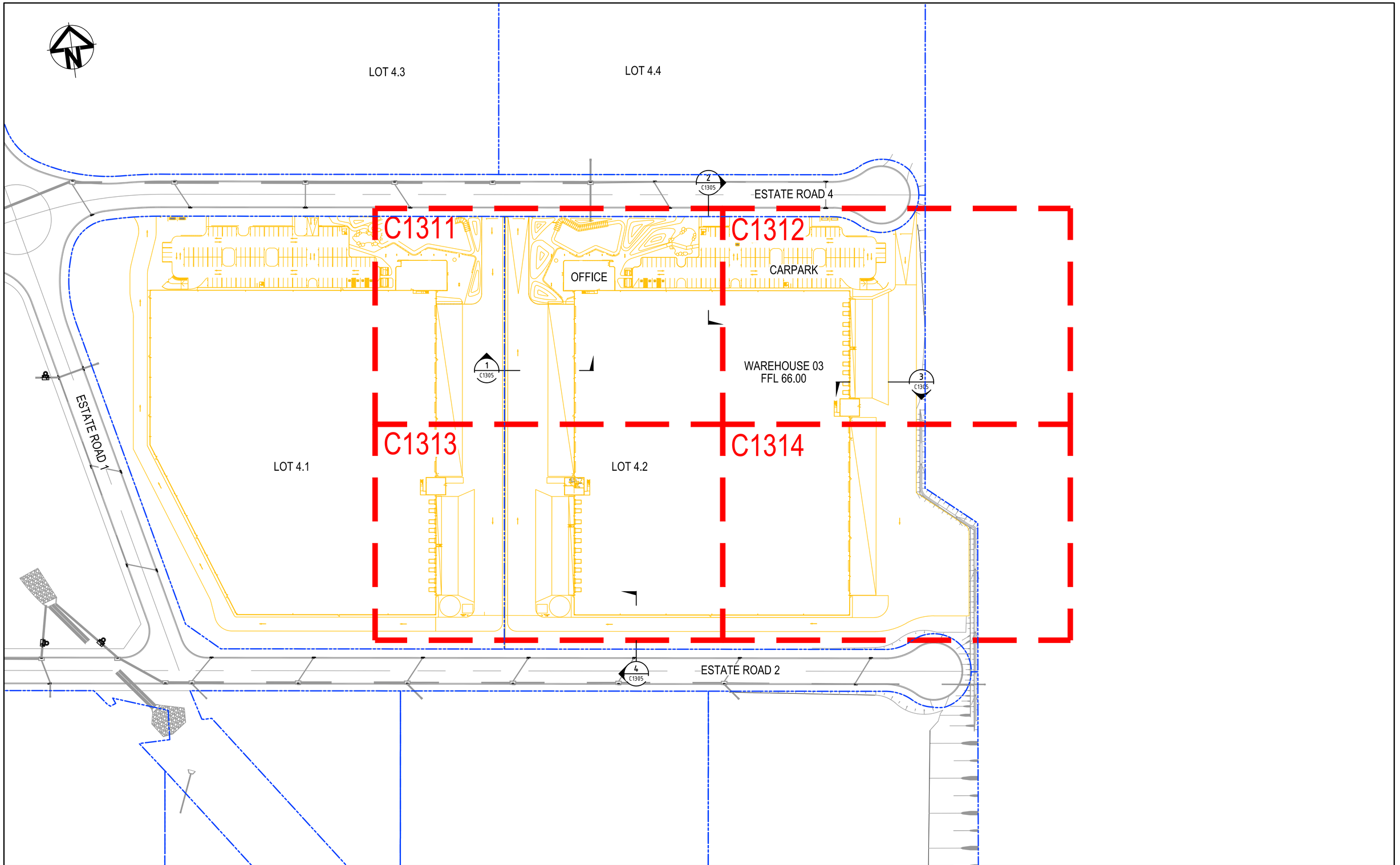
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Project - Drawing No.: 22-993-C1301

Issue: E

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Issue	Description	Date
H	ISSUE FOR COORDINATION	24-10-24
G	ISSUE FOR COORDINATION	11-10-24
WIP	ISSUE FOR COORDINATION	14-08-24
F	ISSUED FOR SSD APPROVAL	31-07-24
E	ISSUED FOR SSD APPROVAL	23-05-23
D	ISSUE FOR COORDINATION	24-04-23
C	ISSUED FOR SSD APPROVAL	10-10-22
B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD REVIEW	09-09-22

0 20 40 60 80 100m

1 : 1000 @ A1 1 : 2000 @ A3

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Client: DHL

Scales: 1:1000 @ A1

Grid: GDA2020

Height Datum: AHD

GDA2020

Drawn	NT
Designed	BL
Checked	CB
Approved	

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.2 (WH 03) GENERAL ARRANGEMENT

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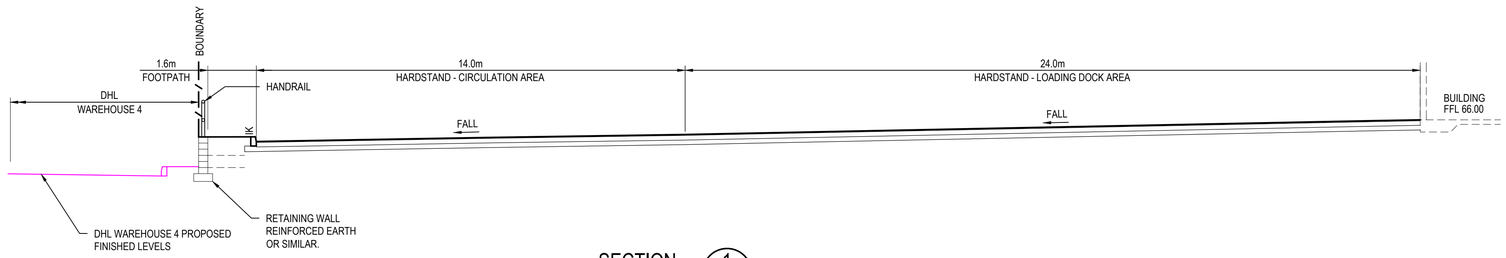
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Project - Drawing No.: 22-993-C1302

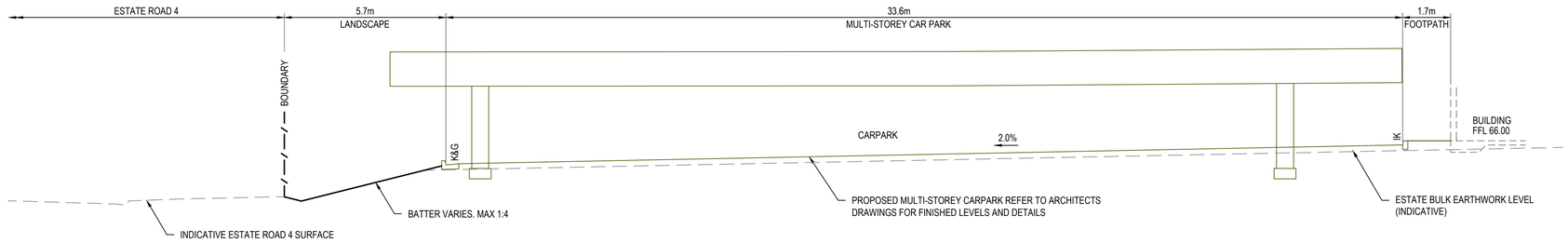
Issue: H

100mm on Original

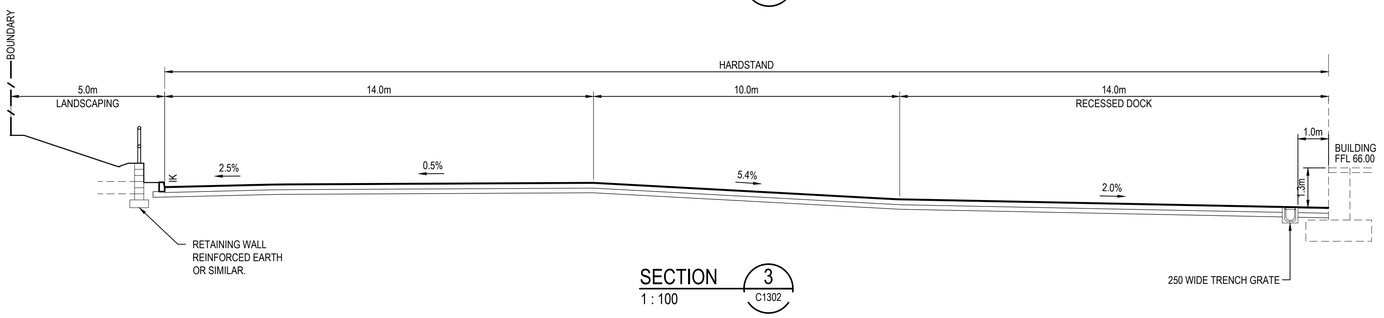
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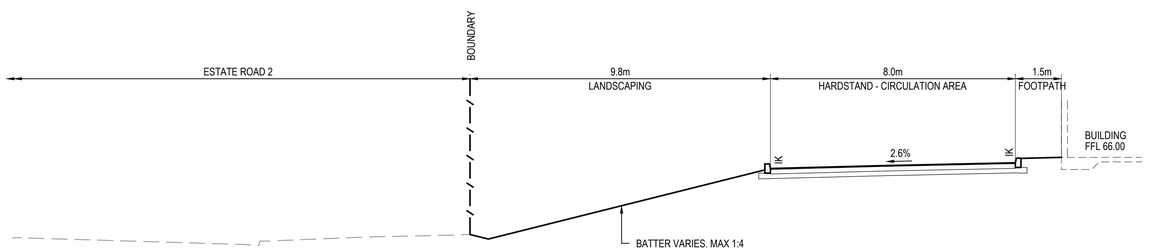
SECTION 1 (C1302)
1 : 100



SECTION 2 (C1302)
1 : 100



SECTION 3 (C1302)
1 : 100



SECTION 4 (C1302)
1 : 100

Issue	Description	Date
G	ISSUE FOR COORDINATION	11-10-24
WIP	ISSUE FOR COORDINATION	14-08-24
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D	ISSUE FOR COORDINATION	24-04-23
C	ISSUED FOR SSD APPROVAL	10-10-22
B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD REVIEW	09-09-22

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ A3

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Grid: GDA2020
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Drawn: NT
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Checked: CB
Approved:

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.2 (WH 03) SITE SECTIONS

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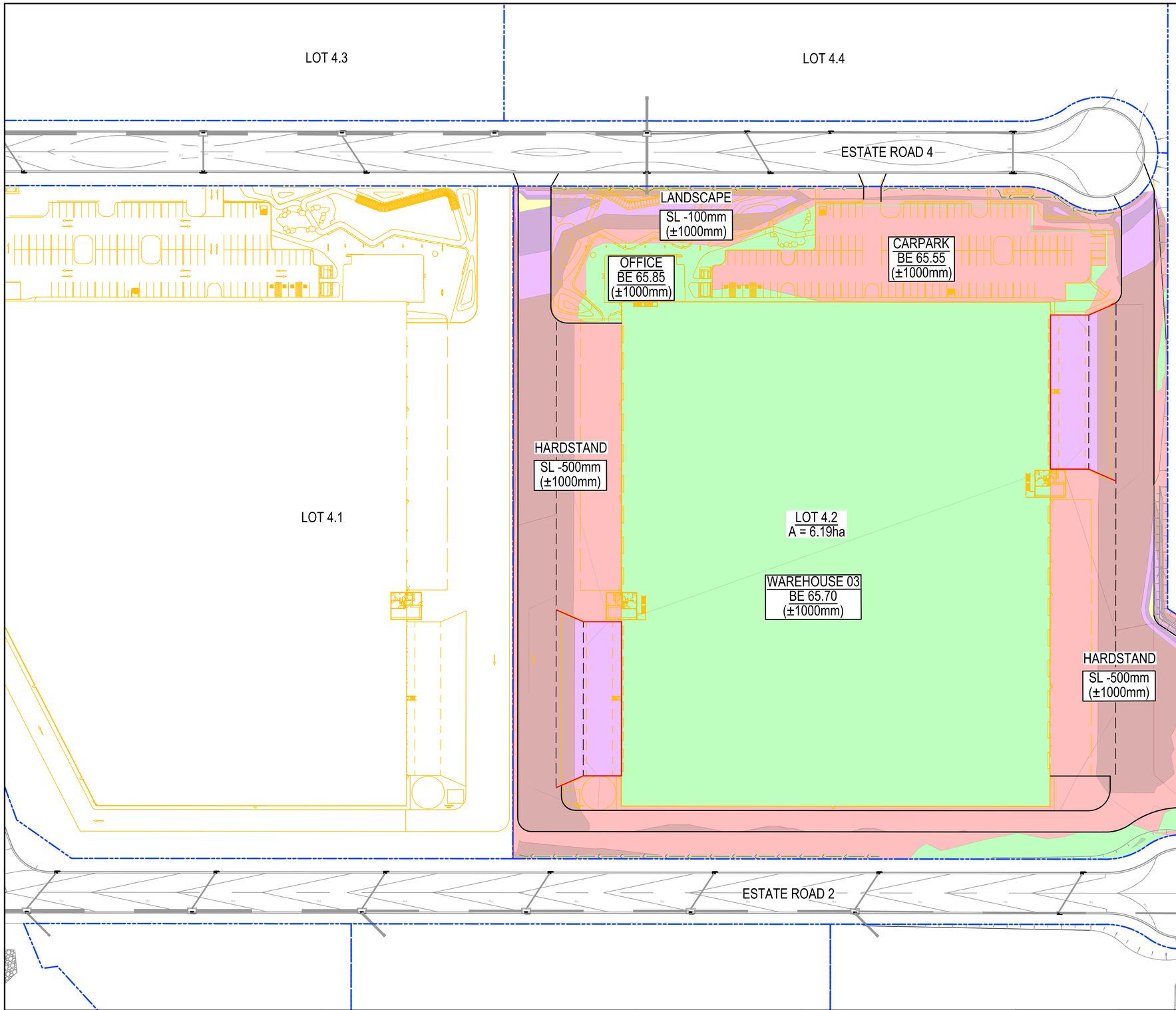
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Project - Drawing No.: 22-993-C1305

Issue: G

100mm on Original

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CUT\FILL DEPTH RANGE LEGEND

Lower_value		Upper_value		Colour
-2.5	to	-2.0	m	
-2.0	to	-1.5	m	
-1.5	to	-1.0	m	
-1.0	to	-0.5	m	
-0.5	to	0.0	m	
0.0	to	0.5	m	
0.5	to	1.0	m	
1.0	to	1.5	m	
1.5	to	2.0	m	
2.0	to	2.5	m	

EARTHWORKS VOLUMES

A	B	C=A+B
NET CUT (cu.m)	NET FILL (cu.m)	BALANCE (cu.m)
-16,773	1,972	-14,801 (EXPORT)

NOTES

1. EARTHWORKS VOLUMES WERE CALCULATED BETWEEN THE DESIGN EARTHWORKS SURFACE AND THE ESTATE VENDOR'S EARTHWORKS SURFACE.
2. IT IS ASSUMED THAT ON-LOT EARTHWORKS WILL COMMENCE IMMEDIATELY AFTER COMPLETION OF THE ESTATE VENDOR'S EARTHWORKS. NO SITE STRIPPING NECESSARY.
3. EARTHWORKS VOLUMES DO NOT TAKE INTO ACCOUNT THE FOLLOWING :-
   - BULKING FACTORS
   - REMOVAL AND\OR REMEDIATION OF ANY EXISTING UNCONTROLLED FILL AND FARM DAMS.
   - STORMWATER AND UTILITY TRENCHING
   - PROPOSED RETAINING WALL AND UNDERGROUND TANK EARTHWORKS AND BACKFILL MATERIAL
   - SEDIMENT BASINS
4. ALL LEVELS ARE SUBJECT TO FURTHER COORDINATION WITH THE ESTATE WORKS. ALLOW FOR ±1000mm

Issue	Description	Date
E	ISSUE FOR COORDINATION	11-10-24
WIP	ISSUE FOR COORDINATION	14-08-24
D	ISSUED FOR SSD APPROVAL	31-07-24
C	ISSUED FOR SSD APPROVAL	23-05-23
B	ISSUE FOR COORDINATION	24-04-23
A	ISSUED FOR SSD REVIEW	10-10-22

0 15 30 45 60 75m

1 : 750 @ A1 1 : 1500 @ A3

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Client: DHL

Scales: 1:750 @ A1

Grid: GDA2020

Height Datum: AHD

GDA2020

Drawn	NT
Designed	BL
Checked	CB
Approved	

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.2 (WH 03) BULK EARTHWORKS CUT/FILL PLAN

Civil Engineers and Project Managers
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Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
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info@atl.net.au

Status: FOR APPROVAL
NOT FOR CONSTRUCTION

A1

Project - Drawing No.: 22-993-C1308

Issue: E

100mm on Original

F:\22-993 DHL\6.0 Drgs\Civil\Final\SSDA\LOT 3.3\22-993-C1308.dwg

LEGEND:

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED RETAINING WALL
- 48.20 — PROPOSED CONTOUR
- PROPOSED FENCE
- PROPOSED BATTER
  TEMPORARY BATTER 1(V):1(H)
  PERMANENT BATTER 1(V):4(H)
  U.N.O
- FK — PROPOSED FLUSH KERB TO PCC SPECIFICATION
- K&G — PROPOSED KERB AND GUTTER TO PCC SPECIFICATION
- KO — PROPOSED KERB EDGING TO PCC SPECIFICATION
- IK — PROPOSED KERB EDGING INTEGRAL TO CONCRETE SLAB TO PCC SPECIFICATION
- IK2 — PROPOSED SLOTTED KERB EDGING INTEGRAL TO CONCRETE SLAB TO PCC SPECIFICATION
- PROPOSED SUBSOIL DRAINAGE LINE
- DRIVEWAY CROSSOVER CONSTRUCTED AS PART OF INFRASTRUCTURE
- PROPOSED KERB RAMP
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER LINE
- SW — PROPOSED UPVC ROOF WATER DRAINAGE LINE (MAX Ø300mm)
- GD — PROPOSED GRATED DRAIN 250mm Class 'D' GRATE
- STORMWATER OVERLAND FLOWPATH
- PROPOSED CATCH DRAIN

NOTES:

1. ALL LEVELS SHOWN ARE ± 1000mm
2. ROOF WATER DOWN PIPE LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
3. RETAINING WALL EXTENTS AND LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
4. EXTERNAL / SUBDIVISION WORKS BY VENDOR. REFER SSD-18406916.

CONSTRUCT VEHICLE CROSSOVER (REFER PENRITH CITY COUNCIL STANDARD DRAWING SD004 FOR DETAILS)

OS-3300-580-OT GPT OR APPROVED EQUIVALENT. MODEL, SIZE AND CONFIGURATION SUBJECT TO DETAILED DESIGN.

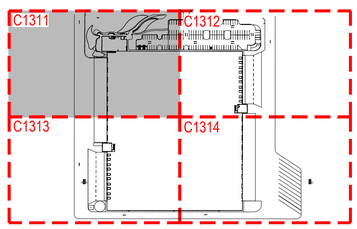
CONNECT INTO ESTATE ROAD PIPE STUB.

PROPOSED RETAINING WALL

LOT 4.1
BUILDING
FFL 65.20
(±1000mm)

LOT 4.2
BUILDING
FFL 66.00

NOTE:
DOWNPIPE CONNECTIONS AND SIZING TO BE CONFIRMED AT DETAIL DESIGN.



KEYPLAN

CONTINUATION ON DRAWING C1312

CONTINUATION ON DRAWING C1313

Issue	Description	Date
G	ISSUE FOR COORDINATION	11-10-24
WIP	ISSUE FOR COORDINATION	14-08-24
F	ISSUED FOR SSD APPROVAL	31-07-24
E	ISSUED FOR SSD APPROVAL	23-05-23
D	ISSUE FOR COORDINATION	24-04-23
C	ISSUED FOR SSD APPROVAL	10-10-22
B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD REVIEW	09-09-22

0 5 10 15 20
1 : 250 @ A1 1 : 500 @ A3

100mm on Original

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Client: DHL

Scales: 1:250 @ A1
Grid: GDA2020
Height Datum: AHD
Drawn: NT
Designed: BL
Checked: CB
Approved:

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.2 (WH 03) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 1

Civil Engineers and Project Managers
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Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

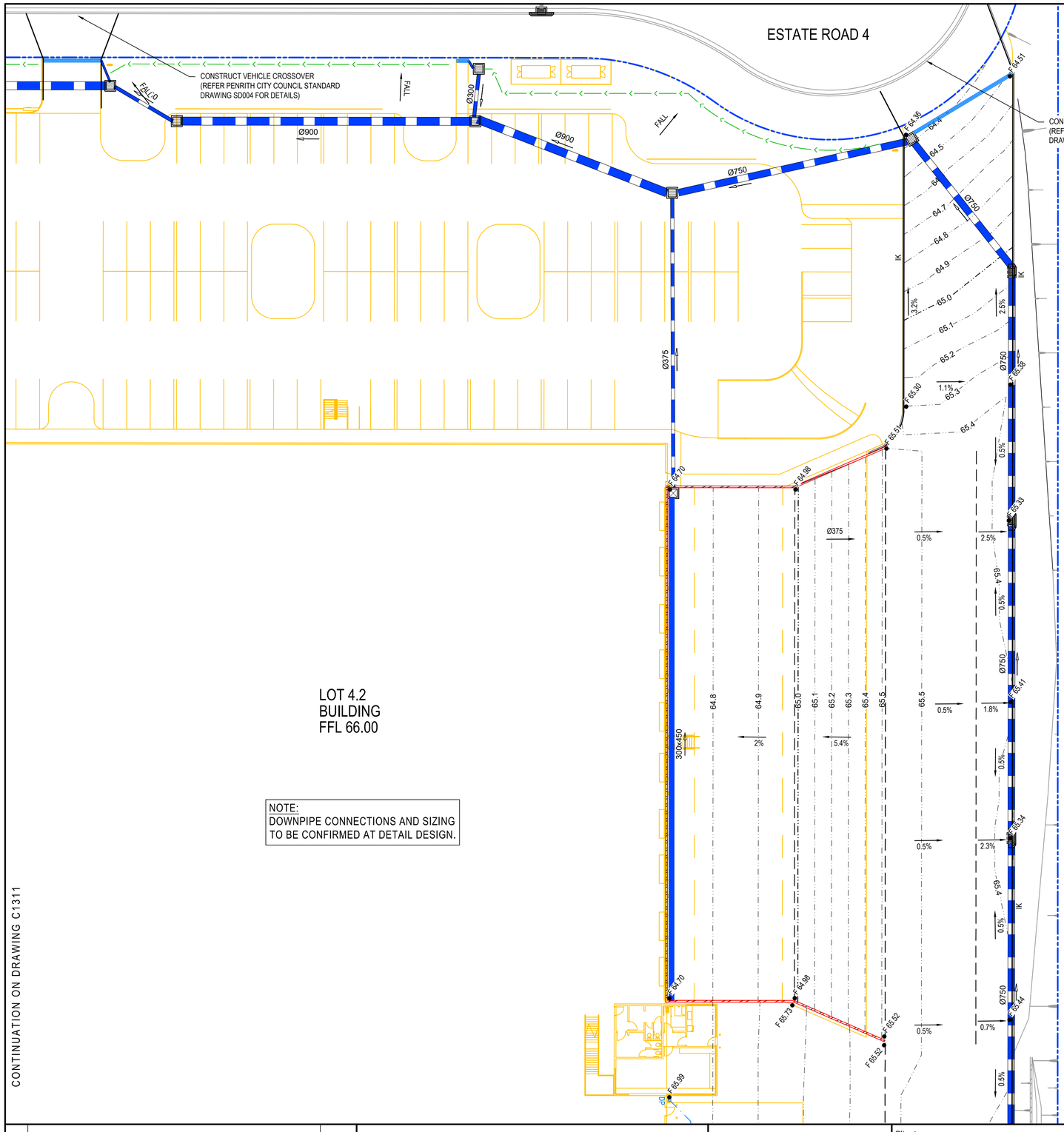
Status: FOR APPROVAL
NOT FOR CONSTRUCTION

A1

Project - Drawing No.: 22-993-C1311

Issue: G

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LOT 4.2
BUILDING
FFL 66.00

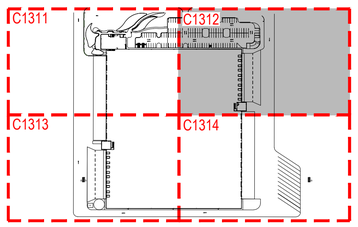
NOTE:
DOWNPIPE CONNECTIONS AND SIZING
TO BE CONFIRMED AT DETAIL DESIGN.

CONTINUATION ON DRAWING C1311

LEGEND:

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED RETAINING WALL
- 48.20 — PROPOSED CONTOUR
- PROPOSED FENCE
- PROPOSED BATTER
  TEMPORARY BATTER 1(V):1(H)
  PERMANENT BATTER 1(V):4(H)
  U.N.O
- FK — PROPOSED FLUSH KERB TO PCC SPECIFICATION
- K&G — PROPOSED KERB AND GUTTER TO PCC SPECIFICATION
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- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER LINE
- SW — PROPOSED UPVC ROOF WATER DRAINAGE LINE (MAX Ø300mm)
- GD — PROPOSED GRATED DRAIN 250mm Class 'D' GRATE
- STORMWATER OVERLAND FLOWPATH
- PROPOSED CATCH DRAIN

NOTES:
1. ALL LEVELS SHOWN ARE ± 1000mm
2. ROOF WATER DOWN PIPE LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
3. RETAINING WALL EXTENTS AND LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
4. EXTERNAL / SUBDIVISION WORKS BY VENDOR. REFER SSD-18406916.



KEYPLAN

Issue	Description	Date
G	ISSUE FOR COORDINATION	11-10-24
WIP	ISSUE FOR COORDINATION	14-08-24
F	ISSUED FOR SSD APPROVAL	31-07-24
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B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD REVIEW	09-09-22

0 5 10 15 20
1 : 250 @ A1 1 : 500 @ A3

100mm on Original

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Client: DHL

Scales: 1:250 @ A1
Grid: GDA2020
Height Datum: AHD
Drawn: NT
Designed: BL
Checked: CB
Approved:

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.2 (WH 03) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 2

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
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Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT FOR CONSTRUCTION

A1

Project - Drawing No.: 22-993-C1312

Issue: G

F:\22-993 DHL\6.0 Drgs\Civil\Final\SSDA\LOT 3.3\22-993-C1312.dwg

LEGEND:

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED RETAINING WALL
- 48.20 — PROPOSED CONTOUR
- PROPOSED FENCE
- PROPOSED BATTER
  TEMPORARY BATTER 1(V):1(H)
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  U.N.O
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- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER LINE
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- STORMWATER OVERLAND FLOWPATH
- PROPOSED CATCH DRAIN

NOTES:
1. ALL LEVELS SHOWN ARE ± 1000mm
2. ROOF WATER DOWN PIPE LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
3. RETAINING WALL EXTENTS AND LOCATIONS TO BE CONFIRMED DURING DETAILED DESIGN.
4. EXTERNAL / SUBDIVISION WORKS BY VENDOR. REFER SSD-18406916.

CONTINUATION ON DRAWING C1311

LOT 4.1
BUILDING
FFL 65.20
(±1000mm)

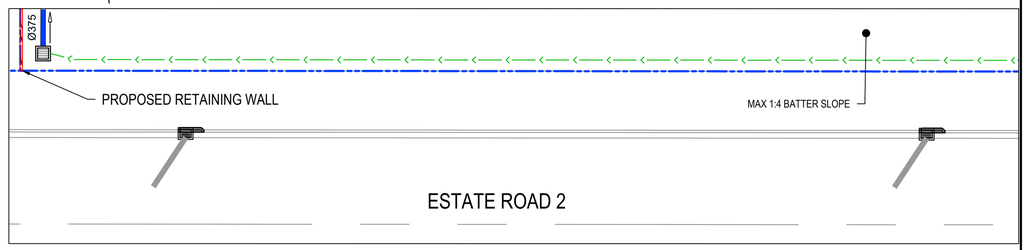
NOTE:
DOWNPIPE CONNECTIONS AND SIZING TO BE CONFIRMED AT DETAIL DESIGN.

LOT 4.2
BUILDING
FFL 66.00

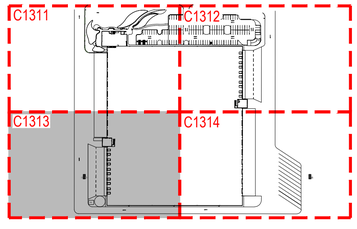
CONTINUATION ON DRAWING C1314

PROPOSED RETAINING WALL

MAX 1:4 BATTER SLOPE



INSET A
1 : 250



KEYPLAN

REFER TO INSET A FOR CONTINUATION

Issue	Description	Date
G	ISSUE FOR COORDINATION	11-10-24
WIP	ISSUE FOR COORDINATION	14-08-24
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C	ISSUED FOR SSD APPROVAL	10-10-22
B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD REVIEW	09-09-22

0 5 10 15 20
1 : 250 @ A1 1 : 500 @ A3

100mm on Original

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Client: DHL

Scales: 1:250 @ A1
Grid: GDA2020
Height Datum: AHD

Drawn: NT
Designed: BL
Checked: CB
Approved:

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.2 (WH 03) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 3

Civil Engineers and Project Managers
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Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT FOR CONSTRUCTION

A1

Project - Drawing No.: 22-993-C1313

Issue: G

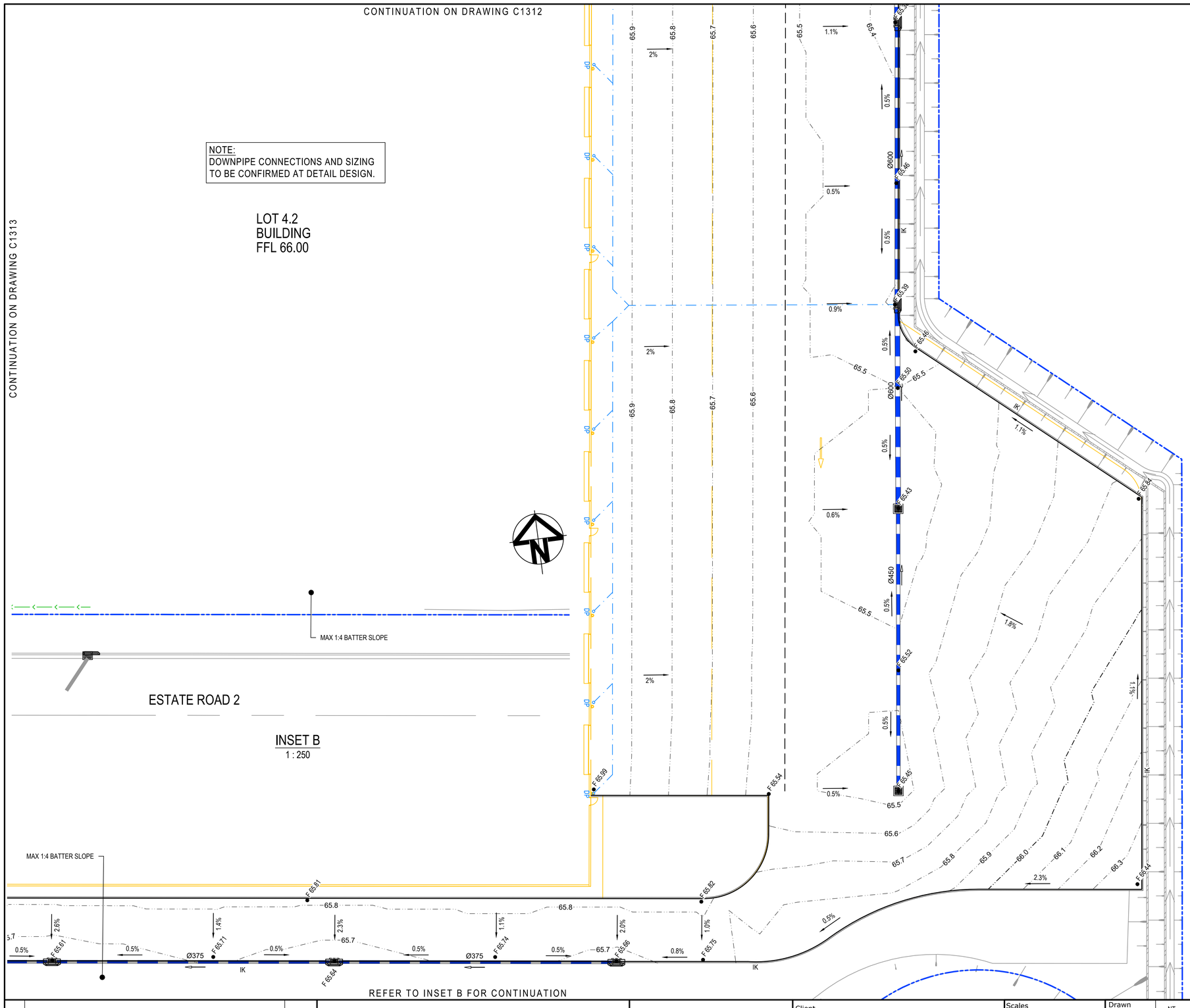
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CONTINUATION ON DRAWING C1312

CONTINUATION ON DRAWING C1313

NOTE:
DOWNPIPE CONNECTIONS AND SIZING TO BE CONFIRMED AT DETAIL DESIGN.

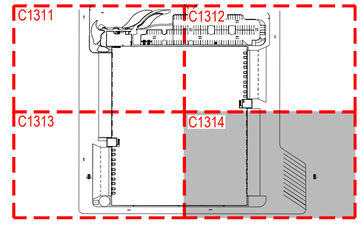
LOT 4.2
BUILDING
FFL 66.00



LEGEND:

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED RETAINING WALL
- 48.20 PROPOSED CONTOUR
- PROPOSED FENCE
- PROPOSED BATTER
  TEMPORARY BATTER 1(V):1(H)
  PERMANENT BATTER 1(V):4(H)
  U.N.O
- FK PROPOSED FLUSH KERB TO PCC SPECIFICATION
- K&G PROPOSED KERB AND GUTTER TO PCC SPECIFICATION
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NOTES:
1. ALL LEVELS SHOWN ARE ± 1000mm
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4. EXTERNAL / SUBDIVISION WORKS BY VENDOR. REFER SSD-18406916.



KEYPLAN

Issue	Description	Date
G	ISSUE FOR COORDINATION	11-10-24
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B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD REVIEW	09-09-22

0 5 10 15 20
1 : 250 @ A1 1 : 500 @ A3

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Client: DHL

Scales: 1:250 @ A1
Grid: GDA2020
Height Datum: AHD
Drawn: NT
Designed: BL
Checked: CB
Approved:

GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.2 (WH 03) SITEWORKS AND STORMWATER DRAINAGE PLAN SHEET 4

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR APPROVAL
NOT FOR CONSTRUCTION

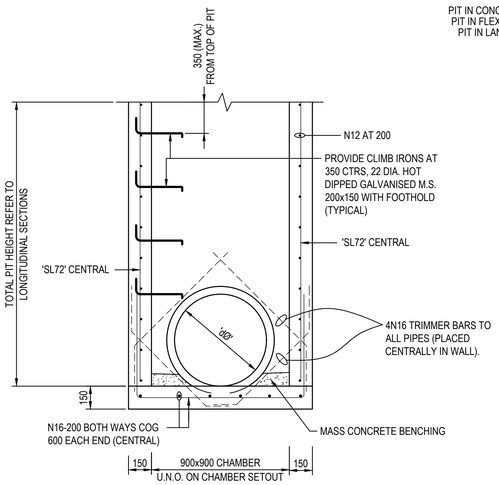
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Project - Drawing No.: 22-993-C1314

Issue: G

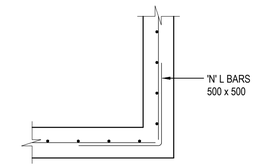
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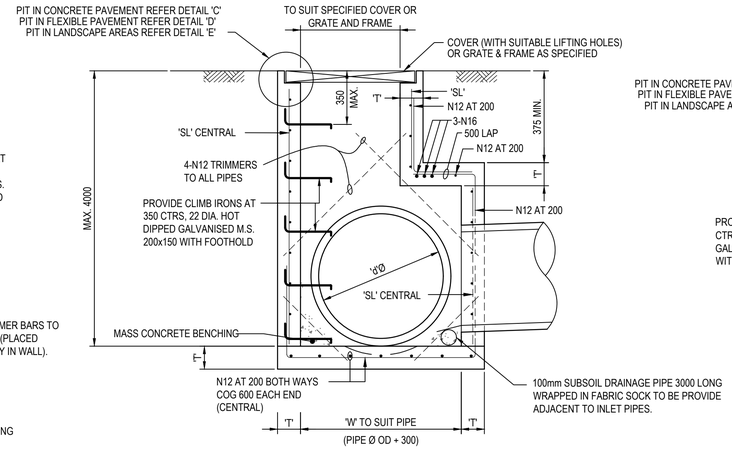
PIT CHAMBER DETAIL FOR PIPES UP TO 525Ø (TYPE 1)

SCALE: 1:20



TYPICAL CORNER DETAIL

SCALE 1:20



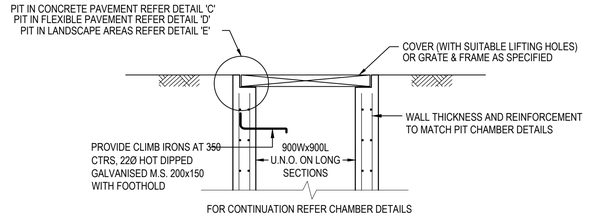
PIT CHAMBER DETAIL FOR PIPES FROM 600Ø TO 1200Ø TYPE 2

(ENLARGED CHAMBER)

SCALE: 1:20

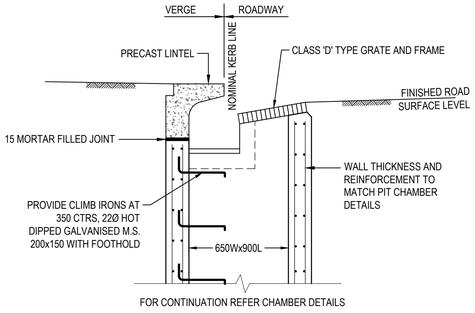
PIPE DIA. 'dØ'	WIDTH 'W' (U.N.O)	WALL 'T'	FABRIC/COV 'SL'
600	900	150	SL82
675	940	150	SL82
750	1020	150	SL82
825	1100	150	SL82
900	1180	200	SL82
1050	1350	200	SL92
1200	1510	200	SL102

CHAMBER DEPTH EXCEEDING 2m IN HEIGHT CERTIFIED APPROVED BY STRUCTURAL ENGINEER.



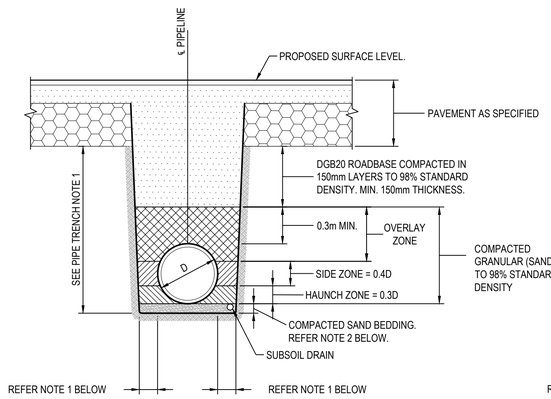
STANDARD SURFACE INLET OR SEALED JUNCTION PIT

SCALE: 1:20



STANDARD GRATED KERB INLET PIT WITH LINTEL

SCALE: 1:20

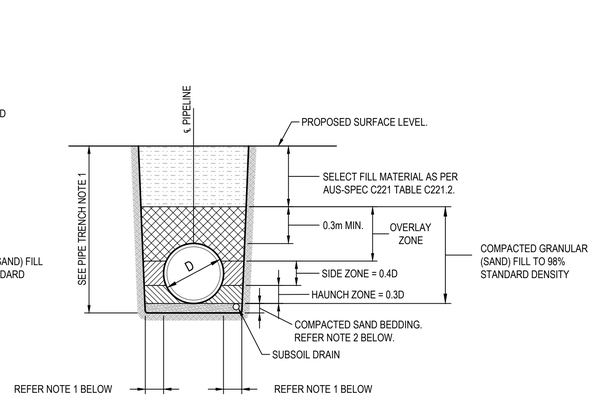


PIPE TRENCH BELOW PAVEMENT

N.T.S.

NOTE

1. ≥0.2D OR 0.3m (WHICHEVER IS GREATER)
2. 100mm FOR PIPE DIA. ≤1500

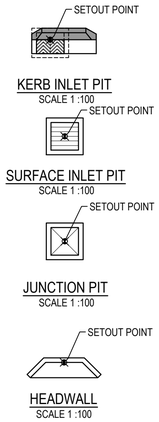


PIPE TRENCH BELOW LANDSCAPING (HS3)

N.T.S.

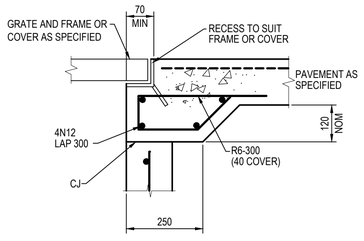
NOTE

1. ≥0.2D OR 0.3m (WHICHEVER IS GREATER)
2. 100mm FOR PIPE DIA. ≤1500



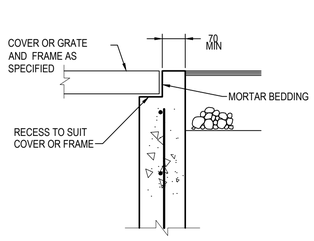
STORMWATER PIT SETOUT POINTS

REFER PIT SETOUT PLANS FOR ENLARGED CHAMBERS



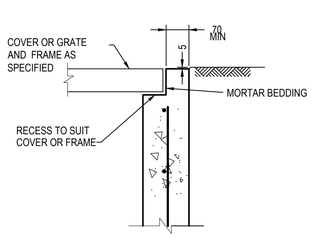
DETAIL "C"

SCALE 1:10



DETAIL "D"

SCALE 1:10



DETAIL "E"

SCALE 1:10

NOTE

1. STANDARD GULLY PITS REFER TO PENRITH COUNCIL STANDARD DRAWINGS FOR DETAILS
2. FOR INLET SIZE, PIT CHAMBER SIZE AND SETOUT REFER TO STORMWATER LONGITUDINAL SECTIONS.
3. REINFORCING MESH IS TO BE BENT TO LAP 300 AROUND ALL CORNERS. VERTICAL BARS ARE NOT TO BE CUT. ALTERNATELY PROVIDE N12 "L" BARS (500x500) AT 400 VERTICAL CTS.
4. COMPRESSIVE STRENGTH (F'c) FOR CAST IN SITU CONCRETE SHALL BE A MINIMUM 32 MPa AT 28 DAYS.
5. TOP OF BENCHING SHALL BE ¼ OF OUTLET PIPE DIAMETER.
6. 100mm SUBSOIL DRAINAGE PIPE 3000 LONG WRAPPED IN FABRIC SOCK TO BE PROVIDE ADJACENT TO INLET PIPES.
7. ALL PITS SHALL BE PROVIDED WITH A LOCKING CLIP.
8. PIT GRATE TO BE 'WELDLOK' GULLY GRATE GG 78-50 OR APPROVED EQUIVALENT.
9. DURING INSTALLATION OF GRATE AND FRAME CONTRACTOR IS TO ENSURE CLEARANCE BETWEEN LINTEL AND OPENED GRATE (REFER TO INSTALLATION TOLERANCE).
10. PROVIDE STEP IRONS AS INDICATED FOR PITS DEEPER THAN 1200.
11. N12 AT 200 CENTRALLY PLACED MAY BE USED IN LIEU OF MESH. LAP 500 AT CORNERS
12. MINIMUM REINFORCEMENT COVER TO BE 45mm UNLESS NOTED OTHERWISE
15. CHAMBER DEPTH EXCEEDING 2m IN HEIGHT WILL BE DESIGNED AND APPROVED BY STRUCTURAL ENGINEER
16. CONCRETE STRENGTH: - UNLESS NOTED OTHERWISE

ELEMENT	f'c MPa (28 DAYS)	SLUMP	MAX AGG SIZE	CEMENT TYPE
PITS	32	80mm	20mm	GP

PIPE TRENCH NOTES

1. IN UNDERTAKING TRENCH EXCAVATION, THE CONTRACTOR SHALL PROVIDE ANY SHORING, SHEET PILING OR OTHER STABILISATION OF THE TRENCH NECESSARY TO COMPLY WITH OH&S REGULATION REQUIREMENTS. THE SIDES ARE NOT TO BE LOADED & SHALL BE KEPT CLEAR OF LOOSE MATERIAL ETC. SAFE ACCESS & EGRESS SHALL BE PROVIDED AT ALL TIMES.
2. THE TRENCH SHALL BE EXCAVATED TO A WIDTH 1.4 TIMES THE EXTERNAL DIAMETER OF THE PIPE, OR TO THE EXTERNAL DIAMETER OF THE PIPE PLUS 300mm ON EACH SIDE, WHICHEVER IS THE GREATER.

Issue	Description	Date
G	ISSUE FOR COORDINATION	11-10-24
WIP	ISSUE FOR COORDINATION	14-08-24
F	ISSUED FOR SSD APPROVAL	31-07-24
E	ISSUED FOR SSD APPROVAL	23-05-23
D	ISSUE FOR COORDINATION	24-04-23
C	ISSUED FOR SSD APPROVAL	10-10-22
B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD REVIEW	09-09-22

0 2 4 6 8 10m
1 : 100 @ A1 1 : 200 @ A3
0 500 1000 1500 2000mm
1 : 20 @ A1 1 : 40 @ A3
0 100 200 400 600 800 1000mm
1 : 10 @ A1 1 : 20 @ A3

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Project: BURRA PARK DEVELOPMENT

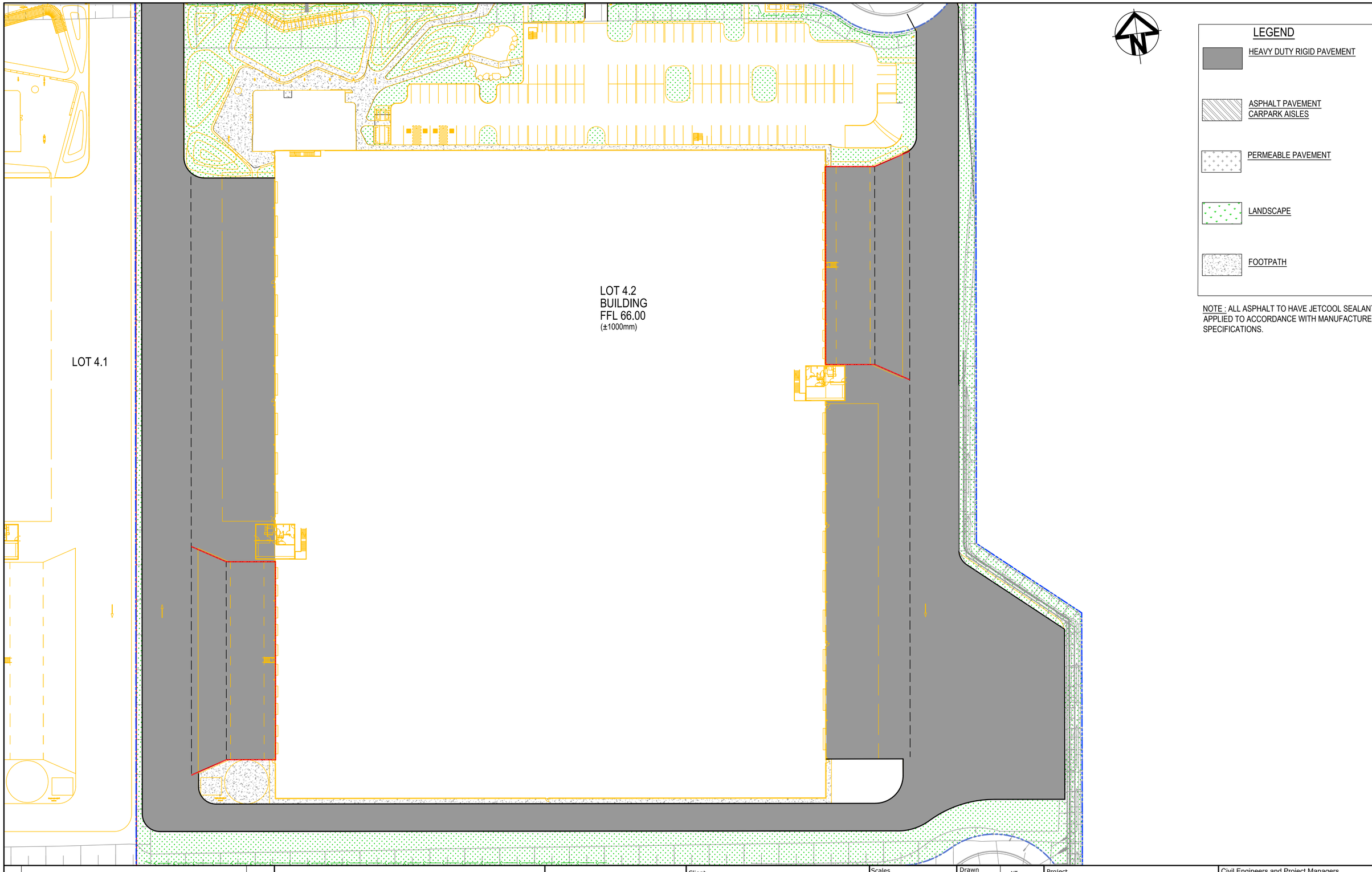
Title: LOT 4.2 (WH 03) STORMWATER DRAINAGE DETAILS

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Status: FOR APPROVAL NOT FOR CONSTRUCTION
A1
Project - Drawing No.: 22-993-C1318
Issue: G

100mm on Original

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LEGEND

- HEAVY DUTY RIGID PAVEMENT
- ASPHALT PAVEMENT CARPARK AISLES
- PERMEABLE PAVEMENT
- LANDSCAPE
- FOOTPATH

NOTE : ALL ASPHALT TO HAVE JETCOOL SEALANT APPLIED TO ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

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B	ISSUED FOR FINAL SSD REVIEW	30-09-22
A	ISSUED FOR SSD REVIEW	09-09-22

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

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Project: BURRA PARK DEVELOPMENT

Title: LOT 4.2 (WH 03) PAVEMENT PLAN SHEET 1

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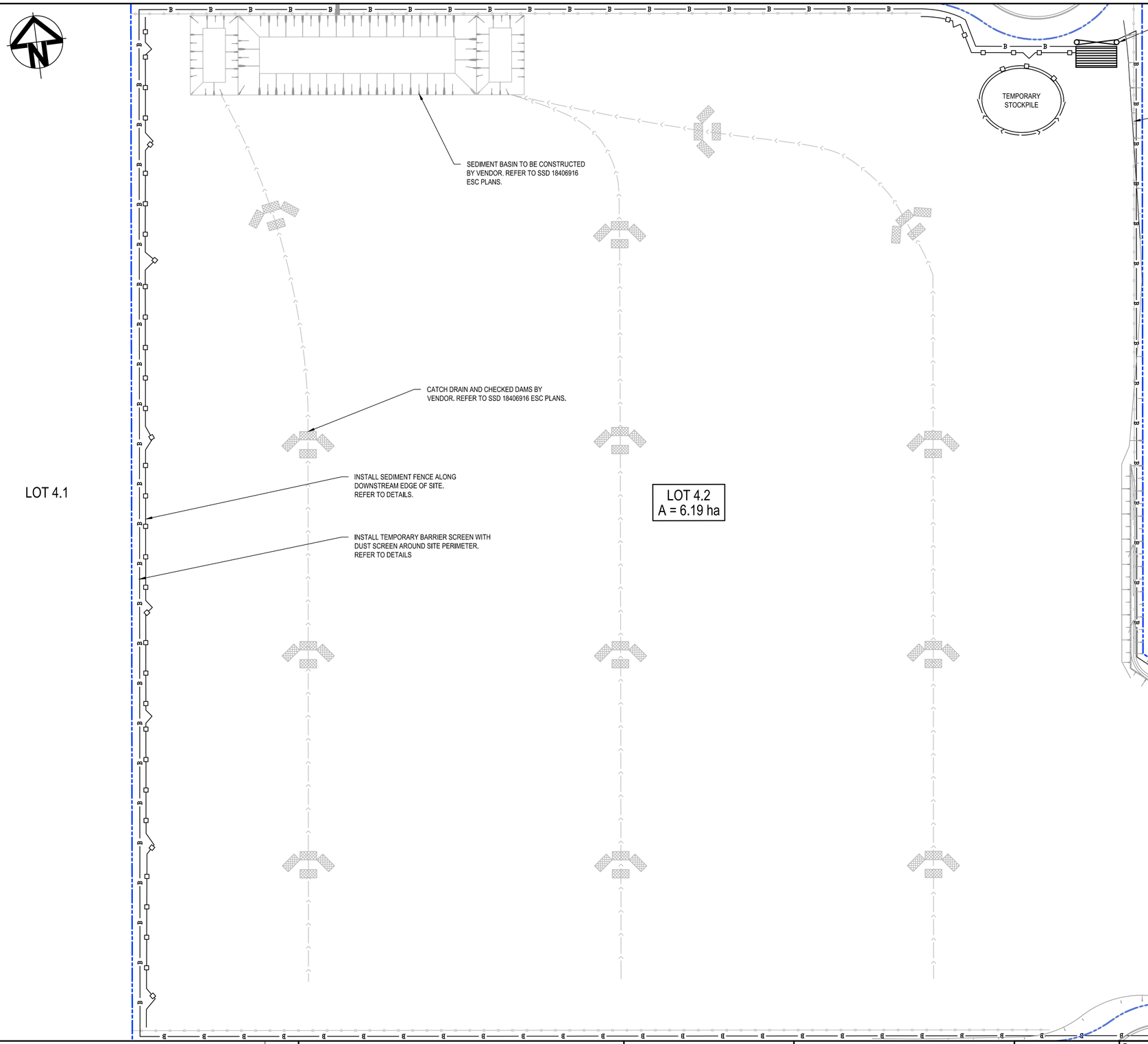
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Issue: G

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LEGEND

- SEDIMENT FENCE (SD 6-8)
- CATCH DRAIN
- BARRIER FENCE W/ DUST SCREEN
- STRAW BALE FILTER (SD 6-7)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
- PROPOSED SITE ACCESS GATE

NOTES:

1) PROVIDE RAINFALL ACTIVATED FLOCCULANT/COAGULANT DOSING SYSTEM (IF NOT PROVIDED BY THE VENDOR) AT EACH SEDIMENT BASIN INFLOW POINT. FLOCCULANT/COAGULANT APPLICATION RATES TO BE DETERMINED THROUGH JAR TEST AS PER IECA REQUIREMENTS PRIOR TO START OF EARTHWORKS.

CPESC ENVIROCERT
TIM MICHEL
11555

Issue	Description	Date
G	ISSUE FOR COORDINATION	11-10-24
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A	ISSUED FOR SSD REVIEW	09-09-22

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Project: BURRA PARK DEVELOPMENT

Title: LOT 4.2 (WH 03) EROSION AND SEDIMENT CONTROL PLAN BULK EARTHWORKS PHASE

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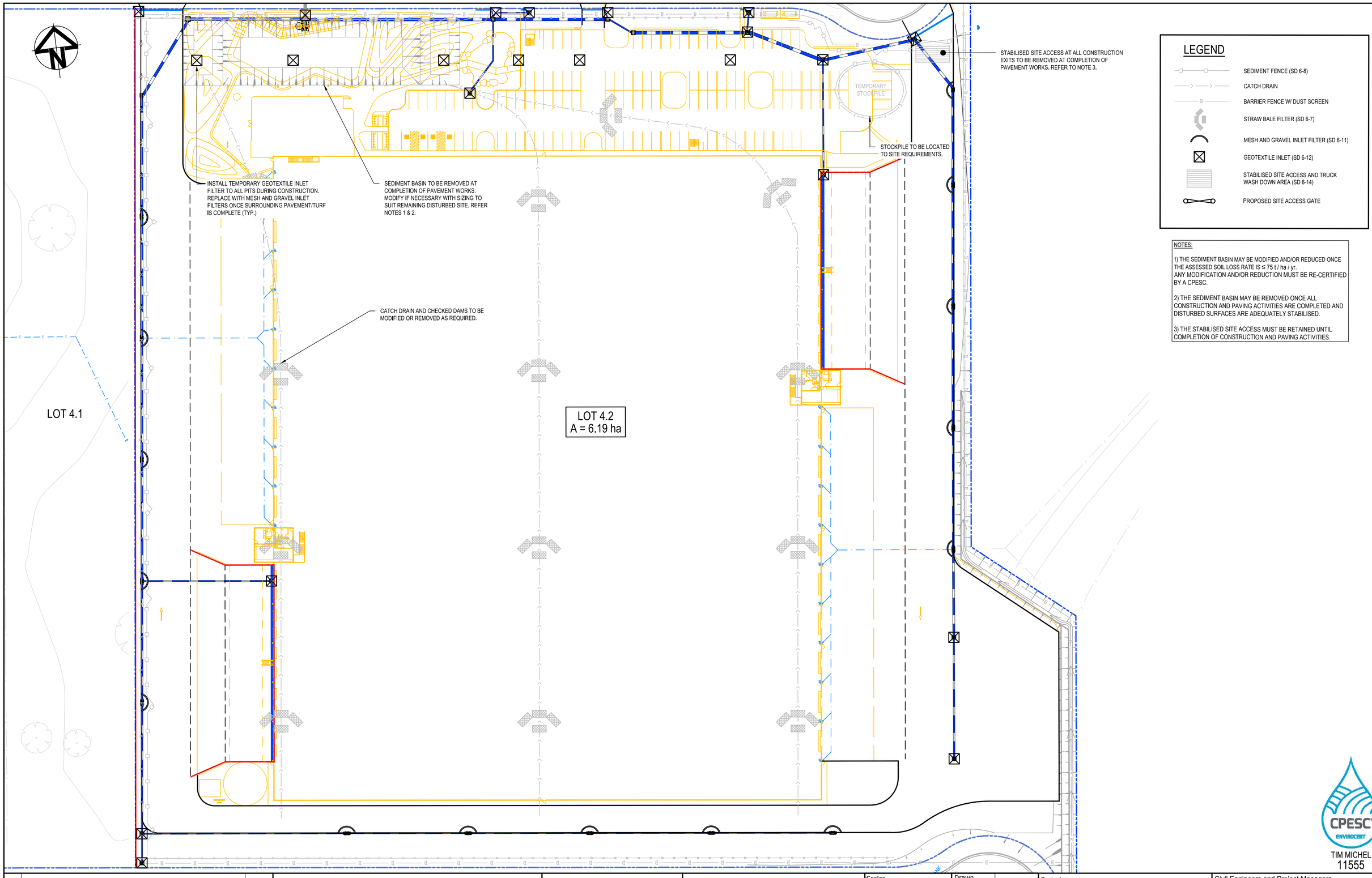
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Project - Drawing No.: 22-993-C1325

Issue: G

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LEGEND

- SEDIMENT FENCE (SD 6-8)
- CATCH DRAIN
- BARRIER FENCE W/ DUST SCREEN
- STRAW BALE FILTER (SD 6-7)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- GEOTEXTILE INLET (SD 6-12)
- STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
- PROPOSED SITE ACCESS GATE

NOTES:

1) THE SEDIMENT BASIN MAY BE MODIFIED AND/OR REDUCED ONCE THE ASSESSED SOIL LOSS RATE IS ≤ 75 t / ha / yr. ANY MODIFICATION AND/OR REDUCTION MUST BE RE-CERTIFIED BY A CPESC.

2) THE SEDIMENT BASIN MAY BE REMOVED ONCE ALL CONSTRUCTION AND PAVING ACTIVITIES ARE COMPLETED AND DISTURBED SURFACES ARE ADEQUATELY STABILISED.

3) THE STABILISED SITE ACCESS MUST BE RETAINED UNTIL COMPLETION OF CONSTRUCTION AND PAVING ACTIVITIES.

CPESC ENVIROCERT
TIM MICHEL
11555

Issue	Description	Date
G	ISSUE FOR COORDINATION	11-10-24
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1 : 500 @ A1 1 : 1000 @ A3

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Project: BURRA PARK DEVELOPMENT

Title: LOT 4.2 (WH 03) EROSION AND SEDIMENT CONTROL PLAN CIVIL WORKS PHASE

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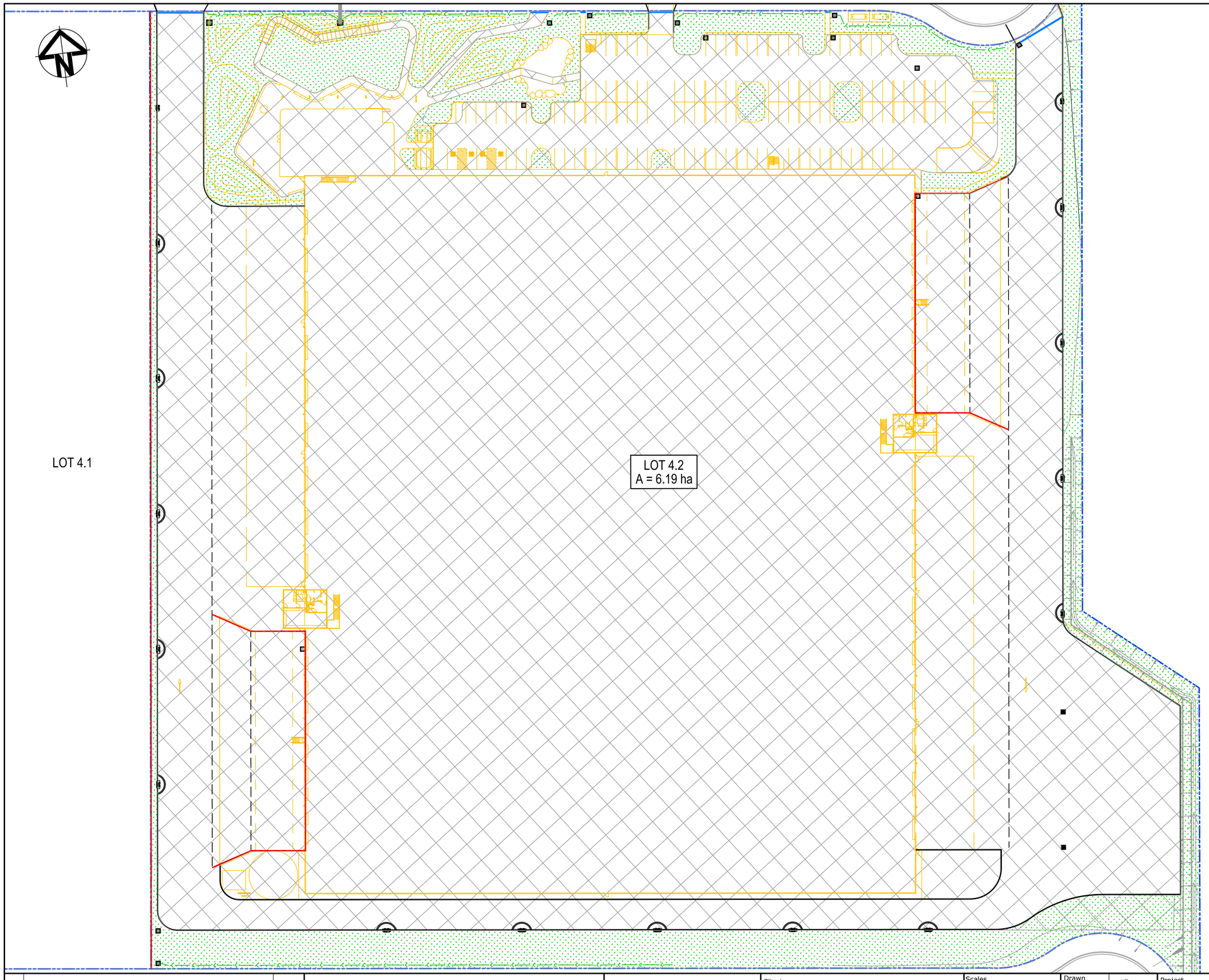
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Project - Drawing No.: 22-993-C1326

Issue: G

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LEGEND

SURFACES TO BE STABILISED WITH TURF/PLANTING.
(REFER TO LANDSCAPE ARCHITECT'S DWGS)

SURFACES TO BE STABILISED WITH PAVEMENTS OR COVERED UNDER BUILDING ROOF.
(REFER TO LANDSCAPE ARCHITECT'S DWGS)

NOTES:

1) TURF, TREES AND PLANTS TO BE PLANTED AND PROTECTED AS EARLY AS POSSIBLE IN ACCORDANCE WITH THE LANDSCAPE ARCHITECT'S / SUPPLIER'S SPECIFICATIONS.

2) CONTRACTOR TO MAINTAIN ALL TURF AND PLANTING THROUGHOUT THE MAINTENANCE PERIOD IN ACCORDANCE WITH THE LANDSCAPE ARCHITECT'S / SUPPLIERS SPECIFICATIONS.

3) ALL PAVED SURFACES SHALL BE SWEPT CLEAN REGULARLY TO PREVENT LITTER AND SEDIMENT FROM ENTERING THE DRAINAGE SYSTEM.

4) TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MAY BE REMOVED AT COMPLETION OF ALL CONSTRUCTION AND STABILISATION WORKS.

5) LANDSCAPE IRRIGATION SYSTEM TO BE INSTALLED AND OPERATIONAL PRIOR TO PLANTING. IRRIGATION SYSTEM IS TO BE SUPPLIED FROM RAINWATER HARVESTING TANKS WITH AUTOMATIC SWITCH TO TEMPORARY WATER SUPPLY SYSTEM WHEN THE TANKS ARE EMPTY.

6) TEMPORARY RAINWATER TANKS TO BE REMOVED WHEN PERMANENT RECYCLED WATER SUPPLY IS AVAILABLE TO THE SITE.

CPESC ENVIROCERT
TIM MICHEL
11555

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0 10 20 30 40 50m
1 : 500 @ A1 1 : 1000 @ A3

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Project: BURRA PARK DEVELOPMENT

Title: LOT 4.2 (WH 03) EROSION AND SEDIMENT CONTROL PLAN STABILISATION PHASE

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Project - Drawing No.: 22-993-C1327

Issue: G

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EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

1. THE SITE SUPERINTENDENT/ENGINEER WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED.
2. ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
   a. LOCAL AUTHORITY REQUIREMENTS
   b. EPA REQUIREMENTS
   c. LANDCOM'S "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
3. WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
4. CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN, AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.

LAND DISTURBANCE

6. WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:
   (A) INSTALL A WIND FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
   (B) INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
   (C) CONSTRUCT STABILISED CONSTRUCTION ENTRANCE TO LOCATION AS DETERMINED BY SUPERINTENDENT/ENGINEER. REFER DETAIL.
   (D) INSTALL SEDIMENT BASIN AS SHOWN ON PLANS.
   (E) INSTALL SEDIMENT TRAPS AS SHOWN ON PLANS.
   (F) UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.

EROSION CONTROL

7. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.
8. FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

SEDIMENT CONTROL

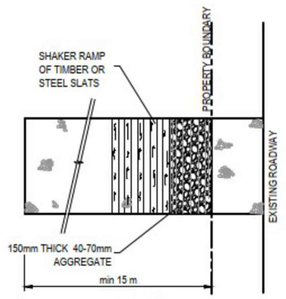
9. STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.
10. ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
11. WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
12. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.

OTHER MATTERS

13. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
14. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
   (A) PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
   (B) ENSURING THAT NOTHING IS NAILED TO THEM
   (C) PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS.
   (I) ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER
   (II) A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH
   (III) CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

STAGING

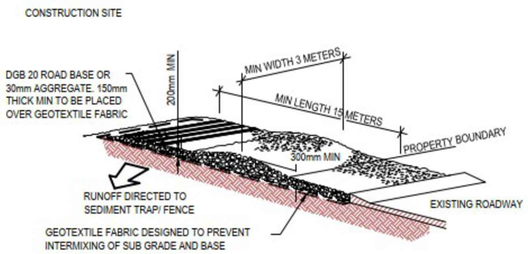
SUITABLE EROSION AND SEDIMENT CONTROLS SHALL BE DESIGNED, PROVIDED AND MAINTAINED BY THE CONTRACTOR THROUGHOUT ALL STAGES OF WORKS, INCLUDING AT COMPLETION OF THE BULK EARTHWORKS WHERE SHOWN ON AT&L DRAWINGS OR WHERE DIRECTED BY THE SUPERINTENDENT OR PENRITH CITY COUNCIL'S ENGINEERS.
SEDIMENT AND EROSION CONTROLS ARE TO BE DESIGNED AND DOCUMENTED BY A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC) ENGAGED BY THE CONTRACTOR AND APPROVED AS PART OF THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. SUCH CONTROLS SHALL BE IN ACCORDANCE WITH THE RELEVANT REQUIREMENTS IN THE LATEST VERSION OF THE MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION GUIDELINE (LANDCOM).



PLAN

STABILISED SITE ACCESS WITH SHAKER GRID

N.T.S.

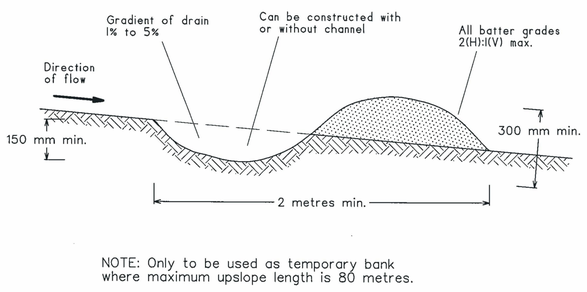


N.T.S.

NOTES:

1. THIS DEVICE IS TO BE LOCATED AT ALL EXITS FROM CONSTRUCTION SITE.
2. THIS DEVICE IS TO BE REGULARLY CLEANED OF DEPOSITED MATERIAL SO AS TO MAINTAIN A 50mm DEEP SPACE BETWEEN PLANKS.
3. ANY UNSEALED ROAD BETWEEN THIS DEVICE AND NEAREST ROADWAY IS TO BE TOPPED WITH 100mm THICK 40-70mm SIZE AGGREGATE.
4. ALTERNATIVELY, THREE(3) PRECAST CONCRETE CATTLE GRIDS (AS MANUFACTURED BY "HUMES CONCRETE MAY BE USED. 1, 2 & 3 ABOVE ALSO APPLY.

STABILISED SITE ACCESS WITH SHAKER GRID

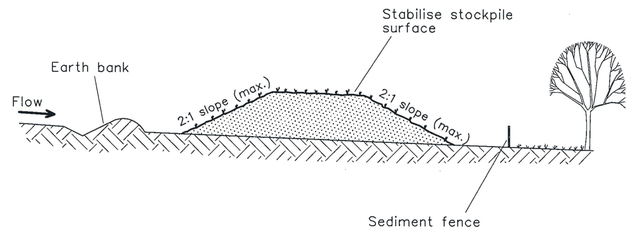


NOTE: Only to be used as temporary bank where maximum upslope length is 80 metres.

Construction Notes

1. Build with gradients between 1 percent and 5 percent.
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V shaped.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction.

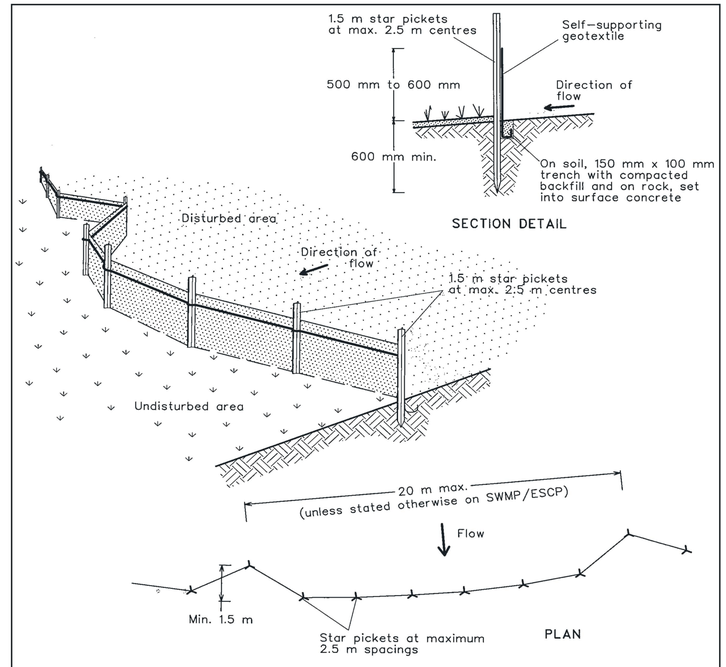
EARTH BANK (LOW FLOW) SD 5-5



Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES SD 4-1



Construction Notes

1. Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
3. Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
5. Join sections of fabric at a support post with a 150-mm overlap.
6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

SEDIMENT FENCE SD 6-8

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11555

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100mm on Original

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Project: BURRA PARK DEVELOPMENT

Title: LOT 4.2 (WH 03) EROSION AND SEDIMENT CONTROL DETAILS SHEET 1

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Project - Drawing No.: 22-993-C1330
Issue: G

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EROSION AND SEDIMENT CONTROL NOTES

PRELIMINARY BASIN SIZING - TYPE A SEDIMENT BASIN SIZING (REFER HENRY & HYMAS CIVIL DRAWINGS FOR DETAILS)

THE SEDIMENT BASIN SHALL BE CONSTRUCTED ON A RATE PER HECTARE BASIS AND HAS BEEN IN ACCORDANCE WITH THE REQUIREMENTS OF THE INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) APPENDIX B SEDIMENT DESIGN AND OPERATION (REVISION - JUNE 2018). THE DISTURBED AREA WITHIN THIS CATCHMENT AT ANY ONE TIME SHOULD BE LIMITED TO AN AREA FOR WHICH EACH SEDIMENT BASIN HAS BEEN DESIGNED FOR. IF REQUIRED, EACH BASIN SHALL BE RE-SIZED IN ACCORDANCE WITH THE TABLE ADJACENT.

VALUES PRESENTED IN THE HENRY & HYMAS CIVIL DRAWINGS ARE BASED ON FULL SITE AREA. SUBJECT TO FUTURE DETAIL DESIGN, DISTRUBTED SITE AREAS (AND THUS BASIN AREAS) MAY CHANGE OR BE DISTRIBUTED TO MULTIPLE BASINS AS SITE CONDITIONS DICTATE. A REVIEW OF SIZING (AND UPSIZING) TO BE UNDERTAKEN DURING DETAILED DESIGN PHASE USING THE INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) APPENDIX B SEDIMENT DESIGN AND OPERATION (REVISION - JUNE 2018). DETAILED DESIGN OF BASIN TO BE UNDERTAKEN WHEN SITE CONDITIONS, SOIL CONDITIONS AND FINAL CONTRIBUTING CATCHMENTS ARE KNOW. FURTHERMORE, SITE CONDITIONS MAY VARY FROM THOSE DETAILED ABOVE IN THE TABLE ADJACENT.

JAR TESTING, IN ACCORDANCE WITH SECTION B3 OF THE INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) APPENDIX B SEDIMENT DESIGN AND OPERATION (REVISION - JUNE 2018) IS REQUIRED IN ORDER TO DETERMINE THE CHEMCIAL DOSING RATES OF SEDIMENT. IT IS RECOMMENDED THAT THIS ANALYSIS IS UNDERTAKEN PRIOR TO BASIN CONSTRUCTION AS THE FINDINGS MAY POTENTIALLY IMPACT THE SEDIMENT AND EROSION CONTROL (BASIN SIZING ALSO) ADOPTED. IT SHOULD BE NOTED THAT THE MOST SUITABLE FLOCCULANT AND/OR COAGULANT IS LIKELY TO VARY WITH SOIL TYPE. CONSEQUENTLY, THERE IS A NEED TO REVIEW THE EFFICACY OF CERTAIN PRODUCTS OVER TIME AS SOIL CHARACTERISTICS CHANGE DURING THE VARIOUS STAGES OF CONSTRUCTION.

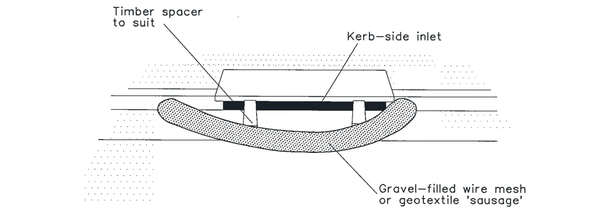
BASIN MANAGEMENT

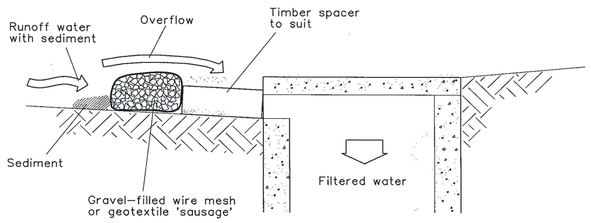
IN ACCORDANCE WITH THE BLUE BOOK, THE SEDIMENT BASINS WILL BE MANAGED AND MAINTAINED UNTIL THE CONTRIBUTING CATCHMENT UPSTREAM IS COMPLETED AND FULLY STABILISED ON MORE THAN 90% OF THE TOTAL AREA. A GENERIC BASIN MAINTENANCE STRATEGY IS DETAILED BELOW - NOTE THIS STRATEGY WILL NEED TO BE TAILORED TO SITE CONDITIONS AND PARAMETERS:

- AN AUTOMATED SYSTEM OF FLOCCULANT DOSING IS REQUIRED AND A SUITABLE SUPPLY OF FLOCCULANT/COAGULANT. DOSER AND SUPPLY OF FLOCCULANT TO BE PROVIDED ON LEVEL PAD 4MX4M WITHIN 10M OF DOSING POINT. SELECTION OF AUTOMATIC DOSING SYSTEM IS BASED ON-SITE CHARACTERISTIC AND JAR TESTING OF PRODUCTS ONSITE SPECIFIC TURBID WATER. AUTOMATIC DOSING SYSTEM MUST ACHIEVE PERFORMANCE TARGETS DETAILED BELOW.
- FURTHER DETAILS FOR BASIN MANAGEMENT ARE PROVIDED IN CHAPTER 6 AND APPENDIX E4 OF LANDON'S 'BLUE BOOK'.
- FURTHER DETAILED BASIN MANAGEMENT ARE PROVIDED IN IECA (INTERNATIONAL EROSION CONTROL ASSOCIATION) (2008) APPENDIX B SEDIMENT DESIGN AND OPERATION (REVISION - JUNE 2018), INTERNATIONAL EROSION CONTROL ASSOCIATION AUSTRALASIA.
- BASIN PERFORMANCE REQUIRMENTS AS FOLLOWS: AT LEAST 80% OF THE AVERAGE ANNUAL RUNOFF VOLUME (I.E. 80% HYDROLOGICAL EFFECTIVENESS) TO 50 MG/L TSS OR LESS, AND PH IN THE RANGE 6.5-8.5.
- JAR TESTING IS TO BE UNDERTAKEN TO SELECT THE APPROPRIATE COAGULANTS AND/OR FLOCCULATNS ALONG WITH DETERMINING THEIR OPTIMUM DOSE RATES. JAR TESTING IS TO BE UNDERTAKING IN ACCORDANCE WITH THE RECOMMENDATIONS AND TESTING PROCEDURE SPECIFIED IN THE CHAPTER 5 OF THE INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) CHEMICAL COAGULANTS AND FLOCCULANTS FACT SHEET (IECA 2018).
- TYPE A AND B BASINS REQUIRE A FAST ACTING COAGULANT AND FLOCCULANT TO PERFORM BASED ON THE JAR TESTING. A FACTOR OF SAFTEY (IN ACCORDANCE WITH ABOVE GUIDELINES) SHOULD BE APPLIED TO ALLOW FOR THE DIFFERENT SETTLING TIMES EXPERIENCED BY BASINS DUES TO DOSING, MIXING, FLOW VELOCITY AND WIND ACTION.
- REFER EROSION AND SEDIMENT CONTROL PLAN (ESCP PLAN) BY HENRY AND HYMAS, REFERENCE 240518.E&SC REV 1.0 FOR GENERIC BASIN MANAGEMENT AND OPERATION DETAILS.

BASIN MANAGEMENT (CONT.)

- MAINTENANCE AND OPERATING PROCEDURES REPORT TO BE PREPARED AT DETAIL DESIGN PHASE. REPORT TO INCLUDE THE FOLLOWING:
- DECANT WATER QUALITY OBJECTIVES.
- DESCRIPTION OF PROPOSED CHEMICAL TREATMENT OF THE BASIN, INCLUDING MINIMUM JAR TESTING PEFORMANCE REQUIREMENTS
- PERFORMANCE ASSESSMENT PROCEDURES
- GUIDANCE ON CORRECTIVE MEASURES BASED ON WATER QUALITY MONITORING OUTCOMES
- DESCRIPTION OF DE-WATERING TRIGGERS, INCLUDING TRIGGERS FOR TEMPORARY SHUT-OFF OF THE DECANT SYSTEM IN THE EVENT OF POOR WATER QUALITY
- DESCRIPTION OF DE-SILTING TRIGGERS
- DESCRIPTION OF THOSE CIRCUMSTANCES AND/OR WEATHER CONDITIONS THAT WOULD TRIGGER DE-WATERING OF THE BASIN PRIOR TO AN IMMINENT STORM.
- MAINTENANCE PROCEDURES AND PROTOCOLS INCLUDING DE-SILTING METHOD AND FREQUENCIES.



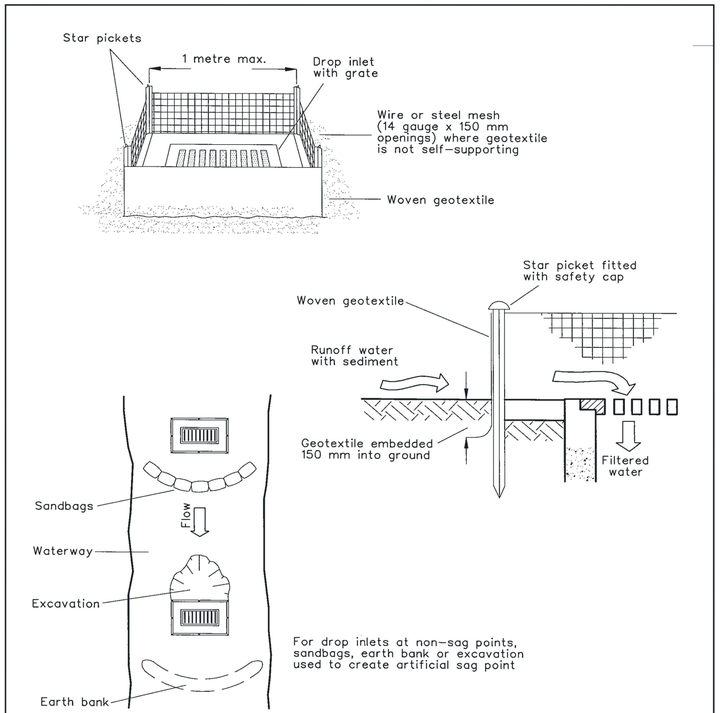


NOTE: This practice only to be used where specified in an approved SWMP/ESCP.

Construction Notes

1. Install filters to kerb inlets only at sag points.
2. Fabricate a sleeve made from geotextile or wire mesh longer than the length of the inlet pit and fill it with 25 mm to 50 mm gravel.
3. Form an elliptical cross-section about 150 mm high x 400 mm wide.
4. Place the filter at the opening leaving at least a 100-mm space between it and the kerb inlet. Maintain the opening with spacer blocks.
5. Form a seal with the kerb to prevent sediment bypassing the filter.
6. Sandbags filled with gravel can substitute for the mesh or geotextile providing they are placed so that they firmly abut each other and sediment-laden waters cannot pass between.

MESH AND GRAVEL INLET FILTER **SD 6-11**



Construction Notes

1. Fabricate a sediment barrier made from geotextile or straw bales.
2. Follow Standard Drawing 6-7 and Standard Drawing 6-8 for installation procedures for the straw bales or geofabric. Reduce the picket spacing to 1 metre centres.
3. In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
4. Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

GEOTEXTILE INLET FILTER **SD 6-12**

THE LONG TERM GROUND COVER FACTORS FOR THE CONSTRUCTION WORKS IS NOT TO EXCEED THE FOLLOWING LIMITS:

LAND	MAXIMUM C-FACTOR	REMARKS
WATERWAYS AND OTHER AREAS OF CONCENTRATED FLOWS, POST CONSTRUCTION	0.05	APPLIES AFTER TEN WORKING DAYS OF COMPLETION OF FORMATION AND BEFORE CONCENTRATED FLOWS ARE APPLIED. FOOT AND VEHICULAR TRAFFIC IS PROHIBITED IN THIS AREA AND 70% GROUND COVER IS REQUIRED.
STOCKPILES, POST CONSTRUCTION	0.10	APPLIES AFTER TEN WORKING DAYS FROM COMPLETION OF FORMATION. 60% GROUND COVER IS REQUIRED.
ALL LANDS, INCLUDING WATERWAYS AND STOCKPILES, DURING CONSTRUCTION.	0.15	APPLIES AFTER 20 DAYS OF INACTIVITY, EVEN THOUGH WORKS MAY BE INCOMPLETE. 50% GROUND COVER IS REQUIRED.

REFERENCE PARAMETERS - FOR CALCULATION OF SOIL LOSS (NOT USED IN ABOVE CALCULATIONS)

SEDIMENT BASIN SIZING TYPE D SOILS	
VOLUMETRIC RUNOFF COEFFICIENT, CV	6.4
80TH PERCENTILE 5 DAY TOTAL RAINFALL DEPTH, R	35mm
CATCHMENT AREA, A	VARIES
SETTLING ZONE VOLUME (PER HECTARE) 10 CV A R	124 x A
DISTURBED CATCHMENT AREA	VARIES
R K LS P C	143 x Ls
SEDIMENT ZONE VOLUME (0.17 A (R K LS P C))/1.3	18.7 x Ls
TOTAL SEDIMENT BASIN VOLUME REQUIRED :	REFER ADJACENT TABLE

* (LANDCOM MANAGING URBAN STORMWATER MANUAL REFERENCE)

2. THE FOLLOWING DESIGN PARAMETERS HAVE BEEN ASSESSED FOR THE SITE:

CONSTRAINT	VALUE	(SOURCE)*
RAINFALL EROSIVITY (R-FACTOR)	2200	APPENDIX B - MAP 10
LENGTH/SLOPE GRADIENT FACTOR, LS	VARIOUS	APPENDIX A - TABLE A1
SOIL ERODIBILITY (K-FACTOR)	0.05	(TABLE C19)
EROSION CONTROL PRACTICE FACTOR (P-FACTOR)	1.3	APPENDIX A - TABLE A2
COVER FACTOR (C-FACTOR)	1.0 (DURING EARTHWORKS)	APPENDIX A - FIGURE A5
CALCULATED SOIL LOSS, A (RUSLE EQUATION)	VARIES	A = R K LS P C
SOIL HYDROLOGIC GROUP	GROUP D	APPENDIX C TABLE 19
85TH PERCENTILE 5-DAY RAINFALL EVENT	35mm	TABLE 6.3A

* (LANDCOM MANAGING URBAN STORMWATER MANUAL REFERENCE)

CPESC ENVIROCERT
TIM MICHEL
11555

Issue	Description	Date
G	ISSUE FOR COORDINATION	11-10-24
WIP	ISSUE FOR COORDINATION	14-08-24
F	ISSUED FOR SSD APPROVAL	31-07-24
A	ISSUED FOR SSD APPROVAL	23-05-23

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Client: DHL

Scales: NTS | Drawn: NT | Designed: BL | Checked: CB | Approved:
Grid: GDA2020
Height Datum: AHD
GDA2020

Project: BURRA PARK DEVELOPMENT

Title: LOT 4.2 (WH 03) EROSION AND SEDIMENT CONTROL DETAILS SHEET 2

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Status: FOR APPROVAL NOT FOR CONSTRUCTION | A1
Project - Drawing No.: 22-993-C1331 | Issue: G

100mm on Original

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