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Our Ref: PSM4375-007L REV 3

9 March 2022

Development Manager
Hale Capital Partners
Level 13, 333 George Street, Sydney
NSW, 2000
alana.garrick@halecp.com

Attention: Alana Garrick

Dear Alana

RE: 42 RAYMOND AVE, MATRAVILLE - ACID SULFATE SOIL AND SALINITY

1. Introduction

This letter has been prepared to inform a State Significant Development Application (SSDA) for 42 Raymond Avenue, Matraville. The aim of the letter is to assess the potential impacts of the proposed development on acid sulfate soils and salinity.

The letter responds to the Secretary's Environmental Assessment Requirements (SEARs) as they relate to the acid sulfate soil and salinity as documented in Table 1.

Table 1 - SEAR SSD-31552370

Relevant Sears	Response
Provide an assessment of salinity and acid sulfate soil impacts.	Assessment of acid sulfate soil impact is described within Section 3.1 of this letter (Ref. PSM4375-007L REV1). Assessment of salinity impact is described within Section 3.2 of this letter (Ref. PSM4375-007L REV1).

2. Proposed Development

Based on the provided documents and the discussion with Hale Capital Partners (HCP), we understand that the proposed development at 42-52 Raymond Avenue involves construction of a two-storey warehouse and distribution centre comprising 19,460 m2 GFA including ancillary office space, landscaping, bicycle and car parking.

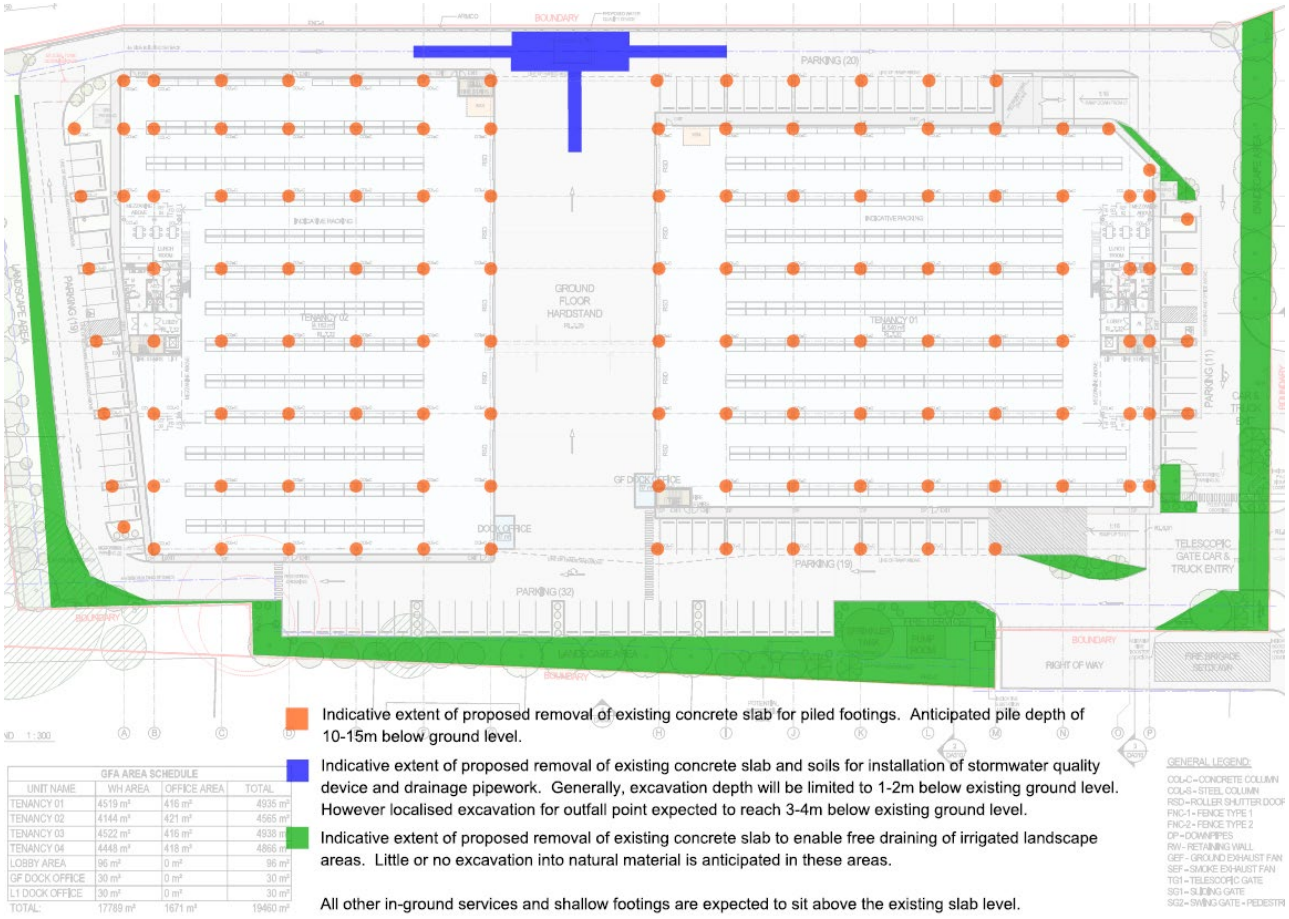
The proposal comprises the redevelopment of the site as summarised below:

- Construction, fit out and operation of a two-storey warehouse and distribution centre comprising approximately 19,460 m^2 GFA including:
  - 17,789 m^2 of warehouse and distribution GFA; and
  - 1,671 m^2 GFA ancillary office space.
- Provision of 11 bicycle parking spaces and 101 car parking spaces at ground
- Approximately 2,250 m^2 of hard and soft landscaping at ground
- Provision of one additional access crossover from Raymond Avenue
- Provision of internal vehicle access route and loading docks
- Upgrades to existing on-site infrastructure.
- Building identification signage
- Operation 24 hours per day seven days per week.

The site is legally described as Lot 1 in Deposited Plan 369888, Lot 32 Sec B Deposited Plan 8313, Lot 1 Deposited Plan 511092 and Lot 2 in Deposited Plan 1082623.

At this stage, the details of the proposed development including earthworks are yet to be finalised. Based on the discussions with HCP, we understand that:

- No significant cuts are proposed (i.e. no basement is being proposed as part of the development).
- Imported fill will be placed over the top of the existing slab.
- Most of the existing slab will be left in place and not removed, with the following exceptions (See Inset 0):
  - Pile footings, there two footing options being raft type footings and soil mix piles – both solutions would not generate spoil. Pile depths are anticipated to be 10 to 15 m below ground level.
  - Stormwater:
    - Removal of slab locally up to approximately 1 to 2 m(on the north-western boundary of the site for installation of stormwater quality device and drainage network
    - New connection required to the channel up to approximately 3. to 4 m below existing slab level
  - Landscaping: Removal required along Raymond Ave boundary, south-western and south-eastern boundary to accommodate landscaping areas.



Inset 0: Indicative extents of removal of existing slabs

3. Assessment

3.1 Acid Sulfate Soils

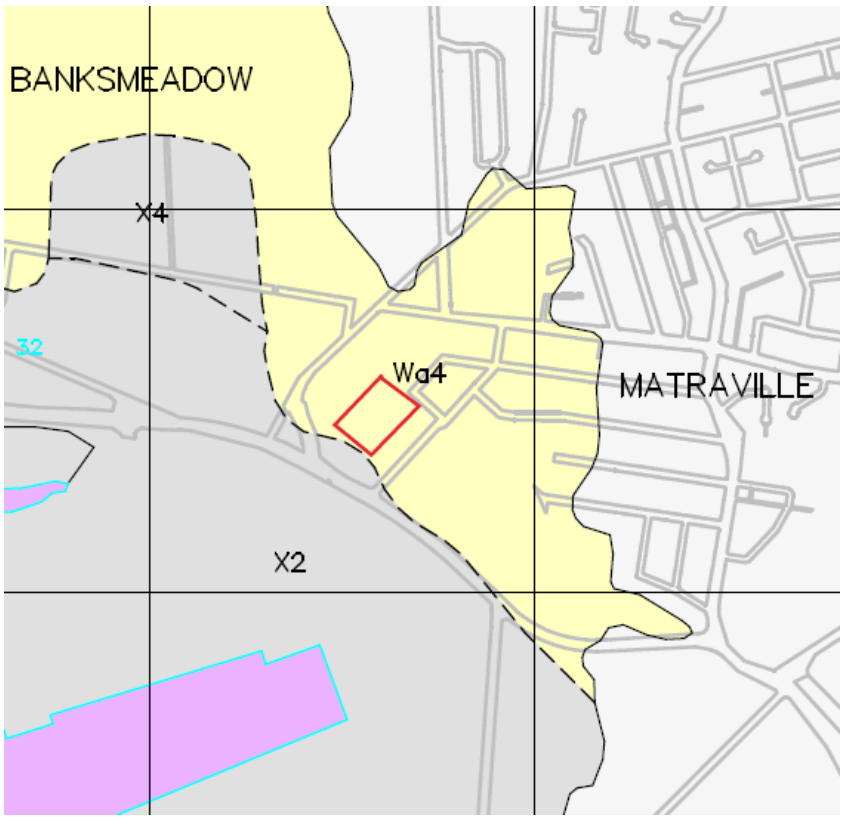
The assessment for acid sulfate soils has been prepared using following guidelines and standards:

- Ahern C R, Stone, Y, and Blunden B 1998, Acid Sulfate Soils Assessment Guidelines, Acid Sulfate Soil Management Advisory Committee, Wollongbar, NSW, Australia.
- NSW Office of Environment and Heritage 2013, Acid Sulfate Soil Risk Map Data.
- Acid sulfate soil risk map, https://www.environment.nsw.gov.au/topics/land-and-soil/soil-degradation/acid-sulfate-soils
- The Randwick Local Environmental Plan 2012 (RLEP).

Inset 1 presents the acid sulfate soil risk map of the Site. The 1:25,000 acid sulfate soil risk maps[1] indicates:

- The Site is within the low probability of occurrence zone.
- The depth to acid sulfate materials is shown as greater than 3m below the ground surface.
- The majority of these landforms are not expected to contain acid sulfate materials. Therefore, land management is generally not affected by acid sulfate soils.

[1] Acid sulfate soil risk map, https://www.environment.nsw.gov.au/topics/land-and-soil/soil-degradation/acid-sulfate-soils



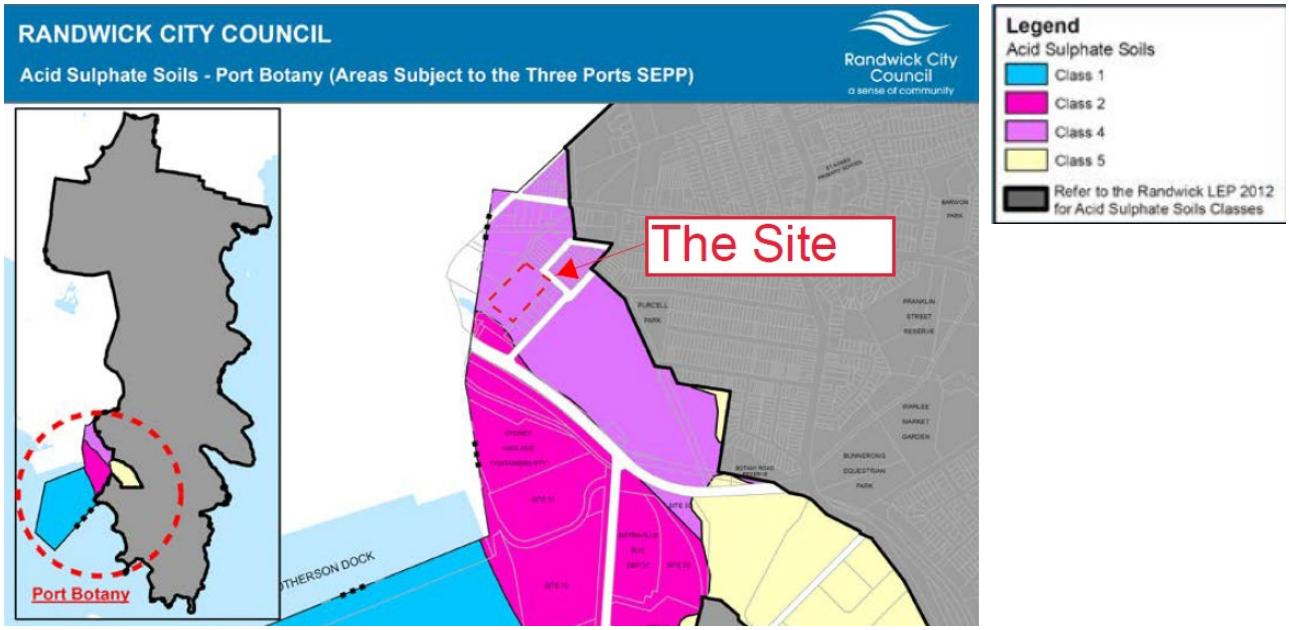
Inset 1: Acid sulfate soil risk map of the Site (the low probability of occurrence zone hatched in yellow)

Inset 2 shows that the Site is located within Class 4 according to the Randwick LEP – Acid Sulphate Soils Map. Class 4 is defined as “Works beyond 2 metres below natural ground surface | Works by which the water table is likely to be lowered beyond 2 metres below natural ground surface”.

Appendix A provides the preliminary bulk earthworks plan for the proposed development, it shows that the majority of the Site will be filled, with fill thickness up to 2.75m up to the warehouse pad BEL of RL 6.52m, with some local cut areas up to 0.75 m for landscaping along Raymond Avenue.

The proposed development comprising primarily of fill will not lower the existing groundwater table.

Given that the excavation works for the proposed development on the Site are limited to 0.75m below the existing slab level with some minor locally deeper works to enable connection to an existing drainage channel, we assess that the proposed development has a very low probability of encountering and disturbing acid sulfate soils and that no further actions is required to address this issue.



Inset 2: Randwick City Council – Acid Sulphate Soils Map

3.2 Salinity

The use of salt tolerant native vegetation for landscaping will minimise the impact of salinity on the environment as presented in the Landscape drawings (Appendix B).

Site drainage is an important management tool to minimise the impact of salinity on site, and to improve the overall salinity status of the site and its surrounding area. In landscaped areas methods such as controlled irrigation to match plant requirements, sub-soil drainage, and impervious pavement areas will aid in reducing surface water infiltration. Civil drainage drawings are presented in Appendix C.

The amount of water infiltration on site will be reduced by the development by the sealing of a large portion of the land, the planting of deep-rooted native trees and shrubs, and the installation of a surface drainage system to drain surface water to minimise infiltration.

Given that the excavation works for the proposed development on the Site are anticipated to be limited to 0.75m below the existing slab level with some minor locally deeper works to enable connection to an existing drainage channel, we assess that no extra consideration of salinity issues are required for the proposed development other than that already addressed by the Landscaping and Civil Drainage Drawings.

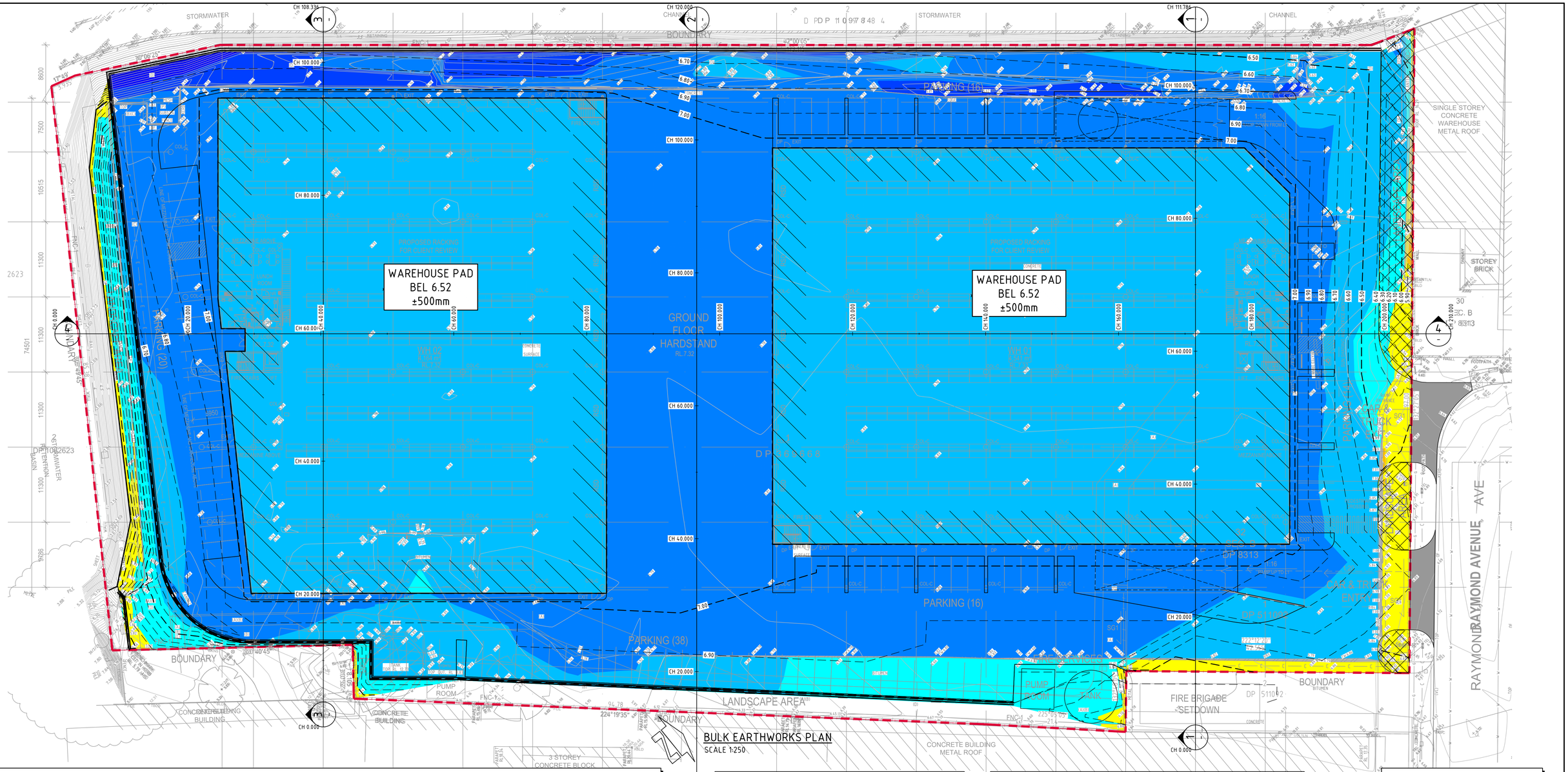
Should there be any queries, do not hesitate to contact the undersigned.

Yours Sincerely

RONALD TAN
PRINCIPAL

Encl.	Appendix A	DRG C014452.00-DA30-B “Bulk Earthworks Plan” by Costin Roe Consulting
	Appendix B	DRG SSD-01 “Landscape Masterplan” by Geoscapes Landscape Architects
		DRG SSD-07 “Planting Schedule & Imagery” by Geoscapes Landscape Architects
	Appendix C	DRG C014452.00-DA40-A “Stormwater Drainage Plan – Ground Floor” by Costin Roe Consulting
		DRG C014452.00-DA41-A “Stormwater Drainage Plan – Level 1” by Costin Roe Consulting
		DRG C014452.00-DA45-A “Stormwater Drainage Details – Sheet 1” by Costin Roe Consulting
		DRG C014452.00-DA45-A “Stormwater Drainage Details – Sheet 2” by Costin Roe Consulting

Appendix A
DRG C014452.00-DA30 “Bulk Earthworks Plan” by Costin Roe Consulting



BULK EARTHWORKS PLAN
SCALE 1:250

SITE PREPARATION NOTES:

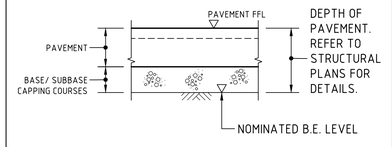
1. ALL EARTHWORKS SHALL BE COMPLETED GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED BY THE GEOTECHNICAL REPORT.
2. EXISTING LEVELS FOR THE PURPOSES OF EARTHWORKS QUANTITIES ARE BASED ON LIDAR INFORMATION OBTAINED FROM THE NSW SPATIAL SERVICES.
3. STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND DISPOSE OF FROM SITE OR STORE AS DIRECTED.
4. COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF +0mm/-10mm THROUGH BUILDING PADS/PAVEMENTS AND +0mm/-20mm ELSEWHERE.
5. PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO FACILITATE FILL PLACEMENT AND COMPACTION.
6. AREAS TO RECEIVE FILL (THAT ARE NOT ON BENCHED BATTERS) AND AREAS IN CUT SHALL BE PROOF ROLLED TO IDENTIFY ANY SOFT HEAVING MATERIAL. SOFT MATERIAL SHALL BE BOXED OUT AND REMOVED PRIOR TO FILL PLACEMENT. PROOF ROLLING TO BE INSPECTED BY A GEOTECHNICAL ENGINEER OR THE EARTHWORKS DESIGNER.
7. SITE WON FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
8. IMPORTED FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
9. ALL ENGINEERED FILL PARTICLES SHALL BE ABLE TO BE INCORPORATED WITHIN A SINGLE LAYER. FURTHER, LESS THAN 30% OF PARTICLES SHALL BE RETAINED ON THE 37.5 mm SIEVE. ENGINEERED FILL SHALL BE ABLE TO BE TESTED IN ACCORDANCE WITH THE STANDARD COMPACTION METHOD (AS1289.5.4.1) OR HILF TEST METHOD (AS1289.5.7.1). THESE METHODS REQUIRE LESS THAN 20% RETAINED ON THE 37.5 mm SIEVE. WHERE BETWEEN 20% AND 30% OF PARTICLES ARE RETAINED ON THE 37.5 mm SIEVE THE ABOVE TEST METHODS SHALL STILL BE ADOPTED AND TEST REPORTS ANNOTATED APPROPRIATELY. THESE REQUIREMENTS SHOULD BE MET BY THE MATERIAL AFTER PLACEMENT AND COMPACTION
10. ALL THE EARTHWORKS UNDERTAKEN AND THE SUBGRADE CONDITION IN THE CUT AREAS (IN THE STATED PERIOD) ARE DOCUMENTED IN THE REPORTS AND HAVE BEEN UNDERTAKEN IN ACCORDANCE WITH THE SPECIFICATION.
11. PRIOR TO ANY EARTHWORKS, EROSION CONTROL AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE COMPLETED.
12. EXISTING ROCK, IF ANY, SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING.
13. MATCH EXISTING LEVELS AT BATTER INTERFACE.
14. CONTRACTOR TO MATCH EXISTING LEVELS AT THE INTERFACE OF EARTHWORKS AND EXISTING SURFACE AT BATTER LOCATIONS OR WHERE NO RETAINING WALLS ARE PRESENT. ANY DISCREPANCY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS.
15. DURING EARTHWORKS THE CONTRACTOR IS TO ENSURE ALL AREAS ARE FREE DRAINING & WILL NOT RETAIN WATER DURING RAINFALL. PROVIDE TEMPORARY MEASURES AS REQUIRED TO ENSURE FREE FLOWING RUNOFF THROUGH MANAGED DRAINAGE PATHS, DIVERSION DRAINS OR OTHER SUITABLE DISPOSAL METHOD AS AGREED DURING THE WORKS. REFER ANY CONCERNS TO THE ENGINEER. REFER TO EROSION AND SEDIMENT CONTROL DRAWINGS AND NOTES.

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY 'S1289001DT' PROVIDED BY LTS 29/03/21.

- 13.00 – EXISTING CONTOUR (0.2m INTERVAL)
- 13.00 – B.E.L. CONTOUR (MAJOR 0.5m)
- 13.10 – B.E.L. CONTOUR (MINOR 0.1m)
- 13.50 – B.E.L. SPOT LEVEL



NOMINATED B.E.L. DETAIL
NTS

EARTHWORKS VOLUMES ESTIMATE

EARTHWORKS VOLUMES:

CUT MATERIAL	= - 107m³
FILL MATERIAL	= + 16,275m³
DETAILED EXCAVATION	= - 3,860m³ (BASED ON 2,000m³/HA)
BALANCE	= + 12,308m³ (IMPORT)

EARTHWORKS VOLUMES ARE APPROXIMATE ONLY AND ARE CALCULATED ASSUMING EXISTING PAVEMENT AND BUILDING SLABS TO BE LEFT IN SITU. NO ALLOWANCE HAS BEEN MADE FOR EROSION AND SEDIMENT CONTROL, BULKING, COMPACTION OF FILLED SOILS.

REFER TO DRAWING DA20 FOR EROSION & SEDIMENT CONTROL PLAN.

THE EXISTING SURFACE IS BASED ON SURVEY 'S1289001DT' PROVIDED BY LTS 29/03/21.

LEVELS NOTE:

LEVELS SHOWN TO BE +/-500mm FROM THOSE SHOWN. FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY.

ALLOWANCES FOR STRUCTURE

	DEPTH OF PAVEMENT
INTERNAL	
WAREHOUSE	800mm
EXTERNAL	
HARDSTAND	280mm
LANDSCAPING	300mm

DEPTH RANGE

No.	FROM DEPTH	TO DEPTH	COLOUR
1	-1.000	-0.500	
2	-0.500	0.000	
3	0.000	0.500	
4	0.500	1.000	
5	1.000	1.500	
6	1.500	2.000	
7	2.000	2.500	
8	2.500	3.000	

CUT / FILL

2m 0 5 10 15 20 25m
SCALE 1:250 AT B1 SIZE SHEET

FOR INFORMATION

AMENDMENTS	DATE	ISSUE
FOR INFORMATION	15.12.21	B
PRELIMINARY ONLY	02.11.21	A

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CLIENT
Hale

PROJECT
INDUSTRIAL DEVELOPMENT
42 RAYMOND AVENUE, MATRAVILLE
NSW, 2036

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
DW	JB	NOV '21	DS	B1	AS SHOWN	C014452.00-DA 30

CONSULT AUSTRALIA

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Consulting Engineers ACN 003 696 448
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Walsh Bay, Sydney NSW 2000
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email: mail@costinroe.com.au ©

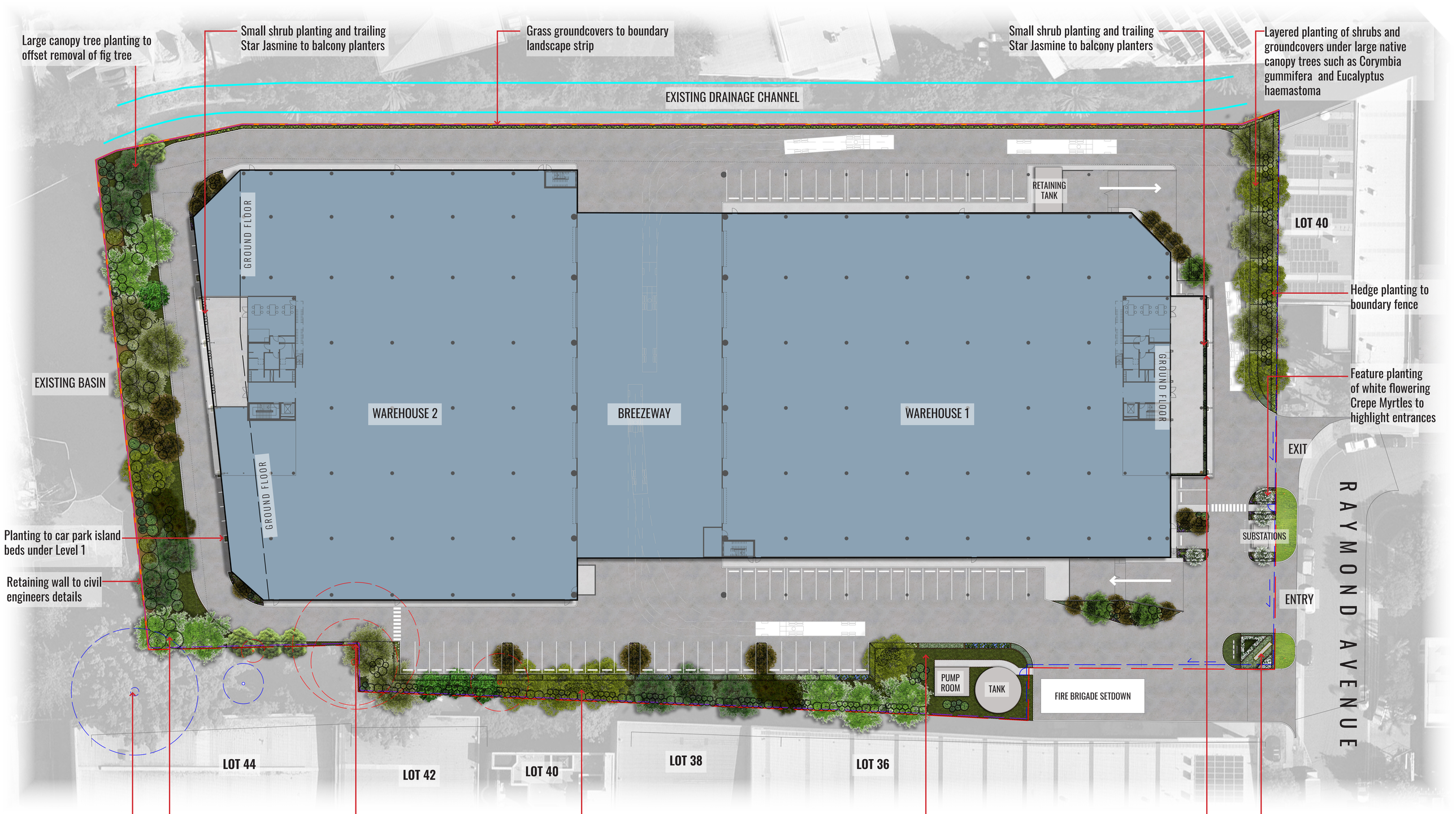
Costin Roe Consulting
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
BULK EARTHWORKS PLAN

DRAWING No. C014452.00-DA30 ISSUE B

Appendix B
DRG SSD-01 “Landscape Masterplan” by Geoscapes Landscape Architects

DRG SSD-07 “Planting Schedule & Imagery” by Geoscapes Landscape Architects



Drawing Title:

Landscape Masterplan

DWG No: **SSD-01**

GEOSCAPES
LANDSCAPE ARCHITECTS
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www.geoscapes.com.au
ABN 84 620 205 781 ACN 620 205 781

Architect: SBA ARCHITECTS

Project Manager: Hale

Scale: 1:300 @ A1, 1:600 @ A3

Date: 30.11.21

Job Number: 2111102

North:

Project: 42 Raymond Avenue, Matraville, NSW 2036

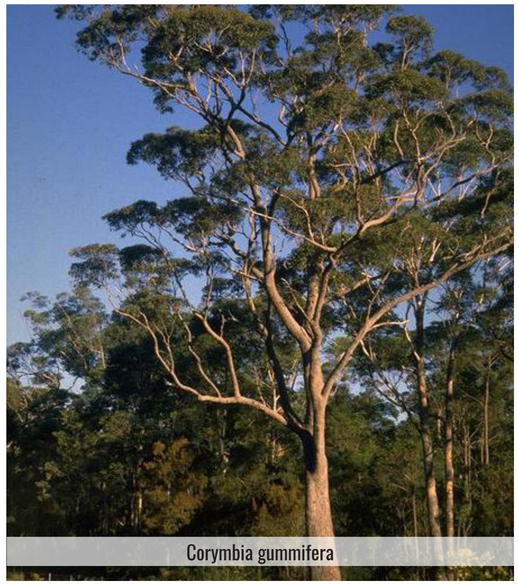
Revision		STATE SIGNIFICANT DEVELOPMENT		
Rev	Date	Description	Drawn	Checked
-	30.11.21	FOR INFORMATION	KC	BG

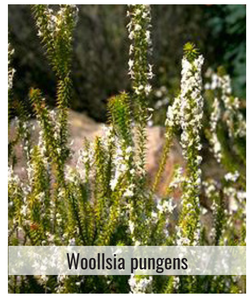
PLANTING SCHEDULE

Code	Botanical Name	Common Name	Mature Height	Native	Endemic	Spacing	Pot Size
Trees							
BAN AEM	*Banksia aemula*	Wallum Banksia	8m	✓	✓	As shown	75L
BAN INT	*Banksia integrifolia*	Coastal Banksia	4m	✓	✓	As shown	75L
BAN SER	*Banksia serrata*	Old Man Banksia	16m	✓	✓	As shown	75L
COR GUM	*Corymbia gummifera*	Red Bloodwood	20m	✓	✓	As shown	75L
ELA EUM	*Elaeocarpus eumundi*	Eumundi Quandong	12m	✓		As shown	75L
ELA RET	*Elaeocarpus reticulatus*	Blueberry Ash	3-15m	✓	✓	As shown	75L
EUC BOT	*Eucalyptus botryoides*	Bangalay	40m	✓	✓	As shown	75L
EUC HAE	*Eucalyptus haemastoma*	Broad-Leaved Scribbly Gum	12m	✓	✓	As shown	75L
EUC PIP	*Eucalyptus piperita*	Sydney Peppermint	12m	✓	✓	As shown	75L
LAG NAT	*Lagerstoemia indica 'Natchez'*	White Crepe Myrtle	6m			As shown	75L
TRI LAU	*Tristaniopsis laurina 'Luscious'*	Water Gum	8m	✓		As shown	75L
Shrubs							
ACA lon	*Acacia longifolia*	Long-Leaved Wattle	6m	✓	✓	As shown	200mm
AGA att	*Agave attenuata*	Fox Tail Agave	3m			As shown	200mm
AOT eri	*Aotus ericoides*	Aotus	2m	✓	✓	As shown	200mm
ACM smi	*Acmena smithii*	Lilly Pilly	5m	✓		1.25m Ctrs	200mm
ASP aus	*Asplenium australasicum*	Birds Nest Fern	1.5m			As shown	200mm
BRE obl	*Breynia oblongifolia*	Coffee Bush	3m	✓		As shown	200mm
BAN eri	*Banksia ericifolia*	Heath-Leaved Banksia	4m	✓	✓	As shown	200mm
BLE sil	*Blechnum 'Silver Lady'*	Dwarf Tree Fern	1.2m			As shown	200mm
DOR exc	*Doryanthes excelsa*	Gymea Lily	3m	✓		As shown	200mm
ISO ane	*Isopogon anemonifolius*	Broad-Leaved Drumsticks	1m	✓	✓	As shown	200mm
LEP lae	*Leptospermum laevigatum*	Coast Tea Tree	1.5-6m	✓	✓	1m Ctrs	200mm
MEL nod	*Melaleuca nodosa*	Prickly-Leaved Paperbark	3m	✓	✓	As shown	200mm
MIC mus	*Microsorum musifolium*	Crocodile Fern	1.2m			As shown	200mm
MON ell	*Monotoca elliptica*	Tree Broom Heath	4m	✓	✓	As shown	200mm
PIM lin	*Pimelea linifolia*	Slender Riceflower	1.5m	✓	✓	As shown	200mm
PHI bux	*Philotheca buxifolia*	Wax Flower	1.3m	✓	✓	As shown	200mm
RIC pin	*Ricinocarpos pinifolius*	Wedding Bush	1m	✓	✓	As shown	200mm
WOO pun	*Woollsia pungens*	Snow Wreath	0.6m	✓	✓	As shown	200mm
Grasses + Groundcover							
DAM lin	*Dampiera linearis 'Cobalt Mound'*	Dampiera	0.3m	✓		3/m2	140mm
DAM str	*Dampiera stricta*	Dampiera	0.4m	✓	✓	5/m2	140mm
DIA rev	*Dianella revoluta*	Flax Lily	0.5m	✓	✓	5/m2	Tubestock
GAR oso	*Gardenia augusta 'O So Fine'*	Common Gardenia	0.3m			3/m2	140mm
IMP cyl	*Imperata cylindrica*	Cogon Grass	1m	✓	✓	5/m2	Tubestock
LIR isa	*Liriope muscari 'Isabella'*	Lily-Turf	0.3m			5/m2	140mm
LOM tan	*Lomandra longifolia*	Mat Rush	0.6m	✓	✓	5/m2	Tubestock
LOM gla	*Lomandra glauca*	Mat Rush	0.5m	✓	✓	5/m2	Tubestock
MYO par	*Myoporum parvifolium 'Yareena'*	Creeping Boobialla	0.2m			3/m2	140mm
POM umb	*Pomax umbellata*	Pomax	0.4m	✓	✓	5/m2	Tubestock
PTE escu	*Pteridium esculentum*	Bracken Fern	0.5-2m	✓	✓	5/m2	Tubestock
SCA aem	*Scaevola aemula*	Fan Flower	0.4m			3/m2	140mm
SEN ser	*Senecio serpens*	Blue Chalksticks	0.3m			3/m2	140mm
THE aus	*Themeda australis*	Kangaroo Grass	1.5m	✓	✓	5/m2	Tubestock
TRA jas	*Trachelospermum jasminoides*	Star Jasmine	0.5m			3/m2	140mm
XAN res	*Xanthorrhoea resinosa*	Grass Tree	1m	✓	✓	5/m2	Tubestock

**Plant numbers to be finalised at Detailed Design / CC-Tender stage*

PLANT IMAGES


Corymbia gummifera


Woollsia pungens


Dampiera stricta


Scaevola aemula


Ricinocarpos pinifolius


Eucalyptus haemastoma


Philotheca buxifolia


Aotus ericoides


Pomax umbellata


Liriope muscari 'Isabella'


Pimelea linifolia


Elaeocarpus eumundi


Dianella revoluta


Myoporum parvifolium 'Yareena'


Banksia integrifolia

Drawing Title:

Planting Schedule & Imagery

DWG No: **SSD-07**

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Architect: SBA ARCHITECTS

Project Manager: Hale

Scale:	Date:	Job Number:	North:
N/A	30.11.21	2111102	N/A

Project: 42 Raymond Avenue, Matraville, NSW 2036

Revision — STATE SIGNIFICANT DEVELOPMENT

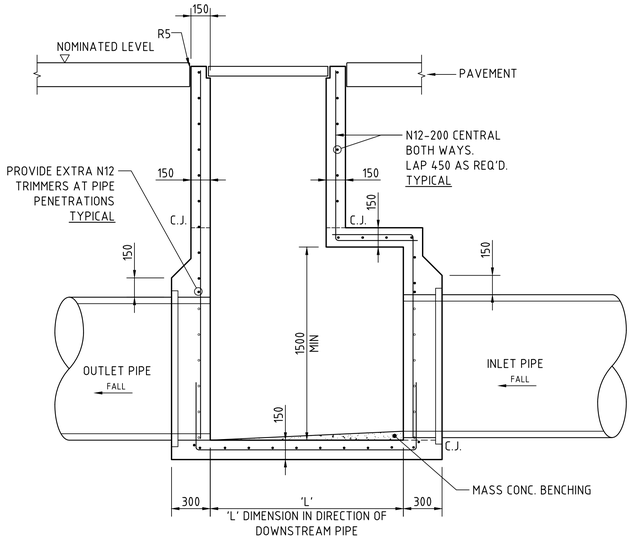
Rev	Date	Description	Drawn	Checked
-	30.11.21	FOR INFORMATION	KC	BG

Appendix C
DRG C014452.00-DA40-A “Stormwater Drainage Plan – Ground Floor” by Costin Roe Consulting

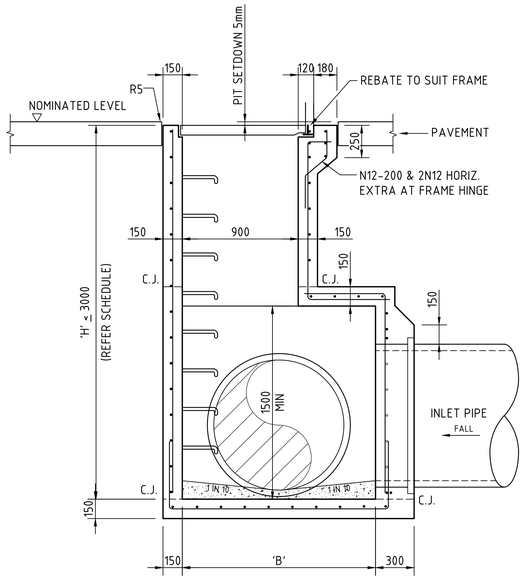
RG C014452.00-DA41-A “Stormwater Drainage Plan – Level 1” by Costin Roe Consulting

DRG C014452.00-DA45-A “Stormwater Drainage Details – Sheet 1” by Costin Roe Consulting

DRG C014452.00-DA45-A “Stormwater Drainage Details – Sheet 2” by Costin Roe Consulting



LONG SECTION
SCALE 1:20



CROSS SECTION
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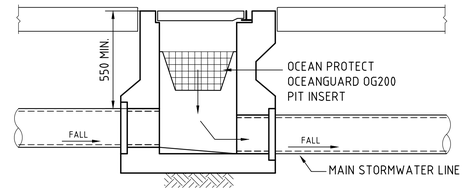
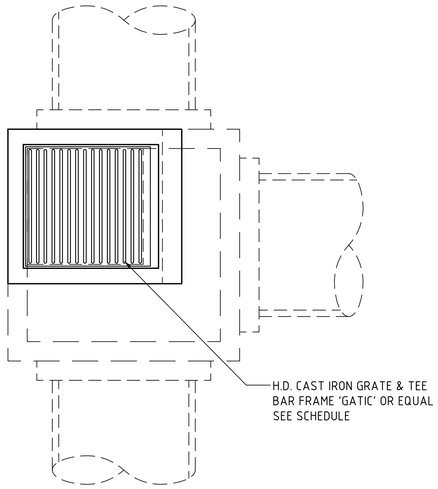
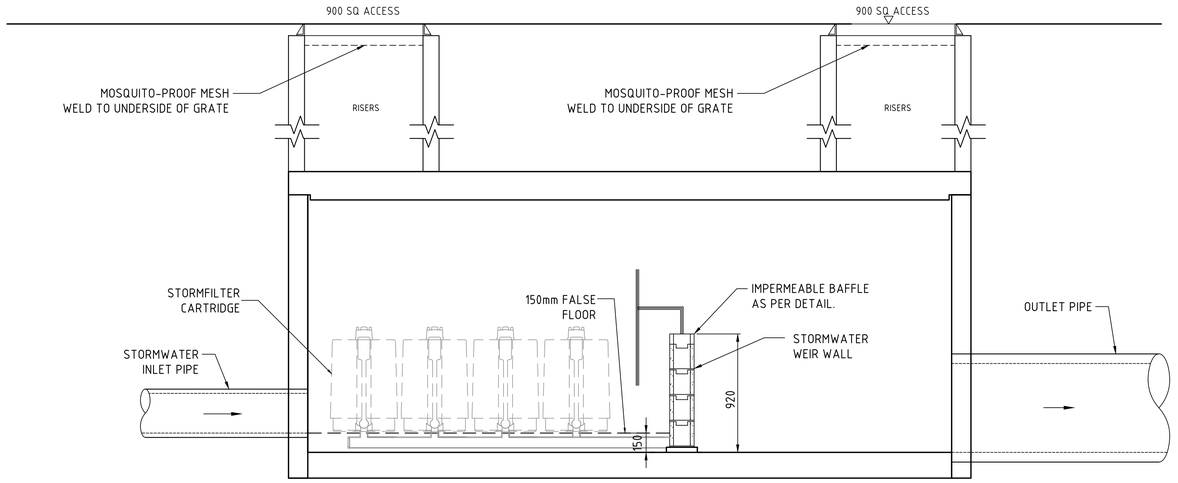


STORMWATER PIT WITH OCEANGUARD
CONFIGURATION



PLAN
SCALE 1:20

TAPERED SINGLE GRATED GULLY PIT - SGGP
SUBSOIL NOT SHOWN
FOR CLARITY



STORMFILTER CHAMBER TYPICAL DETAIL
SCALE 1:20

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT B1 SIZE SHEET

PRELIMINARY ONLY

AMENDMENTS	DATE	ISSUE
PRELIMINARY ONLY	02.12.21	A

AMENDMENTS	DATE	ISSUE

ARCHITECT: SBA ARCHITECTS

CLIENT: Hale

PROJECT
INDUSTRIAL DEVELOPMENT
42 RAYMOND AVENUE, MATRAVILLE
NSW, 2036

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
DW	JB	NOV' 21	DS	B1	AS SHOWN	C014452.00-DA46

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DRAWING TITLE
STORMWATER DRAINAGE DETAILS
SHEET 2

DRAWING No: C014452.00-DA46
ISSUE: A

NOTE:
ALL SITE REDUNDANT CONNECTIONS TO THE SYDNEY WATER STORMWATER CHANNEL ARE TO BE DECOMMISSIONED.

DISCHARGE POINT
PROVIDE NEW CONNECTION TO EXISTING SYDNEY WATER CHANNEL FOR SITE DISCHARGE. SITE DISCHARGE AT IL2.30. TBC ON SITE. MAKE GOOD CONNECTION TO THE SATISFACTION OF SYDNEY WATER

BREAK IN KERB FOR OVERLAND FLOW

STORMWATER MANAGEMENT DEVICE
UNDERGROUND TANK WITH OCEAN PROTECT 690mm PSORB STORMFILTER UNITS OR AN APPROVED EQUIVALENT WATER QUALITY TREATMENT DEVICE
PROVIDE TANK VOLUME = 20m3
NUMBER OF STORMFILTER CARTRIDGES = 26
REFER TO DA46 FOR DETAILS

SYDNEY WATER STORMWATER CHANNEL

BREAK IN KERB FOR OVERLAND FLOW

PROPOSED 50kL ABOVE GROUND RAINWATER TANK. TBC BY HYDRAULIC ENGINEER

PROVIDE AERIAL LINE TO COLLECT WAREHOUSE ROOFWATER & DRAINAGE TO RWT

LEVEL 1 SLUNG DRAINAGE TO PASS OVER RAINWATER TANK

RAMP ABOVE

PORTION OF ROOF AREA RUNOFF TO RAINWATER TANK = 2300m² MIN.

EXISTING STORMWATER DISCHARGE PIPE TO BE DECOMMISSIONED

EXISTING STORMWATER DISCHARGE PIPE TO BE DECOMMISSIONED

EXISTING STORMWATER DISCHARGE PIPE TO BE DECOMMISSIONED

RETAINING WALL

GROUND FFL RL 7.32

GROUND FFL RL 7.32

PROPOSED RACKING FOR CLIENT REVIEW

GROUND FLOOR HARDSTAND

WH.02 4,164 m² RL.7.32

WH.01 4,541 m² RL.7.32

PARKING (16)

PARKING (14)

PARKING (38)

CAR & TRUCK ENTRY

FIRE SERVICES

PUMP ROOM

TANK

FIRE BRIGADE SETDOWN

LANDSCAPE AREA

LANDSCAPE AREA TO BATTER TO TOP OF EXISTING PLANTER BOX. NO FILLING AGAINST ADJACENT BUILDING WALL IS TO occur.

HEAVY DUTY VEHICULAR CROSSOVER PER CITY OF SYDNEY COUNCIL SPECIFICATION

RAYMOND AVENUE

2 STOREY BRICK

30 SEC. B DP 8313

ROOFWATER LINES TO HAVE NOMINAL 0.5% FALL TO PITS. ENSURE MINIMUM 600 COVER IS MAINTAINED TO ALL PIPES. REFER ALL CONCERN TO ENGINEER. MIN Ø225 uPVC AND Ø300 WHEN MAX 3 DPs ARE CONNECTED U.N.O. ON PLAN. TYPICAL

PIT C05 PIT C07 PIT C08 PIT A14 PIT B09 PIT B08 PIT B07 PIT B06 PIT B04 PIT B05 PIT B03 PIT B02 PIT B01
PIT C04 PIT A13 PIT A12 PIT B10
PIT C09 PIT A11
PIT C03 PIT A10
PIT C02 PIT A09
PIT C01
PIT A06 PIT A07 PIT A08 PIT A05 PIT A04 PIT A02 PIT A01
PIT A03

Ø450 Ø525 Ø600 Ø375 Ø300 Ø750 Ø675

STORMWATER DRAINAGE NOTES:

1. ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE.
2. THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 20 YEAR ARI STORM EVENT AND THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR ARI STORM EVENT.
3. ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS DA50 / DA51.
4. PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
5. EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
6. ALL STORMWATER PIPES Ø375 OR GREATER SHALL BE CLASS 2 (WITH HS2 SUPPORT) REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
7. ALL PIPES UP TO AND INCLUDING Ø300 TO BE uPVC GRADE SN8 UNO.
8. PIPE CLASS NOMINATED ARE FOR IN-SERVICE LOADING CONDITIONS ONLY. CONTRACTOR IS TO MAKE ANY NECESSARY ADJUSTMENTS REQUIRED FOR CONSTRUCTION CONDITIONS.
9. ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTERED IN WALL AND BASE. LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE F'c=25 MPa. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
10. IN ADDITION TO ITEM 6 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
11. PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER SUITABLE TAMPING DETAILS.
12. CONCRETE PIPES UNDER, OR WITHIN THE ZONE OF INFLUENCE OF PAVED AREAS SHALL BE LAID USING HS2 TYPE SUPPORT, AS A MINIMUM, IN ACCORDANCE WITH AS 3725. AGGREGATE BACKFILL SHALL NOT BE USED FOR PIPE BEDDING AND OR HAUNCH/SIDE SUPPORT.
13. WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED Ø100 uPVC TO EACH SIDE OF PIPE.
14. ALL SUBSOIL DRAINAGE LINES SHALL BE Ø100 SLOTTED uPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR 1 IN 200 MINIMUM. PROVIDE CAPPED CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT/ LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
15. ALL PIPE GRADES 1 IN 200 MINIMUM UNO.
16. PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
17. MIN. 600 COVER TO PIPE OBVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
18. PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY', THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' U.N.O.
19. PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
20. DOWN PIPES (DP) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP SIZE U.N.O. ON PLAN. PROVIDE CLEANING EYE AT GROUND LEVEL.
21. PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.
22. WHERE CONNECTION TO EXISTING INGROUND DRAINAGE SYSTEMS, OPEN SWALES, CHANNELS OR ANY OTHER EXISTING SYSTEM, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION AND INVERT ON SITE AT THE BEGINNING OF THE CONSTRUCTION PERIOD. REFER ANY VARIANCE FROM DOCUMENTATION OR SURVEYS TO THE ENGINEER FOR CLARIFICATION.

STORMWATER DRAINAGE PLAN
SCALE 1:250

NOTE:
PITS TO BE FITTED WITH OCEAN PROTECT OCEAN GUARD OG200 PIT INSERTS SHOWN THUS ◇
TOTAL NO OF PIT INSERTS = 29
REFER TO PIT SCHEDULE ABOVE

LEVELS NOTE:
LEVELS SHOWN TO BE +/-500mm FROM THOSE SHOWN. FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY.

LEGEND:
LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY 'S1289001DT' PROVIDED BY LTS DATED 29/03/21.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- sw> PROPOSED DRAINAGE LINE
- EXISTING DRAINAGE LINE
- DP ROOFWATER DOWNPIPE (INDICATIVE)
- rw> ROOFWATER LINE
- ss> SUBSOIL LINE
- OVERLAND FLOW DIRECTION
- 50.00 FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.10 FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS

2m 0 5 10 15 20 25m
SCALE 1:250 AT B1 SIZE SHEET

PRELIMINARY ONLY

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CLIENT: Hale

PROJECT: INDUSTRIAL DEVELOPMENT
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NSW, 2036

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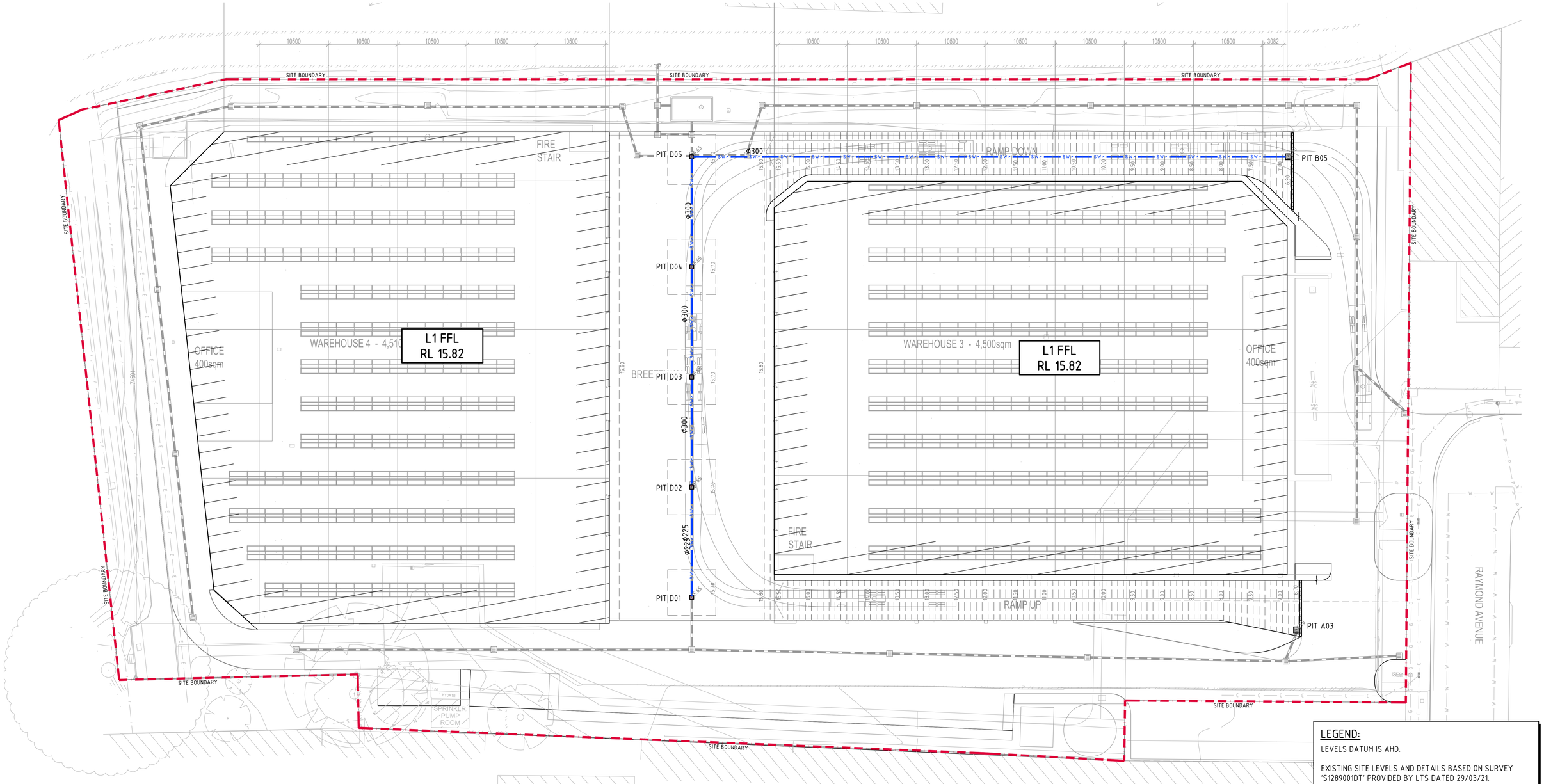
DRAWING TITLE: STORMWATER DRAINAGE PLAN GROUND LEVEL
DRAWING No: C014452.00-DA40
ISSUE: A



STORMWATER DRAINAGE PLAN - LEVEL 1

SCALE 1:250

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY 'S1289001DT' PROVIDED BY LTS DATED 29/03/21.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- PROPOSED DRAINAGE LINE
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS

NOTES:

1. REFER TO DRAWING C40 FOR STORMWATER DRAINAGE NOTES.

2m 0 5 10 15 20 25m

SCALE 1:250 AT B1 SIZE SHEET

PRELIMINARY ONLY

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NSW, 2036

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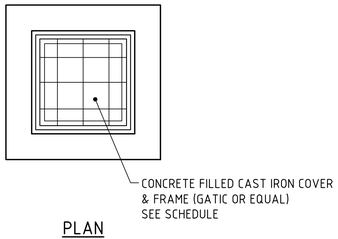
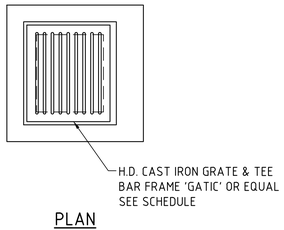
DRAWING TITLE: STORMWATER DRAINAGE PLAN LEVEL 1

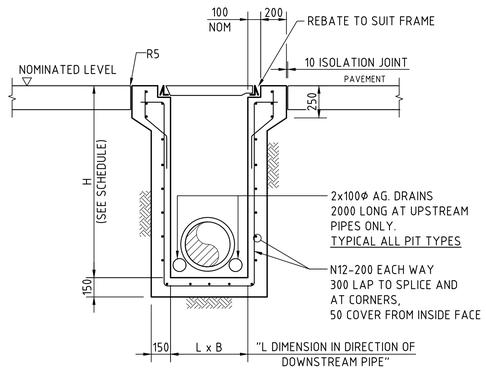
DRAWING No. C014452.00-DA41 ISSUE A



PLAN
SCALE 1:20

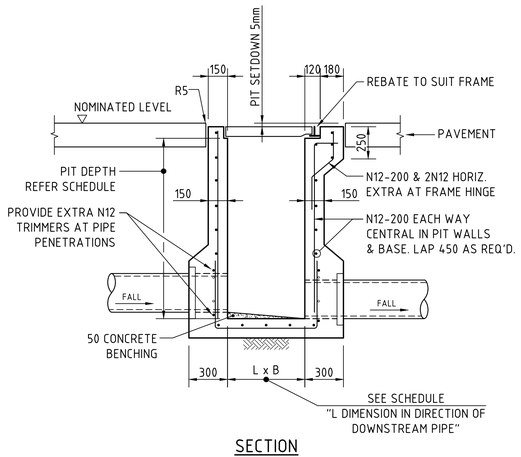


PLAN
SCALE 1:20



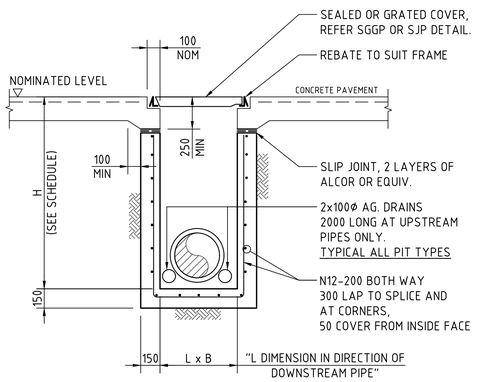
SECTION
SCALE 1:20

SEALED PIT - SJP



SECTION
SCALE 1:20

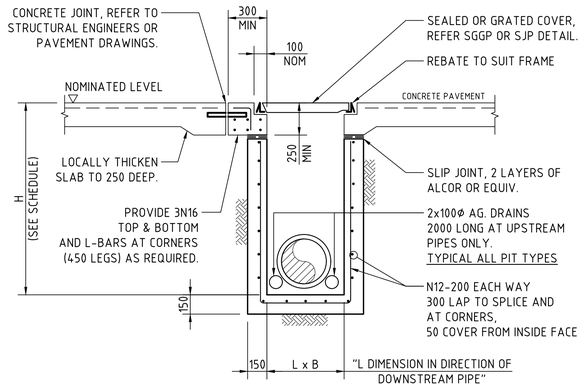
SINGLE GRATED GULLY PIT - SGGP



SECTION
SCALE 1:20

SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL
GRATE/COVER SUPPORT
CAST-INTO PAVEMENT SLAB

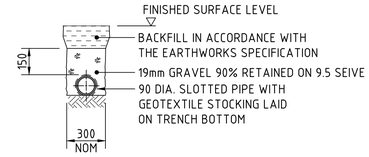
(ADOPT IN CONCRETE PAVEMENTS FOR SGGP's & SJP's, WHERE JOINTS ARE NOT LOCATED WITHIN PROXIMITY OF THE GRATE)



SECTION
SCALE 1:20

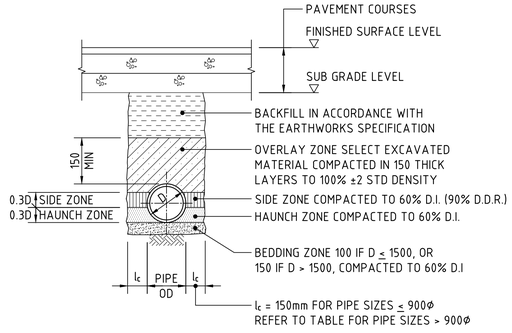
SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL
GRATE/COVER SUPPORT
CAST-INTO PAVEMENT SLAB

(ADOPT IN CONCRETE PAVEMENT FOR SGGP's & SJP's, WHERE PITS ARE LOCATED IN THE CORNER OF SLAB PANELS OR ADJACENT TO SLAB PANEL JOINTS)

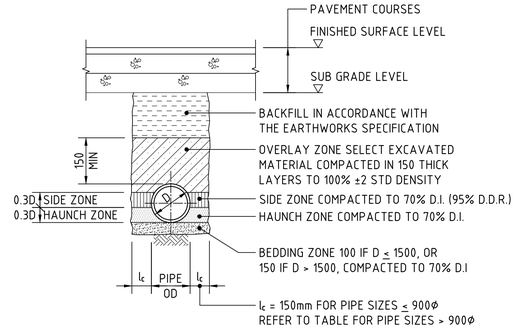


SUPPORT TO AGRICULTURAL DRAIN
SCALE 1:20

SIDE ZONE MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
9.5	100 TO 50
2.6	100 TO 30
0.60	50 TO 15
0.075	25 TO 0



TYPE HS2 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT
SCALE 1:20
D ≤ 1350, MAX FILL = 4.0m
D > 1350, MAX FILL = 3.0m

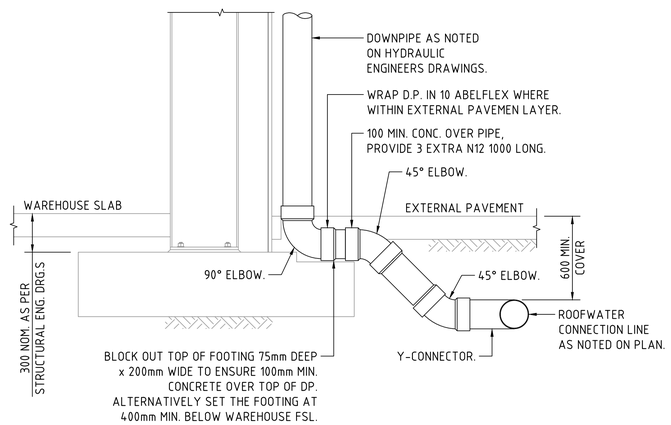


TYPE HS3 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT
SCALE 1:20
D ≤ 1050, MAX FILL = 6.0m
D > 1050, MAX FILL = 4.8m

BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 50
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

SIDE ZONE WIDTH	
PIPE SIZE (mm)	l_c (mm)
≤ 900ø	150
1050ø	175
1200ø	200
1350ø	225
1500ø	250
1650ø	275
1800ø	300
ENGINEER TO SPECIFY TRENCH WIDTHS FOR PIPE SIZES GREATER THAN 1800ø	

SIDE ZONE MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
9.5	100 TO 50
2.6	100 TO 30
0.60	50 TO 15
0.075	25 TO 0
SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725	



DOWNPIPE TURN-UP DETAIL A
(AT FOOTING LOCATION)
SCALE 1:20

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT B1 SIZE SHEET

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DRAWING TITLE: STORMWATER DRAINAGE DETAILS SHEET 1

DRAWING No: C014452.00-DA45 ISSUE: A