LAND DEVELOPMENT CERTIFICATES

27th August 2024

Our Ref: 23/241/1
Portal Ref: CFT-570968

The Minister for Planning and Public Places
Department of Planning, Industry and Environment
Locked Bag 5022
Parramatta NSW 2124

Dear Sir,

Notice of issue of Subdivision Works Certificate

Pursuant to s.33(2)(b) of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021, notice of the issue of a Subdivision Works Certificate is provided.

Subdivision Works Certificate 18082 and associated documents, relating to roads and drainage works, issued under development consent SSD-9138102 for Westlink Stage 1 have been uploaded to the NSW Planning Portal (ref CFT-570968) as required by legislation.

Please do not hesitate to contact our office should you require any further information relating to the certification work undertaken or the documentation accompanying this notification.

Yours faithfully,

Eric Hausfeld
Registered Certifier
Registration No. BDC2416

LAND DEVELOPMENT CERTIFICATES

Certificate Number:
18082

Subdivision Works Certificate

Certificate Date:	27/08/2024
Applicant:	ESR Developments (Australia) Pty Ltd
Development Consent:	SSD-9138102 dated 21/04/2023 SSD-9138102-Mod-2 dated 10/07/2024
Subject Land:	Lot 111 DP1296469; Lot 112 DP1296469
Description of Subdivision Work:	Earthworks, roadworks, road pavement, stormwater drainage works.
Plans & Specifications in relation to which the Subdivision Works Certificate is issued:	Refer to Schedule 1 for a list of the plans and specifications to which this certificate relates.
Other Documents:	Refer to Schedule 2 for a list of other documents supporting the application.
Notes:	Refer to Schedule 3 for notes applying to this certificate.
Certification Statement:	I certify that work completed in accordance with the plans and specifications listed in Schedule 1 will comply with the relevant requirements of s 6.12 of the Environmental Planning and Assessment Act 1979.

Eric Hausfeld
Registered Certifier
Registration No. BDC2416

Schedule 1

Plans & Specifications prepared by:	at&l
Reference:	20-748

Drawing	Revision	Date	Description
C13000	A	20/08/2024	Cover Sheet and Locality Plan
C13001	A	20/08/2024	Drawing List
C13002	A	20/08/2024	General Notes Sheet 1
C13003	A	20/08/2024	General Notes Sheet 2
C13005	A	20/08/2024	General Arrangement Plan
C13010	A	20/08/2024	Road Sections Sheet 1
C13011	A	20/08/2024	Road Sections Sheet 2
C13012	A	20/08/2024	Road Sections Sheet 3
C13013	A	20/08/2024	Road Sections Sheet 4
C13015	A	20/08/2024	Road Details Sheet 1
C13020	A	20/08/2024	Site Sections Sheet 1
C13025	A	20/08/2024	Site Details Sheet 1
C13031	A	20/08/2024	Roadworks and Stormwater Drainage Plan Sheet 1
C13032	A	20/08/2024	Roadworks and Stormwater Drainage Plan Sheet 2
C13033	A	20/08/2024	Roadworks and Stormwater Drainage Plan Sheet 3
C13034	A	20/08/2024	Roadworks and Stormwater Drainage Plan Sheet 4
C13035	A	20/08/2024	Roadworks and Stormwater Drainage Plan Sheet 5
C13036	A	20/08/2024	Roadworks and stormwater Drainage Plan Sheet 6
C13037	A	20/08/2024	Roadworks and Stormwater Drainage Plan Sheet 7
C13038	A	20/08/2024	Roadworks and Stormwater Drainage Plan Sheet 8
C13041	A	20/08/2024	Intersection Plan Sheet 1
C13042	A	20/08/2024	Intersection Plan Sheet 2
C13043	A	20/08/2024	Intersection Plan Sheet 3
C13044	A	20/08/2024	Intersection Plan Sheet 4
C13045	A	20/08/2024	Control Line Setout Plan
C13050	A	20/08/2024	Abbotts Road (MC01) Longitudinal Sections Sheet 1
C13051	A	20/08/2024	Abbotts Road (MC01) Longitudinal Sections Sheet 2
C13052	A	20/08/2024	Private Access Road (MC04) Longitudinal Section Sheet 1
C13061	A	20/08/2024	Abbotts Road (MC01) Cross Sections Sheet 1
C13062	A	20/08/2024	Abbotts Road (MC01) Cross Sections Sheet 2
C13063	A	20/08/2024	Abbotts Road (MC01) Cross Sections Sheet 3
C13064	A	20/08/2024	Private Access Road (MC04) Cross Sections
C13070	A	20/08/2024	Interim Detention Basin and Reuse Pond Detail Plan
C13071	A	20/08/2024	Ultimate Detention Basin Detail Plan
C13072	A	20/08/2024	Detention Basin & Pond Sections
C13075	A	20/08/2024	Stormwater Management Plan Interim Arrangement
C13080	A	20/08/2024	Stormwater Drainage Overall Catchment Plan (Pre-Developed)
C13081	A	20/08/2024	Stormwater Drainage Overall Catchment Plan (Stage 1 Post Developed)
C13082	A	20/08/2024	Stormwater Drainage Catchment Plan Sheet 1
C13083	A	20/08/2024	Stormwater Drainage Catchment Plan Sheet 2
C13084	A	20/08/2024	Stormwater Drainage Catchment Plan Sheet 3
C13085	A	20/08/2024	Stormwater Drainage Catchment Plan Sheet 4
C13086	A	20/08/2024	Stormwater Drainage Catchment Plan Sheet 5

Schedule 1

Plans & Specifications prepared by:	at&l
Reference:	20-748

Drawing	Revision	Date	Description
C13087	A	20/08/2024	Stormwater Drainage Catchment Plan Sheet 6
C13088	A	20/08/2024	Stormwater Drainage Catchment Plan Sheet 7
C13091	A	20/08/2024	Stormwater Drainage Details Sheet 1
C13092	A	20/08/2024	Stormwater Drainage Details Sheet 2
C13093	A	20/08/2024	Stormwater Drainage Details Sheet 3
C13094	A	20/08/2024	Stormwater Drainage Details Sheet 4
C13096	A	20/08/2024	Basin Detention Outlet Pit Details BB-1
C13097	A	20/08/2024	Basin Headwall Outlet Details AA-13
C13098	A	20/08/2024	Basin Spillway Details
C13101	A	20/08/2024	Stormwater Drainage Longitudinal Sections Sheet 1
C13102	A	20/08/2024	Stormwater Drainage Longitudinal Sections Sheet 2
C13103	A	20/08/2024	Stormwater Drainage Longitudinal Sections Sheet 3
C13104	A	20/08/2024	Stormwater Drainage Longitudinal Sections Sheet 4
C13105	A	20/08/2024	Stormwater Drainage Longitudinal Sections Sheet 5
C13106	A	20/08/2024	Stormwater Drainage Longitudinal Sections Sheet 6
C13107	A	20/08/2024	Stormwater Drainage Calculations Sheet 1
C13108	A	20/08/2024	Stormwater Drainage Calculations Sheet 2
C13109	A	20/08/2024	Stormwater Drainage Calculations Sheet 3
C13110	A	20/08/2024	Stormwater Drainage Calculations Sheet 4
C13111	A	20/08/2024	Stormwater Drainage Pit Setout Details Sheet 1
C13112	A	20/08/2024	Stormwater Drainage Pit Setout Details Sheet 2
C13113	A	20/08/2024	Stormwater Drainage Pit Setout Details Sheet 3
C13121	A	20/08/2024	Pavement and Surface Treatment Plan Sheet 1
C13122	A	20/08/2024	Pavement and Surface Treatment Plan Sheet 2
C13123	A	20/08/2024	Pavement and Surface Treatment Plan Sheet 3
C13124	A	20/08/2024	Pavement and Surface Treatment Plan Sheet 4
C13125	A	20/08/2024	Pavement and Surface Treatment Plan Sheet 5
C13126	A	20/08/2024	Pavement and Surface Treatment Plan Sheet 6
C13127	A	20/08/2024	Pavement and Surface Treatment Plan Sheet 7
C13128	A	20/08/2024	Pavement and Surface Treatment Plan Sheet 8

Plans & Specifications prepared by:	Atlan
Reference:	54534

Drawing	Revision	Date	Description
C.02.10.GA	3	11/07/2024	Atlan Filter Vault System SV.5023.1464-8-60.30 General Arrangement
F.01.10.GA	2	05/07/2024	Atlan Vorticeptor OVOR. 1200.R General Arrangement

Schedule 1

Plans & Specifications prepared by:	Triaxial
Reference:	TX7668.00

Drawing	Revision	Date	Description
S1.01	1	11/07/2024	Cover Sheet and Drawing List
S1.02	1	11/07/2024	General Notes
S2.01	3	31/07/2024	Stormwater Pit Base Plans
S2.02	3	31/07/2024	Stormwater Pit Roof Plan
S2.03	1	31/07/2024	Pit BB-1 Base Plan
S2.11	2	31/07/2024	Stormwater Pit Typical Details Sheet 1
S2.12	1	11/07/2024	Stormwater Pit Typical Details Sheet 2
S2.13	1	31/07/2024	Stormwater Pit Typical Details Sheet 3

Schedule 2

Other Documents

1. Subdivision Works Certificate Application CFT-570968.
2. at&l *Design Certificate* (Ref CER005-02020-748, dated 27/08/2024).
3. Triaxial Consulting *Structural Design Certification* (Ref TX17668.00-01.roc.cert.docx, dated 01/08/2024).
4. ESR letter *Utility Authority Consultation* dated 21/08/2024.
5. Douglas Partners *Report on Preliminary Pavement Thickness Design Report* (Rev 0, dated 23/07/2024).
6. Long Service Levy Receipt No. L0000116916.
7. NBN *Post Execution Letter* dated 17/11/2021.
8. Penrith City Council email (Condition B13 Street Trees) dated 25/07/2024.
9. Sydney Water email (Passively Irrigated Street Trees) dated 19/08/2024.
10. Department of Planning, Housing & Infrastructure approval letter (Condition B25 & B30), (Ref: SSD-9138102-PA-32 dated 12/06/2024).
11. Department of Planning, Housing & Infrastructure approval letter (Condition B28), (Ref: SSD-9138102-PA-32, dated 04/08/2023).
12. Blackash *Bushfire Requirements* dated 12/08/2024.
13. Department of Planning, Housing & Infrastructure letter (Condition C2), (Ref: SSD-9138102-PA-38, dated 26/06/2024).
14. Penrith City Council *Section 138 Roads Act Approval* (Ref: EA23/0017, dated 03/07/2024).
15. Penrith City Council email (S138 Roads Act approval) dated 25/07/2024.

Schedule 3

Notes

1. This certificate relates to part subdivision works for internal roads and drainage.
2. This certificate does not include trunk drainage, external road works, irrigation system, part stage 1 trunk drainage pipe (eastern boundary), line marking and signage and landscaping works. These works are subject the issue of a further Subdivision Works Certificate.
3. Refer to Subdivision Works Certificates 17365, 17406, 17414, 17548, 17609 and 17683 for plans and specifications relating to early-stage subdivision works.
4. Refer to Penrith City Council *Section 138 Roads Act Approval* (Ref: EA23/0017, dated 03/07/2024), as modified by Council email sent 25/07/2024, 4:46:44 pm, for plans and specifications for works within Abbots Road.
5. Refer to service provider approvals for plans and specifications for utility works.
6. This certificate does not authorise commencement of works. The requirements of s 6.12 of the Act are to be met prior to commencement of works.

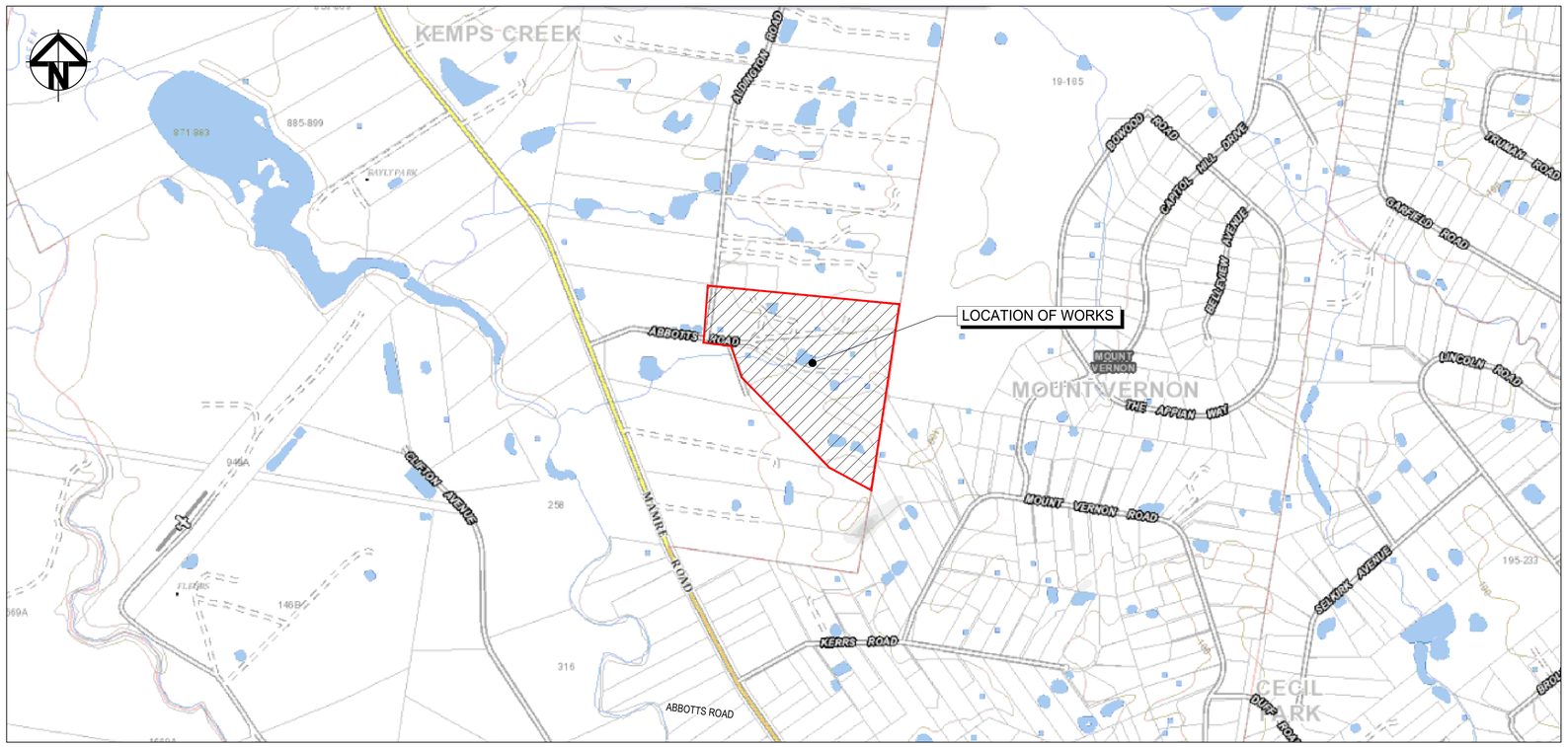
WESTLINK - KEMPS CREEK

CIVIL WORKS PACKAGE -

INFRASTRUCTURE WORKS - STAGE 1

STATE SIGNIFICANT DEVELOPMENT APPLICATION

RTS-SSD-9138102



LOCALITY PLAN
NTS

LDC
Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

100mm on Original

Client: ESR

Scales: N.T.S.
Grid: MGA2020
Height Datum: AHD

Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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

Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: COVER SHEET AND LOCALITY PLAN

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 CONSTRUCTION
A1

Project - Drawing No.: 20-748-C13000
Issue: A

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13000.dwg

DRAWING LIST

DRAWING No.	DRAWING TITLE
REFERENCE DRAWINGS	
20-748-C13000	COVER SHEET AND LOCALITY PLAN
20-748-C13001	DRAWING LIST
20-748-C13002	GENERAL NOTES SHEET 1
20-748-C13003	GENERAL NOTES SHEET 2
20-748-C13005	GENERAL ARRANGEMENT PLAN
TYPICAL ROAD SECTIONS AND DETAILS	
20-748-C13010	ROAD SECTIONS SHEET 1
20-748-C13011	ROAD SECTIONS SHEET 2
20-748-C13012	ROAD SECTIONS SHEET 3
20-748-C13013	ROAD SECTIONS SHEET 4
20-748-C13015	ROAD DETAILS SHEET 1
TYPICAL SITE SECTIONS AND DETAILS	
20-748-C13020	SITE SECTIONS SHEET 1
20-748-C13025	SITE DETAILS SHEET 1
ROADWORKS AND STORMWATER PLANS	
20-748-C13031	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 1
20-748-C13032	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 2
20-748-C13033	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 3
20-748-C13034	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 4
20-748-C13035	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 5
20-748-C13036	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 6
20-748-C13037	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 7
20-748-C13038	ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 8
INTERSECTION PLANS	
20-748-C13041	INTERSECTION PLAN SHEET 1
20-748-C13042	INTERSECTION PLAN SHEET 2
20-748-C13043	INTERSECTION PLAN SHEET 3
20-748-C13044	INTERSECTION PLAN SHEET 4
CONTROL LINE PLAN	
20-748-C13045	CONTROL LINE SETOUT PLAN
ROAD LONGITUDINAL SECTIONS	
20-748-C13050	ABBOTTS ROAD (MC01) LONGITUDINAL SECTIONS SHEET 1
20-748-C13051	ABBOTTS ROAD (MC01) LONGITUDINAL SECTIONS SHEET 2
20-748-C13052	PRIVATE ACCESS ROAD (MC04) LONGITUDINAL SECTION SHEET 1
ROAD CROSS SECTIONS	
20-748-C13061	ABBOTTS ROAD (MC01) CROSS SECTIONS SHEET 1
20-748-C13062	ABBOTTS ROAD (MC01) CROSS SECTIONS SHEET 2
20-748-C13063	ABBOTTS ROAD (MC01) CROSS SECTIONS SHEET 3
20-748-C13064	PRIVATE ACCESS ROAD (MC04) CROSS SECTIONS
DETENTION BASIN PLAN AND DETAILS	
20-748-C13070	INTERIM DETENTION BASIN AND REUSE POND DETAIL PLAN
20-748-C13071	ULTIMATE DETENTION BASIN DETAIL PLAN
20-748-C13072	DETENTION BASIN & POND SECTIONS
STORMWATER DRAINAGE MANAGEMENT PLAN	
20-748-C13075	STORMWATER MANAGEMENT PLAN INTERIM ARRANGEMENT

DRAWING LIST

DRAWING No.	DRAWING TITLE
STORMWATER DRAINAGE CATCHMENT PLANS	
20-748-C13080	STORMWATER DRAINAGE OVERALL CATCHMENT PLAN (PRE-DEVELOPED)
20-748-C13081	STORMWATER DRAINAGE OVERALL CATCHMENT PLAN (STAGE 1 - POST-DEVELOPED)
20-748-C13082	STORMWATER DRAINAGE CATCHMENT PLAN SHEET 1
20-748-C13083	STORMWATER DRAINAGE CATCHMENT PLAN SHEET 2
20-748-C13084	STORMWATER DRAINAGE CATCHMENT PLAN SHEET 3
20-748-C13085	STORMWATER DRAINAGE CATCHMENT PLAN SHEET 4
20-748-C13086	STORMWATER DRAINAGE CATCHMENT PLAN SHEET 5
20-748-C13087	STORMWATER DRAINAGE CATCHMENT PLAN SHEET 6
20-748-C13088	STORMWATER DRAINAGE CATCHMENT PLAN SHEET 7
STORMWATER DRAINAGE DETAILS	
20-748-C13091	STORMWATER DRAINAGE DETAILS SHEET 1
20-748-C13092	STORMWATER DRAINAGE DETAILS SHEET 2
20-748-C13093	STORMWATER DRAINAGE DETAILS SHEET 3
20-748-C13094	STORMWATER DRAINAGE DETAILS SHEET 4
20-748-C13096	BASIN DETENTION OUTLET PIT DETAILS BB-1
20-748-C13097	BASIN HEADWALL OUTLET DETAILS AA-13
20-748-C13098	BASIN SPILLWAY DETAILS
STORMWATER DRAINAGE LONGITUDINAL SECTIONS	
20-748-C13101	STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 1
20-748-C13102	STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 2
20-748-C13103	STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 3
20-748-C13104	STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 4
20-748-C13105	STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 5
20-748-C13106	STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 6
STORMWATER DRAINAGE CALCULATIONS	
20-748-C13107	STORMWATER DRAINAGE CALCULATIONS SHEET 1
20-748-C13108	STORMWATER DRAINAGE CALCULATIONS SHEET 2
20-748-C13109	STORMWATER DRAINAGE CALCULATIONS SHEET 3
20-748-C13110	STORMWATER DRAINAGE CALCULATIONS SHEET 4
STORMWATER DRAINAGE SETOUT	
20-748-C13111	STORMWATER DRAINAGE PIT SETOUT DETAILS SHEET 1
20-748-C13112	STORMWATER DRAINAGE PIT SETOUT DETAILS SHEET 2
20-748-C13113	STORMWATER DRAINAGE PIT SETOUT DETAILS SHEET 3
PAVEMENT AND SURFACE TREATMENT PLANS	
20-748-C13121	PAVEMENT AND SURFACE TREATMENT PLAN SHEET 1
20-748-C13122	PAVEMENT AND SURFACE TREATMENT PLAN SHEET 2
20-748-C13123	PAVEMENT AND SURFACE TREATMENT PLAN SHEET 3
20-748-C13124	PAVEMENT AND SURFACE TREATMENT PLAN SHEET 4
20-748-C13125	PAVEMENT AND SURFACE TREATMENT PLAN SHEET 5
20-748-C13126	PAVEMENT AND SURFACE TREATMENT PLAN SHEET 6
20-748-C13127	PAVEMENT AND SURFACE TREATMENT PLAN SHEET 7
20-748-C13128	PAVEMENT AND SURFACE TREATMENT PLAN SHEET 8
PAVEMENT MARKING AND SIGNPOSTING PLANS	
20-748-C13131	PAVEMENT MARKING AND SIGNPOSTING PLAN SHEET 1
20-748-C13132	PAVEMENT MARKING AND SIGNPOSTING PLAN SHEET 2

DRAWING LIST

DRAWING No.	DRAWING TITLE
20-748-C13133	PAVEMENT MARKING AND SIGNPOSTING PLAN SHEET 3
20-748-C13134	PAVEMENT MARKING AND SIGNPOSTING PLAN SHEET 4
20-748-C13135	PAVEMENT MARKING AND SIGNPOSTING PLAN SHEET 5
20-748-C13136	PAVEMENT MARKING AND SIGNPOSTING PLAN SHEET 6
20-748-C13137	PAVEMENT MARKING AND SIGNPOSTING PLAN SHEET 7
20-748-C13138	PAVEMENT MARKING AND SIGNPOSTING PLAN SHEET 8
SERVICES CO-ORDINATION PLANS AND DETAILS	
20-748-C13141	SERVICES AND UTILITIES CO-ORDINATION PLAN SHEET 1
20-748-C13142	SERVICES AND UTILITIES CO-ORDINATION PLAN SHEET 2
20-748-C13143	SERVICES AND UTILITIES CO-ORDINATION PLAN SHEET 3
20-748-C13144	SERVICES AND UTILITIES CO-ORDINATION PLAN SHEET 4
20-748-C13145	SERVICES AND UTILITIES CO-ORDINATION PLAN SHEET 5
20-748-C13146	SERVICES AND UTILITIES CO-ORDINATION PLAN SHEET 6
20-748-C13147	SERVICES AND UTILITIES CO-ORDINATION PLAN SHEET 7
VEHICLE TURN PATH PLANS	
20-748-C13171	VEHICLE TURN PATH PLAN SHEET 1
20-748-C13172	VEHICLE TURN PATH PLAN SHEET 2
20-748-C13173	VEHICLE TURN PATH PLAN SHEET 3
20-748-C13174	VEHICLE TURN PATH PLAN SHEET 4
20-748-C13175	VEHICLE TURN PATH PLAN SHEET 5
20-748-C13176	VEHICLE TURN PATH PLAN SHEET 6
ATLAN STORMWATER	
54534.C.02.10.GA	ATLAN FILTER VAULT SYSTEM SV.5023.1464-8-60.30 GENERAL ARRANGEMENT
54534.F.01.10.GA	ATLAN VORTCEPTOR OVOR.1200.R GENERAL ARRANGEMENT

TRIAXIAL STRUCTURAL DRAWINGS	
GENERAL	
S1.01	COVER SHEET AND DRAWING LIST
S1.02	GENERAL NOTES
STAGE 1	
S2.01	STORMWATER PIT BASE PLANS
S2.02	STORMWATER PIT ROOF PLANS
S2.03	PIT BB-1 BASE PLAN
S2.11	STORMWATER PIT TYPICAL DETAILS - SHEET 1
S2.12	STORMWATER PIT TYPICAL DETAILS - SHEET 2
S2.13	STORMWATER PIT TYPICAL DETAILS - SHEET 3

NOTE:

1. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH STAGE 1 BULK EARTHWORKS PACKAGE DRAWINGS AND STAGE 1 EROSION AND SEDIMENTATION PACKAGE DRAWINGS.

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

100mm on Original

Client: ESR

Scales: N.T.S.
Drawn: LM & QD
Designed: LM
Grid: MGA2020
Checked: LB
Height Datum: AHD
Approved: AT

GDA2020

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

Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: DRAWING LIST

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 CONSTRUCTION
A1

Project - Drawing No.: 20-748-C13001
Issue: A

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13001.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 COMPACTED 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. ASPHALTIC CONCRETE SHALL CONFORM TO TfNSW SPECIFICATION R116. BOXING AND SUBGRADE TO BE IN ACCORDANCE WITH PCC SPEC 5.1.1.
7. ALL BASECOURSE MATERIAL SHALL BE IN ACCORDANCE PCC SPEC 5.1.3 AND TO COMPLY WITH TfNSW FORM 3051 (UNBOUND), TfNSW 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 50m³ OF BASECOURSE MATERIAL PLACED.
8. SHOULD THE CONTRACTOR WISH TO USE RECYCLED PAVEMENT MATERIALS IT MUST BE IN ACCORDANCE WITH PENRITH CITY COUNCIL SPECIFICATION 5.1.6 AND 5.1.7.
9. 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.
10. ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH SSD-9138102 AND PENRITH CITY COUNCIL'S ENGINEERING CONSTRUCTION SPECIFICATION FOR CIVIL WORKS

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY LAND PARTNERS PTY LTD & LTS LOCKLEY, 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.

PRIOR TO THE COMMENCEMENT OF THE WORKS, THE CONTRACTOR SHALL UNDERTAKE A DETAILED BOUNDARY SURVEY AND COMPARE AGAINST THE DESIGN FOR DISCREPANCIES.
SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA, DESIGN DATA AND ACTUAL FIELD DATA, CONTACT AT & L IMMEDIATELY.

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

THE TITLE BOUNDARIES SHOWN HEREON WERE NOT MARKED AT THE TIME OF SURVEY AND HAVE BEEN DETERMINED BY PLAN DIMENSIONS ONLY AND NOT BY FIELD SURVEY.

SERVICES SHOWN HEREON HAVE BEEN LOCATED WHERE POSSIBLE BY FIELD SURVEY. IF NOT ABLE TO BE SO LOCATED, SERVICES HAVE BEEN PLOTTED FROM THE RECORDS OF RELEVANT AUTHORITIES WHERE AVAILABLE AND HAVE BEEN NOTED ACCORDINGLY ON THE PLAN. WHERE SUCH RECORDS DO NOT EXIST OR ARE INADEQUATE A NOTATION HAS BEEN MADE HEREON.

PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.

KERBING NOTES

1. ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa 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. BROOM 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 :-
   IF REQUIRED 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 UNDERGROUND SERVICES

1. 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.
2. 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.
3. CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.
4. CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.
5. 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.
6. PRIOR TO COMMENCEMENT OF WORKS, THE CONTRACTOR IS TO CONFIRM THE ALIGNMENT AND LEVELS OF ALL EXISTING SERVICES AT ALL LOCATIONS WHERE THE PROPOSED SERVICES ARE TO CROSS, CONNECT TO, OR ARE LOCATED IN CLOSE PROXIMITY TO THE EXISTING SERVICES.

CONCRETE NOTES

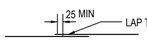
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. CONCRETE QUALITY
   ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS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

ELEMENT	AS 3600 F'c MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE
DRIVEWAYS, APRONS etc.	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 TfNSW 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:



DEWATERING

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

DECOMMISSIONING / DEMOLITION

1. 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.
2. EXISTING INTERNALS FENCING, CATTLE YARDS, UTILITIES AND OTHER REDUNDANT STRUCTURES TO BE DEMOLISHED AND REMOVED TO AN APPROVED WASTE MANAGEMENT FACILITY.
3. DAM DECOMMISSIONING TO BE COMPLETED AS PER THE DAM DECOMMISSIONING PROCEDURE AS CONTAINED WITHIN THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP).
4. ALL EXISTING SERVICES (INCLUDING SEPTIC TANKS) SHALL BE REMOVED FROM SITE.
5. ALL UNDERGROUND CABLES AND PIPES SHALL BE GRUBBED OUT AND CAPPED AT THE BOUNDARY OF THE SITE.
6. ALL OVERHEAD SERVICES SHALL BE REMOVED FROM WITHIN THE SITE BOUNDARY AND MADE SAFE AT THE TERMINATION LOCATION. ANY POLES SHALL BE REMOVED FROM THE SITE.
7. ALL EXISTING SERVICES TO BE CONSIDERED AS LIVE UNTIL THE CONTRACTOR HAS TESTED AND CONFIRMED TO THE SUPERINTENDENT THAT THE SERVICES ARE DEAD / REDUNDANT.

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: 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. ALL ROAD CROSSINGS TO BE CLASS '4' U.N.O.
3. PIPES UP TO 300 DIA SHALL BE SEWER GRADE uPVC WITH SOLVENT WELDED JOINTS.
4. PIPES TO BE INSTALLED TO TYPE HS2 SUPPORT IN ACCORDANCE WITH AS 3725 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)
5. 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).
6. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
7. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS, ROAD CROSSINGS AND VEHICULAR CROSSINGS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
8. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED.
9. GRATES AND COVERS SHALL CONFORM TO AS 3996 AND PENRITH CITY COUNCIL CONSTRUCTION SPECIFICATIONS.
10. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
11. 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.
12. ALL STORMWATER PITS ARE TO BE CAST IN-SITU IN ACCORDANCE WITH THE STORMWATER DETAILS AND SPECIFICATIONS, UNLESS APPROVED BY PRINCIPAL CERTIFIER. IF APPROVED AND IN ADDITION TO THE SPECIFICATION,
   (a) ALL PRE-CAST PITS ARE TO BE STRUCTURALLY CERTIFIED TO MEET RELEVANT AUSTRALIAN STANDARDS (AS3600, AS3996).
   (b) ALL PRECAST PITS TO BE FOUNDED ON CONCRETE BLINDING LAYER WITH A MINIMUM ALLOWABLE BEARING CAPACITY OF 100KPA UP TO 3.0M DEPTH TO INVERT AND 150KPA FROM 3.0M TO 6.0M DEPTH TO INVERT (MINIMUM 100MM THICK 25MPA OR DEEPER TO ENSURE MINIMUM SPECIFIED BEARING CAPACITY IS ACHIEVED),
   (c) PRE-CAST STORMWATER PITS ARE TO BE CUSTOM MADE WITH OPENINGS WITHIN +50MM OD OF PIPE, HEIGHTS AND PIPE PENETRATIONS DURING MANUFACTURE. ANY ADDITIONAL PENETRATIONS SHALL BE CORE DRILLED AND STEEL BLOWN OUT TO MANUFACTURERS REQUIREMENTS, IF REQUIRED.
   (d) DEMOLITION SAWS ARE NOT TO BE USED IN ANY CIRCUMSTANCES.
   (e) SINGLE UNITS PREFERRED BUT IF REQUIRED MINIMUM RISER DEPTH 600MM PIT INSTALLATION AND JOINTING PIPES TO PITS SHALL BE UNDERTAKEN IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

STORMWATER DRAINAGE NOTES

   (f) ANY DAMAGE TO THE STRUCTURAL INTEGRITY OF THE PRE-CAST PIT WILL BE REPAIRED AND STRUCTURALLY CERTIFIED TO THE SATISFACTION OF THE SUPERINTENDENT / PENRITH CITY COUNCIL.
   (g) ALL PRE-CAST PIT PENETRATIONS SHALL BE CUT SO THAT IT IS FLUSH WITH THE INTERNAL WALL.
   (h) PIPE JOINTING/SEALING OF PIPE PENETRATION TO BE WITH A NON-SHRINK MORTAR MIX, E.G. LANKO 702 DURABED OR SIMILAR APPROVED.
   (i) SUBSOIL DRAINAGE FLUSHING AND/OR INTERMEDIATE RISERS TO BE INSTALLED AT 40m CENTRES, AND AT ALL UPSTREAM ENDPOINTS
   (j) ANY ADDITIONAL PENETRATIONS TO ANY STRUCTURAL CONCRETE (E.G. STORMWATER PITS, CULVERTS, HEADWALLS ETC.) SHALL BE CORE DRILLED AND STEEL BLOWN OUT TO MANUFACTURERS REQUIREMENTS, IF REQUIRED.

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 SHOW ANY FAILURE, THE CONTRACTOR IS TO ENGAGE A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER TO DETERMINE THE CAUSE AND METHOD OF RECTIFICATION
4. COMPACT CLAY STABILISED 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 STABILISED NATURAL SOILS EXPOSED IN EMBANKMENT AREA WITH MINIMUM 3% GYPSUM BY DRY MASS AND COMPACT AS FOR #4. AT 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, STABILISE 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 FERTILISE LANDSCAPE AS REQUIRED BY CLIMACTIC CONDITIONS TO ENSURE THE LANDSCAPE IS SUCCESSFUL.
12. AT THE COMPLETION OF WORK WRITTEN CONFIRMATION AND CERTIFICATION IS TO BE PROVIDED FROM A QUALIFIED AND EXPERIENCED GEOTECHNICAL ENGINEER THAT THE EMBANKMENTS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THESE DRAWINGS.

EARTHWORKS NOTES

1. WHERE EARTHWORKS ARE TO BE CONSTRUCTED ON OR AGAINST ANY EMBANKMENTS OR AGAINST ANY SLOPES AND THE EMBANKMENT/SLOPE IS STEEPER THAN 10(H):1(V) IN ANY DIRECTION, THE CONTRACTOR SHALL CUT TERRACES INTO THE SLOPE TO A MINIMUM DEPTH OF 300mm, EXCEPT WHERE SLOPES ARE STEEPER THAN 4(H):1(V) WHERE, MINIMUM DEPTH SHALL BE 600mm, TO ALLOW ADEQUATE KEY AND COMPACTION OF MATERIAL.
2. THE CONTRACTOR SHALL PRODUCE A MATERIAL TRACKING REGISTER FOR ALL IMPORT AND EXPORT MATERIAL INCLUDING DEMOLITION WASTE. FOR INSTANCES WHERE CONTAMINATED MATERIAL IS EXPORTED FROM THE SITE, THE CONTRACTOR SHALL ENSURE A CHAIN OF CUSTODY REPORT AND CERTIFICATES ARE PROVIDED FOR THE CONTAMINATED MATERIAL.

EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

1. THE CONTRACTOR IS RESPONSIBLE FOR ENGAGING A SUITABLY QUALIFIED EROSION AND SEDIMENT CONSULTANT FOR THE DURATION OF THE CONTRACT WITH THE EXPERTISE IN DESIGNING AND DOCUMENTING THE CONTROLS TO ALLOW THE INSTALLATION AND MAINTENANCE OF THE EROSION AND SEDIMENT CONTROLS. SUITABLE EROSION AND SEDIMENT CONTROLS SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR REQUIRED TO SUIT THE CONSTRUCTION STAGING
2. ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
   (a) NSW DEPARTMENT OF HOUSING MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
   (b) LOCAL AUTHORITY REQUIREMENTS
   (c) EPA REQUIREMENTS
3. MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
4. WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
5. 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 / INSTALLED AS DIRECTED BY THE CONTRACTORS EROSION AND SEDIMENT CONTROL CONSULTANT.

SEDIMENT 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.
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.
   - 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
   - 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
   - CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

STAGING

15. SUITABLE EROSION AND SEDIMENT CONTROLS SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR THROUGHOUT ALL STAGES OF WORKS, THROUGHOUT THE FULL TERM OF THE CONTRACT, WHERE SHOWN ON AT&L DRAWINGS OR WHERE DIRECTED BY THE SUPERINTENDENT OR PENRITH CITY COUNCIL'S ENGINEERS. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING, DOCUMENTING, INSTALLING AND MAINTAINING THE SEDIMENT AND EROSION CONTROLS REQUIRED TO SUIT THE SELECTED CONSTRUCTION STAGING. THIS IS TO BE DOCUMENTED IN THE FORM OF A SOIL AND WATER MANAGEMENT PLAN TO BE DEVELOPED BY THE CONTRACTOR AND THEIR EROSION ND SEDIMENT CONSULTANT AND PROVIDED BY THE SUPERINTENDENT PRIOR TO CONSTRUCTION COMMENCEMENT.
16. SUCH CONTROLS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROTECTION OF THE ENVIRONMENT OPERATIONS ACT, PENRITH CITY COUNCIL'S SPECIFICATIONS AND THE OFFICE OF ENVIRONMENT AND HERITAGE'S 'MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION. LANDCOM, (4TH EDITION) MARCH 2004 (REPRINTED 2006) (THE "BLUE BOOK"). VOLUME 1 AND VOLUME 2.

DESIGN & CERTIFICATION REQUIREMENTS

1. THE CONTRACTOR IS TO PROVIDE STRUCTURAL CERTIFICATION ON ALL STRUCTURAL ELEMENTS, INCLUDING DESIGN CERTIFICATION AND FINAL CONSTRUCTION CERTIFICATION. THIS INCLUDES:
   (a) ALL RETAINING WALLS
   (b) CULVERTS EXCLUDING BASE SLABS
   (c) HEADWALLS
   (d) STORMWATER STRUCTURES
2. ALL STRUCTURAL CERTIFICATES MUST BE PROVIDED BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER.

CONSTRUCTION SPECIFICATION

1. THESE DRAWINGS SHOULD BE READ IN CONJUNCTION WITH PENRITH CITY COUNCIL'S LATEST REVISION OF THE 'ENGINEERING CONSTRUCTION SPECIFICATION FOR CIVIL WORKS'
2. WHERE THERE IS A CONFLICT THE FOLLOWING IS TO OCCUR
   (a) NOTIFY THE DESIGN ENGINEER AND/OR SUPERINTENDENT AND THE PRINCIPAL CERTIFIER.

NOTE:

1. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH STAGE 1 BULK EARTHWORKS PACKAGE DRAWINGS AND STAGE 1 EROSION AND SEDIMENTATION PACKAGE DRAWINGS.
2. REFER TO AT&L 20-748 C20000 DRAWINGS FOR COUNCIL ROAD WORKS DETAILS.
   DEVELOPMENT CONSENT: SSD-9138102
   S138 ROADS ACT: EA23/0017

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

DIAL 1100 BEFORE YOU DIG

CONTRACTOR SHALL CALL;
DIAL BEFORE YOU DIG 1100
PRIOR TO COMMENCEMENT OF WORK TO OBTAIN ALL CURRENT SERVICE AUTHORITY PLANS

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

100mm on Original

Client: ESR

Scales: N.T.S.
Grid: MGA2020
Height Datum: AHD

Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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

Project: PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title: GENERAL NOTES
SHEET 1

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

Status: FOR CONSTRUCTION
A1

Project - Drawing No.: 20-748-C13002
Issue: A

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13002.dwg

CONSTRUCTION TOLERANCES

BULK EARTHWORKS		
EARTHWORKS	-50mm / +0mm	OF FINISHED SURFACE LEVEL (AFTER COMPACTION AND TRIMMING)
STORMWATER		
PIPES/CULVERTS	WITHIN 20mm	OF THE DESIGN INVERT LEVEL AT ANY POINT
PIPES/CULVERTS	WITHIN 100mm	OF THE PLAN POSITION SHOWN ON THE DRAWINGS OR SPECIFIED AT ANY POINT
HEADWALLS	WITHIN 20mm	OF THE DESIGN INVERT LEVEL AT ANY POINT
HEADWALLS	WITHIN 100mm	OF THE PLAN POSITION SHOWN ON THE DRAWINGS OR SPECIFIED AT ANY POINT
CHAMBERS	WITHIN 20mm	OF THE INVERT LEVEL SHOWN ON THE DRAWINGS
CHAMBERS	WITHIN 200mm	LONGITUDINALLY OF THE PLAN POSITION, WITH REFERENCE TO THE CONTROL LINE FOR THE ROAD SHOWN ON THE DRAWINGS
LINTELS	AS PER THE TOLERANCES SPECIFIED FOR THE ADJOINING MATERIAL	
COVERS	AS PER THE TOLERANCES SPECIFIED FOR THE ADJOINING MATERIAL	
GRATES	AS PER THE TOLERANCES SPECIFIED FOR THE ADJOINING MATERIAL	
OPEN DRAINS	WITHIN 50mm	OF THE DESIGN LEVEL AT ANY POINT PROVIDED THAT THERE IS A CONTINUOUS DOWNGRADE (WITHOUT PONDING) IN THE DIRECTION OF FLOW NOT LESS THAN 0.5% AT ANY POINT
PAVEMENT / ACCESS TRACKS		
SUBBASE	-10mm / +10mm	OF PAVEMENT COURSE THICKNESS (AFTER COMPACTION & TRIMMING)
SUBBASE	-10mm / +0mm	OF FINISHED SURFACE LEVEL (AFTER COMPACTION AND TRIMMING)
SUBBASE	-5mm / +5mm	ALONG THE FINISHED SURFACE (LAID IN ANY DIRECTION) OVER A LENGTH OF 3 METRES
BASECOURSE	-0mm / +20mm	OF PAVEMENT COURSE THICKNESS (AFTER COMPACTION & TRIMMING)
BASECOURSE	-0mm / +10mm	OF FINISHED SURFACE LEVEL (AFTER COMPACTION AND TRIMMING)
BASECOURSE	-5mm / +5mm	ALONG THE FINISHED SURFACE (LAID IN ANY DIRECTION) OVER A LENGTH OF 3 METRES
SEAL	-0mm / +10mm	OF PAVEMENT FINISHED SURFACE LEVEL (AFTER ROLLING AGGREGATE)
SEAL	-5mm / +10mm	ALONG THE FINISHED SURFACE OVER THE CARRIAGEWAY WIDTH AT THE DATE OF PRACTICAL COMPLETION
SEAL	SURFACE OF THE COURSE, INCLUDING LONGITUDINAL AND TRANSVERSE JOINTS, MUST NOT POND WATER.	
ASPHALT	-0mm / +10mm	OF PAVEMENT FINISHED SURFACE LEVEL (AFTER COMPACTION)
ASPHALT	-5mm / +5mm	ALONG THE FINISHED SURFACE OVER THE CARRIAGEWAY WIDTH AT THE DATE OF PRACTICAL COMPLETION
ASPHALT	-8mm / +8mm	ALONG THE FINISHED SURFACE OVER THE CARRIAGEWAY WIDTH AT THE COMPLETION OF THE DEFECT LIABILITY PERIOD
ASPHALT	SURFACE OF THE COURSE, INCLUDING LONGITUDINAL AND TRANSVERSE JOINTS, MUST NOT POND WATER.	

PAVEMENT / ACCESS TRACKS		
CONCRETE		
KERB	-5mm / +5mm	ALONG THE TOP OF KERB OVER A LENGTH OF 5 METRES
KERB	-5mm / +5mm	ALONG THE FACE OF KERB OVER A LENGTH OF 5 METRES
PATH	-0mm / +10mm	OF FOOTPATH/SHARED PATH FINISHED SURFACE LEVEL
PATH	SURFACE OF THE PATH, INCLUDING JOINTS, MUST NOT POND WATER.	
VERGE		
TURF	-10mm / +0mm	OF PAVEMENT FINISHED SURFACE LEVEL (AFTER COMPACTION) TO THE ADJOINING MATERIAL (FOOTPATHS, KERBS, ETC)
MULCH	-10mm / +0mm	OF PAVEMENT FINISHED SURFACE LEVEL (AFTER COMPACTION) TO THE ADJOINING MATERIAL (FOOTPATHS, KERBS, ETC)
RETAINING / NOISE WALLS		
WALL	-20mm / +20mm	FROM ANY POINT ON THE WALL THE LEVEL MUST NOT DEVIATE FROM THAT SPECIFIED
WALL	-10mm / +10mm	INCLINATION OF THE FACE OF THE COMPLETED WALL MUST NOT DEVIATE FROM THE SPECIFIED INCLINATION PER METER HEIGHT (BLOCK WALL)
WALL	-5mm / +0mm	INCLINATION OF THE FACE OF THE COMPLETED WALL MUST NOT DEVIATE FROM THE SPECIFIED INCLINATION PER METER HEIGHT (PANEL WALL)
WALL	-20mm / +20mm	FLATNESS OF THE FACE OF THE WALL MUST BE SUCH THAT THE MAXIMUM DEVIATION FROM A 4.5 M STRAIGHT EDGE

TOLERANCE FOR EMBANKMENT BATTERS

LOCATION	TOLERANCE (mm)	
	SLOPE 1H:1V OR FLATTER	SLOPE STEEPER THAN 1H:1V
AT LEVEL OF TOP OF FORMATION/ UNDERSIDE OF PAVEMENT	+0/-150	+0/-150
BETWEEN TOP OF FORMATION AND 1m BELOW TOP OF FORMATION	+150/-150	+150/-150
BEYOND 1m BELOW TOP OF FORMATION	+300/-300	+300/-300

REFER TO TfNSW R44 SPECIFICATION

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

100mm on Original

Client: ESR

Scales: N.T.S.
Grid: MGA2020
Height Datum: AHD

Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

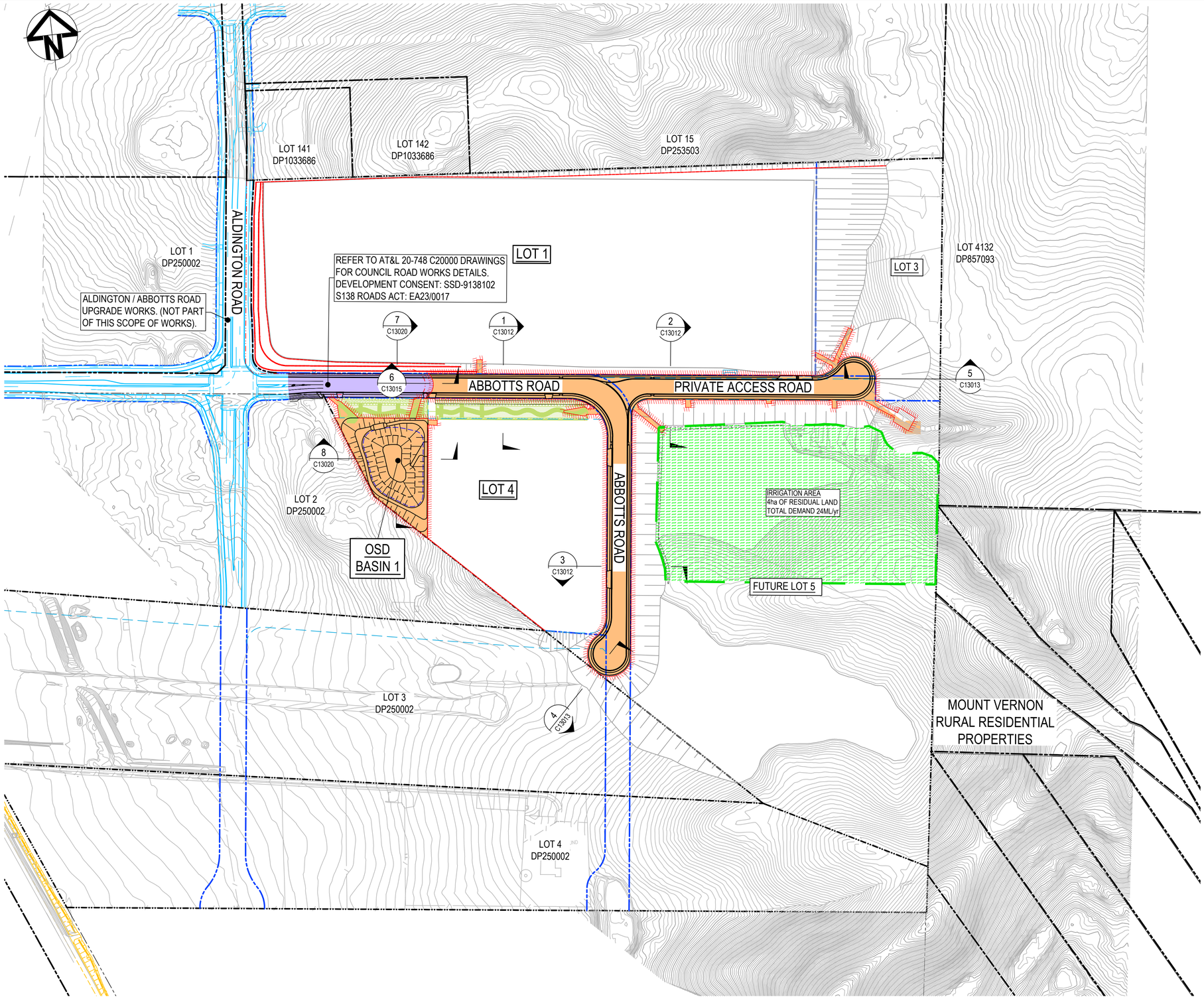
Title: GENERAL NOTES
SHEET 2

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 CONSTRUCTION
A1

Project - Drawing No.: 20-748-C13003
Issue: A

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13003.dwg



LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE. NOT PART OF THIS SCOPE OF WORKS.
- INDICATIVE POND LAYOUT
- EXISTING RETAINING WALL CONSTRUCTED AS PART OF STAGE 1 BULK EARTHWORKS
- LIMIT OF WORKS
- STAGE 1 INFRASTRUCTURE EXTENT OF WORKS
- AREA SUBJECT TO SEPARATE SUBDIVISION WORKS CERTIFICATE

NOTE:

1. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH STAGE 1 BULK EARTHWORKS PACKAGE DRAWINGS AND STAGE 1 EROSION AND SEDIMENTATION PACKAGE DRAWINGS.
2. REFER TO AT&L 20-748 C20000 DRAWINGS FOR COUNCIL ROAD WORKS DETAILS.
   DEVELOPMENT CONSENT: SSD-9138102
   S138 ROADS ACT: EA23/0017

LDC
Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

100mm on Original

Bar Scales

0 30 50 60 100 90 150 120 260m

1 : 2000 @ A1

Client: ESR

Scales: 1 : 2000
Grid: MGA2020
Height Datum: AHD

Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: GENERAL ARRANGEMENT PLAN

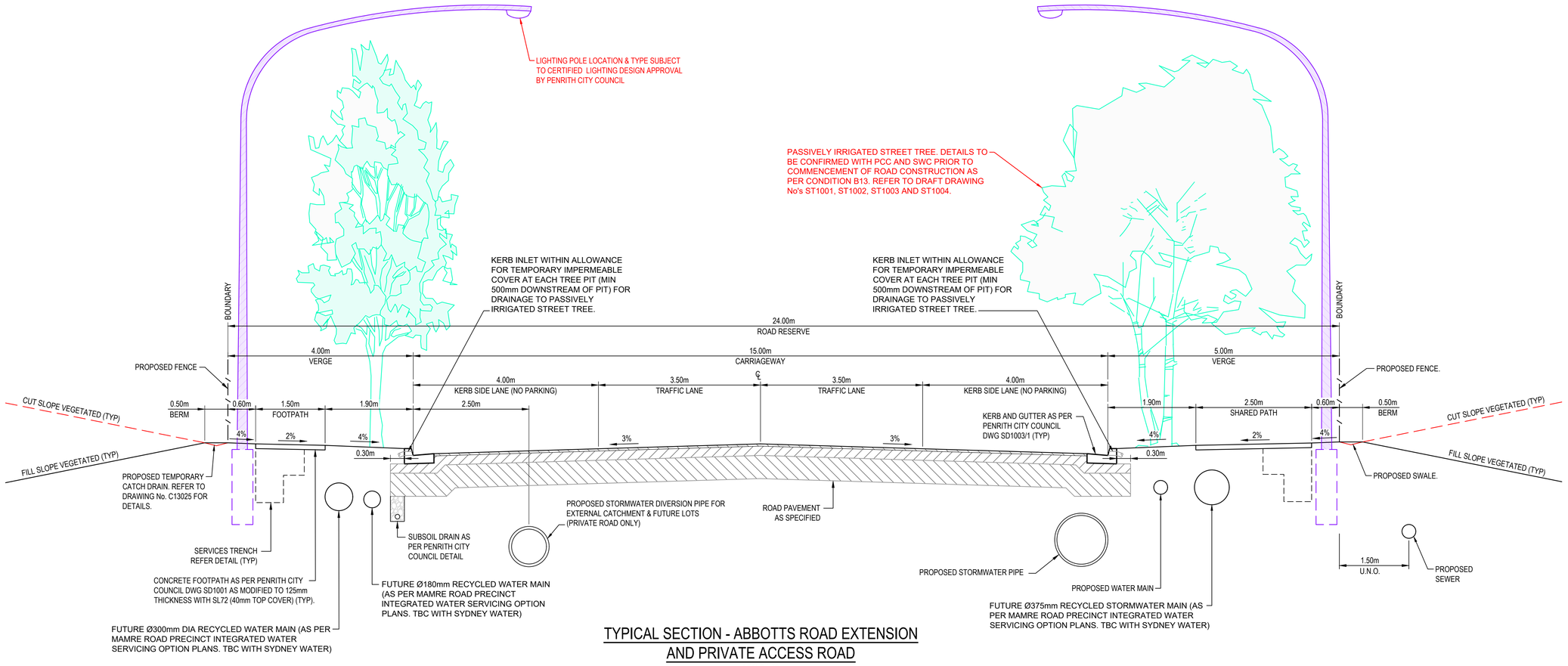
Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR CONSTRUCTION — A1

Project - Drawing No.: 20-748-C13005

Issue: A

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TYPICAL SECTION - ABBOTTS ROAD EXTENSION AND PRIVATE ACCESS ROAD

SCALE 1:50

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 1 2 3 4 5m

1 : 50 @ A1 1 : 100 @ A3

Client

ESR

Scales: AS SHOWN
Grid: MGA2020
Height Datum: AHD

Drawn: LM & QD
Designed: LM
Checked: LB
Approved: AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: ROAD SECTIONS SHEET 1

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

Status: FOR CONSTRUCTION

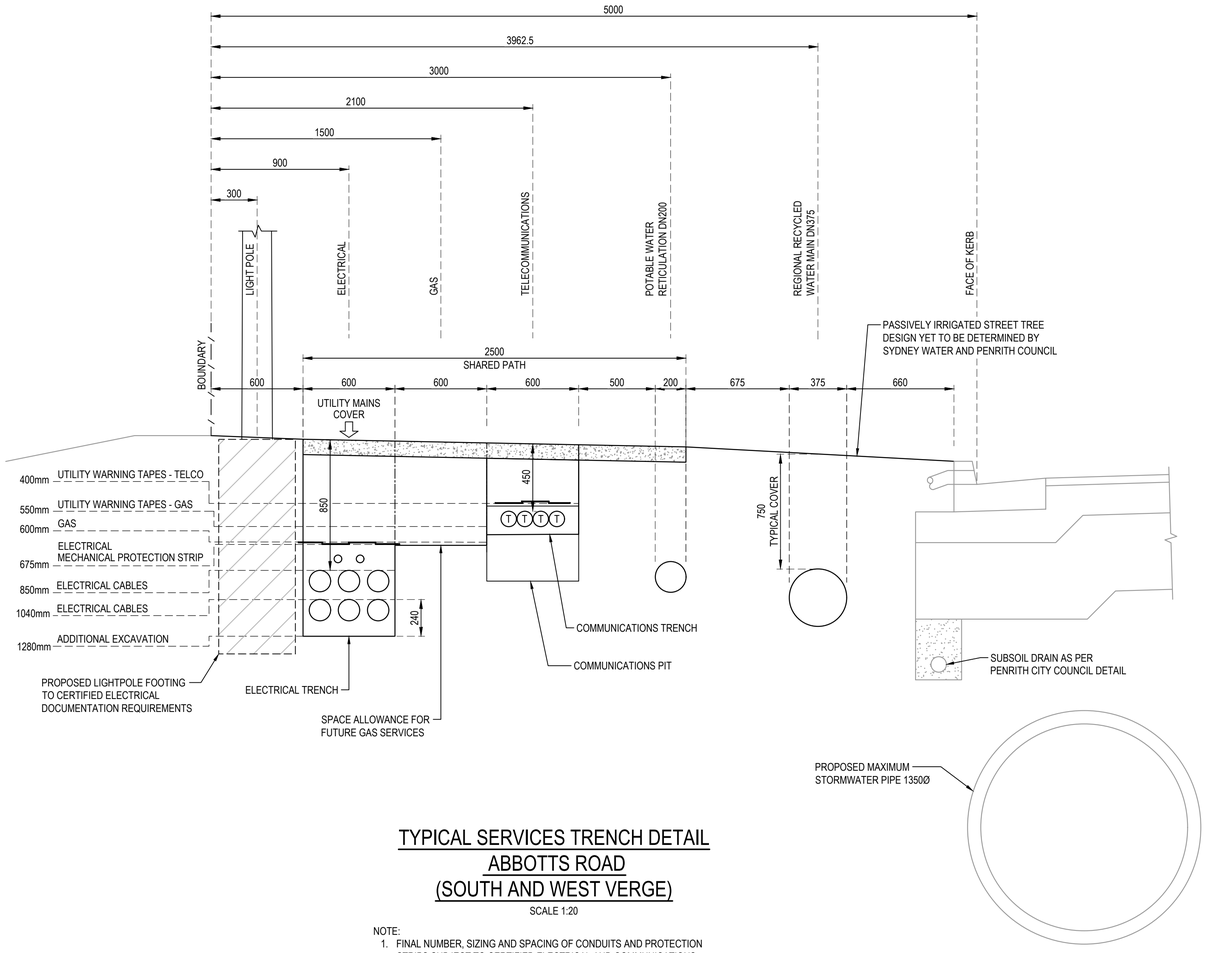
A1

Project - Drawing No.: 20-748-C13010

Issue: A

100mm on Original

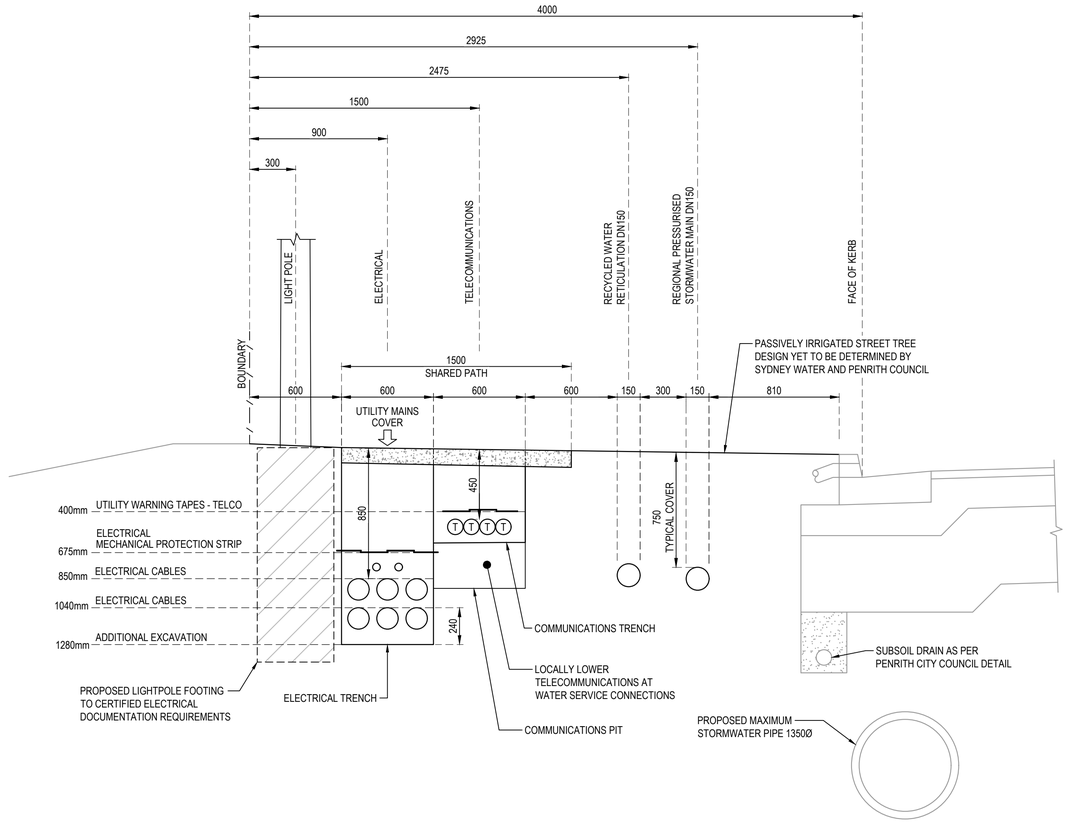
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TYPICAL SERVICES TRENCH DETAIL
ABBOTTS ROAD
(SOUTH AND WEST VERGE)

SCALE 1:20

NOTE:
1. FINAL NUMBER, SIZING AND SPACING OF CONDUITS AND PROTECTION STRIPS SUBJECT TO CERTIFIED ELECTRICAL AND COMMUNICATIONS AUTHORITY DOCUMENTATION.
2. FINAL NUMBER, SIZING AND SPACING OF POTABLE WATER AND RECYCLED WATER MAINS SUBJECT TO SYDNEY WATER APPROVAL.
3. REQUIREMENTS FOR EASEMENTS OVER INFRASTRUCTURE WITHIN PRIVATE ROAD TO BE CONFIRMED WITH AUTHORITIES.



TYPICAL SERVICES TRENCH DETAIL
ABBOTTS ROAD
(NORTH AND EAST VERGE)

SCALE 1:20

NOTE:
1. FINAL NUMBER, SIZING AND SPACING OF CONDUITS AND PROTECTION STRIPS SUBJECT TO CERTIFIED ELECTRICAL AND COMMUNICATIONS AUTHORITY DOCUMENTATION.
2. FINAL NUMBER, SIZING AND SPACING OF POTABLE WATER AND RECYCLED WATER MAINS SUBJECT TO SYDNEY WATER APPROVAL.
3. REQUIREMENTS FOR EASEMENTS OVER INFRASTRUCTURE WITHIN PRIVATE ROAD TO BE CONFIRMED WITH AUTHORITIES.

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 500 1000 1500 2000mm

1 : 20 @ A1 1 : 40 @ A3

Client: ESR

Scales	AS SHOWN	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: ROAD SECTIONS SHEET 2

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 CONSTRUCTION

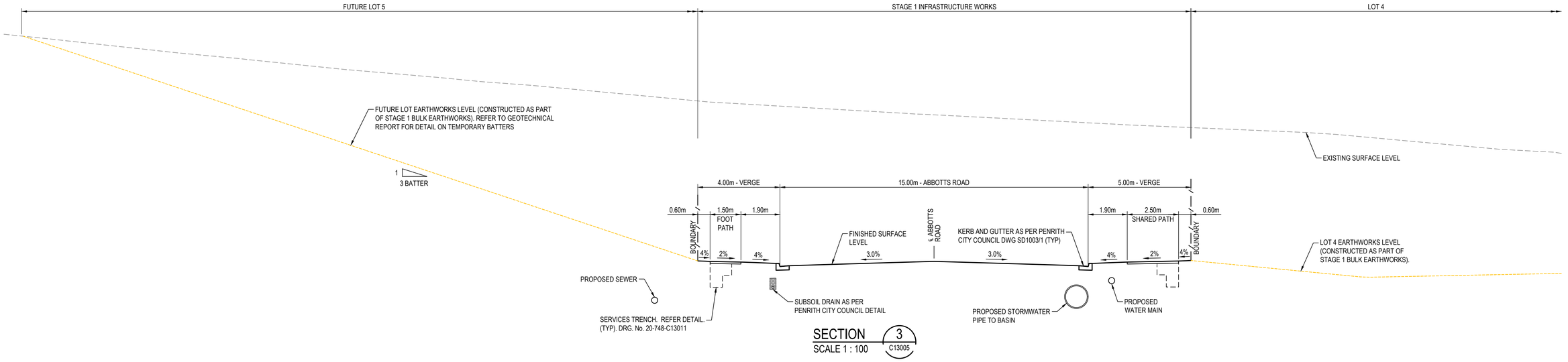
A1

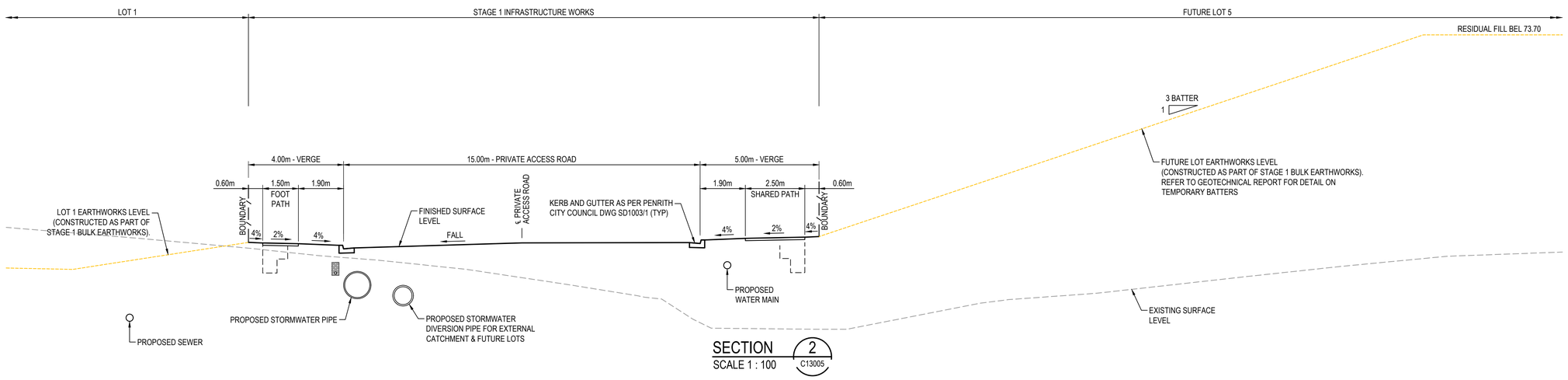
Project - Drawing No.: 20-748-C13011

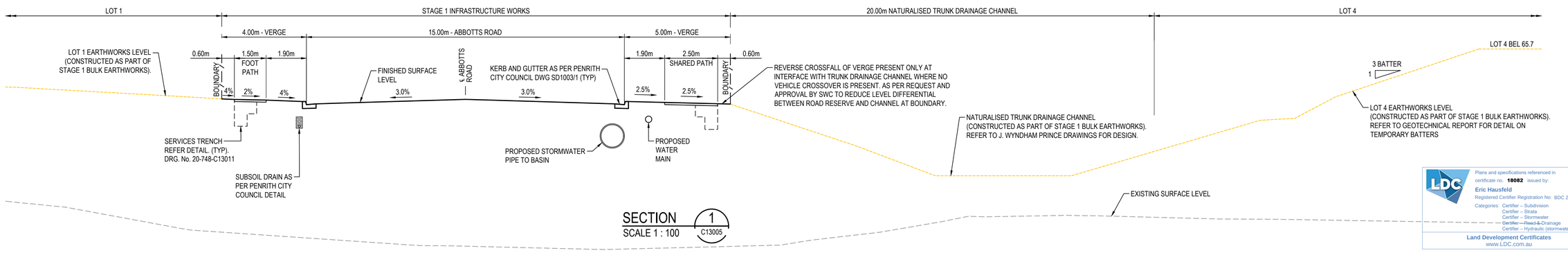
Issue: A

100mm on Original

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Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ A3

Client

ESR

Scales	AS SHOWN
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

ROAD SECTIONS
SHEET 3

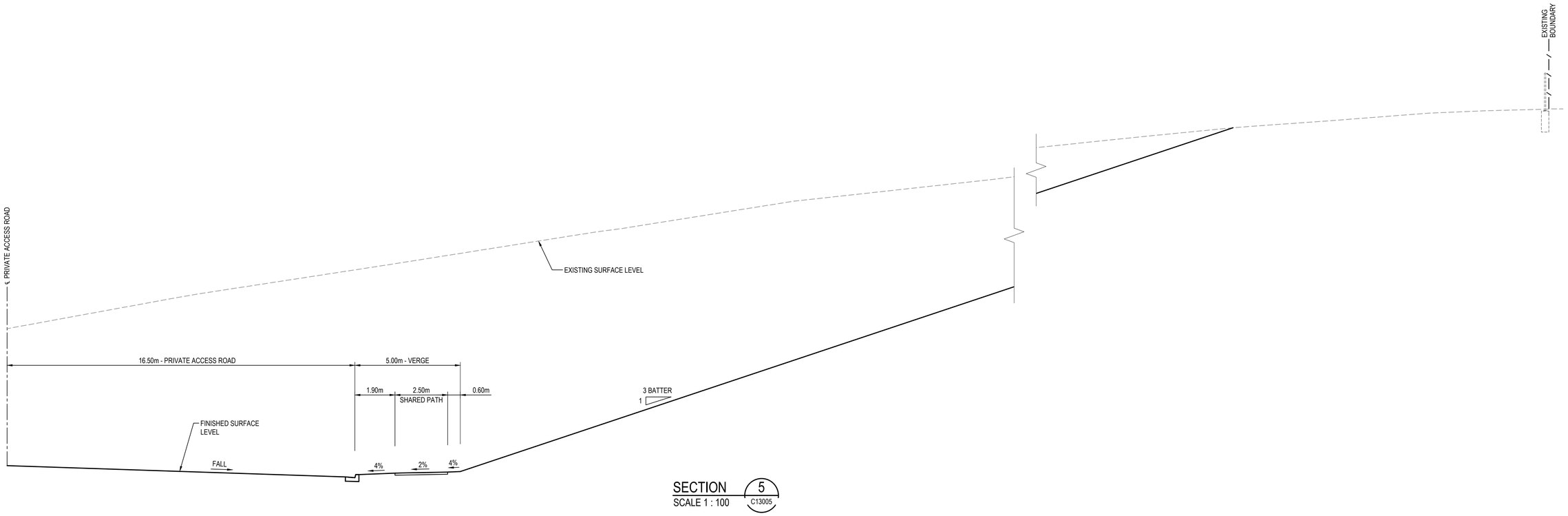
Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR CONSTRUCTION — A1

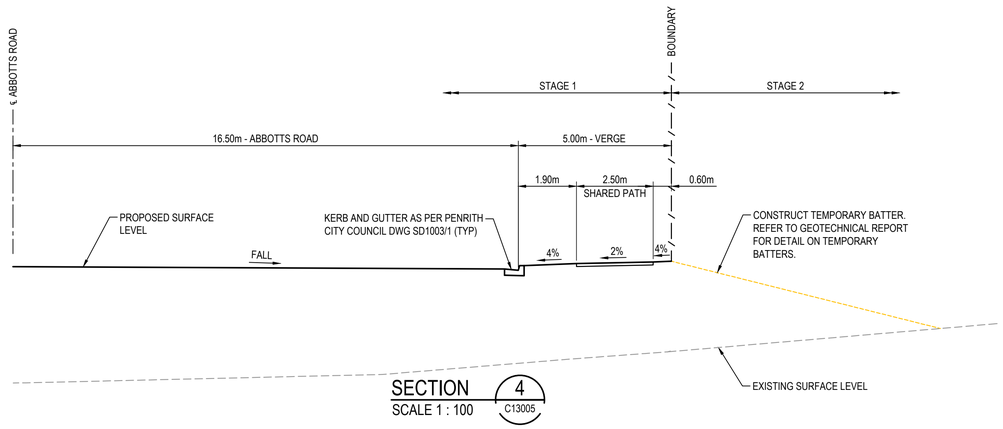
Project - Drawing No.: 20-748-C13012 — Issue: A

100mm on Original

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SECTION 5
SCALE 1 : 100
C13005



SECTION 4
SCALE 1 : 100
C13005

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Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
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Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ A3

Client

ESR

Scales	AS SHOWN
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
ROAD SECTIONS
SHEET 4

Civil Engineers and Project Managers
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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 CONSTRUCTION

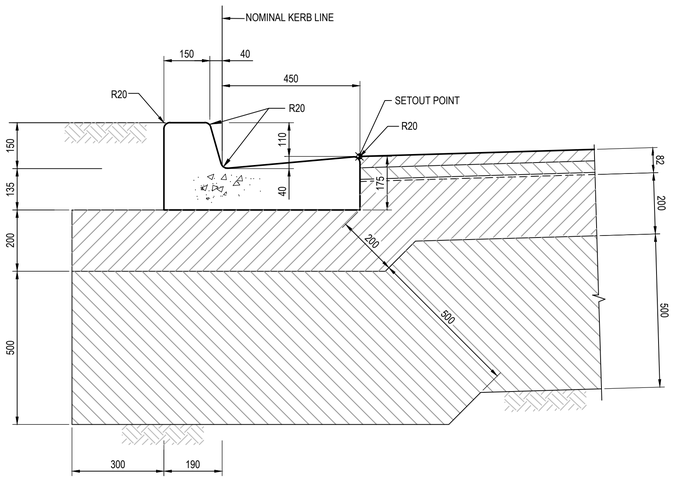
A1

Project - Drawing No.
20-748-C13013

Issue
A

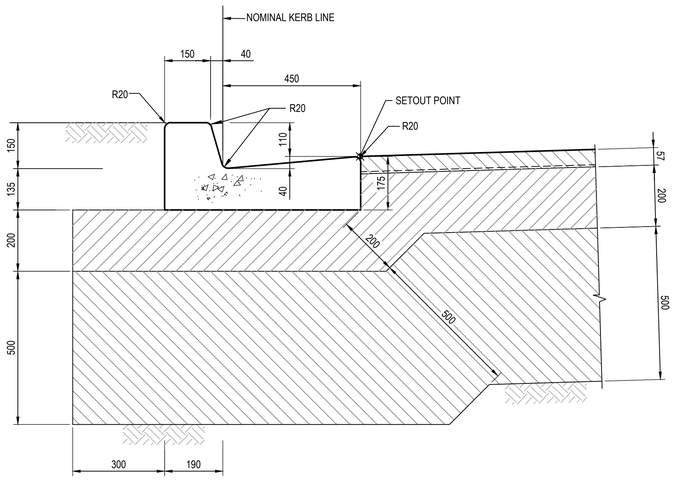
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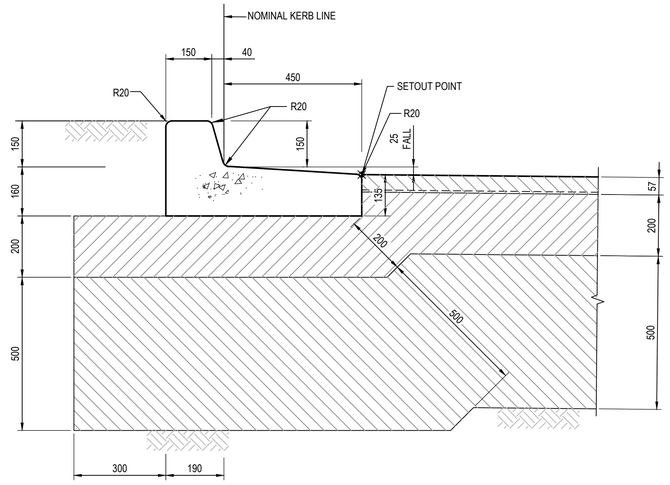
KERB AND GUTTER (K&G) - CUL-DE-SAC

SCALE 1:10
(REFER PCC DWG. SD1003/1)



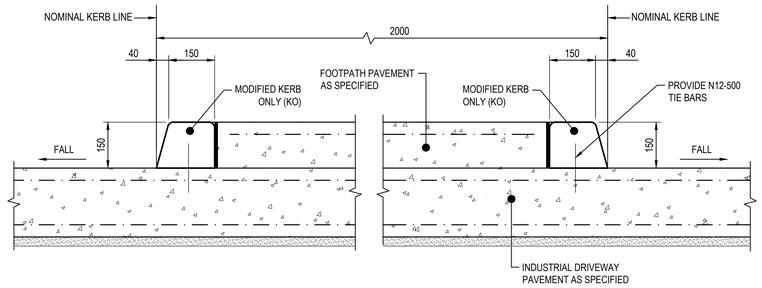
KERB AND GUTTER (K&G) - INDUSTRIAL AND PRIVATE ACCESS ROADS

SCALE 1:10
(REFER PCC DWG. SD1003/1)



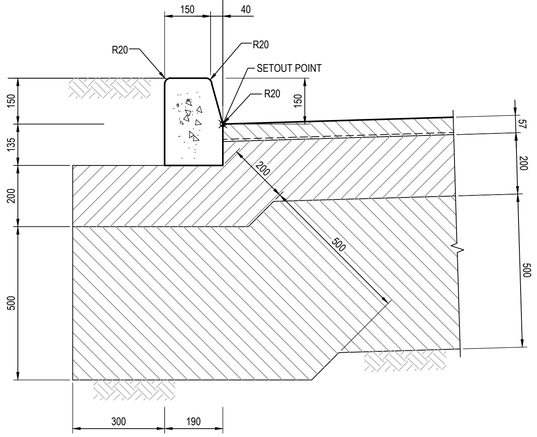
KERB AND TOE (K&T) - INDUSTRIAL AND PRIVATE ACCESS ROADS

SCALE 1 : 10



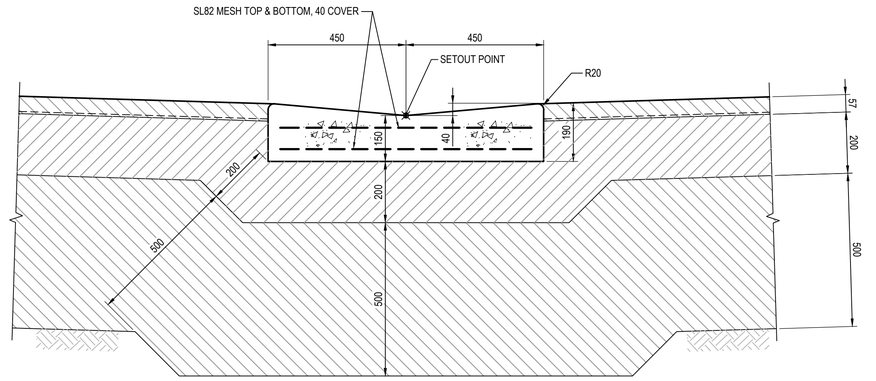
CONCRETE MEDIAN DETAIL

SCALE 1 : 10



KERB ONLY (KO) - INDUSTRIAL AND PRIVATE ACCESS ROADS

SCALE 1:10
(REFER PCC DWG. SD1003/2)



DISH CROSSING (DC) - INDUSTRIAL AND PRIVATE ACCESS ROADS

SCALE 1:10
(REFER PCC DWG. SD1003/2)

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Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 100 200 400 600 800 1000mm

1 : 10 @ A1 1 : 20 @ A3

Client

ESR

Scales	AS SHOWN
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
ROAD DETAILS
SHEET 1

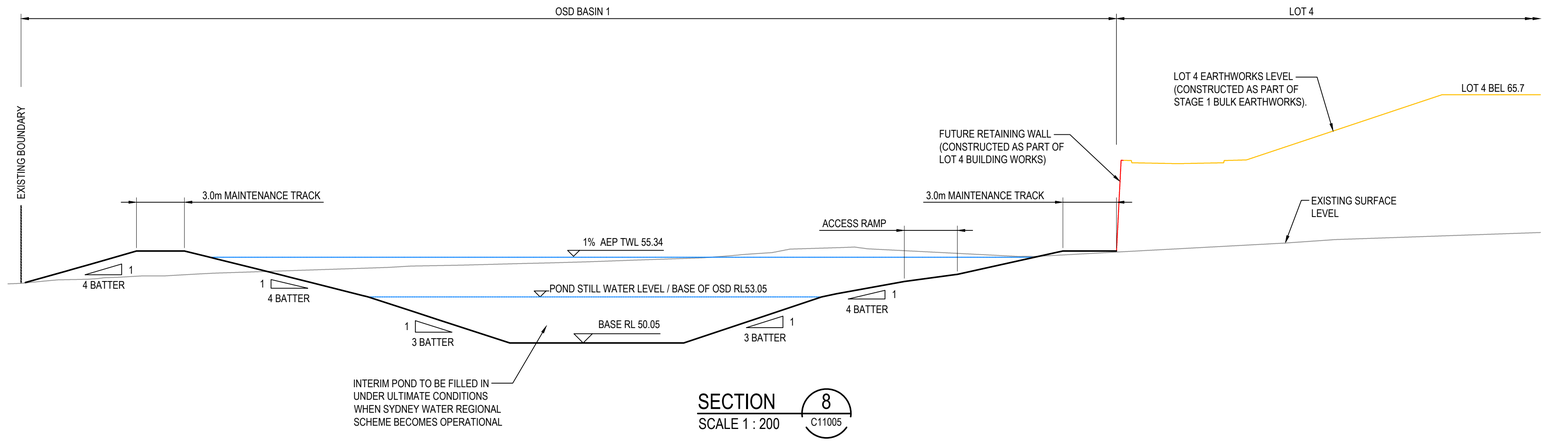
Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR CONSTRUCTION
A1

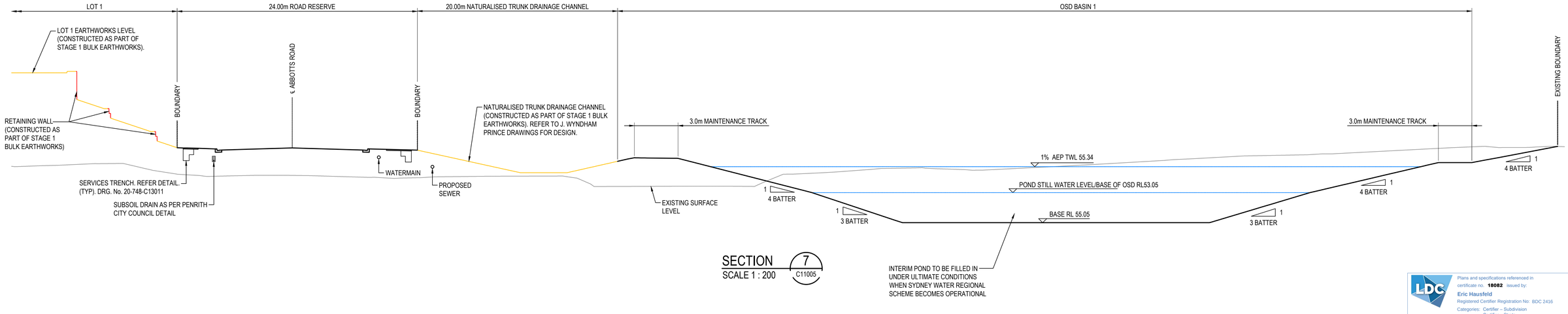
Project - Drawing No.: 20-748-C13015
Issue: A

100mm on Original

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SECTION 8
SCALE 1 : 200
C11005



SECTION 7
SCALE 1 : 200
C11005

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Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
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Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20m

1 : 200 @ A1 1 : 400 @ A3

Client

ESR

Scales: AS SHOWN
Grid: MGA2020
Height Datum: AHD

Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
SITE SECTIONS
SHEET 1

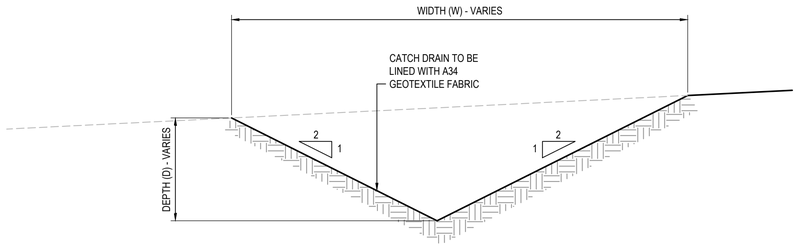
Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR CONSTRUCTION
A1

Project - Drawing No.: 20-748-C13020
Issue: A

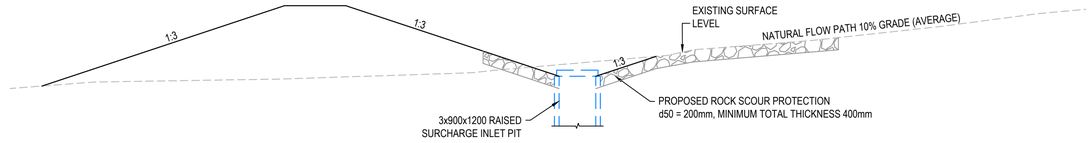
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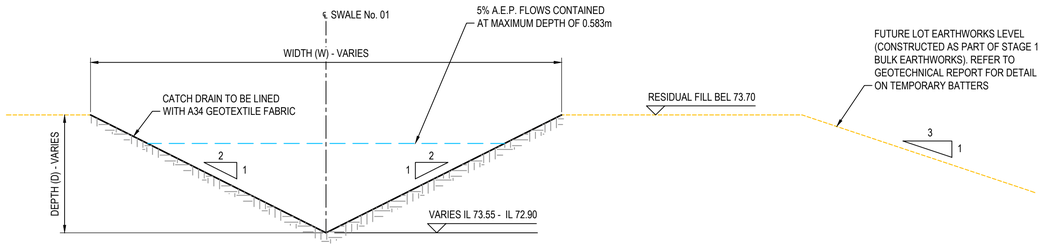


TYPICAL CATCH DRAIN DETAIL

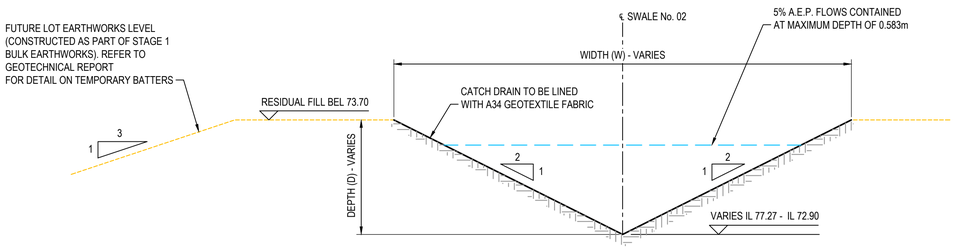
SCALE 1:10



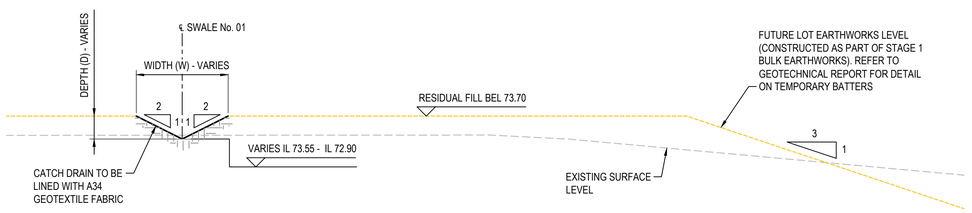
SECTION 5
1 : 50 C13035



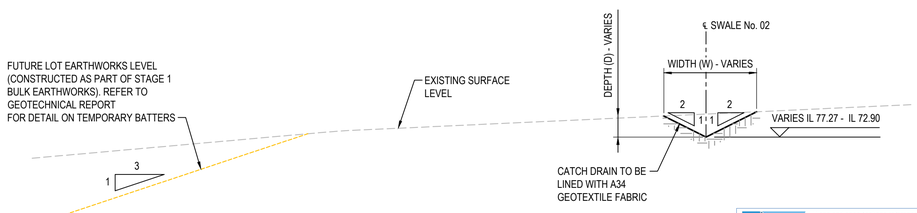
SECTION 2
1 : 20 C13033



SECTION 4
1 : 20 C13033



SECTION 1
1 : 20 C13034



SECTION 3
1 : 20 C13036

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 100 200 400 600 800 1000mm
1 : 10 @ A1 1 : 20 @ A3

0 500 1000 1500 2000mm
1 : 20 @ A1 1 : 40 @ A3

0 1 2 3 4 5m
1 : 50 @ A1 1 : 100 @ A3

100mm on Original

Client: ESR

Scales	AS SHOWN
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title: SITE DETAILS
SHEET 1

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 CONSTRUCTION
A1

Project - Drawing No.: 20-748-C13025
Issue: A

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ALDINGTON / ABBOTTS ROAD UPGRADE WORKS. (TO BE DETAILED UNDER SECTION 138 OF THE ROADS ACT 1993 AS PER CONDITION B4).

ESTATE ENTRY FEATURE WALL. CONSTRUCTED AS PART OF STAGE 1 BULK EARTHWORKS.

LOT 1

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

REFER TO AT&L 20-748 C20000 DRAWINGS FOR COUNCIL ROAD STORMWATER DRAWINGS. STORMWATER PIPES WITHIN THE S138 DRAWINGS ARE REQUIRED TO BE INSTALLED PRIOR TO SUBDIVISION DRAINAGE WORKS
DEVELOPMENT CONSENT: SSD-9138102
S138 ROADS ACT: EA23/0017

REFER TO AT&L 20-748 C20000 DRAWINGS FOR COUNCIL ROAD WORKS DETAILS.
DEVELOPMENT CONSENT: SSD-9138102
S138 ROADS ACT: EA23/0017

FUTURE INTERSECTION

ABBOTTS ROAD

CONNECT TO EXISTING 1350Ø PIPE WITHIN INTERSECTION AND MAKE GOOD

DOWNSTREAM STORMWATER CONNECTION TO BE COORDINATED WITH FUTURE ABBOTTS ROAD UPGRADE UNDER A SECTION 138 APPROVAL

TEMPORARY OUTLET FOR CHANNEL UNTIL TRUNK DRAINAGE HAS BEEN CONSTRUCTED DOWNSTREAM.

FOR EXTENT AND LOCATION OF FUTURE CHANNEL REFER TO J.WYNDHAM PRINCE CONCEPT DESIGN DRAWINGS

OUTLET OF TRUNK DRAINAGE CHANNEL TO BE CO-ORDINATED WITH NEIGHBOURING LANDOWNER AND S.W.C. UNDER SEPARATE APPROVALS ASSOCIATED WITH THE REDEVELOPMENT OF THE NEIGHBOURING ALLOTMENT

CONSTRUCT MOUND AT BOUNDARY AT RL54.1 TO ENSURE NO OVERLAND FLOW FROM CHANNEL INTO WESTERN LANDS. ALL OVERFLOW TO ABBOTS ROAD. REFER TO JWP OPEN CHANNEL DRAWINGS

IF CHANNEL WORKS NOT COMPLETED, PROVIDE TEMPORARY HEADWALL TYPE A. REFER TO DRG. No. C13093 FOR DETAILS.

PROPOSED ROCK SCOUR PROTECTION BETWEEN FUTURE CHANNEL HEADWALLS. NOT TO BE CONSTRUCTED IF CHANNEL WORKS ARE IN PROGRESS. d50 = 300mm,

CONNECT TO EXISTING S138 ROAD STORMWATER DRAINAGE

20m WIDE NATURALISED TRUNK DRAINAGE CHANNEL (CONSTRUCTED AS PART OF STAGE 1 BULK EARTHWORKS). REFER TO J. WYNDHAM PRINCE DRAWINGS FOR DESIGN.

ATLAN FILTER VAULT SYSTEM TREATING LOW FLOWS

CH 0.00 · CH 50 · CH 86.488 · CH 100

BC-1 · BA-1 · BA-2 · BB-2 · BE-2 · BE-1 · EX-1

FOR CONTINUATION REFER TO DRAWING C13032

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- EXISTING ELECTRICITY
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE TO BE DETAILED UNDER SECTION 138 OF THE ROADS ACT 1993 AS PER CONDITION B4
- INDICATIVE POND LAYOUT
- EXISTING RETAINING WALL CONSTRUCTED AS PART OF STAGE 1 BULK EARTHWORKS
- 70.00 PROPOSED MAJOR CONTOUR
- 70.20 PROPOSED MINOR CONTOUR
- PROPOSED BATTER CUT BATTER 1(V):3(H) FILL BATTER 1(V):5(H) U.N.O
- K&G KERB AND GUTTER (REFER PCC DWG. SD1003/1)
- K&T KERB AND TOE (REFER PCC DWG. SD1003/1)
- DC REINFORCED DISH CROSSING (REFER PCC DWG. SD1003/2)
- VC VEHICLE CROSSOVER (REFER PCC DWG. SD1004 & PAVEMENT PLANS FOR STRUCTURAL DETAILS)
- PR KERB RAMP (REFER PCC DWG. SD1002)
- KERB INLET
- LIMIT OF WORKS
- PROPOSED TEMPORARY CATCH DRAIN (REFER DETAILS ON DWG. C13025)
- PROPOSED TEMPORARY SWALE (REFER DETAILS ON DWG. C13025)
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER PIPE WITH HEADWALL
- FP SUBSOIL WITH FLUSHING POINT TO PCC STANDARDS
- PROPOSED STORMWATER LINE
- PROPOSED TEMPORARY STORMWATER LINE. ALL TEMPORARY PIPEWORK AND PITS TO BE REMOVED ONCE CONSTRUCTION OF LOT 3 AND 5 WAREHOUSES COMMENCES
- PROPOSED DIVERSION LINE FOR UPSTREAM CATCHMENTS, LOT 3 & LOT 5
- EXISTING DRAINAGE AS PER SECTION 138 DRAWINGS (C20000 PACKAGE)
- AREA SUBJECT TO SEPARATE SUBDIVISION WORKS CERTIFICATE
- PROPOSED ESTATE STREET TREE. REFER TO SITE IMAGE DRAWINGS FOR DETAILS.

LDC — Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision, Certifier – Strata, Certifier – Stormwater, Certifier – Road & Drainage, Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

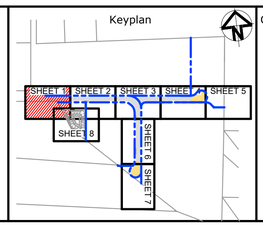
Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan



Client: ESR

Scales	1 : 250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 1

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 CONSTRUCTION — A1

Project - Drawing No.: 20-748-C13031 — Issue: A

100mm on Original

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LOT 1

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

REFER TO AT&L 20-748 C20000 DRAWINGS FOR COUNCIL ROAD WORKS DETAILS. DEVELOPMENT CONSENT: SSD-9138102 S138 ROADS ACT: EA23/0017

REFER TO AT&L 20-748 C20000 DRAWINGS FOR COUNCIL ROAD STORMWATER DRAWINGS. STORMWATER PIPES WITHIN THE S138 DRAWINGS ARE REQUIRED TO BE INSTALLED PRIOR TO SUBDIVISION DRAINAGE WORKS DEVELOPMENT CONSENT: SSD-9138102 S138 ROADS ACT: EA23/0017

STORMWATER DISCHARGE POINT FOR LOT 1

L1-1

Ø1200

KERB INLET WITHIN ALLOWANCE FOR TEMPORARY IMPERMEABLE COVER AT EACH TREE PIT (MIN 500MM DOWNSTREAM OF PIT) FOR DRAINAGE TO PASSIVELY IRRIGATED STREET TREE (TYPICAL FOR EVERY TREE PIT)

BD-1

AC-1

BD-2

AA-11

AA-10

AA-9

L1-2

AE-1

Ø375

Ø1350

Ø750

LIMIT OF FOR COUNCIL ROAD WORKS (S138)

ABBOTTS ROAD

24.0m ROAD RESERVE

60.00

61.00

62.00

63.00

64.00

1.5m

3.4m

7.5m

7.5m

2.5m

4.4m

K&G

FP

VC

CONNECT TO EXISTING S138 ROAD STORMWATER DRAINAGE

CONNECT TO EXISTING S138 ROAD STORMWATER DRAINAGE

FOR CONTINUATION REFER TO DRAWING C13031

FOR CONTINUATION REFER TO DRAWING C13033

20m WIDE NATURALISED TRUNK DRAINAGE CHANNEL (CONSTRUCTED AS PART OF STAGE 1 BULK EARTHWORKS). REFER TO J. WYNDHAM PRINCE DRAWINGS FOR DESIGN.

20.0m WIDE NATURALISED TRUNK DRAINAGE CHANNEL

CH 150

CH 194.94

CH 200

CH 250

2xØ1050

2xØ1050

900Ø

L4-1

GPT AND WEIR PIT

STORMWATER DISCHARGE POINT FOR LOT 4

FUTURE RETAINING WALL. REFER TO J. WYNDHAM PRINCE DRAWINGS FOR DESIGN.

LOT 4

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

BB-1

AA-12

AA-13

DETENTION BASIN & INTERIM POND
REFER TO DRAWINGS C13070-72

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- EXISTING ELECTRICITY
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE TO BE DETAILED UNDER SECTION 138 OF THE ROADS ACT 1993 AS PER CONDITION B4
- INDICATIVE POND LAYOUT
- EXISTING RETAINING WALL CONSTRUCTED AS PART OF STAGE 1 BULK EARTHWORKS
- 70.00 PROPOSED MAJOR CONTOUR
- 70.20 PROPOSED MINOR CONTOUR
- PROPOSED BATTER CUT BATTER 1(V):3(H) FILL BATTER 1(V):5(H) U.N.O
- K&G KERB AND GUTTER (REFER PCC DWG. SD1003/1)
- K&T KERB AND TOE (REFER PCC DWG. SD1003/1)
- DC REINFORCED DISH CROSSING (REFER PCC DWG. SD1003/2)
- VC VEHICLE CROSSOVER (REFER PCC DWG. SD1004 & PAVEMENT PLANS FOR STRUCTURAL DETAILS)
- PR KERB RAMP (REFER PCC DWG. SD1002)
- KERB INLET
- LIMIT OF WORKS
- PROPOSED TEMPORARY CATCH DRAIN (REFER DETAILS ON DWG. C13025)
- PROPOSED TEMPORARY SWALE (REFER DETAILS ON DWG. C13025)
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER PIPE WITH HEADWALL
- FP SUBSOIL WITH FLUSHING POINT TO PCC STANDARDS
- PROPOSED STORMWATER LINE
- PROPOSED TEMPORARY STORMWATER LINE. ALL TEMPORARY PIPEWORK AND PITS TO BE REMOVED ONCE CONSTRUCTION OF LOT 3 AND 5 WAREHOUSES COMMENCES
- PROPOSED DIVERSION LINE FOR UPSTREAM CATCHMENTS, LOT 3 & LOT 5
- EXISTING DRAINAGE AS PER SECTION 138 DRAWINGS (C20000 PACKAGE)
- AREA SUBJECT TO SEPARATE SUBDIVISION WORKS CERTIFICATE
- PROPOSED ESTATE STREET TREE. REFER TO SITE IMAGE DRAWINGS FOR DETAILS.

LDC
Plans and specifications referenced in certificate no. 18082 issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8

Client

ESR

Scales	1 : 250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 2

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 CONSTRUCTION	A1
Project - Drawing No.	Issue
20-748-C13032	A

100mm on Original

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LOT 1

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

KERB INLET WITHIN ALLOWANCE FOR TEMPORARY IMPERMEABLE COVER AT EACH TREE PIT (MIN 500MM DOWNSTREAM OF PIT) FOR DRAINAGE TO PASSIVELY IRRIGATED STREET TREE (TYPICAL FOR EVERY TREE PIT)

NOTE: EASEMENT TO BE CREATED FOR STORMWATER & UTILITY SERVICES WITHIN PRIVATE ROAD. REFER TO SURVEY DRAWINGS

BOUNDARY BETWEEN ABBOTTS ROAD PUBLIC ROAD RESERVE AND PRIVATE ACCESS ROAD

CH 0.00 TC11.904 CT34.477 CH 41.759 CH 50

ABBOTTS ROAD

PRIVATE ACCESS ROAD

AA-5 AA-6 AA-7 AA-8 AD-1 CA-4 CA-5 CB-1 XA-10 XA-11 XA-12 XA-13 XA-14 CDR-6 CDR-7 A5-1

Ø600 Ø525 Ø1350 Ø675 Ø450

24.0m ROAD RESERVE

20m WIDE NATURALISED TRUNK DRAINAGE CHANNEL (CONSTRUCTED AS PART OF STAGE 1 BULK EARTHWORKS). REFER TO J. WYNDHAM PRINCE DRAWINGS FOR DESIGN.

20.0m WIDE NATURALISED TRUNK DRAINAGE CHANNEL

CH 300 CH 330 CH 373.187 CH 400 CT402.878 CH 410.608

STORMWATER TAILOUT TO MATCH TO CURRENT SITE CONDITIONS

PROPOSED ROCK SCOUR PROTECTION OF TAIL OUT. NOT TO BE CONSTRUCTED IF CHANNEL WORKS ARE IN PROGRESS OR COMPLETED. d50 = 300mm,

IF CHANNEL WORKS NOT COMPLETED, PROVIDE TEMPORARY HEADWALL TYPE A. REFER TO DRG. No. C13093 FOR DETAILS.

LOT 4

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

TRANSITION BETWEEN K&G AND K&T IN 2.0m

TEMPORARY CATCH DRAIN

TEMPORARY STORMWATER PIT. REMOVE PIT AND BLOCK 675Ø OUTLET AS PART OF FUTURE ON-LOT WORKS.

900 x 900 INLET PIT WITH CLASS "B" V-GRATE FOR TEMPORARY CATCH DRAIN

TRANSITION BETWEEN K&G AND K&T IN 3.0m

TEMPORARY STORMWATER PIT

TEMPORARY SWALE No. 01 TO BE MADE REDUNDANT ONCE ONLOT BUILDING WORKS COMMENCE.

TEMPORARY BATTER

TEMPORARY SWALE No. 02 TO BE MADE REDUNDANT ONCE ONLOT BUILDING WORKS COMMENCE.

TEMPORARY BATTER

FUTURE LOT 5

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

TEMPORARY CATCH DRAIN

TEMPORARY CATCH DRAIN

CONNECTION FOR FUTURE LOT

0.6% GRADE

IL73.12 IL73.08

FOR CONTINUATION REFER TO DRAWING C13032

FOR CONTINUATION REFER TO DRAWING C13034

FOR CONTINUATION REFER TO DRAWING C13036

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- EXISTING ELECTRICITY
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE TO BE DETAILED UNDER SECTION 138 OF THE ROADS ACT 1993 AS PER CONDITION B4
- INDICATIVE POND LAYOUT
- EXISTING RETAINING WALL CONSTRUCTED AS PART OF STAGE 1 BULK EARTHWORKS
- 70.00 PROPOSED MAJOR CONTOUR
- 70.20 PROPOSED MINOR CONTOUR
- PROPOSED BATTER CUT BATTER 1(V):3(H) FILL BATTER 1(V):5(H) U.N.O
- K&G KERB AND GUTTER (REFER PCC DWG. SD1003/1)
- K&T KERB AND TOE (REFER PCC DWG. SD1003/1)
- DC REINFORCED DISH CROSSING (REFER PCC DWG. SD1003/2)
- VC VEHICLE CROSSOVER (REFER PCC DWG. SD1004 & PAVEMENT PLANS FOR STRUCTURAL DETAILS)
- PR KERB RAMP (REFER PCC DWG. SD1002)
- KERB INLET
- LIMIT OF WORKS
- PROPOSED TEMPORARY CATCH DRAIN (REFER DETAILS ON DWG. C13025)
- PROPOSED TEMPORARY SWALE (REFER DETAILS ON DWG. C13025)
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER PIPE WITH HEADWALL
- FP SUBSOIL WITH FLUSHING POINT TO PCC STANDARDS
- PROPOSED STORMWATER LINE
- PROPOSED TEMPORARY STORMWATER LINE. ALL TEMPORARY PIPEWORK AND PITS TO BE REMOVED ONCE CONSTRUCTION OF LOT 3 AND 5 WAREHOUSES COMMENCES
- PROPOSED DIVERSION LINE FOR UPSTREAM CATCHMENTS, LOT 3 & LOT 5
- EXISTING DRAINAGE AS PER SECTION 138 DRAWINGS (C20000 PACKAGE)
- AREA SUBJECT TO SEPARATE SUBDIVISION WORKS CERTIFICATE
- PROPOSED ESTATE STREET TREE. REFER TO SITE IMAGE DRAWINGS FOR DETAILS.

LDC Plans and specifications referenced in certificate no. 18082 issued by: Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision, Certifier – Strata, Certifier – Stormwater, Certifier – Road & Drainage, Certifier – Hydraulic (stormwater)
Land Development Certificates www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8

Client: ESR

Scales	1 : 250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 3

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 CONSTRUCTION

A1

Project - Drawing No.: 20-748-C13033

Issue: A

100mm on Original

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13033.dwg

LOT 1

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

FUTURE LOT 3

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

INSTALL TEMPORARY NON RETURN VALVE FROM DIA. 375 PIPE FROM PIT CDR-5

900 x 900 INLET PIT WITH CLASS "B" V-GRATE FOR TEMPORARY CATCH DRAIN

CDR-3 IL75.61 IL75.61

CDR-5 IL64.18 IL64.18

CH 100 CH 150 CH 200 CH 206.538 CH 213.688 CH 233.546 CH 245.550

TC216.765

Ø375

A3-1 IL67.40 IL67.40

KERB INLET WITHIN ALLOWANCE FOR TEMPORARY IMPERMEABLE COVER AT EACH TREE PIT (MIN 500MM DOWNSTREAM OF PIT) FOR DRAINAGE TO PASSIVELY IRRIGATED STREET TREE (TYPICAL FOR EVERY TREE PIT)

CONCRETE MEDIAN. REFER TO DRG. No. C13015 FOR DETAILS.

900 x 900 INLET PIT WITH CLASS "B" V-GRATE FOR TEMPORARY CATCH DRAIN

CD 66.80

R20.00m R16.50m R20.90m

PRIVATE ACCESS ROAD 60.00

FOR CONTINUATION REFER TO DRAWING C13033

FOR CONTINUATION REFER TO DRAWING C13035

Ø525 Ø1050 Ø450 Ø1050 Ø450 Ø1050 Ø750 Ø1050

CA-3 CA-2 CA-1

XA-9 XA-8

CC-1 CE-1 CF-1

Ø375 Ø375 Ø375

1.5m 3.4m 7.5m 7.5m 2.5m 4.4m 24.0m ROAD RESERVE

66.00 67.00

K&G FP VC

PRIVATE ACCESS ROAD

TEMPORARY CATCH DRAIN

IL66.03 IL66.10

900 x 900 INLET PIT WITH CLASS "B" V-GRATE FOR TEMPORARY CATCH DRAIN

CDR-4

A5-2 IL67.43

CONNECTION FOR FUTURE LOT

1 C13025

IL73.55 IL73.13 IL76.86

0.6% GRADE

TEMPORARY SWALE No. 01 TO BE MADE REDUNDANT ONCE ONLOT BUILDING WORKS COMMENCE.

TEMPORARY BATTER

FUTURE LOT 5

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

75.00 76.00 77.00

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- EXISTING ELECTRICITY
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE TO BE DETAILED UNDER SECTION 138 OF THE ROADS ACT 1993 AS PER CONDITION B4
- INDICATIVE POND LAYOUT
- EXISTING RETAINING WALL CONSTRUCTED AS PART OF STAGE 1 BULK EARTHWORKS
- 70.00 PROPOSED MAJOR CONTOUR
- 70.20 PROPOSED MINOR CONTOUR
- PROPOSED BATTER CUT BATTER 1(V):3(H) FILL BATTER 1(V):5(H) U.N.O
- K&G KERB AND GUTTER (REFER PCC DWG. SD1003/1)
- K&T KERB AND TOE (REFER PCC DWG. SD1003/1)
- DC REINFORCED DISH CROSSING (REFER PCC DWG. SD1003/2)
- VC VEHICLE CROSSOVER (REFER PCC DWG. SD1004 & PAVEMENT PLANS FOR STRUCTURAL DETAILS)
- PR KERB RAMP (REFER PCC DWG. SD1002)
- KERB INLET
- LIMIT OF WORKS
- PROPOSED TEMPORARY CATCH DRAIN (REFER DETAILS ON DWG. C13025)
- PROPOSED TEMPORARY SWALE (REFER DETAILS ON DWG. C13025)
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER PIPE WITH HEADWALL
- FP SUBSOIL WITH FLUSHING POINT TO PCC STANDARDS
- PROPOSED STORMWATER LINE
- PROPOSED TEMPORARY STORMWATER LINE. ALL TEMPORARY PIPEWORK AND PITS TO BE REMOVED ONCE CONSTRUCTION OF LOT 3 AND 5 WAREHOUSES COMMENCES
- PROPOSED DIVERSION LINE FOR UPSTREAM CATCHMENTS, LOT 3 & LOT 5
- EXISTING DRAINAGE AS PER SECTION 138 DRAWINGS (C20000 PACKAGE)
- AREA SUBJECT TO SEPARATE SUBDIVISION WORKS CERTIFICATE
- PROPOSED ESTATE STREET TREE. REFER TO SITE IMAGE DRAWINGS FOR DETAILS.

LDC Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision, Certifier – Strata, Certifier – Stormwater, Certifier – Road & Drainage, Certifier – Hydraulic (stormwater)
Land Development Certificates www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8

Client: ESR

Scales		Drawn	LM & QD
1 : 250		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: ROADWORKS 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 CONSTRUCTION

Size: A1

Project - Drawing No.: 20-748-C13034

Issue: A

100mm on Original

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FUTURE LOT 3

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

IL67.65

IL67.65

TEMPORARY CATCH DRAIN

LFP

FP

TEMPORARY BATTER

TEMPORARY CATCH DRAIN

XA-7

FOR CONTINUATION REFER TO DRAWING C13034

TEMPORARY 1:3 BATTER

Ø1050

1m HEIGHT, 1m WIDTH EMBANKMENT TO CONTAIN 1% AEP FLOWS FROM EXISTING EXTERNAL CATCHMENT.

PIT GRATE LEVEL 0.15m BELOW EXISTING SURFACE TO CREATE LOW POINT AT PIT.

F74.75

EMB76.00

F74.75

EMB76.00

F74.75

4.00

3.00

XA-6

F75.00

Ø1050

F75.50

0.60

EMB76.00

IL75.60

IL76.88

FUTURE LOT 5

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

PROPOSED ROCK SCOUR PROTECTION ALONG LOW LYING NATURAL FLOW PATH AND SURROUND PIT d50 = 200mm,

5

C13025

87.00

86.00

85.00

84.00

83.00

82.00

81.00

80.00

79.00

78.00

77.00

76.00

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- EXISTING ELECTRICITY
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE TO BE DETAILED UNDER SECTION 138 OF THE ROADS ACT 1993 AS PER CONDITION B4
- INDICATIVE POND LAYOUT
- EXISTING RETAINING WALL CONSTRUCTED AS PART OF STAGE 1 BULK EARTHWORKS
- 70.00 PROPOSED MAJOR CONTOUR
- 70.20 PROPOSED MINOR CONTOUR
- PROPOSED BATTER CUT BATTER 1(V):3(H) FILL BATTER 1(V):5(H) U.N.O
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- PR KERB RAMP (REFER PCC DWG. SD1002)
- KERB INLET
- LIMIT OF WORKS
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- PROPOSED STORMWATER SURFACE INLET PIT
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- AREA SUBJECT TO SEPARATE SUBDIVISION WORKS CERTIFICATE
- PROPOSED ESTATE STREET TREE. REFER TO SITE IMAGE DRAWINGS FOR DETAILS.

LDC

Plans and specifications referenced in certificate no. **18082** issued by:

Eric Hausfeld

Registered Certifier Registration No: BDC 2416

Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)

Land Development Certificates
www.LDC.com.au

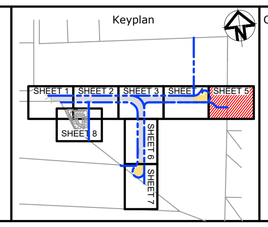
Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan



Client

ESR

Scales	1 : 250	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 5

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 CONSTRUCTION

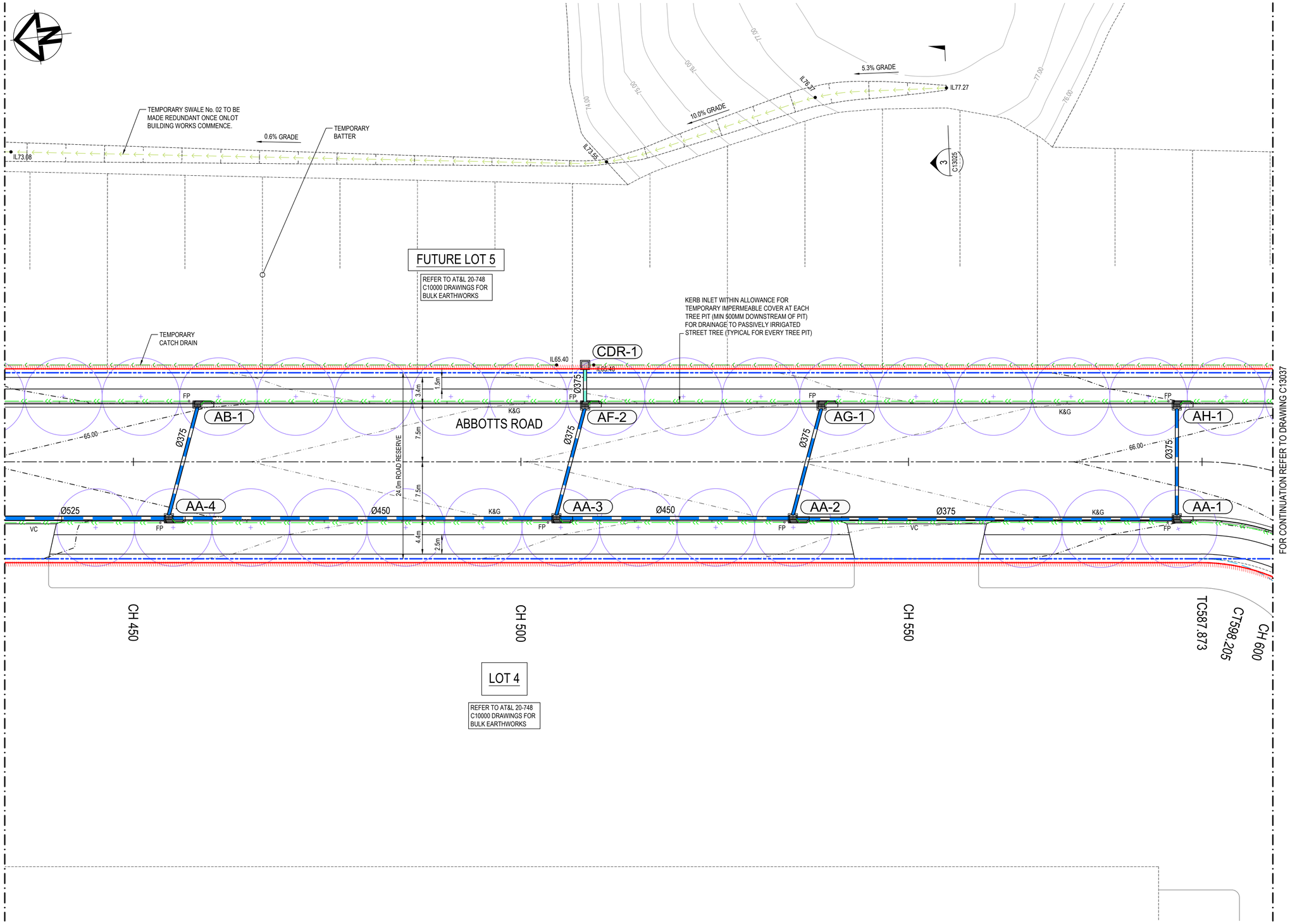
A1

Project - Drawing No.: 20-748-C13035

Issue: A

100mm on Original

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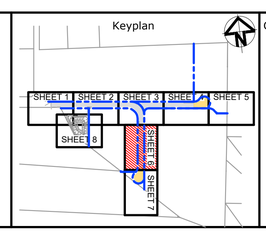
LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- EXISTING ELECTRICITY
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE TO BE DETAILED UNDER SECTION 138 OF THE ROADS ACT 1993 AS PER CONDITION B4
- INDICATIVE POND LAYOUT
- EXISTING RETAINING WALL CONSTRUCTED AS PART OF STAGE 1 BULK EARTHWORKS
- 70.00 PROPOSED MAJOR CONTOUR
- 70.20 PROPOSED MINOR CONTOUR
- PROPOSED BATTER CUT BATTER 1(V):3(H) FILL BATTER 1(V):5(H) U.N.O
- K&G KERB AND GUTTER (REFER PCC DWG. SD1003/1)
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- VC VEHICLE CROSSOVER (REFER PCC DWG. SD1004 & PAVEMENT PLANS FOR STRUCTURAL DETAILS)
- PR KERB RAMP (REFER PCC DWG. SD1002)
- KERB INLET
- LIMIT OF WORKS
- PROPOSED TEMPORARY CATCH DRAIN (REFER DETAILS ON DWG. C13025)
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- PROPOSED STORMWATER JUNCTION PIT
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- EXISTING DRAINAGE AS PER SECTION 138 DRAWINGS (C20000 PACKAGE)
- AREA SUBJECT TO SEPARATE SUBDIVISION WORKS CERTIFICATE
- PROPOSED ESTATE STREET TREE. REFER TO SITE IMAGE DRAWINGS FOR DETAILS.

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales
0 5 10 15 20 25m
1 : 250 @ A1 1 : 500 @ A3

Keyplan


Client
ESR

Scales	1 : 250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
ROADWORKS AND STORMWATER DRAINAGE PLAN
SHEET 6

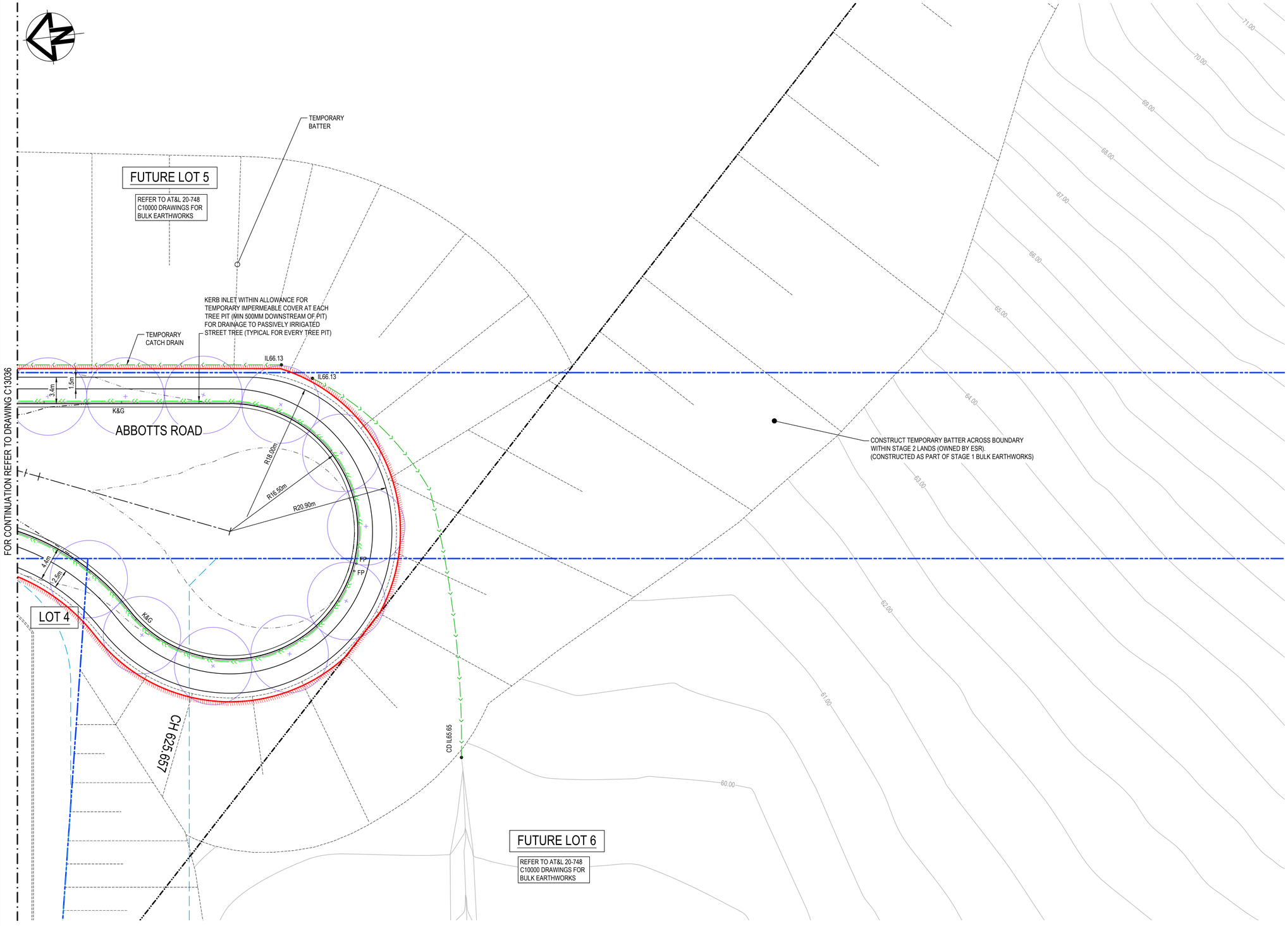
Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR CONSTRUCTION
Issue: A1

Project - Drawing No.: 20-748-C13036
Issue: A

100mm on Original

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LEGEND:

- EXISTING BOUNDARY
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- EXISTING ELECTRICITY
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LDC
Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
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Land Development Certificates
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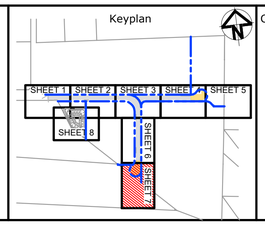
Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan



Client: ESR

Scales		Drawn	LM & QD
1 : 250		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 7

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 CONSTRUCTION | A1

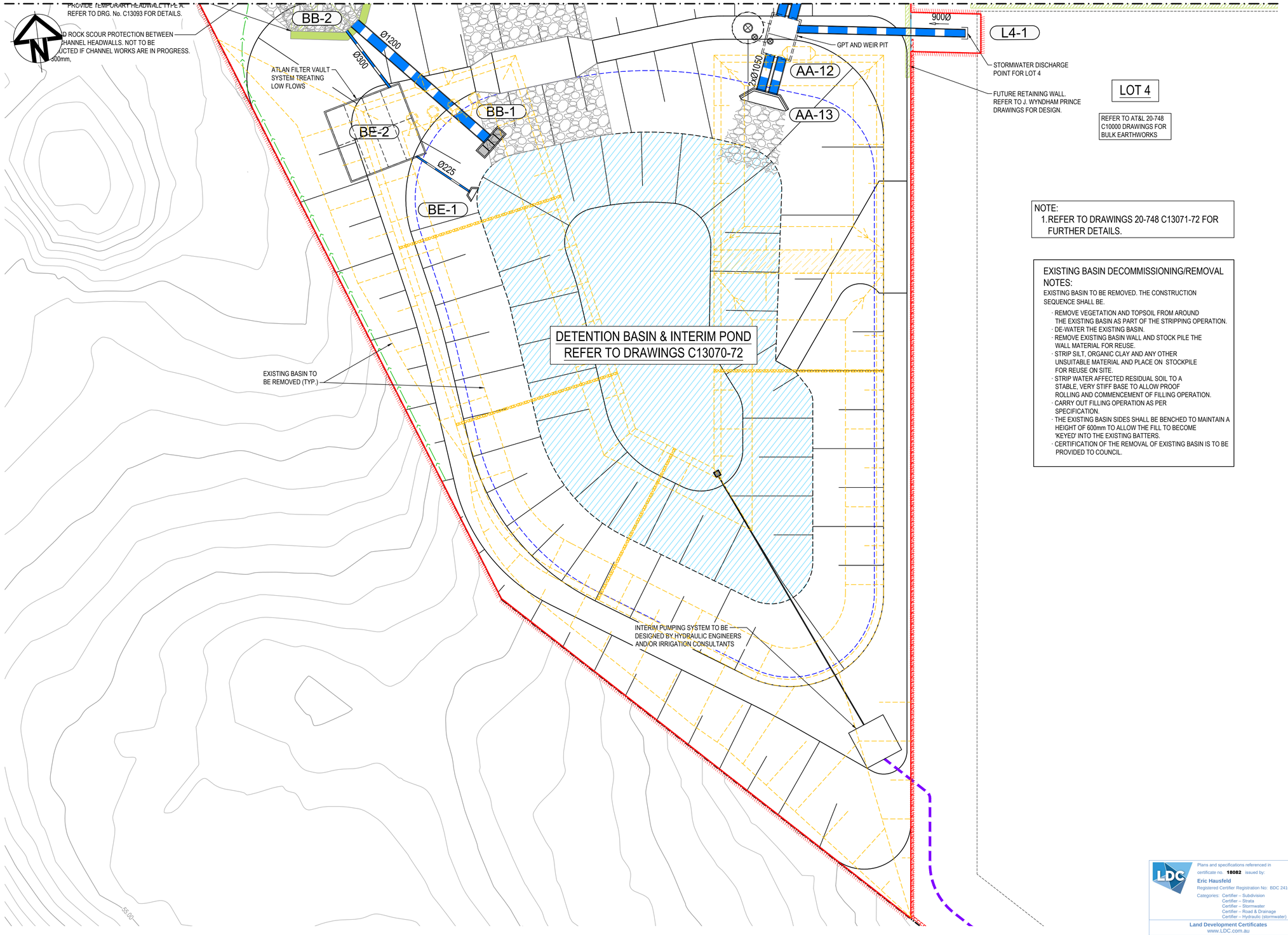
Project - Drawing No.: 20-748-C13037 | Issue: A

100mm on Original

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FOR CONTINUATION REFER TO DRAWING C13031

FOR CONTINUATION REFER TO DRAWING C13032



NOTE:
1. REFER TO DRAWINGS 20-748 C13071-72 FOR FURTHER DETAILS.

EXISTING BASIN DECOMMISSIONING/REMOVAL NOTES:

EXISTING BASIN TO BE REMOVED. THE CONSTRUCTION SEQUENCE SHALL BE.

- REMOVE VEGETATION AND TOPSOIL FROM AROUND THE EXISTING BASIN AS PART OF THE STRIPPING OPERATION.
- DE-WATER THE EXISTING BASIN.
- REMOVE EXISTING BASIN WALL AND STOCK PILE THE WALL MATERIAL FOR REUSE.
- STRIP SILT, ORGANIC CLAY AND ANY OTHER UNSUITABLE MATERIAL AND PLACE ON STOCKPILE FOR REUSE ON SITE.
- STRIP WATER AFFECTED RESIDUAL SOIL TO A STABLE, VERY STIFF BASE TO ALLOW PROOF ROLLING AND COMMENCEMENT OF FILLING OPERATION.
- CARRY OUT FILLING OPERATION AS PER SPECIFICATION.
- THE EXISTING BASIN SIDES SHALL BE BENCHED TO MAINTAIN A HEIGHT OF 600mm TO ALLOW THE FILL TO BECOME 'KEYED' INTO THE EXISTING BATTERS.
- CERTIFICATION OF THE REMOVAL OF EXISTING BASIN IS TO BE PROVIDED TO COUNCIL.

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- EXISTING ELECTRICITY
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE TO BE DETAILED UNDER SECTION 138 OF THE ROADS ACT 1993 AS PER CONDITION B4
- INDICATIVE POND LAYOUT
- EXISTING RETAINING WALL CONSTRUCTED AS PART OF STAGE 1 BULK EARTHWORKS
- 70.00 — PROPOSED MAJOR CONTOUR
- 70.20 — PROPOSED MINOR CONTOUR
- PROPOSED BATTER CUT BATTER 1(V):3(H) FILL BATTER 1(V):5(H) U.N.O
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- KERB INLET
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TO BE REMOVED:

- EXISTING BASIN TO BE REMOVED

LDC
Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
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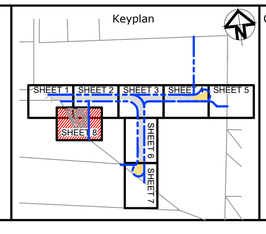
Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan



Client: ESR

Scales	1 : 250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: ROADWORKS AND STORMWATER DRAINAGE PLAN SHEET 8

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 CONSTRUCTION

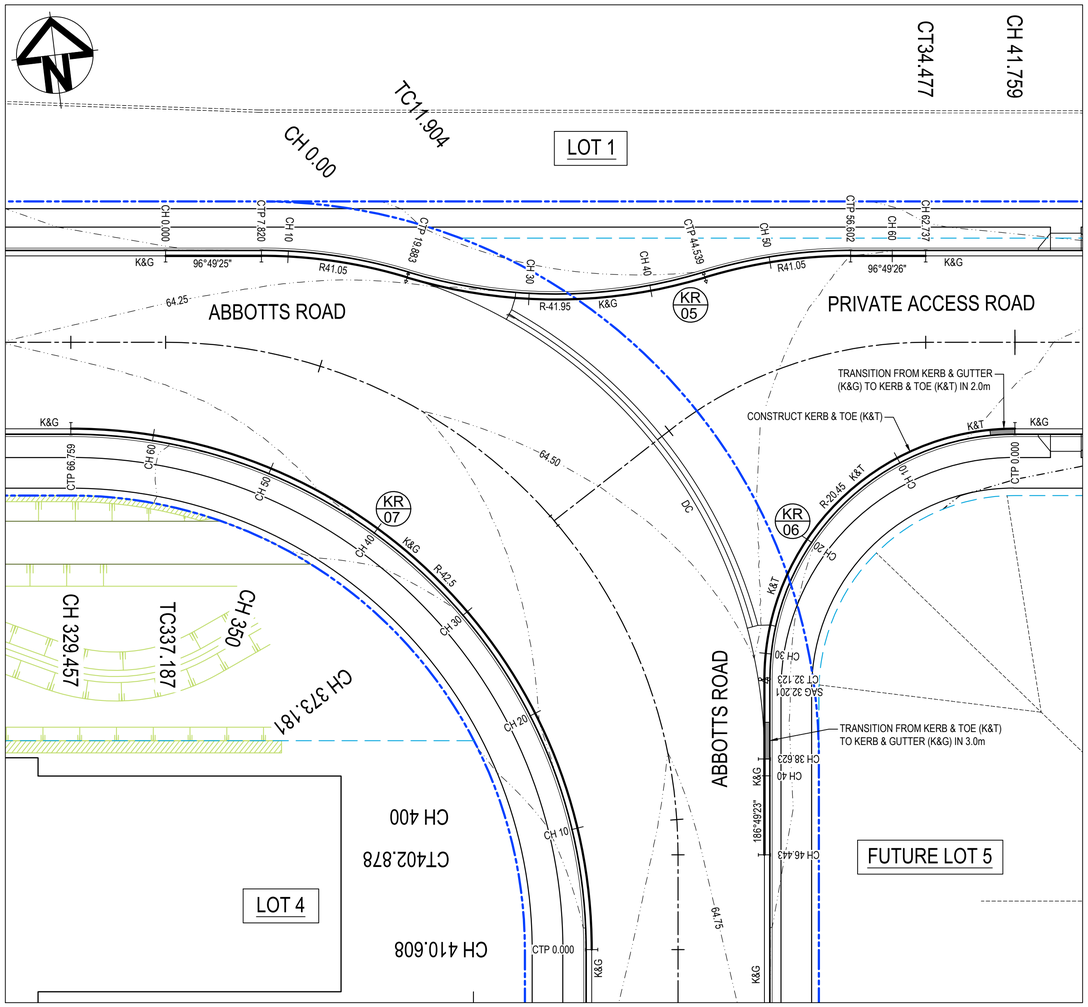
Issue: A1

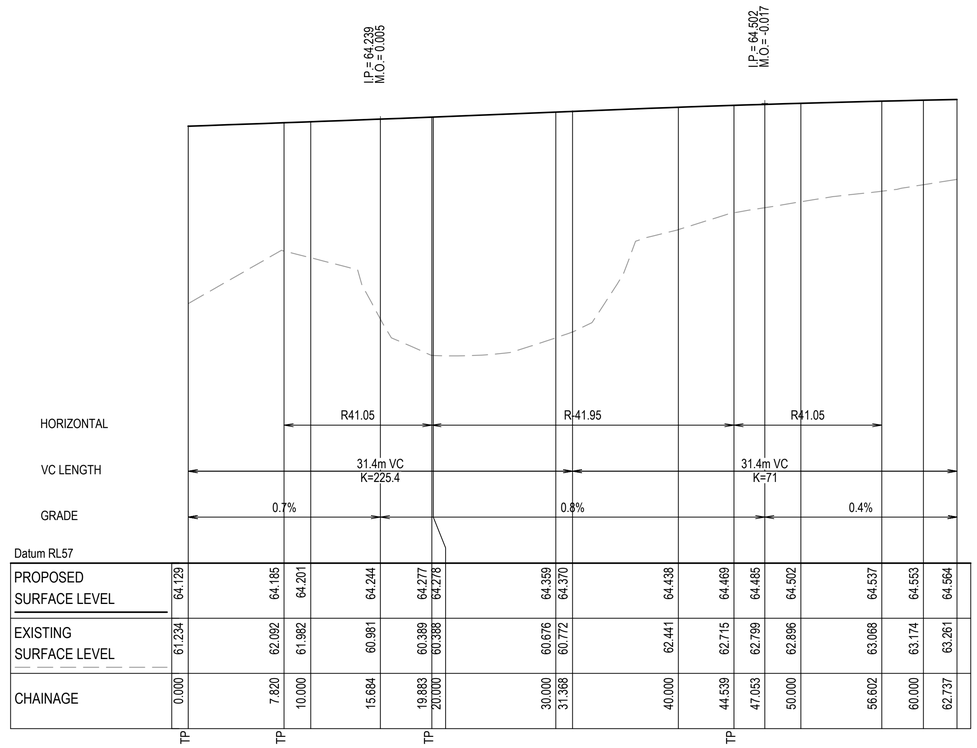
Project - Drawing No.: 20-748-C13038

Issue: A

100mm on Original

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KR05 LONGITUDINAL SECTION
SCALE 1:250 HORI.
1:50 VERT.

KR05 HORIZONTAL POINTS - CONTROL LINE (LIP)							
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	296368.572	6251469.997	96°49'24.53"			
TC	7.820	296376.337	6251469.067	96°49'24.53"			
IP 2	13.852	296382.369	6251468.346		R = 41.050	12.063	16°50'13.65"
CC	19.883	296387.934	6251465.907	113°39'38.18"			
IP 3	32.211	296399.562	6251460.813		R = -41.950	24.656	33°40'29.99"
CC	44.539	296412.064	6251463.020	79°59'08.18"			
IP 4	50.571	296418.047	6251464.077		R = 41.050	12.063	16°50'14.97"
IP 5	56.602	296424.079	6251463.355				
IP 6	62.737	296430.170	6251462.626	96°49'25.75"			

KR06 HORIZONTAL POINTS - CONTROL LINE (LIP)							
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	296435.726	6251447.761	276°49'23.33"			
IP 2	16.061	296415.421	6251450.190		R = -20.450	32.123	90°00'00.00"
IP 3	32.123	296412.991	6251429.885				
IP 4	46.443	296411.290	6251415.667	186°49'22.86"			

KR07 HORIZONTAL POINTS - CONTROL LINE (LIP)							
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	296396.371	6251409.667	6°49'23.33"			
IP 2	33.379	296401.420	6251451.866		R = -42.500	66.759	90°00'00.00"
IP 3	66.759	296359.221	6251456.915	276°49'23.33"			

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m
1 : 250 @ A1 1 : 500 @ A3

0 1 2 3 4 5m
1 : 50 @ A1 1 : 100 @ A3

100mm on Original

Client: ESR

Scales		Drawn	LM & QD
1 : 250 H 1 : 50 V		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: INTERSECTION PLAN SHEET 1

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

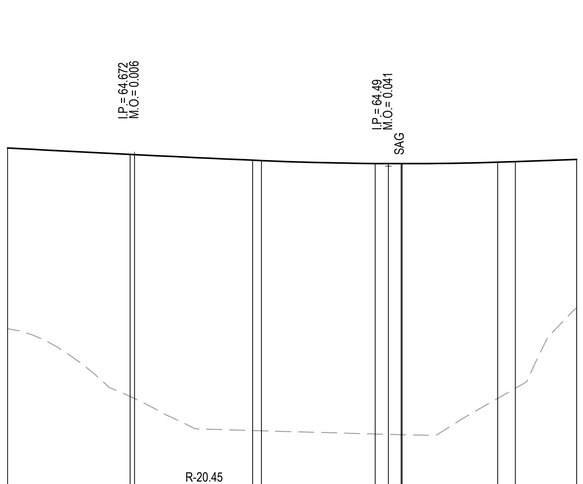
Status: FOR CONSTRUCTION

A1

Project - Drawing No.: 20-748-C13041

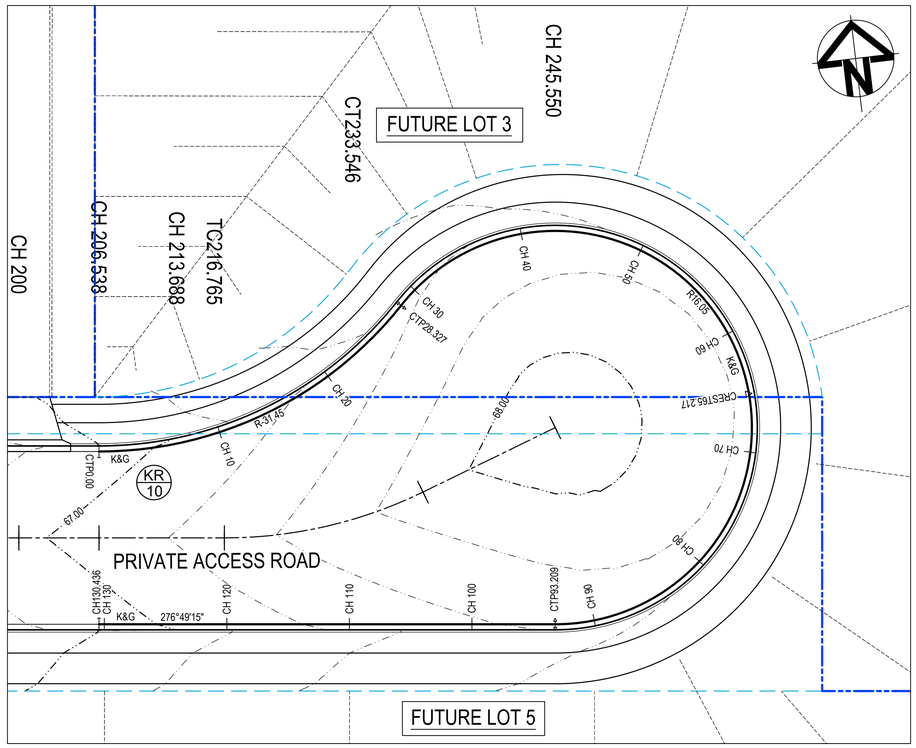
Issue: A

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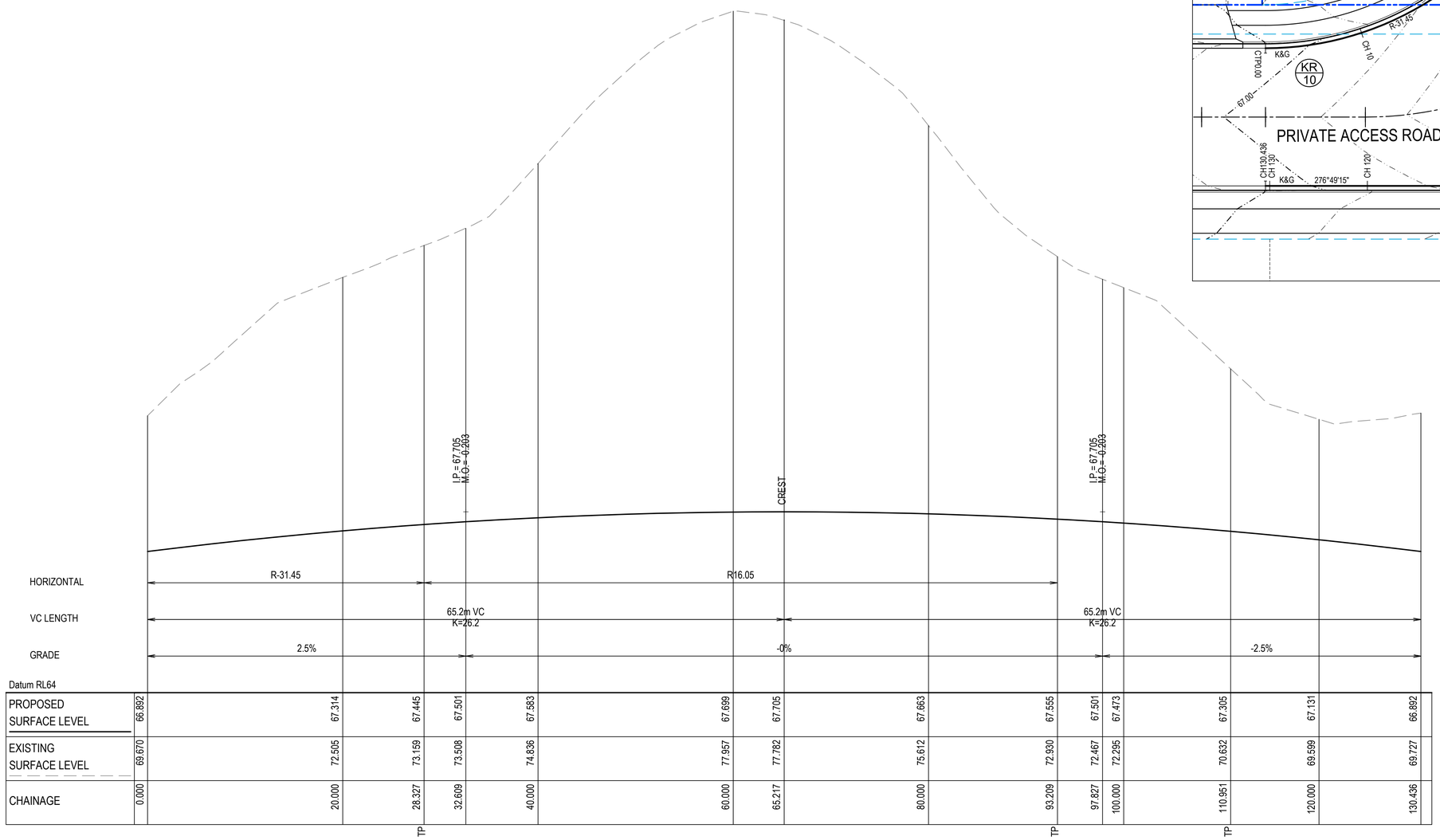

I.P.= 64.672
M.O.= 0.006
I.P.= 64.49
M.O.= 0.041
SAG

| | | |

KR10 HORIZONTAL POINTS - CONTROL LINE (LIP)							
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	296601.013	6251442.184	96°49'23.26"			
IP 2	14.164	296616.111	6251440.378		R = -31.450	28.327	51°36'24.95"
CC	28.327	296626.904	6251451.089	45°12'58.31"			
IP 3	44.548	296645.067	6251469.115		R = 16.050	32.441	115°48'26.46"
CC	60.768	296653.388	6251444.917	161°01'24.77"			
IP 4	76.988	296661.709	6251420.718		R = 16.050	32.441	115°48'26.46"
CC	93.209	296636.301	6251423.761	276°49'51.23"			
IP 5	102.080	296627.493	6251424.817			17.743	0°00'36.60"
CT	110.951	296618.684	6251425.870	276°49'14.63"			
IP 6	130.436	296599.338	6251428.184	276°49'14.63"			



PLAN
SCALE 1 : 250



KR10 LONGITUDINAL SECTION
SCALE 1:250 HORI.
1:50 VERT.

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales
0 5 10 15 20 25m
1 : 250 @ A1 1 : 500 @ A3
0 1 2 3 4 5m
1 : 50 @ A1 1 : 100 @ A3

Client: ESR

Scales: 1 : 250 H, 1 : 50 V
Grid: MGA2020
Height Datum: AHD
Drawn: LM & QD
Designed: LM
Checked: LB
Approved: AT
GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

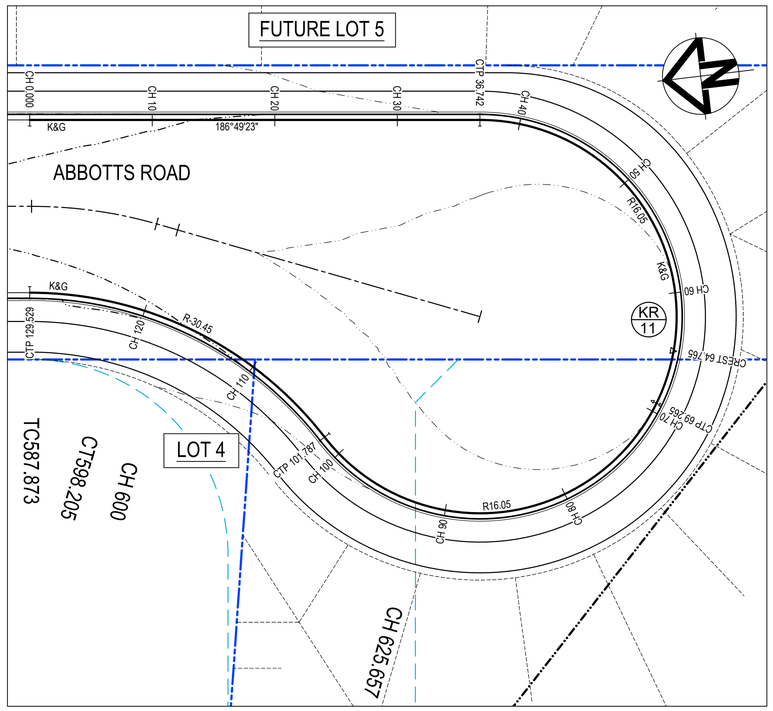
Title: INTERSECTION PLAN SHEET 3

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 CONSTRUCTION
A1
Project - Drawing No.: 20-748-C13043
Issue: A

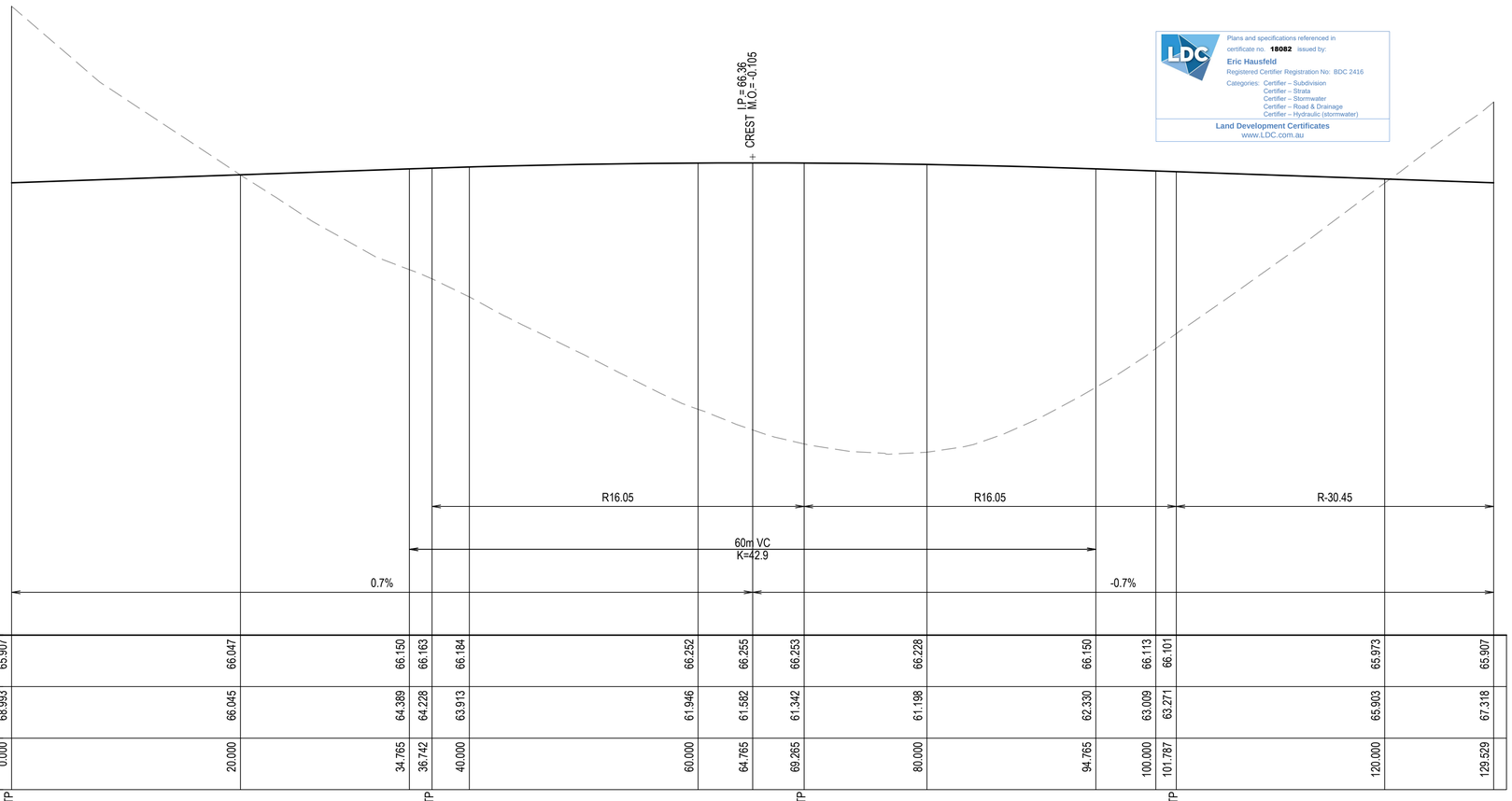
100mm on Original

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PLAN
SCALE 1 : 250

KR11 HORIZONTAL POINTS - CONTROL LINE (LIP)							
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	296389.330	6251232.136	186°49'23.35"			
IP 2	36.742	296384.965	6251195.654				
IP 3	53.004	296381.907	6251170.101		R = 16.050	32.523	116°06'00.50"
CC	69.265	296360.305	6251184.089	302°55'23.83"			
IP 4	85.526	296338.703	6251198.076		R = 16.050	32.523	116°06'00.50"
IP 5	101.787	296360.768	6251211.322				
IP 6	115.658	296373.558	6251219.000		R = -30.450	27.742	52°12'01.00"
IP 7	129.529	296375.330	6251233.812	6°49'23.15"			



KR11 LONGITUDINAL SECTION
SCALE 1:250 HORI.
1:50 VERT.

LDC
Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales
0 5 10 15 20 25m
1 : 250 @ A1 1 : 500 @ A3
0 1 2 3 4 5m
1 : 50 @ A1 1 : 100 @ A3

Client: ESR

Scales: 1 : 250 H, 1 : 50 V
Drawn: LM & QD
Designed: LM
Grid: MGA2020
Checked: LB
Height Datum: AHD
Approved: AT
GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

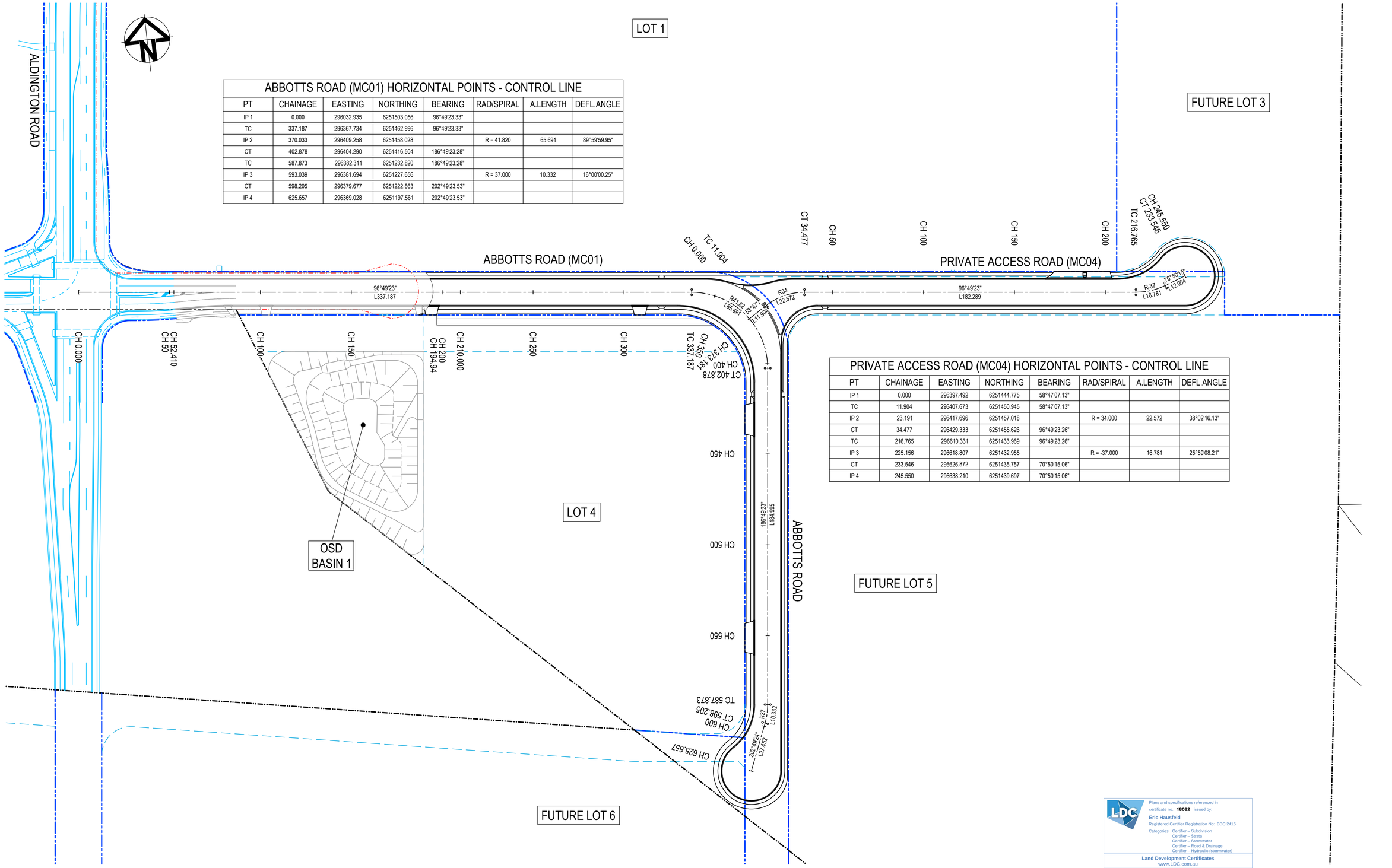
Title: INTERSECTION PLAN SHEET 4

Civil Engineers and Project Managers
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ABN 96 130 882 405
Tel: 02 9439 1777
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info@atl.net.au

Status: FOR CONSTRUCTION
Issue: A1
Project - Drawing No.: 20-748-C13044
Issue: A

100mm on Original

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ABBOTTS ROAD (MC01) HORIZONTAL POINTS - CONTROL LINE

PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	296032.935	6251503.056	96°49'23.33"			
TC	337.187	296367.734	6251462.996	96°49'23.33"			
IP 2	370.033	296409.258	6251458.028		R = 41.820	65.691	89°59'59.95"
CT	402.878	296404.290	6251416.504	186°49'23.28"			
TC	587.873	296382.311	6251232.820	186°49'23.28"			
IP 3	593.039	296381.694	6251227.656		R = 37.000	10.332	16°00'00.25"
CT	598.205	296379.677	6251222.863	202°49'23.53"			
IP 4	625.657	296369.028	6251197.561	202°49'23.53"			

PRIVATE ACCESS ROAD (MC04) HORIZONTAL POINTS - CONTROL LINE

PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	296397.492	6251444.775	58°47'07.13"			
TC	11.904	296407.673	6251450.945	58°47'07.13"			
IP 2	23.191	296417.696	6251457.018		R = 34.000	22.572	38°02'16.13"
CT	34.477	296429.333	6251455.626	96°49'23.26"			
TC	216.765	296610.331	6251433.969	96°49'23.26"			
IP 3	225.156	296618.807	6251432.955		R = -37.000	16.781	25°59'08.21"
CT	233.546	296626.872	6251435.757	70°50'15.06"			
IP 4	245.550	296638.210	6251439.697	70°50'15.06"			

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 20 40 60 80 100m

1 : 1000 @ A1 1 : 2000 @ A3

100mm on Original

Client: ESR

Scales: 1 : 1000

Grid: MGA2020

Height Datum: AHD

Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: CONTROL LINE SETOUT PLAN

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
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info@atl.net.au

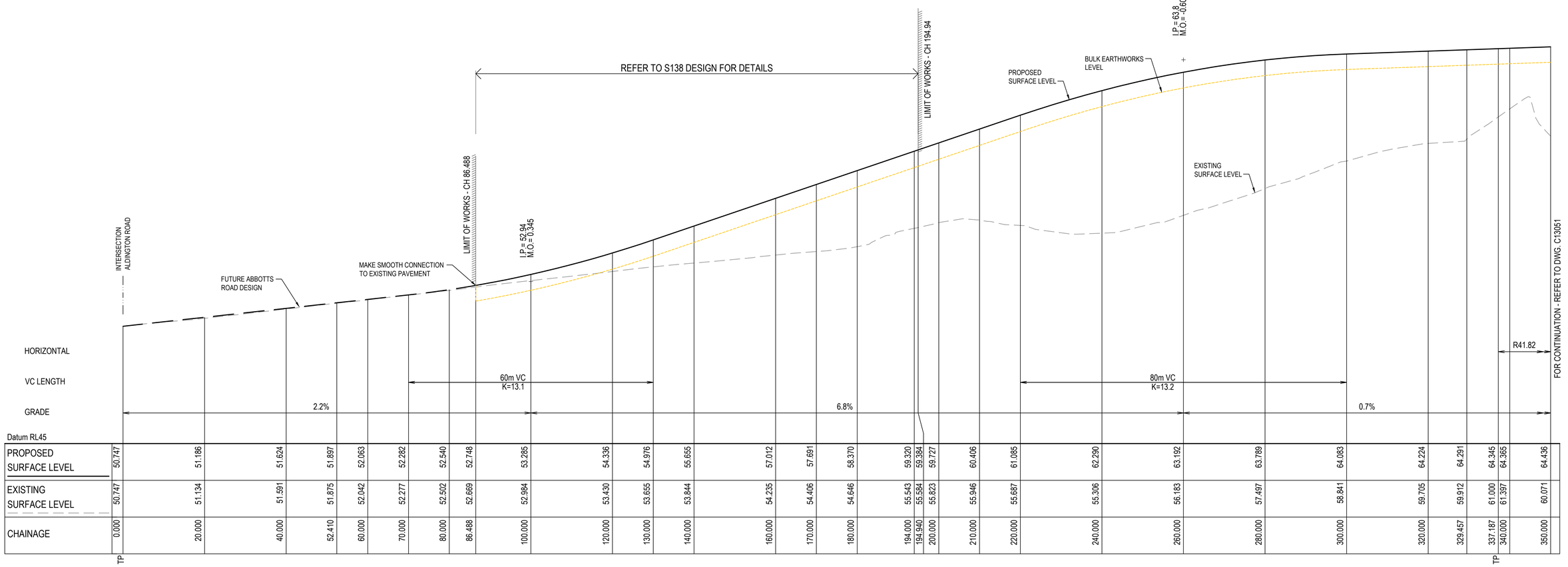
Status: FOR CONSTRUCTION

A1

Project - Drawing No.: 20-748-C13045

Issue: A

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PROPOSED SURFACE LEVEL	50.747	51.186	51.624	51.897	52.063	52.282	52.540	52.748	53.285	54.336	54.976	55.655	57.012	57.691	58.370	59.320	59.384	59.727	60.406	61.085	62.290	63.192	63.789	64.083	64.224	64.291	64.345	64.365	64.436
EXISTING SURFACE LEVEL	50.747	51.134	51.591	51.875	52.042	52.277	52.502	52.669	52.984	53.430	53.655	53.844	54.235	54.406	54.646	55.543	55.584	55.823	55.946	55.687	55.306	56.183	57.497	58.841	59.705	59.912	61.000	61.397	60.071
CHAINAGE	0.000	20.000	40.000	52.410	60.000	70.000	80.000	86.488	100.000	120.000	130.000	140.000	160.000	170.000	180.000	194.000	194.940	200.000	210.000	220.000	240.000	260.000	280.000	300.000	320.000	329.457	337.187	340.000	350.000
	TP																											TP	

ABBOTTS ROAD (MC01) LONGITUDINAL SECTION

SCALE 1:500 HORI.
1:100 VERT.

LDC
Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

100mm on Original

Bar Scales

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

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

Client: ESR

Scales	1 : 100 V 1 : 500 H	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

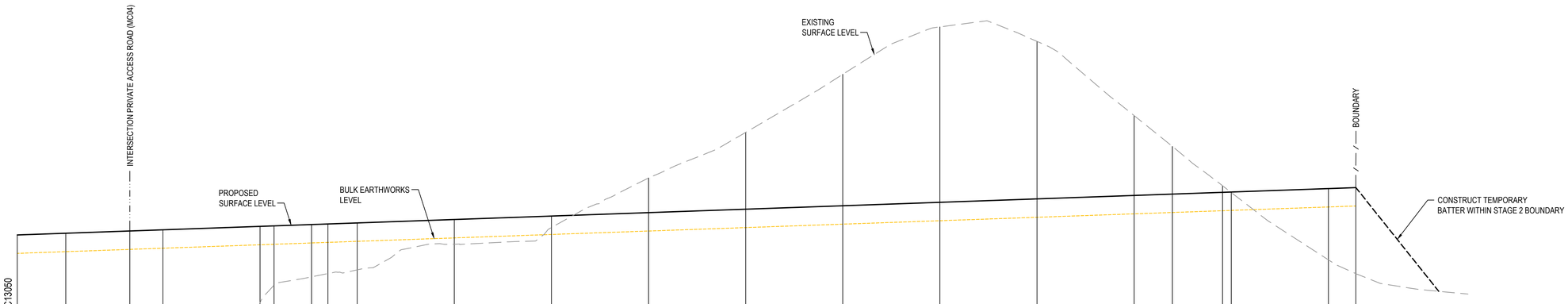
Title: ABBOTTS ROAD (MC01) LONGITUDINAL SECTIONS SHEET 1

Civil Engineers and Project Managers
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North Sydney NSW 2060
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Status: FOR CONSTRUCTION — A1

Project - Drawing No.: 20-748-C13050 — Issue: A

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HORIZONTAL

VC LENGTH

GRADE

Datum RL54

PROPOSED SURFACE LEVEL	64.436	64.507	64.600	64.648	64.789	64.810	64.864	64.888	64.931	65.072	65.213	65.355	65.496	65.637	65.779	65.920	66.061	66.117	66.190	66.203	66.344	66.384	
EXISTING SURFACE LEVEL	60.071	60.181	60.016	60.011	61.648	62.371	62.712	62.847	62.999	64.055	64.739	66.779	68.654	71.042	72.991	72.395	69.343	68.075	66.459	66.181	63.412	62.846	
CHAINAGE	350.000	360.000	373.181	380.000	400.000	402.878	410.608	413.964	420.000	440.000	460.000	480.000	500.000	520.000	540.000	560.000	580.000	587.873	598.205	600.000	620.000	625.657	
						TP												TP	TP				

ABBOTTS ROAD (MC01) LONGITUDINAL SECTION - CONTINUED

SCALE 1:500 HORI.
1:100 VERT.

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

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

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

Client: ESR

Scales	1 : 100 V 1 : 500 H	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
ABBOTTS ROAD (MC01)
LONGITUDINAL SECTIONS
SHEET 2

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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www.atl.net.au
info@atl.net.au

Status: FOR CONSTRUCTION

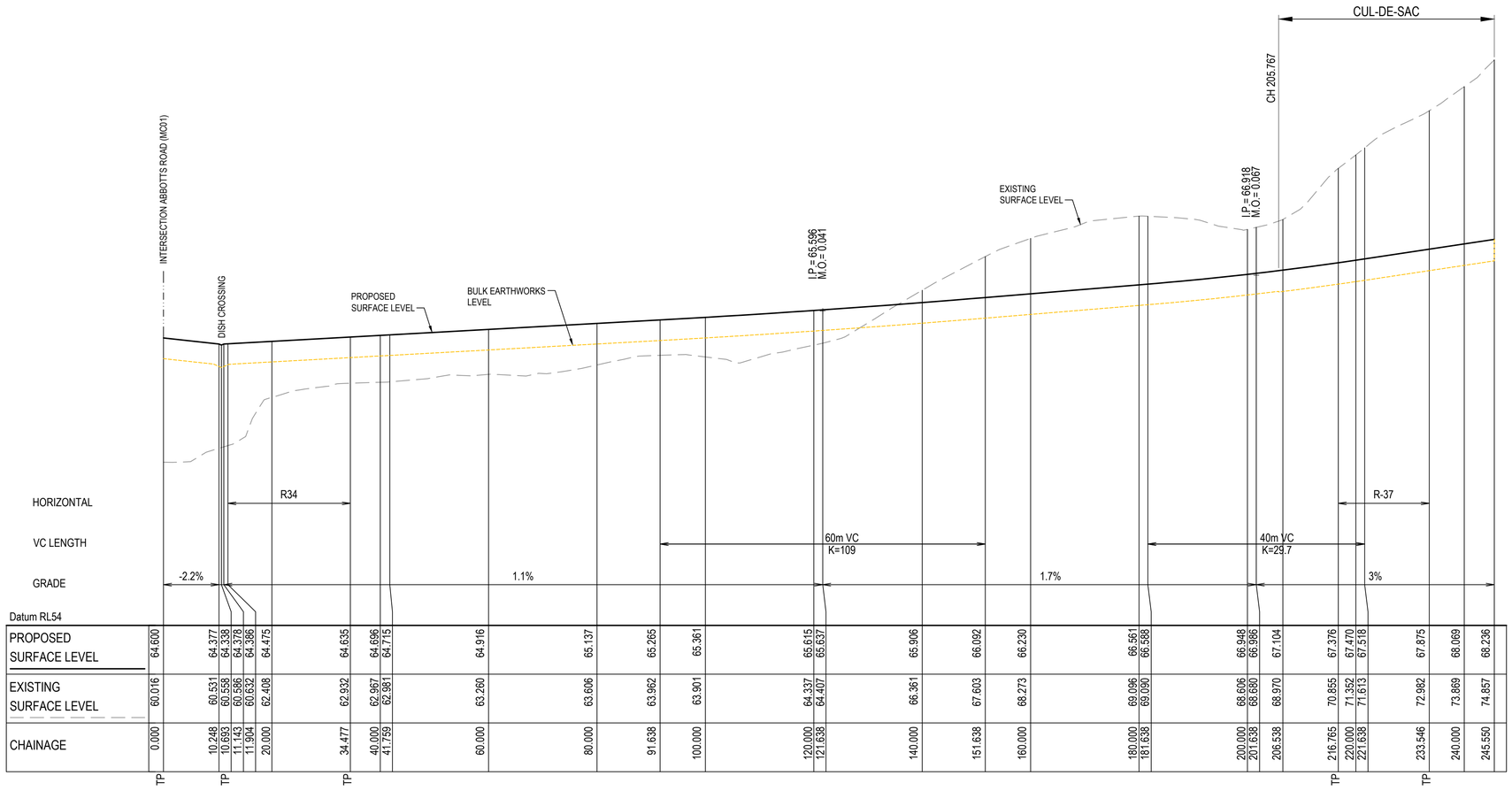
Issue: A1

Project - Drawing No.: 20-748-C13051

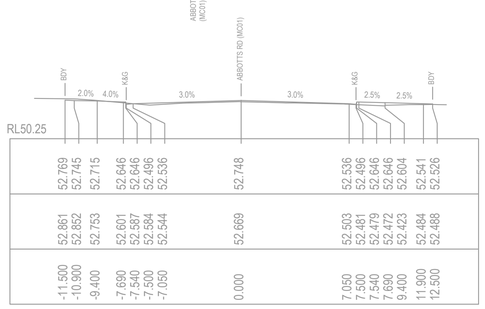
Issue: A

100mm on Original

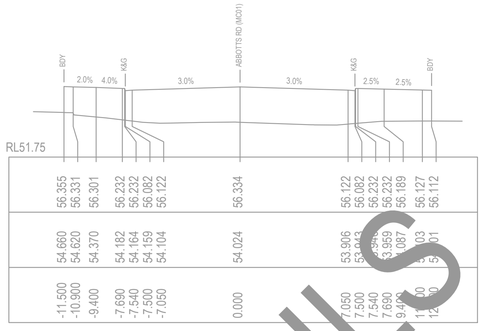
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CUL-DE-SAC
INTERSECTION ABBOTTS ROAD (MC01)
DISH CROSSING
PROPOSED SURFACE LEVEL
BULK EARTHWORKS LEVEL
EXISTING SURFACE LEVEL
I.P = 65.596 M.O. = 0.041
I.P = 66.918 M.O. = 0.067
CH 205.767
HORIZONTAL
R34
R-37
VC LENGTH
60m VC K=109
40m VC K=29.7
GRADE
-2.2%
1.1%
1.7%
3%
Datum RL54

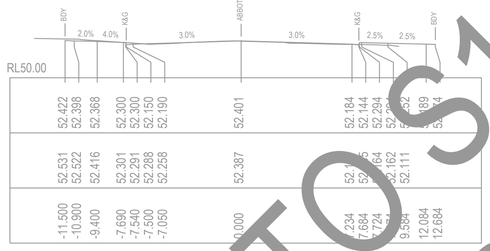
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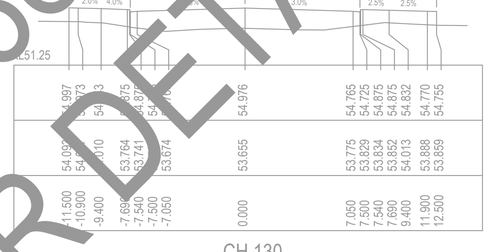
CH 86.488



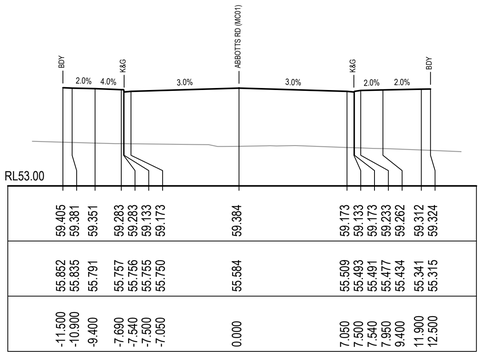
CH 150



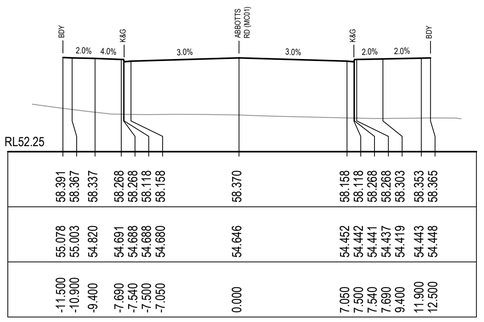
CH 75



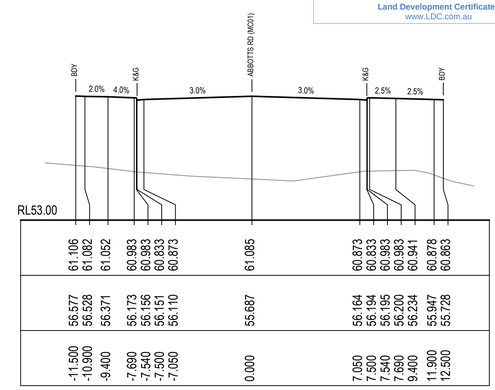
CH 130



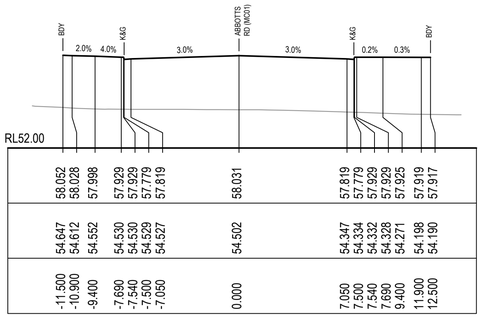
CH 194.94



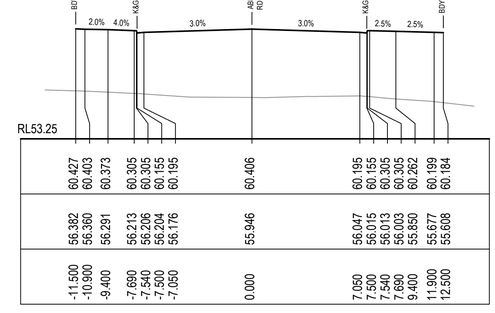
CH 180



CH 220



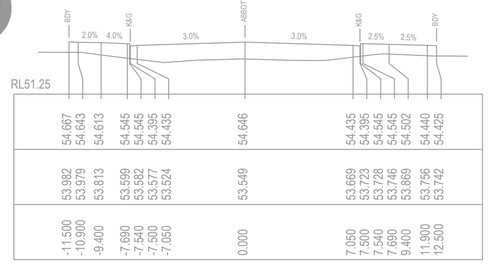
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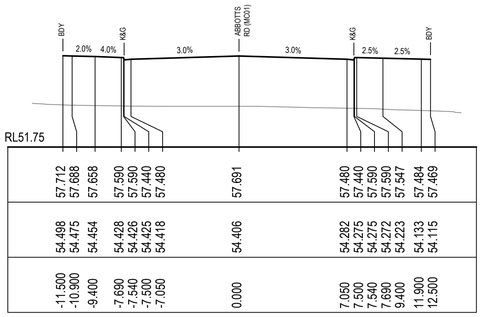
CH 210



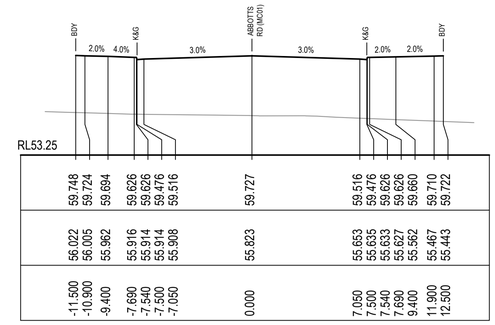
CH 70



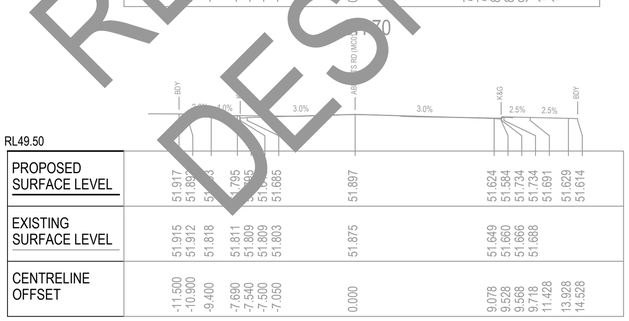
CH 125



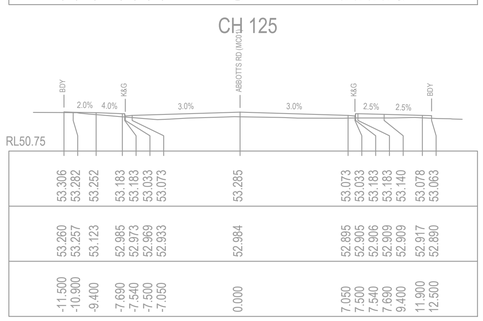
CH 170



CH 200



CH 52.41



CH 100

REFER TO OS138 DESIGN FOR DETAILS

LDC
Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20m

1 : 200 @ A1 1 : 400 @ A3

100mm on Original

Client

ESR

Scales	1 : 200	
Drawn	LM & QD	
Designed	LM	
Grid	MGA2020	
Checked	LB	
Height Datum	AHD	
Approved	AT	

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

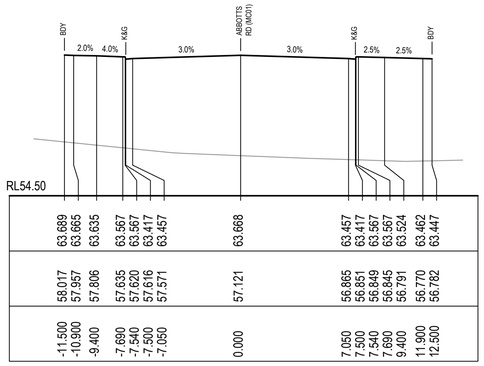
Title
ABBOTTS ROAD (MC01)
CROSS SECTIONS
SHEET 1

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

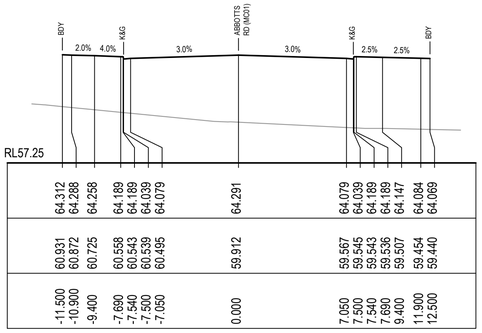
Status: FOR CONSTRUCTION | A1

Project - Drawing No.: 20-748-C13061 | Issue: A

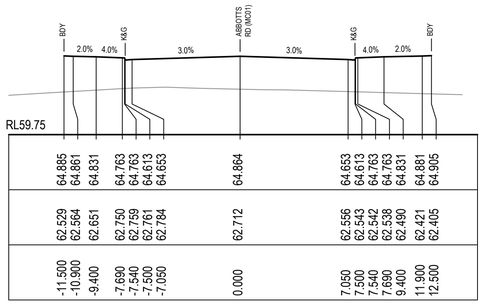
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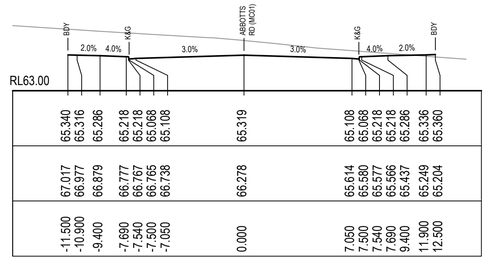
CH 275



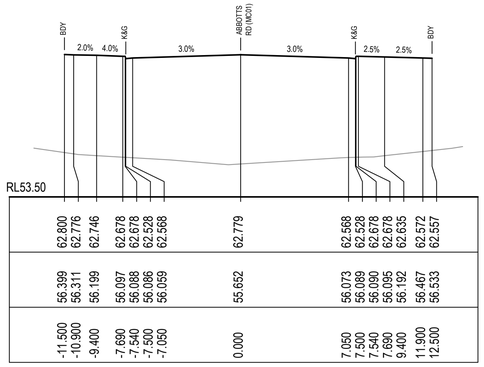
CH 329.457



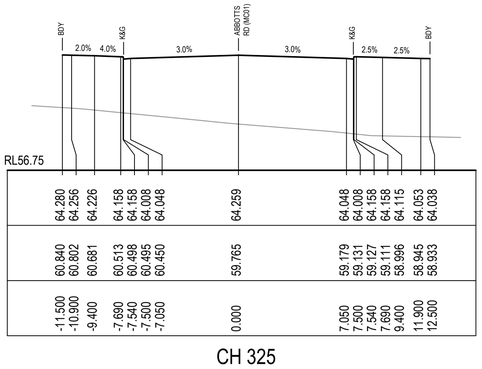
CH 410.608



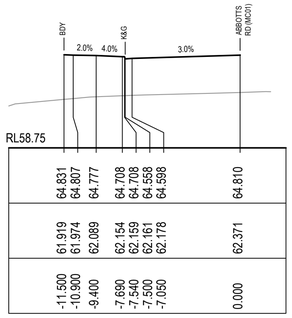
CH 475



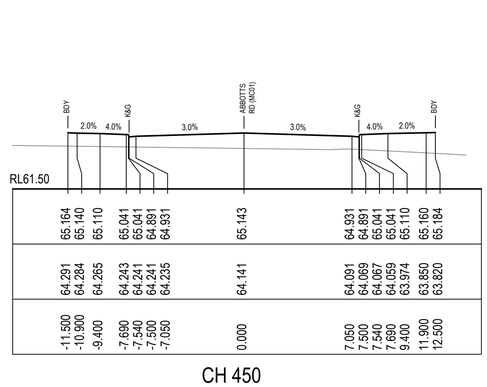
CH 250



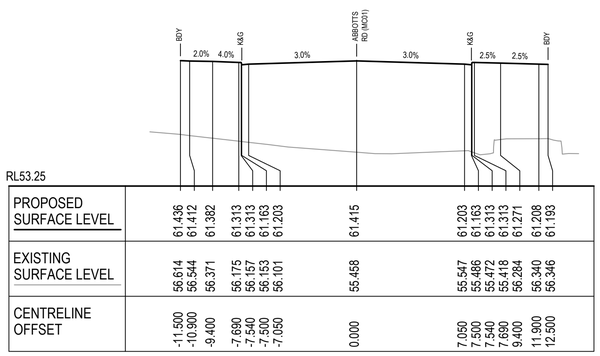
CH 325



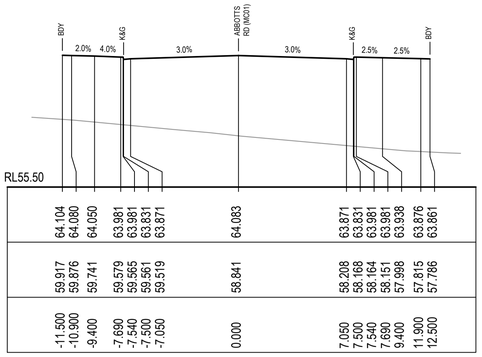
CH 402.878



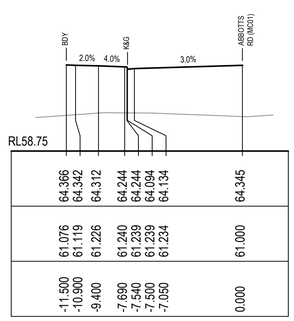
CH 450



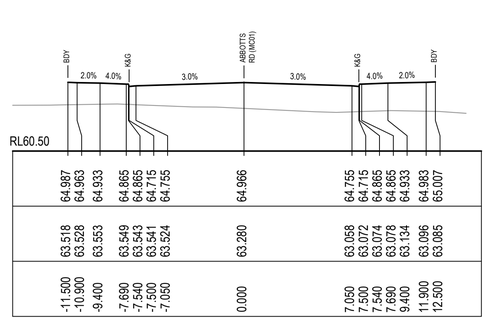
CH 225



CH 300



CH 337.187



CH 425

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20m

1 : 200 @ A1 1 : 400 @ A3

Client

ESR

Scales	1 : 200	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

ABBOTTS ROAD (MC01)
CROSS SECTIONS
SHEET 2

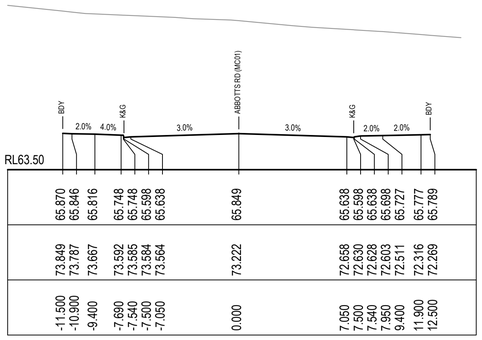
Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR CONSTRUCTION — A1

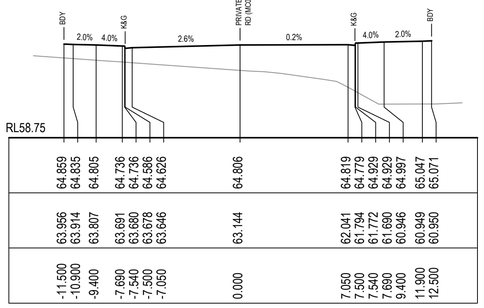
Project - Drawing No.: 20-748-C13062 — Issue: A

100mm on Original

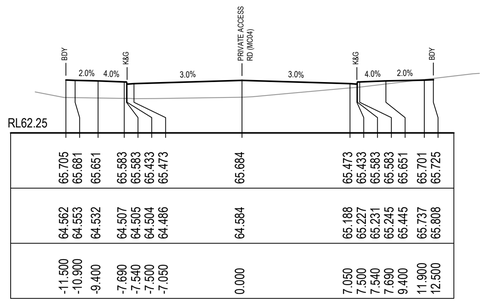
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BDY
2.0%
4.0%
K&G
3.0%
ABBOTTS RD (MC01)
3.0%
K&G
2.0%
2.0%
BDY
RL63.50

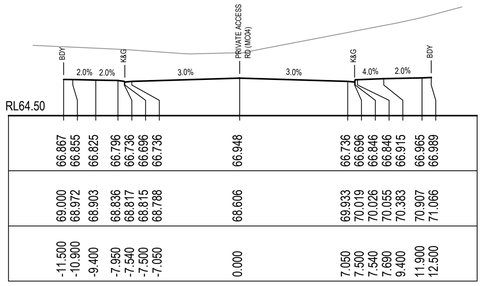
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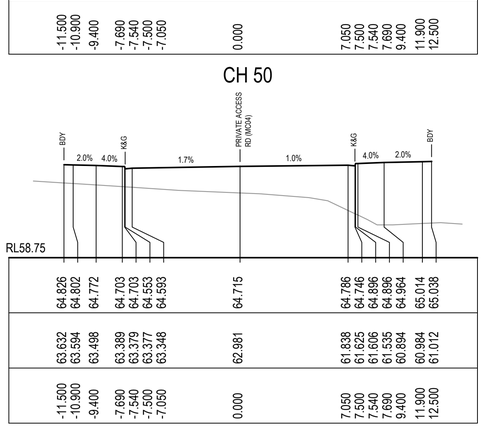
CH 50



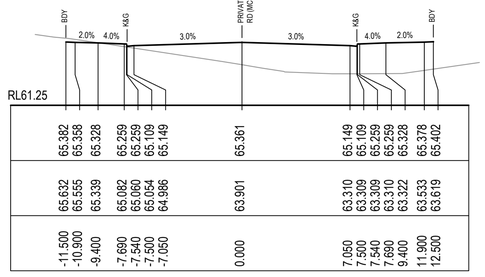
CH 125



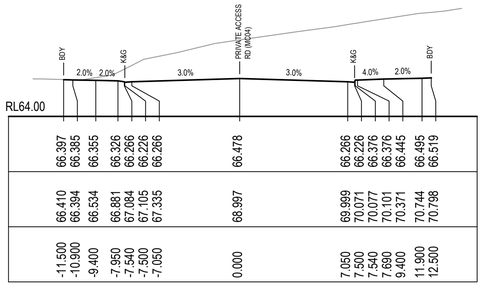
CH 200



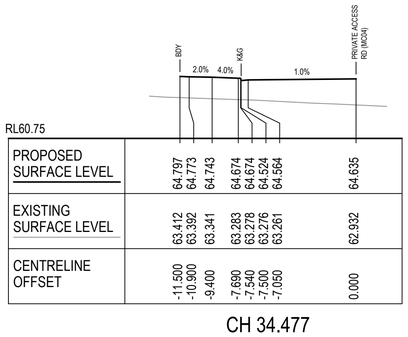
CH 41.759



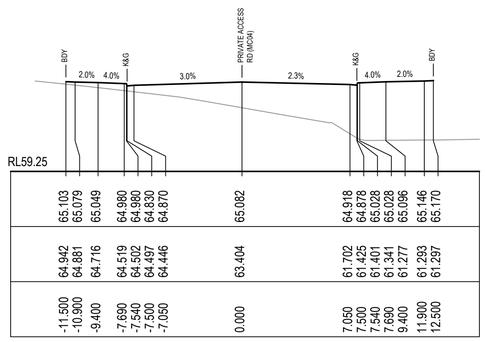
CH 100



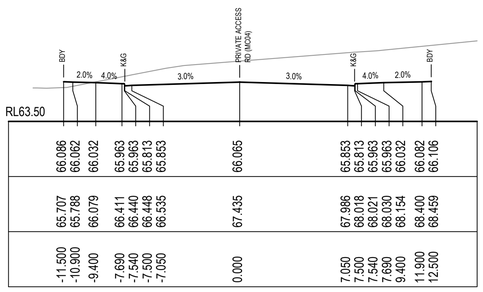
CH 175



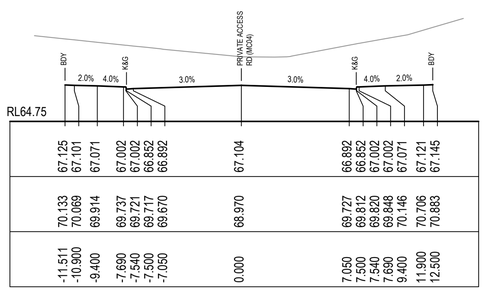
CH 34.477



CH 75



CH 150



CH 206.538

LDC
Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20m

1 : 200 @ A1 1 : 400 @ A3

Client

ESR

Scales 1 : 200

Grid MGA2020

Height Datum AHD

Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
PRIVATE ACCESS ROAD (MC04)
CROSS SECTIONS

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 CONSTRUCTION

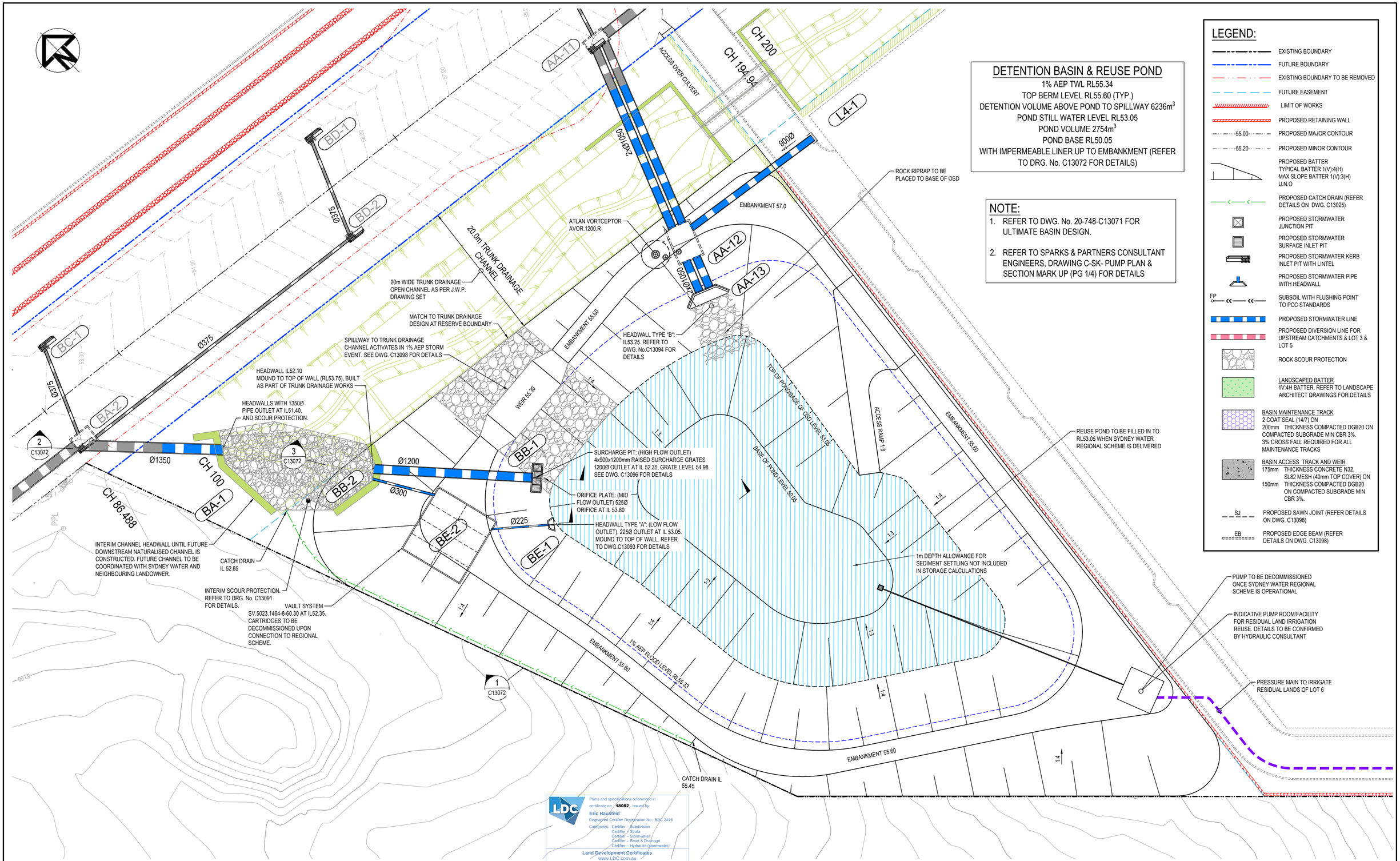
A1

Project - Drawing No.
20-748-C13064

Issue
A

100mm on Original

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13064.dwg



Plans and specifications referenced in certificate no. 18082 issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision, Certifier – Strata, Certifier – Stormwater, Certifier – Road & Drainage, Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Client

ESR

Scales 1 : 250

Grid MGA2020

Height Datum AHD

Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
INTERIM DETENTION BASIN AND REUSE POND DETAIL PLAN

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 CONSTRUCTION

A1

Project - Drawing No. 20-748-C13070

Issue A

100mm on Original

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DETENTION BASIN ONLY

1% AEP TWL RL55.34
TOP BERM LEVEL RL55.6 (TYP.)
DETENTION VOLUME TO SPILLWAY 6236m^3
IMPERMEABLE LINER UP TO EMBANKMENT
(REFER TO DRG. No. C13072 FOR DETAILS)

NOTE:

1. REFER TO DWG. No. 20-748-C13070 FOR INTERIM (STAGE 1) ONLY BASIN DESIGN.
2. REFER TO SPARKS & PARTNERS CONSULTANT ENGINEERS, DRAWING C-SK- PUMP PLAN & SECTION MARK UP (PG 1/4) FOR DETAILS

LEGEND:

- EXISTING BOUNDARY
- FUTURE BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE EASEMENT
- LIMIT OF WORKS
- PROPOSED RETAINING WALL
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED BATTER TYPICAL BATTER 1(V):4(H) MAX SLOPE BATTER 1(V):3(H) U.N.O
- PROPOSED CATCH DRAIN (REFER DETAILS ON DWG. C13025)
- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER PIPE WITH HEADWALL
- FP — SUBSOIL WITH FLUSHING POINT TO PCC STANDARDS
- PROPOSED STORMWATER LINE
- PROPOSED DIVERSION LINE FOR UPSTREAM CATCHMENTS & LOT 3 & LOT 5
- ROCK SCOUR PROTECTION
- LANDSCAPED BATTER 1V:4H BATTER. REFER TO LANDSCAPE ARCHITECT DRAWINGS FOR DETAILS
- BASIN MAINTENANCE TRACK 2 COAT SEAL (14/7) ON 200mm THICKNESS COMPACTED DGB20 ON COMPACTED SUBGRADE MIN CBR 3%. 3% CROSS FALL REQUIRED FOR ALL MAINTENANCE TRACKS
- BASIN ACCESS TRACK AND WEIR 175mm THICKNESS CONCRETE N32, SL82 MESH (40mm TOP COVER) ON 150mm THICKNESS COMPACTED DGB20 ON COMPACTED SUBGRADE MIN CBR 3%.
- SJ — PROPOSED SAWN JOINT (REFER DETAILS ON DWG. C13098)
- EB — PROPOSED EDGE BEAM (REFER DETAILS ON DWG. C13098)

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision, Certifier – Strata, Certifier – Stormwater, Certifier – Road & Drainage, Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

ACCESS OVER CULVERT
CH 194.94
CH 200
AA-11
L4-1
2xØ1050
900Ø
EMBANKMENT 57.0
ATLAN VORTCEPTOR AVOR.1200.R
AA-12
AA-13
2xØ1050
20.0m TRUNK DRAINAGE CHANNEL
20m WIDE TRUNK DRAINAGE OPEN CHANNEL AS PER J.W.P. DRAWING SET
MATCH TO TRUNK DRAINAGE DESIGN AT RESERVE BOUNDARY
SPILLWAY TO TRUNK DRAINAGE CHANNEL ACTIVATES IN 1% AEP STORM EVENT. SEE DWG. C13098 FOR DETAILS
HEADWALL IL52.10 MOUND TO TOP OF WALL (RL53.75), BUILT AS PART OF TRUNK DRAINAGE WORKS
HEADWALLS WITH 1350Ø PIPE OUTLET AT IL51.40, AND SCOUR PROTECTION.
HEADWALL TYPE "B": IL53.25. REFER TO DWG. No.C13094 FOR DETAILS
F53.21
ROCK RIPRAP TO BE PLACED DOWN TO BASE OF DETENTION BASIN
EMBANKMENT 55.60
WEIR 55.30
BD-1
BD-2
BC-1
BA-2
BA-1
BB-1
BB-2
BE-1
BE-2
Ø375
Ø375
Ø375
Ø1350
Ø1200
Ø300
Ø225
CH 100
CH 86.488
2 C13072
3 C13072
1 C13072
SURCHARGE PIT: (HIGH FLOW OUTLET) 4x900x1200mm RAISED SURCHARGE GRATES 1200Ø OUTLET AT IL 52.35, GRATE LEVEL 54.98. SEE DWG. C13096 FOR DETAILS
F53.05
ORIFICE PLATE: (MID FLOW OUTLET) 525Ø ORIFICE AT IL 53.80
HEADWALL TYPE "A": (LOW FLOW OUTLET). 225Ø OUTLET AT IL 53.05. MOUND TO TOP OF WALL. REFER TO DWG.C13093 FOR DETAILS
INTERIM CHANNEL HEADWALL UNTIL FUTURE DOWNSTREAM NATURALISED CHANNEL IS CONSTRUCTED. FUTURE CHANNEL TO BE COORDINATED WITH SYDNEY WATER AND NEIGHBOURING LANDOWNER.
CATCH DRAIN IL 52.85
INTERIM SCOUR PROTECTION. REFER TO DRG. No. C13091 FOR DETAILS.
ATLAN FILTER VAULT SYSTEM SV.5023.1464-8-60.30 AT IL52.35. CARTRIDGES TO BE DECOMMISSIONED UPON CONNECTION TO REGIONAL SCHEME.
INTERIM POND TO BE FILLED IN TO OSD BASE AS SHOWN WHEN AUTHORISED BY THE DEPARTMENT OF PLANNING. ALL FILLING TO BE AS PER MINIMUM GEOTECHNICAL SPECIFICATIONS AND REQUIREMENTS OF REPORT PREPARED BY DOUGLASS PARTNERS, PROJECT 92352.02 DATED 20th JUNE, 2022.
1% AEP FLOOD LEVEL RL55.33
EMBANKMENT 55.60
CATCH DRAIN IL 55.45
ACCESS RAMP 1:8
F56.61
F56.42
F55.29
F54.71
F55.53
F55.45
F53.28
F53.38
F53.26
3.6m
3.7m
3.3m
3.2m
3.1m
12.5%
1:4
0.5%

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

100mm on Original

Bar Scales
0 5 10 15 20 25m
1 : 250 @ A1 1 : 500 @ A3

Client: ESR

Scales: 1 : 250
Grid: MGA2020
Height Datum: AHD
GDA2020

Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

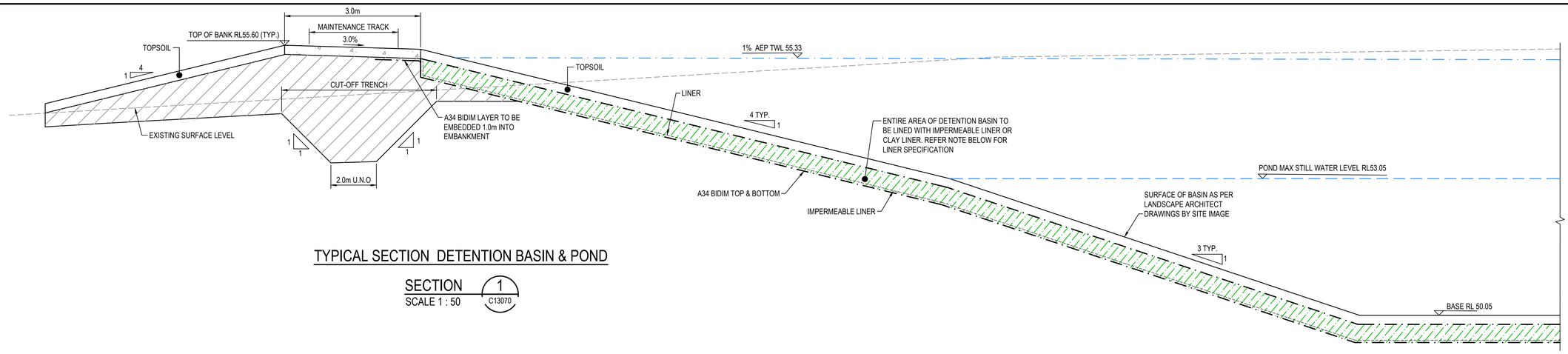
Title: ULTIMATE DETENTION BASIN DETAIL PLAN

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 CONSTRUCTION
A1

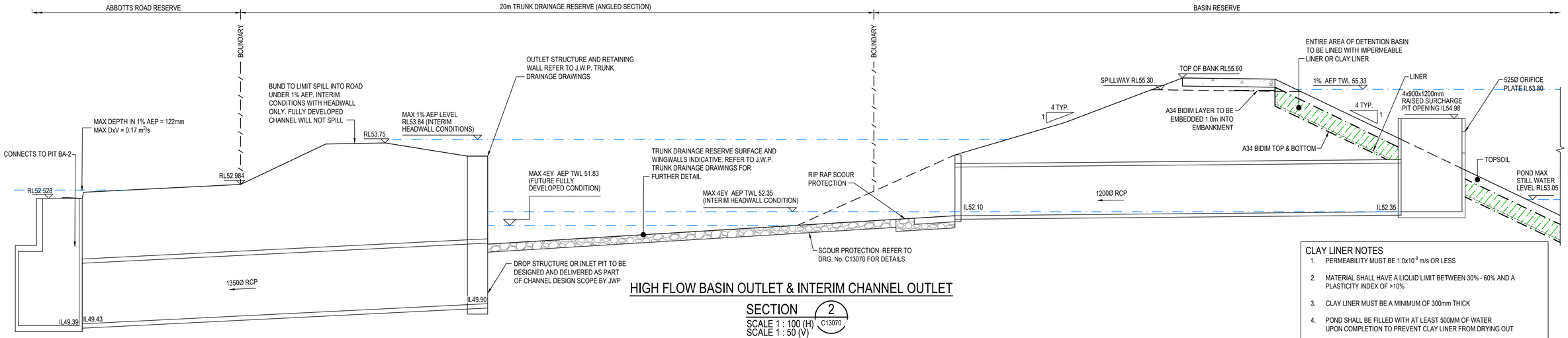
Project - Drawing No.: 20-748-C13071
Issue: A

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TYPICAL SECTION DETENTION BASIN & POND

SECTION 1 (C13070)
SCALE 1 : 50



HIGH FLOW BASIN OUTLET & INTERIM CHANNEL OUTLET

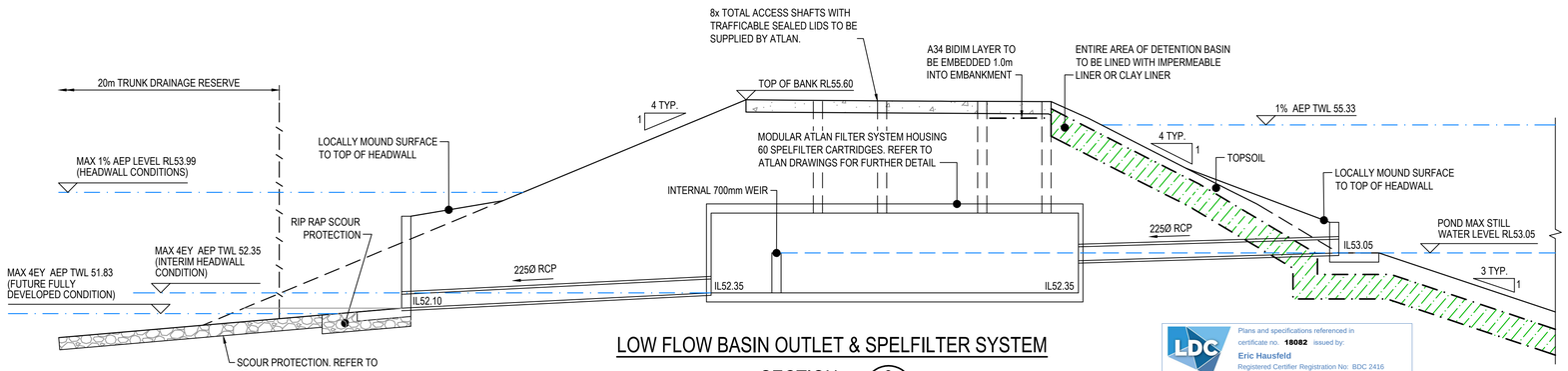
SECTION 2 (C13070)
SCALE 1 : 100 (H)
SCALE 1 : 50 (V)

CLAY LINER NOTES

1. PERMEABILITY MUST BE $1.0x10^{-9}$ m/s OR LESS
2. MATERIAL SHALL HAVE A LIQUID LIMIT BETWEEN 30% - 60% AND A PLASTICITY INDEX OF >10%
3. CLAY LINER MUST BE A MINIMUM OF 300mm THICK
4. POND SHALL BE FILLED WITH AT LEAST 500MM OF WATER UPON COMPLETION TO PREVENT CLAY LINER FROM DRYING OUT
5. COMPACTED CLAY MUST BE A MINIMUM OF 95% DRY DENSITY
6. COMPACTED CLAY MUST BE WITHIN 2% F OPTIMUM MOISTURE CONTENT

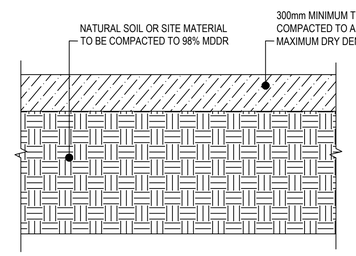
NOTES:

1. ALL HEADWALLS AND PITS ARE SUBJECT TO STRUCTURAL DESIGN AND/OR SUPPLIER SPECIFICATIONS.
2. ANY WORKS WITHIN THE TRUNK DRAINAGE RESERVE ARE SUBJECT TO THE DESIGN DRAWINGS BY J.WYNDHAM PRINCE.
3. REFER TO SPARKS & PARTNERS CONSULTANT ENGINEERS, DRAWING C-SK- PUMP PLAN & SECTION MARK UP (PG 3/4) FOR DETAILS
4. FOR ALL BASIN AREA FINISHED SURFACES, REFER TO SITE IMAGE LANDSCAPE DRAWINGS.



LOW FLOW BASIN OUTLET & SPELFILTER SYSTEM

SECTION 3 (C13070)
SCALE 1 : 100 (H)
SCALE 1 : 50 (V)



CLAY LINER DETAIL

Plans and specifications referenced in certificate no. 18082 issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision, Certifier – Strata, Certifier – Stormwater, Certifier – Road & Drainage, Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
		05-08-24
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales
0 1 2 3 4 5m
1 : 50 @ A1 1 : 100 @ A3
0 2 4 6 8 10m
1 : 100 @ A1 1 : 200 @ A3

Client: ESR

Scales		Drawn	LM & QD
	AS SHOWN	Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: DETENTION BASIN & POND SECTIONS

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

Status: FOR CONSTRUCTION
A1
Project - Drawing No.: 20-748-C13072
Issue: A

100mm on Original

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ALDINGTON ROAD

LOT 1

LOT 3

INDICATIVE RAINWATER TANK
TOILET REUSE & ON-LOT IRRIGATION ASSUMED
50% OF ROOF AREA CATCHMENT VOLUME 250m^3

FUTURE ALLOTMENTS TO SATISFY OSD REQUIREMENTS ON LOT UPON DEVELOPMENT. DISCHARGE INTO TRUNK OPEN CHANNEL VIA PROVIDED STAGE 1 STORMWATER NETWORK.

ABBOTTS ROAD

TRUNK DRAINAGE OPEN CHANNEL
20m RESERVE INCLUDING MAINTENANCE TRACK

ATLAN FILTER SYSTEM
INTERIM WATERWAY HEALTH MEASURE TO TREAT POLLUTANT LOADS TO DCP REQUIREMENT. TO BE DECOMMISSIONED UPON CONNECTION TO REGIONAL SCHEME

GROSS POLLUTANT TRAP
STORMWATER PRE-TREATMENT

LOT 4

ON SITE DETENTION BASIN
VOLUME 6755m^3 (ABOVE POND) SATISFIES LOT 1, LOT 4 & ROAD CATCHMENT REQUIREMENTS.
FUTURE LOTS REQUIRE SEPARATE OSD.

HARVESTING POND
INTERIM WATERWAY HEALTH MEASURE IN BASE OF OSD
VOLUME 2754m^3 SURFACE AREA 1915m^2 DEPTH 3m (TOP 2m AVAILABLE FOR HARVESTING) TO BE DECOMMISSIONED UPON CONNECTION TO REGIONAL SCHEME.

INDICATIVE IRRIGATION PUMP ROOM
REFER TO HYDRAULIC ENGINEER'S DESIGN

INDICATIVE PRESSURISED IRRIGATION MAIN
REFER TO HYDRAULIC ENGINEER'S DESIGN

EXTERNAL CATCHMENTS TO SATISFY WATERWAY HEALTH AND OSD REQUIREMENTS INDEPENDENTLY UPON DEVELOPMENT. DISCHARGE INTO TRUNK OPEN CHANNEL VIA PROVIDED STAGE 1 STORMWATER NETWORK.

IRRIGATION AREA
4ha OF RESIDUAL LAND
TOTAL DEMAND 24ML/yr

FUTURE LOT 5

REFER TO IRRIGATION SPRINKLER AND DISTRIBUTION DESIGN FOR FURTHER DETAIL

SURFACE FOR SPRINKLER IRRIGATION AREA TO BE MAXIMUM 6% RESULTANT GRADE

INDICATIVE RAINWATER TANK
TOILET REUSE & ON-LOT IRRIGATION ASSUMED
50% OF ROOF AREA CATCHMENT VOLUME 60m^3

FUTURE LOT 6

EXISTING CATCHMENT DRAINS WEST

UNDEVELOPED LAND FLOWS WEST TO MAMRE RD

STORMWATER MANAGEMENT LEGEND

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- PROPOSED RETAINING WALL
- GROSS POLLUTANT TRAP
- ATLAN FILTER CARTRIDGES FOR WATER QUALITY TREATMENT
- ON-LOT RAINWATER TANKS
- EVAPORATION POND/RE-USE BASIN
- RESIDUAL LAND TO BE IRRIGATED AT 600mm/year RATE
- PROPOSED STORMWATER DRAINAGE TO SERVICE WESTLINK INDUSTRIAL ESTATE
- PROPOSED STORMWATER DIVERSION LINE TO DIVERT EXTERNAL CATCHMENTS TO ABBOTS ROAD UPON FULLY DEVELOPED SITE.

NOTES:

1. THIS DRAWING IS INDICATIVE ONLY AND SUBJECT TO A SEPARATE APPROVAL.

LDC
Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
		05-08-24
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 30 60 90 120 150m

1 : 1500 @ A1 1 : 3000 @ A3

100mm on Original

Client

ESR

Scales	1 : 1500	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

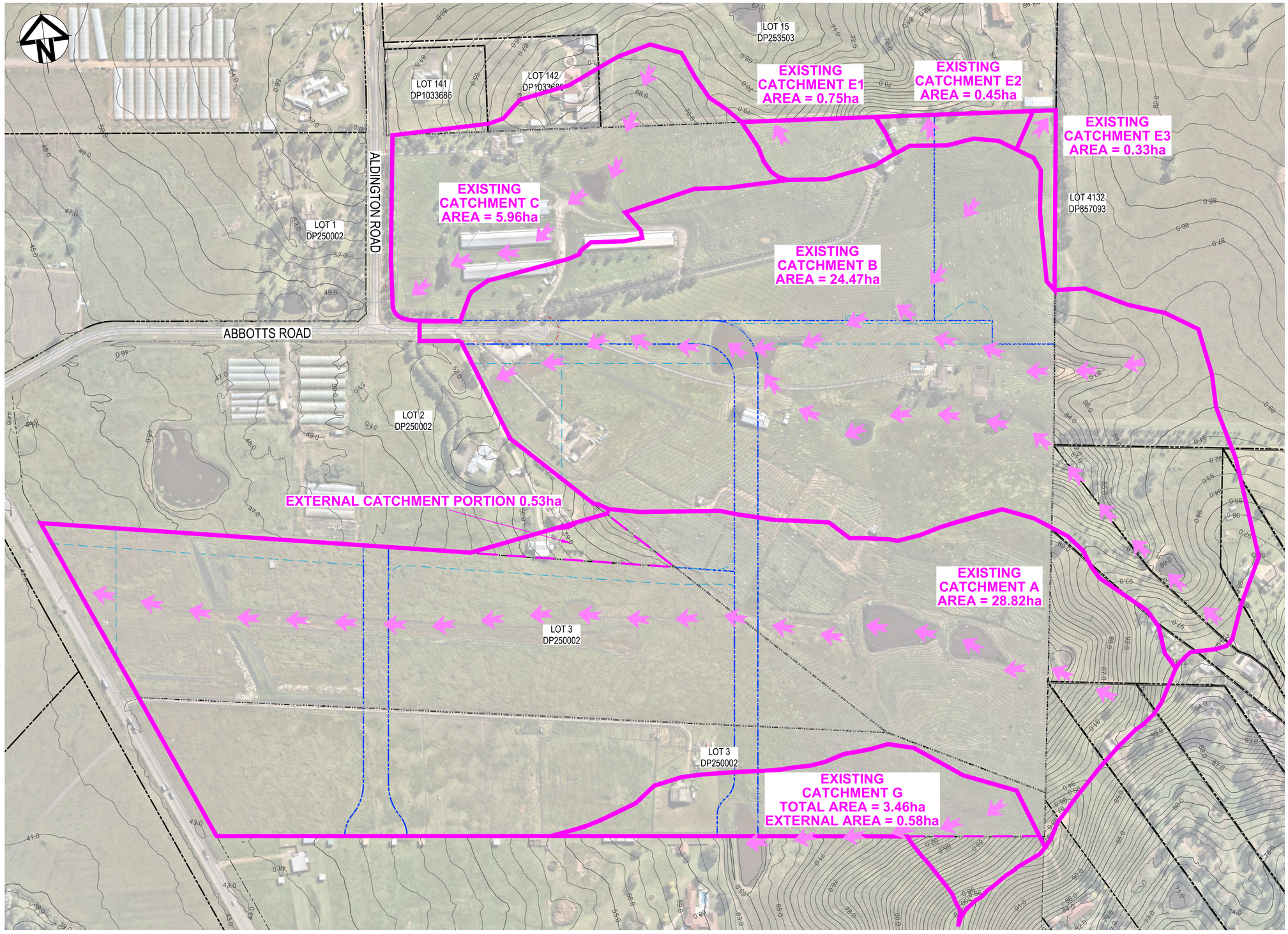
Title
STORMWATER MANAGEMENT PLAN
INTERIM ARRANGEMENT

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 CONSTRUCTION — A1

Project - Drawing No.: 20-748-C13075 — Issue: A

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Plans and specifications referenced in certificate no. **18082** issued by:
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Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 50 100 150 200m

1 : 2000 @ A1

Client

ESR

Scales	1 : 2000
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
STORMWATER DRAINAGE
OVERALL CATCHMENT PLAN
(PRE-DEVELOPED)

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 CONSTRUCTION

A1

Project - Drawing No.: 20-748-C13080

Issue: A

100mm on Original

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NOTE:

1. THIS CATCHMENT PLAN DEPICTS CATCHMENTS FOR LOT 1, LOT 4 AND DEVELOPED ROAD.

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- ULTIMATE CATCHMENT DISCHARGING TO TRUNK DRAINAGE CHANNEL
- ULTIMATE CATCHMENT TO OSD BASIN
- INTERIM CATCHMENT - STAGE 1 ONLY, PRIOR TO DEVELOPMENT OF LOT 3 AND LOT 5
- FLOW DIRECTION ARROW

LOT 15 DP253503

LOT 142 DP1033686

CATCHMENT EX.C2
AREA = 0.24ha
SURFACE FLOW TO ALDINGTON RD
NOT DIRECTED THROUGH LOT 1

CATCHMENT EX.C1
AREA = 1.02ha
ROUTES VIA LOT 1

ALDINGTON ROAD

LOT 1 DP250002

LOT 1 CATCHMENT
TOTAL AREA = 11.08ha
f=0.85

RESIDUAL LOT 3 CATCHMENT
AREA = 2.49ha
f=0

LOT 4132 DP857093

ROAD BYPASS
AREA = 0.27ha
f=0.8

ABBOTTS ROAD

ROAD CATCHMENT 1 AREA = 1.92ha
f=0.8

TRUNK DRAIN TOTAL
AREA = 0.52ha
f=0.2

BASIN CATCHMENT
TOTAL AREA = 0.66ha
f=0.45

LOT 4 CATCHMENT
TOTAL AREA = 3.16ha
f=0.85

0.24ha WITHIN SITE

CATCHMENT EX.B1
AREA = 2.81ha
f=0

CATCHMENT B1
AREA = 0.41ha, f=0

CATCHMENT B2
AREA = 4.77ha
f=0

LOT 2 DP250002

EXTERNAL CATCHMENT EX.D2 0.53ha

CATCHMENT EX.B2
AREA = 3.22ha
f=0

CATCHMENT B3
AREA = 0.31ha
f=0

CATCHMENT D
DRAINS TO EXISTING OUTLET
TOTAL AREA = 25.06ha

LOT 3 DP250002

CATCHMENT EX.D1
TOTAL AREA = 2.32ha

KEMPS CREEK (RECEIVING BODY)

LOT 3 DP250002

CATCHMENT G
TOTAL AREA = 2.88ha
f=0

CATCHMENT EX.G
TOTAL AREA = 0.65ha

Plans and specifications referenced in certificate No. **18082** issued by
Eric Haustfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 50 100 150 200m

1 : 2000 @ A1

100mm on Original

Client: ESR

Scales: 1 : 2000
Grid: MGA2020
Height Datum: AHD

Drawn: LM & QD
Designed: LM
Checked: LB
Approved: AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

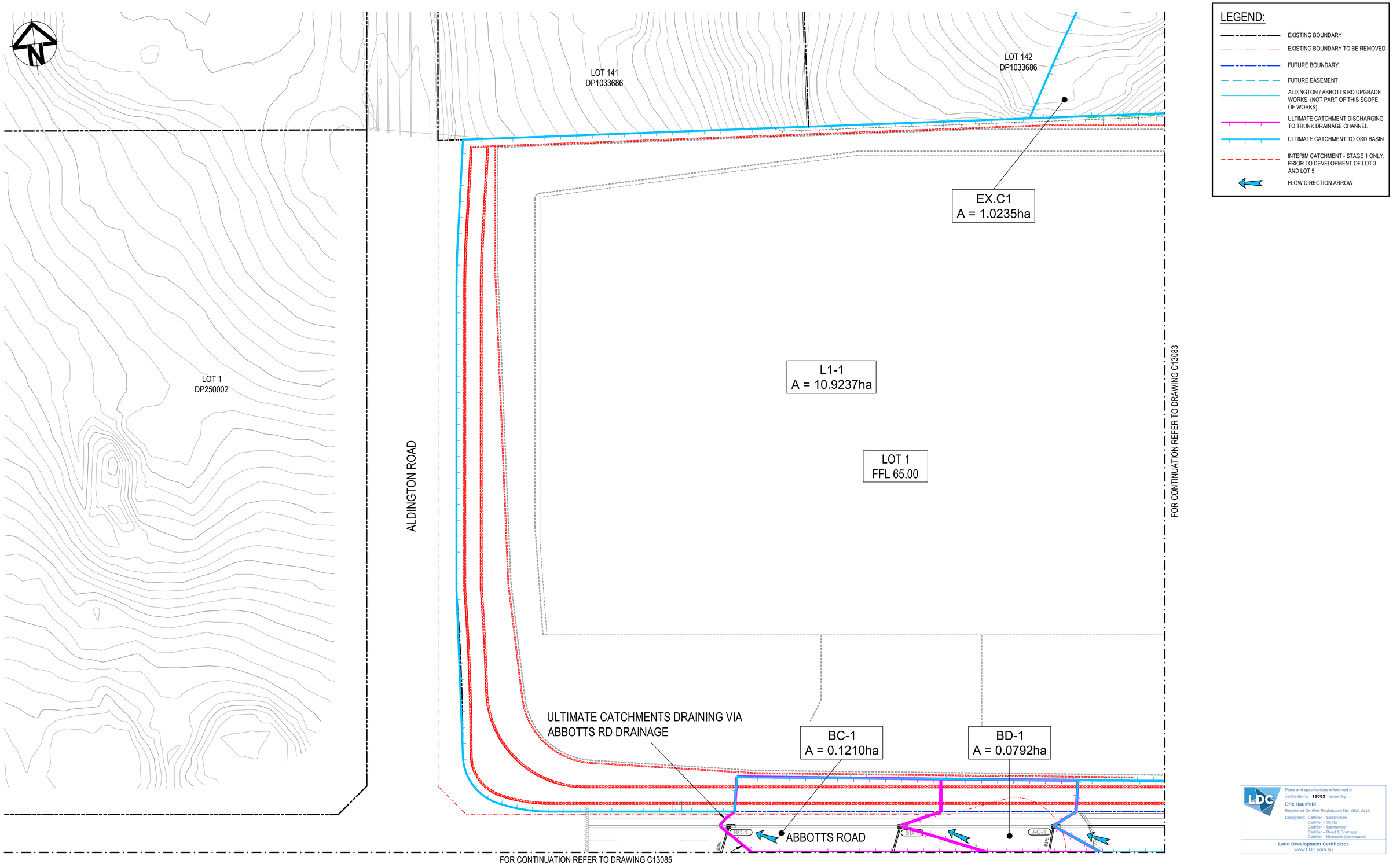
Title
STORMWATER DRAINAGE OVERALL CATCHMENT PLAN (STAGE 1 - POST-DEVELOPED)

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 CONSTRUCTION
Issue: A

Project - Drawing No.: 20-748-C13081

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LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- ULTIMATE CATCHMENT DISCHARGING TO TRUNK DRAINAGE CHANNEL
- ULTIMATE CATCHMENT TO OSD BASIN
- INTERIM CATCHMENT - STAGE 1 ONLY, PRIOR TO DEVELOPMENT OF LOT 3 AND LOT 5
- FLOW DIRECTION ARROW

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

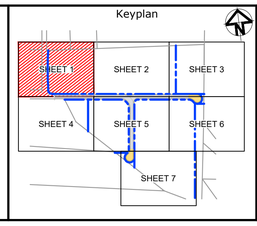
Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

100mm on Original

Keyplan



Client

ESR

Scales	1:500	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
STORMWATER DRAINAGE CATCHMENT PLAN
SHEET 1

Civil Engineers and Project Managers
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www.atl.net.au
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Status: FOR CONSTRUCTION | A1

Project - Drawing No.: 20-748-C13082 | Issue: A

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LOT 15
DP253503

EX.C1
A = 1.0235ha

L1-1
A = 10.9237ha

LOT 1
FFL 65.00

FOR CONTINUATION REFER TO DRAWING C13082

FOR CONTINUATION REFER TO DRAWING C13084

AC-1
A = 0.1350ha

L1-2
A = 0.0456ha

AE-1
A = 0.0642ha

AA-7
0.2185

CA-5
A = 0.0790ha

CA-4
A = 0.0418ha

CA-3
A = 0.0410ha

ABBOTTS ROAD

FOR CONTINUATION REFER TO DRAWING C13086

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- ULTIMATE CATCHMENT DISCHARGING TO TRUNK DRAINAGE CHANNEL
- ULTIMATE CATCHMENT TO OSD BASIN
- INTERIM CATCHMENT - STAGE 1 ONLY, PRIOR TO DEVELOPMENT OF LOT 3 AND LOT 5
- FLOW DIRECTION ARROW

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
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Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
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Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Keyplan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7

Client

ESR

Scales	1:500
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
STORMWATER DRAINAGE CATCHMENT PLAN
SHEET 2

Civil Engineers and Project Managers
at&l
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www.atl.net.au
info@atl.net.au

Status: FOR CONSTRUCTION | A1

Project - Drawing No.: 20-748-C13083 | Issue: A

100mm on Original

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LOT 15
DP253503

LOT 4132
DP857093

FUTURE
LOT 3

A3-1
A = 2.7271ha

CA-1
A = 0.0948ha

CA-2
A = 0.0579ha

PRIVATE
ACCESS ROAD

CDR-3
CDR-5
A3-1
CA-1
XA-8

FOR CONTINUATION REFER TO DRAWING C13083

FOR CONTINUATION REFER TO DRAWING C13087

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- ULTIMATE CATCHMENT DISCHARGING TO TRUNK DRAINAGE CHANNEL
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- INTERIM CATCHMENT - STAGE 1 ONLY, PRIOR TO DEVELOPMENT OF LOT 3 AND LOT 5
- FLOW DIRECTION ARROW

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Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

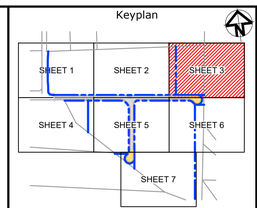
100mm on Original

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Keyplan



Client

ESR

Scales	1:500
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
STORMWATER DRAINAGE CATCHMENT PLAN
SHEET 3

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 CONSTRUCTION | A1

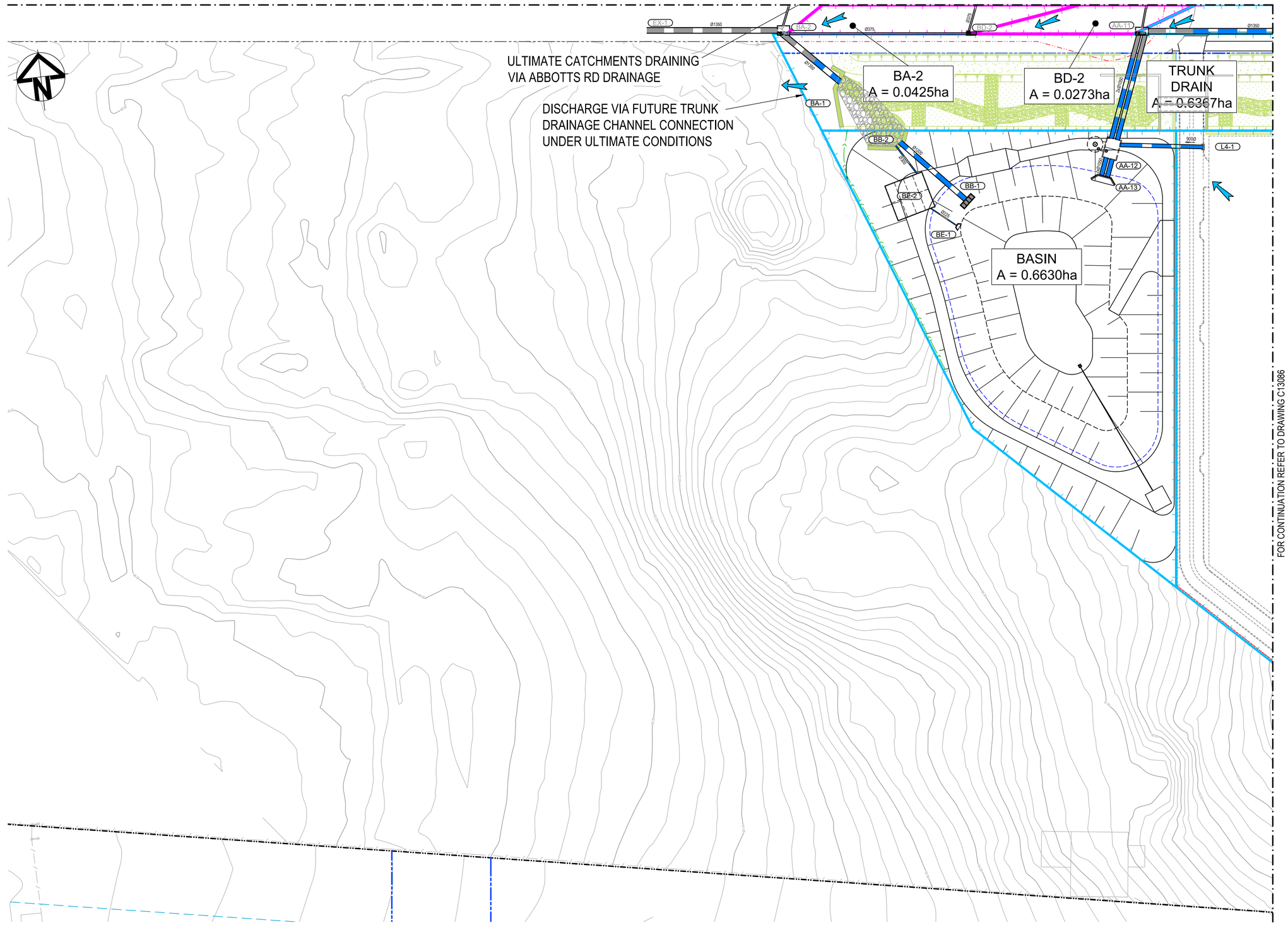
Project - Drawing No.: 20-748-C13084 | Issue: A

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FOR CONTINUATION REFER TO DRAWING C13082

ULTIMATE CATCHMENTS DRAINING VIA ABBOTTS RD DRAINAGE

DISCHARGE VIA FUTURE TRUNK DRAINAGE CHANNEL CONNECTION UNDER ULTIMATE CONDITIONS



FOR CONTINUATION REFER TO DRAWING C13086

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
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- ULTIMATE CATCHMENT TO OSD BASIN
- INTERIM CATCHMENT - STAGE 1 ONLY, PRIOR TO DEVELOPMENT OF LOT 3 AND LOT 5
- FLOW DIRECTION ARROW

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Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

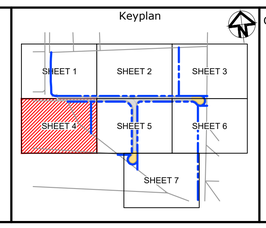
Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Keyplan



Client: ESR

Scales	1:500
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
STORMWATER DRAINAGE CATCHMENT 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 CONSTRUCTION

A1

Project - Drawing No.: 20-748-C13085

Issue: A

100mm on Original

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13085.dwg

FOR CONTINUATION REFER TO DRAWING C13083

FOR CONTINUATION REFER TO DRAWING C13085

FOR CONTINUATION REFER TO DRAWING C13087

FOR CONTINUATION REFER TO DRAWING C13088

PRIVATE ACCESS ROAD

ABBOTTS ROAD

AA-11
A = 0.0390ha

AA-10
A = 0.0331ha

AA-9
A = 0.0343ha

AA-8
A = 0.1161ha

XC-1
A = 0.0466ha

CC-1
A = 0.0442ha

A5-1
A = 3.2614ha

FUTURE
LOT 5

AD-1
A = 0.0542ha

AA-5
A = 0.0606ha

AB-1
A = 0.0595ha

AA-4
A = 0.0597ha

AA-3
A = 0.0356ha

AF-2
A = 0.0325ha

AG-1
A = 0.0538ha

AA-2
A = 0.0634ha

AH-1
A = 0.0190ha

LOT 4
FFL 66.0

LOT 4
A = 3.1588ha

ADDITIONAL CATCHMENT ALLOWANCE FOR LOT
NORTHERN PADS TO DRAIN TO STAGE 1 -
INCLUDED IN STORMWATER CALCULATIONS

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- ULTIMATE CATCHMENT DISCHARGING TO TRUNK DRAINAGE CHANNEL
- ULTIMATE CATCHMENT TO OSD BASIN
- INTERIM CATCHMENT - STAGE 1 ONLY, PRIOR TO DEVELOPMENT OF LOT 3 AND LOT 5
- FLOW DIRECTION ARROW

Plans and specifications referenced in certificate no. 18082 issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
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Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

100mm on Original

Keyplan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7

Client

ESR

Scales	1:500	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
STORMWATER DRAINAGE CATCHMENT PLAN
SHEET 5

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 CONSTRUCTION

A1

Project - Drawing No.: 20-748-C13086

Issue: A

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FOR CONTINUATION REFER TO DRAWING C13084

FOR CONTINUATION REFER TO DRAWING C13086

PRIVATE ACCESS ROAD

CE-1
A = 0.0633ha

CF-1
A = 0.0877ha

A5-2
A = 3.3127ha

FUTURE LOT

XA-6 =
2.5900ha

900Ø STUB FOR FUTURE CONNECTION TO TAKE ADDITIONAL 3.6116ha INCLUDING EXTERNAL CATCHMENTS AT COMPLETION OF FUTURE STAGE UPSTREAM PIPELINE.

LOT 4132
DP857059

APPROXIMATE FUTURE STORMWATER PIPES TO BE CONSTRUCTED AS PART OF STAGE 2.

XB-1 (FUT)
A = 3.6116ha

CF-1 · A5-2 · XA-7 · XA-6 · XA-5 · XA-4A · XA-4 · XB-1 · Ø750 · Ø900 · Ø1050

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- ULTIMATE CATCHMENT DISCHARGING TO TRUNK DRAINAGE CHANNEL
- ULTIMATE CATCHMENT TO OSD BASIN
- INTERIM CATCHMENT - STAGE 1 ONLY, PRIOR TO DEVELOPMENT OF LOT 3 AND LOT 5
- FLOW DIRECTION ARROW

FOR CONTINUATION REFER TO DRAWING C13088

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
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Land Development Certificates
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Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

100mm on Original

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Keyplan

SHEET 1 · SHEET 2 · SHEET 3 · SHEET 4 · SHEET 5 · SHEET 6 · SHEET 7

Client

ESR

Scales	1:500
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
STORMWATER DRAINAGE CATCHMENT PLAN
SHEET 6

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 CONSTRUCTION — A1

Project - Drawing No.: 20-748-C13087 — Issue: A

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FOR CONTINUATION REFER TO DRAWING C13086

ABBOTTS ROAD

AA-1
A = 0.0715ha

PITS TO DRAIN ADDITIONAL FUTURE ROAD CATCHMENT AS SHOWN

EXISTING & FUTURE CATCHMENTS TO THE SOUTH TO DRAIN TO MAMRE RD DISCHARGE POINT

FUTURE LOT 5

FUTURE LOT 5

IRE
6

LOT 4
DP250002

HOUSE COMPOUND
NO ACCESS

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- ULTIMATE CATCHMENT DISCHARGING TO TRUNK DRAINAGE CHANNEL
- ULTIMATE CATCHMENT TO OSD BASIN
- INTERIM CATCHMENT - STAGE 1 ONLY, PRIOR TO DEVELOPMENT OF LOT 3 AND LOT 5
- FLOW DIRECTION ARROW

LDC
Plans and specifications referenced in certificate no. **18082** issued by:
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Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
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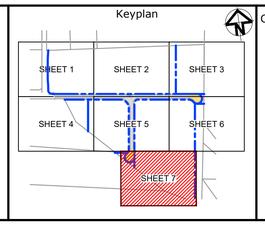
Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

Keyplan



Client

ESR

Scales	1:500
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
STORMWATER DRAINAGE CATCHMENT PLAN
SHEET 7

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
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www.atl.net.au
info@atl.net.au

Status: FOR CONSTRUCTION

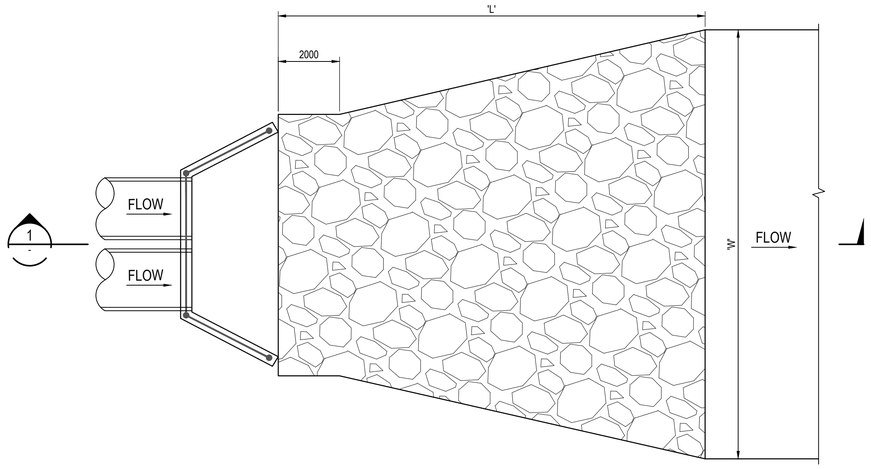
A1

Project - Drawing No.: 20-748-C13088

Issue: A

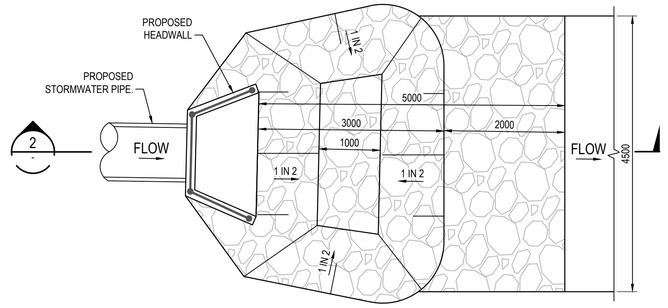
100mm on Original

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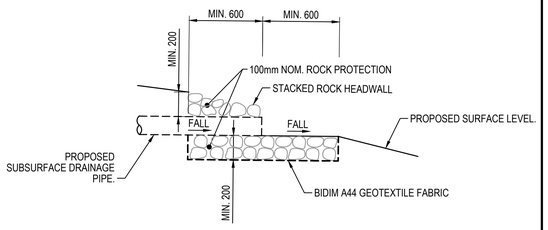
RIP RAP OUTLET PROTECTION TYPE 1 DETAIL

1 : 100



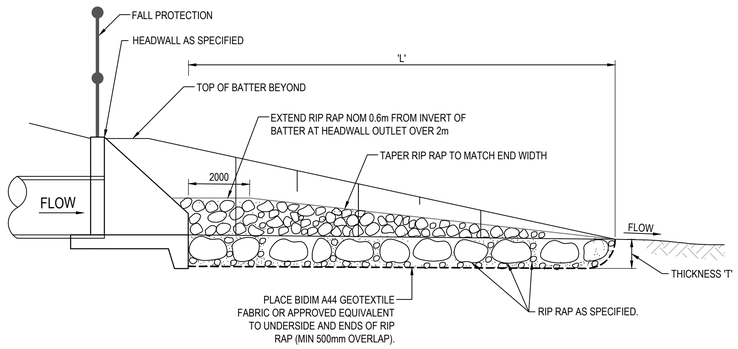
RIP RAP ENERGY DISSIPATER DETAIL

1 : 50

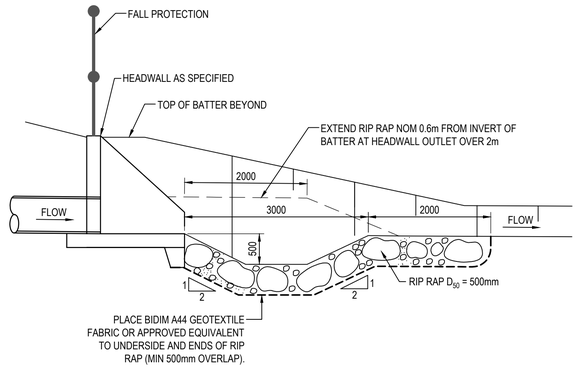


SUBSURFACE DRAINAGE TAILOUT DETAIL

1 : 25



SECTION 1
NTS



SECTION 2
NTS

SCOUR PROTECTION SCHEDULE

OUTLET HEADWALL No.	PIPE Ø (mm)	LENGTH OF PROTECTION (m)	WIDTH OF PROTECTION (m)	NOMINAL ROCK SIZE (mm)	THICKNESS OF PROTECTION (mm)
	'D'	'L'	'W'	'dso'	'T'
AA-13	2 x 1050	6.5	7.5	300	450
BE-1	225	6	3.6	300	450
XA-6	N/A	6	3.6	200	400
SPILLWAY	10m WEIR	6	10	200	400
BB-2	1200	N/A	N/A	500	750
XA-14	1350	6 (MIN)	3.5 (MIN)	400	600

NOTE:
1. THICKNESS 'T' IS 1.5 x NOMINAL ROCK SIZE
2. ROCK IS NOT TO BE SITE WON SHALE OR OTHER WEATHERABLE ROCK

ROCK GRADATION TABLE

	dso					ROCK DISTRIBUTION BY %
	200mm	300mm	400mm	500mm	600mm	
ROCK SIZE (mm)	400	600	750	850	900	15-25%
	300	400	525	600	750	20%
	200	300	400	500	600	50%
	75	100	150	150	200	15-25%

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Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 0.5 1 1.5 2 2.5m
1 : 25 @ A1 1 : 50 @ A3

0 1 2 3 4 5m
1 : 50 @ A1 1 : 100 @ A3

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

100mm on Original

Client: ESR

Scales	AS SHOWN	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title: STORMWATER DRAINAGE DETAILS
SHEET 1

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
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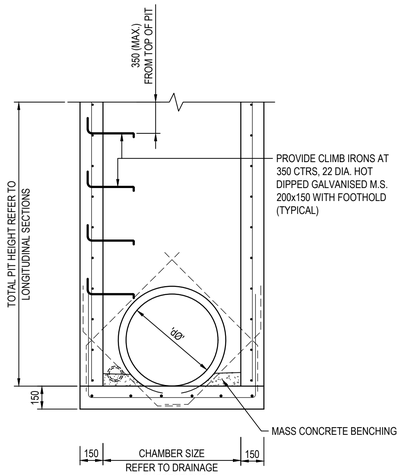
Status: FOR CONSTRUCTION

Issue: A1

Project - Drawing No.: 20-748-C13091

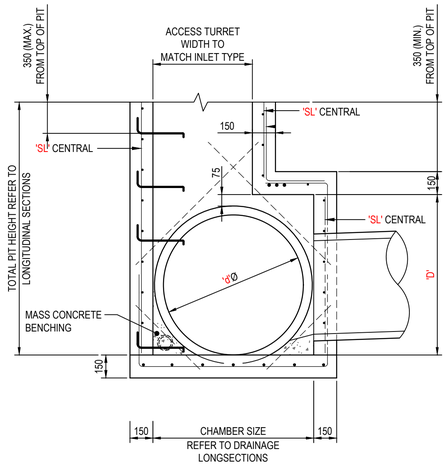
Issue: A

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PIT CHAMBER TYPE 'A' DETAIL FOR PIPES UP TO 525Ø

SCALE: 1:20



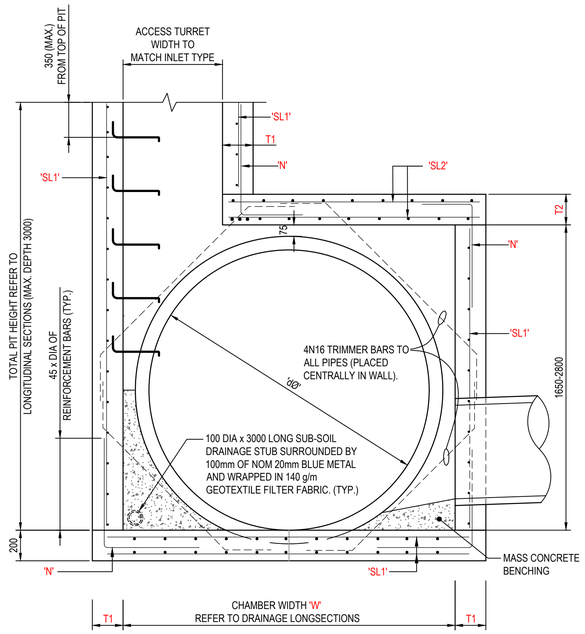
PIT CHAMBER TYPE 'B' DETAIL FOR PIPES FROM 600Ø TO 1200Ø

(ENLARGED CHAMBER)

SCALE: 1:20

PIPE DIA. 'dØ'	WIDTH 'W'	DEPTH 'D'	FABRIC/COV 'SL'
600 to 675	900	1200-2400	REINFORCEMENT TO BE CONFIRMED BY CONTRACTOR AND STRUCTURAL ENGINEER
750	1000	1200-2400	
825	1150	1200-2400	
900	1200	1200-2400	
1050	1350	1300-2400	
1200	1500	1500-2800	

CHAMBER DEPTH EXCEEDING 2m IN HEIGHT WILL BE DESIGNED AND APPROVED BY STRUCTURAL ENGINEER



PIT CHAMBER TYPE 'C' DETAIL FOR PIPES FROM 1350Ø TO 2250Ø

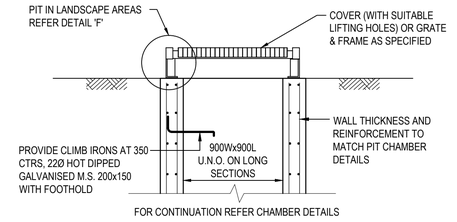
(ENLARGED CHAMBER)

SCALE: 1:20

MAX. INNER WIDTH IN PLAN	WALL THICKNESS		FABRIC / R.C. BARS		LAP BAR
'W' (mm)	'T1' (mm)	'T2' (mm)	'SL1'	'SL2'	'N'
1400	125	200	REINFORCEMENT TO BE CONFIRMED BY CONTRACTOR AND STRUCTURAL ENGINEER		
1800	160	200			
2250	200	235			
2450	200	250			

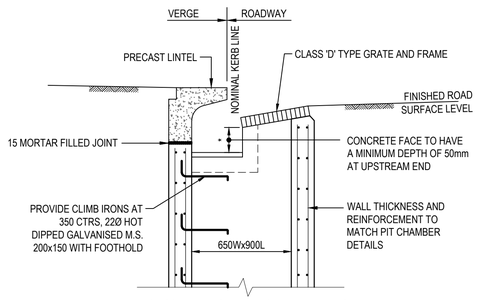
CHAMBER DEPTH EXCEEDING 2m IN HEIGHT WILL BE DESIGNED AND APPROVED BY STRUCTURAL ENGINEER

NOTE: STRUCTURAL DETAIL OF PITS TO BE CONFIRMED AT DETAILED DESIGN



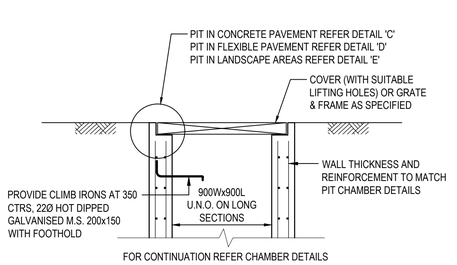
STANDARD SURCHARGE SURFACE INLET PIT

SCALE: 1:20



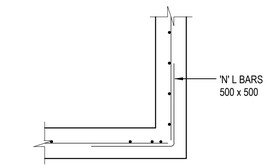
STANDARD GRATED KERB INLET PIT WITH LINTEL

SCALE: 1:20



STANDARD SURFACE INLET OR SEALED JUNCTION PIT

SCALE: 1:20



TYPICAL CORNER DETAIL

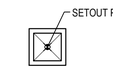
SCALE 1:20



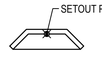
KERB INLET PIT
SCALE 1 :100



SURFACE INLET PIT
SCALE 1 :100



JUNCTION PIT
SCALE 1 :100



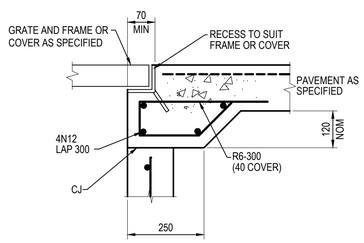
HEADWALL
SCALE 1 :100

STORMWATER PIT SETOUT POINTS

REFER PIT SETOUT PLANS FOR ENLARGED CHAMBERS

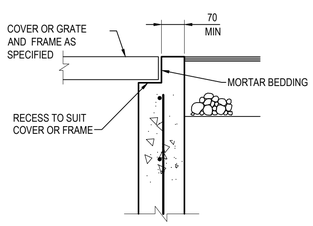
NOTE

1. STANDARD GULLY PITS REFER TO PENRITH CITY COUNCIL STANDARD DRAWING SD2001 FOR DETAILS
2. FOR INLET SIZE REFER TO STORMWATER LONGITUDINAL SECTIONS ON DRAWING C13101 - C13106.
3. FOR PIT CHAMBER SIZE REFER TO PIT SCHEDULE.
4. 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.
5. COMPRESSIVE STRENGTH (F'c) FOR CAST IN SITU CONCRETE SHALL BE CONFIRMED BY CONTRACTOR AND STRUCTURAL ENGINEER
6. TOP OF BENCHING SHALL BE ½ OF OUTLET PIPE DIAMETER.
7. 100mm SUBSOIL DRAINAGE PIPE 3000 LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED ADJACENT TO ALL INLET PIPES.
8. ALL PITS SHALL BE PROVIDED WITH A LOCKING CLIP.
9. PIT GRATE TO BE 'WELDLOK' GULLY GRATE GG 78-50 OR APPROVED EQUIVALENT.
10. DURING INSTALLATION OF GRATE AND FRAME CONTRACTOR IS TO ENSURE CLEARANCE BETWEEN LINTEL AND OPENED GRATE (REFER TO INSTALLATION TOLERANCE).
11. PROVIDE STEP IRONS AS INDICATED FOR PITS DEEPER THAN 1200.
12. CHAMBER DEPTH EXCEEDING 2m IN HEIGHT WILL BE DESIGNED AND APPROVED BY STRUCTURAL ENGINEER



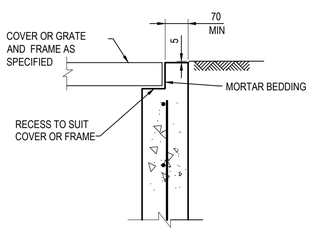
DETAIL "C"

SCALE 1:10



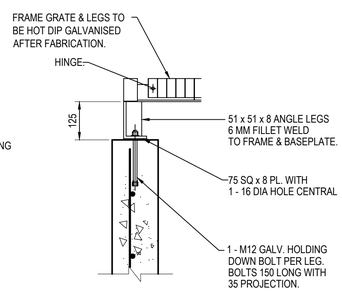
DETAIL "D"

SCALE 1:10



DETAIL "E"

SCALE 1:10



DETAIL "F"

SCALE 1:10

LDC
Plans and specifications referenced in certificate no. 18082 issued by:
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www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 100 200 400 600 800 1000mm
1 : 10 @ A1 1 : 20 @ A3

0 500 1000 1500 2000mm
1 : 20 @ A1 1 : 40 @ A3

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

100mm on Original

Client: ESR

Scales		Drawn	LM & QD
	AS SHOWN	Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: STORMWATER DRAINAGE DETAILS SHEET 2

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

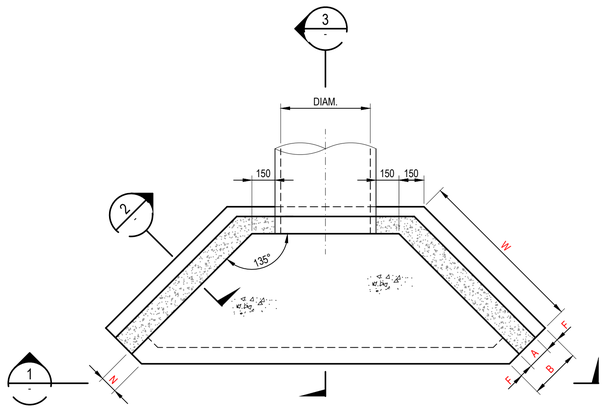
Status: FOR CONSTRUCTION

A1

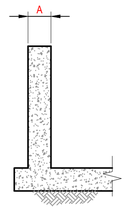
Project - Drawing No.: 20-748-C13092

Issue: A

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HEADWALL TYPE "A"
PLAN



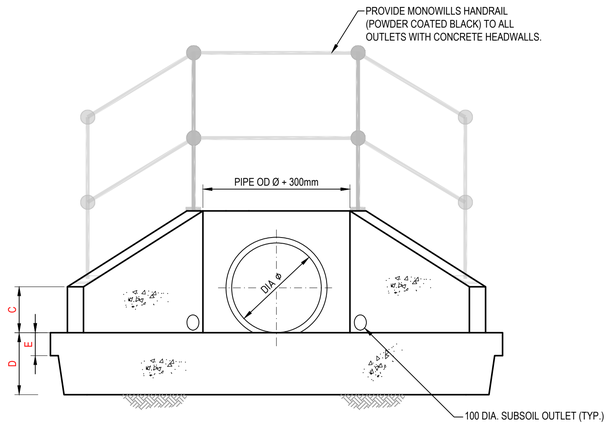
SECTION 2
SCALE 1 : 20

HEADWALL TYPE "A" - SINGLE PIPE

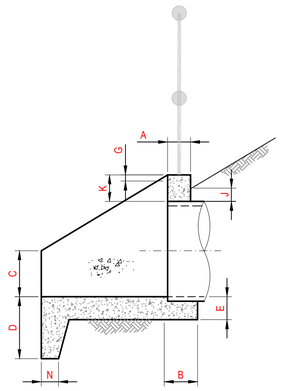
PIPE DIAMETER	225-300	0	75	150	225	300	375	450	525	675	825	975	1125	1275	1350
A	150	150	150	175	175	175	200	200	225	225	225	250	250	250	250
B	300	300	300	375	375	375	450	450	525	525	525	550	550	550	550
C	300	300	300	300	350	350	350	350	350	350	350	350	350	350	350
D	375	375	375	375	530	530	530	530	530	530	530	530	530	530	530
E	150	150	150	150	175	175	200	200	225	225	225	225	225	225	225
F	75	75	75	100	100	100	125	125	150	150	150	150	150	150	150
G	40	40	40	40	50	50	50	50	50	50	50	50	50	50	50
J	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
K	200	200	200	200	300	300	300	300	300	300	300	300	300	300	300
N	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
W	700	700	850	1000	1100	1300	1450	1600	1750	1950	2200	2500	2700	2800	2900

NOTES

1. COMPRESSIVE STRENGTH (F'c) FOR CAST-IN-SITU CONCRETE TO BE A MINIMUM OF 32MPa AT 28 DAYS.
2. 25mm CHAMFER ON ALL EXPOSED SURFACES.
3. CONTRACTOR TO DESIGN AND PROVIDE STRUCTURAL CERTIFICATE FOR ALL PITS / END STRUCTURES UNLESS ADAPTING PENRITH CITY COUNCIL STANDARD DETAILS WHERE APPLICABLE.
4. ANTI GRAFFITI PAINT TO BE APPLIED TO FACE OF ALL HEADWALLS.
5. REFER TO STRUCTURAL DRAWINGS FOR DETAILS OF BASE SLAB DESIGN.



SECTION 1
SCALE 1 : 20



SECTION 3
SCALE 1 : 20

Plans and specifications referenced in certificate no. 18082 issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales
0 500 1000 1500 2000mm
1 : 20 @ A1 1 : 40 @ A3

Client: ESR

Scales: AS SHOWN
Grid: MGA2020
Height Datum: AHD
GDA2020

Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

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Project: PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title: STORMWATER DRAINAGE DETAILS
SHEET 3

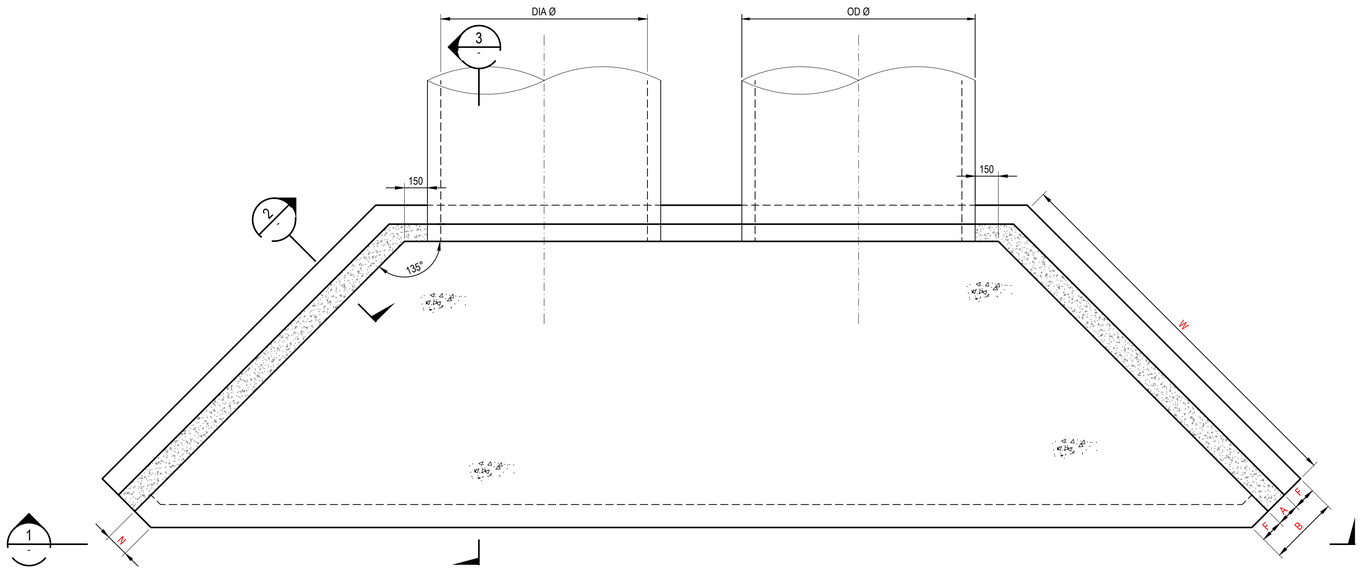
Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR CONSTRUCTION
Issue: A1

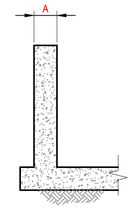
Project - Drawing No.: 20-748-C13093
Issue: A

100mm on Original

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13093.dwg



HEADWALL TYPE "B" - DUAL (525Ø TO 1050Ø)
PLAN

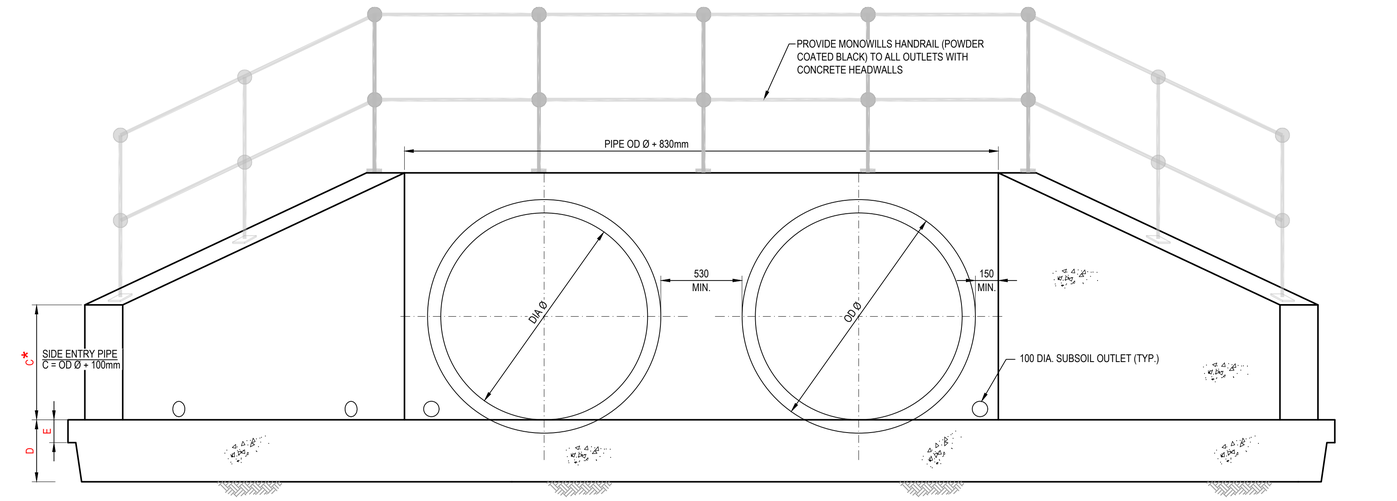


SECTION 2 / -
SCALE 1 : 20

HEADWALL TYPE "B" - TWIN PIPE	
PIPE DIAMETER	1050
A	225
B	525
C	350
D	530
E	225
F	150
G	50
J	100
K	300
N	150
W	1950

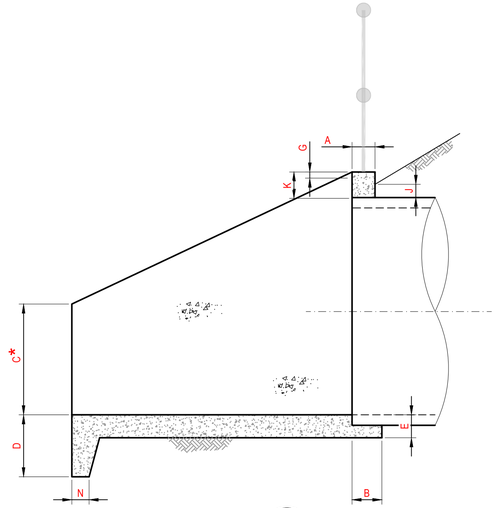
NOTES

1. COMPRESSIVE STRENGTH (F'c) FOR CAST-IN-SITU CONCRETE TO BE A MINIMUM OF 32MPa AT 28 DAYS.
2. 25mm CHAMFER ON ALL EXPOSED SURFACES.
3. CONTRACTOR TO DESIGN AND PROVIDE STRUCTURAL CERTIFICATE FOR ALL PITS / END STRUCTURES UNLESS ADAPTING PENRITH CITY COUNCIL STANDARD DETAILS WHERE APPLICABLE.
4. ANTI GRAFFITI PAINT TO BE APPLIED TO FACE OF ALL HEADWALLS
5. REFER TO STRUCTURAL DRAWINGS FOR DETAILS OF BASE SLAB DESIGN.



SECTION 1 / -
SCALE 1 : 20

ELEVATION



SECTION 3 / -
SCALE 1 : 20

Plans and specifications referenced in certificate no. 18082 issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales
0 500 1000 1500 2000mm
1 : 20 @ A1 1 : 40 @ A3

Client: ESR

Scales		Drawn	LM & QD
AS SHOWN		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

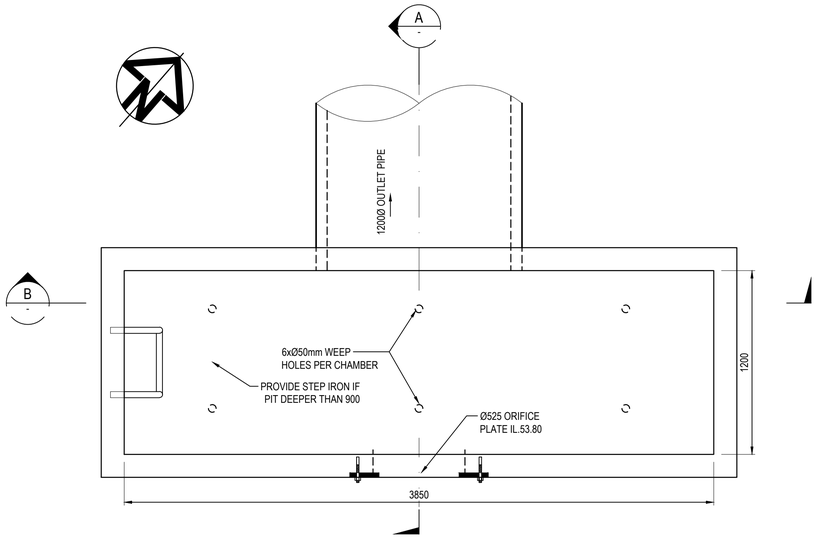
Title: STORMWATER DRAINAGE DETAILS SHEET 4

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 CONSTRUCTION
A1
Project - Drawing No.: 20-748-C13094
Issue: A

100mm on Original

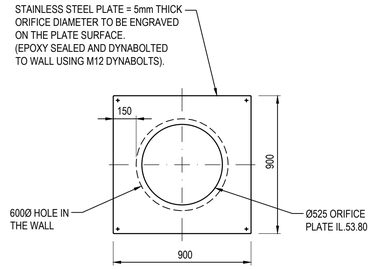
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PLAN-DETENTION CONTROL PIT BB-1

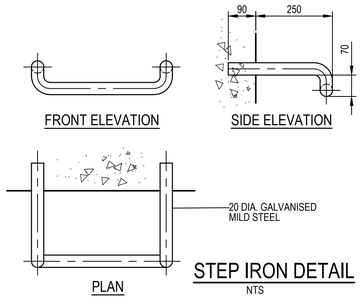
1 : 20

(REFER TO STRUCTURAL ENGINEERS DRAWINGS
FOR DETAILS & WALL THICKNESSES)



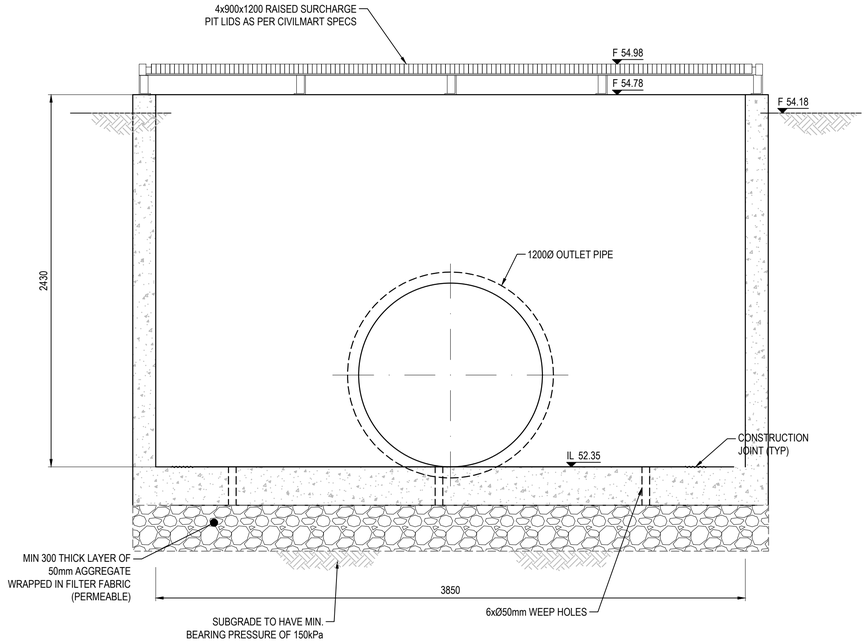
ORIFICE PLATE DETAIL

1 : 20



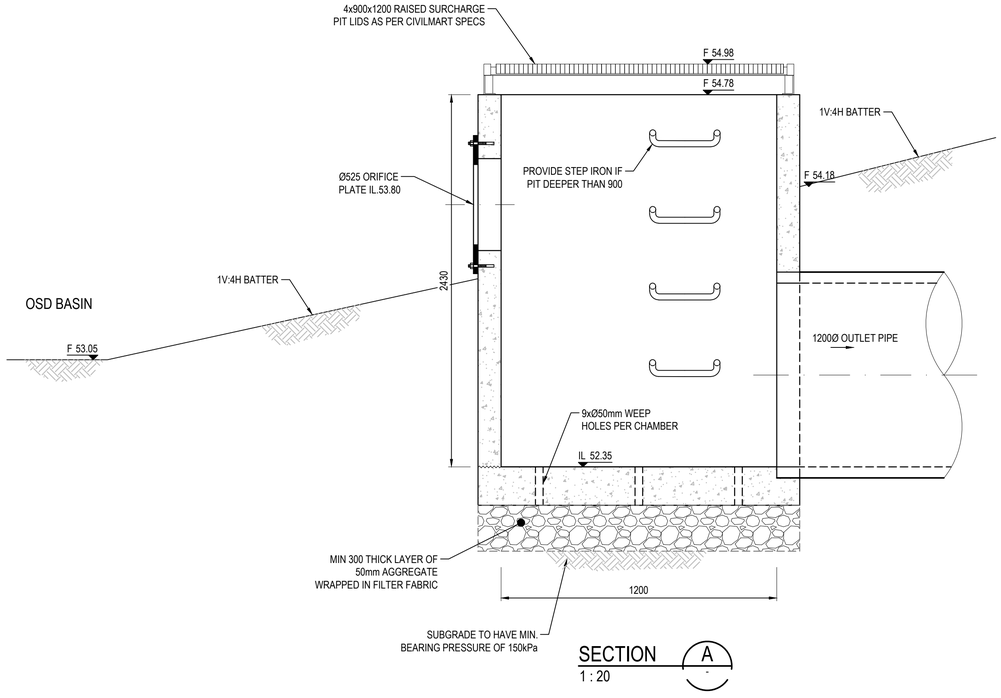
STEP IRON DETAIL

NTS



SECTION B

1 : 20



SECTION A

1 : 20

LDC

Plans and specifications referenced in certificate no. **18082** issued by:

Eric Hausfeld

Registered Certifier Registration No: BDC 2416

Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)

Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 500 1000 1500 2000mm

1 : 20 @ A1 1 : 40 @ A3

100mm on Original

Client

ESR

Scales 1 : 20

Grid MGA2020

Height Datum AHD

Drawn	LM & QD
Designed	LB & QD
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

BASIN DETENTION
OUTLET PIT DETAILS
BB-1

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

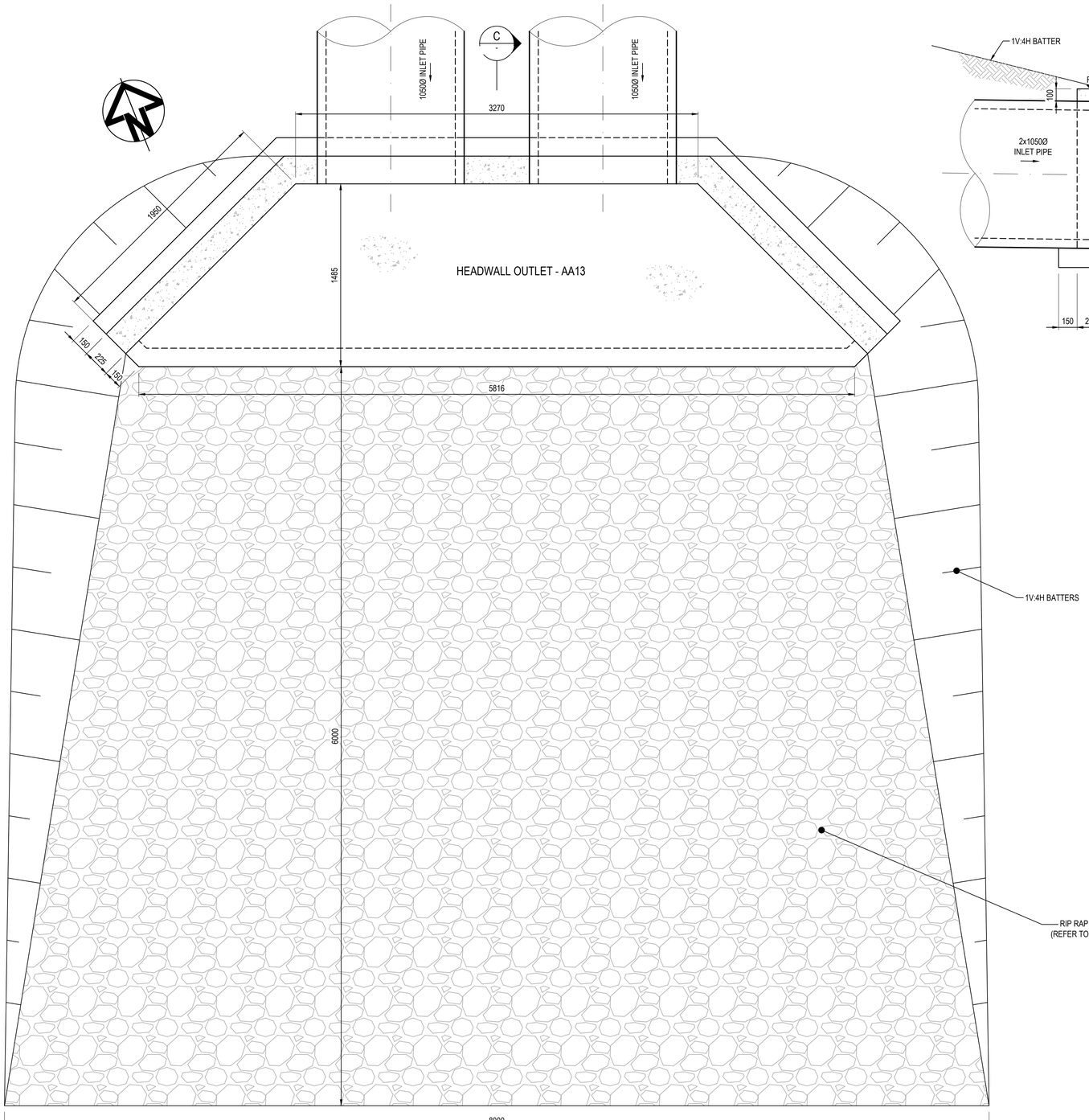
Status: FOR CONSTRUCTION

A1

Project - Drawing No. 20-748-C13096

Issue A

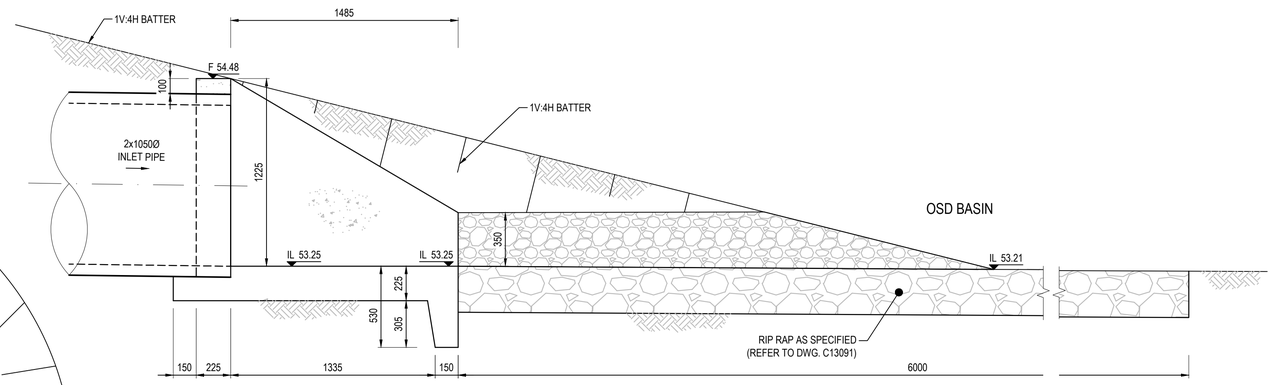
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PLAN-BASIN HEADWALL OUTLET - AA13

1 : 20

(REFER TO STRUCTURAL ENGINEERS DRAWINGS FOR SLAB DETAILS)



SECTION C

1 : 20

Plans and specifications referenced in certificate no. 18082 issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 500 1000 1500 2000mm

1 : 20 @ A1 1 : 40 @ A3

100mm on Original

Client: ESR

Scales: 1 : 20

Grid: MGA2020

Height Datum: AHD

Drawn	LM & QD
Designed	LB & QD
Checked	LB
Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: BASIN HEADWALL OUTLET DETAILS AA-13

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

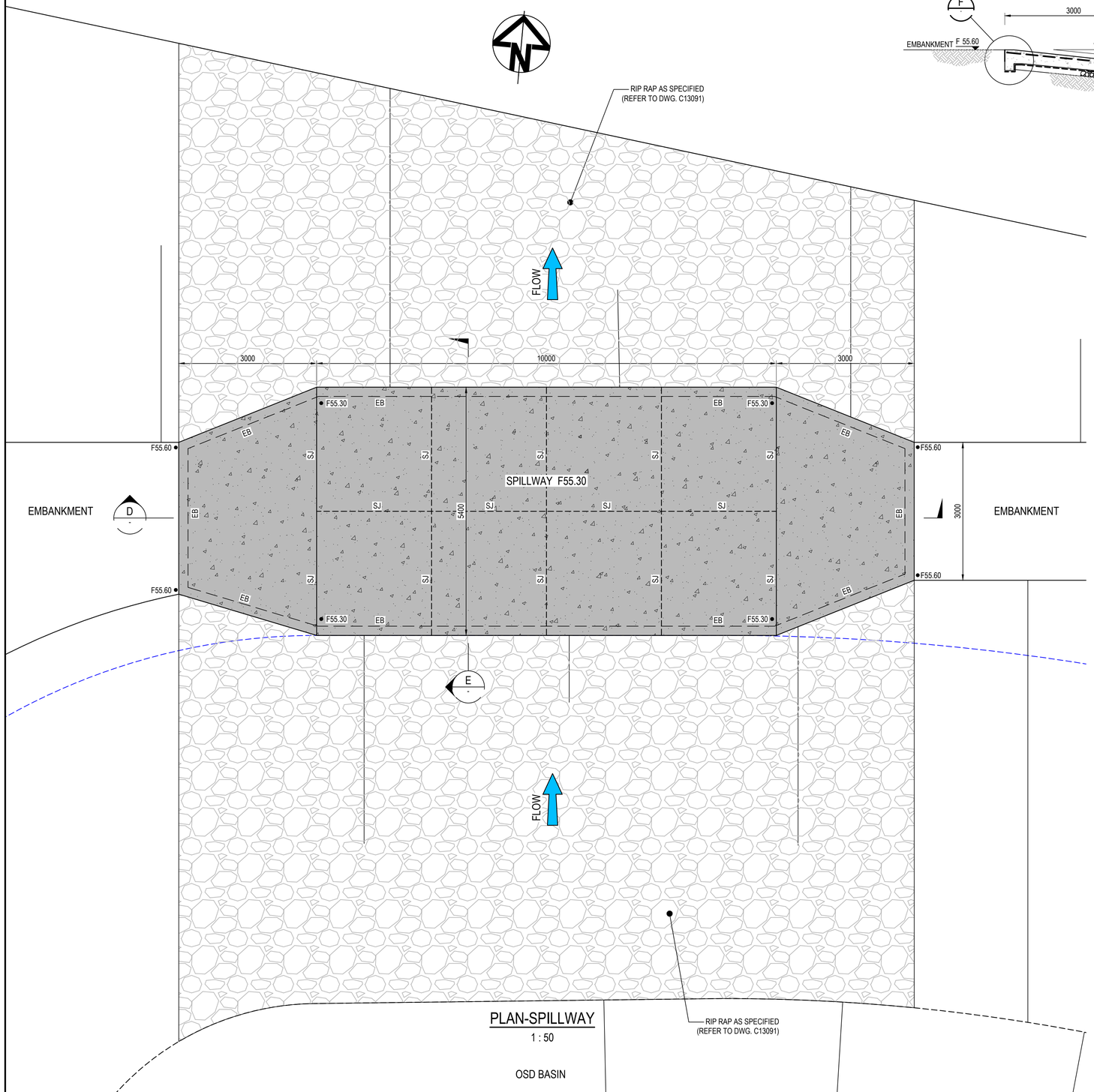
Status: FOR CONSTRUCTION

Issue: A1

Project - Drawing No.: 20-748-C13097

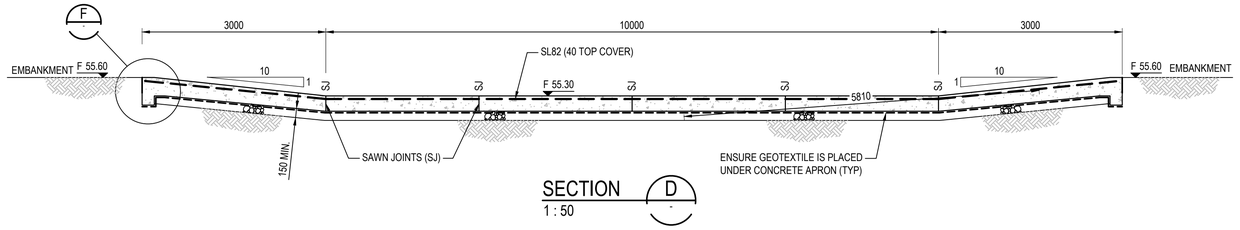
Issue: A

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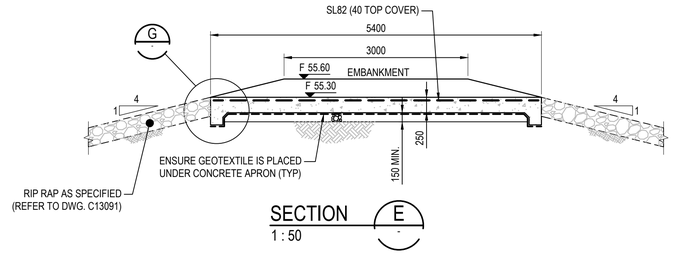


PLAN-SPILLWAY
1 : 50

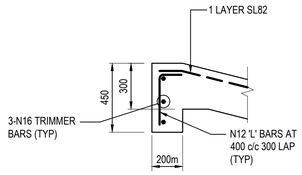
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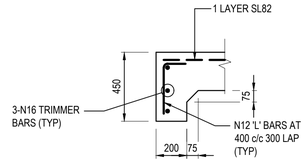
SECTION D
1 : 50



SECTION E
1 : 50

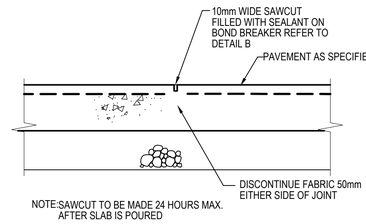


DETAIL F
1 : 20

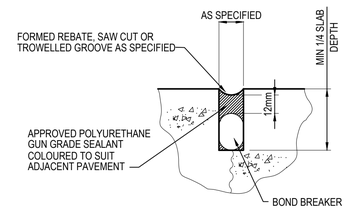


EDGE BEAM (EB)

DETAIL G
1 : 20



SAWN JOINT (SJ)
SCALE 1:10



DETAIL B
N.T.S.

LDC
Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 100 200 400 600 800 1000mm
1 : 10 @ A1 1 : 20 @ A3

0 500 1000 1500 2000mm
1 : 20 @ A1 1 : 40 @ A3

0 1 2 3 4 5m
1 : 50 @ A1 1 : 100 @ A3

100mm on Original

Client
ESR

Scales		Drawn	LM & QD
AS SHOWN		Designed	LB & QD
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

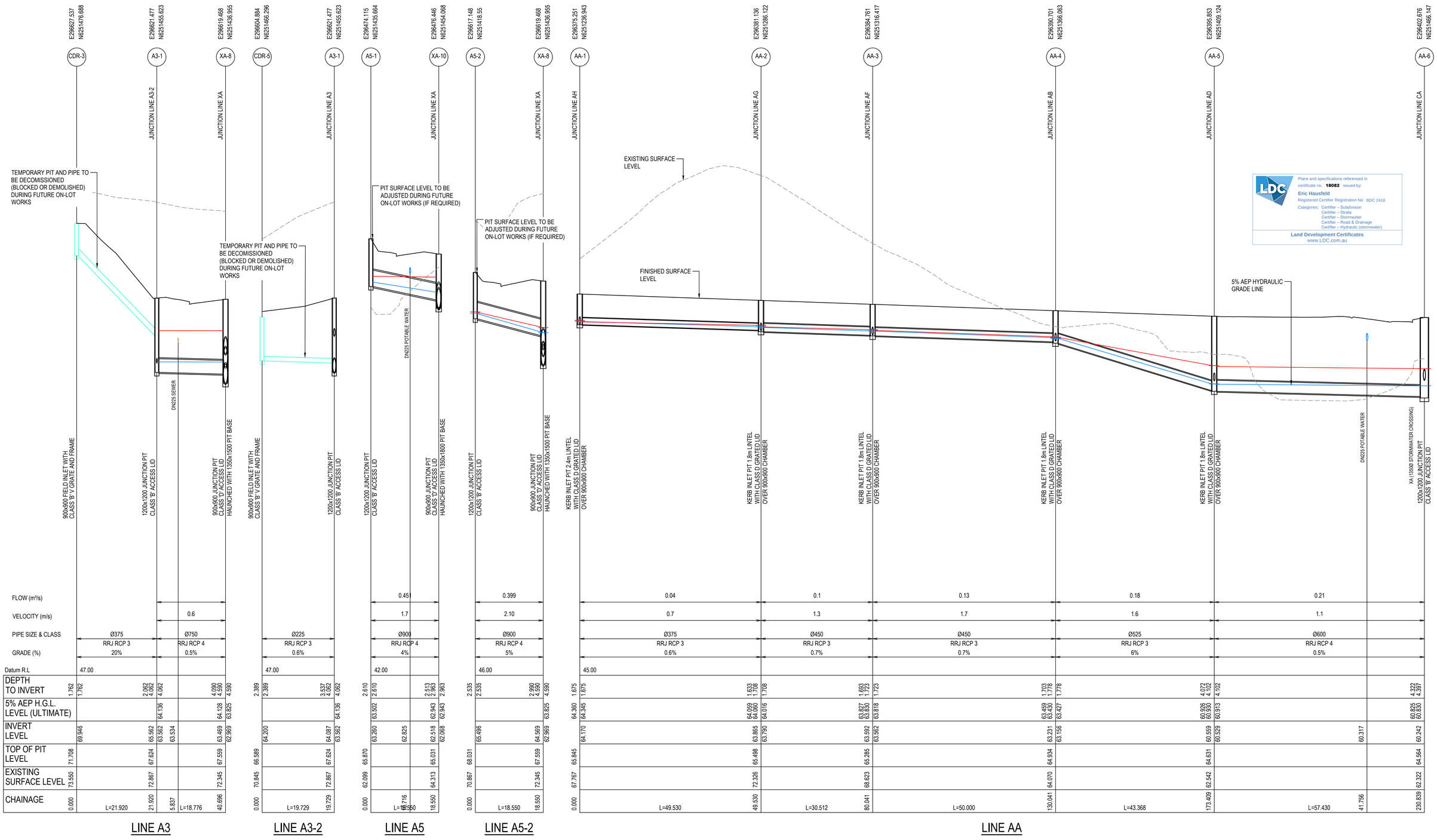
Title
BASIN SPILLWAY DETAILS

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 CONSTRUCTION
A1

Project - Drawing No.: 20-748-C13098
Issue: A

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Plans and specifications referenced in certificate no. **18082** issued by:
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Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
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Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 2 4 6 8 10m
1 : 100 @ A1 1 : 200 @ A3
0 10 20 30 40 50m
1 : 500 @ A1 1 : 1000 @ A3

Client: ESR

Scales	1 : 100 V 1 : 500 H	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title: STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 1

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 CONSTRUCTION
Issue: A1

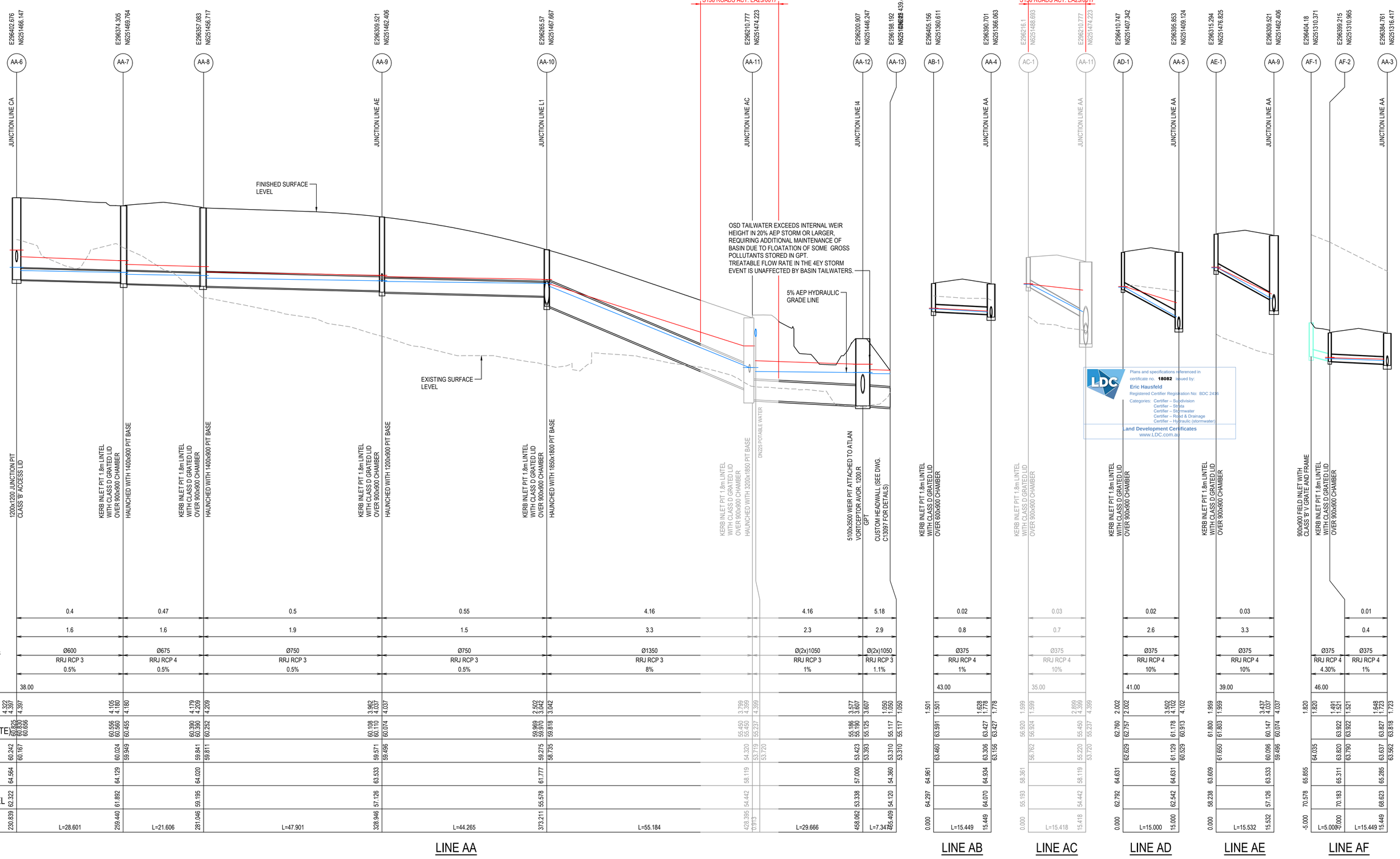
Project - Drawing No.: 20-748-C13101
Issue: A

100mm on Original

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13101.dwg

REFER TO AT&L 20-748 C20000 DRAWINGS FOR COUNCIL ROAD STORMWATER DRAWINGS. STORMWATER PIPES WITHIN THE S138 DRAWINGS ARE REQUIRED TO BE INSTALLED PRIOR TO SUBDIVISION DRAINAGE WORKS
DEVELOPMENT CONSENT: SSD-9138102
S138 ROADS ACT: EA23/0017

REFER TO AT&L 20-748 C20000 DRAWINGS FOR COUNCIL ROAD STORMWATER DRAWINGS. STORMWATER PIPES WITHIN THE S138 DRAWINGS ARE REQUIRED TO BE INSTALLED PRIOR TO SUBDIVISION DRAINAGE WORKS
DEVELOPMENT CONSENT: SSD-9138102
S138 ROADS ACT: EA23/0017



	AA-6	AA-7	AA-8	AA-9	AA-10	AA-11	AA-12	AA-13	AB-1	AA-4	AC-1	AA-11	AD-1	AA-5	AE-1	AA-9	AF-1	AF-2	AA-3
	E296402.676 N6251466.147	E296374.305 N6251469.764	E296357.083 N6251456.717	E296309.521 N6251462.406	E296265.57 N6251467.667	E296210.777 N6251474.223	E296200.907 N6251446.247	E296198.192 N6251428.439-42	E296405.156 N6251360.611	E296390.701 N6251366.063	E296216.1 N6251488.683	E296210.777 N6251474.223	E296410.747 N6251407.342	E296395.853 N6251409.124	E296315.294 N6251476.825	E296309.521 N6251462.406	E296404.18 N6251310.371	E296399.215 N6251310.965	E296384.761 N6251316.417
	JUNCTION LINE CA	JUNCTION LINE AE	JUNCTION LINE L1	JUNCTION LINE AC	JUNCTION LINE I4	JUNCTION LINE AA	JUNCTION LINE AA	JUNCTION LINE AA	JUNCTION LINE AA	JUNCTION LINE AA	JUNCTION LINE AA								
	1200x1200 JUNCTION PIT CLASS 'B' ACCESS LID	KERB INLET PIT 1.8m LINTEL WITH CLASS D GRATED LID OVER 900x900 CHAMBER	HAUNCHED WITH 1400x900 PIT BASE	KERB INLET PIT 1.8m LINTEL WITH CLASS D GRATED LID OVER 900x900 CHAMBER	HAUNCHED WITH 1200x900 PIT BASE	KERB INLET PIT 1.8m LINTEL WITH CLASS D GRATED LID OVER 900x900 CHAMBER	HAUNCHED WITH 1850x1800 PIT BASE	KERB INLET PIT 1.8m LINTEL WITH CLASS D GRATED LID OVER 900x900 CHAMBER	HAUNCHED WITH 3200x1850 PIT BASE	DN225 POTABLE WATER	5100x3500 WEIR PIT ATTACHED TO ATLAN VORTCEPTOR AVOR. 1200 R GPT	CUSTOM HEADWALL (SEE DWG. C13097 FOR DETAILS)	KERB INLET PIT 1.8m LINTEL WITH CLASS D GRATED LID OVER 600x900 CHAMBER	KERB INLET PIT 1.8m LINTEL WITH CLASS D GRATED LID OVER 900x900 CHAMBER	KERB INLET PIT 1.8m LINTEL WITH CLASS D GRATED LID OVER 900x900 CHAMBER	KERB INLET PIT 1.8m LINTEL WITH CLASS D GRATED LID OVER 900x900 CHAMBER	KERB INLET PIT 1.8m LINTEL WITH CLASS D GRATED LID OVER 900x900 CHAMBER	900x900 FIELD INLET WITH CLASS 'B' 'V' GRATE AND FRAME	KERB INLET PIT 1.8m LINTEL WITH CLASS D GRATED LID OVER 900x900 CHAMBER	KERB INLET PIT 1.8m LINTEL WITH CLASS D GRATED LID OVER 900x900 CHAMBER
FLOW (m³/s)	0.4	0.47	0.5	0.55	4.16	4.16	5.18		0.02		0.03		0.02		0.03				0.01
VELOCITY (m/s)	1.6	1.6	1.9	1.5	3.3	2.3	2.9		0.8		0.7		2.6		3.3				0.4
PIPE SIZE & CLASS	Ø600 RRJ RCP 3	Ø675 RRJ RCP 4	Ø750 RRJ RCP 3	Ø750 RRJ RCP 3	Ø1350 RRJ RCP 3	Ø(2x)1050 RRJ RCP 3	Ø(2x)1050 RRJ RCP 3		Ø375 RRJ RCP 4		Ø375 RRJ RCP 4		Ø375 RRJ RCP 4		Ø375 RRJ RCP 4		Ø375 RRJ RCP 4		Ø375 RRJ RCP 4
GRADE (%)	0.5%	0.5%	0.5%	0.5%	8%	1%	1.1%		1%		10%		10%		10%		4.30%		1%
Datum R.L	38.00								43.00		35.00		41.00		39.00		46.00		
DEPTH TO INVERT	4.322 4.397	4.397	4.105 4.180	4.180	4.179 4.209	4.209	4.037		3.062 4.037		3.799 4.399		4.037		2.502 3.042		3.042		3.042
5% AEP H.G.L. LEVEL (ULTIMATE)	60.825 60.830 60.836	60.556 60.560	60.455	60.390 60.390	60.252	60.108 60.110 60.074	59.969 59.970 59.818	59.818	55.450 55.450 55.237	54.320 53.719 53.720	55.450 55.237		59.818		55.186 55.190 55.125	55.450 55.237	55.117 55.117	1.501 1.501 63.591	1.628 1.778 63.427	1.778 63.427
INVERT LEVEL	60.242 60.167	60.024	59.949	59.841 59.811	59.571 59.496	59.275 58.735	58.735		58.119	54.442 53.913			59.275 58.735		53.423 53.393	53.310 53.310	53.310 53.310	63.460	63.306 63.156	63.427
TOP OF PIT LEVEL	64.564	64.129	64.020	63.533	61.777	57.000	54.360		64.961		58.361		64.631		63.609		65.655		65.285
EXISTING SURFACE LEVEL	62.322	61.892	59.195	57.126	55.578	53.338	54.120		64.297		55.193		62.792		58.238		70.578		68.623
CHAINAGE	230.839	259.440	281.046	328.946	373.211	428.395 0.913	458.662	465.409	0.000	15.449	0.000	15.418	0.000	15.000	0.000	15.532	-5.000	0.000 15.449	15.449
	L=28.601		L=21.606		L=47.901		L=44.265	L=55.184		L=29.666		L=7.343		L=15.449		L=15.532		L=5.000	

LINE AA | LINE AB | LINE AC | LINE AD | LINE AE | LINE AF

LDC
Plans and specifications referenced in certificate no. 18082 issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2406
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 2 4 6 8 10m
1 : 100 @ A1 1 : 200 @ A3
0 10 20 30 40 50m
1 : 500 @ A1 1 : 1000 @ A3

100mm on Original

Client: ESR

Scales 1 : 100 V, 1 : 500 H
Grid MGA2020
Height Datum AHD
Drawn LM & QD
Designed LM
Checked LB
Approved AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 2

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 CONSTRUCTION | A1

Project - Drawing No.: 20-748-C13102 | Issue: A

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13102.dwg

REFER TO AT&L 20-748 C20000 DRAWINGS FOR COUNCIL ROAD STORMWATER DRAWINGS. STORMWATER PIPES WITHIN THE S138 DRAWINGS ARE REQUIRED TO BE INSTALLED PRIOR TO SUBDIVISION DRAINAGE WORKS
DEVELOPMENT CONSENT: SSD-9138102
S138 ROADS ACT: EA23/0017

REFER TO AT&L 20-748 C20000 DRAWINGS FOR COUNCIL ROAD STORMWATER DRAWINGS. STORMWATER PIPES WITHIN THE S138 DRAWINGS ARE REQUIRED TO BE INSTALLED PRIOR TO SUBDIVISION DRAINAGE WORKS
DEVELOPMENT CONSENT: SSD-9138102
S138 ROADS ACT: EA23/0017

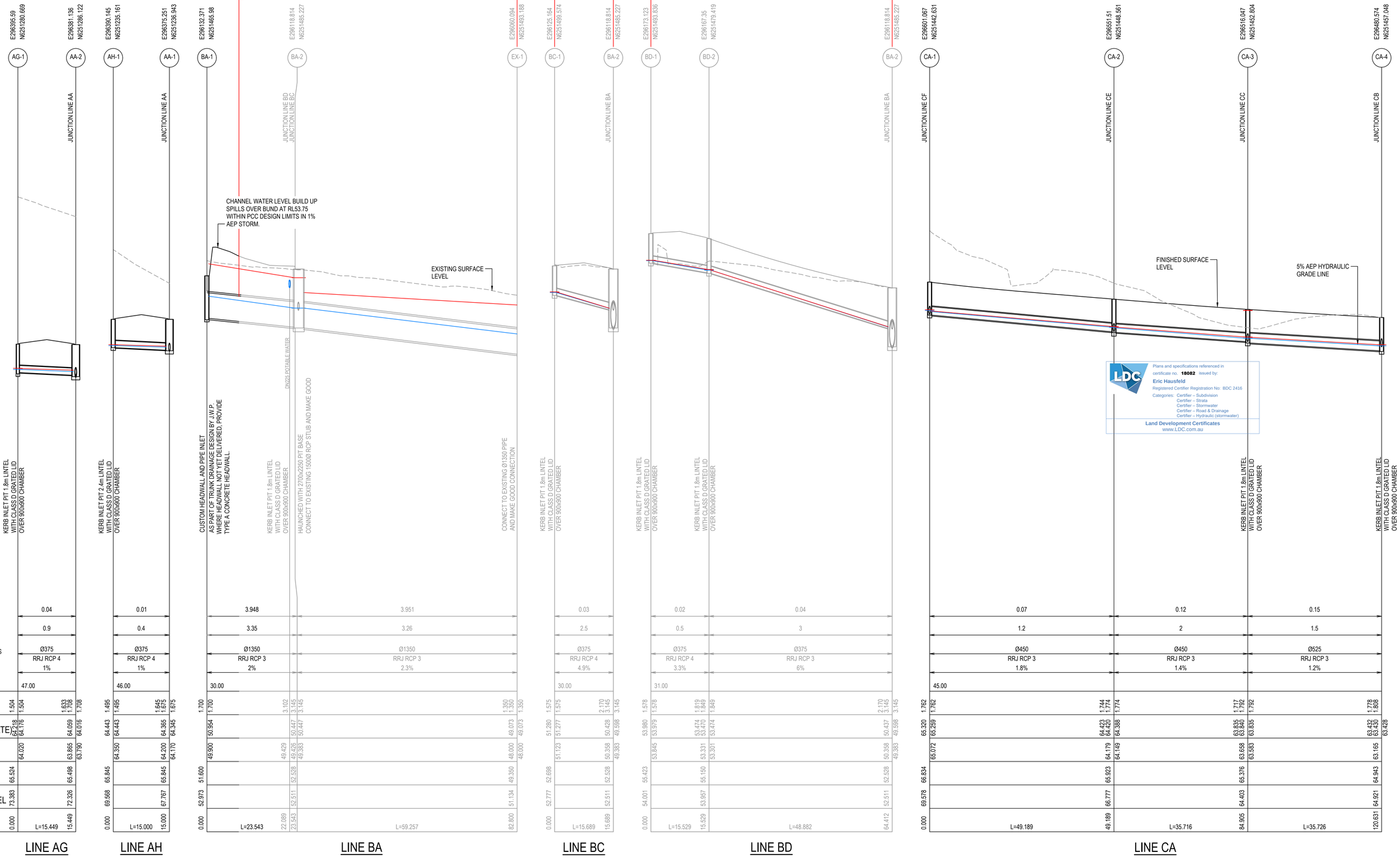
REFER TO AT&L 20-748 C20000 DRAWINGS FOR COUNCIL ROAD STORMWATER DRAWINGS. STORMWATER PIPES WITHIN THE S138 DRAWINGS ARE REQUIRED TO BE INSTALLED PRIOR TO SUBDIVISION DRAINAGE WORKS
DEVELOPMENT CONSENT: SSD-9138102
S138 ROADS ACT: EA23/0017

CHANNEL WATER LEVEL BUILD UP SPILLS OVER BUND AT RL53.75 WITHIN PCC DESIGN LIMITS IN 1% AEP STORM.

EXISTING SURFACE LEVEL

FINISHED SURFACE LEVEL

5% AEP HYDRAULIC GRADE LINE



LINE AG

LINE AH

LINE BA

LINE BC

LINE BD

LINE CA

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 2 4 6 8 10m
1 : 100 @ A1 1 : 200 @ A3
0 10 20 30 40 50m
1 : 500 @ A1 1 : 1000 @ A3

100mm on Original

Client: ESR

Scales	1 : 100 V 1 : 500 H
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

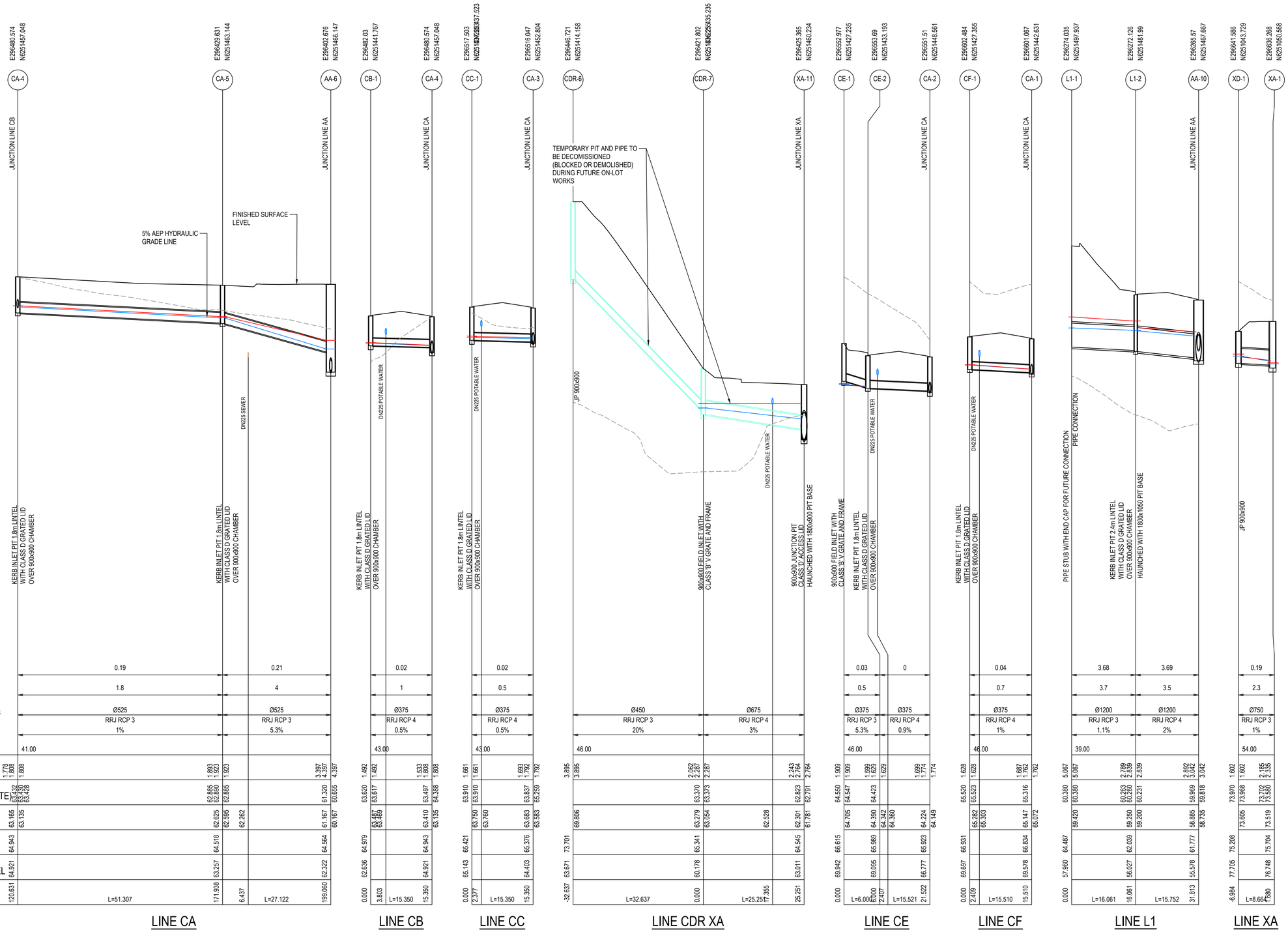
Title: STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 3

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Status: FOR CONSTRUCTION
Issue: A1

Project - Drawing No.: 20-748-C13103
Issue: A

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Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 2 4 6 8 10m
1 : 100 @ A1 1 : 200 @ A3
0 10 20 30 40 50m
1 : 500 @ A1 1 : 1000 @ A3

Client: ESR

Scales	1 : 100 V 1 : 500 H
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 4

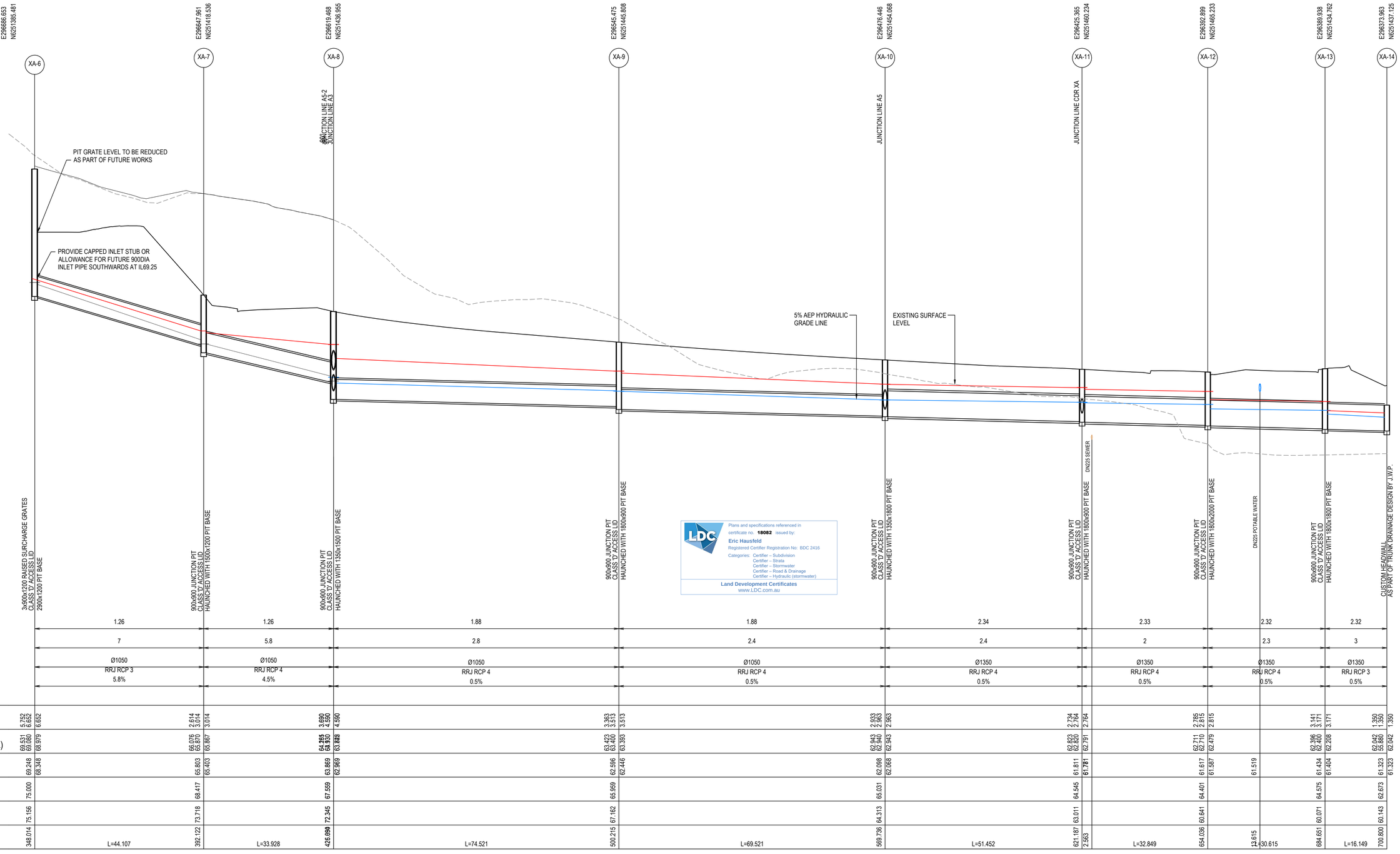
Civil Engineers and Project Managers
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North Sydney NSW 2060
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Status: FOR CONSTRUCTION
Issue: A1

Project - Drawing No.: 20-748-C13104
Issue: A

100mm on Original

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	XA-6	XA-7	XA-8	XA-9	XA-10	XA-11	XA-12	XA-13	XA-14
	E296686.653 N6251385.481	E296647.961 N6251418.536	E296619.468 N6251436.955	E296545.475 N6251445.808	E296476.446 N6251454.068	E296425.365 N6251460.234	E296392.899 N6251465.233	E296389.938 N6251434.762	E296373.963 N6251437.125
	3x900x1200 RAISED SURCHARGE GRATES CLASS 'D' ACCESS LID 2900x1200 PIT BASE	900x900 JUNCTION PIT CLASS 'D' ACCESS LID HAUNCHED WITH 1500x1200 PIT BASE	900x900 JUNCTION PIT CLASS 'D' ACCESS LID HAUNCHED WITH 1350x1500 PIT BASE	900x900 JUNCTION PIT CLASS 'D' ACCESS LID HAUNCHED WITH 1800x900 PIT BASE	900x900 JUNCTION PIT CLASS 'D' ACCESS LID HAUNCHED WITH 1350x1800 PIT BASE	900x900 JUNCTION PIT CLASS 'D' ACCESS LID HAUNCHED WITH 1800x900 PIT BASE	900x900 JUNCTION PIT CLASS 'D' ACCESS LID HAUNCHED WITH 1800x2000 PIT BASE	900x900 JUNCTION PIT CLASS 'D' ACCESS LID HAUNCHED WITH 1800x1800 PIT BASE	CUSTOM HEADWALL AS PART OF TRUNK DRAINAGE DESIGN BY J.W.P.
FLOW (m³/s)	1.26	1.26	1.88	1.88	2.34	2.33	2.32	2.32	
VELOCITY (m/s)	7	5.8	2.8	2.4	2.4	2	2.3	3	
PIPE SIZE & CLASS	Ø1050 RRJ RCP 3	Ø1050 RRJ RCP 4	Ø1050 RRJ RCP 4	Ø1050 RRJ RCP 4	Ø1350 RRJ RCP 4	Ø1350 RRJ RCP 4	Ø1350 RRJ RCP 4	Ø1350 RRJ RCP 3	
GRADE (%)	5.8%	4.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	
Datum R.L									
DEPTH TO INVERT	5.752 6.652	2.614 3.014	3.690 4.590	3.363 3.513	2.933 2.963	2.734 2.764	2.765 2.815	3.141 3.171	1.350 1.350
5% AEP H.G.L. LEVEL (ULTIMATE)	69.531 69.080	66.076 65.870	64.215 64.930	63.423 63.403	62.943 62.940	62.823 62.820	62.711 62.710	62.396 62.400	62.042 55.880
INVERT LEVEL	69.248 68.348	66.803 65.403	63.869 62.969	62.596 62.446	62.098 62.068	61.811 61.781	61.617 61.587	61.434 61.404	61.323 61.323
TOP OF PIT LEVEL	75.000	68.417	67.559	65.959	65.031	64.545	64.401	64.575	62.673
EXISTING SURFACE LEVEL	75.156	73.718	72.345	67.162	64.313	63.011	60.641	60.071	60.143
CHAINAGE	348.014	392.122	426.050	500.215	569.736	621.187	654.036	684.651	700.800
	L=44.107	L=33.928	L=74.521	L=69.521	L=51.452	2.563 L=32.849	13.615 L=30.615	L=16.149	

Plans and specifications referenced in certificate no. 18082 issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision, Certifier – Strata, Certifier – Stormwater, Certifier – Road & Drainage, Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

%%uLINE XA

LINE XA

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 2 4 6 8 10m

1 : 100 @ A1 1 : 200 @ A3

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

100mm on Original

Client: ESR

Scales: 1 : 100 V, 1 : 500 H

Grid: MGA2020

Height Datum: AHD

GDA2020

Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 5

Civil Engineers and Project Managers
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Level 7, 153 Walker Street
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Tel: 02 9439 1777
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www.atl.net.au
info@atl.net.au

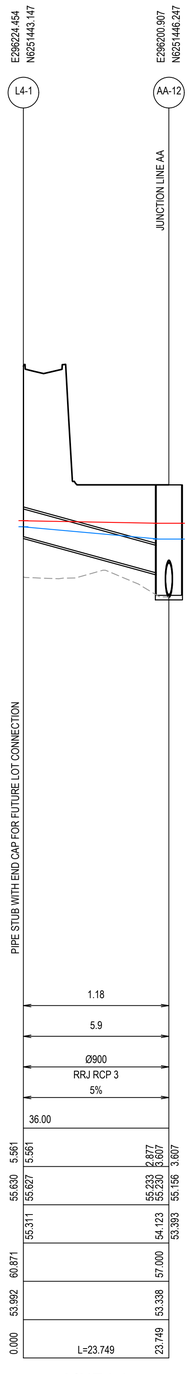
Status: FOR CONSTRUCTION

Issue: A1

Project - Drawing No.: 20-748-C13105

Issue: A

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LINE L4

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 2 4 6 8 10m
1 : 100 @ A1 1 : 200 @ A3
0 10 20 30 40 50m
1 : 500 @ A1 1 : 1000 @ A3

Client: ESR

Scales 1 : 100 V, 1 : 500 H
Grid MGA2020
Height Datum AHD
Drawn LM & QD
Designed LM
Checked LB
Approved AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 6

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ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR CONSTRUCTION
Issue: A1

Project - Drawing No.: 20-748-C13106
Issue: A

100mm on Original

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ILSAX CALCULATION SUMMARY SHEET

DRAINS results prepared from Version 2023.11.8726.15750

	Entire Catchment Area	
Paved	21.498 ha	(62.7%)
Supplementary	0 ha	(0%)
Grassed	12.748 ha	(37.2%)
Total Area	34.247 ha	

LDC
Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
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	LOCATION AND LAND-USE				TIME AND RUNOFF		KINEMATIC WAVE OR FRIENDS FORMULA PARAMETERS		INLET DESIGN							PIPE SYSTEM DESIGN							PIT RESULTS				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	29a	29b	30	31	32	33
AEP	Pit, Node or Basin Name	Sub-Catchment Area (ha)	Land-Use Type (ILSAX)	Percent-age (%)	Constant Flow Time (minutes)	Length (m)	Slope (%)	Roughness n	Total Entry Time, t_c (minutes)	Peak Sub-Catchment Flowrate (m^3/s) *w orst storm	Origin of Approach Flows	Peak Flowrate(s) (m^3/s)	Flow Width (m)	Depth x Velocity (m^2/s)	Inlet Family	Inlet Size	Peak Approach Flow (m^3/s)	Bypass Flow(s) (m^3/s)	Peak Flow in Pipe (m^3/s)	Reach Length (m)	Pipe Slope (%)	Pipe Diameter (mm)	U/S Pipe Invert Level (m)	D/S Pipe Invert Level (m)	U/S HGL in Pipe (m)	D/S HGL in Pipe (m)	Pipe Flow Velocity (m/s)	Pressure Change Coeff. Ku	QUDM Chart No. 2008 [2016]	QUDM Chart Ratios	Water Surface Elevation (m)	Ground Surface Level (m)	Pit Free-board (m)	Pit Name
	BC-1	0.0659	Paved	80	6				6	0.027	BD-1	0.017	0.86	0.06	Kerb Inlet Pit 400x900, 6% grade, 3% xfall	KIP 400x900 2.4m Lintel	0.027	0	0.026	15.689	4.79	375	51.123	50.371	51.275	50.428	2.47	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.01	51.28	52.698	1.42	**BC-1**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**BC-1**	0.0659	Paved		< - - - -	as above	- - - - >		6	0.037	BD-1	0.023	1.05	0.08	< - - - as above - - - >		0.037	0	0.036			< - - - - as above - - - - >			51.306	50.438	2.7	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.01	51.31	52.698	1.39	**BC-1**
			Grassed						7																									
	BA-2	0.067	Paved	80	6				6	0.028	BD-2	0.019	1.11	0.06	Kerb Inlet Pit 400x900, 6% grade, 3% xfall	KIP 400x900 3.6m Lintel	0.028	0	0.083	59.257	2.82	1350	49.396	47.727	49.598	49.074	0.61	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.00	49.6	52.528	2.93	**BA-2**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**BA-2**	0.067	Paved		< - - - -	as above	- - - - >		6	0.038	BD-2	0.026	1.3	0.07	< - - - as above - - - >		0.038	0	0.12			< - - - - as above - - - - >			50.025	50.024	0.18	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.00	50.02	52.528	2.5	**BA-2**
			Grassed						7																									
	P BA-3		Paved												PIPE CONNECTION	PIPE CONNECTION	0		0.15	10	2	1350	47.697	47.497	49.074	49.079	0.1	2.5	A1-20 [A2-32]	Du/Do=1.00, Qg/Qo=0.45, S/Do=1.0	49.07	51.247	2.17	**P BA-3**
			Supp.																															
			Grassed																															
1%	**P BA-3**		Paved												< - - - as above - - - >		0		0.212			< - - - - as above - - - - >			50.021	50.02	0.14	1.4	A1-25 [A2-39]	Du/Do=1.00, Qg/Qo=0.00, S/Do=1.7	50.02	51.247	1.22	**P BA-3**
			Grassed																															
	BD-1	0.0445	Paved	80	6				6	0.018	AC-1	0.037	1.86	0.05	Kerb Inlet Pit 400x900, 6% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.019	0	0.018	15.529	3.31	375	53.845	53.331	53.979	53.474	0.51	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.00	53.98	55.423	1.44	**BD-1**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**BD-1**	0.0445	Paved		< - - - -	as above	- - - - >		6	0.025	AC-1	0.053	2.1	0.07	< - - - as above - - - >		0.029	0	0.025			< - - - - as above - - - - >			54.004	53.512	0.55	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.01	54	55.423	1.42	**BD-1**
			Grassed						7																									
	BD-2	0.0473	Paved	80	6				6	0.02	AA-11	0.026	1.65	0.05	Kerb Inlet Pit 400x900, 6% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.027	0	0.039	48.882	5.99	375	53.301	50.371	53.474	50.437	2.99	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.02	53.47	55.15	1.68	**BD-2**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**BD-2**	0.0473	Paved		< - - - -	as above	- - - - >		6	0.027	AA-11	0.042	1.92	0.06	< - - - as above - - - >		0.041	0	0.054			< - - - - as above - - - - >			53.47	50.45	3.21	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.03	53.51	55.15	1.64	**BD-2**
			Grassed						7																									
	L1-1	12.09	Paved	73.3	14				14	3.676							3.676		3.679	16.061	1.06	1200	59.42	59.25	60.377	60.258	3.74				60.38	64.487		**L1-1**
			Supp.	0	0																													
			Grassed	26.7	16				16																									
1%	**L1-1**	12.09	Paved		< - - - -	as above	- - - - >		14	5.064							5.064		5.07			< - - - - as above - - - - >			60.932	60.727	4.34				60.93	64.487		**L1-1**
			Grassed						16																									
	L1-2	0.0443	Paved	80	6				6	0.018	AE-1	0	0	0	Kerb Inlet Pit 400x900, 6% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.018	0	3.692	15.752	2.03	1200	59.2	58.88	60.231	59.964	3.5	0.33	A1-6 [A2-5]	Du / Do = 1.00, Qg / Qo = 0.01, S / Do = 1.1	60.26	62.039	1.78	**L1-2**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**L1-2**	0.0443	Paved		< - - - -	as above	- - - - >		6	0.025	AE-1	0	0	0	< - - - as above - - - >		0.025	0	5.084			< - - - - as above - - - - >			60.396	60.185	4.37	0.34	A1-6 [A2-5]	Du / Do = 1.00, Qg / Qo = 0.01, S / Do = 1.3	60.73	62.039	1.31	**L1-2**
			Grassed						7																									
	AA-10	0.0332	Paved	100	6				6	0.014	AA-9	0.028	1.41	0.06	Kerb Inlet Pit 400x900, 6% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.016	0	4.137	55.184	8	1350	58.735	54.32	59.814	55.45	3.32	1.71	A1-24 [A2-37 & A2-38]	DI / Do = 0.89, B / Do = 1.50, (Qu / Qo)(Do / Du) = 0.24	59.96	61.777	1.81	**AA-10**
			Supp.	0	0																													
			Grassed	0	7				7																									
1%	**AA-10**	0.0332	Paved		< - - - -	as above	- - - - >		6	0.02	AA-9	0.041	1.62	0.07	< - - - as above - - - >		0.026	0	5.774			< - - - - as above - - - - >			59.946	56.627	4.19	1.7	A1-24 [A2-37 & A2-38]	DI / Do = 0.89, B / Do = 1.50, (Qu / Qo)(Do / Du) = 0.25	60.19	61.777	1.59	**AA-10**
			Grassed						7																									
	AA-11	0.0391	Paved	100	6				6	0.017	AA-10	0.047	2.07	0.07	Kerb Inlet Pit 400x900, 6% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.018	0	4.127	29.666	1	1050	53.72	53.423	55.238	55.187	2.29	2.04	H-O'L	Qg / Qo = 0.00, S / Do = 1.9	55.45	58.119	2.67	**AA-11**
			Supp.	0	0																													
			Grassed	0	7				7																									
1%	**AA-11**	0.0391	Paved		< - - - -	as above	- - - - >		6	0.024	AA-10	0.065	2.28	0.08	< - - - as above - - - >		0.026	0	5.816			< - - - - as above - - - - >			55.821	55.631	3.23	2.04	H-O'L	Qg / Qo = 0.00, S / Do = 3.0	56.63	58.119	1.49	**AA-11**
			Grassed						7																									
	AA-12		Paved												GPT	GPT	0		5.157	7.347	1.13	1050	53.393	53.31	55.127	55.119	2.87	0.93	A1-24 [A2-37 & A2-38]	DI / Do = 0.60, B / Do = 1.50, (Qu / Qo)(Do / Du) = 0.78	55.19	57	1.81	**AA-12**
			Supp.																															
			Grassed																															
1%	**AA-12**		Paved												< - - - as above - - - >		0		7.208			< - - - - as above - - - - >			55.339	55.302	4.01	0.92	A1-24 [A2-37 & A2-38]	DI / Do = 0.60, B / Do = 1.50, (Qu / Qo)(Do / Du) = 0.78	55.63	57	1.37	**AA-12**
			Grassed																															
	L4-1	3.164	Paved	85	10				10	1.174							1.174		1.18	23.749	5	900	55.311	54.123	55.627	55.187	5.88				55.63	60.669		**L4-1**
			Supp.	0	0																													
			Grassed	15	10				10																									
1%	**L4-1**	3.164	Paved		< - - - -	as above	- - - - >		10	1.612							1.612		1.611			< - - - - as above - - - - >			55.704	55.631	6				55.7	60.669		**L4-1**
			Grassed						10																									
	AB-1	0.0595	Paved	80	6				6	0.025	AF-2																								
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**AB-1**	0.0595	Paved		< - - - -	as above	- - - - >		6	0.033	AF-2																								
			Grassed						7																									
	AA-4	0.0597	Paved	80	6				6	0.025	AA-3	0.017	1.25	0.04	Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.025	0.001	0.177	43.368	5.99	525	63.156	60.559	63.426	61.111	1.59	1.03	H-O'L	Qg / Qo = 0.16, S / Do = 1.1	63.43	64.934	1.51	**AA-4**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**AA-4**	0.0597	Paved		< - - - -	as above	- - - - >		6	0.034	AA-3	0.023	1.44	0.05	< - - - as above - - - >		0.034	0.002	0.241			< - - - - as above - - - - >			63.48	61.923	1.74	1.06	H-O'L	Qg / Qo = 0.16, S / Do = 1.1	63.48	64.934	1.45	**AA-4**
			Grassed						7																									
	AA-5	0.0606	Paved	80	6				6	0.025	AA-4	0.016	1.31	0.04	Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.028	0.001	0.204	57.43	0.5	600	60.529	60.242	61.083	61.029	0.75	1.06	H-O'L	Qg / Qo = 0.23, S / Do = 1.0	61.11	64.631	3.52	**AA-5**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**AA-5**	0.0606	Paved		< - - - -	as above	- - - - >		6	0.034	AA-4	0.028	1.61	0.05	< - - - as above - - - >		0.042	0.002	0.308			< - - - - as above - - - - >			61.875	61.765	1.1	0.85	H-O'L	Qg / Qo = 0.14, S / Do = 2.3	61.92	64.631	2.71	**AA-5**
			Grassed						7																									
	AA-6		Paved												Kerb Inlet Pit 400x900, 4% grade, 3% xfall	KIP 400x900 1.8m Lintel	0		0.405	28.601	0.5	600	60.167	60.024	60.657	60.556	1.64	3.53	H-O'L	Qg / Qo = 0.50, S / Do = 1.6	61.03	64.564	3.53	**AA-6**
			Supp.																															
			Grassed																															
1%	**AA-6**		Paved												< - - - as above - - - >		0		0.586			< - - - - as above - - - - >			61.402	61.191	2.09	1.65	H-O'L	Qg / Qo = 0.00, S / Do = 2.7	61.76	64.564	2.8	**AA-6**
			Grassed																															
	AA-7	0.2216	Paved	80	6				6	0.092	CB-1	0.018	0.9	0.07	Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 3.0m Lintel	0.092	0.007	0.468	21.606	0.5	675	59.949	59.841	60.455	60.39	1.63	1.22	A1-9 [A2-6 & A2-7]	Du / Do = 0.89, Qg / Qo = 0.21, S / Do = 1.2	60.56	64.129	3.57	**AA-7**
			Supp.	0	0						CA-5	0.018	1.08	0.05																				
			Grassed	20	7				7		AD-1	0	0	0																				
											CDR-5																							
1%	**AA-7**	0.2216	Paved		< - - - -	as above	- - - - >		6	0.125	CB-1	0.025	1.07	0.08	< - - - as above - - - >		0.13	0.014	0.68			< - - - - as above - - - - >			60.985	60.87	1.91	1.11	A1-9 [A2-6 & A2-7]	Du / Do = 0.89, Qg / Qo = 0.21, S / Do = 1.8	61.19	64.129	2.94	**AA-7**
			Grassed						7		CA-5	0.027	1.32	0.07																				
											AD-1	0	0	0																				
											CDR-5																							
	AA-8	0.1162	Paved	80	6				6	0.048	AA-5	0.024	1.59	0.04	Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 2.4m Lintel	0.048	0.002	0.495	47.901	0.5	750	59.811	59.571	60.245	60.092	1.88	2.11	A1-10 [A2-12 & A2-13]	Du / Do = 0.90, Qg / Qo = 0.11, S / Do = 1.2	60.39	64.02	3.63	**AA-8**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**AA-8**	0.1162	Paved		< - - - -	as above	- - - - >		6	0.065	AA-5	0.033	1.79	0.05	< - - - as above - - - >		0.066	0.006	0.734			< - - - - as above - - - - >			60.579	60.399	1.69	1.99	A1-10 [A2-12 & A2-13]	Du / Do = 0.90, Qg / Qo = 0.11, S / Do = 1.4	60.87	64.02	3.15	**AA-8**
			Grassed						7																									
	AA-9	0.0334	Paved	100	6				6	0.014	AA-8	0.091	2.81	0.08	Kerb Inlet Pit 400x900, 2% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.014	0	0.538	44.265	0.5	750	59.496	59.275	60.062	59.964	1.51	0.57	A1-20 [A2-32]	Du/Do=1.00, Qg/Qo=0.08, S/Do=1.1	60.09	63.533	3.44	**AA-9**
			Supp.	0	0																													
			Grassed	0	7				7																									
1%	**AA-9**	0.0334	Paved		< - - - -	as above	- - - - >		6	0.02	AA-8	0.125	3	0.1	< - - - as above - - - >		0.021	0	0.799			< - - - - as above - - - - >			60.331	60.185	1.84	0.53	A1-25 [A2-39]	Du/Do=1.00, Qg/Qo=0.04, S/Do=1.2	60.4	63.533	3.13	**AA-9**
			Grassed						7																									

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

100mm on Original

Client

ESR

Scales	N.T.S.
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
STORMWATER DRAINAGE CALCULATIONS
SHEET 1

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Status: FOR CONSTRUCTION | A1

Project - Drawing No.: 20-748-C13107 | Issue: A

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13107.dwg

ILSAX CALCULATION SUMMARY SHEET

DRAINS results prepared from Version 2023.11.8726.15750

Entire Catchment Area		
Paved	21.498 ha	(62.7%)
Supplementary	0 ha	(0%)
Grassed	12.748 ha	(37.2%)
Total Area	34.247 ha	

	LOCATION AND LAND-USE				TIME AND RUNOFF				INLET DESIGN					PIPE SYSTEM DESIGN								PIT RESULTS						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	29a	29b	30	31	32	33
AEP	Pit, Node or Basin Name	Sub-Catchment Area (ha)	Land-Use Type (ILSAX)	Percent-age (%)	Constant Flow Time (minutes)	Length (m)	Kinematic Wave or Friends Formula Parameters Slope (%)	Roughness n	Total Entry Time, t_c (minutes)	Peak Sub-Catchment Flowrate (m^3/s) *w/ post storm	Origin of Approach Flows	Peak Flowrate(s) (m^3/s)	Overflows Approaching Pit Flow Width (m)	Depth x Velocity (m^2/s)	Inlet Family	Inlet Size	Peak Approach Flow (m^3/s)	Bypass Flow(s) (m^3/s)	Peak Flow in Pipe (m^3/s)	Reach Length (m)	Pipe Slope (%)	Pipe Diameter (mm)	U/S Pipe Invert Level (m)	D/S Pipe Invert Level (m)	U/S HGL in Pipe (m)	D/S HGL in Pipe (m)	Pipe Flow Velocity (m/s)	Pressure Change Coeff. Ku	QUDM Chart No. 2008 [2016]	QUDM Chart Ratios	Water Surface Elevation (m)	Ground Surface Level (m)	Pit Free-board (m)	Pit Name
	AG-1	0.0989	Paved	80	5				5	0.043	AH-1				Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 2.4m Lintel	0.043	0.001	0.041	15.449	1	375	64.019	63.865	64.176	64.06	0.93	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.02	64.22	65.524	1.31	**AG-1**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**AG-1**	0.0989	Paved		< - - - -	as above	- - - - >		5	0.057	AH-1				< - - - as above - - - >		0.057	0.004	0.052			< - - - - as above - - - - >			64.184	64.135	1.1	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.03	64.27	65.524	1.25	**AG-1**
			Grassed						7																									
	AA-2	0.0886	Paved	80	6				6	0.037	AA-1				Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.037	0.003	0.105	30.512	0.65	450	63.79	63.592	64.016	63.827	1.33	2.68	H-O'L	Qg / Qo = 0.37, S / Do = 1.1	64.06	65.498	1.44	**AA-2**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**AA-2**	0.0886	Paved		< - - - -	as above	- - - - >		6	0.05	AA-1				< - - - as above - - - >		0.05	0.008	0.136			< - - - - as above - - - - >			64.049	63.9	1.47	2.85	H-O'L	Qg / Qo = 0.41, S / Do = 1.3	64.13	65.498	1.36	**AA-2**
			Grassed						7																									
	AA-3	0.0357	Paved	80	6				6	0.015	AA-2	0.017	1.21	0.04	Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.016	0	0.133	50	0.66	450	63.562	63.231	63.818	63.459	1.67	1.38	H-O'L	Qg / Qo = 0.15, S / Do = 1.1	63.83	65.285	1.46	**AA-3**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**AA-3**	0.0357	Paved		< - - - -	as above	- - - - >		6	0.02	AA-2	0.026	1.46	0.06	< - - - as above - - - >		0.024	0.001	0.18			< - - - - as above - - - - >			63.861	63.509	1.79	1.59	H-O'L	Qg / Qo = 0.19, S / Do = 1.3	63.9	65.285	1.39	**AA-3**
			Grassed						7																									
	CB-1	0.0466	Paved	80	6				6	0.019	CC-1	0	0	0	Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.019	0	0.018	15.35	0.5	375	63.487	63.41	63.616	63.497	0.96	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.00	63.62	65.061	1.44	**CB-1**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**CB-1**	0.0466	Paved		< - - - -	as above	- - - - >		6	0.026	CC-1	0	0	0	< - - - as above - - - >		0.026	0.001	0.025			< - - - - as above - - - - >			63.643	63.515	1	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.01	63.64	65.061	1.42	**CB-1**
			Grassed						7																									
	CA-4	0.0418	Paved	80	6				6	0.017	CA-3	0.042	1.85	0.07	Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.017	0	0.187	51.307	0.99	525	63.135	62.625	63.425	62.884	1.77	1.14	A1-20 [A2-32]	Du/Do=1.00, Qg/Qo=0.21, S/Do=1.1	63.43	64.947	1.52	**CA-4**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**CA-4**	0.0418	Paved		< - - - -	as above	- - - - >		6	0.024	CA-3	0.057	2.01	0.08	< - - - as above - - - >		0.024	0.001	0.263			< - - - - as above - - - - >			63.481	62.95	1.89	0.92	A1-20 [A2-32]	Du/Do=1.00, Qg/Qo=0.11, S/Do=1.1	63.49	64.947	1.46	**CA-4**
			Grassed						7																									
	CA-5	0.0761	Paved	80	6				6	0.031	CA-4	0.028	2.51	0.03	Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 2.4m Lintel	0.031	0	0.208	27.122	5.27	525	62.595	61.167	62.884	61.319	4.04	0.89	A1-5 [A2-4]	Du / Do = 1.00, Qg / Qo = 0.17, S / Do = 1.1	62.88	64.43	1.55	**CA-5**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**CA-5**	0.0761	Paved		< - - - -	as above	- - - - >		6	0.043	CA-4	0.045	3.17	0.04	< - - - as above - - - >		0.043	0.001	0.296			< - - - - as above - - - - >			62.95	61.765	1.93	0.89	A1-5 [A2-4]	Du / Do = 1.00, Qg / Qo = 0.17, S / Do = 1.2	62.95	64.43	1.48	**CA-5**
			Grassed						7																									
	CF-1	0.0877	Paved	80	6				6	0.036	XB-1				Kerb Inlet Pit 400x900, 4% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.036	0.002	0.034	15.51	1.33	375	65.354	65.147	65.524	65.316	0.7	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.01	65.52	66.931	1.41	**CF-1**
			Supp.	0	0						XA-6																							
			Grassed	20	7				7																									
1%	**CF-1**	0.0877	Paved		< - - - -	as above	- - - - >		6	0.049	XB-1				< - - - as above - - - >		0.049	0.006	0.045			< - - - - as above - - - - >			65.507	65.355	1.05	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.02	65.56	66.931	1.37	**CF-1**
			Grassed						7		XA-6																							
	CA-1	0.0948	Paved	80	6				6	0.039					Kerb Inlet Pit 400x900, 4% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.039	0.003	0.07	49.189	1.82	450	65.072	64.179	65.256	64.423	1.16	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.03	65.32	66.834	1.52	**CA-1**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**CA-1**	0.0948	Paved		< - - - -	as above	- - - - >		6	0.053					< - - - as above - - - >		0.053	0.007	0.095			< - - - - as above - - - - >			65.288	64.462	1.29	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.05	65.36	66.834	1.48	**CA-1**
			Grassed						7																									
	CA-2	0.0581	Paved	80	6				6	0.024	CA-1	0.019	1.25	0.05	Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.025	0.001	0.115	35.716	1.37	450	64.149	63.658	64.387	63.835	2.02	1.78	A1-20 [A2-32]	Du/Do=1.00, Qg/Qo=0.24, S/Do=1.1	64.42	65.923	1.5	**CA-2**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**CA-2**	0.0581	Paved		< - - - -	as above	- - - - >		6	0.033	CA-1	0.028	1.45	0.06	< - - - as above - - - >		0.037	0.004	0.164			< - - - - as above - - - - >			64.433	63.899	1.92	1.89	A1-20 [A2-32]	Du/Do=1.00, Qg/Qo=0.27, S/Do=1.3	64.46	65.923	1.46	**CA-2**
			Grassed						7																									
	CA-3	0.041	Paved	80	6				6	0.017	CA-2	0.024	1.59	0.04	Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.017	0	0.148	35.726	1.17	525	63.583	63.165	63.835	63.431	1.46	0.55	A1-20 [A2-32]	Du/Do=0.85, Qg/Qo=0.13, S/Do=1.0	63.84	65.377	1.54	**CA-3**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**CA-3**	0.041	Paved		< - - - -	as above	- - - - >		6	0.023	CA-2	0.033	1.79	0.05	< - - - as above - - - >		0.023	0	0.21			< - - - - as above - - - - >			63.891	63.489	1.6	0.68	A1-20 [A2-32]	Du/Do=0.85, Qg/Qo=0.15, S/Do=1.1	63.9	65.377	1.48	**CA-3**
			Grassed						7																									
	AC-1	0.0682	Paved	80	6				6	0.028	L1-2	0.025	1.6	0.04	Kerb Inlet Pit 400x900, 6% grade, 3% xfall	KIP 400x900 2.4m Lintel	0.029	0	0.031	15.418	10	375	56.762	55.22	56.924	55.45	0.67	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.01	56.92	58.361	1.44	**AC-1**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**AC-1**	0.0682	Paved		< - - - -	as above	- - - - >		6	0.038	L1-2	0.035	1.82	0.05	< - - - as above - - - >		0.04	0	0.048			< - - - - as above - - - - >			56.922	56.627	1.08	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.03	56.95	58.361	1.41	**AC-1**
			Grassed						7																									
	AD-1	0.0542	Paved	80	6				6	0.022	AB-1	0.014	1.2	0.03	Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.023	0	0.024	15	10	450	62.629	61.129	62.756	61.178	2.62	7.92	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.00	62.76	64.631	1.87	**AD-1**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**AD-1**	0.0542	Paved		< - - - -	as above	- - - - >		6	0.031	AB-1	0.022	1.49	0.04	< - - - as above - - - >		0.035	0	0.036			< - - - - as above - - - - >			62.798	61.923	0.66	7.92	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.01	62.8	64.631	1.83	**AD-1**
			Grassed						7																									
	AE-1	0.0642	Paved	80	6				6	0.027	AA-7	0.03	1.73	0.05	Kerb Inlet Pit 400x900, 2% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.027	0	0.029	15.532	10.01	375	61.65	60.096	61.801	60.147	3.24	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.01	61.8	63.609	1.81	**AE-1**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**AE-1**	0.0642	Paved		< - - - -	as above	- - - - >		6	0.036	AA-7	0.042	1.96	0.06	< - - - as above - - - >		0.037	0.005	0.046			< - - - - as above - - - - >			61.805	60.399	1.06	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.02	61.84	63.609	1.77	**AE-1**
			Grassed						7																									
	CC-1	0.0442	Paved	80	6				6	0.018	CE-1				Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.018	0	0.018	15.35	0.5	375	63.76	63.683	63.909	63.835	0.45	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.00	63.91	65.422	1.51	**CC-1**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**CC-1**	0.0442	Paved		< - - - -	as above	- - - - >		6	0.025	CE-1				< - - - as above - - - >		0.025	0.001	0.027			< - - - - as above - - - - >			63.942	63.899	0.5	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.01	63.96	65.422	1.46	**CC-1**
			Grassed						7																									
	CE-1	0.063	Paved	80	6				6	0.026	CF-1	0.019	1.35	0.04	Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.026	0.001	0.026	15.521	0.88	375	64.36	64.224	64.547	64.423	0.48	7.92	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.01	64.55	65.989	1.44	**CE-1**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**CE-1**	0.063	Paved		< - - - -	as above	- - - - >		6	0.035	CF-1	0.026	1.55	0.05	< - - - as above - - - >		0.036	0.004	0.036			< - - - - as above - - - - >			64.51	64.462	0.88	7.92	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.01	64.58	65.989	1.41	**CE-1**
			Grassed						7																									
	AF-2	0.0325	Paved	80	6				6	0.013	AG-1	0.026	1.39	0.06	Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.016	0	0.013	15.449	1	375	63.791	63.637	63.921	63.827	0.4	7.92	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.00	63.92	65.311	1.39	**AF-2**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**AF-2**	0.0325	Paved		< - - - -	as above	- - - - >		6	0.018	AG-1	0.039	1.61	0.07	< - - - as above - - - >		0.025	0	0.021			< - - - - as above - - - - >			63.96	63.9	0.43	7.92	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.00	63.96	65.311	1.35	**AF-2**
			Grassed						7																									
	EX.C2	0.24	Paved	0	5				5	0.068							0.068		0.068	10	1	375	49.526	49.426	49.677	49.577	1.63				49.68	60		**EX.C2**
			Supp.	0	2																													
			Grassed	100	10				10																									
1%	**EX.C2**	0.24	Paved		< - - - -	as above	- - - - >		5	0.098							0.098		0.099			< - - - - as above - - - - >			50.052	50.024	0.89				50.05	60		**EX.C2**
			Grassed						10																									
	AH-1	0.0188	Paved	80	5				5	0.008					Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 2.4m Lintel	0.008	0	0.008	15	1	375	64.35	64.2	64.443	64.365	0.37	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.00	64.44	65.845	1.4	**AH-1**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**AH-1**	0.0188	Paved		< - - - -	as above	- - - - >		5	0.011					< - - - as above - - - >		0.011	0	0.011			< - - - - as above - - - - >			64.459	64.413	0.4	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.00	64.46	65.845	1.39	**AH-1**
			Grassed						7																									
	AA-1	0.0715	Paved	80	5				5	0.031					Kerb Inlet Pit 400x900, 1% grade, 3% xfall	KIP 400x900 1.8m Lintel	0.031	0.001	0.035	49.53	0.62	375	64.17	63.865	64.344	64.06	0.71	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.01	64.37	65.845	1.48	**AA-1**
			Supp.	0	0																													
			Grassed	20	7				7																									
1%	**AA-1**	0.0715	Paved		< - - - -	as above	- - - - >		5	0.041					< - - - as above - - - >		0.041	0.004	0.045			< - - - - as above - - - - >			64.323	64.135	1.05	5.93	A1-4 [A2-3]	H / Do = 0.0, Vo2 / (2gDo) = 0.02	64.41	65.845	1.43	**AA-1**
			Grassed						7																									

LDC
Plans and specifications referenced in certificate no: **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

100mm on Original

Client: ESR

Scales	N.T.S.
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: STORMWATER DRAINAGE CALCULATIONS SHEET 2

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
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Fax: 02 9923 1055
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Status: FOR CONSTRUCTION

Issue: A

Project - Drawing No.: 20-748-C13108

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13108.dwg

ILSAX CALCULATION SUMMARY SHEET

DRAINS results prepared from Version 2023.11.8726.15750

	Entire Catchment Area	
Paved	21.498 ha	(62.7%)
Supplementary	0 ha	(0%)
Grassed	12.748 ha	(37.2%)
Total Area	34.247 ha	

LOCATION AND LAND-USE					TIME AND RUNOFF						INLET DESIGN							PIPE SYSTEM DESIGN								PIT RESULTS				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	29a	29b	30	31	32	33
AEP	Pit, Node or Basin Name	Sub-Catchment Area (ha)	Land-Use Type (ILSAX)	Percent-age (%)	Constant Flow Time (minutes)	Length (m)	Kinematic Wave or Friends Formula Parameters Slope (%)	Roughness n	Total Entry Time, t_c (minutes)	Peak Sub-Catchment Flowrate (m^3/s) *w orst storm	Origin of Approach Flows	Peak Flowrate(s) (m^3/s)	Overflows Approaching Pit Flow Width (m)	Depth x Velocity (m^2/s)	Inlet Family	Inlet Size	Peak Approach Flow (m^3/s)	Bypass Flow(s) (m^3/s)	Peak Flow in Pipe (m^3/s)	Reach Length (m)	Pipe Slope (%)	Pipe Diameter (mm)	U/S Pipe Invert Level (m)	D/S Pipe Invert Level (m)	U/S HGL in Pipe (m)	D/S HGL in Pipe (m)	Pipe Flow Velocity (m/s)	Pressure Change Coeff. Ku	QUDM Chart No. 2008 [2016]	QUDM Chart Ratios	Water Surface Elevation (m)	Ground Surface Level (m)	Pit Free-board (m)	Pit Name
	CDR-5		Paved												Surface Inlet Pit Sag	SIP 900x900	0	0	0	25.251	2.98	675	63.373	62.62	63.373	62.81	0	not calculated			63.37	65.336	1.96	**CDR-5**
			Supp.																															
			Grassed																															
1%	**CDR-5**		Paved												< - - - as above - - - >		0	0	0			< - - - - as above - - - - >			63.373	63.2	0	not calculated			63.37	65.336	1.96	**CDR-5**
			Grassed																															
	XA-11		Paved												Junction Pit	JP 900x900	0		2.277	32.849	0.5	1350	61.781	61.617	62.78	62.7	1.98	0.3	H-O'L	Qg / Qo = 0.00, S / Do = 1.0	62.81	64.51	1.7	**XA-11**
			Supp.																															
			Grassed																															
1%	**XA-11**		Paved												< - - - as above - - - >		0		3.1			< - - - - as above - - - - >			63.133	63.044	2.11	0.3	H-O'L	Qg / Qo = 0.00, S / Do = 1.0	63.2	64.51	1.31	**XA-11**
			Grassed																															
	XA-12		Paved												Junction Pit	JP 900x900	0		2.274	30.615	0.5	1350	61.587	61.434	62.472	62.389	2.26	1.64	A1-18 [A2-28 & A2-29]	Du / Do = 1.00, Qg / Qo = 0.00, S / Do = 0.8	62.7	64.414	1.71	**XA-12**
			Supp.																															
			Grassed																															
1%	**XA-12**		Paved												< - - - as above - - - >		0		3.1			< - - - - as above - - - - >			62.772	62.689	2.29	1.21	A1-18 [A2-28 & A2-29]	Du / Do = 1.00, Qg / Qo = 0.00, S / Do = 1.1	63.04	64.414	1.37	**XA-12**
			Grassed																															
	XA-13		Paved												Junction Pit	JP 900x900	0		2.273	16.149	0.5	1350	61.404	61.323	62.199	62.034	2.94	1.54	A1-18 [A2-28 & A2-29]	Du / Do = 1.00, Qg / Qo = 0.00, S / Do = 0.7	62.39	64.584	2.19	**XA-13**
			Supp.																															
			Grassed																															
1%	**XA-13**		Paved												< - - - as above - - - >		0		3.1			< - - - - as above - - - - >			62.336	62.191	3.15	1.9	A1-18 [A2-28 & A2-29]	Du / Do = 1.00, Qg / Qo = 0.00, S / Do = 0.9	62.69	64.584	1.9	**XA-13**
			Grassed																															
	XA-14	0.634	Paved	20	6				6	0.225							0.225														55.87	62.673		**XA-14**
			Supp.	0	2																													
			Grassed	80	6				6																									
1%	**XA-14**	0.634	Paved		< - - - -	as above	- - - - >		6	0.318							0.318														55.94	62.673		**XA-14**
			Grassed						6																									
	XA-5		Paved												Junction Pit	JP 900x900	0		0.747	18.591	2.49	900	69.711	69.248	70.215	69.531	4.33	1.7	A1-7 [A2-8 & A2-9]	Du / Do = 1.00, Qg / Qo = 0.00, S / Do = 1.2	70.27	73.704	3.43	**XA-5**
			Supp.																															
			Grassed																															
1%	**XA-5**		Paved												< - - - as above - - - >		0		1.134			< - - - - as above - - - - >			70.335	69.607	4.75	1.63	A1-7 [A2-8 & A2-9]	Du / Do = 1.00, Qg / Qo = 0.00, S / Do = 1.3	70.42	73.704	3.28	**XA-5**
			Grassed																															
	XA-6		Paved								N8754895				SURCHARGE UNLIMITED CAPACITY	3x900x1200	0	0	1.263	44.107	5.77	1050	68.348	65.803	68.979	66.076	6.97	3.03	H-O'L	Qg / Qo = 0.45, S / Do = 1.3	69.13	75	5.87	**XA-6**
			Supp.																															
			Grassed																															
1%	**XA-6**		Paved								N8754895				< - - - as above - - - >		0	0	1.93			< - - - - as above - - - - >			69.131	66.156	7.46	2.93	H-O'L	Qg / Qo = 0.44, S / Do = 1.6	69.4	75	5.6	**XA-6**
			Grassed																															
	XA-7		Paved												Junction Pit	JP 900x900	0		1.262	33.928	4.52	1050	65.403	63.869	65.867	64.181	5.83	0.25	A1-5 [A2-4]	Du / Do = 1.01, Qg / Qo = 0.00, S / Do = 1.0	65.87	68.417	2.55	**XA-7**
			Supp.																															
			Grassed																															
1%	**XA-7**		Paved												< - - - as above - - - >		0		1.929			< - - - - as above - - - - >			65.989	65.015	3.86	0.25	A1-5 [A2-4]	Du / Do = 1.01, Qg / Qo = 0.00, S / Do = 1.1	65.99	68.417	2.43	**XA-7**
			Grassed																															
	XA-8		Paved												Junction Pit	JP 900x900	0		1.874	74.521	0.5	1050	62.969	62.596	63.741	63.359	2.73	1.9	H-O'L	Qg / Qo = 0.19, S / Do = 1.4	64.07	67.559	3.49	**XA-8**
			Supp.																															
			Grassed																															
1%	**XA-8**		Paved												< - - - as above - - - >		0		2.54			< - - - - as above - - - - >			64.38	63.884	2.82	1.55	H-O'L	Qg / Qo = 0.00, S / Do = 1.9	65.02	67.559	2.54	**XA-8**
			Grassed																															
	XA-9		Paved												Junction Pit	JP 900x900	0		1.878	69.521	0.67	1050	62.566	62.098	63.338	62.969	2.7	0.2	A1-5 [A2-4]	Du / Do = 1.00, Qg / Qo = 0.00, S / Do = 1.0	63.34	65.959	2.62	**XA-9**
			Supp.																															
			Grassed																															
1%	**XA-9**		Paved												< - - - as above - - - >		0		2.538			< - - - - as above - - - - >			63.802	63.342	2.82	0.2	A1-5 [A2-4]	Du / Do = 1.00, Qg / Qo = 0.00, S / Do = 1.2	63.88	65.959	2.08	**XA-9**
			Grassed																															
	XA-10		Paved												Junction Pit	JP 900x900	0		2.283	51.452	0.5	1350	62.068	61.811	62.956	62.81	2.26	0.18	H-O'L	Qg / Qo = 0.00, S / Do = 1.0	62.97	65.037	2.07	**XA-10**
			Supp.																															
			Grassed																															
1%	**XA-10**		Paved												< - - - as above - - - >		0		3.1			< - - - - as above - - - - >			63.326	63.2	2.19	0.09	H-O'L	Qg / Qo = 0.00, S / Do = 1.0	63.34	65.037	1.7	**XA-10**
			Grassed																															
	A5-1		Paved												SURCHARGE UNLIMITED CAPACITY	DUMMY	0		0.451	18.55	4	900	63.26	62.518	63.599	62.969	2.04	0.64	H-O'L	Qg / Qo = 0.00, S / Do = 1.0	63.6	73	9.4	**A5-1**
			Supp.																															
			Grassed																															
1%	**A5-1**		Paved												< - - - as above - - - >		0		0.545			< - - - - as above - - - - >			63.635	63.342	2.16	0.64	H-O'L	Qg / Qo = 0.00, S / Do = 1.0	63.64	73	9.36	**A5-1**
			Grassed																															
	A5-2		Paved												SURCHARGE UNLIMITED CAPACITY	DUMMY	0		0.399	18.55	5	900	65.496	64.569	65.799	64.737	4.84	0.54	H-O'L	Qg / Qo = 0.00, S / Do = 1.0	65.8	73	7.2	**A5-2**
			Supp.																															
			Grassed																															
1%	**A5-2**		Paved												< - - - as above - - - >		0		0.603			< - - - - as above - - - - >			65.873	65.015	2.37	0.54	H-O'L	Qg / Qo = 0.00, S / Do = 1.0	65.87	73	7.13	**A5-2**
			Grassed																															
	A3-1		Paved												SURCHARGE UNLIMITED CAPACITY	DUMMY	0		0.392	18.776	0.5	750	63.562	63.469	64.096	64.068	1.17	1.15	A1-9 [A2-6 & A2-7]	Du / Do = 1.22, Qg / Qo = 0.00, S / Do = 1.1	64.14	73	8.86	**A3-1**
			Supp.																															
			Grassed																															
1%	**A3-1**		Paved												< - - - as above - - - >		0		0.492			< - - - - as above - - - - >			65.026	65.015	1.13	1.15	A1-9 [A2-6 & A2-7]	Du / Do = 1.22, Qg / Qo = 0.00, S / Do = 2.1	65.05	73	7.95	**A3-1**
			Grassed																															
	N8754895	2.59	Paved	0	5				5	0.541							0.541	0.539													78.53			**N8754895**
			Supp.	0	0																													
			Grassed	100	17.7				17.7																									
1%	**N8754895**	2.59	Paved		< - - - -	as above	- - - - >		5	0.818							0.818	0.816													78.54			**N8754895**
			Grassed						17.7																									
	SURCHARGE PIT		Paved												SURCHARGE UNLIMITED CAPACITY	4x1.2x1.2	0		1.533	10	4.5	1200	52.35	51.9	53.022	52.494	2.71	not calculated			53.03	54.98	1.95	**SURCHARGE PIT**
			Supp.																															
			Grassed																															
1%	**SURCHARGE PIT**		Paved												< - - - as above - - - >		0		3.73			< - - - - as above - - - - >			53.384	52.67	4.8	not calculated			53.57	54.98	1.41	**SURCHARGE PIT**
			Grassed																															
	AA-14	0.662	Paved	50	5				5	0.227							0.227																	**AA-14**
			Supp.	0	0																													
			Grassed	50	10				10																									
1%	**AA-14**	0.662	Paved		< - - - -	as above	- - - - >		5	0.31							0.31																	**AA-14**
			Grassed						10																									

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

100mm on Original

Client: ESR

Scales	N.T.S.
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title: STORMWATER DRAINAGE CALCULATIONS
SHEET 3

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 CONSTRUCTION | A1

Project - Drawing No.: 20-748-C13109 | Issue: A

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13109.dwg

ILSAX CALCULATION SUMMARY SHEET

DRAINS results prepared from Version 2023.11.8726.15750

	Entire Catchment Area	
Paved	21.498 ha	(62.7%)
Supplementary	0 ha	(0%)
Grassed	12.748 ha	(37.2%)
Total Area	34.247 ha	

LOCATION AND LAND-USE					TIME AND RUNOFF						INLET DESIGN							PIPE SYSTEM DESIGN							PIT RESULTS						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	29a	29b	30	31	32	33
	Pit, Node or Basin	Sub-Catchment	Land-Use	Percent-age	Constant Flow		Kinematic Wave or Friends Formula Parameters		Total Entry	Peak Sub-Catchment	Origin of	Peak	Overflows Approaching Pit Flow	Depth x	Inlet	Inlet	Peak Approach	Bypass	Peak Flow in	Reach	Pipe	Pipe	U/S Pipe Invert	D/S Pipe Invert	U/S HGL	D/S HGL	Pipe Flow	Pressure Change	QUDM Chart No.	QUDM Chart		Water Surface	Ground Surface	Pit Free-	Pit
AEP	Name	Area	Type		Time	Length	Slope	Roughness	Time, t_c	Flowrate	Approach Flows	Flowrate(s)	Width	Velocity	Family	Size	Flow	Flow(s)	Pipe	Length	Slope	Diameter	Level	Level	in Pipe	in Pipe	Velocity	Coeff.	2008	Ratios		Elevation	Level	board	Name
		(ha)	(ILSAX)	(%)	(minutes)	(m)	(%)	n	(minutes)	(m^3/s)		(m^3/s)	(m)	(m^2/s)			(m^3/s)	(m^3/s)	(m^3/s)	(m)	(%)	(mm)	(m)	(m)	(m)	(m)	(m/s)	Ku	[2016]			(m)	(m)	(m)	
										*w.rpst storm																								
	BASIN 5-1	3.2614	Paved	85	11				11	1.109							1.109		0.451	5	1	900	63.35	63.3	63.74	63.599	2.42								**BASIN 5-1**
			Supp.	0	0																													
			Grassed	15	16				16																									
1%	**BASIN 5-1**	3.2614	Paved		< - - - -	as above	- - - - >		11	1.506							1.506		0.545			< - - - - as above - - - - >			63.822	63.635	2.51							**BASIN 5-1**
			Grassed						16																									
	BASIN 5-2	3.3022	Paved	85	11				11	1.123							1.123		0.399	5	1	900	65.6	65.55	66.042	65.818	2.49								**BASIN 5-2**
			Supp.	0	0																													
			Grassed	15	16				16																									
1%	**BASIN 5-2**	3.3022	Paved		< - - - -	as above	- - - - >		11	1.525							1.525		0.603			< - - - - as above - - - - >			66.053	65.892	2.7							**BASIN 5-2**
			Grassed						16																									
	BASIN 3-1	2.7137	Paved	85	10				10	0.974							0.974		0.389	5	1	900	64.05	64	64.412	64.264	2.49								**BASIN 3-1**
			Supp.	0	0																													
			Grassed	15	15				15																									
1%	**BASIN 3-1**	2.7137	Paved		< - - - -	as above	- - - - >		10	1.33							1.33		0.472			< - - - - as above - - - - >			65.141	65.054	0.73							**BASIN 3-1**
			Grassed						15																									
	SPELFILTER VAULT		Paved														0																	**SPELFILTER VAULT**
			Supp.																															
			Grassed																															
1%	**SPELFILTER VAULT**		Paved														0																	**SPELFILTER VAULT**
			Grassed																															

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
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Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
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Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

100mm on Original

Client: ESR

Scales: N.T.S.
Grid: MGA2020
Height Datum: AHD

Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

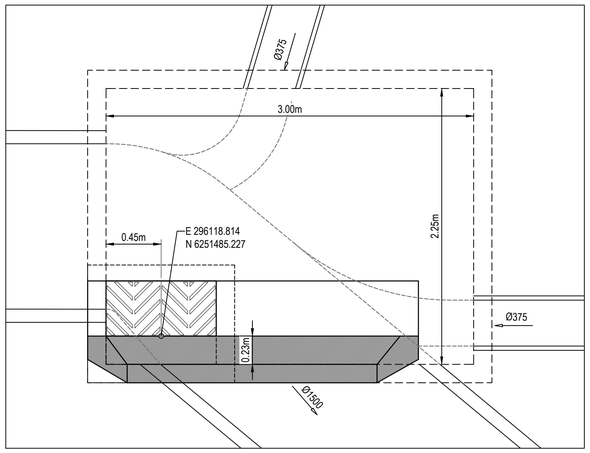
Title: STORMWATER DRAINAGE CALCULATIONS
SHEET 4

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

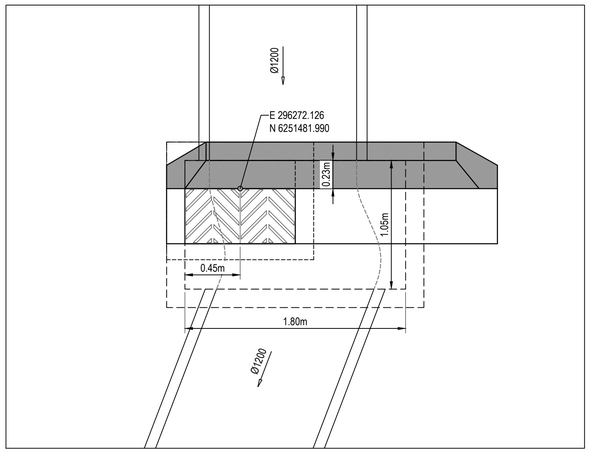
Status: FOR CONSTRUCTION
A1

Project - Drawing No.: 20-748-C13110
Issue: A

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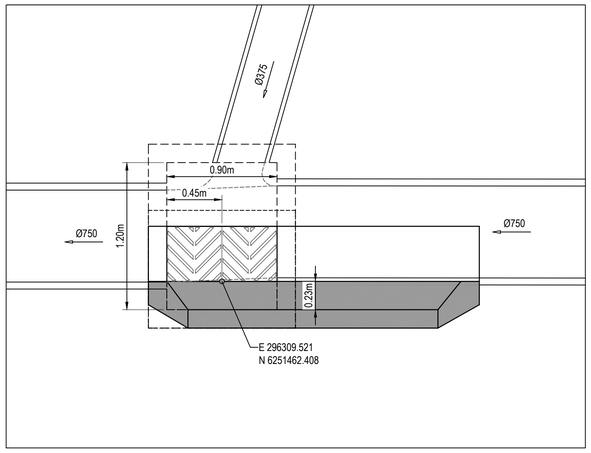
PIT BA-2



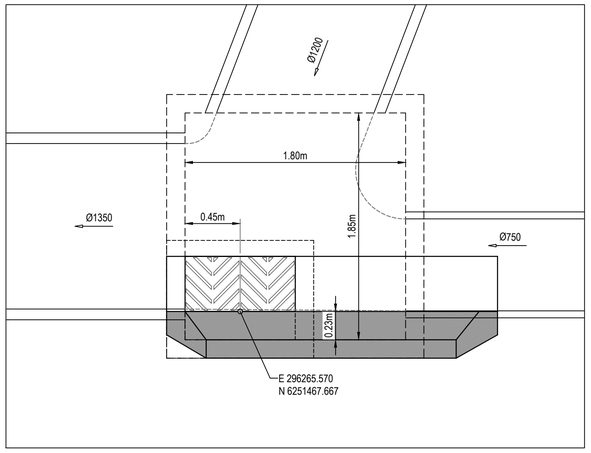
PIT L1-2

STORMWATER NOTES:

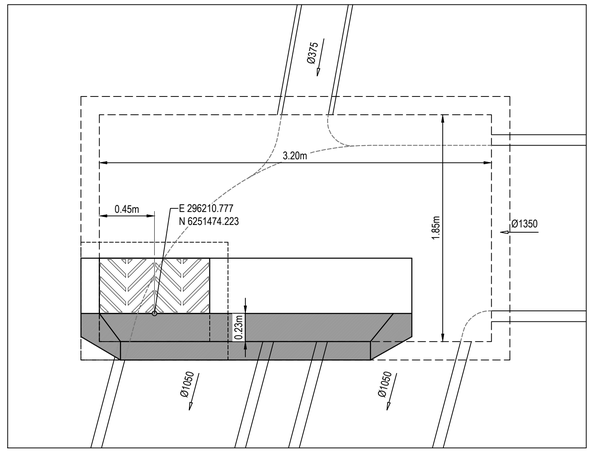
1. STORMWATER PIT CHAMBER DIMENSIONS SHOWN ON THIS PLAN ARE SHOWN AS A GUIDE ONLY. CONTRACTOR TO CONFIRM CHAMBER DIMENSIONS ON SITE WITH SITE SUPERINTENDENT.
2. ALL PITS TO HAVE MASS CONCRETE (N20) BENCHING TO ENSURE SMOOTH FLOW & SMOOTH TRANSITION FROM ENTRY PIPES TO EXIT PIPES.
3. BENCHING MUST BE PLACED TO ENSURE SURFACE IS SMOOTH & FREE FROM VOIDS AND CRACKS.
4. BENCHING MUST BE A MIN. HEIGHT EQUAL TO HALF THE BARREL OF THE PIPE.
5. ENSURE ALL STEP IRONS ARE LOCATED ON THE CLOSEST FACE TO THE OPENING TO ALLOW FREE ACCESS TO THE CHAMBER.
6. WHERE SUBSOIL IS INSTALLED INTO THE PIT, EXTEND SUBSOIL THROUGH BENCHING TO DISCHARGE FREELY INTO CHAMBER.
7. PIT WIDTHS ARE TO ALLOW FOR PIPE DIAMETER + 150mm TO PIT WALL MIN.
8. IF IN DOUBT, SEEK CLARIFICATION FROM THE SUPERINTENDENT.



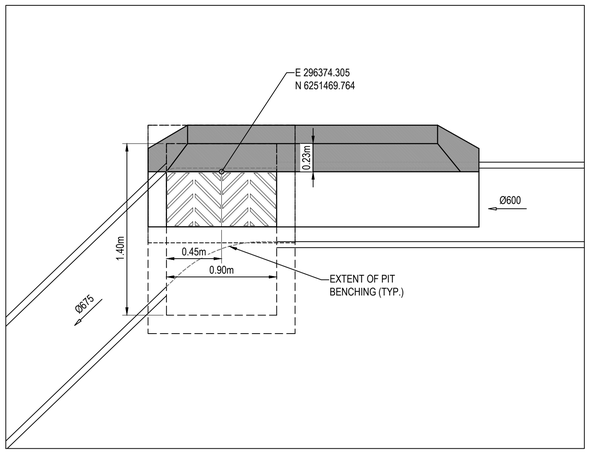
PIT AA-9



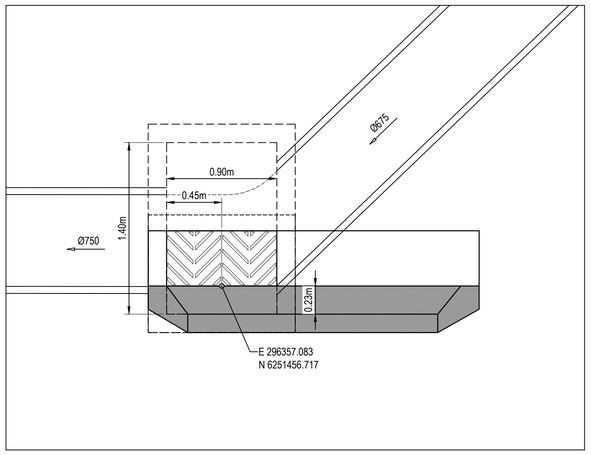
PIT AA-10



PIT AA-11



PIT AA-7



PIT AA-8

Plans and specifications referenced in certificate no: **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
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Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 0.5 1 1.5 2 2.5m

1 : 25 @ A1 1 : 50 @ A3

100mm on Original

Client

ESR

Scales	1:25
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

STORMWATER DRAINAGE
PIT SETOUT DETAILS
SHEET 1

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

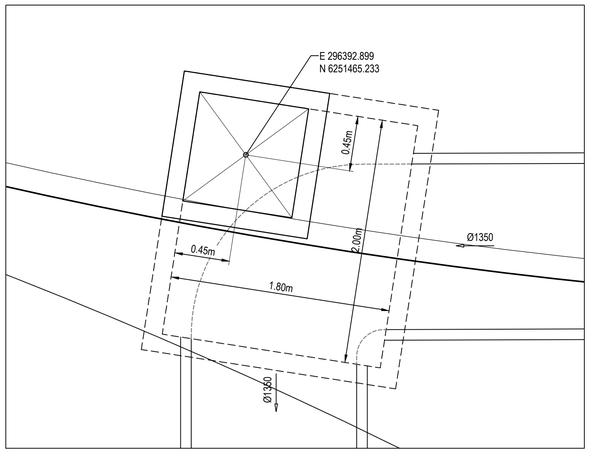
Status: FOR CONSTRUCTION

A1

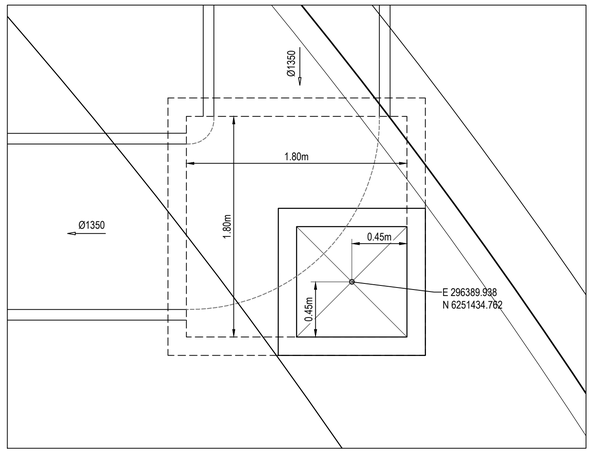
Project - Drawing No.: 20-748-C13111

Issue: A

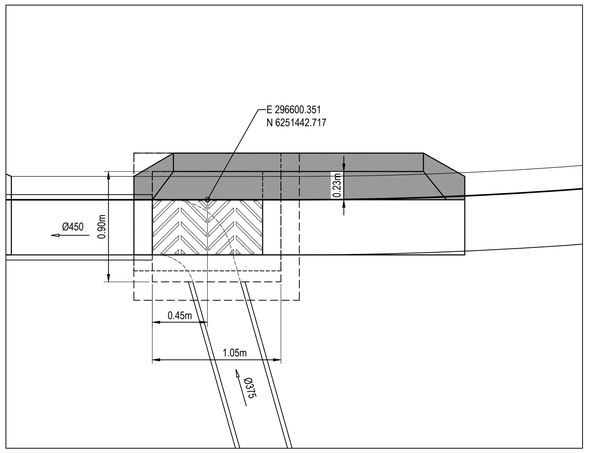
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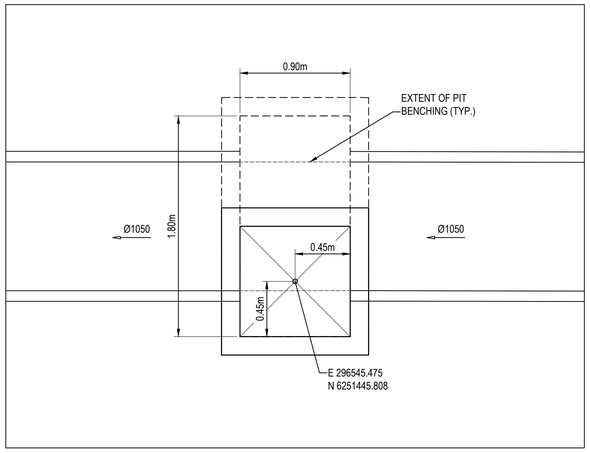
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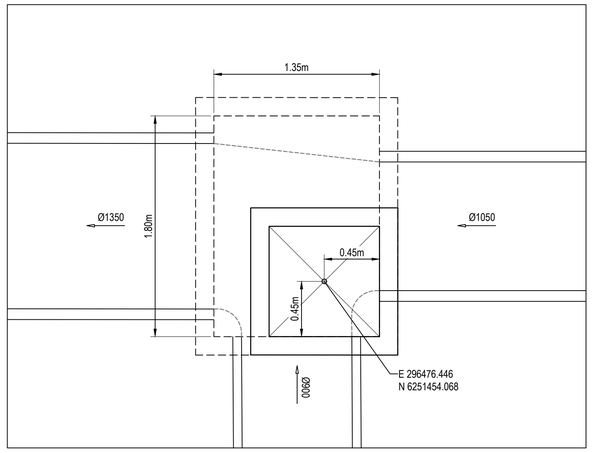
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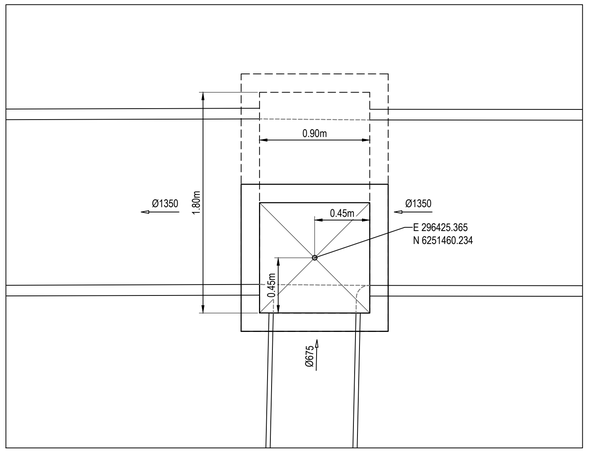
PIT CA-3



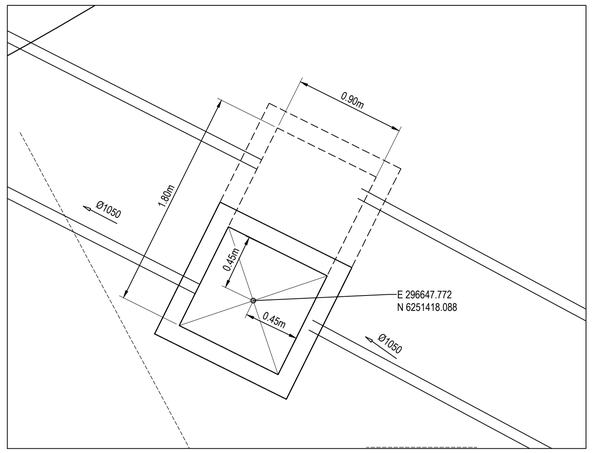
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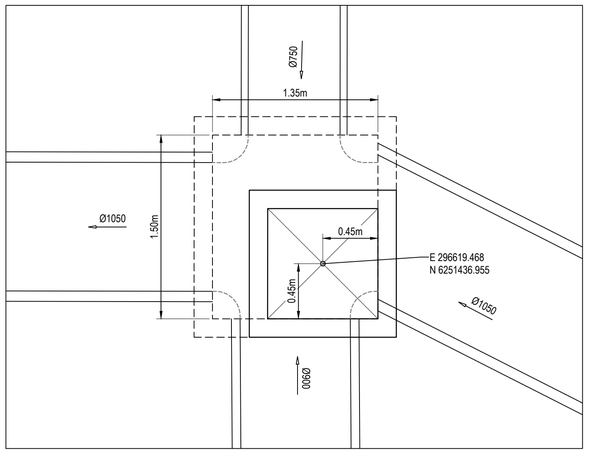
PIT XA-10



PIT XA-11



PIT XA-7



PIT XA-8

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
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Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 0.5 1 1.5 2 2.5m

1 : 25 @ A1 1 : 50 @ A3

100mm on Original

Client

ESR

Scales	1:25
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

STORMWATER DRAINAGE
PIT SETOUT DETAILS
SHEET 2

Civil Engineers and Project Managers

at&l

Level 7, 153 Walker Street
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ABN 96 130 882 405
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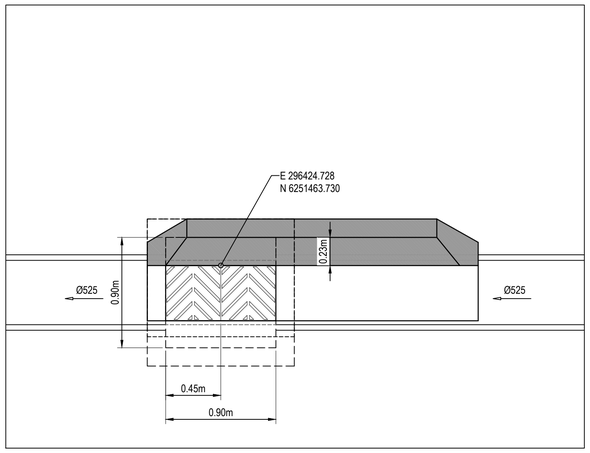
Status: FOR CONSTRUCTION

A1

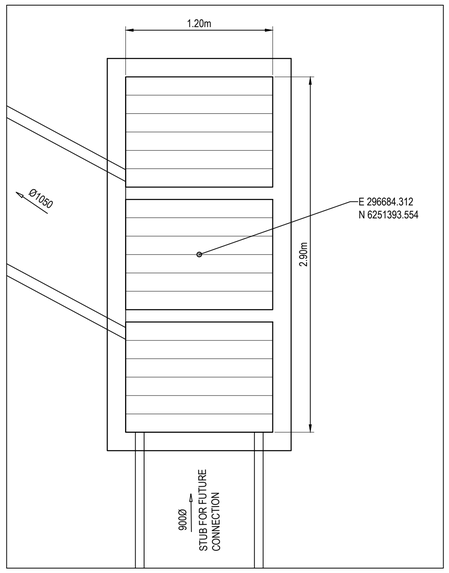
Project - Drawing No.: 20-748-C13112

Issue: A

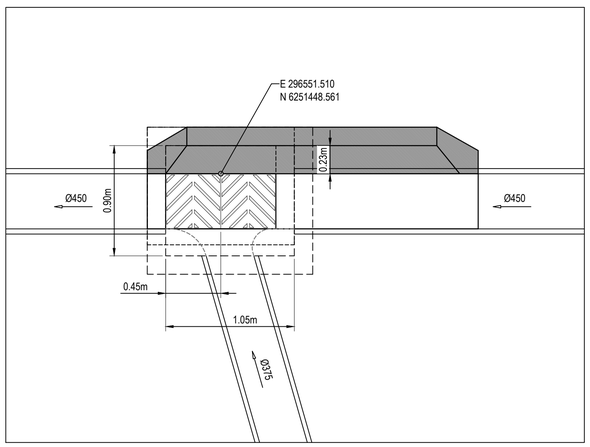
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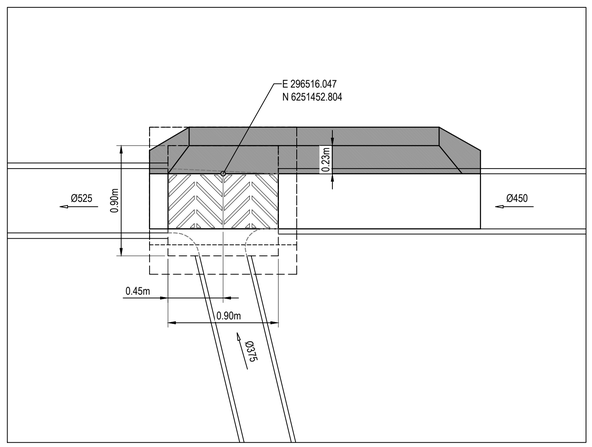
PIT CA-7



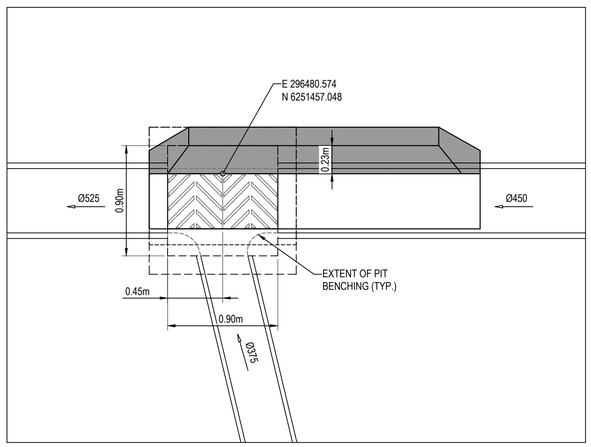
PIT XA-6



PIT CA-4



PIT CA-5



PIT CA-6

Plans and specifications referenced in certificate no: **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 0.5 1 1.5 2 2.5m

1 : 25 @ A1 1 : 50 @ A3

Client

ESR

Scales	1:25
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

STORMWATER DRAINAGE
PIT SETOUT DETAILS
SHEET 3

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 CONSTRUCTION	A1
Project - Drawing No.	Issue
20-748-C13113	A

100mm on Original

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13113.dwg

NOTE:
1. THIS DRAWING IS NOT REQUIRED FOR BULK EARTHWORK APPROVAL. FUTURE COORDINATION WITH PCC/SWC REQUIRED FOR SIGN OFF ON ROAD WORKS AS PER CONDITION B12. ROAD WORKS TO BE SOUGHT UNDER SEPARATE S.W.C. APPROVAL.

REFER TO AT&L 20-748 C20000 DRAWINGS FOR COUNCIL ROAD WORKS DETAILS.
DEVELOPMENT CONSENT: SSD-9138102
S138 ROADS ACT: EA23/0017

CH 0.00

CH 50

LIMIT OF COUNCIL ROAD WORKS (S138)

CH 86.488

CH 100

FOR CONTINUATION REFER TO DRAWING C13122

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- LIMIT OF WORKS

PAVEMENT LEGEND:

PROPOSED INDUSTRIAL ROAD
50mm THICKNESS AC14 (C320) SINGLE LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
500mm THICKNESS SUB-BASECOURSE (DGS40)
NOTE: IF THE SUBGRADE CBR IS 5%, THE SUB-BASECOURSE THICKNESS CAN BE REDUCED TO 320mm.

REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

PROPOSED PRIVATE ACCESS ROAD
50mm THICKNESS AC14 (C320) SINGLE LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
500mm THICKNESS SUB-BASECOURSE (DGS40)
NOTE: IF THE SUBGRADE CBR IS 5%, THE SUB-BASECOURSE THICKNESS CAN BE REDUCED TO 320mm.

REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

CUL-DE-SAC AND ROUNDABOUT PAVEMENT
75mm THICKNESS AC14 (AI5E) SINGLE MODIFIED LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
500mm THICKNESS SUB-BASECOURSE (DGS40)
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REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

PROPOSED FOOTPATH PAVEMENT
125mm THICKNESS CONCRETE WITH SL72 (40mm TOP COVER)
30mm THICKNESS SAND BEDDING (REFER TO PCC STANDARD DWG SD1001 FOR JOINTING DETAILS)

PROPOSED INDUSTRIAL DRIVEWAY
225mm THICKNESS CONCRETE N32, 2 x SL82 MESH TOP AND BOTTOM (40mm COVER) ON
30mm SAND (REFER TO PCC COUNCIL STANDARD SPEC 7.4)
SUBGRADE BENEATH DRIVEWAY TO BE COMPACTED AS PER PCC SPEC 5.1.1.

LANDSCAPING - REFER TO LANDSCAPE ARCHITECTS DRG'S FOR DETAILS

BASIN MAINTENANCE TRACK
2 COAT SEAL (14/7) ON
200mm THICKNESS COMPACTED DGB20 ON COMPACTED SUBGRADE MIN CBR 3%.
3% CROSS FALL REQUIRED FOR ALL MAINTENANCE TRACKS

BASIN ACCESS TRACK AND WEIR
175mm THICKNESS CONCRETE N32, SL82 MESH (40mm TOP COVER) ON
150mm THICKNESS COMPACTED DGB20 ON COMPACTED SUBGRADE MIN CBR 3%.

SJ PROPOSED SAWN JOINT (REFER DETAILS ON DWG. C13098)

NOTE:

ALL ROADWORKS TO BE CONSTRUCTED AS PER PCC STANDARD SPEC SECTION 5.

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
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Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales
0 5 10 15 20 25m
1 : 250 @ A1 1 : 500 @ A3

Keyplan
SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8

Client
ESR

Scales	1:250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
PAVEMENT AND SURFACE TREATMENT PLAN
SHEET 1

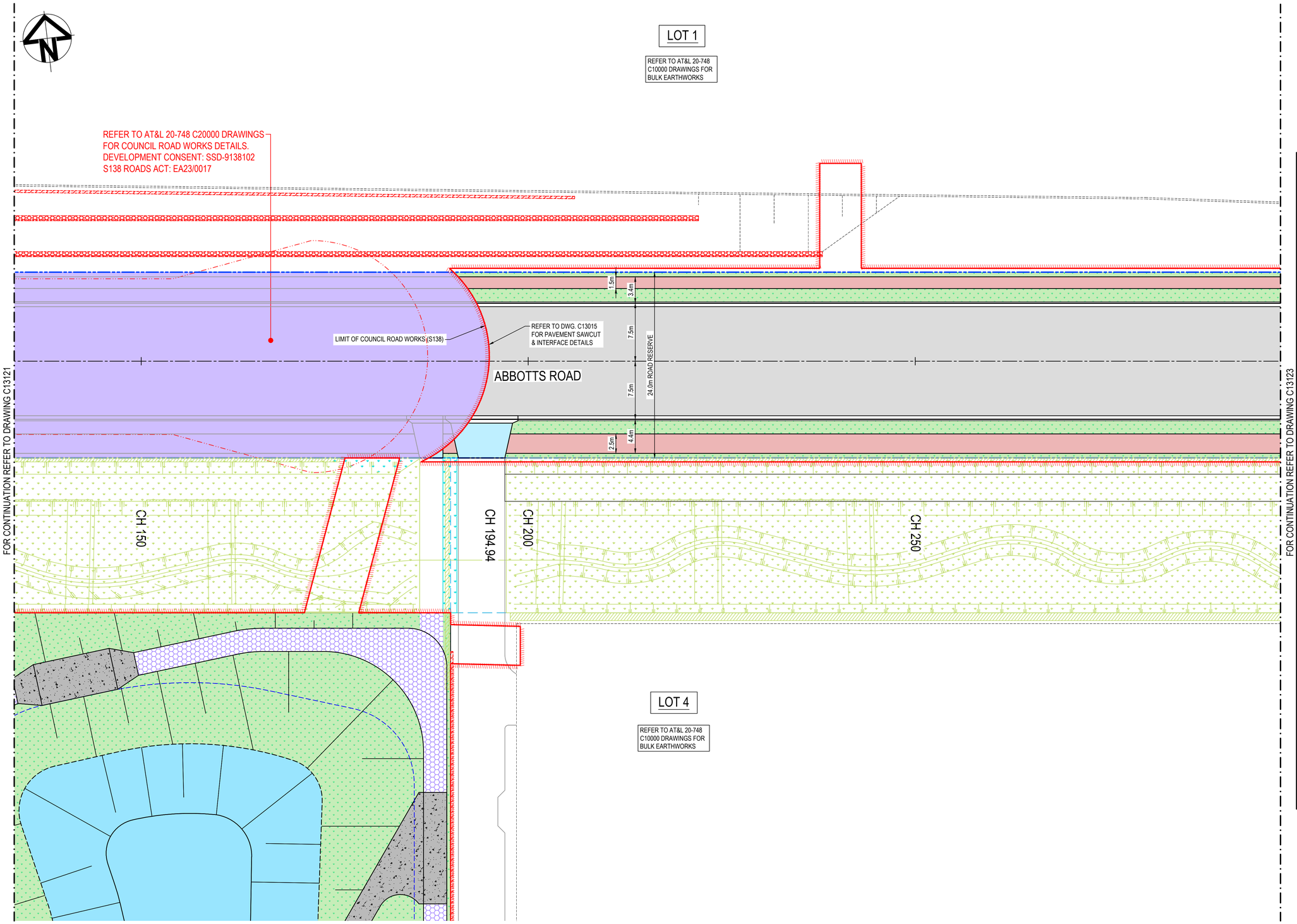
Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR CONSTRUCTION
A1

Project - Drawing No.: 20-748-C13121
Issue: A

100mm on Original

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13121.dwg



LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- LIMIT OF WORKS

PAVEMENT LEGEND:

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50mm THICKNESS AC14 (C320) SINGLE LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
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NOTE: IF THE SUBGRADE CBR IS 5%, THE SUB-BASECOURSE THICKNESS CAN BE REDUCED TO 320mm.

REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

PROPOSED PRIVATE ACCESS ROAD
50mm THICKNESS AC14 (C320) SINGLE LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
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CUL-DE-SAC AND ROUNDABOUT PAVEMENT
75mm THICKNESS AC14 (AI5E) SINGLE MODIFIED LAYER ON
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PROPOSED FOOTPATH PAVEMENT
125mm THICKNESS CONCRETE WITH SL72 (40mm TOP COVER)
30mm THICKNESS SAND BEDDING (REFER TO PCC STANDARD DWG SD1001 FOR JOINTING DETAILS)

PROPOSED INDUSTRIAL DRIVEWAY
225mm THICKNESS CONCRETE N32, 2 x SL82 MESH TOP AND BOTTOM (40mm COVER) ON
30mm SAND (REFER TO PCC COUNCIL STANDARD SPEC 7.4) SUBGRADE BENEATH DRIVEWAY TO BE COMPACTED AS PER PCC SPEC 5.1.1.

LANDSCAPING - REFER TO LANDSCAPE ARCHITECTS DRG'S FOR DETAILS

BASIN MAINTENANCE TRACK
2 COAT SEAL (14/7) ON
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BASIN ACCESS TRACK AND WEIR
175mm THICKNESS CONCRETE N32, SL82 MESH (40mm TOP COVER) ON
150mm THICKNESS COMPACTED DGB20 ON COMPACTED SUBGRADE MIN CBR 3%.

SJ — PROPOSED SAWN JOINT (REFER DETAILS ON DWG. C13098)

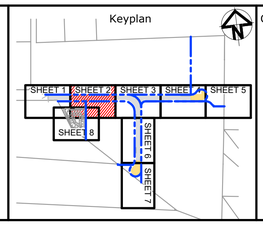
NOTE:

ALL ROADWORKS TO BE CONSTRUCTED AS PER PCC STANDARD SPEC SECTION 5.

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
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Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales
0 5 10 15 20 25m
1 : 250 @ A1 1 : 500 @ A3

Keyplan


Client
ESR

Scales	1:250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

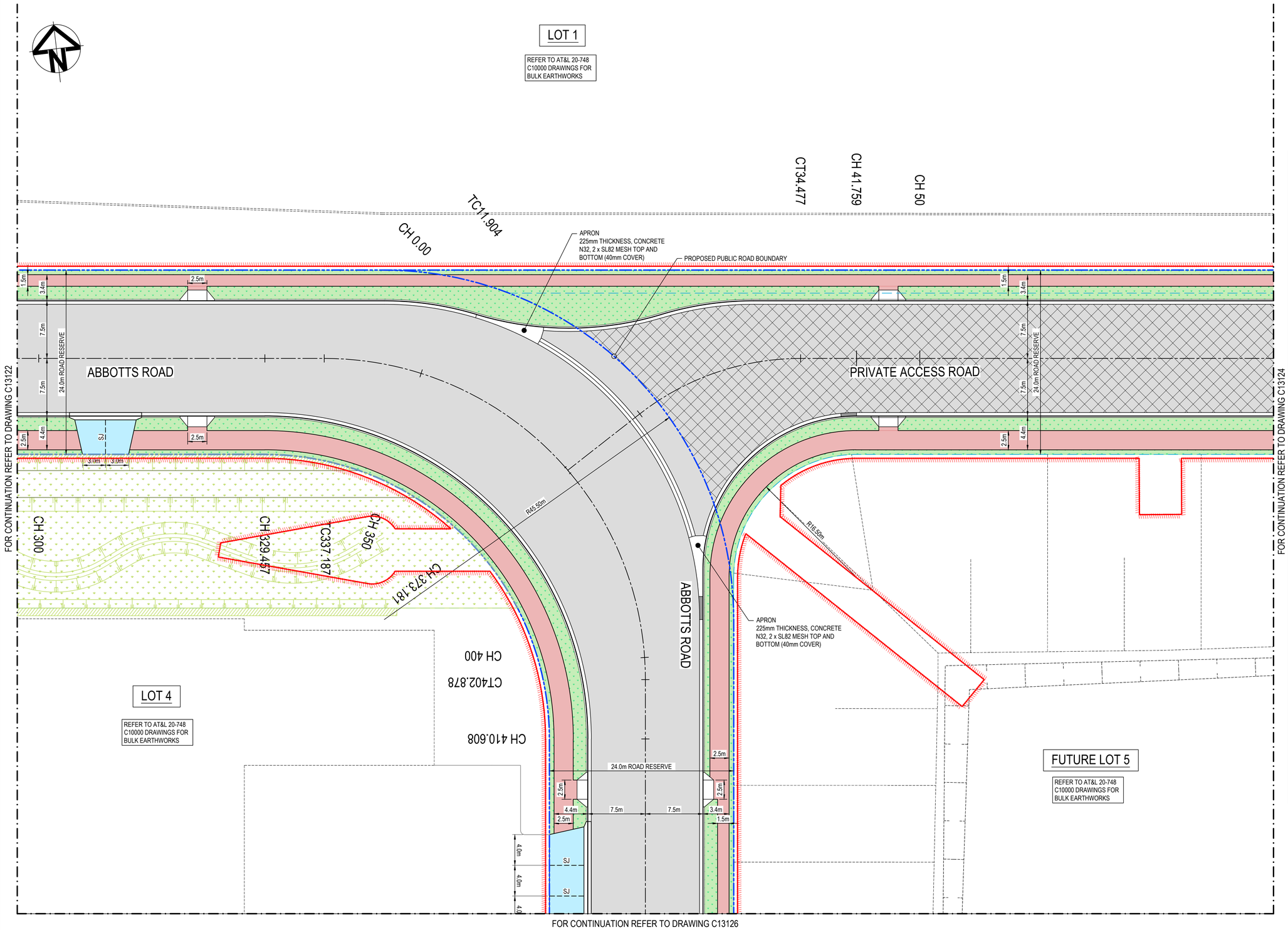
Title
PAVEMENT AND SURFACE TREATMENT PLAN
SHEET 2

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 CONSTRUCTION
Size: A1
Project - Drawing No.: 20-748-C13122
Issue: A

100mm on Original

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13122.dwg



LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- LIMIT OF WORKS

PAVEMENT LEGEND:

PROPOSED INDUSTRIAL ROAD
50mm THICKNESS AC14 (C320) SINGLE LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
500mm THICKNESS SUB-BASECOURSE (DGS40)
NOTE: IF THE SUBGRADE CBR IS 5%, THE SUB-BASECOURSE THICKNESS CAN BE REDUCED TO 320mm.

REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

PROPOSED PRIVATE ACCESS ROAD
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CUL-DE-SAC AND ROUNDABOUT PAVEMENT
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PROPOSED FOOTPATH PAVEMENT
125mm THICKNESS CONCRETE WITH SL72 (40mm TOP COVER)
30mm THICKNESS SAND BEDDING (REFER TO PCC STANDARD DWG SD1001 FOR JOINTING DETAILS)

PROPOSED INDUSTRIAL DRIVEWAY
225mm THICKNESS CONCRETE N32, 2 x SL82 MESH TOP AND BOTTOM (40mm COVER) ON
30mm SAND (REFER TO PCC COUNCIL STANDARD SPEC 7.4) SUBGRADE BENEATH DRIVEWAY TO BE COMPACTED AS PER PCC SPEC 5.1.1.

LANDSCAPING - REFER TO LANDSCAPE ARCHITECTS DRG'S FOR DETAILS

BASIN MAINTENANCE TRACK
2 COAT SEAL (14/7) ON
200mm THICKNESS COMPACTED DGB20 ON COMPACTED SUBGRADE MIN CBR 3%.
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SJ PROPOSED SAWN JOINT (REFER DETAILS ON DWG. C13098)

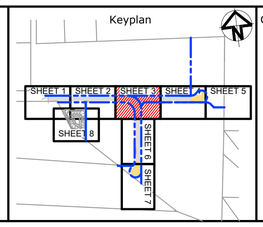
NOTE:

ALL ROADWORKS TO BE CONSTRUCTED AS PER PCC STANDARD SPEC SECTION 5.

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision, Certifier – Strata, Certifier – Stormwater, Certifier – Road & Drainage, Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales
0 5 10 15 20 25m
1 : 250 @ A1 1 : 500 @ A3

Keyplan


Client
ESR

Scales	1:250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
PAVEMENT AND SURFACE TREATMENT PLAN
SHEET 3

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 CONSTRUCTION
Issue: A1

Project - Drawing No.: 20-748-C13123
Issue: A

100mm on Original

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13123.dwg

LOT 1

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

FUTURE LOT 3

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

CH 100 CH 150 CH 200 CH 206.538 CH 213.688 TC216.765 CH233.546 CH 245.550

3.9m 4.0m 4.0m 4.0m 2.0m 4.3m 4.3m 4.3m

SJ SJ SJ SJ SJ SJ

1.5m 3.4m 7.5m 24.0m ROAD RESERVE 7.5m 2.5m 4.4m

PRIVATE ACCESS ROAD

PRIVATE ACCESS ROAD

R20.00m R16.50m R20.90m

FOR CONTINUATION REFER TO DRAWING C13123

FOR CONTINUATION REFER TO DRAWING C13125

FUTURE LOT 5

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

74.00 75.00 76.00 77.00

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- LIMIT OF WORKS

PAVEMENT LEGEND:

PROPOSED INDUSTRIAL ROAD
50mm THICKNESS AC14 (C320) SINGLE LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
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NOTE: IF THE SUBGRADE CBR IS 5%, THE SUB-BASECOURSE THICKNESS CAN BE REDUCED TO 320mm.

REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

PROPOSED PRIVATE ACCESS ROAD
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CUL-DE-SAC AND ROUNDABOUT PAVEMENT
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PROPOSED FOOTPATH PAVEMENT
125mm THICKNESS CONCRETE WITH SL72 (40mm TOP COVER)
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LANDSCAPING - REFER TO LANDSCAPE ARCHITECTS DRG'S FOR DETAILS

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SJ PROPOSED SAWN JOINT (REFER DETAILS ON DWG. C13098)

NOTE:

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Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

100mm on Original

Keyplan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8

Client

ESR

Scales	1:250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
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GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
PAVEMENT AND SURFACE TREATMENT PLAN
SHEET 4

Civil Engineers and Project Managers
at&l
Level 7, 153 Walker Street
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ABN 96 130 882 405
Tel: 02 9439 1777
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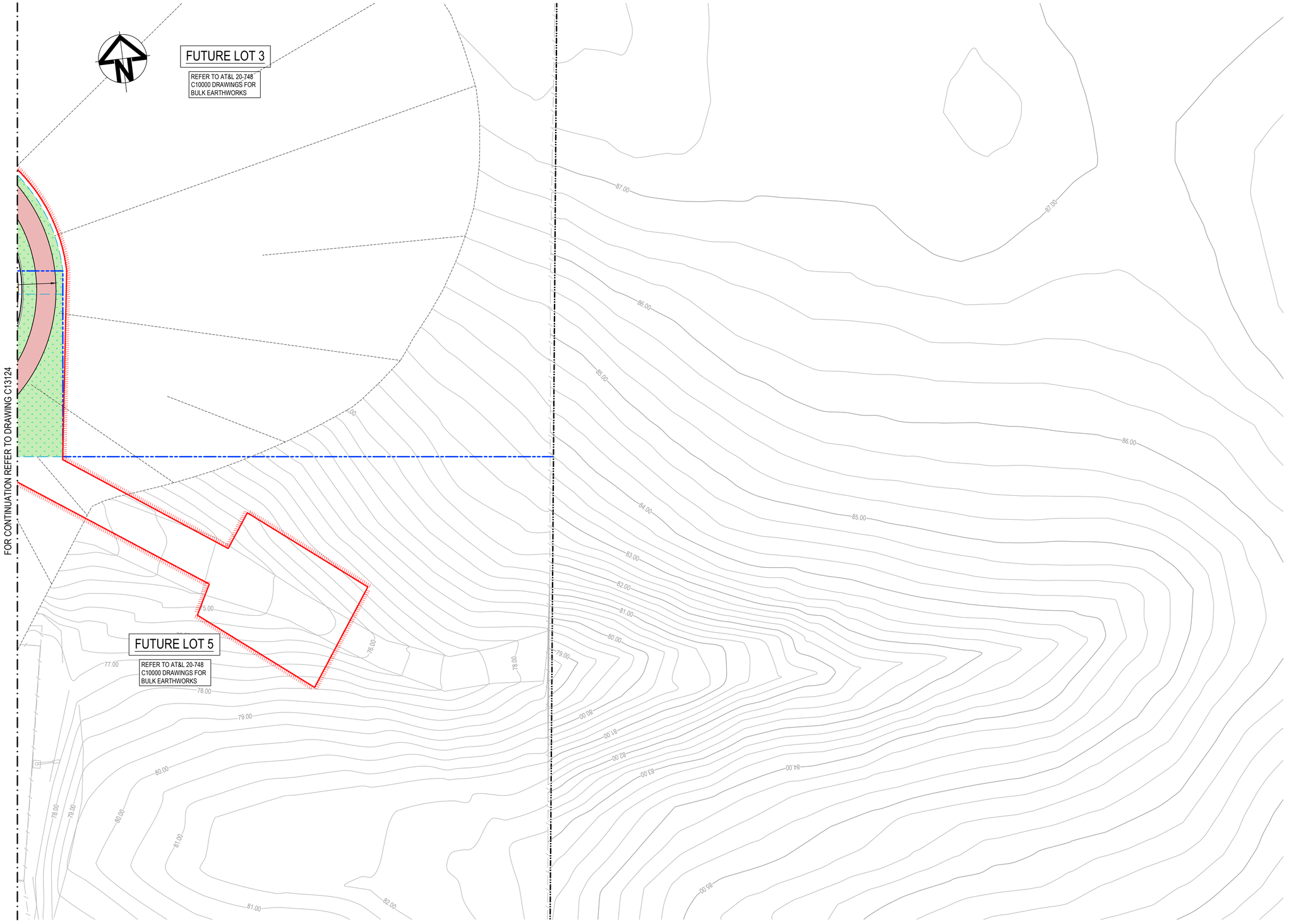
Status: FOR CONSTRUCTION

A1

Project - Drawing No.: 20-748-C13124

Issue: A

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13124.dwg



LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
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- LIMIT OF WORKS

PAVEMENT LEGEND:

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PROPOSED PRIVATE ACCESS ROAD
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200mm THICKNESS BASECOURSE (DGB20) ON
500mm THICKNESS SUB-BASECOURSE (DGS40)
NOTE: IF THE SUBGRADE CBR IS 5%, THE SUB-BASECOURSE THICKNESS CAN BE REDUCED TO 320mm.

REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

CUL-DE-SAC AND ROUNDABOUT PAVEMENT
75mm THICKNESS AC14 (AI5E) SINGLE MODIFIED LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
500mm THICKNESS SUB-BASECOURSE (DGS40)
NOTE: IF THE SUBGRADE CBR IS 5%, THE SUB-BASECOURSE THICKNESS CAN BE REDUCED TO 320mm.

REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

PROPOSED FOOTPATH PAVEMENT
125mm THICKNESS CONCRETE WITH SL72 (40mm TOP COVER)
30mm THICKNESS SAND BEDDING (REFER TO PCC STANDARD DWG SD1001 FOR JOINTING DETAILS)

PROPOSED INDUSTRIAL DRIVEWAY
225mm THICKNESS CONCRETE N32, 2 x SL82 MESH TOP AND BOTTOM (40mm COVER) ON
30mm SAND (REFER TO PCC COUNCIL STANDARD SPEC 7.4)
SUBGRADE BENEATH DRIVEWAY TO BE COMPACTED AS PER PCC SPEC 5.1.1.

LANDSCAPING - REFER TO LANDSCAPE ARCHITECTS DRG'S FOR DETAILS

BASIN MAINTENANCE TRACK
2 COAT SEAL (14/7) ON
200mm THICKNESS COMPACTED DGB20 ON COMPACTED SUBGRADE MIN CBR 3%.
3% CROSS FALL REQUIRED FOR ALL MAINTENANCE TRACKS

BASIN ACCESS TRACK AND WEIR
175mm THICKNESS CONCRETE N32, SL82 MESH (40mm TOP COVER) ON
150mm THICKNESS COMPACTED DGB20 ON COMPACTED SUBGRADE MIN CBR 3%.

SJ PROPOSED SAWN JOINT (REFER DETAILS ON DWG. C13098)

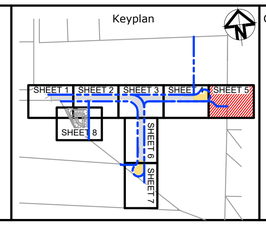
NOTE:

ALL ROADWORKS TO BE CONSTRUCTED AS PER PCC STANDARD SPEC SECTION 5.

Plans and specifications referenced in certificate no.: **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales
0 5 10 15 20 25m
1 : 250 @ A1 1 : 500 @ A3

Keyplan


Client
ESR

Scales	1:250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
PAVEMENT AND SURFACE TREATMENT PLAN
SHEET 5

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 CONSTRUCTION
A1

Project - Drawing No.: 20-748-C13125
Issue: A

100mm on Original

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13125.dwg



LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- LIMIT OF WORKS

PAVEMENT LEGEND:

PROPOSED INDUSTRIAL ROAD
50mm THICKNESS AC14 (C320) SINGLE LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
500mm THICKNESS SUB-BASECOURSE (DGS40)
NOTE: IF THE SUBGRADE CBR IS 5%, THE SUB-BASECOURSE THICKNESS CAN BE REDUCED TO 320mm.

REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

PROPOSED PRIVATE ACCESS ROAD
50mm THICKNESS AC14 (C320) SINGLE LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
500mm THICKNESS SUB-BASECOURSE (DGS40)
NOTE: IF THE SUBGRADE CBR IS 5%, THE SUB-BASECOURSE THICKNESS CAN BE REDUCED TO 320mm.

REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

CUL-DE-SAC AND ROUNDABOUT PAVEMENT
75mm THICKNESS AC14 (AI5E) SINGLE MODIFIED LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
500mm THICKNESS SUB-BASECOURSE (DGS40)
NOTE: IF THE SUBGRADE CBR IS 5%, THE SUB-BASECOURSE THICKNESS CAN BE REDUCED TO 320mm.

REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

PROPOSED FOOTPATH PAVEMENT
125mm THICKNESS CONCRETE WITH SL72 (40mm TOP COVER)
30mm THICKNESS SAND BEDDING (REFER TO PCC STANDARD DWG SD1001 FOR JOINTING DETAILS)

PROPOSED INDUSTRIAL DRIVEWAY
225mm THICKNESS CONCRETE N32, 2 x SL82 MESH TOP AND BOTTOM (40mm COVER) ON
30mm SAND (REFER TO PCC COUNCIL STANDARD SPEC 7.4)
SUBGRADE BENEATH DRIVEWAY TO BE COMPACTED AS PER PCC SPEC 5.1.1.

LANDSCAPING - REFER TO LANDSCAPE ARCHITECTS DRG'S FOR DETAILS

BASIN MAINTENANCE TRACK
2 COAT SEAL (14/7) ON
200mm THICKNESS COMPACTED DGB20 ON COMPACTED SUBGRADE MIN CBR 3%.
3% CROSS FALL REQUIRED FOR ALL MAINTENANCE TRACKS

BASIN ACCESS TRACK AND WEIR
175mm THICKNESS CONCRETE N32, SL82 MESH (40mm TOP COVER) ON
150mm THICKNESS COMPACTED DGB20 ON COMPACTED SUBGRADE MIN CBR 3%.

SJ PROPOSED SAWN JOINT (REFER DETAILS ON DWG. C13098)

NOTE:

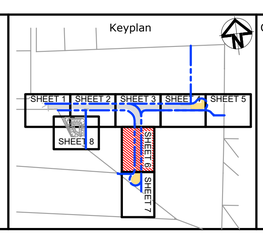
ALL ROADWORKS TO BE CONSTRUCTED AS PER PCC STANDARD SPEC SECTION 5.

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision, Certifier – Strata, Certifier – Stormwater, Certifier – Road & Drainage, Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales
0 5 10 15 20 25m
1 : 250 @ A1 1 : 500 @ A3

100mm on Original

Keyplan


Client
ESR

Scales	1:250	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

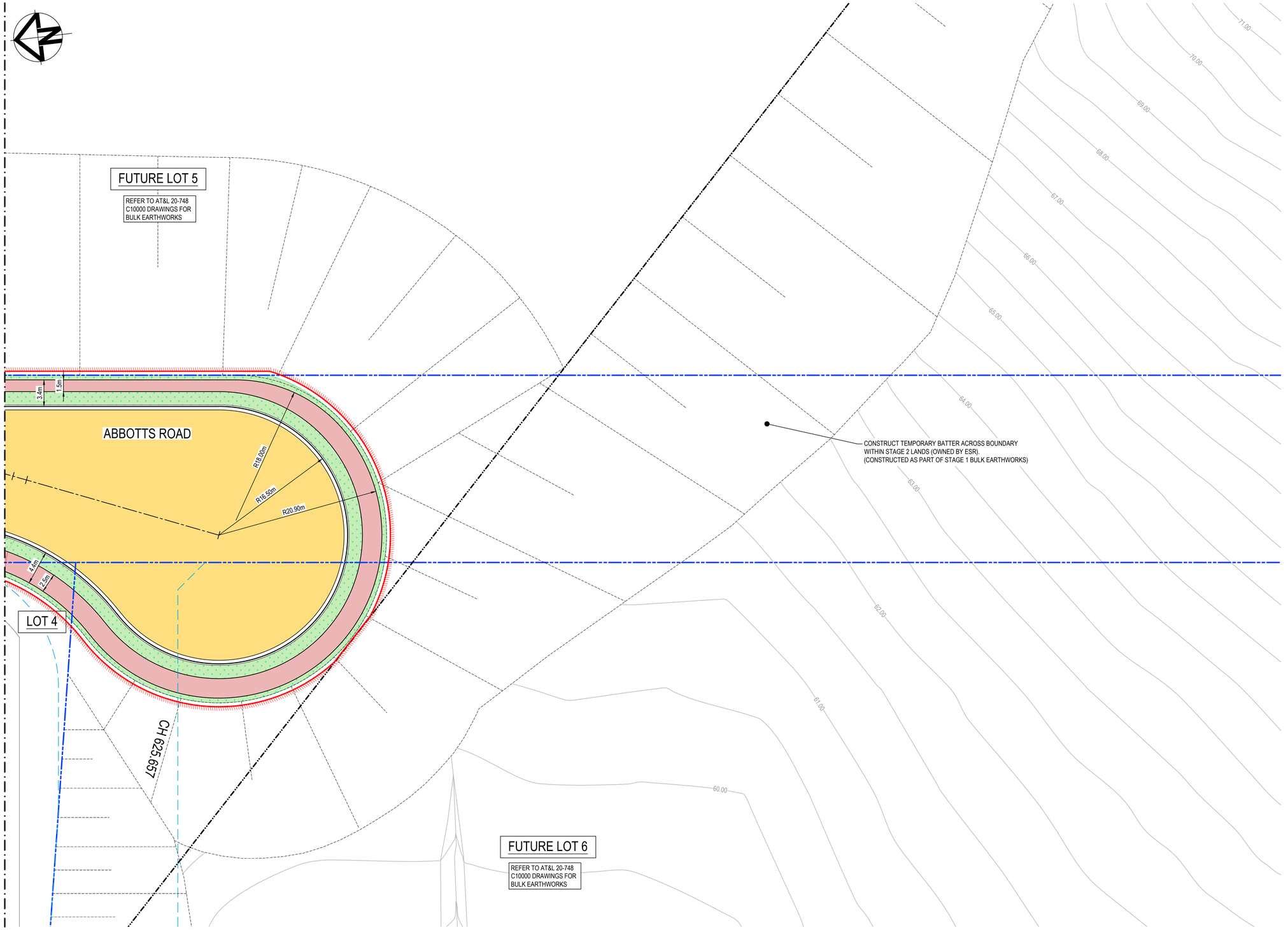
Title
PAVEMENT AND SURFACE TREATMENT PLAN
SHEET 6

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 CONSTRUCTION
A1

Project - Drawing No.: 20-748-C13126
Issue: A

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13126.dwg



LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- LIMIT OF WORKS

PAVEMENT LEGEND:

PROPOSED INDUSTRIAL ROAD
50mm THICKNESS AC14 (C320) SINGLE LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
500mm THICKNESS SUB-BASECOURSE (DGS40)
NOTE: IF THE SUBGRADE CBR IS 5%, THE SUB-BASECOURSE THICKNESS CAN BE REDUCED TO 320mm.

REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

PROPOSED PRIVATE ACCESS ROAD
50mm THICKNESS AC14 (C320) SINGLE LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
500mm THICKNESS SUB-BASECOURSE (DGS40)
NOTE: IF THE SUBGRADE CBR IS 5%, THE SUB-BASECOURSE THICKNESS CAN BE REDUCED TO 320mm.

REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

CUL-DE-SAC AND ROUNDABOUT PAVEMENT
75mm THICKNESS AC14 (AI5E) SINGLE MODIFIED LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
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NOTE: IF THE SUBGRADE CBR IS 5%, THE SUB-BASECOURSE THICKNESS CAN BE REDUCED TO 320mm.

REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

PROPOSED FOOTPATH PAVEMENT
125mm THICKNESS CONCRETE WITH SL72 (40mm TOP COVER)
30mm THICKNESS SAND BEDDING (REFER TO PCC STANDARD DWG SD1001 FOR JOINTING DETAILS)

PROPOSED INDUSTRIAL DRIVEWAY
225mm THICKNESS CONCRETE N32, 2 x SL82 MESH TOP AND BOTTOM (40mm COVER) ON
30mm SAND (REFER TO PCC COUNCIL STANDARD SPEC 7.4)
SUBGRADE BENEATH DRIVEWAY TO BE COMPACTED AS PER PCC SPEC 5.1.1.

LANDSCAPING - REFER TO LANDSCAPE ARCHITECTS DRG'S FOR DETAILS

BASIN MAINTENANCE TRACK
2 COAT SEAL (14/7) ON
200mm THICKNESS COMPACTED DGB20 ON COMPACTED SUBGRADE MIN CBR 3%.
3% CROSS FALL REQUIRED FOR ALL MAINTENANCE TRACKS

BASIN ACCESS TRACK AND WEIR
175mm THICKNESS CONCRETE N32, SL82 MESH (40mm TOP COVER) ON
150mm THICKNESS COMPACTED DGB20 ON COMPACTED SUBGRADE MIN CBR 3%.

SJ — PROPOSED SAWN JOINT (REFER DETAILS ON DWG. C13098)

NOTE:

ALL ROADWORKS TO BE CONSTRUCTED AS PER PCC STANDARD SPEC SECTION 5.

Plans and specifications referenced in certificate no. **180822** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision, Certifier – Strata, Certifier – Stormwater, Certifier – Road & Drainage, Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales
0 5 10 15 20 25m
1 : 250 @ A1 1 : 500 @ A3

Keyplan
SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 8 SHEET 6 SHEET 7

Client: ESR

Scales	1:250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project
PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title
PAVEMENT AND SURFACE TREATMENT PLAN
SHEET 7

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 CONSTRUCTION
A1

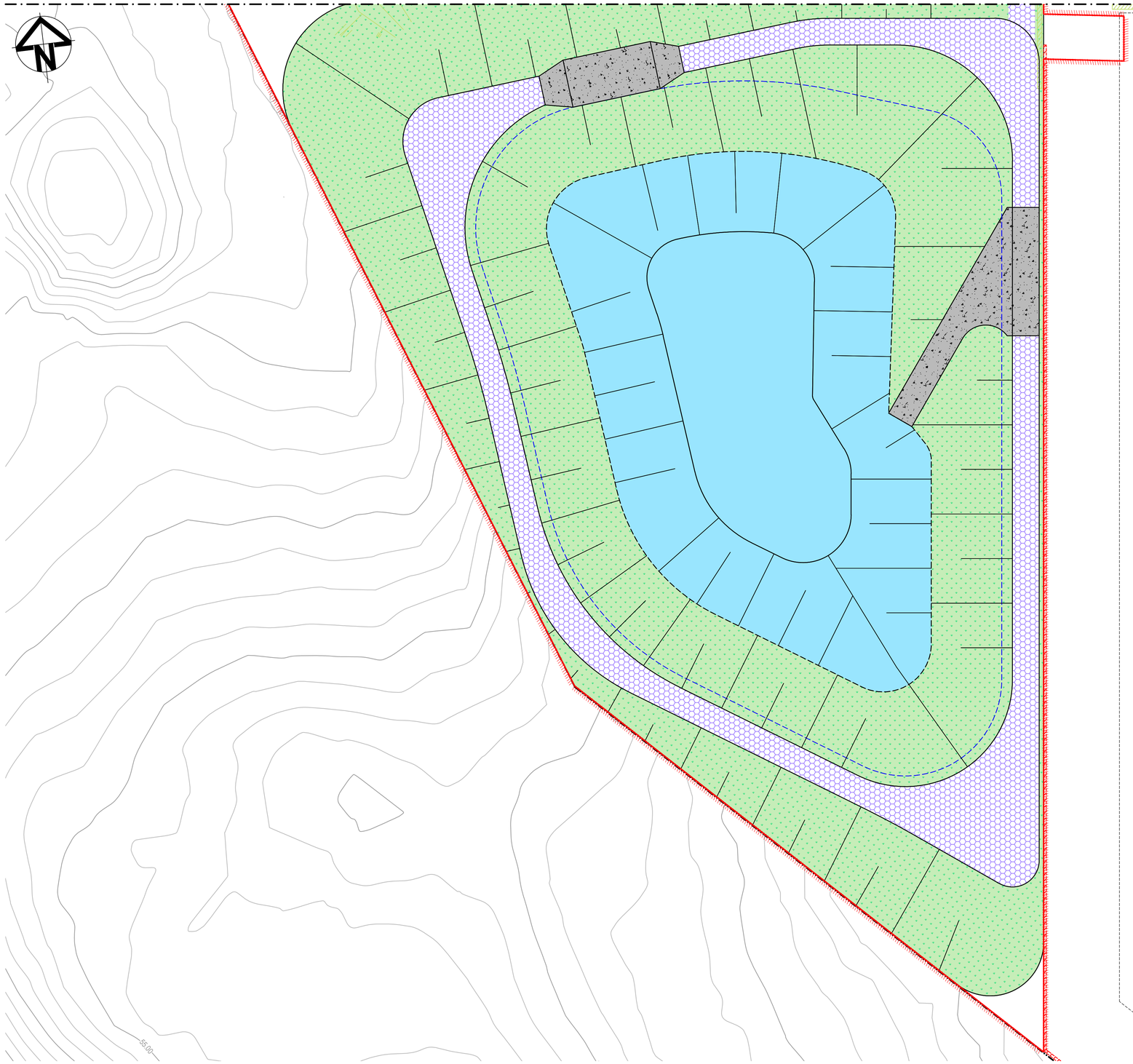
Project - Drawing No.: 20-748-C13127
Issue: A

100mm on Original

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FOR CONTINUATION REFER TO DRAWING C13121

FOR CONTINUATION REFER TO DRAWING C13122



LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- LIMIT OF WORKS

PAVEMENT LEGEND:

PROPOSED INDUSTRIAL ROAD
50mm THICKNESS AC14 (C320) SINGLE LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
500mm THICKNESS SUB-BASECOURSE (DGS40)
NOTE: IF THE SUBGRADE CBR IS 5%, THE SUB-BASECOURSE THICKNESS CAN BE REDUCED TO 320mm.

REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

PROPOSED PRIVATE ACCESS ROAD
50mm THICKNESS AC14 (C320) SINGLE LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
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REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

CUL-DE-SAC AND ROUNDABOUT PAVEMENT
75mm THICKNESS AC14 (AI5E) SINGLE MODIFIED LAYER ON
7mm THICKNESS SINGLE COAT FLUSH SAMI SEAL WITH 7mm AGGREGATE ON
200mm THICKNESS BASECOURSE (DGB20) ON
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NOTE: IF THE SUBGRADE CBR IS 5%, THE SUB-BASECOURSE THICKNESS CAN BE REDUCED TO 320mm.

REFER TO DOUGLAS PARTNERS. "REPORT ON PAVEMENT THICKNESS DESIGN REVIEW" PROJECT 92352.03 30 JULY 2024 FOR PAVEMENT DESIGN SPECIFICATION AND CERTIFICATION.

PROPOSED FOOTPATH PAVEMENT
125mm THICKNESS CONCRETE WITH SL72 (40mm TOP COVER)
30mm THICKNESS SAND BEDDING (REFER TO PCC STANDARD DWG SD1001 FOR JOINTING DETAILS)

PROPOSED INDUSTRIAL DRIVEWAY
225mm THICKNESS CONCRETE N32, 2 x SL82 MESH TOP AND BOTTOM (40mm COVER) ON
30mm SAND (REFER TO PCC COUNCIL STANDARD SPEC 7.4)
SUBGRADE BENEATH DRIVEWAY TO BE COMPACTED AS PER PCC SPEC 5.1.1.

LANDSCAPING - REFER TO LANDSCAPE ARCHITECTS DRG'S FOR DETAILS

BASIN MAINTENANCE TRACK
2 COAT SEAL (14/7) ON
200mm THICKNESS COMPACTED DGB20 ON COMPACTED SUBGRADE MIN CBR 3%.
3% CROSS FALL REQUIRED FOR ALL MAINTENANCE TRACKS

BASIN ACCESS TRACK AND WEIR
175mm THICKNESS CONCRETE N32, SL82 MESH (40mm TOP COVER) ON
150mm THICKNESS COMPACTED DGB20 ON COMPACTED SUBGRADE MIN CBR 3%.

SJ — PROPOSED SAWN JOINT (REFER DETAILS ON DWG. C13098)

NOTE:

ALL ROADWORKS TO BE CONSTRUCTED AS PER PCC STANDARD SPEC SECTION 5.

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

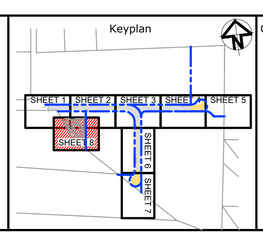
Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan



Client: ESR

Scales	1:250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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

Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: PAVEMENT AND SURFACE TREATMENT PLAN SHEET 8

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 CONSTRUCTION

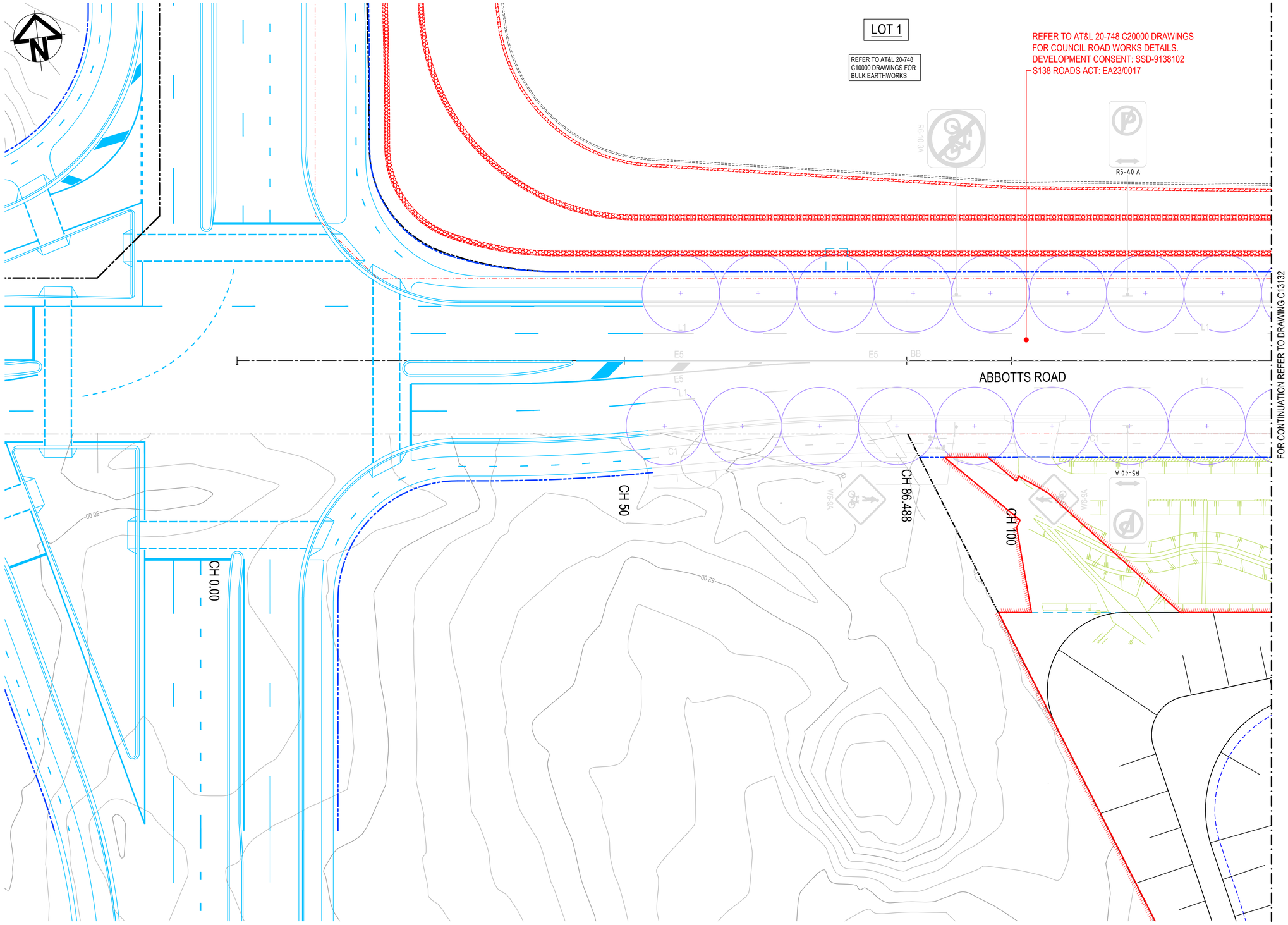
A1

Project - Drawing No. 20-748-C13128

Issue A

100mm on Original

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LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- LIMIT OF WORKS

PAVEMENT MARKING SCHEDULE

LANE LINES

L1 L1

C1 C1

BARRIER LINES

BB BB

GIVEWAY LINES

TB TB

TB1 TB1

NOTES:

1. ALL SIGNAGE TO BE IN ACCORDANCE WITH THE AUSTRALIAN STANDARD AS 1742.
2. ALL PAVEMENT MARKING TO BE IN ACCORDANCE WITH THE RMS DELINEATION MANUAL.
3. TRANSITION LINEMARKING TO SUIT EXISTING WHERE REQUIRED.
4. RELOCATE/ REMOVE EXISTING SIGNS AS REQUIRED.
5. REMOVE ALL REDUNDANT PAVEMENT MARKING AS REQUIRED.
6. PROVIDE ADEQUATE APPROACH WARNING SIGNS DURING AND AFTER CONSTRUCTION.
7. ALL LINEMARKING TO BE WHITE IN COLOUR WITH THE EXCEPTION OF C2 AND C3 LINES AND LINEMARKING ON CONCRETE PAVEMENTS WHICH ARE TO BE YELLOW.
8. ALL SIGNAGE AND LINEMARKING TO BE APPROVED BY COUNCILS LOCAL TRAFFIC COMMITTEE PRIOR TO COMMENCEMENT OF SIGNAGE AND LINEMARKING WORKS.

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

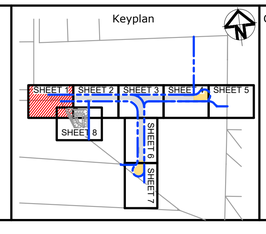
100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan



Client

ESR

Scales	1:250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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

Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

PAVEMENT MARKING AND SIGNPOSTING PLAN
SHEET 1

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

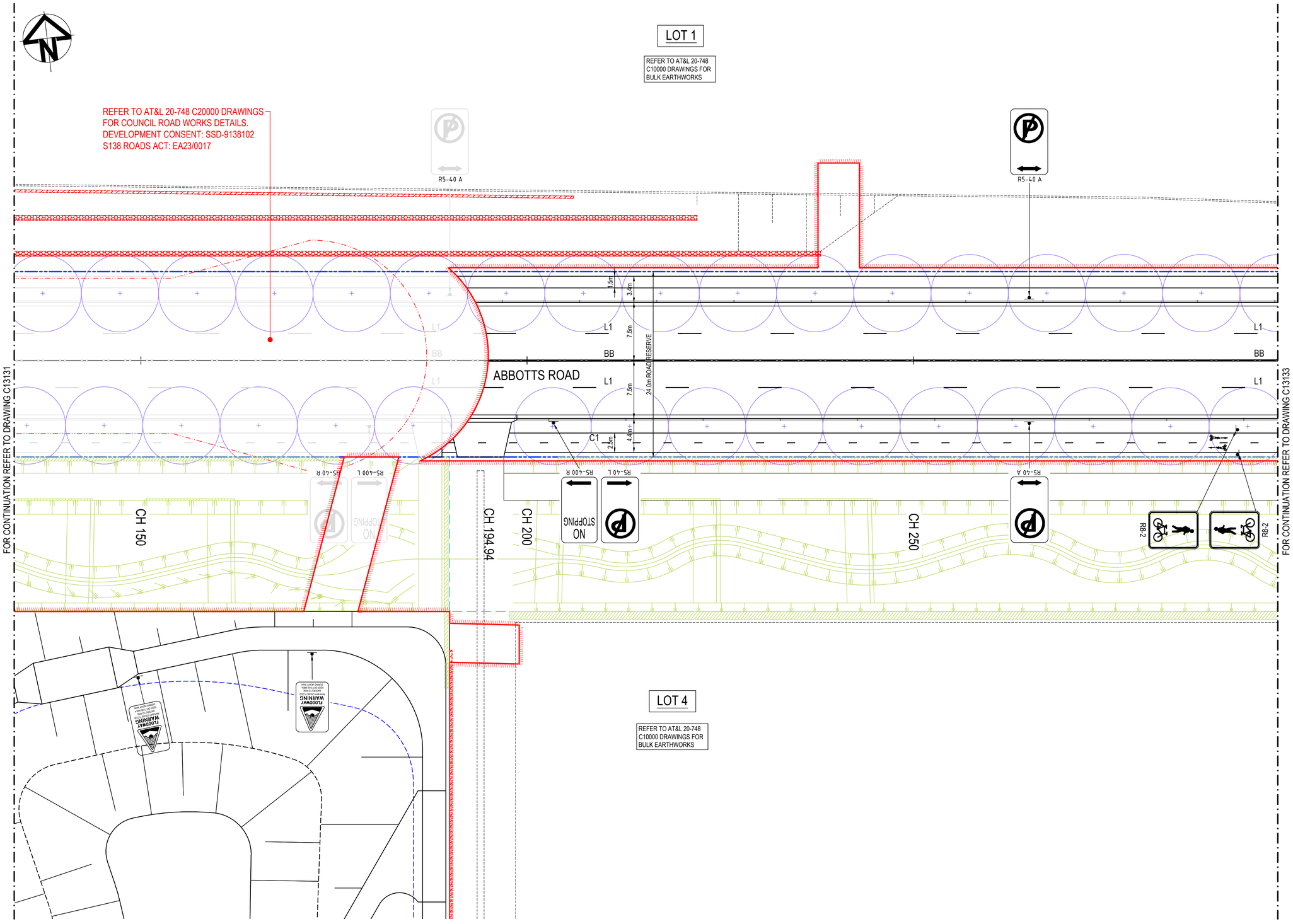
Status: FOR CONSTRUCTION

Issue: A1

Project - Drawing No.: 20-748-C13131

Issue: A

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LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- LIMIT OF WORKS

PAVEMENT MARKING SCHEDULE

LANE LINES

L1 L1

C1 C1

BARRIER LINES

BB BB

GIVEWAY LINES

TB TB

TB1 TB1

NOTES:

1. ALL SIGNAGE TO BE IN ACCORDANCE WITH THE AUSTRALIAN STANDARD AS 1742.
2. ALL PAVEMENT MARKING TO BE IN ACCORDANCE WITH THE RMS DELINEATION MANUAL.
3. TRANSITION LINEMARKING TO SUIT EXISTING WHERE REQUIRED.
4. RELOCATE/ REMOVE EXISTING SIGNS AS REQUIRED.
5. REMOVE ALL REDUNDANT PAVEMENT MARKING AS REQUIRED.
6. PROVIDE ADEQUATE APPROACH WARNING SIGNS DURING AND AFTER CONSTRUCTION.
7. ALL LINEMARKING TO BE WHITE IN COLOUR WITH THE EXCEPTION OF C2 AND C3 LINES AND LINEMARKING ON CONCRETE PAVEMENTS WHICH ARE TO BE YELLOW.
8. ALL SIGNAGE AND LINEMARKING TO BE APPROVED BY COUNCILS LOCAL TRAFFIC COMMITTEE PRIOR TO COMMENCEMENT OF SIGNAGE AND LINEMARKING WORKS.

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

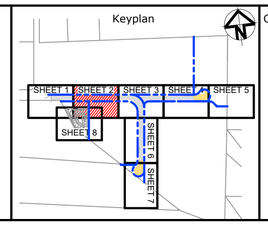
Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

100mm on Original

Keyplan



Client

ESR

Scales	1:250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

PAVEMENT MARKING AND SIGNPOSTING PLAN
SHEET 2

Civil Engineers and Project Managers

at&l

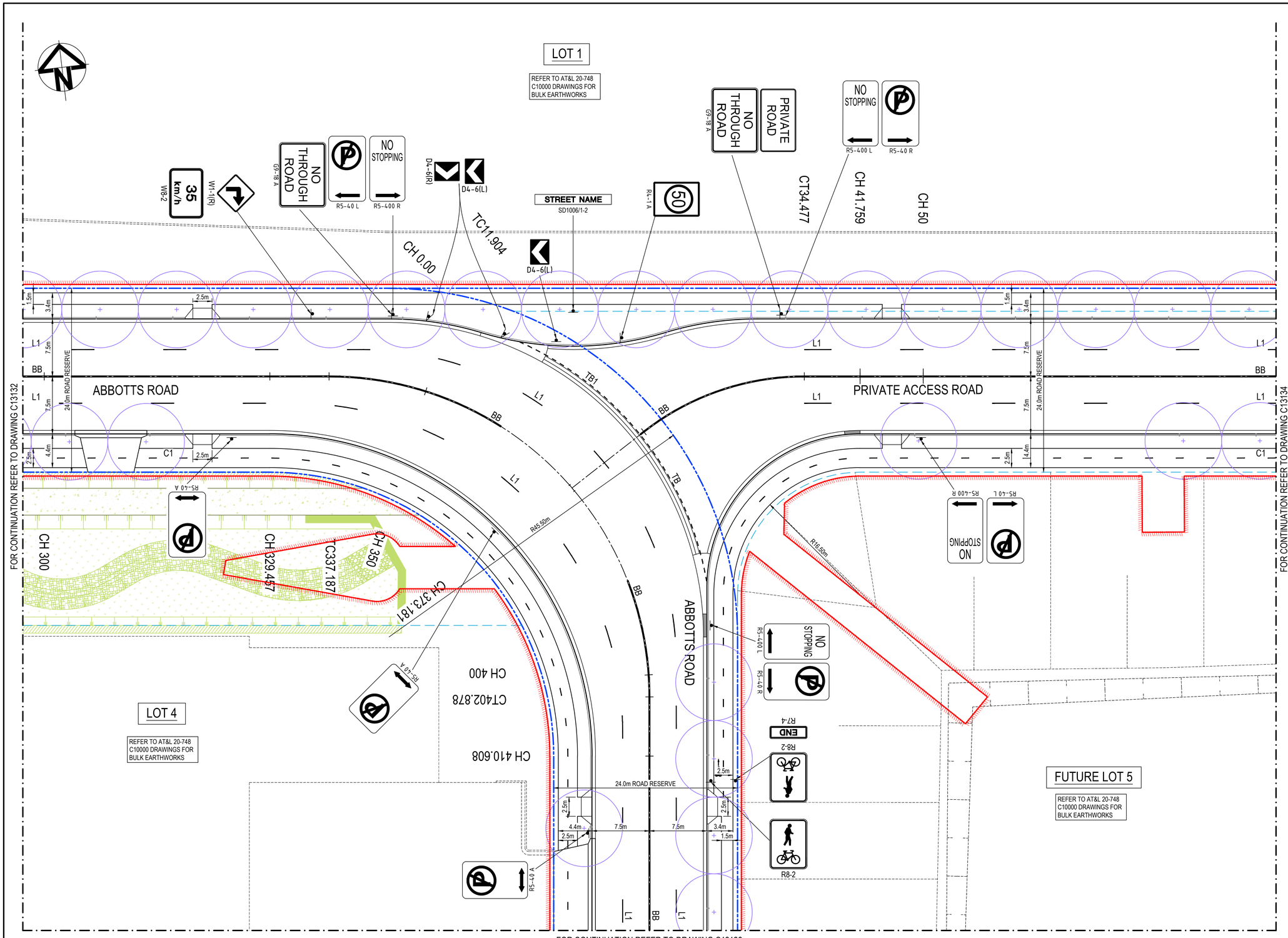
Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR CONSTRUCTION

Issue: A

Project - Drawing No.: 20-748-C13132

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13132.dwg



LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- LIMIT OF WORKS

PAVEMENT MARKING SCHEDULE

LANE LINES

L1 ——— L1 ———

C1 – – – C1 – – –

BARRIER LINES

BB ═══ BB ═══

GIVEWAY LINES

TB ------ TB ------

TB1 ---------- TB1 ----------

NOTES:

1. ALL SIGNAGE TO BE IN ACCORDANCE WITH THE AUSTRALIAN STANDARD AS 1742.
2. ALL PAVEMENT MARKING TO BE IN ACCORDANCE WITH THE RMS DELINEATION MANUAL.
3. TRANSITION LINEMARKING TO SUIT EXISTING WHERE REQUIRED.
4. RELOCATE/ REMOVE EXISTING SIGNS AS REQUIRED.
5. REMOVE ALL REDUNDANT PAVEMENT MARKING AS REQUIRED.
6. PROVIDE ADEQUATE APPROACH WARNING SIGNS DURING AND AFTER CONSTRUCTION.
7. ALL LINEMARKING TO BE WHITE IN COLOUR WITH THE EXCEPTION OF C2 AND C3 LINES AND LINEMARKING ON CONCRETE PAVEMENTS WHICH ARE TO BE YELLOW.
8. ALL SIGNAGE AND LINEMARKING TO BE APPROVED BY COUNCILS LOCAL TRAFFIC COMMITTEE PRIOR TO COMMENCEMENT OF SIGNAGE AND LINEMARKING WORKS.

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

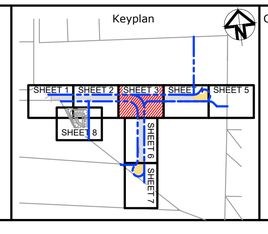
100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan



Client: ESR

Scales	1:250	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: PAVEMENT MARKING AND SIGNPOSTING PLAN SHEET 3

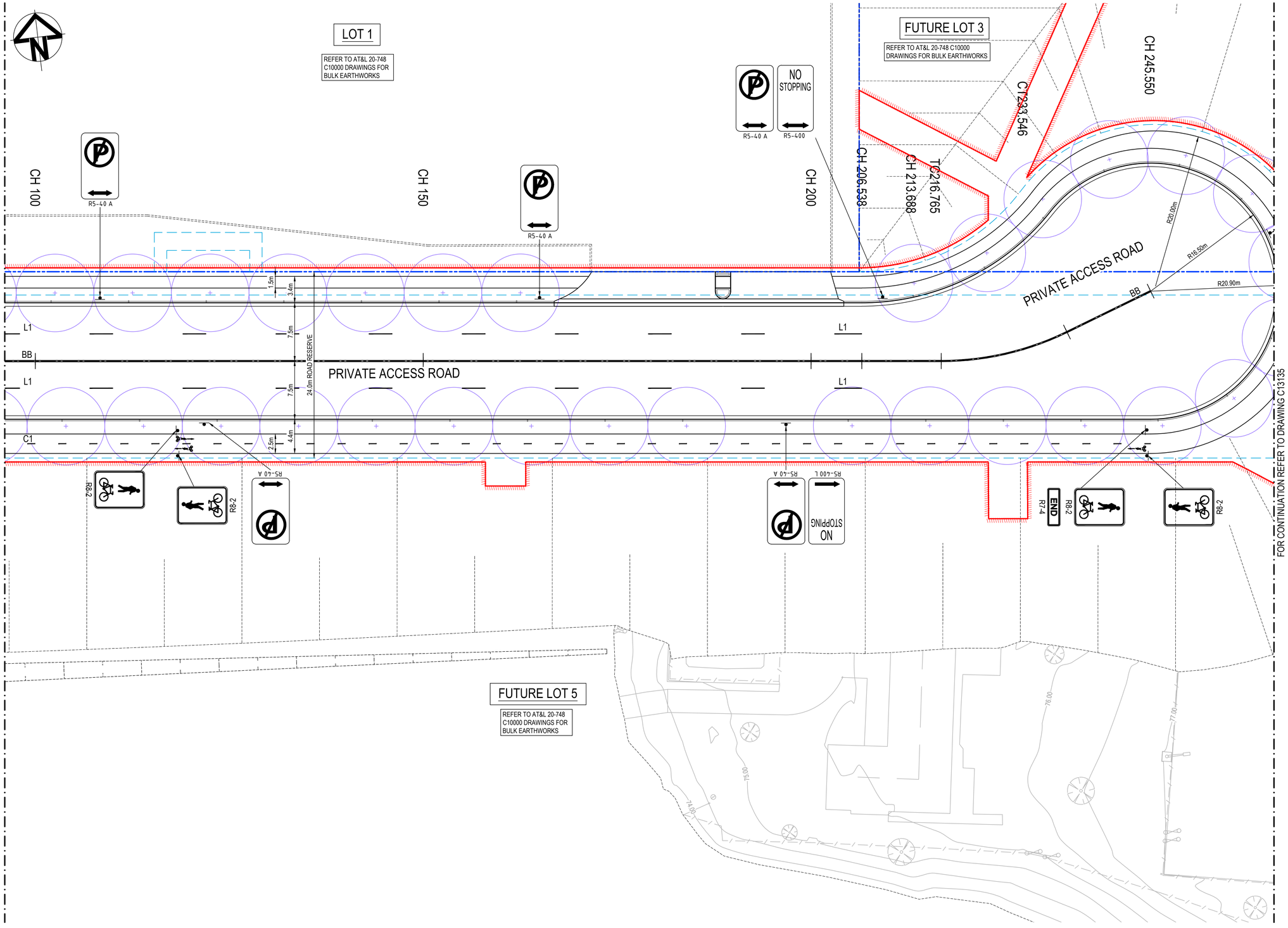
Civil Engineers and Project Managers
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North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR CONSTRUCTION

Issue: A

Project - Drawing No.: 20-748-C13133

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13133.dwg



LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- LIMIT OF WORKS

PAVEMENT MARKING SCHEDULE

LANE LINES

L1 L1

C1 C1

BARRIER LINES

BB BB

GIVEWAY LINES

TB TB

TB1 TB1

NOTES:

1. ALL SIGNAGE TO BE IN ACCORDANCE WITH THE AUSTRALIAN STANDARD AS 1742.
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Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

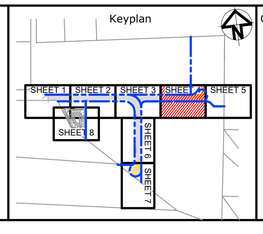
Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

100mm on Original

Keyplan



Client

ESR

Scales	1:250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

PAVEMENT MARKING AND SIGNPOSTING PLAN
SHEET 4

Civil Engineers and Project Managers

at&l

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Tel: 02 9439 1777
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info@atl.net.au

Status: FOR CONSTRUCTION

A1

Project - Drawing No.: 20-748-C13134

Issue: A

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FUTURE LOT 3

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

NO STOPPING

R5-10D

R5-10D A

FOR CONTINUATION REFER TO DRAWING C13134

FUTURE LOT 5

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- LIMIT OF WORKS

PAVEMENT MARKING SCHEDULE

LANE LINES

L1 ——— L1 ———

C1 — — — C1 — — —

BARRIER LINES

BB ═══ BB ═══

GIVEWAY LINES

TB ---------- TB ----------

TB1 ---------- TB1 ----------

NOTES:

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Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7 SHEET 8

Client

ESR

Scales	1:250	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

PAVEMENT MARKING AND SIGNPOSTING PLAN
SHEET 5

Civil Engineers and Project Managers

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Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
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www.atl.net.au
info@atl.net.au

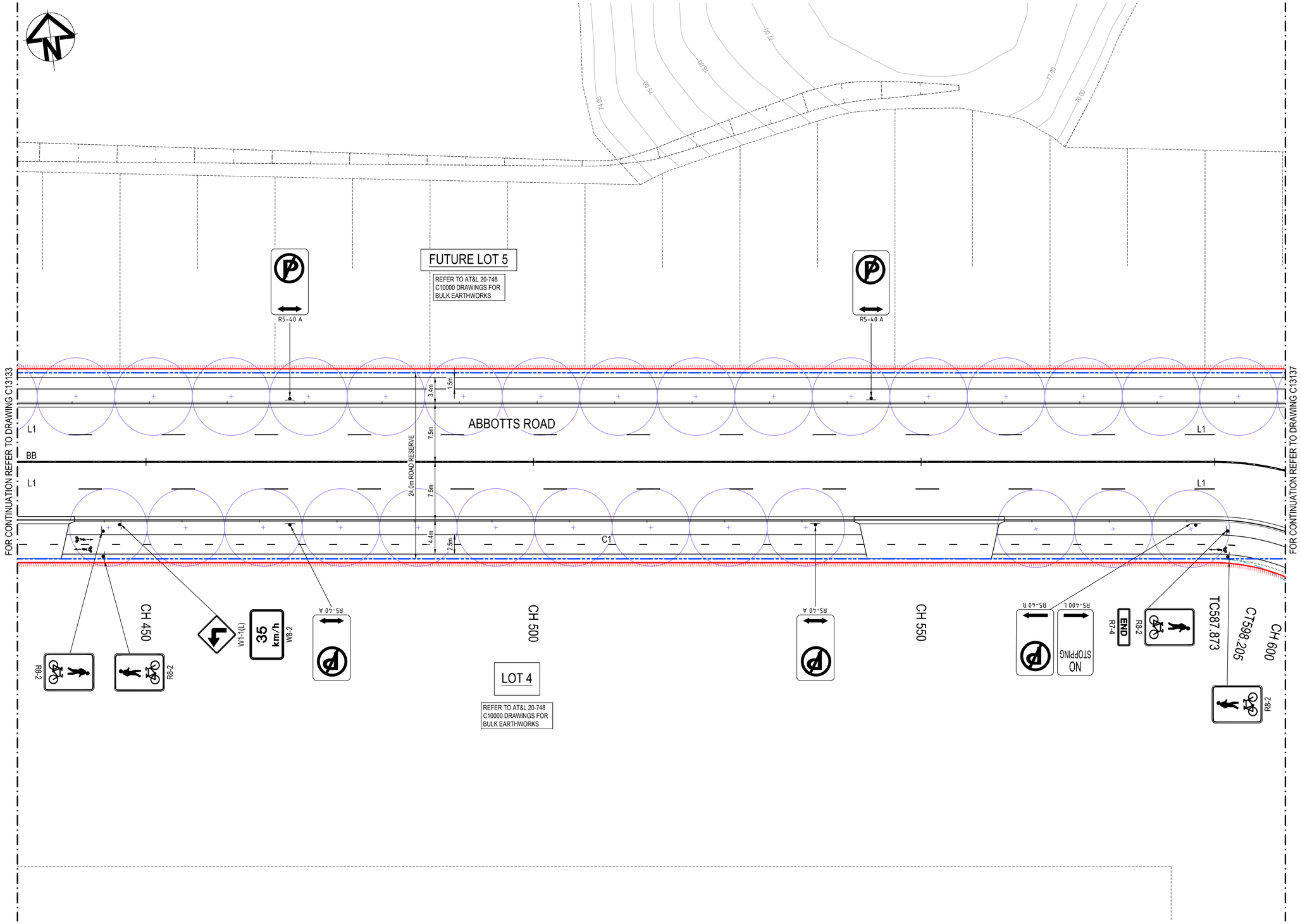
Status: FOR CONSTRUCTION

A1

Project - Drawing No.: 20-748-C13135

Issue: A

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LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- LIMIT OF WORKS

PAVEMENT MARKING SCHEDULE

LANE LINES

L1 L1

C1 C1

BARRIER LINES

BB BB

GIVEWAY LINES

TB TB

TB1 TB1

NOTES:

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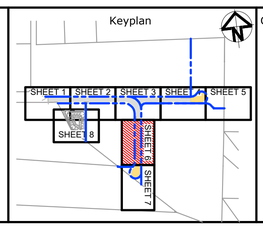
100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan



Client

ESR

Scales	1:250	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

PAVEMENT MARKING AND SIGNPOSTING PLAN
SHEET 6

Civil Engineers and Project Managers

at&l

Level 7, 153 Walker Street
North Sydney NSW 2060
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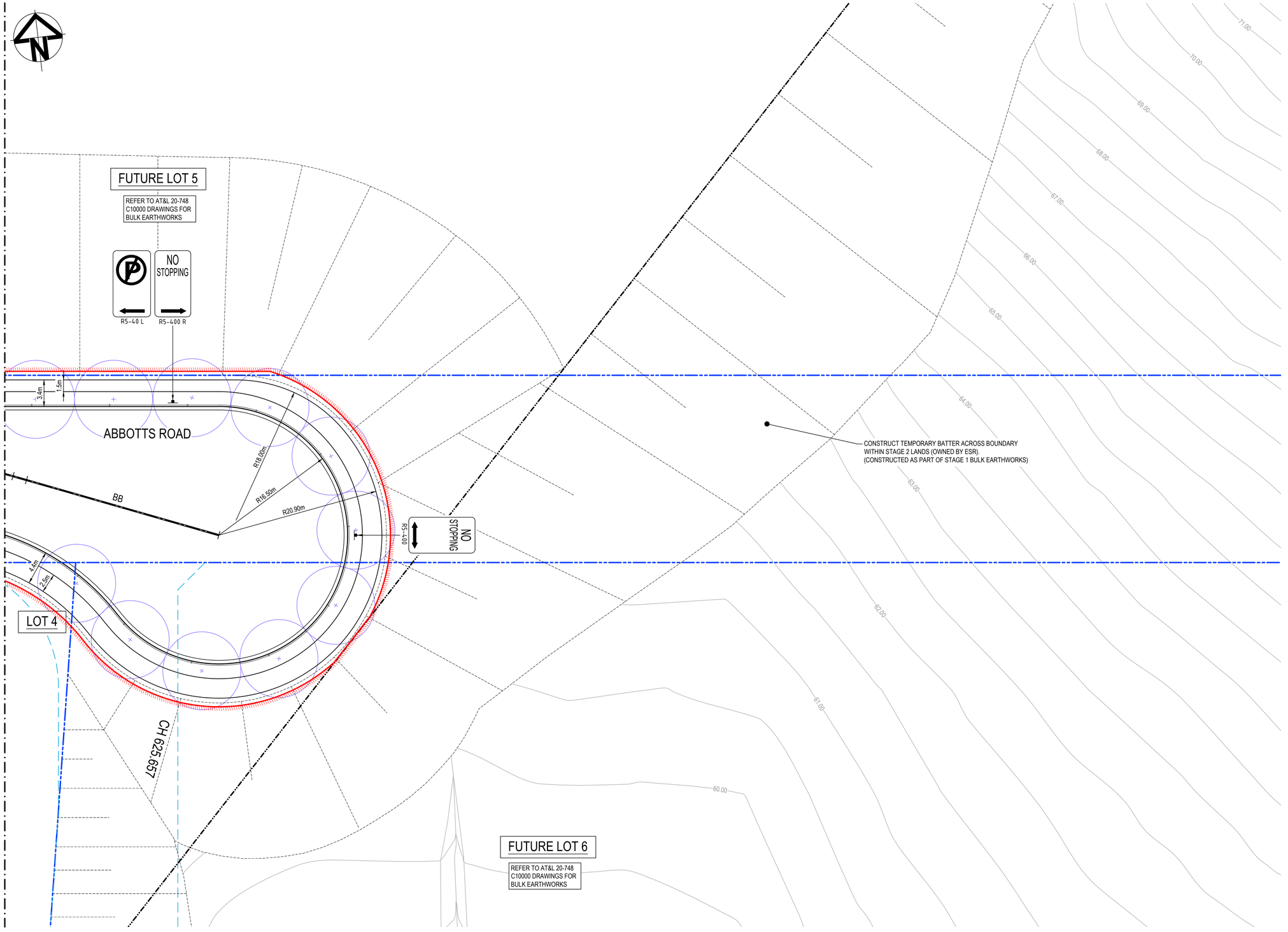
Status: FOR CONSTRUCTION

A1

Project - Drawing No.: 20-748-C13136

Issue: A

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LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- LIMIT OF WORKS

PAVEMENT MARKING SCHEDULE

LANE LINES

L1 L1

C1 C1

BARRIER LINES

BB BB

GIVEWAY LINES

TB TB

TB1 TB1

NOTES:

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Issue	Description	Date
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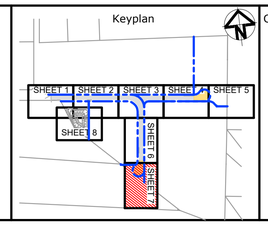
Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

100mm on Original

Keyplan



Client

ESR

Scales	1:250
Drawn	LM & QD
Designed	LM
Grid	MGA2020
Checked	LB
Height Datum	AHD
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

PAVEMENT MARKING AND SIGNPOSTING PLAN
SHEET 7

Civil Engineers and Project Managers

at&l

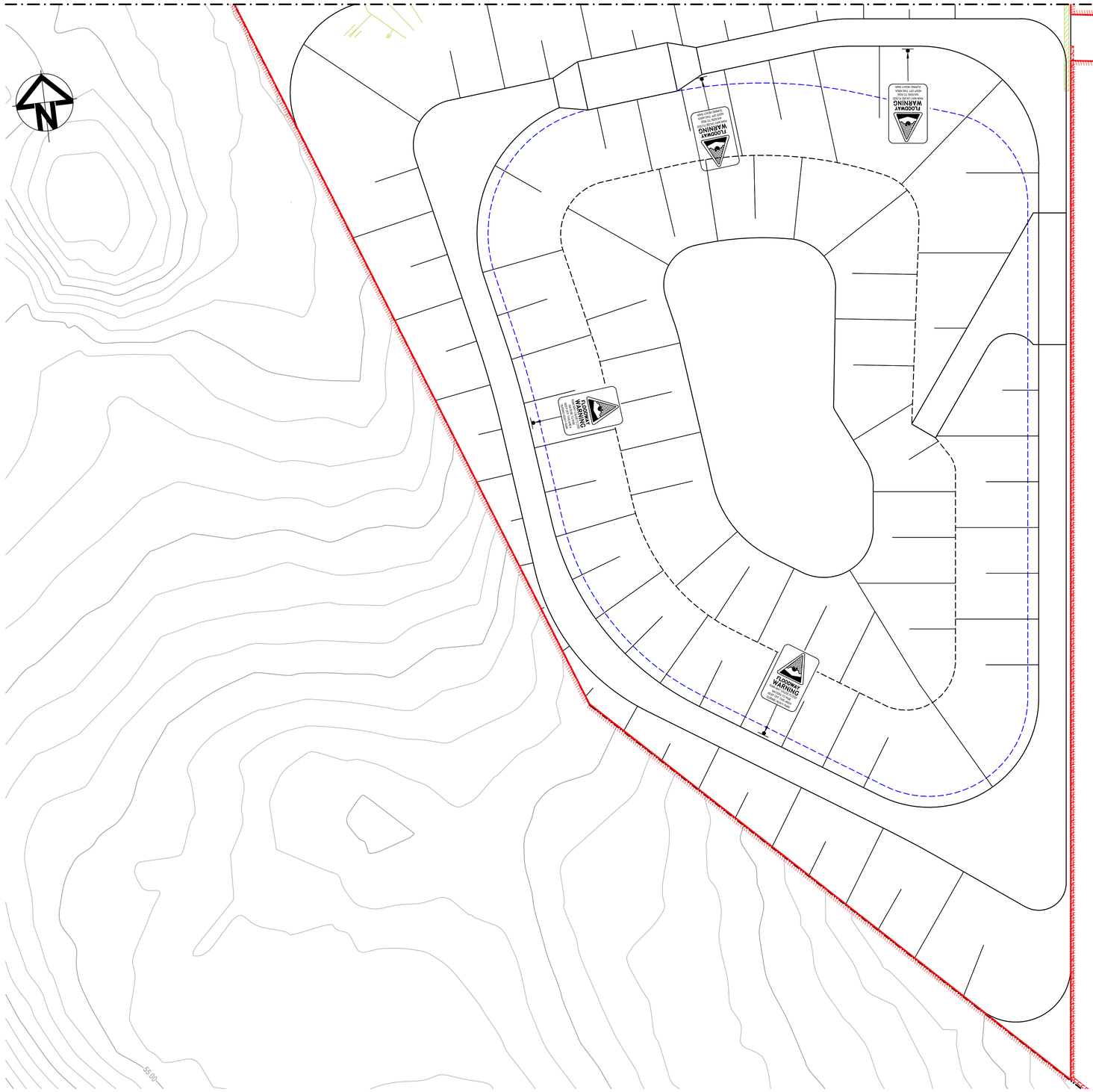
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info@atl.net.au

Status	Issue
FOR CONSTRUCTION	A1
Project - Drawing No.	Issue
20-748-C13137	A

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FOR CONTINUATION REFER TO DRAWING C13131

FOR CONTINUATION REFER TO DRAWING C13132



LOT 4

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

LEGEND:

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE WORKS. (NOT PART OF THIS SCOPE OF WORKS).
- LIMIT OF WORKS

PAVEMENT MARKING SCHEDULE

LANE LINES

L1 ——— L1 ———

C1 — — — C1 — — —

BARRIER LINES

BB ═══ BB ═══

GIVEWAY LINES

TB - - - - - - - - TB - - - - - - - -

TB1 - - - - - - - - TB1 - - - - - - - -

NOTES:

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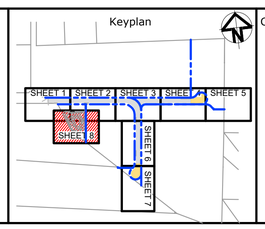
Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

100mm on Original

Keyplan



Client

ESR

Scales	1:250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

PAVEMENT MARKING AND SIGNPOSTING PLAN
SHEET 8

Civil Engineers and Project Managers

at&l

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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 CONSTRUCTION

A1

Project - Drawing No.: 20-748-C13138

Issue: A

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LOT 1

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

ABBOTTS ROAD

PWR

BC-1

Ø375

EX-1

Ø1350

BA-2

Ø375

Ø1350

CH 86.488

CH 100

BA-1

BB-2

Ø1200

Ø300

BE-2

Ø225

BE-1

FOR CONTINUATION REFER TO DRAWING C13142

CH 50

SERVICES TO BE COORDINATED WITH FUTURE ABBOTTS ROAD UPGRADE

CH 0.00

LEGEND:

GENERAL

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- EXISTING ELECTRICITY
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE , NOT PART OF THIS SCOPE OF WORKS.
- INDICATIVE POND LAYOUT
- PROPOSED RETAINING WALL

UTILITIES - PROPOSED

- S — SEWER SERVICE
- W — WATER MAIN
- RW — RECYCLED WATER
- E — HV POWER
- LV — LV POWER
- T — TELECOMMUNICATION CONDUITS
- STREET LIGHTING

STORMWATER - PROPOSED

- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER PIPE WITH HEADWALL
- PROPOSED STORMWATER LINE
- PROPOSED TEMPORARY STORMWATER LINE
- PROPOSED DIVERSION LINE FOR UPSTREAM CATCHMENTS, LOT 3 & LOT 5
- EXISTING DRAINAGE AS PER SECTION 138 DRAWINGS (C20000 PACKAGE)
- PROPOSED ESTATE STREET TREE. REFER TO SITE IMAGE DRAWINGS FOR DETAILS.

UTILITIES - EXISTING

- E — ELECTRICITY LINE
- V A — ELECTRICITY OVERHEAD
- W — WATER
- SW — STORMWATER

NOTE

1. REFER TO TYPICAL ROAD SECTIONS ON DRG C13010 & C13011 FOR DIMENSIONS OF SERVICE ALLOCATIONS.
2. THE FINAL DESIGNS OF ALL UTILITIES WILL BE SUBJECT TO FINAL DESIGNS AND DRAWINGS BY RELEVANT CONSULTANTS AND AUTHORITIES

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

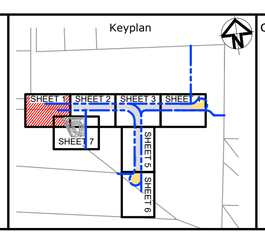
100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan



Client

ESR

Scales	1:250	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

SERVICES AND UTILITIES CO-ORDINATION PLAN
SHEET 1

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
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Status: FOR CONSTRUCTION

A1

Project - Drawing No.: 20-748-C13141

Issue: A

F:\20-748 ESR Mamre\6.0 Drgs\Civil\Final\CC\13000_INFRA_STAGE-1_CERTIFIED\20-748-C13141.dwg

LOT 1

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

REMOVE OVERHEAD ELECTRICAL AND TELECOMMUNICATIONS

L1-1

Ø1200

BD-1

AC-1

Ø375

L1-2

AE-1

Ø375

ABBOTTS ROAD

Ø1200

BD-2

Ø375

AA-11

Ø1350

AA-10

Ø750

AA-9

Ø750

FOR CONTINUATION REFER TO DRAWING C13141

CH 150

2xØ1050

CH 194.94

CH 200

CH 250

FOR CONTINUATION REFER TO DRAWING C13143

900Ø

L4-1

AA-12

2xØ1050

AA-13

BB-1

LOT 4

REFER TO AT&L 20-748 C10000 DRAWINGS FOR BULK EARTHWORKS

LEGEND:

GENERAL

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- EXISTING ELECTRICITY
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE , NOT PART OF THIS SCOPE OF WORKS.
- INDICATIVE POND LAYOUT
- PROPOSED RETAINING WALL

UTILITIES - PROPOSED

- S — SEWER SERVICE
- W — WATER MAIN
- RW — RECYCLED WATER
- E — HV POWER
- LV — LV POWER
- T — TELECOMMUNICATION CONDUITS
- STREET LIGHTING

STORMWATER - PROPOSED

- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER PIPE WITH HEADWALL
- PROPOSED STORMWATER LINE
- PROPOSED TEMPORARY STORMWATER LINE
- PROPOSED DIVERSION LINE FOR UPSTREAM CATCHMENTS, LOT 3 & LOT 5
- EXISTING DRAINAGE AS PER SECTION 138 DRAWINGS (C20000 PACKAGE)
- PROPOSED ESTATE STREET TREE. REFER TO SITE IMAGE DRAWINGS FOR DETAILS.

UTILITIES - EXISTING

- E — ELECTRICITY LINE
- ELECTRICITY OVERHEAD
- W — WATER
- SW — STORMWATER

NOTE

1. REFER TO TYPICAL ROAD SECTIONS ON DRG C13010 & C13011 FOR DIMENSIONS OF SERVICE ALLOCATIONS.
2. THE FINAL DESIGNS OF ALL UTILITIES WILL BE SUBJECT TO FINAL DESIGNS AND DRAWINGS BY RELEVANT CONSULTANTS AND AUTHORITIES

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 5 SHEET 6 SHEET 7

Client

ESR

Scales	1:250	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

SERVICES AND UTILITIES CO-ORDINATION PLAN SHEET 2

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 CONSTRUCTION

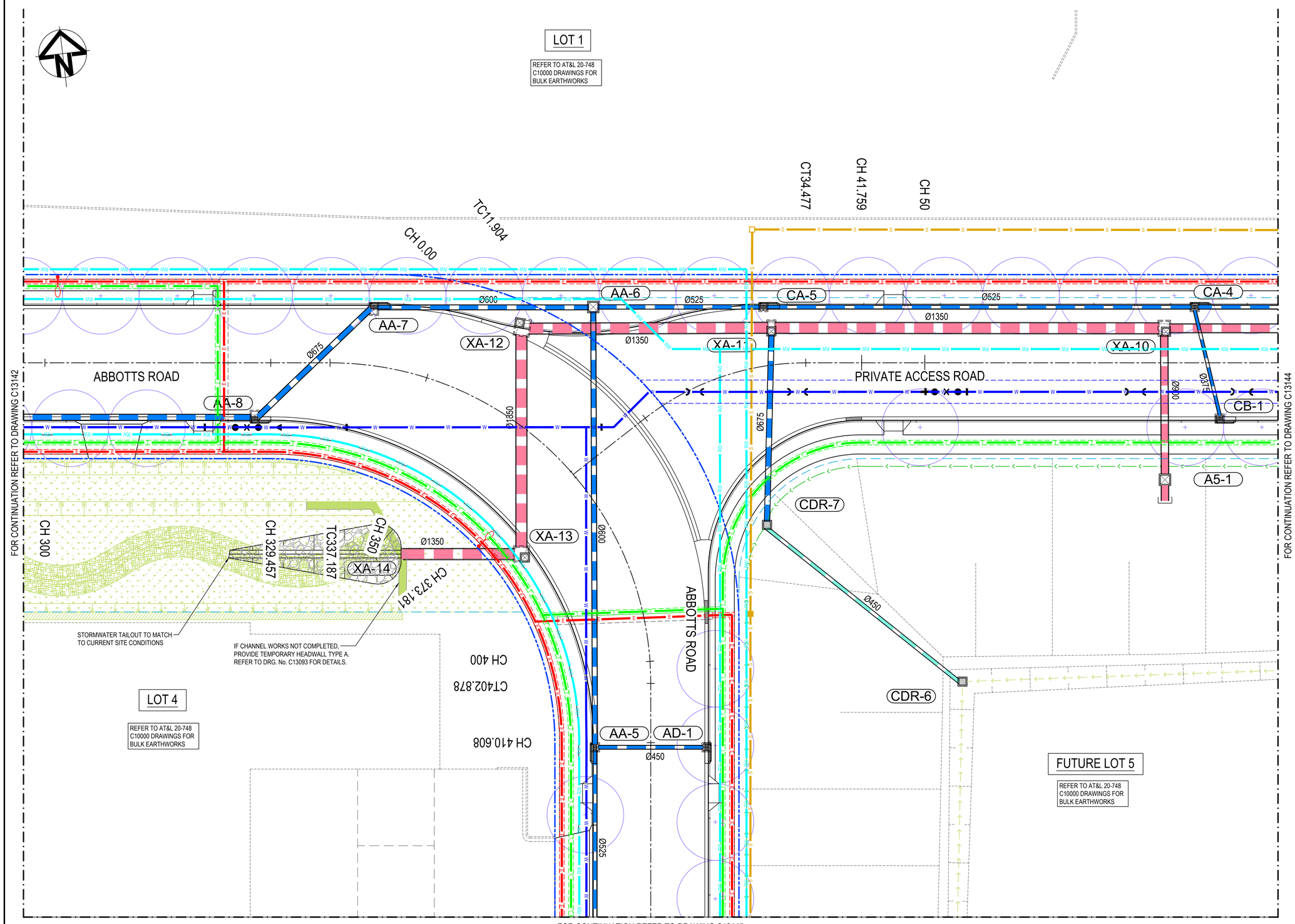
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Project - Drawing No.: 20-748-C13142

Issue: A

100mm on Original

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LEGEND:

GENERAL

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- EXISTING ELECTRICITY
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE , NOT PART OF THIS SCOPE OF WORKS.
- INDICATIVE POND LAYOUT
- PROPOSED RETAINING WALL

UTILITIES - PROPOSED

- SEWER SERVICE
- WATER MAIN
- RECYCLED WATER
- HV POWER
- LV POWER
- TELECOMMUNICATION CONDUITS
- STREET LIGHTING

STORMWATER - PROPOSED

- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER PIPE WITH HEADWALL
- PROPOSED STORMWATER LINE
- PROPOSED TEMPORARY STORMWATER LINE
- PROPOSED DIVERSION LINE FOR UPSTREAM CATCHMENTS, LOT 3 & LOT 5
- EXISTING DRAINAGE AS PER SECTION 138 DRAWINGS (C20000 PACKAGE)
- PROPOSED ESTATE STREET TREE. REFER TO SITE IMAGE DRAWINGS FOR DETAILS.

UTILITIES - EXISTING

- ELECTRICITY LINE
- ELECTRICITY OVERHEAD
- WATER
- STORMWATER

NOTE

1. REFER TO TYPICAL ROAD SECTIONS ON DRG C13010 & C13011 FOR DIMENSIONS OF SERVICE ALLOCATIONS.
2. THE FINAL DESIGNS OF ALL UTILITIES WILL BE SUBJECT TO FINAL DESIGNS AND DRAWINGS BY RELEVANT CONSULTANTS AND AUTHORITIES

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan

SHEET 1 SHEET 2 SHEET 3 SHEET 4 SHEET 7 SHEET 5 SHEET 6

Client: ESR

Scales	1:250	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project: PROPOSED INDUSTRIAL DEVELOPMENT WESTLINK KEMPS CREEK - STAGE 1

Title: SERVICES AND UTILITIES CO-ORDINATION PLAN SHEET 3

Civil Engineers and Project Managers
at&l
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ABN 96 130 882 405
Tel: 02 9439 1777
Fax: 02 9923 1055
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Status: FOR CONSTRUCTION | A1

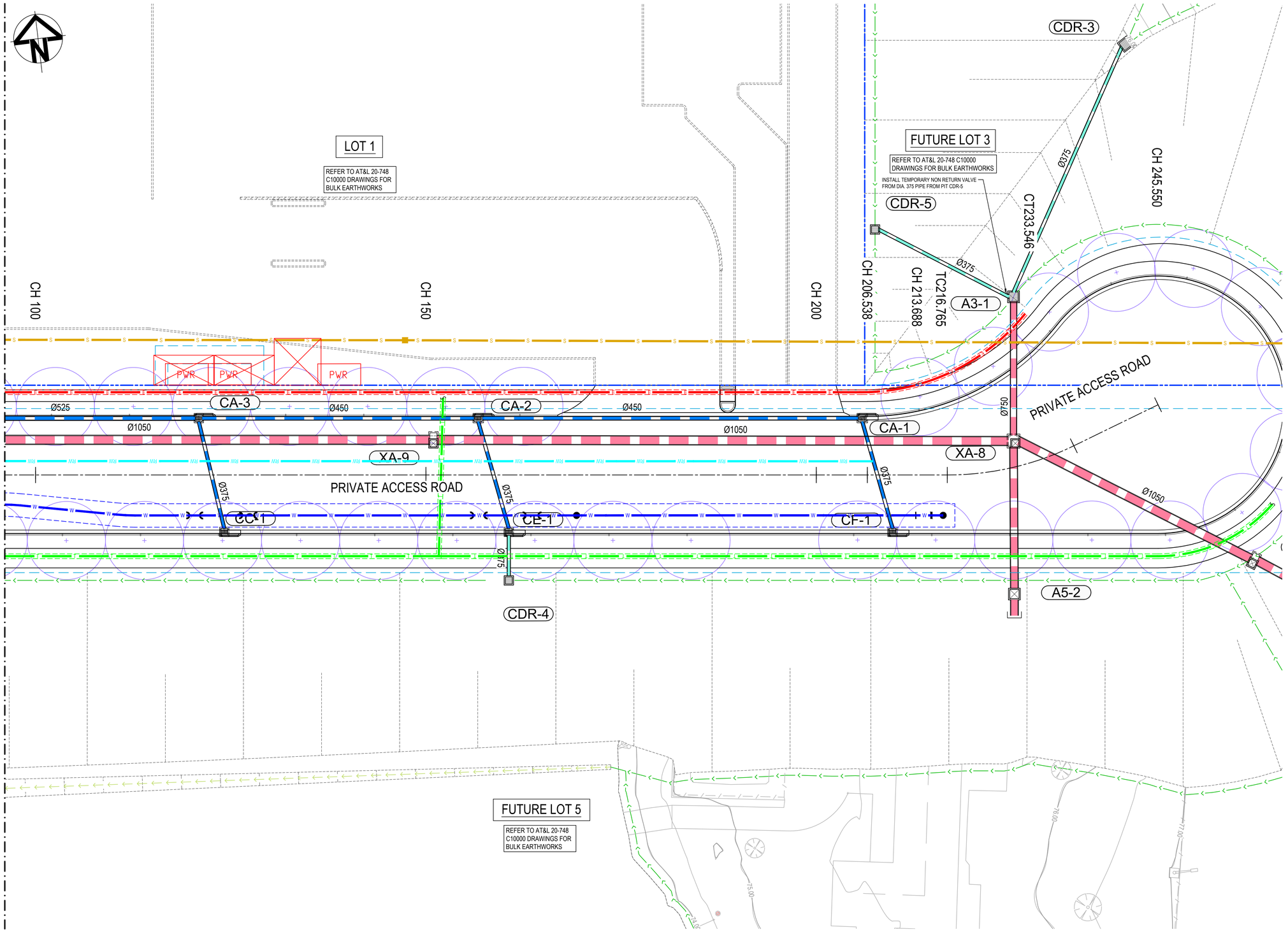
Project - Drawing No.: 20-748-C13143 | Issue: A

100mm on Original

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FOR CONTINUATION REFER TO DRAWING C13141

FOR CONTINUATION REFER TO DRAWING C13143



LEGEND:

GENERAL

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- EXISTING ELECTRICITY
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE , NOT PART OF THIS SCOPE OF WORKS.
- INDICATIVE POND LAYOUT
- PROPOSED RETAINING WALL

UTILITIES - PROPOSED

- SEWER SERVICE
- WATER MAIN
- RECYCLED WATER
- HV POWER
- LV POWER
- TELECOMMUNICATION CONDUITS
- STREET LIGHTING

STORMWATER - PROPOSED

- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER PIPE WITH HEADWALL
- PROPOSED STORMWATER LINE
- PROPOSED TEMPORARY STORMWATER LINE
- PROPOSED DIVERSION LINE FOR UPSTREAM CATCHMENTS, LOT 3 & LOT 5
- EXISTING DRAINAGE AS PER SECTION 138 DRAWINGS (C20000 PACKAGE)
- PROPOSED ESTATE STREET TREE. REFER TO SITE IMAGE DRAWINGS FOR DETAILS.

UTILITIES - EXISTING

- ELECTRICITY LINE
- ELECTRICITY OVERHEAD
- WATER
- STORMWATER

NOTE

1. REFER TO TYPICAL ROAD SECTIONS ON DRG C13010 & C13011 FOR DIMENSIONS OF SERVICE ALLOCATIONS.
2. THE FINAL DESIGNS OF ALL UTILITIES WILL BE SUBJECT TO FINAL DESIGNS AND DRAWINGS BY RELEVANT CONSULTANTS AND AUTHORITIES

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

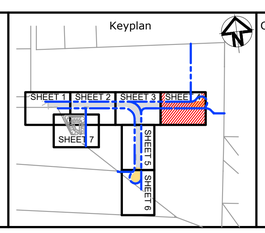
100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan



Client

ESR

Scales	1:250	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

SERVICES AND UTILITIES CO-ORDINATION PLAN
SHEET 4

Civil Engineers and Project Managers

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info@atl.net.au

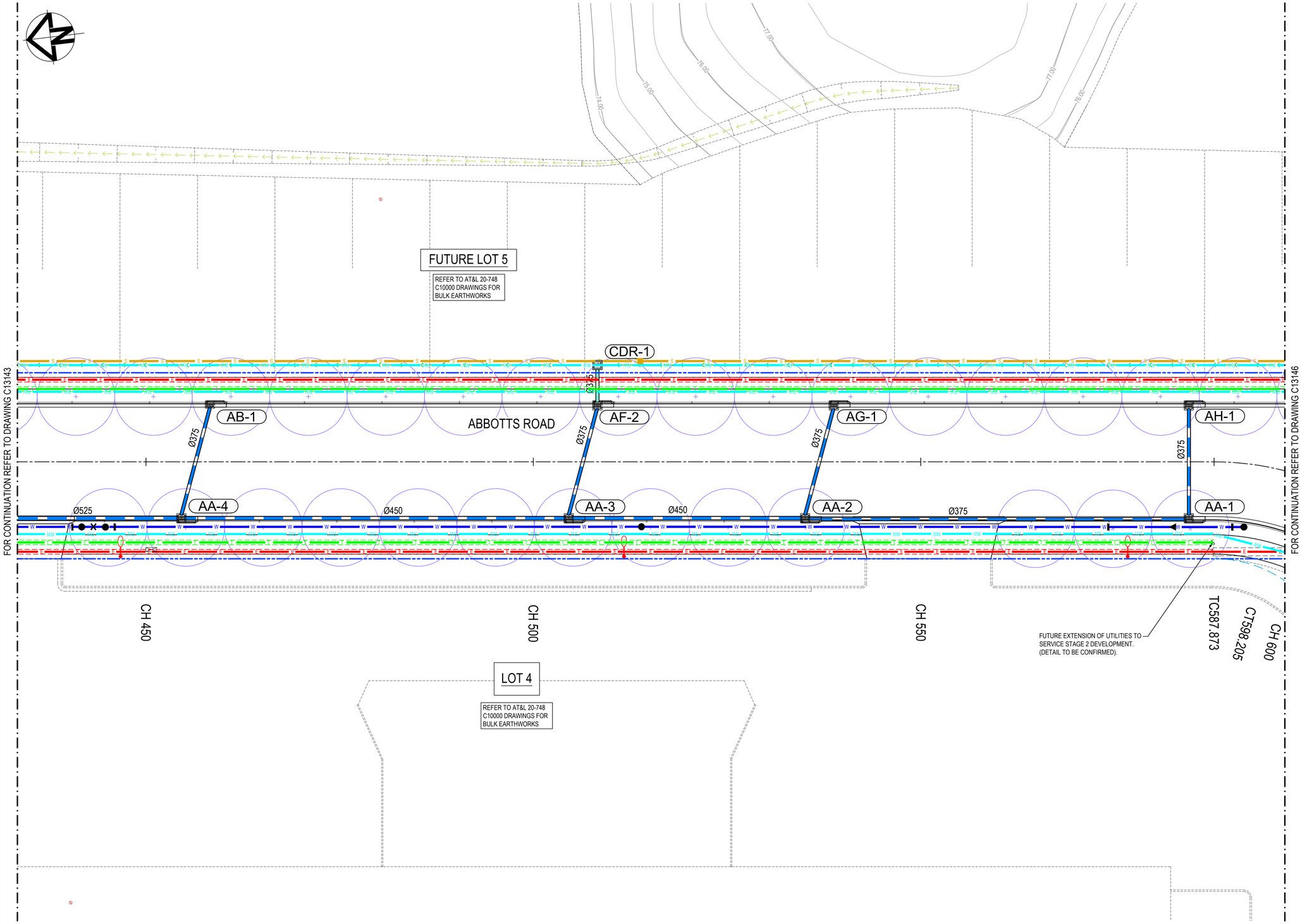
Status: FOR CONSTRUCTION

A1

Project - Drawing No.: 20-748-C13144

Issue: A

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LEGEND:

GENERAL

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- EXISTING ELECTRICITY
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE , NOT PART OF THIS SCOPE OF WORKS.
- INDICATIVE POND LAYOUT
- PROPOSED RETAINING WALL

UTILITIES - PROPOSED

- SEWER SERVICE
- WATER MAIN
- RECYCLED WATER
- HV POWER
- LV POWER
- TELECOMMUNICATION CONDUITS
- STREET LIGHTING

STORMWATER - PROPOSED

- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER PIPE WITH HEADWALL
- PROPOSED STORMWATER LINE
- PROPOSED TEMPORARY STORMWATER LINE
- PROPOSED DIVERSION LINE FOR UPSTREAM CATCHMENTS, LOT 3 & LOT 5
- EXISTING DRAINAGE AS PER SECTION 138 DRAWINGS (C20000 PACKAGE)
- PROPOSED ESTATE STREET TREE. REFER TO SITE IMAGE DRAWINGS FOR DETAILS.

UTILITIES - EXISTING

- ELECTRICITY LINE
- ELECTRICITY OVERHEAD
- WATER
- STORMWATER

NOTE

1. REFER TO TYPICAL ROAD SECTIONS ON DRG C13010 & C13011 FOR DIMENSIONS OF SERVICE ALLOCATIONS.
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Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

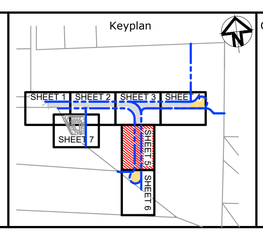
100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan



Client

ESR

Scales	1:250	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

SERVICES AND UTILITIES CO-ORDINATION PLAN SHEET 5

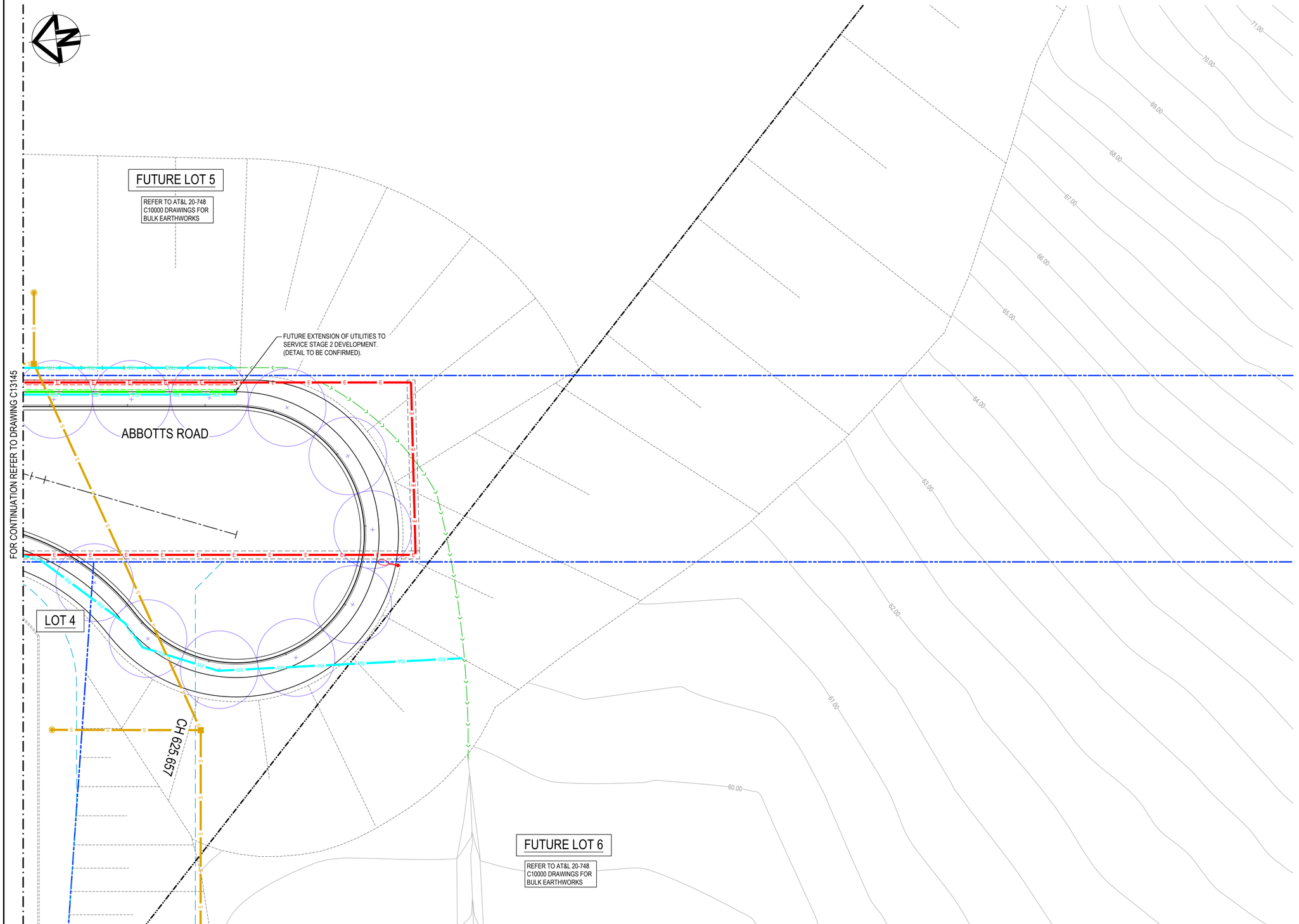
Civil Engineers and Project Managers

at&l

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North Sydney NSW 2060
ABN 96 130 882 405
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www.atl.net.au
info@atl.net.au

Status		Issue
FOR CONSTRUCTION	A1	
Project - Drawing No.		Issue
20-748-C13145		A

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LEGEND:

GENERAL

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- EXISTING ELECTRICITY
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE , NOT PART OF THIS SCOPE OF WORKS.
- INDICATIVE POND LAYOUT
- PROPOSED RETAINING WALL

UTILITIES - PROPOSED

- S — SEWER SERVICE
- W — WATER MAIN
- RW — RECYCLED WATER
- E — HV POWER
- LV — LV POWER
- T — TELECOMMUNICATION CONDUITS
- STREET LIGHTING

STORMWATER - PROPOSED

- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER PIPE WITH HEADWALL
- PROPOSED STORMWATER LINE
- PROPOSED TEMPORARY STORMWATER LINE
- PROPOSED DIVERSION LINE FOR UPSTREAM CATCHMENTS, LOT 3 & LOT 5
- EXISTING DRAINAGE AS PER SECTION 138 DRAWINGS (C20000 PACKAGE)
- PROPOSED ESTATE STREET TREE. REFER TO SITE IMAGE DRAWINGS FOR DETAILS.

UTILITIES - EXISTING

- ELECTRICITY LINE
- ELECTRICITY OVERHEAD
- WATER
- STORMWATER

NOTE

1. REFER TO TYPICAL ROAD SECTIONS ON DRG C13010 & C13011 FOR DIMENSIONS OF SERVICE ALLOCATIONS.
2. THE FINAL DESIGNS OF ALL UTILITIES WILL BE SUBJECT TO FINAL DESIGNS AND DRAWINGS BY RELEVANT CONSULTANTS AND AUTHORITIES

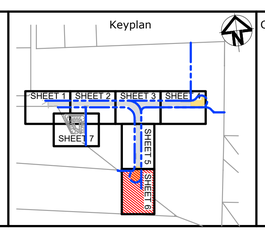
Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Keyplan



Client

ESR

Scales	1:250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

SERVICES AND UTILITIES CO-ORDINATION PLAN
SHEET 6

Civil Engineers and Project Managers

at&l

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North Sydney NSW 2060
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Status	Issue
FOR CONSTRUCTION	A1
Project - Drawing No. 20-748-C13146	A

100mm on Original

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FOR CONTINUATION REFER TO DRAWING C13141

FOR CONTINUATION REFER TO DRAWING C13142



LEGEND:

GENERAL

- EXISTING BOUNDARY
- EXISTING BOUNDARY TO BE REMOVED
- EXISTING ELECTRICITY
- FUTURE BOUNDARY
- FUTURE EASEMENT
- ALDINGTON / ABBOTTS RD UPGRADE . NOT PART OF THIS SCOPE OF WORKS.
- INDICATIVE POND LAYOUT
- PROPOSED RETAINING WALL

UTILITIES - PROPOSED

- S — SEWER SERVICE
- W — WATER MAIN
- RW — RECYCLED WATER
- E — HV POWER
- LV — LV POWER
- T — TELECOMMUNICATION CONDUITS
- STREET LIGHTING

STORMWATER - PROPOSED

- PROPOSED STORMWATER JUNCTION PIT
- PROPOSED STORMWATER SURFACE INLET PIT
- PROPOSED STORMWATER KERB INLET PIT WITH LINTEL
- PROPOSED STORMWATER PIPE WITH HEADWALL
- PROPOSED STORMWATER LINE
- PROPOSED TEMPORARY STORMWATER LINE
- PROPOSED DIVERSION LINE FOR UPSTREAM CATCHMENTS, LOT 3 & LOT 5
- EXISTING DRAINAGE AS PER SECTION 138 DRAWINGS (C20000 PACKAGE)
- PROPOSED ESTATE STREET TREE. REFER TO SITE IMAGE DRAWINGS FOR DETAILS.

UTILITIES - EXISTING

- E — ELECTRICITY LINE
- V — ELECTRICITY OVERHEAD
- W — WATER
- SW — STORMWATER

NOTE

1. REFER TO TYPICAL ROAD SECTIONS ON DRG C13010 & C13011 FOR DIMENSIONS OF SERVICE ALLOCATIONS.
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Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

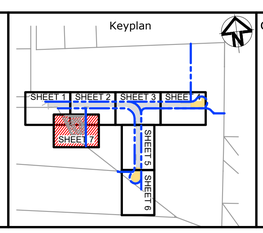
Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

100mm on Original

Keyplan



Client

ESR

Scales	1:250
Grid	MGA2020
Height Datum	AHD
Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

SERVICES AND UTILITIES CO-ORDINATION PLAN
SHEET 7

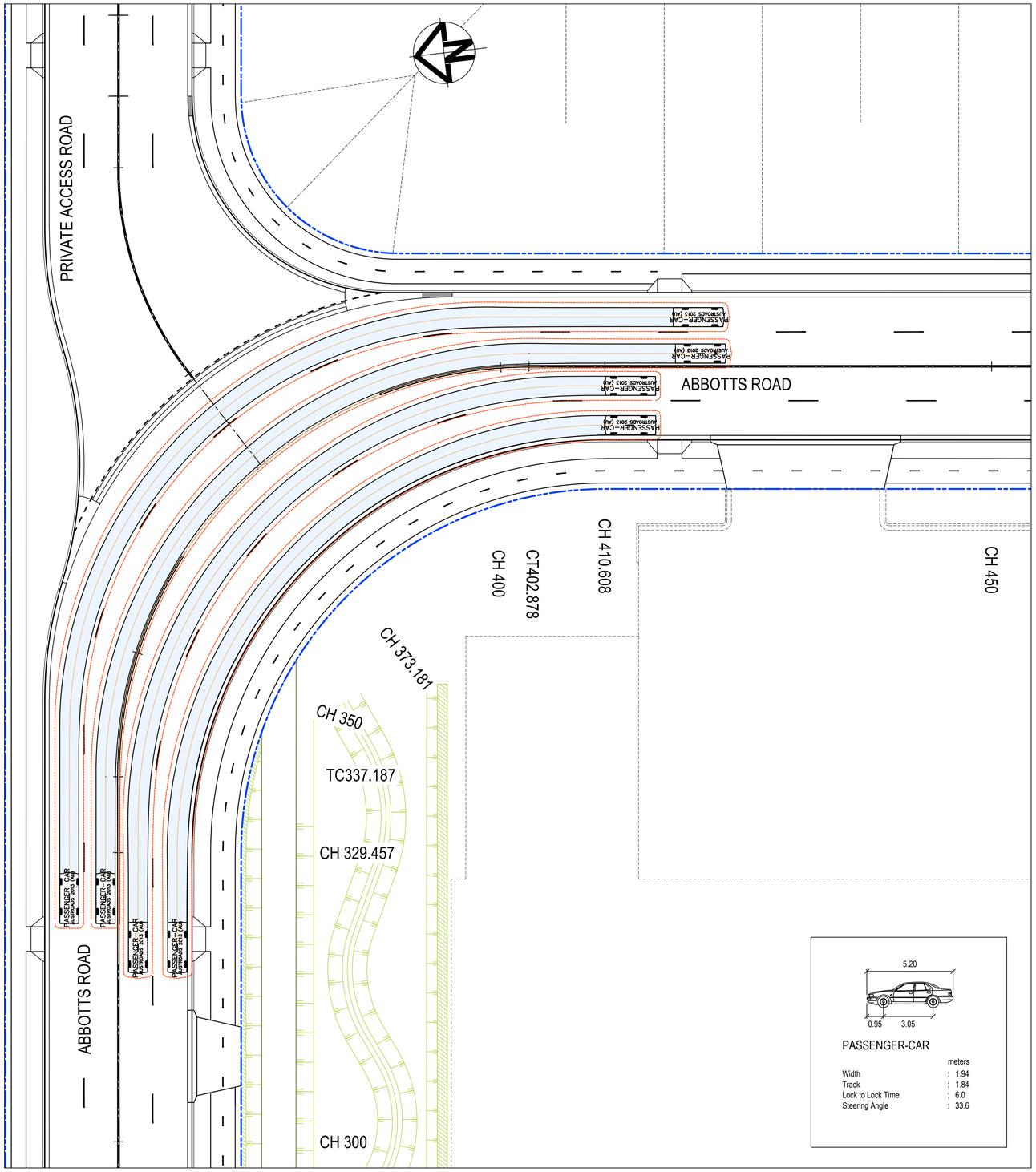
Civil Engineers and Project Managers

at&l

Level 7, 153 Walker Street
North Sydney NSW 2060
ABN 96 130 882 405
Tel: 02 9439 1777
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www.atl.net.au
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Status	
FOR CONSTRUCTION	A1
Project - Drawing No.	Issue
20-748-C13147	A

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LEGEND:

VEHICLE BODY ENVELOPE

0.5m VEHICLE BODY CLEARANCE ENVELOPE

PASSENGER-CAR

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.6

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Client

ESR

Scales 1 : 250

Grid MGA2020

Height Datum AHD

Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

VEHICLE
TURN PATH PLAN
SHEET 1

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

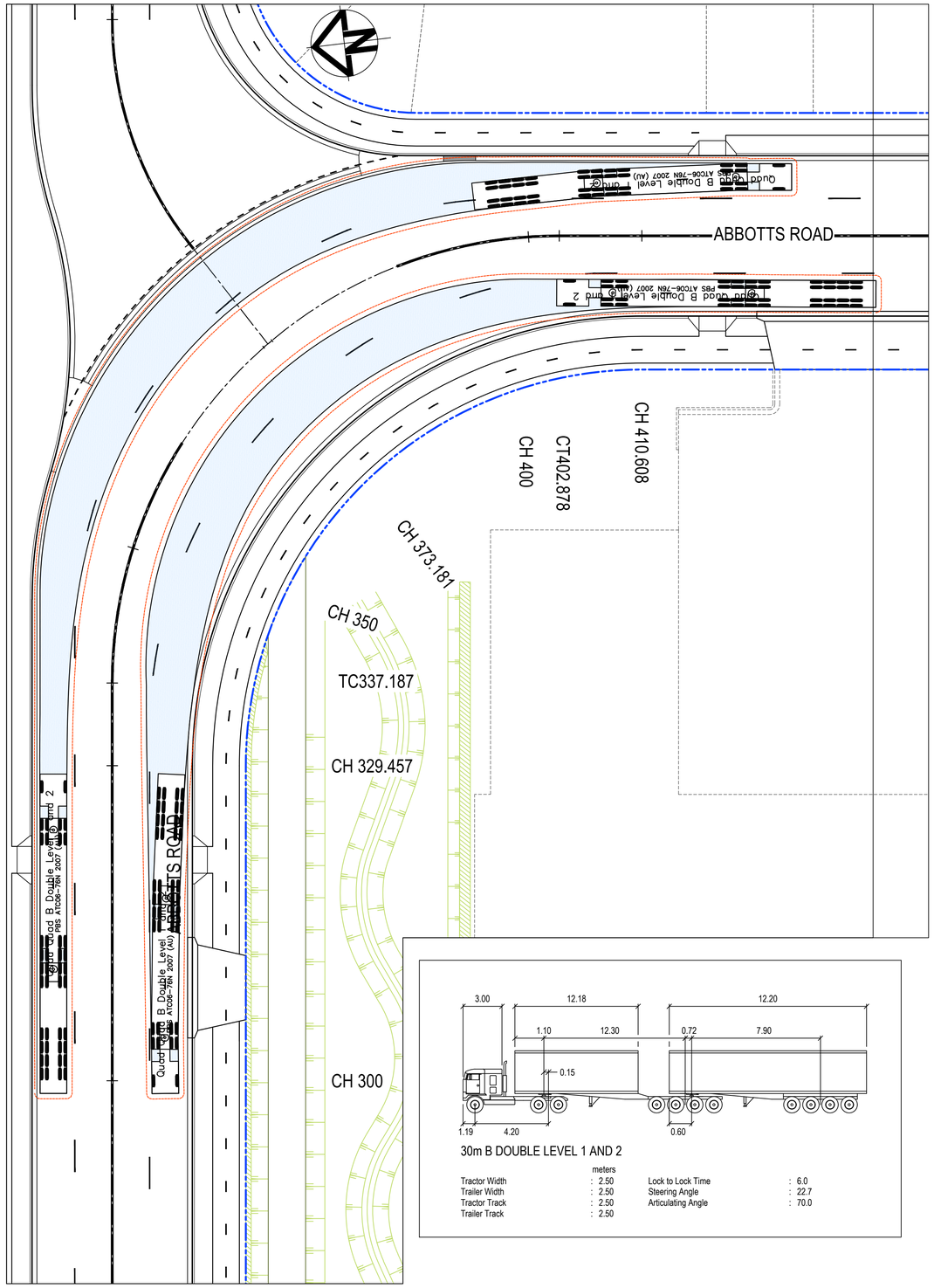
Status FOR CONSTRUCTION

A1

Project - Drawing No. 20-748-C13171

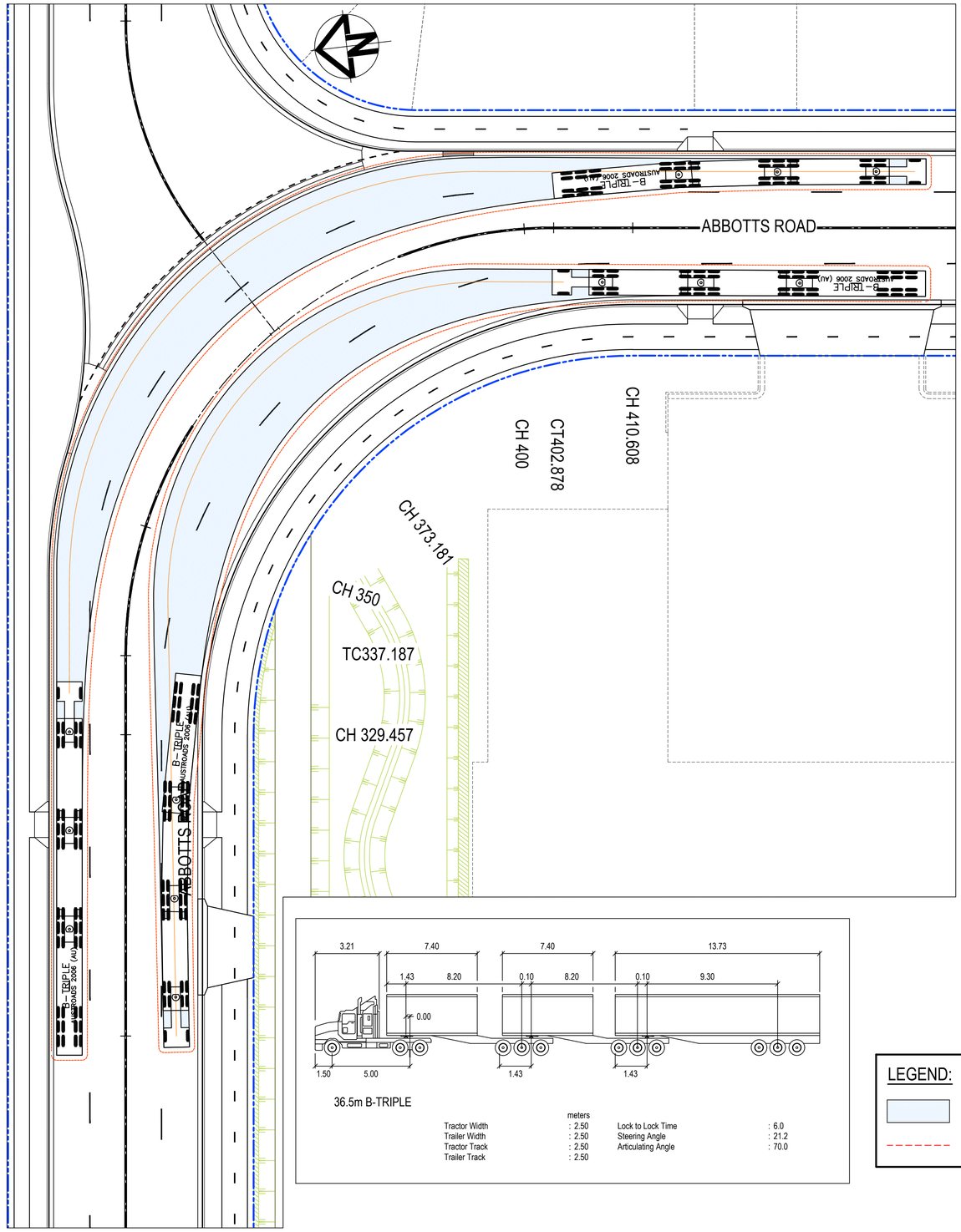
Issue A

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30m B DOUBLE LEVEL 1 AND 2

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 22.7
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



36.5m B-TRIPLE

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 21.2
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

LEGEND:

VEHICLE BODY ENVELOPE

0.5m VEHICLE BODY CLEARANCE ENVELOPE

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Client

ESR

Scales	1 : 250	Drawn	LM & QD
		Designed	LM
Grid	MGA2020	Checked	LB
Height Datum	AHD	Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

VEHICLE
TURN PATH PLAN
SHEET 2

Civil Engineers and Project Managers

at&l

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Fax: 02 9923 1055
www.atl.net.au
info@atl.net.au

Status: FOR CONSTRUCTION

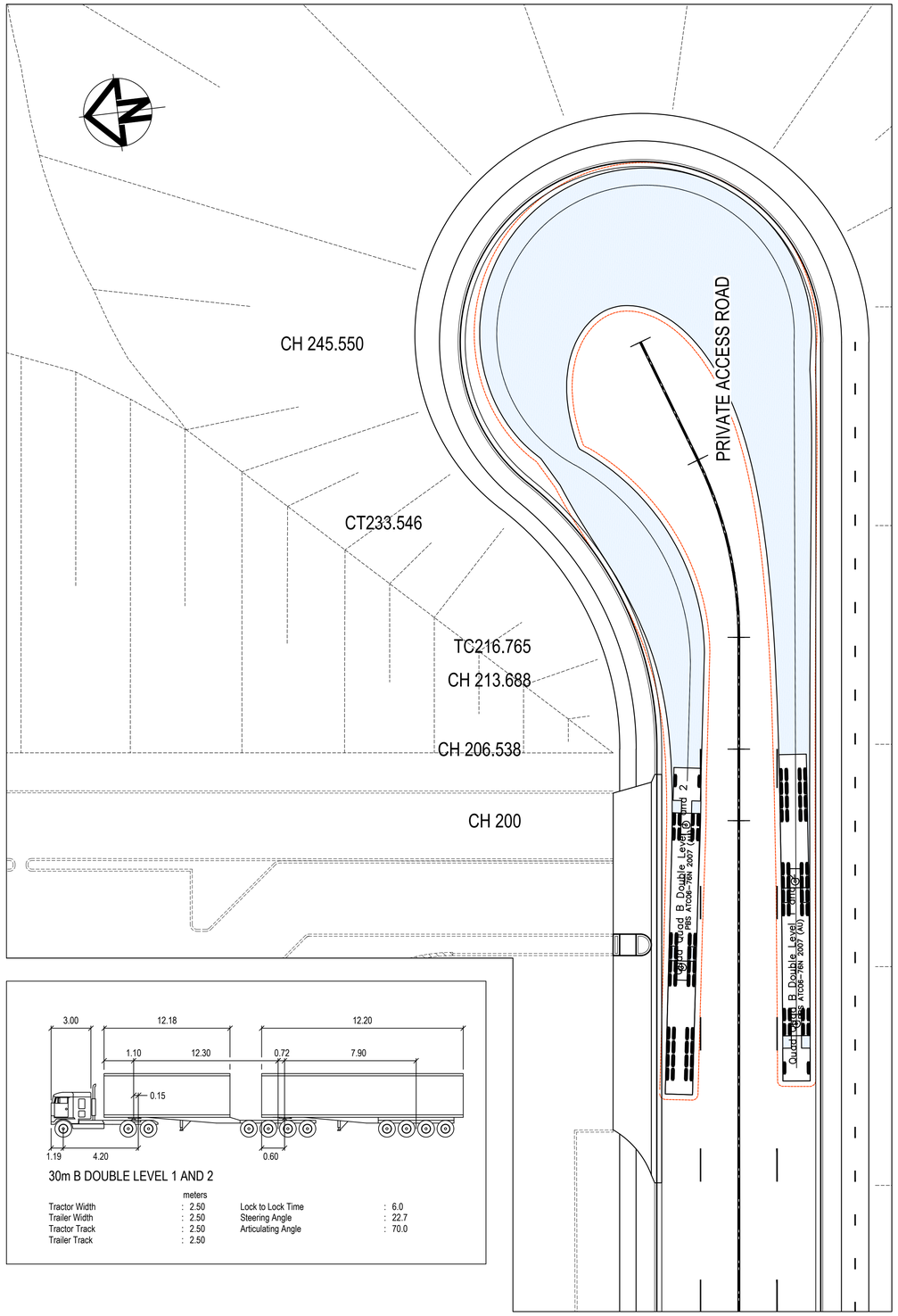
A1

Project - Drawing No.: 20-748-C13172

Issue: A

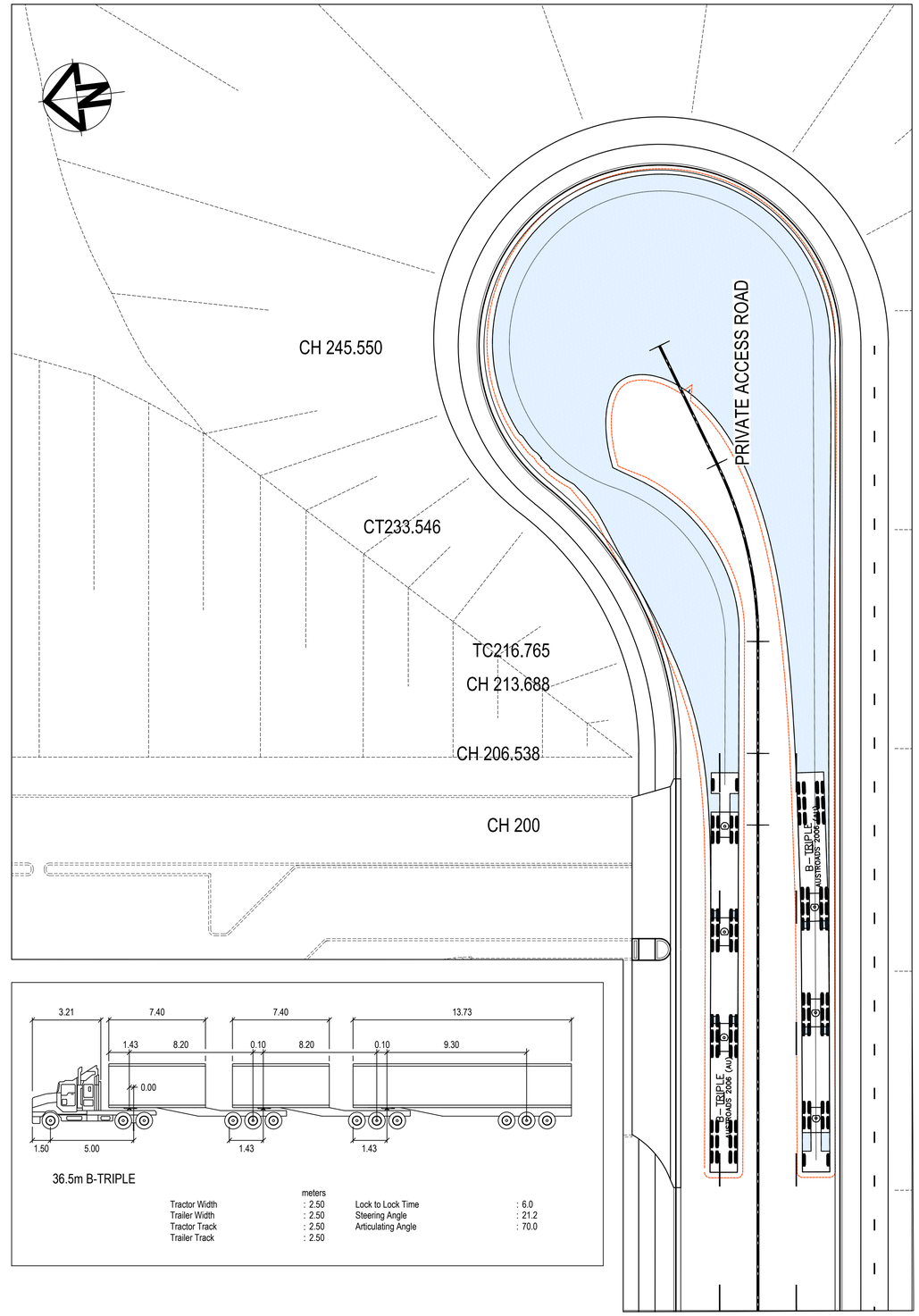
100mm on Original

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30m B DOUBLE LEVEL 1 AND 2

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 22.7
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



36.5m B-TRIPLE

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 21.2
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

LEGEND:

- VEHICLE BODY ENVELOPE
- 0.5m VEHICLE BODY CLEARANCE ENVELOPE

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Client

ESR

Scales 1 : 250

Grid MGA2020

Height Datum AHD

Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

VEHICLE
TURN PATH PLAN
SHEET 3

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 CONSTRUCTION

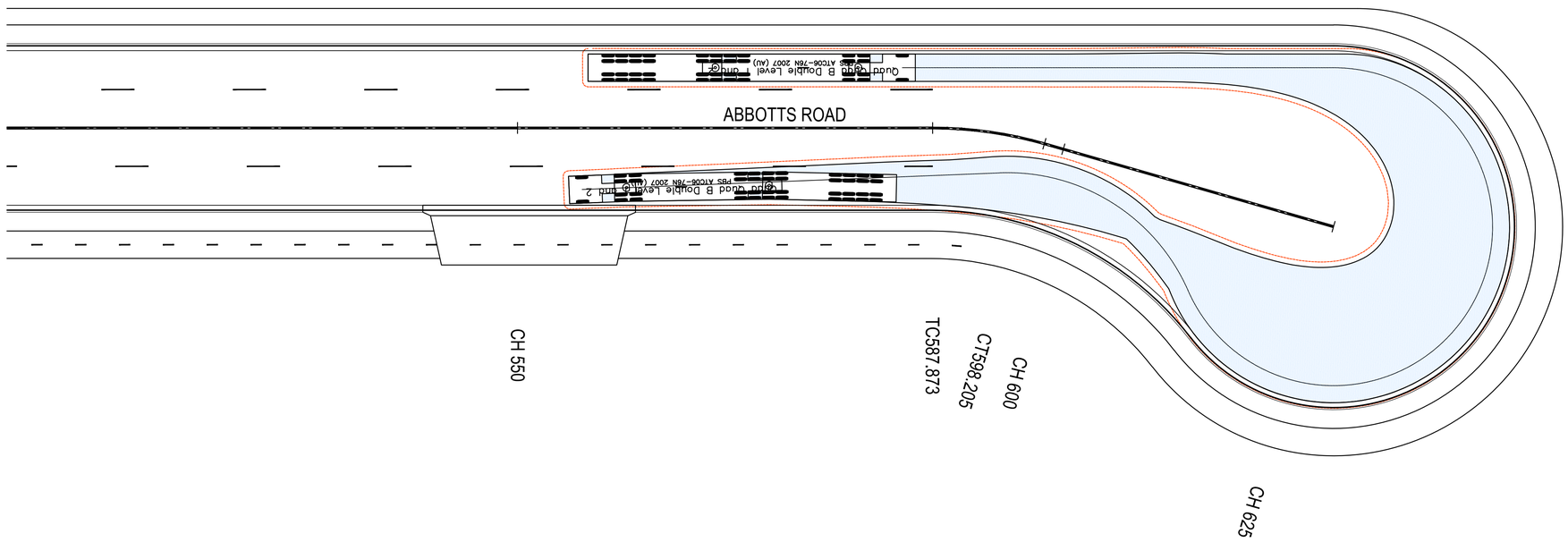
A1

Project - Drawing No. 20-748-C13173

Issue A

100mm on Original

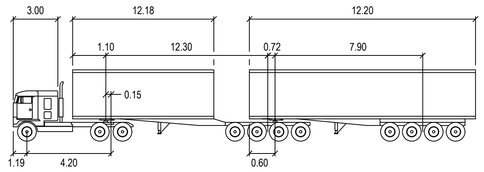
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LEGEND:

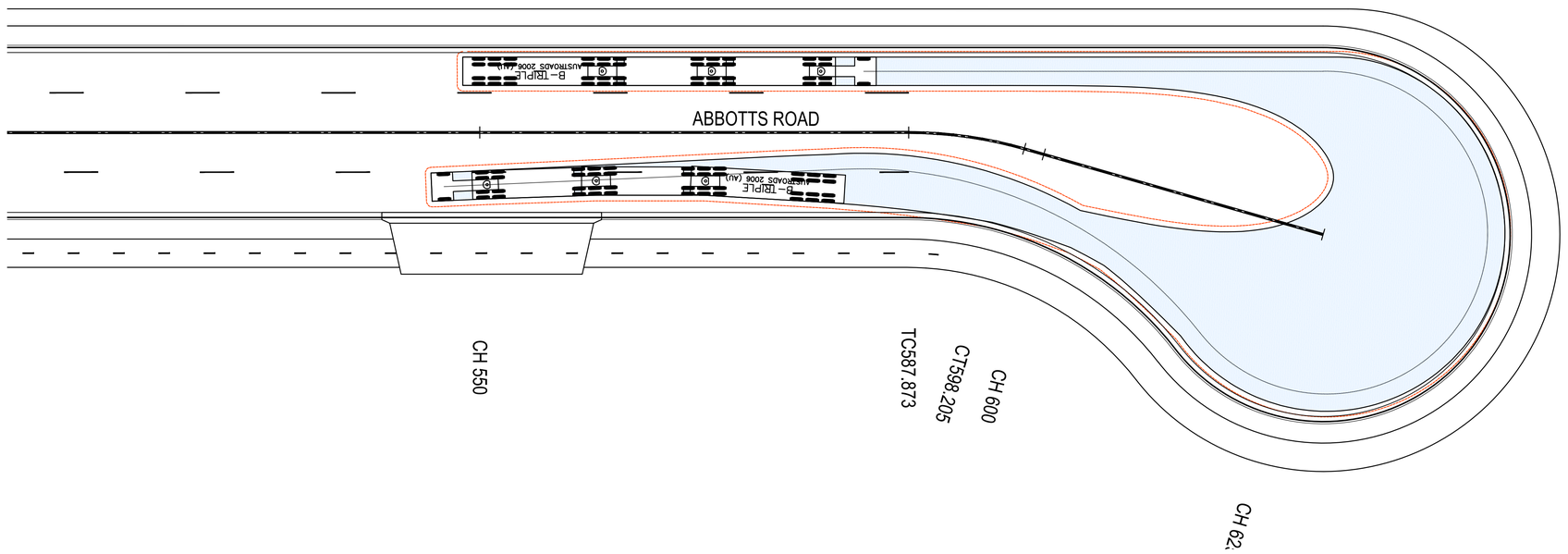
VEHICLE BODY ENVELOPE

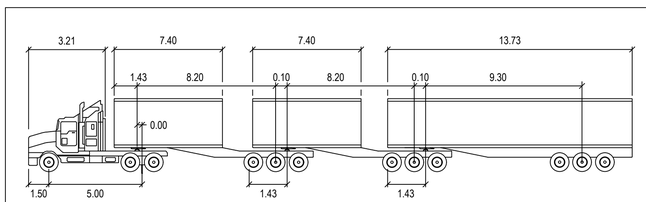
0.5m VEHICLE BODY CLEARANCE ENVELOPE



30m B DOUBLE LEVEL 1 AND 2

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 22.7
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		





36.5m B-TRIPLE

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 21.2
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

100mm on Original

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

Client

ESR

Scales 1 : 250

Grid MGA2020

Height Datum AHD

Drawn	LM & QD
Designed	LM
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

VEHICLE TURN PATH 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

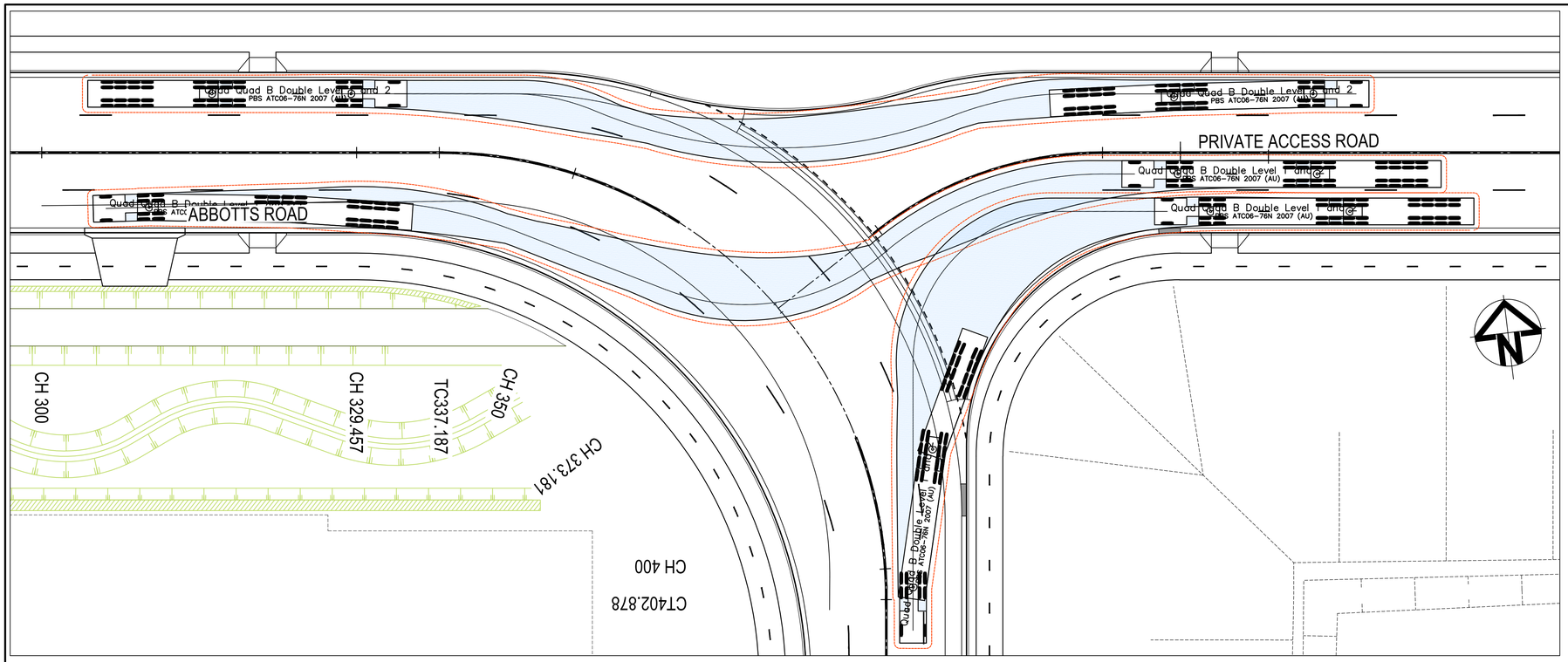
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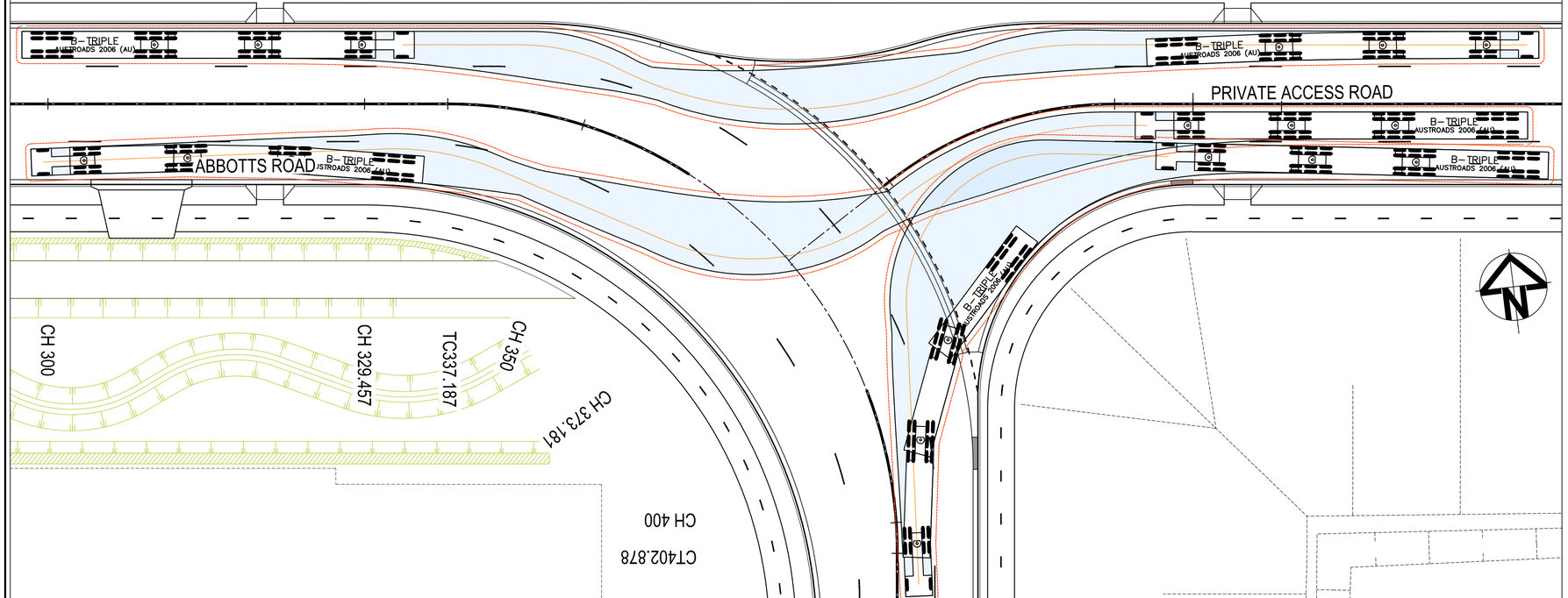
A1

Project - Drawing No. 20-748-C13174

Issue A

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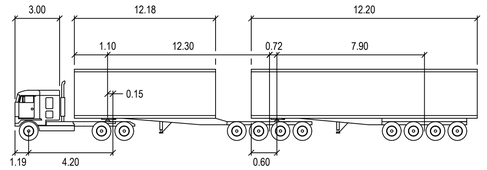




LEGEND:

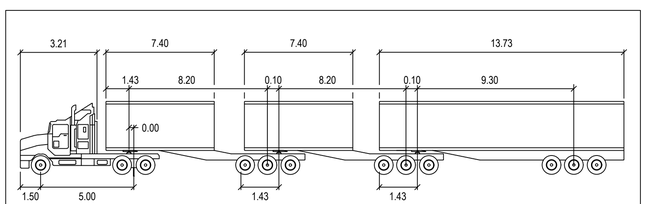
VEHICLE BODY ENVELOPE

0.5m VEHICLE BODY CLEARANCE ENVELOPE



30m B DOUBLE LEVEL 1 AND 2

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 22.7
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



36.5m B-TRIPLE

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 21.2
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

100mm on Original

Client

ESR

Scales 1 : 250

Grid MGA2020

Height Datum AHD

Drawn	LM & QD
Designed	QD
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

VEHICLE
TURN PATH PLAN
SHEET 5

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

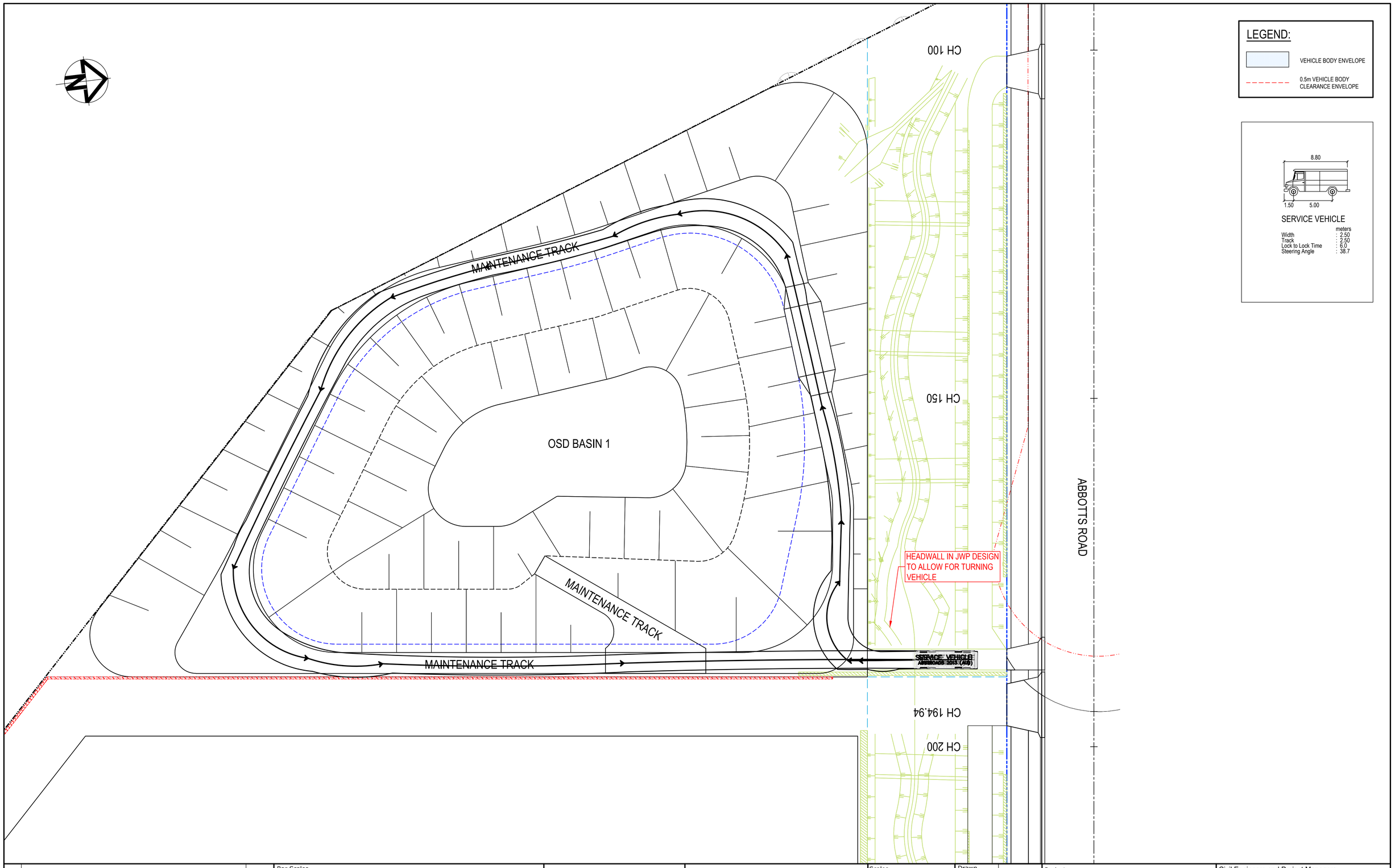
Status FOR CONSTRUCTION

A1

Project - Drawing No. 20-748-C13175

Issue A

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LEGEND:

VEHICLE BODY ENVELOPE

0.5m VEHICLE BODY CLEARANCE ENVELOPE

SERVICE VEHICLE

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 38.7

Issue	Description	Date
A	ISSUED FOR CONSTRUCTION	20-08-24

Bar Scales

0 5 10 15 20 25m

1 : 250 @ A1 1 : 500 @ A3

100mm on Original

Client

ESR

Scales 1 : 250

Grid MGA2020

Height Datum AHD

Drawn	LM & QD
Designed	QD
Checked	LB
Approved	AT

GDA2020

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Project

PROPOSED INDUSTRIAL DEVELOPMENT
WESTLINK
KEMPS CREEK - STAGE 1

Title

VEHICLE TURN PATH PLAN SHEET 6

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

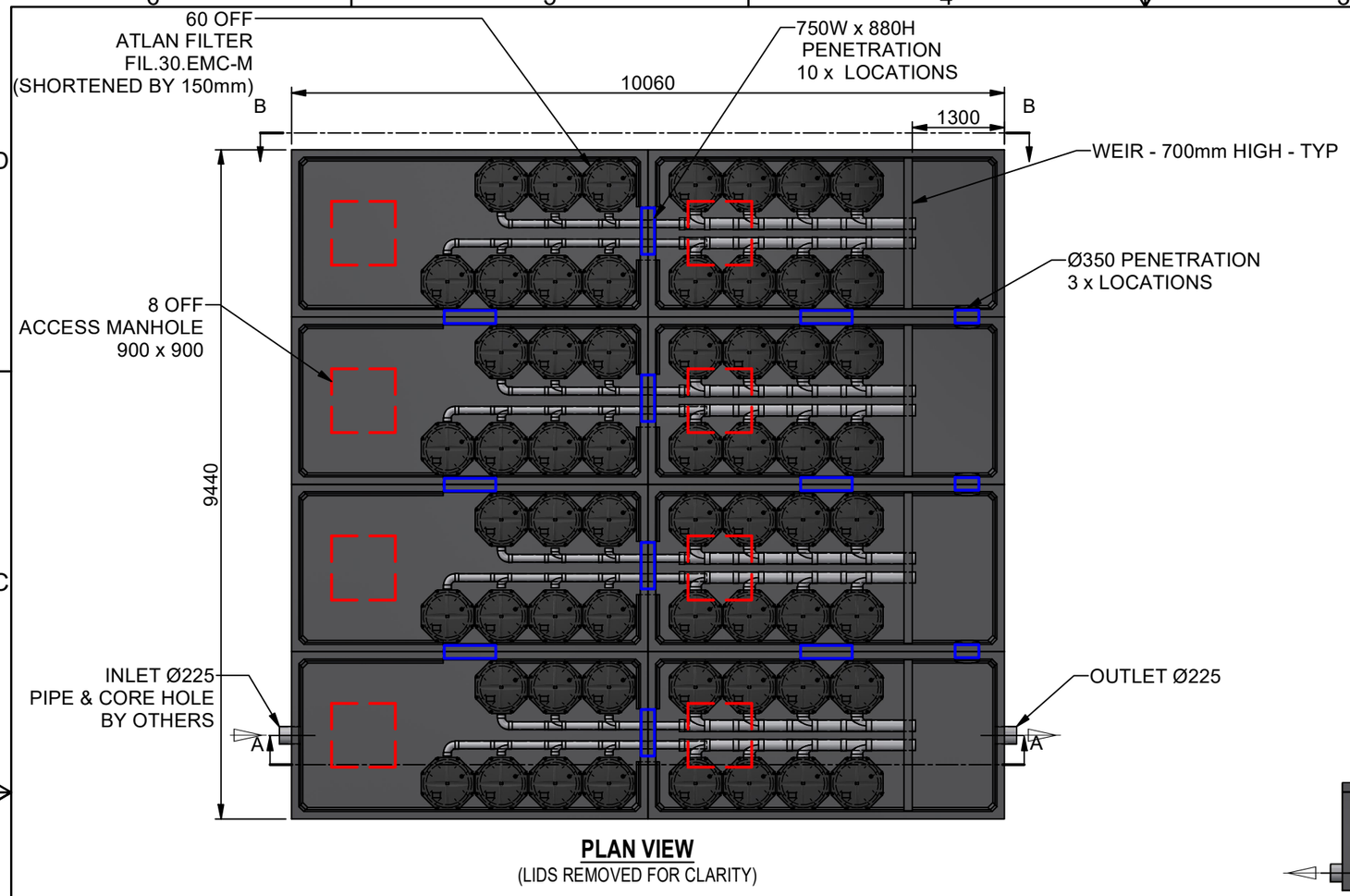
Status FOR CONSTRUCTION

A1

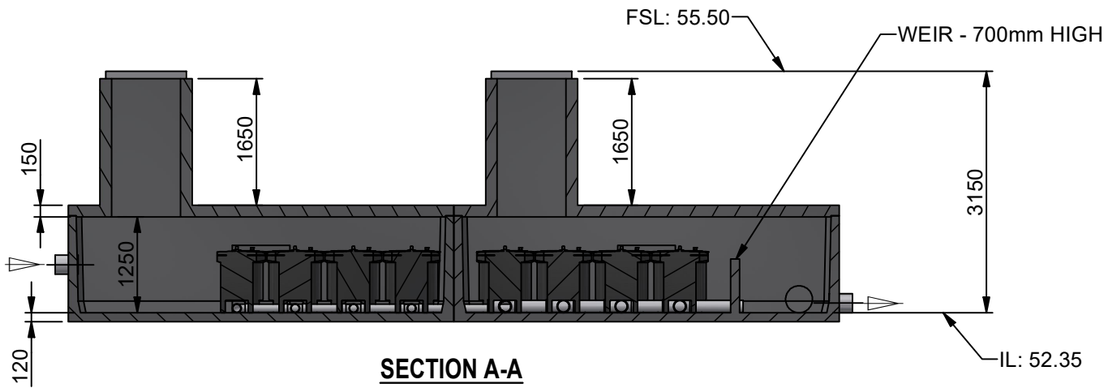
Project - Drawing No. 20-748-C13176

Issue A

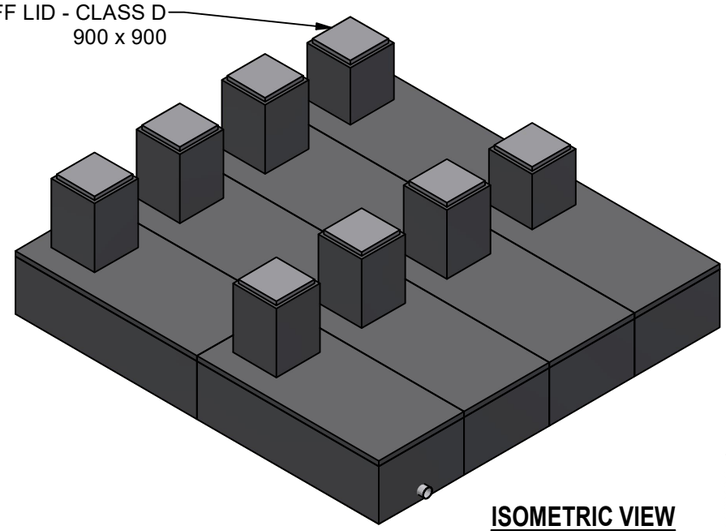
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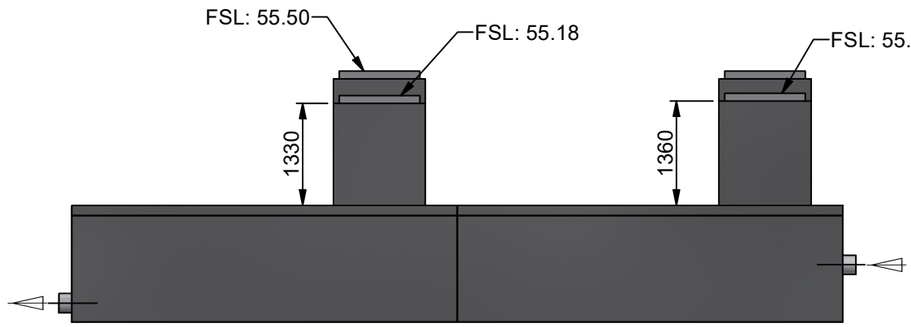
PLAN VIEW
(LIDS REMOVED FOR CLARITY)



SECTION A-A



ISOMETRIC VIEW



VIEW B

Site Level Confirmation	
Finished Surface Level (FSL)	RL:
Access Cover Thickness	mm
Inlet Invert Level	RL:
Outlet Invert Level	RL:
Company:	
Name:	
Date:	

Plans and specifications referenced in certificate no. 18082 issued by: Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision; Certifier – Strata; Certifier – Stormwater; Certifier – Road & Drainage; Certifier – Hydraulic (stormwater)
Land Development Certificates www.LDC.com.au

ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION

TOLERANCE: All Dimensions to Closest 10 mm & +/- 30 mm

ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS

REV	DATE	BY	DESCRIPTION	CHK
3	11/07/2024	P.Z.	UPDATE	
2	5/07/2024	P.Z.	UPDATE	
1	15/11/2023	P.Z.	INITIAL RELEASE	

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Drawn	P.Z.	Date 15/11/2023
Check		Date
Verified		Date
Approved		Date
Request No.	RN226914	

Atlan STORMWATER

PROJECT : WESTLINK INDUSTRIAL ESTATE STAGE 1

TITLE
ATLAN FILTER VAULT SYSTEM
SV.5023.1464-8-60.30
GENERAL ARRANGEMENT

SCALE	SIZE	SHEET	REV
N.T.S	A3	1	3

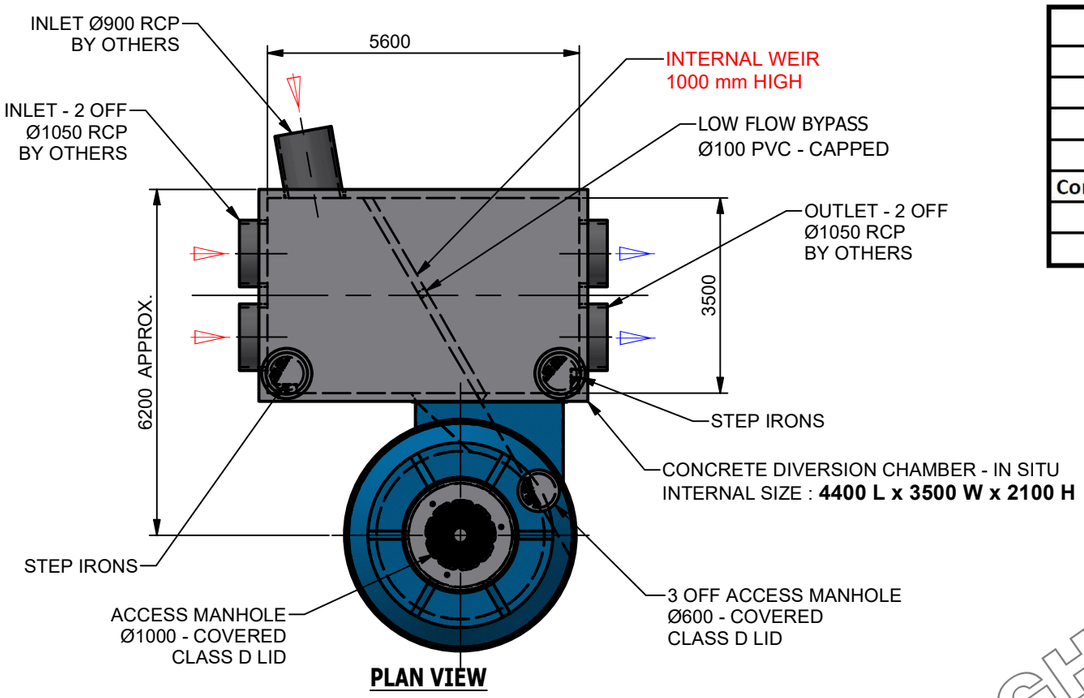
CUSTOMER CODE : | DWG No. 54534.C.02.10.GA

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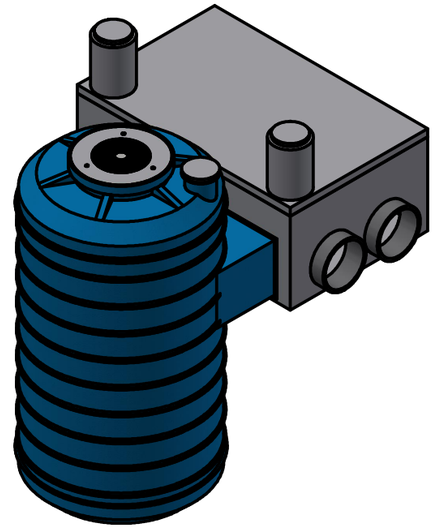
RIGHT SIDE INFLOW

ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION

Site Level Confirmation	
Finished Surface Level (FSL)	RL:
Access Cover Thickness	mm
Inlet Invert Level	RL:
Outlet Invert Level	RL:
Company:	
Name:	
Date:	

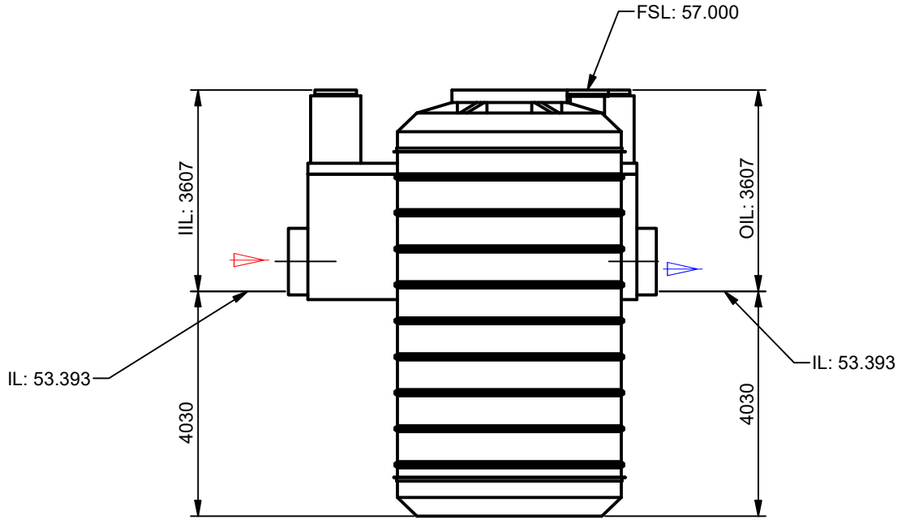


PLAN VIEW

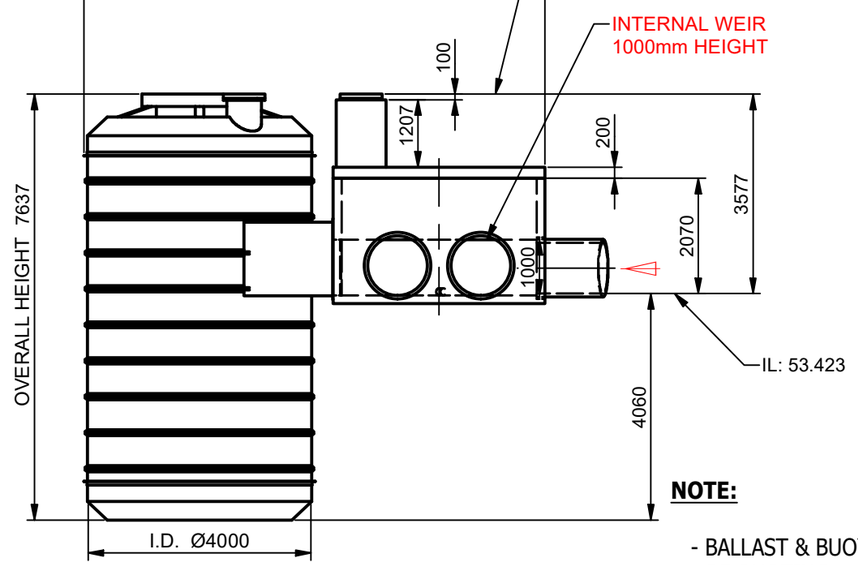


ISOMETRIC VIEW

RIGHT SIDE INFLOW



ELEVATION VIEW



SIDE VIEW

NOTE:

- BALLAST & BUOYANCY CALCULATIONS TO BE DONE AT TIME OF QUOTING
- BALLAST SUPPLIED BY OTHERS

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision, Certifier – Strata, Certifier – Stormwater, Certifier – Road & Drainage, Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

TOLERANCE: All Dimensions to Closest 10 mm & +/- 30 mm

ALL INTERCONNECTING PIPEWORK, PITS AND ASSOCIATED DRAINAGE BY OTHERS

REV	DATE	BY	DESCRIPTION	CHK
2	5/07/2024	P.Z.	UPDATE	
1	7/11/2023	P.Z.	INITIAL RELEASE	

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Drawn	P.Z.	Date 7/11/2023
Check		Date
Verified		Date
Approved		Date
Request No.	RN226776	

ATLAN STORMWATER

PROJECT WESTLINK INDUSTRIAL ESTATE STAGE 1

TITLE ATLAN VORTCEPTOR
OVOR.1200.R
GENERAL ARRANGEMENT

SCALE	SIZE	SHEET	REV
N.T.S	A3	1	2

CUSTOMER CODE : DWG No. 54534.F.01.10.GA

C:\Users\PhillipZervos\Documents\Vault\Designs\ATLAN\03 - PROJECTS\YEAR 2023\NOVEMBER 2023\54534 - WESTLINK INDUSTRIAL ESTATE STAGE 1\54534.F.01.10.GA.idw

WESTLINK - KEMPS CREEK
ABBOTTS ROAD, KEMPS CREEK N.S.W. 2178
STRUCTURAL DRAWINGS

DRAWING LIST

GENERAL

S1.01 COVER SHEET AND DRAWING LIST
S1.02 GENERAL NOTES

STAGE 1

S2.01 STORMWATER PIT BASE PLANS
S2.02 STORMWATER PIT ROOF PLANS
S2.03 PIT BB-1 BASE PLAN
S2.11 STORMWATER PIT TYPICAL DETAILS - SHEET 1
S2.12 STORMWATER PIT TYPICAL DETAILS - SHEET 2
S2.13 STORMWATER PIT TYPICAL DETAILS - SHEET 3



LOCATION PLAN
N.T.S.

Plans and specifications referenced in certificate no. 18082 issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
www.LDC.com.au

AMENDMENTS	DATE	ISSUE	BY
ISSUED FOR CONSTRUCTION	11.07.24	1	S.S.
ISSUED FOR CONSTRUCTION	20.10.23	0	S.S.

FOR CONSTRUCTION

NORTH POINT U.N.O.

CLIENT
ESR

CIVIL ENGINEER
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

PROJECT
WESTLINK - KEMPS CREEK
ABBOTTS ROAD,
KEMPS CREEK N.S.W. 2178

DESIGNED	DRAWN	DATE	SIZE	CAD REF
ET.S.	S.S.	11.07.24	A1	TX17668.00 - S01

TRIAXIAL CONSULTING
COMPLEX PROBLEMS RESOLVED SIMPLY

1300 874 294 | TRIAXIAL.AU

SUITE 12, LEVEL 14, 327 PITT STREET, SYDNEY NSW 2000
PO BOX A203, SYDNEY SOUTH NSW 1235

TO BE PRINTED IN COLOUR

DRAWING TITLE
COVER SHEET AND DRAWING LIST

PROJECT No. TX17668.00 -
DRAWING No. S1.01
ISSUE 1

GENERAL

G1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL CIVIL ENGINEER AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

G2 ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.

G3 ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE. ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. ENGINEER'S DRAWINGS ISSUED IN ANY ELECTRONIC FORMAT MUST NOT BE USED FOR DIMENSIONAL SETOUT. REFER TO THE CIVIL ENGINEER'S DRAWINGS FOR ALL DIMENSIONAL SETOUT INFORMATION.

G4 DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE DESIGNED & PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.

G5 UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.

G6 THE STRUCTURAL COMPONENTS DETAILED ON THESE DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RELEVANT STANDARDS AUSTRALIA CODES AND LOCAL GOVERNMENT ORDINANCES FOR THE LOADINGS NOTED IN THE STRUCTURAL DESIGN CRITERIA.

FOUNDATIONS

F1 FOOTINGS SHALL BE LOCATED CENTRALLY UNDER WALL AND COLUMNS UNLESS NOTED OTHERWISE.

F2 DO NOT EXCEED A RISE OF: 1 IN A RUN OF: 2 FOR THE LINE OF SLOPE BETWEEN ADJACENT FOOTINGS OR EXCAVATIONS.

F3 DO NOT BACKFILL RETAINING WALLS (OTHER THAN CANTILEVER WALLS) UNTIL FLOOR CONSTRUCTION AT TOP AND BOTTOM IS COMPLETED. ENSURE FREE DRAINING BACKFILL AND DRAINAGE IS IN PLACE.

F4 FOOTINGS TO BE CONSTRUCTED AND BACKFILLED AS SOON AS POSSIBLE FOLLOWING EXCAVATION TO AVOID SOFTENING OR DRYING OUT BY EXPOSURE.

F5 FOOTINGS TO BE FOUNDED 200 MINIMUM INTO NATURAL GROUND LEVEL.

F6 NO CONSTRUCTION LOAD OVER IS PERMITTED UNTIL CONCRETE HAS ACHIEVED 28 DAY DESIGN STRENGTH AS NOTED.

F7 FOUNDATIONS HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING PRESSURE AS NOTED ON THE GENERAL NOTES SHEET.

STRUCTURAL DESIGN CRITERIA

PERMANENT & IMPOSED LOADING (AS1170.1)

LC1 DESIGN LOADING

THE STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING LOADING IN ACCORDANCE WITH AS5100 'BRIDGE DESIGN'

'W80' WHEEL LOAD
'A160' AXLE LOAD
'M1600' MOVING LOAD
'S1600' STATIONARY LOAD

LC2 FLOOD LOADING

THE PIT BB1 HAS BEEN DESIGNED WITH 1% AEP FLOOD LOADING INFORMATION PROVIDED IN THE CIVIL MARKUPS DATED 02/07/2024
FLOW VELOCITY (m/s) = 0.5
FLOOD LEVEL (m) = 55.33

FOUNDATION DESIGN CRITERIA

FC1 THE STRUCTURES HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING CAPACITY OF 150kPa TO BE CONFIRMED BY THE GEOTECHNICAL ENGINEER

FC2 REFER TO GEOTECHNICAL INVESTIGATIONS REPORT NO. 92352.00 BY 'DOUGLAS PARTNERS' DATED AUG 2019

SITE PREPARATION/EARTHWORKS

GENERAL

SP1 ALL EARTHWORKS, SITE PREPARATION AND MATERIALS TO BE IN ACCORDANCE WITH AS3798 AND THE GEOTECHNICAL ENGINEERS REPORT, U.N.O.

SP2 SEDIMENT AND EROSION CONTROL MEASURES AS DOCUMENTED MUST BE IN PLACE PRIOR TO THE COMMENCEMENT OF WORK.

SUBGRADE

SP3 STRIP EXISTING AREA AS REQUIRED TO CONSTRUCT NEW WORKS. REMOVE ANY TOP SOIL, VEGETATION, ORGANIC OR SOFT MATERIAL FROM SITE.

SP4 THE CUT AND FILL SURFACE SHALL BE PROOF ROLLED TO ENSURE THAT THE FILL AND NATURAL GROUND FORMING THE SUBGRADE TO SUB-BASE OR PROPOSED SLAB ON GROUND IS AT A SUITABLE DENSITY AND MOISTURE CONTENT PRIOR TO CONSTRUCTION OF THE SUB-BASE OR SLAB.

SP5 PROOF ROLLING SHALL BE CARRIED OUT UNDER THE DIRECTION OF THE CONTRACTOR. A MINIMUM 10 TONNE STATIC MASS SMOOTH DRUMMED ROLLER SHALL BE USED. WHERE THERE IS MOVEMENT UNDER THE ROLLER INDICATING SOFT, WET OR DISTURBED MATERIAL, THE AREA OF MOVEMENT SHALL BE IDENTIFIED AND THE POOR MATERIAL REMOVED. ANY REPLACEMENT MATERIAL SHALL BE BACKFILLED WITH APPROVED FILL PLACED IN LAYERS NOT EXCEEDING 200mm LOOSE MEASUREMENT AND IN ACCORDANCE WITH FILLING NOTE SP9 TO 98% OF SDD AND WITHIN ±2% OF STANDARD OPTIMUM MOISTURE CONTENT.

SP6 WHERE THERE HAS BEEN AN EXTENDED DRY PERIOD THE SUBGRADE SURFACE MAY EXHIBIT DESICCATION CRACKS CONSISTENT WITH NEAR SURFACE DRYING OUT. IF SIGNIFICANT DRYING OUT HAS OCCURRED, MOISTURE CONDITION THE UPPER 200mm OF THE SUBGRADE. THE MATERIAL SHOULD THEN BE COMPACTED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS FOR DENSITY AND MOISTURE CONTENT.

FILL/SUB-BASE

SP7 COMPACTION TESTING IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE ALLOWED FOR IN THE TENDER FOR THE PROJECT. THE CONTRACTOR SHALL ALLOW FOR SOIL COMPACTION TESTING TO AQLL FILL FORMATIONS UNDER THE BUILDING ENVELOPE WHICH SUPPORTS CONCRETE SLAB ON GROUND TYPE FLOORS AND EXTERNAL PAVEMENTS. TESTS SHALL BE CARRIED OUT BY AN INDEPENDANT 'NATA' REGISTERED LABORATORY IN ACCORDANCE WITH THE REQUIREMENTS OF AS1289. SUBMIT TEST REPORTS TO THE ENGINEER FOR REVIEW.

SP8 ANY FILL MATERIAL REQUIRED SHALL BE WELL GRADED WITH A MAXIMUM PARTICLE SIZE OF 40mm.

SP9 ANY FILL MATERIAL REQUIRED SHALL BE UNIFORMELY PLACED IN LAYERS NOT EXCEEDING 200mm LOOSE MEASUREMENT.

SP10 ALL FILL SHALL BE COMPACTED TO MINIMUM 98% STANDARD DRY DENSITY DETERMINED BY METHODS IN ACCORDANCE WITH AS1289. THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE ADJUSTED TO WITHIN 5% OF THE OPTIMUM MOISTURE CONTENT DURING COMPACTION TO ENSURE THAT THE SPECIFIED COMPACTION IS OBTAINED.

SP11 RAFT FOUNDATIONS ARE DESIGNED ASSUMING 'ROLLED FILL' IS CONSTRUCTED IN ACCORDANCE WITH AS2870, U.N.O. ROLLED FILL SHALL BE COMPACTED IN LAYERS BY REPEATED ROLLING WITH AN EXCAVATOR OR SIMILAR EQUIPMENT. ROLLED FILL SHALL NOT EXCEED 0.6m COMPACTED IN LAYERS NOT MORE THAN 0.3m THICK FOR SAND MATERIAL, OR 0.3m COMPACTED IN LAYERS NOT MORE THAN 0.15m THICK FOR OTHER MATERIAL. THE EXTENT OF ROLLED FILL REQUIRED SHALL BE DETERMINED ON SITE AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

SP12 SERVICE TRENCH BACK FILL AND FILL OVER UNDERGROUND SERVICES SHALL BE COMPACTED WITH HAND OPERATED PLATE COMPACTOR IN LAYERS OF 100mm LOOSE THICKNESS.

CONCRETE COVER SCHEDULE (mm)	
USAGE	COVER
STORMWATER PIT EXTERNAL	60
STORMWATER PIT INTERNAL	40

CONCRETE

C1 ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH AS3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

C2 READYMIX CONCRETE SUPPLY SHALL COMPLY WITH AS1379.

C3 CONCRETE QUALITY, ALL THE REQUIREMENTS OF THE ACSE SPECIFICATION DOCUMENT 1 (EDITION 6), SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE. CONCRETE QUALITY SPECIFICATIONS AS SHOWN ON PLAN.

C4 PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS1379.

C5 NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING.

C6 CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE AS PER CONCRETE COVER SCHEDULE UNLESS SHOWN OTHERWISE.

C7 DURABILITY REQUIREMENTS FOR CONCRETE.

EXPOSURE CLASS, TO AS3600:	MINIMUM CEMENT CONTENT:	MAXIMUM W/C RATIO:
A1 & A2	-	0.56
B1	320	0.56
B2	390	0.46
C	450	0.40

C8 ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT 1m MAX. CENTRES BOTH WAYS U.N.O. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS. USE PLASTIC CHAIRS IN EXPOSURE CONDITION GREATER THAN B1.

C9 NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.

C10 CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER.

C11 ALL CONCRETE SHALL BE COMPACTED WITH MECHANICAL VIBRATORS.

C12 THE ENGINEER SHALL BE GIVEN 48 HOURS NOTICE FOR REINFORCEMENT INSPECTIONS AND CONCRETE SHALL NOT BE DELIVERED UNTIL ENGINEERS APPROVAL IS OBTAINED.

C13 WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER.

C14 REINFORCEMENT BARS AND TIES:
N_ HOT ROLLED DEFORMED BAR, GRADE 500 NORMAL DUCTILITY AS4671-DN500N

R_ HOT ROLLED ROUND BAR, GRADE 250 NORMAL DUCTILITY AS4671-R250N

W_ COLD DRAWN ROUND WIRE, GRADE 500 LOW DUCTILITY AS4671-R500L

S_ POOL REINFORCEMENT HOT ROLLED DEFORMED BAR, GRADE 250 NORMAL DUCTILITY AS4671-D250N

NOTE:THE UNDERSCORE REPRESENTS NOMINAL BAR DIAMETER IN ACCORDANCE WITH AS4671

REINFORCEMENT MESH:
SL_ SQUARE MESH, COLD DRAWN RIBBED WIRE GRADE 500, LOW DUCTILITY AS4671-D500L

RL_ RECTANGULAR MESH, COLD DRAWN RIBBED WIRE GRADE 500, LOW DUCTILITY AS4671-D500L

_L_TM TRENCH MESH, COLD DRAWN RIBBED WIRE GRADE 500, LOW DUCTILITY AS4671-D500L

NOTE:THE UNDERSCORE REPRESENTS VARYING SPECIFICATIONS IN ACCORDANCE WITH AS4671

C15 REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.

C16 SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS SHOWN OR OTHERWISE APPROVED IN WRITING BY THE ENGINEER. LAPS SHALL BE IN ACCORDANCE WITH AS3600 AND NOT LESS THAN THE DEVELOPMENT LENGTH FOR EACH BAR.

C17 STANDARD LAP AND COG LENGTHS UNLESS NOTED OTHERWISE ON DRAWINGS:

BAR DIAMETER	MIN. LAP LENGTH (mm)	MIN. COG LENGTH (mm)
N12	500	180
N16	750	210
N20	1000	260
N24	1375	310
N28	1560	360
N32	1810	400

CONCRETE (CONTINUED)

C18 DEPTHS OF BEAMS ARE GIVEN FIRST AND INCLUDE SLAB THICKNESS.

C19 CONCRETE SIZES DO NOT INCLUDE THICKNESSES OF APPLIED FINISHES.

C20 REFER TO ARCHITECT'S DETAILS, FOR CHAMFERS, DRIP GROOVES, REGLETS, ETC., MAINTAIN COVER TO REINFORCEMENT AT THESE DETAILS.

C21 USE ALIPHATIC ALCOHOLS SPRAYED OVER THE SURFACE PRIOR TO AND AFTER FINISHING TO REDUCE RATE OF EVAPORATION FROM THE SURFACE AND HELP CONTROL PLASTIC SHRINKAGE CRACKING. NOTE THAT THE USE OF ALIPHATIC ALCOHOLS IS NOT A SUBSTITUTE FOR CURING.

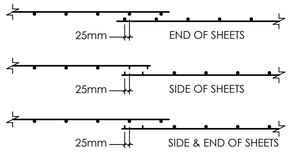
C22 COMMENCE CURING OPERATIONS PROMPTLY AFTER SURFACE FINISHING IS COMPLETE. CURING COMPOUNDS ARE TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND ARE TO BE CHECKED FOR COMPATIBILITY WITH PROPOSED FLOOR FINISHES. SOME COMPOUNDS MAY REQUIRE REMOVAL FOR GLUED DOWN FLOOR COVERINGS OR WET CURING AS DESCRIBED BELOW.

CONCRETE IS TO BE CURED BY KEEPING THE SURFACES CONTINUOUSLY WET FOR A PERIOD OF 3 DAYS, AND PREVENTING THE LOSS OF MOISTURE FOR A FURTHER 7 DAYS FOLLOWED BY A GRADUAL DRYING OUT.

C23 PROPPING WHICH SUPPORTS CONSTRUCTION OVER IS TO BE LEFT IN PLACE AS REQUIRED TO AVOID OVER STRESSING THE STRUCTURE DUE TO CONSTRUCTION LOADING.

C24 CONDUITS, PIPES ETC. SHALL ONLY BE LOCATED IN THE MIDDLE ONE THIRD OF SLAB DEPTH AND SPACED AT NOT LESS THAN 3 DIAMETERS OF THE CONDUIT, PIPES ETC. PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE COVER TO REINFORCEMENT.

C25 MINIMUM MESH LAPS:



C26 A 0.2mm POLYETHYLENE MEMBRANE SHALL BE CONTINUOUS UNDER SLAB LAPPED 200mm MIN. WHERE REQUIRED AND TAPED AT ALL SERVICE PENETRATIONS, LAPS AND PUNCTURES. THE MEMBRANE IS TO EXTEND UNDER AND TO THE SIDES OF SLABS, BEAMS AND THICKENINGS

C27 SLAB REINFORCEMENT SHALL EXTEND AT LEAST 65mm ONTO MASONRY SUPPORT WALLS AND 50 PERCENT OF THE BOTTOM REINFORCEMENT SHALL BE COGGED TO ACHIEVE ANCHORAGE AT SIMPLY SUPPORTED ENDS.

C28 WHERE TRANSVERSE TIE BARS ARE NOT SHOWN PROVIDE N12-400 SPLICED WHERE NECESSARY AND LAPPED 500mm WITH MAIN BARS.

C29 UPWARD CAMBER TO FORMWORK OF REINFORCED CONCRETE CANTILEVERS SHALL BE L/120, WHERE L IS THE PROJECTION BEYOND FACE OF COLUMN OR WALL. CAMBER TO SUSPENDED SLABS AND BEAMS SHALL BE 5 FOR EVERY 2500 OF SPAN. MAINTAIN THE SLAB AND BEAM DEPTHS SHOWN.

C30 SLABS AND BEAMS SHALL BE CONSTRUCTED TO BEAR ONLY ON THE BEAMS, WALLS, COLUMNS, ETC SHOWN ON THE DRAWINGS. TOPS OF LOAD BEARING MASONRY WALLS ARE TO BE TROWELLED SMOOTH AND 2 LAYERS OF ALCOR PROVIDED BETWEEN WALL AND SLAB. ALL OTHER BUILDING ELEMENTS SHALL BE KEPT 15mm MINIMUM CLEAR FROM SOFFITS OF THE STRUCTURE.

C31 FORMWORK STRIPPING TIMES: RECOMMENDED MINIMUM STRIPPING TIMES IN THE ABSENCE OF CALCULATION AND STRENGTH TESTING. SHALL BE:

MEMBER TYPE	MEMBER	* EFFECTIVE SPAN (m)	MINIMUM STRIPPING TIME (DAYS) FOR AVERAGE AIR TEMPERATURE DURING PERIOD PRIOR TO STRIPPING			
			20° & OVER	10° TO 20°	5° TO 10°	UNDER 5°
VERTICAL UNLOADED	WALL, COLUMN, BEAM SIDE.	0	2	3	5	7
VERTICAL LOADBEARING	WALL, COLUMN OR LOADBEARING STRUCTURE	0	5	6	7	9
HORIZONTAL	SLAB	UNDER 3	7	10	14	21
		3 - 6	10	14	21	28
		OVER 6	14	21	28	28
HORIZONTAL	BEAM	UNDER 3	10	14	21	28
		3 - 6	14	21	28	28
		OVER 6	21	28	28	28

* EFFECTIVE SPAN IS THE MAXIMUM DISTANCE BETWEEN SUPPORTS (EITHER TEMPORARY OR PERMANENT)

TEMPORARY WORKS

TW1 THE CONTRACTOR SHALL ALLOW FOR IN THEIR PRICE ALL COSTS ASSOCIATED WITH THE DESIGN, SUPPLY, INSTALLATION AND REMOVAL OF ALL TEMPORARY BACK PROPPING, SAFETY SCREENS, SCAFFOLDING AND OTHER REQUIREMENTS OF THE CONSTRUCTION PROCESS. THE CONTRACTOR SHALL ENGAGE SUITABLY QUALIFIED ENGINEER REFERRED TO AS "CONTRACTORS ENGINEER" TO DESIGN, INSPECT AND CERTIFY ALL TEMPORARY WORKS, AND DEMOLITION WORKS.

TW2 THE CONTRACTOR IS TO PROVIDE ALL TEMPORARY WORKS CONTRACTOR ENGINEERING DRAWINGS TO THE STRUCTURAL ENGINEER FOR INFORMATION.

TW3 IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE OVERALL STABILITY OF THE STRUCTURE AND NO PART IS OVERSTRESSED DUE TO CONSTRUCTION & INSTALLATION METHODOLOGIES AND/OR EQUIPMENT DURING CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN ADVICE FROM THE CONTRACTORS ENGINEER.

TW4 THE CONTRACTOR IS TO HAVE CONSTRUCTION METHODOLOGY STATEMENTS PREPARED AND SUBMITTED FOR GENERAL REVIEW TO ENSURE IT IS IN ACCORDANCE WITH THE DESIGN INTENT.

TW5 ALL VERTICAL DISPLACEMENTS AND MOVEMENTS ARE TO BE LIMITED TO ENSURE THE STRUCTURE IS NOT SUBJECTED TO LOADS OR MOVEMENTS CAUSING STRUCTURAL DISTRESS TO ANY ELEMENT WHILE THE STRUCTURE IS BEING TEMPORARILY SUPPORTED.

TW6 DEPENDING ON THE CONTRACTORS PREFERRED CONSTRUCTION SEQUENCE, PRE-LOADING OF STRUCTURAL ELEMENTS MAY BE REQUIRED TO LIMIT TOTAL VERTICAL DISPLACEMENTS.

TW7 THE STRUCTURE IS TO BE ADEQUATELY BRACED TO PREVENT ANY HORIZONTAL MOVEMENT OR DEFLECTIONS.

TW8 THE DESIGN OF TEMPORARY WORKS MAY REQUIRE SITE SPECIFIC GEOTECHNICAL INVESTIGATION PRIOR TO INSTALLATION AND USE.

CERTIFICATION

CE1 THE PRINCIPLE CERTIFYING AUTHORITY (AT THE TIME OF ISSUING THE CONSTRUCTION CERTIFICATE) SHALL PROVIDE THE CERTIFYING ENGINEER AND CONTRACTOR A LIST OF ANY CRITICAL STAGE INSPECTIONS REQUIRED TO BE UNDERTAKEN BY A QUALIFIED ENGINEER. THE ENGINEER TO BE GIVEN 48 HOURS NOTICE PRIOR TO INSPECTION. THE ENGINEER WILL NOT CERTIFY ANY ITEM NOT INSPECTED.

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
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AMENDMENTS	DATE	ISSUE	BY
ISSUED FOR CONSTRUCTION	11.07.24	1	S.S.
ISSUED FOR CONSTRUCTION	20.10.23	0	S.S.

FOR CONSTRUCTION

NORTH POINT U.N.O.

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PROJECT
WESTLINK - KEMPS CREEK
ABBOTTS ROAD,
KEMPS CREEK N.S.W. 2178

DESIGNED	DRAWN	DATE	SIZE	CAD REF
ET.S.	S.S.	11.07.24	A1	TX17668.00 - S01

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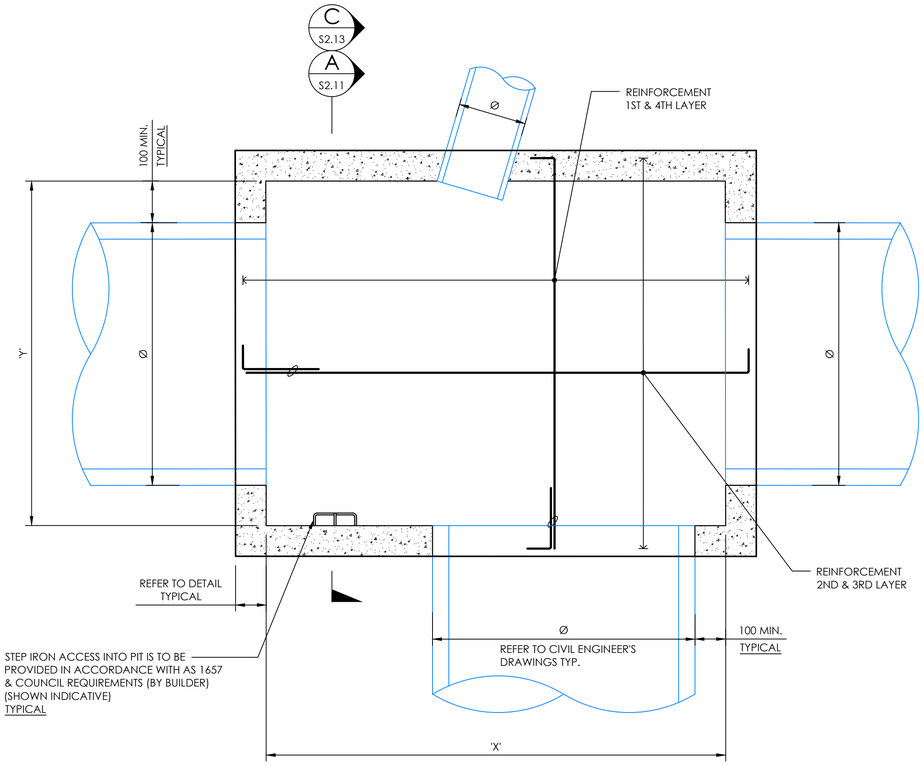
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DRAWING TITLE
GENERAL NOTES

PROJECT No.	DRAWING No.	ISSUE
TX17668.00 -	S1.02	1



TYPICAL TYPE 'A' & 'C' PIT BASE PLAN VIEW

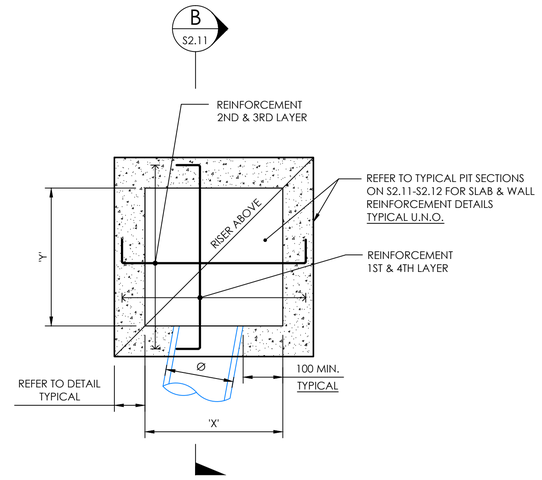
SCALE 1:20 AT A1

PIT GEOMETRY SPECIFICATION			
PIT TYPE	DEPTH 'D' (mm)	LENGTH 'X' (mm)	WIDTH 'Y' (mm)
AA-11	5607	3200	1850
BA-2	3152	3000	2250
XA-7	3014	1800	900
XA-8	4590	1500	1350
XA-9	3393	1800	900
XA-10	2968	1800	1350
XA-11	2729	1800	900
XA-12	2827	2000	1800
XA-13	3181	1800	1800
AA-7	4180	1400	900
AA-8	4209	1400	900
AA-10	3042	1850	1800

3

3

NOTE:
REFER TO CIVIL ENGINEER'S DRAWINGS FOR
PIT LOCATION, INVERT AND FINISHED LEVEL.



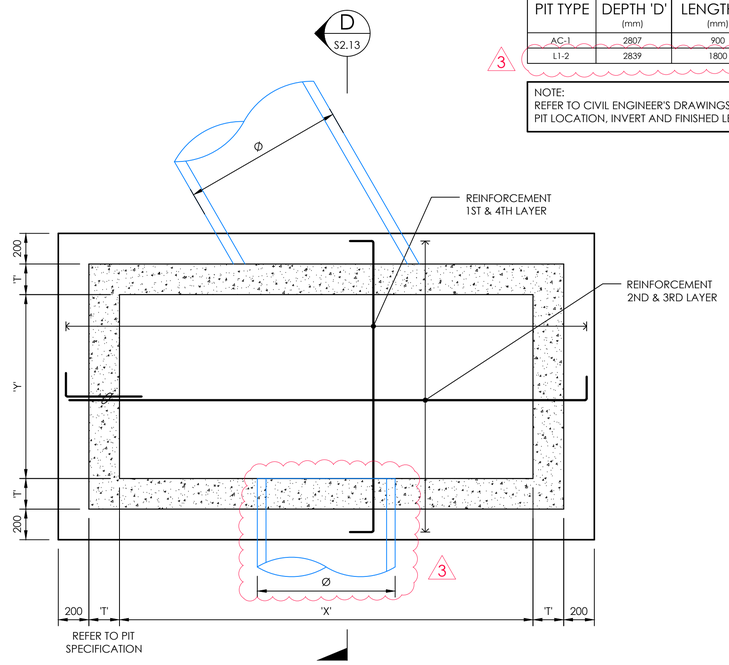
TYPICAL TYPE 'B' PIT BASE PLAN VIEW

SCALE 1:20 AT A1

PIT GEOMETRY SPECIFICATION			
PIT TYPE	DEPTH 'D' (mm)	LENGTH 'X' (mm)	WIDTH 'Y' (mm)
AC-1	2807	900	900
L1-2	2839	1800	1050

3

NOTE:
REFER TO CIVIL ENGINEER'S DRAWINGS FOR
PIT LOCATION, INVERT AND FINISHED LEVEL.



TYPICAL TYPE 'D' PIT BASE PLAN VIEW

SCALE 1:20 AT A1

PIT GEOMETRY SPECIFICATION			
PIT TYPE	DEPTH 'D' (mm)	LENGTH 'X' (mm)	WIDTH 'Y' (mm)
XA-6	7011	2900	1200

3

NOTE:
REFER TO CIVIL ENGINEER'S DRAWINGS FOR
PIT LOCATION, INVERT AND FINISHED LEVEL.

CONCRETE QUALITY							
ELEMENT	AS3600 EXPOSURE CLASSIFICATION	AS1379 CONCRETE CLASSIFICATION	f'c (MPa) CHARACTERISTIC COMPRESSIVE STRENGTH	CEMENT TYPE	ADMIXTURES	MAX AGGREGATE SIZE (mm)	SLUMP
PITS	B1	N	32	GP	NIL	20	80

LEGEND

CONCRETE WALL OVER

NOTES:

1. ALL DIMENSIONS SHOWN ARE IN mm & APPROXIMATE ONLY, UNLESS NOTED OTHERWISE. REFER TO CIVIL ENGINEERS DETAILS FOR CONFIRMATION.
2. 100mm DIA. SUBSOIL DRAINAGE PIPE, 3.0m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED IN CULVERT TRENCHES ADJACENT TO INLET CULVERTS.
3. CONTRACTOR TO ENSURE SUB-GRADE IS COMPACTED TO 98% STANDARD COMPACTION & SHOULD OBTAIN COMPACTION TEST RESULTS IN ACCORDANCE WITH COUNCIL & AUSTRALIAN STANDARDS AS APPLICABLE, PRIOR TO CONSTRUCTION.
4. BACKFILL ADJACENT TO PITS TO BE APPROVED GRANULAR MATERIAL.
5. REFER TO S1.02 FOR CONCRETE NOTES.
6. ALL CONCRETE ADMIXTURES ARE TO BE APPROVED COUNCIL AS APPLICABLE.
7. THESE DETAILS SHALL BE READ IN CONJUNCTION WITH CIVIL ENGINEER DRAWINGS FOR PIT SETOUT.

Plans and specifications referenced in certificate no. **18082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
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0 500 1000 1500 2000mm
SCALE 1:20 AT A1 SHEET | 1:40 AT A3 SHEET

AMENDMENTS	DATE	ISSUE	BY
ISSUED FOR CONSTRUCTION	31.07.24	3	S.S.
ISSUED FOR CONSTRUCTION	11.07.24	2	S.S.
ISSUED FOR CONSTRUCTION	06.11.23	1	S.S.
ISSUED FOR CONSTRUCTION	20.10.23	0	S.S.

FOR CONSTRUCTION

NORTH POINT U.N.O.

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PROJECT
WESTLINK - KEMPS CREEK
ABBOTTS ROAD,
KEMPS CREEK N.S.W. 2178

DESIGNED	DRAWN	DATE	SIZE	CAD REF
ET.S.	S.S.	31.07.24	A1	TX17668.00 - S01

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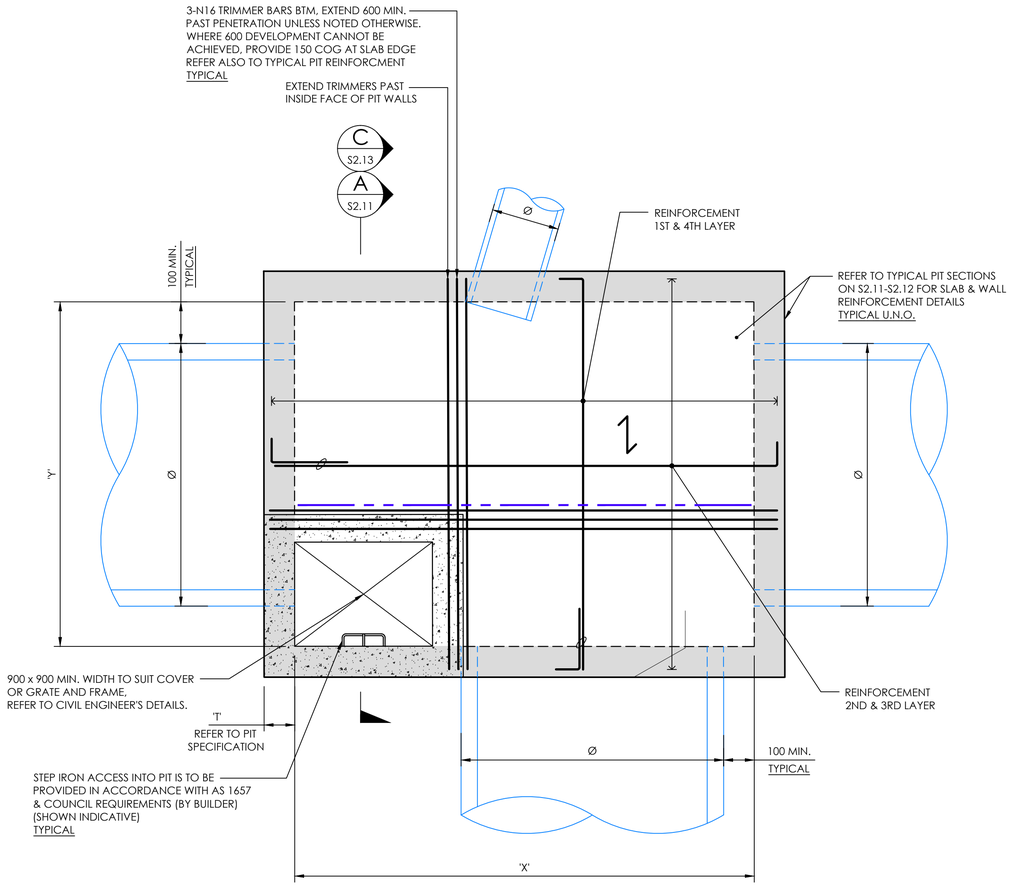
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PO BOX A203, SYDNEY SOUTH NSW 1235

TO BE PRINTED IN COLOUR

DRAWING TITLE
STORMWATER PIT BASE PLANS

PROJECT No.	DRAWING No.	ISSUE
TX17668.00 -	S2.01	3



TYPICAL TYPE 'A' & 'C' PIT ROOF PLAN VIEW

SCALE 1:20 AT A1

PIT GEOMETRY SPECIFICATION			
PIT TYPE	DEPTH 'D' (mm)	LENGTH 'X' (mm)	WIDTH 'Y' (mm)
AA-11	5607	3200	1850
BA-2	3152	3000	2250
XA-7	3014	1800	900
XA-8	4590	1500	1350
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AA-10	3042	1850	1800

3
3

NOTE:
REFER TO CIVIL ENGINEER'S DRAWINGS FOR PIT LOCATION, INVERT AND FINISHED LEVEL.

CONCRETE QUALITY							
ELEMENT	AS3600 EXPOSURE CLASSIFICATION	AS1379 CONCRETE CLASSIFICATION	f'c (MPa) CHARACTERISTIC COMPRESSIVE STRENGTH	CEMENT TYPE	ADMIXTURES	MAX AGGREGATE SIZE (mm)	SLUMP
PITS	B1	N	32	GP	NIL	20	80

LEGEND

- CONCRETE WALL UNDER
- CONCRETE WALL OVER
- CONCRETE WALL OVER AND UNDER
- 1.0 BMT BONDEK SHEETING RIB SPAN DIRECTION
- ROW OF TEMPORARY PROPPING BELOW BONDEK SLAB AS PER MANUFACTURER'S SPECIFICATIONS

NOTES:

1. ALL DIMENSIONS SHOWN ARE IN mm & APPROXIMATE ONLY, UNLESS NOTED OTHERWISE. REFER TO CIVIL ENGINEERS DETAILS FOR CONFIRMATION.
2. 100mm DIA. SUBSOIL DRAINAGE PIPE, 3.0m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED IN CULVERT TRENCHES ADJACENT TO INLET CULVERTS.
3. CONTRACTOR TO ENSURE SUB-GRADE IS COMPACTED TO 98% STANDARD COMPACTION & SHOULD OBTAIN COMPACTION TEST RESULTS IN ACCORDANCE WITH COUNCIL & AUSTRALIAN STANDARDS AS APPLICABLE, PRIOR TO CONSTRUCTION.
4. BACKFILL ADJACENT TO PITS TO BE APPROVED GRANULAR MATERIAL.
5. REFER TO S1.02 FOR CONCRETE NOTES.
6. ALL CONCRETE ADMIXTURES ARE TO BE APPROVED COUNCIL AS APPLICABLE.
7. BONDEK SHEETING TO BE PROPPED AND INSTALLED TO MANUFACTURER 'S SPECIFICATIONS.
8. ENSURE MINIMUM 50mm BEARING OF BONDEK SHEETING TO ALL SUPPORTING WALLS.
9. THESE DETAILS SHALL BE READ IN CONJUNCTION WITH CIVIL ENGINEER DRAWINGS FOR PIT SETOUT.

LDC
Plans and specifications referenced in certificate no. **19082** issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision, Certifier – Strata, Certifier – Stormwater, Certifier – Road & Drainage, Certifier – Hydraulic (stormwater)
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0 500 1000 1500 2000mm
SCALE 1:20 AT A1 SHEET | 1:40 AT A3 SHEET

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COMPLEX PROBLEMS RESOLVED SIMPLY

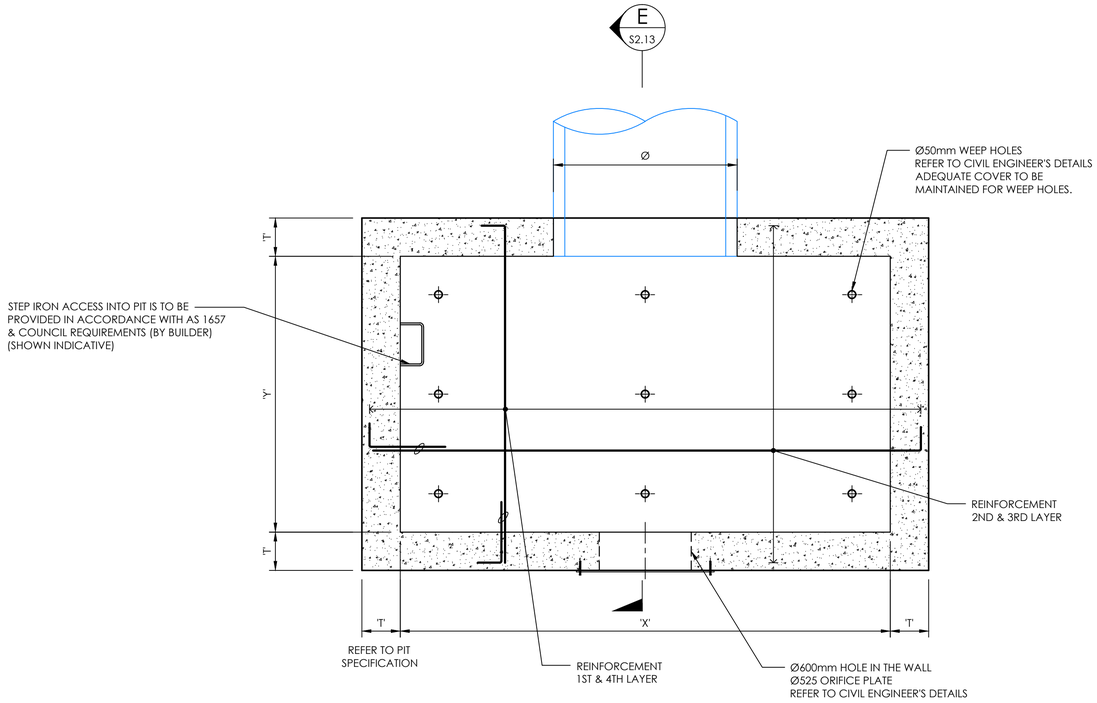
1300 874 294 | TRIAXIAL.AU

SUITE 12, LEVEL 14, 327 PITT STREET, SYDNEY NSW 2000
PO BOX A203, SYDNEY SOUTH NSW 1235

TO BE PRINTED IN COLOUR

DRAWING TITLE
STORMWATER PIT ROOF PLAN

PROJECT No.	DRAWING No.	ISSUE
TX17668.00 -	S2.02	3



PIT BB-1 BASE PLAN VIEW

SCALE 1:20 AT A1

PIT GEOMETRY SPECIFICATION			
PIT TYPE	DEPTH 'D' (mm)	LENGTH 'X' (mm)	WIDTH 'Y' (mm)
BB-1	2430	3850	1200

NOTE:
REFER TO CIVIL ENGINEER'S DRAWINGS FOR
PIT LOCATION, INVERT AND FINISHED LEVEL.

CONCRETE QUALITY							
ELEMENT	AS3600 EXPOSURE CLASSIFICATION	AS1379 CONCRETE CLASSIFICATION	f'c (MPa) CHARACTERISTIC COMPRESSIVE STRENGTH	CEMENT TYPE	ADMIXTURES	MAX AGGREGATE SIZE (mm)	SLUMP
PIT	B1	N	32	GP	NIL	20	80

LEGEND

CONCRETE WALL OVER

NOTES:

1. ALL DIMENSIONS SHOWN ARE IN mm & APPROXIMATE ONLY, UNLESS NOTED OTHERWISE. REFER TO CIVIL ENGINEERS DETAILS FOR CONFIRMATION.
2. 100mm DIA. SUBSOIL DRAINAGE PIPE, 3.0m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED IN CULVERT TRENCHES ADJACENT TO INLET CULVERTS.
3. CONTRACTOR TO ENSURE SUB-GRADE IS COMPACTED TO 98% STANDARD COMPACTION & SHOULD OBTAIN COMPACTION TEST RESULTS IN ACCORDANCE WITH COUNCIL & AUSTRALIAN STANDARDS AS APPLICABLE, PRIOR TO CONSTRUCTION.
4. BACKFILL ADJACENT TO PITS TO BE APPROVED GRANULAR MATERIAL.
5. REFER TO S1.02 FOR CONCRETE NOTES.
6. ALL CONCRETE ADMIXTURES ARE TO BE APPROVED COUNCIL AS APPLICABLE.
7. THESE DETAILS SHALL BE READ IN CONJUNCTION WITH CIVIL ENGINEER DRAWINGS FOR PIT SETOUT.

LDC
Plans and specifications referenced in certificate no. 18082 issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
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0 500 1000 1500 2000mm

SCALE 1:20 AT A1 SHEET | 1:40 AT A3 SHEET

AMENDMENTS	DATE	ISSUE	BY
ISSUED FOR CONSTRUCTION	31.07.24	1	S.S.
ISSUED FOR CONSTRUCTION	11.07.24	0	S.S.

FOR CONSTRUCTION

NORTH POINT U.N.O.

CLIENT
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CIVIL ENGINEER
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

PROJECT
WESTLINK - KEMPS CREEK
ABBOTTS ROAD,
KEMPS CREEK N.S.W. 2178

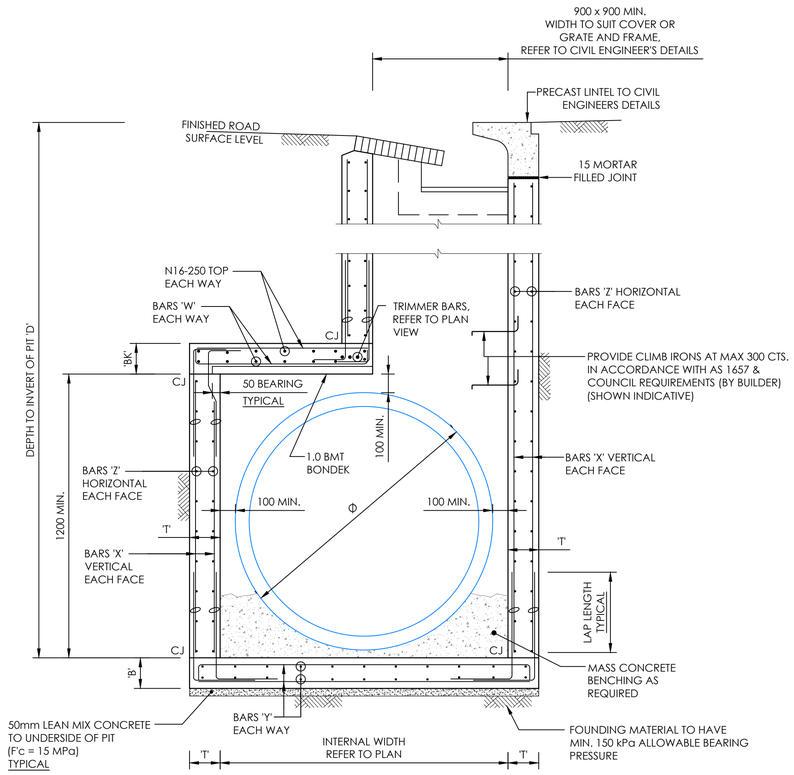
DESIGNED	DRAWN	DATE	SIZE	CAD REF
ET.S.	S.S.	31.07.24	A1	TX17668.00 - S01

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DRAWING TITLE
PIT BB-1 BASE PLAN

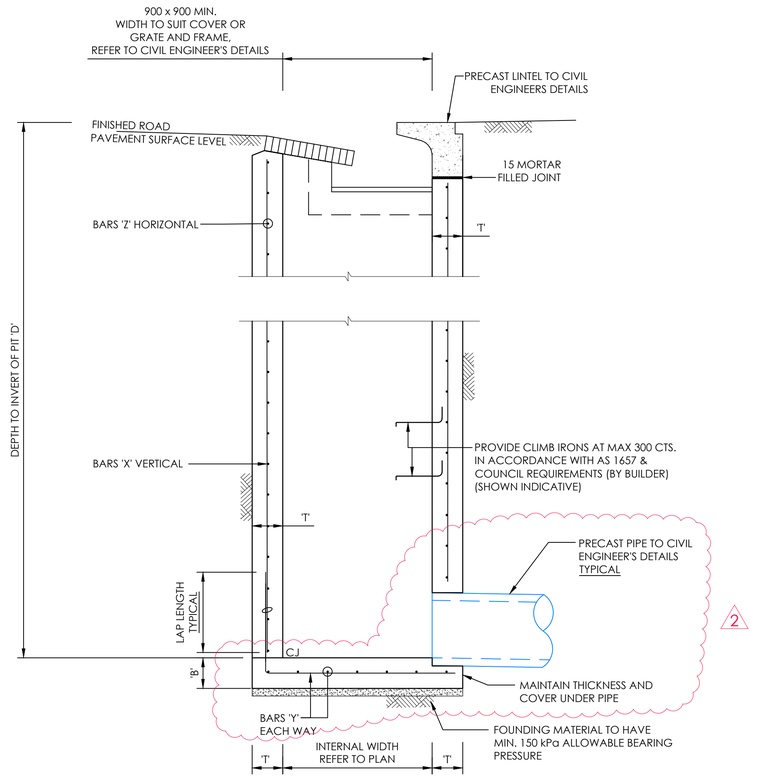
PROJECT No. TX17668.00 - | DRAWING No. S2.03 | ISSUE 1



SECTION N.T.S. A (S2.01) A (S2.02)

TYPICAL TYPE 'A' PIT SECTION SINGLE PIPES ≤ Ø1500

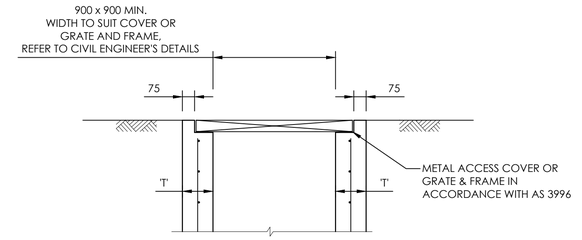
N.T.S.



SECTION N.T.S. B (S2.01)

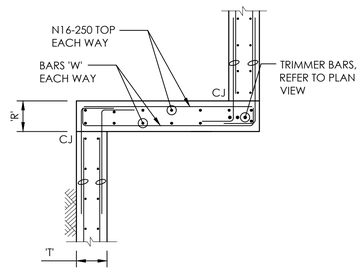
TYPICAL TYPE 'B' PIT SECTION SINGLE PIPES ≤ Ø1500

N.T.S.



ALTERNATIVE DETAIL AT SURFACE INLET PIT

SCALE 1:20 AT A1



ALTERNATIVE DETAIL FOR CONVENTIONAL ROOF SLAB

SCALE 1:20 AT A1

TYPE 'A' PIT SPECIFICATION									
PIT TYPE	DEPTH 'D' (mm)	BASE 'B' (mm)	WALL 'T' (mm)	ROOF 'BK' (mm)	ROOF 'R' (mm)	BARS 'W'	BARS 'X'	BARS 'Y'	BARS 'Z'
AA-11	5607	250	250	275	225	N16-150	N16-200	N16-150	N16-200
BA-2	3152	250	250	275	225	N16-150	N16-200	N16-150	N16-200
AA-7	4180	250	250	275	225	N16-150	N12-200	N12-200	N12-150
AA-8	4209	250	250	275	225	N16-150	N12-200	N12-200	N12-150
AA-10	3042	250	250	275	225	N16-150	N12-200	N12-200	N12-150

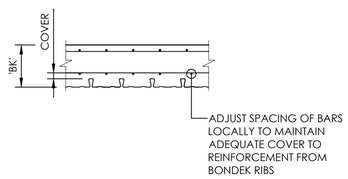
2

NOTES:
1. SINGLE LAYER REINFORCEMENT IS TO BE CENTRAL U.N.O.
2. ALL 'Z' BARS MAYBE REPLACED WITH N12-200 E.F. WITHIN 2500 OF THE GROUND SURFACE.

TYPE 'B' PIT SPECIFICATION										
PIT TYPE	DEPTH 'D' (mm)	BASE 'B' (mm)	WALL 'T' (mm)	ROOF 'BK' (mm)	ROOF 'R' (mm)	BARS 'W'	BARS 'X'	BARS 'Y'	BARS 'Z'
AC-1	2807	150	150	-	-	-	N12-200	N12-200	N12-200
L1-2	2839	150	180	-	-	-	N16-200	N16-200	N16-200

2

NOTES:
1. SINGLE LAYER REINFORCEMENT IS TO BE CENTRAL U.N.O.
2. ALL 'Z' BARS MAYBE REPLACED WITH N12-200 E.F. WITHIN 2500 OF THE GROUND SURFACE.
3. IF THE WALL IS CONSTRUCTED WITH A THICKNESS OF MORE THAN 200mm, THE VERTICAL AND HORIZONTAL REINFORCEMENT SHALL BE PROVIDED IN TWO LAYERS. CONTACT TRIAXIAL FOR UPDATED DESIGN.



TYPICAL BONDEK REINFORCEMENT SECTION

SCALE 1:20 AT A1

NOTE: ENSURE ALL REINFORCEMENT ACHIEVES COVER FROM BONDEK SHEETING.

NOTES:

1. ALL DIMENSIONS SHOWN ARE IN mm & APPROXIMATE ONLY, UNLESS NOTED OTHERWISE. REFER TO CIVIL ENGINEERS DETAILS FOR CONFIRMATION.
2. 100mm DIA. SUBSOIL DRAINAGE PIPE, 3.0m LONG WRAPPED IN FABRIC SOCK TO BE PROVIDED IN CULVERT TRENCHES ADJACENT TO INLET CULVERTS.
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4. BACKFILL ADJACENT TO PITS TO BE APPROVED GRANULAR MATERIAL.
5. REFER TO S1.02 FOR CONCRETE NOTES.
6. ALL CONCRETE ADMIXTURES ARE TO BE APPROVED COUNCIL AS APPLICABLE.

LDC
Plans and specifications referenced in certificate no. 18082 issued by:
Eric Hausfeld
Registered Certifier Registration No: BDC 2416
Categories: Certifier – Subdivision
Certifier – Strata
Certifier – Stormwater
Certifier – Road & Drainage
Certifier – Hydraulic (stormwater)
Land Development Certificates
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0 500 1000 1500 2000mm

SCALE 1:20 AT A1 SHEET | 1:40 AT A3 SHEET

AMENDMENTS	DATE	ISSUE	BY
ISSUED FOR CONSTRUCTION	31.07.24	2	S.S.
ISSUED FOR CONSTRUCTION	11.07.24	1	S.S.
ISSUED FOR CONSTRUCTION	20.10.23	0	S.S.

FOR CONSTRUCTION

NORTH POINT U.N.O.

CLIENT: ESR

CIVIL ENGINEER
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

PROJECT
WESTLINK - KEMPS CREEK
ABBOTTS ROAD,
KEMPS CREEK N.S.W. 2178

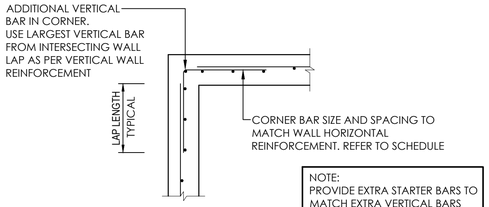
DESIGNED	DRAWN	DATE	SIZE	CAD REF
ET.S.	S.S.	31.07.24	A1	TX17668.00 - S01

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PO BOX A203, SYDNEY SOUTH NSW 1235

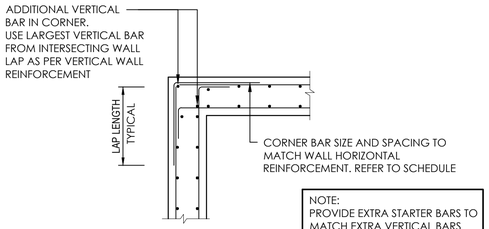
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DRAWING TITLE
STORMWATER PIT
TYPICAL DETAILS
- SHEET 1

PROJECT No. TX17668.00 - DRAWING No. S2.11 ISSUE 2



90 DEG CORNER

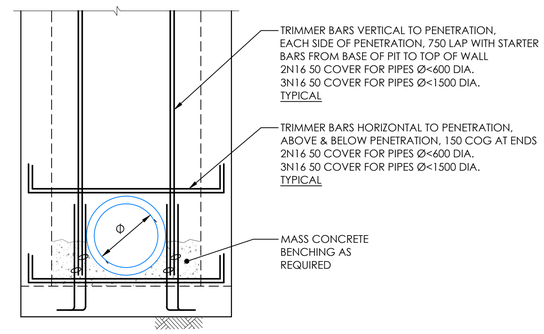


90 DEG CORNER

TYPICAL PIT CORNER DETAILS

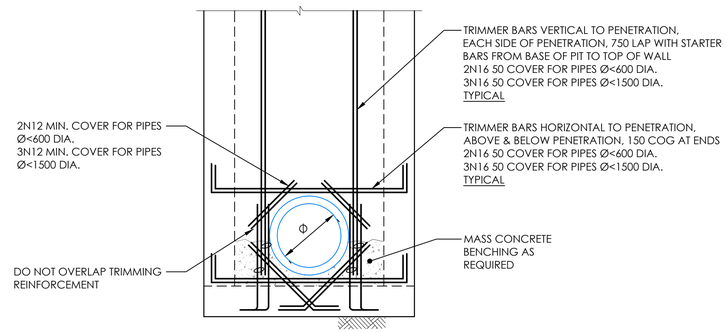
N.T.S.

NOT APPLICABLE FOR OPENINGS ADJACENT TO CORNER, REFER TO DETAILS BELOW



PIPE PENETRATION ELEVATIONS
PIPES <= Ø450

N.T.S.



PIPE PENETRATION ELEVATIONS
PIPES < Ø1500

N.T.S.

Plans and specifications referenced in certificate no. **18082** issued by:
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Registered Certifier Registration No: BDC 2416
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0 500 1000 1500 2000mm

SCALE 1:20 AT A1 SHEET | 1:40 AT A3 SHEET

AMENDMENTS	DATE	ISSUE	BY
ISSUED FOR CONSTRUCTION	11.07.24	1	S.S.
ISSUED FOR CONSTRUCTION	20.10.23	0	S.S.

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info@atl.net.au

PROJECT

WESTLINK - KEMPS CREEK
ABBOTTS ROAD,
KEMPS CREEK N.S.W. 2178

DESIGNED	DRAWN	DATE	SIZE	CAD REF
ET.S.	S.S.	11.07.24	A1	TX17668.00 - S01

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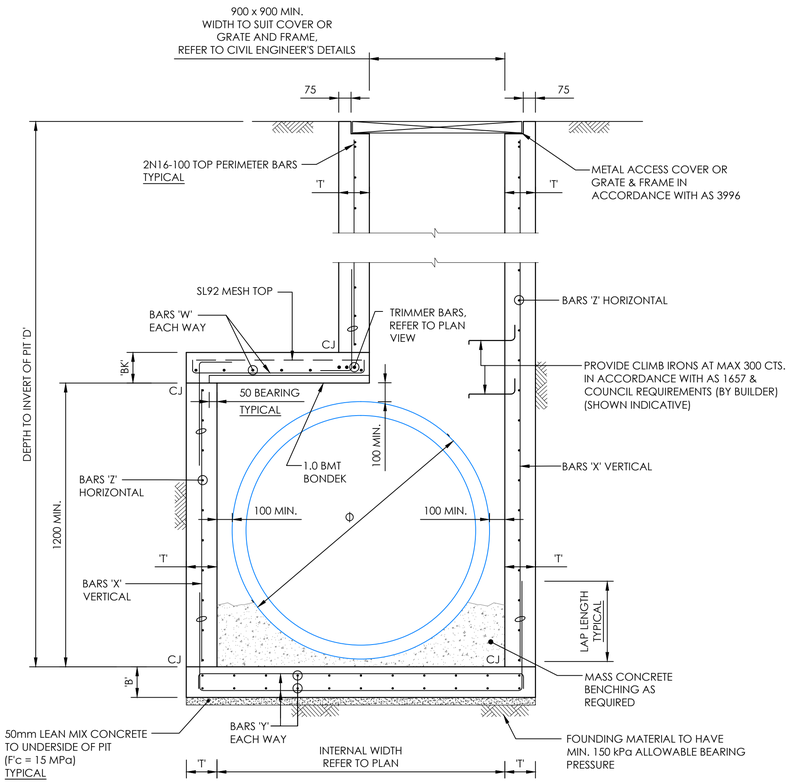
SUITE 12, LEVEL 14, 327 PITT STREET, SYDNEY NSW 2000
PO BOX A203, SYDNEY SOUTH NSW 1235

TO BE PRINTED IN COLOUR

DRAWING TITLE

STORMWATER PIT
TYPICAL DETAILS
- SHEET 2

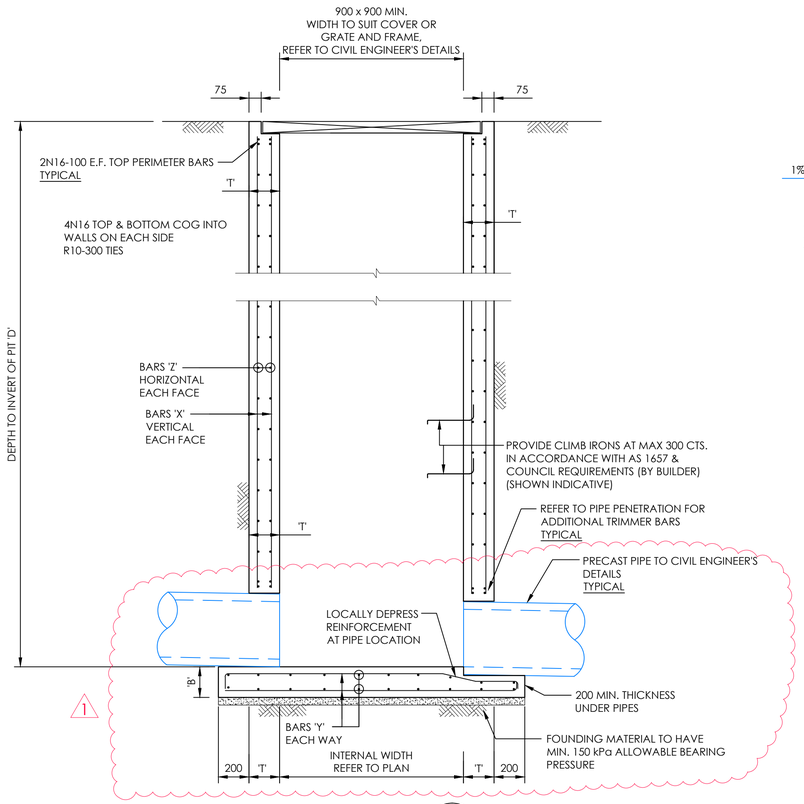
PROJECT No. TX17668.00 - | DRAWING No. S2.12 | ISSUE 1



SECTION N.T.S. C S2.01 C S2.02

TYPICAL TYPE 'C' PIT SECTION SINGLE PIPES ≤ Ø1500

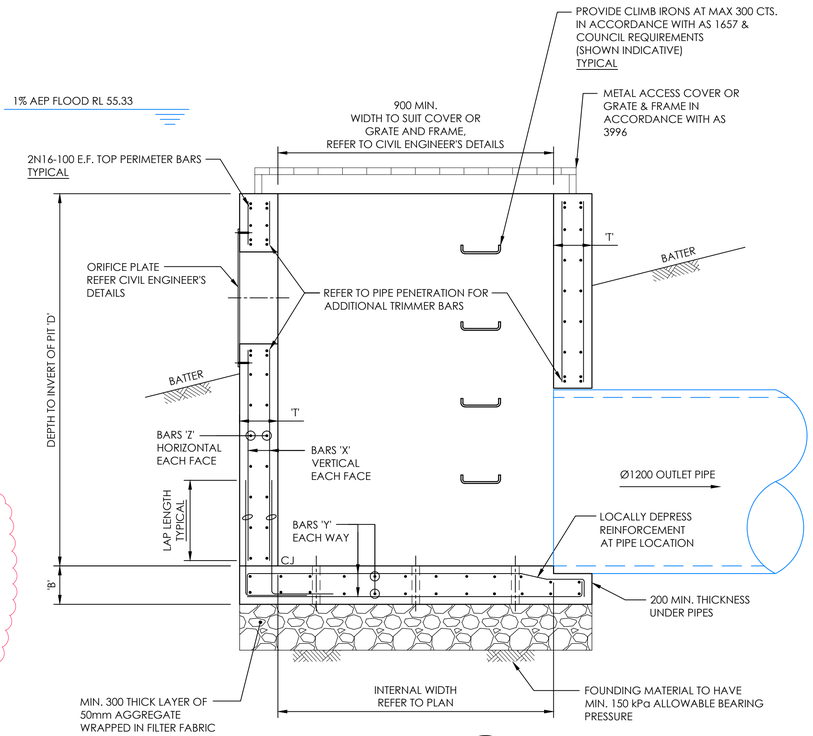
N.T.S.



SECTION N.T.S. D S2.01

TYPICAL TYPE 'D' PIT SECTION SINGLE PIPES ≤ Ø1500

N.T.S.



SECTION 1:20 AT A1 E S2.03

PIT BB-1 SECTION

N.T.S.

TYPE 'C' PIT SPECIFICATION

PIT TYPE	DEPTH 'D' (mm)	BASE 'B' (mm)	WALL 'T' (mm)	ROOF 'BK' (mm)	ROOF 'R' (mm)	BARS 'W'	BARS 'X'	BARS 'Y'	BARS 'Z'
XA-7	3014	250	180	275	225	N16-200	N16-200	N16-200	N16-200
XA-8	4590	250	180	275	225	N16-200	N16-200	N16-200	N16-200
XA-9	3393	250	180	275	225	N16-200	N16-200	N16-200	N16-200
XA-10	2968	250	180	275	225	N16-200	N16-200	N16-200	N16-200
XA-11	2729	250	180	275	225	N16-200	N16-200	N16-200	N16-200
XA-12	2827	250	180	275	225	N16-200	N16-200	N16-200	N16-200
XA-13	3181	250	180	275	225	N16-200	N16-200	N16-200	N16-200

1

NOTES:
1. SINGLE LAYER REINFORCEMENT IS TO BE CENTRAL U.N.O.
2. IF THE WALL IS CONSTRUCTED WITH A THICKNESS OF MORE THAN 200mm, THE VERTICAL AND HORIZONTAL REINFORCEMENT SHALL BE PROVIDED IN TWO LAYERS. CONTACT TRIAXIAL FOR UPDATED DESIGN.

TYPE 'D' PIT SPECIFICATION

PIT TYPE	DEPTH 'D' (mm)	BASE 'B' (mm)	WALL 'T' (mm)	ROOF 'BK' (mm)	ROOF 'R' (mm)	BARS 'W'	BARS 'X'	BARS 'Y'	BARS 'Z'
XA-6	7966	300	300	-	-	-	N16-200	N16-200	N16-200

PIT BB-1 SPECIFICATION

PIT TYPE	DEPTH 'D' (mm)	BASE 'B' (mm)	WALL 'T' (mm)	ROOF 'BK' (mm)	ROOF 'R' (mm)	BARS 'W'	BARS 'X'	BARS 'Y'	BARS 'Z'
BB-1	2430	250	250	-	-	-	N16-200	N16-200	N16-200

NOTES:
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0 500 1000 1500 2000mm

SCALE 1:20 AT A1 SHEET | 1:40 AT A3 SHEET

AMENDMENTS	DATE	ISSUE	BY
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ISSUED FOR CONSTRUCTION	11.07.24	0	S.S.

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PROJECT

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DESIGNED	DRAWN	DATE	SIZE	CAD REF
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DRAWING TITLE

STORMWATER PIT
TYPICAL DETAILS
- SHEET 3

PROJECT No.	DRAWING No.	ISSUE
TX17668.00 -	S2.13	1