ZUELA PTY. LTD.

LOTS 36-44 SYDNEY STREET,
GRANTHAM FARM, SECTION 17 DP1480

FOR PP APPROVAL

NEARMAP IMAGE DATED: 2023/10/11

LOCALITY PLAN
NOT TO SCALE

DRAWING SCHEDULE

DRAWING NUMBER	DRAWING TITLE	REVISION NUMBER
P00608-CI-PP-1001	COVER SHEET, LOCALITY PLAN AND DRAWING SCHEDULE	A
P00608-CI-PP-1021	GENERAL NOTES	A
P00608-CI-PP-1031	FUTURE PROPOSED SUBDIVISION PLAN OF LOT 36 - 44 SECTION 17 DP1480	A
P00608-CI-PP-1051	EXISTING SITE SURVEY AND SERVICES - SHEET 1	A
P00608-CI-PP-1052	EXISTING SITE SURVEY AND SERVICES - SHEET 2	A
P00608-CI-PP-1101	EROSION SEDIMENT CONTROL PLAN	A
P00608-CI-PP-1201	CUT AND FILL EARTHWORKS PLAN	A
P00608-CI-PP-1231	SITE SECTIONS - SHEET 1	A
P00608-CI-PP-1232	SITE SECTIONS - SHEET 2	A
P00608-CI-PP-1301	PRE DEVELOPMENT STORMWATER CATCHMENT PLAN	A
P00608-CI-PP-1302	POST DEVELOPMENT STORMWATER CATCHMENT PLAN - SHEET 1	A
P00608-CI-PP-1303	POST DEVELOPMENT STORMWATER CATCHMENT PLAN - SHEET 2	A
P00608-CI-PP-1321	CIVIL WORKS AND STORMWATER PLAN	A
P00608-CI-PP-1351	PAVEMENT PLAN	A
P00608-CI-PP-1381	TURNING PATH PLAN	A
P00608-CI-PP-1501	TYPICAL ROAD CROSS SECTIONS	A
P00608-CI-PP-1441	STORMWATER LONGITUDINAL SECTIONS - SHEET 1	A
P00608-CI-PP-1442	STORMWATER LONGITUDINAL SECTIONS - SHEET 2	A
P00608-CI-PP-1461	5 YEAR AND 100 YEAR ARI STORMWATER DRAINAGE DATA - SHEET 1	A
P00608-CI-PP-1462	5 YEAR AND 100 YEAR ARI STORMWATER DRAINAGE DATA - SHEET 2	A
P00608-CI-PP-1463	5 YEAR AND 100 YEAR ARI STORMWATER DRAINAGE DATA - SHEET 3	A
P00608-CI-PP-1521	ROAD LONGITUDINAL SECTIONS - SHEET 1	A
P00608-CI-PP-1522	ROAD LONGITUDINAL SECTIONS - SHEET 2	A

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Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

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Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: COVER SHEET, LOCALITY PLAN AND DRAWING SCHEDULE
Revision: A
Drawing Number: P00608-CI-PP-1001

DATE PLOTTED: 19 February 2024 9:11 am BY: CARLO MASCENON

GENERAL

1. ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL STANDARDS.
2. BLACKTOWN CITY COUNCIL STANDARD DETAILS TO BE USED WHERE POSSIBLE.
3. UTILITY ADJUSTMENTS AT DEVELOPERS EXPENSE.
4. CONDUITS TO BE PLACED WHERE REQUIRED BY THE RELEVANT AUTHORITIES.

SURVEY NOTES

1. THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY MASRI SURVEY GROUP PTY LTD BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN.
2. GDS DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR IT'S SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS. ALL SITE SET OUT AND CONTROL POINTS ARE TO BE CERTIFIED BY A REGISTERED SURVEYOR.
3. SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT GDS.

EXISTING UNDERGROUND SERVICES NOTES

THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE.GDS CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.

CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.
CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS. CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

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BULK EARTHWORKS NOTES

1. ORIGIN OF LEVELS: REFER SURVEY NOTES.
2. STRIP ALL TOPSOIL/ORGANIC MATERIAL FROM CONSTRUCTION AREA AND REMOVE FROM SITE OR STOCK PILE AS DIRECTED BY SUPERINTENDENT.
3. EXCAVATED MATERIAL TO BE USED AS STRUCTURAL FILL PROVIDED THE PLACEMENT MOISTURE CONTENT OF THE MATERIAL IS +/- 2% OF THE OPTIMUM MOISTURE CONTENT.
4. COMPACT FILL AREAS AND SUBGRADE TO NOT LESS THAN:

LOCATION	STANDARD DRY DENSITY (AS 1289 E5.1.1.)
UNDER BUILDING SLABS ON GROUND	98%
UNDER ROADS AND CARPARKS	100%
LANDSCAPED AREAS UNLESS NOTED OTHERWISE	95%

5. FOR NON COHESIVE MATERIAL, COMPACT TO 75% DENSITY INDEX.
6. FREQUENCY OF COMPACTION TESTING SHALL BE NOT LESS THAN :-
   (A) 1 TEST PER 1000m² OF FILL PLACED PER 300 LAYER OF FILL.
   (B) 3 TESTS PER VISIT
   (C) 1 TEST PER 1000m² OF EXPOSED SUBGRADE "LEVEL 1" TESTING SHALL BE TESTING IN ACCORDANCE WITH AS 3798.
7. FILLING TO BE PLACED IN MAXIMUM 150mm - LOOSE LAYERS AND COMPACTED AS SPECIFIED.
8. NO FILLING SHALL TAKE PLACE TO EXPOSED SUBGRADE UNTIL THE AREA HAS BEEN PROOF ROLLED IN THE PRESENCE OF GDS AND APPROVAL GIVEN IN WRITING THAT FILLING CAN PROCEED.

EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF EROSION AND SEDIMENTATION TO THE SATISFACTION OF COUNCIL, SUPERINTENDENT, NSW OFFICE OF WATER, OFFICE OF ENVIRONMENT AND HERITAGE, THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE DRAWINGS SHALL ONLY BE USED AS A GUIDE BY THE CONTRACTOR, AND SHALL REPRESENT THE MINIMUM REQUIREMENT ONLY.
2. THE CONTRACTOR SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED OR AS OTHERWISE DIRECTED BY THE SUPERINTENDENT.
   ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
   a. LOCAL AUTHORITY REQUIREMENTS
   b. EPA REQUIREMENTS
   c. NSW DEPARTMENT OF HOUSING MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
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 CONTROLS 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 PRIOR TO AND FOLLOWING STORM EVENTS.

LAND DISTURBANCE

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

EROSION CONTROL

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

SEDIMENT CONTROL

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

TREE PROTECTION

14. THE TREES THAT ARE TO BE RETAINED ARE TO BE PROTECTED DURING ALL WORKS STRICTLY IN ACCORDANCE WITH AS1970-2009 PROTECTION OF TREES ON DEVELOPMENT SITES.
15. AT MINIMUM A 1.8m HIGH CHAIN-WIRE FENCE IS TO BE ERECTED AT LEAST THREE METRES FROM THE BASE OF EACH TREE AND IS TO BE IN PLACE PRIOR TO WORKS COMMENCING TO RESTRICT THE FOLLOWING OCCURRING:
   15.1. STOCKPILING OF MATERIALS WITHIN THE ROOT PROTECTION ZONE,
   15.2. PLACEMENT OF FILL WITHIN THE ROOT PROTECTION ZONE,
   15.3. PARKING OF VEHICLES WITHIN THE ROOT PROTECTION ZONE, AND
   15.4. COMPACTION OF SOIL WITHIN THE ROOT PROTECTION ZONE.
16. ALL AREAS WITHIN THE ROOT PROTECTION ZONE ARE TO BE MULCHED WITH COMPOSED LEAF MULCH TO A DEPTH OF NOT LESS THAN 100mm.
17. A SIGN IS TO BE ERECTED INDICATING THE TREES ARE PROTECTED.
18. THE INSTALLATION OF SERVICES WITHIN THE ROOT PROTECTION ZONE IS NOT TO BE UNDERTAKEN WITHOUT PRIOR CONSENT FROM COUNCIL

CIVIL WORKS 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 THE SUPERINTENDENT.
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. PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.
7. ASPHALTIC CONCRETE SHALL CONFORM TO TINSW SPECIFICATION R116.
8. ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH TINSW FORM 3051, COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. FREQUENCY OF COMPACTION TESTING SHALL BE IN ACCORDANCE WITH COUNCIL ENGINEERING SPECIFICATIONS.
9. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH TINSW FORM 3051, AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH A.S 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE IN ACCORDANCE WITH COUNCIL ENGINEERING SPECIFICATIONS.
10. AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (9) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH TINSW FORM 3051 WILL BE CONSIDERED. SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF THE SUPERINTENDENT.
11. SHOULD THE CONTRACTOR WISH TO USE A RECYCLED PRODUCT THIS SHALL BE CLEARLY INDICATED IN THEIR TENDER AND THE PRICE DIFFERENCE BETWEEN AN IGNEOUS PRODUCT AND A RECYCLED PRODUCT SHALL BE CLEARLY INDICATED.
12. WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED BY OTHERS, (eg. ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.

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 175mm 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 CENTERS 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 CENTERS EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
5. BROOMED FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
6. IN THE REPLACEMENT OF KERB AND GUTTER :-
   EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm U.N.O FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER NEW BASECOURSE AND SURFACE TO BE LAID 900mm WIDE U.N.O.
   EXISTING ALLOTMENT DRAINAGE PIPES ARE TO BE BUILT INTO THE NEW KERB AND GUTTER WITH 100mm DIA HOLE.
   EXISTING KERB AND GUTTER IS TO BE COMPLETELY REMOVED WHERE NEW KERB AND GUTTER IS SHOWN.

STORMWATER DRAINAGE NOTES

1. STORMWATER DESIGN CRITERIA:
   (A) ANNUAL EXCEEDANCE PROBABILITIES (AEP):
   20% (1 IN 5) MINOR (PIPED) NETWORK
   1% (1 IN 100) MAJOR (OVERLAND FLOW) SYSTEM
   (B) RAINFALL INTENSITIES:
   ARR 2019 RAINFALL FROM BUREAU OF METEOROLOGY WEBSITE
   (C) HYDROLOGIC METHOD:
   DRAINS WITH ARR 2019 PROCEDURES WITH ILSAX METHOD
2. PIPES 375 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '2' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
3. PIPES 300 DIA AND LESS SHALL BE DWV GRADE (CLASS SN8) uPVC WITH SOLVENT WELDED JOINTS.
4. EQUIVALENT STRENGTH FRC PIPES MAY BE USED.
5. ALL PIPES ARE TO BE UNIFORMLY SUPPORTED ALONG THE LENGTH OF THE BARREL BY SUITABLE FILL MATERIAL. REFER TO BEDDING SUPPORT TYPE.
6. PIPES WITH SOCKETS SHALL BE LAID IN BEDDING WHERE SUITABLE RECESSES HAVE BEEN PROVIDED TO ENSURE PIPES DO NOT BEAR ON THEIR SOCKETS.
7. ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE uPVC PRESSURE PIPE GRADE 6. ENSURE ALL VERTICALS AND DOWNPIPES ARE uPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.
8. PIPES TO BE INSTALLED TO TYPE HS1 SUPPORT IN ACCORDANCE WITH AS 3725 (2007) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75).
9. REFER TO AS/NZS 3725:2007 TABLE B1 FOR REQUIRED FILL DEPTHS ABOVE PIPE BARREL PRIOR TO USE OF COMPACTION MACHINERY OR TRAVERSING OF PIPES BY GENERAL SITE EQUIPMENT.
10. WHERE CONSTRUCTION METHODS REQUIRE HIGHER CLASS PIPE, THE CONTRACTOR SHALL REFER TO AS 3725 (2007) TO DETERMINE THE APPROPRIATE PIPE CLASS. PROPOSED PIPE CLASS SHALL BE REVIEWED BY GDS PRIOR TO INSTALLATION.
11. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS/NZS 3500.3:2015.
12. PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY THE SUPERINTENDENT.
13. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
14. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
15. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
16. GRATES AND COVERS SHALL CONFORM TO AS 3996.
17. ALL BOX CULVERTS SHALL BE STRUCTURALLY DESIGNED BY THE MANUFACTURER AND DELIVERED TO SITE AS FIT FOR PURPOSE.
18. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
19. 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.
20. SUBSOIL DRAINAGE LINES TO BE PLACED AS INDICATED ON DRAWINGS.
21. A MINIMUM OF 3m OF SUBSOIL LINE SHALL BE LAID INTO UPSTREAM SIDE OF COUNCIL PITS.

CONCRETE AND REINFORCING NOTES

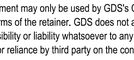
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. CONCRETE QUALITY
   ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS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

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

   - CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL
   - PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.
3. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY HYDER CONSULTING.
4. CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE 40mm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE.
5. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
6. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED AND CURED IN ACCORDANCE WITH R.T.A. SPECIFICATION R83.
7. REINFORCEMENT SYMBOLS:
   N DENOTES GRADE 450 N BARS TO AS 4671 GRADE N
   R DENOTES 230 R HOT ROLLED PLAIN BARS TO AS 4671
   SL DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 4671

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

   THE FIGURE FOLLOWING THE FABRIC SYMBOL SL IS THE REFERENCE NUMBER FOR FABRIC TO AS 4671.
8. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:

9. CONCRETE RIGID PAVEMENT AS PER PAVEMENT REPORT PREPARED BY PJ WHELAN CONSULTING, 26 OCTOBER 2022.

BIO-RETENTION FILTER MEDIA SPECIFICATION

MATERIALS:

BIO-RETENTION FILTER MEDIA, TRANSITION LAYER AND DRAINAGE LAYERS TO BE IN ACCORDANCE WITH CURRENT VERSION OF FAWB DOCUMENT "STORMWATER BIO-FILTRATION SYSTEMS ADOPTION GUIDELINES" AND THE FOLLOWING:

(A) BIO-RETENTION FILTER MEDIA

1. BIO-RETENTION MEDIA IS TO BE FREE OF RUBBISH AND DELETERIOUS MATERIAL.
2. BIO-RETENTION FILTER MEDIA SATURATED HYDRAULIC CONDUCTIVITY TO BE MIN. 200MM/HR USING TEST METHOD ASTM F1815-06.
3. BIO-RETENTION FILTER MEDIA PARTICLE SIZE DISTRIBUTION IS TO BE AS FOLLOWS:

CLAY & SILT	<3%	(<0.05mm)
VERY FINE SAND	5-30%	(0.05-0.15mm)
FINE SAND	10-30%	(0.15-0.25mm)
MEDIUM TO COARSE SAND	40-60%	(0.25-1.0mm)
COARSE SAND	7-10%	(1.0-2.0mm)
FINE GRAVEL	<3%	(2.0-3.4mm)

   THE COMBINED PERCENTAGE OF CLAY AND SILT MUST NOT EXCEED 3%(W/W) UNDER ANY CIRCUMSTANCES.

4. BIO-RETENTION FILTER MEDIA IS TO BE TESTED AND COMPLY WITH THE FOLLOWING REQUIREMENTS:
   a. ORGANIC MATTER CONTENT IN ACCORDANCE WITH AS 4419 AT LEAST 3% (W/W).
   b. TOTAL NITROGEN (TN) CONTENT <1000mg/kg.
   c. ORTHOPHOSPHATE (PO) CONTENT - <80mg/kg.
      WHERE PLANTS WITH MODERATE PHOSPHOROUS SENSITIVITY ARE TO BE USED, TOTAL PHOSPHOROUS CONCENTRATION SHOULD BE <20mg/kg.
   d. AS SPECIFIED FOR "NATURAL SOILS AND SOIL BLENDS" AS4419 - PH 5.5-7.5 (PH 1.5 IN WATER).
   e. ELECTRICAL CONDUCTIVITY (EC) AS SPECIFIED FOR "NATURAL SOILS AND SOILS BLENDS" AS4419 <1.2ds/m.
   f. DISPENSABILITY - AS SPECIFIED FOR 'NATURAL SOILS AND SOIL BLENDS' AS4419 CATEGORY 1 OR 2.
   g. TEXTURE - LOAMY SAND AS PER AS4419.
5. PRIOR TO PLACEMENT OF THE FILTER MEDIA A STATEMENT IS TO BE SUBMITTED FROM A QUALIFIED HORTICULTURIST CONFIRMING THAT THE SOIL IS CAPABLE OF SUPPORTING A HEALTHY VEGETABLE COMMUNITY.
6. TESTS CONFIRMING THE REQUIREMENTS OF ITEMS 1 TO 4 ARE TO BE SUBMITTED FOR APPROVAL PRIOR TO PLACEMENT OF FILTER MEDIA.

(B) TRANSITION LAYER

1. TRANSITION LAYER MATERIAL SHALL BE A CLEAN, WELL GRADED SAND MATERIAL CONTAINING <2% FINES.
2. THE PARTICLE SIZE DISTRIBUTION OF THE SAND TO BE ASSESSED TO ENSURE.

   D15 (TRANSITION LAYER) < 5 x D85 (FILTER MEDIA)

WHERE: D15 (TRANSITION LAYER) IS THE 15TH PERCENTILE PARTICLE SIZE IN THE TRANSITION LAYER MATERIAL (i.e, 15% OF THE SAND IS SMALLER THAN D15mm), AND D85 (FILTER MEDIA) IS THE 85th PERCENTILE PARTICLE SIZE IN THE FILTER MEDIA.

(C) DRAINAGE LAYER A

DRAINAGE LAYER MATERIAL IS TO BE CLEAN, FINE GRAVEL, SUCH AS A 2 - 5mm WASHED SCREENING. THE PARTICLE SIZE DISTRIBUTION TO BE:

D15 (DRAINAGE LAYER) < 5 x D85 TRANSITION LAYER)

WHERE: D15 (DRAINAGE LAYER) IS THE 15th TRANSITION LAYER PARTICLE SIZE IN THE TRANSITION LAYER MATERIAL (i.e. 15% OF THE SAND IS SMALLER THAN D15mm), AND D85 (TRANSITION LAYER) IS THE 85th PERCENTILE PARTICLE SIZE IN THE FILTER MEDIA.

INSTALLATION:

FILTER MATERIAL IS TO BE LIGHTLY COMPACTED EG. A SINGLE PASS WITH A DRUM LAWN ROLLER. UNDER NO CIRCUMSTANCES SHOULD HEAVY EQUIPMENT OR MULTIPLE PASSES BE MADE. FILTER MEDIA SHOULD BE INSTALLED IN TWO LIFTS UNLESS THE DEPTH IS LESS THAN 500mm.

Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

XREFs:
CAD File: C:\12stData\gdsSYN\P00608 - LOTS 36-44 Sydney Street, Grantham Farm_263\04. Engineering\04a. PP\P00608-CI-PP-1021.dwg

PREPARED BY:
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DO NOT SCALE

Datum	Coordinates	Size
AHD	MGA-2020	A1

Drawn C.M.	Date 19/02/2024	
Drafting Checked R.L.	Date 19/02/2024	
Design J.P.	Date 19/02/2024	
Design Checked R.L.	Date 19/02/2024	
Approved L.R.	Date 19/02/2024	

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: GENERAL NOTES
Revision: A
Drawing Number: P00608-CI-PP-1021

DATE PLOTTED: 19 February 2024 9:11 am BY - CARLO MASCENON

XREF's: X-P00608-CI-PP-ROAD LAYOUT; X-P00608-CI-PP-ROAD NAMES; X-P00608-CI-PP-CADASTRAL; X-P00608-CI-PP-LOT LAYOUT; X-P00608-CI-PP-LIMIT OF WORKS

CAD File: C:\12d\SI\data\gds\SYN\P00608 - LOTS 36-44 Sydney Street, Grantham Farm_283104, Engineering\04a, PPP\P00608-CI-PP-1031.dwg

LEGEND

- EXTENT OF WORKS
- EDGE OF BITUMEN
- (A) TEMPORARY TURNING HEAD EASEMENT
- (B) 1.0m STORMWATER EASEMENT
- (C) 1.5m STORMWATER EASEMENT
- (D) DENOTES ROAD WIDENING (39.68m²)

LOT 1
32/DP1480

LOT 90
32/DP1480

EDMUND STREET (20.112m WIDE)

LOT 45
18/DP1480

LOT 46
18/DP1480

LOT 47
18/DP1480

LOT 48
18/DP1480

LOT 49
18/DP1480

LOT 50
18/DP1480

LOT 51
18/DP1480

LOT 52
18/DP1480

LOT 53
18/DP1480

LOT 54
18/DP1480

SYDNEY STREET (20.12m WIDE)

DUMARESQ STREET (14.5m WIDE)

(D) 39.68m²

105 301.3m²
104 225.0m²
103 225.2m²
102 225.1m²
101 314.3m²
106 250.2m²
113 250.2m²
107 250.2m²
112 250.2m²
108 250.3m²
111 250.3m²
109 250.3m²
110 250.3m²
202 271.1m²
201 271.1m²
203 270.6m²
204 270.9m²

TEMPORARY TURNING HEAD

TEMPORARY TURNING HEAD

LOT 1
DP1256616

LOT 50
17/DP1480

LOT 51
17/DP1480

LOT 52
17/DP1480

LOT 53
17/DP1480

LOT 54
17/DP1480

LOT 35
17/DP1480

R12.00m

R8.50m

REFER TO INSET

INSET
SCALE 1:250

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Rev.	Date	Revision Description	C.M. Drawn	J.P. Design	L.R. Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION			

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

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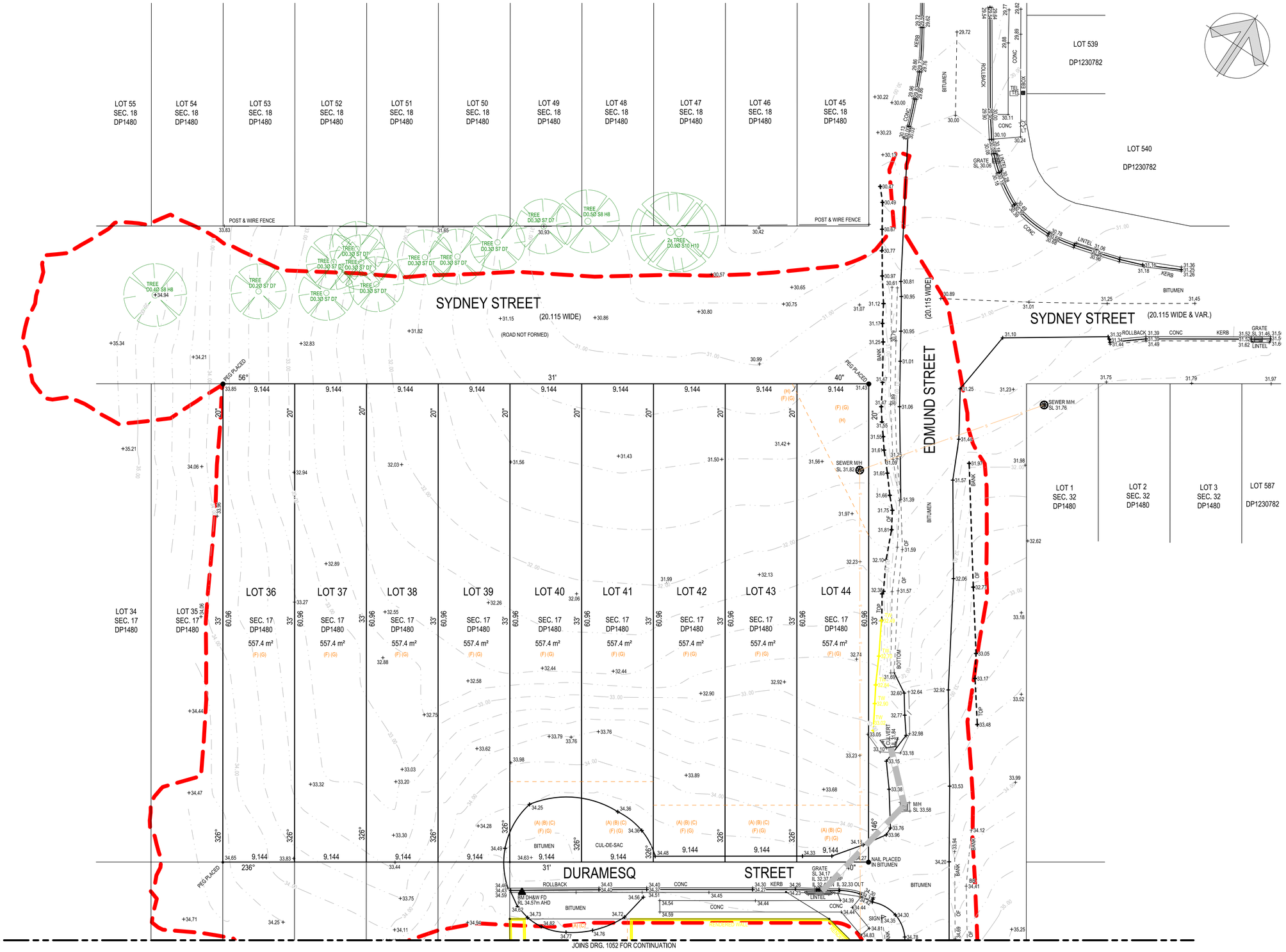
Datum	Coordinates	Size
AHD	MGA-2020	A1

		Date
Drawn	C.M.	19/02/2024
Drafting Checked	R.L.	19/02/2024
Design	J.P.	19/02/2024
Design Checked	R.L.	19/02/2024
Approved	L.R.	19/02/2024

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: FUTURE PROPOSED SUBDIVISION PLAN OF LOT 36 - 44 SECTION 17 DP1480
Drawing Number: P00608-CI-PP-1031
Revision: A

DATE PLOTTED: 19 February 2024 9:11 am BY: CARLO MASCENON

XREFs: X-P00608-CI-PP-SURVEY, X-P00608-CI-PP-LIMIT OF WORKS
CAD File: C:\12dS\data\gdsSYN\P00608 - LOTS 36-44 Sydney Street, Grantham Farm_263\04. Engineering\04a. PP\P00608-CI-PP-1051.dwg



LEGEND

- EXTENT OF WORKS
- EXISTING CONTOURS
- BENCHMARK
- TEL — TELSTRA PIT
- LP — ELECTRIC LIGHT POLE
- PP — POWER POLE
- SP — SIGN POST
- SIP — SEWER INSPECTION PIT
- SEWER — SEWER VENT
- MH — MANHOLE
- SMH — SEWER MANHOLE
- SV — STOP VALVE
- HYD — WATER HYDRANT
- WM — WATER METER
- GM — GAS METER
- SSM — STATE SURVEY MARK
- WTAP — WATER TAP
- EBOX — ELECTRICITY PILLAR
- GRATE — S/W PIT / GRATE
- TCOM — COMMS PIT
- TCOM — COMMS PIT
- SV — STOP VALVE
- H — HYDRANT
- SIGN — SIGN
- TREES

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Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

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

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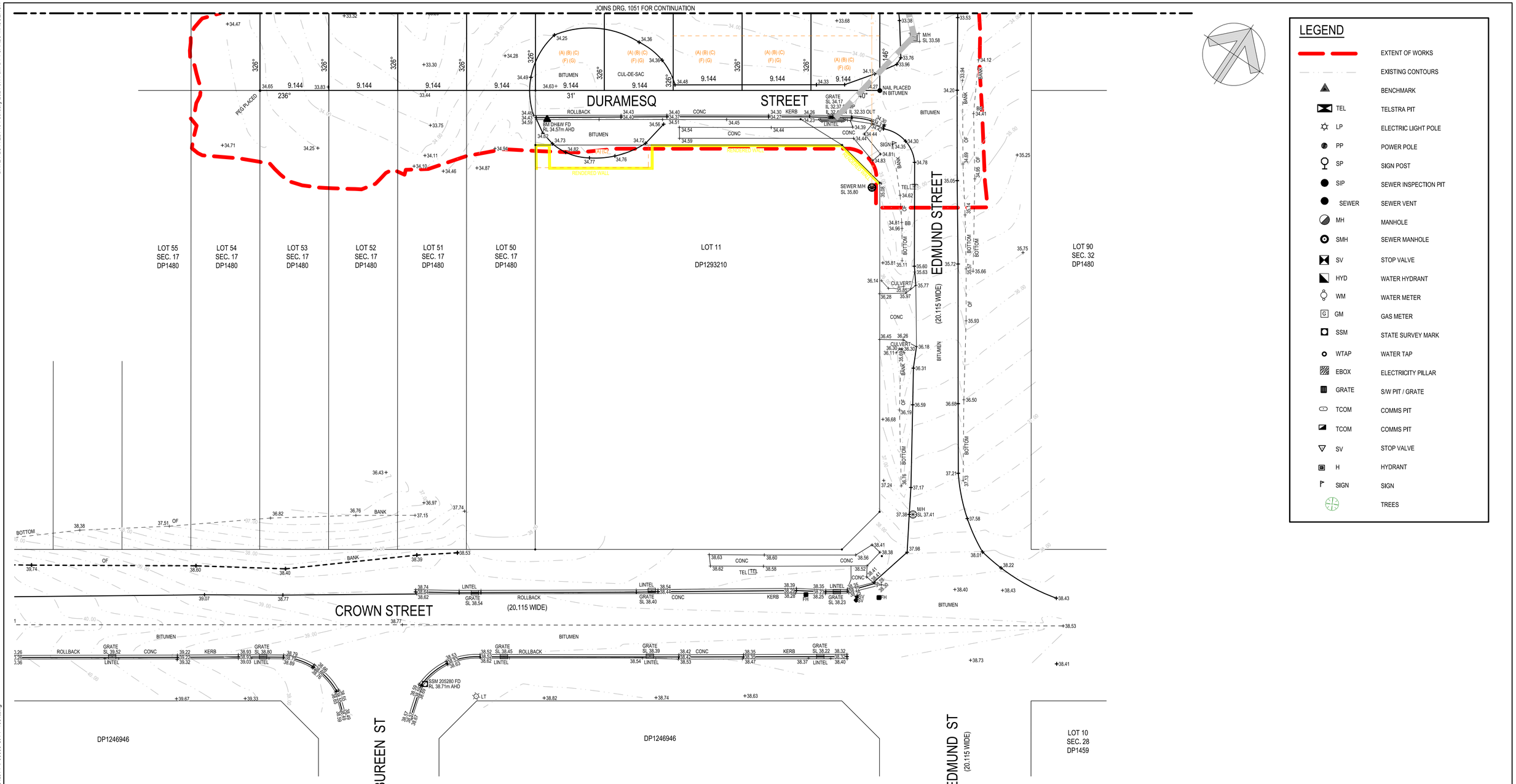
Design	J.P.	Date 19/02/2024
Design Checked	R.L.	Date 19/02/2024
Approved	L.R.	Date 19/02/2024

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: EXISTING SITE SURVEY AND SERVICES - SHEET 1
Revision: A
Drawing Number: P00608-CI-PP-1051

DATE PLOTTED: 19 February 2024 9:11 am BY: CARLO MASCENON

XREF's: X-P00608-CI-PP-SURVEY; X-P00608-CI-PP-LIMIT OF WORKS
CAD File: C:\12dSdata\gds5YN\P00608 - LOTS 36-44 Sydney Street, Grantham Farm_26304. Engineering\04a. PP\P00608-CI-PP-1051.dwg



LEGEND

- EXTENT OF WORKS
- EXISTING CONTOURS
- BENCHMARK
- TEL — TELSTRA PIT
- LP — ELECTRIC LIGHT POLE
- PP — POWER POLE
- SP — SIGN POST
- SIP — SEWER INSPECTION PIT
- SEWER — SEWER VENT
- MH — MANHOLE
- SMH — SEWER MANHOLE
- SV — STOP VALVE
- HYD — WATER HYDRANT
- WM — WATER METER
- GM — GAS METER
- SSM — STATE SURVEY MARK
- WTAP — WATER TAP
- EBOX — ELECTRICITY PILLAR
- GRATE — S/W PIT / GRATE
- TCOM — COMMS PIT
- TCOM — COMMS PIT
- SV — STOP VALVE
- H — HYDRANT
- SIGN — SIGN
- TREES

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A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

SCALE 1:250 @A1 (0 5 10 15 20 25m)

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Design J.P.	Date 19/02/2024	
Design Checked R.L.	Date 19/02/2024	
Approved L.R.	Date 19/02/2024	

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: EXISTING SITE SURVEY AND SERVICES - SHEET 2
Drawing Number: P00608-CI-PP-1051
Revision: A

LOT 1
32/DP1480

LOT 90
32/DP1480

EDMUND STREET (20.112m WIDE)

LOT 45
18/DP1480

LOT 46
18/DP1480

LOT 47
18/DP1480

LOT 48
18/DP1480

LOT 49
18/DP1480

LOT 50
18/DP1480

LOT 51
18/DP1480

LOT 52
18/DP1480

LOT 53
18/DP1480

LOT 54
18/DP1480

105 104 103 102 101

106 113

107 112

108 111

109 110

202 201

203 204

SYDNEY STREET (20.12m WIDE)

DUMARESQ STREET (14.5m WIDE)

LOT 1
DP1256616

LOT 50
17/DP1480

LOT 51
17/DP1480

LOT 52
17/DP1480

LOT 53
17/DP1480

LOT 54
17/DP1480

LOT 35
17/DP1480

TEMPORARY TURNING HEAD

TEMPORARY TURNING HEAD

REFER TO INSET

LEGEND

- EXTENT OF WORKS
- EXISTING CONTOUR
- PROPOSED CONTOUR
- SANDBAGS
- STRAWBALES
- SEDIMENT TRAP
- INDICATIVE STOCKPILE LOCATION
- STABILISED SITE ENTRY/EXIT WITH WHEEL WASH
- SEDIMENT FENCE
- BARRIER FENCE
- GATE

NOTES

1. REFER DRG. 1021 FOR GENERAL NOTES.
2. THIS PLAN IS TO BE READ IN CONJUNCTION WITH OTHER ENGINEERING PLANS AND ANY WRITTEN INSTRUCTIONS THAT MAY BE ISSUED.
3. THE CONTRACTOR SHALL IMPLEMENT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO DISTURBANCE OF THE RELATED CATCHMENT AREA AND TO THE STANDARD OF 'MANAGING URBAN STORMWATER, SOIL & CONSTRUCTION' & THE BLACKTOWN CITY COUNCIL SPECIFICATIONS.
4. ALL SUBCONTRACTORS SHALL BE INFORMED OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWN SLOPE AREAS.
5. LAND DISTURBANCE SHALL BE LIMITED TO THAT NECESSARY FOR IMPLEMENTATION OF THE PLANS OF WORKS. BUFFER ZONES AND LAND NOT TO BE DISTURBED SHALL BE CLEARLY MARKED WITH BARRIER FENCE. 'SILT' FENCE FOR STRAW BALE SEDIMENT TRAPS SHALL BE PLACED AT REGULAR INTERVALS IMMEDIATELY DOWNSLOPE OF ALL UNPROTECTED DISTURBED LANDS.
6. THE LOCATION OF 'SILT' FENCES, BARRIER FENCES, SEDIMENT TRAPS AND OTHER DEVICES ARE INDICATIVE ONLY AND FINAL LOCATIONS ARE TO BE DECIDED ON SITE. VARIATIONS WILL BE PERMITTED TO BEST SUIT THE CIRCUMSTANCES. CONTRACTOR TO PREPARE DETAILED CONSTRUCTION SEDIMENT AND EROSION CONTROL PLAN.
7. ALL SOIL EROSION AND SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED FOLLOWING EACH STORM EVENT AND ANY NECESSARY MAINTENANCE WORK SHALL BE UNDERTAKEN TO ENSURE THEIR CONTINUED PROPER OPERATION. SEDIMENT SHALL BE REMOVED FROM THE SOIL EROSION & SEDIMENT CONTROL STRUCTURES WHEN NO MORE THAN 40% CAPACITY HAS BEEN REACHED. THESE STRUCTURES SHALL CONTINUE IN PROPER OPERATION UNTIL ALL DEVELOPMENT ACTIVITIES HAS BEEN COMPLETED AND THE SITE FULLY ESTABLISHED.
8. TEMPORARY REHABILITATION SHALL BE UNDERTAKEN WITHIN 14 WORKING DAYS BEFORE EITHER WORKS CONTINUE OR PERMANENT REHABILITATION IS UNDERTAKEN.

INSET
SCALE 1:250

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Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

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

PREPARED BY:
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Datum	Coordinates	Size
AHD	MGA-2020	A1

Drawn C.M.	Date 19/02/2024	
Drafting Checked R.L.	Date 19/02/2024	
Design J.P.	Date 19/02/2024	
Design Checked R.L.	Date 19/02/2024	
Approved L.R.	Date 19/02/2024	

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: EROSION AND SEDIMENT CONTROL PLAN
Drawing Number: P00608-CI-PP-1101
Revision: A

LOT 1
32/DP1480

LOT 90
32/DP1480

EDMUND STREET (20.112m WIDE)

SYDNEY STREET (20.12m WIDE)

DUMARESQ STREET (14.5m WIDE)

LOT 45
18/DP1480

LOT 46
18/DP1480

LOT 47
18/DP1480

LOT 48
18/DP1480

LOT 49
18/DP1480

LOT 50
18/DP1480

LOT 51
18/DP1480

LOT 52
18/DP1480

LOT 53
18/DP1480

LOT 54
18/DP1480

LOT 1
DP1256616

LOT 50
17/DP1480

LOT 51
17/DP1480

LOT 52
17/DP1480

LOT 53
17/DP1480

LOT 54
17/DP1480

LOT 35
17/DP1480

TEMPORARY TURNING HEAD

TEMPORARY TURNING HEAD

REFER TO INSET

LEGEND

- EXTENT OF WORKS
- 101 EXISTING CONTOURS
- 101 DESIGN CONTOURS

BULK EARTHWORKS SUMMARY

SURFACE AREA	8,965.30 m^2
CUT	355.91 m^3
FILL	3,851.83 m^3
BALANCE	3,495.92 m^3 (FILL)

NOTES

1. THE PLAN IS TO SHOW EARTHWORKS QUANTITIES PROPOSED AS PART OF THE PLANNING PROPOSAL.
2. THE QUANTITIES PROVIDED ARE DIFFERENCE IN LEVEL BETWEEN DESIGN AND NATURAL SURFACE ONLY.
3. BULK EARTHWORKS DESIGN DOES NOT ALLOW FOR TOPSOIL STRIPPING, PAVEMENT BOXING OR BULKING FACTORS.

ELEVATIONS TABLE

NUMBER	MINIMUM ELEVATION	MAXIMUM ELEVATION	AREA	COLOR
1	-1.50	-1.00	0.00	
2	-1.00	-0.50	51.00	
3	-0.50	0.00	2118.84	
4	0.00	0.50	3420.62	
5	0.50	1.00	2297.42	
6	1.00	1.50	934.95	
7	1.50	2.00	142.46	

INSET
SCALE 1:250

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Rev.	Date	Revision Description	C.M. Drawn	J.P. Design	L.R. Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION			

SCALE 1:250 @A1

PREPARED BY:
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Datum AHD	Coordinates MGA-2020	Size A1

Drawn C.M.	Date 19/02/2024
Drafting Checked R.L.	Date 19/02/2024
Design J.P.	Date 19/02/2024
Design Checked R.L.	Date 19/02/2024
Approved L.R.	Date 19/02/2024

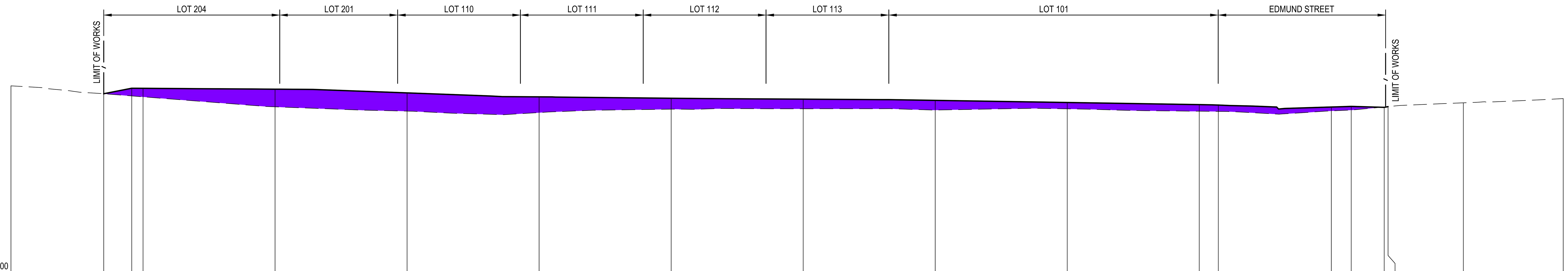
Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: CUT AND FILL EARTHWORKS PLAN
Revision: A
Drawing Number: P00608-CI-PP-1201

DATE PLOTTED: 19 February 2024 9:13 am BY : CARLO MASCENON

LEGEND

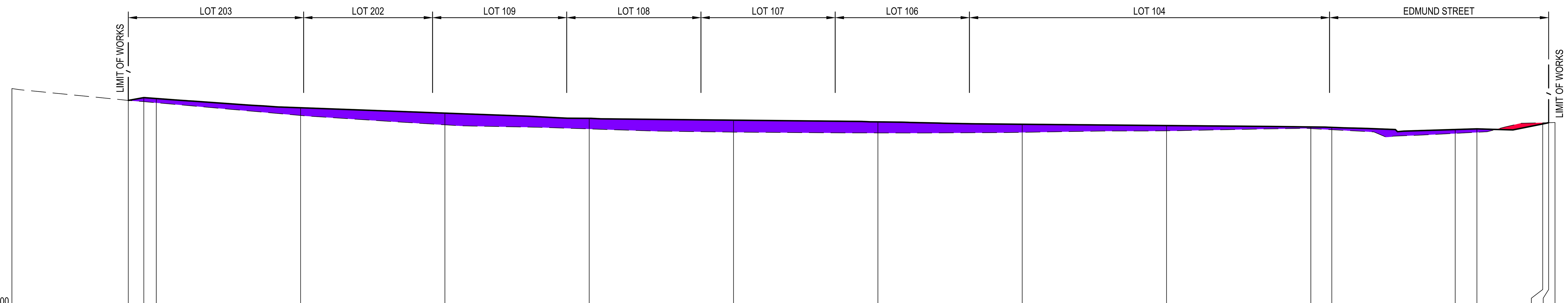
PROPOSED CUT

PROPOSED FILL



DESIGN SURFACE		34.264	34.680	34.675	34.609	34.327	34.029	33.923	33.853	33.762	33.600	33.439	33.404	33.257	33.303	33.231	33.288		
EXISTING SURFACE	34.864	34.264	34.098	34.031	33.272	32.946	32.836	33.094	33.123	33.031	33.119	32.938	32.924	32.964	33.030	33.260	33.288	33.575	33.897
CHAINAGE	0.000	7.024	9.145	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	91.442	100.000	101.508	104.008	104.299	110.000	117.565

1 / 1201 SECTION
SCALE 1:200



DESIGN SURFACE		33.992	34.187	34.122	33.482	33.112	32.749	32.624	32.504	32.341	32.251	32.155	32.124	31.976	32.022	32.363	32.451	
EXISTING SURFACE	34.812	33.992	33.906	33.831	32.948	32.300	32.017	31.795	31.740	31.783	31.887	32.038	31.962	31.710	31.786	32.442	32.451	32.461
CHAINAGE	0.000	8.061	9.136	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	91.451	100.000	101.504	106.065	106.475	106.917

2 / 1201 SECTION
SCALE 1:200

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XREF's: X-P00608-CI-PP-SITE SECTIONS
CAD File: C:\12dS\data\gdsSYN\P00608 - LOTS 36-44 Sydney Street, Grantham Farm_263\04. Engineering\04a. PP\P00608-CI-PP-1231.dwg

Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

0 5 10 15 20m
SCALE 1:200 @A1

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Datum: AHD	Coordinates: MGA-2020	Size: A1

Role	Name	Date
Drawn	C.M.	19/02/2024
Drafting Checked	R.L.	19/02/2024
Design	J.P.	19/02/2024
Design Checked	R.L.	19/02/2024
Approved	L.R.	19/02/2024

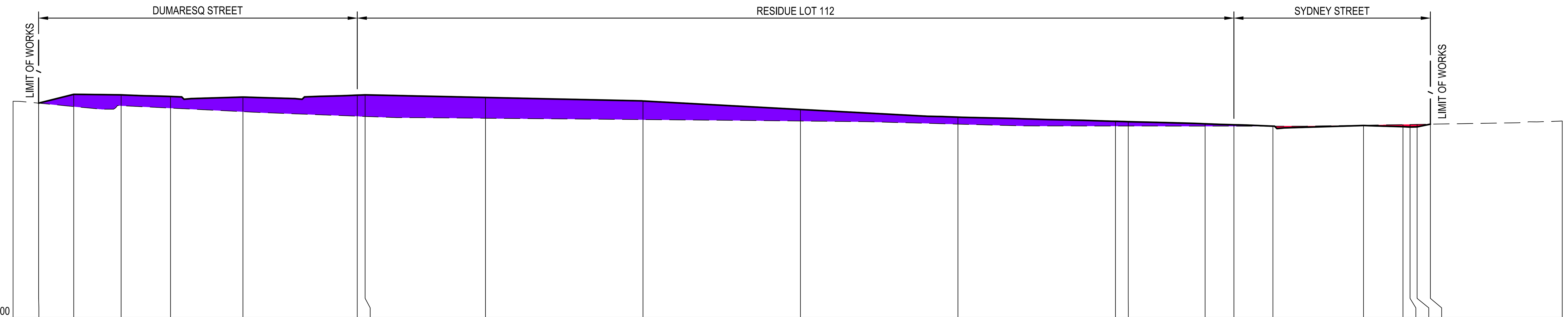
Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: SITE SECTIONS - SHEET 1
Drawing Number: P00608-CI-PP-1231
Revision: A

DATE PLOTTED: 19 February 2024 9:13 am BY : CARLO MASCENON

LEGEND

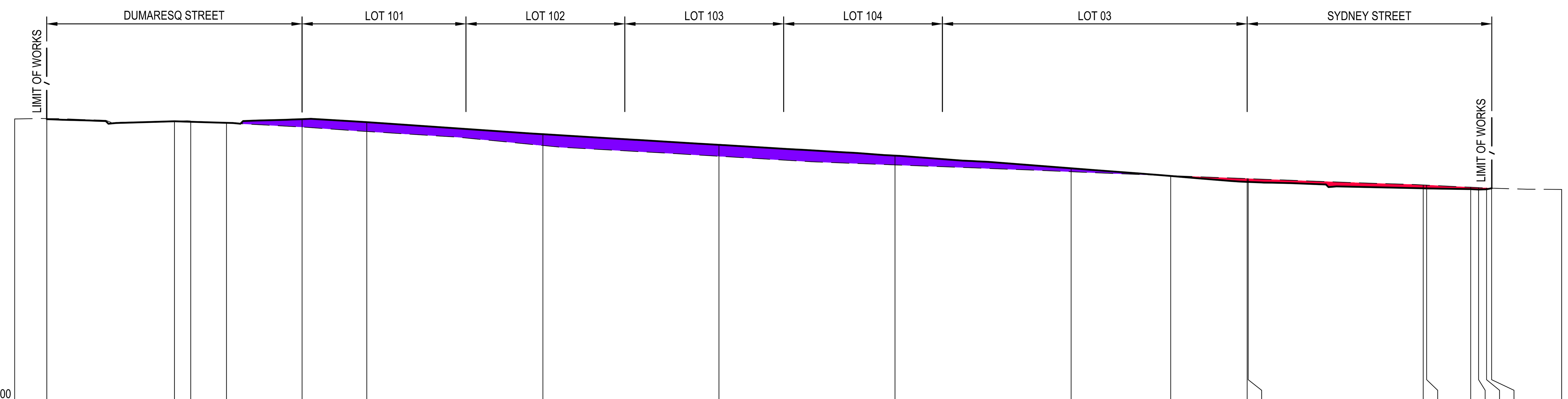
PROPOSED CUT

PROPOSED FILL



DESIGN SURFACE		34.385	34.942	34.909	34.806	34.769	34.890	34.910	34.742	34.521	33.983	33.496	33.230	33.207	33.073	33.014	32.924	32.964	32.889	32.867	32.881	33.051	
EXISTING SURFACE	34.504	34.385	34.167	34.222	34.068	33.843	33.557	33.538	33.425	33.339	33.248	33.051	32.932	32.931	32.927	32.925	32.923	32.983	33.023	33.030	33.037	33.051	33.250
CHAINAGE	0.000	1.621	3.853	6.862	10.000	14.599	21.858	22.357	30.000	40.000	50.000	60.000	70.000	70.814	75.694	77.523	80.000	85.754	88.258	88.708	89.158	90.000	98.372

3 / 1201 SECTION
SCALE 1:200



DESIGN SURFACE		34.503	34.383	34.355	34.294	34.503	34.330	33.649	33.044	32.431	31.712	31.275	30.938	30.936	30.574	30.570	30.529	30.507	30.520	30.578	
EXISTING SURFACE	34.512	34.536	34.392	34.396	34.287	34.056	33.801	33.006	32.396	31.902	31.515	31.291	31.125	31.123	30.764	30.755	30.634	30.612	30.590	30.581	30.509
CHAINAGE	0.000	1.825	9.075	10.000	12.033	16.325	20.000	30.000	40.000	50.000	60.000	65.659	70.000	70.058	80.000	80.196	82.696	83.146	83.596	83.886	87.860

4 / 1201 SECTION
SCALE 1:200

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DO NOT SCALE

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Approved	L.R.	19/02/2024

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: SITE SECTIONS - SHEET 2
Drawing Number: P00608-CI-PP-1232
Revision: A

XREF's: X-P00608-CI-PP-SITE SECTIONS
CAD File: C:\12dS\data\gdsSYN\P00608 - LOTS 36-44 Sydney Street, Grantham Farm_263\04. Engineering\04a. PP\P00608-CI-PP-1231.dwg

DATE PLOTTED: 19 February 2024 9:13 am BY: CARLO MASCENON

XREFs: X-P00608-CI-PP-CADASTRAL, X-P00608-CI-PP-CONTOURS EXISTING, X-P00608-CI-PP-STORMWATER CATCHMENT PRE DEVT
CAD File: C:\12d\Sdata\qds\SYNP\P00608 - LOTS 36-44 Sydney Street, Grantham Farm_263\04. Engineering\04a. PP\P00608-CI-PP-1301.dwg

LEGEND

- EXISTING CONTOUR (101)
- CATCHMENTS ENTER SITE
- CATCHMENTS BYPASS SITE
- FLOW DIRECTION

4.842ha
PRE-DEVELOPMENT
CATCHMENT
BYPASSING SITE

0.488ha
PRE-DEVELOPMENT
CATCHMENT
BYPASSING SITE

0.118ha

0.633ha
PRE-DEVELOPMENT
SITE CATCHMENT

0.545ha
PRE-DEVELOPMENT
UPSTREAM CATCHMENT
BYPASSING SITE

1.775ha
PRE-DEVELOPMENT
UPSTREAM CATCHMENT

0.043ha

0.683ha
PRE-DEVELOPMENT
UPSTREAM CATCHMENT
BYPASSING SITE

0.244ha
PRE-DEVELOPMENT
UPSTREAM CATCHMENT

0.281ha | 0.022ha | 0.022ha | 0.085ha

1.015ha
PRE-DEVELOPMENT
UPSTREAM CATCHMENT

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Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

0 20 40 60 80 100m
SCALE 1:1000 @A1

PREPARED BY:
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Phone: +61 2 9980 1000
Email: info@gdsland.com.au
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DO NOT SCALE

Datum	Coordinates	Size
AHD	MGA-2020	A1

		Date
Drawn	C.M.	19/02/2024
Drafting Checked	R.L.	19/02/2024
Design	J.P.	19/02/2024
Design Checked	R.L.	19/02/2024
Approved	L.R.	19/02/2024

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: PRE DEVELOPMENT STORMWATER CATCHMENT PLAN
Drawing Number: P00608-CI-PP-1301
Revision: A

REFER TO INSET

INSET
SCALE 1:500

LEGEND
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED CATCHMENT BOUNDARY
- PROPOSED INTERNAL CATCHMENT BOUNDARY
- STORMWATER PITS
- FLOW DIRECTION

EDMUND STREET (20.12m WIDE)
SYDNEY STREET (20.12m WIDE)
DUMARESQ STREET (14.5m WIDE)
CROWN STREET

105 104 103 102 101
106 113
107 112
108 111
109 110
202 201
203 204

0.545ha 0.118ha 0.035ha 0.456ha 0.064ha 0.056ha 0.028ha 0.079ha 0.010ha 0.012ha 0.061ha 0.032ha 0.073ha 0.020ha 0.022ha 0.020ha 0.022ha 1.015ha 0.058ha 0.244ha 0.022ha 0.022ha 0.281ha 0.137ha 0.025ha 0.025ha 0.025ha 0.039ha 0.068ha 0.025ha 0.027ha 0.080ha 0.027ha 0.128ha 0.024ha 0.024ha 0.031ha 0.742ha 0.192ha 0.9ha 0.839ha 0.207ha 0.965ha

FOR CONTINUATION REFER TO DRAWING NO. 1303

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Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

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

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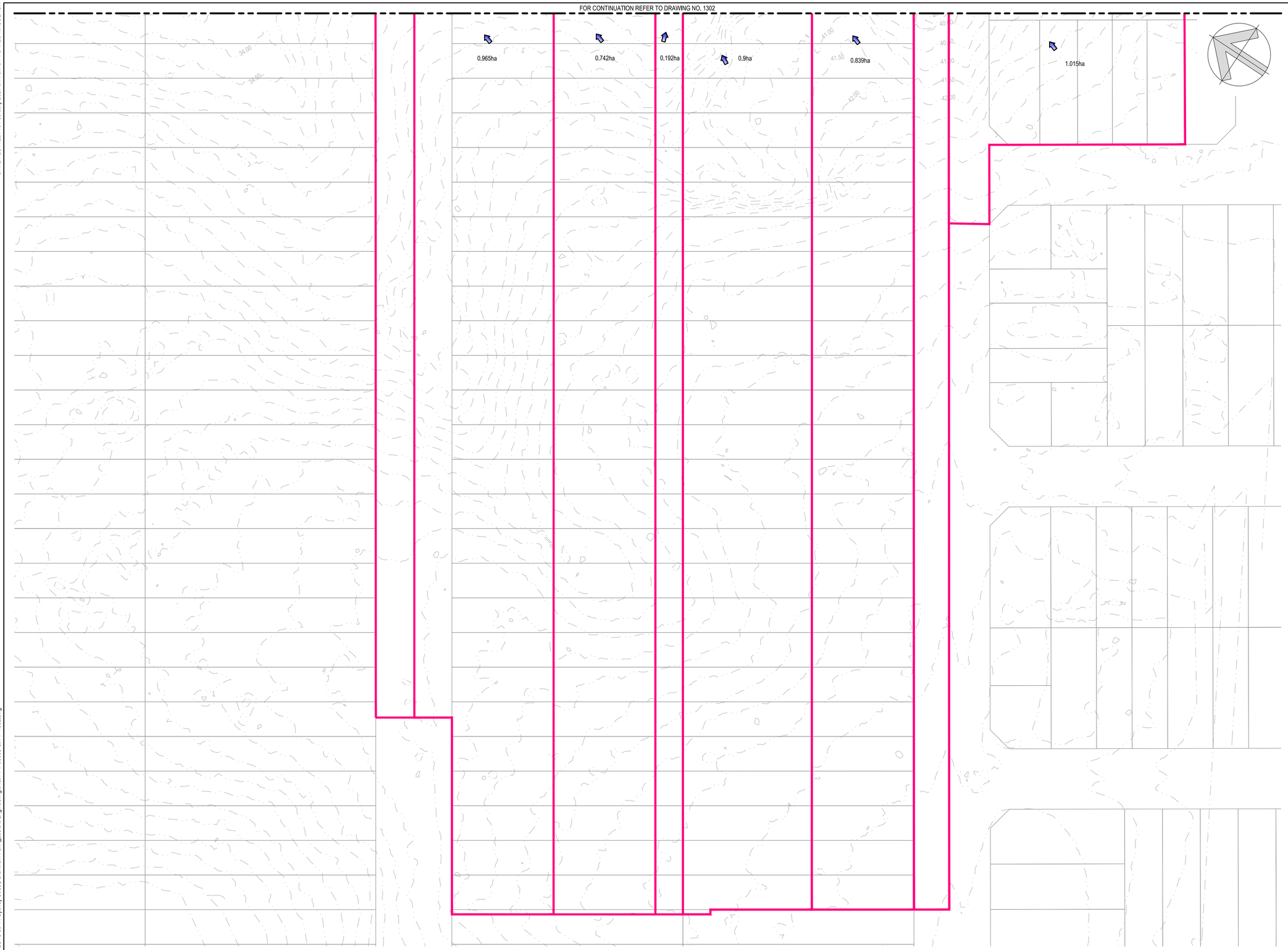
Datum	Coordinates	Size
AHD	MGA-2020	A1

Drawn C.M.	Date 19/02/2024	
Drafting Checked R.L.	Date 19/02/2024	
Design J.P.	Date 19/02/2024	
Design Checked R.L.	Date 19/02/2024	
Approved L.R.	Date 19/02/2024	

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: POST DEVELOPMENT STORMWATER CATCHMENT PLAN - SHEET 1
Revision: A
Drawing Number: P00608-CI-PP-1302

FOR CONTINUATION REFER TO DRAWING NO. 1302



LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED CATCHMENT BOUNDARY
- PROPOSED INTERNAL CATCHMENT BOUNDARY
- STORMWATER PITS
- FLOW DIRECTION

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Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

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

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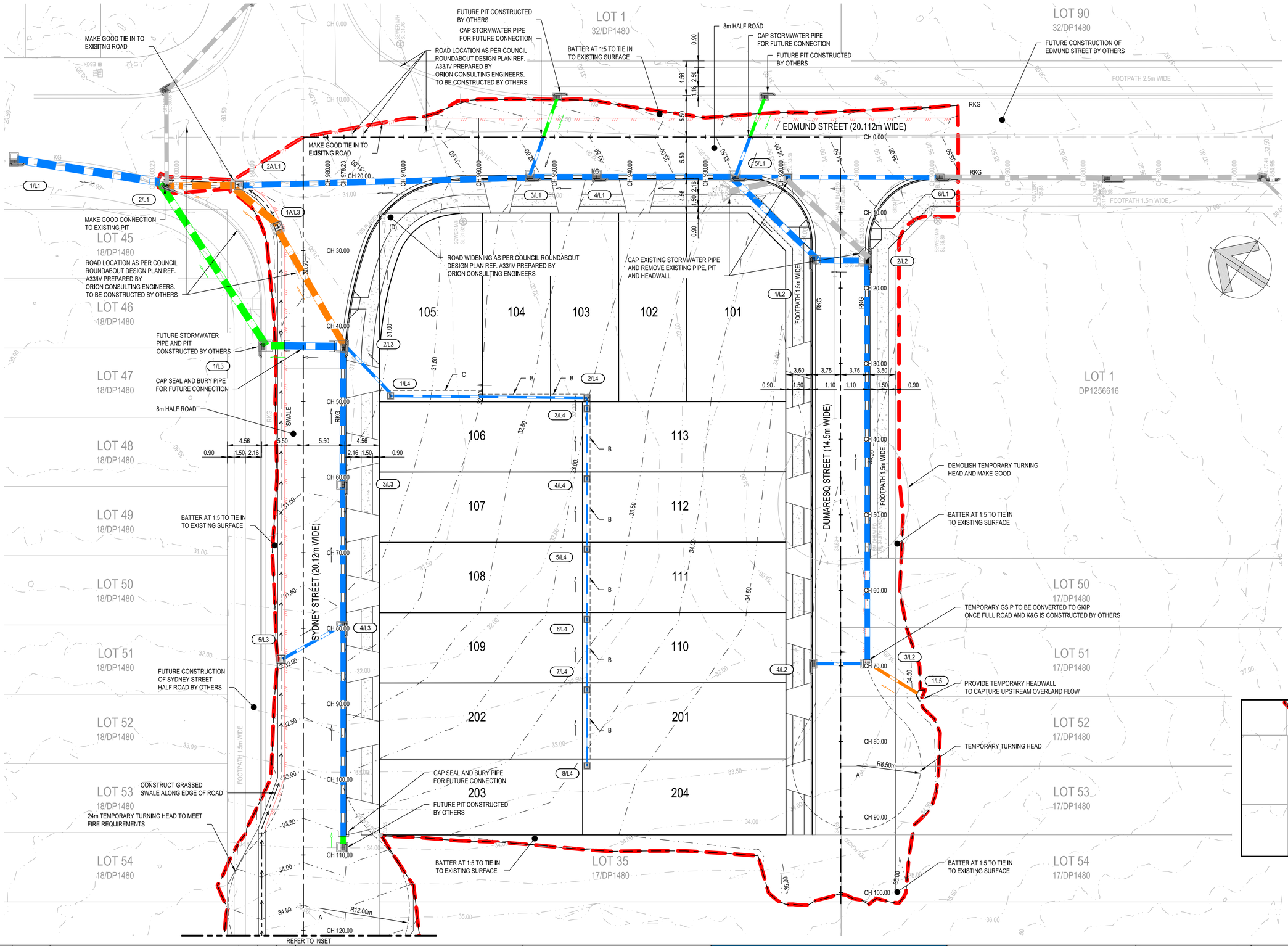
DO NOT SCALE

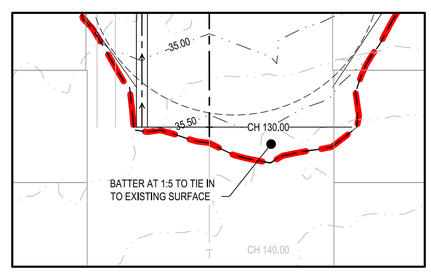
Datum	Coordinates	Size
AHD	MGA-2020	A1

		Date
Drawn	C.M.	19/02/2024
Drafting Checked	R.L.	19/02/2024
Design	J.P.	19/02/2024
Design Checked	R.L.	19/02/2024
Approved	L.R.	19/02/2024

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: POST DEVELOPMENT STORMWATER CATCHMENT PLAN - SHEET 2
Drawing Number: P00608-CI-PP-1303
Revision: A

XREFs: X-P00608-CI-PP-CADASTRAL; X-P00608-CI-PP-LIMIT OF WORKS; X-P00608-CI-PP-LOT LAYOUT; X-P00608-CI-PP-ROAD LAYOUT; X-P00608-CI-PP-ROAD NAMES; X-P00608-CI-PP-STORMWATER LAYOUT; X-P00608-CI-PP-CONTOURS PROPOSED; X-P00608-CI-PP-CONTOURS EXISTING; X-P00608-CI-PP-LOT LAYOUT; X-P00608-CI-PP-ROAD LAYOUT; X-P00608-CI-PP-ROAD NAMES; X-P00608-CI-PP-STORMWATER LAYOUT
CAD File: C:\12\5\data\gds5YN\P00608 - LOTS 36-44 Sydney Street, Grantham Farm_263\04_Engineering\04a_PP\P00608-CI-PP-1321.dwg
DATE PLOTTED: 19 February 2024 12:43 pm BY: CARLO MASCENON





INSET
SCALE 1:250

LEGEND

- EXTENT OF WORKS
- EXISTING CONTOUR
- PROPOSED CONTOUR
- KERB AND GUTTER
- ROLL KERB AND GUTTER
- GRASSED SWALE
- EDGE OF BITUMEN
- PROPOSED STORMWATER PIPE
- EXISTING STORMWATER PIPE
- TEMPORARY STORMWATER PIPE
- FUTURE STORMWATER PIPE
- STORMWATER PITS
- L1/2 STORMWATER PIT LABEL
- STORMWATER HEAD WALL
- (A) TEMPORARY TURNING HEAD EASEMENT
- (B) 1.0m STORMWATER EASEMENT
- (C) 1.5m STORMWATER EASEMENT
- FOOTPATH
- DRIVEWAY

NOTES:

1. REFER TO DRG. 1021 FOR GENERAL NOTES.
2. REFER BLACKTOWN CITY COUNCIL STANDARD DRAWING FOR KERB DETAILS.
3. REFER BLACKTOWN CITY COUNCIL STANDARD DRAWING FOR CONCRETE VEHICULAR CROSSING DETAILS.
4. REFER BLACKTOWN CITY COUNCIL STANDARD DRAWING FOR STORMWATER PIT DETAILS.
5. KERB TRANSITIONS ARE TO BE OVER ONE METRE.

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Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

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

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Datum	Coordinates	Size
AHD	MGA-2020	A1

Drawn C.M.	Date 19/02/2024	
Drafting Checked R.L.	Date 19/02/2024	
Design J.P.	Date 19/02/2024	
Design Checked R.L.	Date 19/02/2024	
Approved L.R.	Date 19/02/2024	

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: CIVIL WORKS AND STORMWATER DRAINAGE PLAN
Drawing Number: P00608-CI-PP-1321
Revision: A

LOT 1
32/DP1480

LOT 90
32/DP1480

FOOTPATH 2.5m WIDE

EDMUND STREET (20.112m WIDE)

FOOTPATH 1.5m WIDE

LOT 45
18/DP1480

LOT 46
18/DP1480

LOT 47
18/DP1480

LOT 48
18/DP1480

LOT 49
18/DP1480

LOT 50
18/DP1480

LOT 51
18/DP1480

LOT 52
18/DP1480

LOT 53
18/DP1480

LOT 54
18/DP1480

(D)

105 104 103 102 101

106 113

107 112

108 111

109 110

202 201

203 204

FOOTPATH 1.5m WIDE

DUMARESQ STREET (14.5m WIDE)

FOOTPATH 1.5m WIDE

SYDNEY STREET (20.12m WIDE)

FOOTPATH 1.5m WIDE

EXISTING HALF ROAD FORMATION AND PAVEMENT CONSTRUCTED IN CC-19-00930

LOT 1
DP1256616

TEMPORARY TURNING HEAD

TEMPORARY TURNING HEAD

LOT 50
17/DP1480

LOT 51
17/DP1480

LOT 52
17/DP1480

LOT 53
17/DP1480

LOT 54
17/DP1480

LOT 35
17/DP1480

REFER TO INSET

LEGEND

PAVEMENT TYPE 1 - FLEXIBLE
25mm THICKNESS ASPHALTIC CONCRETE (AC10)
ON 150mm THICKNESS BASECOURSE (DGB 20)
ON 330mm THICKNESS SUB-BASE (DGS 40)
DESIGN ESA $5X10^5$

PAVEMENT TYPE 2 - TEMPORARY TURNING HEAD
PAVEMENT COMPOSITION
TWO COAT FLUSH SEAL
150mm DGB20 BASE COURSE
250mm SUBBASE COURSE

FOOTPATH

NOTES:

1. DESIGN CBR 4%
2. PROVIDE STREET SIGNAGE AND POSTS AS PER BLACKTOWN CITY COUNCIL STANDAR DRAWING A(BS)113M.

INSET
SCALE 1:250

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Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

0 0.02 0.04 0.06 0.08 0.1m
SCALE 1:1 @A1

PREPARED BY:
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Datum	Coordinates	Size
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		Date
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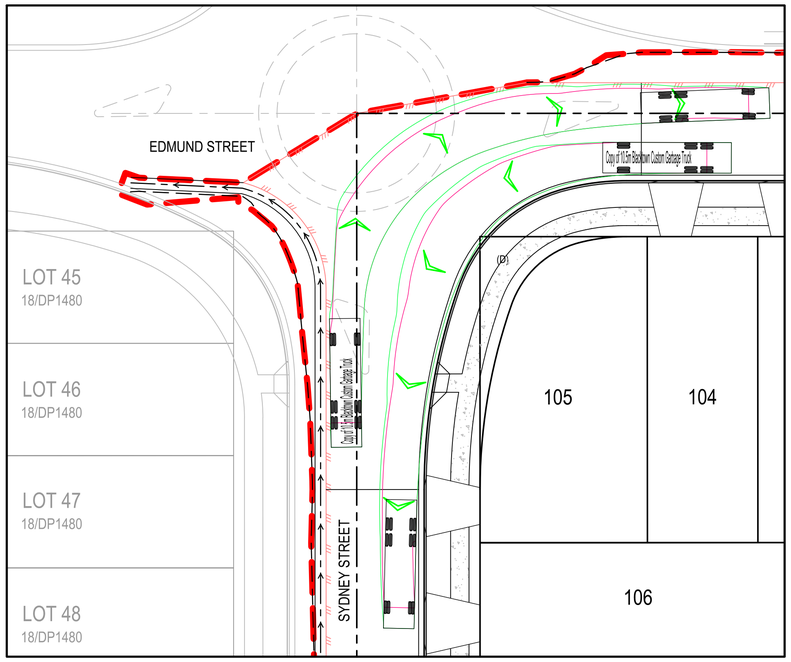
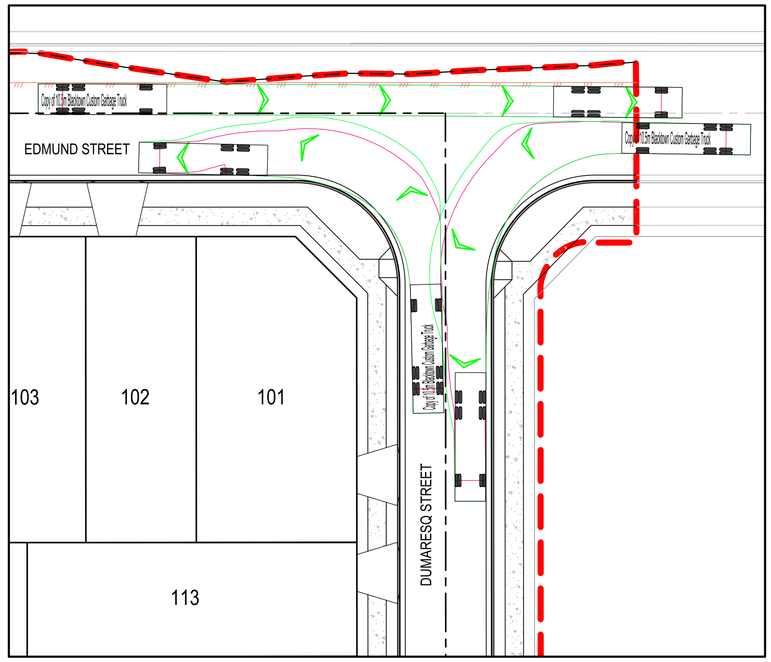
Drafting Checked	R.L.	19/02/2024
Design	J.P.	19/02/2024
Design Checked	R.L.	19/02/2024
Approved	L.R.	19/02/2024

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: PAVEMENT PLAN
Revision: A
Drawing Number: P00608-CI-PP-1351



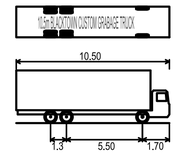
SYDNEY STREET AND EDMUND STREET TURNING PATH PLAN



EDMUND STREET AND DUMARESQ STREET TURNING PATH PLAN

LEGEND

BLACKTOWN CUSTOM GARBAGE TRUCK (10.5m)



Overall Length	10.500m
Overall Width	2.500m
Overall Body Height	3.600m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.000m

SYDNEY STREET TURNING PATH PLAN

DUMARESQ STREET TURNING PATH PLAN

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Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

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

PREPARED BY:
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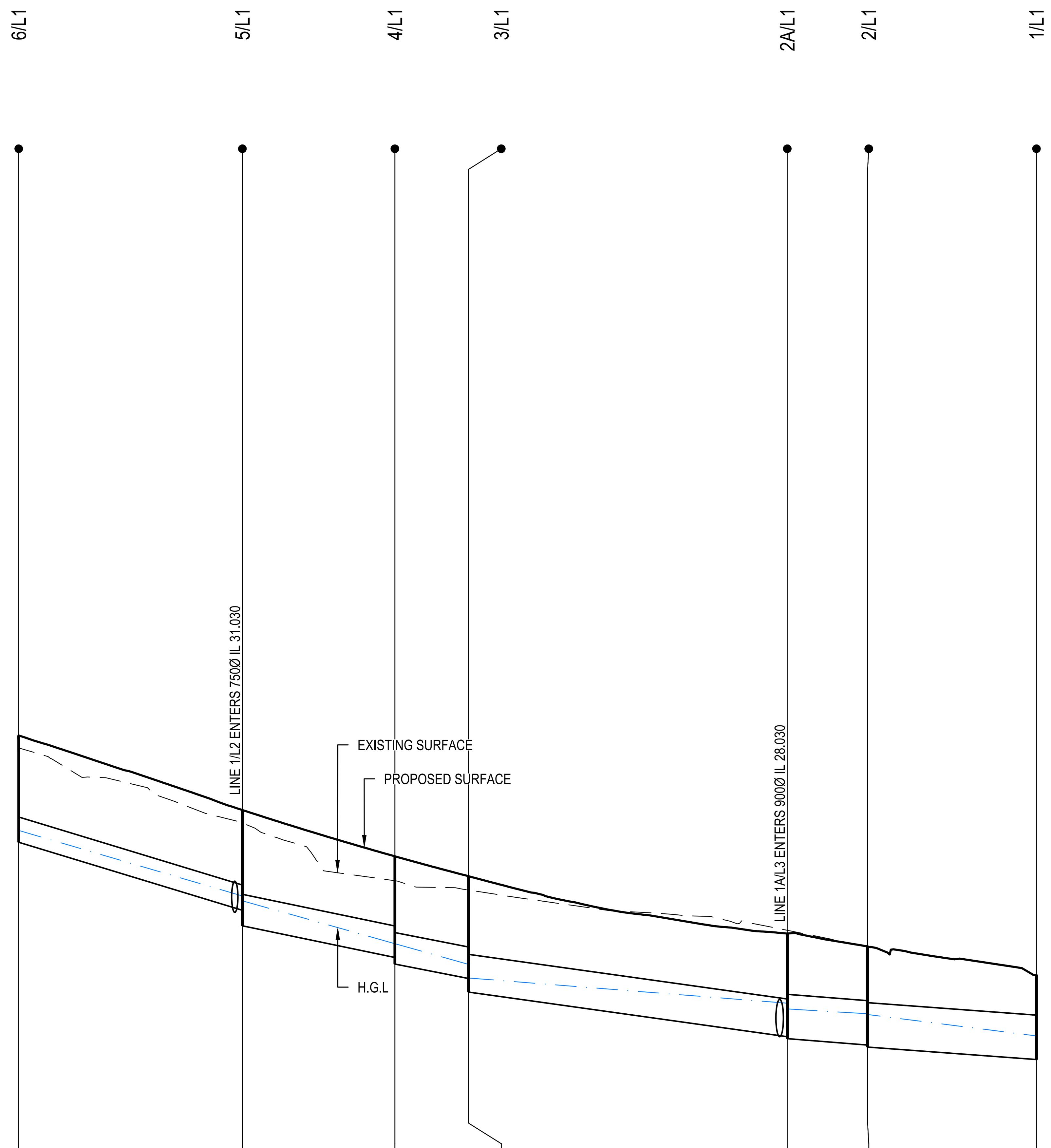
DO NOT SCALE

Datum	Coordinates	Size
AHD	MGA-2020	A1

		Date
Drawn	C.M.	19/02/2024
Drafting Checked	R.L.	19/02/2024
Design	J.P.	19/02/2024
Design Checked	R.L.	19/02/2024
Approved	L.R.	19/02/2024

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: TURNING PATH PLAN
Revision: A
Drawing Number: P00608-CI-PP-1381

DATE PLOTTED: 19 February 2024 9:16 am BY : CARLO MASCENON

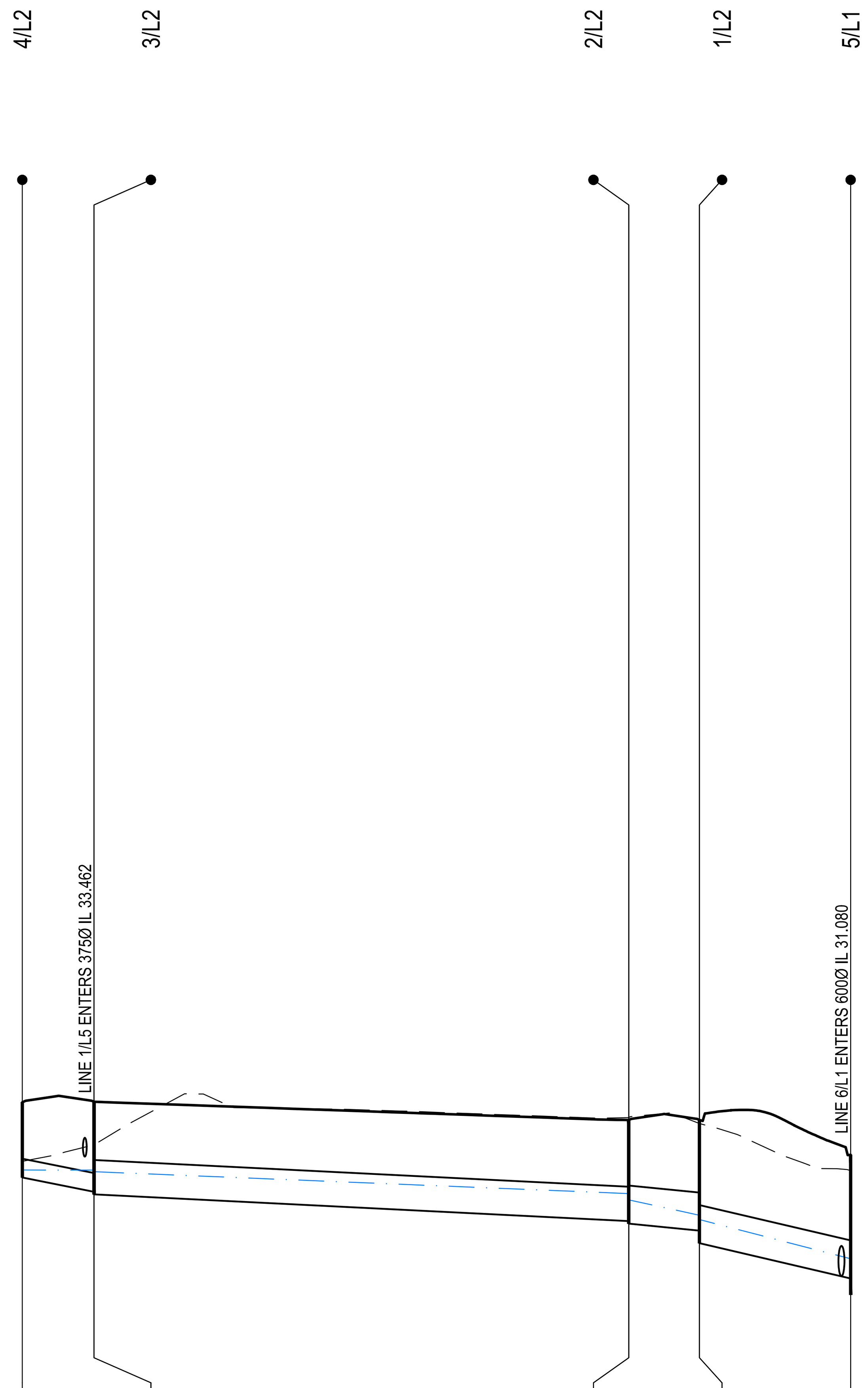


	6/L1 → 5/L1	5/L1 → 4/L1	4/L1 → 3/L1	3/L1 → 2A/L1	2A/L1 → 2/L1	2/L1 → 1/L1
FLOW (l/sec)	348	965	974	988	1627	1938
VELOCITY (m/s)	4.35	4.93	4.83	4.26	3.91	3.98
PIPE DETAILS	600Ø Class 2 RCP	750Ø Class 2 RCP	750Ø Class 2 RCP	900Ø Class 2 RCP	1050Ø DEFAULT	1050Ø DEFAULT
SLOPE/GRADE	6.1%	4.2%	3.9%	2.8%	1.6%	1.5%
CHAINAGE (length)	26.988	18.403	8.861	38.480	9.692	20.378

DATUM RL 22.5

	6/L1	5/L1	4/L1	3/L1	2A/L1	2/L1	1/L1
HGL	33.007	31.425 / 31.309	30.275	29.776 / 29.447	28.839 / 28.701	28.584 / 28.566	28.050
DEPTH TO INVERT	2.576	2.418 / 2.793	2.441 / 2.600	2.470 / 2.797	2.489 / 2.536	2.379 / 2.428	2.041
INVERT LEVEL	32.721	31.080 / 30.705	29.941 / 29.782	29.435 / 29.108	28.030 / 27.983	27.830 / 27.781	27.480
FINISHED SURFACE	35.297	33.498	32.382	31.905	30.519	30.209	29.521
EXISTING SURFACE	34.997	33.184	31.794	31.570	30.598	30.210	29.521
CHAINAGE	0.000	26.988	45.390	54.252	92.731	102.423	122.801

LINE 1

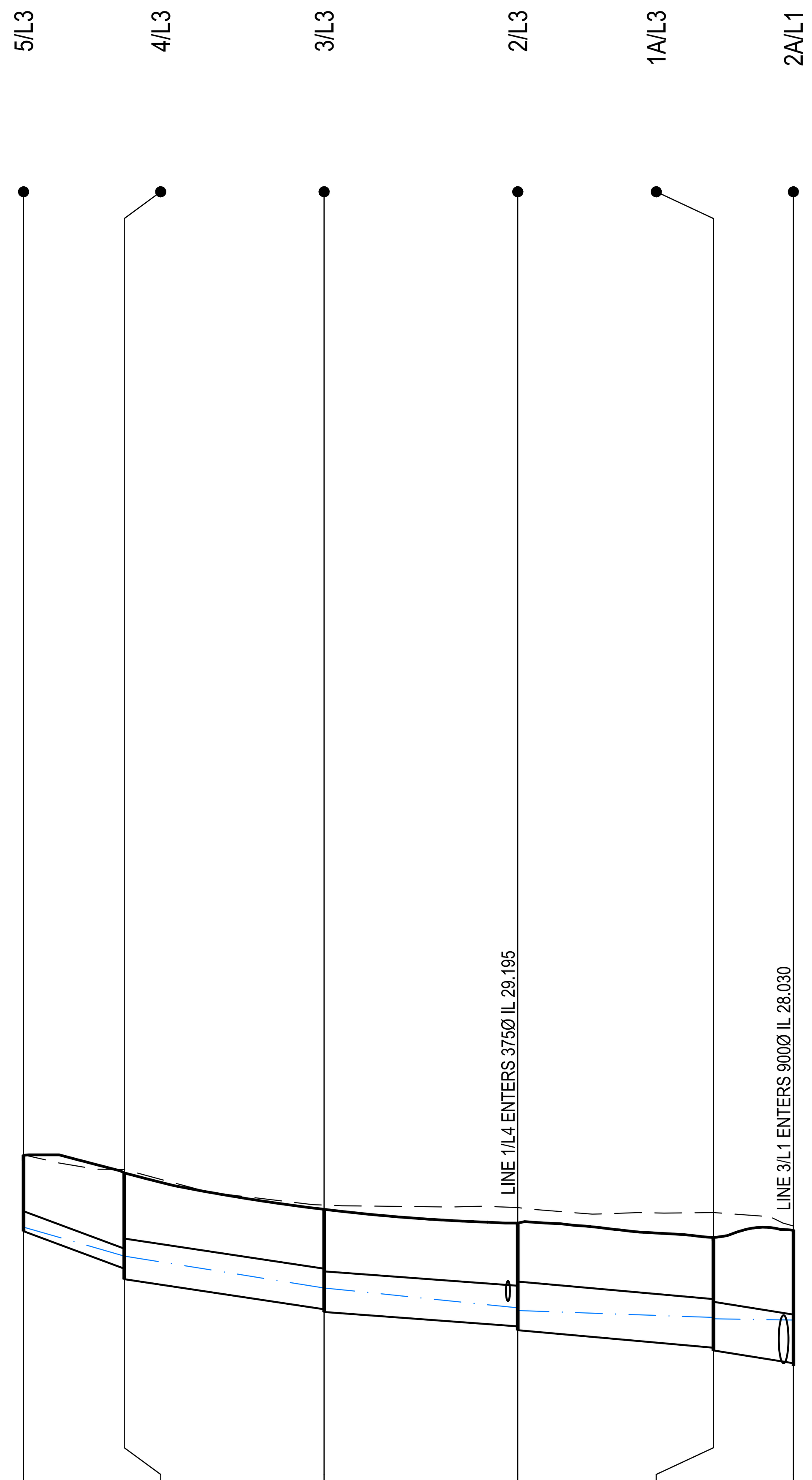


	4/L2 → 3/L2	3/L2 → 2/L2	2/L2 → 1/L2	1/L2 → 5/L1
FLOW (l/sec)	7	513	582	592
VELOCITY (m/s)	1.25	2.47	3.30	4.51
PIPE DETAILS	375Ø Class 2 RCP	675Ø Class 2 RCP	750Ø Class 2 RCP	750Ø Class 2 RCP
SLOPE/GRADE	4.0%	1.0%	2.0%	4.7%
CHAINAGE (length)	7.157	53.363	7.051	15.092

RL 26

	4/L2	3/L2	2/L2	1/L2	5/L1
HGL	33.196	33.193 / 33.162	32.725 / 32.600	32.293 / 32.207	31.425
DEPTH TO INVERT	1.501	1.796 / 1.846	2.018 / 2.068	2.209 / 2.459	2.468
INVERT LEVEL	33.046	32.760 / 32.710	32.176 / 32.126	31.985 / 31.735	31.030
FINISHED SURFACE	34.547	34.556	34.194	34.194	33.498
EXISTING SURFACE	33.372	33.697	34.240	34.123	33.184
CHAINAGE	0.000	7.157	60.520	67.571	82.663

LINE 2



	5/L3 → 4/L3	4/L3 → 3/L3	3/L3 → 2/L3	2/L3 → 1A/L3	1A/L3 → 2A/L1
FLOW (l/sec)	7	603	620	657	661
VELOCITY (m/s)	1.57	3.86	3.01	3.24	4.00
PIPE DETAILS	375Ø Class 2 RCP	750Ø Class 2 RCP	750Ø Class 2 RCP	900Ø DEFAULT	900Ø Class 2 RCP
SLOPE/GRADE	7.4%	3.0%	1.5%	1.8%	3.2%
CHAINAGE (length)	9.426	18.703	18.122	18.315	7.480

RL 23

	5/L3	4/L3	3/L3	2/L3	1A/L3	2A/L1
HGL	30.578	30.036	29.439	29.067 / 29.017	28.887 / 28.862	28.839
DEPTH TO INVERT	1.422	1.792 / 1.989	1.870 / 1.920	1.932 / 2.004	2.065 / 2.115	2.489
INVERT LEVEL	30.500	29.800 / 29.603	29.040 / 28.990	28.720 / 28.648	28.320 / 28.270	28.030
FINISHED SURFACE	31.922	31.592	30.910	30.652	30.385	30.519
EXISTING SURFACE	31.930	31.655	30.990	30.943	30.851	30.598
CHAINAGE	0.000	9.426	28.129	46.250	64.565	72.045

LINE 3

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Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

PREPARED BY:
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www.gdsland.com.au

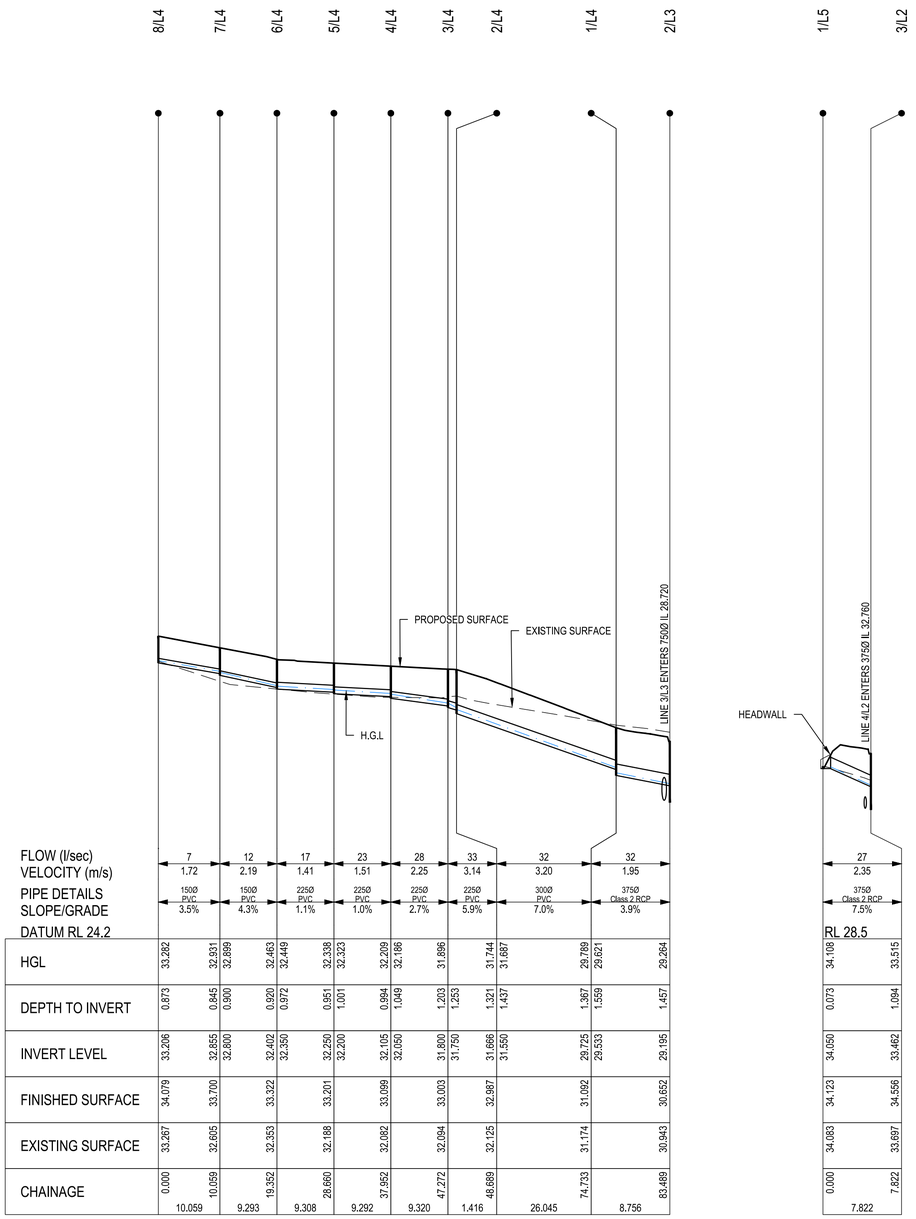
DO NOT SCALE

Datum	Coordinates	Size
AHD	MGA-2020	A1

Role	Name	Date
Drawn	C.M.	19/02/2024
Drafting Checked	R.L.	19/02/2024
Design	J.P.	19/02/2024
Design Checked	R.L.	19/02/2024
Approved	L.R.	19/02/2024

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: STORMWATER LONGITUDINAL SECTIONS - SHEET 1
Drawing Number: P00608-CI-PP-1441
Revision: A

XREF's: X-P00608-CI-PP-STORMWATER LS
CAD File: C:\12dS\data\gdsSYN\P00608 - LOTS 36-44 Sydney Street, Grantham Farm_263\04. Engineering\04a. PP\P00608-CI-PP-1441.dwg



FLOW (l/sec)	7	12	17	23	28	33	32	32
VELOCITY (m/s)	1.72	2.19	1.41	1.51	2.25	3.14	3.20	1.95
PIPE DETAILS	150Ø PVC	150Ø PVC	225Ø PVC	225Ø PVC	225Ø PVC	225Ø PVC	300Ø PVC	375Ø Class 2 RCP
SLOPE/GRADE	3.5%	4.3%	1.1%	1.0%	2.7%	5.9%	7.0%	3.9%
DATUM RL 24.2								
HGL	33.282	32.931	32.899	32.463	32.449	32.338	32.323	32.209	32.186	31.896	31.744	31.687	29.789	29.621	29.264
DEPTH TO INVERT	0.873	0.845	0.900	0.920	0.972	0.951	1.001	0.994	1.049	1.203	1.253	1.321	1.437	1.367	1.559	1.457
INVERT LEVEL	33.206	32.855	32.800	32.402	32.350	32.250	32.200	32.105	32.050	31.800	31.750	31.666	31.550	29.725	29.533	29.195
FINISHED SURFACE	34.079	33.700	33.322	33.201	33.099	33.003	32.987	31.092	30.652
EXISTING SURFACE	33.267	32.605	32.353	32.188	32.082	32.094	32.125	31.174	30.943
CHAINAGE	0.000	10.059	19.352	28.660	37.952	47.272	48.688	74.733	83.489
	10.059	9.293	9.308	9.292	9.320	1.416	26.045	8.756

LINE 4

FLOW (l/sec)	27	
VELOCITY (m/s)	2.35	
PIPE DETAILS	375Ø Class 2 RCP	
SLOPE/GRADE	7.5%	
DATUM RL 28.5		
HGL	34.108	33.515
DEPTH TO INVERT	0.073	1.094
INVERT LEVEL	34.050	33.462
FINISHED SURFACE	34.123	34.556
EXISTING SURFACE	34.083	33.697
CHAINAGE	0.000	7.822
	7.822	

LINE 5

FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

PREPARED BY:
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DO NOT SCALE

Datum	Coordinates	Size
AHD	MGA-2020	A1

Drawn C.M.	Date 19/02/2024	
Drafting Checked R.L.	Date 19/02/2024	
Design J.P.	Date 19/02/2024	
Design Checked R.L.	Date 19/02/2024	
Approved L.R.	Date 19/02/2024	

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: STORMWATER LONGITUDINAL SECTIONS - SHEET 2
Drawing Number: P00608-CI-PP-1521
Revision: A

DATE PLOTTED: 19 February 2024 9:16 am BY: CARLO MASCENON

ILSAX CALCULATION SUMMARY SHEET

DRAINS results prepared from Version 2023.07.8607.24045

Soil Type User to enter

AMC User to enter

Entire Catchment Area

Paved	6.491 ha	(82%}
Supplementary	0 ha	(0%}
Grassed	1.417 ha	(17.9%}
Total Area	7.909 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	34
						Kinematic Wave or Friends Formula Parameters					Overflows Approaching Pit																							
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) *worst 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	Remarks
20%	8/L4	0.027	Paved	20	6				6	0.006					G.S.I.P.	600 x 600	0.006	0	0.007	10.06	3.49	150	33.206	32.855	33.282	32.931	0.73	5.93	A1-4 [A2-3]	: 0.0, Vo2 / (2gDo	33.28	34.079	0.8	8/L4	
			Supp.	0	6																														
			Grassed	80	6				6																										
1%	8/L4	0.027	Paved		< - - - - - - - - - -	as above	- - - - - - - - - - >		6	0.013					< - - - as above - - - >		0.013	0	0.014		< - - - - - - - - - -	as above	- - - - - - - - - - >		33.312	33.135	0.99	5.12	A1-4 [A2-3]	: 0.0, Vo2 / (2gDo	33.37	34.079	0.71	8/L4	
			Grassed						6																										
20%	7/L4	0.027	Paved	20	6				6	0.006	8/L4	0	0	0	G.S.I.P.	600 x 600	0.006	0	0.012	9.292	4.28	150	32.8	32.402	32.899	32.463	1.74	5.58	A1-4 [A2-3]	: 0.0, Vo2 / (2gDo	32.93	33.699	0.77	7/L4	
			Supp.	0	6																														
			Grassed	80	6				6																										
1%	7/L4	0.027	Paved		< - - - - - - - - - -	as above	- - - - - - - - - - >		6	0.013	8/L4	0	0	0	< - - - as above - - - >		0.013	0	0.027		< - - - - - - - - - -	as above	- - - - - - - - - - >		32.939	32.517	1.77	3.11	A1-4 [A2-3]	: 0.0, Vo2 / (2gDo	33.14	33.699	0.56	7/L4	
			Grassed						6																										
20%	6/L4	0.025	Paved	20	6				6	0.006	7/L4	0	0	0	G.S.I.P.	600 x 600	0.006	0	0.017	9.308	1.07	225	32.35	32.25	32.449	32.338	1.13	0.26	A1-5 [A2-4]	;4, Qg / Qo = 0.36	32.45	33.322	0.87	6/L4	
			Supp.	0	6																														
			Grassed	80	6				6																										
1%	6/L4	0.025	Paved		< - - - - - - - - - -	as above	- - - - - - - - - - >		6	0.012	7/L4	0	0	0	< - - - as above - - - >		0.012	0	0.038		< - - - - - - - - - -	as above	- - - - - - - - - - >		32.51	32.445	1.19	0.37	A1-5 [A2-4]	;4, Qg / Qo = 0.38	32.52	33.322	0.8	6/L4	
			Grassed						6																										
20%	5/L4	0.025	Paved	20	6				6	0.006	6/L4	0	0	0	G.S.I.P.	600 x 600	0.006	0	0.023	9.293	1.02	225	32.2	32.105	32.323	32.209	1.21	1.36	A1-5 [A2-4]	;0, Qg / Qo = 0.28	32.33	33.201	0.87	5/L4	
			Supp.	0	6																														
			Grassed	80	6				6																										
1%	5/L4	0.025	Paved		< - - - - - - - - - -	as above	- - - - - - - - - - >		6	0.012	6/L4	0	0	0	< - - - as above - - - >		0.012	0	0.05		< - - - - - - - - - -	as above	- - - - - - - - - - >		32.383	32.289	1.34	1.41	A1-5 [A2-4]	;0, Qg / Qo = 0.30	32.45	33.201	0.76	5/L4	
			Grassed						6																										
20%	4/L4	0.025	Paved	20	6				6	0.006	5/L4	0	0	0	G.S.I.P.	600 x 600	0.006	0	0.028	9.319	2.68	225	32.05	31.8	32.186	31.896	1.65	1.14	A1-5 [A2-4]	;0, Qg / Qo = 0.23	32.19	33.099	0.9	4/L4	
			Supp.	0	6																														
			Grassed	80	6				6																										
1%	4/L4	0.025	Paved		< - - - - - - - - - -	as above	- - - - - - - - - - >		6	0.012	5/L4	0	0	0	< - - - as above - - - >		0.012	0	0.063		< - - - - - - - - - -	as above	- - - - - - - - - - >		32.252	31.993	1.59	1.21	A1-5 [A2-4]	;0, Qg / Qo = 0.25	32.29	33.099	0.81	4/L4	
			Grassed						6																										
20%	3/L4	0.025	Paved	20	6				6	0.006	4/L4	0	0	0	G.S.I.P.	600 x 600	0.006	0	0.033	1.416	5.93	225	31.75	31.666	31.896	31.744	2.56	1.01	A1-5 [A2-4]	;0, Qg / Qo = 0.20	31.9	33.003	1.11	3/L4	
			Supp.	0	6																														
			Grassed	80	6				6																										
1%	3/L4	0.025	Paved		< - - - - - - - - - -	as above	- - - - - - - - - - >		6	0.012	4/L4	0	0	0	< - - - as above - - - >		0.012	0	0.076		< - - - - - - - - - -	as above	- - - - - - - - - - >		31.964	31.805	2.79	1.03	A1-5 [A2-4]	;0, Qg / Qo = 0.21	31.99	33.003	1.01	3/L4	
			Grassed						6																										
20%	2/L4		Paved								3/L4	0	0	0	G.S.I.P.	600 x 600	0		0.032	26.002	7.02	300	31.55	29.725	31.687	29.789	2.87	2.23	H-O'L	Qo = 0.00, S / Do	31.7	32.987	1.28	2/L4	
			Supp.																																
			Grassed																																
1%	2/L4		Paved								3/L4	0	0	0	< - - - as above - - - >		0		0.074		< - - - - - - - - - -	as above	- - - - - - - - - - >		31.76	30.687	1.39	2.23	H-O'L	Qo = 0.00, S / Do	31.8	32.987	1.18	2/L4	
			Grassed																																
20%	1/L4		Paved												G.S.I.P.	600 x 600	0		0.032	8.816	3.83	375	29.533	29.195	29.621	29.264	2.31	0.1	H-O'L	Qo = 0.00, S / Do	29.62	31.095	1.47	1/L4	
			Supp.																																
			Grassed																																
1%	1/L4		Paved												< - - - as above - - - >		0		0.077		< - - - - - - - - - -	as above	- - - - - - - - - - >		30.685	30.673	0.68	0.1	H-O'L	Qo = 0.00, S / Do	30.69	31.095	0.41	1/L4	
			Grassed																																
20%	2/L3	0.137	Paved	85	6				6	0.04	3/L1	0.005	0.59	0.02	G.G.P.	1.8 m lintel	0.04	0.004	0.657	18.315	1.79	900	28.648	28.32	29.017	28.887	2.67	0.12	H-O'L	Qo = 0.07, S / Do	29.02	30.652	1.63	2/L3	
			Supp.	0	6						3/L3																								
			Grassed	15	6				6																										
1%	2/L3	0.137	Paved		< - - - - - - - - - -	as above	- - - - - - - - - - >		6	0.078	3/L1	0.01	0.81	0.02	< - - - as above - - - >		0.078	0.081	1.255		< - - - - - - - - - -	as above	- - - - - - - - - - >		30.467	30.397	1.97	1.3	H-O'L	Qo = 0.30, S / Do	30.67	30.652	0	2/L3	
			Grassed						6		3/L3																								
20%	1A/L3	0.061	Paved	95	6				6	0.018	2/L3	0.003	0.38	0.02	G.S.I.P.	900 x 900	0.018	0	0.661	7.479	3.21	900	28.27	28.03	28.862	28.839	1.49	0.46	A1-6 [A2-5]	;0, Qg / Qo = 0.03	28.89	30.385	1.5	1A/L3	
			Supp.	0	6						5/L3																								
			Grassed	5	6				6																										
1%	1A/L3	0.061	Paved		< - - - - - - - - - -	as above	- - - - - - - - - - >		6	0.036	2/L3	0.006	0.76	0.03	< - - - as above - - - >		0.038	0	1.251		< - - - - - - - - - -	as above	- - - - - - - - - - >		30.228	30.202	1.97	0.99	A1-6 [A2-5]	;0, Qg / Qo = 0.20	30.4	30.385	0	1A/L3	
			Grassed						6		5/L3																								
20%	2A/L1		Paved												G.S.I.P.	900 x 900	0		1.627	9.692	1.58	1050	27.983	27.83	28.701	28.584	2.54	0.97	H-O'L	Qo = 0.00, S / Do	28.84	30.519	1.68	2A/L1	
			Supp.																																
			Grassed																																
1%	2A/L1		Paved												< - - - as above - - - >		0		2.954		< - - - - - - - - - -	as above	- - - - - - - - - - >		29.672	29.572	3.28	0.99	H-O'L	Qo = 0.00, S / Do	30.2	30.519	0.32	2A/L1	
			Grassed																																
20%	2/L1	0.08	Paved	95	6				6	0.024	1A/L3	0.011	1.47	0.02	G.S.I.P.	600 x 600	0.024	0	1.938	20.378	1.48	1050	27.781	27.48	28.566	28.05	3.98	0.64	;4 [A2-37 & A	)o = 1.50, (Qu / Q	28.58	30.209	1.62	2/L1	
			Supp.	0	6																														
			Grassed	5	6				6																										
1%	2/L1	0.08	Paved		< - - - - - - - - - -	as above	- - - - - - - - - - >		6	0.047	1A/L3	0.089	5.87	0.07	< - - - as above - - - >		0.118	0.002	3.604		< - - - - - - - - - -	as above	- - - - - - - - - - >		28.851	28.482	4.12	0.94	A1-20 [A2-32	,00, Qg/Qo=0.06,	29.57	30.209	0.64	2/L1	
			Grassed						6																										
20%	1/L1	0.01	Paved	95	6				6	0.003	2/L1	0	0	0			0.003														28.05	29.521		1/L1	
			Supp.	0	6																														
			Grassed	5	6				6																										
1%	1/L1	0.01	Paved		< - - - - - - - - - -	as above	- - - - - - - - - - >		6	0.006	2/L1	0.066	12.34	0.01			0.072														28.48	29.521		1/L1	
			Grassed						6																										
20%	4/L2	0.024	Paved	95	6				6	0.007					G.G.P.	1.8 m lintel	0.007	0	0.007	7.158	4	375	33.046	32.76	33.196	33.193	0.17	5.93	A1-4 [A2-3]	: 0.0, Vo2 / (2gDo	33.2	34.547	1.35	4/L2	

FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

XREFs:
CAD File: C:\12d\5\data\gds5YN\P00608 - LOTS 36-44 Sydney Street, Grantham Farm_263\04_Engineering\04a_PP\P00608-CI-PP-1461.dwg

Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

PREPARED BY:

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DO NOT SCALE

Datum	Coordinates	Size
AHD	MGA-2020	A1

		Date
Drawn	C.M.	19/02/2024
Drafting Checked	R.L.	19/02/2024
Design	J.P.	19/02/2024
Design Checked	R.L.	19/02/2024
Approved	L.R.	19/02/2024

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: 5 YEAR AND 100 YEAR ARI STORMWATER DRAINAGE DATA - SHEET 1
Drawing Number: P00608-CI-PP-1461
Revision: A

DATE PLOTTED: 19 February 2024 9:16 am BY: CARLO MASCENON

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	34
AEP	Pit, Node or Basin Name	Sub-Catchment Area (ha)	Land-Use Type (ILSAX)	Percent-age (%)	Constant Flow Time (minutes)	Kinematic Wave or Friends Formula Parameters Length (m)	Slope (%)	Roughness n	Total Entry Time, t_c (minutes)	Peak Sub-Catchment Flowrate (m^3/s) *worst storm	Origin of Approach Flows	Overflows Approaching Pit 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	Remarks
			Supp.	0	6																													
			Grassed	5	6				6																									
1%	4/L2	0.024	Paved		<- - - - - - - - - -	as above	- - - - - - - - - - >		6	0.014					<- - - as above - - - >		0.014	0.071	0.025		<- - - - - - - - - -	as above	- - - - - - - - - - >		34.712	34.749	0.22	2.16	A1-4 [A2-3] : 3.4, Vo2 / (2gDo		34.71	34.547	0	4/L2	
			Grassed						6																									
20%	3/L2	0.024	Paved	95	6				6	0.007					G.G.P.	1.8 m lintel	0.007	0	0.513	53.362	1	675	32.71	32.176	33.162	32.725	2.01	0.67	H-O'L	Qo = 0.07, S / Do	33.19	34.556	1.36	3/L2	
			Supp.	0	6																													
			Grassed	5	6				6																									
1%	3/L2	0.024	Paved		<- - - - - - - - - -	as above	- - - - - - - - - - >		6	0.014					<- - - as above - - - >		0.014	0.188	0.848		<- - - - - - - - - -	as above	- - - - - - - - - - >		34.598	34.232	2.37	0.67	H-O'L	Qo = 0.02, S / Do	34.75	34.556	0	3/L2	
			Grassed						6																									
20%	2/L2	0.058	Paved	85	6				6	0.017	3/L2	0.009	0.73	0.03	G.G.P.	1.8 m lintel	0.017	0	0.582	7.05	2	750	32.126	31.985	32.6	32.293	3.5	2.21	H-O'L	Qo = 0.03, S / Do	32.73	34.194	1.47	2/L2	
			Supp.	0	6						6/L1																							
			Grassed	15	6				6																									
1%	2/L2	0.058	Paved		<- - - - - - - - - -	as above	- - - - - - - - - - >		6	0.033	3/L2	0.022	1.29	0.05	<- - - as above - - - >		0.038	0.066	0.994		<- - - - - - - - - -	as above	- - - - - - - - - - >		33.631	33.581	2.44	2.35	H-O'L	Qo = 0.22, S / Do	34.23	34.194	0	2/L2	
			Grassed						6		6/L1																							
20%	1/L2	0.039	Paved	95	6				6	0.012	4/L2	0.016	1.16	0.05	G.G.P.	1.8 m lintel	0.012	0	0.592	15.092	4.67	750	31.735	31.03	32.207	31.425	2.59	1.01	H-O'L	Qo = 0.02, S / Do	32.21	34.194	1.99	1/L2	
			Supp.	0	6						2/L2	0.028	1.34	0.03																			
			Grassed	5	6				6																									
1%	1/L2	0.039	Paved		<- - - - - - - - - -	as above	- - - - - - - - - - >		6	0.023	4/L2	0.037	1.46	0.07	<- - - as above - - - >		0.038	0.055	1.076		<- - - - - - - - - -	as above	- - - - - - - - - - >		33.135	33.014	2.64	1.54	H-O'L	Qo = 0.20, S / Do	33.58	34.194	0.61	1/L2	
			Grassed						6		2/L2	0.055	1.81	0.05																			
20%	5/L1	0.02	Paved	95	6				6	0.006	1/L2	0.006	0.22	0.03	G.G.P.	1.8 m lintel	0.006	0	0.965	18.403	4.15	750	30.705	29.941	31.309	30.275	5.21	1.43	H-O'L	Qo = 0.01, S / Do	31.43	33.498	2.07	5/L1	
			Supp.	0	6																													
			Grassed	5	6				6																									
1%	5/L1	0.02	Paved		<- - - - - - - - - -	as above	- - - - - - - - - - >		6	0.012	1/L2	0.011	0.6	0.03	<- - - as above - - - >		0.012	0.014	1.741		<- - - - - - - - - -	as above	- - - - - - - - - - >		31.603	31.149	4.28	1.59	H-O'L	Qo = 0.09, S / Do	33.01	33.498	0.48	5/L1	
			Grassed						6																									
20%	4/L1	0.073	Paved	15	6				6	0.016	5/L1	0.021	1.38	0.05	G.G.P.	1.8 m lintel	0.017	0	0.974	8.861	3.92	750	29.782	29.435	30.275	29.776	5.14	0.28	A1-5 [A2-4])0, Qg / Qo = 0.02		30.28	32.382	2.11	4/L1	
			Supp.	0	6																													
			Grassed	85	6				6																									
1%	4/L1	0.073	Paved		<- - - - - - - - - -	as above	- - - - - - - - - - >		6	0.036	5/L1	0.05	3.75	0.05	<- - - as above - - - >		0.045	0.005	1.78		<- - - - - - - - - -	as above	- - - - - - - - - - >		30.739	30.514	4.37	0.45	A1-5 [A2-4])0, Qg / Qo = 0.07		31.15	32.382	1.23	4/L1	
			Grassed						6																									
20%	3/L1	0.032	Paved	85	6				6	0.009	4/L1	0.012	1.06	0.02	G.G.P.	1.8 m lintel	0.01	0	0.988	38.48	2.8	900	29.108	28.03	29.447	28.839	4.51	0	A1-25 [A2-39] ,80, Qg/Qo=0.02,		29.45	31.905	2.46	3/L1	
			Supp.	0	6																													
			Grassed	15	6				6																									
1%	3/L1	0.032	Paved		<- - - - - - - - - -	as above	- - - - - - - - - - >		6	0.018	4/L1	0.154	3.59	0.11	<- - - as above - - - >		0.152	0.001	1.814		<- - - - - - - - - -	as above	- - - - - - - - - - >		30.514	30.202	2.85	0	A1-25 [A2-39] ,80, Qg/Qo=0.03,		30.51	31.905	1.39	3/L1	
			Grassed						6																									
20%	5/L3	0.022	Paved	95	6				6	0.007					G.S.I.P.	900 x 900	0.007	0	0.007	9.426	7.43	375	30.5	29.8	30.578	30.036	0.4	5.93	A1-4 [A2-3] : 0.0, Vo2 / (2gDo		30.58	31.922	1.34	5/L3	
			Supp.	0	6																													
			Grassed	5	6				6																									
1%	5/L3	0.022	Paved		<- - - - - - - - - -	as above	- - - - - - - - - - >		6	0.013					<- - - as above - - - >		0.013	0	0.02		<- - - - - - - - - -	as above	- - - - - - - - - - >		31.414	31.412	0.18	3.47	A1-4 [A2-3] : 1.4, Vo2 / (2gDo		31.43	31.922	0.49	5/L3	
			Grassed						6																									
20%	4/L3	0.08	Paved	85	6				6	0.023					G.G.P.	1.8 m lintel	0.023	0.001	0.603	18.703	3.01	750	29.603	29.04	30.036	29.439	2.61	0.54	A1-25 [A2-39] ,00, Qg/Qo=0.04,		30.04	31.592	1.56	4/L3	
			Supp.	0	6																													
			Grassed	15	6				6																									
1%	4/L3	0.08	Paved		<- - - - - - - - - -	as above	- - - - - - - - - - >		6	0.046					<- - - as above - - - >		0.046	0.009	1.185		<- - - - - - - - - -	as above	- - - - - - - - - - >		31.216	31.017	2.91	0.51	A1-25 [A2-39] ,00, Qg/Qo=0.05,		31.41	31.592	0.18	4/L3	
			Grassed						6																									
20%	3/L3	0.068	Paved	85	6				6	0.02	4/L3				G.G.P.	1.8 m lintel	0.02	0.001	0.62	18.122	1.49	750	28.99	28.72	29.439	29.067	3.19	0.37	A1-5 [A2-4])0, Qg / Qo = 0.04		29.44	30.91	1.47	3/L3	
			Supp.	0	6																													
			Grassed	15	6				6																									
1%	3/L3	0.068	Paved		<- - - - - - - - - -	as above	- - - - - - - - - - >		6	0.039	4/L3				<- - - as above - - - >		0.039	0.134	1.17		<- - - - - - - - - -	as above	- - - - - - - - - - >		30.83	30.673	2.87	0.6	A1-5 [A2-4])0, Qg / Qo = 0.14		31.02	30.91	0	3/L3	
			Grassed						6																									
20%	1/L5	0.128	Paved	0	6				6	0.027							0.027		0.027	7.841	7.5	375	34.05	33.462	34.108	33.515	2.76				34.11	35		1/L5	
			Supp.	0	6																													
			Grassed	100	6				6																									
1%	1/L5	0.128	Paved		<- - - - - - - - - -	as above	- - - - - - - - - - >		6	0.061							0.061		0.066		<- - - - - - - - - -	as above	- - - - - - - - - - >		34.761	34.749	0.58				34.76	35		1/L5	
			Grassed						6																									
20%	7/L1	1.382	Paved	85	10				10	0.343							0.343		0.343	10	3	600	33.07	32.77	33.295	33.007	3.52				33.29	35.306		7/L1	
			Supp.	0	6																													
			Grassed	15	12				12																									
1%	7/L1	1.382	Paved		<- - - - - - - - - -	as above	- - - - - - - - - - >		10	0.677							0.677		0.675		<- - - - - - - - - -	as above	- - - - - - - - - - >		33.471	33.363	3.32				33.47	35.306		7/L1	
			Grassed						12																									
20%	6/L1	0.022	Paved	95	6				6	0.007					G.G.P.	1.8 m lintel	0.007	0	0.348	26.987	6.08	600	32.721	31.08	33.007	31.425	2.59	0.29	A1-5 [A2-4])0, Qg / Qo = 0.02		33.01	35.297	2.29	6/L1	
			Supp.	0	6																													
			Grassed	5	6				6																									
1%	6/L1	0.022	Paved		<- - - - - - - - - -	as above	- - - - - - - - - - >		6	0.013					<- - - as above - - - >		0.013	0	0.687		<- - - - - - - - - -	as above	- - - - - - - - - - >		33.281	33.014	2.46	0.29	A1-5 [A2-4])0, Qg / Qo = 0.02		33.36	35.297	1.93	6/L1	
			Grassed						6																									
20%	N55	0.244	Paved	80	6				6	0.068							0.068		0.068	7	1	375	32.43	32.36	32.731	32.725	0.71				32.73	34.25		N55	
			Supp.	0	0																													
			Grassed	20	6				6																									
1%	N55	0.244	Paved		<- - - - - - - - - -	as above	- - - - - - - - - - >		6	0.137							0.137		0.137		<- - - - - - - - - -	as above	- - - - - - - - - - >		34.254	34.232	1.2				34.25	34.25		N55	
			Grassed						6																									
20%	5/L2	1.931	Paved	85	10				10	0.479							0.479		0.479	20	3	675	33.51	32.91	33.766	33.193	3.85				33.77	35		5/L2	
			Supp.	0	0																													
			Grassed	15	12				12																									
1%	5/L2	1.931	Paved		<- - - - - - - - - -	as above	- - - - - - - - - - >		10	0.946							0.946		0.95		<- - - - - - - - - -	as above	- - - - - - - - - - >		34.967	34.749	2.65				34.97	35		5/L2	
			Grassed						12																									

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XREFs:
CAD File: C:\12d\5data\gds5\YNP00608 - LOTS 36-44 Sydney Street, Grantham Farm_263\04. Engineering\04a. PP\P00608-CI-PP-1461.dwg

Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

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Datum	Coordinates	Size
AHD	MGA-2020	A1

Drawn C.M.	Date 19/02/2024	
Drafting Checked R.L.	Date 19/02/2024	
Design J.P.	Date 19/02/2024	
Design Checked R.L.	Date 19/02/2024	
Approved L.R.	Date 19/02/2024	

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: 5 YEAR AND 100 YEAR ARI STORMWATER DRAINAGE DATA - SHEET 2
Drawing Number: P00608-CI-PP-1462
Revision: A

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	34
						Kinematic Wave or Friends Formula Parameters					Overflows Approaching Pit																						
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) *worst 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	Remarks
20%	6/L3	1.994	Paved	85	6				6	0.58							0.58		0.579	20	3	750	30.25	29.65	30.525	30.036	4.06				30.52	32.6		6/L3	
			Supp.	0	0																													
			Grassed	15	6				6																									
1%	6/L3	1.994	Paved		< - - - - - - - - - -	as above		- - - - - - - - - - >	6	1.142							1.142		1.143		< - - - - - - - - - -	as above	- - - - - - - - - - >		31.632	31.412	2.81				31.63	32.6		6/L3	
			Grassed						6																									
20%	5/L1-2	0.08	Paved	95	6				6	0.024							0.024		0.023	11	1.5	375	31.245	31.08	31.43	31.425	0.42				31.43	33.547		5/L1-2	
			Supp.	0	6																													
			Grassed	5	6				6																									
1%	5/L1-2	0.08	Paved		< - - - - - - - - - -	as above		- - - - - - - - - - >	6	0.047							0.047		0.048		< - - - - - - - - - -	as above	- - - - - - - - - - >		33.028	33.014	0.43				33.03	33.547		5/L1-2	
			Grassed						6																									
20%	3/L1-2	0.028	Paved	95	6				6	0.008							0.008		0.008	11	1.5	375	29.6	29.435	29.649	29.482	1.06				29.65	31.896		3/L1-2	
			Supp.	0	6																													
			Grassed	5	6				6																									
1%	3/L1-2	0.028	Paved		< - - - - - - - - - -	as above		- - - - - - - - - - >	6	0.016							0.016		0.028		< - - - - - - - - - -	as above	- - - - - - - - - - >		30.518	30.514	0.25				30.52	31.896		3/L1-2	
			Grassed						6																									
20%	2/L1-2	1.218	Paved	85	6				6	0.354							0.354			11	1.5	900	28.022	27.857							28.59	30.182		2/L1-2	
			Supp.	0	6																													
			Grassed	15	6				6																									
1%	2/L1-2	1.218	Paved		< - - - - - - - - - -	as above		- - - - - - - - - - >	6	0.698							0.698				< - - - - - - - - - -	as above	- - - - - - - - - - >								29.58	30.182		2/L1-2	
			Grassed						6																									

NOTES

This sheet presents results from a pipe system model using ILSAX, the rational method, extended rational method (ERM), or the ARR 2016 initial loss - continuing loss (IL-CL) model implemented in the DRAINS program,(www.watercom.com.au) involving considerable calculations with multiple rainfall patterns, and comple› hydraulic computations. Therefore, unlike older rational method calculation sheets, this sheet does not portray hand calculations.
It presents the key model inputs and outputs of interest to reviewers.

Depending on inputs, the table may show results for a minor storm, a major storm, or both.
There may be multiple rows for up to three overflow routes coming to a pit.
You can edit headings or delete columns or rows.

The contents of each column are explained below:

Column 1: Design annual exceedance probability (AEP); values for minor storms, major storms or both may be displayed. Numerical values are not available for the rational method, but users can enter these.
Column 2: Pit Name from DRAINS (The connecting sub-catchment, downstream pipe and overflow route are assumed to have similar names, so they do not need to be entered in the table.)
As well as pits, headwalls, detention basins and nodes connected to sub-catchments are included.
Column 3: Sub-Catchment Area (ha)
Column 4: Land-Use Type: paved, supplementary and grassed areas (in different rows) for ILSAX, impervious and pervious areas for the rational method and ERM, or effective impervious areas (EIAs),remaining impervious areas (RIAs) and pervious areas (PAs) for the IL-CL model.
Column 5: Percentages of paved, supplementary and grassed areas for ILSAX, or impervious and pervious areas for the rational method and ERM, or effective impervious areas (EIAs),remaining impervious areas (RIAs) and pervious areas (PAs) for the IL-CL model.
Column 6: Constant flow times for the paved, supplementary and grassed areas (minutes) for ILSAX, or impervious and impervious areas for the rational method and ERM, or effective impervious areas (EIAs),remaining impervious areas (RIAs) and pervious areas (PAs) for the IL-CL model.
Column 7: Lengths of paved, supplementary and grassed area flow path segments (m) for ILSAX, or impervious and impervious areas for the rational method and ERM, or effective impervious areas (EIAs),remaining impervious areas (RIAs) and pervious areas (PAs) for the IL-CL model.
Column 8: Slopes of paved, supplementary and grassed area flow path segments (%) for ILSAX, or impervious and impervious areas for the rational method and ERM, or effective impervious areas (EIAs),remaining impervious areas (RIAs) and pervious areas (PAs) for the IL-CL model.
Column 9: Roughnesses of paved, supplementary and grassed area flow path segments (Manning's values) for ILSAX, or impervious and impervious areas for the rational method and ERM, or effective impervious areas (EIAs),remaining impervious areas (RIAs) and pervious areas (PAs) for the IL-CL model.'
Column 10: Total flow times for the paved, supplementary and grassed areas (minutes) for ILSAX, or impervious and pervious areas for the rational method and ERM, or effective impervious areas (EIAs),remaining impervious areas (RIAs) and pervious areas (PAs) for the IL-CL model.
For the rational methoid, it is the total catchment time of concentration.
Column 11: Peak Sub-Catchment Flowrate (m^3/s). For the rational method, the output indicates whether this is a full catchment or partial area estimate.
Column 12: Origin of Overflows, the names of any pits or nodes from which overflows come to the pit.
Column 13: Peak Overflows from upstream pits or nodes(m3/s), which may include flows from the sub-catchment through which they flow.
- not outputted for the rational method.)
Column 14: Approach Flow Width (m) - not outputted for the rational method.
Column 15: Approach Flow Depth x Velocity (m^2/s) - not outputted for the rational method.
Column 16: Inlet Family, in the DRAINS classification.
Column 17: Inlet Size, in the DRAINS classification.
Column 18: Total Approach Flow (m^3/s), sum of peaks of local sub-catchment runoff hydrograph plus overflow hydrographs directed to the pit.
(This will probably overestimate the true peak coming from additi0on of hydrographs.)
Column 19: Bypass Flow (m^3/s), the overflow occurring because of lack of inlet capacity or overflowing of the pipe system
Column 19a: Baseflow or Direct Inflow Peak (m^3/s), if present in the model; otherwise this column does not appear.
Column 20: Flow in Pipe (m^3/s).
Column 21: Pipe Length (mm).
Column 22: Pipe Slope (%).
Column 23: Pipe Diameter (mm) or Box Dimensions (m).
Column 24: Upstream Pipe Invert Level (m AHD).
Column 25: Downstream Pipe Invert Level (m AHD).
Column 26: Upstream Pipe Hydraulic Grade Line Level (inside the pipe) (m AHD).
Column 27: Downstream Pipe Hydraulic Grade Line Level (m AHD).
Column 28: Pipe Flow Velocity (m/s), for full or part-full flow.
Column 29: Pit Pressure Change Coefficient, the Ku value applying to the main line through the pit.
Column 29a: Chart Structure Number. If the QUDM method for determining Ku is applied, the number of the Chart in QUDM (2008) that is used to determine pit pressure change K factors is displayed.
If this is given as 'H-O'L' the equations in a paper by Hare and O'Loughlin are used.
Column 29b: Ratios used to define a K value from the appropriate QUDM chart, if teh QUDM method is applied.
Column 30: Water Surface Elevation (m AHD).
Column 31: Surface or Kerb and Channel (Kerb and Gutter) Obvert Level (m AHD).
Column 32: Freeboard (m), the difference between the levels in the two previous columns.
Column 33: Pit Name (repeated).

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Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

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DO NOT SCALE

Datum	Coordinates	Size
AHD	MGA-2020	A1

Drawn	C.M.	Date 19/02/2024
Drafting Checked	R.L.	Date 19/02/2024
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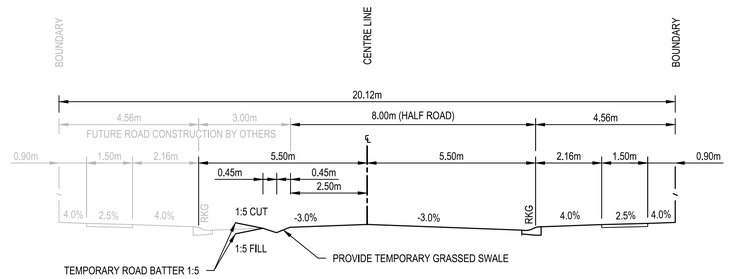
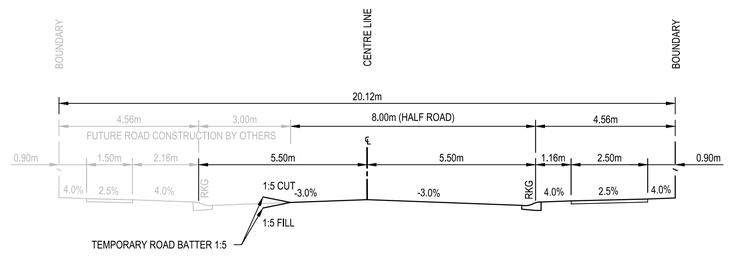
Design Checked	R.L.	Date 19/02/2024
Approved	L.R.	Date 19/02/2024

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: 5 YEAR AND 100 YEAR ARI STORMWATER DRAINAGE DATA - SHEET 3
Drawing Number: P00608-CI-PP-1463
Revision: A



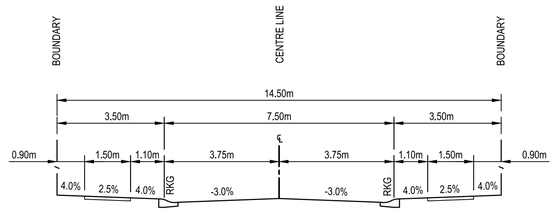
TYPICAL ROAD CROSS SECTION (SYDNEY STREET)

SCALE 1:100



TYPICAL ROAD CROSS SECTION (EDMUND STREET)

SCALE 1:100



TYPICAL ROAD CROSS SECTION (DUMARESQ STREET)

SCALE 1:100

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Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

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

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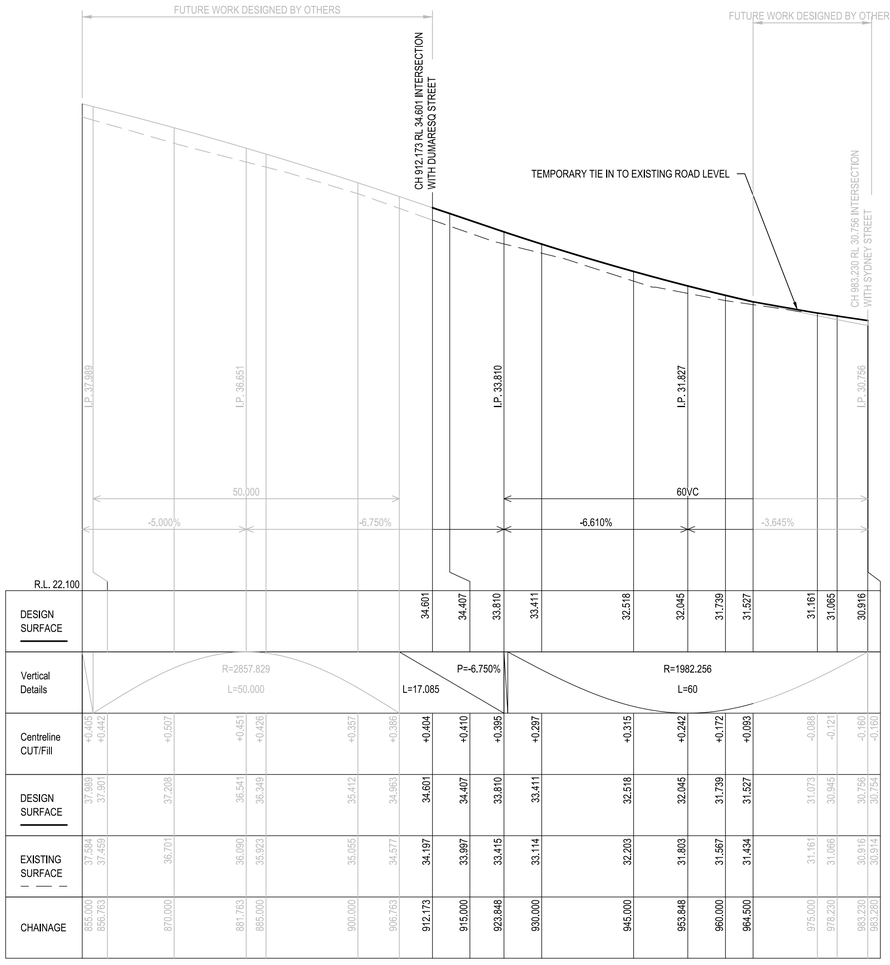
Datum	Coordinates	Size
AHD	MGA-2020	A1

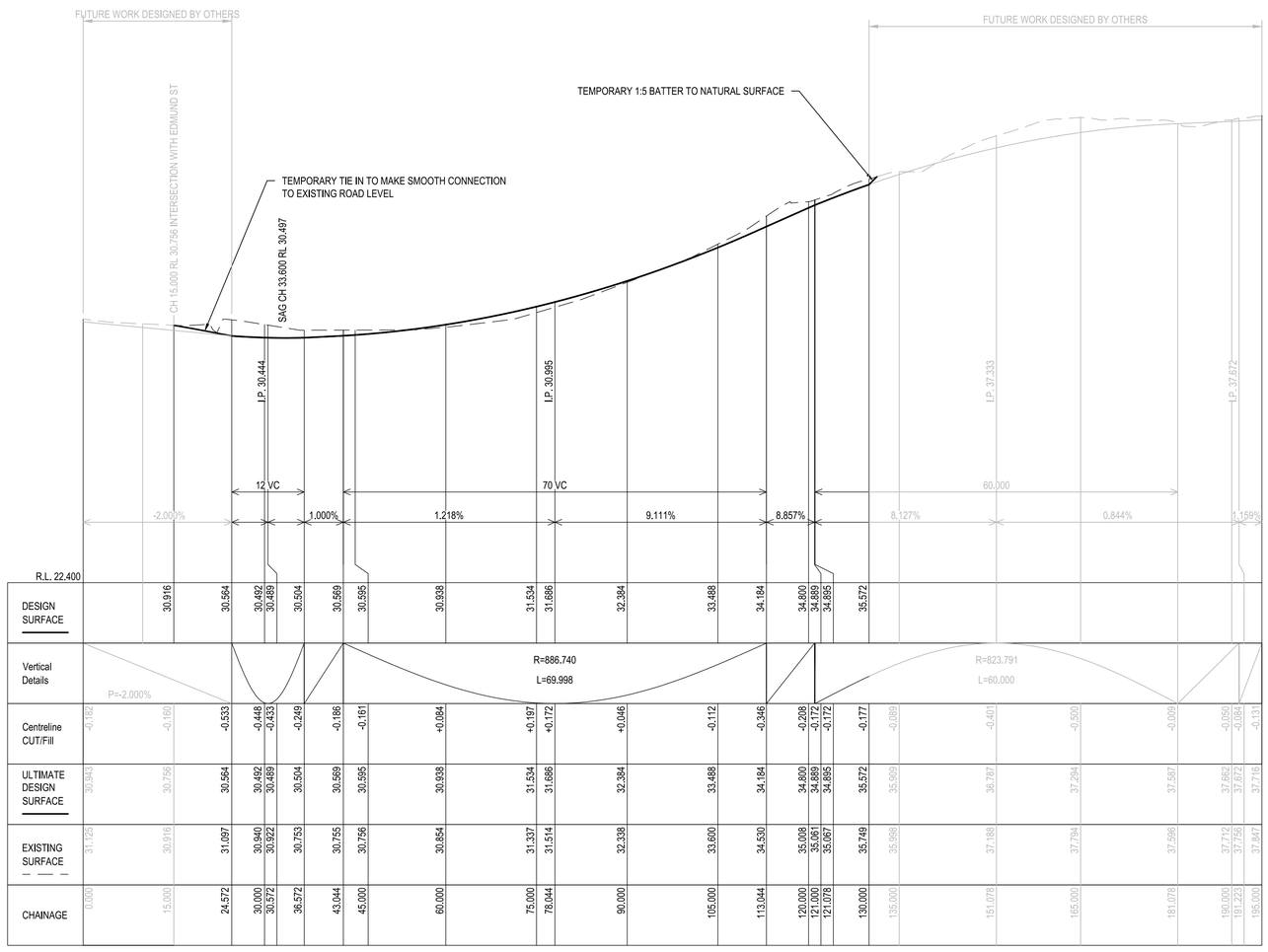
Drawn C.M.	Date 19/02/2024	
Drafting Checked R.L.	Date 19/02/2024	
Design J.P.	Date 19/02/2024	
Design Checked R.L.	Date 19/02/2024	
Approved L.R.	Date 19/02/2024	

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: TYPICAL ROAD CROSS SECTION
Revision: A
Drawing Number: P00608-CI-PP-1501



EDMUND STREET LONGITUDINAL SECTION

SCALE 1:500 H 1:100 V



SYDNEY STREET LONGITUDINAL SECTION

SCALE 1:500 H 1:100 V

FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Rev.	Date	Revision Description	C.M. Drawn	J.P. Design	L.R. Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION			

H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

PREPARED BY:
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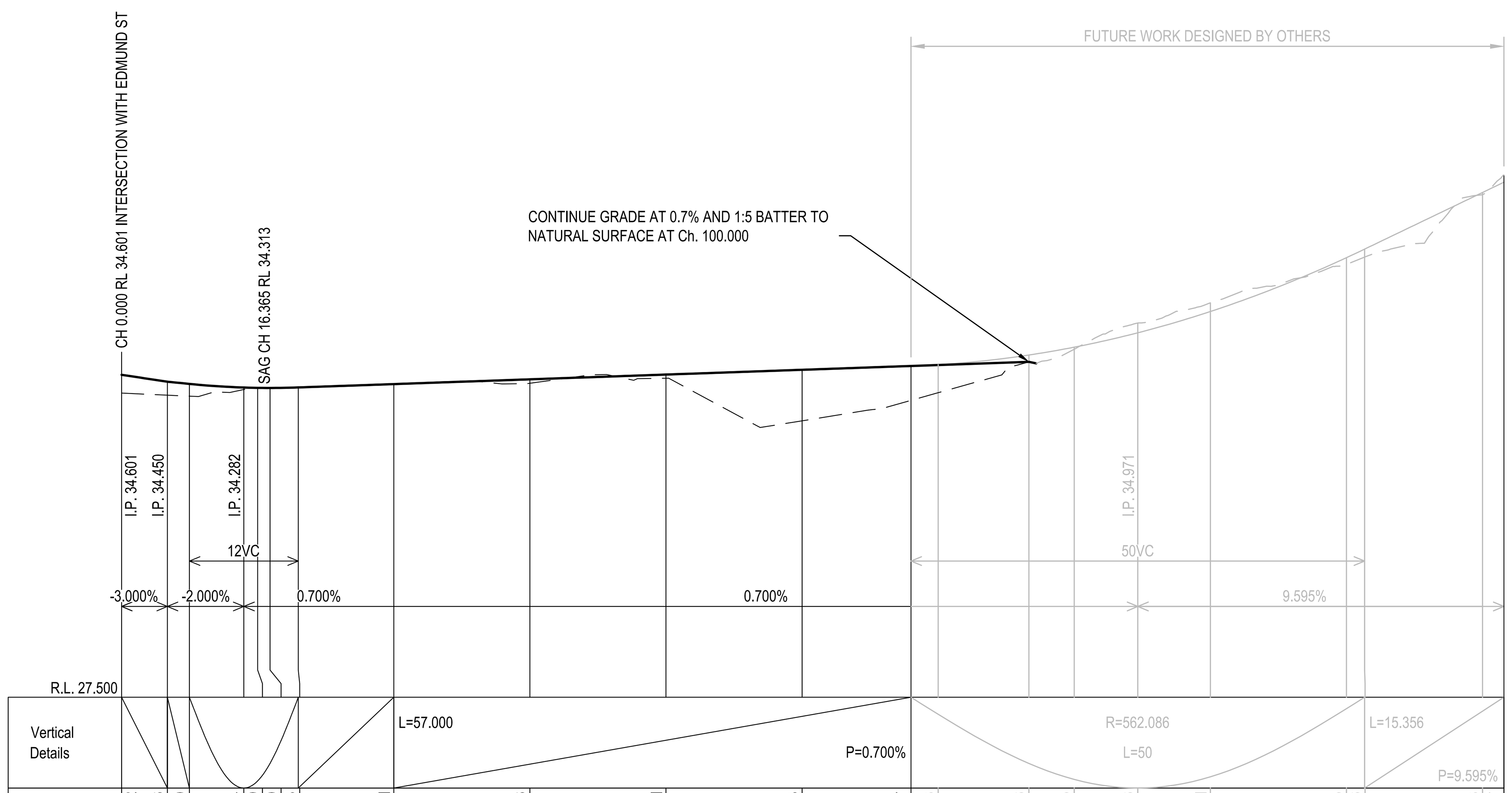
DO NOT SCALE

Datum	Coordinates	Size
AHD	MGA-2020	A1

		Date
Drawn	C.M.	19/02/2024
Drafting Checked	R.L.	19/02/2024
Design	J.P.	19/02/2024
Design Checked	R.L.	19/02/2024
Approved	L.R.	19/02/2024

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: ROAD LONGITUDINAL SECTIONS - SHEET 1
Revision: A
Drawing Number: P00608-CI-PP-1521



Centreline CUT/Fill	+0.402	+0.296	+0.270	+0.044	-0.009	-0.010	-0.003	-0.011	+0.086	+0.081	+1.123	+0.757	+0.618	+0.166	+0.045	-0.216	-0.191	+0.145	+0.176	+0.048	-0.157
DESIGN SURFACE	34.601	34.450	34.402	34.322	34.315	34.313	34.324	34.397	34.502	34.607	34.712	34.796	34.825	35.038	35.210	35.527	35.996	37.182	37.370	38.618	38.844
EXISTING SURFACE	34.199	34.154	34.132	34.278	34.324	34.323	34.327	34.408	34.416	34.526	33.589	34.039	34.207	34.872	35.165	35.743	36.187	37.037	37.194	38.570	39.001
CHAINAGE	0.000	5.050	7.476	13.476	15.000	16.365	19.476	30.000	45.000	60.000	75.000	87.000	90.000	100.000	105.000	112.000	120.000	135.000	137.000	150.000	152.356

DUMARESQ STREET LONGITUDINAL SECTION

SCALE 1:500 H 1:100 V

FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Rev.	Date	Revision Description	Drawn	Design	Appd.
A	19/02/2024	ISSUED FOR PP SUBMISSION	C.M.	J.P.	L.R.

H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

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DO NOT SCALE

Datum: AHD | Coordinates: MGA-2020 | Size: A1

Role	Name	Date
Drawn	C.M.	19/02/2024
Drafting Checked	R.L.	19/02/2024
Design	J.P.	19/02/2024
Design Checked	R.L.	19/02/2024
Approved	L.R.	19/02/2024

Client: ZUELA PTY. LTD.
Project: LOTS 36-44 SYDNEY STREET, GRANTHAM FARM, SECTION 17 DP1480
Title: ROAD LONGITUDINAL SECTIONS - SHEET 2
Drawing Number: P00608-CI-PP-1521
Revision: A