

Prepared by:

DA: SPP-20-00002



Prepared for:

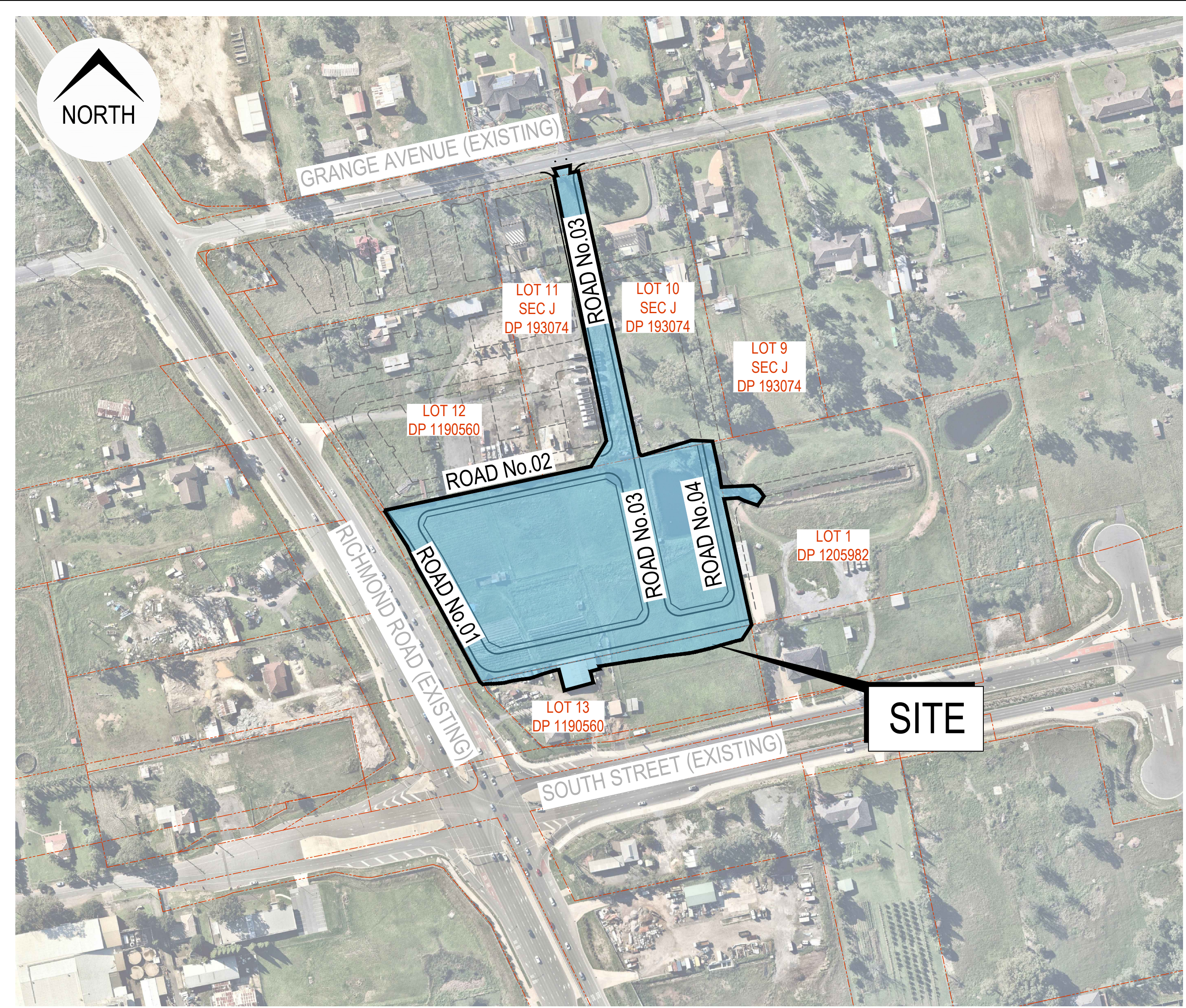


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STREET TREES		
DA 600	STREET TREE PLAN	NOT USED




SITE / LOCATION (Image courtesy of Nearmap 07.04.2019)

LOT 13 D.P.1190560

971 RICHMOND ROAD,
MARSDEN PARK
ROAD AND DRAINAGE DESIGN

ISSUED FOR **DEVELOPMENT APPLICATION**
NOT FOR CONSTRUCTION

GENERAL NOTES

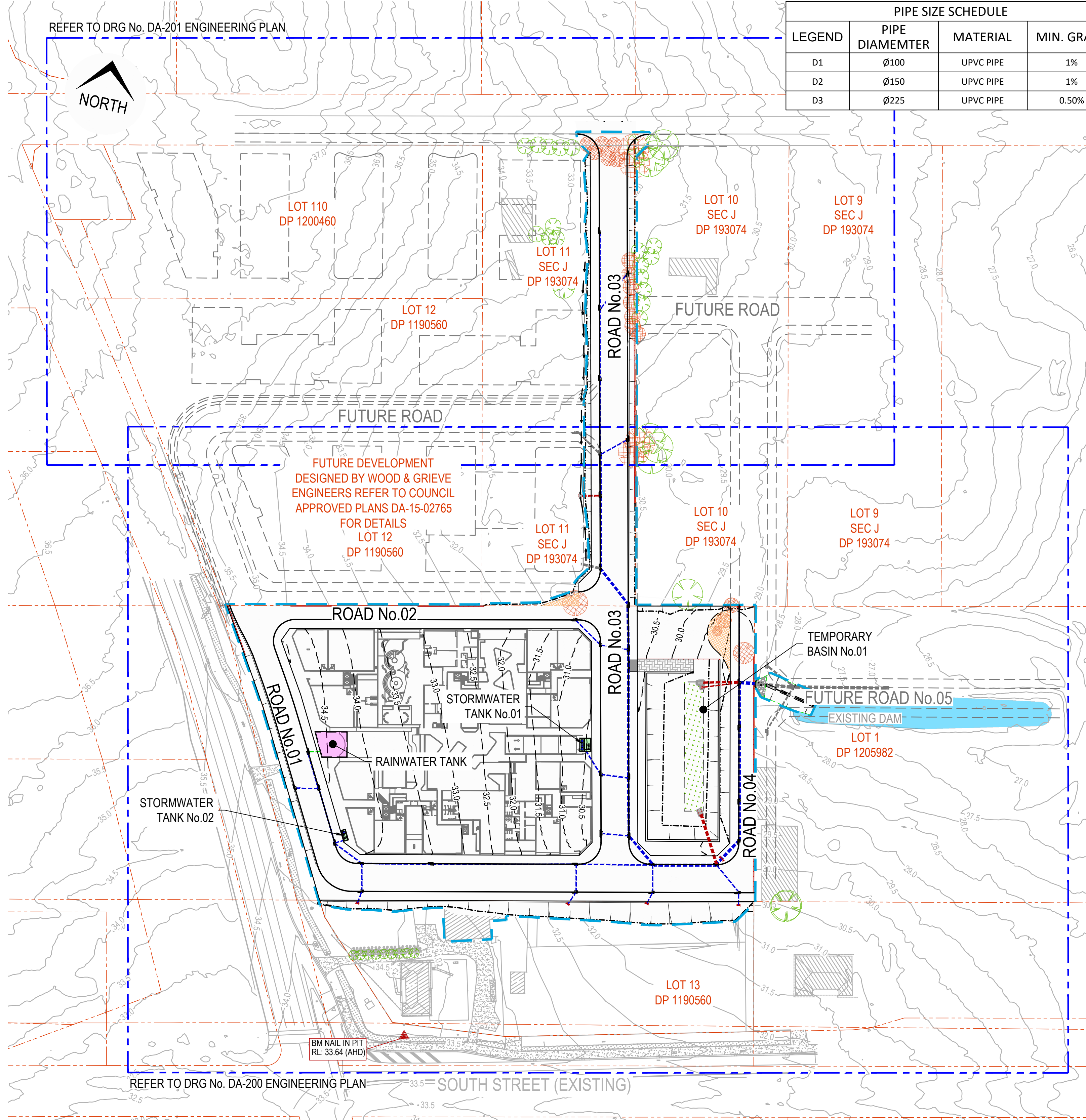
- G1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH BLACKTOWN CITY COUNCIL'S WORKS SPECIFICATION CIVIL (CURRENT EDITION) AND/OR AS DIRECTED BY THEIR REPRESENTATIVE
- G2. SURVEY MARKS:-
a. SURVEY MARKS SHOWN THUS  SHALL BE RETAINED AT ALL TIMES. WHERE RETENTION IS NOT POSSIBLE THE SUPERINTENDENT MUST BE NOTIFIED AND CONSENT RECEIVED PRIOR TO THEIR REMOVAL.
- G3. THE CONTRACTOR SHALL LOCATE AND LEVEL ALL EXISTING SERVICES PRIOR TO COMMENCING CONSTRUCTION AND MAKE ARRANGEMENTS WITH THE RELEVANT AUTHORITY TO RELOCATE OR ADJUST IF NECESSARY AT DEVELOPERS EXPENSE.
- G4. THE CONTRACTOR SHALL NOT ENTER UPON NOR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT THE WRITTEN PERMISSION OF THE OWNERS. TO BE PROVIDED PRIOR TO THE APPROVAL OF THE PLANS.
- G5. THE CONTRACTOR SHALL MAINTAIN SERVICES AND ALL WEATHER ACCESS AT ALL TIMES TO ADJOINING PROPERTIES.
- G6. COUNCIL'S TREE PRESERVATION ORDER MUST BE OBSERVED AND NO TREE SHALL BE FELLED, LOPPED OR REMOVED WITHOUT THE PRIOR APPROVAL OF COUNCIL'S ENGINEER.
- G7. TREES TO BE RETAINED ON SITE SHALL BE PROTECTED BY SUITABLE STURDY APPROVED PROTECTIVE FENCING PRIOR TO COMMENCEMENT OF SITE WORKS. NO TREES TO BE REMOVED WITHOUT COUNCIL'S WRITTEN APPROVAL.
- G8. THE CONTRACTOR SHALL CLEAR THE SITE BY REMOVING ALL RUBBISH, FENCES, EXISTING INFRASTRUCTURE AND DEBRIS ETC.
- G9. FILLING IS TO BE FROM A NOMINATED SOURCE, OF SOUND CLEAN MATERIAL, FREE FROM LARGE ROCK, STUMPS, CONTAMINATED MATTER, INDUSTRIAL AND BUILDING WASTE, ORGANIC MATTER AND OTHER DEBRIS. PLACING OF FILLING ON THE PREPARED AREAS SHALL NOT COMMENCE UNTIL THE AUTHORITY TO DO SO HAS BEEN OBTAINED FROM THE COUNCIL.
- G10. SITE FILL AREAS: - THE CONTRACTOR SHALL TAKE LEVELS OF EXISTING SURFACE AFTER STRIPPING TOPSOIL AND PRIOR TO COMMENCING FILL OPERATIONS.
- G11. ALL SITE FILLING TO BE COMPACTED TO 95% STANDARD COMPACTION AND SHALL BE CONTROLLED BY A REGISTERED SOIL LABORATORY IN ACCORDANCE WITH COUNCIL'S "WORKS SPECIFICATION".
- G12. ALL SITE REGRADING AREAS SHALL BE GRADED AT A MINIMUM 1% TO THE ENGINEERS REQUIREMENTS.
- G13. SURPLUS EXCAVATED MATERIAL SHALL BE PLACED WHERE DIRECTED BY THE SUPERINTENDENT.
- G14. ALL DRAINAGE LINES THROUGH LOTS SHALL BE CONTAINED WITHIN THEIR EASEMENTS AND CONFORM WITH COUNCIL'S STANDARDS.
- G15. DRAINAGE LINES UNDER ROADS SHALL BE BACKFILLED WITH NON-COHESIVE SAND AND HAVE 3m OF SUBSOIL DRAIN WRAPPED IN APPROVED FILTER SOCK, DISCHARGING INTO DOWN STREAM PITS.
- G16. VEHICULAR CROSSINGS SHALL BE CONSTRUCTED IN KERB AND GUTTER WHERE SHOWN. DRIVEWAYS & LAYBACKS ARE TO HAVE A MINIMUM 1 METRE CLEARANCE FROM POWER & LIGHT POLES & STORMWATER DRAINS AND 6 METRES CLEARANCE FROM KERB RETURN TANGENT POINTS AND TO COUNCIL STANDARD DRAWING A(BS) 102S.
- G17. PRAM CROSSINGS SHALL BE CONSTRUCTED IN KERB AND GUTTER IN ACCORDANCE WITH COUNCIL'S STANDARD DRAWING A(BS) 104M.
- G18. ALL NEW WORKS SHALL MAKE A SMOOTH JUNCTION WITH EXISTING CONDITIONS.
- G19. DIMENSIONS OF ANY DETAIL SHALL NOT BE SCALED - DIMENSIONS, IF IN DOUBT, SHALL BE VERIFIED BY THE SUPERINTENDENT.
- G20. ALL CONSTRUCTION AND RESTORATION WORK ON COUNCIL'S ROAD AND FOOTPATH AREA ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED DRAWINGS AND COUNCIL'S STANDARD SPECIFICATIONS.
- G21. ALL LIGHT POLES, STREET NAME POLES AND BUS SHELTERS IN THIS SUBDIVISION WILL BE BLACK POWDER COATED TO THE SATISFACTION OF BLACKTOWN CITY COUNCIL AND COMPLY TO COUNCIL'S SPECIFICATION.
- G22. CONDUITS TO BE PLACED WHERE REQUIRED BY RELEVANT AUTHORITIES.
- G23. PITS ARE TO HAVE STEP IRONS IF DEEPER THAN 1.2m. REFER TO COUNCIL'S STANDARD DWG A(BS)111S.
- G24. STRUCTURAL CERTIFICATION REQUIRED FOR CONSTRUCTION OF MAJOR AND NON-STANDARD STRUCTURES (PITS & RETAINING WALLS).
- G25. 100 YEAR FLOW PATHS TO BE FORMED AT TIME OF CONSTRUCTION.

SURVEY SET OUT INFORMATION NOTES:

- S1. ALL SITE SET OUT AND CONTROL POINTS ARE TO BE CERTIFIED BY A REGISTERED SURVEYOR.
- S2. THE INFORMATION DETAILED ON THE CERTIFIED CONSTRUCTION CERTIFICATE PLANS TAKES PRECEDENCE OVER ALL ELECTRONIC INFORMATION PROVIDED. THE ORDER OF PRIORITY FOR USE OF ALL INFORMATION PROVIDED IS AS FOLLOWS:
- a. CERTIFIED CONSTRUCTION CERTIFICATE DRAWINGS
b. 2D DRAFTING BASE (ELECTRONIC FILE)
c. 3D DTM (ELECTRONIC FILE)
- S3. ANY DISCREPANCY BETWEEN ANY OF THE INFORMATION CONTAINED WITHIN THESE FILES IS TO BE BROUGHT TO THE ATTENTION OF THE SUPERINTENDENT PRIOR TO CONSTRUCTION WHO WILL SEEK CLARIFICATION AND ISSUE INSTRUCTIONS ON THE APPROPRIATE COURSE OF ACTION.

EARTHWORKS NOTES

- E1. EARTHWORKS ARE TO BE CARRIED OUT TO THE SATISFACTION OF THE COUNCIL. UNSUITABLE MATERIALS ARE TO BE REMOVED FROM ROADS AND LOTS PRIOR TO FILLING. THE CONTRACTOR IS TO ARRANGE AND MAKE AVAILABLE COMPACTION TESTING RESULTS FOR ALL AREAS THAT CONTAIN FILL IN EXCESS OF 250mm.
- E2. COMPACTION OF EARTHWORKS SHALL CONTINUE UNTIL A DRY DENSITY RATIO OF 95% FOR SITE FILLING AND 100% FOR ROAD PAVEMENT SUBGRADES HAS BEEN ACHIEVED IN ACCORDANCE WITH TEST METHOD AS1289.5.3.1 OR AS.1289.5.1.1. THE CONTROL TESTING OF EARTHWORKS SHALL BE IN ACCORDANCE WITH THE GUIDELINES IN AS3798 GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS. WHERE IT IS PROPOSED TO USE TEST METHOD AS1289.5.8.1 TO DETERMINE THE FIELD DENSITY, A SAND REPLACEMENT METHOD SHALL BE USED TO CONFIRM THE RESULTS.
- E3. THE SUITABLE QUALIFIED GEOTECHNICAL ENGINEER, SHALL HAVE A LEVEL 1 RESPONSIBILITY FOR ALL FILLING AS DEFINED IN APPENDIX B AS3798 'GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS', AND AT THE END OF THE WORKS SHALL CONFIRM THE EARTHWORKS COMPLY WITH THE REQUIREMENTS OF THE SPECIFICATION AND DRAWINGS BY WRITTEN NOTIFICATION.
- E4. IN AREAS TO BE FILLED WHERE THE SLOPE OF THE NATURAL SURFACE EXCEEDS 1(V):4(H), BENCHES ARE TO BE CUT TO PREVENT SLIPPING OF THE PLACED FILL MATERIAL AS REQUIRED BY THE COUNCIL.
- E5. ALL BATTERS ARE TO BE SCARIFIED TO A DEPTH OF 50mm TO ASSIST WITH ADHESION OF TOP SOIL TO BATTER FACE.
- E6. PROVIDE MINIMUM 100mm AND MAXIMUM 250mm TOPSOIL DEPTH ON FOOTPATHS, FILLED AREAS AND ALL OTHER AREAS DISTURBED DURING CONSTRUCTION. TOPSOILED AREAS TO BE STABILISED WITH APPROVED VEGETATION A MAXIMUM OF 14 DAYS AFTER TOPSOILING AND ARE TO BE WATERED TO ENSURE GERMINATION.
- E7. THE CONTRACTOR SHALL CONTROL SEDIMENTATION, EROSION AND POLLUTION DURING CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT EDITION OF 'MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION' PRODUCED BY LANDCOM.
- E8. FOOTWAY AREA TO BE FULLY TURFED WITH COUCH GRASS, AND SHALL BE MAINTAINED AND REPLACED AS REQUIRED DURING THE CONSTRUCTION MAINTENANCE PERIOD, IN ACCORDANCE WITH CONDITION.














































































STORMWATER DRAINAGE NOTES

- D1. STORMWATER DESIGN CRITERIA:
1:100 MAJOR SYSTEM
1.5 MINOR SYSTEM
- D2. PIPES TO BE INSTALLED TO TYPE HS1 SUPPORT IN ACCORDANCE WITH AS 3725 (1989) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE (UNO). 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)
- D3. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 AND AS/NZS 3500 3.2 & COUNCIL'S SPECIFICATIONS.
- D4. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
- D5. GRATES AND COVERS SHALL CONFORM TO AS 3996.
- D6. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
- D7. DRAINAGE LINES UNDER ROADS SHALL BE BACKFILLED WITH NON-COHESIVE SAND AND HAVE 3.0m OF SUBSOIL DRAIN WRAPPED IN APPROVED FILTER SOCK, DISCHARGING INTO DOWN STREAM PITS.
- D8. ALL STORMWATER PIPES WITHIN ROADS TO BE REINFORCED CONCRETE PIPE (RCP) CLASS 2.
- D9. ALL INTERALLOTMENT DRAINAGE LINES SHALL BE LAID AT A MINIMUM GRADE OF 1% UNLESS OTHERWISE INDICATED.
- D10. DRAINAGE LINES ON PLANS ARE DIAGRAMMATIC ONLY AND PIPE CENTRELINES SHALL ENTER AND EXIT PITS AT THE CENTRE OF THE RESPECTIVE PIT WALLS (UNO).
- D11. PRECAST KERB INLET LINTELS SHALL BE USED ON GULLY PITS. GULLY PITS SHALL BE IN ACCORDANCE WITH A(BS)106M.
- D12. PROVIDE STUB Ø100 uPVC SN4 PIPES AT INTER-ALLOTMENT DRAINAGE PITS FOR FUTURE CONNECTION. REFER TO DRAINAGE LONGSECTIONS.

PIPE SIZE SCHEDULE			
LEGEND	PIPE DIAMETER	MATERIAL	MIN. GRADE
D1	Ø100	UPVC PIPE	1%
D2	Ø150	UPVC PIPE	1%
D3	Ø225	UPVC PIPE	0.50%

LEGEND

	EXISTING	PROPOSED	FUTURE
UTILITY - OVERHEAD LINE WATER			
EXISTING STORM WATER			
CONTOUR LINE & LABEL			
LOT NUMBER & BOUNDARY	LOT #	LOT #	LOT #
APPROXIMATE LIMIT OF WORKS OR STAGE			
BUILDING / ENVELOPE			
ROAD, NUMBER, CONTROL LINE, CHAINAGE & CHAINAGE MARK	ROAD #H	ROAD #H	ROAD #H
COUNCIL STANDARD KERB & GUTTER, ROLL KERB OR DISH CROSSING			
COUNCIL STANDARD DISH CROSSING			
EDGE OF BITUMEN			
COUNCIL STANDARD CONCRETE FOOTPATH & KERB RAMP			
INDICATIVE DRIVEWAY AND VC LOCATION CONSTRUCTED BY OTHERS			
STORMWATER RAINWATER TANK			
RAINWATER TANK			
STORMWATER DRAINAGE PIPE AND STRUCTURE			
STORMWATER DRAINAGE PIPE AND STUB			
TEMPORARY STORMWATER DRAINAGE PIPE			
OVERFLOW LINE FROM RAINWATER TANK			
EASEMENT (REFER LEGEND)	(A) (B) (C)	(A) (B) (C)	(A) (B) (C)
SUBSOIL DRAIN			
DIVERSION SWALE			
RETAINING WALL			
GUARDRAIL			
BATTER			
TREE - TO BE RETAINED			
TREE - TO BE REMOVED			
EXTERNAL BOUNDARY			
DAM			

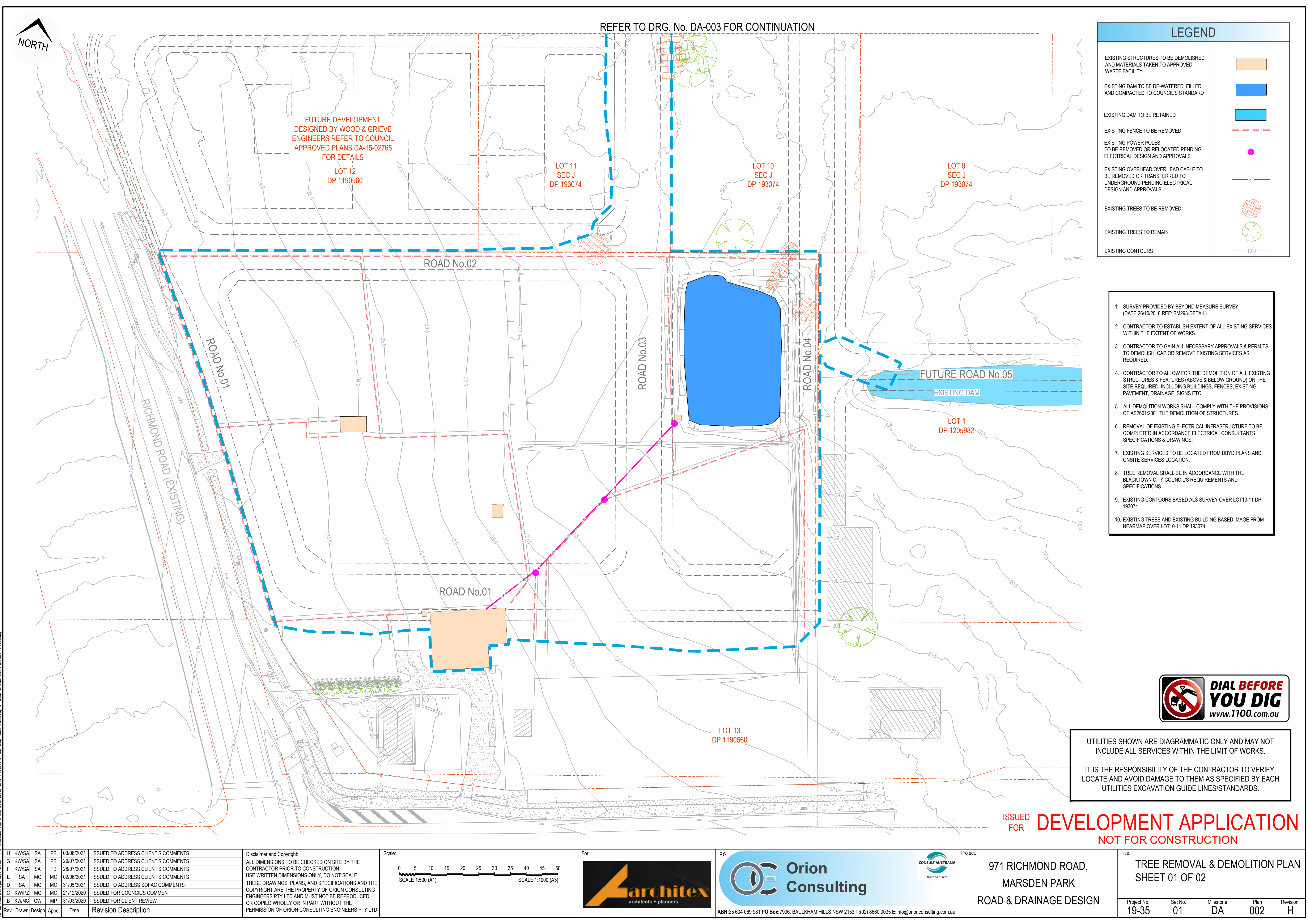
UTILITIES SHOWN ARE DIAGRAMMATIC ONLY AND MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY, LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES/STANDARDS.



ISSUED FOR **DEVELOPMENT APPLICATION**
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KW/SA	SA	PB	03/08/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS	<p>Disclaimer and Copyright:</p> <p>ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE.</p> <p>THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD</p>	<p>Scale:</p> <p>0 10 20 30 40 50 60 70 80 90 100</p> <p>SCALE 1:1000 (A1) SCALE 1:2000 (A3)</p>	<p>For:</p> <p></p>	<p>By:</p> <p></p> <p>ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au</p>	<p></p>	<p>Project:</p> <p>971 RICHMOND ROAD, MARSDEN PARK ROAD & DRAINAGE DESIGN</p>	<p>Title:</p> <p>GENERAL LAYOUT PLAN, NOTES & LEGEND</p>	
G	KW/SA	SA	PB	29/07/2021								ISSUED TO ADDRESS CLIENT'S COMMENTS
F	KW/SA	SA	PB	28/07/2021								ISSUED TO ADDRESS CLIENT'S COMMENTS
E	SA	MC	MC	02/06/2021								ISSUED TO ADDRESS CLIENT'S COMMENTS
D	SA	MC	MC	31/05/2021								ISSUED TO ADDRESS SOFAC COMMENTS
C	KW/PZ	MC	MC	21/12/2020								ISSUED FOR COUNCIL'S COMMENT
B	KW/MG	CW	MP	31/03/2020								ISSUED FOR CLIENT REVIEW
Rev	Drawn	Design	Appd.	Date								Revision Description



LEGEND

EXISTING STRUCTURES TO BE DEMOLISHED AND MATERIALS TAKEN TO APPROVED WASTE FACILITY

EXISTING DAM TO BE DE-WATERED, FILLED AND COMPACTED TO COUNCIL'S STANDARD

EXISTING DAM TO BE RETAINED

EXISTING FENCE TO BE REMOVED

EXISTING POWER POLES TO BE REMOVED OR RELOCATED PENDING ELECTRICAL DESIGN AND APPROVALS.

EXISTING OVERHEAD OVERHEAD CABLE TO BE REMOVED OR TRANSFERRED TO UNDERGROUND PENDING ELECTRICAL DESIGN AND APPROVALS.

EXISTING TREES TO BE REMOVED

EXISTING TREES TO REMAIN

EXISTING CONTOURS

10.0

1. SURVEY PROVIDED BY BEYOND MEASURE SURVEY (DATE 26/10/2018 REF: BM293-DETAIL)
2. CONTRACTOR TO ESTABLISH EXTENT OF ALL EXISTING SERVICES WITHIN THE EXTENT OF WORKS.
3. CONTRACTOR TO GAIN ALL NECESSARY APPROVALS & PERMITS TO DEMOLISH, CAP OR REMOVE EXISTING SERVICES AS REQUIRED.
4. CONTRACTOR TO ALLOW FOR THE DEMOLITION OF ALL EXISTING STRUCTURES & FEATURES (ABOVE & BELOW GROUND) ON THE SITE REQUIRED, INCLUDING BUILDINGS, FENCES, EXISTING PAVEMENT, DRAINAGE, SIGNS ETC.
5. ALL DEMOLITION WORKS SHALL COMPLY WITH THE PROVISIONS OF AS2601:2001 THE DEMOLITION OF STRUCTURES.
6. REMOVAL OF EXISTING ELECTRICAL INFRASTRUCTURE TO BE COMPLETED IN ACCORDANCE ELECTRICAL CONSULTANTS SPECIFICATIONS & DRAWINGS.
7. EXISTING SERVICES TO BE LOCATED FROM DBYD PLANS AND ONSITE SERVICES LOCATION.
8. TREE REMOVAL SHALL BE IN ACCORDANCE WITH THE BLACKTOWN CITY COUNCIL'S REQUIREMENTS AND SPECIFICATIONS.
9. EXISTING CONTOURS BASED ALS SURVEY OVER LOT10-11 DP 193074.
10. EXISTING TREES AND EXISTING BUILDING BASED IMAGE FROM NEARMAP OVER LOT10-11 DP 193074.



UTILITIES SHOWN ARE DIAGRAMMATIC ONLY AND MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS.

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D	SA	MC	MC	31/05/2021	ISSUED TO ADDRESS SOFAC COMMENTS
C	KW/PZ	MC	MC	21/12/2020	ISSUED FOR COUNCIL'S COMMENT
B	KW/MG	CW	MP	31/03/2020	ISSUED FOR CLIENT REVIEW
Rev	Drawn	Design	Appd.	Date	Revision Description

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Scale:

0 5 10 15 20 25 30 35 40 45 50

SCALE 1:500 (A1)

SCALE 1:1000 (A3)

For:

Architex
architects + planners

By:

Orion Consulting

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project:

971 RICHMOND ROAD,
MARSDEN PARK
ROAD & DRAINAGE DESIGN

Title:

TREE REMOVAL & DEMOLITION PLAN
SHEET 01 OF 02

Project No.	Set No.	Milestone	Plan	Revision
19-35	01	DA	002	H



LEGEND

EXISTING TREES TO BE REMOVED



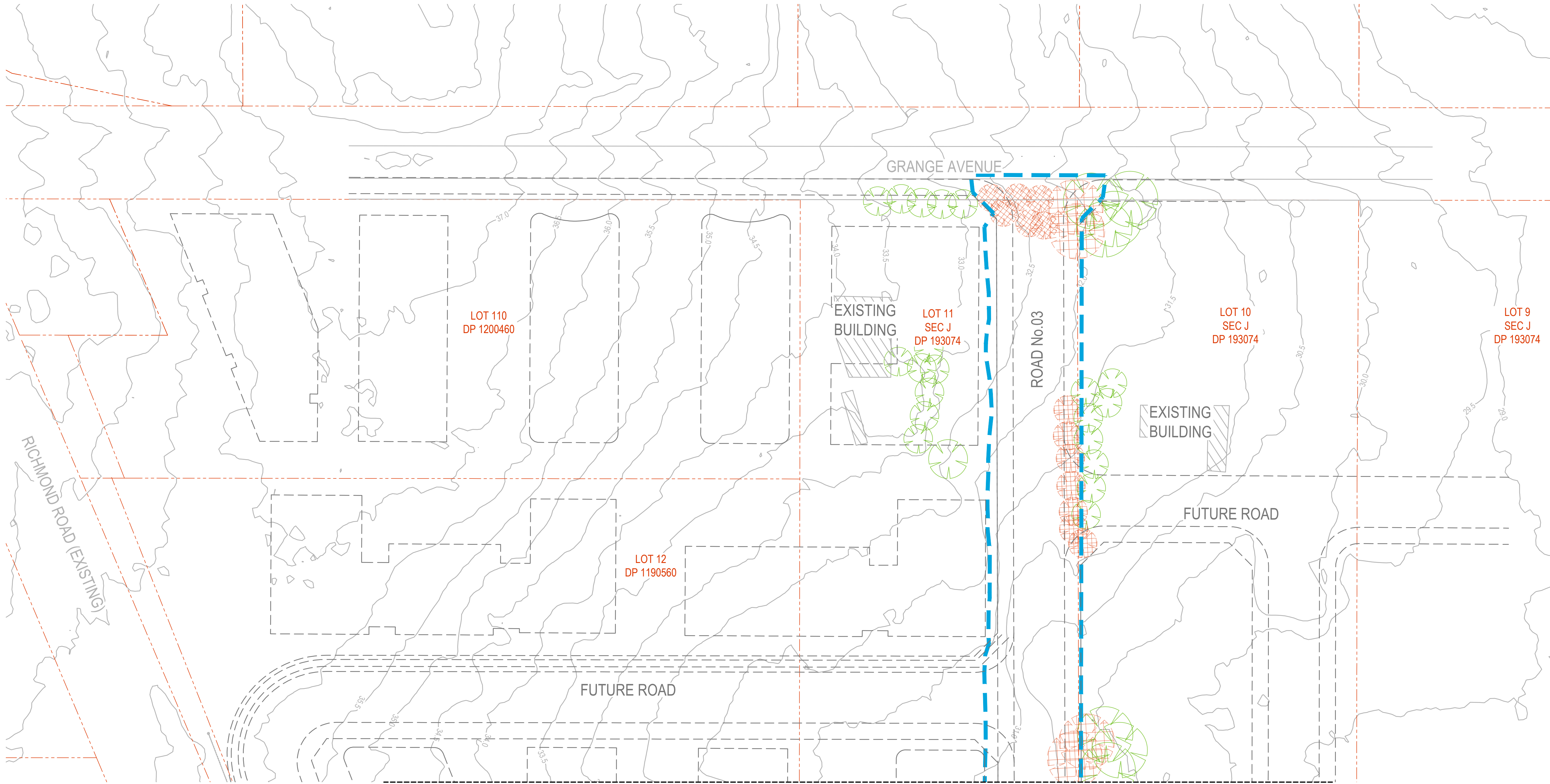
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REFER TO DRG. No. DA-002 FOR CONTINUATION



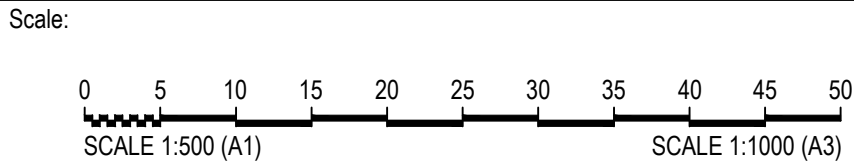
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D	SA	MC	MC	31/05/2021	ISSUED TO ADDRESS SOFAC COMMENTS
C	KW/PZ	MC	MC	21/12/2020	ISSUED FOR COUNCIL'S COMMENT
B	KW/MG	CW	MP	31/03/2020	ISSUED FOR CLIENT REVIEW
Rev	Drawn	Design	Appd.	Date	Revision Description

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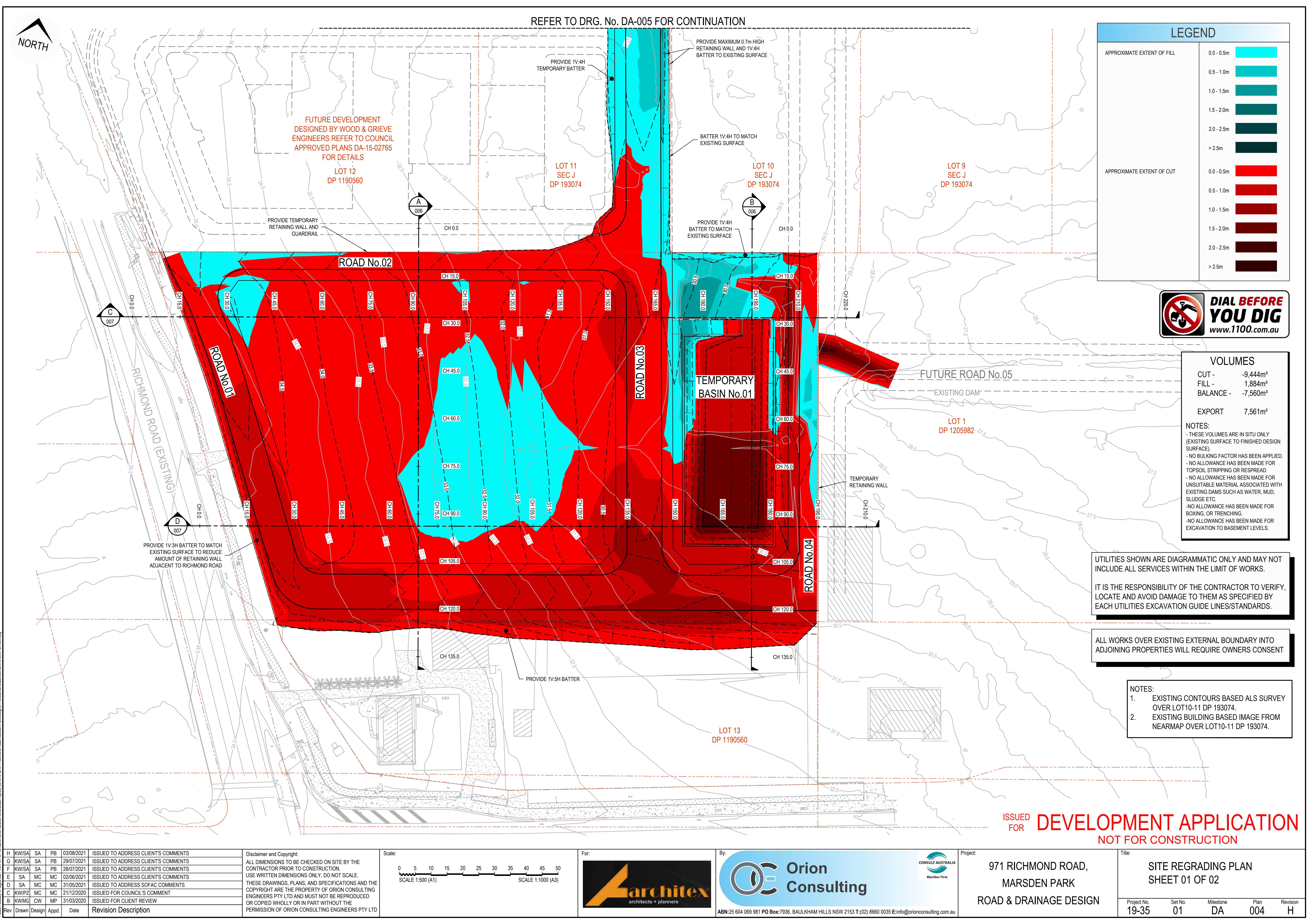
By: **Orion Consulting**

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

CONSULT AUSTRALIA Member Firm

Project: 971 RICHMOND ROAD,
MARSDEN PARK
ROAD & DRAINAGE DESIGN

Title: TREE REMOVAL & DEMOLITION PLAN SHEET 02 OF 02				
Project No. 19-35	Set No. 01	Milestone DA	Plan 003	Revision H



<table><tr><td>H</td><td>KW/SA</td><td>SA</td><td>PB</td><td>03/08/2021</td><td>ISSUED TO ADDRESS CLIENT'S COMMENTS</td></tr><tr><td>G</td><td>KW/SA</td><td>SA</td><td>PB</td><td>29/07/2021</td><td>ISSUED TO ADDRESS CLIENT'S COMMENTS</td></tr><tr><td>F</td><td>KW/SA</td><td>SA</td><td>PB</td><td>28/07/2021</td><td>ISSUED TO ADDRESS CLIENT'S COMMENTS</td></tr><tr><td>E</td><td>SA</td><td>MC</td><td>MC</td><td>02/06/2021</td><td>ISSUED TO ADDRESS CLIENT'S COMMENTS</td></tr><tr><td>D</td><td>SA</td><td>MC</td><td>MC</td><td>31/05/2021</td><td>ISSUED TO ADDRESS SOFAC COMMENTS</td></tr><tr><td>C</td><td>KW/PZ</td><td>MC</td><td>MC</td><td>21/12/2020</td><td>ISSUED FOR COUNCIL'S COMMENT</td></tr><tr><td>B</td><td>KW/MG</td><td>CW</td><td>MP</td><td>31/03/2020</td><td>ISSUED FOR CLIENT REVIEW</td></tr><tr><td>Rev</td><td>Drawn</td><td>Design</td><td>Appd.</td><td>Date</td><td>Revision Description</td></tr></table>					H	KW/SA	SA	PB	03/08/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS	G	KW/SA	SA	PB	29/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS	F	KW/SA	SA	PB	28/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS	E	SA	MC	MC	02/06/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS	D	SA	MC	MC	31/05/2021	ISSUED TO ADDRESS SOFAC COMMENTS	C	KW/PZ	MC	MC	21/12/2020	ISSUED FOR COUNCIL'S COMMENT	B	KW/MG	CW	MP	31/03/2020	ISSUED FOR CLIENT REVIEW	Rev	Drawn	Design	Appd.	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LEGEND

APPROXIMATE EXTENT OF FILL	0.0 - 0.5m	
	0.5 - 1.0m	
	1.0 - 1.5m	
	1.5 - 2.0m	
	2.0 - 2.5m	
	> 2.5m	

APPROXIMATE EXTENT OF CUT	0.0 - 0.5m	
	0.5 - 1.0m	
	1.0 - 1.5m	
	1.5 - 2.0m	
	2.0 - 2.5m	
	> 2.5m	



NOTES:

- THESE VOLUMES ARE IN SITU ONLY (EXISTING SURFACE TO FINISHED DESIGN SURFACE).
- NO BULKING FACTOR HAS BEEN APPLIED.
- NO ALLOWANCE HAS BEEN MADE FOR TOPSOIL STRIPPING OR RESPREAD.
- NO ALLOWANCE HAS BEEN MADE FOR UNSUITABLE MATERIAL ASSOCIATED WITH EXISTING DAMS SUCH AS WATER, MUD, SLUDGE ETC.
- NO ALLOWANCE HAS BEEN MADE FOR BOXING, OR TRENCHING.
- NO ALLOWANCE HAS BEEN MADE FOR EXCAVATION TO BASEMENT LEVELS.

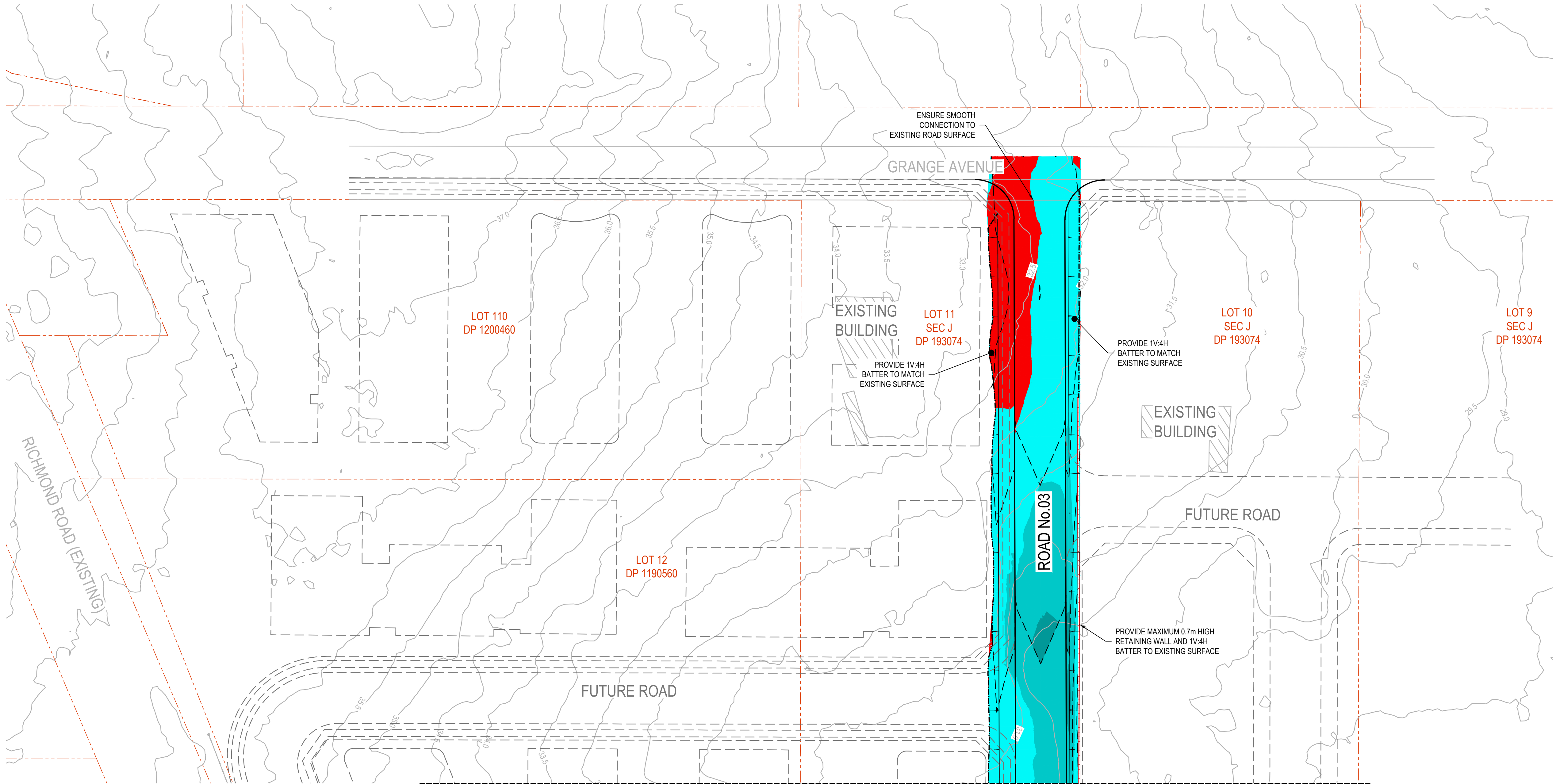
UTILITIES SHOWN ARE DIAGRAMMATIC ONLY AND MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY, LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES/STANDARDS.

ALL WORKS OVER EXISTING EXTERNAL BOUNDARY INTO ADJOINING PROPERTIES WILL REQUIRE OWNERS CONSENT

NOTES:

- EXISTING CONTOURS BASED ALS SURVEY OVER LOT10-11 DP 193074.
- EXISTING BUILDING BASED IMAGE FROM NEARMAP OVER LOT10-11 DP 193074.

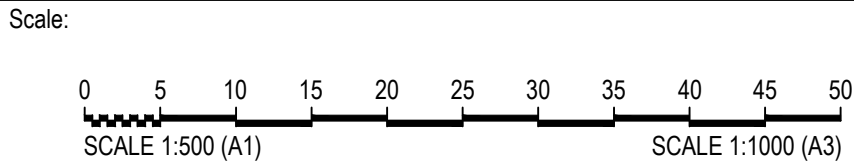


REFER TO DRG. No. DA-004 FOR CONTINUATION

ISSUED FOR **DEVELOPMENT APPLICATION**
NOT FOR CONSTRUCTION

H	KW/SA	SA	PB	03/08/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
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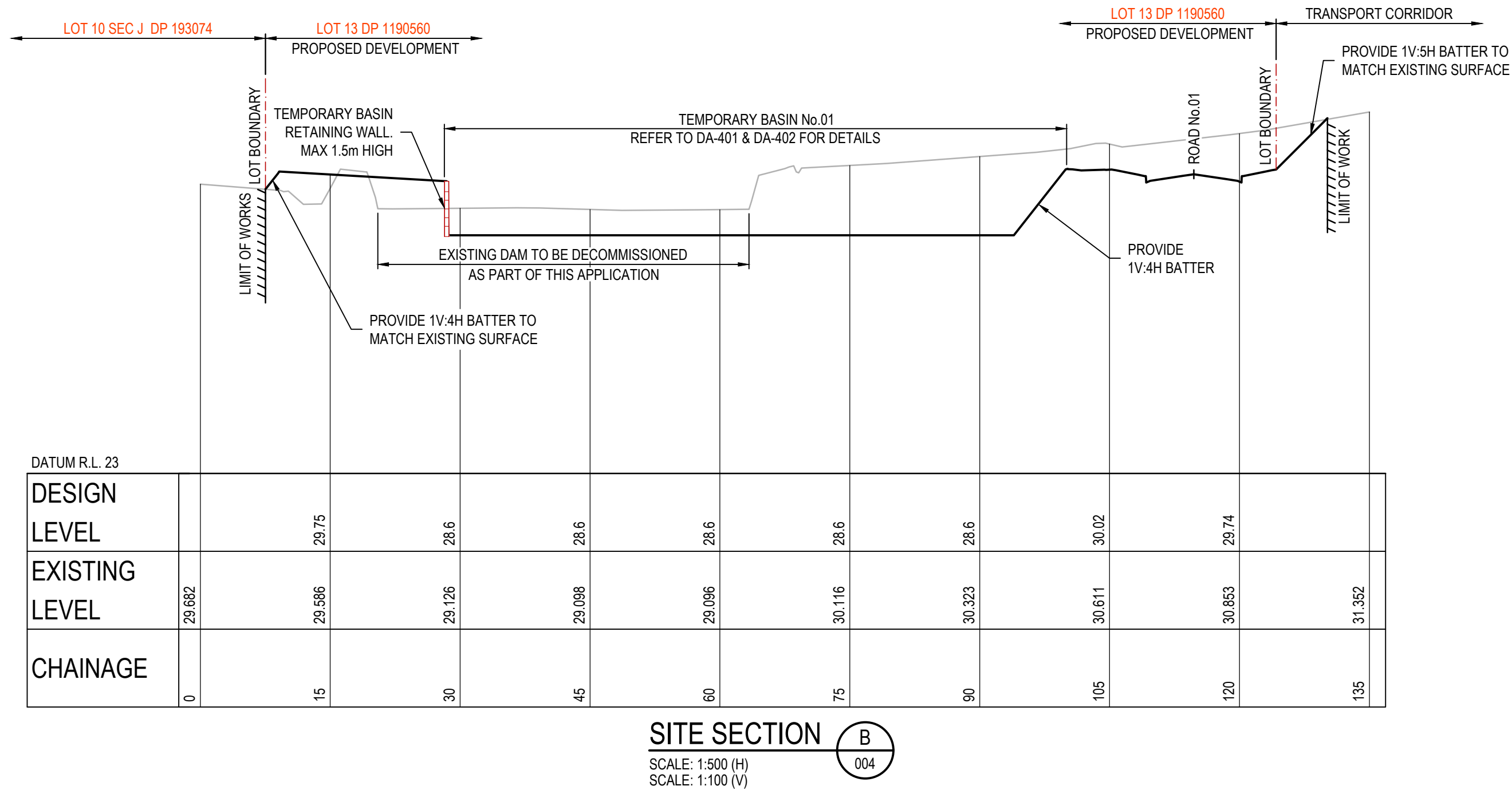
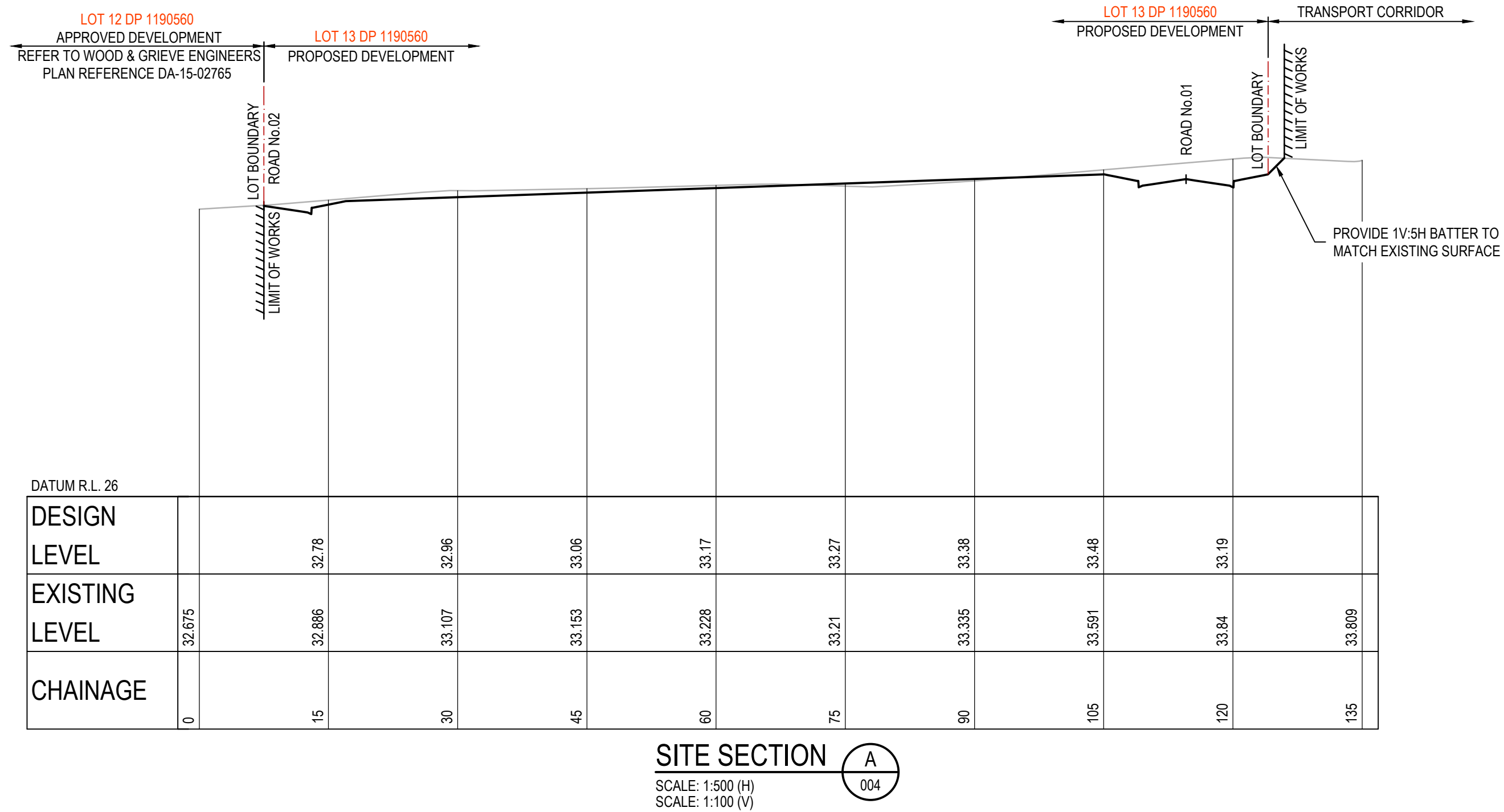
By: **Orion Consulting**
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

CONSULT AUSTRALIA
Member Firm

Project: 971 RICHMOND ROAD,
MARSDEN PARK
ROAD & DRAINAGE DESIGN

Title: SITE REGRADING PLAN SHEET 02 OF 02				
Project No. 19-35	Set No. 01	Milestone DA	Plan 005	Revision H

LEGEND	
FINISHED DESIGN SURFACE LEVEL	—————
EXISTING SURFACE	—————
FUTURE SURFACE	-----
LOT BOUNDARY	- - - - -

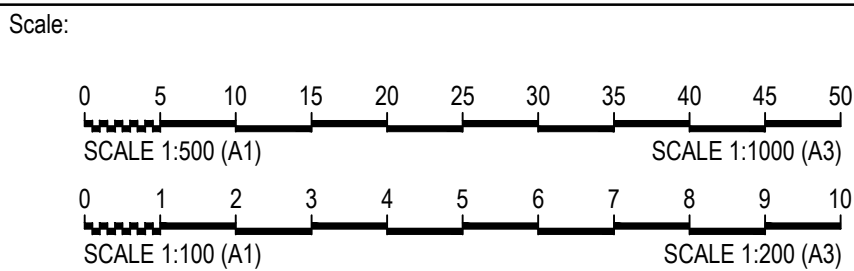


ISSUED FOR **DEVELOPMENT APPLICATION**
NOT FOR CONSTRUCTION

Project: 971 Richmond Road, Marsden Park, NSW 2153
File Name: Orion-dam-decommission-Orion-Consulting-201910-35-971 Richmond Road, Marsden Park, NSW 2153-1-DA-006.dwg
Printed: Tuesday, 3 August 2021 4:04:56 PM

Rev	Drawn	Design	Appd.	Date	Revision Description
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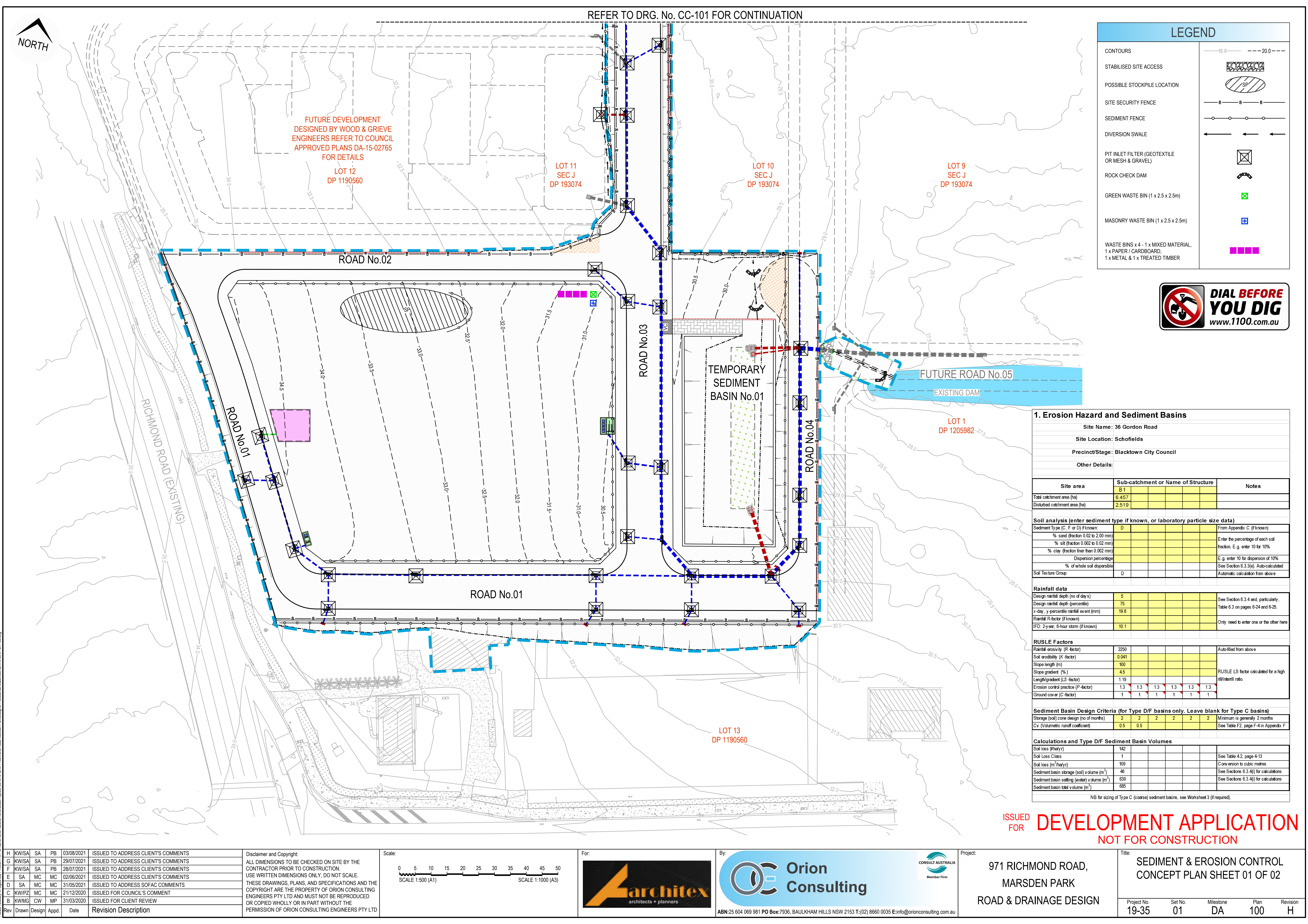
By:

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project:

971 RICHMOND ROAD,
MARSDEN PARK
ROAD & DRAINAGE DESIGN

Title: SITE REGRADING SECTIONS SHEET 01 OF 02				
Project No. 19-35	Set No. 01	Milestone DA	Plan 006	Revision H



LEGEND	
CONTOURS	10.0 20.0
STABILISED SITE ACCESS	
POSSIBLE STOCKPILE LOCATION	
SITE SECURITY FENCE	
SEDIMENT FENCE	
DIVERSION SWALE	
PIT INLET FILTER (GEOTEXTILE OR MESH & GRAVEL)	
ROCK CHECK DAM	
GREEN WASTE BIN (1 x 2.5 x 2.5m)	
MASONRY WASTE BIN (1 x 2.5 x 2.5m)	
WASTE BINS x 4 - 1 x MIXED MATERIAL, 1 x PAPER / CARDBOARD, 1 x METAL & 1 x TREATED TIMBER	

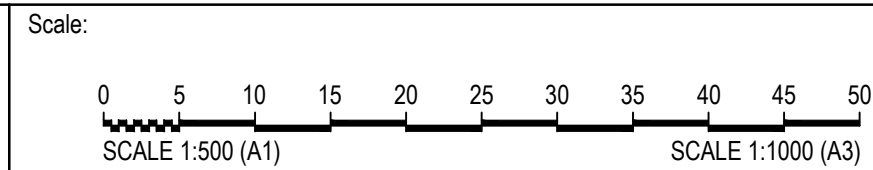


1. Erosion Hazard and Sediment Basins						
Site Name: 36 Gordon Road						
Site Location: Schofields						
Precinct/Stage: Blacktown City Council						
Other Details:						
Site area	Sub-catchment or Name of Structure					Notes
	B 1					
Total catchment area (ha)	6.457					
Disturbed catchment area (ha)	2.519					
Soil analysis (enter sediment type if known, or laboratory particle size data)						
Sediment Type (C, F or D) if known:	D					From Appendix C (if known)
% sand (fraction 0.02 to 2.00 mm)						Enter the percentage of each soil fraction. E.g. enter 10 for 10%
% silt (fraction 0.002 to 0.02 mm)						
% clay (fraction finer than 0.002 mm)						
Dispersion percentage						E.g. enter 10 for dispersion of 10%
% of whole soil dispersible						See Section 6.3.3(e). Auto-calculated
Soil Texture Group	D					Automatic calculation from above
Rainfall data						
Design rainfall depth (no of days)	5					See Section 6.3.4 and, particularly, Table 6.3 on pages 6-24 and 6-25.
Design rainfall depth (percentile)	75					
x-day, y-percentile rainfall event (mm)	19.8					
Rainfall R-factor (if known)						Only need to enter one or the other here
IFD: 2-year, 6-hour storm (if known)	10.1					
RUSLE Factors						
Rainfall erosivity (R-factor)	2250					Auto-filled from above RUSLE LS factor calculated for a high n/interill ratio.
Soil erodibility (K-factor)	0.041					
Slope length (m)	100					
Slope gradient (%)	4.5					
Length/gradient (LS-factor)	1.19					
Erosion control practice (P-factor)	1.3	1.3	1.3	1.3	1.3	
Ground cover (C-factor)	1	1	1	1	1	
Sediment Basin Design Criteria (for Type D/F basins only. Leave blank for Type C basins)						
Storage (soil) zone design (no of months)	2	2	2	2	2	Minimum is generally 2 months
Cv (Volumetric runoff coefficient)	0.5	0.5				See Table F2, page F-4 in Appendix F
Calculations and Type D/F Sediment Basin Volumes						
Soil loss (t/ha/yr)	142					See Table 4.2, page 4-13
Soil Loss Class	1					
Soil loss (m³/ha/yr)	109					Conversion to cubic metres
Sediment basin storage (soil) volume (m³)	46					See Sections 6.3.4(i) for calculations
Sediment basin settling (water) volume (m³)	639					See Sections 6.3.4(i) for calculations
Sediment basin total volume (m³)	685					
NB for sizing of Type C (coarse) sediment basins, see Worksheet 3 (if required).						

ISSUED FOR **DEVELOPMENT APPLICATION**
NOT FOR CONSTRUCTION

Rev	Drawn	Design	Appd.	Date	Revision Description
H	KW/SA	SA	PB	03/08/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
G	KW/SA	SA	PB	29/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
F	KW/SA	SA	PB	28/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
E	SA	MC	MC	02/06/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
D	SA	MC	MC	31/05/2021	ISSUED TO ADDRESS SOFAC COMMENTS
C	KW/PZ	MC	MC	21/12/2020	ISSUED FOR COUNCIL'S COMMENT
B	KW/MG	CW	MP	31/03/2020	ISSUED FOR CLIENT REVIEW

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By: **Orion Consulting**

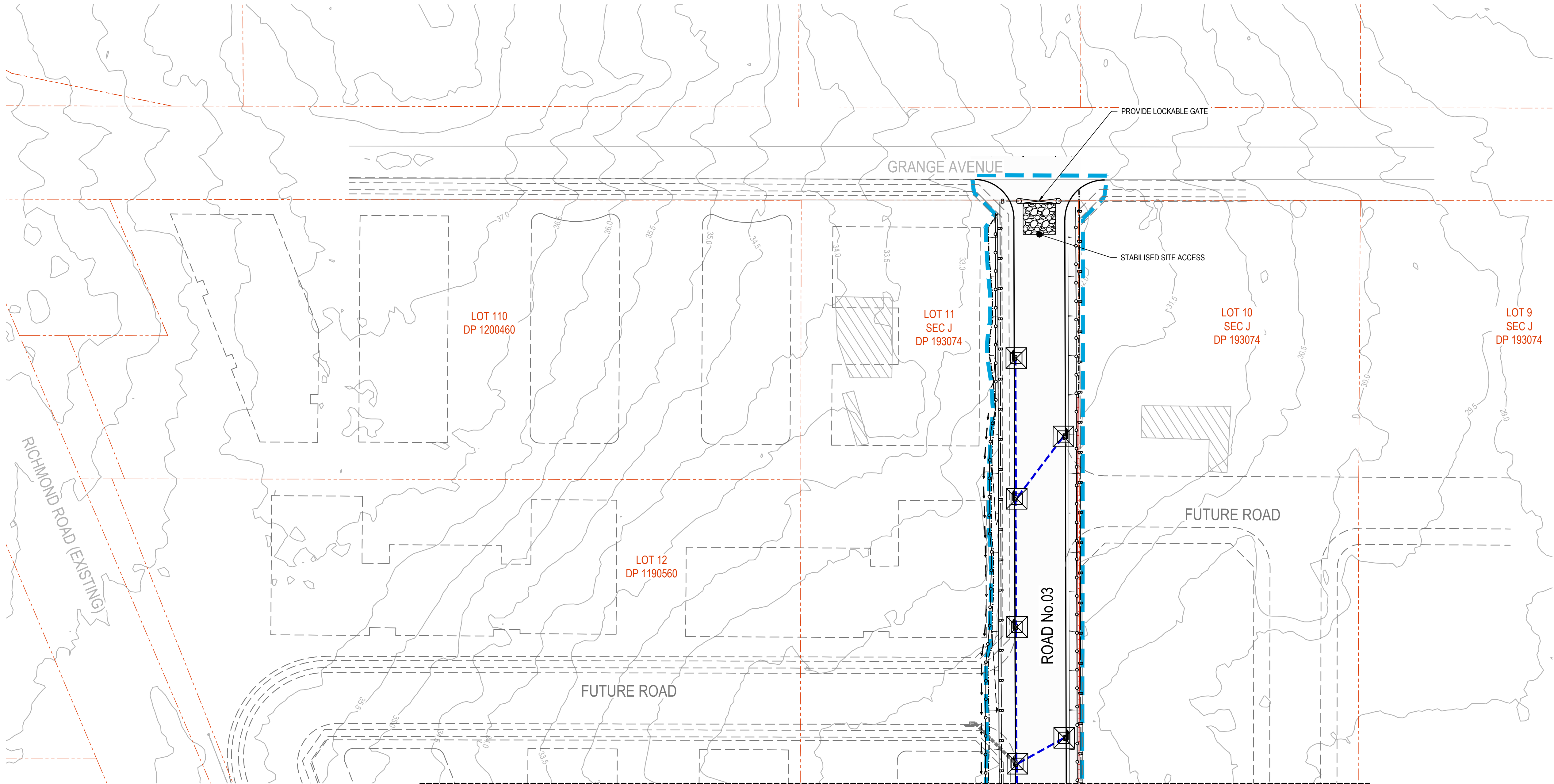
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project: 971 RICHMOND ROAD, MARSDEN PARK
ROAD & DRAINAGE DESIGN

SEDIMENT & EROSION CONTROL CONCEPT PLAN SHEET 01 OF 02				
Project No.	Set No.	Milestone	Plan	Revision
19-35	01	DA	100	H



LEGEND	
CONTOURS	10.0 20.0
STABILISED SITE ACCESS	
POSSIBLE STOCKPILE LOCATION	
SITE SECURITY FENCE	
SEDIMENT FENCE	
DIVERSION SWALE	
PIT INLET FILTER (GEOTEXTILE OR MESH & GRAVEL)	
ROCK CHECK DAM	
GREEN WASTE BIN (1 x 2.5 x 2.5m)	
MASONRY WASTE BIN (1 x 2.5 x 2.5m)	
WASTE BINS x 4 - 1 x MIXED MATERIAL, 1 x PAPER / CARDBOARD, 1 x METAL & 1 x TREATED TIMBER	



GENERAL NOTES

- 1. ALL EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING REVEGETATION AND STORAGE OF SOIL AND TOPSOIL, SHALL BE IMPLEMENTED TO THE REQUIREMENTS OF THE 'ENVIRONMENT PROTECTION AUTHORITY' AND 'DEPT OF LAND AND WATER CONSERVATION'. MEASURES OUTLINED IN THE SEDIMENT & EROSION CONTROL PLAN MUST BE IMPLEMENTED PRIOR TO AND MAINTAINED DURING AND AFTER THE CONSTRUCTION WORKS.
- 2. TOPSOIL FROM ALL AREAS TO BE DISTURBED SHALL BE STOCKPILED AND LATER RESPREAD TO AID REVEGETATION IN THOSE AREAS.
- 3. ALL DRAINAGE WORKS SHALL BE CONSTRUCTED AND STABILIZED AS EARLY AS POSSIBLE DURING DEVELOPMENT.
- 4. ALL TAIL-OUT DRAINS SHALL BE GRASSED AND TRAPEZOIDAL IN SECTION. STRAW BALES SHALL BE PLACED AS A SEDIMENT CONTROL DEVICE WHERE REQUIRED.
- 5. VEHICULAR TRAFFIC SHALL BE CONTROLLED DURING DEVELOPMENT CONFINING ACCESS WHERE POSSIBLE TO PROPOSED OR EXISTING ROAD ALIGNMENTS. AREAS TO BE LEFT UNDISTURBED SHALL BE MARKED OFF.
- 6. DISTURBANCE OF VEGETATION SHALL BE LIMITED TO FILL AREAS, ROADWAYS AND DRAINAGE LINES. NO LOT GRADING SHALL BE CARRIED OUT IN UNDISTURBED AREAS WITHOUT CONSULTATION WITH COUNCIL'S ENGINEER.
- 7. ALL DISTURBED AREAS SHALL BE REVEGETATED WITHIN 14 WORKING DAYS FROM THE CONCLUSION OF LAND SHAPING.
- 8. MINIMISE DUST BY WATERING WHEN REQUIRED.

STOCKPILE NOTES

- 9. SPOIL AND TOPSOIL STOCKPILES SHALL BE LOCATED AWAY FROM DRAINAGE LINES AND AREAS WHERE WATER MAY CONCENTRATE.
- 10. IF STOCKPILES ARE TO BE IN PLACE FOR LONGER THAN 14 DAYS THEN THEY SHALL BE STABILIZED BY COVERING WITH A MULCH OR WITH TEMPORARY VEGETATION.
- 11. FOLLOWING CONSTRUCTION, TOPSOIL SHALL BE RESPREAD TO A MINIMUM DEPTH OF 100mm ON THE BARE SOIL SURFACES AND REVEGETATE.
- 12. ALL STOCKPILES TO BE (MAX) 2m HIGH AND PROTECTED WITH SILT FENCE.

SPECIAL NOTES

- 13. LOCATION AND EXTENT OF SOIL AND WATER MANAGEMENT DEVICES IS DIAGRAMMATIC ONLY AND THE ACTUAL REQUIREMENTS SHALL BE CONFIRMED ON SITE.
- 14. THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE GUIDELINES SET OUT IN 'MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION' - 4TH EDITION AND THE ACCOMPANYING ROAD AND DRAINAGE PLANS.
- 15. CONFORMITY WITH THIS PLAN SHALL IN NO WAY REDUCE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT AGAINST WATER DAMAGE DURING THE COURSE OF THE CONTRACT.
- 16. MANAGEMENT DEVICES SHALL BE MAINTAINED ON A REGULAR BASIS. WHERE CLEANING IS REQUIRED, THE SEDIMENT SHALL BE REMOVED TO A POINT NOMINATED BY THE ENGINEER.
- 17. PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS, AND AFTER THE ROAD CENTRELINES HAVE BEEN PEGGED AND/OR PERMANENTLY MARKED, THE SITE MUST BE INSPECTED BY COUNCIL'S REPRESENTATIVE AND THE APPLICANT'S REPRESENTATIVE TO IDENTIFY AND APPROPRIATELY MARK:
 - a) THE TREES TO BE RETAINED.
 - b) ALL TREES TO BE LEFT UNDISTURBED AND TO BE CORDONED OFF.
- 18. NO TREES SHALL BE REMOVED WITHOUT COUNCIL'S CLEARANCE.
- 19. MANAGEMENT DEVICES TO REMAIN UNTIL THE END OF THE MAINTENANCE PERIOD.

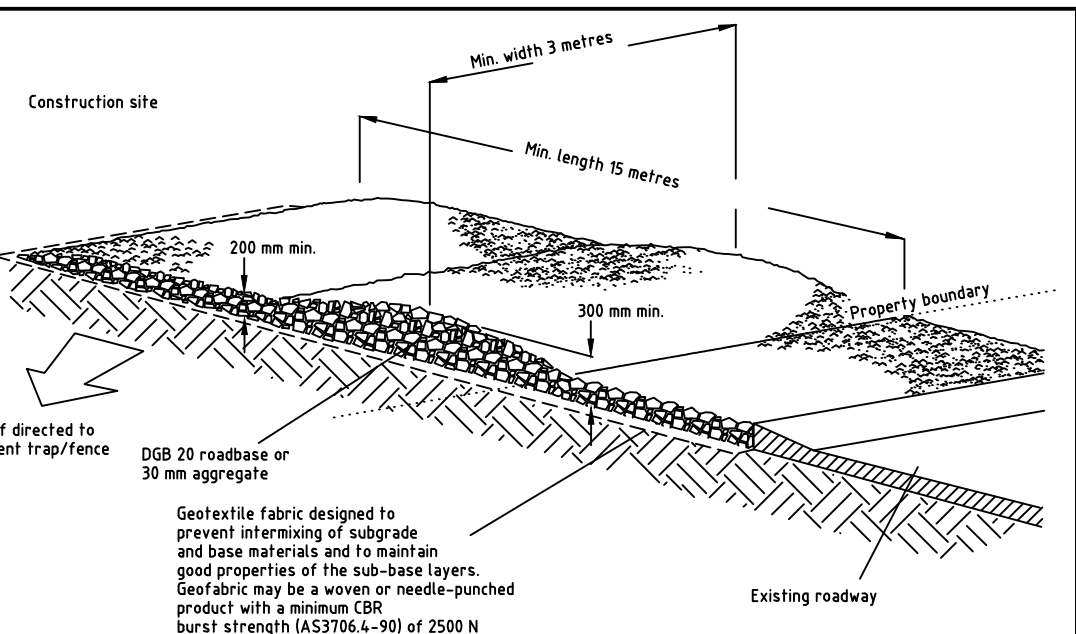
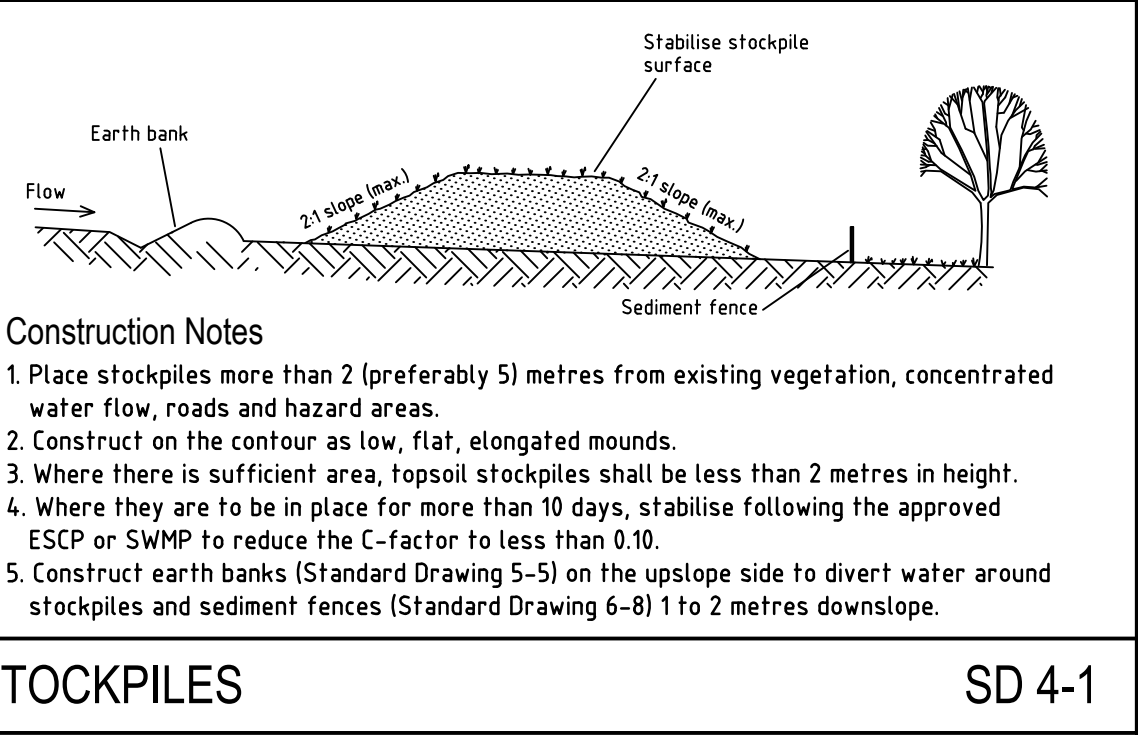
SEDIMENTATION CONTROL DEVICES

- 20. ALL STRAW BALES SHALL BE BOUND WITH WIRE. STRAW BALES SHALL BE PLACED END TO END IN A SINGLE ROW AND EMBEDDED INTO THE SOIL TO A DEPTH OF 100mm. EACH BALE SHALL BE SECURELY ANCHORED WITH TWO STEEL STAKES DRIVEN 450mm INTO THE GROUND AND LOCATED ON THE BALE CENTRE LINE.
- 21. SILT FENCES SHALL BE CONSTRUCTED BY STRETCHING A FILTER FABRIC (PROPEX OR SIMILAR) BETWEEN POSTS AT 2m (3m MAX) CENTRES. FABRIC SHALL BE BURIED 150mm ALONG ITS LOWER EDGE.

NOTE:
ALL SEDIMENT AND EROSION CONTROL MEASURES ARE TO BE PLACED WHOLLY WITHIN THE SUBJECT SITES AND NOT EXTEND INTO ADJACENT PROPERTY WITHOUT LANDOWNER CONSENT.

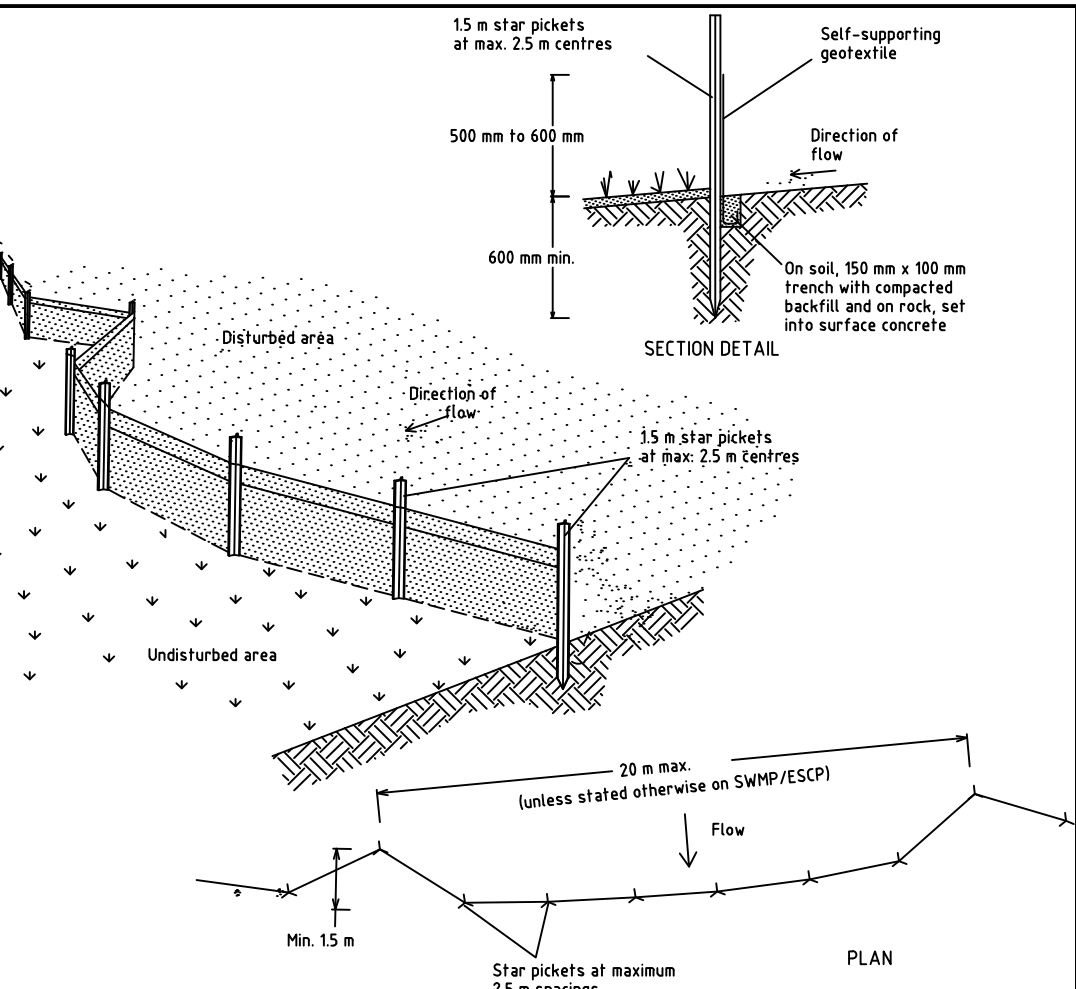
FOR CLARITY PURPOSES SOME FENCES HAVE BEEN SHOWN OUTSIDE THE SITE BOUNDARY. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THESE FENCES ARE CONTAINED WITHIN THE SITE AND NOT ENCRoACH INTO ANY ADJACENT LAND.

ADJOINING OWNER'S CONSENT REQUIRED FOR ANY SEDIMENT & EROSION CONTROL DEVICES ON THEIR LAND.



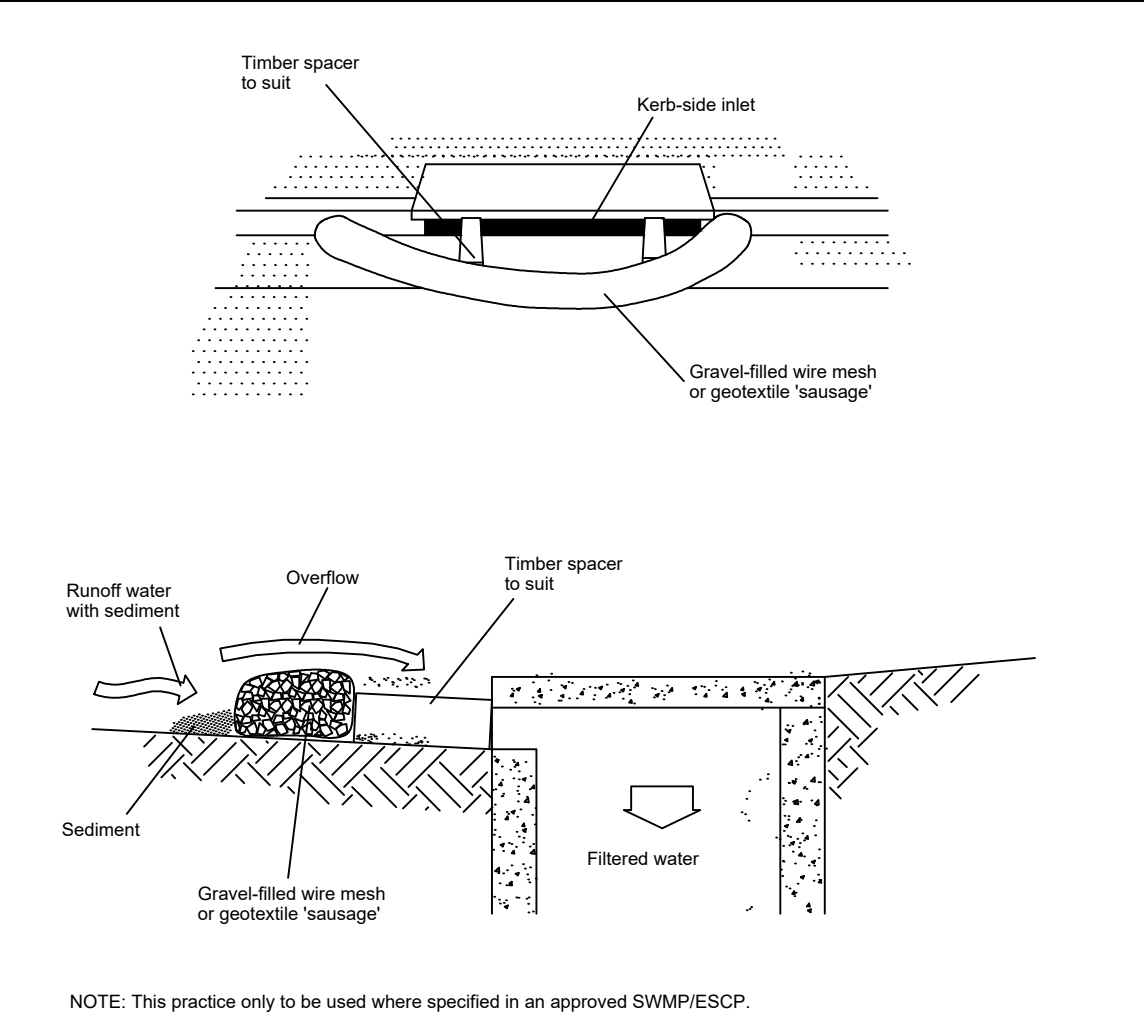
- Construction Notes
- 1. Strip the topsoil, level the site and compact the subgrade.
 - 2. Cover the area with needle-punched geotextile.
 - 3. Construct a 200 mm thick pad over the geotextile using road base or 30 mm aggregate.
 - 4. Ensure the structure is at least 15 metres long or to building alignment and at least 3 metres wide.
 - 5. Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence

STABILISED SITE ACCESS SD 6-14



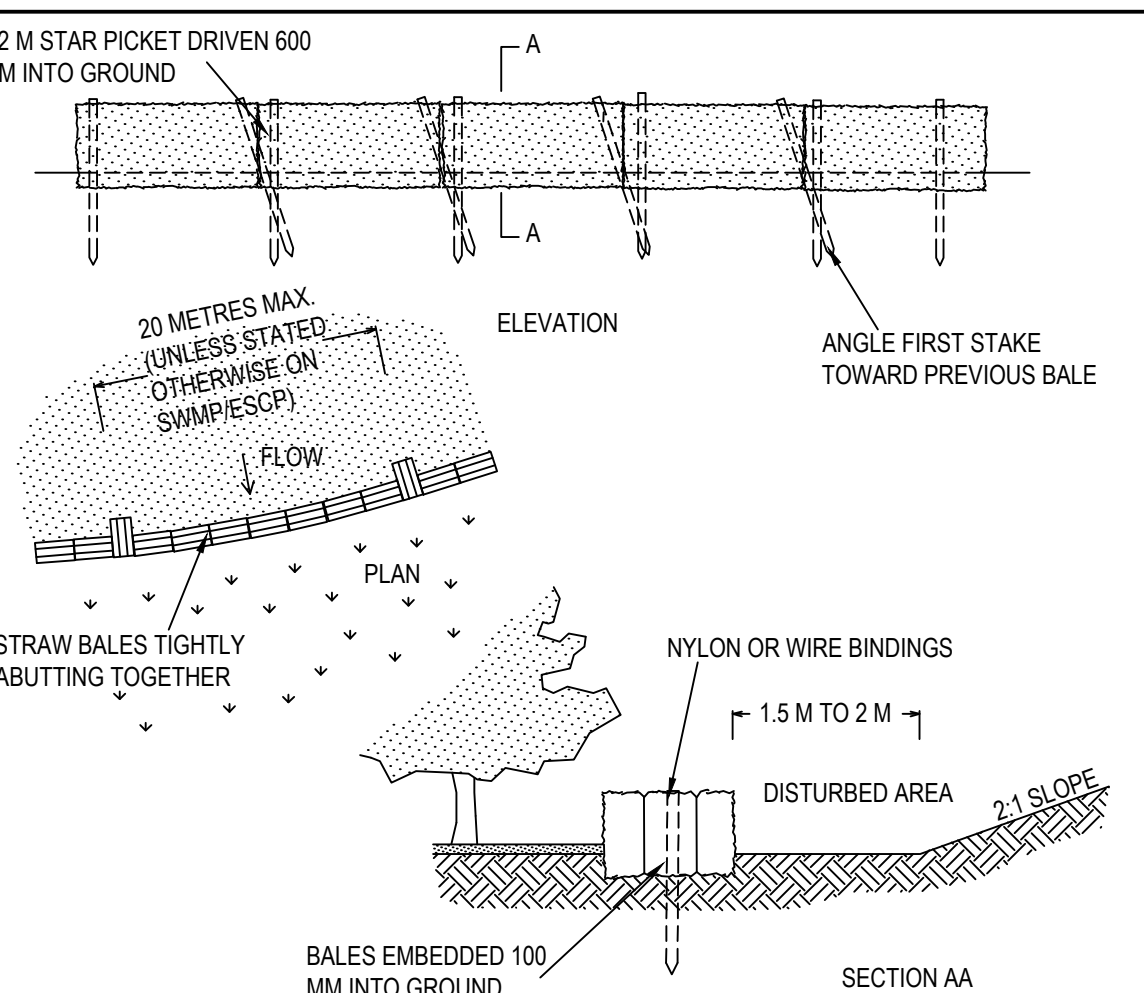
- Construction Notes
- 1. Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
 - 2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
 - 3. Drive 15 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
 - 4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
 - 5. Join sections of fabric at a support post with a 150-mm overlap.
 - 6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

SEDIMENT FENCE SD 6-8



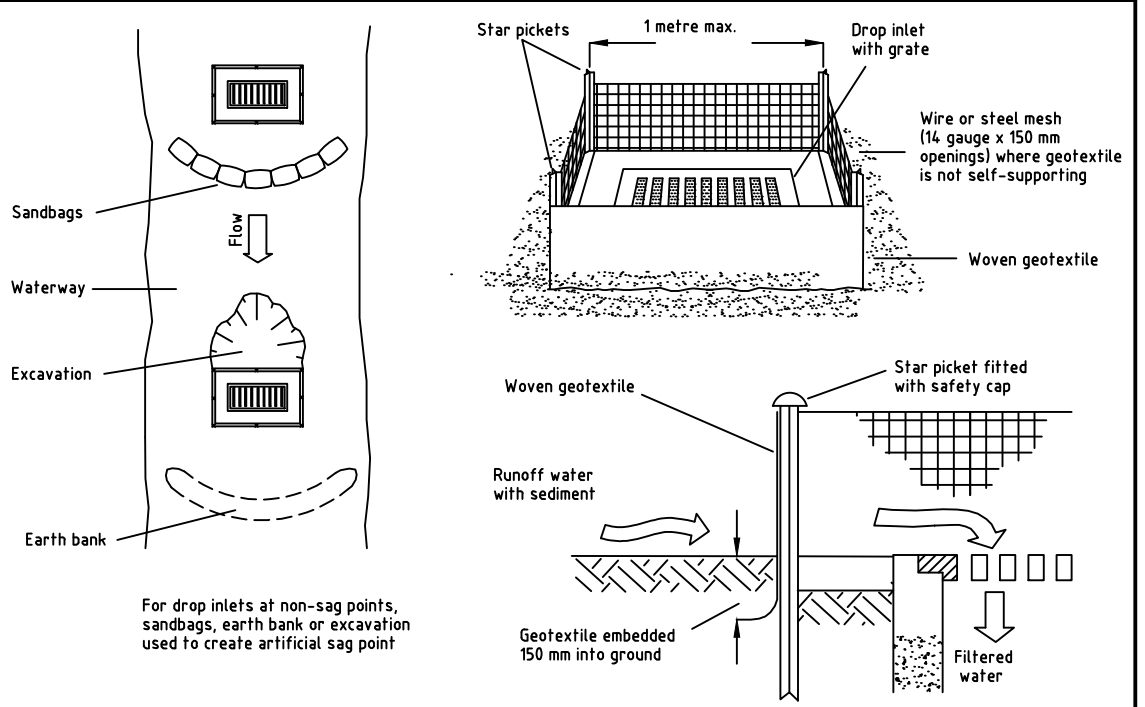
- Construction Notes
- 1. Install filters to kerb inlets only at sag points.
 - 2. Fabricate a sleeve made from geotextile or wire mesh longer than the length of the inlet pit and fill it with 25 mm to 50 mm gravel.
 - 3. Form an elliptical cross-section about 150 mm high x 400 mm wide.
 - 4. Place the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

MESH AND GRAVEL INLET FILTER SD 6-11



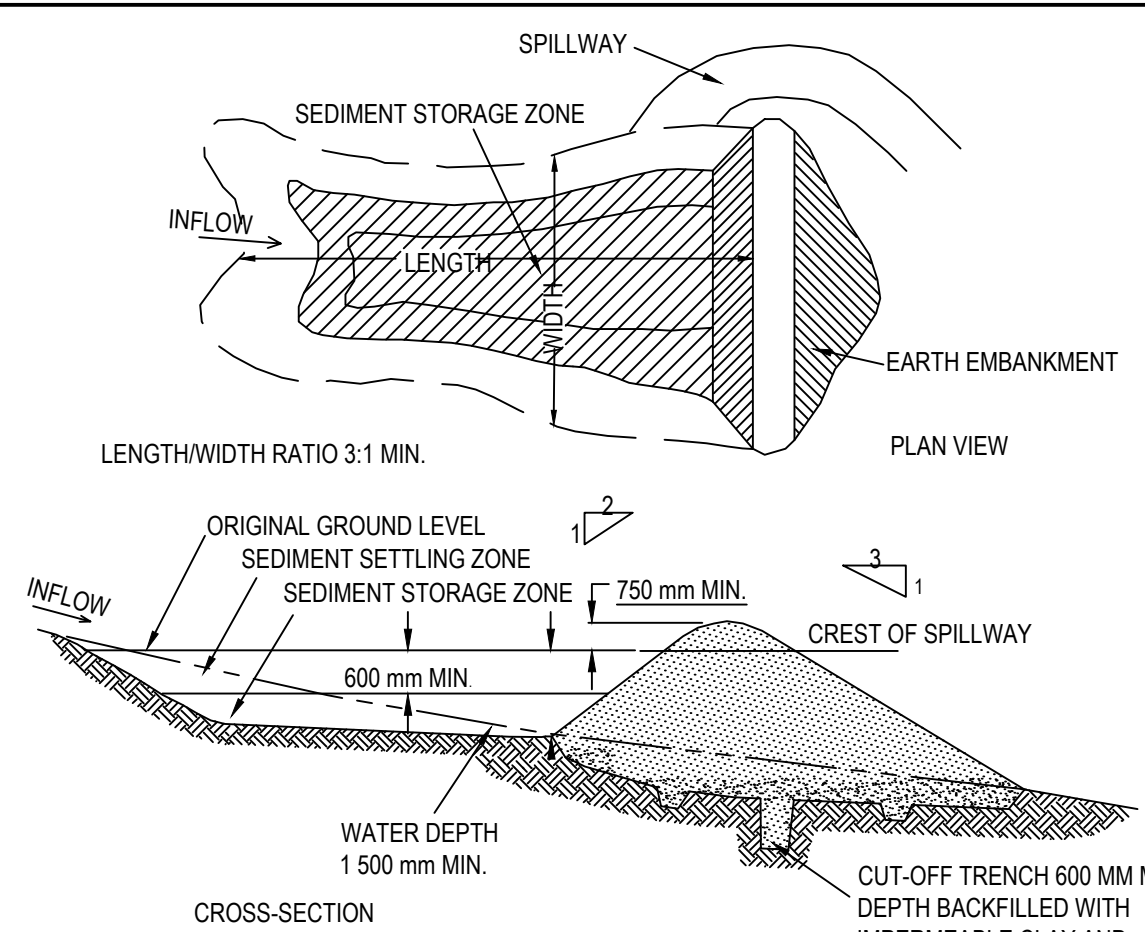
- CONSTRUCTION NOTES:
- 1. CONSTRUCT THE STRAW BALE FILTER AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE.
 - 2. PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING. USE STRAW TO FILL ANY GAPS BETWEEN BALES. STRAWS ARE TO BE PLACED PARALLEL TO GROUND.
 - 3. ENSURE THAT THE MAXIMUM HEIGHT OF THE FILTER IS ONE BALE.
 - 4. EMBED EACH BALE IN THE GROUND 75 mm TO 100 mm AND ANCHOR WITH TWO 1.2 METRE STAR PICKETS OR STAKES. ANGLE THE FIRST STAR PICKET OR STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BALE DRIVE THEM 600 mm INTO THE GROUND AND, IF POSSIBLE, FLUSH WITH THE TOP OF THE BALES. WHERE STAR PICKETS ARE USED AND THEY PROTRUDE ABOVE THE BALES, ENSURE THEY ARE FITTED WITH SAFETY CAPS.
 - 5. WHERE A STRAW BALE FILTER IS CONSTRUCTED DOWNSLOPE FROM A DISTURBED BATTER, ENSURE THE BALES ARE PLACED 1 TO 2 METRES DOWNSLOPE FROM THE TOE.
 - 6. ESTABLISH A MAINTENANCE PROGRAM THAT ENSURES THE INTEGRITY OF THE BALES IS RETAINED - THEY COULD REQUIRE REPLACEMENT EACH TWO TO FOUR MONTHS.

STRAW BALE FILTER SD 6-7



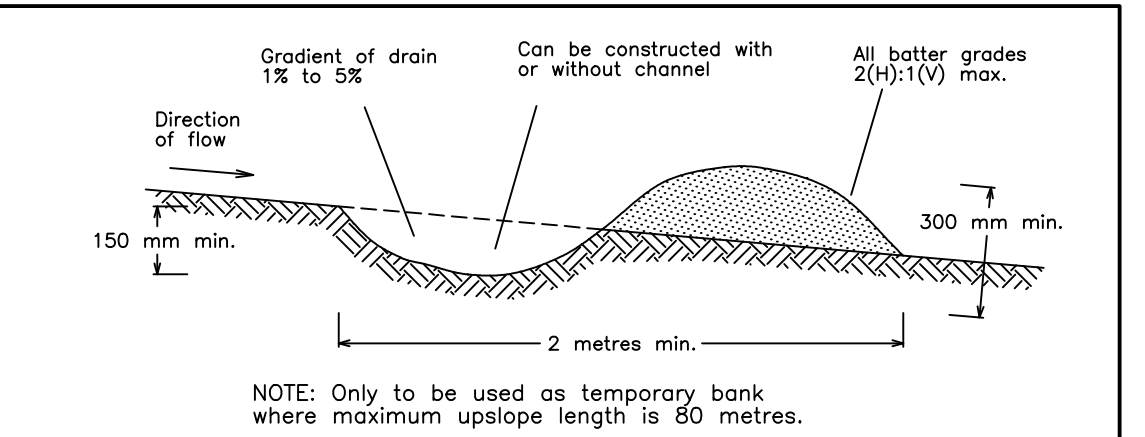
- Construction Notes
- 1. Fabricate a sediment barrier made from geotextile or straw bales.
 - 2. Follow Standard Drawing 6-8 for installation procedures for geofabric. Reduce the picket spacing to 1 metre centres.
 - 3. In waterways, artificial sag points can be created with sandbags or earth banks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

GEOTEXTILE INLET FILTER SD 6-12



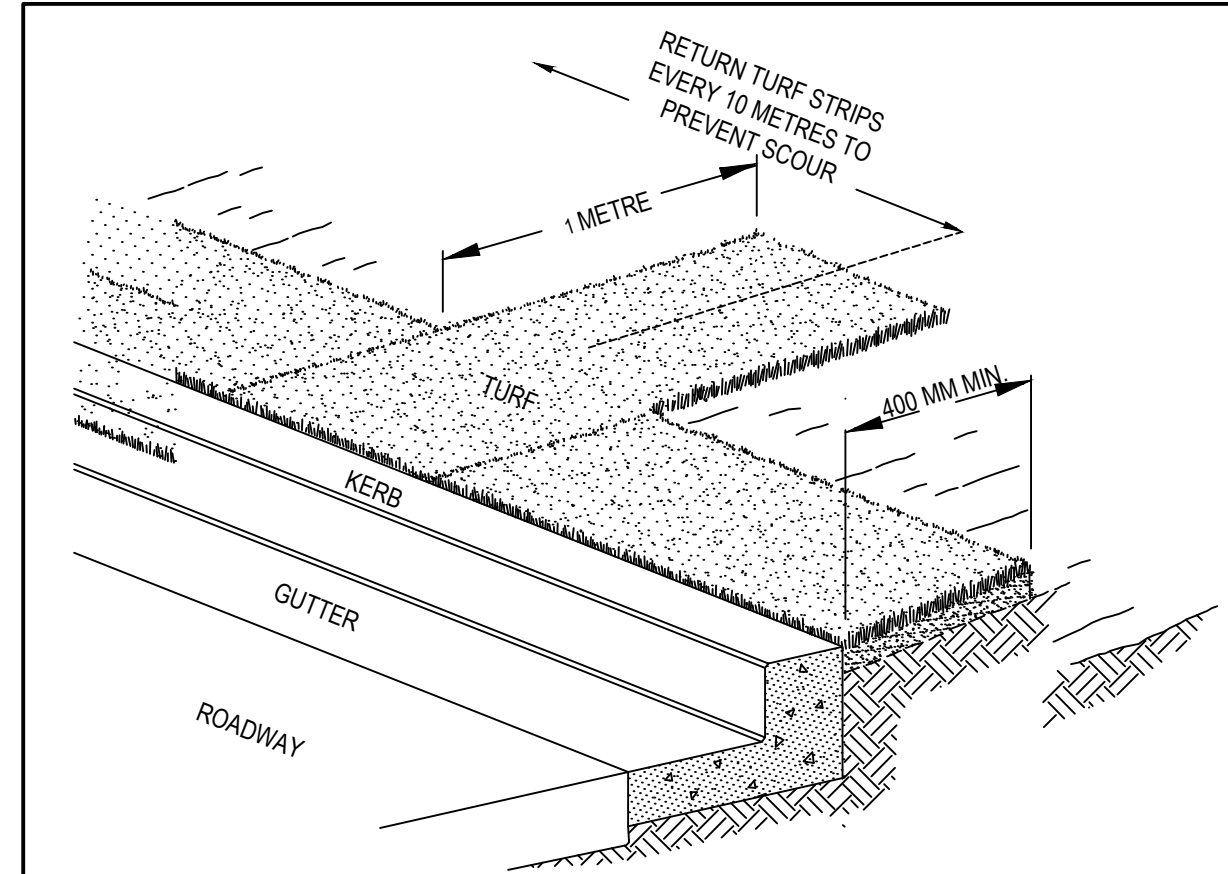
- CONSTRUCTION NOTES:
- 1. REMOVE ALL VEGETATION AND TOPSOIL FROM UNDER THE DAM WALL AND FROM WITHIN THE STORAGE AREA.
 - 2. CONSTRUCT A CUT-OFF TRENCH 500 MM DEEP AND 1 200 MM WIDE ALONG THE CENTRELINE OF THE EMBANKMENT EXTENDING TO A POINT ON THE GULLY WALL LEVEL WITH THE RISER CREST.
 - 3. MAINTAIN THE TRENCH FREE OF WATER AND RECOMPACT THE MATERIALS WITH EQUIPMENT AS SPECIFIED IN THE SWMP TO 95 PER CENT STANDARD PROCTOR DENSITY.
 - 4. SELECT FILL FOLLOWING THE SWMP THAT IS FREE OF ROOTS, WOOD, ROCK, LARGE STONE OR FOREIGN MATERIAL.
 - 5. PREPARE THE SITE UNDER THE EMBANKMENT BY RIPPING TO AT LEAST 100 MM TO HELP BOND COMPACTED FILL TO THE EXISTING SUBSTRATE.
 - 6. SPREAD THE FILL IN 100 MM TO 150 MM LAYERS AND COMPACT IT AT OPTIMUM MOISTURE CONTENT FOLLOWING THE SWMP.
 - 7. CONSTRUCT THE EMERGENCY SPILLWAY. 8. REHABILITATE THE STRUCTURE FOLLOWING THE SWMP.

EARTH BASIN - WET (APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY) SD 6-4



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

EARTH BANK (LOW FLOW) SD 5-5



- CONSTRUCTION NOTES:
- 1. INSTALL A 400mm MINIMUM WIDE ROLL OF TURF ON THE FOOTPATH NEXT TO THE KERB AND AT THE SAME LEVEL AS THE TOP OF THE KERB.
 - 2. LAY 1.4 METRE LONG TURF STRIPS NORMAL TO THE KERB EVERY 10m.
 - 3. REHABILITATE DISTURBED SOIL BEHIND THE TURF STRIP FOLLOWING THE ESCP/SWMP.

KERBSIDE TURF STRIP SD 6-13

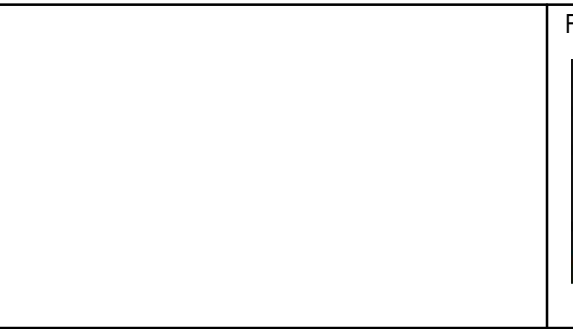
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H	KW/SA	SA	PB	03/08/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
G	KW/SA	SA	PB	29/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
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E	SA	MC	MC	02/06/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
D	SA	MC	MC	31/05/2021	ISSUED TO ADDRESS SOFAC COMMENTS
C	KW/PZ	MC	MC	21/12/2020	ISSUED FOR COUNCIL'S COMMENT
B	KW/MG	CW	MP	31/03/2020	ISSUED FOR CLIENT REVIEW
Rev	Drawn	Design	Appd.	Date	Revision Description

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Scale:

For:



By: CONSULT AUSTRALIA Member Firm
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project: 971 RICHMOND ROAD, MARSDEN PARK ROAD & DRAINAGE DESIGN

Title: SEDIMENT & EROSION CONTROL NOTES & ETALS				
Project No. 19-35	Set No. 01	Milestone DA	Plan 102	Revision H



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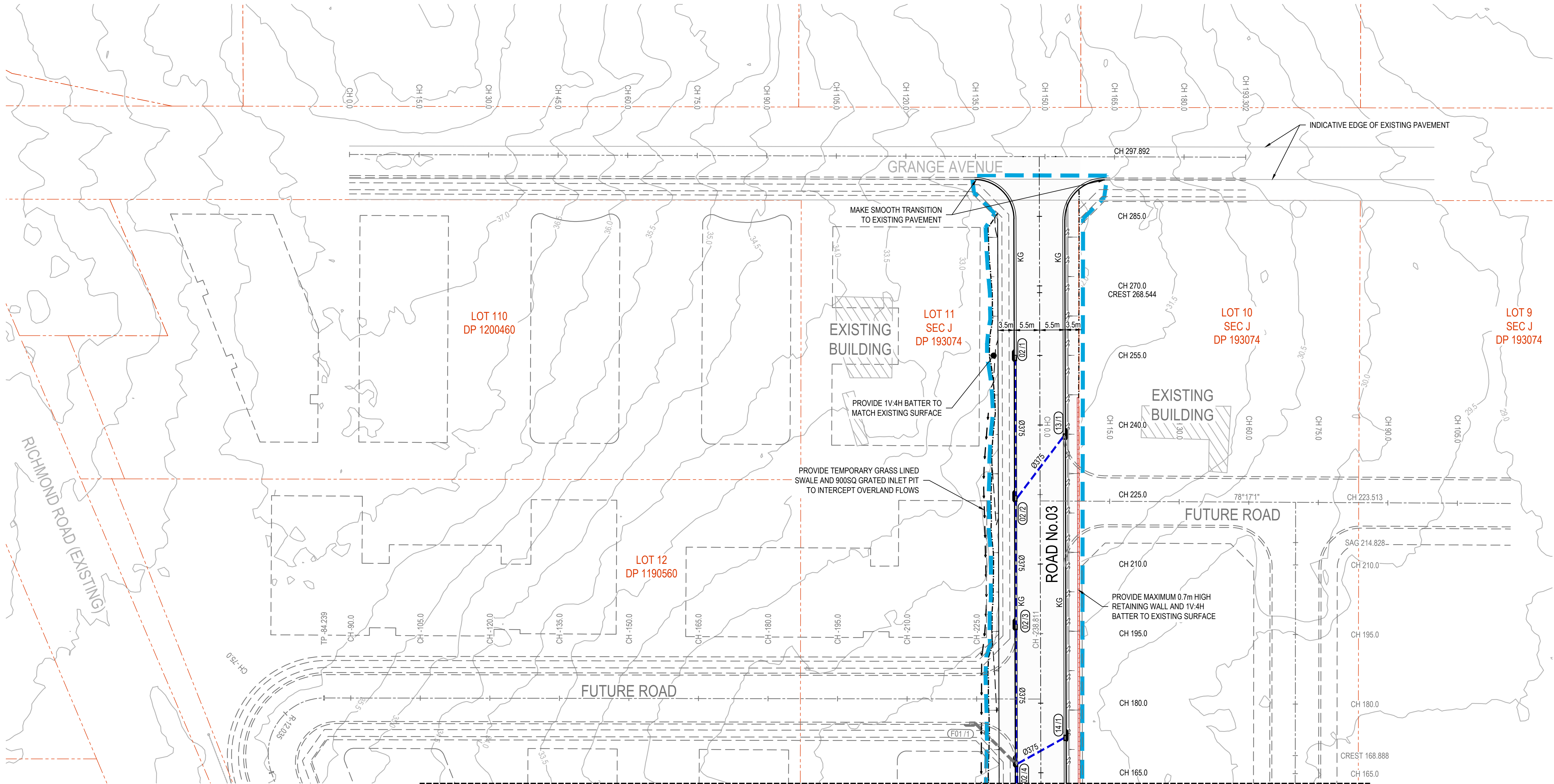
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G	KW/SA	SA	PB	29/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS						
F	KW/SA	SA	PB	28/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS						
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B	KW/MG	CW	MP	31/03/2020	ISSUED FOR CLIENT REVIEW						
Rev	Drawn	Design	Appd.	Date	Revision Description						



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REFER TO DRG. No. DA-200 FOR CONTINUATION

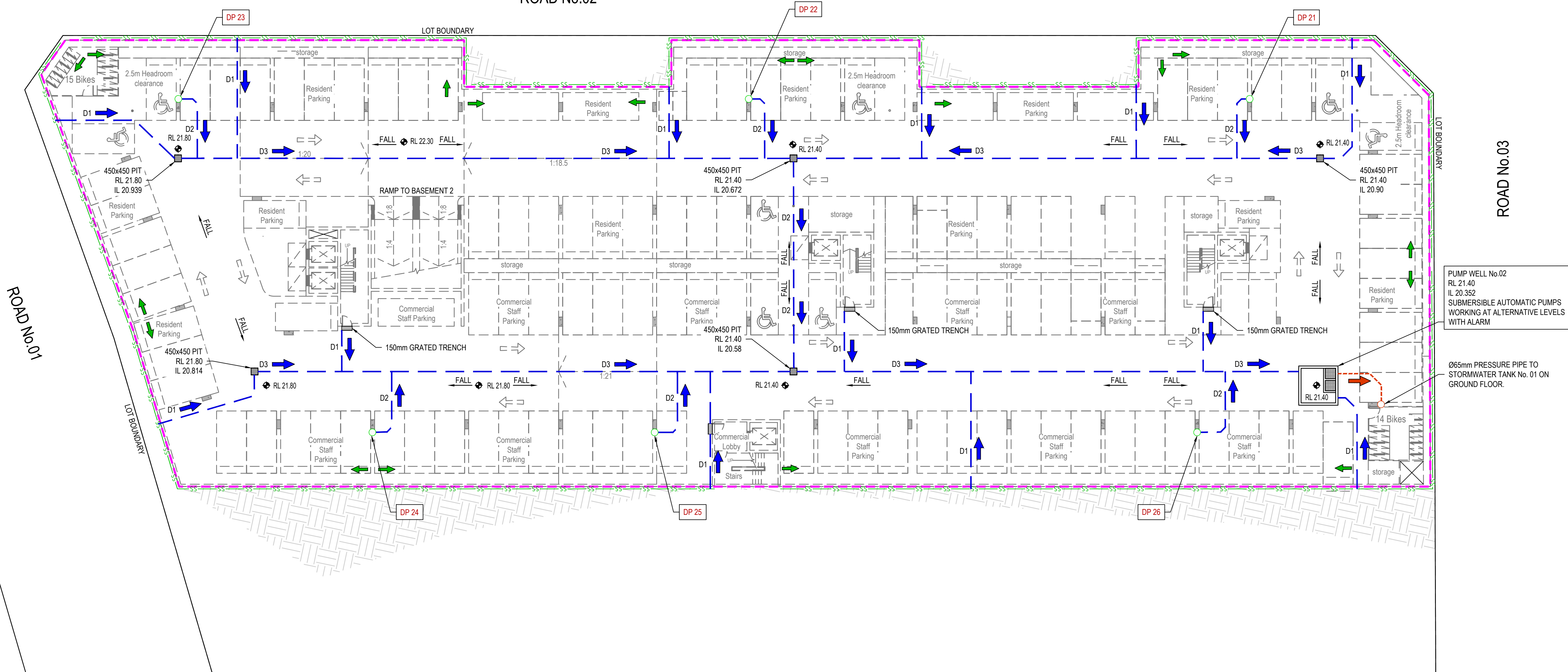
- NOTES:
- EXISTING CONTOURS BASED ALS SURVEY
OVER LOT10-11 DP 193074.
 - EXISTING BUILDING BASED IMAGE FROM
NEARMAP OVER LOT10-11 DP 193074.

ISSUED FOR **DEVELOPMENT APPLICATION**
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<div><div><div>H</div><div>KW/SA</div><div>SA</div><div>PB</div><div>03/08/2021</div><div>ISSUED TO ADDRESS CLIENT'S COMMENTS</div></div><div><div>G</div><div>KW/SA</div><div>SA</div><div>PB</div><div>29/07/2021</div><div>ISSUED TO ADDRESS CLIENT'S COMMENTS</div></div><div><div>F</div><div>KW/SA</div><div>SA</div><div>PB</div><div>28/07/2021</div><div>ISSUED TO ADDRESS CLIENT'S COMMENTS</div></div><div><div>E</div><div>SA</div><div>MC</div><div>MC</div><div>02/06/2021</div><div>ISSUED TO ADDRESS CLIENT'S COMMENTS</div></div><div><div>D</div><div>SA</div><div>MC</div><div>MC</div><div>31/05/2021</div><div>ISSUED TO ADDRESS SOFAC COMMENTS</div></div><div><div>C</div><div>KW/PZ</div><div>MC</div><div>MC</div><div>21/12/2020</div><div>ISSUED FOR COUNCIL'S COMMENT</div></div><div><div>B</div><div>KW/MG</div><div>CW</div><div>MP</div><div>31/03/2020</div><div>ISSUED FOR CLIENT REVIEW</div></div><div><div>Rev</div><div>Drawn</div><div>Design</div><div>Appd.</div><div>Date</div><div>Revision Description</div></div></div> <div><div>Disclaimer and Copyright:</div><div>ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO CONSTRUCTION. USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE. THESE DRAWINGS, PLANS, AND SPECIFICATIONS AND THE COPYRIGHT ARE THE PROPERTY OF ORION CONSULTING ENGINEERS PTY LTD AND MUST NOT BE REPRODUCED OR COPIED WHOLLY OR IN PART WITHOUT THE PERMISSION OF ORION CONSULTING ENGINEERS PTY LTD</div></div>						<div>Scale:</div> <div><div><div>0</div><div>5</div><div>10</div><div>15</div><div>20</div><div>25</div><div>30</div><div>35</div><div>40</div><div>45</div><div>50</div></div><div>SCALE 1:500 (A1)</div><div>SCALE 1:1000 (A3)</div></div>		<div>For:</div> <div><div><div>architex</div><div>architects + planners</div></div></div>		<div>By:</div> <div><div><div>Orion Consulting</div><div>ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au</div></div></div>		<div>Project:</div> <div><div>791 RICHMOND ROAD, MARSDEN PARK ROAD & DRAINAGE DESIGN</div></div>		<div>Title:</div> <div>ENGINEERING PLAN SHEET 02 OF 02</div>					<div>Project No.</div> <div>19-35</div>					<div>Set No.</div> <div>01</div>					<div>Milestone</div> <div>DA</div>					<div>Plan</div> <div>201</div>					<div>Revision</div> <div>H</div>				
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ROAD No.02



ROAD No.03

ROAD No.01

NOTE :

1. FINAL BASEMENT FLOOR LEVEL TO ENSURE ADEQUATE FALL TO STORMWATER PITS
2. CONCEPT STORMWATER LAYOUT SHOWN ONLY. FINAL DESIGN TO BE COORDINATED WITH BUILDING SERVICE AT DETAIL DESIGN

LEGEND

INDICATIVE BASEMENT SUBSOIL DRAIN. REFER TO STRUCTURAL ENGINEER'S DESIGN FOR DETAILS	SS
PROPOSED BASEMENT SUBSOIL DRAIN FALL DIRECTION	→
PROPOSED STORMWATER DRAINAGE PIPE AND PIT	—■
PROPOSED BUCKET TRAP SURFACE OUTLET	■
DENOTES PIPE SIZE & GRADE. REFER TO DRG. No. DA 001 PIPE SIZE SCHEDULE	D1
BASEMENT STORMWATER DRAINAGE FALL DIRECTION	→
PROPOSED FLOOR FALL DIRECTION	FALL →
PROPOSED RISING MAIN WITH VERTICAL PIPE PROTECTOR TO OSD TANK	—○
PROPOSED DOWN PIPE WITH VERTICAL PIPE PROTECTOR TO PUMP WELL	—○DP
PROPOSED 150mm GRATED TRENCH	150mm GT
PROPOSED DOWN PIPE TAG	DP1
PROPOSED PUMP WELL	■
PROPOSED ARCHITECTURAL FLOOR LEVEL	RL 33.0
PROPOSED BASEMENT WALL OUTLINE	---

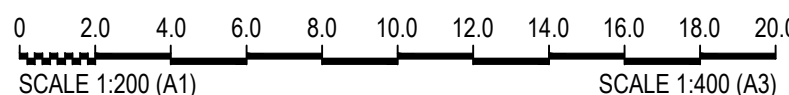
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Rev	Drawn	Design	Appd.	Date	Revision Description
H	KW/SA	SA	PB	03/08/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
G	KW/SA	SA	PB	29/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
F	KW/SA	SA	PB	28/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
E	SA	MC	MC	02/06/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
D	SA	MC	MC	31/05/2021	ISSUED TO ADDRESS SOFAC COMMENTS
C	KW/PZ	MC	MC	21/12/2020	ISSUED FOR COUNCIL'S COMMENT
B	KW/MG	CW	MP	31/03/2020	ISSUED FOR CLIENT REVIEW

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Scale:



For:



By:



ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au



Project:

971 RICHMOND ROAD,
MARSDEN PARK
ROAD & DRAINAGE DESIGN

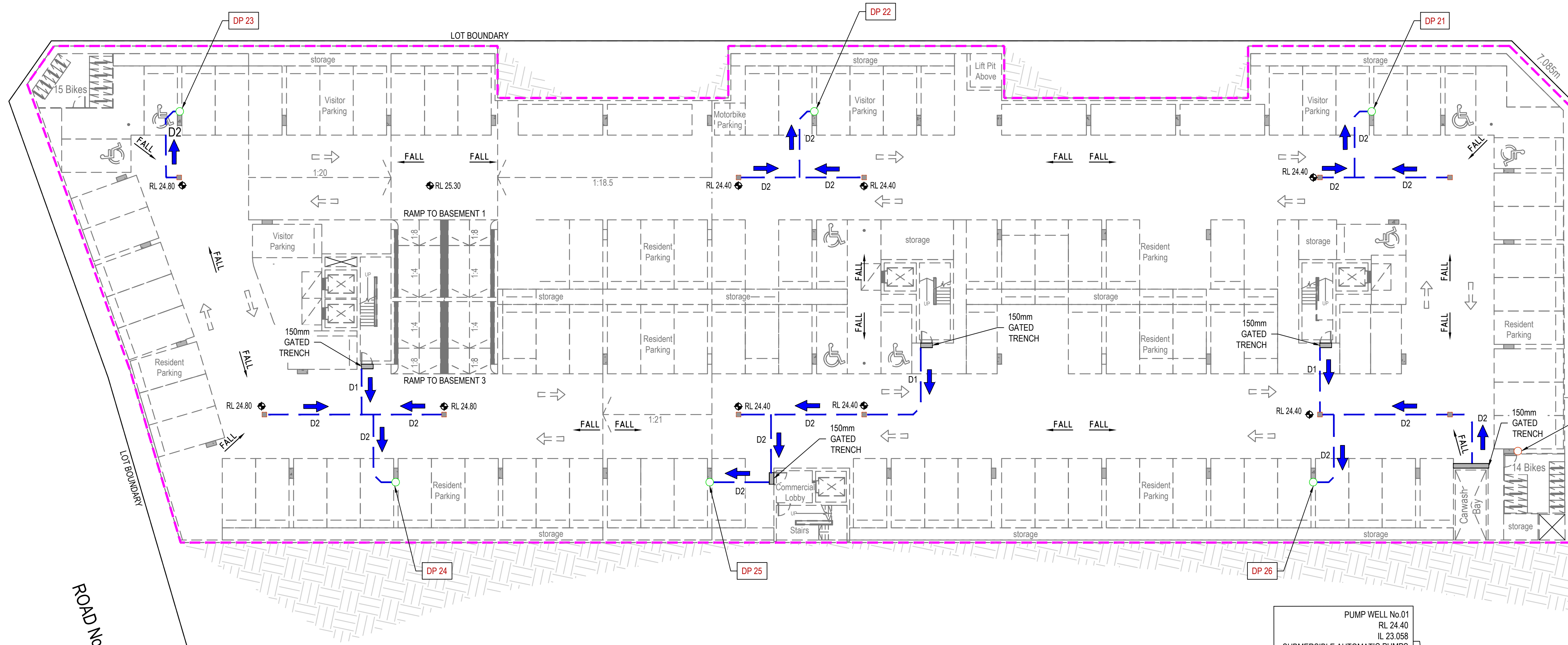
Title:

STORMWATER MANAGEMENT PLAN
- BASEMENT 3

Project No.	Set No.	Milestone	Plan	Revision
19-35	01	DA	210	H

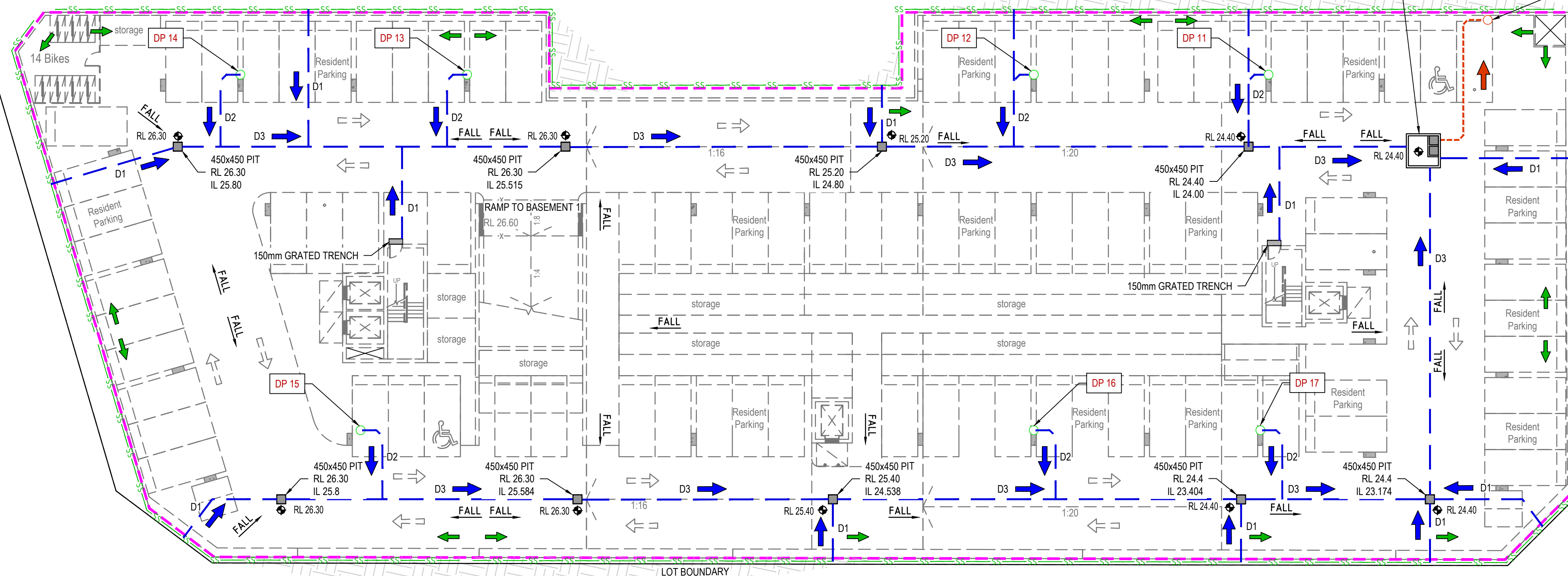


ROAD No.02



Ø65mm PRESSURE PIPE FROM
PUMP WELL No.02 TO
STORMWATER TANK No.01
GROUND FLOOR.

Ø65mm PRESSURE PIPE TO
STORMWATER TANK No.01
GROUND FLOOR.



- NOTE :**
1. FINAL BASEMENT FLOOR LEVEL TO ENSURE ADEQUATE FALL TO STORMWATER PITS
 2. CONCEPT STORMWATER LAYOUT SHOWN ONLY. FINAL DESIGN TO BE COORDINATED WITH BUILDING SERVICE AT DETAIL DESIGN

LEGEND

INDICATIVE BASEMENT SUBSOIL DRAIN. REFER TO STRUCTURAL ENGINEER'S DESIGN FOR DETAILS

PROPOSED BASEMENT SUBSOIL DRAIN FALL DIRECTION

PROPOSED STORMWATER DRAINAGE PIPE AND PIT

PROPOSED BUCKET TRAP SURFACE OUTLET

DENOTES PIPE SIZE & GRADE. REFER TO DRG. No. DA 001 PIPE SIZE SCHEDULE

BASEMENT STORMWATER DRAINAGE FALL DIRECTION

PROPOSED FLOOR FALL DIRECTION

PROPOSED RISING MAIN WITH VERTICAL PIPE PROTECTOR TO OSD TANK

PROPOSED DOWN PIPE WITH VERTICAL PIPE PROTECTOR TO PUMP WELL

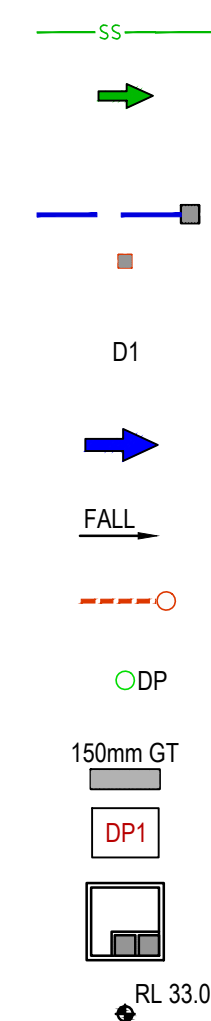
PROPOSED 150mm GRATED TRENCH

PROPOSED DOWN PIPE TAG

PROPOSED PUMP WELL

PROPOSED ARCHITECTURAL FLOOR LEVEL

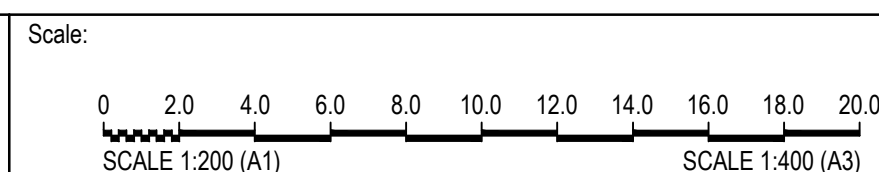
PROPOSED BASEMENT WALL OUTLINE



ISSUED FOR **DEVELOPMENT APPLICATION**
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H	KW/SA	SA	PB	03/08/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
G	KW/SA	SA	PB	29/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
F	KW/SA	SA	PB	28/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
E	SA	MC	MC	02/06/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
D	SA	MC	MC	31/05/2021	ISSUED TO ADDRESS SOFAC COMMENTS
C	KW/PZ	MC	MC	21/12/2020	ISSUED FOR COUNCIL'S COMMENT
B	KW/MG	CW	MP	31/03/2020	ISSUED FOR CLIENT REVIEW

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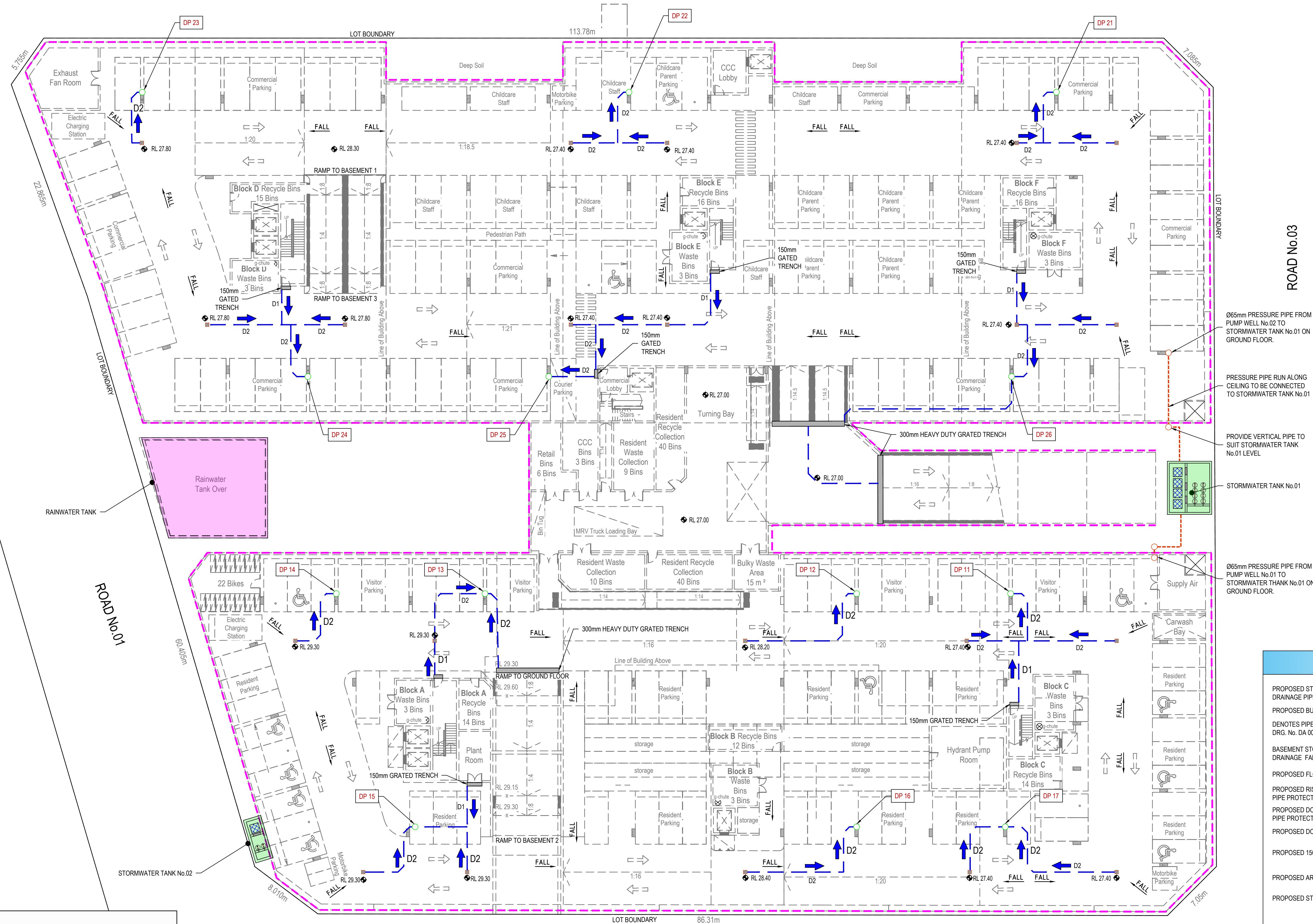


Project: 971 RICHMOND ROAD,
MARSDEN PARK
ROAD & DRAINAGE DESIGN

Title:	STORMWATER MANAGEMENT PLAN - BASEMENT 2
Project No.	19-35
Set No.	01
Milestone	DA
Plan	211
Revision	H








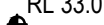





ROAD No.02



NOTE :

1. FINAL BASEMENT FLOOR LEVEL TO ENSURE ADEQUATE FALL TO STORMWATER PITS
2. CONCEPT STORMWATER LAYOUT SHOWN ONLY. FINAL DESIGN TO BE COORDINATED WITH BUILDING SERVICE AT DETAIL DESIGN

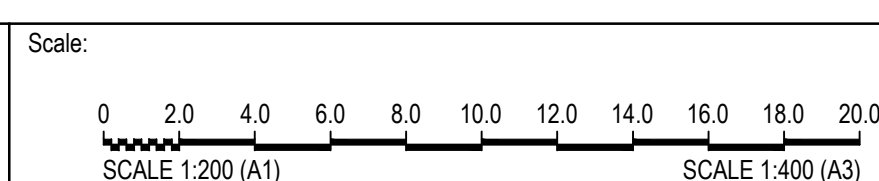
LEGEND	
PROPOSED STORMWATER DRAINAGE PIPE AND PIT	
PROPOSED BUCKET TRAP SURFACE OUTLET	
DENOTES PIPE SIZE & GRADE. REFER TO DRG. No. DA 001 PIPE SIZE SCHEDULE	D1
BASEMENT STORMWATER DRAINAGE FALL DIRECTION	
PROPOSED FLOOR FALL DIRECTION	<u>FALL</u>
PROPOSED RISING MAIN WITH VERTICAL PIPE PROTECTOR TO OSD TANK	
PROPOSED DOWN PIPE WITH VERTICAL PIPE PROTECTOR TO PUMP WELL	 DP
PROPOSED DOWN PIPE TAG	
PROPOSED 150mm GRATED TRENCH	150mm GT 
PROPOSED ARCHITECTURAL FLOOR LEVEL	
PROPOSED STORMWATER TANK	
PROPOSED RAINWATER TANK	
PROPOSED BASEMENT WALL OUTLINE	

ISSUED FOR **DEVELOPMENT APPLICATION**
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Title: STORMWATER MANAGEMENT PLAN - BASEMENT 1				
Project No. 19-35	Set No. 01	Milestone DA	Plan 212	Revision H

H	KW/SA	SA	PB	03/08/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
G	KW/SA	SA	PB	29/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
F	KW/SA	SA	PB	28/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
E	SA	MC	MC	02/06/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
D	SA	MC	MC	31/05/2021	ISSUED TO ADDRESS SOFAC COMMENTS
C	KW/PZ	MC	MC	21/12/2020	ISSUED FOR COUNCIL'S COMMENT
B	KW/MG	CW	MP	31/03/2020	ISSUED FOR CLIENT REVIEW
Rev	Drawn	Design	Appd.	Date	Revision Description

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Project:

971 RICHMOND ROAD,
MARSDEN PARK
ROAD & DRAINAGE DESIGN



ROAD No.02

ROAD No.01

ROAD No.03

NOTE :

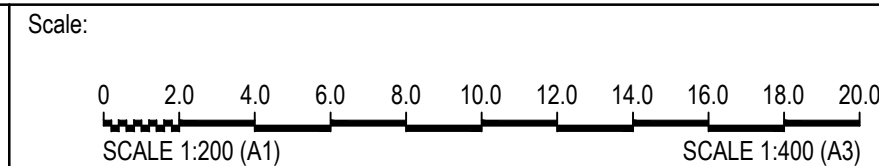
1. FINAL BASEMENT FLOOR LEVEL TO ENSURE ADEQUATE FALL TO STORMWATER PITTS
2. CONCEPT STORMWATER LAYOUT SHOWN ONLY. FINAL DESIGN TO BE COORDINATED WITH BUILDING SERVICE AT DETAIL DESIGN

LEGEND	
PROPOSED STORMWATER DRAINAGE PIPE TO BE CONSTRUCTED UNDER CEILING	
PROPOSED DOWN PIPE TAG	DP1
INDICATIVE FLOOR WASTE TO BE CONNECTED TO RAINWATER TANK. DETAILS TO BE PROVIDED IN CC STAGE	FW
DENOTES FLOOR WASTE Ø150	FW
DENOTES DOWN PIPE	DP
PROPOSED ARCHITECTURAL FLOOR LEVEL	RL 33.55

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Rev	Drawn	Design	Appd.	Date	Revision Description
H	KW/SA	SA	PB	03/08/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
G	KW/SA	SA	PB	29/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
F	KW/SA	SA	PB	28/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
E	SA	MC	MC	02/06/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
D	SA	MC	MC	31/05/2021	ISSUED TO ADDRESS SOFAC COMMENTS
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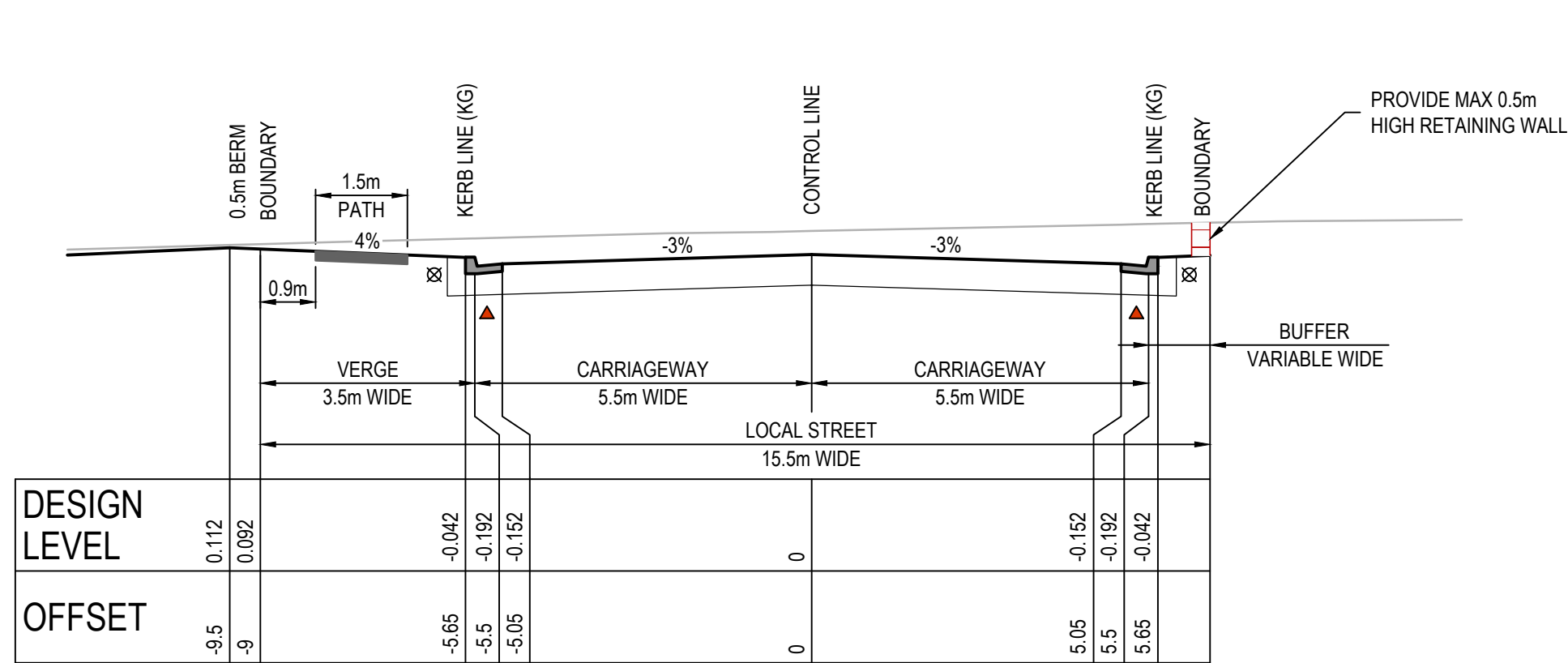


By: **Orion Consulting**

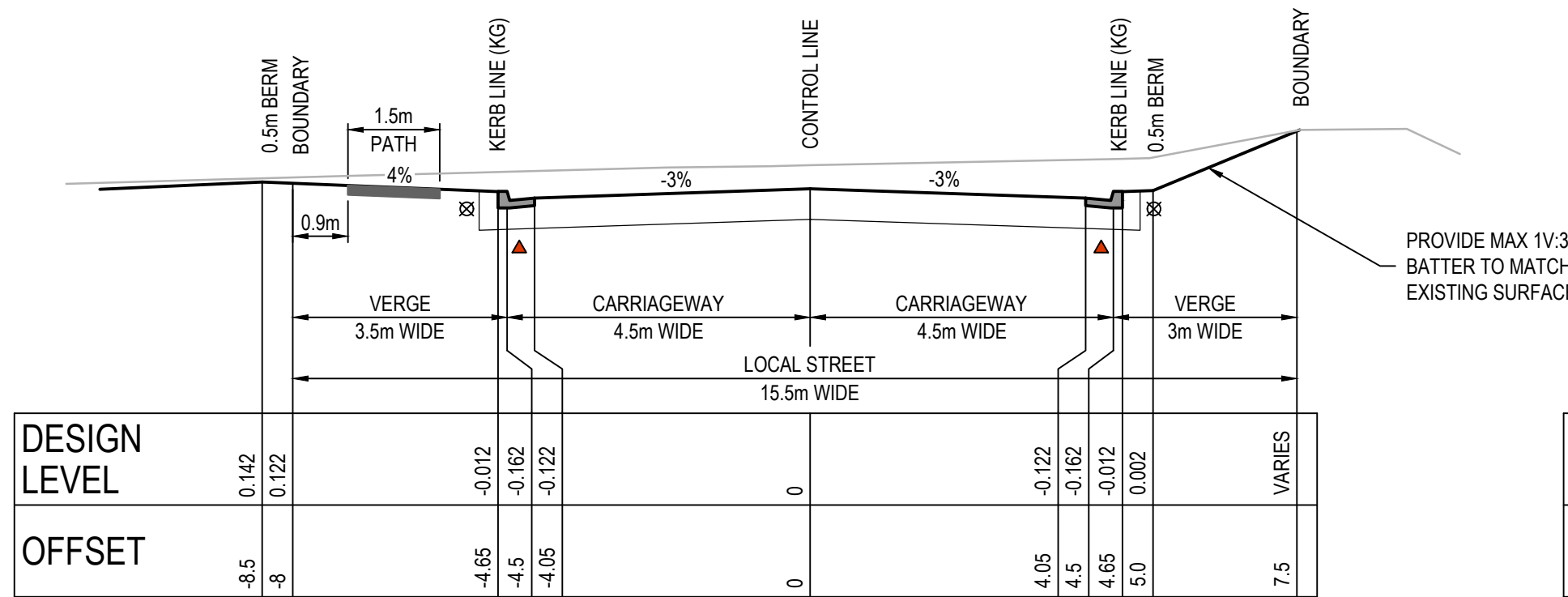
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

Project: 971 RICHMOND ROAD,
MARSDEN PARK
ROAD & DRAINAGE DESIGN

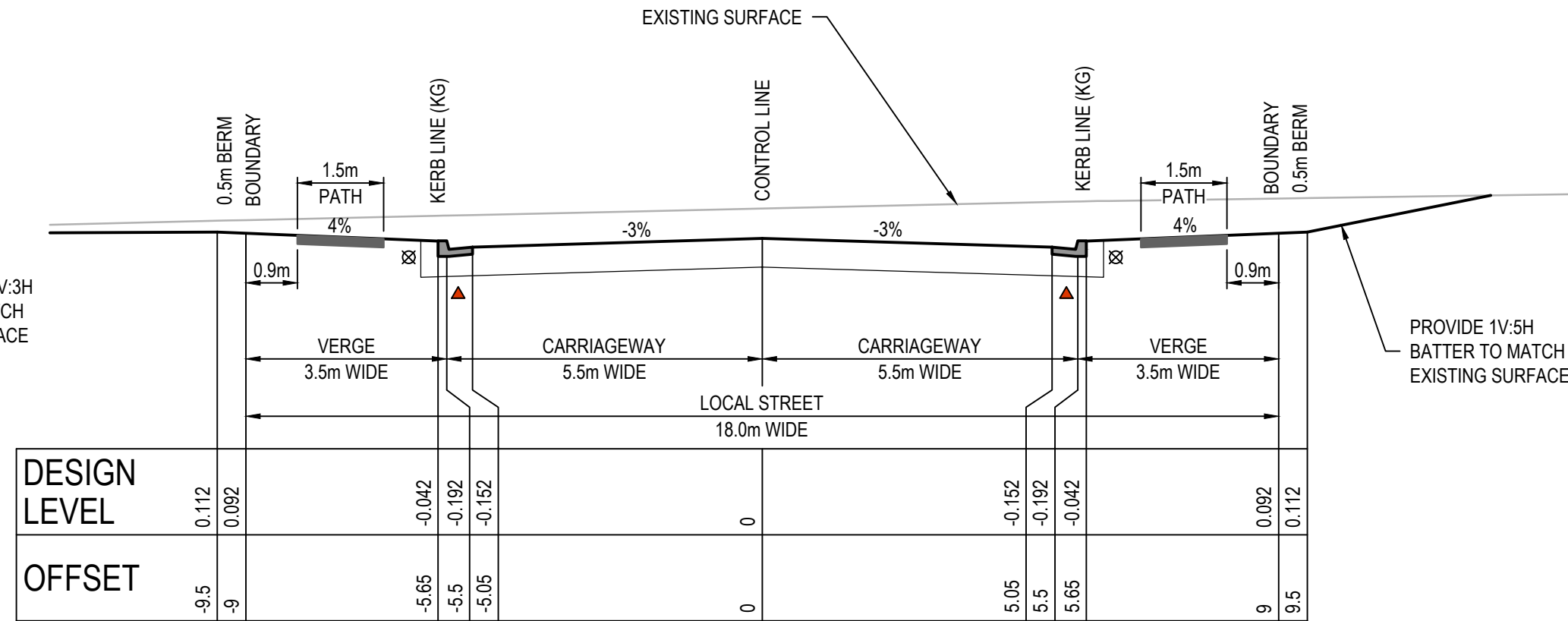
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Project No.	Set No.	Milestone	Plan	Revision
19-35	01	DA	214	H



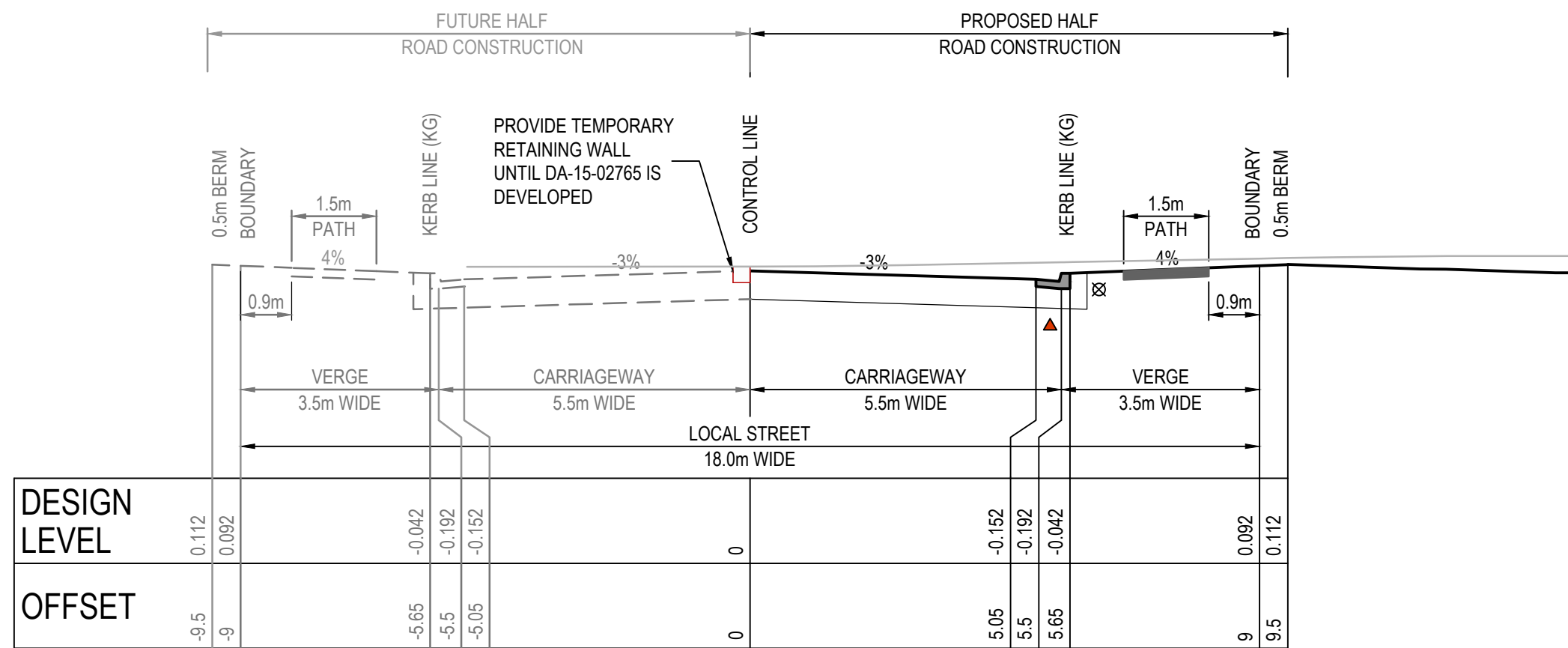
TYPICAL CROSS SECTION
ROAD No.01 - CH 0 TO CH 20.132
FULL ROAD CONSTRUCTION
SCALE 1:100



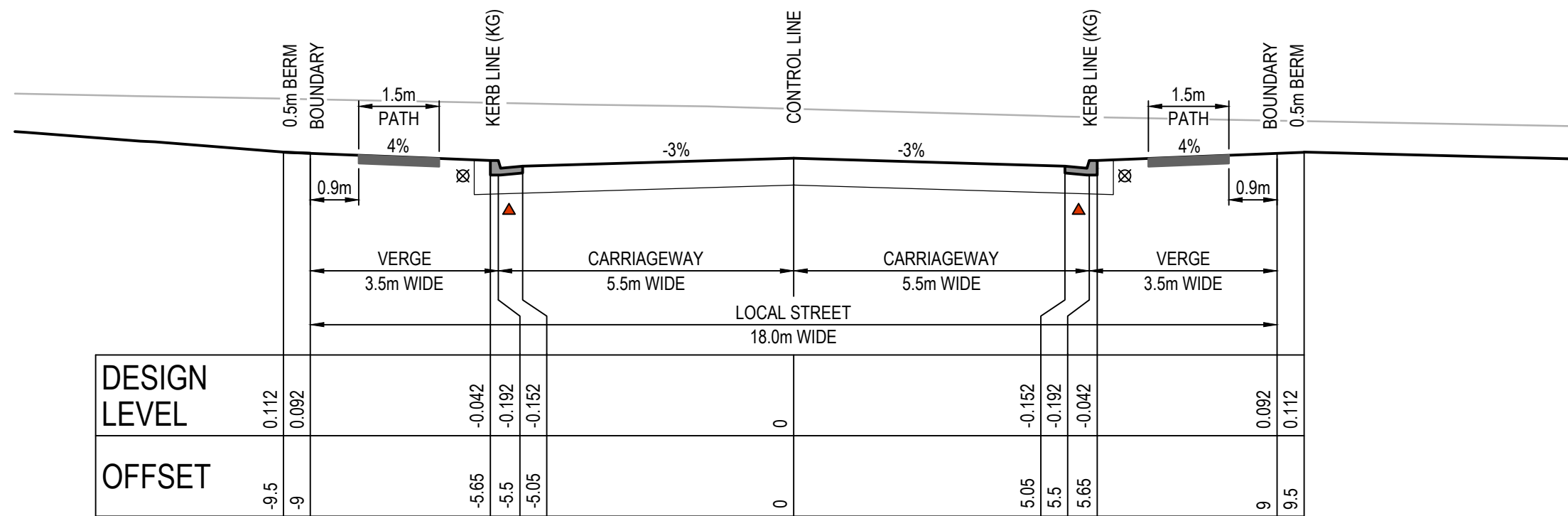
TYPICAL CROSS SECTION
ROAD No.01 - CH 20.132 TO CH 117.196
FULL ROAD CONSTRUCTION
SCALE 1:100



TYPICAL CROSS SECTION
ROAD No.01 - CH 117.196 TO CH 275.556
FULL ROAD CONSTRUCTION
SCALE 1:100



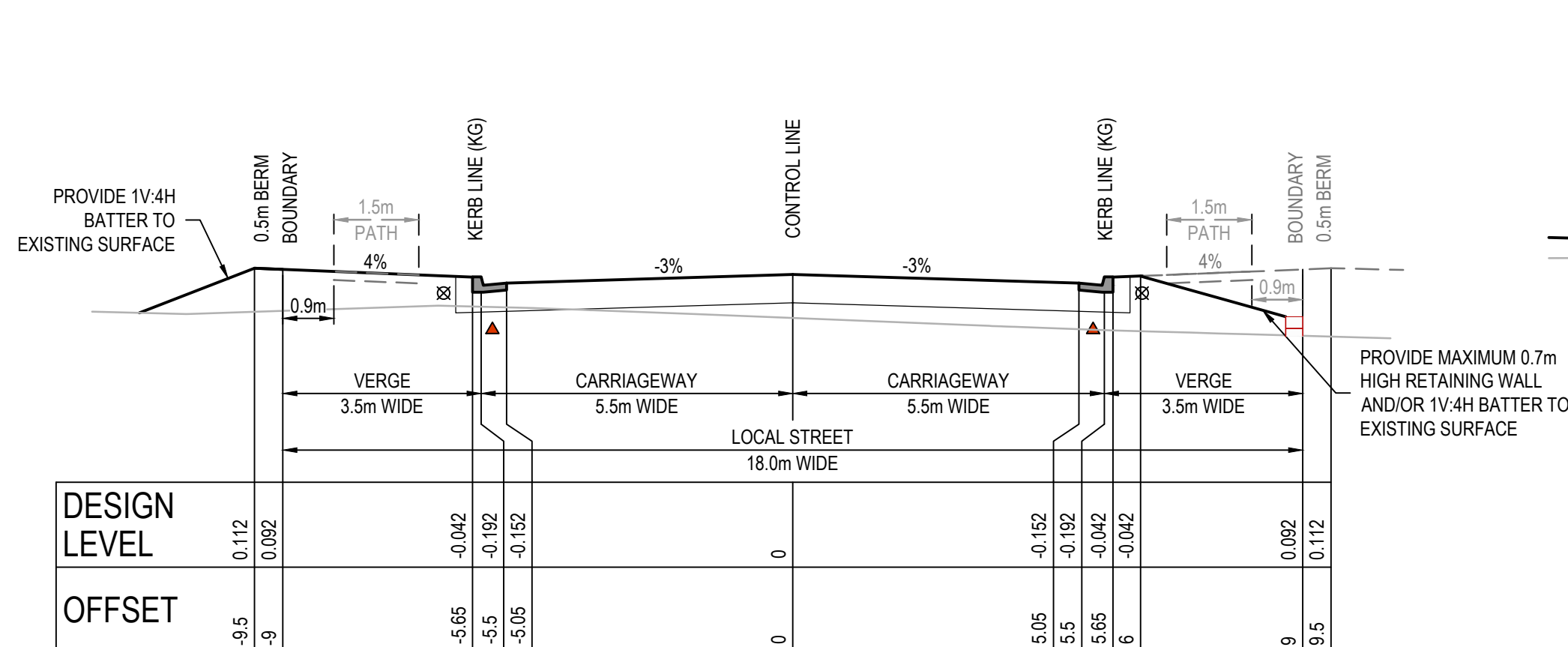
TYPICAL CROSS SECTION
ROAD No.02 - CH 0 TO CH 145.534
HALF ROAD CONSTRUCTION
SCALE 1:100



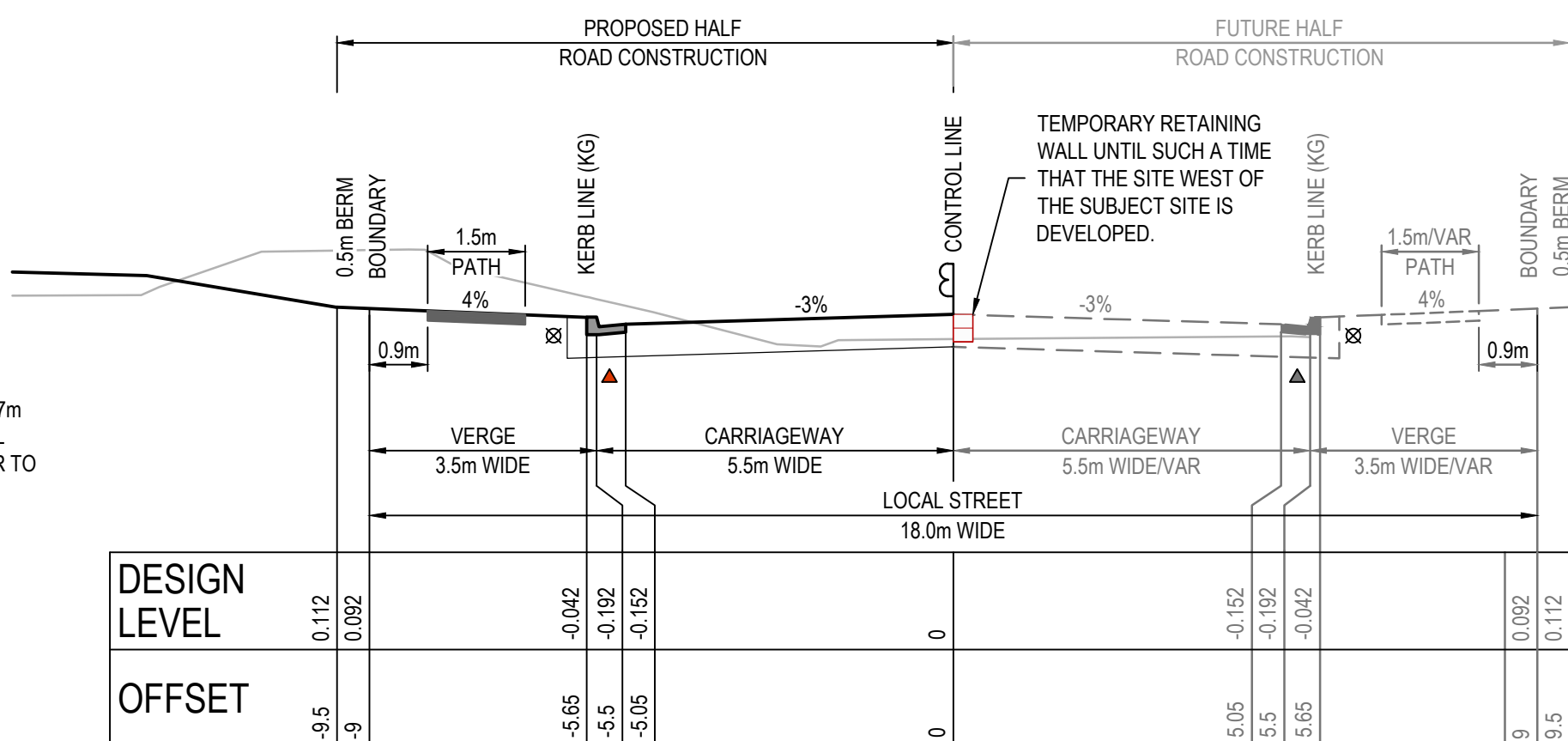
TYPICAL CROSS SECTION
ROAD No.03 - CH 0 TO CH 107.198
FULL ROAD CONSTRUCTION
SCALE 1:100

NOTE
FOOTPATH & KERBS TO BE CONSTRUCTED TO BLACKTOWN CITY COUNCIL STANDARDS.

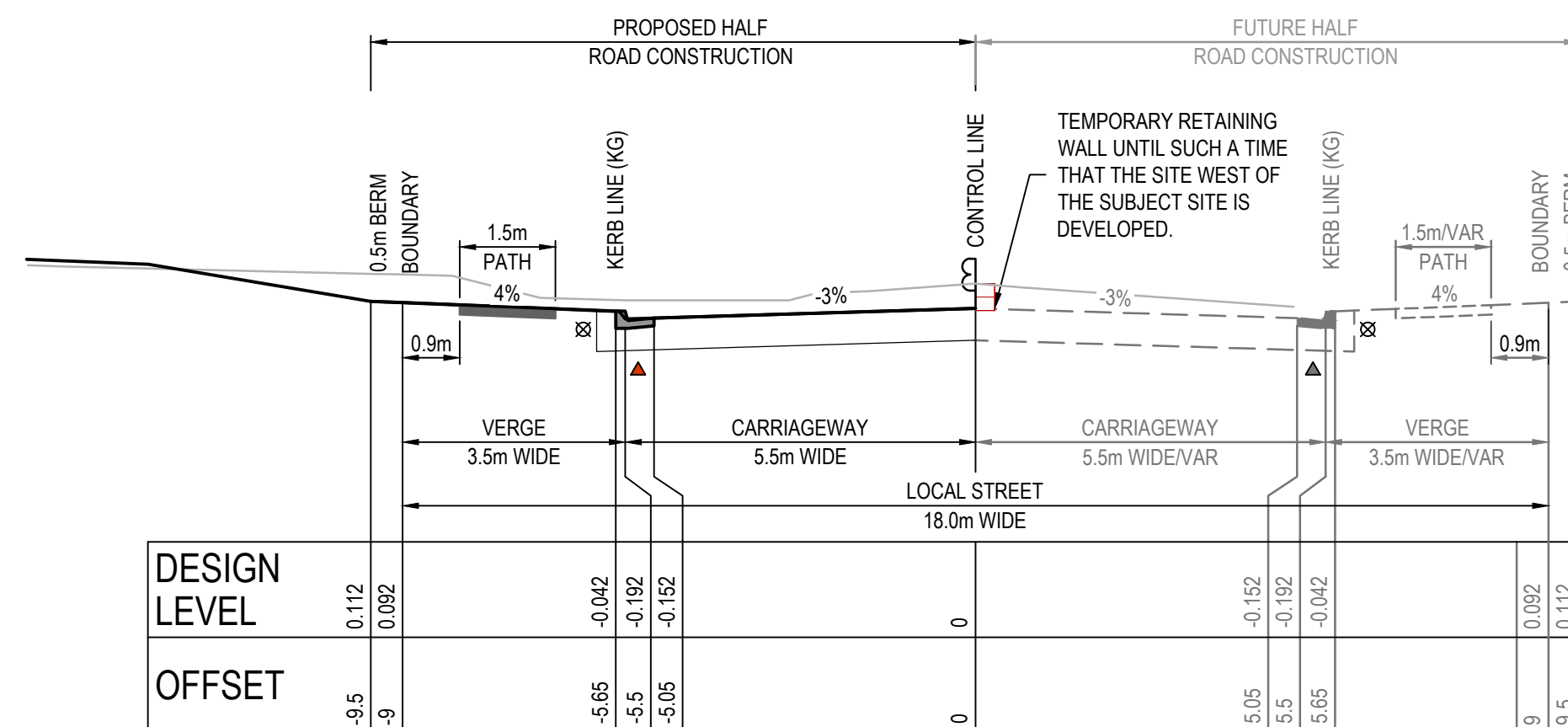
LEGEND
⊗ SUBGRADE TO EXTEND 300mm BEHIND BACK OF KERB
▲ SUBSOIL DRAIN TO BE LAID BELOW ALL KERBS WHERE NO STORMWATER PIPE IS BELOW



TYPICAL CROSS SECTION
ROAD No.03 - CH 107.198 TO CH 297.892
FULL ROAD CONSTRUCTION
SCALE 1:100

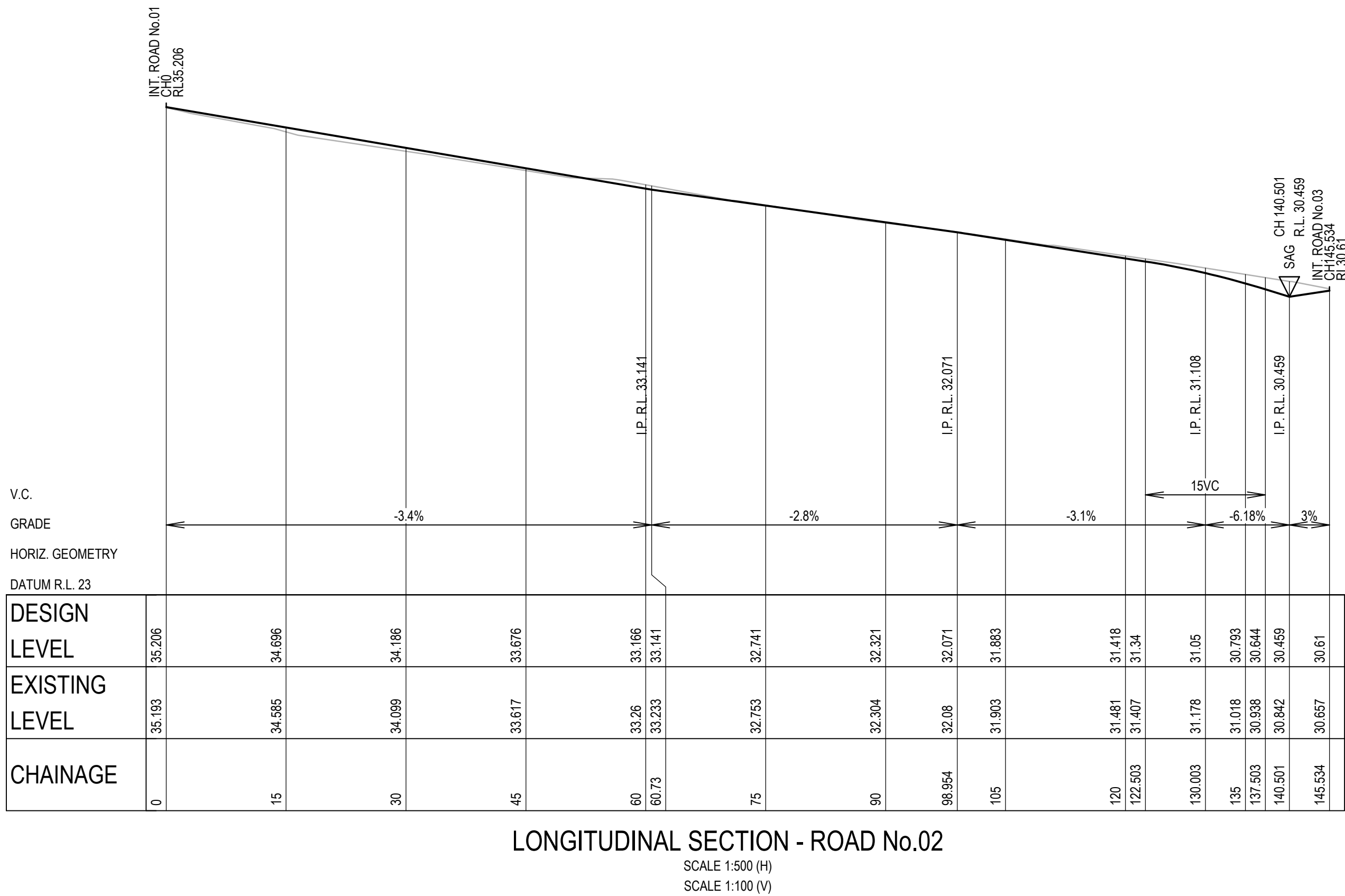


TYPICAL CROSS SECTION
ROAD No.04 - CH 0 TO CH 30
HALF ROAD CONSTRUCTION
SCALE 1:100



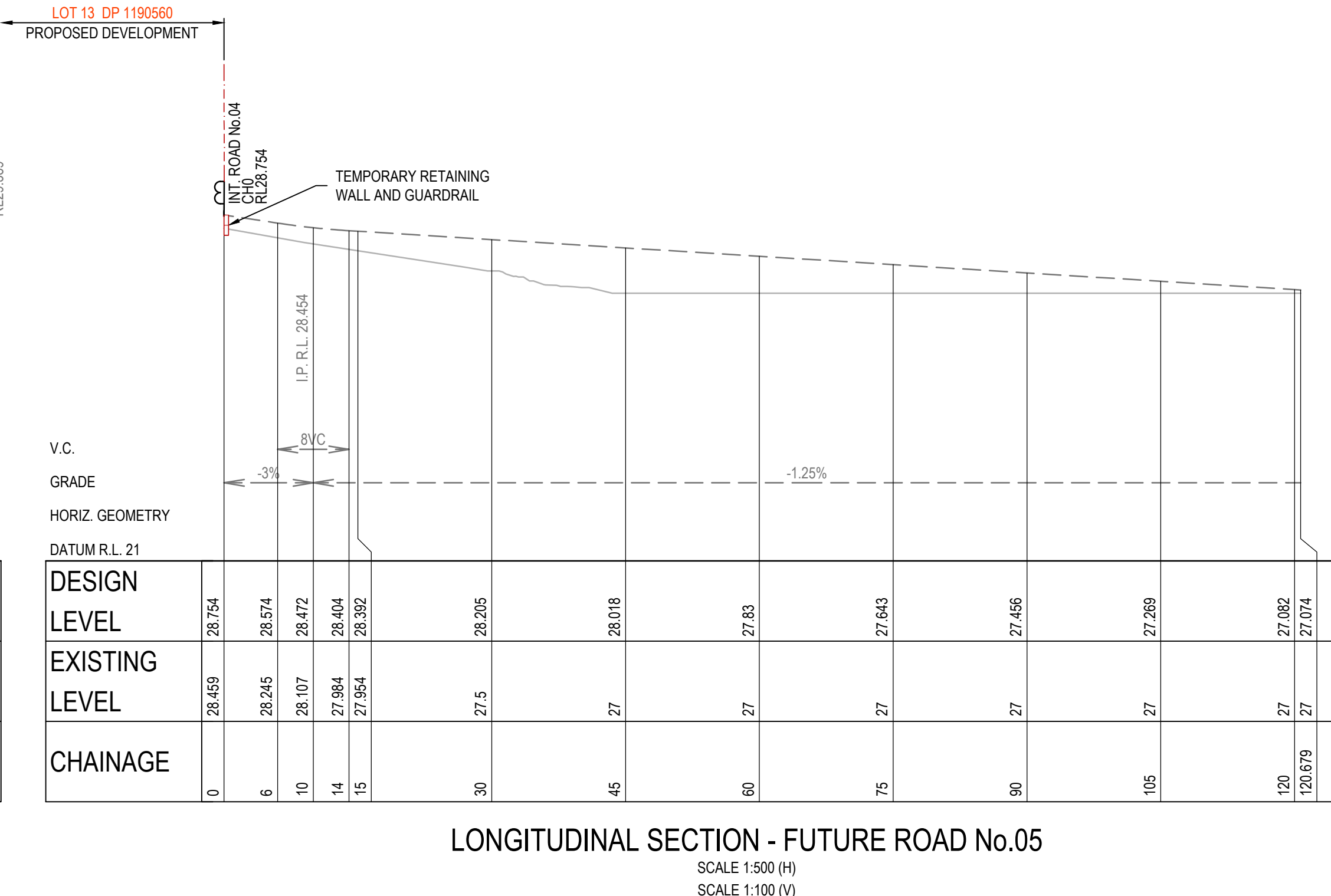
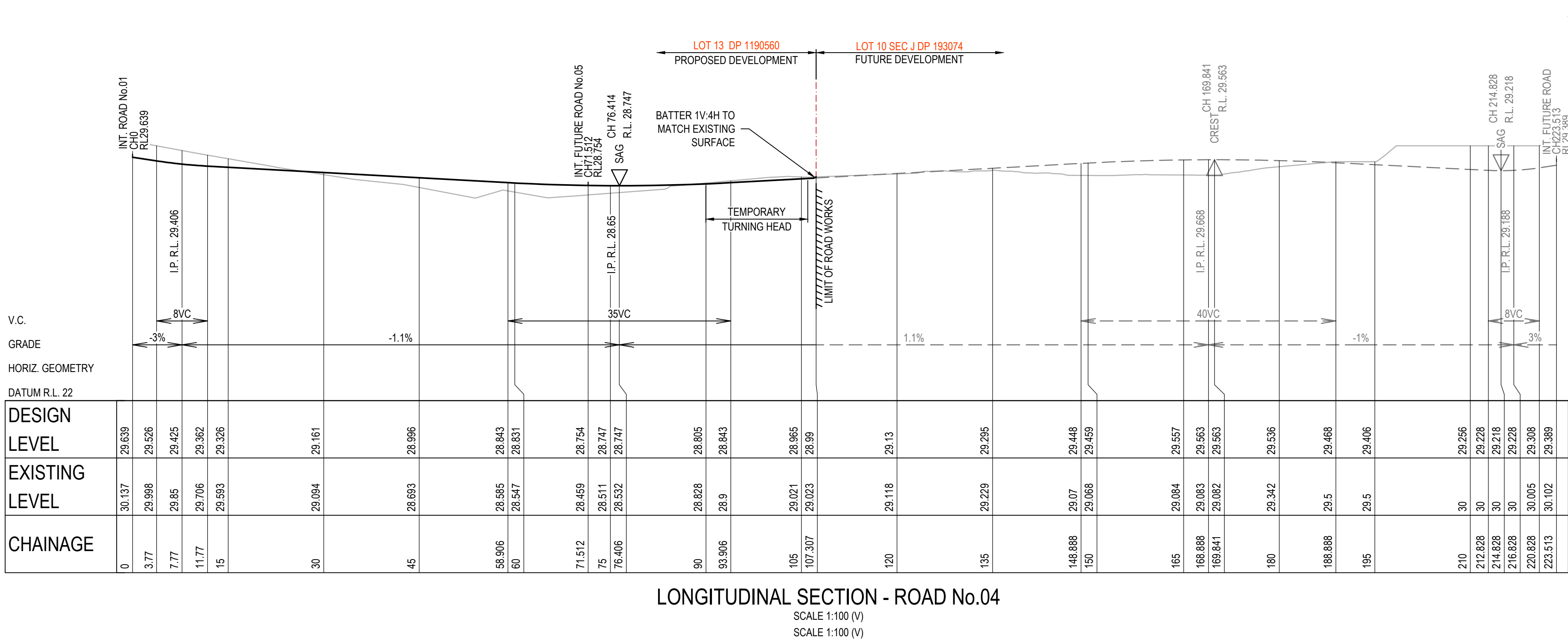
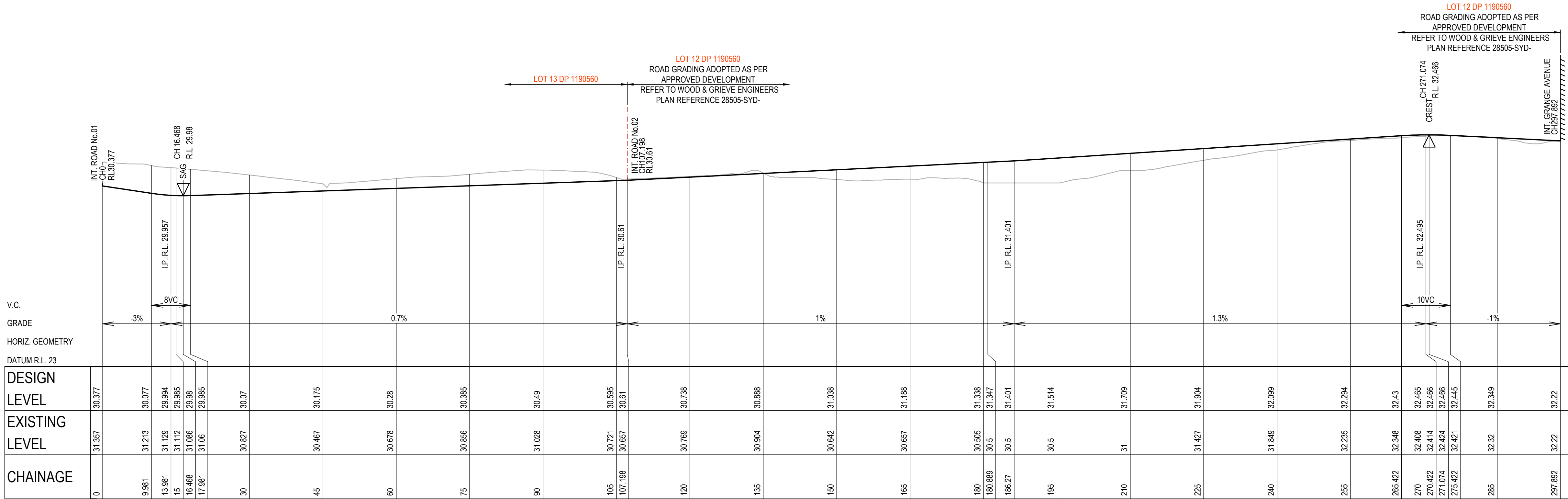
TYPICAL CROSS SECTION
ROAD No.04 - CH 30 TO CH 107.307
HALF ROAD CONSTRUCTION
SCALE 1:100

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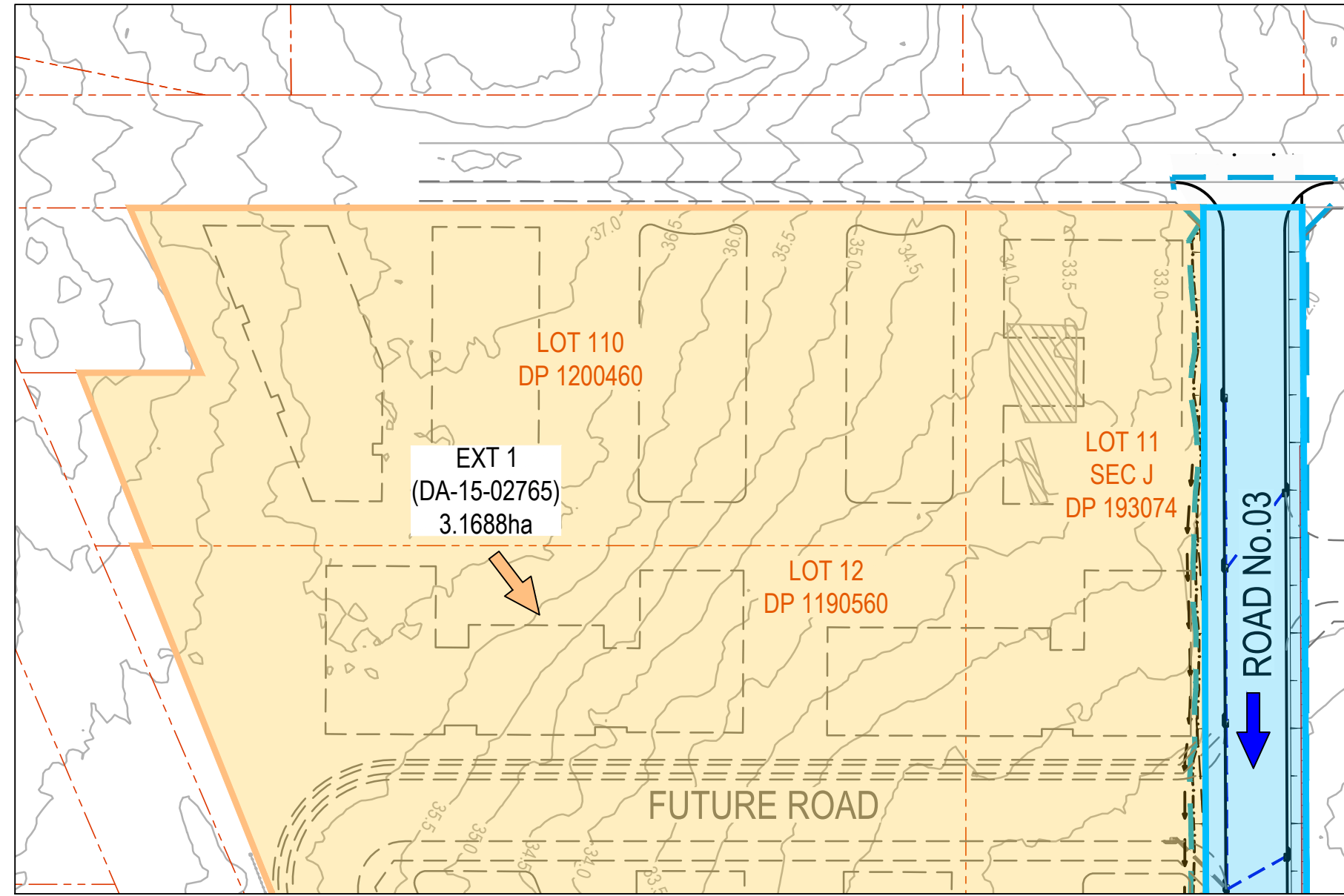
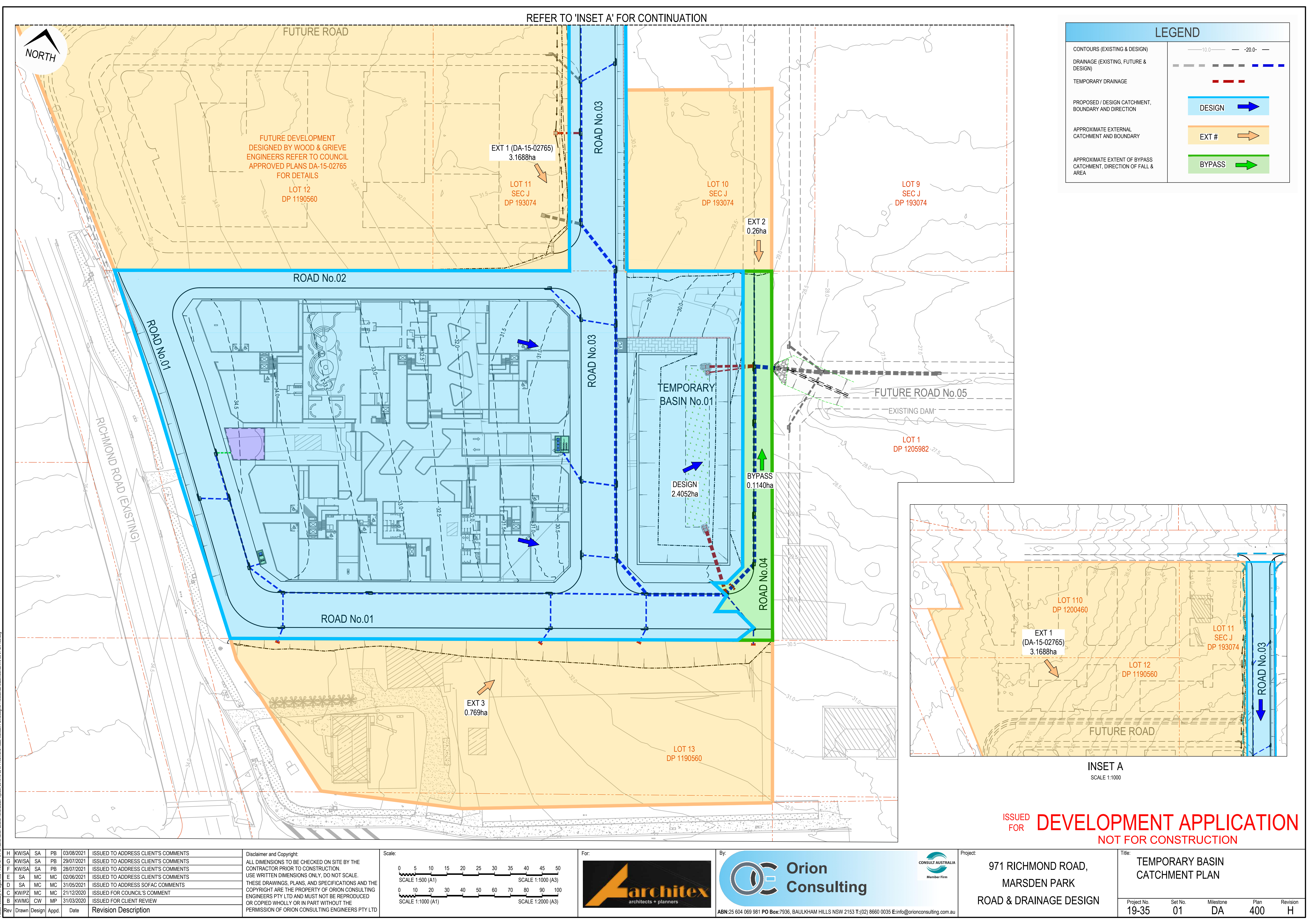
Project:	971 RICHMOND ROAD, MARSDEN PARK ROAD & DRAINAGE DESIGN				
	Title:				
ROAD LONGITUDINAL SECTIONS		SHEET 01 OF 02			
Project No.	Set No.	Milestone	Plan	Revision	
19-35	01	DA	301	H	

LEGEND	
DESIGN SURFACE	—————
EXISTING SURFACE	—————
FUTURE SURFACE	-----
LOT BOUNDARY	- - - - -



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G	KW/SA	SA	PB	29/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS						
F	KW/SA	SA	PB	28/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS						
E	SA	MC	MC	02/06/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS						
D	SA	MC	MC	31/05/2021	ISSUED TO ADDRESS SOFAC COMMENTS						
C	KW/PZ	MC	MC	21/12/2020	ISSUED FOR COUNCIL'S COMMENT						
B	KW/MG	CW	MP	31/03/2020	ISSUED FOR CLIENT REVIEW						
Rev	Drawn	Design	Appd.	Date	Revision Description						

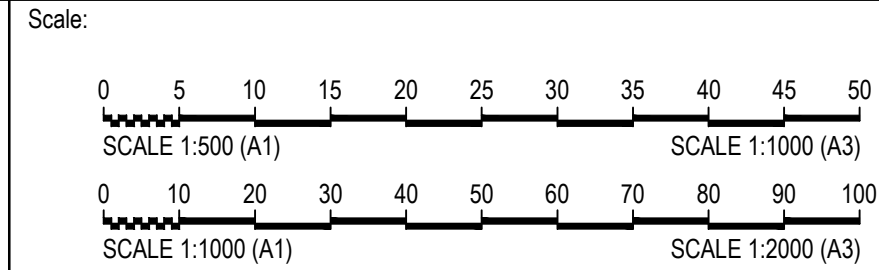


INSET A
SCALE 1:1000

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Rev	Drawn	Design	Appd.	Date	Revision Description
H	KW/SA	SA	PB	03/08/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
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F	KW/SA	SA	PB	28/07/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
E	SA	MC	MC	02/06/2021	ISSUED TO ADDRESS CLIENT'S COMMENTS
D	SA	MC	MC	31/05/2021	ISSUED TO ADDRESS SOFAC COMMENTS
C	KW/PZ	MC	MC	21/12/2020	ISSUED FOR COUNCIL'S COMMENT
B	KW/MG	CW	MP	31/03/2020	ISSUED FOR CLIENT REVIEW

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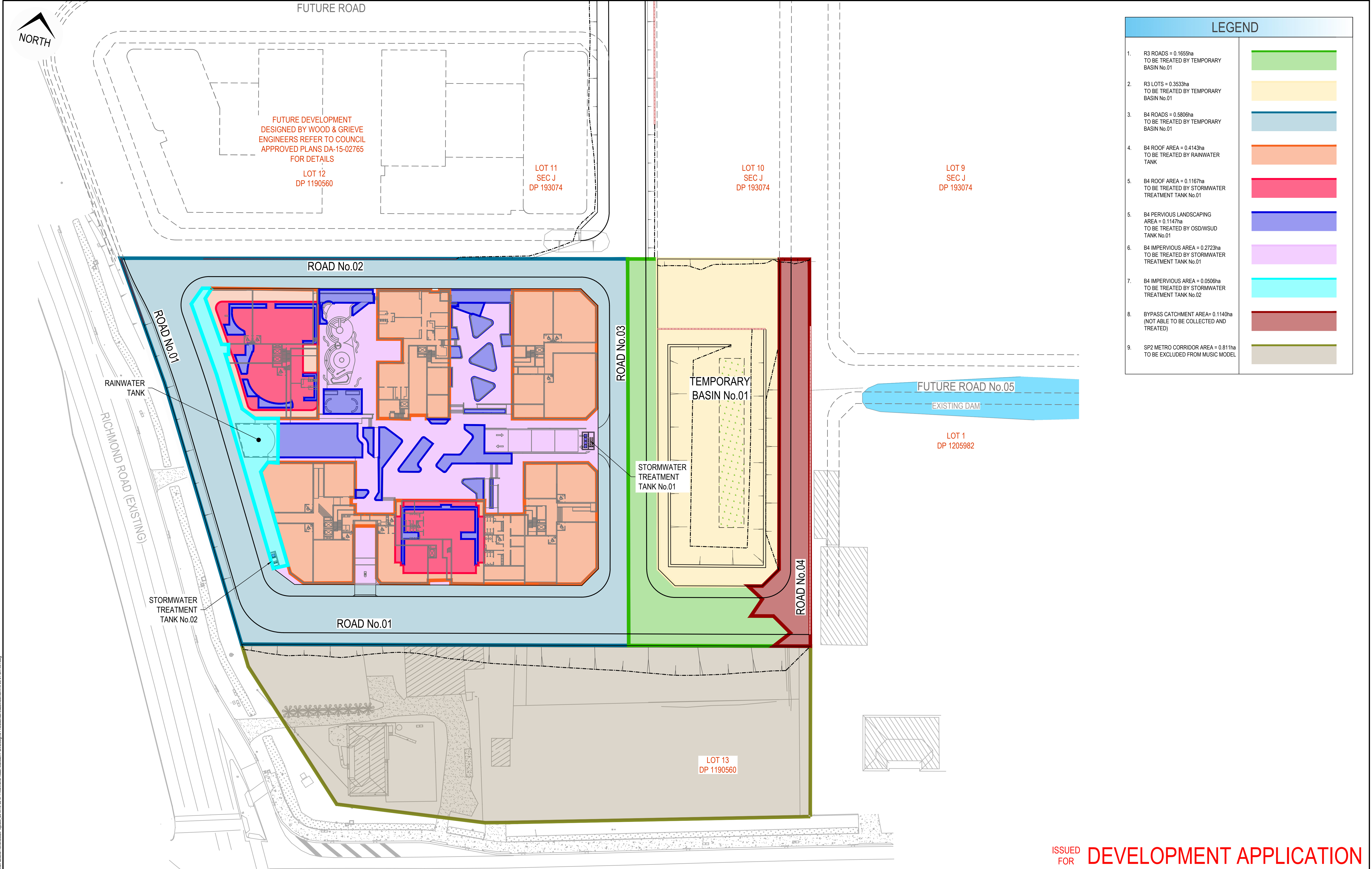


By: **Orion Consulting**

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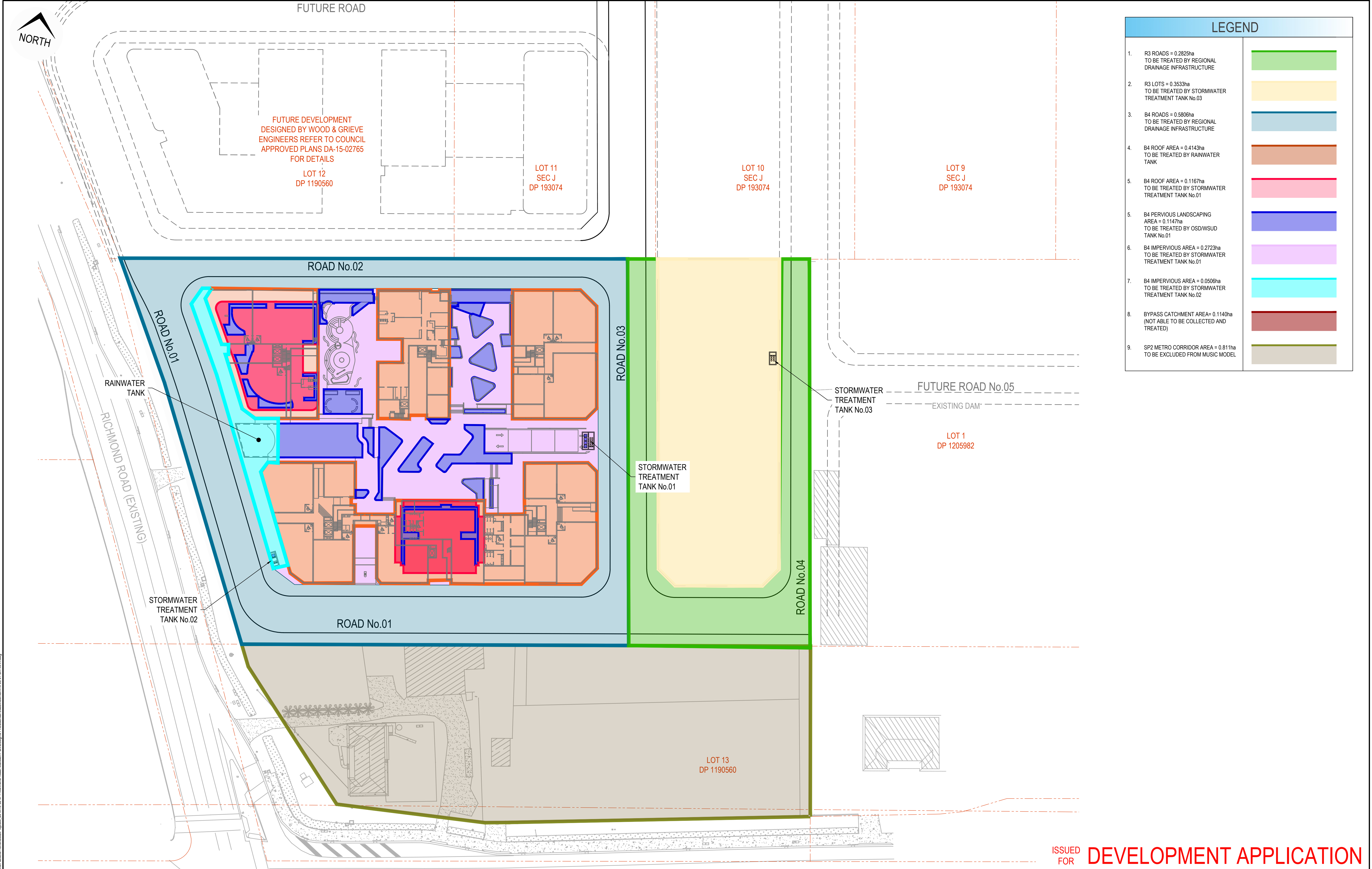
Project: 971 RICHMOND ROAD,
MARSDEN PARK
ROAD & DRAINAGE DESIGN

Title: TEMPORARY BASIN CATCHMENT PLAN				
Project No. 19-35	Set No. 01	Milestone DA	Plan 400	Revision H



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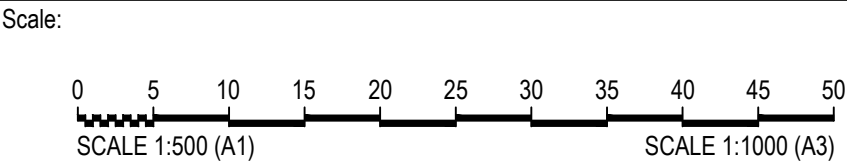


LEGEND		
1.	R3 ROADS = 0.2825ha TO BE TREATED BY REGIONAL DRAINAGE INFRASTRUCTURE	
2.	R3 LOTS = 0.3533ha TO BE TREATED BY STORMWATER TREATMENT TANK No.03	
3.	B4 ROADS = 0.5806ha TO BE TREATED BY REGIONAL DRAINAGE INFRASTRUCTURE	
4.	B4 ROOF AREA = 0.4143ha TO BE TREATED BY RAINWATER TANK	
5.	B4 ROOF AREA = 0.1167ha TO BE TREATED BY STORMWATER TREATMENT TANK No.01	
5.	B4 PERVIOUS LANDSCAPING AREA = 0.1147ha TO BE TREATED BY OSD/WSUD TANK No.01	
6.	B4 IMPERVIOUS AREA = 0.2723ha TO BE TREATED BY STORMWATER TREATMENT TANK No.01	
7.	B4 IMPERVIOUS AREA = 0.0506ha TO BE TREATED BY STORMWATER TREATMENT TANK No.02	
8.	BYPASS CATCHMENT AREA= 0.1140ha (NOT ABLE TO BE COLLECTED AND TREATED)	
9.	SP2 METRO CORRIDOR AREA = 0.811ha TO BE EXCLUDED FROM MUSIC MODEL	

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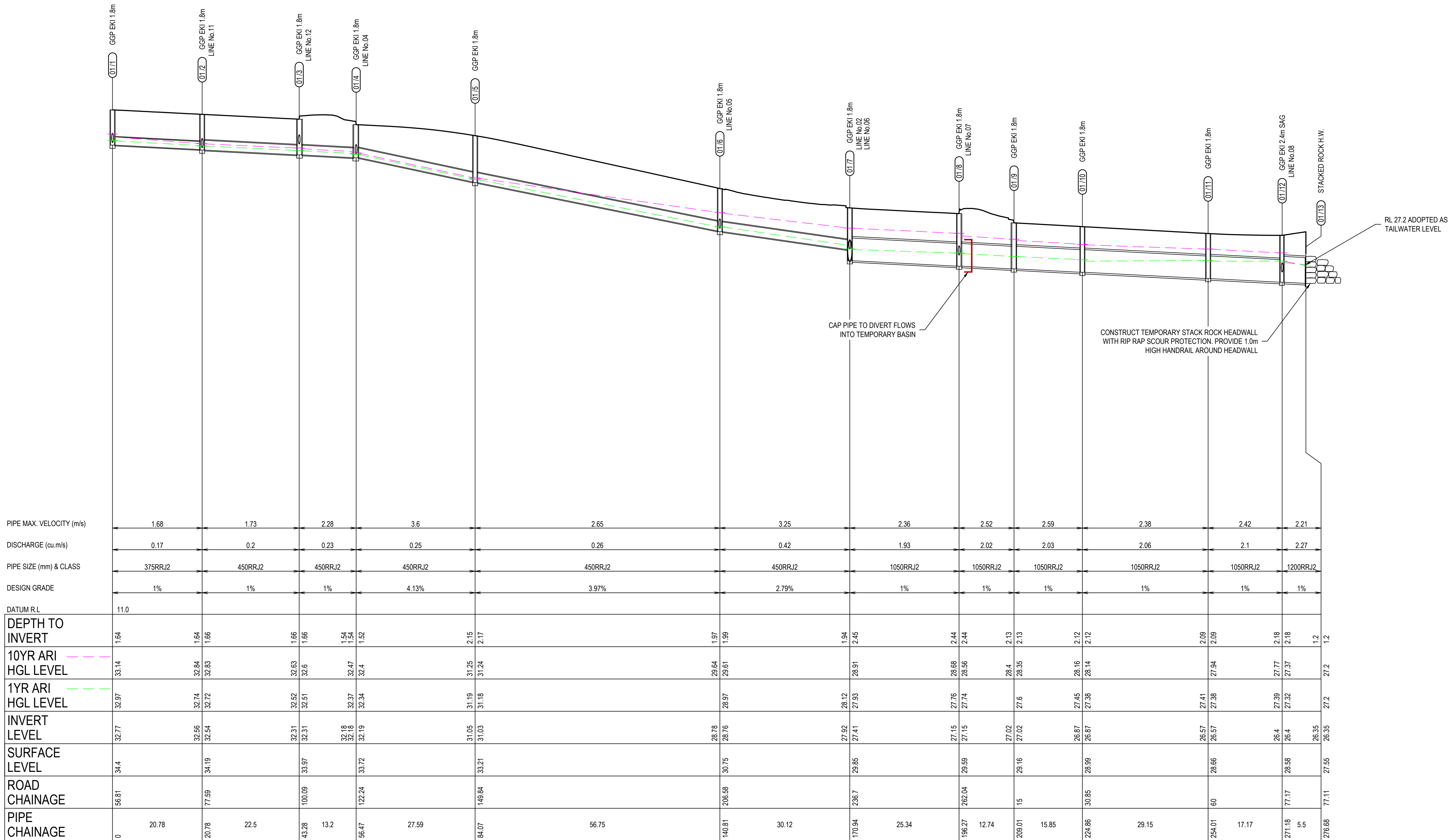
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Project: 971 RICHMOND ROAD,
MARSDEN PARK
ROAD & DRAINAGE DESIGN

Title: ULTIMATE WATER QUALITY CATCHMENT PLAN				
Project No. 19-35	Set No. 01	Milestone DA	Plan 401A	Revision H

LEGEND	
DESIGN SURFACE	
10YR H.G.L. LEVEL	
1YR H.G.L. LEVEL	
DESIGN PIPE AND PIT	
FUTURE PIPE AND PIT	
TEMPORARY PIPE AND PIT	



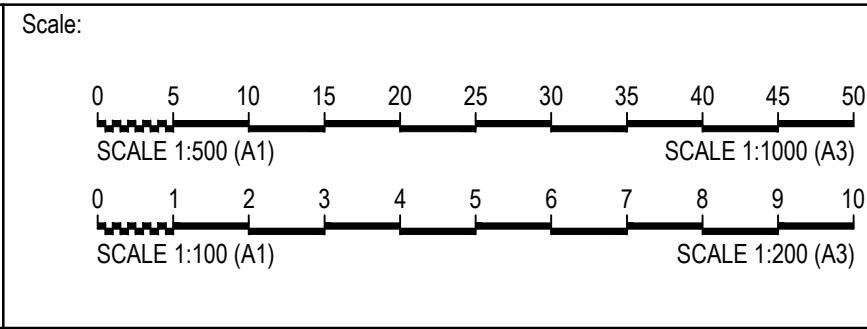
LINE 01

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Project: 971 Richmond Road, Marsden Park, NSW 2153
Drawn: [Name]
Design: [Name]
Appd.: [Name]
Date: [Date]
Revision: [Revision]

Rev	Drawn	Design	Appd.	Date	Revision Description
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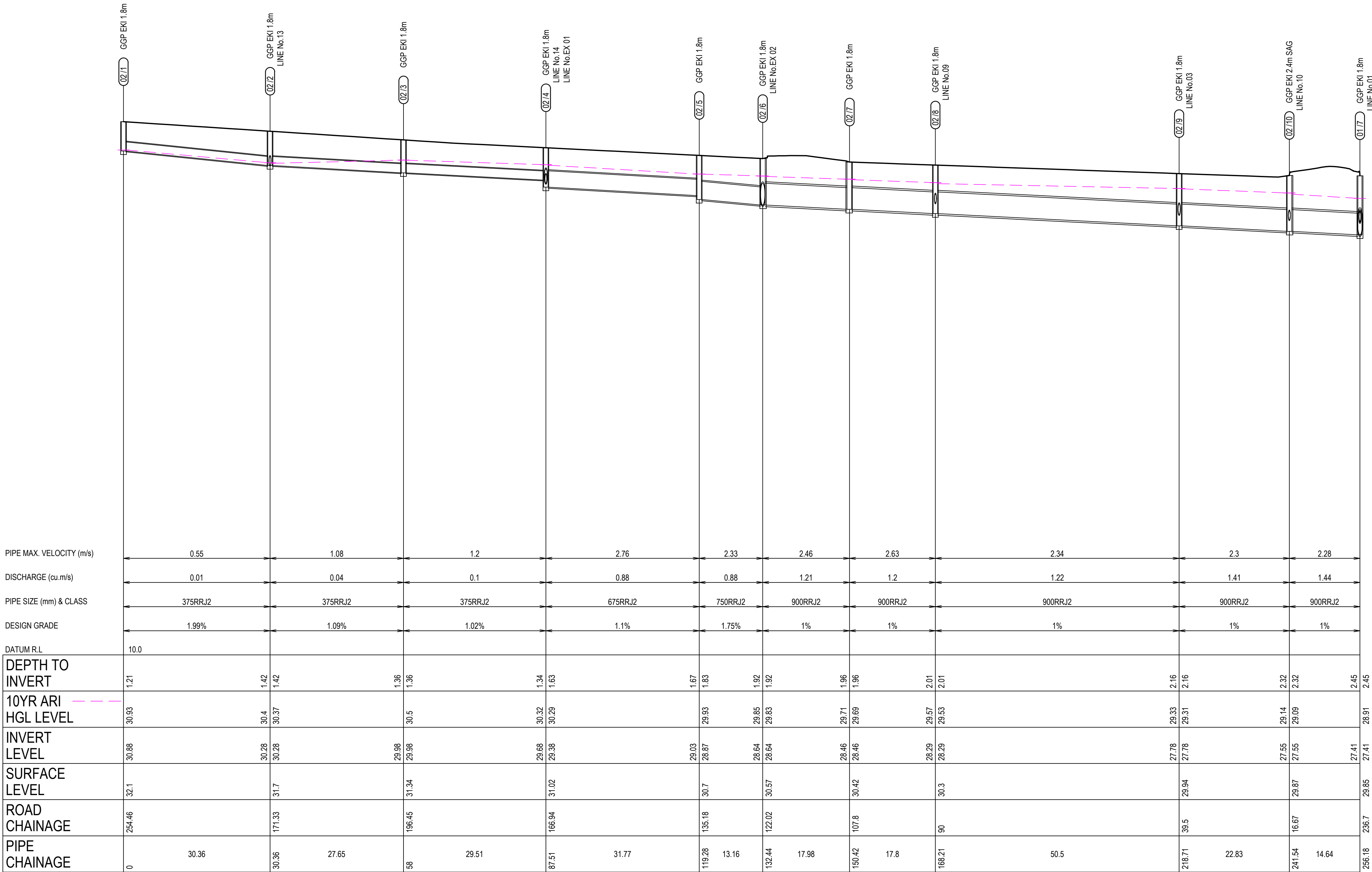
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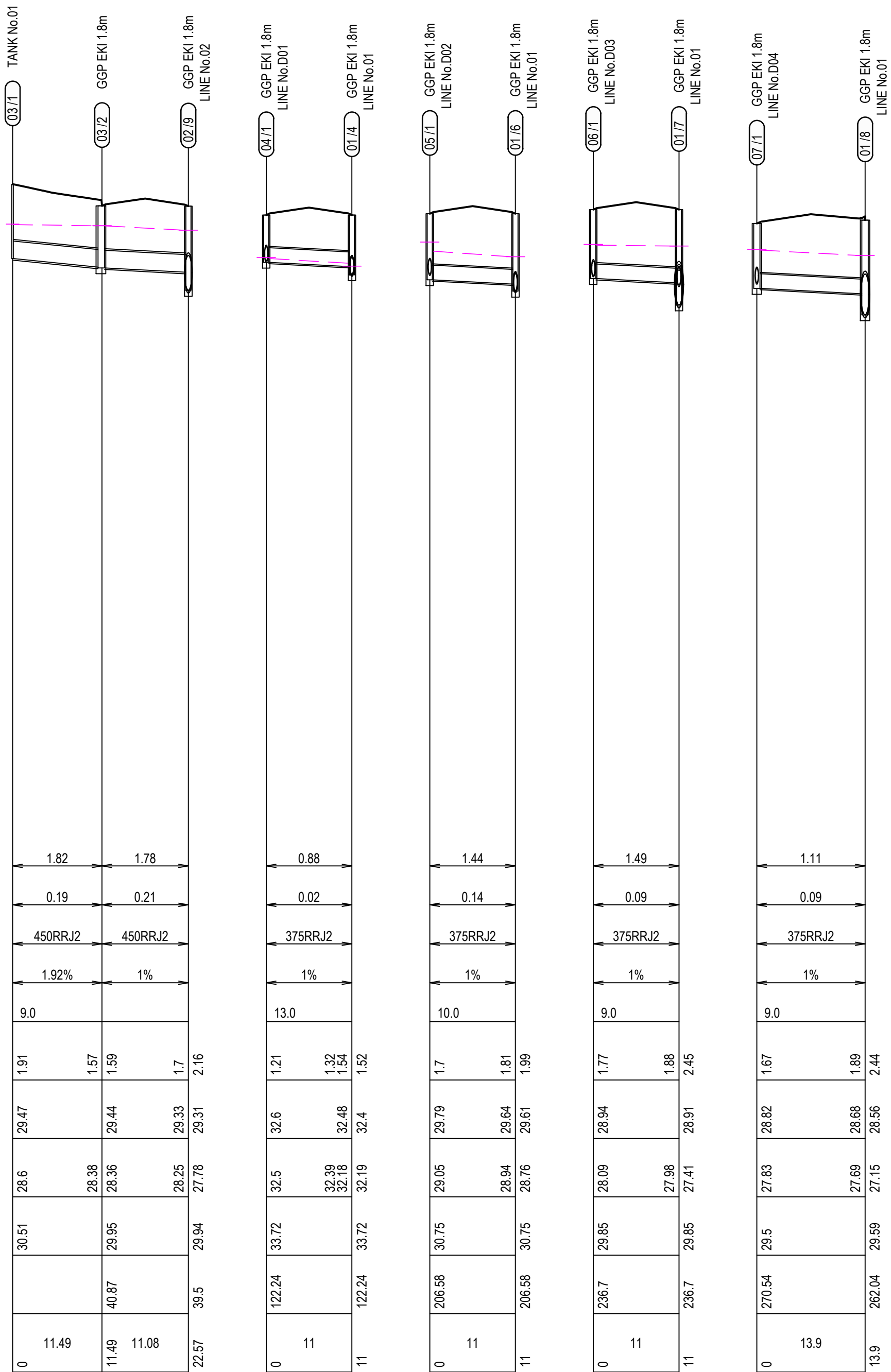
Project: 971 RICHMOND ROAD,
MARSDEN PARK
ROAD & DRAINAGE DESIGN

Title: DRAINAGE LONG SECTIONS SHEET 1 OF 3				
Project No. 19-35	Set No. 01	Milestone DA	Plan 402	Revision H

LEGEND	
DESIGN SURFACE	
10YR H.G.L. LEVEL	
DESIGN PIPE AND PIT	
FUTURE PIPE AND PIT	
TEMPORARY PIPE AND PIT	



LINE 02



LINE 03

LINE 04

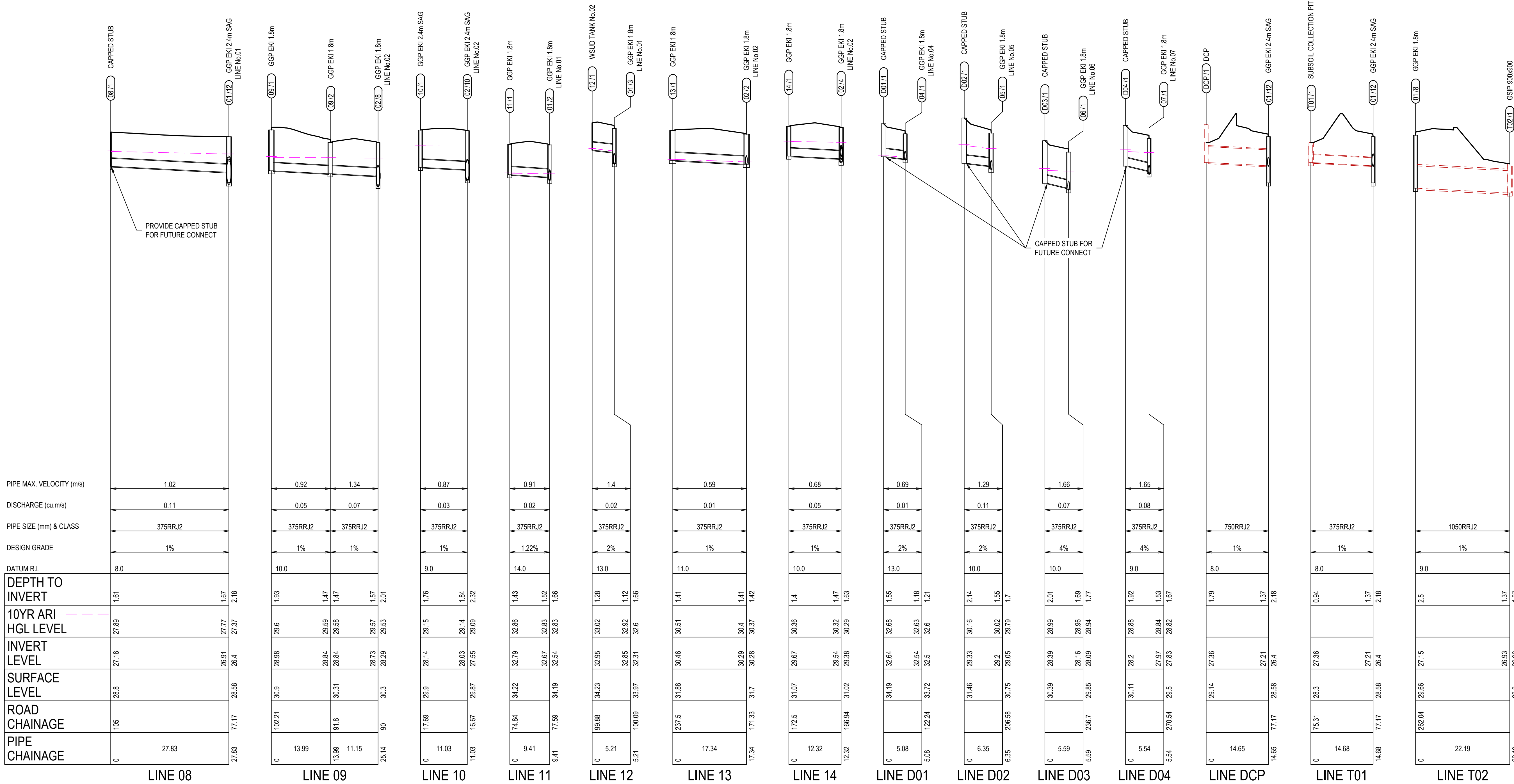
LINE 05

LINE 06

LINE 07

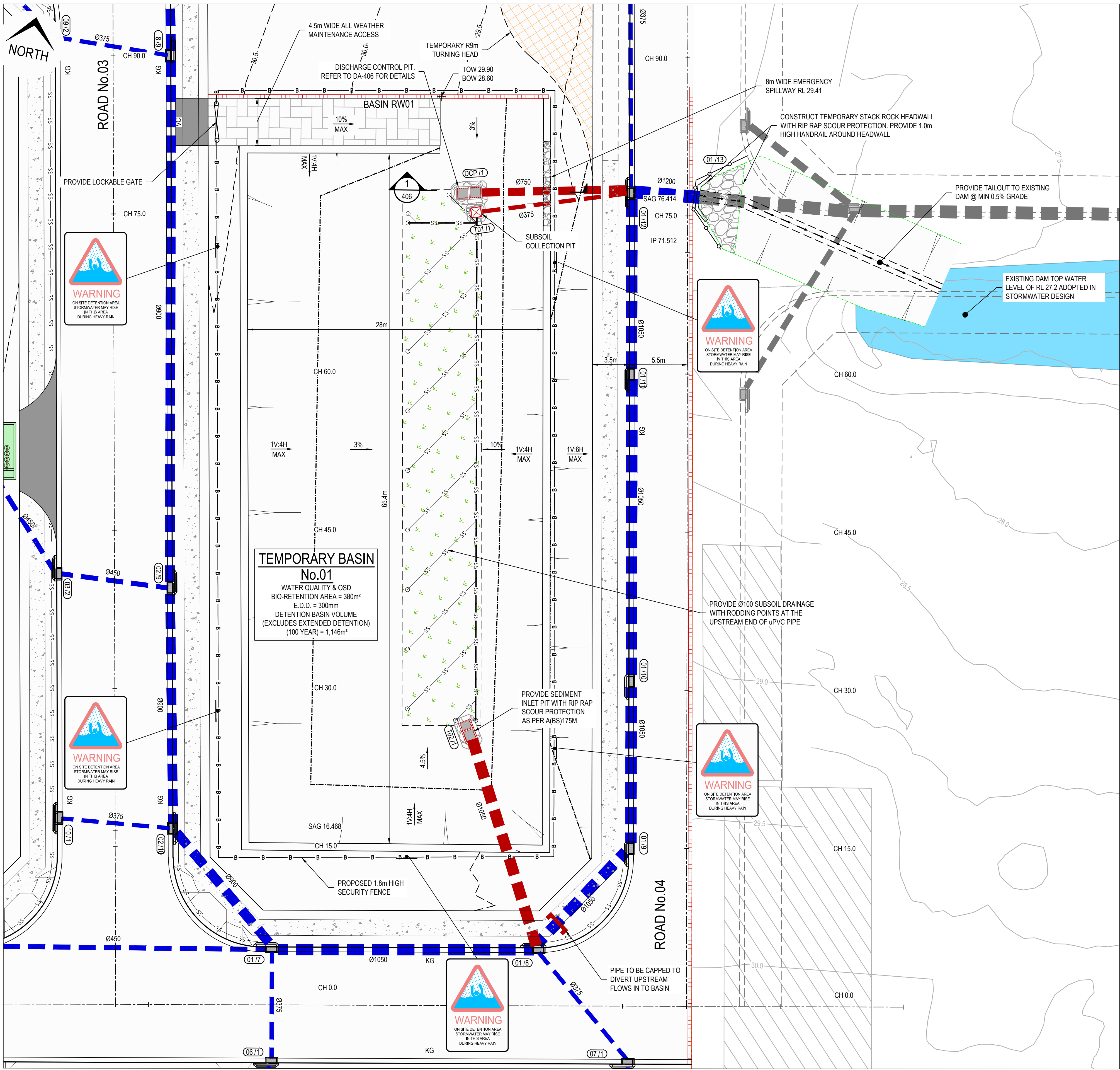
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LEGEND	
DESIGN SURFACE	
10YR H.G.L LEVEL	
DESIGN PIPE AND PIT	
FUTURE PIPE AND PIT	
TEMPORARY PIPE AND PIT	



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<div>Project: 971 RICHMOND ROAD, MARSDEN PARK ROAD & DRAINAGE DESIGN</div>							Title: DRAINAGE LONG SECTIONS SHEET 3 OF 3		
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au							Project No. 19-35	Set No. 01	Milestone DA
							Plan 404	Revision H	



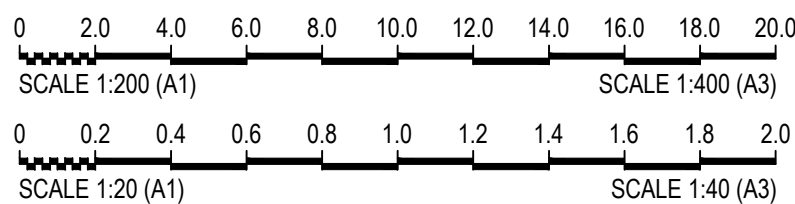
BASIN No.01 PLAN

SCALE 1:200

Rev	Drawn	Design	Appd.	Date	Revision Description
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Scale:



For:



By:



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Project:

971 RICHMOND ROAD,
MARSDEN PARK
ROAD & DRAINAGE DESIGN

Title:

TEMPORARY BASIN No.01 PLAN,
SECTIONS & DETAILS SHEET 1 OF 2

Project No.	Set No.	Milestone	Plan	Revision
19-35	01	DA	405	H

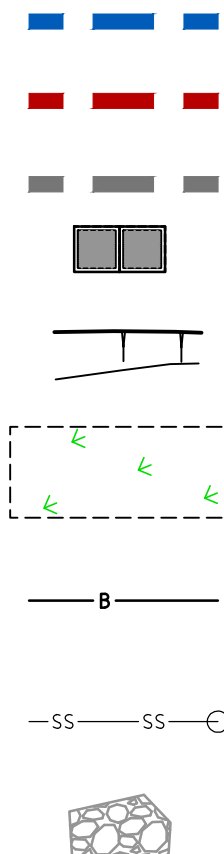


SIGNS:

STANDARD FLOODWAY WARNING
SIGN AND MOUNTING BRACKET IN
ACCORDANCE WITH COUNCIL
STANDARD DRAWING A(BS)114S

LEGEND

- PROPOSED STORMWATER PIPE
- PROPOSED TEMPORARY STORMWATER PIPE
- FUTURE STORMWATER PIPE
- PROPOSED DISCHARGE CONTROL PIT
- PROPOSED BATTER
- PROPOSED BIO-BASIN
- PROPOSED 1.8m HIGH SECURITY FENCE WITH VEHICLE ACCESS GATES
- Ø100 SUBSOIL LINES AT 3.0m CENTRES END OF SUBSOIL DRAINAGE LINE WITH FLUSHING POINT.
- PROPOSED SCOUR PROTECTION

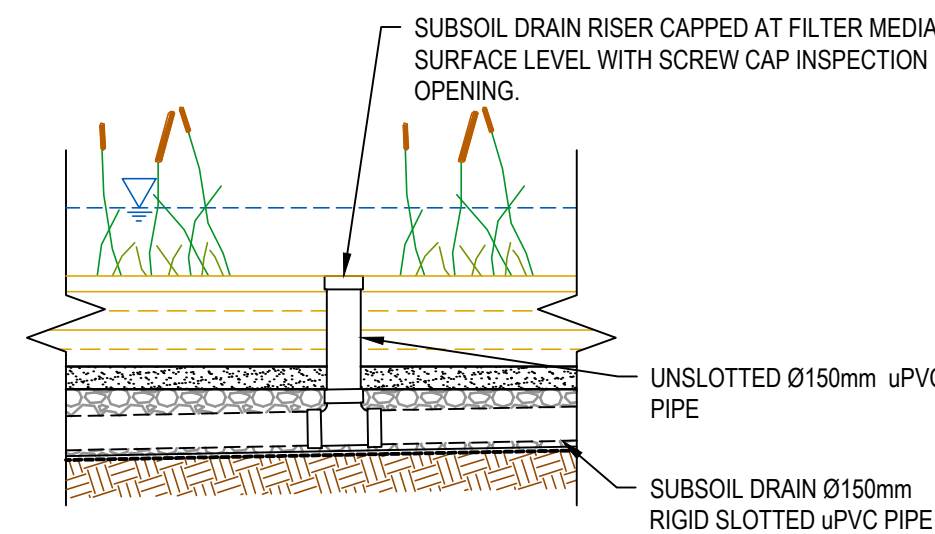
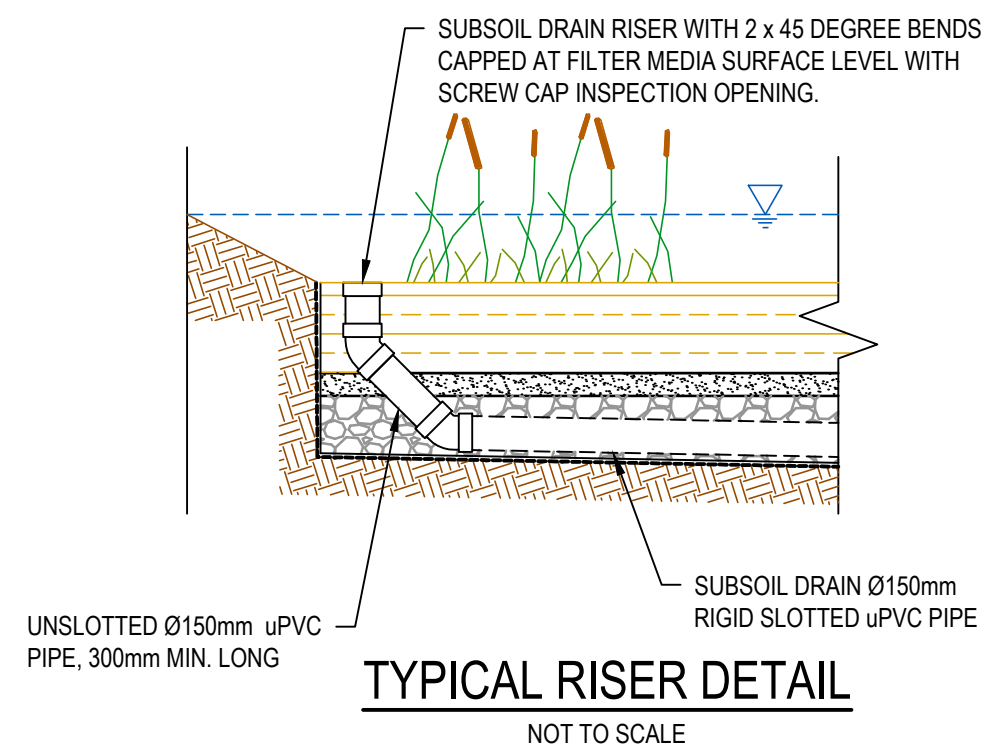
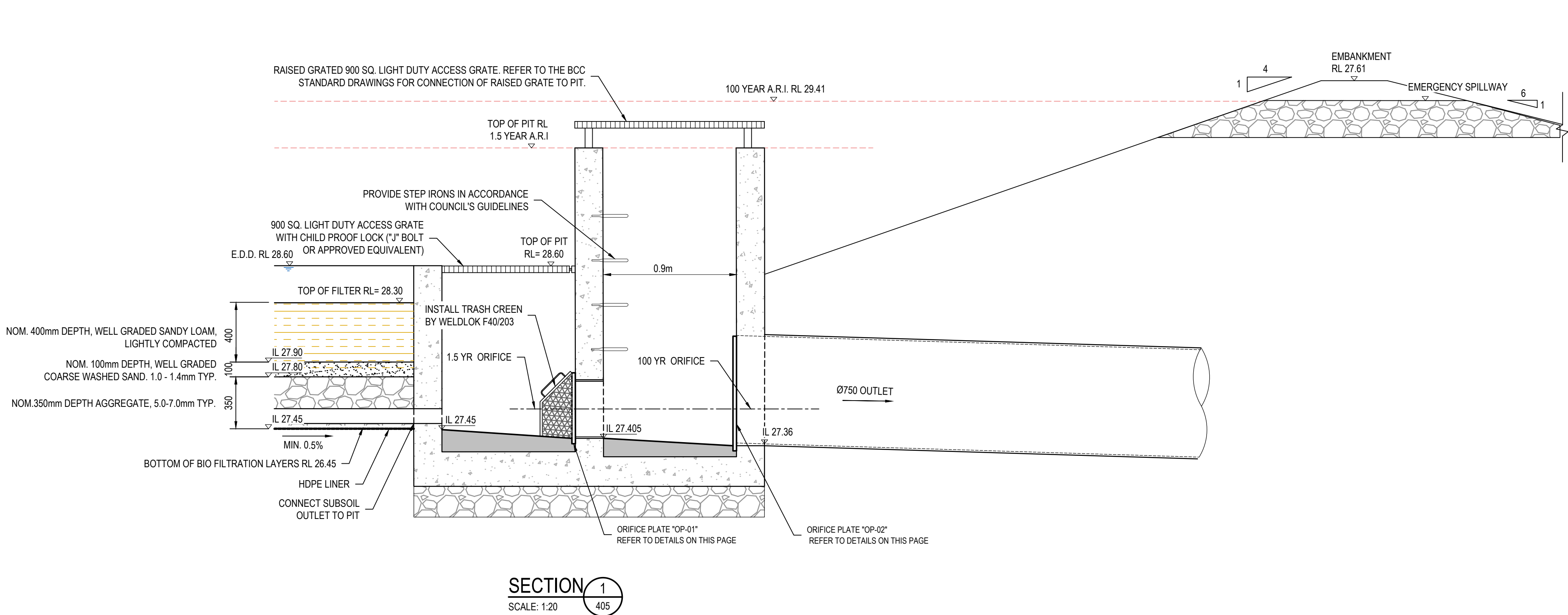


Above Ground OSD Summary with calculated values

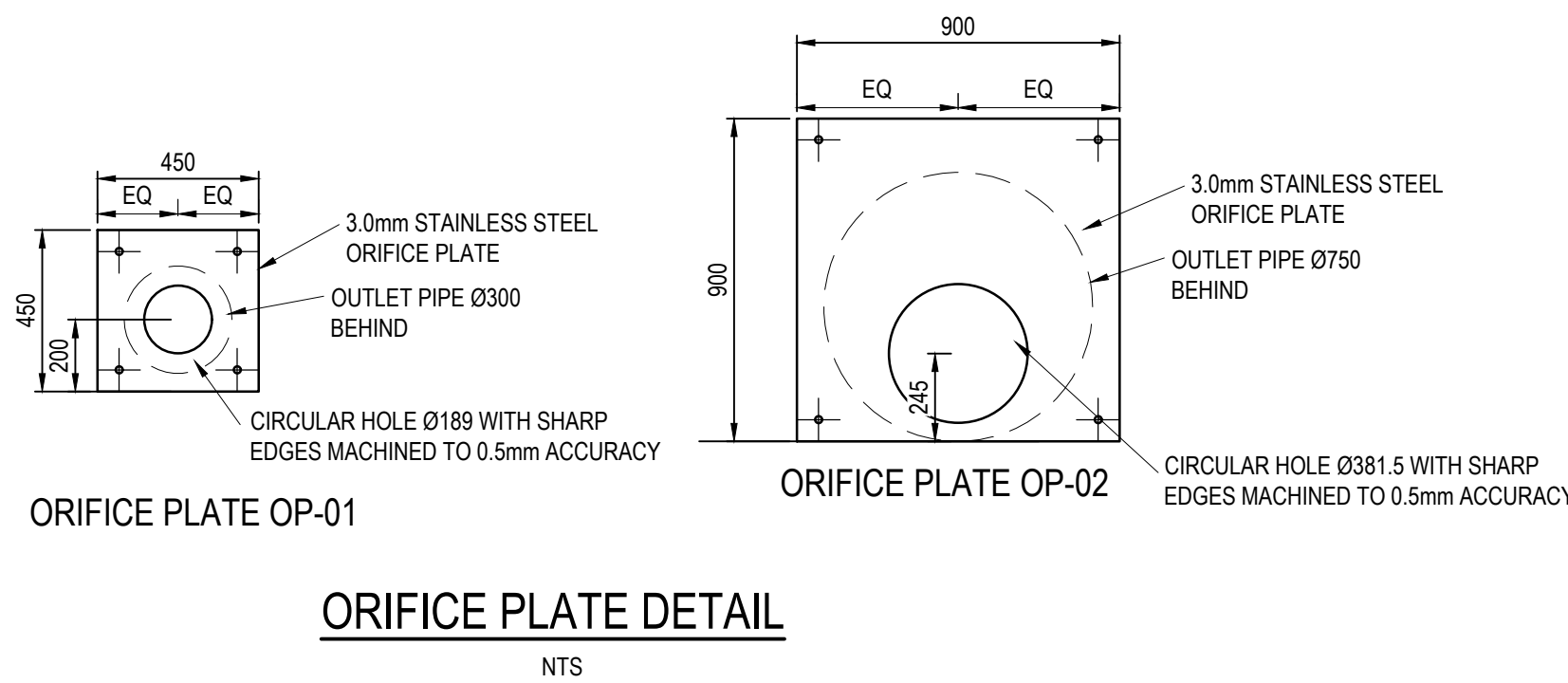
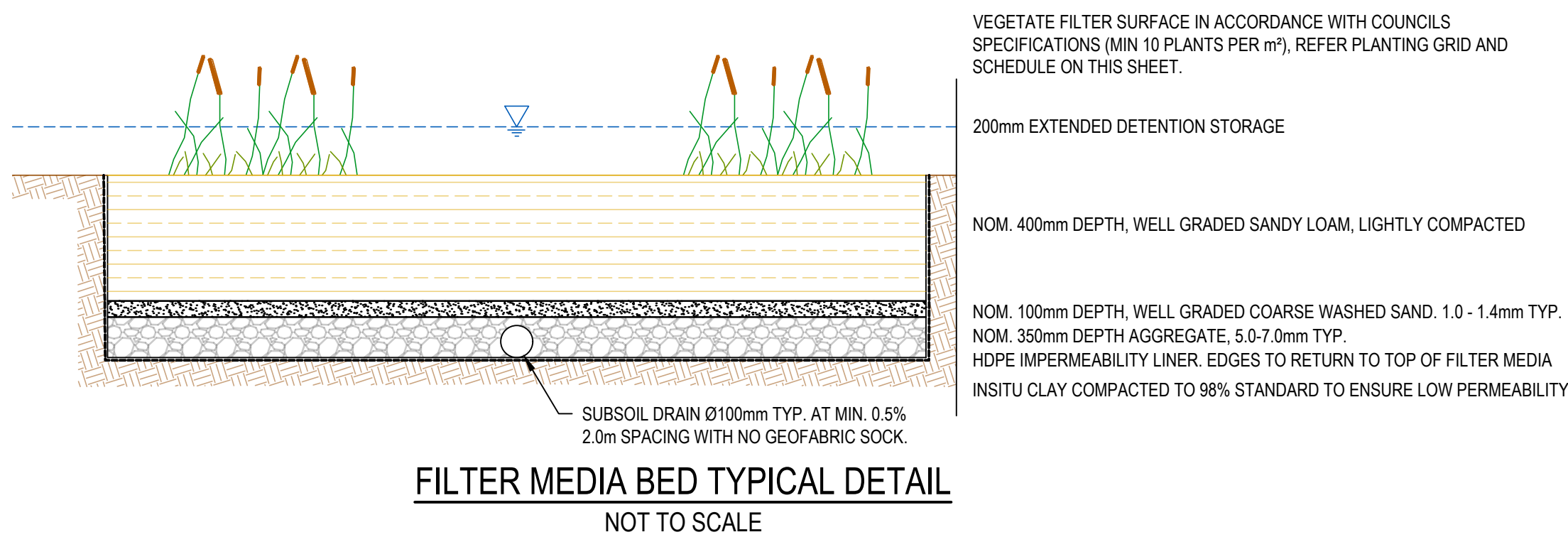
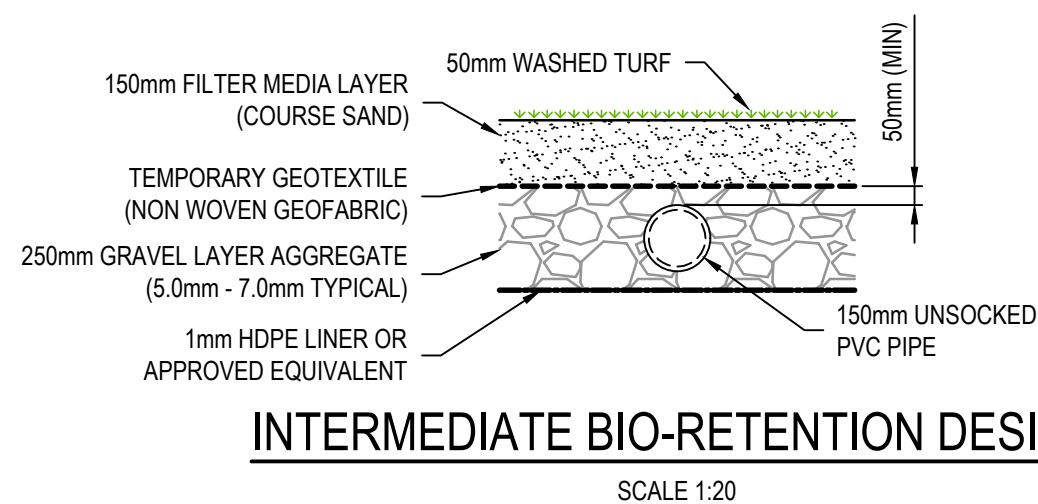
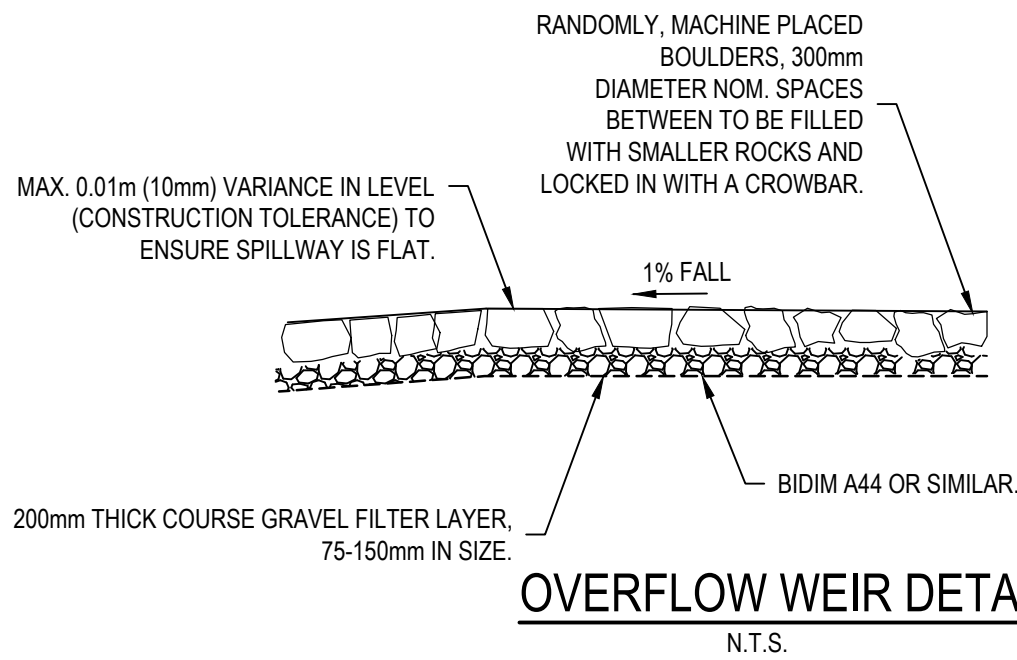
Site:	Site Area	25186 m ²
	Site Area NOT draining to OSD	1140 m ²
Reduced Levels (AHD):	RL of Top of Tank	29.590
	RL of Bottom of OSD Tank	28.600
	RL of 1.5 Year ARI Overflow Weir	29.135
	RL of Emergency Overflow Weir	29.41
	RL of 1.5 Year ARI Orifice Centerline	27.605
	RL of 100 Year ARI Orifice Centerline	27.605
	RL of Invert of Discharge to Council Drainage Pit	27.360
	RL of obvert of Pit outlet pipe	27.200
	Minium RL of Garage Floor	29.680
	Minium RL of House Floor	29.780
OSD Volume:	Required Storage BELOW 1.5 Year ARI Overflow Weir	755.6 m ³
	Required Storage BELOW Emergency Overflow Weir	1146.0 m ³
Discharge Details:	Using Filter Cartridges to manage Water Quality	No
	Discharge Location	Council Drainage Pit
	Length of Emergency Overflow Weir	8.00 m
	Maximum 1.5 Year ARI Site Discharge	93.90 L/s
	1.5 Year ARI Orifice Discharge	93.90 L/s
	Maximum 100 Year ARI Site Discharge	414.69 L/s
	100 Year ARI Orifice Discharge	414.69 L/s
Orifice Details:	Number of 1.5 Year ARI Orifices	1
	Number of 100 Year ARI Orifices	1
	1.5 Year ARI Orifice Size (mm)	189.0 mm
	100 Year ARI Orifice Size (mm)	381.5 mm
Notifications:		

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Pinet Junction 3 August 2021 1:10:44 PM File Name: Orion-detailed/Consulting/Project/20191030_971 Richmond Road_Marsden Park/Design/01 Residential Subdivision/DA19-35-01-DA-406.dwg



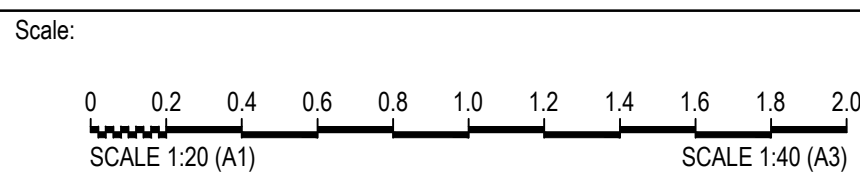
NOTE:
THE FINAL FILTER MEDIA IS NOT TO BE INSTALLED AND AN INTERMEDIATE BIO-RETENTION ARRANGEMENT IS TO BE ADOPTED UNTIL A MINIMUM OF 90% OF THE UPSTREAM CATCHMENT DRAINING TO THE BASIN IS FULLY DEVELOPED, INCLUDING LANDSCAPING



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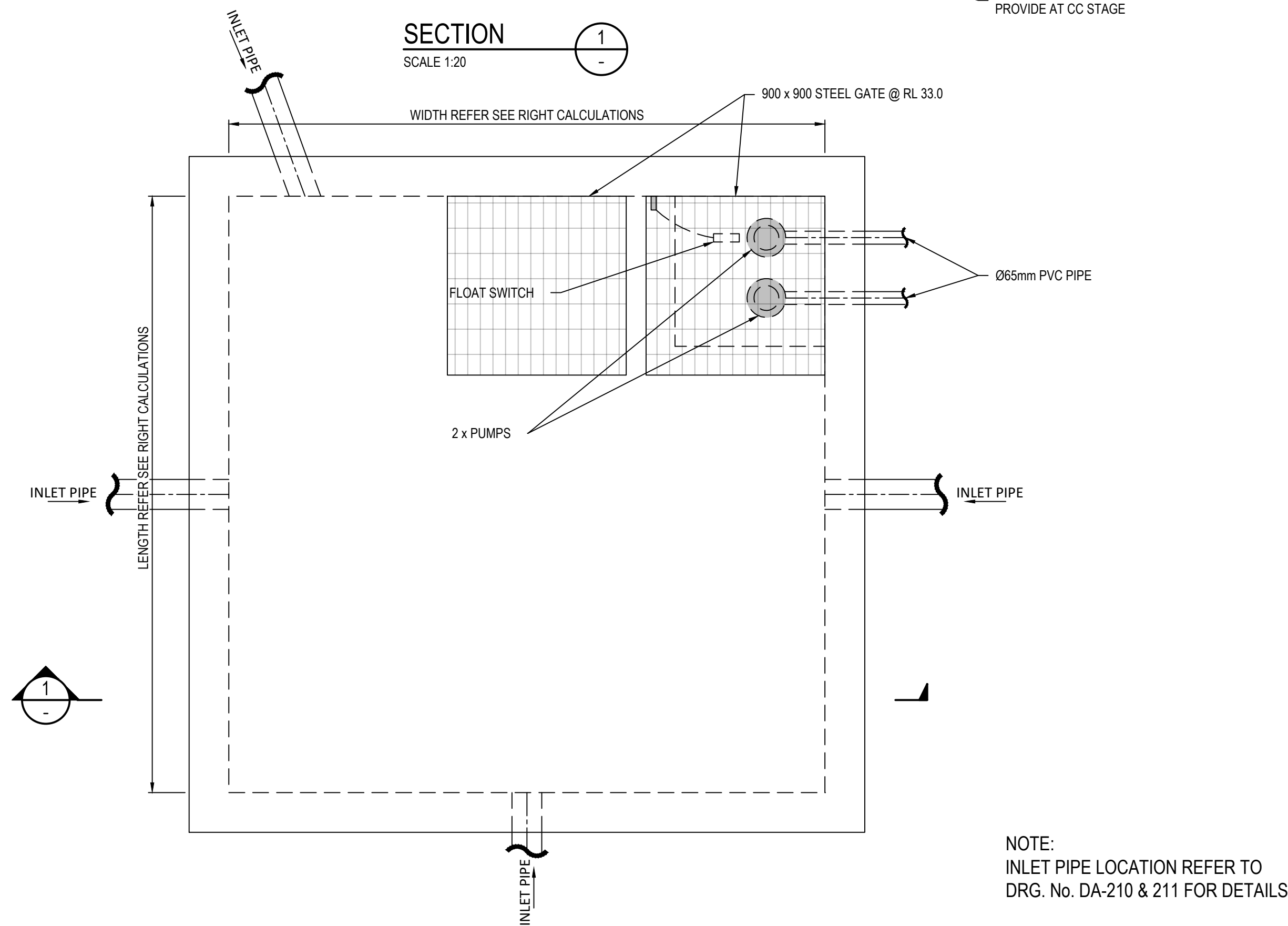


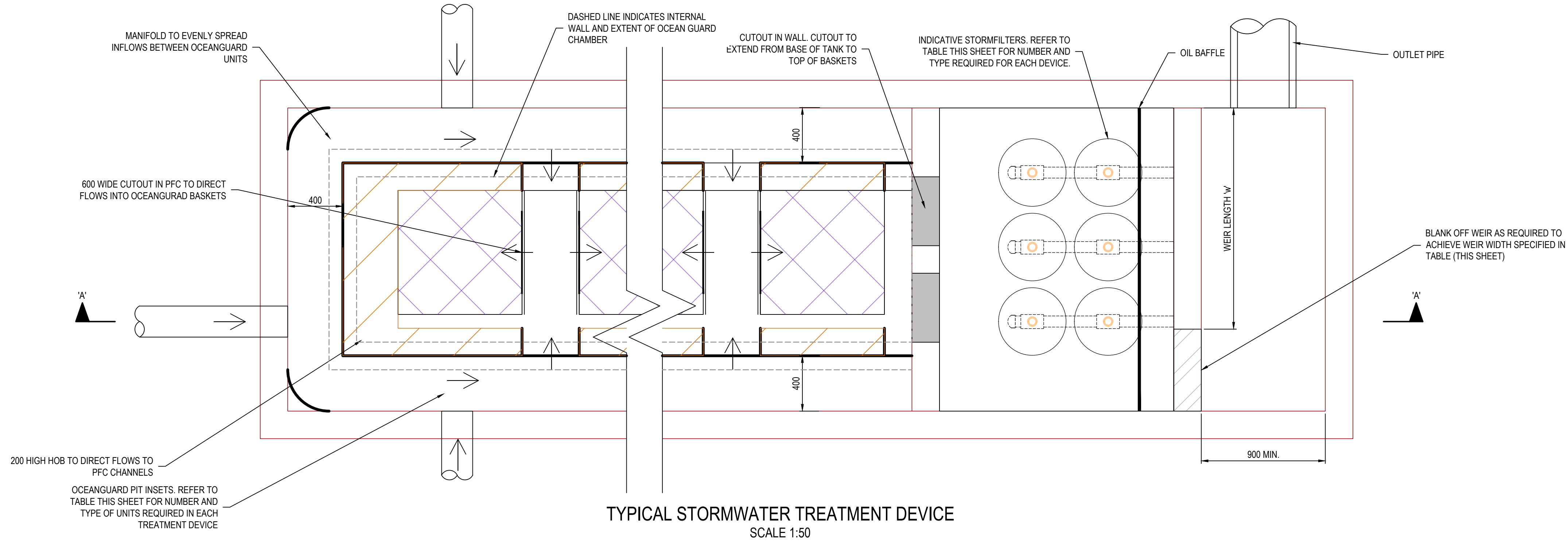
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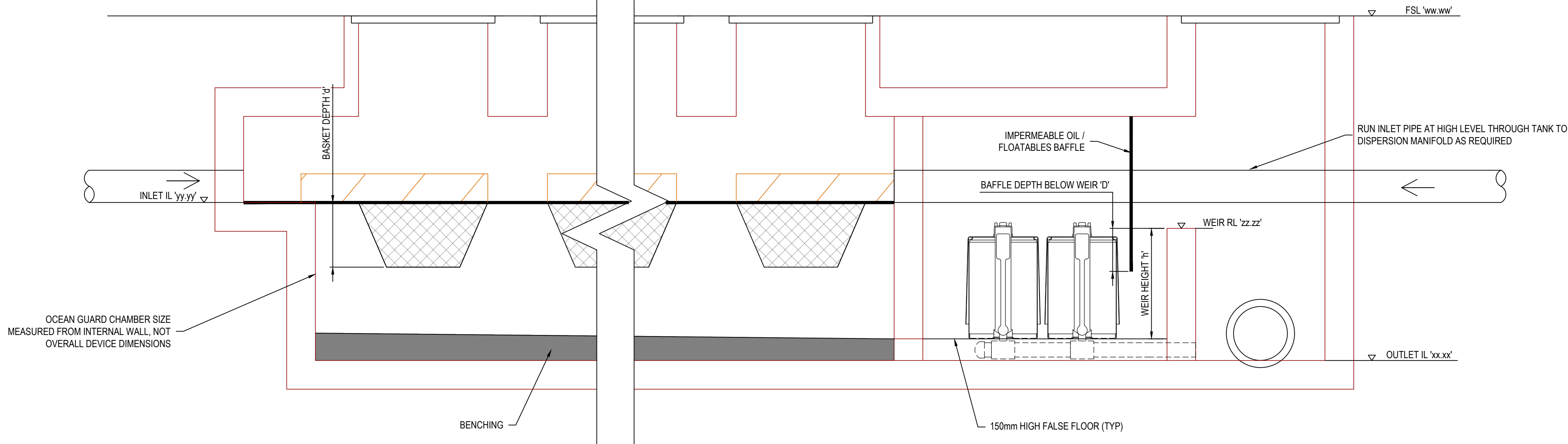
Project:
971 RICHMOND ROAD,
MARSDEN PARK
ROAD & DRAINAGE DESIGN

TEMPORARY BASIN No.01 PLAN, SECTIONS & DETAILS SHEET 2 OF 2				
Project No.	Set No.	Milestone	Plan	Revision
19-35	01	DA	406	H





TYPICAL STORMWATER TREATMENT DEVICE
SCALE 1:50



SECTION A
SCALE 1:50

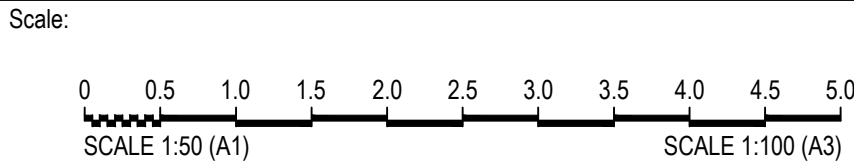
STORMWATER WATER TREATMENT DEVICE SUMMARY TABLE

DEVICE	CATCHMENT	LEVELS										OCEAN GUARD				STORMFILTERS					OVERALL PLAN DIMENSIO S	
NAME	AREA	OUTLET	FALSE FLOOR	DS 1EY HGL	INLET	WEIR	TANK SOFFIT	F.S.L.	WEIR HEIGHT	LENGTH	OIL BAFFLE DEPTH	NO.	TYPE	BASKET DEPTH	CHAMBER	NO.	TYPE	TOTAL CARTRIDGE	CARTRIDGE CHAMBER	HYDRAULIC LOADING	LENGTH	WIDTH
		'xx.xx'			'yy.yy'	'zz.zz'		'ww.ww'	'h'		'd'			'd'	AREA	CARTRIDGES		AREA	AREA	RATE (TSS)	'a'	'b'
(-)	(Ha)	(mAHD)	(mAHD)	(mAHD)	(mAHD)	(mAHD)	(mAHD)	(mAHD)	(m)	(m)	(m)	(-)	(-)	(m)	(m2)	(-)	(-)	(m2)	(m2)	(kg/yr/CARTRIDGE)	(m)	(m)
TANK No.01	0.504	28.60	28.80	28.56	29.50	29.14	30.00	30.30	0.77	2.3	0.40	4	L2	0.45	8.2	8	Tall	5.80	6.20	23.5	5.0	4.1
TANK No.02	0.053	29.95	33.15	29.90	33.70	30.49	34.20	34.30	0.54	0.3	0.40	1	L2	0.45	2.1	2	Standard	2.50	2.50	15.8	4.0	1.35

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Project:

971 RICHMOND ROAD,
MARSDEN PARK
ROAD & DRAINAGE DESIGN

Title: WATER QUALITY DEVICE DETAILS				
Project No. 19-35	Set No. 01	Milestone DA	Plan 450	Revision H