## Prepared by:





## Prepared for:

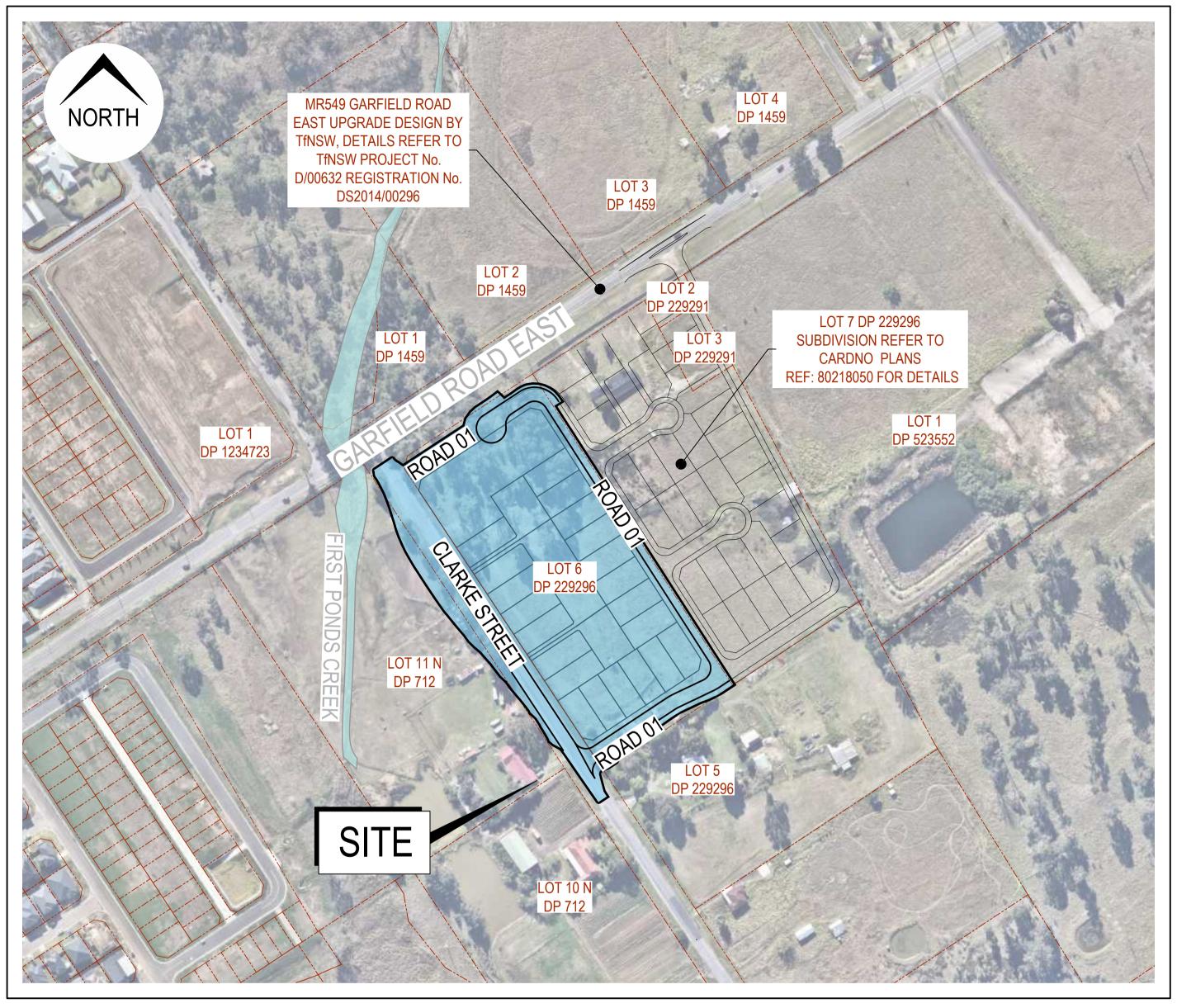


### LGA:



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SIGNAGE	E, LINE MARKING & TRAFFIC CONTROL PLAN	•					
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SITE / LOCATION (Image courtesy of Nearmap 05.06.2021)

LOT 6 DP 229296

# LOT 6 GARFIELD ROAD EAST RIVERSTONE

ROAD AND DRAINAGE DESIGN

ISSUED 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 A 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).

E1. EARTHWORKS ARE TO BE CARRIED OUT TO THE SATISFACTION OF THE COUNCIL. UNSUITABLE MATERIALS ARE

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

AS1289.5.3.1 OR AS.1289.5.1.1. THE CONTROL TESTING OF EARTHWORKS SHALL BE IN ACCORDANCE WITH

DEVELOPMENTS'. WHERE IT IS PROPOSED TO USE TEST METHOD AS1289.5.8.1 TO DETERMINE THE FIELD

DEVELOPMENTS', AND AT THE END OF THE WORKS SHALL CONFIRM THE EARTHWORKS COMPLY WITH THE

E4. IN AREAS TO BE FILLED WHERE THE SLOPE OF THE NATURAL SURFACE EXCEEDS 1(V):4(H), BENCHES ARE TO

E5. ALL BATTERS ARE TO BE SCARIFIED TO A DEPTH OF 50mm TO ASSIST WITH ADHESION OF TOP SOIL TO BATTER

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.

ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT EDITION OF 'MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION'

E6. PROVIDE MINIMUM 100mm AND MAXIMUM 250mm TOPSOIL DEPTH ON FOOTPATHS, FILLED AREAS AND ALL

E7. THE CONTRACTOR SHALL CONTROL SEDIMENTATION, EROSION AND POLLUTION DURING CONSTRUCTION IN

E3. THE SUITABLE QUALIFIED GEOTECHNICAL ENGINEER, SHALL HAVE A LEVEL 1 RESPONSIBILITY FOR ALL FILLING AS DEFINED IN

100% FOR ROAD PAVEMENT SUBGRADES HAS BEEN ACHIEVED IN ACCORDANCE WITH TEST METHOD

THE GUIDELINES IN AS3798 'GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL

DENSITY, A SAND REPLACEMENT METHOD SHALL BE USED TO CONFIRM THE RESULTS.

APPENDIX B AS3798 'GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL

BE CUT TO PREVENT SLIPPING OF THE PLACED FILL MATERIAL AS REQUIRED BY THE COUNCIL.

REQUIREMENTS OF THE SPECIFICATION AND DRAWINGS BY WRITTEN NOTIFICATION.

TO BE REMOVED FROM ROADS AND LOTS PRIOR TO FILLING. THE CONTRACTOR IS TO ARRANGE AND MAKE

G25. 100 YEAR FLOW PATHS TO BE FORMED AT TIME OF CONSTRUCTION.

**EARTHWORKS NOTES** 

FACE.

PRODUCED BY LANDCOM.

#### STORMWATER DRAINAGE NOTES

EXISTING SURVEY BENCH MARK

MR549 GARFIELD ROAD EAST

UPGRADE DESIGN BY TfNSW.

DETAILS REFER TO RMS PROJECT

DS2014/00296

DP 1459

DP 1459

PM 29268 —

RL: 24.368

No. D/00632 REGISTRATION No.

- D1. STORMWATER DESIGN CRITERIA: MAJOR SYSTEM - 1:100 YEAR ARI MINOR SYSTEM - 1:5 YEAR ARI INTERALLOTMENT DRAINAGE SYSTEM - 1:20 YEAR ARI
- D2. PIPES TO BE INSTALLED TO TYPE HS2 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)

REFER TO ENGINEERING PLAN DA-200 & 201

DP 229291

DP 229296 SUBDIVISION

REFER TO CARDNO PLANS

REF: 80218050 FOR DETAILS

DP 712

- 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.

EXISTING PROPOSED FUTURE UTILITY - ELECTRICITY SEWER WATER TELECOMS NBN OPTIC FIBRE **CONTOUR LINE & LABEL ---**20.0**---**LOT# **LOT NUMBER & BOUNDARY** APPROXIMATE LIMIT OF WORKS - INTERIM APPROXIMATE LIMIT OF WORKS - ULTIMATE INDICATIVE CREEK EXTENT ROAD, NUMBER, CONTROL LINE. CHAINAGE & CHAINAGE MARK ROAD ROAD COUNCIL STANDARD KERB & GUTTER, ROLLER KERB OR DISH CROSSING COUNCIL STANDARD DISH CROSSING COUNCIL STANDARD CONCRETE FOOTPATH & KERB RAMP INDICATIVE DRIVEWAY LOCATION **PAVEMENT** STORMWATER DRAINAGE PIPE AND STRUCTURE STORMWATER DRAINAGE PIPE AND STUB TEMPORARY STORMWATER DRAINAGE PIPE EASEMENT SUBSOIL DRAIN **DIVERSION SWALE RETAINING WALL** TEMPORARY CRASH BARRIER **BATTER** TREE - TO BE RETAINED TREE - TO BE REMOVED -TREE - TO BE REMOVED -STAGE 2 **EXISTING CADASTRAL BOUNDARY** TEMPORARY ROAD PAVEMENT ILP LOW DENSITY RESIDENTIAL ILP LOCAL PARK ILP SPORTING FIELD ILP ENVIRONMENTAL LIVING ILP WATER MANAGEMENT

LEGEND

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 DEVELOPMENT APPLICATION NOT FOR CONSTRUCTION

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10 20 30 40 50 60 70 80 90 100 SCALE 1:2000 (A3) SCALE 1:1000 (A1)







LOT 5

DP229296

LOT 10 N

DATUM: A.H.D.

SURVEY BY PROJECT SURVEYORS DATED 31 MARCH 2017 (REF: D3604)

RL 24.368 AHD

PM 29268

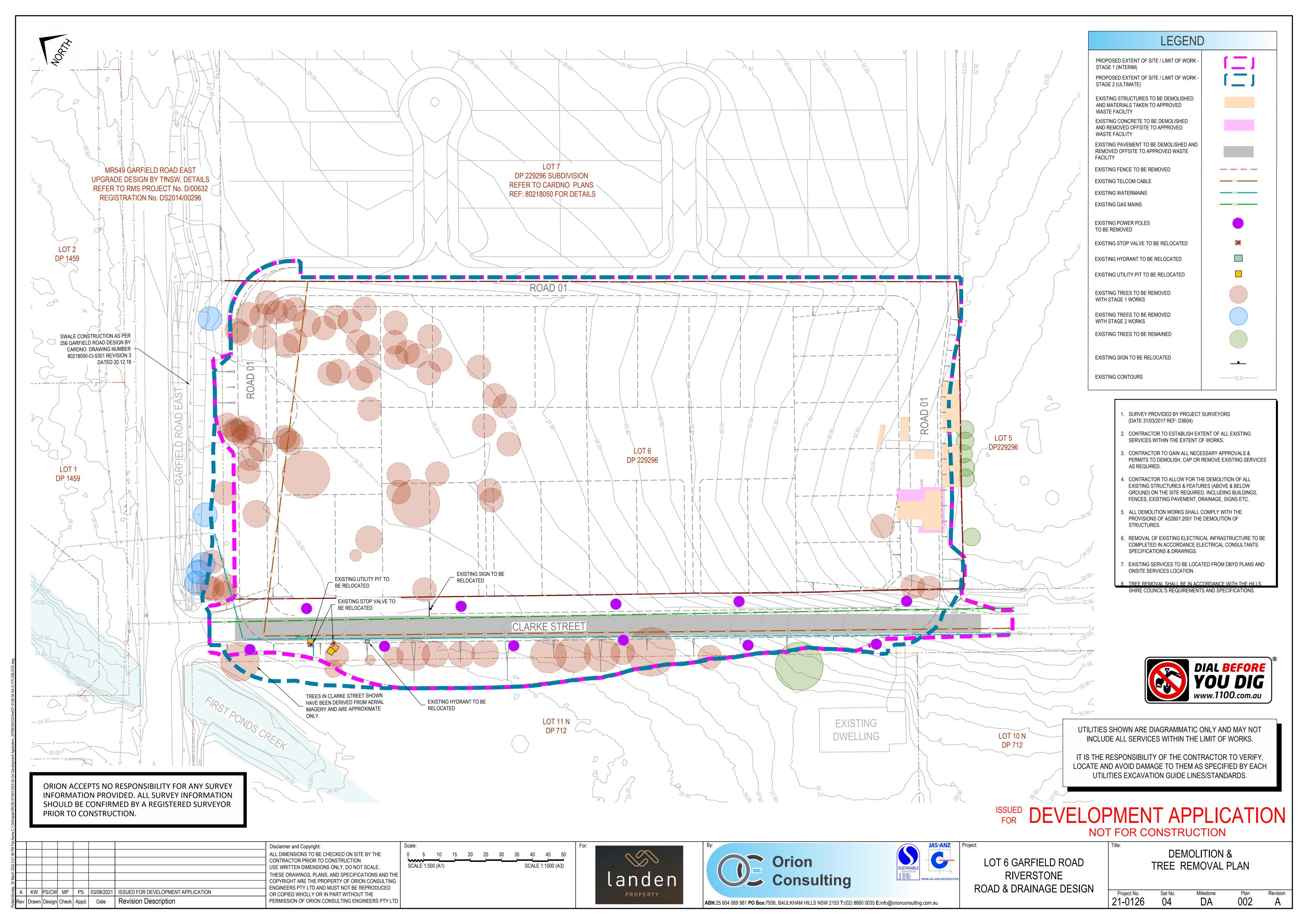
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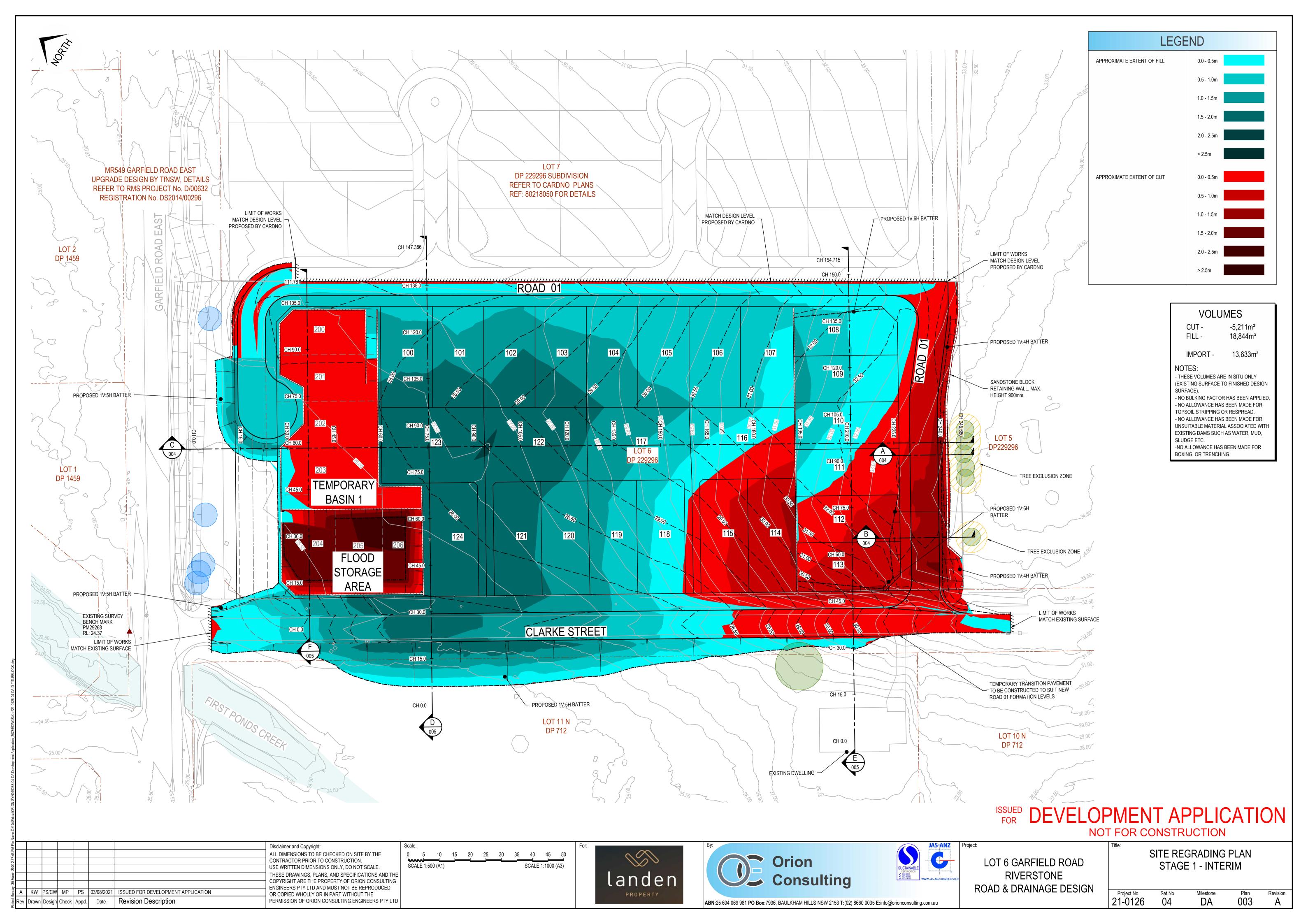
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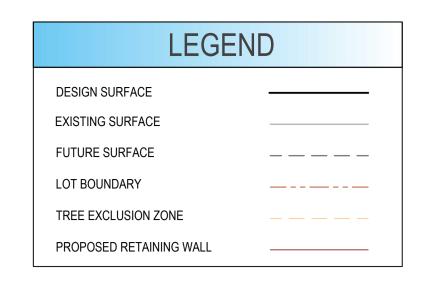
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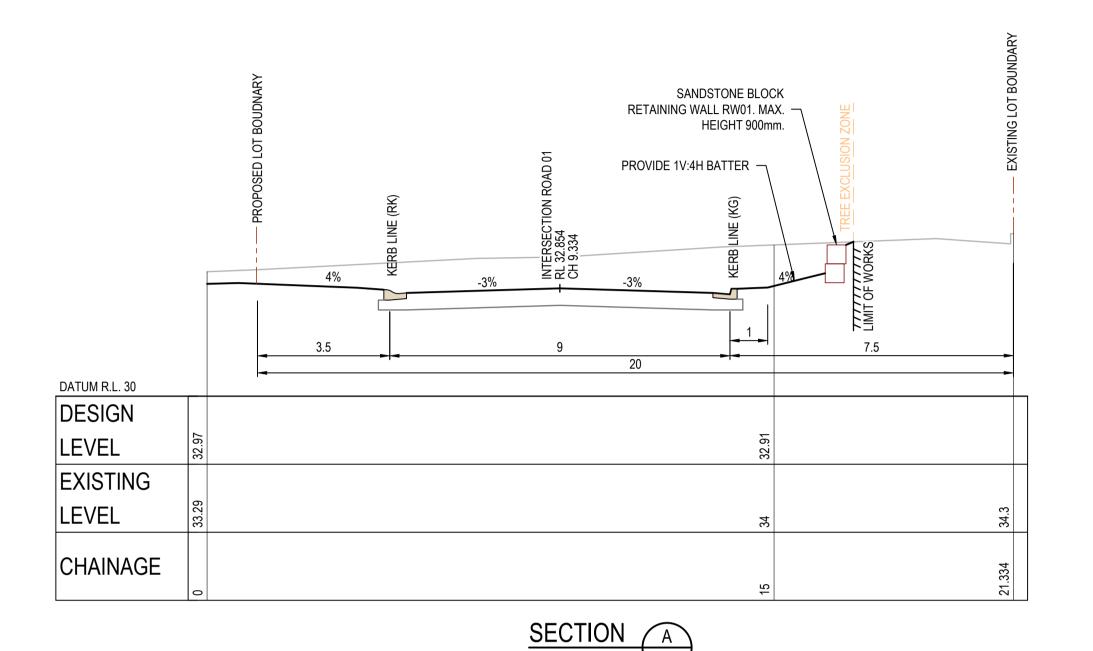
LOT 6 GARFIELD ROAD RIVERSTONE **ROAD & DRAINAGE DESIGN**  GENERAL LAYOUT PLAN, **NOTES & LEGEND** 

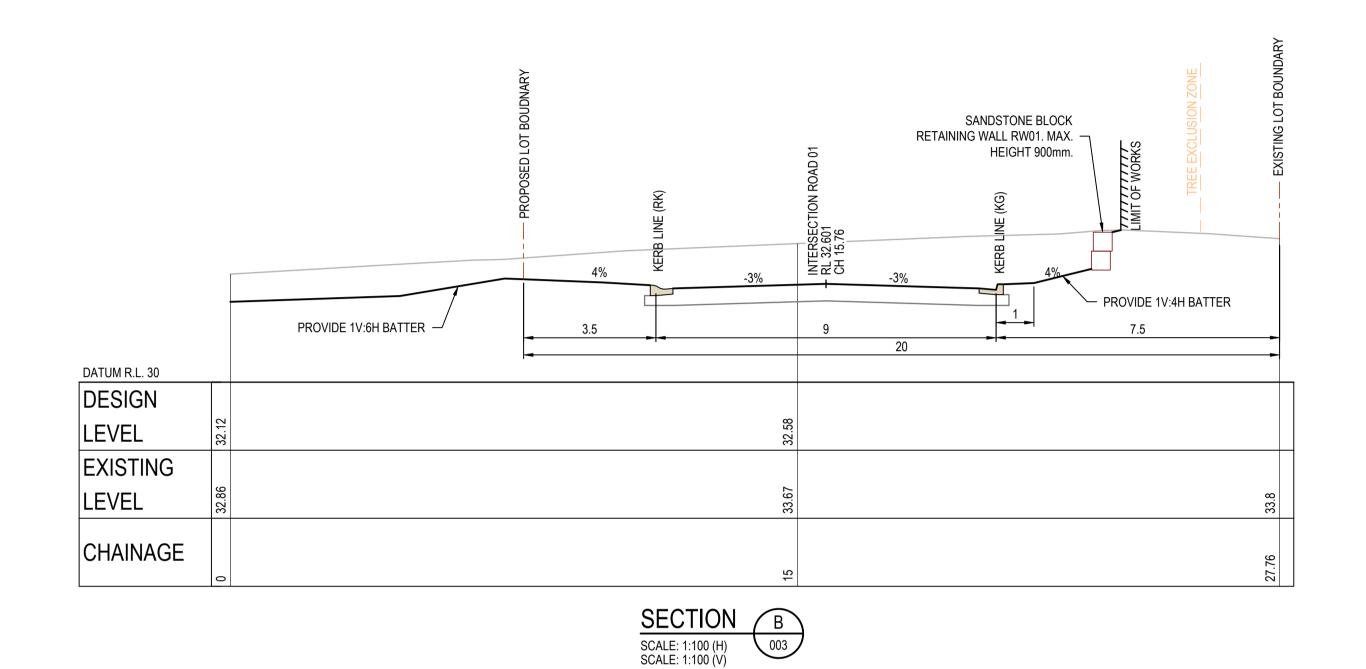
21-0126 DA











RETAINING WALL RW02. MAX. HEIGHT 1m FUTURE RETAINING WALL REQUIRED TO INTERFACE BETWEEN GARFIELD ROAD SANDSTONE BLOCK **ULTIMATE ROAD 1** UPGRADE AND SUBDIVISION. WALL RETAINING WALL RW01. MAX. DESIGN LEVEL HEIGHT 700mm TYP. HEIGHT 900mm. PROVIDE 1V:4H BATTER LIMIT OF WORKS TEMPORARY BASIN 1 - PROVIDE 1V:5H BATTER APPROXIMATE GARFIELD ROAD EXTENSION FORMATION AS INTERPOLATED FROM TINSW DRAWINGS. REGISTRATION NUMBER DS2014/000296 DATED 24/10/2016 - STRATEGIC DESIGN STAGE DATUM R.L. 12 DESIGN LEVEL EXISTING LEVEL CHAINAGE SECTION C
SCALE: 1:500 (H)
SCALE: 1:100 (V)
003

FOR DEVELOPMENT APPLICATION NOT FOR CONSTRUCTION

SCALE 1:1000 (A3)





LOT 6 GARFIELD ROAD RIVERSTONE

SITE SECTIONS SHEET 1 OF 2 Project No. 21-0126

004

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

Rev Drawn Design Check Appd. Date

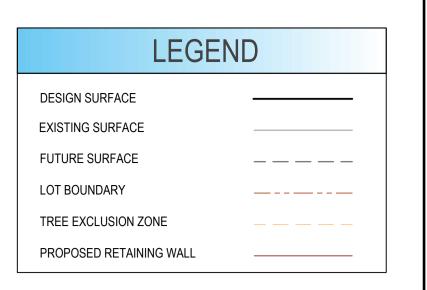
ISSUED FOR DEVELOPMENT APPLICATION

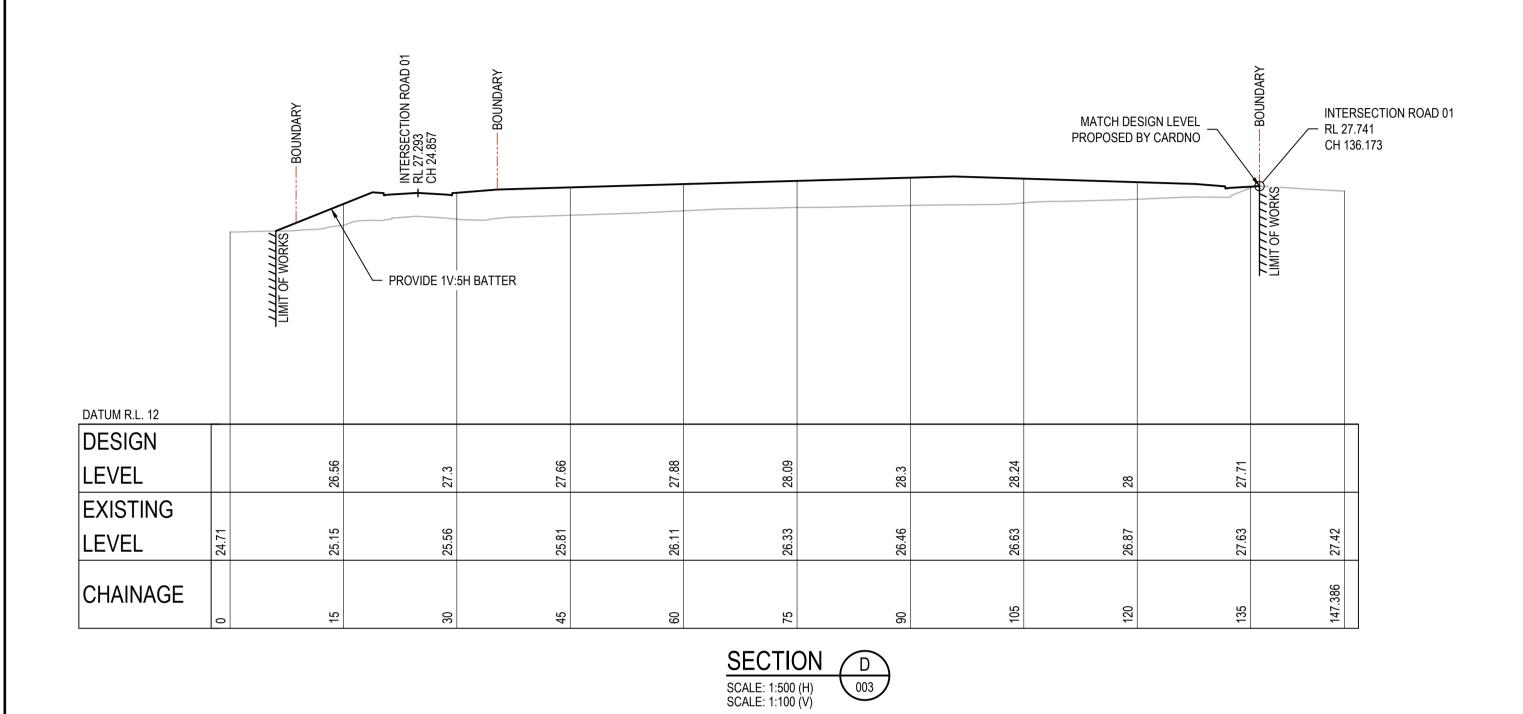
Revision Description

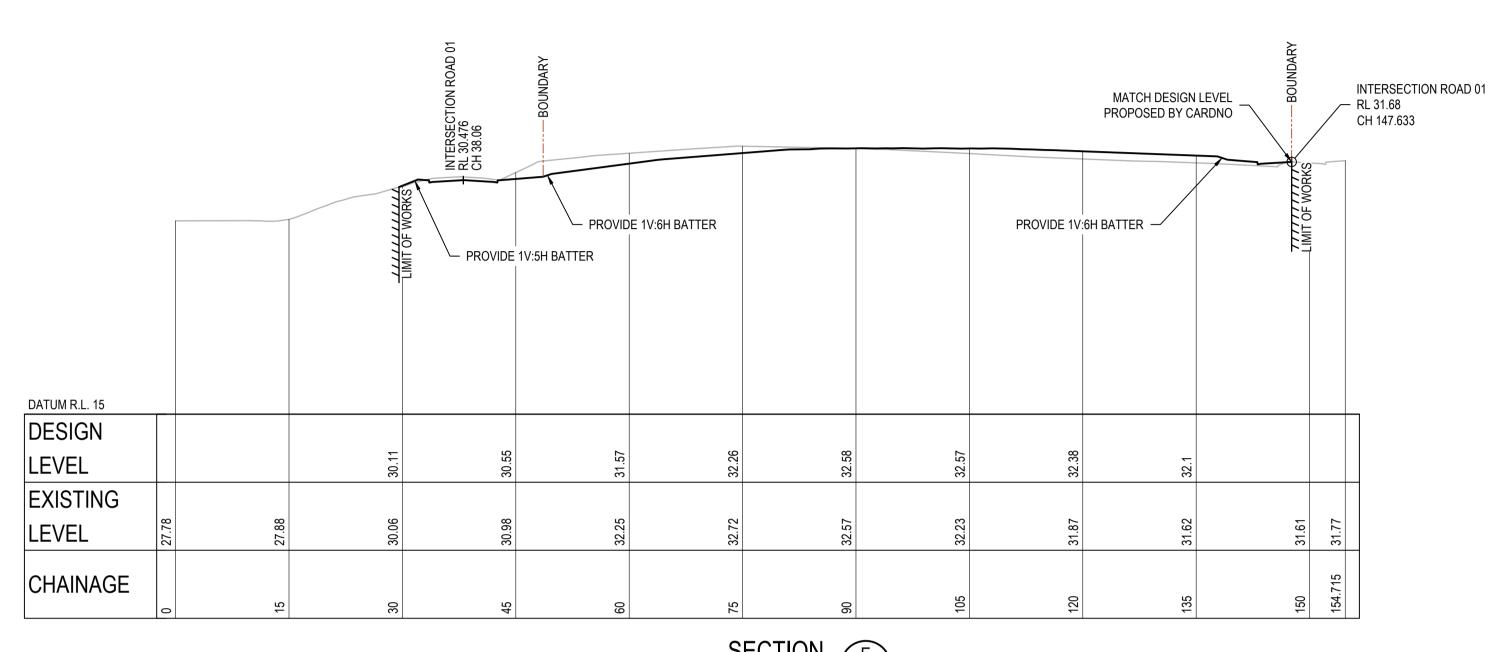
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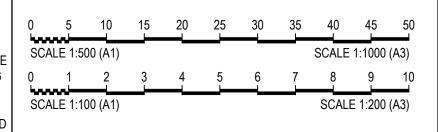


MATCH DESIGN LEVEL CLARKE STREET PROPOSED BY CARDNO RL 26.3 PROVIDE 1V:3H BATTER FLOOD STORAGE AREA ACCESS ROAD - BIO FILTRATION MEDIA FLOOD STORAGE AREA TEMPORARY BASIN 1 DATUM R.L. 18 DESIGN LEVEL EXISTING LEVEL CHAINAGE SECTION F
SCALE: 1:500 (H)
SCALE: 1:100 (V)

FOR DEVELOPMENT APPLICATION

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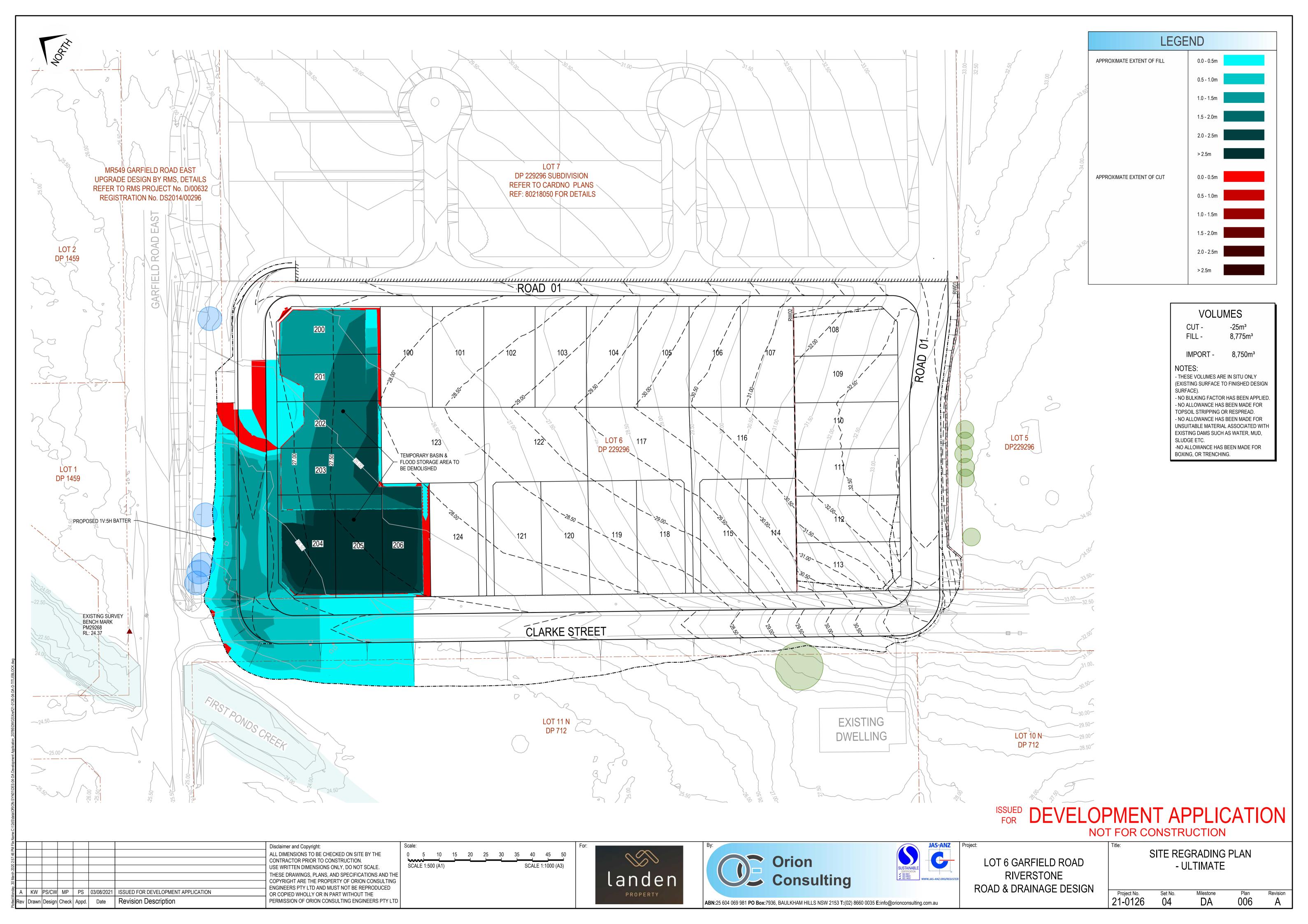


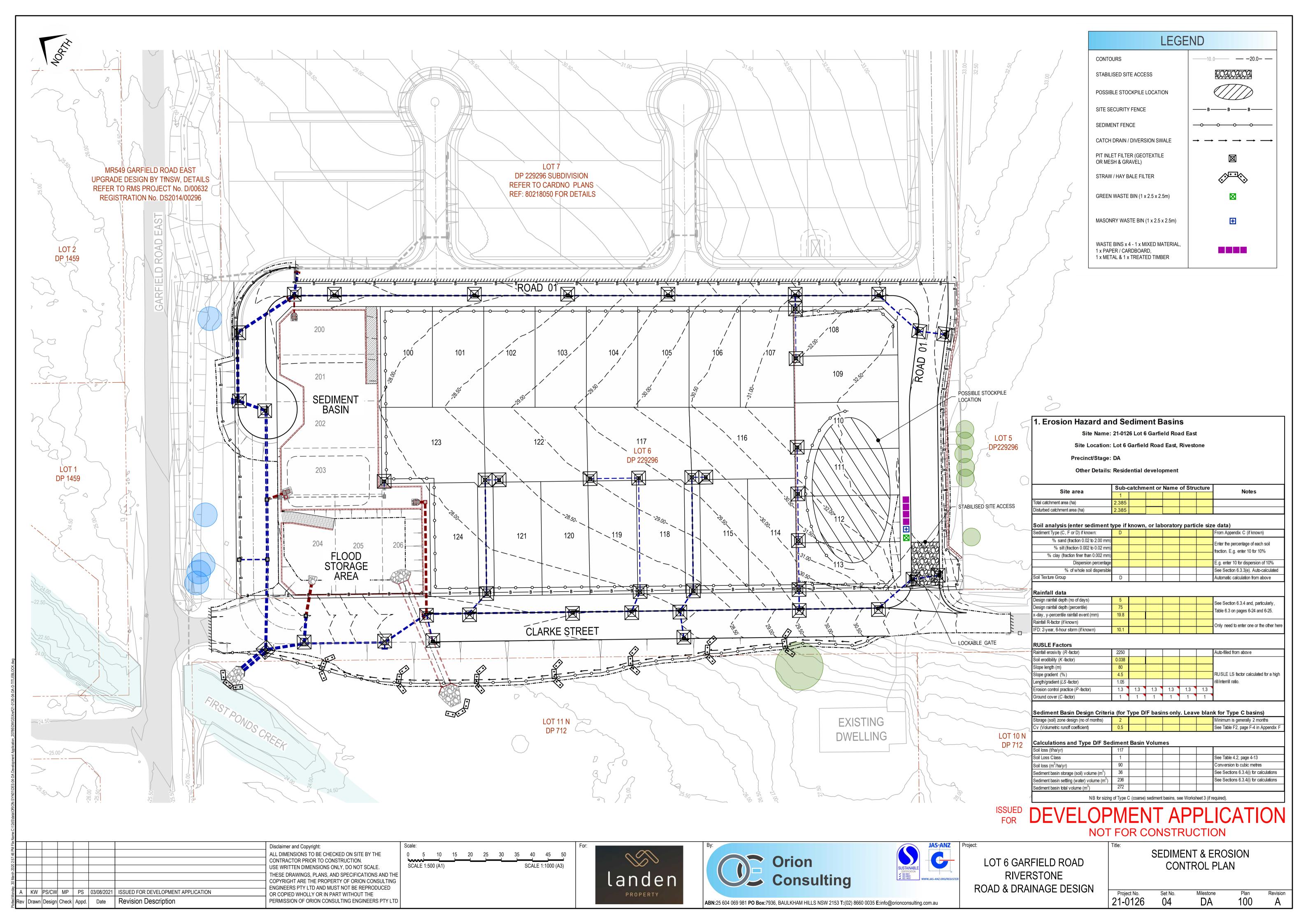




LOT 6 GARFIELD ROAD RIVERSTONE ROAD & DRAINAGE DESIGN

SITE SECTIONS SHEET 2 OF 2 Project No. 21-0126 005





#### **GENERAL NOTES**

- 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
- 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 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.

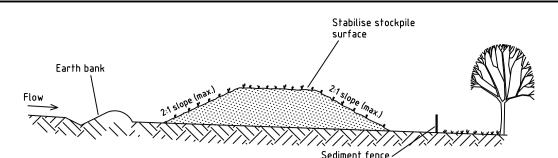
#### SEDIMENTATION CONTROL DEVICES

- 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.

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.

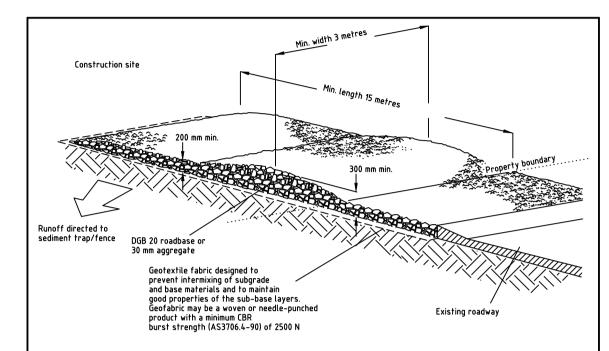


#### **Construction Notes**

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

#### STOCKPILES

SD 4-1

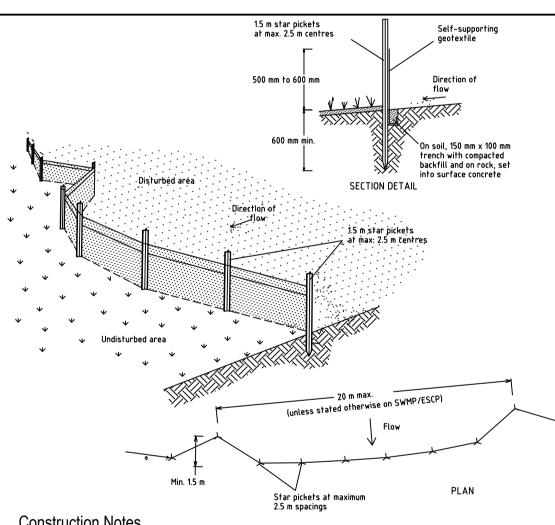


#### Construction Notes

- 1. 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 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps. 4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of

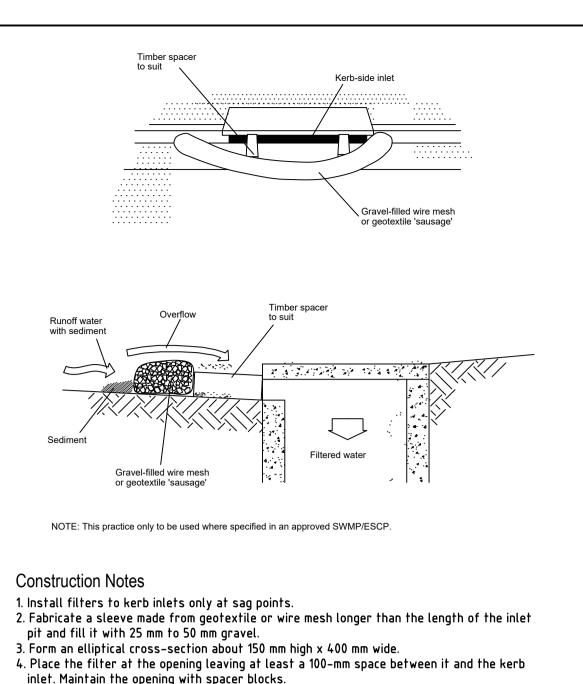
the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only

6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory. . Join sections of fabric at a support post with a 150-mm overlap.

SEDIMENT FENCE

SD 6-8

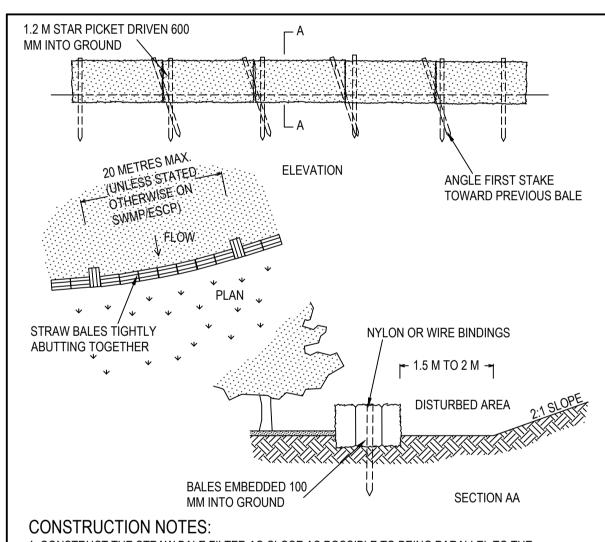


inlet. Maintain the opening with spacer blocks. 5. Form a seal with the kerb to prevent sediment bypassing the filter.

#### 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

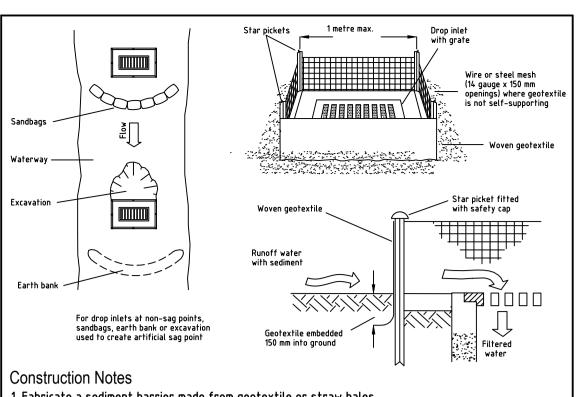
SD 6-11



- 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

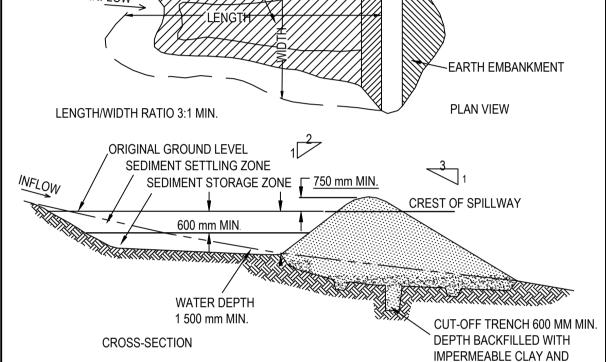


- 1. Fabricate a sediment barrier made from geotextile or straw bales. 2. Follow Standard Drawing 6-8 for installation procedures for geofabric. Reduce the picket
- spacing to 1 metre centres. 3. In waterways, artificial sag points can be created with sandbags or earth banks as shown
- in the drawing.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

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. GEOTEXTILE INLET FILTER SD 6-12 3. REHABILITATE DISTURBED SOIL BEHIND THE TURF STRIP FOLLOWING THE ESCP/SWMP. KERBSIDE TURF STRIP SEDIMENT STORAGE ZONE

GUTTER

CONSTRUCTION NOTES:



CONSTRUCTION NOTES:

COMPACTED 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.

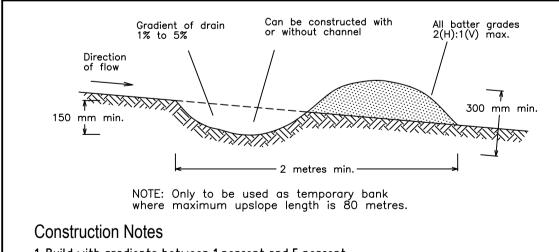
4. SELECT FILL FOLLOWING THE SWMP THAT IS FREE OF ROOTS, WOOD, ROCK, LARGE STONE OR FOREIGN MATERIAL 5. PREPARE THE SITE UNDER THE EMBANKMENT BY RIPPING TO AT LEAST 100 MM TO HELP BOND

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



- 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

## ISSUED DEVELOPMENT APPLICATION

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LOT 6 GARFIELD ROAD RIVERSTONE **ROAD & DRAINAGE DESIGN** 

SEDIMENT & EROSION CONTROL NOTES & DETAILS

SD 6-13

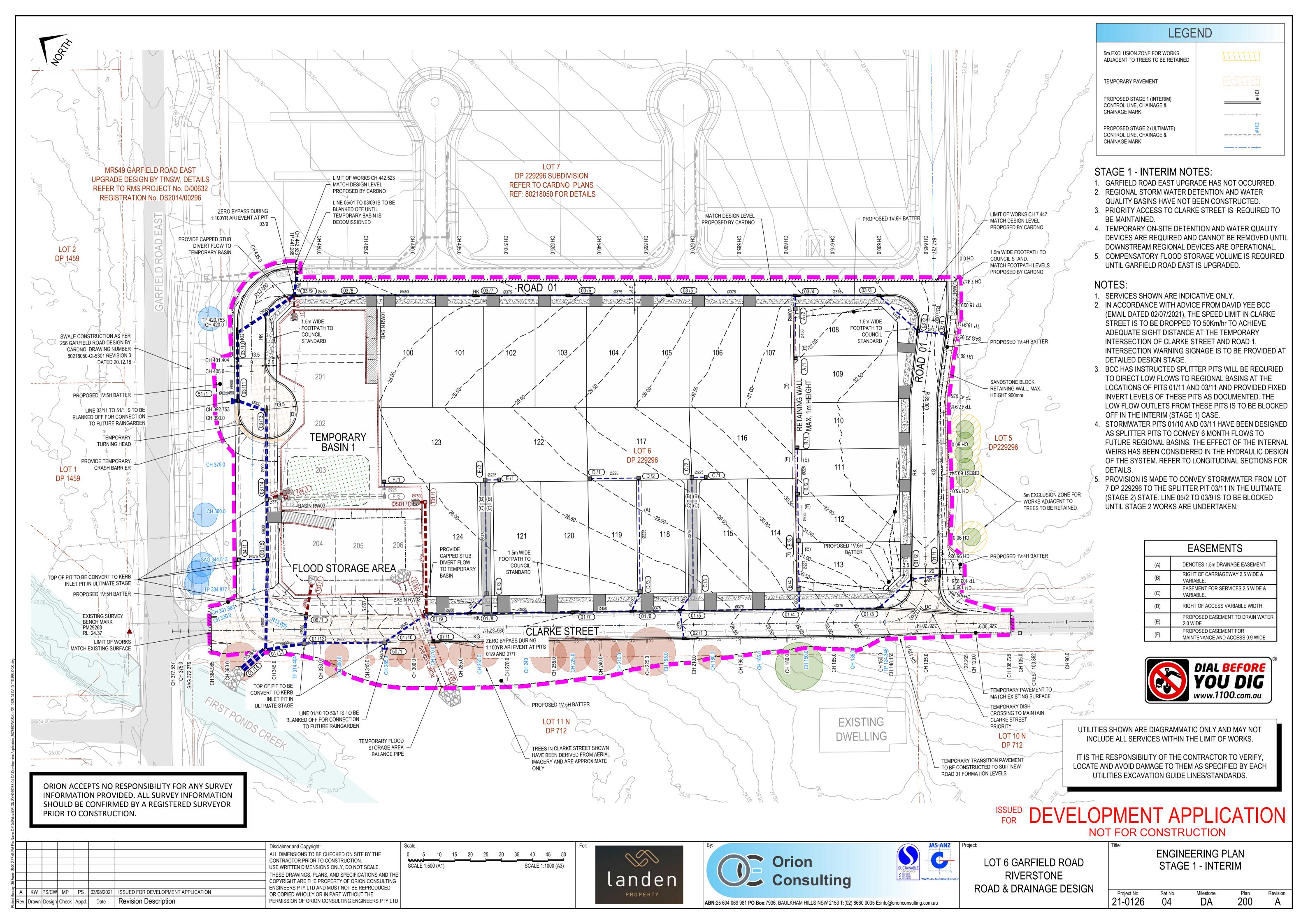
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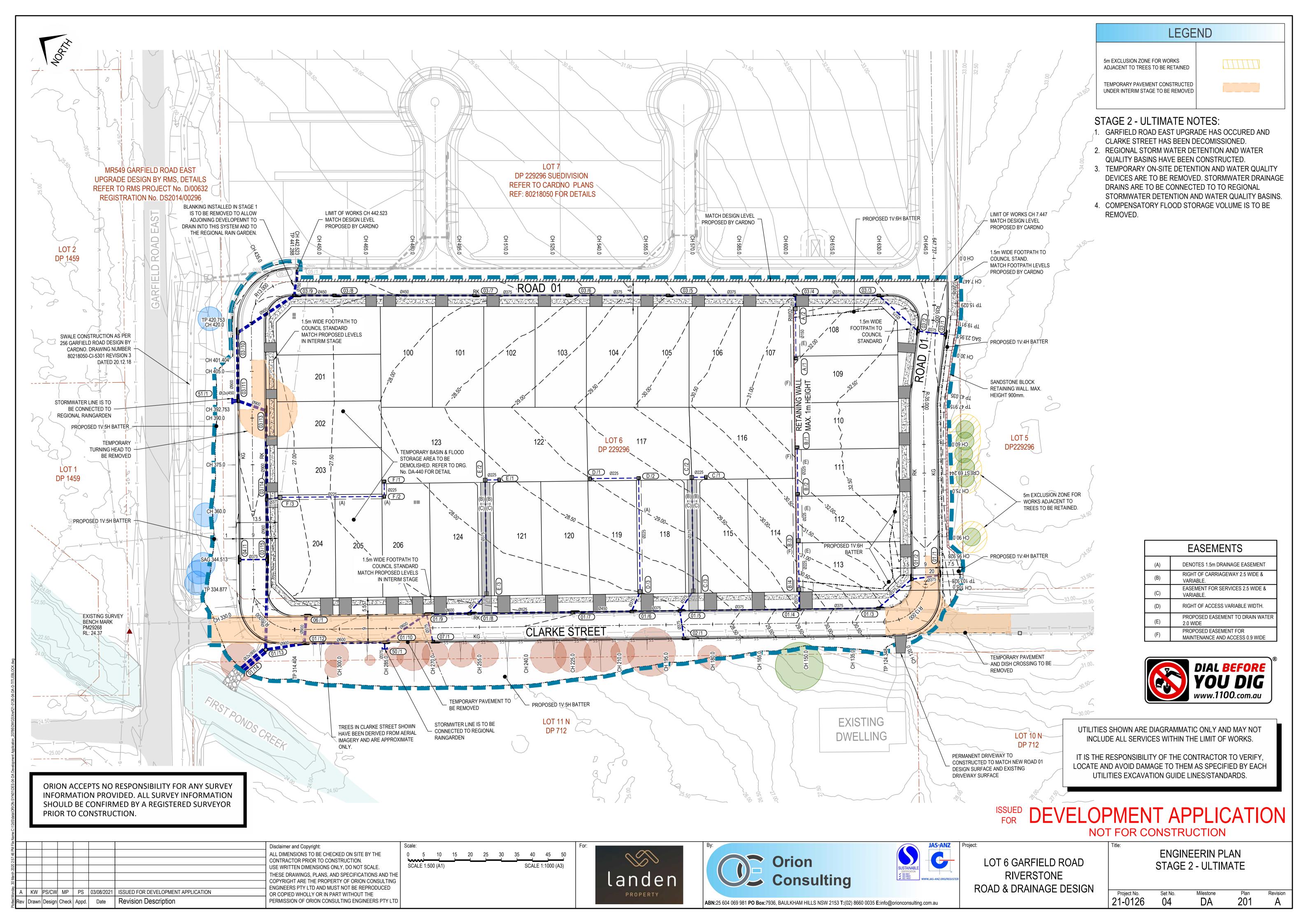
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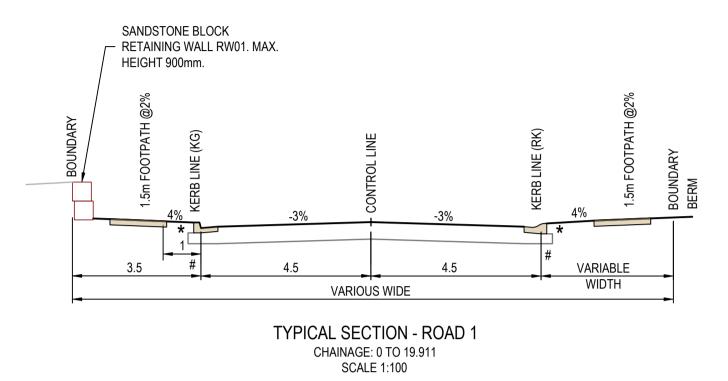
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@orionconsulting.com.au

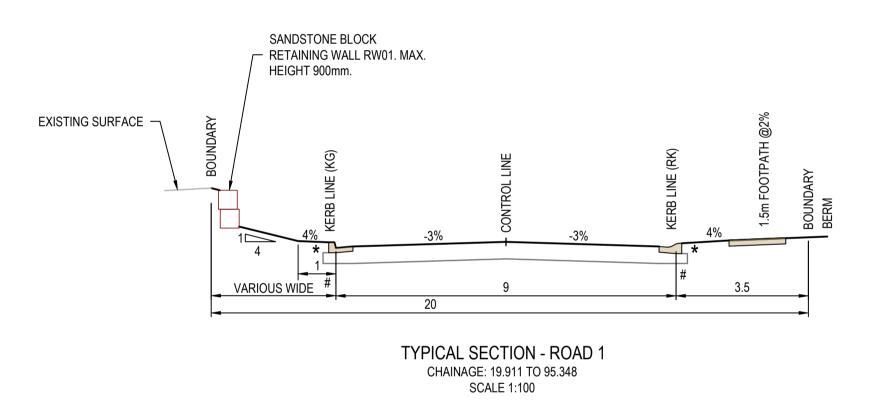


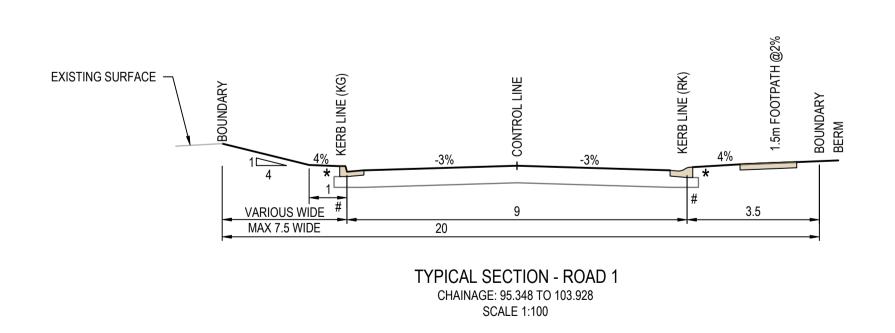


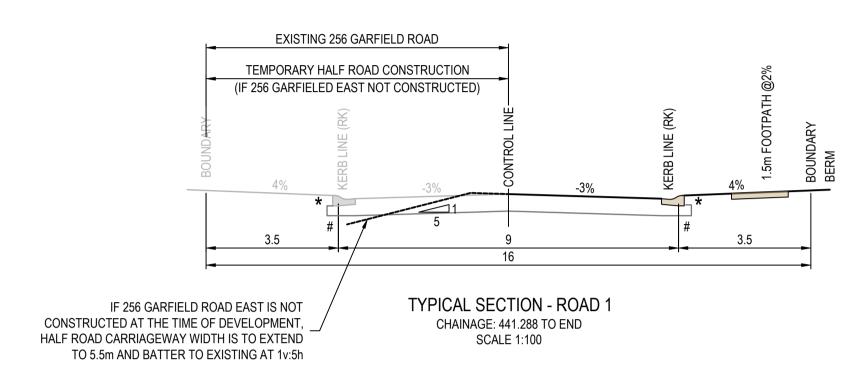
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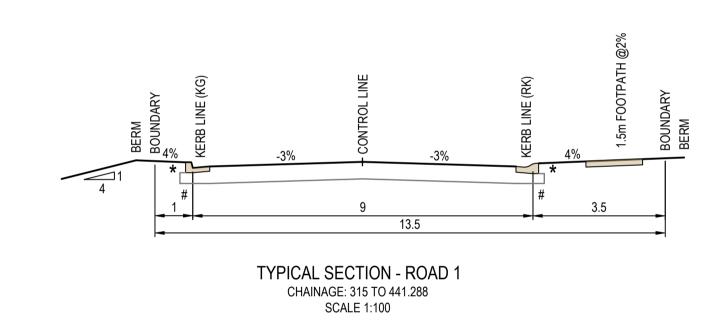
- FOOTPATH & KERBS TO BE CONSTRUCTED TO BLACKTOWN CITY COUNCIL STANDARDS.
- \* SUBGRADE TO EXTEND 300mm BEHIND BACK OF KERB
- # SUBSOIL DRAIN TO BE LAID BELOW ALL KERBS WHERE NO STORMWATER PIPE IS BELOW

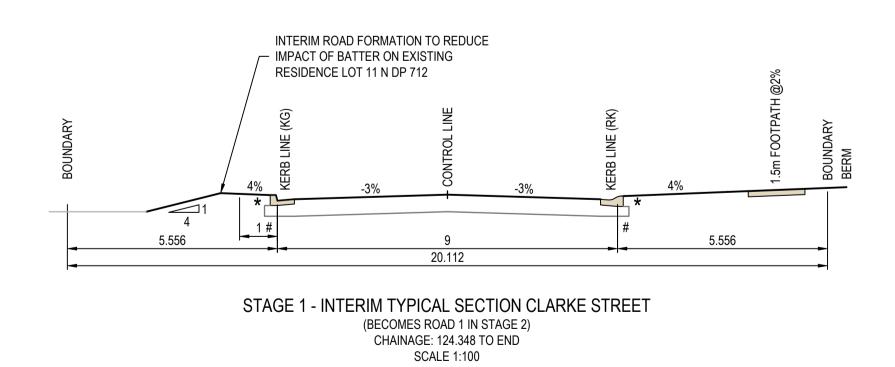








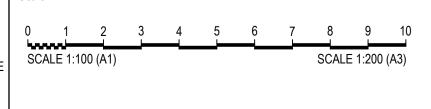




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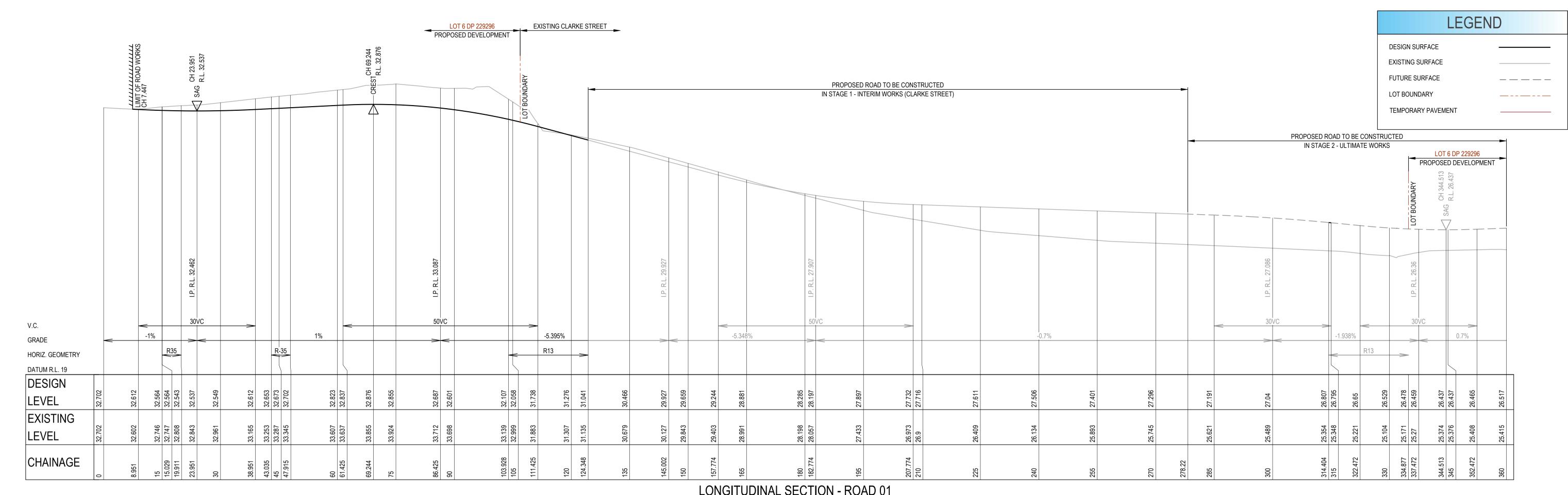




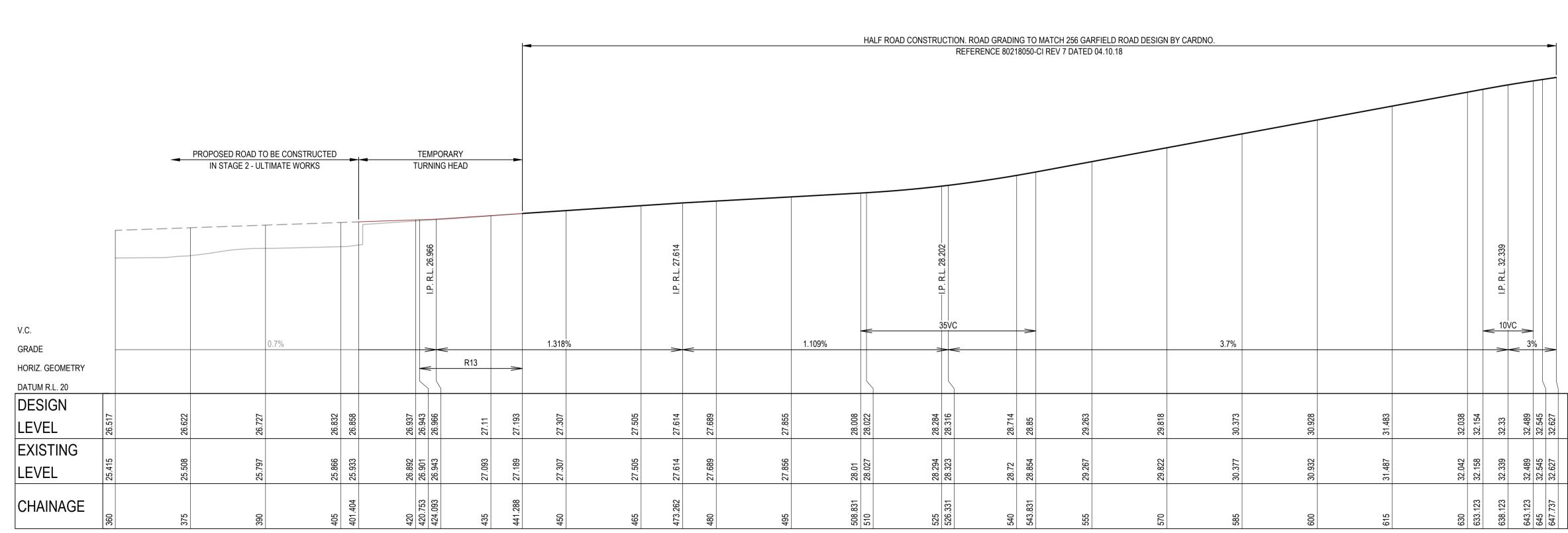
LOT 6 GARFIELD ROAD RIVERSTONE **ROAD & DRAINAGE DESIGN** 

TYPICAL ROAD **CROSS SECTIONS** Project No. 21-0126

DA



LONGITUDINAL SECTION - ROAD 01 STAGE 2 (ULTIMATE) SCALE 1:500 (H) SCALE 1:100 (V)



LONGITUDINAL SECTION - ROAD 01 STAGE 2 (ULTIMATE) SCALE 1:500 (H) SCALE 1:100 (V)

## FOR DEVELOPMENT APPLICATION

Project No. 21-0126

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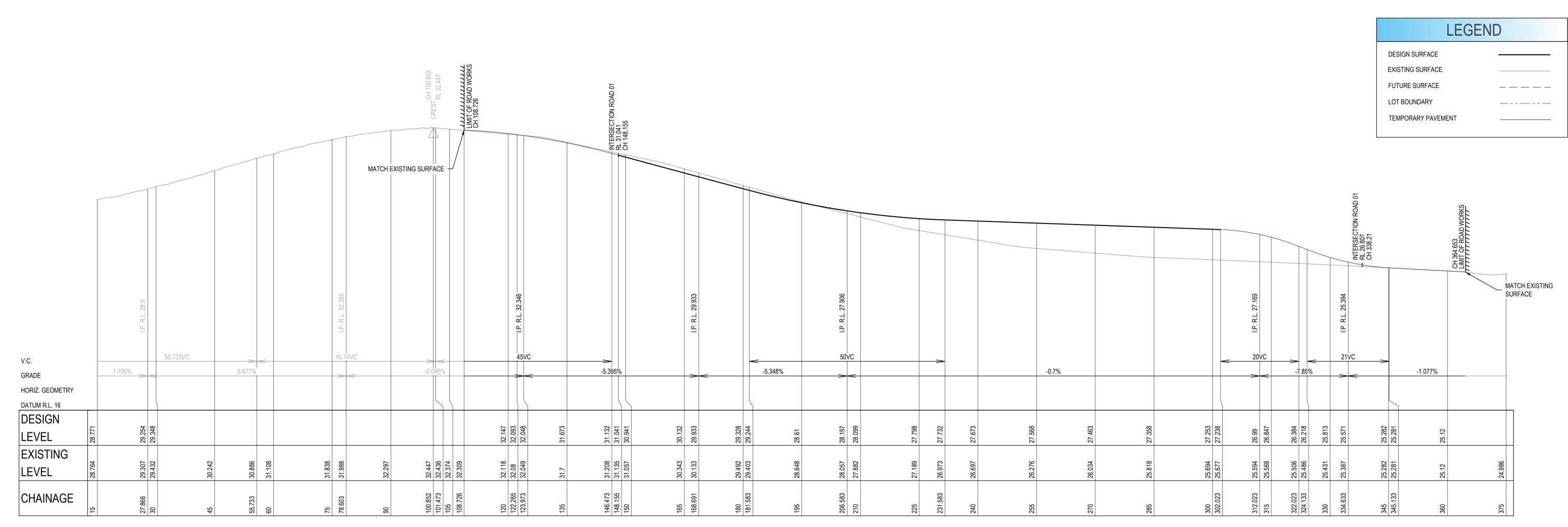






LOT 6 GARFIELD ROAD RIVERSTONE ROAD & DRAINAGE DESIGN ROAD LONGITUDINAL SECTIONS SHEET 1 OF 2

310

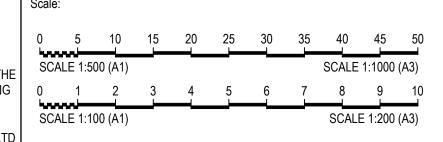


LONGITUDINAL SECTION - CLARKE STREET STAGE 1 (INTERIM)
SCALE 1:500 (H) SCALE 1:100 (V)

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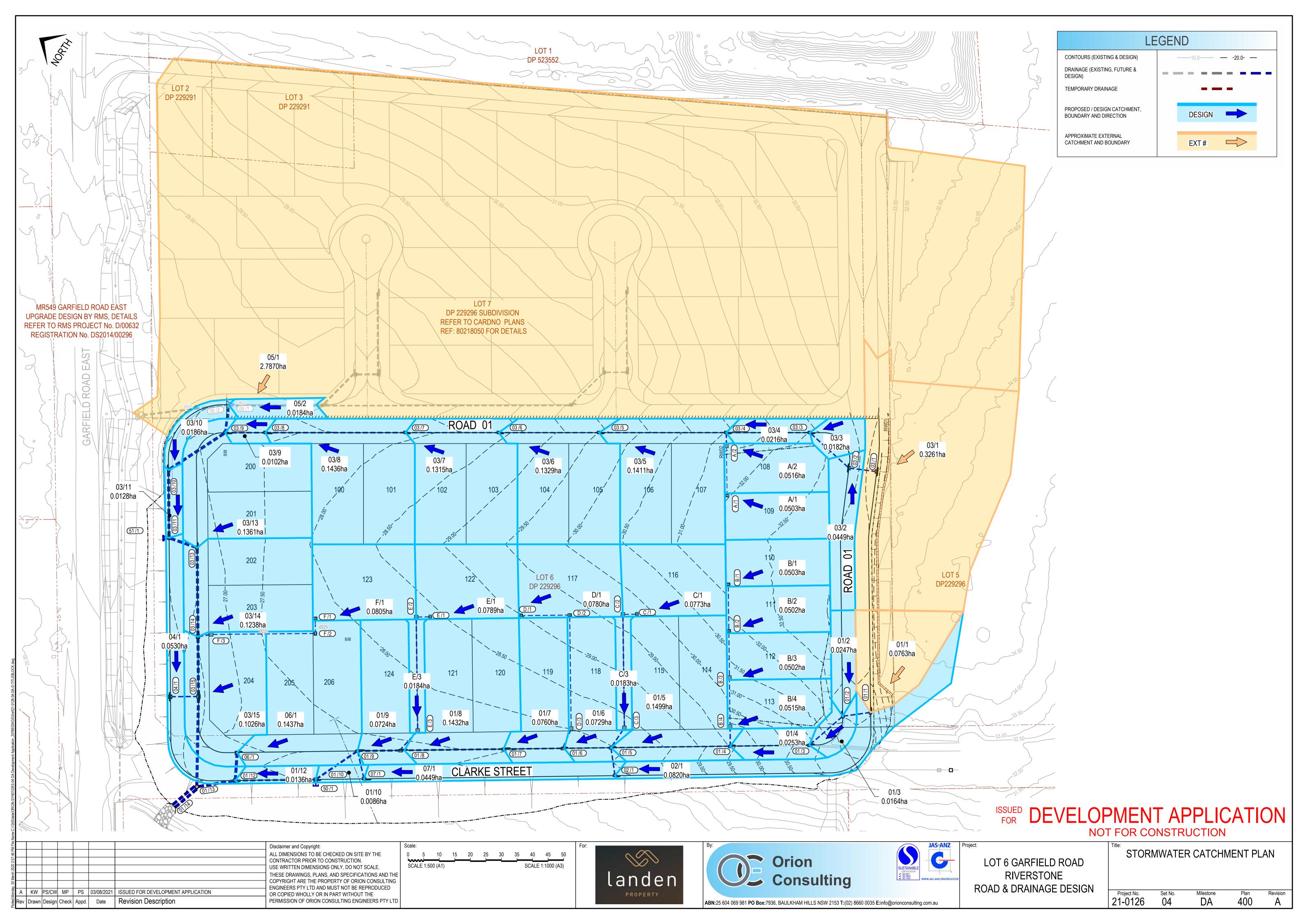


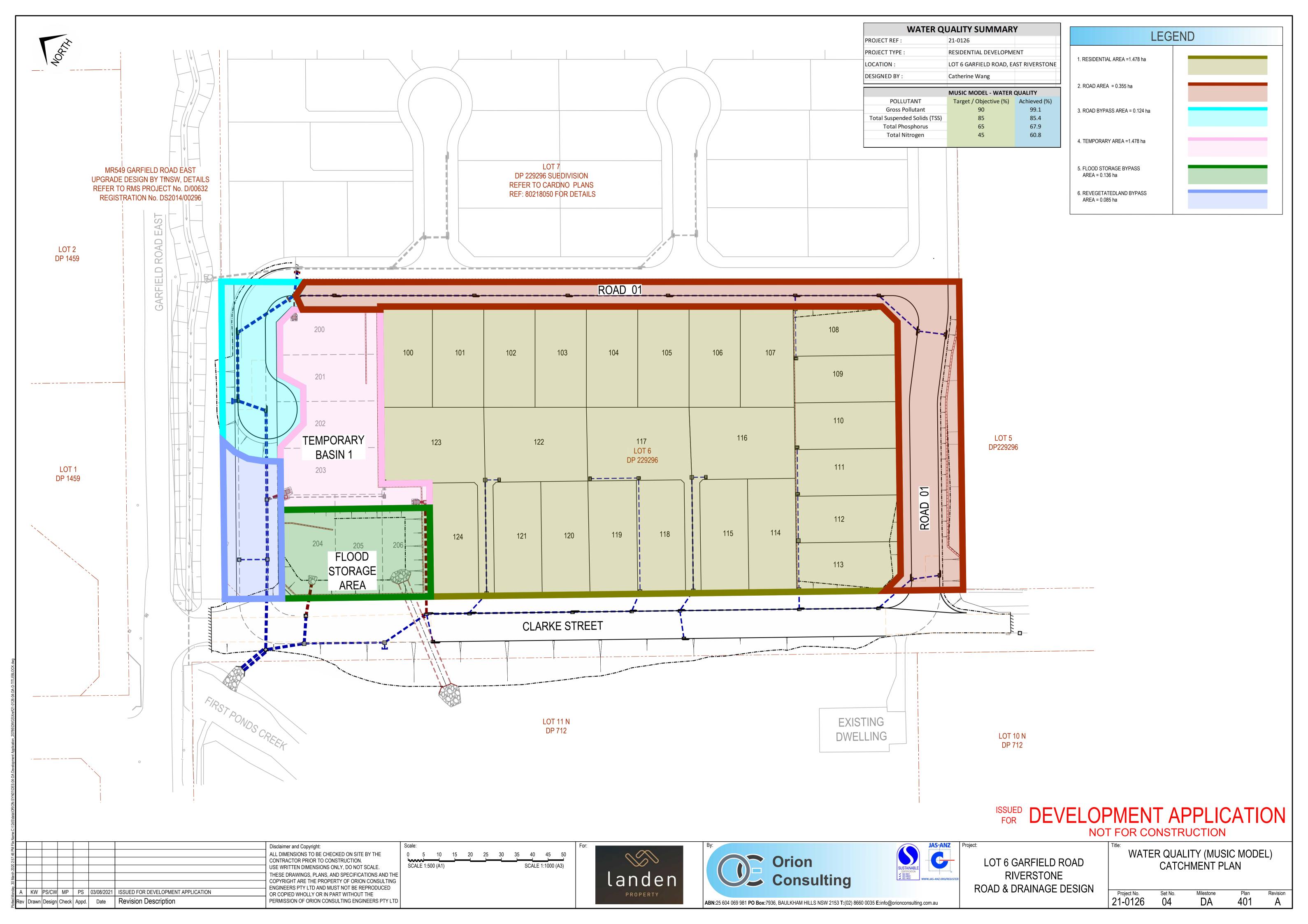


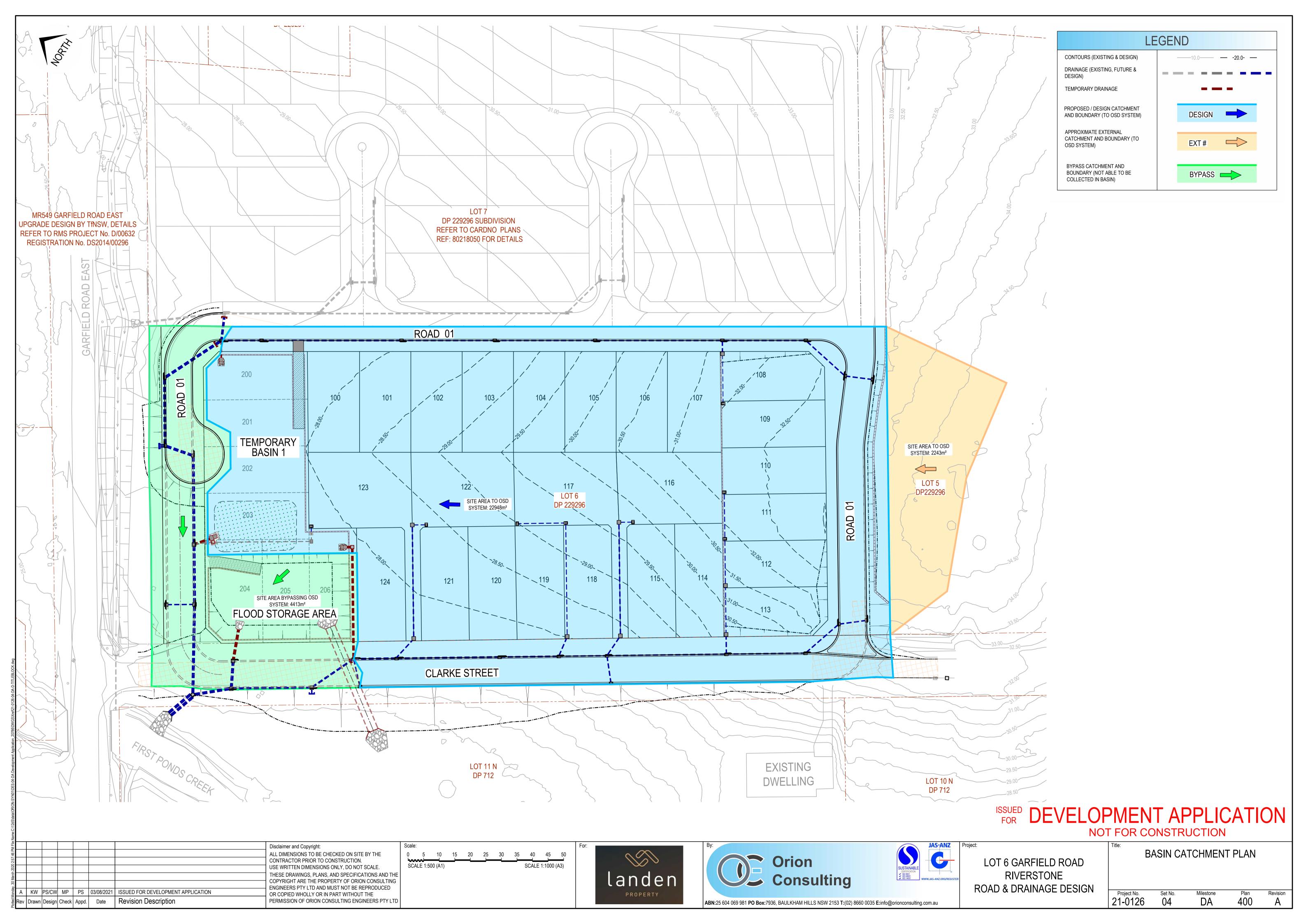


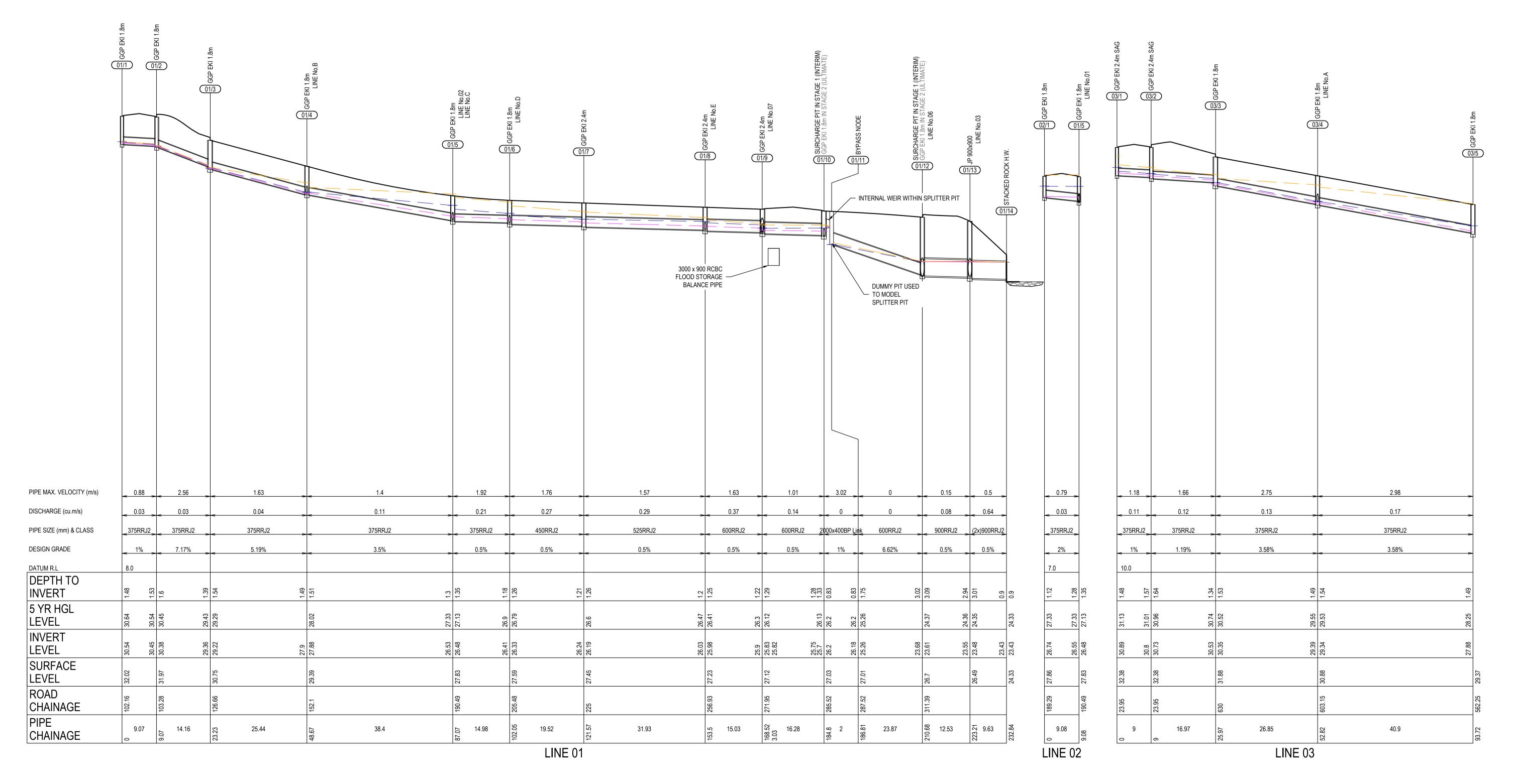
LOT 6 GARFIELD ROAD RIVERSTONE ROAD & DRAINAGE DESIGN ROAD LONGITUDINAL SECTIONS SHEET 2 OF 2

Project No.	Set No.	Milestone	Plan	Revision
21-0126	04	DA	311	Α
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Project No. 21-0126

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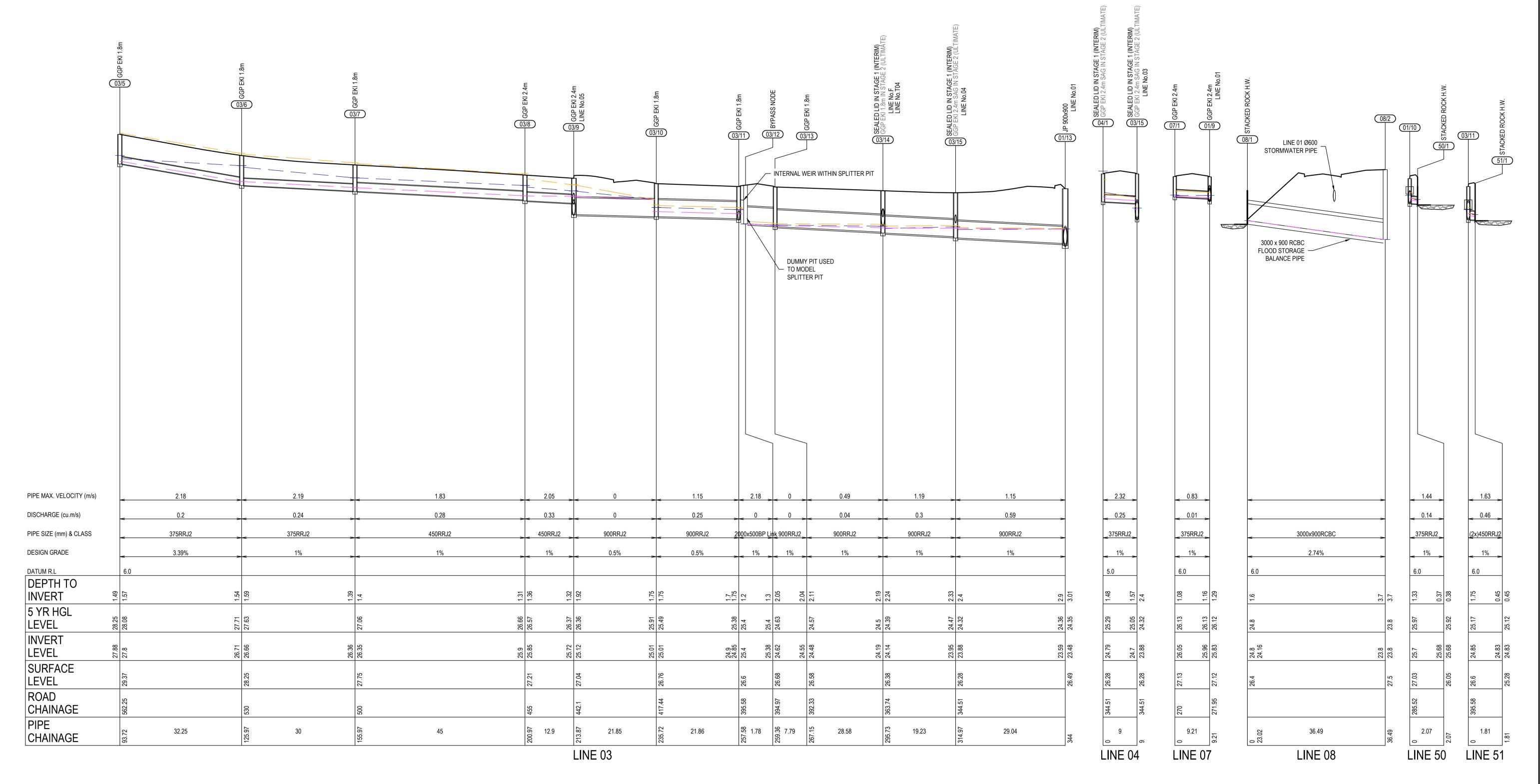




LOT 6 GARFIELD ROAD RIVERSTONE **ROAD & DRAINAGE DESIGN** 

STORMWATER LONGITUDINAL SECTIONS - STAGE 1 (INTERIM) 1:5 YEAR ARI SHEET 1 OF 3

Plan 410



Project No. 21-0126

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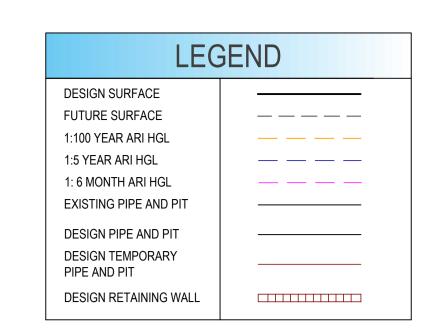
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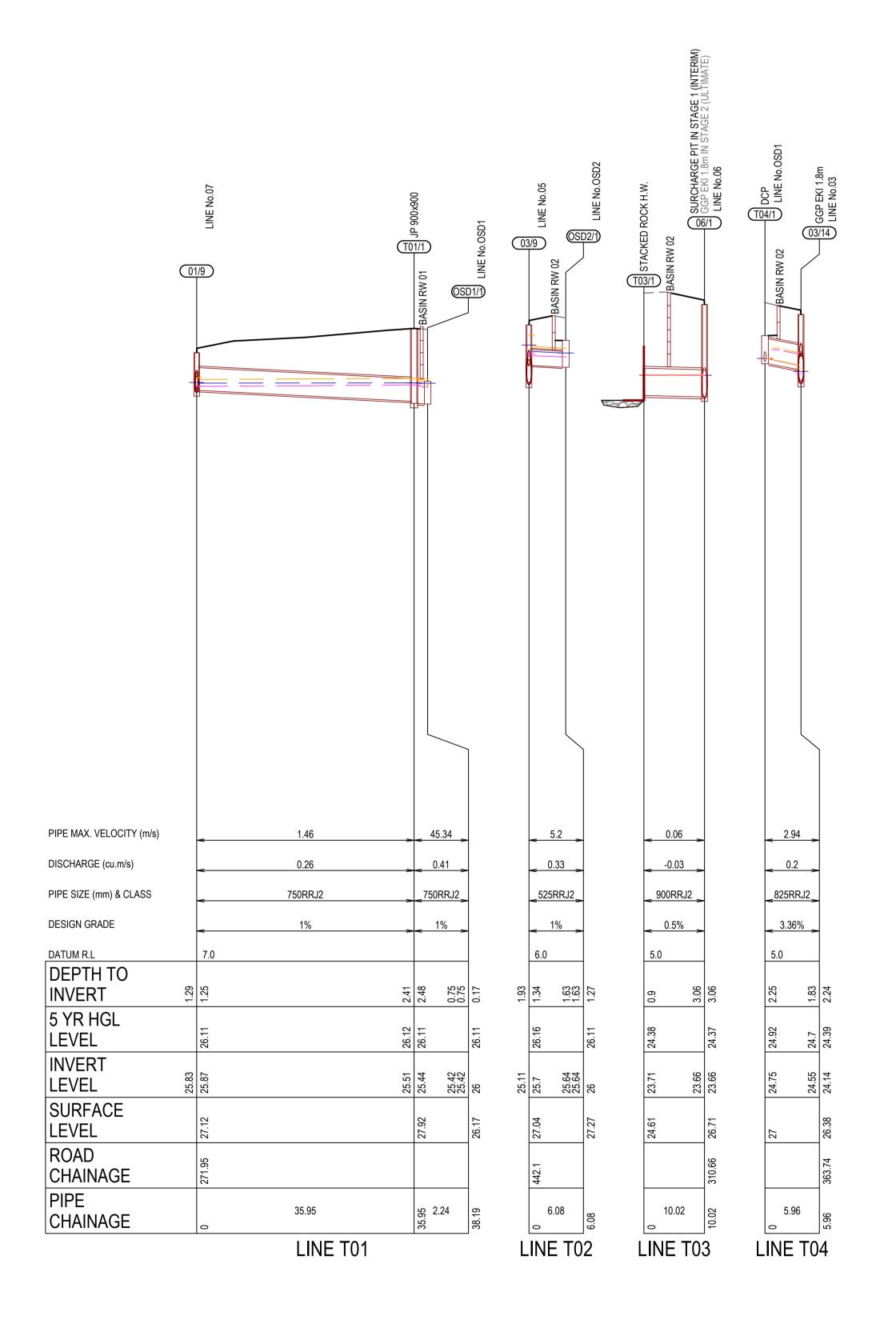






LOT 6 GARFIELD ROAD RIVERSTONE **ROAD & DRAINAGE DESIGN**  STORMWATER LONGITUDINAL SECTIONS - STAGE 1 (INTERIM) 1:5 YEAR ARI SHEET 2 OF 3





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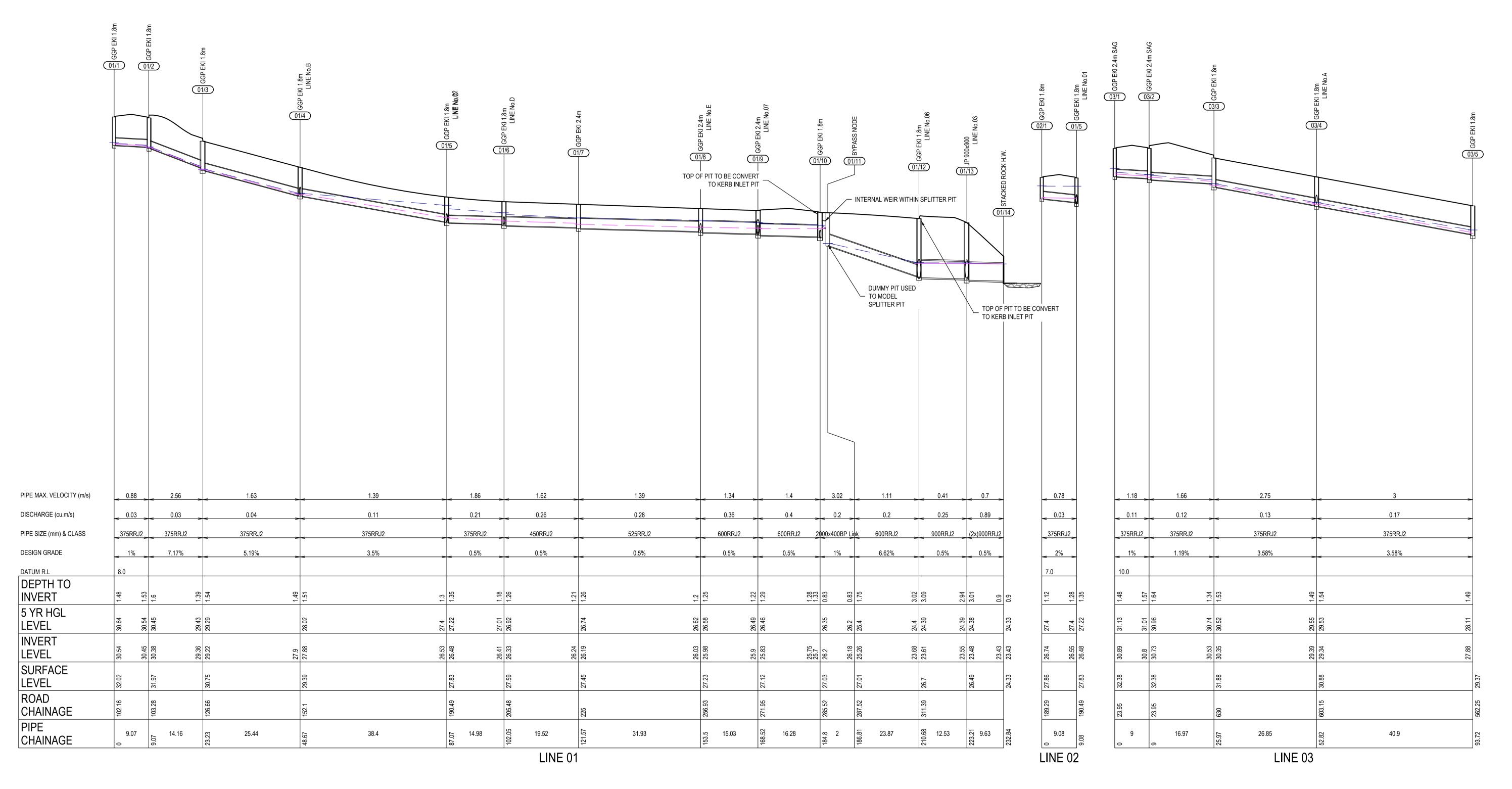






LOT 6 GARFIELD ROAD RIVERSTONE **ROAD & DRAINAGE DESIGN**  STORMWATER LONGITUDINAL SECTIONS - STAGE 1 (INTERIM) 1:5 YEAR ARI SHEET 3 OF 3

Project No. Set No. Milestone Plan Revis 21-0126 04 DA 412 A
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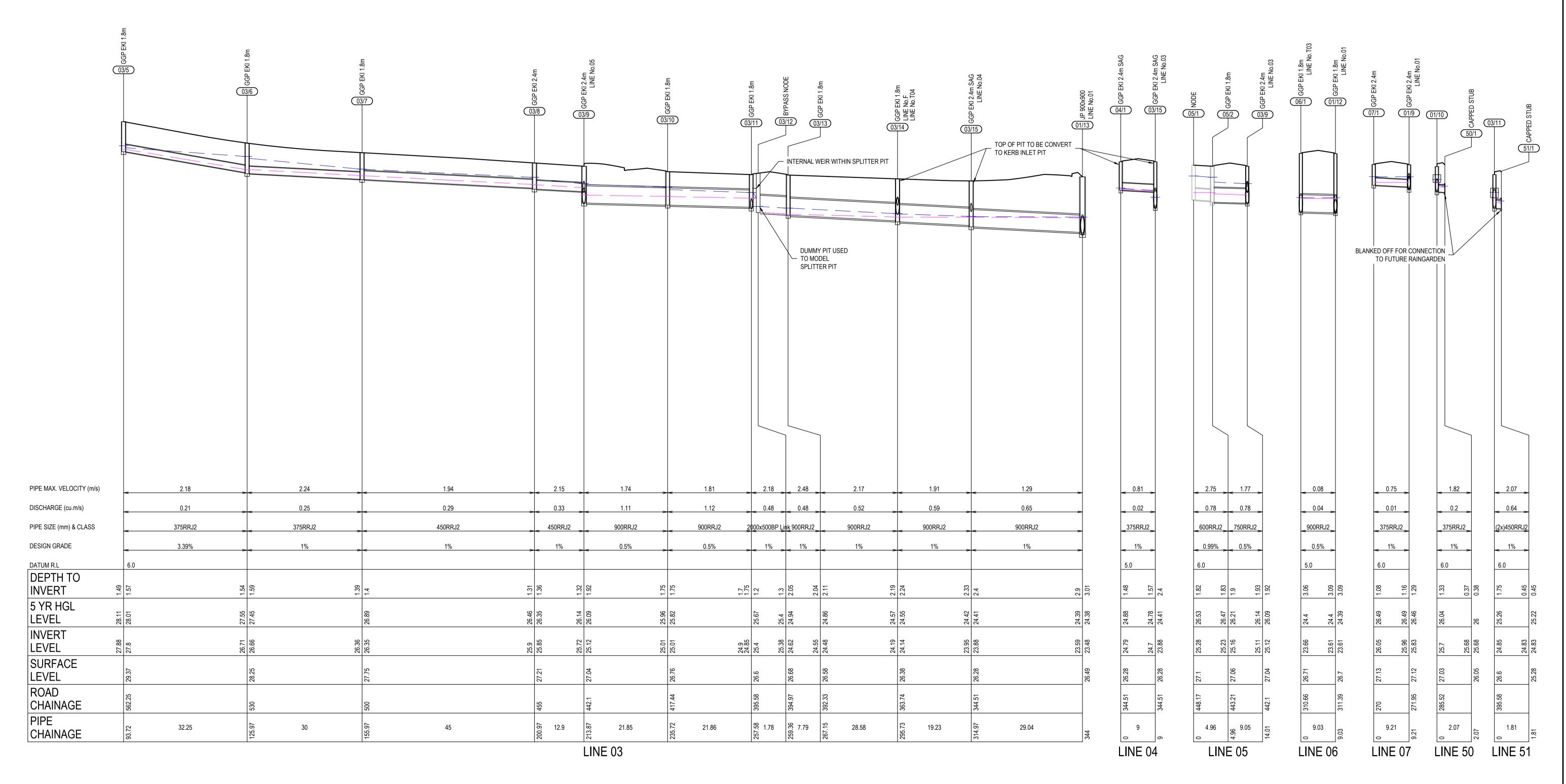




LOT 6 GARFIELD ROAD RIVERSTONE **ROAD & DRAINAGE DESIGN** 

STORMWATER LONGITUDINAL SECTIONS -STAGE 2 (ULTIMATE) 1:5 YEAR ARI SHEET 1 OF 2

Plan 413



Project No. 21-0126

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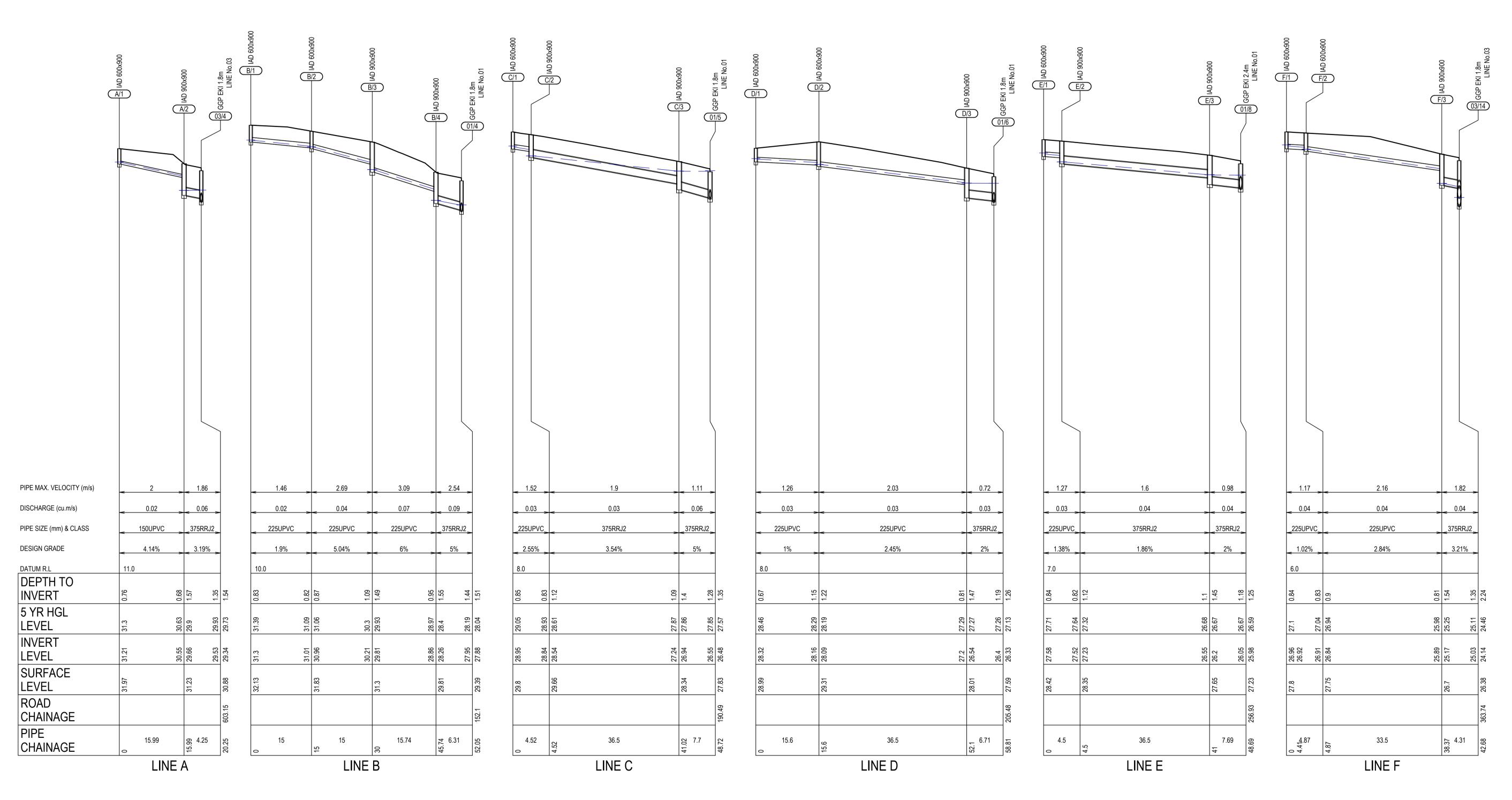






LOT 6 GARFIELD ROAD RIVERSTONE **ROAD & DRAINAGE DESIGN**  STORMWATER LONGITUDINAL SECTIONS -STAGE 2 (ULTIMATE) 1:5 YEAR ARI SHEET 2 OF 2

Plan **414** 



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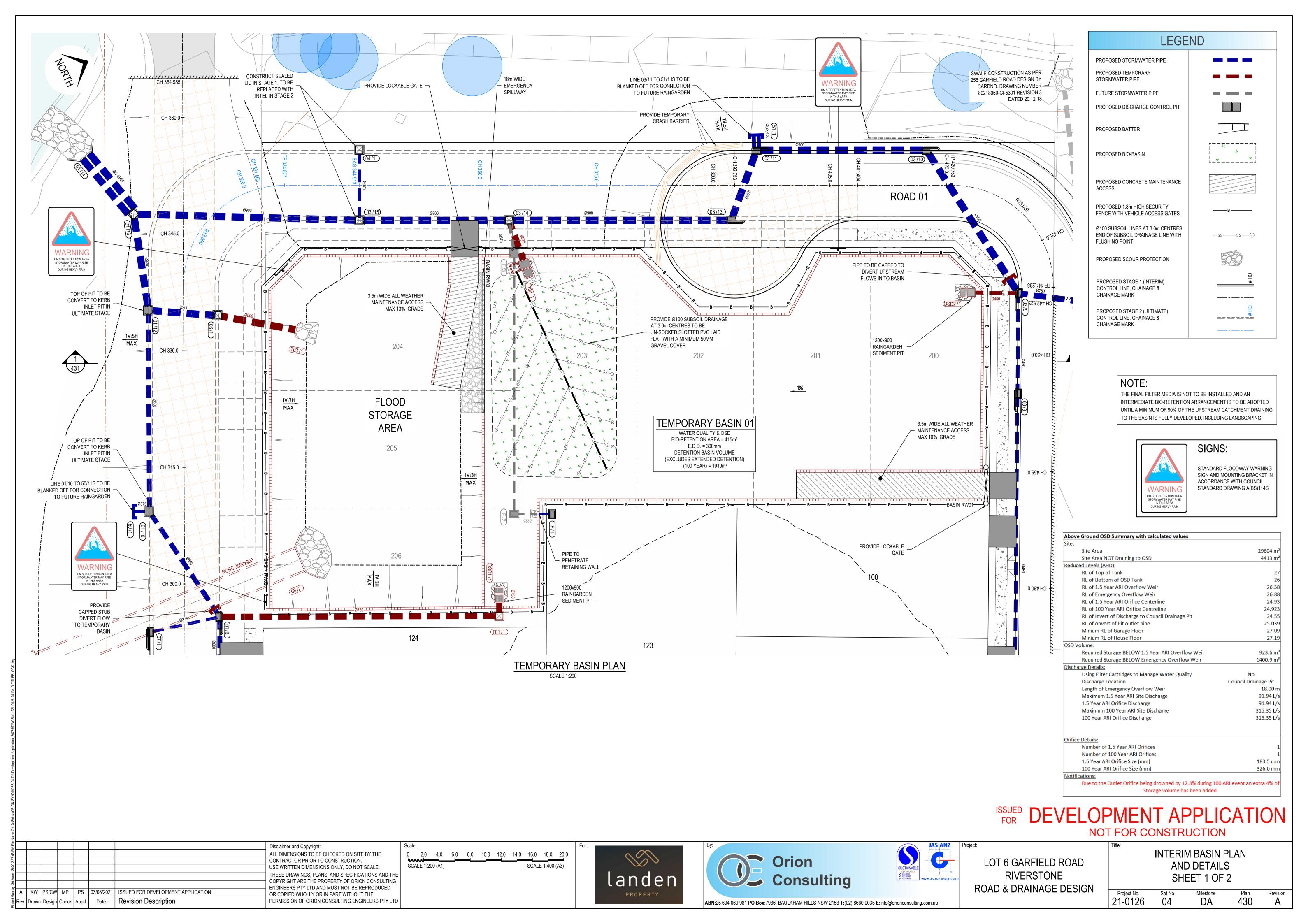


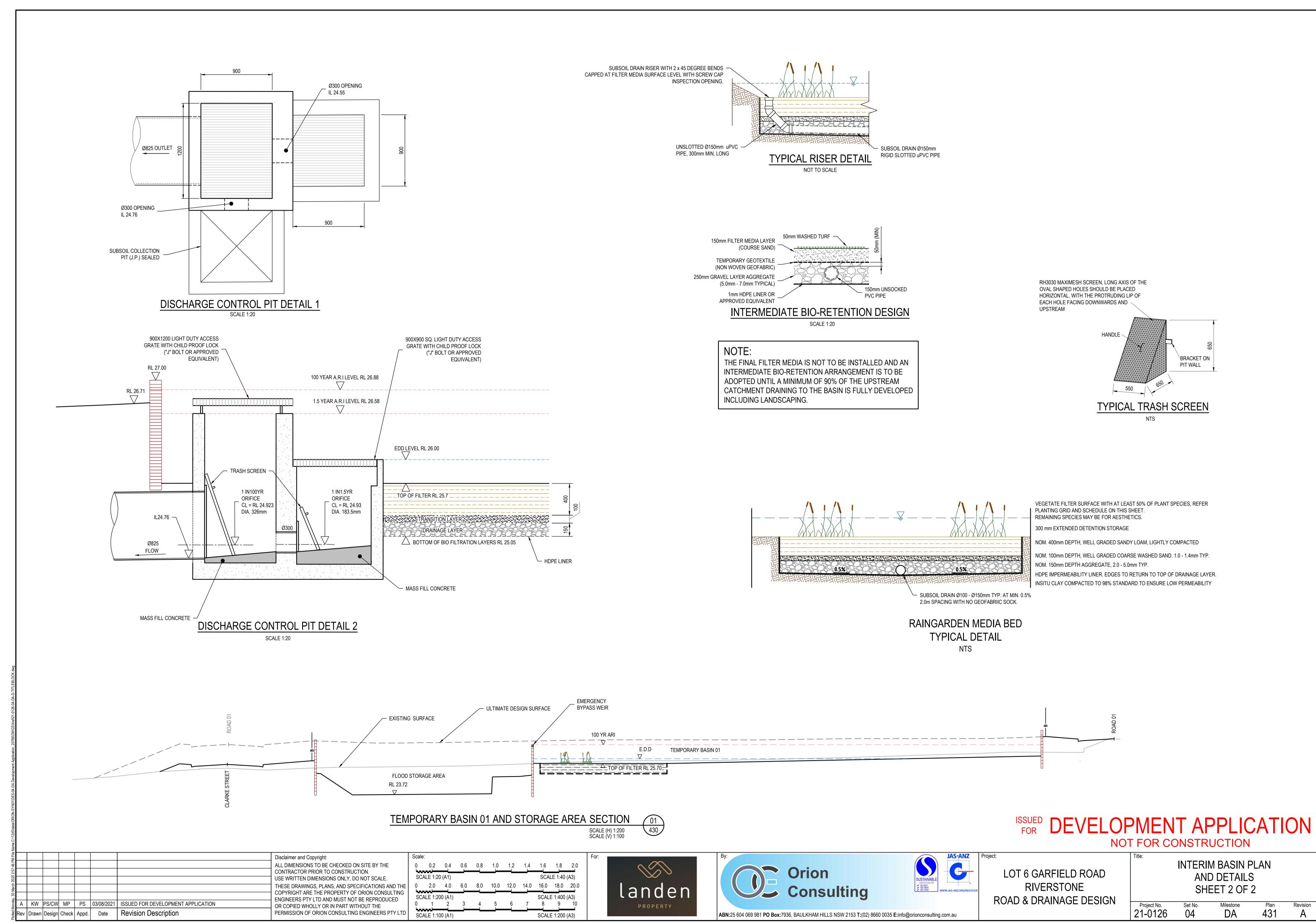


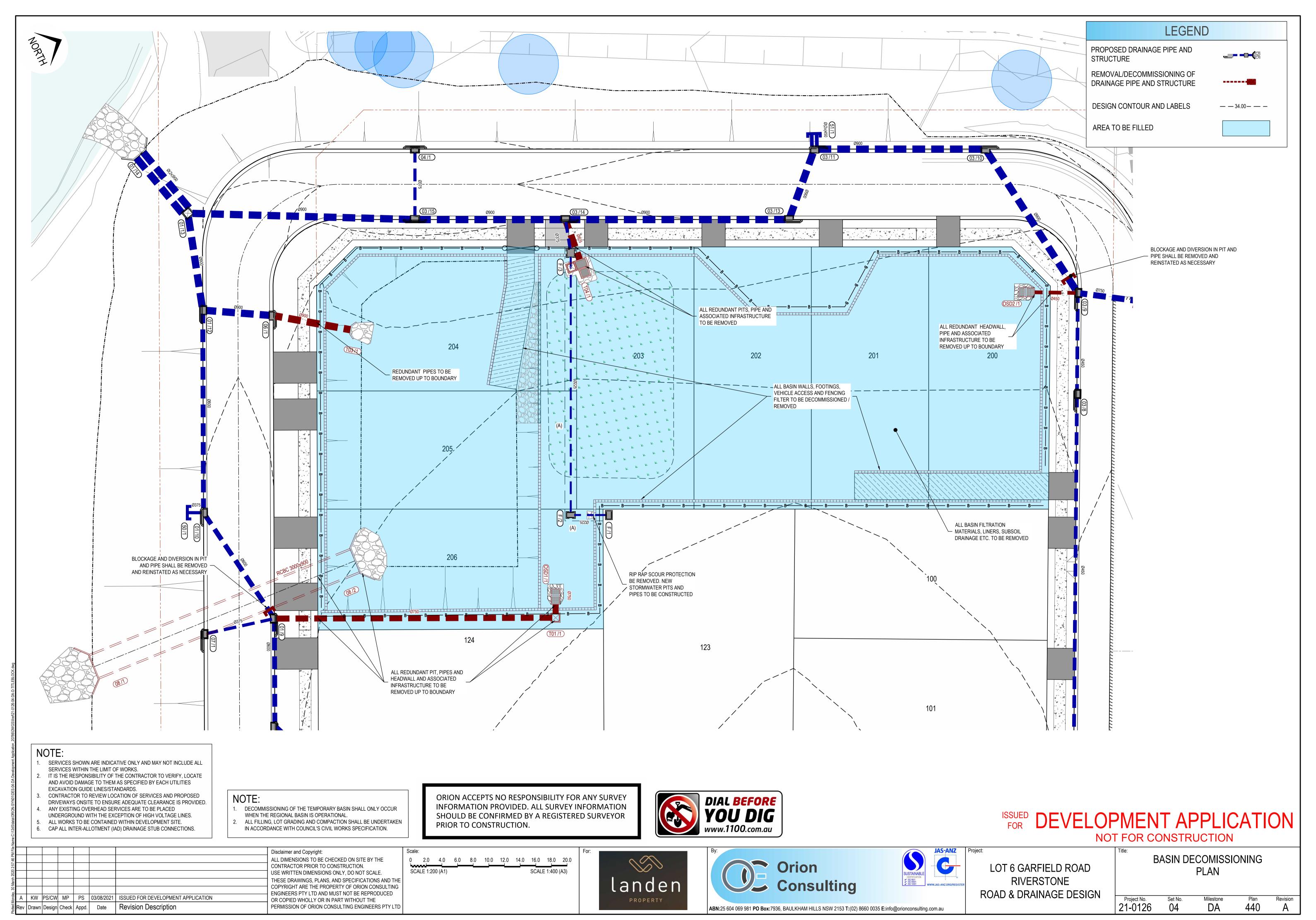


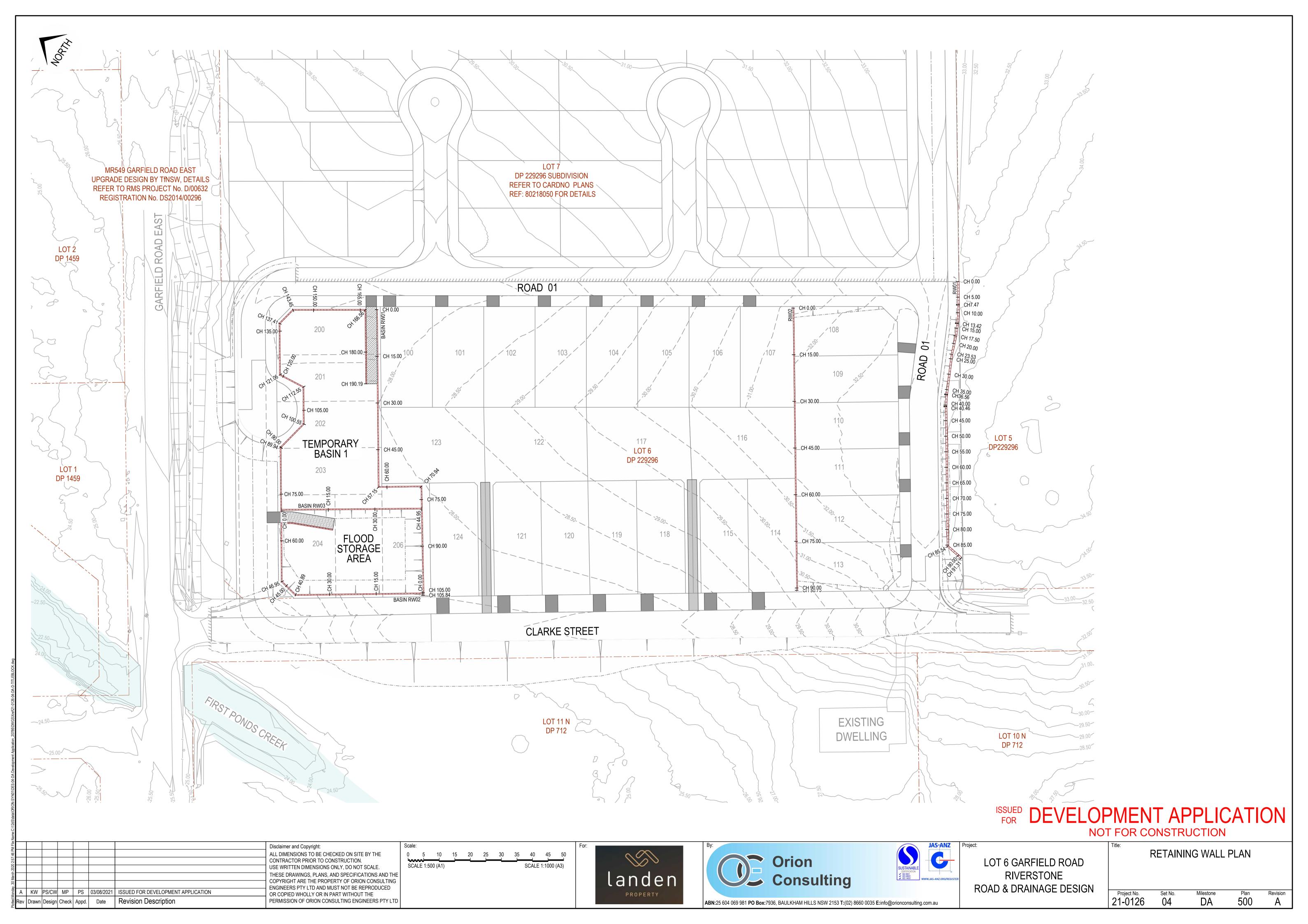
LOT 6 GARFIELD ROAD RIVERSTONE **ROAD & DRAINAGE DESIGN**  INTERALLOTMENT DRAINAGE LONGITUDINAL SECTIONS 1:20 YEAR ARI

Project No.	Set No.	Milestone	Plan	Revision
21-0126	04	DA	415	Α









LEGEND	)
RETAINING WALL PANEL	
SURFACE LEVEL IN FRONT OF RETAINING WALL AT BASE	
SURFACE LEVEL BEHIND RETAINING WALL AT TOP	
RETAINING WALL SIDE VIEW	

											+-+		
DATUM R.L. 28													
WALL DROP													
HEIGHT	0.4	0.5	0.5	0.5	0.5	0.485	0.436	0.89	0.84	0.72	0.83	6.0	-
RETAINING WALL													
LEVEL AT TOP	33.5	33.5	33.5	33.5	33.5	33.5	33.5	35	48	75	8	34	34
SURFACE													
LEVEL AT TOP	33.5	33.5	33.5	33.5	33.5	34	34	34	34	46	34	34	34
SURFACE		"	10 10	~		01					_	-	10
LEVEL AT BASE		33.096	33.095	33.083	32.96	33.002	33.064	33.113	33.158	33.282	33.171	32.924	33.875
RETAINING WALL													
LEVEL AT BASE	33	33	33	33	33	33	33	33	33	33	33	33	33
CHAINAGE			9	5	စ္		4					55	က
01 // (II V/ (OL	0	7.474	13.416	17.505	23.529	30	36.564	40.46	45	09	75	85.54	90

RETAINING WALL SECTION - RW01

SCALE 1:250 (H)

SCALE 1:100 (V)

DATUM R.L. 25 WALL DROP HEIGHT	0.63	0.81	0.919	1.03	1.17	1.11	0.266
RETAINING WALL LEVEL AT TOP	31.935	32.265		32.117	31.809	31.281	29.868 0
SURFACE LEVEL AT TOP	31.935	32.265	32.248	32.117	31.809	31.281	29.868
SURFACE LEVEL AT BASE	31.309	31.459	31.479	31.089	30.644	30.198	29.752
RETAINING WALL LEVEL AT BASE	31.159	31.309	31.329	30.939	30.494	30.048	29.602
CHAINAGE	51	30	31.906	45	09	75	90

# RETAINING WALL SECTION - RW02 SCALE 1:250 (H) SCALE 1:100 (V)

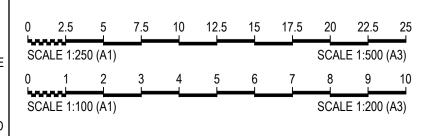
## ISSUED DEVELOPMENT APPLICATION

NOT FOR CONSTRUCTION

LOT 6 GARFIELD ROAD RIVERSTONE ROAD & DRAINAGE DESIGN RETAINING WALL LONGITUDINAL SECTIONS SHEET 1 OF 3

Project No. Set No. Milestone Plan Revis

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RETAINING WALL SECTION - BASIN RW02 SCALE 1:250 (H) SCALE 1:100 (V)

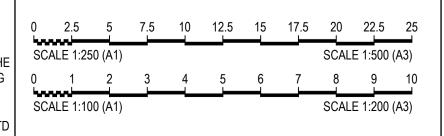
DATUM R.L. 21			
WALL DROP			
HEIGHT	1.17	0.81	0.52
RETAINING WALL	2	5	2
LEVEL AT TOP	27.25	26.85	26.45
SURFACE			
LEVEL AT TOP	27.25	26.85	27.4
SURFACE	4	4	2
LEVEL AT BASE	26.084	26.034	25.932
RETAINING WALL			
LEVEL AT BASE	25.4	25.4	25.4
CHAINAGE	175	80	90.193

CHAINAGE

RETAINING WALL SECTION - BASIN RW02 SCALE 1:250 (H) SCALE 1:100 (V)

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LOT 6 GARFIELD ROAD **RIVERSTONE ROAD & DRAINAGE DESIGN** 

**RETAINING WALL** LONGITUDINAL SECTIONS SHEET 2 OF 3

Project No. 21-0126 Plan **502** 

LEGEND RETAINING WALL PANEL SURFACE LEVEL IN FRONT OF RETAINING WALL AT BASE SURFACE LEVEL BEHIND RETAINING WALL AT TOP RETAINING WALL SIDE VIEW 

FLOOD **TEMPORARY** BASIN 1 STORAGE AREA FUTURE STORMWATER PIPE 225mm DIA I.L.26.95 STORMWATER PIPE T01 750mm DIA I.L.25.43 ~ RW 03 DATUM R.L. 21 WALL DROP HEIGHT 1.31 RETAINING WALL 27.9 27.9 27.9 27.9 27.9 27.9 27.9 27.7 LEVEL AT TOP SURFACE 27.9 27.9 27.9 27.9 27.9 27.9 27.9 LEVEL AT TOP SURFACE 26.837 26.836 26.588 26.462 26.461 25.5 LEVEL AT BASE RETAINING WALL 25.063 25.063 26.7 26.3 26.3 26.3 26.3 25.7 LEVEL AT BASE CHAINAGE

#### **RETAINING WALL SECTION - BASIN RW01**

SCALE 1:250 (H) SCALE 1:100 (V)

		18m ₩	VIDE WEIR. RL 26.8	8		
DATUM R.L. 19						
WALL DROP						
HEIGHT	2.4		2.25		2.4	2.4
RETAINING WALL			8			
LEVEL AT TOP	27		26.88		27	27
SURFACE	8				_	2
LEVEL AT TOP	25.733		25.71		25.741	25.872
SURFACE						
LEVEL AT BASE	24.6		24.6		24.6	24.6
RETAINING WALL						
LEVEL AT BASE	24.3		24.3		24.3	24.3
CHAINAGE			15		30	14.954

A KW PS/CW MP PS 03/08/2021 ISSUED FOR DEVELOPMENT APPLICATION

Revision Description

Rev Drawn Design Check Appd. Date

#### RETAINING WALL SECTION - BASIN RW03

SCALE 1:250 (H) SCALE 1:100 (V)

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0 2.5 5 7.5 10 12.5 15 17.5 20 22.5 25 SCALE 1:250 (A1) SCALE 1:500 (A3) SCALE 1:200 (A3) SCALE 1:100 (A1)







LOT 6 GARFIELD ROAD **RIVERSTONE ROAD & DRAINAGE DESIGN** 

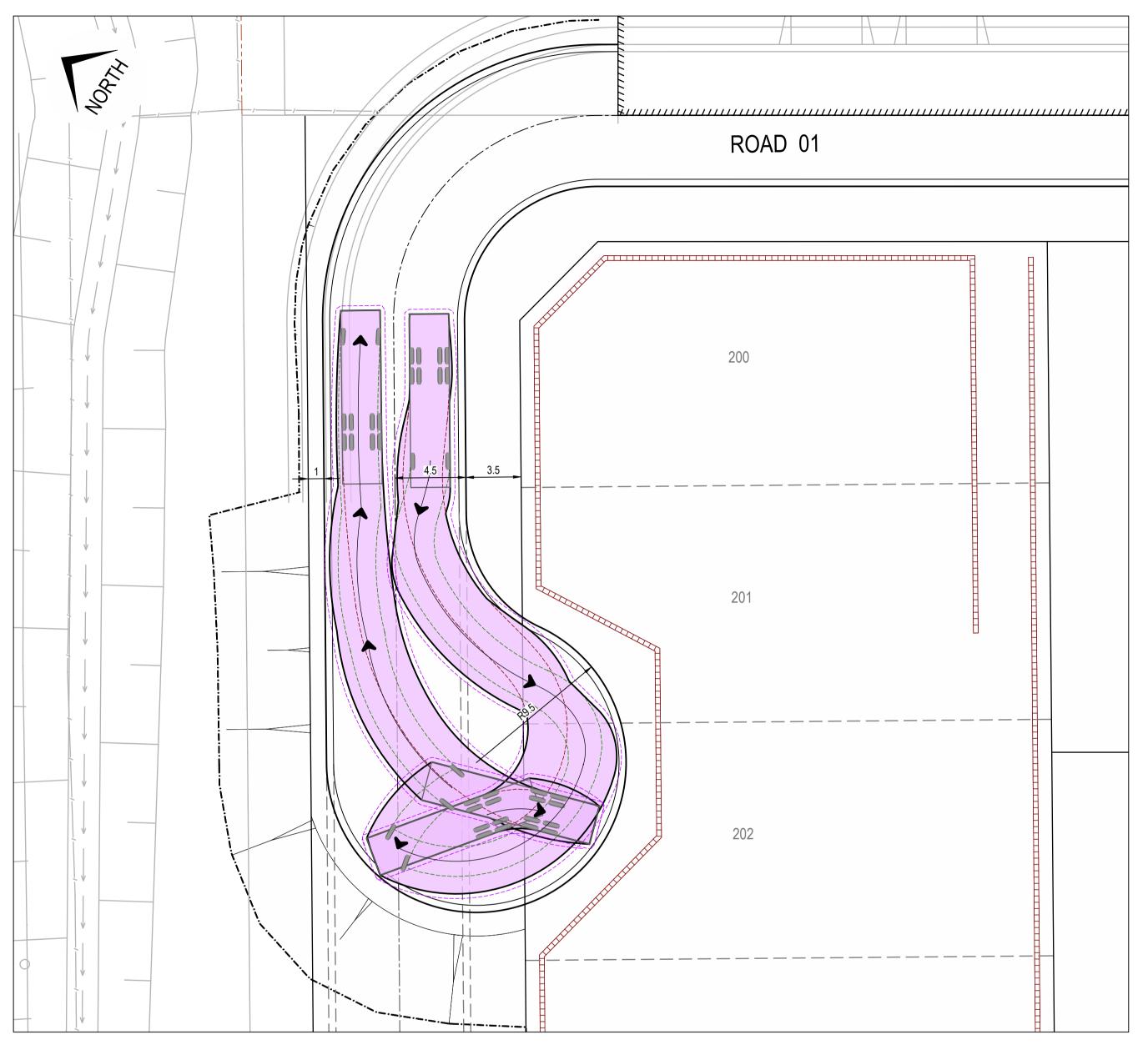
**RETAINING WALL** LONGITUDINAL SECTIONS SHEET 3 OF 3

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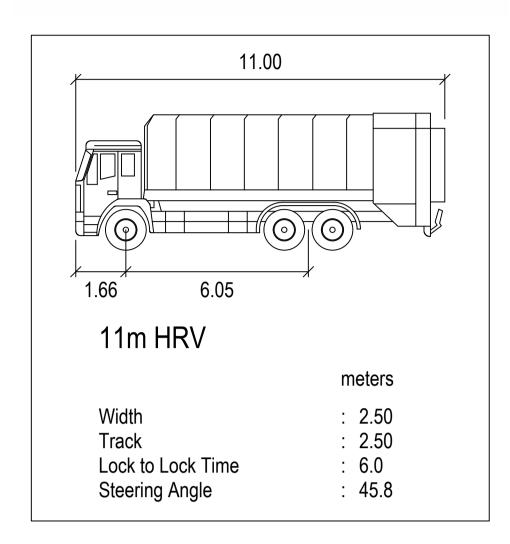
Project No. 21-0126 503

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



INTERIM STAGE TURNING PATH CHECK PLAN SCALE 1:250

#### LEGEND DENOTES FRONT WHEEL TRACK \_ \_ \_ \_ \_ DENOTES REAR WHEEL TRACK \_ \_ \_ \_ \_ DENOTES VEHICLE BODY CLEARANCE DENOTES VEHICLE BODY



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0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0 SCALE 1:200 (A1) SCALE 1:400 (A3)







LOT 6 GARFIELD ROAD **RIVERSTONE** ROAD & DRAINAGE DESIGN

11m HRV TURNING PATH PLAN Project No. 21-0126 DA 600