

Appendix D Civil drawings

Prepared by ARUP

January 2016



WESTMEAD HOSPITAL REDEVELOPMENT
Building health. Transforming lives.

**DARCY ROAD MULTI STOREY
CAR PARK**

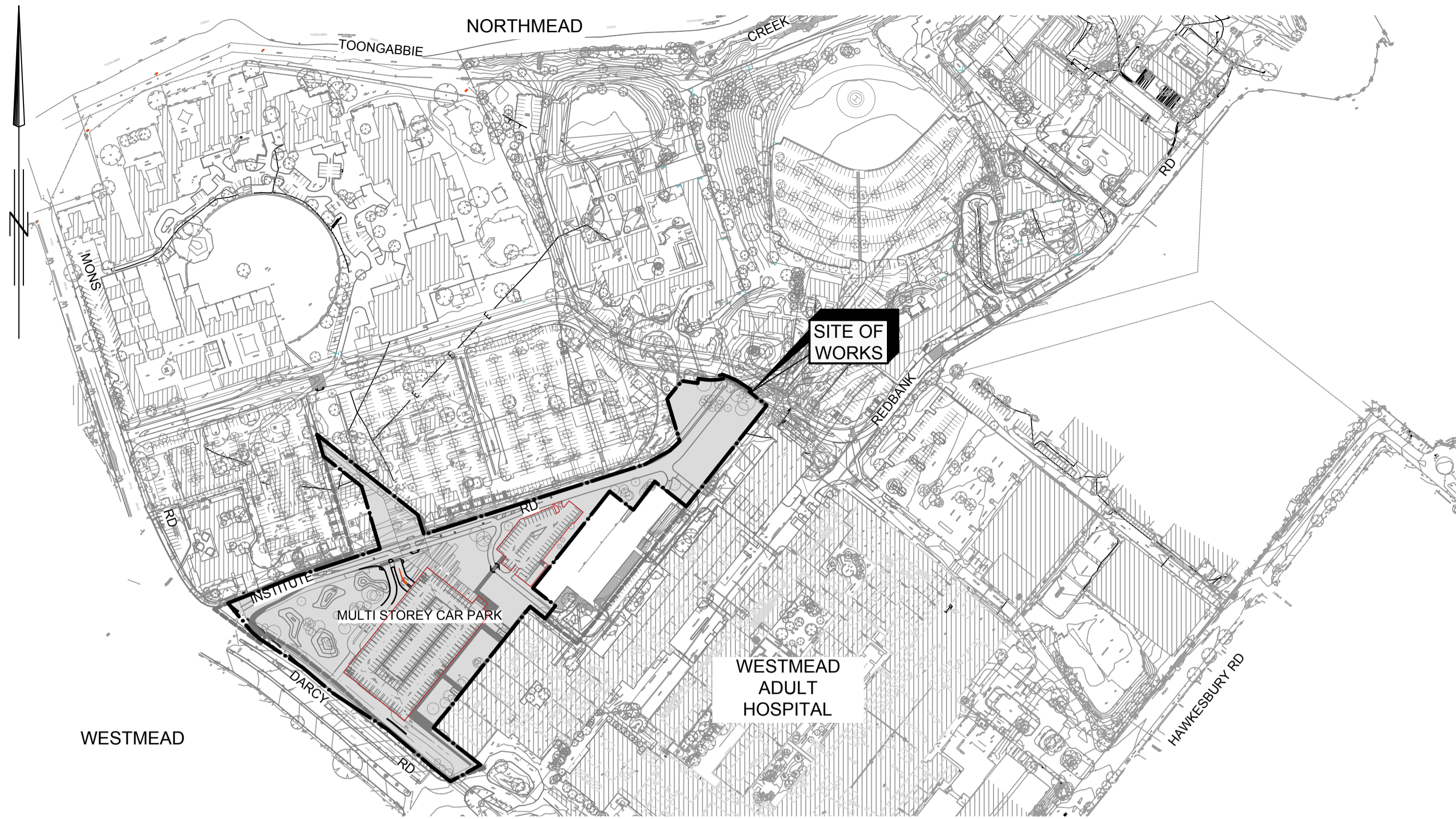
Civil Works

January 2016

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LOCALITY PLAN
SCALE 1:2 500

REFERENCE DRAWINGS
PARRAMATTA CITY COUNCIL (PCC) STANDARD DRAWINGS
(REFER TO SPECIFICATION)

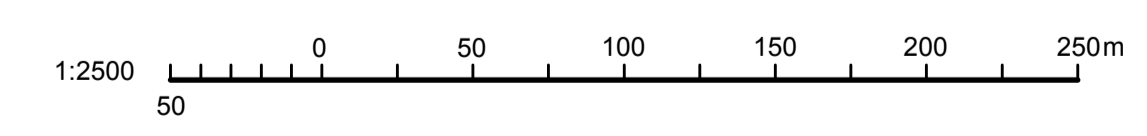
DRAWING No.	TITLE
DS1	KERBS AND LAYBACKS
DS2	ROOFWATER OUTLET
DS4	FOOTPATH
DS4	KERB RAMP
DS5	DISH DRAIN CROSSING DETAIL
DS6	TYPICAL CYCLEWAY/SHARED PATHWAY
DS8	STANDARD VEHICULAR CROSSING
DS9	HEAVY DUTY VEHICULAR CROSSING
DS10	VEHICULAR CROSSING PROFILES
DS11B	SIGN SUPPORT POST
DS21	STANDARD KERB INLET PIT (ON GRADE)
DS24	STANDARD SURCHARGE PIT
DS24	GRATED SAG PIT USING PRECAST LINTEL
DS25	SURFACE INLET PIT FOR FOOTPATHS
DS25	SURFACE INLET PIT FOR OPEN SPACE AREAS
DS26	STANDARD JUNCTION PIT
DS26	HEAVY DUTY JUNCTION PIT
DS41	TWIN GRATED GULLY PIT WITH EXTENDED KERB INLET
DS44	SUBSOIL DRAINAGE DETAILS
DS46	HEADWALLS FOR CULVERTS UP TO 900 DIAMETER
DS47	STANDARD FOR INSTALLATION OF PIPELINES AND RESTORATION OF TRENCHES
DS44	TREE PROTECTION TIMBER HOARDING

DRAWING SCHEDULE

DRAWING No.	ISSUE	TITLE
GENERAL		
MSC-ARP-CV-DG-4001	3	COVER SHEET
MSC-ARP-CV-DG-4002	3	LOCALITY PLAN, DRAWING SCHEDULE AND LEGEND
MSC-ARP-CV-DG-4003	3	GENERAL NOTES
SOIL AND WATER		
MSC-ARP-CV-DG-4010	3	SOIL AND WATER MANAGEMENT PLAN
MSC-ARP-CV-DG-4011	3	SOIL AND WATER MANAGEMENT DETAILS
DEMOLITION WORKS		
MSC-ARP-CV-DG-4100	3	DEMOLITION PLAN SHEET 1 OF 4
MSC-ARP-CV-DG-4101	3	DEMOLITION PLAN SHEET 2 OF 4
MSC-ARP-CV-DG-4102	3	DEMOLITION PLAN SHEET 3 OF 4
MSC-ARP-CV-DG-4103	3	DEMOLITION PLAN SHEET 4 OF 4
EARTHWORKS		
MSC-ARP-CV-DG-4150	3	BULK EARTHWORKS CUT AND FILL PLAN
MSC-ARP-CV-DG-4151	3	BULK EARTHWORKS CONTOUR PLAN SHEET 1 OF 4
MSC-ARP-CV-DG-4152	3	BULK EARTHWORKS CONTOUR PLAN SHEET 2 OF 4
MSC-ARP-CV-DG-4153	3	BULK EARTHWORKS CONTOUR PLAN SHEET 3 OF 4
MSC-ARP-CV-DG-4154	3	BULK EARTHWORKS CONTOUR PLAN SHEET 4 OF 4
MSC-ARP-CV-DG-4155	3	BULK EARTHWORKS LONGITUDINAL SECTIONS SHEET 1 OF 3
MSC-ARP-CV-DG-4156	3	BULK EARTHWORKS LONGITUDINAL SECTIONS SHEET 2 OF 3
MSC-ARP-CV-DG-4157	3	BULK EARTHWORKS LONGITUDINAL SECTIONS SHEET 3 OF 3
ROADWORKS		
MSC-ARP-CV-DG-4200	3	ROADWORKS AND DRAINAGE PLAN SHEET 1 OF 4
MSC-ARP-CV-DG-4201	3	ROADWORKS AND DRAINAGE PLAN SHEET 2 OF 4
MSC-ARP-CV-DG-4202	3	ROADWORKS AND DRAINAGE PLAN SHEET 3 OF 4
MSC-ARP-CV-DG-4203	3	ROADWORKS AND DRAINAGE PLAN SHEET 4 OF 4
MSC-ARP-CV-DG-4210	3	ROADWORKS CAR PARK ENTRY/EXIT LONGITUDINAL SECTIONS SHEET 1 OF 2
MSC-ARP-CV-DG-4211	3	ROADWORKS CAR PARK ENTRY/EXIT LONGITUDINAL SECTIONS SHEET 2 OF 2
MSC-ARP-CV-DG-4212	3	ROADWORKS MORTUARY ROAD LONGITUDINAL SECTIONS
MSC-ARP-CV-DG-4213	3	ROADWORKS INSTITUTE ROAD LONGITUDINAL SECTIONS SHEET 1 OF 2
MSC-ARP-CV-DG-4214	3	ROADWORKS INSTITUTE ROAD LONGITUDINAL SECTIONS SHEET 2 OF 2
MSC-ARP-CV-DG-4215	3	ROADWORKS AT-GRADE CAR PARK ROAD LONGITUDINAL SECTIONS
MSC-ARP-CV-DG-4216	3	ROADWORKS PEDESTRIAN LINK CAR PARK ROAD LONGITUDINAL SECTIONS
MSC-ARP-CV-DG-4217	3	ROADWORKS TYPICAL PAVEMENT CROSS SECTIONS
RETAINING WALL		
MSC-ARP-CV-DG-4251	3	RETAINING WALL LONGITUDINAL SECTIONS
MSC-ARP-CV-DG-4255	3	RETAINING WALL DETAILS
DRAINAGE		
MSC-ARP-CV-DG-4300	3	DRAINAGE LONGITUDINAL SECTION

LEGEND

EXISTING	
	BOUNDARY
	DRIVEWAY, PATHWAY OR CYCLEWAY
	TOP OF BATTER
	BOTTOM OF BATTER
	SPOT LEVEL
	KERB AND GUTTER
	DISHED CROSSING
	STORMWATER
	STORMWATER PIT
	SEWERAGE
	SEWER MAINTENANCE HOLE
	SEWERAGE - TRADE WASTE
	SEWER TUNNEL
	WATER SUPPLY
	STOP VALVE HYDRANT
	WATER FIRE SUPPLY
	TELSTRA
	TELSTRA PIT
	ELECTRICITY
	ELECTRICITY POLE
	TELECOMMUNICATION
	GAS
	TREE
PROPOSED	
	PROJECT BOUNDARY
	EASEMENT BOUNDARY
	K&G KERB AND GUTTER TO PCC STD DRG No DS1
	EDGE STRIP TO PCC STD DRG No DS1
	KERB ONLY TP PCC STD DRG No DS1
	MEDIAN KERB TO PCC STD DRG No DS1
	DISH CROSSING TO PCC STD DRG No DS1
	HEAVY DUTY LAYBACK TO PCC STD DRG No DS1
	VEHICULAR CROSSING TO PCC STD DRG No DS1
	PEDESTRIAN RAMPS TO PCC STD DRG No DS4
	DOUBLE BARRIER LINE (BB)
	HOLDING LINE (TB)
	PAVERS
	KERB RETURN No. 1
	STREET NAME SIGN & POST TO PCC STD DRG No DS11
	STREET SIGN & POST TO PCC STD DRG No DS11
	DRAINAGE CATCHMENT BOUNDARY
	Ø100 SUBSOIL DRAINAGE LINE TO PCC STD DRG No DS44
	Ø450 STORMWATER DRAINAGE PIPELINE
	STORMWATER PIT No 3 - LINE No 1
	STANDARD GRATED KERB INLET PIT TO PCC STD DRG No DS21
	STANDARD GRATED SAG PIT TO PCC STD DRG No DS24
	STANDARD SURFACE INLET GRATED PIT TO PCC STD DRG No DS25
	STANDARD JUNCTION PIT TO PCC STD DRG No DS26
	TRENCH DRAIN
FUTURE	
	BOUNDARY AND KERB ALIGNMENTS
	DRIVEWAY, PATHWAY OR CYCLEWAY



REV	DESCRIPTION	DRAWN	CHECK	DATE
1	ISSUE FOR R/D REVIEW	ADC	KJS	18/11/2015
2	ISSUE FOR TENDER	ADC	KJS	26/11/15
3	ISSUE FOR TENDER	ADC	KJS	15/01/2016

FOR TENDER
NOT FOR CONSTRUCTION

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WESTMEAD HOSPITAL REDEVELOPMENT
Building health. Transforming lives.

DRAWING TITLE:
LOCALITY PLAN, DRAWING SCHEDULE AND LEGEND

SCALE: AS SHOWN DHR# NUMBER: **5335** CHECKED: KJS

PROJECT NUMBER: **236482** DRAWING NUMBER: **MSC-ARP-CV-DG-4002** ISSUE: **3**

GENERAL NOTES

SURVEY

- S1 ALL SURVEY FOR THIS DESIGN IS SUPPLIED BY:
LTS LOCKLEY
SUITE 1, LEVEL 1, 810 PACIFIC HIGHWAY, GORDON NSW 2072
PHONE 1300 587 000 FAX 02 9499 7760
- S2 ORIGIN OF LEVELS
S.S.M 156523 RL 16.485 (A.H.D.)
- S3 AZIMUTH
S.S.M. 156523 (ORIGIN) - S.S.M. 87246 (BY SURVEY) 83°18'15" 826.790
MGA COORDINATES S.S.M. 156523 (ORIGIN) - EAST 313 352.533,
NORTH 6 257 848.561. NOTE THIS PLAN IS ON MGA COORDINATES BASED ON
THE ABOVE AZIMUTH.
- S4 ALL BEARINGS AND DISTANCES BY SURVEY.

EROSION AND SEDIMENT

- ES1 ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE IN ACCORDANCE WITH LANDCOM "SOILS AND CONSTRUCTION MANUAL VOLUME 1, MARCH 2004"
- ES2 WORKS SHALL BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:
- (A) INSTALL EROSION AND SEDIMENT CONTROLS.
- (B) STRIP AND STOCKPILE TOPSOIL AND CARRY OUT ALL BULK EARTHWORKS.
- (C) TOPSOIL AND REHABILITATE BULK EARTHWORK AREAS IMMEDIATELY UPON COMPLETION.
- (D) UNDERTAKE REMAINING SITE WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS.
- (E) REMOVE SOIL AND WATER MANAGEMENT WORKS NOT REQUIRED FOR OTHER STAGES OF CONSTRUCTION ONCE UPSTREAM SURFACES ARE STABILISED TO THE SATISFACTION OF THE SUPERINTENDENT.

EROSION CONTROL MEASURES

- EC1 CONTROLS AFFECTED BY WORKS ARE TO BE RE-ESTABLISHED PRIOR TO THE COMPLETION OF EACH DAYS WORK.
- EC2 THE CONTRACTOR IS TO STABILISE TOPSOIL STOCKPILE AND BARE AREAS AS SOON AS THEY REACH FINAL LEVELS. STABILISATION TO BE BY HYDROSEEDING OR OTHER METHOD APPROVED BY SUPERINTENDENT. ALL SEEDED AREAS TO BE WATERED TWICE WEEKLY UNTIL GRASS IS ESTABLISHED OR COVERED WITH BITUMEN STRAW MULCH. SEED MIXTURE FOR FOOTWAYS AND EMBANKMENTS TO BE IN ACCORDANCE WITH THE FOLLOWING:
- * A RECOMMENDED LIST OF PLANT SPECIES FOR TEMPORARY COVER IS :
- JAPANESE MILLET 25kg/ha } SPRING
- OATS (RYECORN) 25kg/ha } SUMMER
- JAPANESE MILLET 10kg/ha } AUTUMN
- OATS (RYECORN) 30kg/ha } WINTER
GYPSUM AND MULTIGROW/ ENRICH FERTILIZER AT RATES TO BE DETERMINED BY SUBSOIL AND TOPSOIL TESTING.
- * A RECOMMENDED LIST OF PLANT SPECIES FOR PERMANENT GRASSING IS :
- DURATURF PARK BLEND (WRIGHT STEPHENSON SEED MIX) + COVER CROP
- JAPANESE MILLET 10kg/ha
- OATS (RYECORN) 10kg/ha
- THOROUGHBRED TURF TALL FESCUE 15kg/ha
- PERENNIAL RYEGRASS 37kg/ha
- CHEWINGS FESCUE 5kg/ha
- UNMULLED COUCH 4kg/ha
- TACKIFYING AGENT (CURASOL OR SIMILAR)
- EC3 WHERE SURFACE SLOPES ARE MORE THAN 6H:1V BITUMEN STRAW MULCH SHALL BE APPLIED AFTER SEEDING AT THE FOLLOWING RATES.
- MULCH 0.5kg/m²
- BITUMEN EMULSION 0.25 l/m² (50% WATER, 50% SLOW BREAKING ANIONIC EMULSION MIX).
- EC4 DUST CONTROL MEASURES SHALL BE IMPLEMENTED CONTINUOUSLY DURING CONSTRUCTION WORKS TO THE SATISFACTION OF THE SUPERINTENDENT.
- EC5 TOPSOIL SHALL BE RESPREAD AND STABILISED AS SOON AS POSSIBLE. DISTURBED AREAS SHALL BE LEFT WITH A SCARIFIED SURFACE TO ENCOURAGE WATER INFILTRATION AND ASSIST KEYING IN TOPSOIL.
- EC6 THE CONTRACTOR SHALL TEMPORARILY REHABILITATE ANY DISTURBED AREAS WITHIN 14 DAYS. WHERE FINAL SHAPING HAS OCCURRED THE CONTRACTOR SHALL PROVIDE FINAL REHABILITATION WITHIN 7 DAYS.

SEDIMENT CONTROL MEASURES

- SC1 DURING EARTHWORKS,CARPARK WORKS, ROADWORKS, TEMPORARY DIVERSION BANKS SHOULD BE CONSTRUCTED TO LIMIT SLOPE LENGTH, WHERE POSSIBLE, IN ACCORDANCE WITH THE FOLLOWING:
- | RECOMMENDED MAXIMUM SPACING BETWEEN CROSS BANKS ON ALL ROADS. | | | |
|---|---------------------|--|--|
| SLOPE | MAXIMUM SPACING (m) | | |
| 0 TO 1% | 150 | | |
| 1 TO 3% | 100 | | |
| 3 TO 5% | 70 | | |
| 5 TO 10% | 50 | | |
| 10 TO 17% | 16 | | |
- SC2 ALL STORMWATER PITS TO BE COVERED OR DROP INLET SEDIMENT TRAPS PROVIDED IN ACCORDANCE WITH DRAWING No. MSC-ARP-CV-DG-4011 KERB INLET SEDIMENT TRAPS ARE TO BE INSTALLED AFTER COMPLETION OF PAVING.
- SC3 SEDIMENT TRAPS ARE TO BE MAINTAINED SUCH THAT:
- (A) SEDIMENT IS REMOVED SUCH THAT NO LESS THAN 70% OF THE DESIGN CAPACITY REMAINS AT ANY ONE TIME.
- (B) MATERIALS ARE REPLACED OR REPAIRED AS REQUIRED TO ENSURE SERVICEABILITY OF BOTH THE ELEMENT AND THE TRAP.

- SC4 PERMANENT DRAINAGE STRUCTURES INCLUDING: PIPES, PITS ARE TO BE HANDED OVER IN A CLEAN CONDITION AT THE COMPLETION OF THE CONTRACT MAINTENANCE PERIOD.
- SC5 FOLLOWING COMPLETION AND RESTORATION OF SITE. REMOVE ALL MATERIALS AND FILL DIVERSION DRAINS, WATERWAYS AND SEDIMENT TRAPS COMPACT IN ACCORDANCE WITH SPECIFICATION. TO MATCH LEVELS OF THE PREVIOUSLY COMPLETED WORKS. PROVIDE 150mm TOPSOIL AND HYDROSEED.
- SC6 ALL TREES OTHER THAN THOSE IDENTIFIED FOR REMOVAL SHALL BE RETAINED UNLESS APPROVED FOR REMOVAL BY SUPERINTENDENT.
- SC7 STRIP TOPSOIL OVER THE SITE TO AN AVERAGE DEPTH OF 100mm UNLESS OTHERWISE APPROVED BY THE SUPERINTENDENT. TOP SOIL STOCKPILES SHALL NOT EXCEED 2m IN HEIGHT AND BATTER SLOPES TO BE 3H:1V MAXIMUM.
- SC8 AN ACCESS POINT TO ALLOW MACHINE ENTRY / EXIT ARE TO INCLUDE A ROUNDED EARTH MOUND 0.3m HIGH WITH 10H:1V BATTERS.
- SC9 "NO TRAFFIC AREA" TO BE ENCLOSED WITH " BARRICADE WEBBING" FENCE TO MAINTAIN EXISTING PASTURE DOWNSLOPE FROM SEDIMENT CONTROL - LEVEL SPREADER. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR DISTURB ANY AREAS OUTSIDE THE CATCHMENT AREA.
- SC10 THE CONTRACTOR SHALL PROVIDE A 0.4m WIDE TURF STRIP BEHIND ALL KERB AND GUTTER AT COMPLETION OF FOOTPATH FORMATION AND 1.0m WIDE AROUND ALL SURFACE INLET PITS.
- SC11 THE CONTRACTOR SHALL MAINTAIN A LOG BOOK DETAILING
- RECORDS OF ALL RAINFALL
- CONDITION OF SOIL AND WATER MANAGEMENT STRUCTURES
- ANY ADDITIONAL REMEDIAL WORKS REQUIRED
THE LOG BOOK SHALL BE MAINTAINED ON A DAILY BASIS AND BE MADE AVAILABLE TO ANY AUTHORISED PERSON UPON REQUEST. THE ORIGINAL LOG BOOK SHALL BE ISSUED TO THE PROJECT MANAGER AT THE COMPLETION OF THE WORKS.
- SC12 THE CONTRACTOR SHALL AT ALL TIMES RESTRICT CONSTRUCTION EQUIPMENT MOVEMENT TO THE ESSENTIAL CONSTRUCTION AREAS. THE CONTRACTOR SHALL NOT EXTEND LAND DISTURBANCE BEYOND 2m FROM THE EDGE OF ANY ESSENTIAL CONSTRUCTION ACTIVITY.
- SC13 THE CONTRACTOR SHALL PROVIDE CATCH DRAINS AT THE BOTTOM OF ALL BATTERS AND DIVERT THE CATCH DRAINS AND ANY TAIL OUT DRAINS TO DRAIN TO THE NEAREST STORMWATER PIT.

EARTHWORKS

- EW1 EARTHWORKS TO BE CARRIED OUT TO THE SATISFACTION OF THE SUPERINTENDENT. UNSOUND MATERIALS NOT IN ACCORDANCE WITH THE SPECIFICATION ARE TO BE REMOVED FROM ROADS AND BUILDING AREAS PRIOR TO FILLING. ALL TESTING OF EARTHWORKS SHALL BE UNDERTAKEN BY THE PRINCIPAL APPOINTED GEOTECHNICAL TESTING AUTHORITY.
- EW2 WHERE THE SLOPE OF THE NATURAL SURFACE EXCEEDS ONE IN FOUR (1:4), BENCHES ARE TO BE CUT TO PREVENT SLIPPING OF THE PLACED FILL MATERIAL AS REQUIRED BY THE SUPERINTENDENT.
- EW3 THE CONTROL TESTING OF EARTHWORKS BY THE PRINCIPAL APPOINTED GEOTECHNICAL TESTING AUTHORITY SHALL BE IN ACCORDANCE WITH THE GUIDELINES IN AS 3798-2007 WHERE IT IS PROPOSED TO USE TEST METHOD AS 1289.5.8.1-2007 TO DETERMINE THE FIELD DENSITY OF SOIL, A NUCLEAR SURFACE MOISTURE-DENSITY GAUGE IN THE DIRECT TRANSMISSION MODE OF OPERATION SHALL BE USED TO CONFIRM THE RESULTS, AS DIRECTED BY THE SUPERINTENDENT. THE GEOTECHNICAL TESTING AUTHORITY SHALL HAVE A LEVEL 2 RESPONSIBILITY AS DEFINED IN SECTION 8.3 AS 3798-2007, AND AT THE END OF THE WORKS SHALL CERTIFY IN A WRITTEN REPORT THAT THE EARTHWORKS COMPLY WITH THE REQUIREMENTS OF THE SPECIFICATION AND DRAWINGS.
- EW4 AN AREA CLASSIFICATION REPORT IN ACCORDANCE WITH AS 2870-2011 AND CERTIFIED BY THE GEOTECHNICAL TESTING AUTHORITY, SHALL BE PROVIDED BY THE PRINCIPAL'S APPOINTED GEOTECHNICAL TESTING AUTHORITY PRIOR TO THE RELEASE OF THE AREA FOR BUILDING.
- EW5 ALL TOPSOIL TO BE STRIPPED AND STOCKPILED ONSITE FOR LATER USE.
- EW6 ALL SPOIL TO BE DISPOSED OF OFF SITE TO AN APPROVED DISPOSAL SITE.
- EW7 AT THE TOP OF ALL EXCAVATED BATTERS OVER 1.5m HIGH PROVIDE A BARRIER FENCE.

ROADWORKS GENERAL

- G1 THE CONTRACTOR SHALL OBTAIN ALL LEVELS FROM ESTABLISHED BENCH MARKS ONLY AS SUPPLIED BY THE APPOINTED SURVEYORS.
- G2 SERVICES SHOWN ON THESE PLANS ARE LOCATED FROM INFORMATION SUPPLIED BY THE RELEVANT AUTHORITIES AND FIELD INVESTIGATIONS AND ARE NOT GUARANTEED COMPLETE OR CORRECT. ALL SERVICE LOCATIONS ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- G3 ALL REMOVING, DIVERSION AND PROTECTION WORKS RELATED TO EXISTING SERVICES NEED TO BE VERIFIED AND APPROVED BY RELATIVE AUTHORITIES.
- G4 NO WORK TO BE CARRIED OUT ON ADJOINING PROPERTIES WITHOUT THE WRITTEN PERMISSION FROM THE OWNER.
- G5 VEHICULAR ACCESS AND ALL SERVICES ARE TO BE MAINTAINED AT ALL TIMES TO AREAS AFFECTED BY CONSTRUCTION.
- G6 ALL RUBBISH, BUILDINGS, SHEDS, FENCES, AND POWER POLES ARE TO BE REMOVED IN ACCORDANCE WITH THE SPECIFICATION.
- G7 NO TREES TO BE REMOVED OTHER THAN THOSE AFFECTED BY THE WORKS. ALL DEAD TREES SHALL BE REMOVED.

ROADWORKS

- R1 PAVEMENT DEPTHS SHOWN ON CROSS SECTIONS ARE FOR DESIGN PURPOSE ONLY. ALL DEPTHS TO BE CONFIRMED FOLLOWING INSITU SUBGRADE CBR TESTING DURING CONSTRUCTION.
- R2 SUBGRADE, SUBBASE AND BASE COURSES ARE TO BE COMPACTED TO THE REQUIREMENTS OF THE GEOTECHNICAL REPORT.

- R3 GUTTER SLOTS ARE TO BE PROVIDED AT REGULAR INTERVALS AND AT PITS (ONLY WHERE TEMPORARY SEAL FINISHES BELOW LIP OF GUTTER).
- R4 SUBSOIL DRAINS TO BE CONSTRUCTED AT BACK OF ALL KERBS LOCATED IN CUT AND ON THE HIGH SIDE OF ALL ROADS, AS SHOWN ON DRAWINGS OR AS DIRECTED BY THE SUPERINTENDENT.
- R5 SUBSOIL FLUSHING POINTS TO BE CONSTRUCTED IN ACCORDANCE WITH PCC STD DRG No. DS33 REQUIREMENTS AND TO BE LOCATED AS DIRECTED.
- R6 PROPOSED SERVICES CROSSING EXISTING ROADS SHALL BE THRUST BORED UNDER THE ROAD SO AS NOT TO DAMAGE THE EXISTING SURFACE.
- R7 SERVICES CONDUITS TO BE PLACED AS DIRECTED FOR ENDEAVOR ENERGY, NBN CO, JEMENA AND AS REQUIRED BY THE SYDNEY WATER CORPORATION AND IDENTIFIED AT EACH KERB CROSSING WITH A BRASS KERB MARKER NOTING EACH SERVICE TYPE.
- R8 ALL BATTERS ARE TO BE SCARIFIED TO ASSIST WITH ADHESION OF TOPSOIL TO BATTER FACE IN ACCORDANCE WITH THE SPECIFICATION.
- R9 PROVIDE 150mm TOPSOIL WITH GRASS COUCH TURF ON FOOTWAYS AND ALL OTHER AREAS DISTURBED DURING CONSTRUCTION. A 0.4m WIDE, CONTINUOUS STRIP OF COUCH GRASS SHALL BE PLACED BEHIND THE BACK OF ALL KERBS IMMEDIATELY AFTER THE COMPLETION OF THE FOOTPATH GRADING, MAINTAINED AND REPLACED AS REQUIRED DURING THE MAINTENANCE PERIOD.
- R10 MODIFY KERB FOR FUTURE FOOTPATH CROSSINGS IN ACCORDANCE WITH PCC STD DRG No DS4 WHERE FUTURE FOOTPATHS ARE SHOWN.
- R11 IN 150mm KERB & GUTTER ONLY MODIFY KERB FOR FUTURE VEHICULAR CROSSING WITH A LAYBACK WIDTH OF 4.5m TO SUIT 3.5m DRIVEWAY. VEHICULAR CROSSING TO BE IN ACCORDANCE WITH PCC STD DRG No DS1 WHERE SHOWN ONLY.
- R12 ALL VEHICULAR CROSSINGS TO BE LOCATED MINIMUM 1.0m OFF SIDE BOUNDARIES. LAYBACK TO HAVE A MINIMUM 1.0m CLEARANCE FROM POWER AND LIGHT POLES, STORMWATER DRAINAGE PITS AND 6.0m CLEARANCE FROM KERB RETURN TANGENT POINTS.
- R13 TRANSITION KERB FROM KO TO K&G AT KERB RETURN T.P OVER A LENGTH OF 1m.
- R14 ALL EXISTING STRUCTURES, SERVICES AND UTILITIES ARE TO BE LOCATED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS. THE LOCATION OF EXISTING SERVICES SHOWN ON PLANS ARE INDICATIVE ONLY AND ARE NOT GUARANTEED TO BE COMPLETE OR CORRECT. THE RESPONSIBILITY FOR LOCATING, AVOIDANCE AND WHERE NECESSARY, TEMPORARY PROTECTION OF THESE EXISTING SERVICES IS THAT OF THE CONTRACTOR. ANY DAMAGE TO EXISTING STRUCTURES, SERVICES AND UTILITIES IS TO BE REPORTED TO THE SUPERINTENDENT IMMEDIATELY.

DRAINAGE

- D1 ALL KERB INLETS PITS (ON GRADE) TO BE BENCHED AND STREAMLINED, PITS OVER 1.2m IN DEPTH TO BE PROVIDED WITH STEP IRONS AND REINFORCED IN ACCORDANCE WITH PARRAMATTA CITY COUNCIL STD DRG No DS21.
- D2 CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 32MPa AT 28 DAYS U.N.O.
- D3 ALL GRATED SAG PITS TO BE IN ACCORDANCE WITH PARRAMATTA CITY COUNCIL DRG No DS24.
- D4 LINTEL LENGTH SHOWN ON SECTIONS INDICATES LENGTH OF CLEAR OPENING.
- D5 ALL STANDARD SURCHARGE PITS TO BE IN ACCORDANCE WITH PARRAMATTA CITY COUNCIL STD DRG No DS23.
- D6 ALL SURFACE INLET PITS TO BE IN ACCORDANCE WITH PARRAMATTA CITY COUNCIL STD DRG No DS25.
- D7 ALL STORMWATER DRAINAGE JUNCTION PITS TO BE IN ACCORDANCE WITH PARRAMATTA CITY COUNCIL STD DRG No DS26.
- D8 ALL LONGITUDINAL PIPELINES IN ROADS ARE TO BE LOCATED UNDER KERBS AND GUTTERS AND TO BE BACKFILLED WITH WASHED RIVER SAND, A 3.0 m LENGTH OF SUBSOIL DRAIN WRAPPED IN GEOFABRIC IS TO BE PROVIDED TO THE UPSTREAM SIDE OF PITS ON ALL INCOMING LINES UNLESS NOTED OTHERWISE.
- D9 ALL REINFORCED CONCRETE PIPES (RCP) OR FIBRE REINFORCED CONCRETE PIPES (FRCP) TO BE CLASS 4 RUBBER RING JOINTED (RRJ) UNLESS NOTED OTHERWISE.
- D10 PRIOR TO THE FINAL INSPECTION A CCTV INSPECTION AND REPORT IS TO BE UNDERTAKEN FOR ALL STORMWATER PIPES AND CULVERTS THAT ARE PART OF THE DRAINAGE SYSTEM.
- D11 STRUCTURAL CERTIFICATION IS REQUIRED FOR CONSTRUCTION OF MAJOR AND NON STANDARD STORMWATER DRAINAGE STRUCTURES. THE CONTRACTOR TO ARRANGE FOR A HOLD POINT FOR CONSTRUCTION INSPECTIONS WITH A SUITABLY QUALIFIED ENGINEER AS APPOINTED BY THE PRINCIPAL TO PROVIDE IN WRITING STRUCTURAL CERTIFICATE AT COMPLETION OF WORKS.
- D12 SUBSOIL DRAINS TO BE PROVIDED UNDER ALL KERBS WITHOUT DRAINLINES BELOW IN ACCORDANCE WITH PARRAMATTA CITY COUNCIL STD DRG No DS33.
- D13 FOR EXISTING DRAINAGE TO BE DEMOLISHED REFER DRAWING No. MSC-ARP-CV-DG-4100 TO 4103.

DEMOLITION

- DW1 ALL DEMOLITION WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH REQUIREMENTS OF AUSTRALIAN STANDARDS AS2601 - 1991 - THE DEMOLITION OF STRUCTURES.

- DW2 HAZARDOUS MATERIALS (INCLUDING ASBESTOS) ARE TO BE HANDLED, STORED, TREATED, TRANSPORTED AND DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF THE WORK HEALTH & SAFETY ACT 2011 AND ANY RELEVANT REQUIREMENTS OF THE WORK COVER AUTHORITY OF NSW.
- DW3 ALL DEMOLITION WORKS FOR MULTI STOREY CARPARK TO BE IN ACCORDANCE WITH THE STRUCTURAL ENGINEER'S REQUIREMENTS.

ASBESTOS

- AM1 CONTAMINATE MATERIALS ARE KNOWN TO EXIST ON SITE, REFER CONTAMINATION REPORT.
- AM2 A REMEDIATION ACTION PLAN HAS BEEN PREPARED FOR THIS SITE. THE CONTRACTOR IS TO ATTEND TO ALL ISSUES IN THE THE REMEDIATION ACTION PLAN BEFORE COMMENCING ANY DEMOLITION OR CONSTRUCTION WORKS.
- AM3 ALL AIR MONITORING EQUIPMENT TO BE IN PLACE PRIOR TO COMMENCING ANY DEMOLITION OR CONSTRUCTION WORKS.

REV	DESCRIPTION	DRAWN	CHECK	DATE
1	ISSUE FOR R/D REVIEW	ADC	KJS	18/11/2015
2	ISSUE FOR TENDER	ADC	KJS	26/11/15
3	ISSUE FOR TENDER	ADC	KJS	15/01/2016

FOR TENDER NOT FOR CONSTRUCTION

CLIENT:

NSW HEALTH
INFRASTRUCTURE



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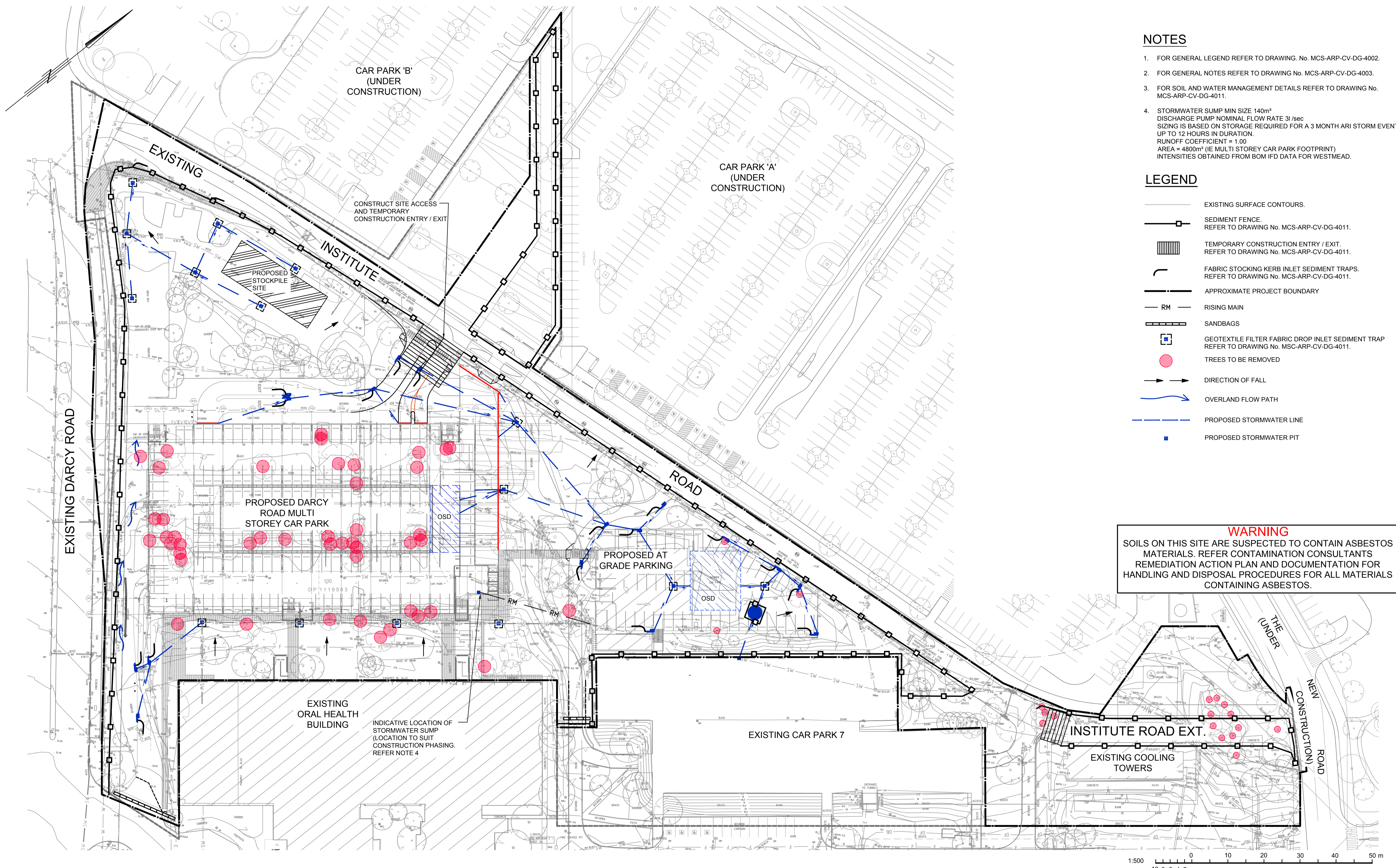
Member Firm
Arup Pty Ltd
ABN 18 000 966 165

DARCY ROAD MULTI STOREY CAR PARK
Cnr Institute Road and Darcy Road
Westmead NSW 2145



DRAWING TITLE
GENERAL NOTES

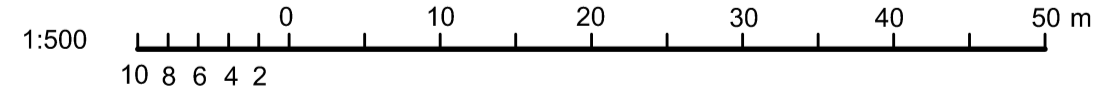
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N.T.S.	5335	KJS
PROJECT NUMBER:	DRAWING NUMBER:	ISSUE:
236482	MSC-ARP-CV-DG-4003	3



- ### NOTES
- FOR GENERAL LEGEND REFER TO DRAWING No. MCS-ARP-CV-DG-4002.
 - FOR GENERAL NOTES REFER TO DRAWING No. MCS-ARP-CV-DG-4003.
 - FOR SOIL AND WATER MANAGEMENT DETAILS REFER TO DRAWING No. MCS-ARP-CV-DG-4011.
 - STORMWATER SUMP MIN SIZE 140m³
DISCHARGE PUMP NOMINAL FLOW RATE 3l/sec
SIZING IS BASED ON STORAGE REQUIRED FOR A 3 MONTH ARI STORM EVENT UP TO 12 HOURS IN DURATION.
RUNOFF COEFFICIENT = 1.00
AREA = 4800m² (IE MULTI STOREY CAR PARK FOOTPRINT)
INTENSITIES OBTAINED FROM BOM IFD DATA FOR WESTMEAD.

- ### LEGEND
- EXISTING SURFACE CONTOURS.
 - SEDIMENT FENCE. REFER TO DRAWING No. MCS-ARP-CV-DG-4011.
 - TEMPORARY CONSTRUCTION ENTRY / EXIT. REFER TO DRAWING No. MCS-ARP-CV-DG-4011.
 - FABRIC STOCKING KERB INLET SEDIMENT TRAPS. REFER TO DRAWING No. MCS-ARP-CV-DG-4011.
 - APPROXIMATE PROJECT BOUNDARY
 - RM RISING MAIN
 - SANDBAGS
 - GEOTEXTILE FILTER FABRIC DROP INLET SEDIMENT TRAP REFER TO DRAWING No. MCS-ARP-CV-DG-4011.
 - TREES TO BE REMOVED
 - DIRECTION OF FALL
 - OVERLAND FLOW PATH
 - PROPOSED STORMWATER LINE
 - PROPOSED STORMWATER PIT

WARNING
SOILS ON THIS SITE ARE SUSPECTED TO CONTAIN ASBESTOS MATERIALS. REFER CONTAMINATION CONSULTANTS REMEDIATION ACTION PLAN AND DOCUMENTATION FOR HANDLING AND DISPOSAL PROCEDURES FOR ALL MATERIALS CONTAINING ASBESTOS.



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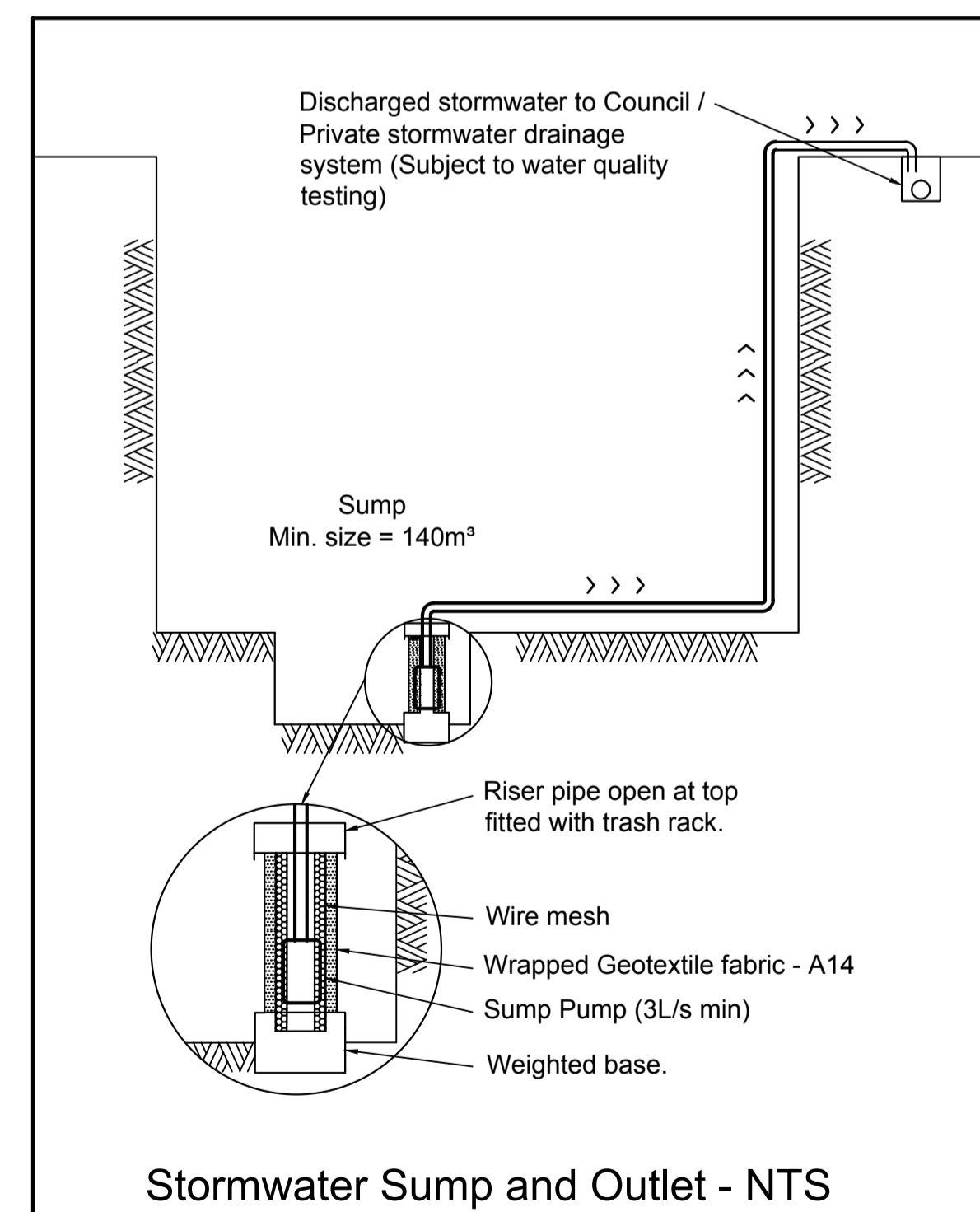
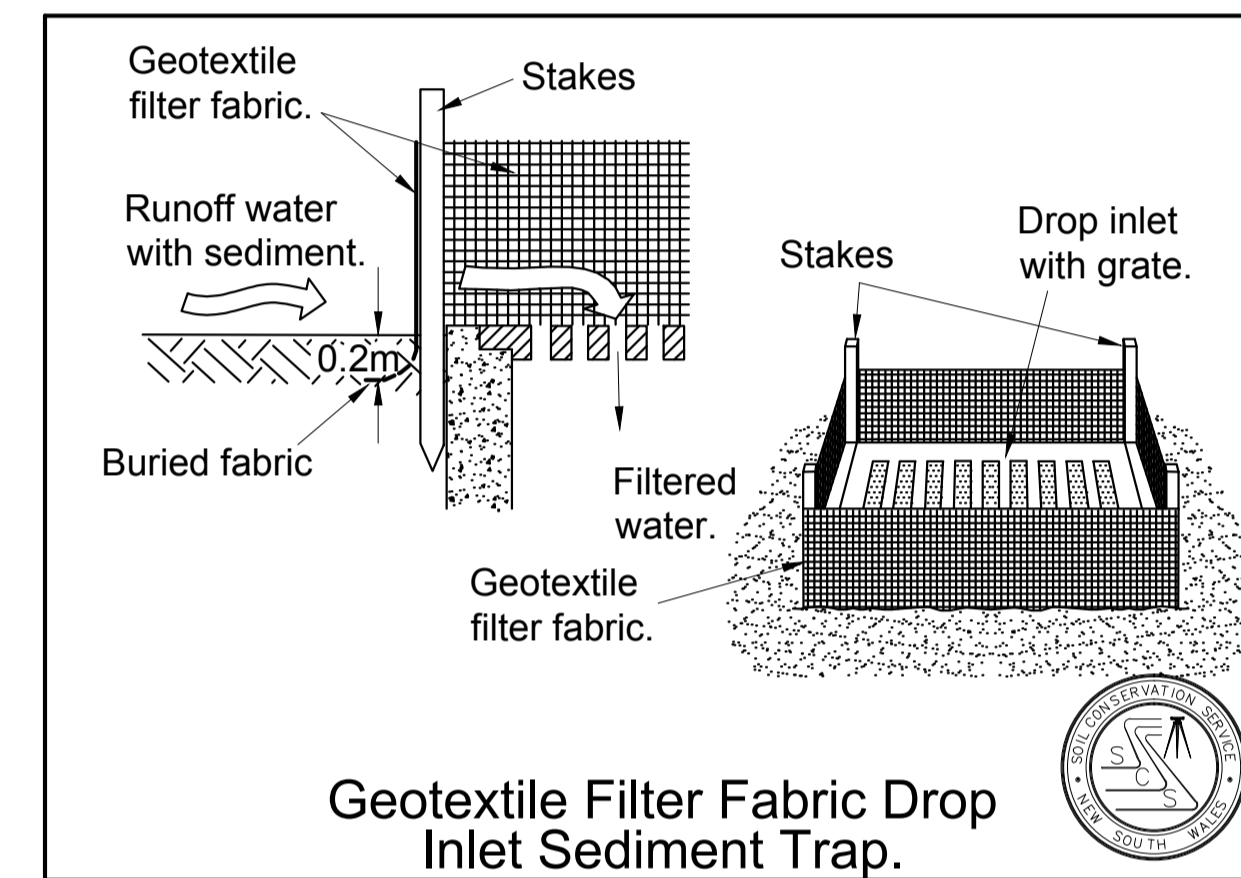
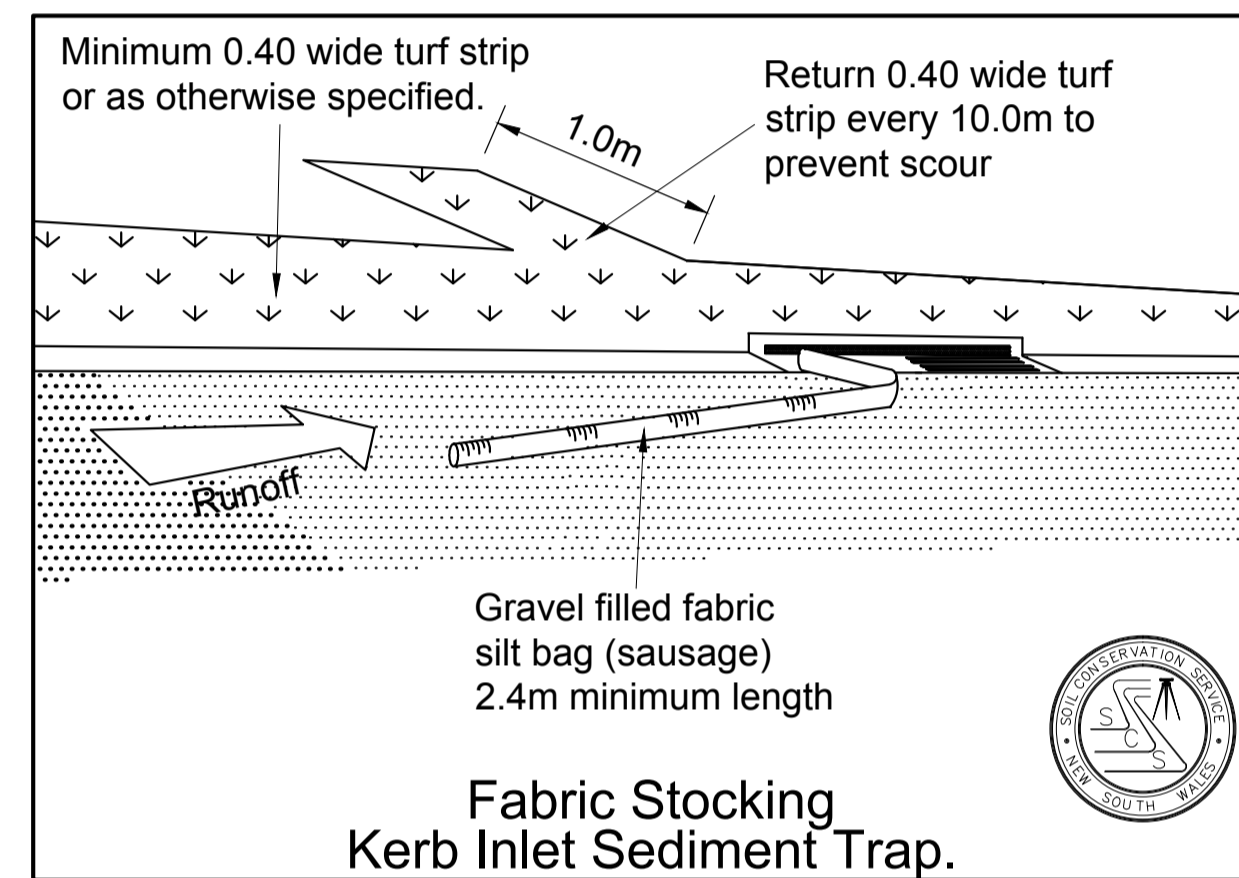
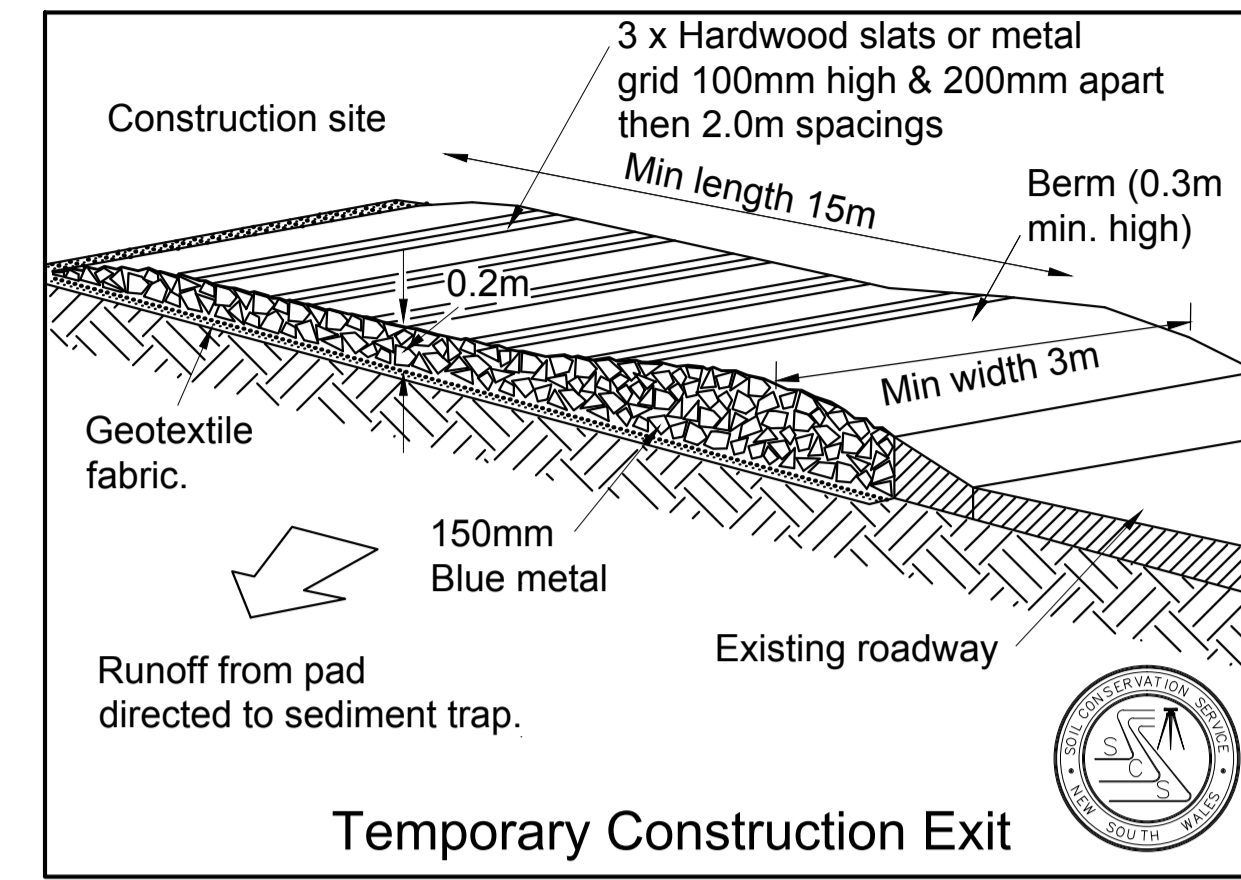
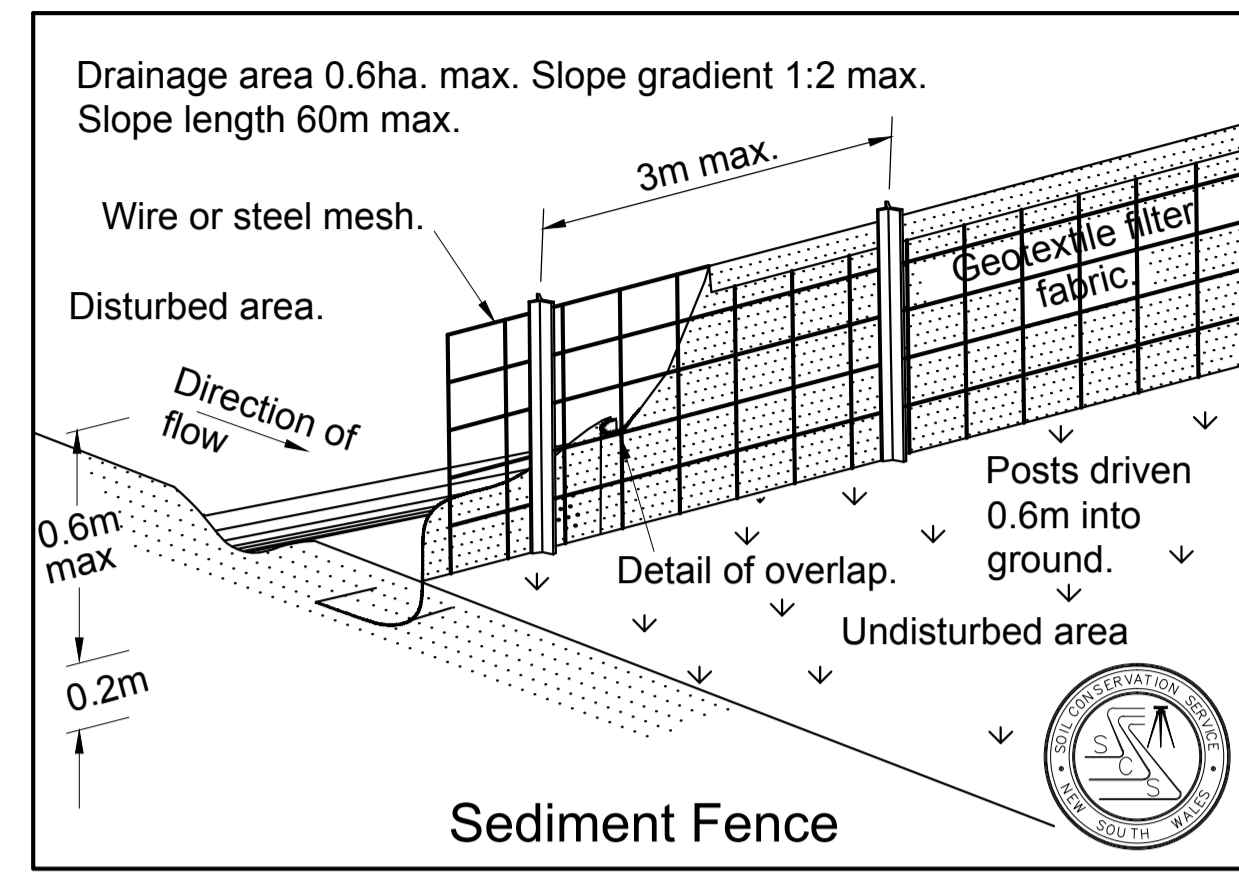
DARCYS ROAD MULTI STOREY CAR PARK
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DRAWING TITLE:
SOIL AND WATER MANAGEMENT PLAN

SCALE: 1:500
DHR# NUMBER: **5335**
PROJECT NUMBER: **236482**
DRAWING NUMBER: **MSC-ARP-CV-DG-4010**
ISSUE: **3**

CHECKED: KJS
ISSUE:



REV	DESCRIPTION	DRAWN	CHECK	DATE
1	ISSUE FOR R/D REVIEW	ADC	KJS	18/11/2015
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3	ISSUE FOR TENDER	ADC	KJS	15/01/2016

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DRAWING TITLE:
SOIL AND WATER MANAGEMENT DETAILS

SCALE: AS SHOWN DHRIS NUMBER: **5335** CHECKED: KJS

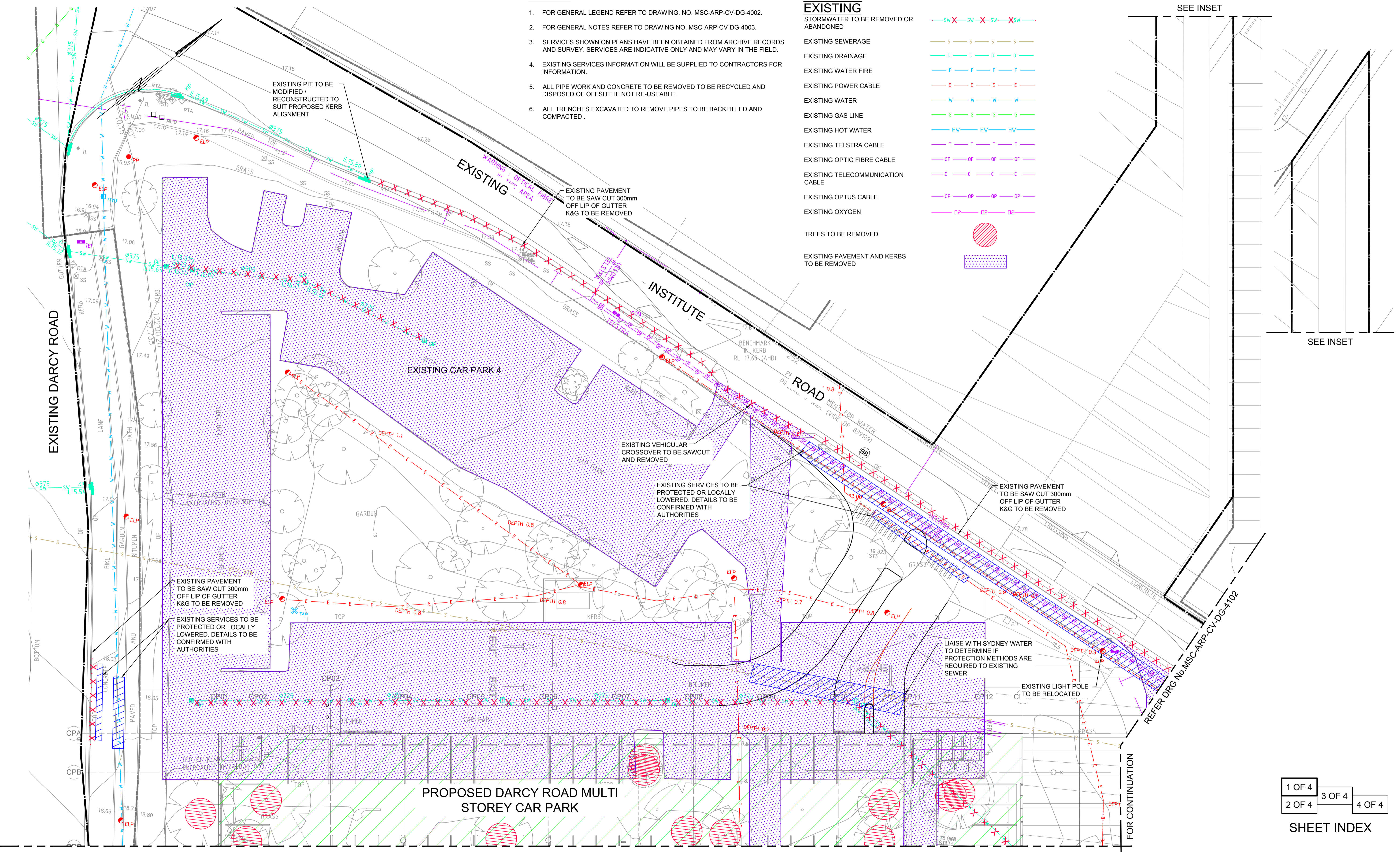
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NOTES

- FOR GENERAL LEGEND REFER TO DRAWING NO. MSC-ARP-CV-DG-4002.
- FOR GENERAL NOTES REFER TO DRAWING NO. MSC-ARP-CV-DG-4003.
- SERVICES SHOWN ON PLANS HAVE BEEN OBTAINED FROM ARCHIVE RECORDS AND SURVEY. SERVICES ARE INDICATIVE ONLY AND MAY VARY IN THE FIELD.
- EXISTING SERVICES INFORMATION WILL BE SUPPLIED TO CONTRACTORS FOR INFORMATION.
- ALL PIPE WORK AND CONCRETE TO BE REMOVED TO BE RECYCLED AND DISPOSED OF OFFSITE IF NOT RE-USEABLE.
- ALL TRENCHES EXCAVATED TO REMOVE PIPES TO BE BACKFILLED AND COMPACTED.

LEGEND - EXISTING

- STORMWATER TO BE REMOVED OR ABANDONED
- EXISTING SEWERAGE
- EXISTING DRAINAGE
- EXISTING WATER FIRE
- EXISTING POWER CABLE
- EXISTING WATER
- EXISTING GAS LINE
- EXISTING HOT WATER
- EXISTING TELSTRA CABLE
- EXISTING OPTIC FIBRE CABLE
- EXISTING TELECOMMUNICATION CABLE
- EXISTING OPTUS CABLE
- EXISTING OXYGEN
- TREES TO BE REMOVED
- EXISTING PAVEMENT AND KERBS TO BE REMOVED

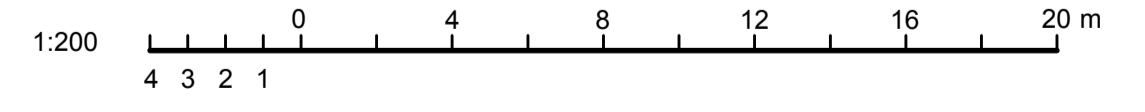


SEE INSET

SEE INSET

1 OF 4	3 OF 4	4 OF 4
2 OF 4		

SHEET INDEX



REV	DESCRIPTION	DRAWN	CHECK	DATE
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DRAWING TITLE:
DEMOLITION PLAN SHEET 1 OF 4

SCALE: 1:200
DHRIS NUMBER: **5335**
PROJECT NUMBER: **236482**
DRAWING NUMBER: **MSC-ARP-CV-DG-4100**

CHECKED: KJS
ISSUE: 3

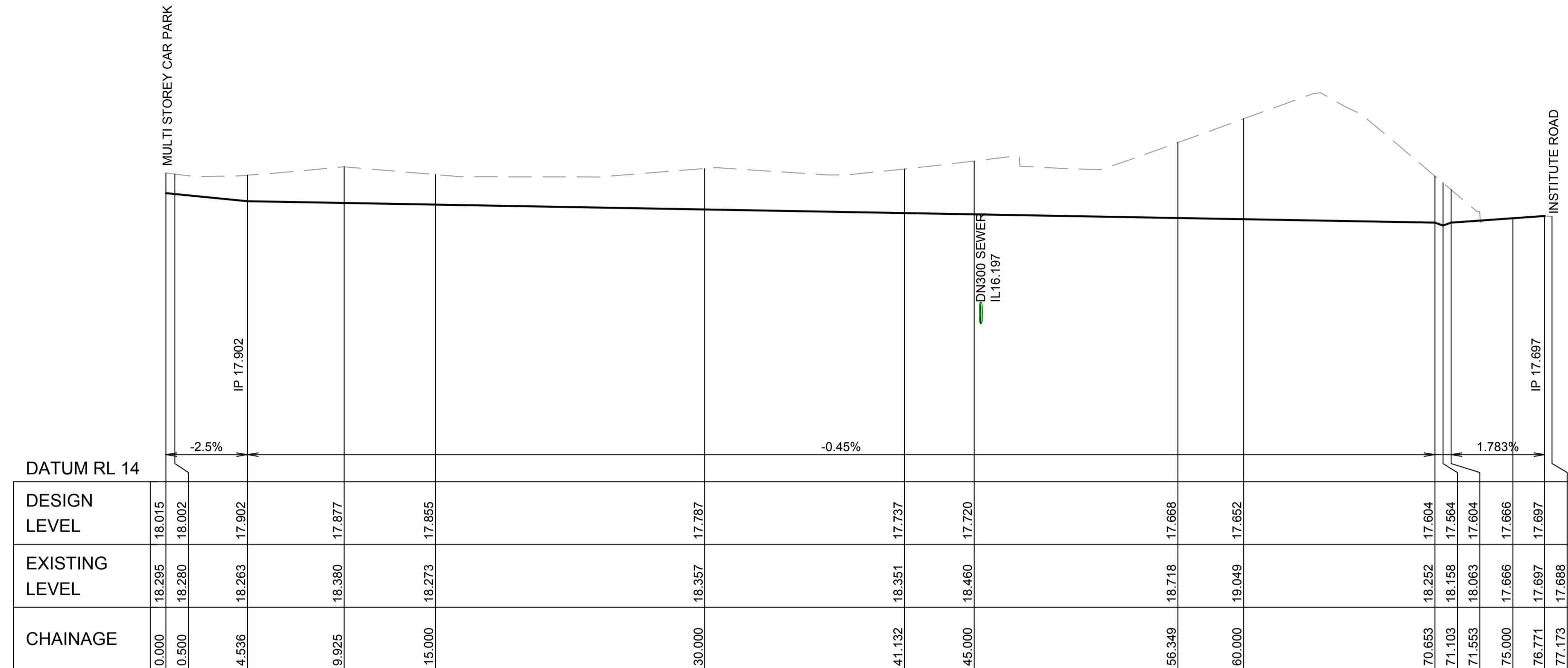
Appendix D Civil drawings

Prepared by ARUP

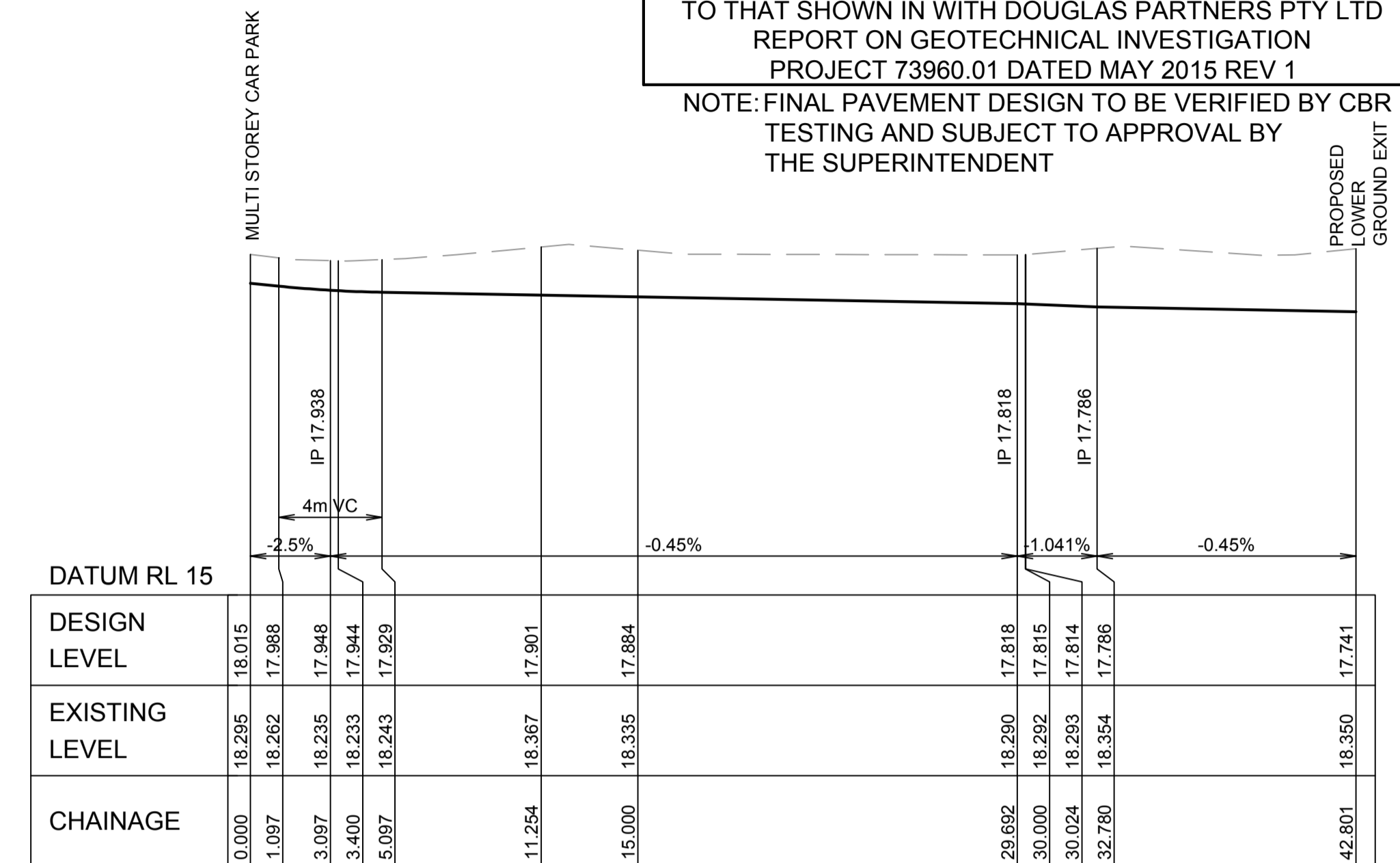
January 2016

**PAVEMENT DETAILS
CAR PARK ENTRY/EXIT**

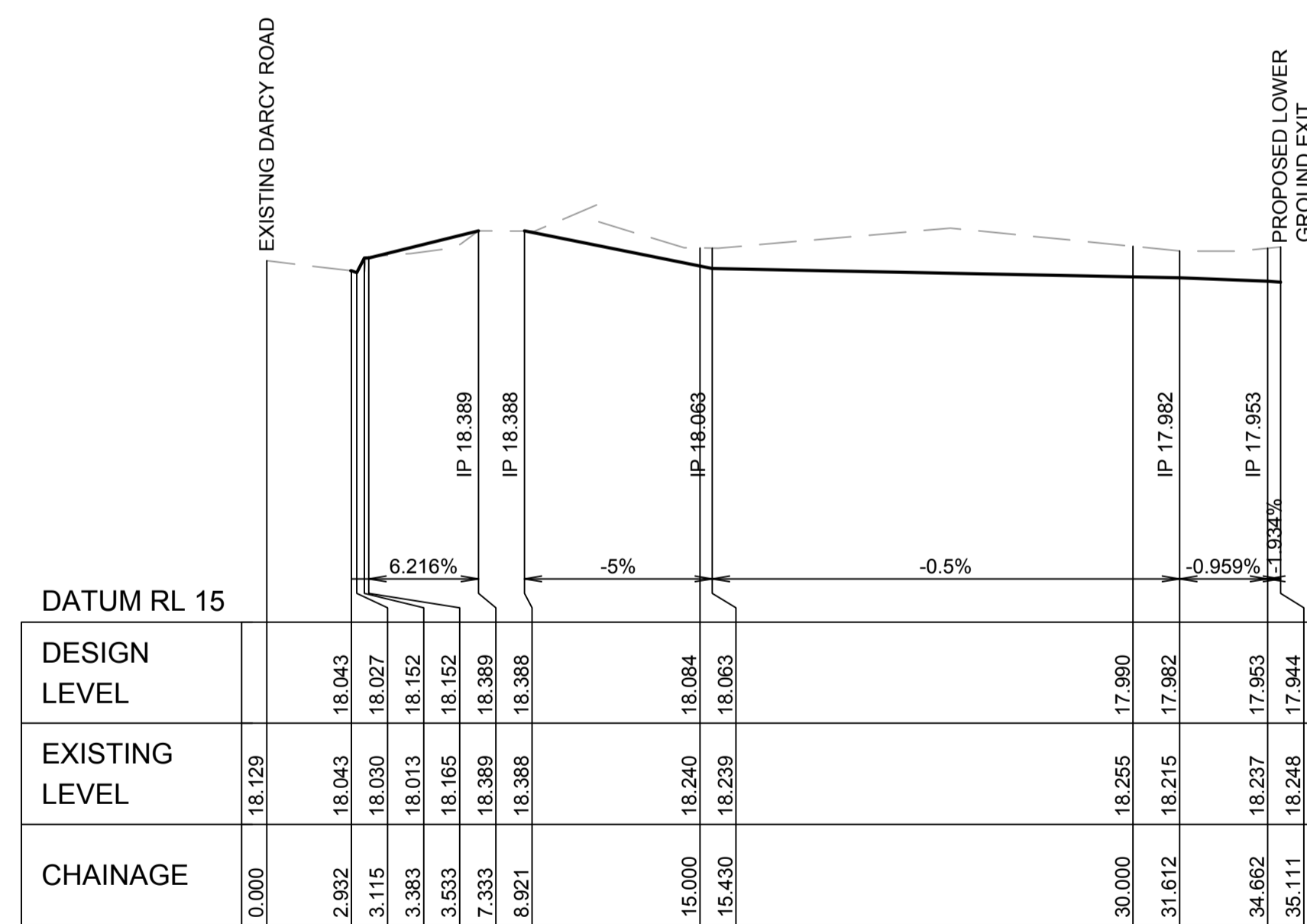
1. 50mm AC14
 2. 200mm BASE COURSE DGB20 TO RMS SPECIFICATION 3051
 3. 300mm SELECT SUB-GRADE WITH CBR ≥ 20% MINIMUM
PREPARED AS PER S11.1 OF THE DOUGLAS PARTNER'S REPORT
 4. GEOTEXTILE
 5. UNTREATED SUBGRADE
- DUE TO NO LOCATION SPECIFIC GEOTECHNICAL INFORMATION THE PAVEMENT DESIGN IS ASSUMED SIMILAR TO THAT SHOWN IN WITH DOUGLAS PARTNERS PTY LTD REPORT ON GEOTECHNICAL INVESTIGATION PROJECT 73960.01 DATED MAY 2015 REV 1
- NOTE: FINAL PAVEMENT DESIGN TO BE VERIFIED BY CBR TESTING AND SUBJECT TO APPROVAL BY THE SUPERINTENDENT



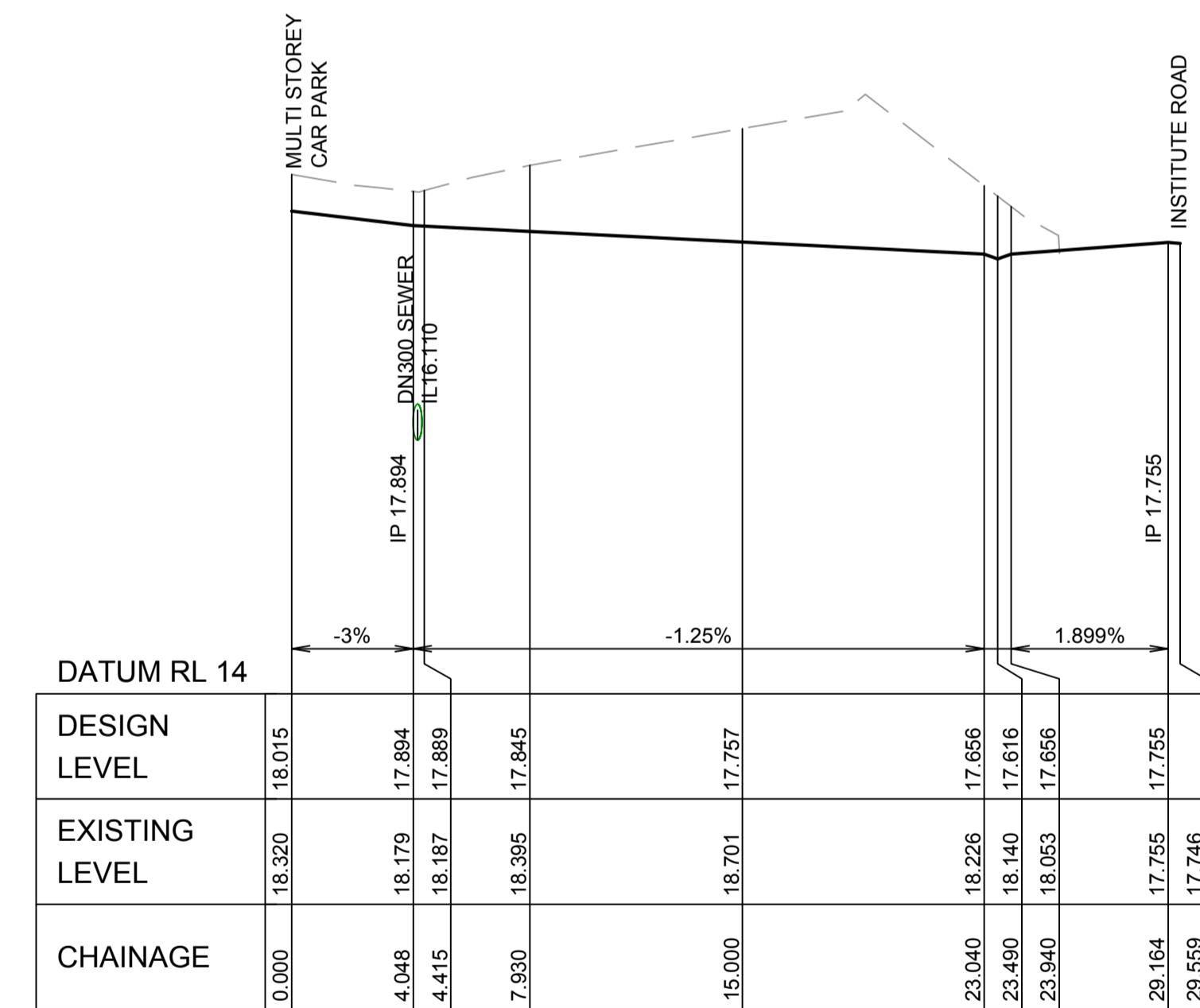
**CARPARK EXIT ROAD (MC00)
LONGITUDINAL SECTION**
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:50



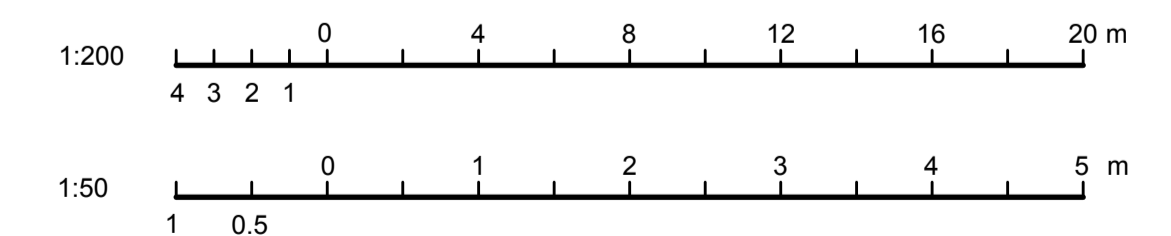
**CARPARK EXIT ROAD (MC01)
LONGITUDINAL SECTION**
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:50



**FIRE BRIGADE ACCESS (MC02)
LONGITUDINAL SECTION**
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:50



**CARPARK ENTRY ROAD (MC03)
LONGITUDINAL SECTION**
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:50



REV	DESCRIPTION	DRAWN	CHECK	DATE
1	ISSUE FOR R/D REVIEW	ADC	KJS	18/11/2015
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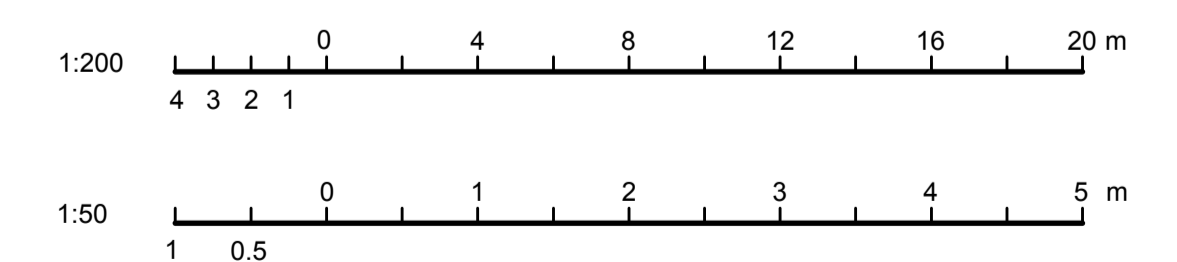
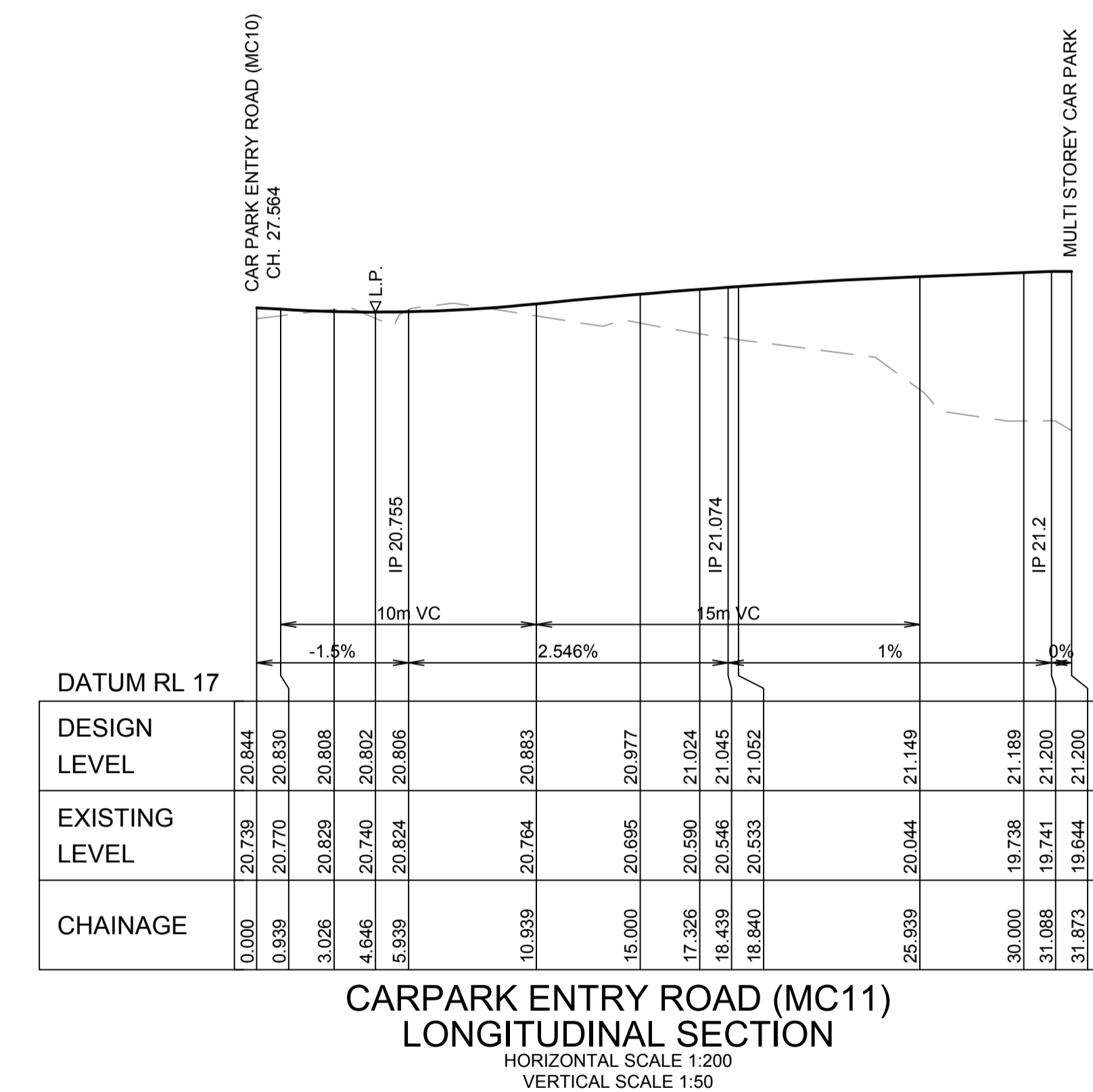
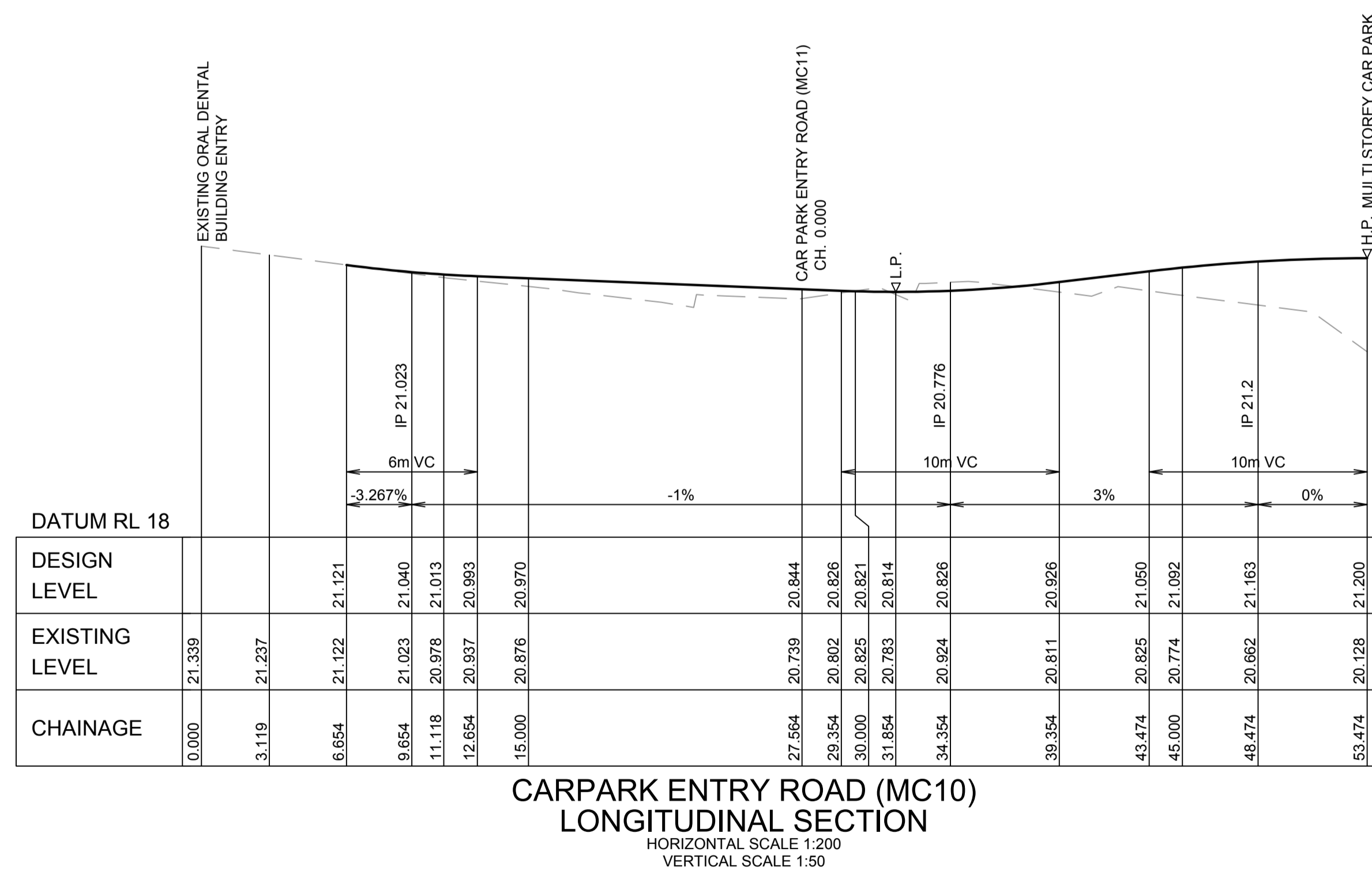
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**ROADWORKS
CAR PARK ENTRY/EXIT
LONGITUDINAL SECTIONS
SHEET 1 OF 2**

SCALE: 1:200
DHR# NUMBER: **5335**
CHECKED: KJS

PROJECT NUMBER: **236482** DRAWING NUMBER: **MSC-ARP-CV-DG-4210** ISSUE: **3**

PAVEMENT DETAILS CAR PARK ENTRY

1. 50mm AC14
 2. 200mm BASE COURSE DGB20 TO RMS SPECIFICATION 3051
 3. 300mm SELECT SUB-GRADE WITH CBR ≥ 20% MINIMUM
PREPARED AS PER S11.1 OF THE DOUGLAS PARTNER'S REPORT
 4. GEOTEXTILE
 5. UNTREATED SUBGRADE
- DUE TO NO LOCATION SPECIFIC GEOTECHNICAL INFORMATION THE PAVEMENT DESIGN IS ASSUMED SIMILAR TO THAT SHOWN IN WITH DOUGLAS PARTNERS PTY LTD REPORT ON GEOTECHNICAL INVESTIGATION PROJECT 73960.01 DATED MAY 2015 REV 1
- NOTE: FINAL PAVEMENT DESIGN TO BE VERIFIED BY CBR TESTING AND SUBJECT TO APPROVAL BY THE SUPERINTENDENT



REV	DESCRIPTION	DRAWN	CHECK	DATE
1	ISSUE FOR R/D REVIEW	ADC	KJS	18/11/2015
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3	ISSUE FOR TENDER	ADC	KJS	15/01/2016

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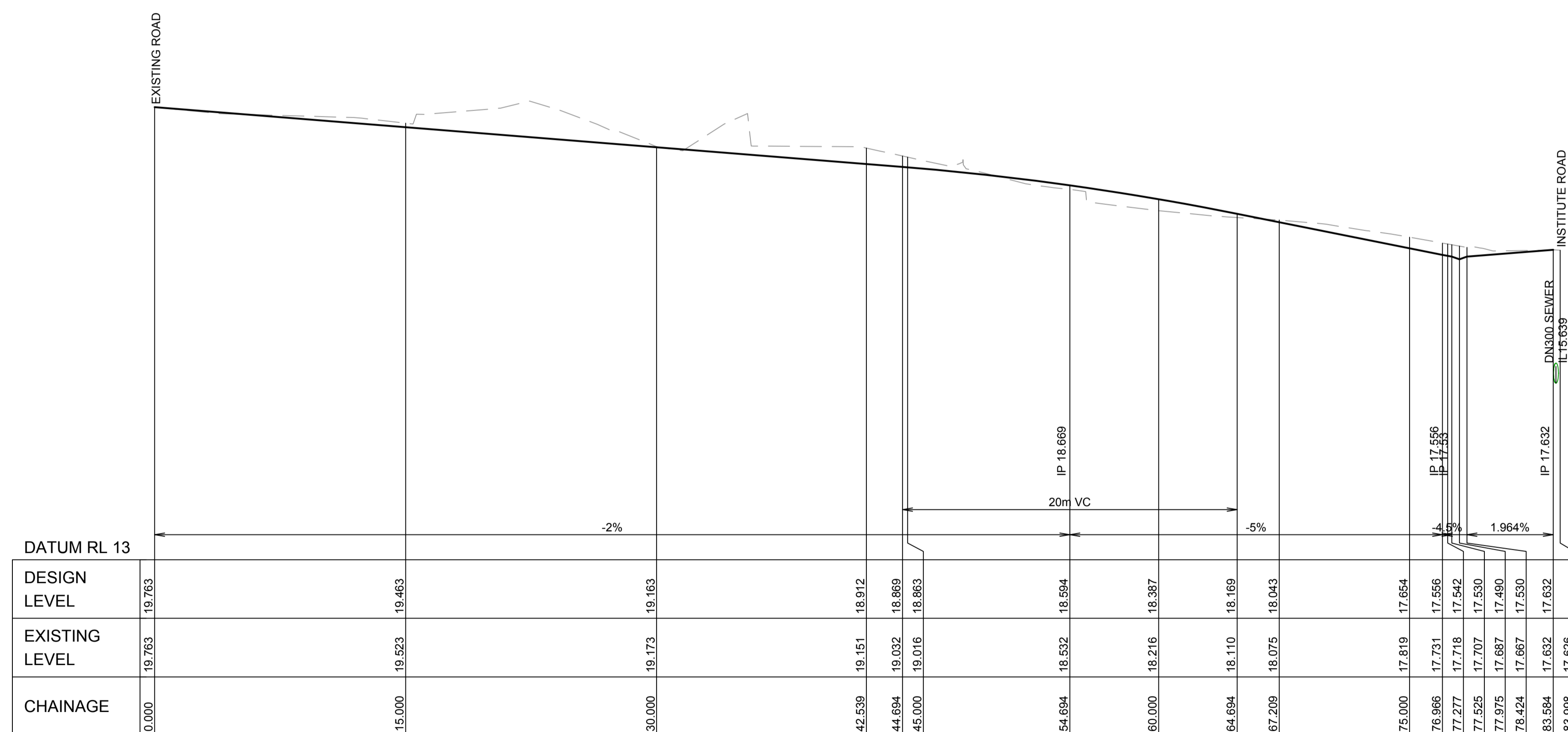
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**ROADWORKS
CAR PARK ENTRY/EXIT
LONGITUDINAL SECTIONS
SHEET 2 OF 2**

SCALE: 1:200
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PROJECT NUMBER: **236482** DRAWING NUMBER: **MSC-ARP-CV-DG-4211** SHEET: **3**

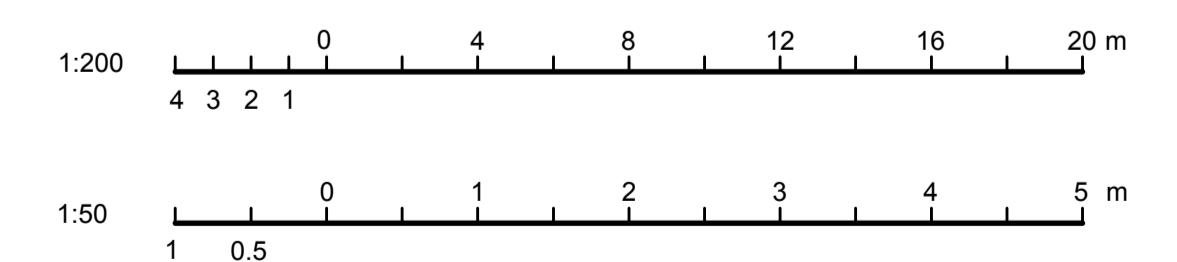
CHECKED: KJS
ISSUE:

**PAVEMENT DETAILS
MORTUARY ROAD**

1. 50mm AC14
 2. 200mm BASE COURSE DGB20 TO RMS SPECIFICATION 3051
 3. 300mm SELECT SUB-GRADE WITH CBR ≥ 20% MINIMUM
PREPARED AS PER S11.1 OF THE DOUGLAS PARTNER'S REPORT
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**MORTUARY ROAD (MC20)
LONGITUDINAL SECTION**
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:50



REV	DESCRIPTION	DRAWN	CHECK	DATE
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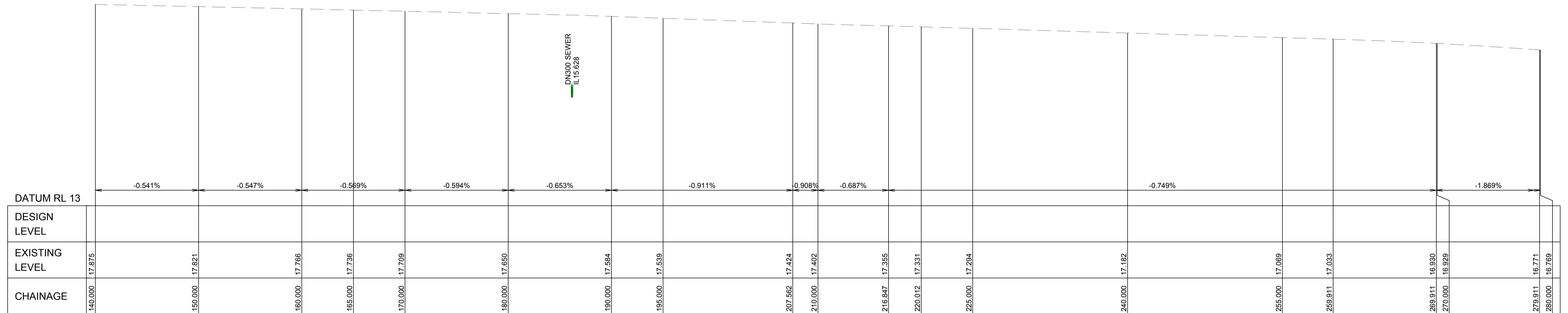
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MORTUARY ROAD
LONGITUDINAL SECTIONS**

SCALE: 1:200 DHR# NUMBER: **5335** CHECKED: KJS

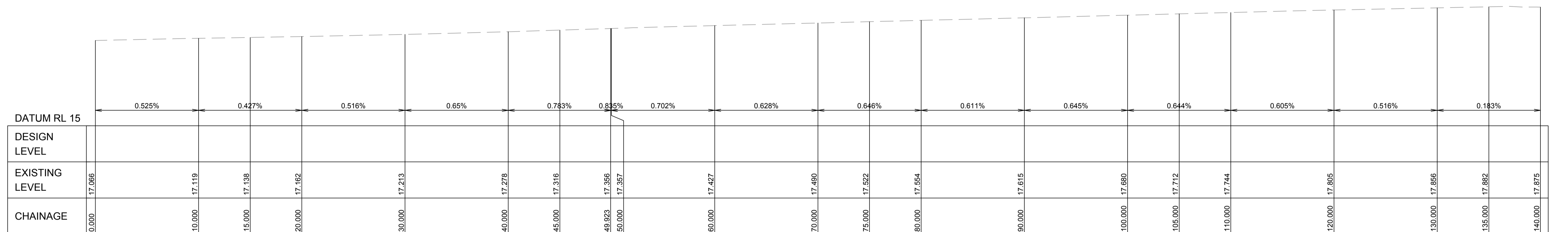
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PAVEMENT DETAILS INSTITUTE ROAD

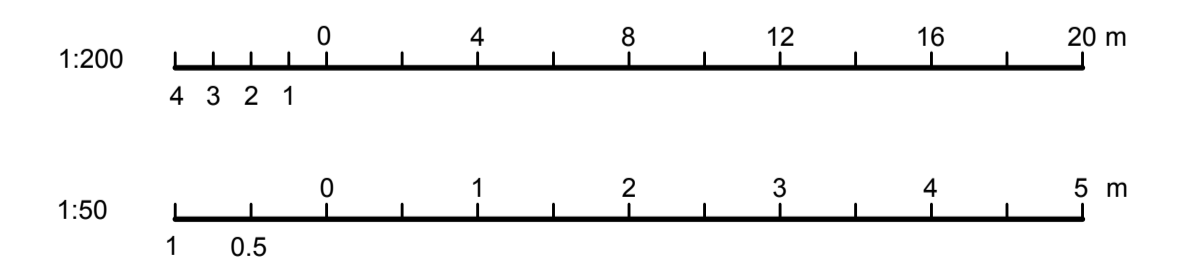
1. 50mm AC14
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- NOTE: FINAL PAVEMENT DESIGN TO BE VERIFIED BY CBR TESTING AND SUBJECT TO APPROVAL BY THE SUPERINTENDENT



**INSTITUTE ROAD (MC50)
LONGITUDINAL SECTION**
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:50



**INSTITUTE ROAD (MC50)
LONGITUDINAL SECTION**
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:50



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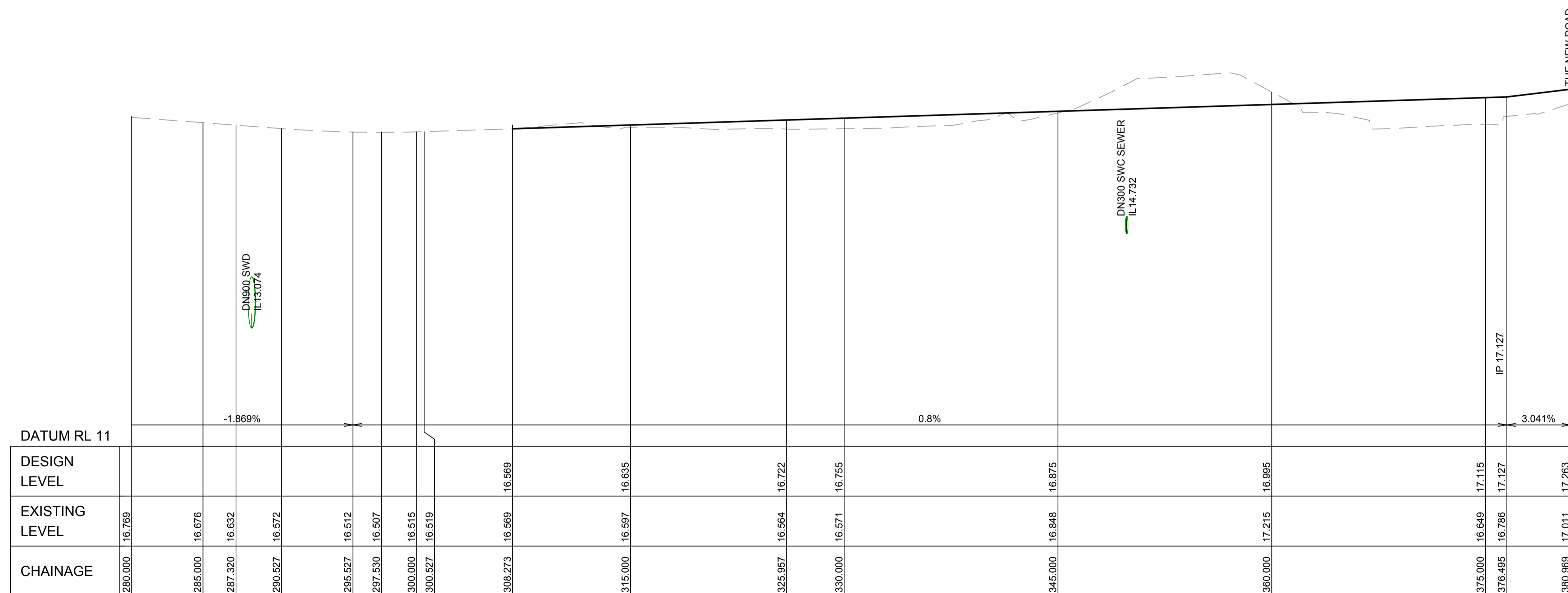
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**ROADWORKS
INSTITUTE ROAD
LONGITUDINAL SECTIONS
SHEET 1 OF 2**

SCALE: 1:200
DHR NUMBER: **5335**
PROJECT NUMBER: **236482**
DRAWING NUMBER: **MSC-ARP-CV-DG-4213**

CHECKED: KJS
ISSUE: 3

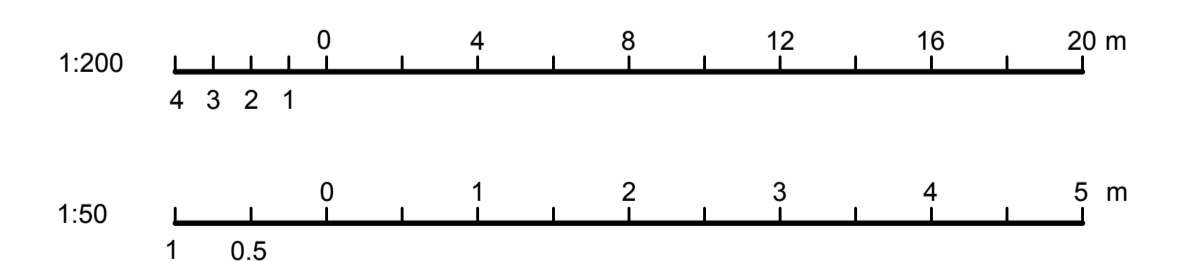
PAVEMENT DETAILS
INSTITUTE ROAD

1. 50mm AC14
 2. 200mm BASE COURSE DGB20 TO RMS SPECIFICATION 3051
 3. 300mm SELECT SUB-GRADE WITH CBR ≥ 20% MINIMUM
PREPARED AS PER S11.1 OF THE DOUGLAS PARTNER'S REPORT
 4. GEOTEXTILE
 5. UNTREATED SUBGRADE
- DUE TO NO LOCATION SPECIFIC GEOTECHNICAL INFORMATION THE PAVEMENT DESIGN IS ASSUMED SIMILAR TO THAT SHOWN IN WITH DOUGLAS PARTNERS PTY LTD REPORT ON GEOTECHNICAL INVESTIGATION PROJECT 73960.01 DATED MAY 2015 REV 1
- NOTE: FINAL PAVEMENT DESIGN TO BE VERIFIED BY CBR TESTING AND SUBJECT TO APPROVAL BY THE SUPERINTENDENT



TIE-IN TO BE CONFIRMED WITH AW EDWARDS FINAL DESIGN

INSTITUTE ROAD (MC50)
LONGITUDINAL SECTION
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:50



REV	DESCRIPTION	DRAWN	CHECK	DATE
1	ISSUE FOR R/D REVIEW	ADC	KJS	18/11/2015
2	ISSUE FOR TENDER	ADC	KJS	26/11/2015
3	ISSUE FOR TENDER	ADC	KJS	15/01/2016

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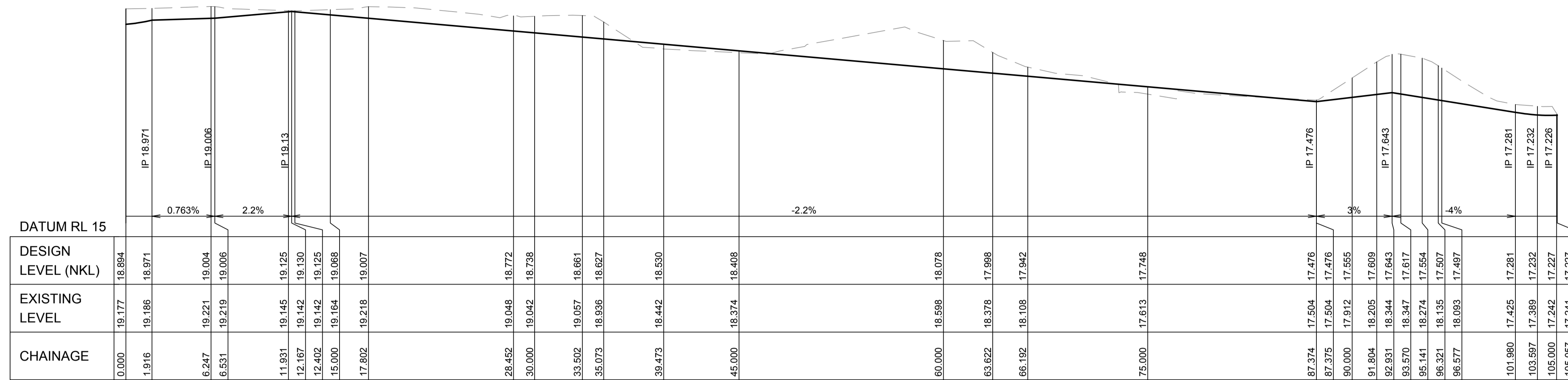
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**ROADWORKS
INSTITUTE ROAD
LONGITUDINAL SECTIONS
SHEET 2 OF 2**

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PROJECT NUMBER: **236482** DRAWING NUMBER: **MSC-ARP-CV-DG-4214** 3

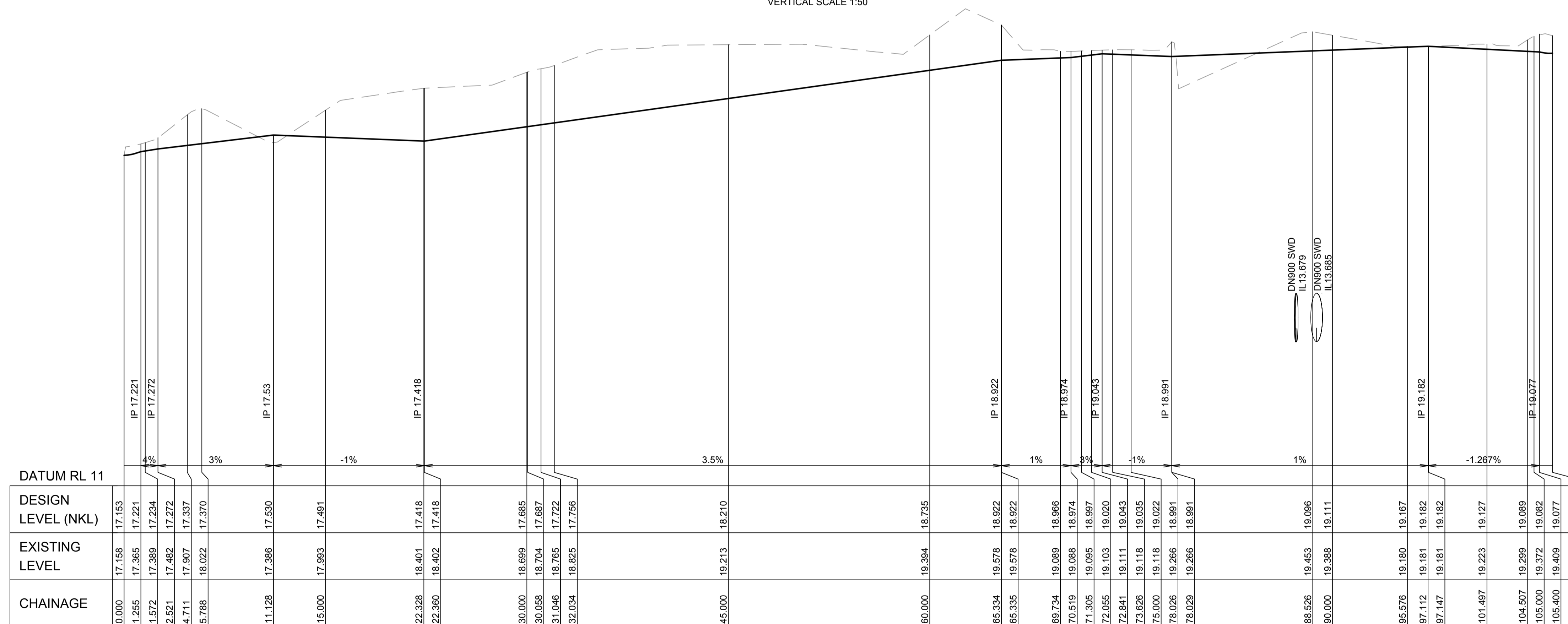
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ISSUE:

**PAVEMENT DETAILS
AT-GRADE CAR PARK**

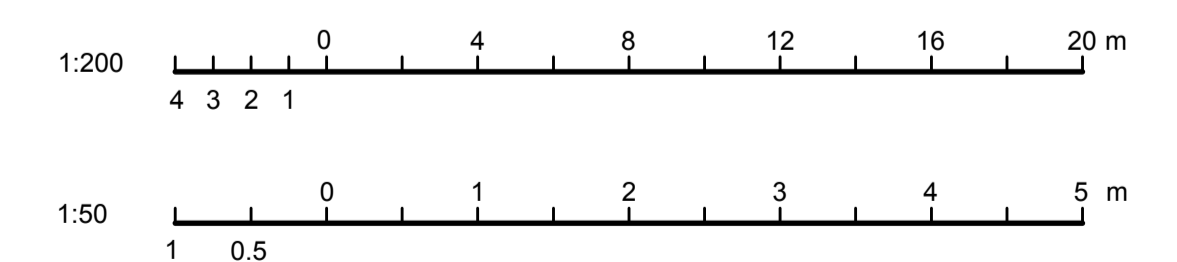
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- NOTE: FINAL PAVEMENT DESIGN TO BE VERIFIED BY CBR TESTING AND SUBJECT TO APPROVAL BY THE SUPERINTENDENT



**AT-GRADE CARPARK (MK20)
LONGITUDINAL SECTION**
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:50



**AT-GRADE CARPARK (MK21)
LONGITUDINAL SECTION**
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:50



REV	DESCRIPTION	DRAWN	CHECK	DATE
1	ISSUE FOR R/D REVIEW	ADC	KJS	18/11/2015
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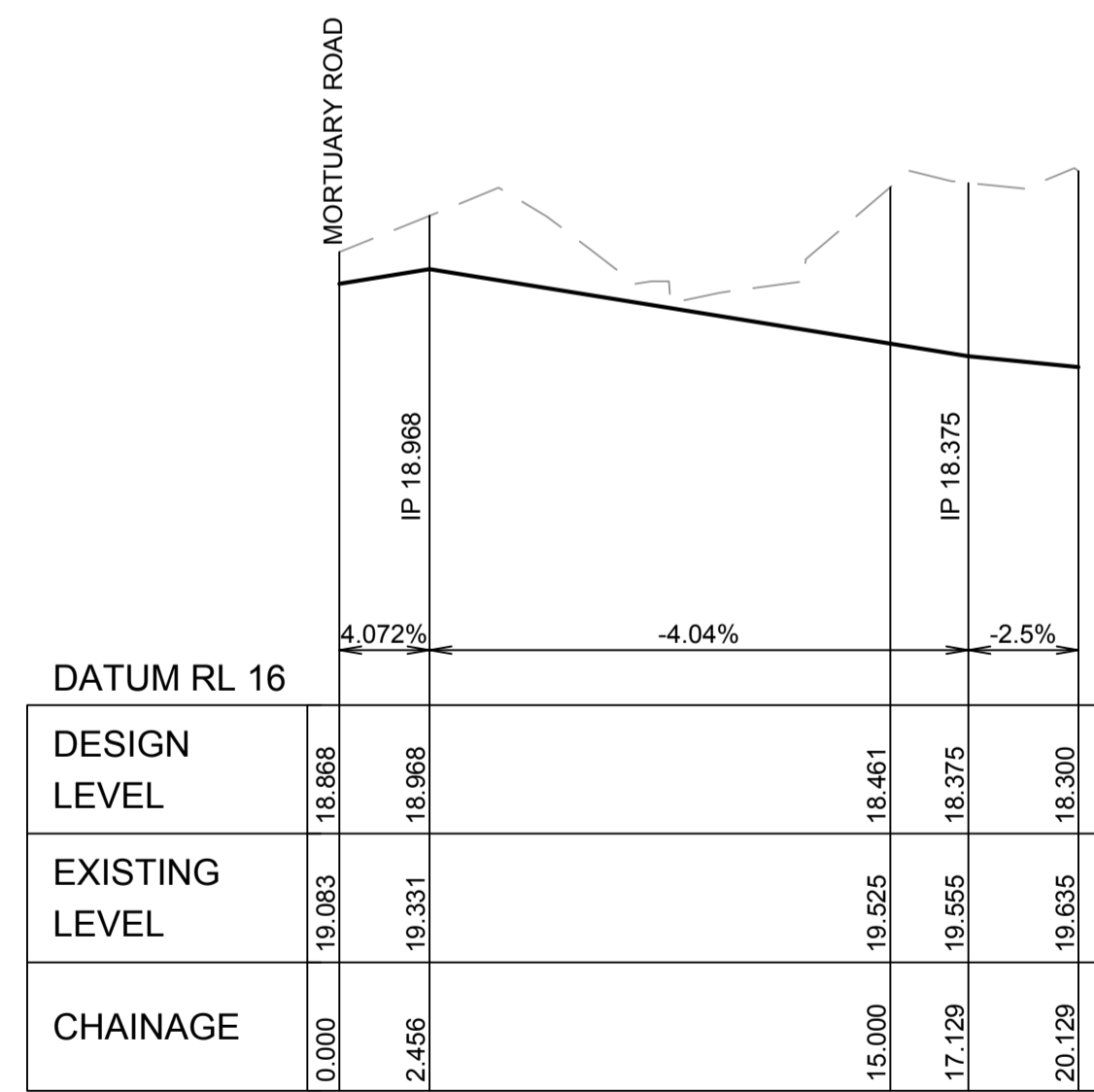
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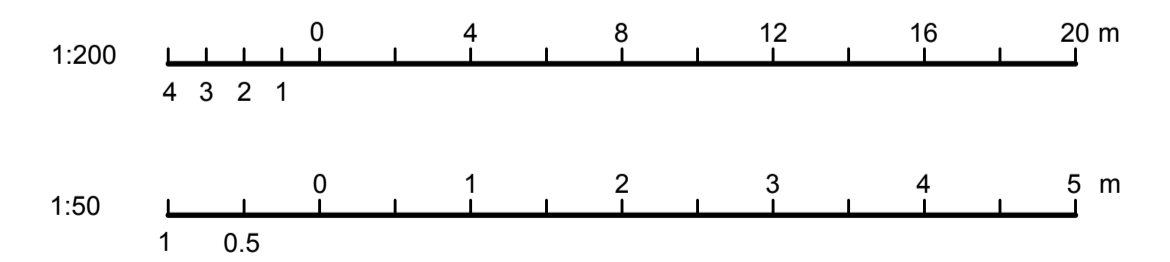
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**ROADWORKS
AT-GRADE CARPARK
LONGITUDINAL SECTIONS**

SCALE: 1:200
DHR NUMBER: **5335**
PROJECT NUMBER: **236482**
DRAWING NUMBER: **MSC-ARP-CV-DG-4215**

CHECKED: KJS
ISSUE: 3



**PEDESTRIAN LINK (MK30)
LONGITUDINAL SECTION**
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:50



REV	DESCRIPTION	DRAWN	CHECK	DATE
1	ISSUE FOR R/D REVIEW	ADC	KJS	18/11/2015
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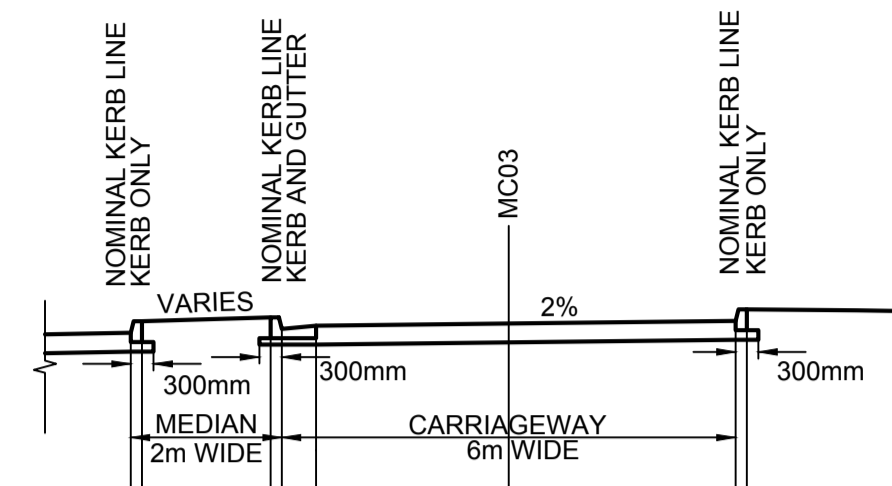


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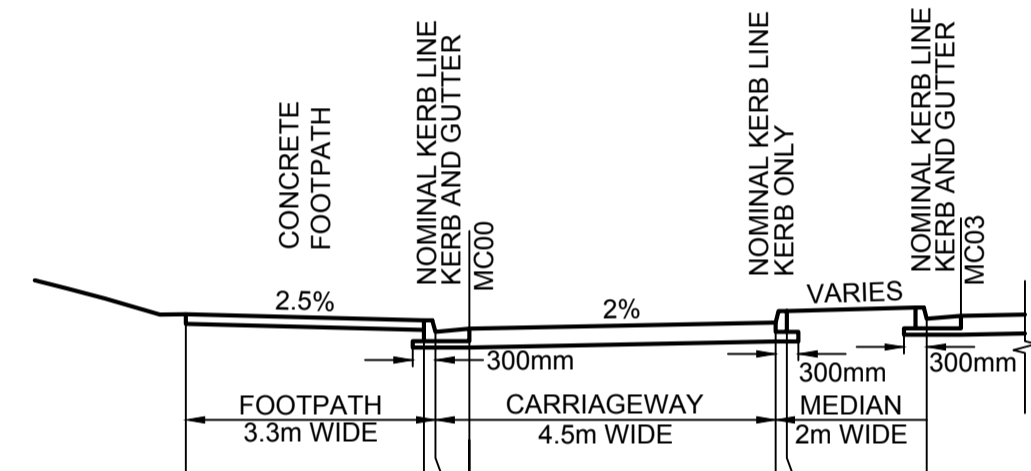
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**ROADWORKS
PEDESTRIAN LINK
LONGITUDINAL SECTIONS**

SCALE: 1:200	DDHS NUMBER: 5335	CHECKED: KJS
PROJECT NUMBER: 236482	DRAWING NUMBER: MSC-ARP-CV-DG-4216 3	ISSUE:



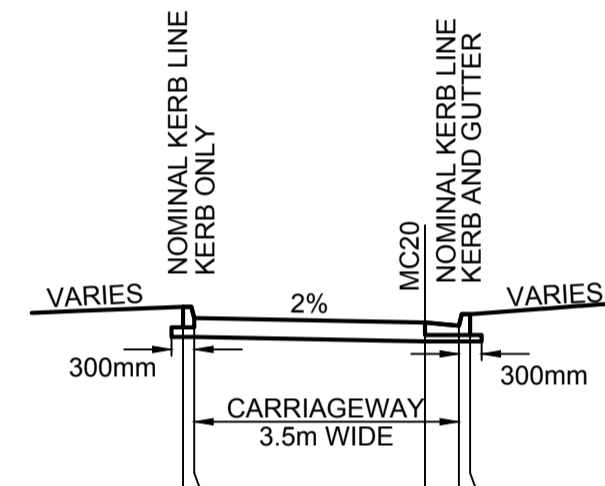
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OFFSETS	5.000 4.850	3.150 3.000 2.550	0.000	0.000	3.150 3.150

CAR PARK EXIT ROAD (MC03)
TYPICAL SECTION



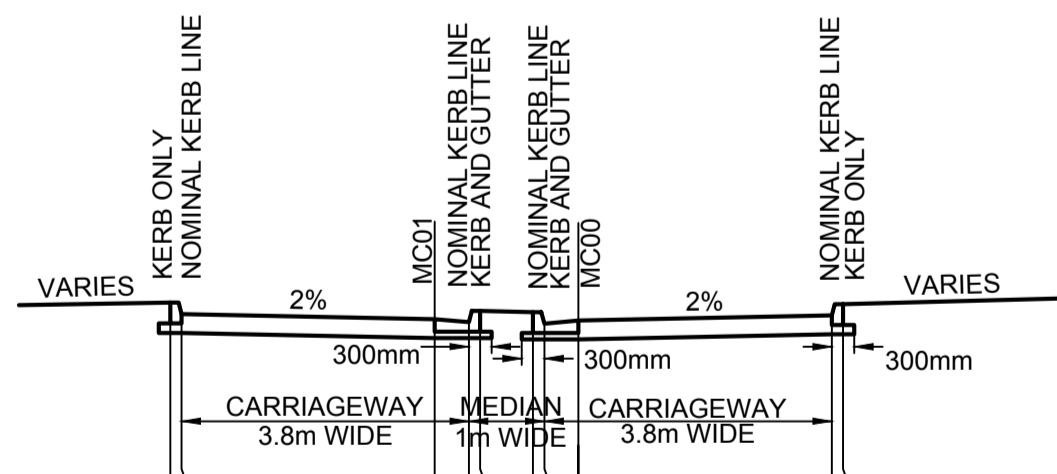
RELATIVE LEVELS	0.189	0.110 -0.040 0.000	0.081 0.231	VARIES
OFFSETS	-3.750	-0.600 -0.450 0.000	4.050 4.200	6.050

CAR PARK EXIT ROAD (MC00)
TYPICAL SECTION



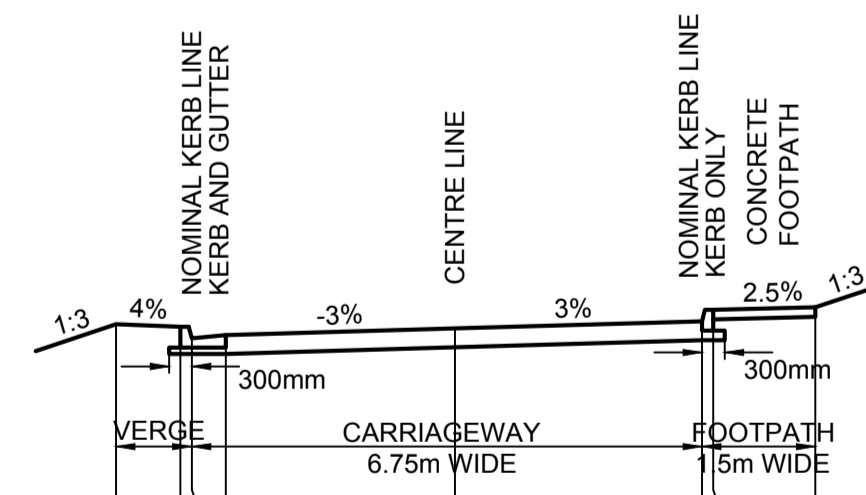
RELATIVE LEVELS	0.211 0.061	0.000 0.110 -0.110
OFFSETS	3.200 3.050	0.000 0.600 0.600

MORTUARY ROAD (MC20)
TYPICAL SECTION



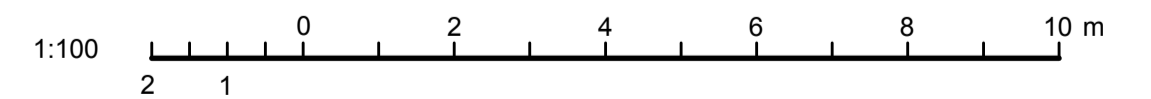
RELATIVE LEVELS	-0.286 0.086	-0.019 -0.021 -0.129	-0.110 -0.040 0.000	-0.067 -0.217
OFFSETS	5.400 5.250	-1.900 -1.450 -1.300	-0.600 -0.450 0.000	3.350 3.500

CAR PARK EXIT ROAD (MC00)
TYPICAL SECTION



RELATIVE LEVELS	-0.060 -0.145 -0.095	0.000	-0.095 -0.245 -0.278
OFFSETS	4.600 3.750 3.150	0.000	3.150 3.500 4.650

CAR PARK ENTRY (MC10)
TYPICAL SECTION



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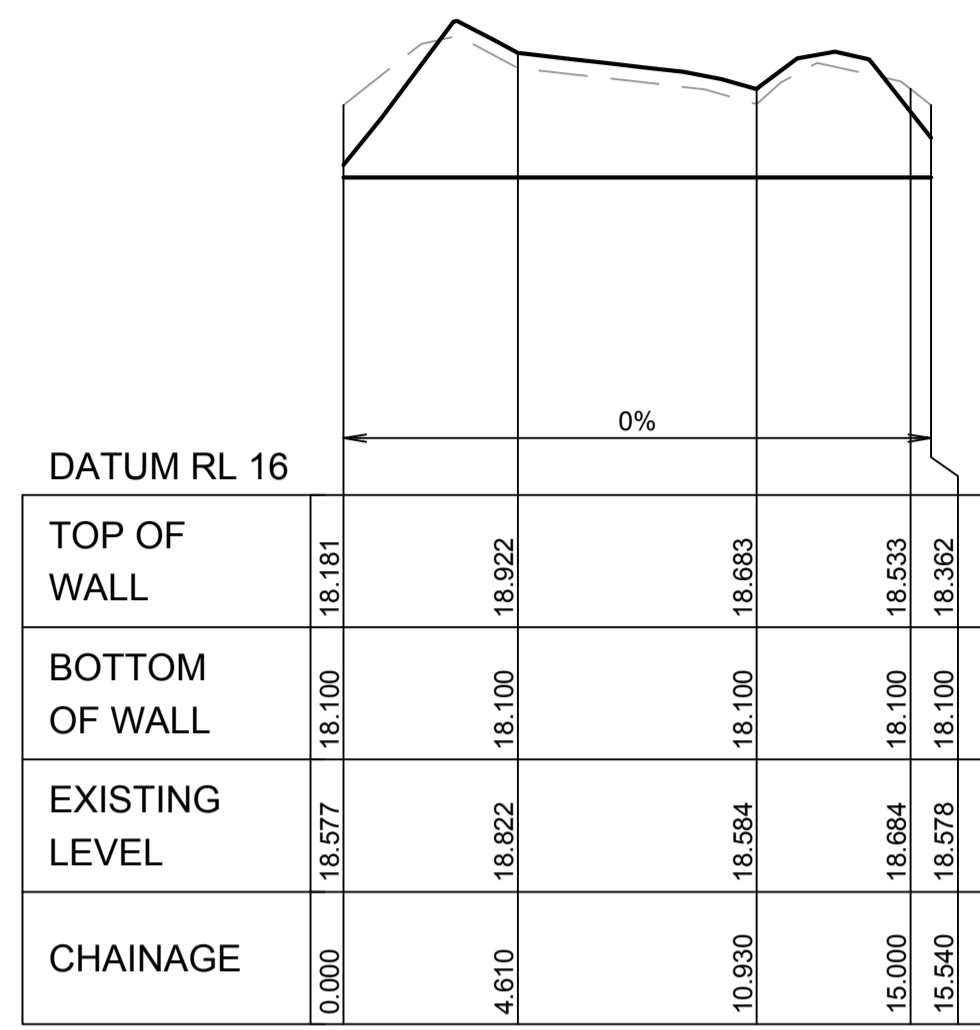
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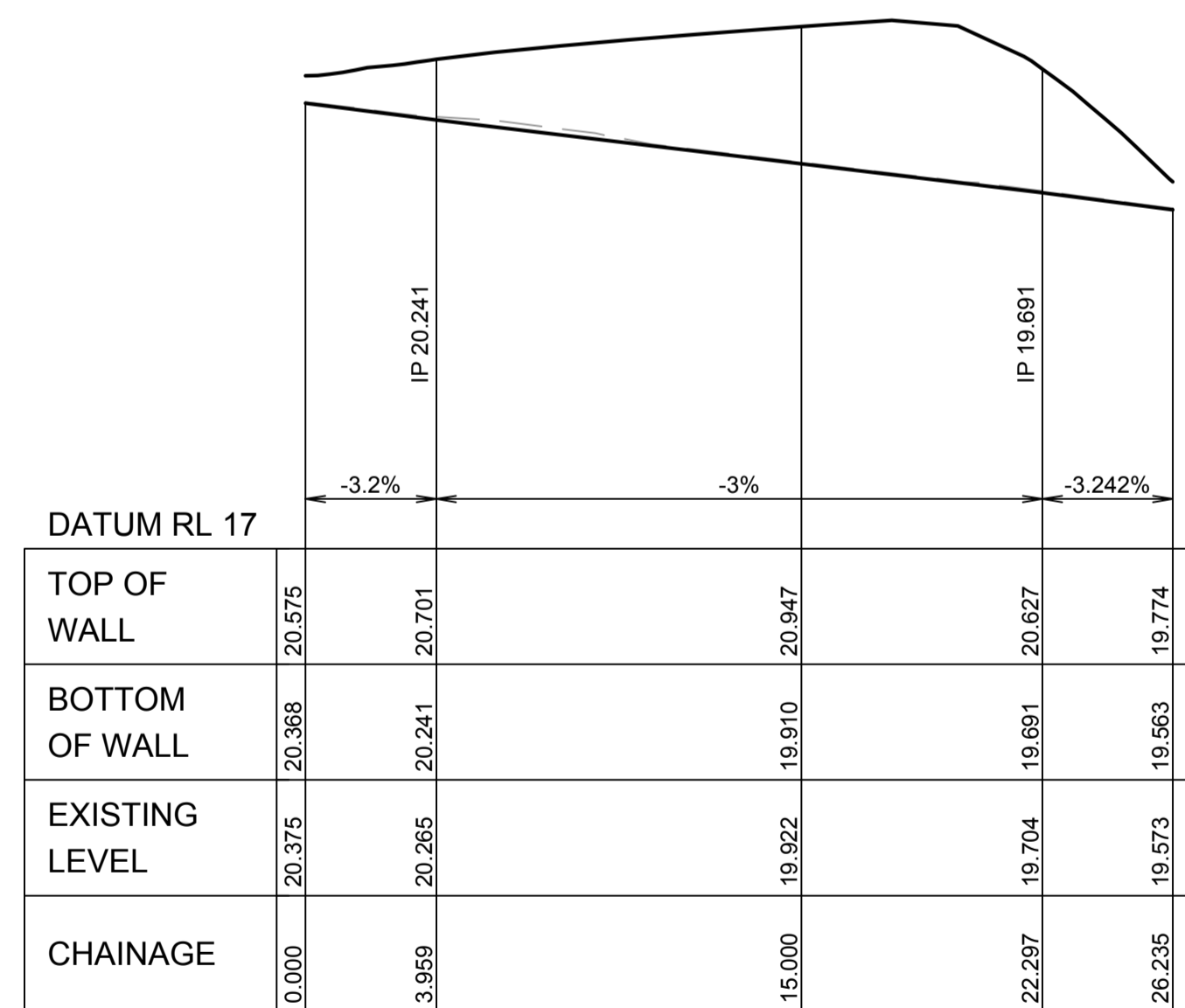
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ROADWORKS
TYPICAL PAVEMENT
CROSS SECTIONS

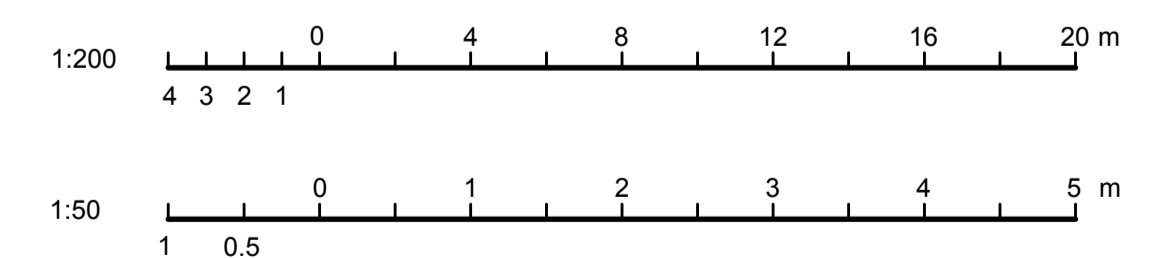
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PROJECT NUMBER: 236482	DRAWING NUMBER: MSC-ARP-CV-DG-4217	ISSUE: 3



**RETAINING WALL No.2 (MW00)
LONGITUDINAL SECTION**
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:50



**RETAINING WALL No.1 (MW10)
LONGITUDINAL SECTION**
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:50



REV	DESCRIPTION	DRAWN	CHECK	DATE
1	ISSUE FOR R/D REVIEW	ADC	MBK	18/11/2015
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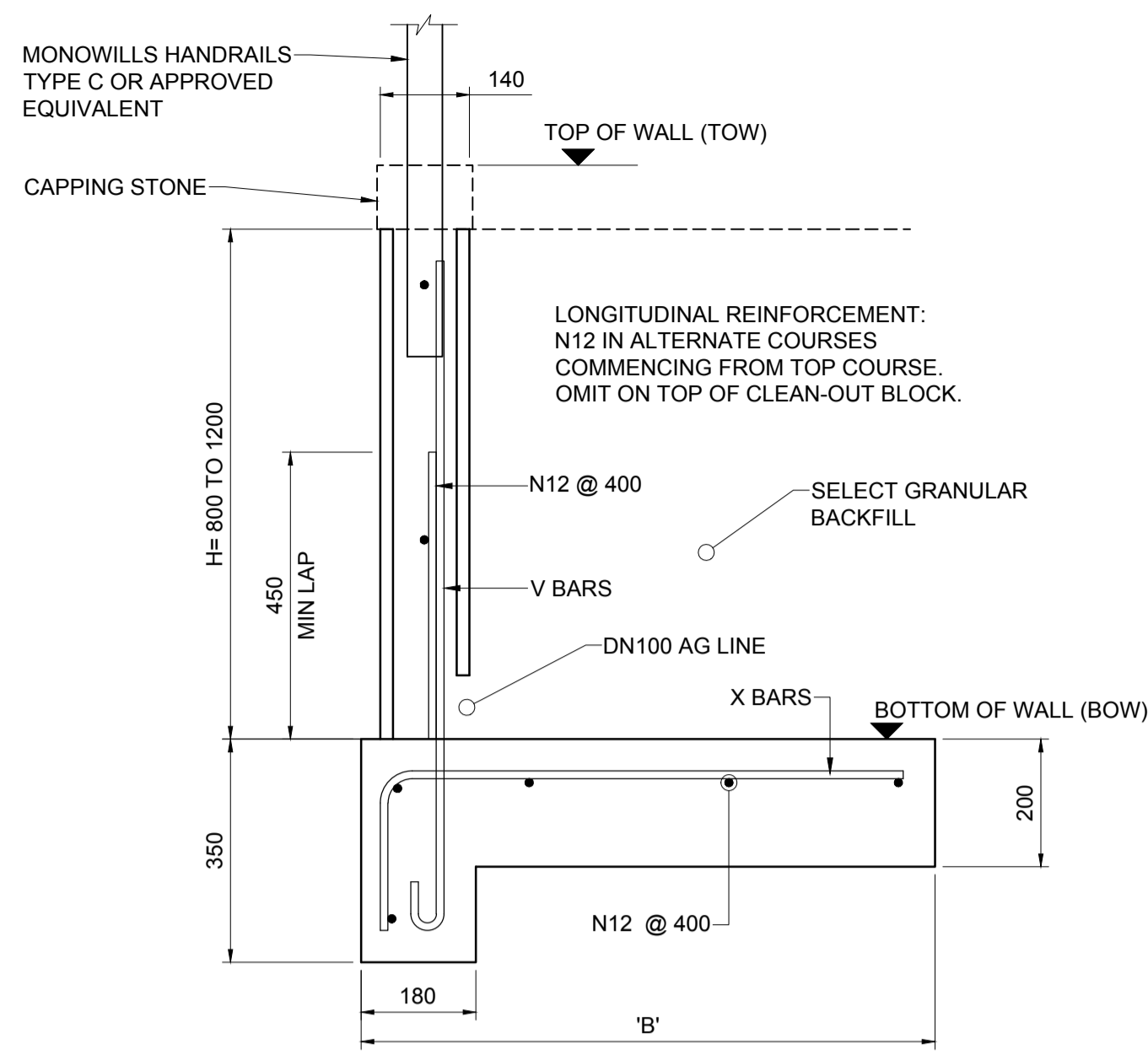


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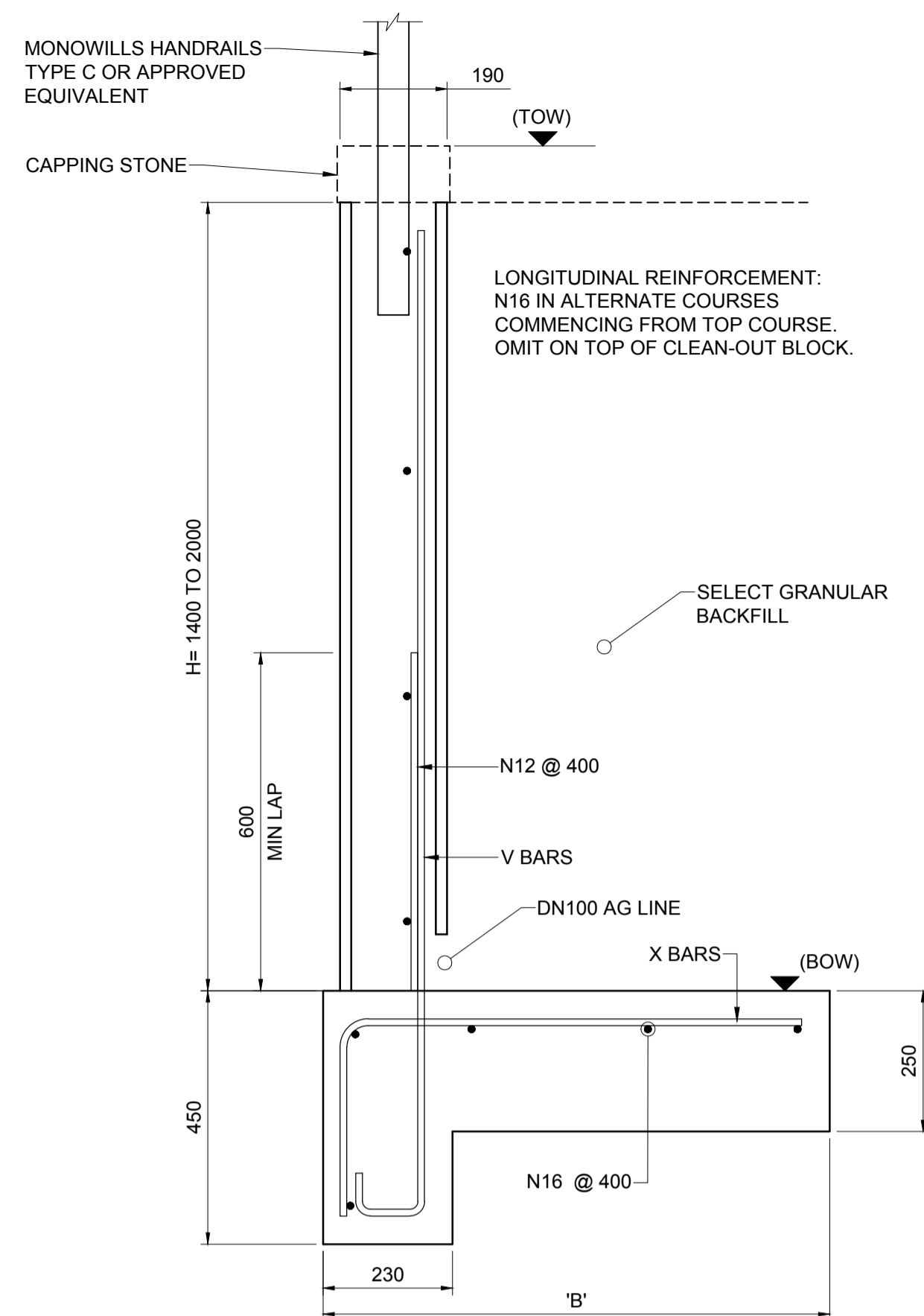


DRAWING TITLE
**RETAINING WALL
LONGITUDINAL SECTIONS**

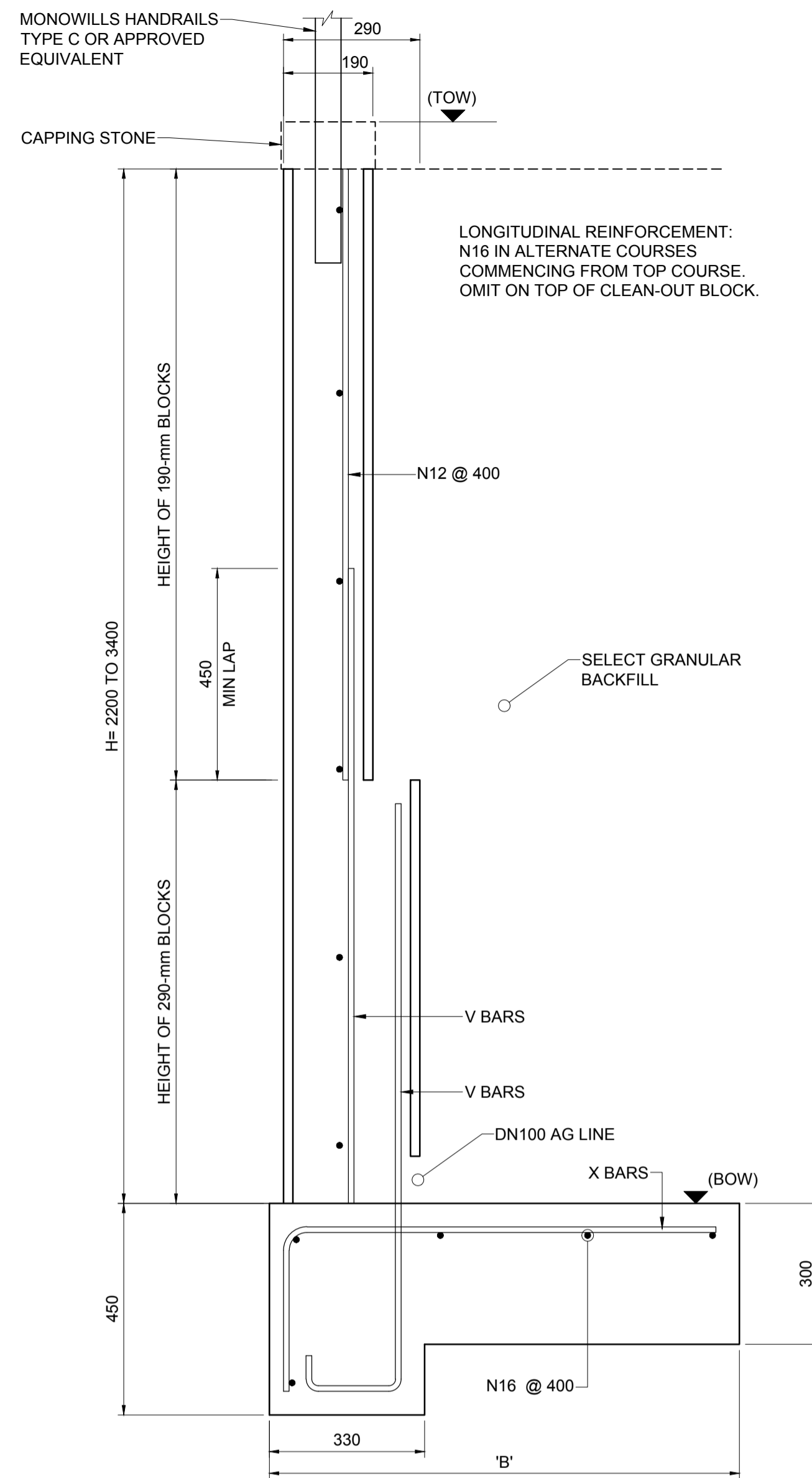
SCALE: 1:200
DHR# NUMBER: **5335**
PROJECT NUMBER: **236482**
DRAWING NUMBER: **MSC-ARP-CV-DG-4251**
ISSUE: **3**



WALL TYPE 1
SCALE 1:10



WALL TYPE 2
SCALE 1:10



WALL TYPE 3
SCALE 1:10

GENERAL NOTES

- RETAINING WALL FOOTINGS SHALL BEAR ON NATIVE SOIL OR ENGINEERED FILL. WHERE NON-ENGINEERED FILL MATERIALS ARE ENCOUNTERED AT THE BOTTOM OF FOOTING EXCAVATIONS, THE EXCAVATIONS SHOULD BE DEEPENED INTO THE UNDERLYING NATIVE MATERIALS AND BACKFILLED WITH ENGINEERED FILL. THE FOUNDING MATERIAL SHALL BE PREPARED AND COMPACTED IN ORDER TO ACHIEVE A MINIMUM BEARING CAPACITY OF 150kPa. THE FOUNDATION SHOULD BE INSPECTED BY A GEOTECHNICAL ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION OF THE CONCRETE FOOTING.
- CONCRETE EXPOSURE CLASSIFICATION: U. MINIMUM 28 DAY COMPRESSIVE STRENGTH OF ALL CONCRETE SHALL BE 40MPa.
- CLEAR COVER TO REINFORCEMENT NEAREST TO THE CONCRETE SURFACE IN FOOTINGS SHALL BE 75mm.
- LAPS NOT SHOWN ON THE DRAWINGS SHALL BE STAGGERED SO THAT NO MORE THAN 50% OF BARS ARE LAPPED IN ANY ONE CROSS SECTION.
- UNLESS OTHERWISE SPECIFIED, THE MINIMUM DEVELOPMENT LENGTHS OF LAPS SHALL BE AS FOLLOWS:

BAR SIZE:	N12	N16	N20
A) HORIZONTAL BARS WITH >300mm OF CONCRETE CAST BELOW THE BAR:	400	500	600
B) OTHER BARS:	300	400	500

- REINFORCEMENT MAY BE DISPLACED SLIGHTLY WHERE NECESSARY TO CLEAR STEEL DOWELS.
- EDGES SHALL BE CHAMFERED 20x20 AND RE-ENTRANT ANGLES FILLETED 20 x 20 UNLESS SPECIFIED OTHERWISE.
- GEOTEXTILE FOR DRAINAGE LAYER WRAPPING MUST COMPLY WITH R63. EOS AND FLOW RATE REQUIREMENT DESIGNED FOR D158>75µm.

CLASS	EOS	Q	Ψ
B	≤250µm	50	≥0.5

MATERIAL TYPE	ELONGATION	GRAB STRENGTH	TEAR	G RATING
NON WOVEN MATERIAL	≤30%	1100N	400N	2000

- ENGINEERED GRANULAR BACKFILL BEHIND THE RETAINING WALLS SHALL HAVE FINES CONTENT (PERCENT SMALLER THAN 75MICRONS) OF LESS THAN 15%, MINIMUM Ø OF 30 DEGREES, C OF ZERO kPa, AND MINIMUM DRY UNIT WEIGHT OF 18kN/m³. BACKFILL SHALL BE PLACED IN MAXIMUM 300 mm LIFTS AND COMPACTED TO MINIMUM 98% STANDARD COMPACTION.
- COMPACTION OF RETAINING WALL BACKFILL SHALL BE PERFORMED WITH LIGHT COMPACTION EQUIPMENT, SUCH AS A 2 TONNE VIBRATING PLATE COMPACTOR, SUCH THAT THE HORIZONTAL STRESS IMPOSED ON THE WALL BY COMPACTION IS LESS THAN 5 kPa.
- THE POSTS FOR THE MONOWILLS HANDRAILS TYPE 'C' OR APPROVED EQUIVALENT TO BE FIXED TO THE TOP OF THE RETAINING WALL VIA CORE DRILLING INTO THE TOP OF THE RETAINING WALL TO A MINIMUM CORE DRILL DEPTH OF 160mm.

MASONRY

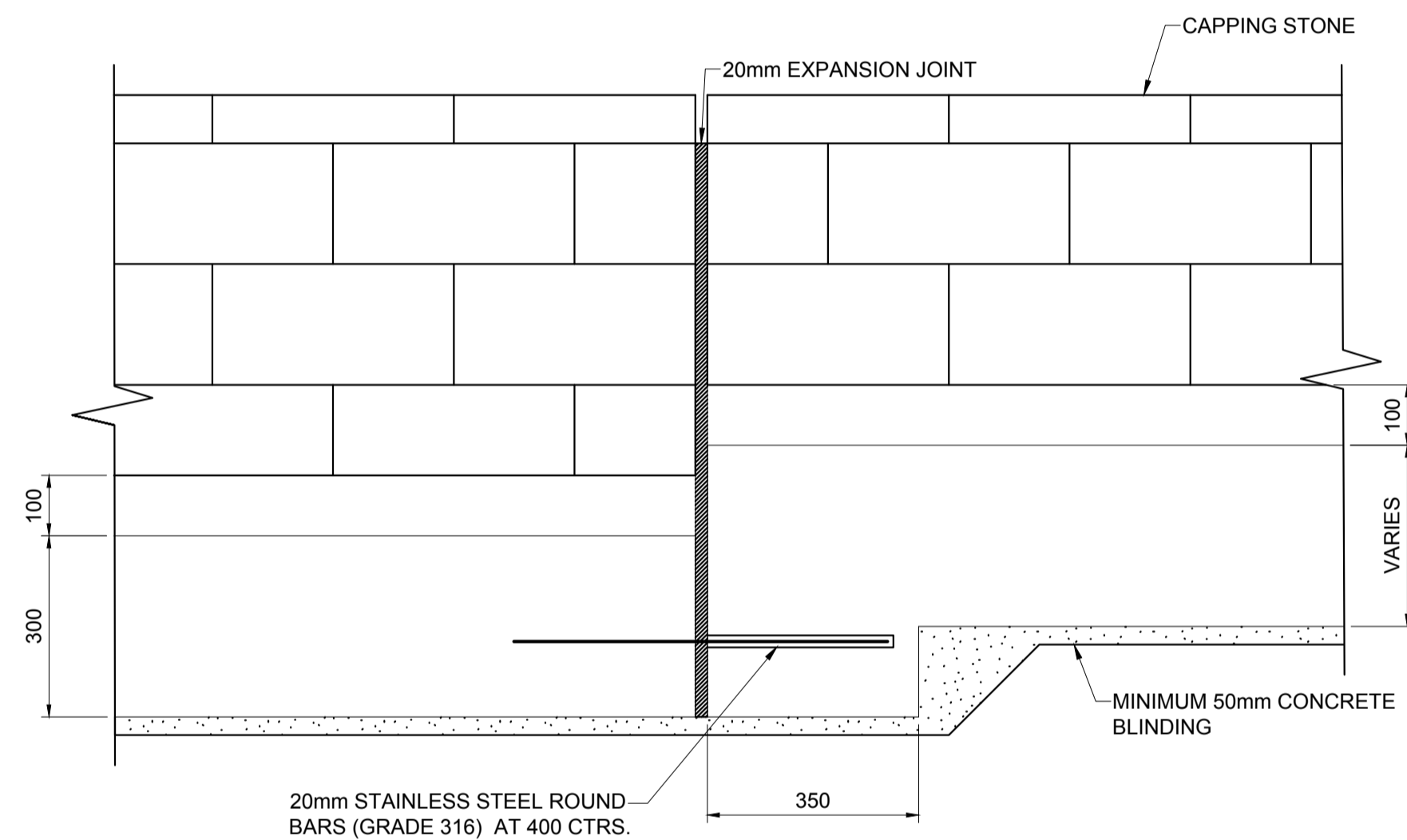
- MASONRY TO BE IN ACCORDANCE WITH AS 3700
- MASONRY UNITS TO HAVE CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH F' UC = 15 MPa.
- MORTAR TO MASONRY TO BE C1 : L1 : S6 GENERALLY. LIME CANNOT BE SUBSTITUTED BY CHEMICAL PLASTICISERS.
- EXPANSION JOINTS 10mm WIDE ARE TO BE INCLUDED IN UNBROKEN RUNS OF WALLS NOT EXCEEDING 10 METRES LONG. U.N.O.
- NO HORIZONTAL NOR DIAGONAL CHASING OF WALLS WILL BE ALLOWED. MAXIMUM DEPTH OF VERTICAL CHASING IN CORE FILLED BLOCKWORK ONLY TO BE 20mm. CHASING OF LOAD BEARING MASONRY SHALL ONLY BE PERMITTED WHERE SHOWN ON THE STRUCTURAL ENGINEERING DRAWINGS.
- MORTAR TO ALL RETAINING WALLS AND LOAD BEARING MASONRY BELOW GROUND OR FLOOR LEVEL TO BE C1 : L0.5 : S4.5.

CORE FILLING

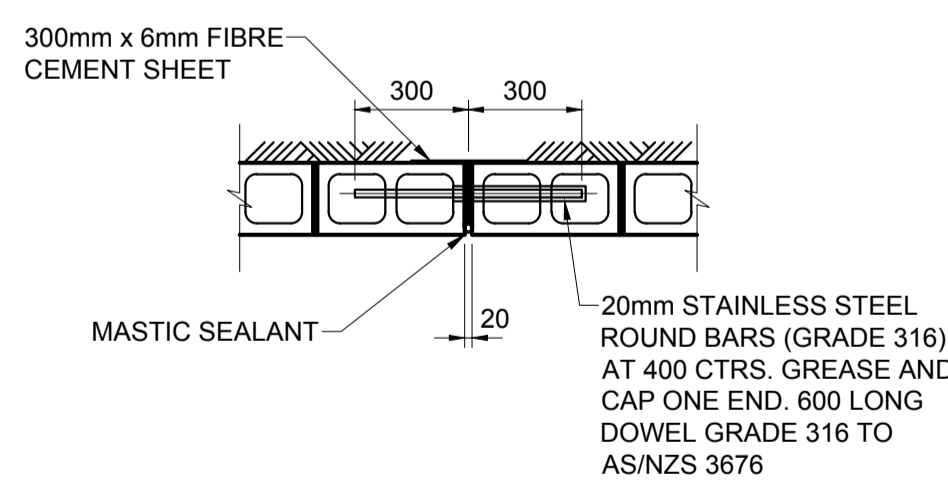
- GROUT FOR CORE FILLING, WHERE REQUIRED, SHALL HAVE A NOMINAL COMPOSITION OF C1 : S3 : A2 (10mm COARSE AGGREGATE). THE GROUT SHALL HAVE A SLUMP OF 230mm AND COMPRESSIVE STRENGTH F' C = 15 MPa. MINIMUM.
- WALLS TO BE FULL HEIGHT BEFORE GROUTING CORES.
- CLEANOUT OPENINGS TO BE PROVIDED AT BOTTOM COURSE IN ALL CORES.
- BEFORE PLACING VERTICAL REINFORCEMENT, IF ANY, CORES ARE TO BE CLEANED OF ALL MORTAR FINES AND DROPPINGS THROUGH CLEANOUT OPENINGS WHICH ARE NOT TO BE CLOSED UNTIL INSPECTED BY A REGISTERED ENGINEER.
- GROUT TO BE RODDED TO ENSURE FILLING OF CORES.
- MAXIMUM CONTINUOUS POUR HEIGHT OF GROUT TO BE 3600mm.

LEGEND

- BW BOTTOM OF WALL
- TW TOP OF WALL
- FSL FINISHED SURFACE LEVEL
- H HEIGHT
- L LENGTH

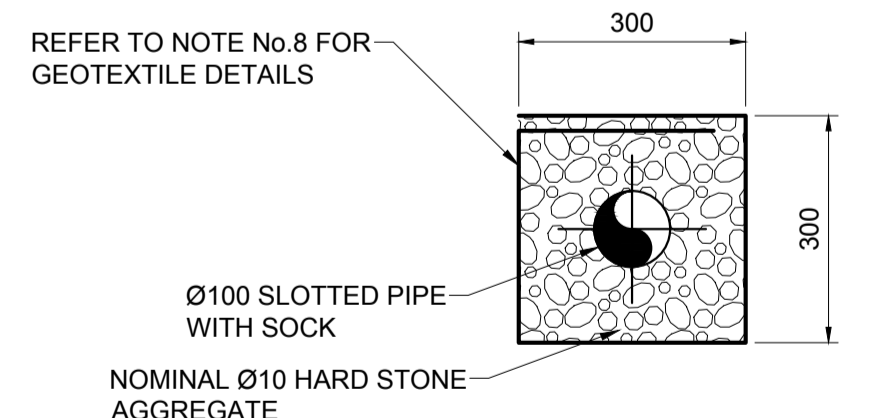


CHANGE OF FOOTING DEPTH EXPANSION JOINT
SCALE 1:10



TYPICAL BLOCKWORK DOWELED EXPANSION JOINT - (MAX 16m SPACING)
SCALE 1:20

NOTE: REINFORCEMENT NOT SHOWN FOR CLARITY



WALL DRAIN DETAIL
SCALE 1:10

BASE DIMENSIONS	
WALL HEIGHT H (mm)	5 kPa SURCHARGE, NO SLOPE
800	800
1000	900
1200	1000
1400	1100
1600	1200
1800	1400
2000	1600
2200	1800
2400	2000
2600	2100
2800	2200
3000	2400
2300	2600
2400	2800

TOTAL WALL HEIGHT H (mm)	HEIGHT (mm) IN			BARS	
	140-mm BLOCKS	190-mm BLOCKS	290-mm BLOCKS	X AND V	K
800	800	-	-	N12 @ 400	-
1000	1000	-	-	N12 @ 400	-
1200	1200	-	-	N12 @ 400	-
1400	-	1400	-	N16 @ 400	-
1600	-	1600	-	N16 @ 400	-
1800	-	1800	-	N16 @ 400	-
2000	-	2000	-	N20 @ 400	-
2200	-	1400	800	N16 @ 400	N16 @ 400
2400	-	1600	800	N16 @ 400	N16 @ 400
2600	-	1600	1000	N20 @ 400	N20 @ 400
2800	-	1800	1000	N16 @ 200	N16 @ 200
3000	-	2000	1000	N16 @ 200	N16 @ 200
3200	-	2000	1200	N20 @ 200	N20 @ 200
3400	-	2000	1400	N20 @ 200	N20 @ 200

WESTMEAD HOSPITAL REDEVELOPMENT
MSCP
STRUCTURAL DESIGN BY :
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PO BOX 76, MILLERS POINT, NSW, 2000
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IEA No
NAME

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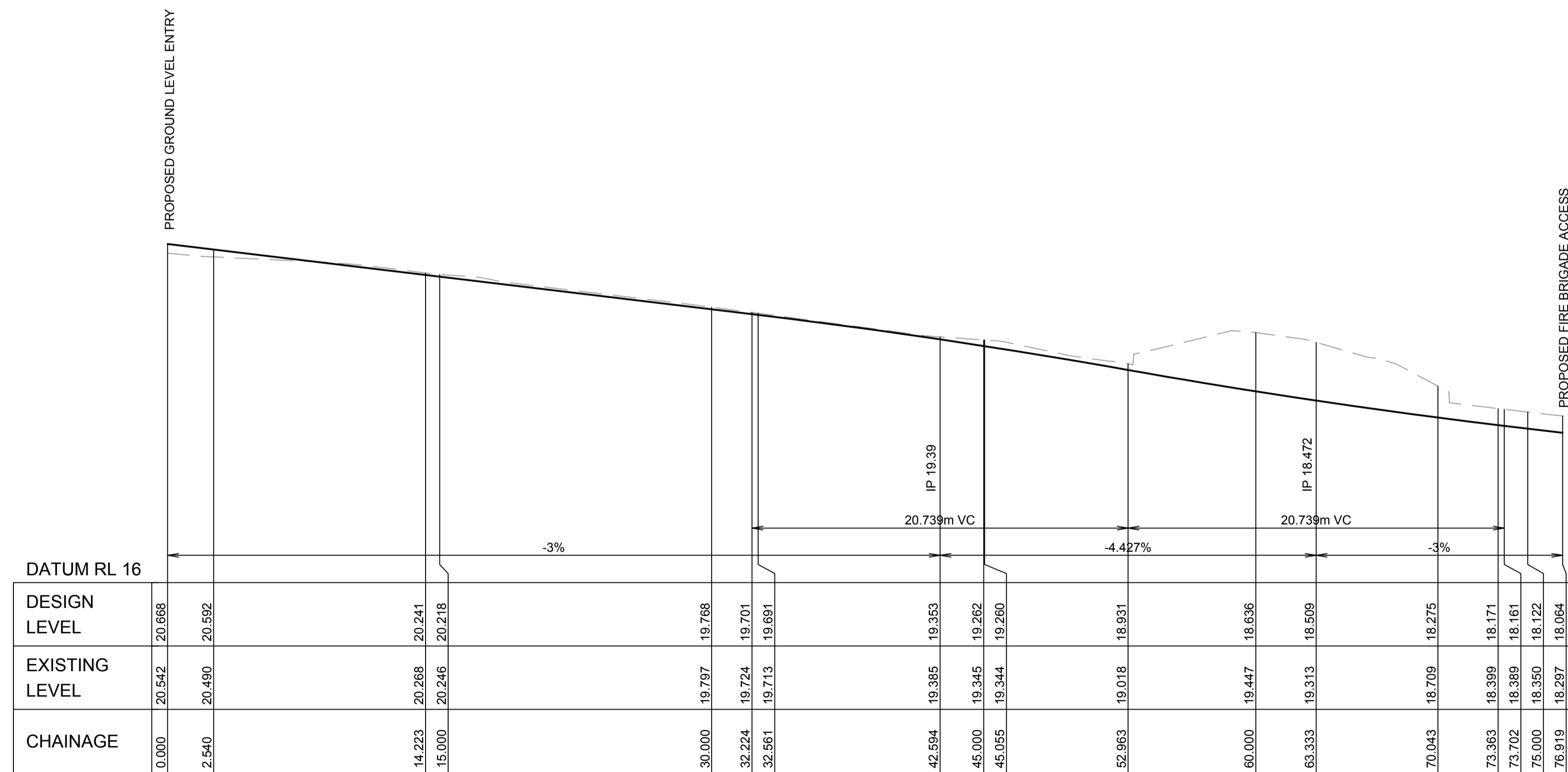
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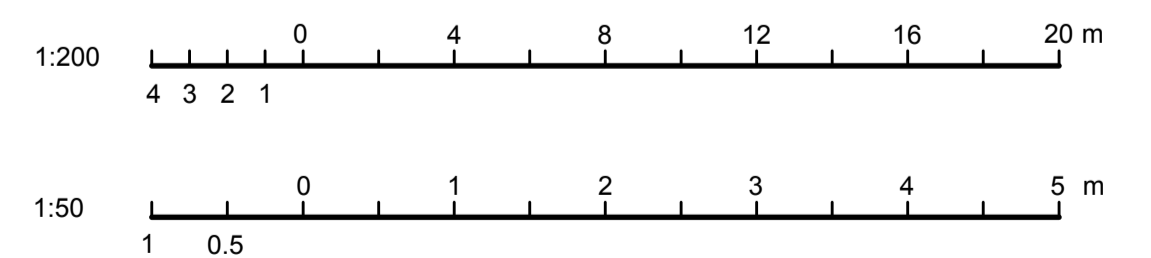
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DRAWING TITLE:
RETAINING WALL DETAILS

SCALE:	DDHS NUMBER:	CHECKED:
1:200	5335	MBK
PROJECT NUMBER:	DRAWING NUMBER:	ISSUE:
236482	MSC-ARP-CV-DG-4255	3



LANDSCAPED DRAINAGE SWALE (MD10)
LONGITUDINAL SECTION
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:50



REV	DESCRIPTION	DRAWN	CHECK	DATE
1	ISSUE FOR R/D REVIEW	ADC	KJS	18/11/2015
2	ISSUE FOR TENDER	ADC	KJS	26/11/2015
3	ISSUE FOR TENDER	ADC	KJS	15/01/2016

FOR TENDER
NOT FOR CONSTRUCTION

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DRAWING TITLE
DRAINAGE
LONGITUDINAL SECTION

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