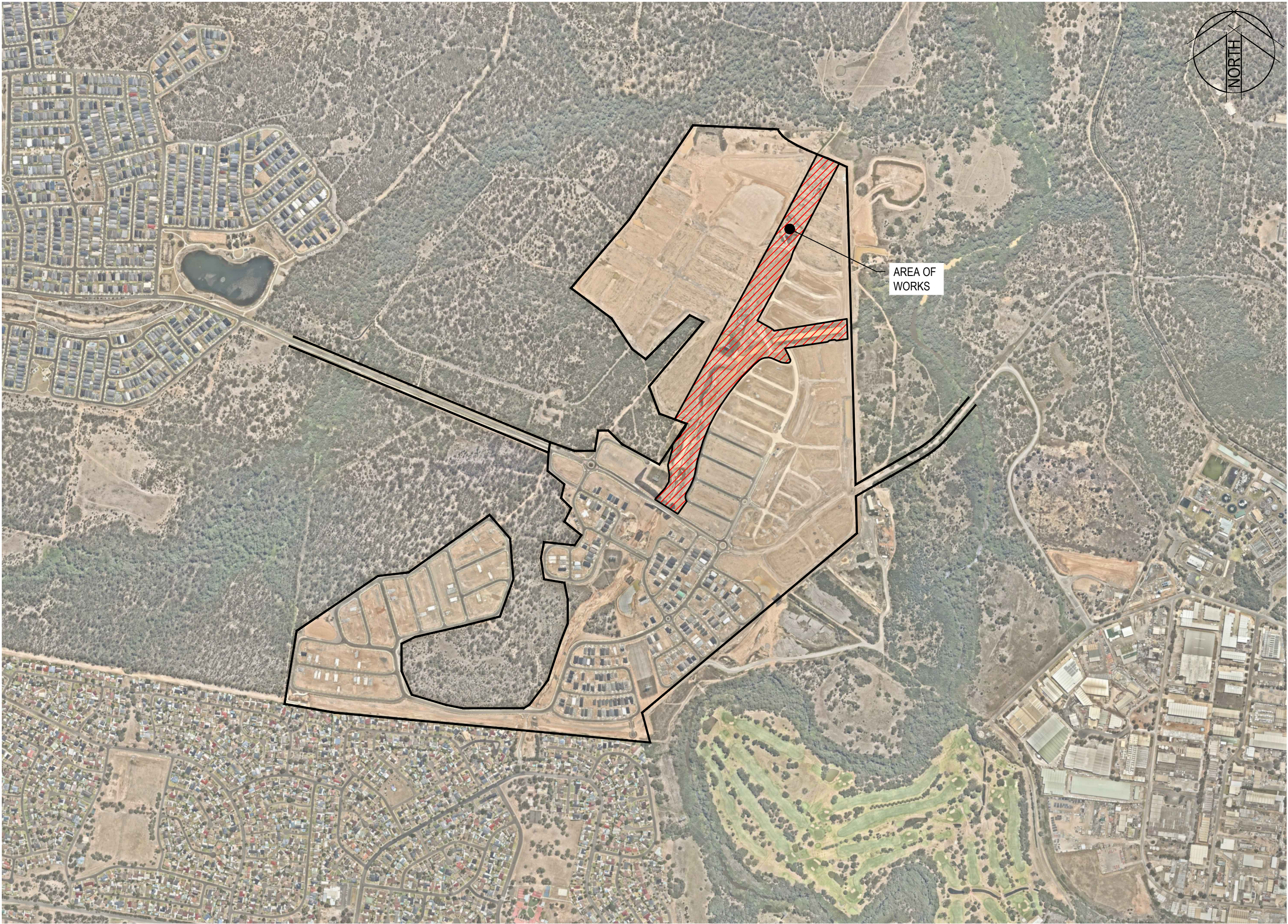


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LENDLEASE
JORDAN SPRINGS EAST
NORTHERN RIPARIAN CORRIDOR
CIVIL WORKS, DEVELOPMENT APPLICATION



SCHEDULE OF DRAWINGS

DRAWING No.	DESCRIPTION
CV-CARDNO-NRC-1001	COVER SHEET & DRAWING SCHEDULE
CV-CARDNO-NRC-1011	GENERAL NOTES & LEGENDS
CV-CARDNO-NRC-1021	CONTEXT PLAN
CV-CARDNO-NRC-1031	GENERAL ARRANGEMENT PLAN
CV-CARDNO-NRC-1051	EXISTING SERVICES AND SURVEY PLAN SHEET 1
CV-CARDNO-NRC-1052	EXISTING SERVICES AND SURVEY PLAN SHEET 2
CV-CARDNO-NRC-1101	EROSION AND SEDIMENTATION CONTROL PLAN SHEET 1
CV-CARDNO-NRC-1102	EROSION AND SEDIMENTATION CONTROL PLAN SHEET 2
CV-CARDNO-NRC-1131	EROSION AND SEDIMENTATION CONTROL DETAILS
CV-CARDNO-NRC-1301	CIVIL WORKS AND STORMWATER DRAINAGE PLAN SHEET 1
CV-CARDNO-NRC-1302	CIVIL WORKS AND STORMWATER DRAINAGE PLAN SHEET 2
CV-CARDNO-NRC-1303	CIVIL WORKS AND STORMWATER DRAINAGE PLAN SHEET 3
CV-CARDNO-NRC-1304	CIVIL WORKS AND STORMWATER DRAINAGE PLAN SHEET 4
CV-CARDNO-NRC-1351	LOW FLOW CHANNEL LONGITUDINAL SECTIONS
CV-CARDNO-NRC-1801	SITE SECTIONS SHEET 1
CV-CARDNO-NRC-1802	SITE SECTIONS SHEET 2
CV-CARDNO-NRC-2201	STORMWATER DRAINAGE DETAILS

Rev.	Date	Description	Des.	Verif.	Appd.
3	30.08.19	UPDATE AND RE-ISSUE FOR DEVELOPMENT APPLICATION	MLL	AM	AM
2	30.08.19	ISSUED FOR DRAFT DEVELOPMENT APPLICATION APPROVAL	MLL		
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Drawn MCD	Date 30.08.19	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Checked DAC	Date 30.08.19				
Designed MLL	Date 30.08.19				
Verified	Date	Datum AHD	Scale	Size A1	
Approved		Drawing Number CV-CARDNO-NRC-1001			Revision 3
ARM	30.08.19				

GENERAL

- ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH PENRITH CITY COUNCIL ENGINEERING CONSTRUCTION SPECIFICATION FOR CIVIL WORKS.
- PENRITH CITY COUNCIL STANDARD DETAILS TO BE USED AT ALL TIMES.

SITEWORKS NOTES

- ORIGIN OF LEVELS:- REFER SURVEY NOTES.
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO CARDNO.
- MAKE SMOOTH CONNECTION WITH EXISTING WORKS AND SURFACES.
- ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
- ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
- PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.
- ASPHALTIC CONCRETE SHALL CONFORM TO R.M.S. SPECIFICATION R116.
- ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S. FORM 3051, COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m² OF BASECOURSE MATERIAL PLACED.
- ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S. FORM 3051, AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH A.S 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 100m² OF SUB-BASE COURSE MATERIAL PLACED.
- AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (b) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH R.M.S. FORM 3051 WILL BE CONSIDERED. SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF PENRITH CITY COUNCIL AND THE SUPERINTENDENT.
- A HANDRAIL OR SAFETY BARRIER IS TO BE PROVIDED AT THE TOP OF ALL HEADWALLS AND RETAINING WALLS GREATER THAN 1m HIGH IN ACCORDANCE WITH THE LENDLEASE GMR'S.

BULK EARTHWORKS NOTES

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

LOCATION	STANDARD DRY DENSITY (AS 1289 E 5.1.1.)
UNDER BUILDING SLABS	98%
ON GROUND	
UNDER ROADS AND CARPARKS	100%
LANDSCAPED AREAS UNLESS NOTED OTHERWISE	98%
- FOR NON COHESIVE MATERIAL, COMPACT TO 75% DENSITY INDEX.
- BEFORE PLACING FILL, PROOF ROLL EXPOSED SUBGRADE WITH AN 8 TONNE (MIN) DEADWEIGHT SMOOTH DRUM VIBRATORY ROLLER TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER).
- FREQUENCY OF COMPACTION TESTING SHALL BE NOT LESS THAN:-
 - 1 TEST PER 1,000m² OF FILL PLACED PER LAYER OF FILL.
 - 3 TESTS PER VISIT
 - 1 TEST PER 1000m² OF EXPOSED SUBGRADE "LEVEL 1" TESTING SHALL BE TESTING IN ACCORDANCE WITH AS 3798 (1996).
- FILLING TO BE PLACED IN MAXIMUM 300mm - LOOSE LAYERS AND COMPACTED AS SPECIFIED
- NO FILLING SHALL TAKE PLACE TO EXPOSED SUBGRADE UNTIL THE AREA HAS BEEN PROOF ROLLED IN THE PRESENCE OF A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER AND APPROVAL GIVEN IN WRITING THAT FILLING CAN PROCEED.

EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF EROSION AND SEDIMENTATION TO THE SATISFACTION OF COUNCIL, NSW OFFICE OF WATER, SYDNEY WATER, THE OFFICE OF ENVIRONMENT AND HERITAGE, AND LENDLEASE'S REPRESENTATIVE. TO THIS END, THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE DRAWINGS SHALL ONLY BE USED AS A GUIDE BY THE CONTRACTOR, AND REPRESENT THE MINIMUM REQUIREMENT ONLY.
- THE CONTRACTOR SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED OR AS OTHERWISE DIRECTED BY THE SUPERINTENDENT. ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
 - LOCAL AUTHORITY REQUIREMENTS
 - EPA REQUIREMENTS
 - NSW DEPARTMENT OF HOUSING MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
- MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
- WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
- CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.

LAND DISTURBANCE

- WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:
 - INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
 - CONSTRUCT STABILISED CONSTRUCTION ENTRANCE TO LOCATION AS DETERMINED BY SUPERINTENDENT/ENGINEER. REFER DETAIL.
 - INSTALL SEDIMENT BASIN AS SHOWN ON PLAN (D). INSTALL SEDIMENT TRAPS AS SHOWN ON PLAN.
 - UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.
- DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.
- FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS IS PRACTICABLE AFTER THE COMPLETION OF CONSTRUCTION ACTIVITIES.

SEDIMENT CONTROL

- STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.
- ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
- WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
- TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.
- ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
- ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
 - PROTECTING THEM WITH A BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
 - ENSURING THAT NOTHING IS NAILED TO THEM
 - PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS.
 - ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHIC EVER IS THE GREATER
 - A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH
 - CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

NOISE

EPA AND COUNCIL REQUIREMENTS MUST BE ADHERED TO REGARDING LEVEL OF NOISE AND WORKING HOURS TO ENSURE THAT RESIDENTS AND OTHER APPLICABLE NEIGHBORS TO THE SITE ARE NOT DISTURBED UNREASONABLY. THE GENERATION OF NOISE MUST BE MINIMISED.

DUST

DUST MUST BE MINIMISED TO ENSURE THERE IS NO HEALTH RISK OR LOSS OF AMENITY.

STAGING OF WORKS

STRIPPING WORKS ARE TO BE STAGED TO MINIMISE EXTENT OF EXPOSED AREA. WEATHER CONDITIONS TO BE ASSESSED PRIOR TO UNDERTAKING STRIPPING.

STOCKPILE PROTECTION

SEDIMENT RETENTION STRUCTURES TO BE PLACED DOWNSLOPE OF ANY STOCKPILES. STOCKPILE IN PLACE > 28 DAYS TO BE TEMPORARILY GRASSED.

VEHICLE AND ROAD MANAGEMENT

SITE ACCESS TO BE RESTRICTED TO ALLOCATED TRUCK ROUTES. EXTERNAL ROADS TO BE SWEEPED REGULARLY FOR DURATION OF WORKS.

EXISTING UNDERGROUND SERVICES NOTES

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

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

STORMWATER DRAINAGE NOTES

- STORMWATER DESIGN CRITERIA:
 - AVERAGE RECURRENCE INTERVAL:
5 YEAR ARI PIPED DRAINAGE
100 YEAR ARI OVERLAND FLOW
 - RAINFALL INTENSITIES: TIME OF CONCENTRATION:
5 MINUTES
5 YEAR ARI= 126mm/hr
100 YEAR ARI= 219mm/hr
- PIPES 375 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '2' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
- PIPES 300 DIA AND LESS SHALL BE DWV GRADE (CLASS SN8) uPVC WITH SOLVENT WELDED JOINTS.
- EQUIVALENT STRENGTH FRC PIPES MIN CLASS 3 MAY BE USED SUBJECT TO PRIOR APPROVAL BY PENRITH CITY COUNCIL.
- ALL PIPES ARE TO BE UNIFORMLY SUPPORTED ALONG THE LENGTH OF THE BARREL BY SUITABLE FILL MATERIAL. REFER TO BEDDING SUPPORT TYPE.
- PIPES WITH SOCKETS SHALL BE LAID IN BEDDING WHERE SUITABLE RECESSES HAVE BEEN PROVIDED TO ENSURE PIPES DO NOT BEAR ON THEIR SOCKETS.
- PIPES TO BE INSTALLED TO TYPE HS1 SUPPORT IN ACCORDANCE WITH AS 3725 (2007) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75).
- REFER TO AS/NZS 3725:2007 TABLE B1 FOR REQUIRED FILL DEPTHS ABOVE PIPE BARREL PRIOR TO USE OF COMPACTION MACHINERY OR TRAVERSING OF PIPES BY GENERAL SITE EQUIPMENT.
- WHERE WORKING METHODS REQUIRE HIGHER CLASS PIPE, THE CONTRACTOR SHALL REFER TO AS 3725 (2007) TO DETERMINE THE APPROPRIATE PIPE CLASS. PROPOSED PIPE CLASS SHALL BE REVIEWED BY CARDNO PRIOR TO INSTALLATION.
- ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500.3 (2015).
- THE USE OF PRECAST PITS IS ONLY PERMITTED WITH THE PRIOR APPROVAL OF PENRITH CITY COUNCIL.
- ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
- WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC DWV SEWER GRADE PIPE IS TO BE USED.
- CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
- GRATES AND COVERS SHALL CONFORM TO AS 3996. MINIMUM CLASS C. UNLESS NOTED OTHERWISE.
- ALL BOX CULVERTS SHALL BE STRUCTURALLY DESIGNED BY THE MANUFACTURER AND DELIVERED TO SITE AS FIT FOR PURPOSE.
- AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.

STORMWATER DRAINAGE NOTES CONTINUED

- ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.

TELSTRA - DUTY OF CARE NOTE

TELSTRA'S PLANS SHOW ONLY THE PRESENCE OF CABLES AND PLANT. THEY ONLY SHOW THEIR POSITION RELATIVE TO ROAD BOUNDARIES, PROPERTY FENCES ETC. AT THE TIME OF INSTALLATION AND TELSTRA DOES NOT WARRANT OR HOLD OUT THAT SUCH PLANS ARE ACCURATE THEREAFTER DUE TO CHANGES THAT MAY OCCUR OVER TIME. DO NOT ASSUME DEPTH OR ALIGNMENT OF CABLES OR PLANT AS THESE VARY SIGNIFICANTLY. THE CONTRACTOR HAS A DUTY OF CARE WHEN EXCAVATING NEAR TELSTRA CABLES AND PLANT. BEFORE USING MACHINE EXCAVATORS TELSTRA PLANT MUST FIRST BE PHYSICALLY EXPOSED BY SOFT DIG POTHOLES TO IDENTIFY ITS LOCATION TELSTRA WILL SEEK COMPENSATION FOR DAMAGES CAUSED TO IT'S PROPERTY AND LOSSES CAUSED TO TELSTRA AND IT'S CUSTOMERS.

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY RPS GROUP P/L (FORMERLY WHELAN'S INSTES), BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. CARDNO DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS. SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT CARDNO.

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

- ORIGIN OF MGA BASED SITE CO-ORDINATES FROM PM 147113 AND PLANE DISTANCES HAVE BEEN USED.
- CO-ORDINATES FOR PM 147113 WERE DEDUCED BY WHELAN'S FROM SURROUNDING SSM & PM'S ON PUBLIC RECORD. CO-ORDINATES FOR PM 147113 HAVE BEEN ADOPED AS 292202.160E 6266005.820N
- CONTOUR INTERVAL 0.25m
- LEVELS ARE BASED ON AUSTRALIAN HEIGHT DATUM (AHD) USING SSM 79753 WITH RL OF 19.758 (ACC 2) LOCATED ON LINKS ROAD.
- FEATURES SHOWN INCLUDING TREES AND LEVELS ARE TO BE USED ONLY FOR CONCEPT PLANNING DESIGN. DATA SHOWN SHOULD NOT BE USED FOR CONSTRUCTION PURPOSES. PRIOR TO CONSTRUCTION ANY FEATURE OR LEVEL SHOULD BE VERIFIED IF THE LOCATION OR HEIGHT IS TO HAVE SIGNIFICANT IMPACT ON DESIGN OR CONSTRUCTION.
- TREES SHOWN HAVE A TRUNK DIAMETER OF 300MM OR GREATER.
- TREE CAPTURE CONFIDENCE INTERVAL OF 99%

STREET FURNITURE

- ALL LIGHT POLES, STREET NAMES AND BUS SHELTERS IN THIS SUBDIVISION WILL BE GALVANISED BLACK POWDER COATED TO THE SATISFACTION OF PENRITH CITY COUNCIL. FURTHER THAT THESE LIGHT POLES WILL COMPLY WITH COUNCIL'S SPECIFICATIONS.
- ALL LIGHT POLES ARE TO BE TYPE 'MACARTHUR'. REFER ELECTRICAL DESIGN DRAWINGS.

REINFORCEMENT NOTES

- REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY. IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- SPLICES IN THE REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN. THE WRITTEN APPROVAL OF THE ENGINEER SHALL BE OBTAINED FOR ANY OTHER SPLICES. WHERE THE LAP LENGTH IS NOT SHOWN IT SHALL BE SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE REINFORCEMENT.
- WELDING OF REINFORCEMENT WILL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER.
- REINFORCEMENT SYMBOLS -
N - DENOTES GRADE 400N TEMP CORE DEFORMED BARS TO AS 1302
R - DENOTES GRADE 250R HOT ROLLED PLAIN BARS TO AS 1302
SL - DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 1304
W - DENOTES HARD-DRAWN PLAIN WIRE TO AS 1303
REINFORCEMENT COGS AND EXTENSIONS TO BE IN ACCORDANCE WITH AS3600.
- NUMBER OF BARS IN GROUP
BAR GRADE AND TYPE
NOMINAL BAR SIZE IN mm
SPACING IN mm
TYPICAL FABRIC LAP
FABRIC SHALL BE LAPPED 2 TRANSVERSE WIRES PLUS 50mm. BUNDLED BARS SHALL BE TIED TOGETHER AT 30 BAR DIAMETER CENTRES WITH 3 WRAPS OF WIRE.
- PLACE SUFFICIENT BAR CHAIRS UNDER BOTTOM REINFORCING RODS AND TOP CROSSRODS IN SLABS TO ALLOW THEM TO BE SUPPORTED IN THEIR CORRECT POSITIONS DURING CONCRETING (NOT GREATER THAN 900mm CENTRES BOTH WAYS)
- REINFORCEMENT LAYERS DENOTED THUS UNO -
TT - DENOTES TOP BARS LAID LAST IN TOP
T - DENOTES TOP BARS LAID FIRST IN TOP
B - DENOTES BOTTOM BARS LAID SECOND IN BOTTOM
BB - DENOTES BOTTOM BARS LAID FIRST IN BOTTOM
- WHERE TRANSVERSE TIE BARS ARE NOT SHOWN PROVIDE N12-300 SPLICED WHERE NECESSARY AND LAP WITH MAIN BARS 450mm UNLESS NOTED OTHERWISE.
- MINIMUM LAP LENGTHS UNLESS NOTED OTHERWISE SHALL BE -
500 FOR N12 BARS
600 FOR N16 BARS
900 FOR N20 BARS
1000 FOR N24 BARS
1200 FOR N28 BARS
1500 FOR N32 BARS
1800 FOR N36 BARS

CONCRETE NOTES

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

ELEMENT	AS 3600 Fc MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE
VEHICULAR BASE	32	60	20
KERBS AND PATHS	25	80	20
PITS, FOUNDATIONS & CULVERT BASE SLABS	40	80	20

- CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL
- PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.
- NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY CARDNO.
- CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE 40mm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE.
- ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
- THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED AND CURED IN ACCORDANCE WITH R.T.A. SPECIFICATION R63.

PROPOSED WORKS LEGEND

PROPOSED

- PROPOSED CONTOURS
- SITE BOUNDARY
- BATTER SLOPE
- EXTENT OF WORKS
- EXISTING STAGING BOUNDARY
- CAUTION DANGER
- TREES TO BE REMOVED AS PART OF BULK EARTHWORKS PACKAGE.
- TREES TO BE RETAINED
- BATTERS
- STORMWATER PIPELINE
- STACKED ROCK HEADWALL
- DRAINAGE LINE No. DRAINAGE PIT No.
- STORMWATER DRAINAGE PITS
- Ø150mm SUBSOIL
- Ø100mm SUBSOIL
- FLUSHING POINT
- INTERMEDIATE RISER
- EXISTING WATER COURSES AS PER 1:10000 TOPOGRAPHIC MAPS
- SCOUR PROTECTION

EXISTING WORKS LEGEND

- TRANSGRID PYLON
- EXISTING CONTOURS
- TRANSGRID EASEMENT
- TRANSGRID OVERHEAD ELECTRICAL
- EXISTING SEWER

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Drawn	Date	Client
MCD	30.08.19	LENLEASE
Checked	Date	Project
DAC	30.08.19	JORDAN SPRINGS EAST
Designed	Date	NORTHERN RIPARIAN CORRIDOR
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Client	LENDLEASE
Project	JORDAN SPRINGS EAST NORTHERN RIPARIAN CORRIDOR CIVIL WORKS, DEVELOPMENT APPLICATION
Title	GENERAL NOTES & LEGENDS



CONTEXT PLAN
SCALE 1:5000

LEGEND

 NORTHERN RIPARIAN CORRIDOR EXTENT

 JORDAN SPRINGS EAST PROPERTY BOUNDARY

 EXISTING WATER COURSES AS PER 1:10000 TOPOGRAPHIC MAPS

0 100 200 300 400 500m

SCALE 1:5000 @A1

Rev.	Date	Description	Des.	Verif.	Appd.
3	30.09.19	UPDATE AND RE-ISSUE FOR DEVELOPMENT APPLICATION	MLL	AM	AM
2	30.08.19	ISSUED FOR DRAFT DEVELOPMENT APPLICATION APPROVAL	MLL		
1	06.07.18	DRAFT - ISSUED FOR COORDINATION	MLL		

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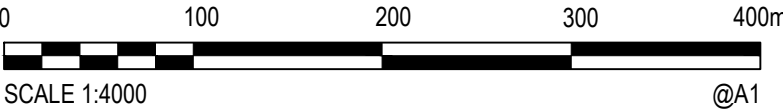
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Drawn	MCD	Date	30.08.19
Checked	DAC	Date	30.08.19
Designed	MLL	Date	30.08.19
Verified		Date	
Approved			
ARM		Date	30.08.19

Client	LENDELEASE
Project	JORDAN SPRINGS EAST NORTHERN RIPARIAN CORRIDOR CIVIL WORKS, DEVELOPMENT APPLICATION
Title	CONTEXT PLAN

Status	FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Datum	AHD	Scale	1:5000
Drawing Number	CV-CARDNO-NRC-1021		Revision
			3



Rev.	Date	Description	Des.	Verif.	Appd.
3	30.09.19	UPDATE AND RE-ISSUE FOR DEVELOPMENT APPLICATION	MLL	AM	AM
2	30.08.19	ISSUED FOR DRAFT DEVELOPMENT APPLICATION APPROVAL	MLL		
1	06.07.18	DRAFT - ISSUED FOR COORDINATION	MLL		

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Designed	MLL	Date	30.08.19
Verified		Date	
Approved			
ARM		Date	30.08.19

Client	LENLEASE
Project	JORDAN SPRINGS EAST NORTHERN RIPARIAN CORRIDOR CIVIL WORKS, DEVELOPMENT APPLICATION
Title	GENERAL ARRANGEMENT PLAN

Status	FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Datum	AHD	Scale	1:4000
Drawing Number	CV-CARDNO-NRC-1031		Revision
			3



Rev.	Date	Description	Des.	Verif.	Appd.
2	30.08.19	UPDATE AND R-EISSUE FOR DEVELOPMENT APPLICATION	MLL	AM	AM
1	30.08.19	ISSUED FOR DRAFT DEVELOPMENT APPLICATION APPROVAL	MLL		

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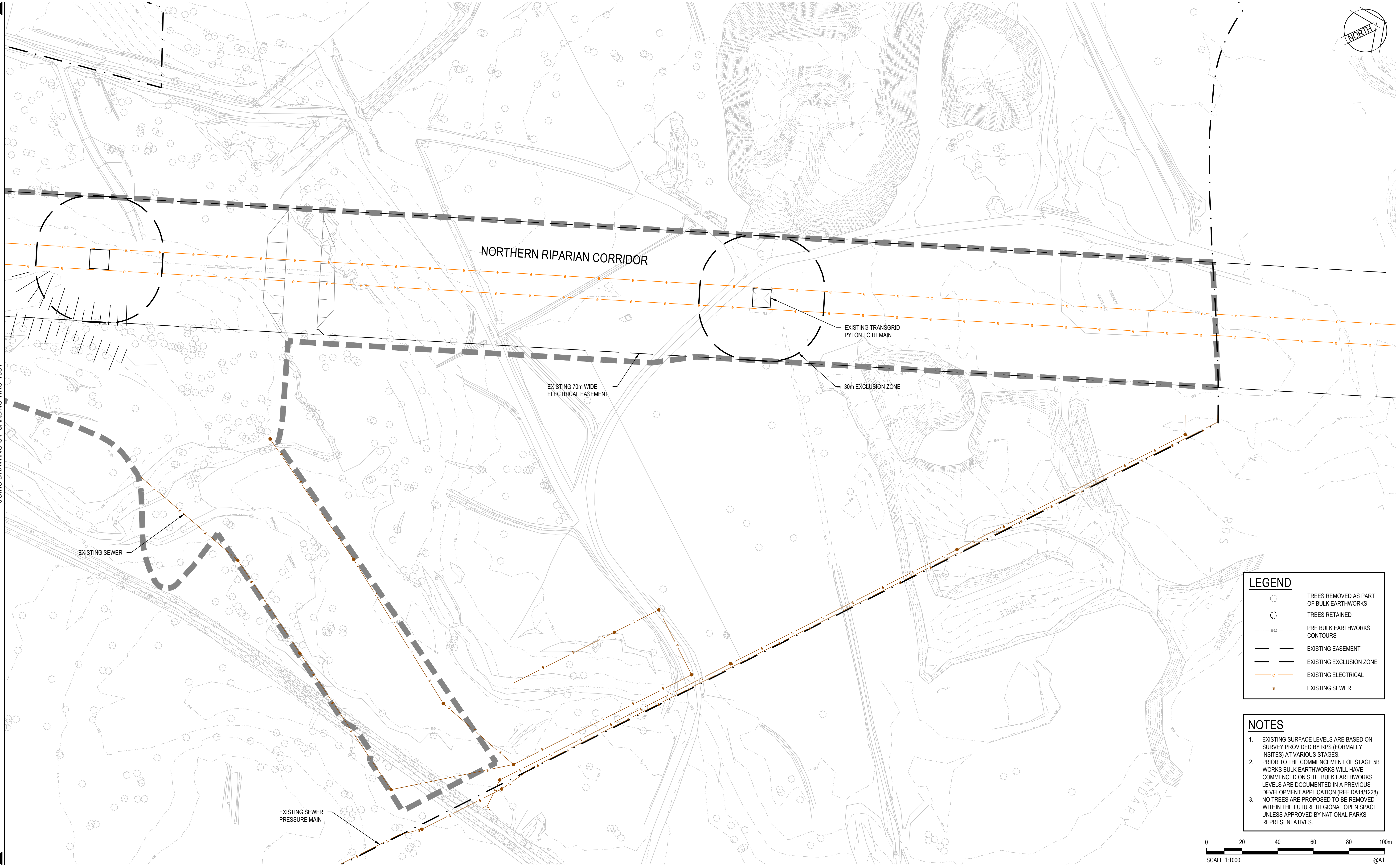
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Checked	DAC	Date	30.08.19
Designed	MLL	Date	30.08.19
Verified		Date	
Approved		Date	
ARM		Date	30.08.19

Client	LENLELEASE
Project	JORDAN SPRINGS EAST NORTHERN RIPARIAN CORRIDOR CIVIL WORKS, DEVELOPMENT APPLICATION
Title	EXISTING SERVICES AND SURVEY PLAN SHEET 1

Status	FOR INFORMATION ONLY		
NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Datum	AHD	Scale	1:1000
		Size	A1
Drawing Number	CV-CARDNO-NRC-1051		Revision
			2



LEGEND

- TREES REMOVED AS PART OF BULK EARTHWORKS
- TREES RETAINED
- PRE BULK EARTHWORKS CONTOURS
- EXISTING EASEMENT
- EXISTING EXCLUSION ZONE
- EXISTING ELECTRICAL
- EXISTING SEWER

NOTES

- EXISTING SURFACE LEVELS ARE BASED ON SURVEY PROVIDED BY RPS (FORMALLY INSITES) AT VARIOUS STAGES.
- PRIOR TO THE COMMENCEMENT OF STAGE 5B WORKS BULK EARTHWORKS WILL HAVE COMMENCED ON SITE. BULK EARTHWORKS LEVELS ARE DOCUMENTED IN A PREVIOUS DEVELOPMENT APPLICATION (REF DA14/1228)
- NO TREES ARE PROPOSED TO BE REMOVED WITHIN THE FUTURE REGIONAL OPEN SPACE UNLESS APPROVED BY NATIONAL PARKS REPRESENTATIVES.



Rev.	Date	Description	Des.	Verif.	Appd.
2	30.09.19	UPDATE AND R-EISSUE FOR DEVELOPMENT APPLICATION	MLL	AM	AM
1	30.08.19	ISSUED FOR DRAFT DEVELOPMENT APPLICATION APPROVAL	MLL		

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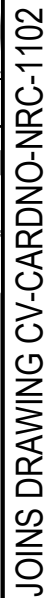
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Checked	DAC	Date	30.08.19
Designed	MLL	Date	30.08.19
Verified		Date	
Approved			
ARM		Date	30.08.19

Client	LENLEASE
Project	JORDAN SPRINGS EAST NORTHERN RIPARIAN CORRIDOR CIVIL WORKS, DEVELOPMENT APPLICATION
Title	EXISTING SERVICES AND SURVEY PLAN SHEET 2

Status	FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Datum	AHD	Scale	1:1000
Drawing Number	CV-CARDNO-NRC-1052		Revision
			2



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Drawn	Date	Client	LENDELEASE		
MCD	30.08.19				
Checked	Date	Project	JORDAN SPRINGS EAST NORTHERN RIPARIAN CORRIDOR CIVIL WORKS, DEVELOPMENT APPLICATION	Status	FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION PURPOSES
DAC	30.08.19				
Designed	Date				
MLL	30.08.19				
Verified	Date	Title			
Approved		EROSION AND SEDIMENTATION CONTROL PLAN SHEET 1	AHD	Scale	Size
ARM	30.08.19		Datum	1:1000	A1
			Drawing Number	Revision	
			CV-CARDNO-NRC-1101	3	



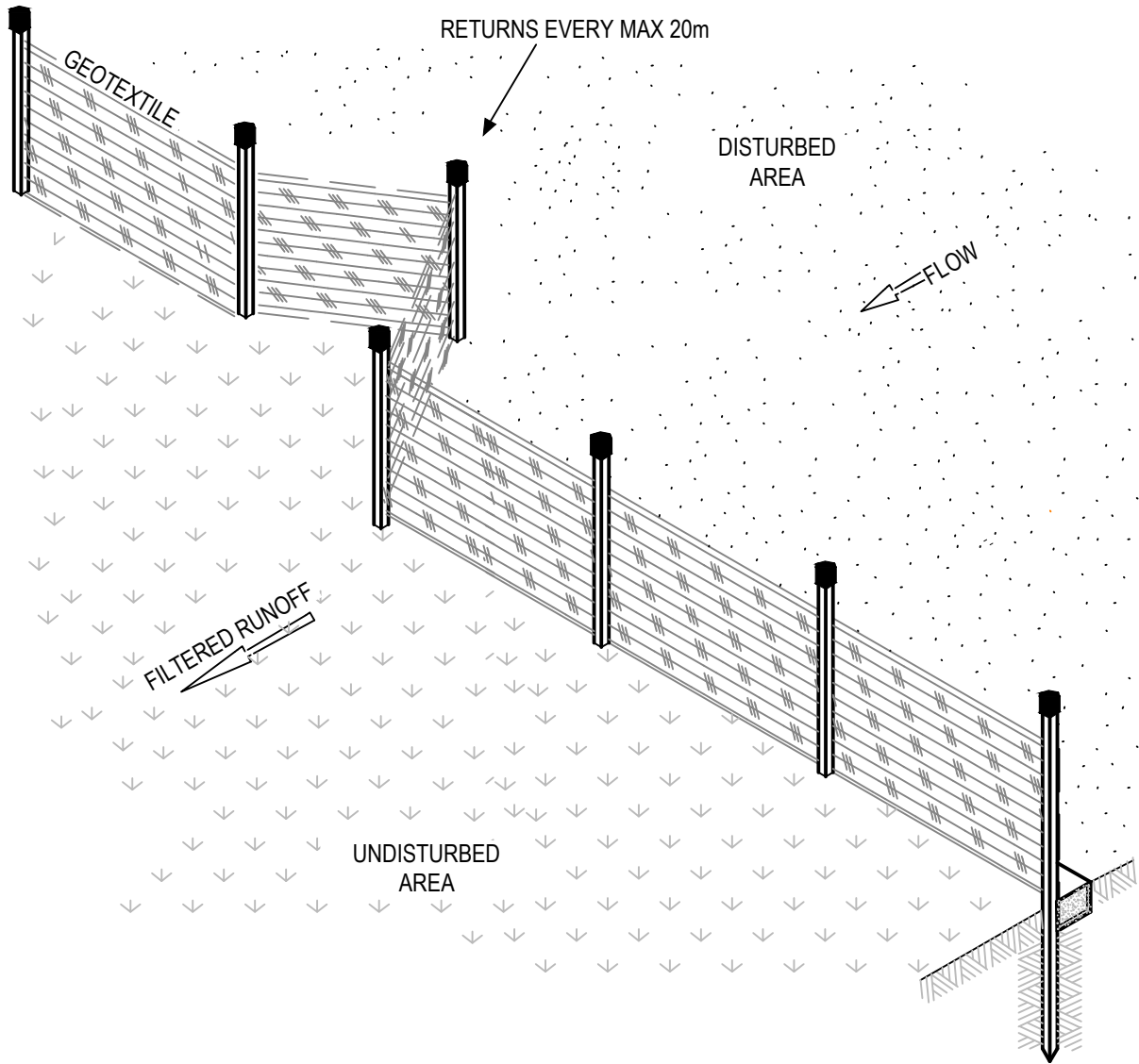
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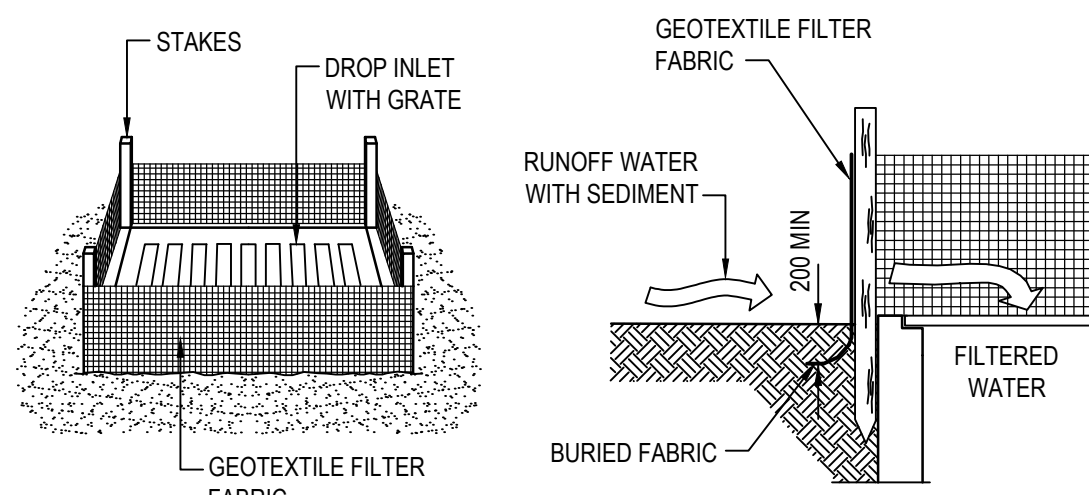
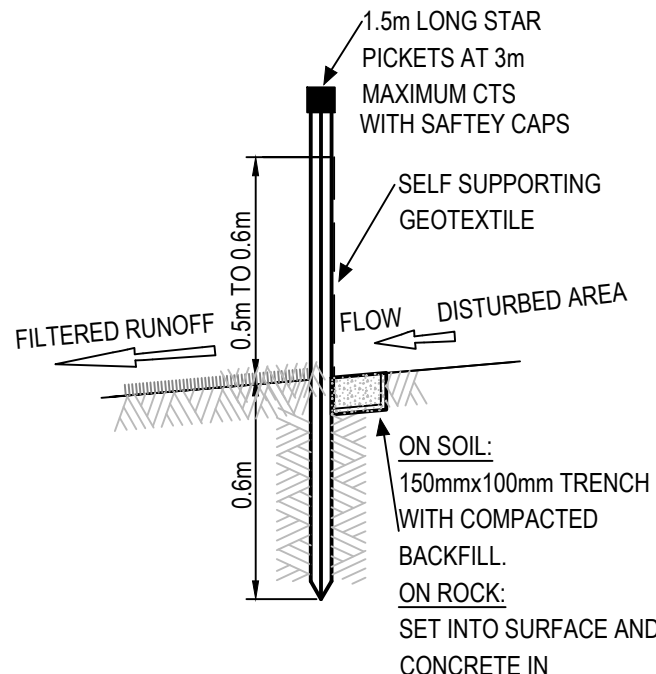
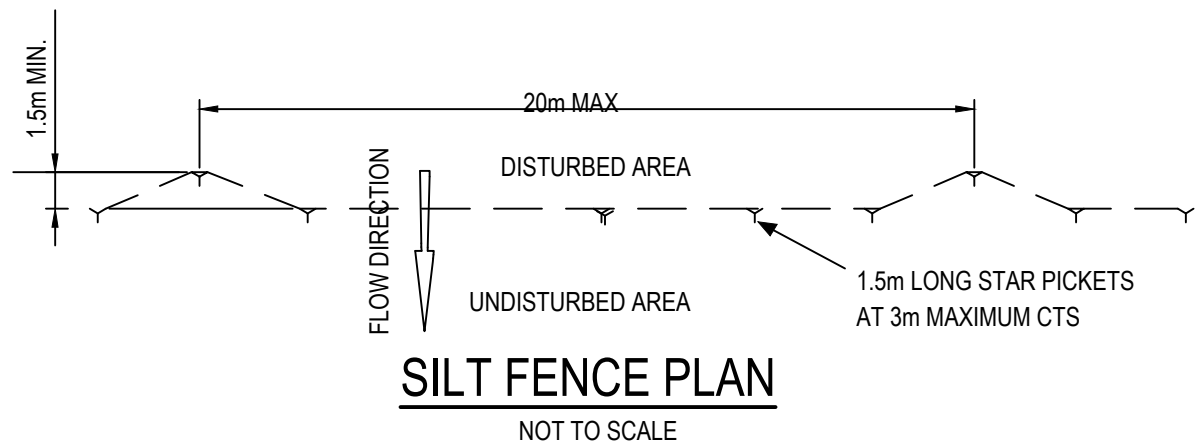
Client	LENDDLEASE
Project	JORDAN SPRINGS EAST NORTHERN RIPARIAN CORRIDOR CIVIL WORKS, DEVELOPMENT APPLICATION
Title	EROSION AND SEDIMENTATION CONTROL PLAN SHEET 2

Status				FOR INFORMATION ONLY			
NOT TO BE USED FOR CONSTRUCTION PURPOSES							
Datum		Scale		Size			
AHD		1:1000		A1			
Drawing Number						Revision	
CV-CARDNO-NRC-1102						3	

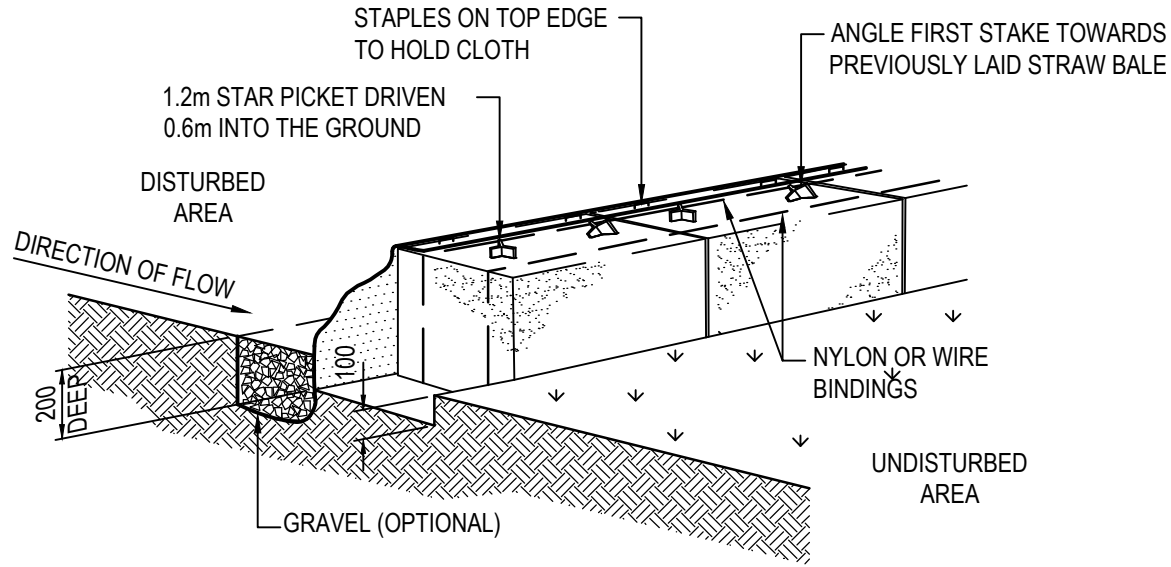
DATE PLOTTED: 1 October 2019 11:06 AM BY: WESLEY PHAM



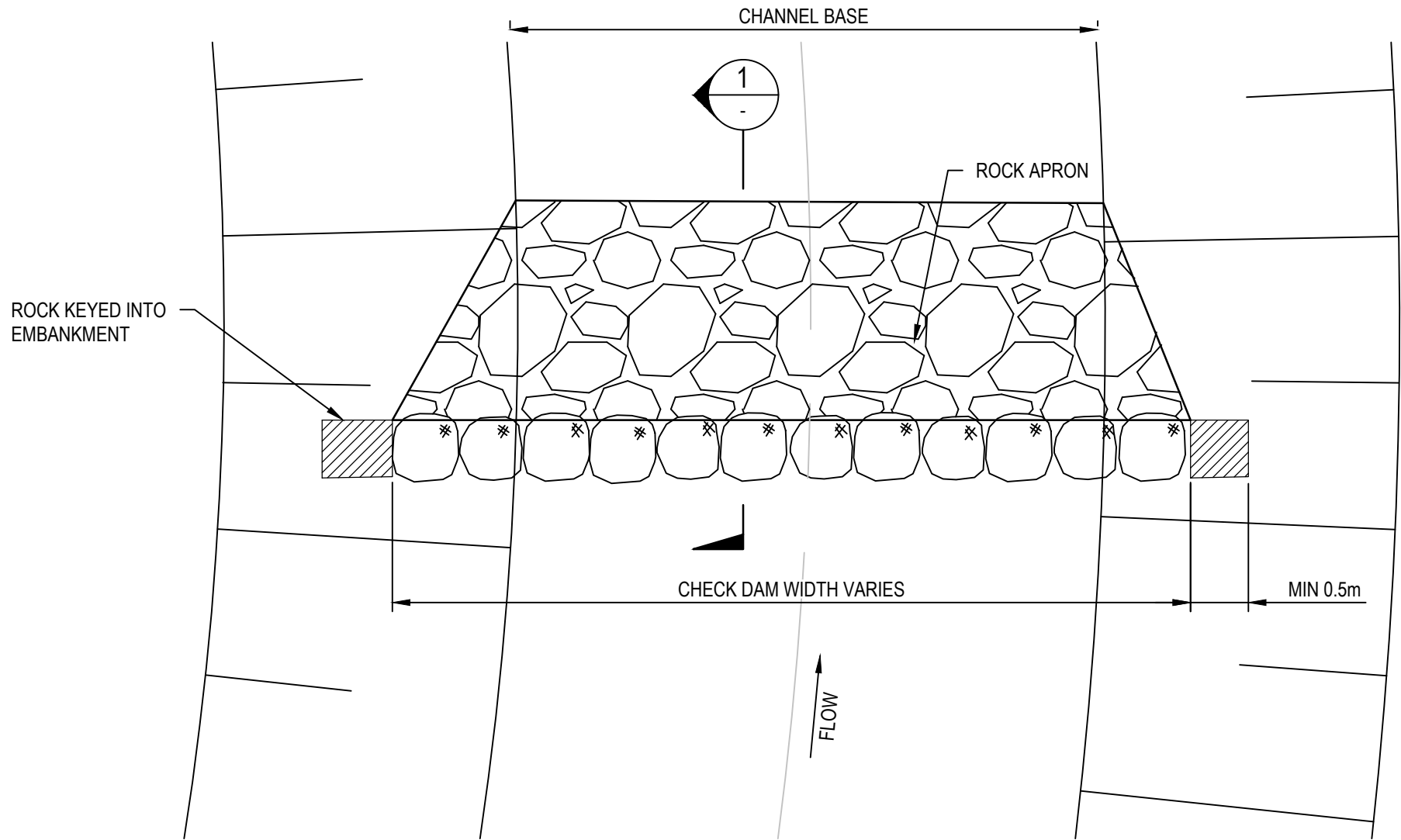
SILT FENCE
NOT TO SCALE



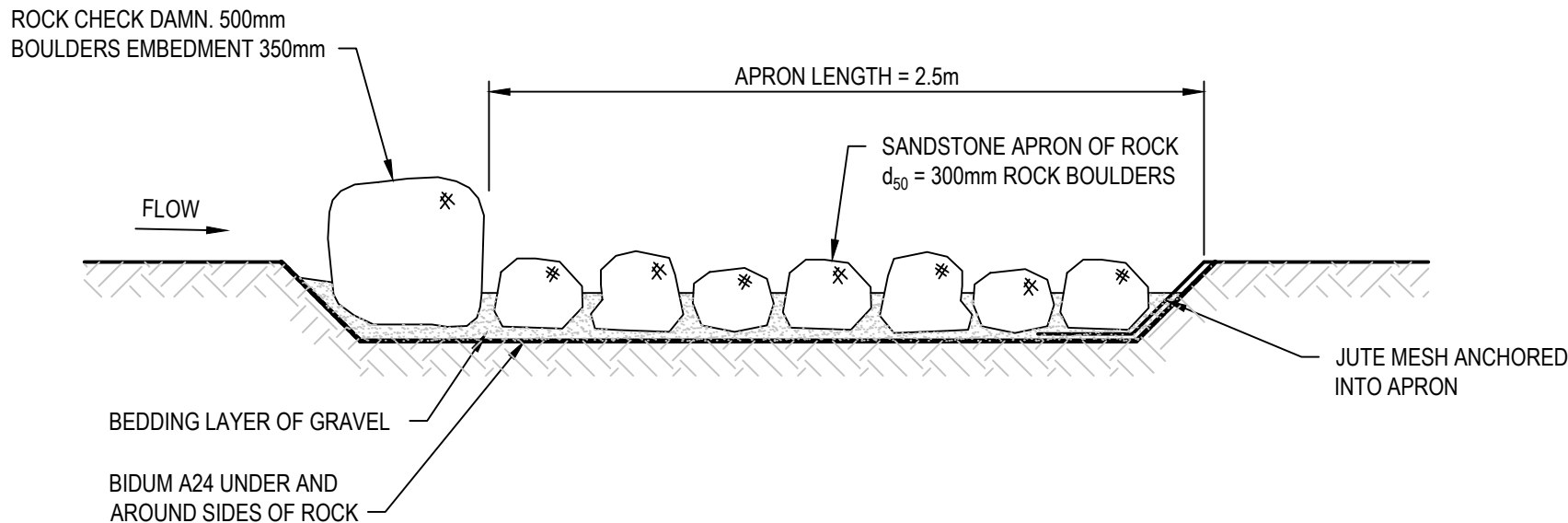
SEDIMENT TRAP FOR DROP INLET
(GEOTEXTILE FILTER FABRIC)
NOT TO SCALE



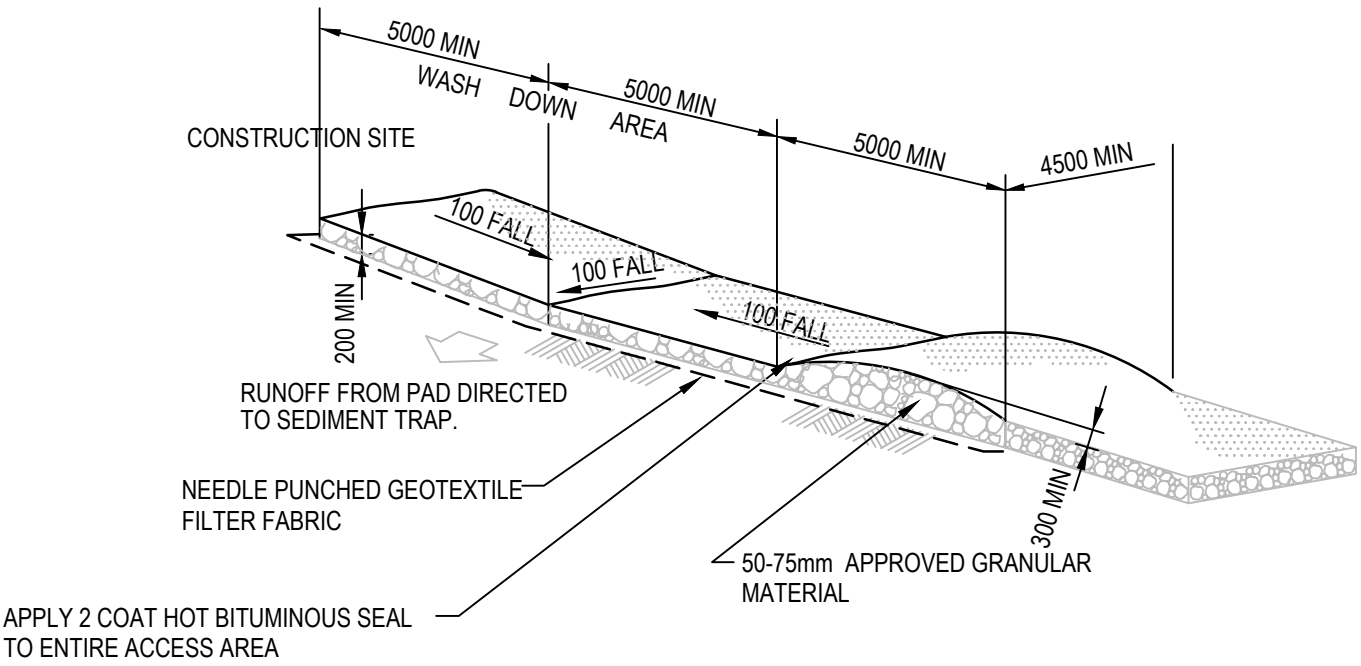
SEDIMENT FENCE
(GEOTEXTILE FILTER FABRIC & STRAW BALE)
NOT TO SCALE



TYPICAL ROCK CHECK DAM
NOT TO SCALE



SECTION 1
NTS



STABILISED SITE ENTRY/EXIT WITH WHEEL WASH
NOT TO SCALE

XREFs: Xref-8891020-Client-Logs
CAD File: \\cardno-corp\global\AU\NSW\Directory\Structure\Paramatta\Projects\8891F141020 Central Precinct ADI ST MARYS\Drawings\28 Northern Riparian Corridor\Drawings\CV-CARDNO-NRC-1131-DWG03.dwg

Rev.	Date	Description	Des.	Verif.	Appd.
3	30.08.19	UPDATE AND RE-ISSUE FOR DEVELOPMENT APPLICATION	MLL	AM	AM
2	30.08.19	ISSUED FOR DRAFT DEVELOPMENT APPLICATION APPROVAL	MLL		
1	06.07.18	DRAFT - ISSUED FOR COORDINATION	MLL		

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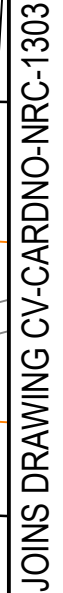
Drawn	MCD	Date	30.08.19
Checked	DAC	Date	30.08.19
Designed	MLL	Date	30.08.19
Verified		Date	
Approved			
ARM		Date	30.08.19

Client	LENLEASE
Project	JORDAN SPRINGS EAST NORTHERN RIPARIAN CORRIDOR CIVIL WORKS, DEVELOPMENT APPLICATION
Title	EROSION AND SEDIMENTATION CONTROL DETAILS

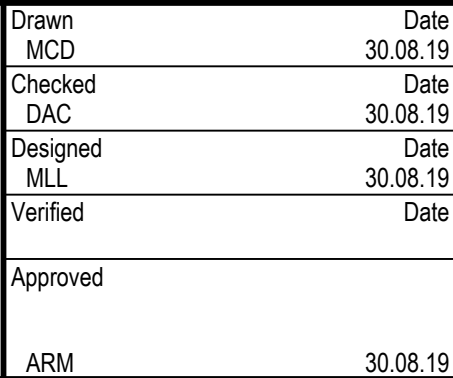
Status				
FOR INFORMATION ONLY				
NOT TO BE USED FOR CONSTRUCTION PURPOSES				
Datum		Scale	Size	
AHD		AS SHOWN		A1
Drawing Number				Revision
CV-CARDNO-NRC-1131				3



Status				FOR INFORMATION ONLY			
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Datum		Scale		Size			
AHD		1:500		A1			
Drawing Number						Revision	
CV-CARDNO-NRC-1301						4	

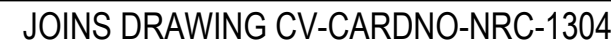


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Client	LENLEASE
Project	JORDAN SPRINGS EAST NORTHERN RIPARIAN CORRIDOR CIVIL WORKS, DEVELOPMENT APPLICATION
Title	CIVIL WORKS AND STORMWATER DRAINAGE PLAN SHEET 2

Status				FOR INFORMATION ONLY			
NOT TO BE USED FOR CONSTRUCTION PURPOSES							
Datum		Scale		Size			
AHD		1:500		A1			
Drawing Number						Revision	
CV-CARDNO-NRC-1302						4	



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Client	LENDELEASE
Project	JORDAN SPRINGS EAST NORTHERN RIPARIAN CORRIDOR CIVIL WORKS, DEVELOPMENT APPLICATION
Title	CIVIL WORKS AND STORMWATER DRAINAGE PLAN SHEET 3

Status FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Datum AHD		Scale 1:500	
		Size A1	
Drawing Number CV-CARDNO-NRC-1303			Revision 4



FUTURE STAGE

STAGE 4A

STAGE 4B

STAGE 5A

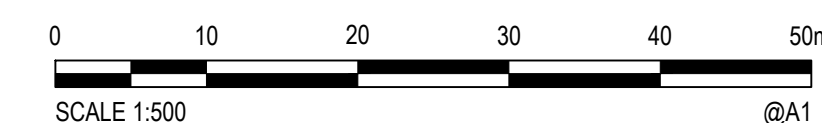
STAGE 5B

NOTE

REFER DRAWING 1301 FOR
NOTES AND LEGENDS.



1. EXISTING OVERHEAD HIGH VOLTAGE (TRANSGRID).



4	30.09.19	UPDATE AND RE-ISSUE FOR DEVELOPMENT APPLICATION	MLL	AM	AM	
3	30.08.19	ISSUED FOR DRAFT DEVELOPMENT APPLICATION APPROVAL	MLL			
2	09.08.19	REISSUED FOR COORDINATION	MLL			
1	06.07.18	DRAFT - ISSUED FOR COORDINATION	MLL			
Rev.	Date	Description	Des.	Verif.	Appd	



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MCD	30.08.19
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DAC	30.08.19
Designed	Date
MLL	30.08.19
Verified	Date
Approved	
ARM	30.08.19

Client LENDLEASE

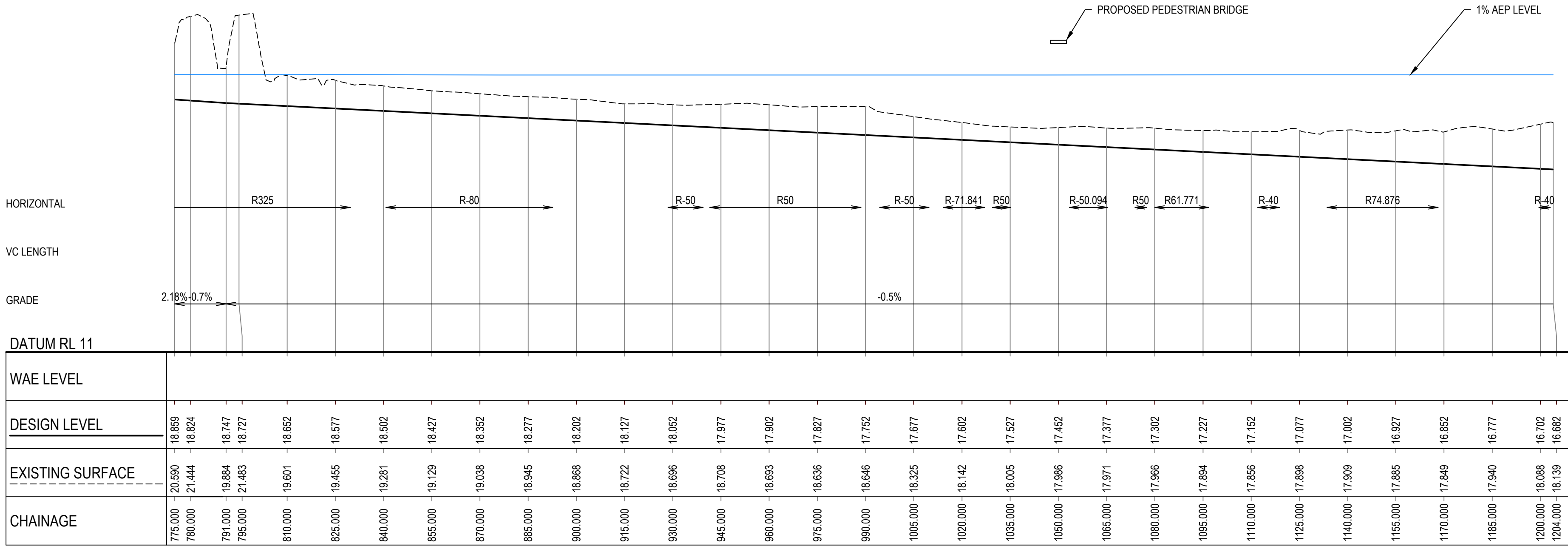
Project	JORDAN SPRINGS EAST NORTHERN RIPARIAN CORRIDOR CIVIL WORKS, DEVELOPMENT APPLICATION
Title	CIVIL WORKS AND STORMWATER DRAINAGE PLAN SHEET 4

Status **FOR INFORMATION ONLY**
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Datum		Scale	Size
AHD		1:500	A1
Drawing Number			Revision
CV-CARDNO-NRC-1304			4

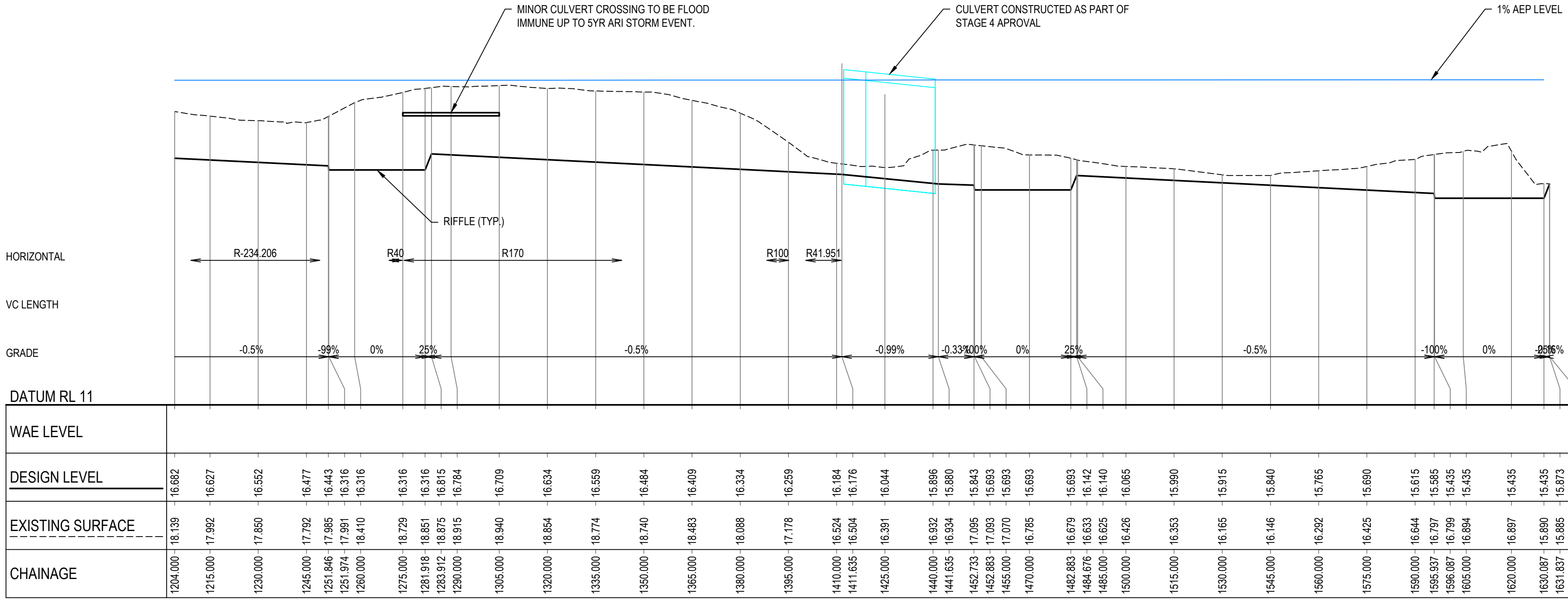
EXISTING ROAD BRIDGE
CROSSING

28.00



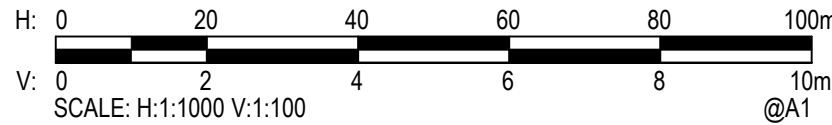
LOW FLOW CHANNEL LONGITUDINAL SECTION

1:1000 HORI.
1:100 VERT.



LOW FLOW CHANNEL LONGITUDINAL SECTION 2

1:1000 HORI.
1:100 VERT.



Rev.	Date	Description	Des.	Verif.	Appd.
3	30.09.19	UPDATE AND RE-ISSUE FOR DEVELOPMENT APPLICATION	MLL	AM	AM
2	30.08.19	ISSUED FOR DRAFT DEVELOPMENT APPLICATION APPROVAL	MLL		
1	06.07.18	DRAFT - ISSUED FOR COORDINATION	MLL		

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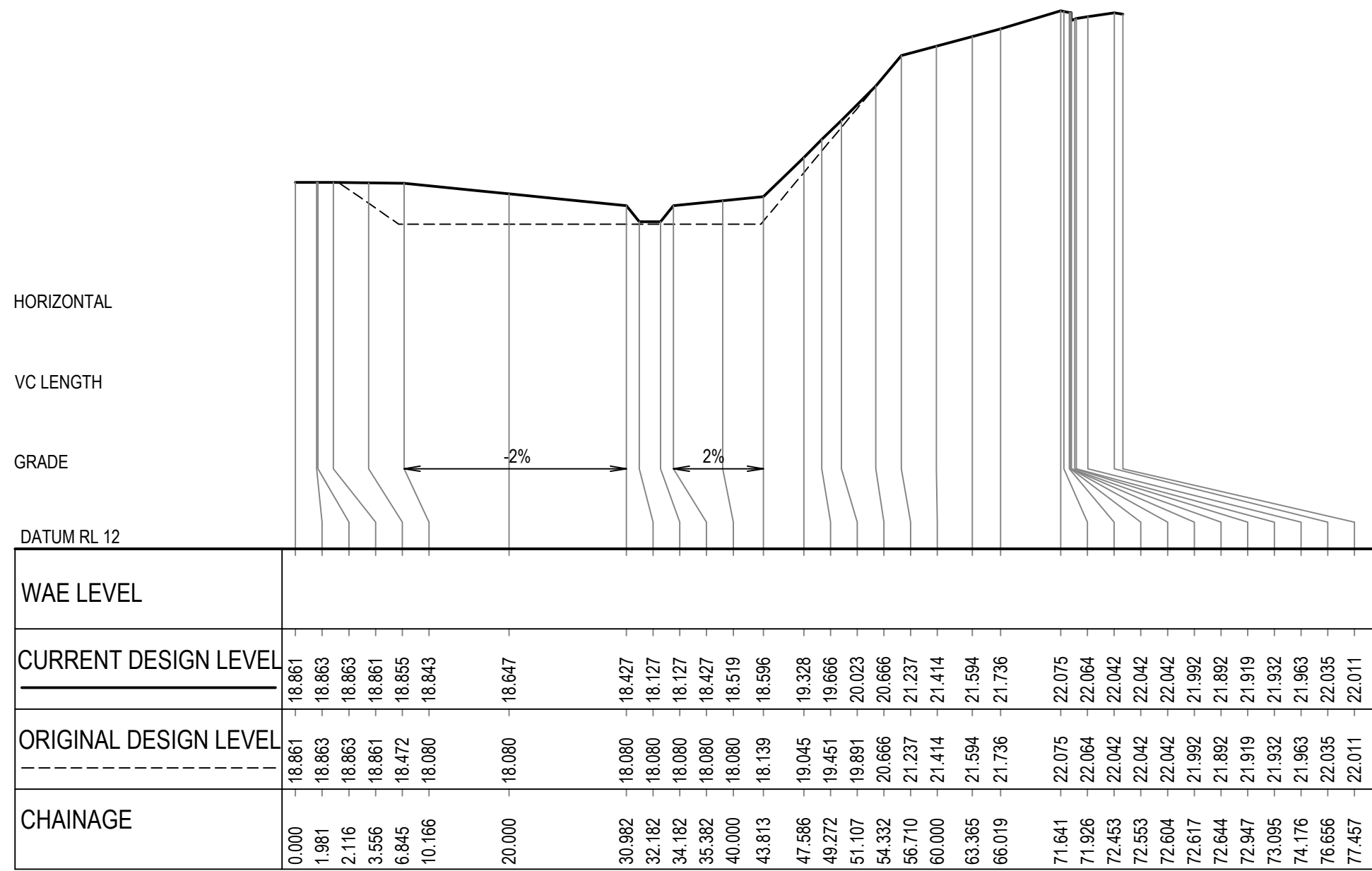


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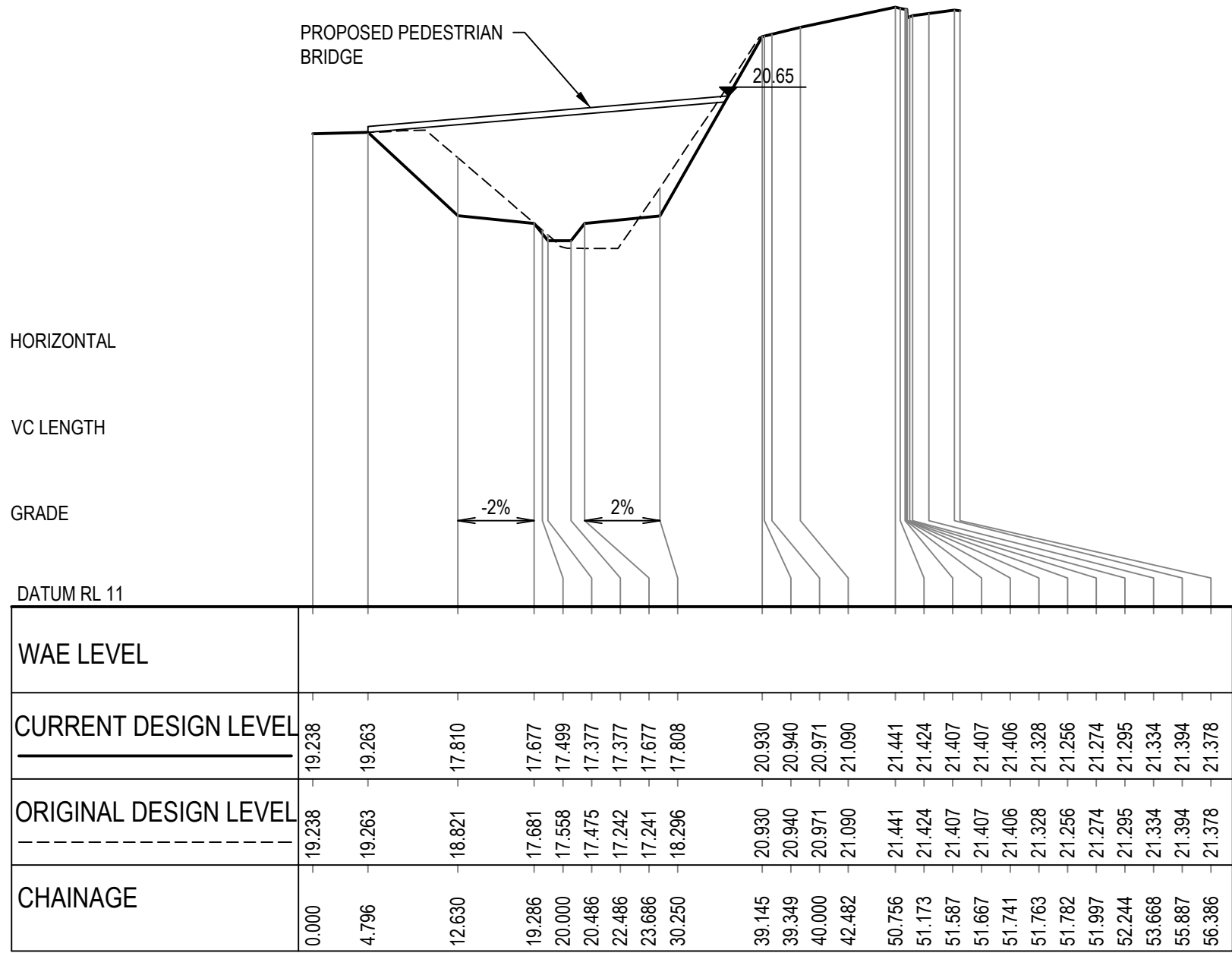
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Checked	DAC	Date	30.08.19
Designed	MLL	Date	30.08.19
Verified		Date	
Approved			
ARM			30.08.19

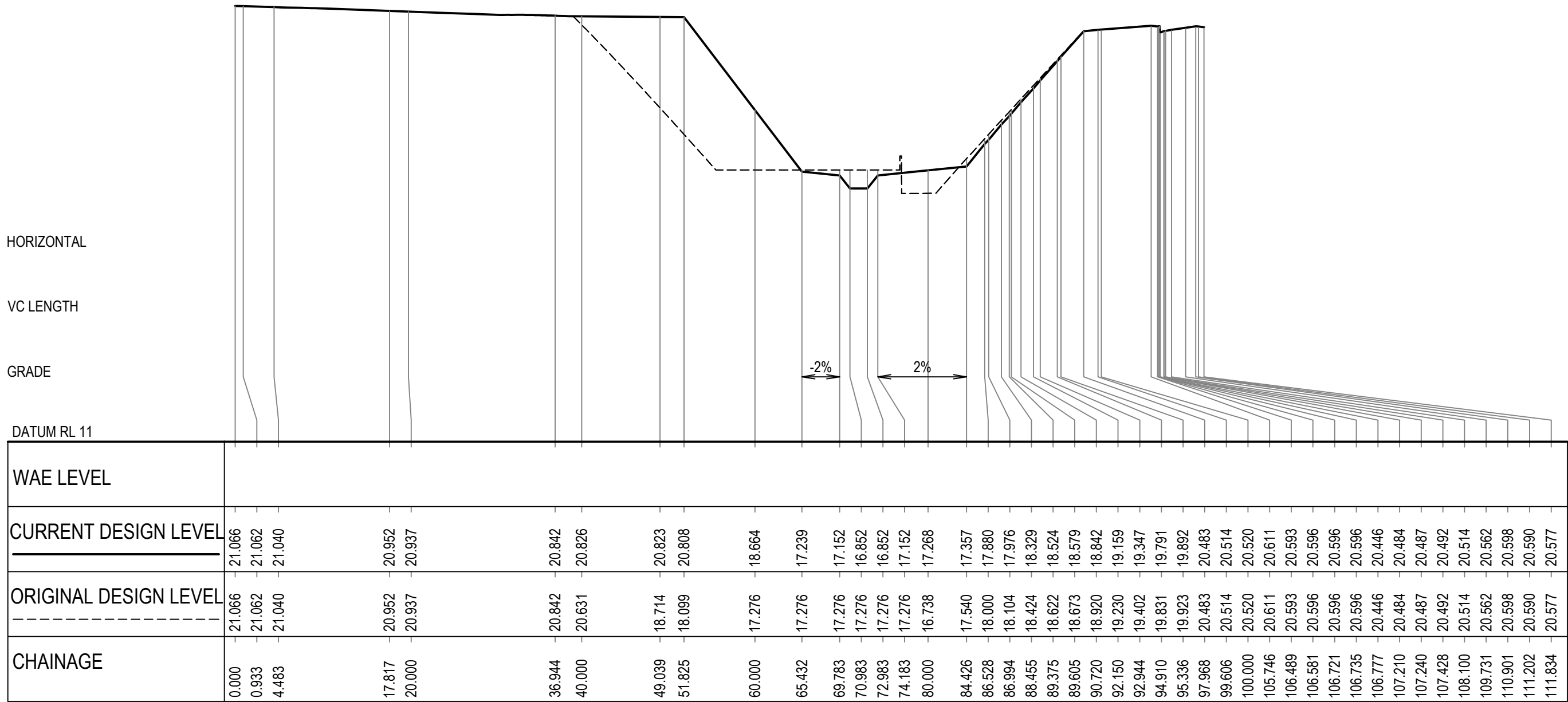
Client	LENLEASE
Project	JORDAN SPRINGS EAST NORTHERN RIPARIAN CORRIDOR CIVIL WORKS, DEVELOPMENT APPLICATION
Status	FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION PURPOSES
Datum	AHD
Scale	AS SHOWN
Size	A1
Drawing Number	CV-CARDNO-NRC-1351
Revision	3



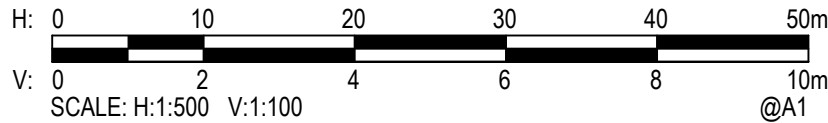
SECTION A
SCALE 1:500 (H)
SCALE 1:100 (V)
1301



SECTION B
SCALE 1:500 (H)
SCALE 1:100 (V)
1301



SECTION C
SCALE 1:500 (H)
SCALE 1:100 (V)
1302



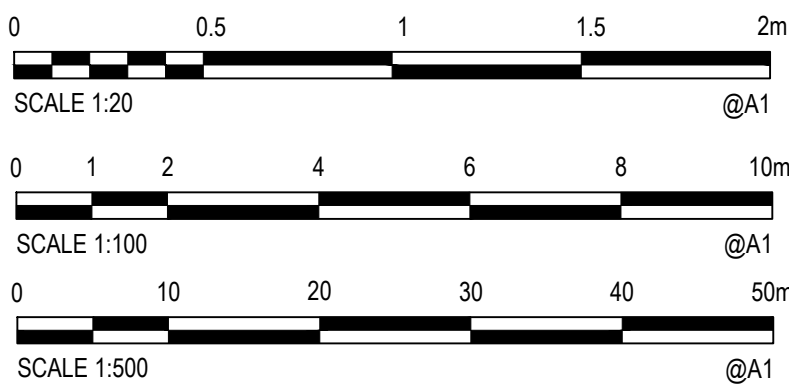
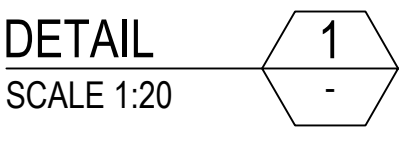
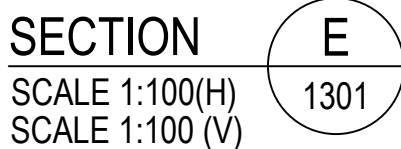
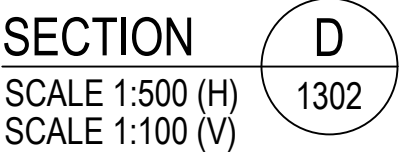
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Designed	MLL	Date	30.08.19
Verified		Date	
Approved			
ARM		30.08.19	

Client	LENLEASE
Project	JORDAN SPRINGS EAST NORTHERN RIPARIAN CORRIDOR CIVIL WORKS, DEVELOPMENT APPLICATION
Title	SITE SECTIONS SHEET 1

Status	FOR INFORMATION ONLY				
NOT TO BE USED FOR CONSTRUCTION PURPOSES					
Datum	AHD	Scale	AS SHOWN	Size	A1
Drawing Number	CV-CARDNO-NRC-1801			Revision	4



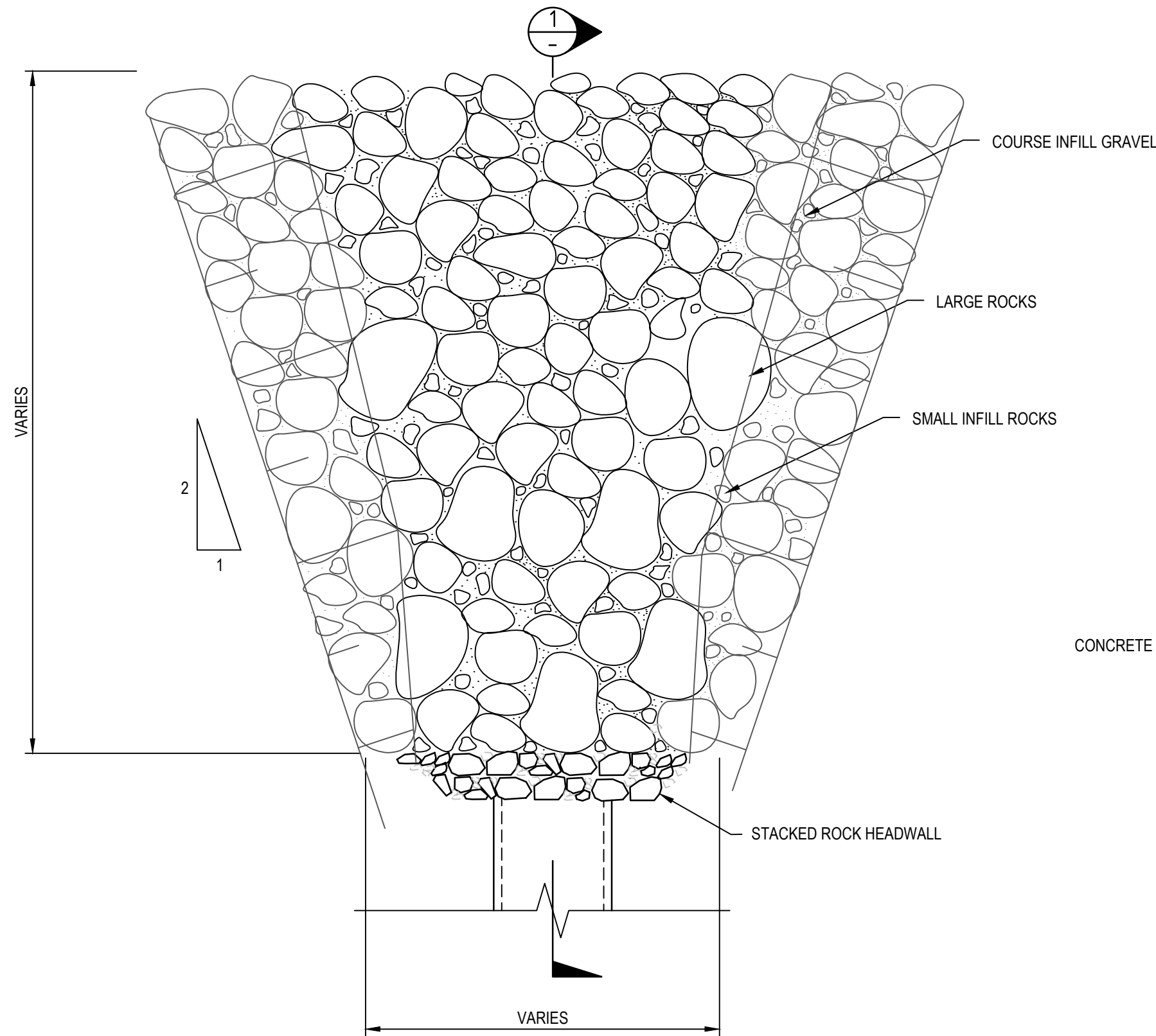
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Designed	Date
MLL	30.08.19
Verified	Date
Approved	
ARM	30.08.19

Client	LENDEASE
Project	JORDAN SPRINGS EAST NORTHERN RIPARIAN CORRIDOR CIVIL WORKS, DEVELOPMENT APPLICATION
Title	SITE SECTIONS SHEET 2

Status FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Date/	AHD	Scale	Size
		AS SHOWN	A1
Drawing Number			Revision
CV-CARDNO-NRC-1802			4



TYPICAL OUTLET HEADWALL SCOUR PROTECTION PLAN

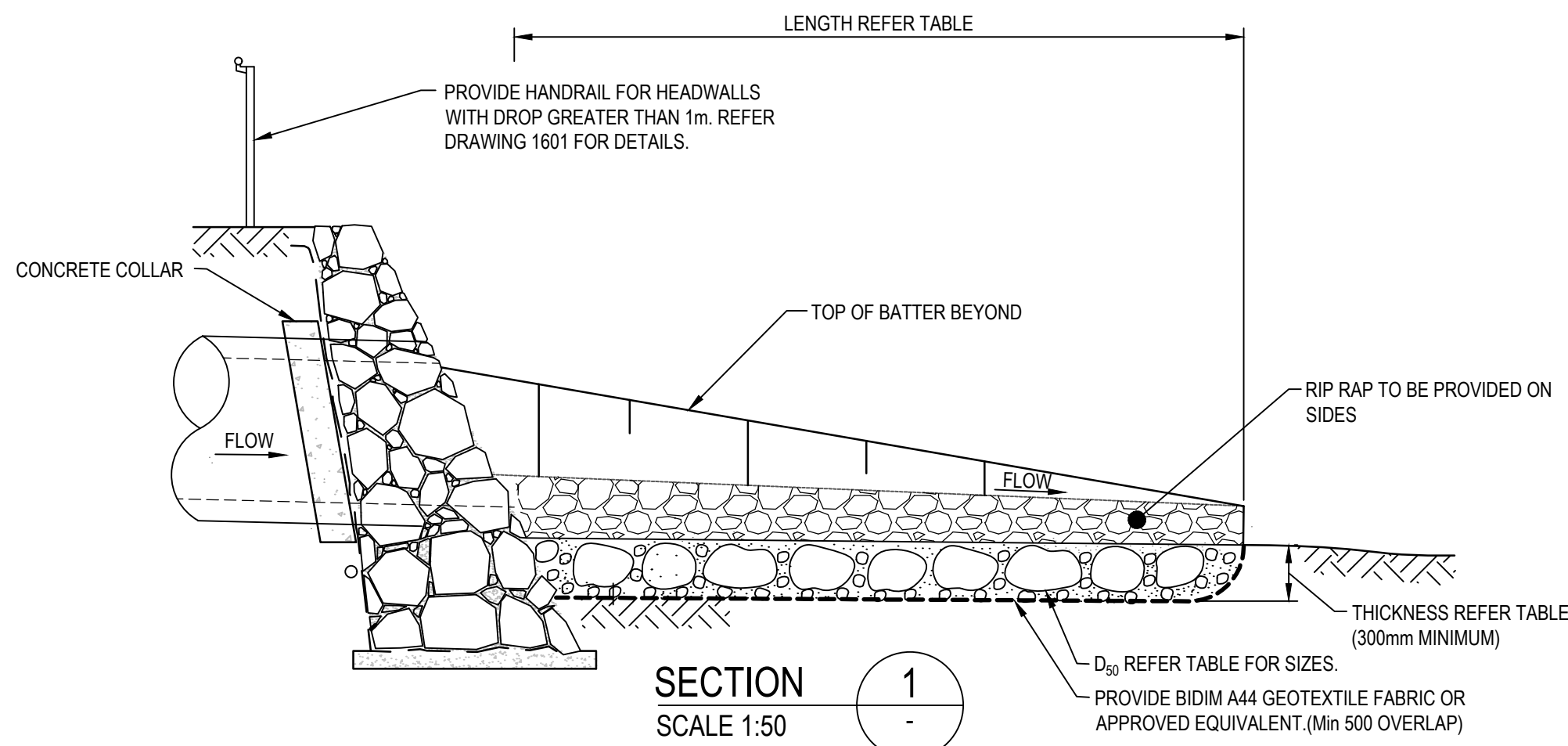
SCALE 1:50

HEADWALL RIP-RAP SCOUR PROTECTION (MINIMUM DIMENSIONS)

OUTLET NUMBER	LENGTH (mm)	WIDTH (mm)	THICKNESS (mm)	D50 (mm)
x	x	x	x	x

NOTE:

- TABLE VALUES TO BE DETERMINED AT DETAILED DESIGN.

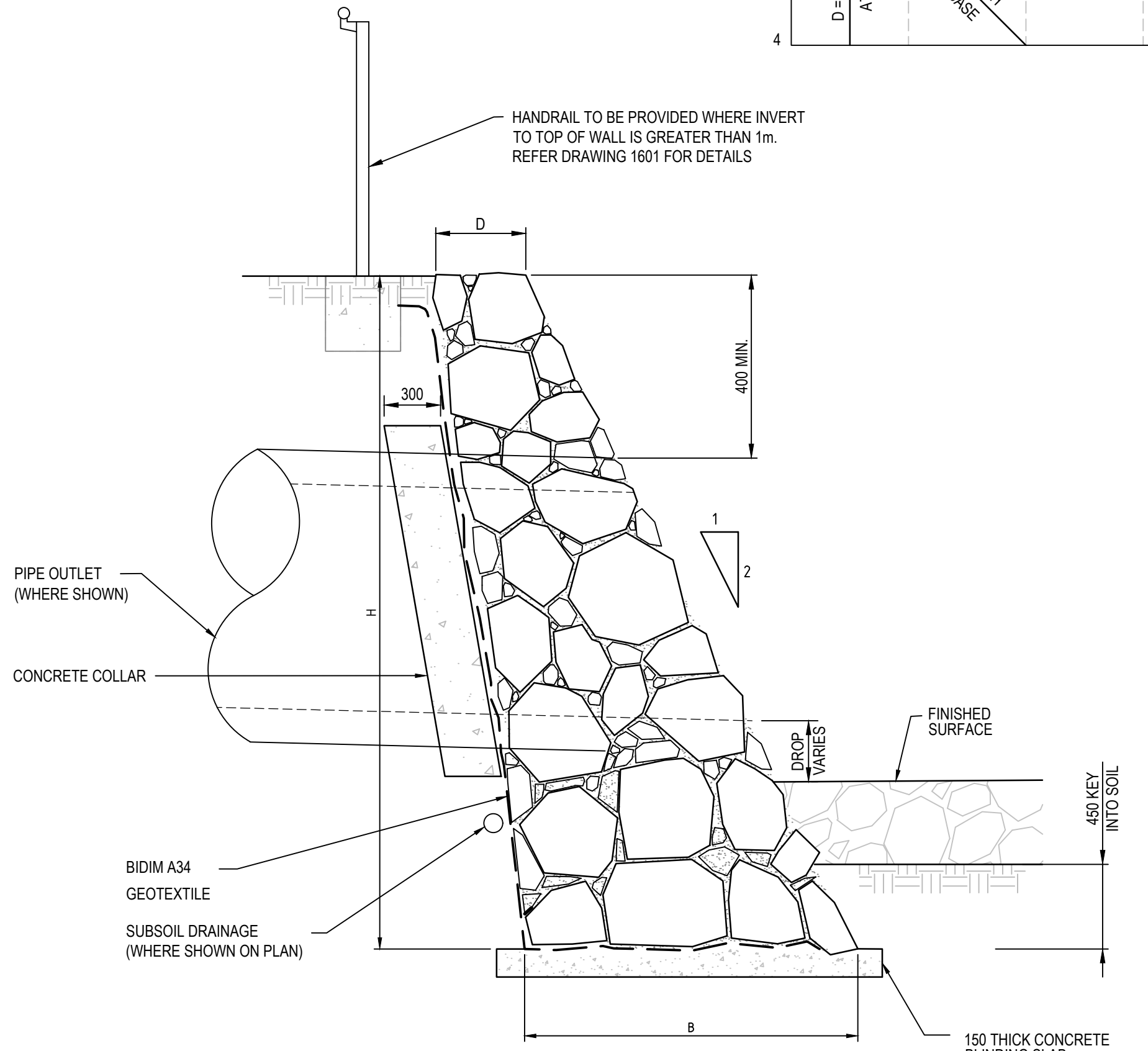
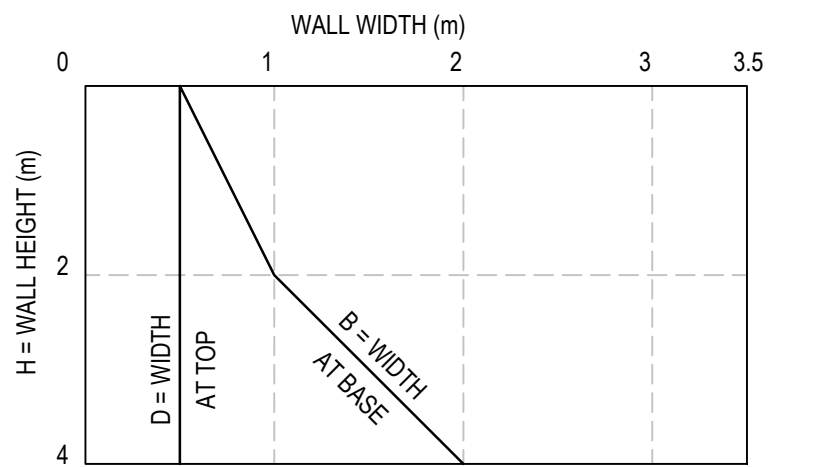


SECTION 1

SCALE 1:50

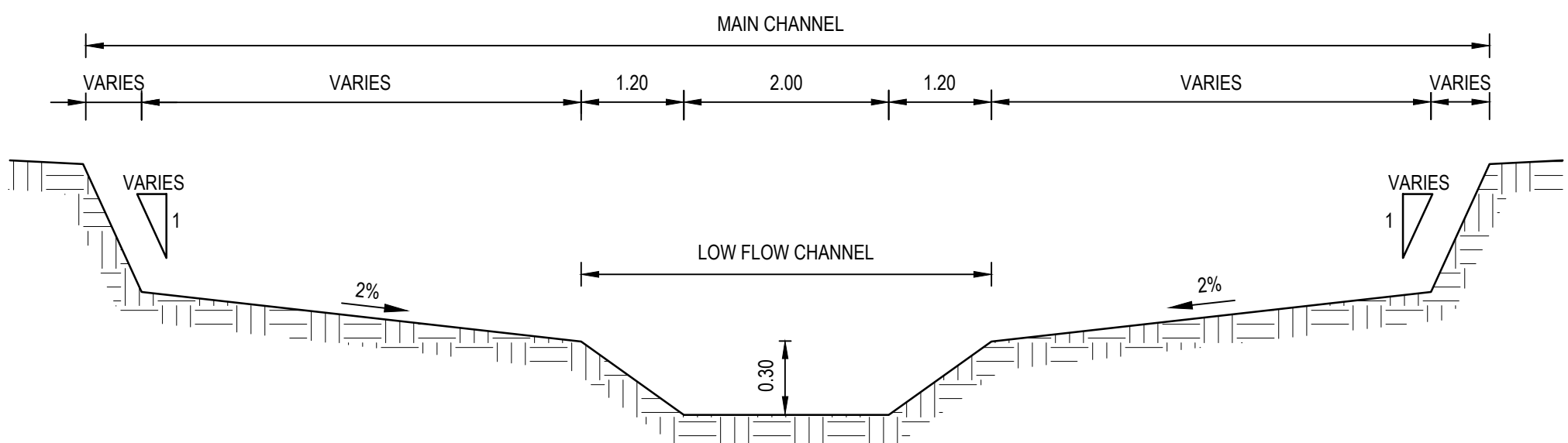
TYPICAL OUTLET HEADWALL SCOUR PROTECTION DETAIL

SCALE 1:50



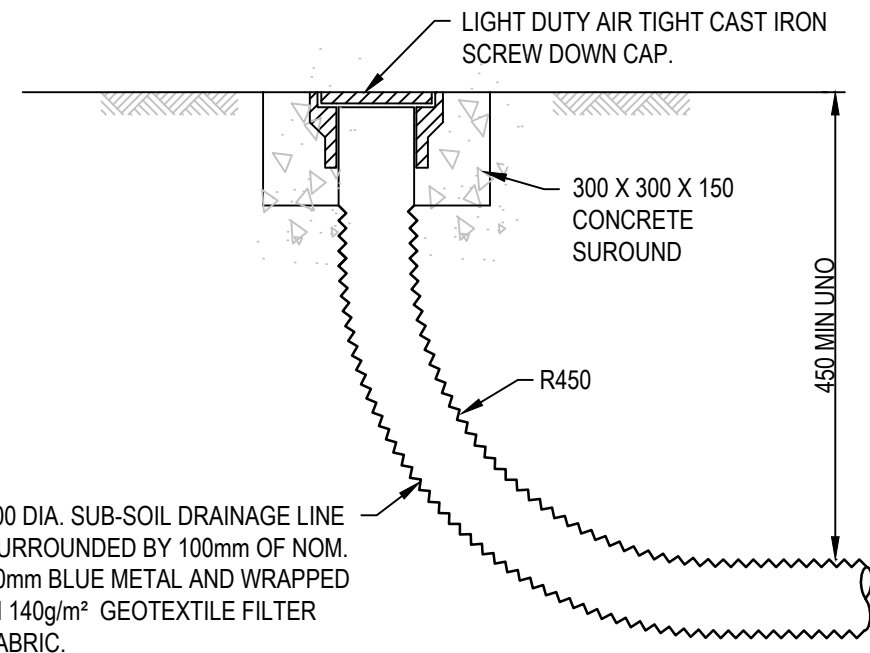
STACKED ROCK HEADWALL

SCALE 1:25



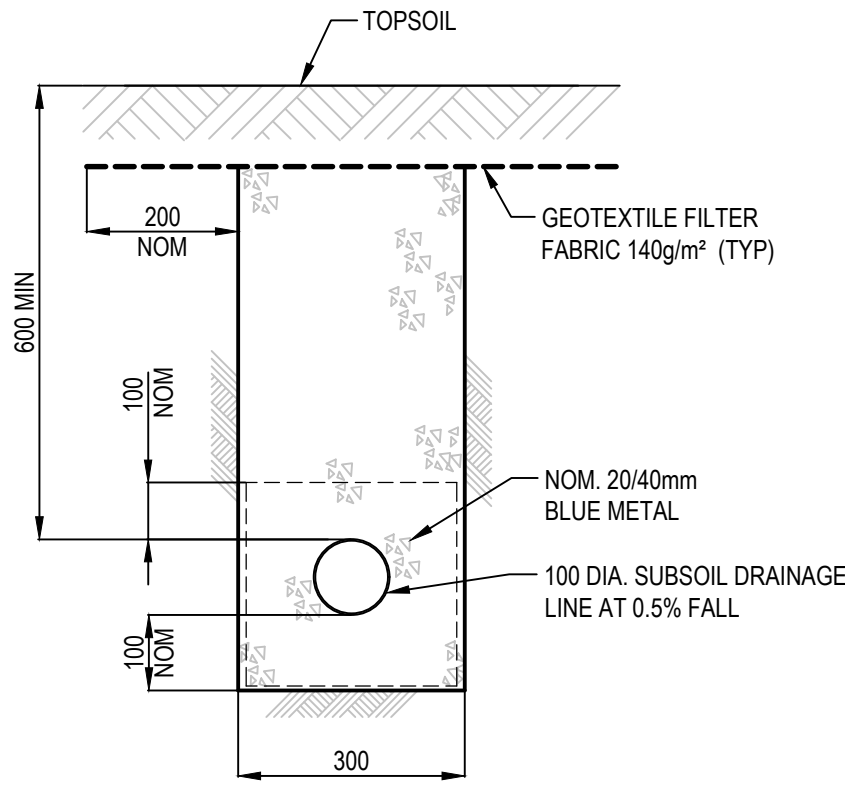
TYPICAL CHANNEL SECTION

NTS



FLUSHING POINT

SCALE 1:10



SUBSOIL IN LANDSCAPED AREAS

SCALE 1:10

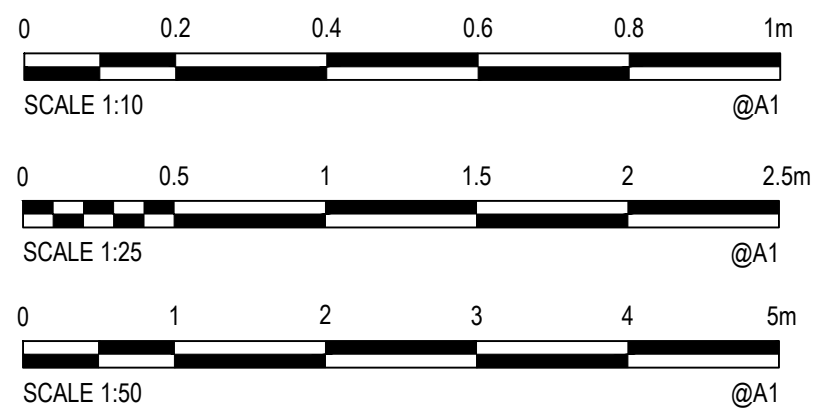
NOTES:

ROCK RIPRAP

- ALL RIPRAP MUST CONSIST OF ANGULAR RUN-OF-QUARRY DURABLE ROCK PLACED OVER A 200MM LAYER OF ANGULAR COBBLES D50=100MM MIXED WITH GRAVEL D50=10MM.
- ALL ROCK IS TO BE A HARD, DURABLE ROCK WITH A POINT INDEX LOAD IS50 GREATER THAN 1.0MPa AS DETERMINED IN ACCORDANCE WITH AS4133.4.1-2007.
- RIPRAP IS TO BE PLACED BY HAND AND CROW-BARRED INTO PLACE TO ENSURE FIT WITH MINIMUM VOIDS.
- ALL ROCK AND COBBLES TO BE PLACED WITH TOPSOIL. GAPS IN RIPRAP TO BE PLANTED AS SPECIFIED IN LANDSCAPING PLANS.
 - M50 - 60KG (NDW 300MD)
 - M15 - 25KG
 - 100 - 120KG

SUBSOIL DRAINAGE BEHIND KERB

REFER PENRITH CITY COUNCIL STANDARD DRAWING SD2004 FOR DETAILS.



lendlease

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Drawn	MCD	Date	30.08.19
Checked	DAC	Date	30.08.19
Designed	MLL	Date	30.08.19
Verified		Date	
Approved		Date	
ARM		Date	30.08.19

Client **LENLEASE**
Project **JORDAN SPRINGS EAST
NORTHERN RIPARIAN CORRIDOR
CIVIL WORKS, DEVELOPMENT APPLICATION**
Title **STORMWATER DRAINAGE
DETAILS**

Status				FOR INFORMATION ONLY
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Datum		Scale	Size	
AHD		AS SHOWN	A1	
Drawing Number				Revision
CV-CARDNO-NRC-2201				3