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LENDLEASE
JORDAN SPRINGS EAST
STAGE 3C - CIVIL WORKS
DEVELOPMENT APPLICATION



SCHEDULE OF DRAWINGS

DRAWING No.	DESCRIPTION
CV-CARDNO-ST03C-1001	COVER SHEET & DRAWING SCHEDULE
CV-CARDNO-ST03C-1011	GENERAL NOTES & LEGENDS
CV-CARDNO-ST03C-1021	CONTEXT PLAN
CV-CARDNO-ST03C-1031	GENERAL ARRANGEMENT PLAN
CV-CARDNO-ST03C-1041	DEVELOPMENT APPLICATION STAGING AND ROAD HIERARCHY PLAN
CV-CARDNO-ST03C-1101	EROSION AND SEDIMENTATION CONTROL PLAN
CV-CARDNO-ST03C-1131	EROSION AND SEDIMENTATION CONTROL DETAILS
CV-CARDNO-ST03C-1251	TYPICAL ROAD CROSS SECTIONS AND PAVEMENT DETAILS
CV-CARDNO-ST03C-1301	CIVIL WORKS AND STORMWATER DRAINAGE PLAN
CV-CARDNO-ST03C-1351	ROAD LONGITUDINAL SECTIONS ROAD 027, 028 & 028A
CV-CARDNO-ST03C-1601	CIVIL WORKS DETAILS SHEET 1
CV-CARDNO-ST03C-1602	CIVIL WORKS DETAILS SHEET 2
CV-CARDNO-ST03C-1701	PAVEMENT, SIGNAGE & LINEMARKING PLAN
CV-CARDNO-ST03C-2201	STORMWATER DRAINAGE DETAILS SHEET 1
CV-CARDNO-ST03C-2202	STORMWATER DRAINAGE DETAILS SHEET 2
CV-CARDNO-ST03C-2301	INTERNAL STORMWATER CATCHMENT PLAN

XREF's: CAD File: N:\Parramatta\Projects\893\FY14\020_CENTRAL PRECINCT_ADI ST MARYS\Drawings\29 Jordan Springs East Stage 3C\Drawings\CV-CARDNO-ST03C-1001-DWG(d).dwg

4	25.07.19	ISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
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Rev.	Date	Description	Des.	Verif.	Appd.

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Drawn	Date	Status			
MCD	25.07.19	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Checked	Date				
DAC	25.07.19				
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ARM	25.07.19	AHD		A1	
Approved		Drawing Number	Revision		
ARM	25.07.19	CV-CARDNO-ST03C-1001	4		

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 ON GROUND	98%
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:-
(A) 1 TEST PER 1,000m² OF FILL PLACED PER LAYER OF FILL.
(B) 3 TESTS PER VISIT
(C) 1 TEST PER 1000m² OF EXPOSED SUBGRADE "LEVEL 1" TESTING SHALL BE TESTING IN ACCORDANCE WITH AS 3798 (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.

EROSION CONTROL

- 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, WHICHEVER 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:
(A) AVERAGE RECURRENCE INTERVAL:
5 YEAR ARI PIPED DRAINAGE
100 YEAR ARI OVERLAND FLOW
(B) 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 POTHOLING 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/LC (FORMERLY WHELANS 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 WHELANS FROM SURROUNDING SSM & PM'S ON PUBLIC RECORD. CO-ORDINATES FOR PM 147113 HAVE BEEN ADOPTED 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%

ROOF WATER KERB OUTLETS

- KERB OUTLETS TO BE PROVIDED IN ACCORDANCE WITH PENRITH CITY COUNCILS CIVIL WORKS SPECIFICATION AT EACH LOT WHERE INTERALLOTMENT DRAINAGE IS NOT PROVIDED
- KERB OUTLETS ARE TO BE CONSTRUCTED AT THE SAME TIME KERBS ARE POURED.
- ALIGNMENT OF KERB OUTLET PIPE TO BE ADJUSTED ON SITE TO AVOID SERVICE CLASHES.

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
4N20-200
25 MIN. TYPICAL FABRIC LAP
- THE FIGURES FOLLOWING THE FABRICS SYMBOL 'SL' IS THE REFERENCE NUMBER FOR FABRIC TO AS 1304.
- ALL REINFORCEMENT FABRIC SHALL COMPLY WITH AS1303 AND AS1304 AND SHALL BE SUPPLIED AS FLAT SHEETS.
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 UNPLCED WHERE NECESSARY AND LAP WITH MAIN BARS 450mm SPOUNED 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

- 100.0 --- PROPOSED CONTOURS
- . --- SITE BOUNDARY
- BATTER SLOPE
- █ EXTENT OF WORKS
- █ EXISTING STAGING BOUNDARY
- TREES TO BE REMOVED AS PART OF BULK EARTHWORKS PACKAGE.
- TREES TO BE RETAINED
- BATTERS
- 1001 LOT NUMBERS
- K&G KERB & GUTTER
REFER PENRITH CITY COUNCIL STANDARD DETAIL.
- RK&G ROLL KERB & GUTTER
REFER PENRITH CITY COUNCIL STANDARD DETAIL.
- DD DISH DRAIN
REFER PENRITH CITY COUNCIL STANDARD DETAIL.
- KO KERB ONLY
REFER PENRITH CITY COUNCIL STANDARD DETAIL.
- PR PRAM RAMP
REFER PENRITH CITY COUNCIL STANDARD DETAIL.
- INDICATIVE GARAGE/DRIVEWAY LOCATION ONLY. REFER BUILDERS REQUIREMENTS FOR DETAILS.
- 0375 --- STORMWATER PIPELINE
- STORMWATER DRAINAGE PITS
- CONCRETE HEADWALL
- CLV2 DRAINAGE LINE No.
DRAINAGE PIT No.
- EXISTING WATER COURSES AS PER 1:10000 TOPOGRAPHIC MAPS
- SCOUR PROTECTION

EXISTING WORKS LEGEND

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

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lendlease

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Drawn	Date	Client
MCD	25.07.19	LENDLEASE
Checked	Date	Project
DAC	25.07.19	JORDAN SPRINGS EAST
Designed	Date	STAGE 3C - CIVIL WORKS
DAC	25.07.19	DEVELOPMENT APPLICATION
Verified	Date	Title
ARM	25.07.19	GENERAL NOTES & LEGENDS
Approved	Date	
ARM	25.07.19	

Client		LENLEASE			
Project	JORDAN SPRINGS EAST STAGE 3C - CIVIL WORKS DEVELOPMENT APPLICATION			Status	FOR APPROVAL
				NOT TO BE USED FOR CONSTRUCTION PURPOSES	
Title	GENERAL NOTES & LEGENDS			Datum	AHD
				Scale	Size
					A1
				Drawing Number	Revision
				CV-CARDNO-ST03C-1011	4



CONTEXT PLAN
SCALE 1:5000

LEGEND

STAGE 3C 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.
4	25.07.19	ISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
3	26.06.19	ISSUED FOR DRAFT DA DOCUMENTATION	DAC	ARM	ARM
2	20.12.18	REISSUED FOR COORDINATION	DAC	ARM	ARM
1	06.08.18	DRAFT - ISSUED FOR COORDINATION	DAC	ARM	ARM



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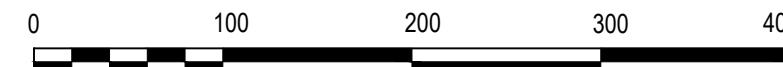
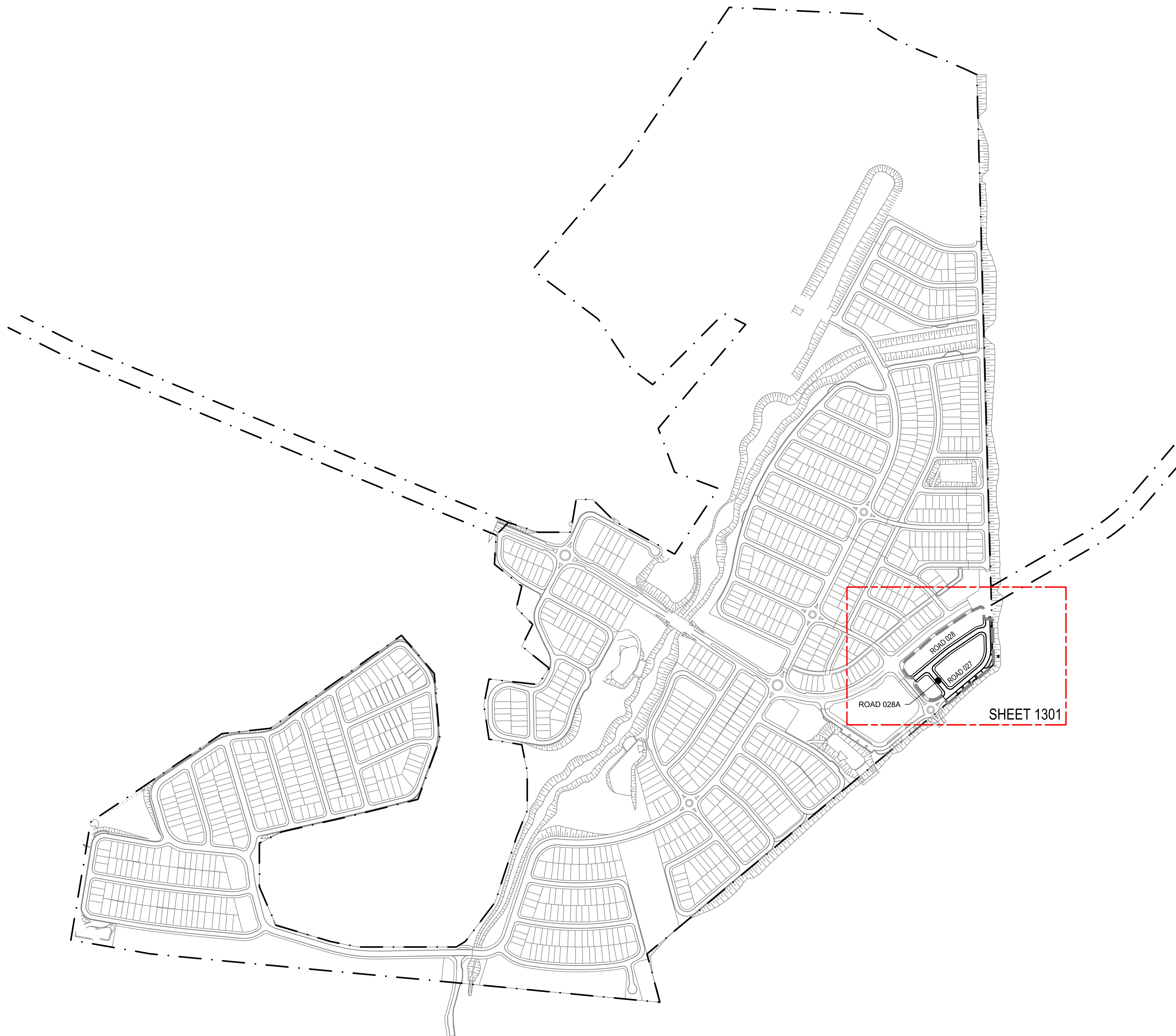
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Designed	DAC	Date	25.07.19
Verified	ARM	Date	25.07.19
Approved	ARM	Date	25.07.19

Client	LENDELEASE
Project	JORDAN SPRINGS EAST STAGE 3C - CIVIL WORKS DEVELOPMENT APPLICATION
Title	CONTEXT PLAN

Status	FOR APPROVAL		
NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Datum	AHD	Scale	1:5000
		Size	A1
Drawing Number			Revision
CV-CARDNO-ST03C-1021			4



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3	26.06.19	ISSUED FOR DRAFT DA DOCUMENTATION	DAC		ARM
2	20.12.18	REISSUED FOR COORDINATION	DAC		ARM
1	06.08.18	DRAFT - ISSUED FOR COORDINATION	DAC		ARM
Rev.	Date	Description	Des.	Verif.	Appd.



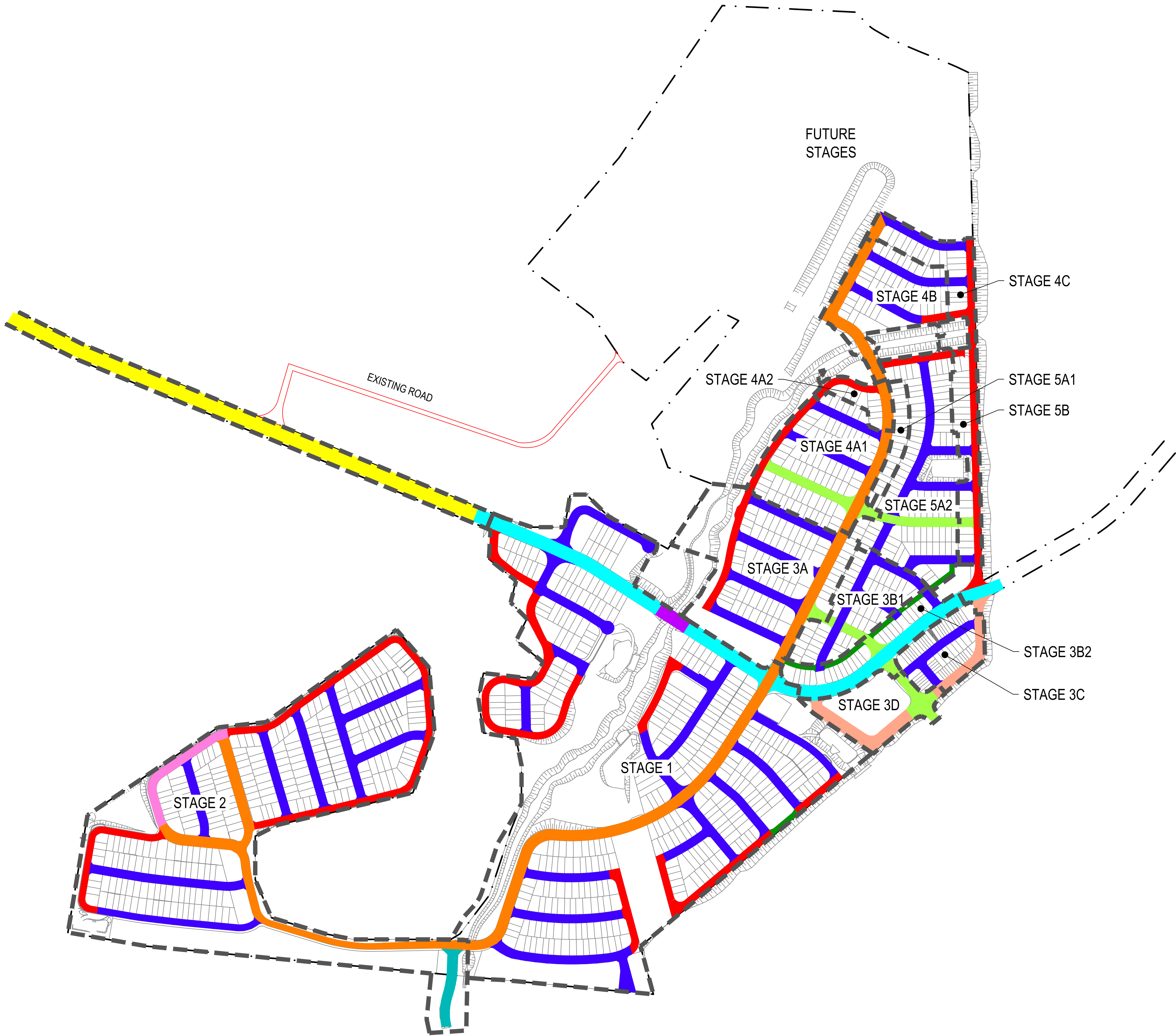
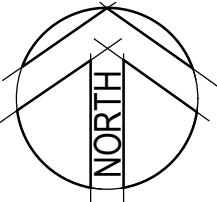
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Designed	Date
DAC	25.07.19
Verified	Date
ARM	25.07.19
Approved	
ARM	25.07.19

Client	LENDLEASE
Project	JORDAN SPRINGS EAST STAGE 3C - CIVIL WORKS DEVELOPMENT APPLICATION
Title	GENERAL ARRANGEMENT PLAN

Status	FOR APPROVAL		
NOT TO BE USED FOR CONSTRUCTION PURPOSE			
Date		Scale	Size
AHD		1:4000	A1
Drawing Number			Revision
CV-CARDNO-ST03C-1031			4

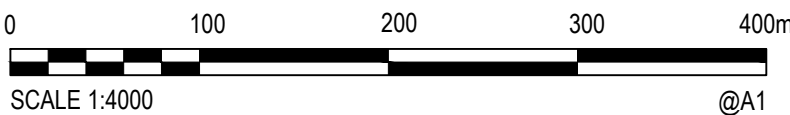


NOTES:

1. BASED ON INFORMATION PROVIDED BY LENDLEASE (09/11/18).
2. EXTENT OF FUTURE STAGES SUBJECT TO REFINEMENT.
3. ROAD AND LOT LAYOUTS OUTSIDE OF PROPOSED STAGING BOUNDARIES ARE BASED ON A PRELIMINARY MASTERPLAN PREPARED BY LENDLEASE AND IS SUBJECT TO FUTURE REFINEMENT.

LEGEND

- STAGE BOUNDARY
- PROPOSED LOTS
- A2 ACCESSWAY
- BRIDGE
- B1 BUS LINK
- C2 COLLECTOR ROAD MAIN STREET
- JORDANS CONNECTOR ROAD REFER DRAWING SET 89914020-JC01 FOR TYPICAL CROSS SECTIONS.
- L1 MINOR LOCAL STREET
- L2 PEDESTRIAN PRIORITY
- L3 LOCAL STREET POSSIBLE BUS ROUTE
- P1 PARK EDGE ROAD
- P2 PARK EDGE ROAD POSSIBLE BUS LINK
- V1-V8 VILLAGE CENTRE REFER DRAWING SET CV-CARDNO-ST03D AND DRAWING 1251 OF THIS SET FOR TYPICAL CROSS SECTIONS



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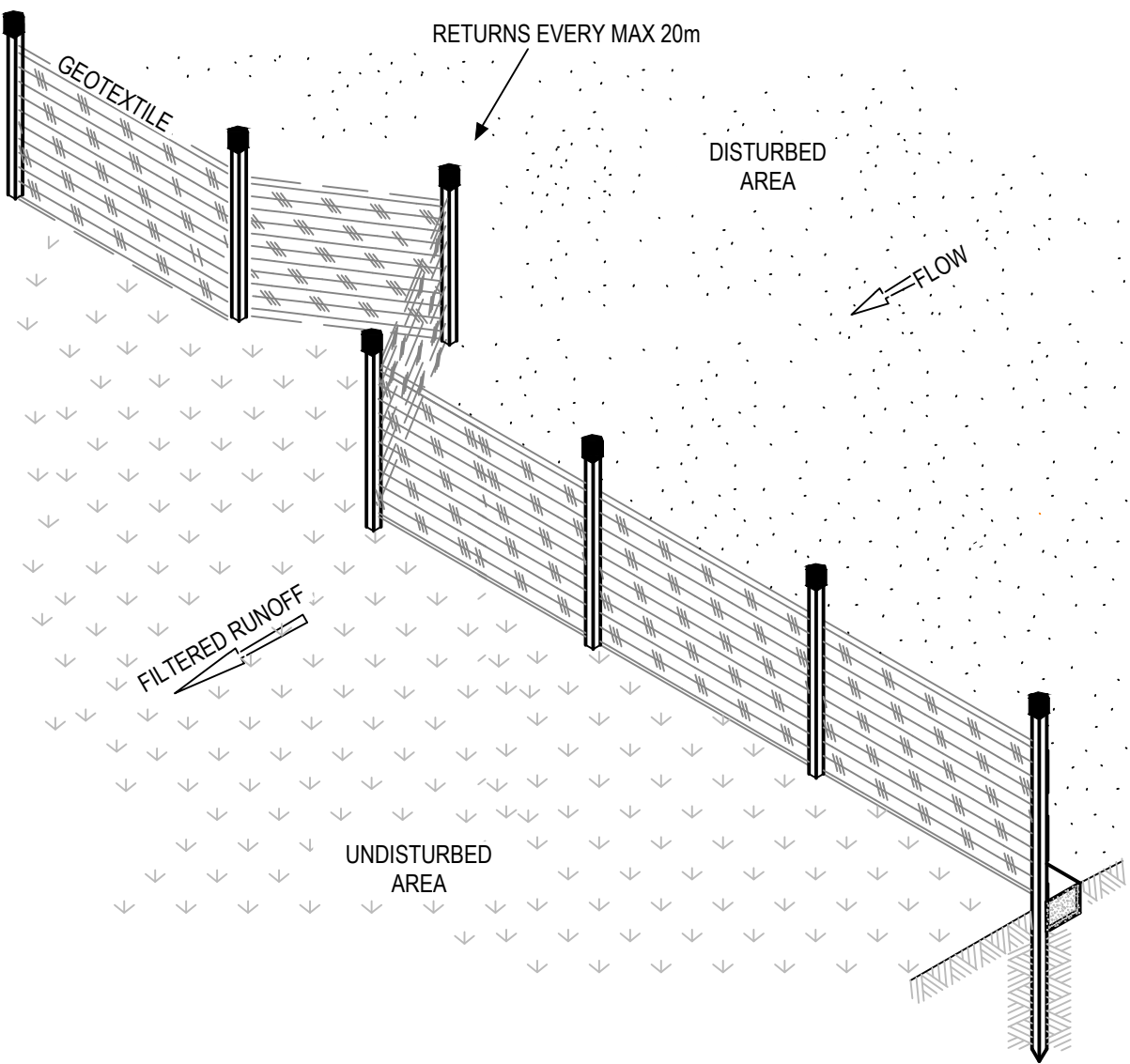
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Designed	DAC	Date	25.07.19
Verified	ARM	Date	25.07.19
Approved	ARM	Date	25.07.19

Client	LENDLEASE
Project	JORDAN SPRINGS EAST STAGE 3C - CIVIL WORKS DEVELOPMENT APPLICATION
Title	DEVELOPMENT APPLICATION STAGING AND ROAD HIERARCHY PLAN

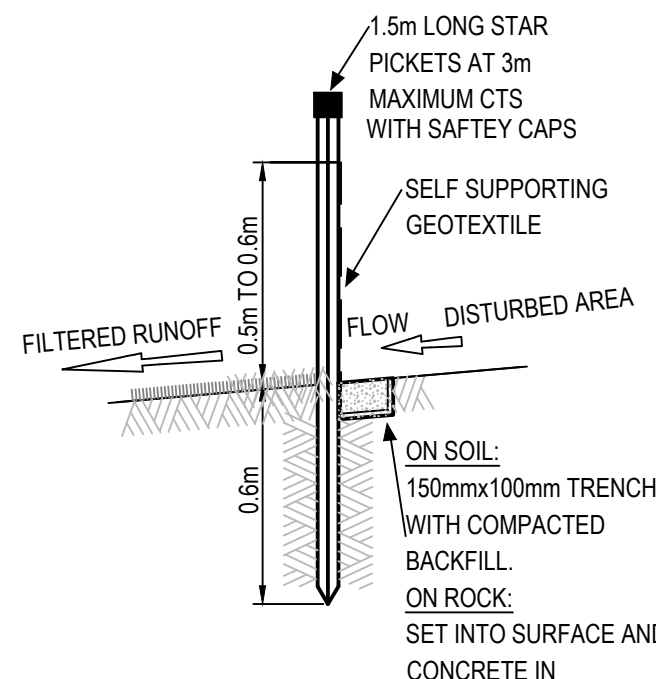
Status			
FOR APPROVAL			
NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Datum		Scale	Size
AHD		1:4000	A1
Drawing Number			Revision
CV-CARDNO-ST03C-1041			4

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			Checked DAC 25.07.19	Project JORDAN SPRINGS EAST STAGE 3C - CIVIL WORKS DEVELOPMENT APPLICATION	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES			
			Designed DAC 25.07.19					
			Verified ARM 25.07.19					
			Approved ARM 25.07.19	Drawing Number CV-CARDNO-ST03C-1101	Revision 4			

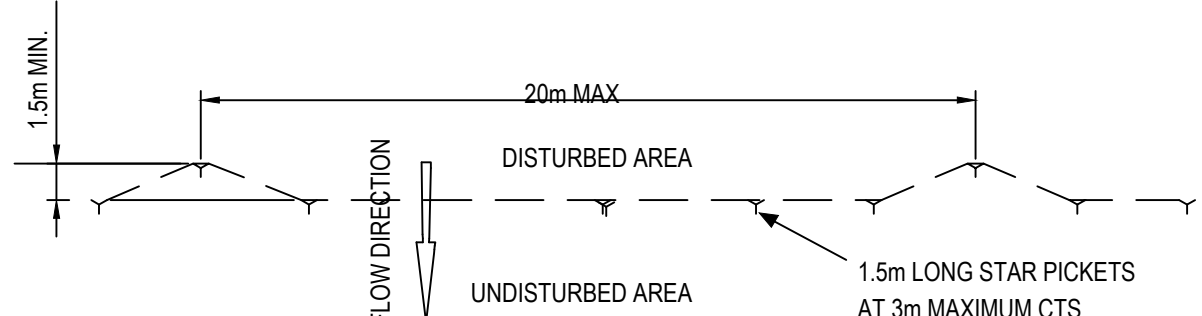
DATE PLOTTED: 25 July 2019 3:02 PM BY: MARY DOZA



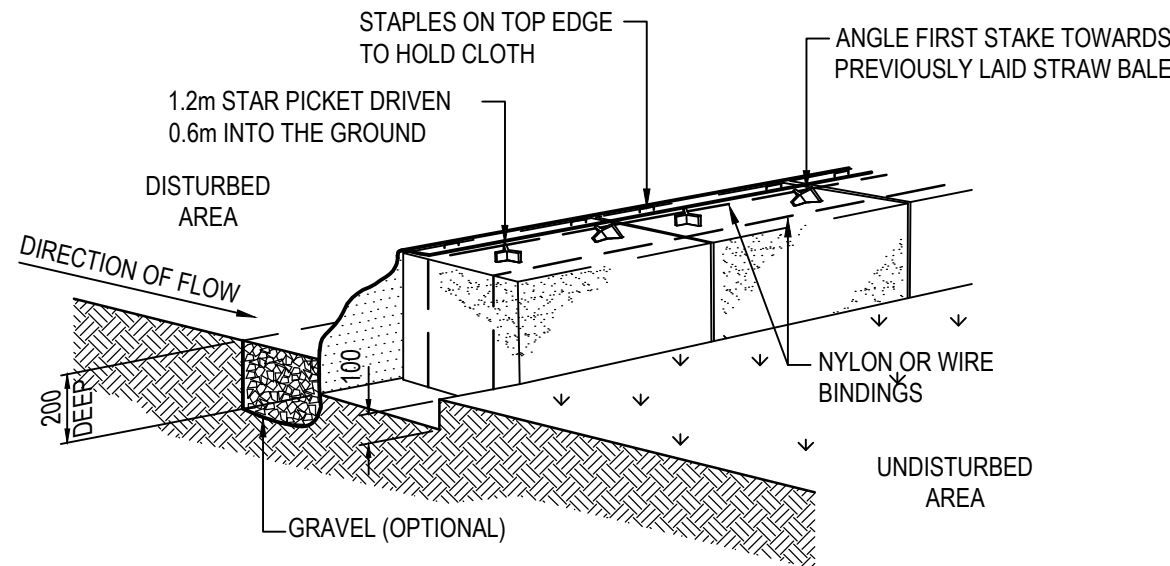
SILT FENCE
NOT TO SCALE



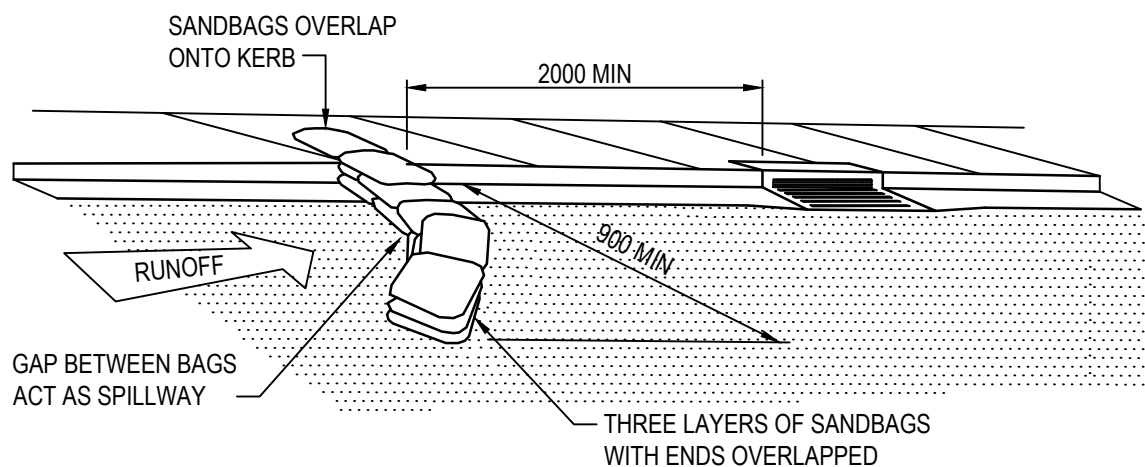
SILT FENCE SECTION
NOT TO SCALE



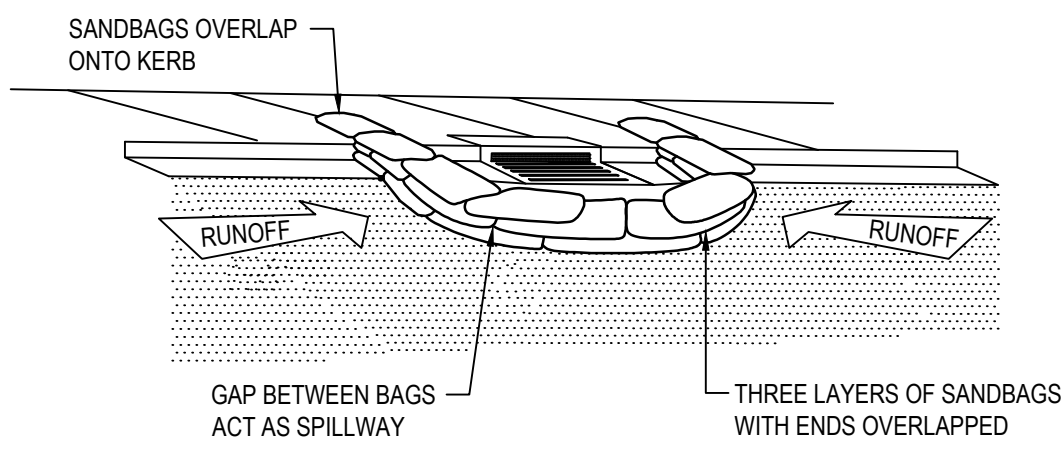
SILT FENCE PLAN
NOT TO SCALE



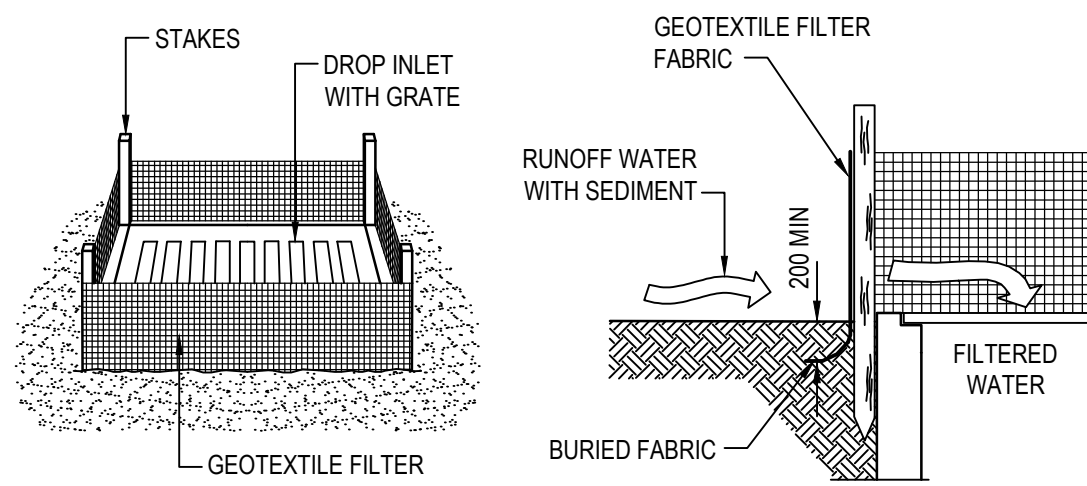
**SEDIMENT FENCE
(GEOTEXTILE FILTER FABRIC & STRAW BALE)**
NOT TO SCALE



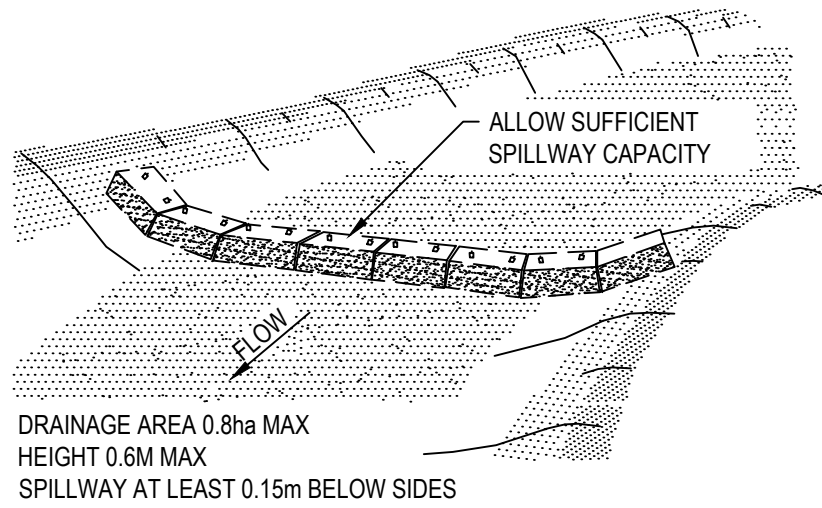
**SEDIMENT TRAP FOR KERB INLET
(ON GRADE - SANDBAG)**
NOT TO SCALE



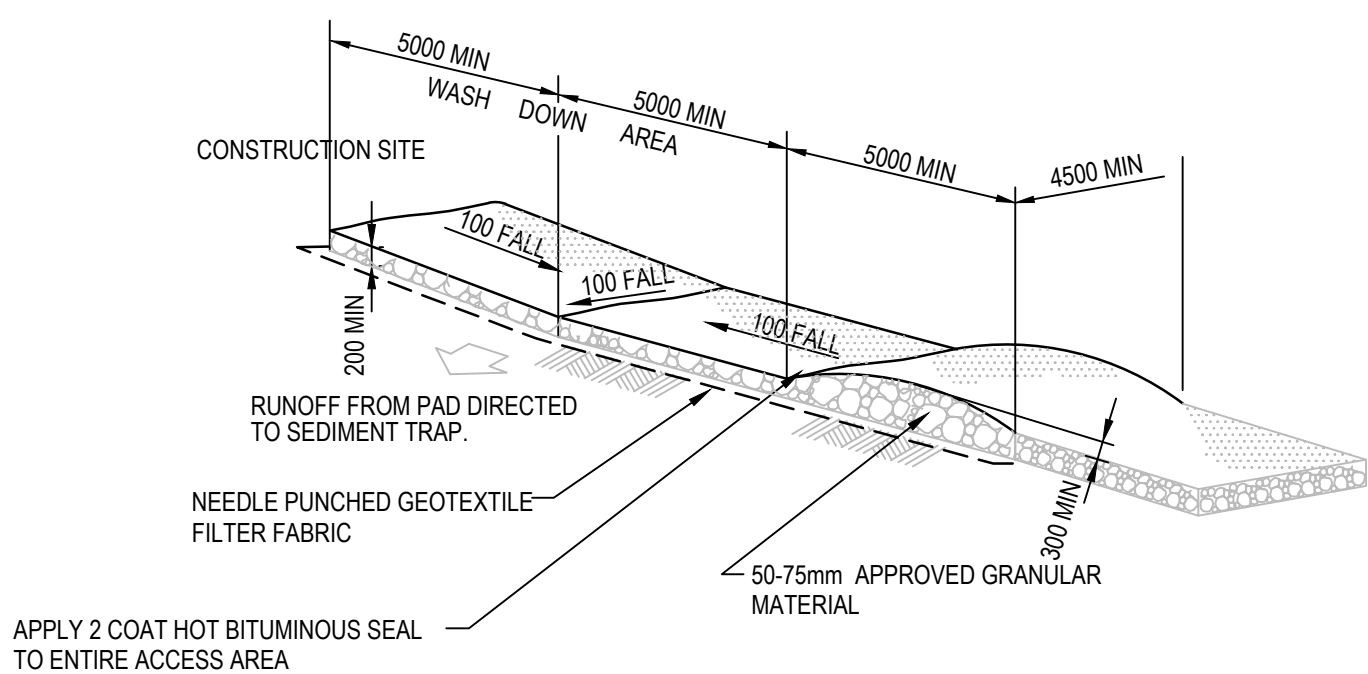
**SEDIMENT TRAP FOR KERB INLET
(AT LOW POINT - SANDBAG)**
NOT TO SCALE



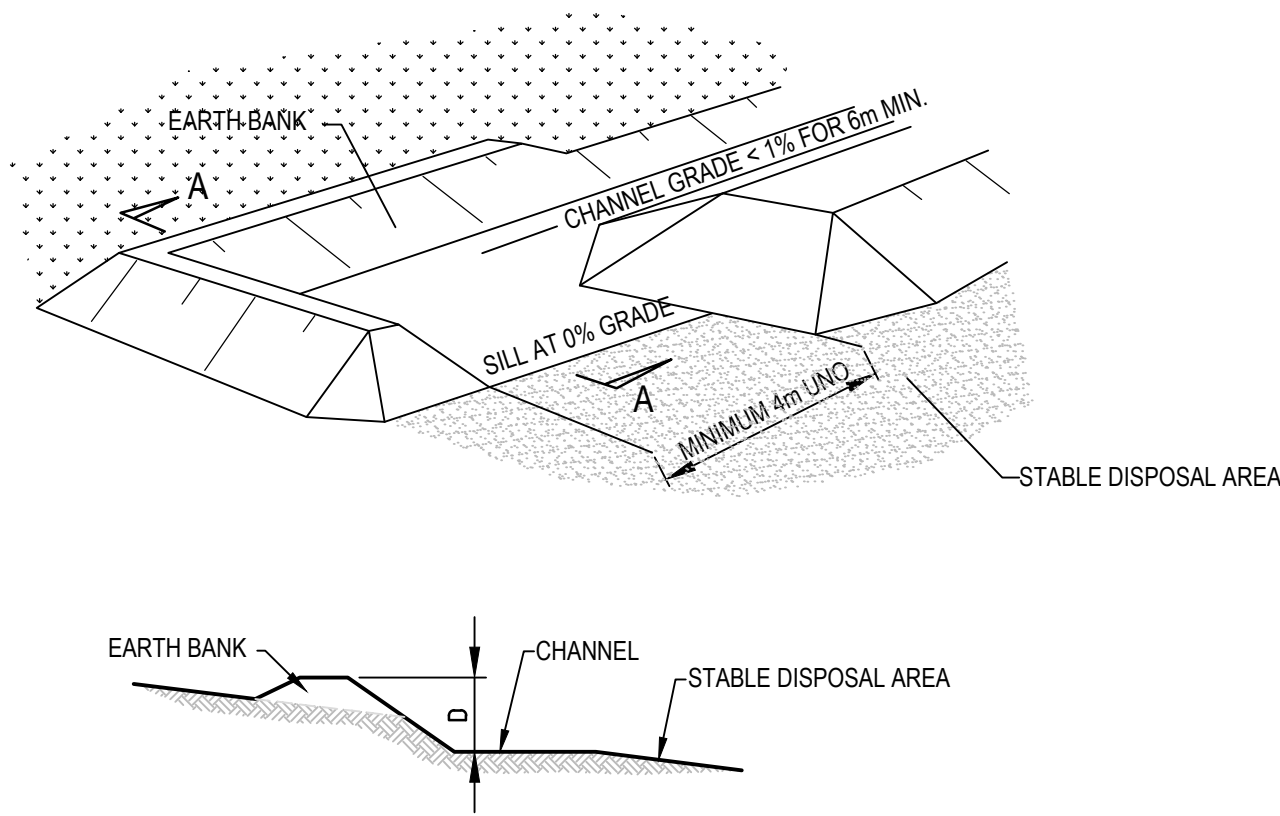
**SEDIMENT TRAP FOR DROP INLET
(GEOTEXTILE FILTER FABRIC)**
NOT TO SCALE



CHECK DAM - STRAW BALE
NOT TO SCALE



STABILISED SITE ENTRY/EXIT WITH WHEEL WASH
NOT TO SCALE



LEVEL SPREADER DETAIL
NOT TO SCALE

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2	20.12.18	REISSUED FOR COORDINATION	DAC	ARM	ARM
1	06.08.18	DRAFT - ISSUED FOR COORDINATION	DAC	ARM	ARM

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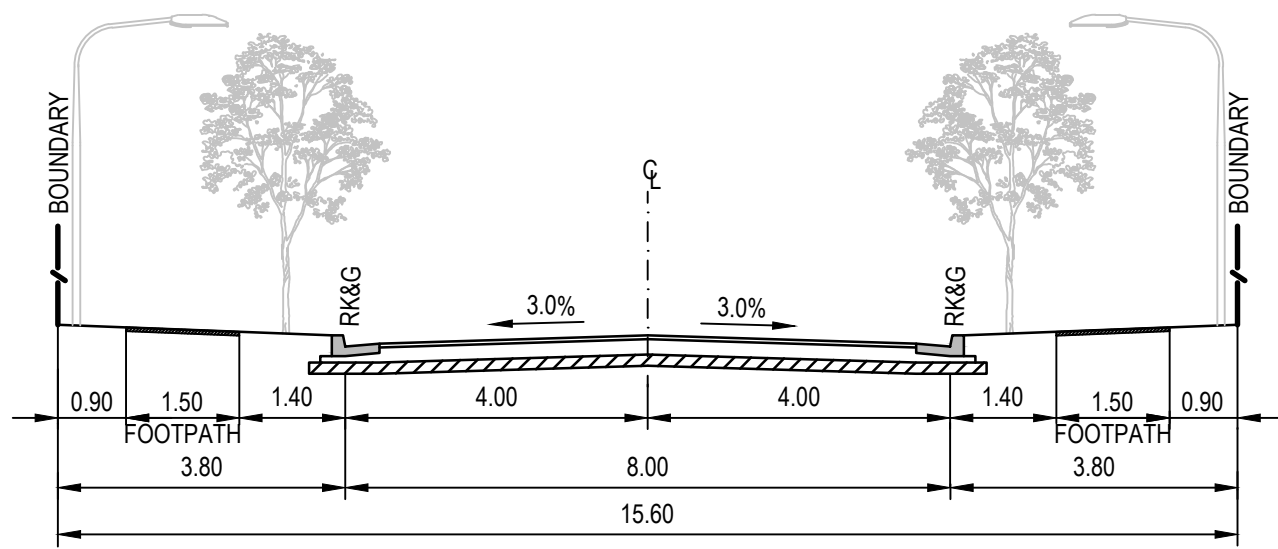
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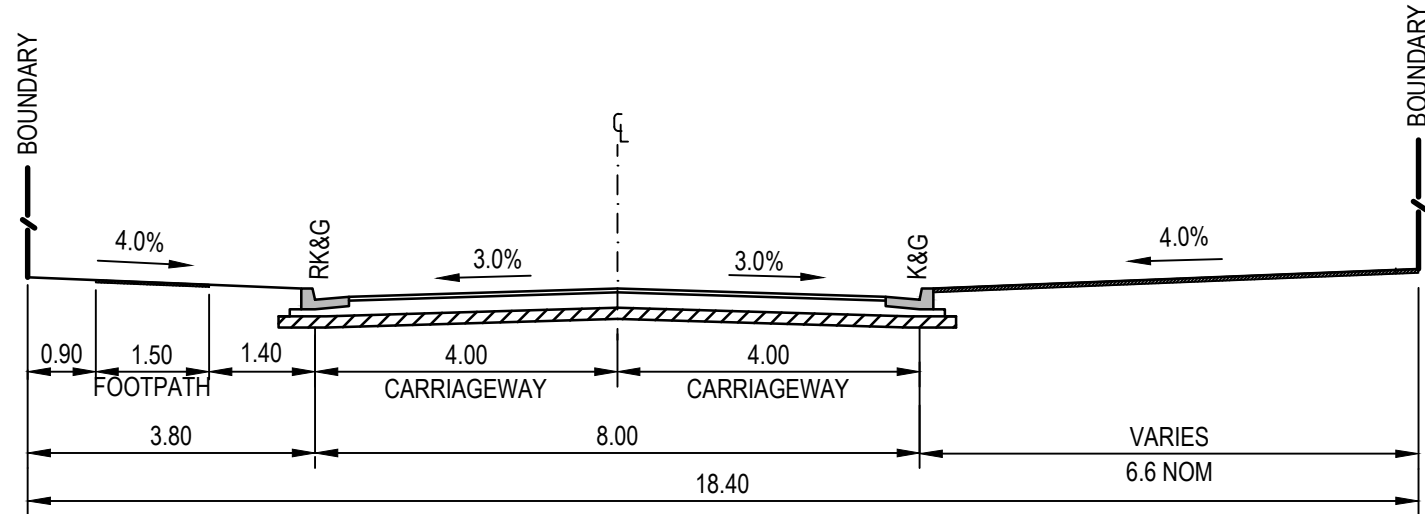
Client	LENLEASE
Project	JORDAN SPRINGS EAST STAGE 3C - CIVIL WORKS DEVELOPMENT APPLICATION
Title	EROSION AND SEDIMENTATION CONTROL DETAILS

Status	FOR APPROVAL
Datum	AHD
Scale	AS SHOWN
Size	A1
Drawing Number	CV-CARDNO-ST03C-1131
Revision	4



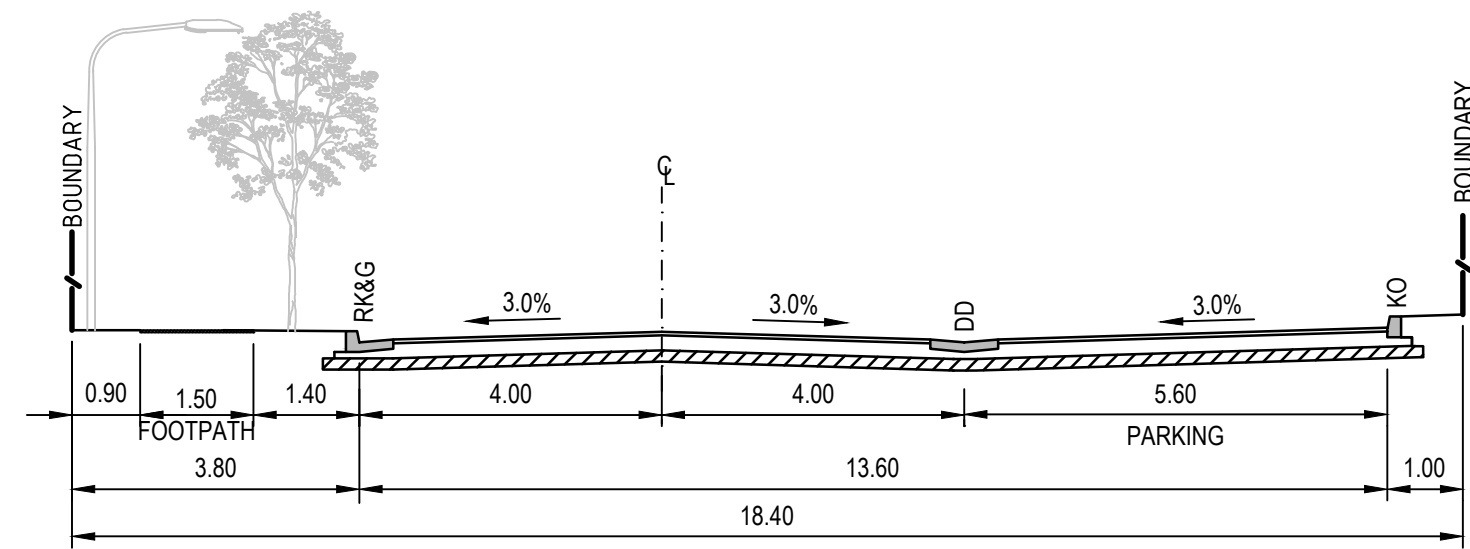
L1 MINOR LOCAL STREET

PAVEMENT TYPE 2
SCALE 1:100
ROADS: 028, 028A



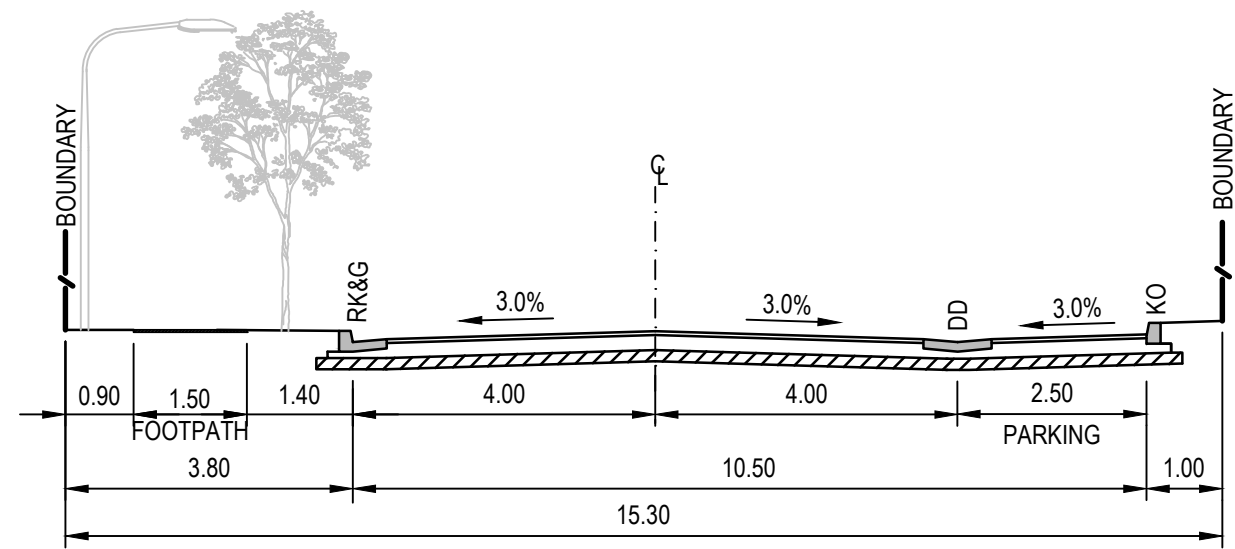
V7 VILLAGE CENTRE LOCAL STREET

PAVEMENT TYPE 2
SCALE 1:100
ROADS: 027 (CH301-325, CH385-425, CH467-478)



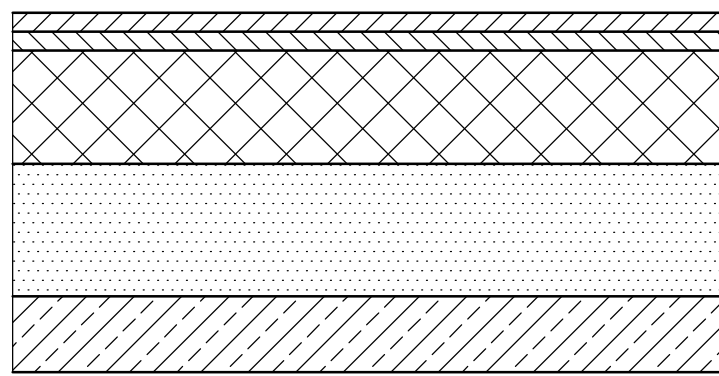
V8 VILLAGE CENTRE LOCAL STREET

PAVEMENT TYPE 2
SCALE 1:100
ROADS: 027 (CH 325-385)



V9 VILLAGE CENTRE LOCAL STREET

PAVEMENT TYPE 2
SCALE 1:100
ROADS: 027 (CH425-467)



PAVEMENT TYPE 2

SCALE 1:10

50mm AC10 WEARING COURSE (2x25mm AC10)
FINAL 25mm LAYER TO BE CONSTRUCTED AFTER
80% OF HOUSING CONSTRUCTION COMPLETED

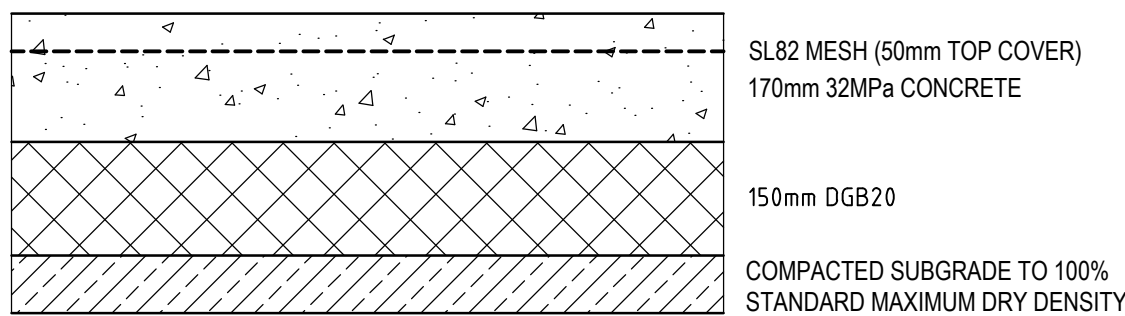
7mm SINGLE COAT FLUSH SEAL
BASE COURSE DGB20 COMPACTED
TO MINIMUM MODIFIED DENSITY
RATIO OF 98%

SUB BASE DGS40 COMPACTED TO
MINIMUM MODIFIED DENSITY
RATIO OF 95%

COMPACTED SUBGRADE TO
MINIMUM DENSITY RATIO OF 100%

ASSUMED CBR: REFER TABLE BELOW
ASSUMED ESA: 5x10⁴

PAVEMENT 2 DESIGN		
DESIGN SUBGRADE	CBR 3%	CBR 5%
WEARING SURFACE	50mm AC10	50mm AC10
SINGLE COAT FLUSH SEAL	7mm	7mm
BASECOURSE	150mm	150mm
SUBBASE	275mm	175mm
TOTAL THICKNESS	475mm	375mm

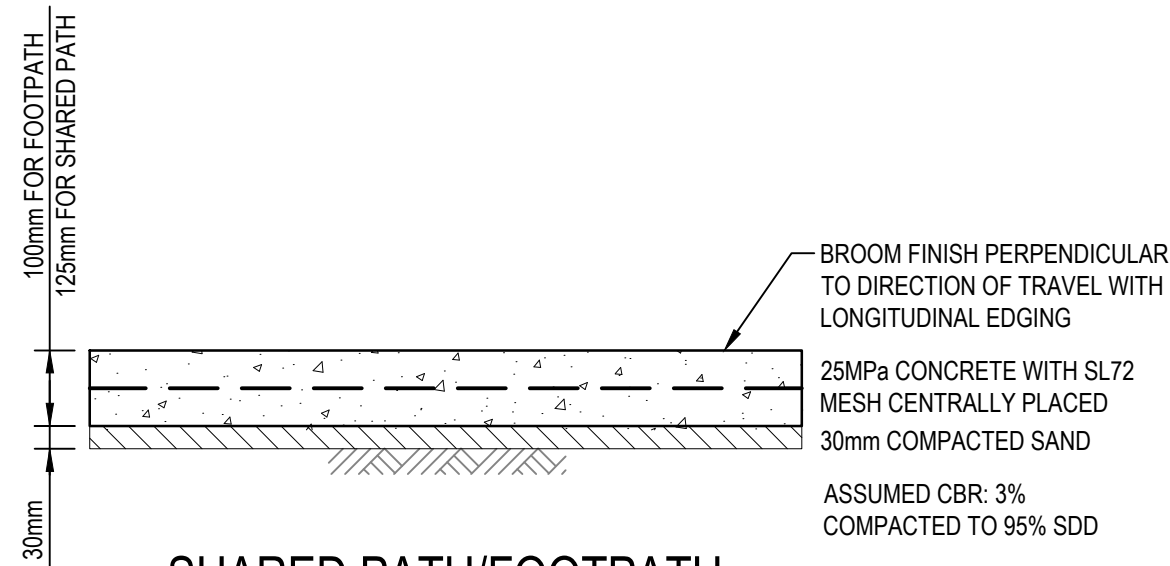


PAVEMENT TYPE 5
(CONCRETE MAINTENANCE AND HARDSTAND)
SCALE 1:10

ASSUMED CBR: 3%

NOTE

1. PROVIDE TCJ AT 4m SPACING.
2. EVERY THIRD JOINT TO BE DEJ.
3. REFER DRAWING 1601 FOR JOINT DETAILS



SHARED PATH/FOOTPATH

SCALE 1:10

NOTES

1. SAWCUT PATH OR TROWELLED DUMMY JOINT AT 2m SPACING.
2. EVERY THIRD JOINT TO BE FULL DEPTH DOWELLED EXPANSION JOINT.
3. REFER DRAWING 1601 FOR JOINT DETAILS.

NOTES

1. STREET SCAPES SHOWN ARE INDICATIVE ONLY AND SUBJECT TO DETAILED LANDSCAPING DESIGN AND APPROVAL.
2. FOOTPATHS TO BE GRADED AT MAXIMUM 2.5%. REMAINING VERGE AREAS TO BE GRADED TO ACHIEVE OVERALL 4.0% GRADE FROM TOP OF KERB TO ROAD RESERVE BOUNDARY.
3. CONSTRUCTION OF FOOTPATH AND SHARED PATH TO BE DEFERRED UNTIL DIRECTED BY THE SITE SUPERINTENDENT.
4. REFER DRAWING 1701 FOR PAVEMENT PLAN.



SCALE 1:100 @A1



SCALE 1:100 @A1

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Verified	ARM	Date	25.07.19
Approved	ARM	Date	25.07.19

Client **LENLEASE**

Project **JORDAN SPRINGS EAST
STAGE 3C - CIVIL WORKS
DEVELOPMENT APPLICATION
TYPICAL ROAD CROSS SECTIONS
AND PAVEMENT DETAILS**

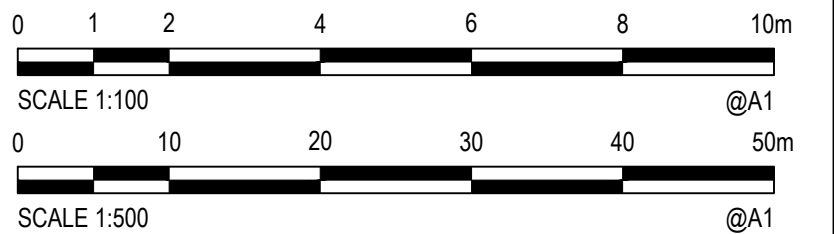
Status **FOR APPROVAL**
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Datum		Scale	Size
AHD		AS SHOWN	A1
Drawing Number			Revision
CV-CARDNO-ST03C-1251			4

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			MCD	25.07.19		Project	JORDAN SPRINGS EAST		Status	FOR APPROVAL		
			Checked	Date			STAGE 3C - CIVIL WORKS			NOT TO BE USED FOR CONSTRUCTION PURPOSES		
			DAC	25.07.19			DEVELOPMENT APPLICATION					
			Designed	Date			Title	CIVIL WORKS AND STORMWATER DRAINAGE PLAN		Datum	Scale	Size
DAC	25.07.19	AHD	1:500	A1								
Verified	Date	Drawing Number		Revision								
ARM	25.07.19	CV-CARDNO-ST03C-1301		5								
Approved		ARM		25.07.19								



NOTE:
EXISTING LEVELS SHOWN ARE PRE BULK EARTHWORKS. PRIOR TO THE COMMENCEMENT OF CIVIL WORKS, THE BULK EARTHWORKS CONTRACTOR WILL COMPLETE BULK EARTHWORKS OPERATIONS, WHICH INCLUDES FINISHED SURFACE LEVELS EXCEPT FOR AREAS WITHIN THE ROAD THE RESERVE. IN AREAS OF FILL, THE CIVIL CONTRACTOR WILL RECEIVE SUB-GRADE LEVEL +100mm. IN AREAS OF CUT, THE CIVIL CONTRACTOR WILL RECEIVE SUB-GRADE LEVELS.

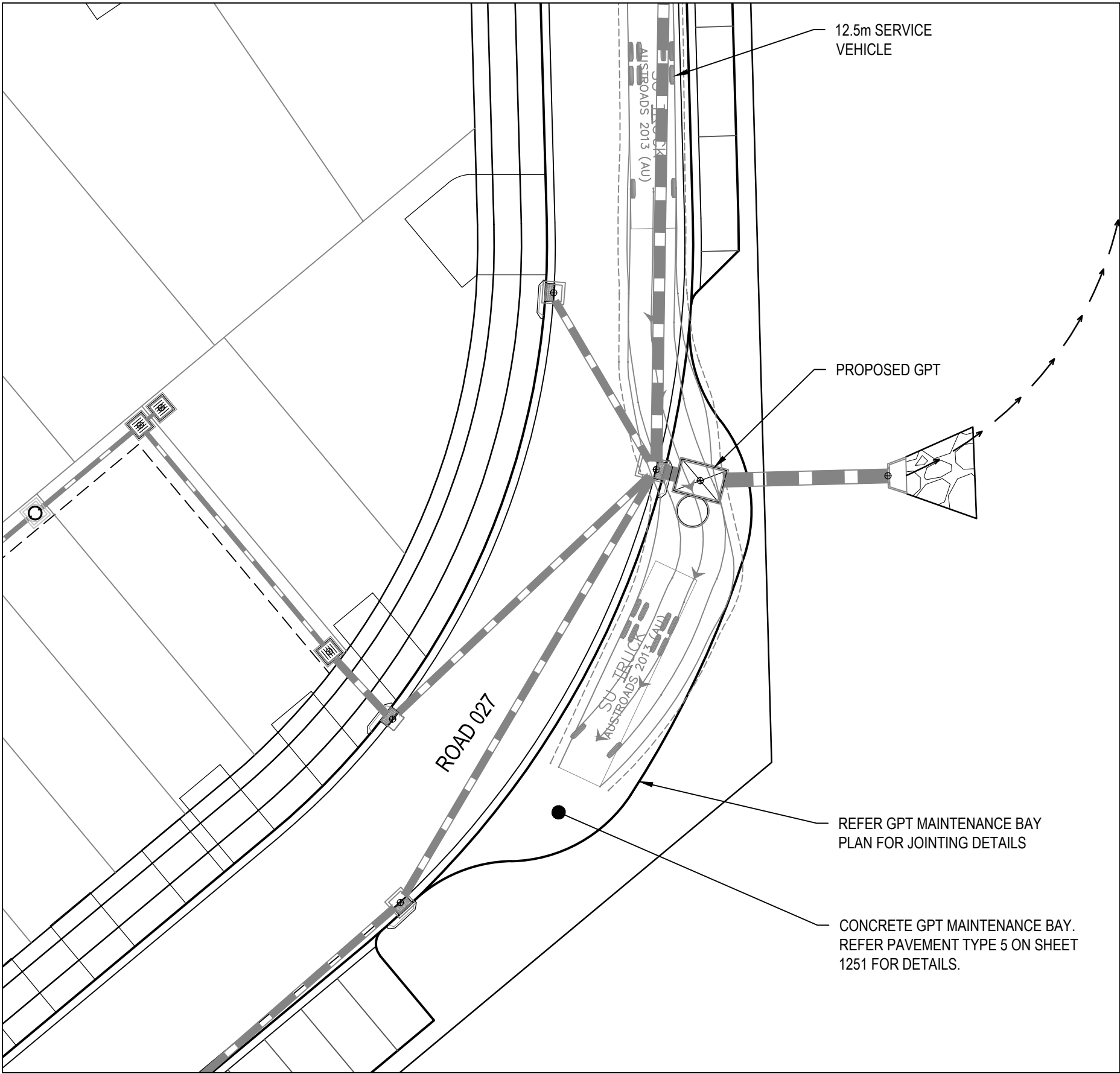


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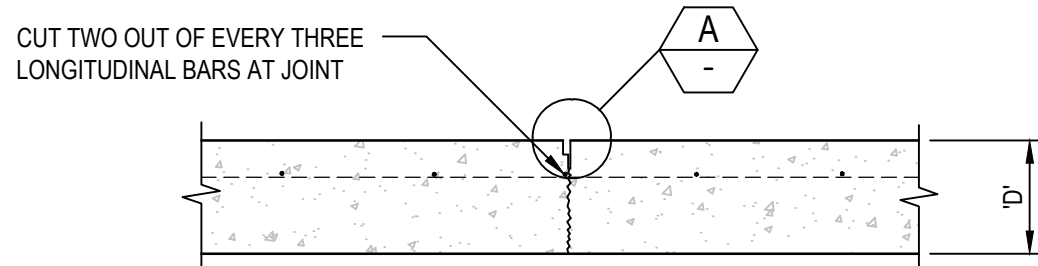


Drawn MCD	Date 25.07.19	Client LENLEASE				
Checked DAC	Date 25.07.19	Project JORDAN SPRINGS EAST STAGE 3C - CIVIL WORKS DEVELOPMENT APPLICATION	Status FOR APPROVAL			
Designed DAC	Date 25.07.19		NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Verified ARM	Date 25.07.19					
Approved		Title ROAD LONGITUDINAL SECTIONS ROAD 027, 028 & 028A	Datum AHD		Scale AS SHOWN	Size A1
ARM	25.07.19		Drawing Number CV-CARDNO-ST03C-1351			
			Revision 4			

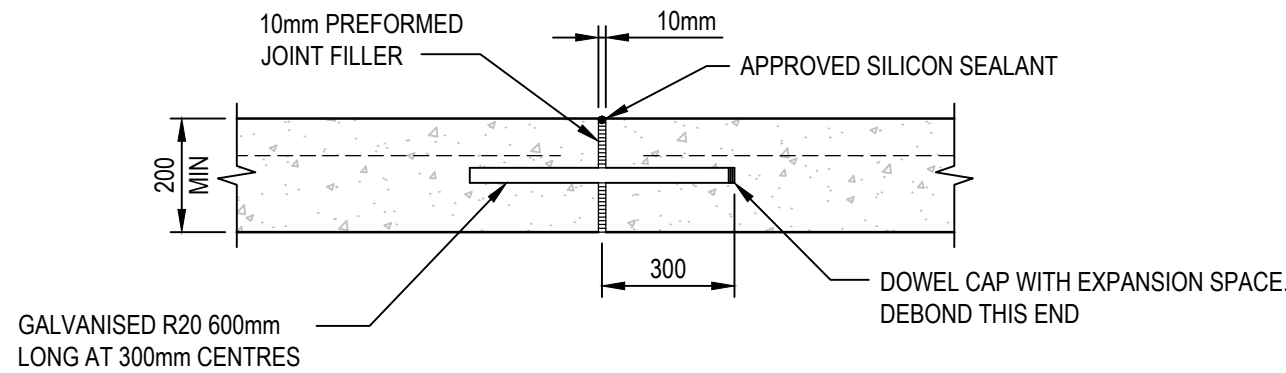
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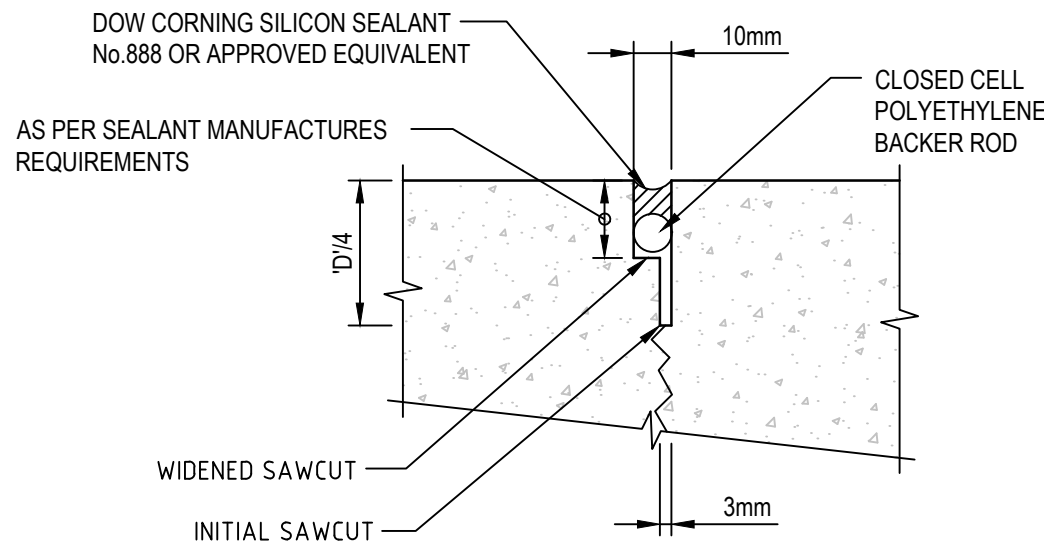
GPT MAINTENANCE ACCESS AREA
ROAD 027
SCALE 1:250



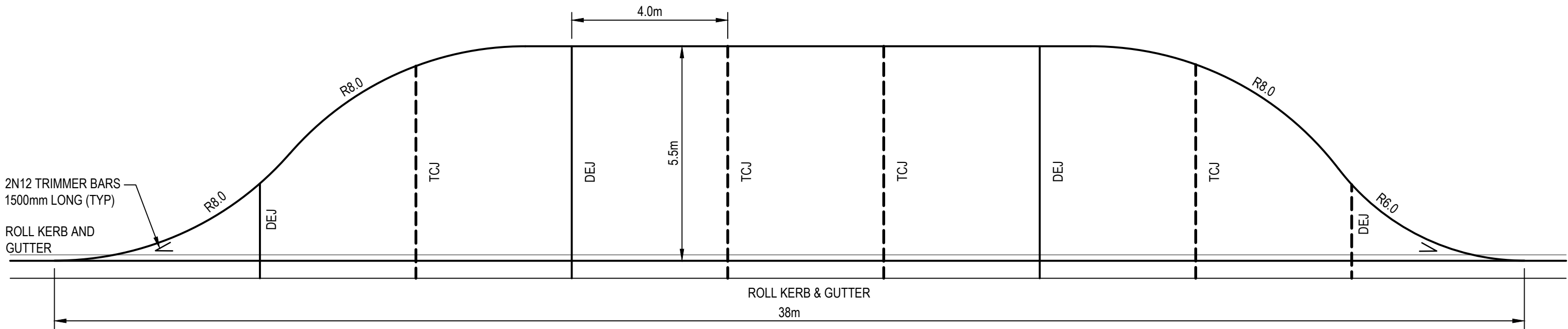
TRANSVERSE CONTRACTION JOINT (TCJ)
SCALE 1:10



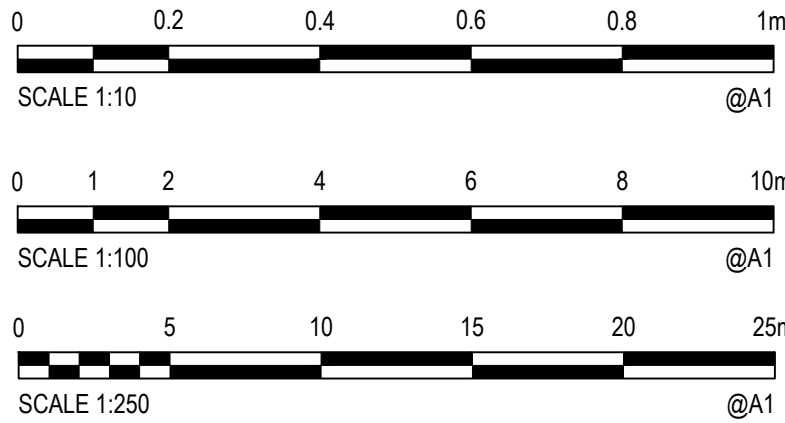
DOWELED EXPANSION JOINT (DEJ)
SCALE 1:10



DETAIL A
NTS



CONCRETE GPT MAINTENANCE BAY PLAN
SCALE 1:100



XREFs: Xref-88914020-Client Logos: XR-88914020-29-CI-DESIGN: XR-88914020-29-CI-DRAINAGE: XR-88914020-29-CH-LOT LAYOUT
CAD File: N:\Paramatna\Projects\88914020_CENTRAL PRECINCT_ADI ST MARYS\Drawings\29 Jordan Springs East Stage 3C\Drawings\CV-CARDNO-ST03C-1601-1602.DWG(4).dwg

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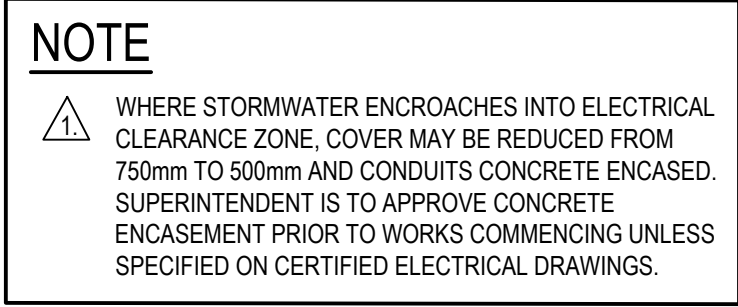
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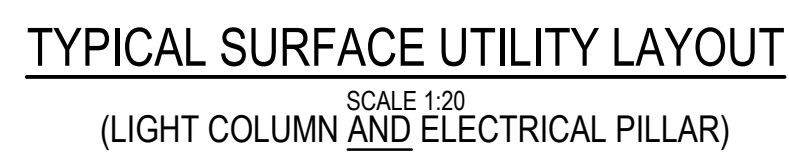
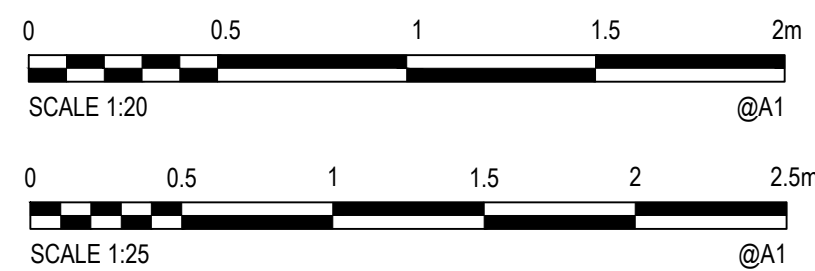
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Client	LENDELEASE
Project	JORDAN SPRINGS EAST STAGE 3C - CIVIL WORKS DEVELOPMENT APPLICATION
Title	CIVIL WORKS DETAILS SHEET 1

Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Datum	AHD	Scale	AS SHOWN
Drawing Number	CV-CARDNO-ST03C-1601		Revision
			4



TYPICAL COLLECTOR ROAD SERVICES
TRENCH EXCAVATION
SCALE 1:25

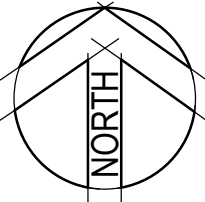


4	25.07.19	ISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM	
3	26.06.19	ISSUED FOR DRAFT DA DOCUMENTATION	DAC		ARM	
2	20.12.18	REISSUED FOR COORDINATION	DAC		ARM	
1	06.08.18	DRAFT - ISSUED FOR COORDINATION	DAC		ARM	
Rev.	Date	Description	Des	Verif.	Appd.	

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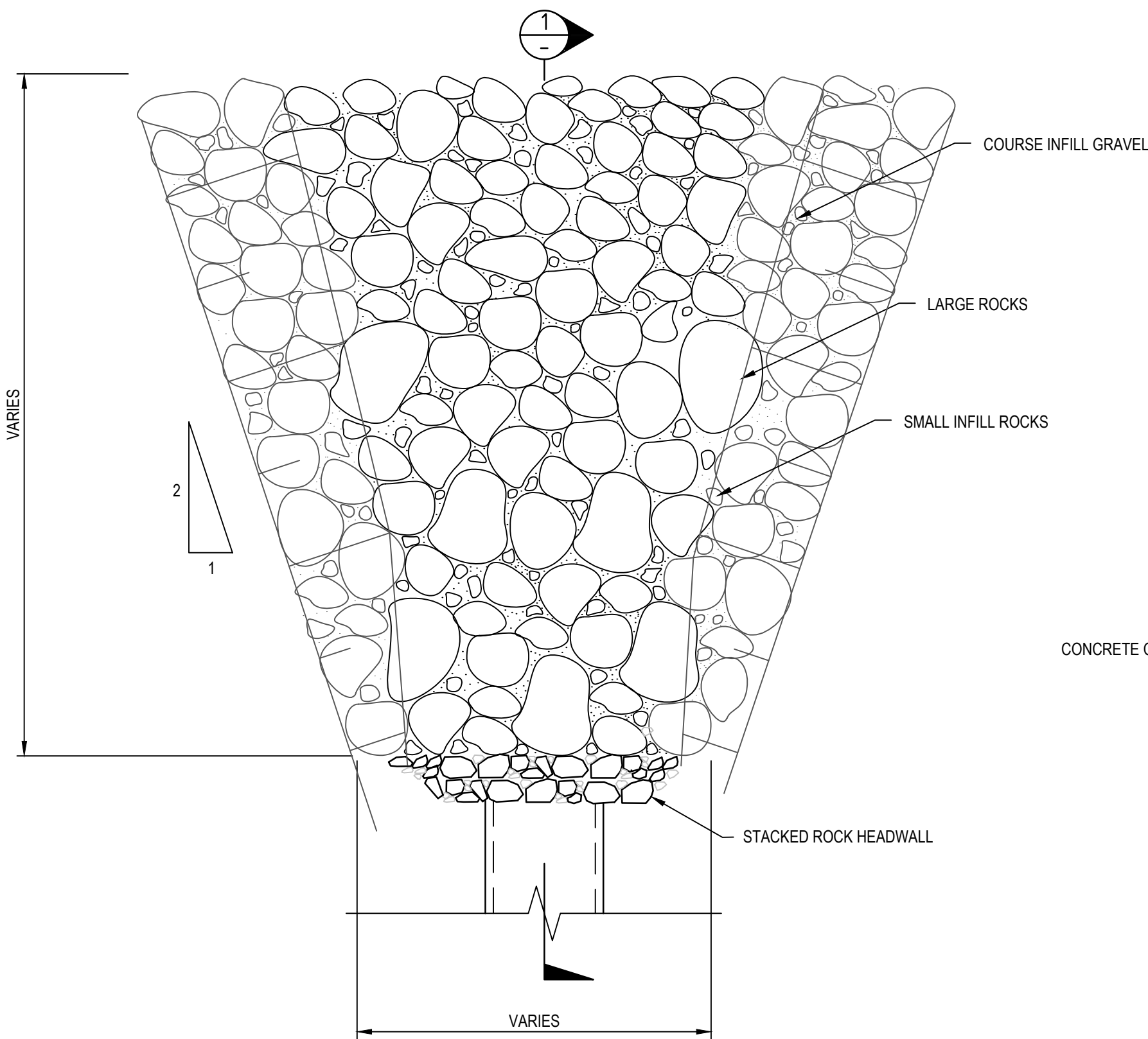
Drawn MCD	Date 25.07.19	Client LENLEASE					
Checked DAC	Date 25.07.19	Project JORDAN SPRINGS EAST STAGE 3C - CIVIL WORKS DEVELOPMENT APPLICATION	Status	<div>FOR APPROVAL</div> <div>NOT TO BE USED FOR CONSTRUCTION PURPOSES</div>			
Designed DAC	Date 25.07.19		Datum			Scale	Size
Verified ARM	Date 25.07.19		AHD			AS SHOWN	A1
Approved			Drawing Number			Revision	
ARM	25.07.19	Title CIVIL WORKS DETAILS SHEET 2	CV-CARDNO-ST03C-1602		4		



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Drawn MCD	Date 25.07.19	Client LENLEASE			
Checked DAC	Date 25.07.19	Project JORDAN SPRINGS EAST STAGE 3C - CIVIL WORKS DEVELOPMENT APPLICATION	Status	FOR APPROVAL	
Designed DAC	Date 25.07.19		NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Verified ARM	Date 25.07.19		Datum AHD	Scale 1:500	Size A1
Approved		Title PAVEMENT, SIGNAGE & LINEMARKING PLAN	Drawing Number CV-CARDNO-ST03C-1701	Revision 4	
ARM	25.07.19				

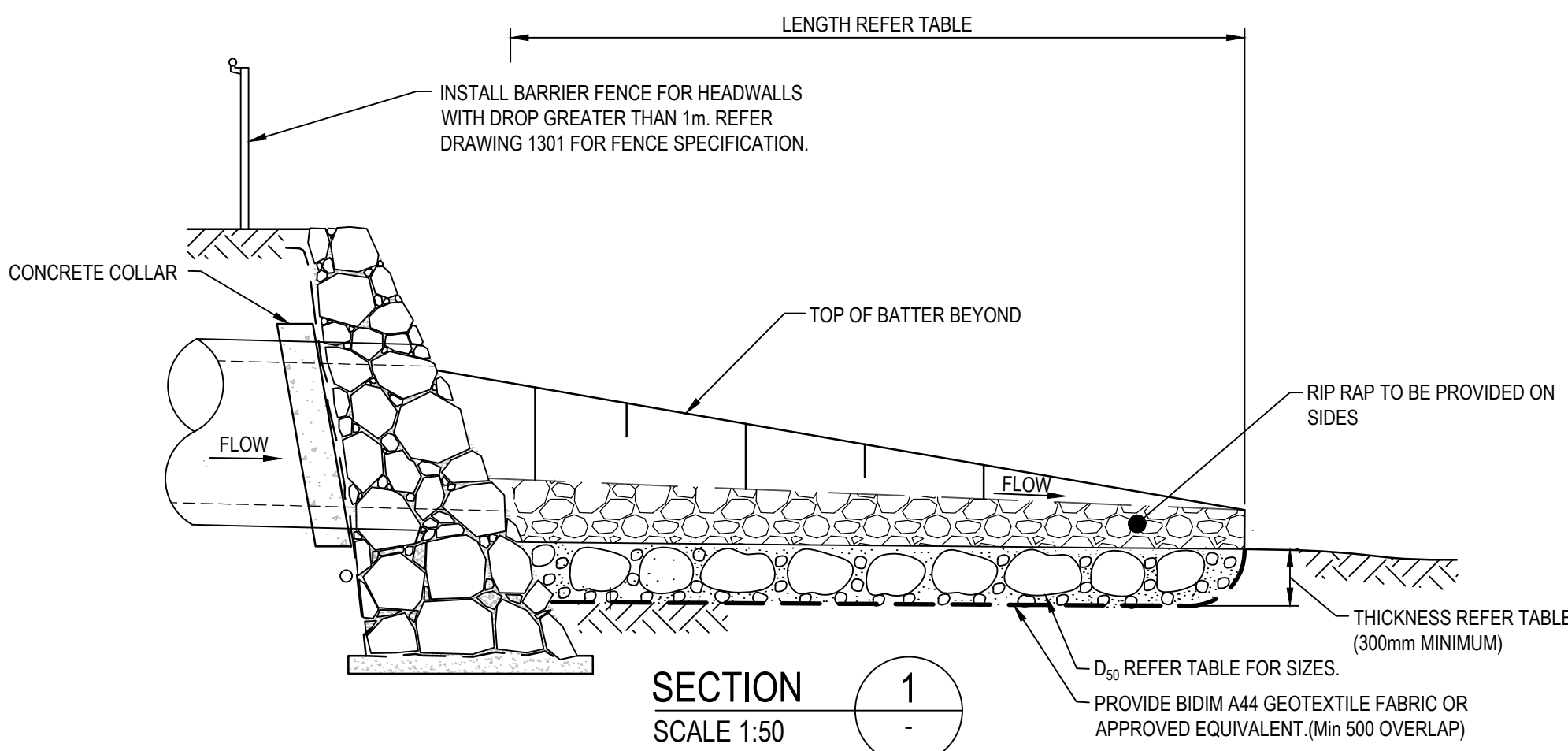


TYPICAL OUTLET HEADWALL SCOUR PROTECTION PLAN
SCALE 1:50

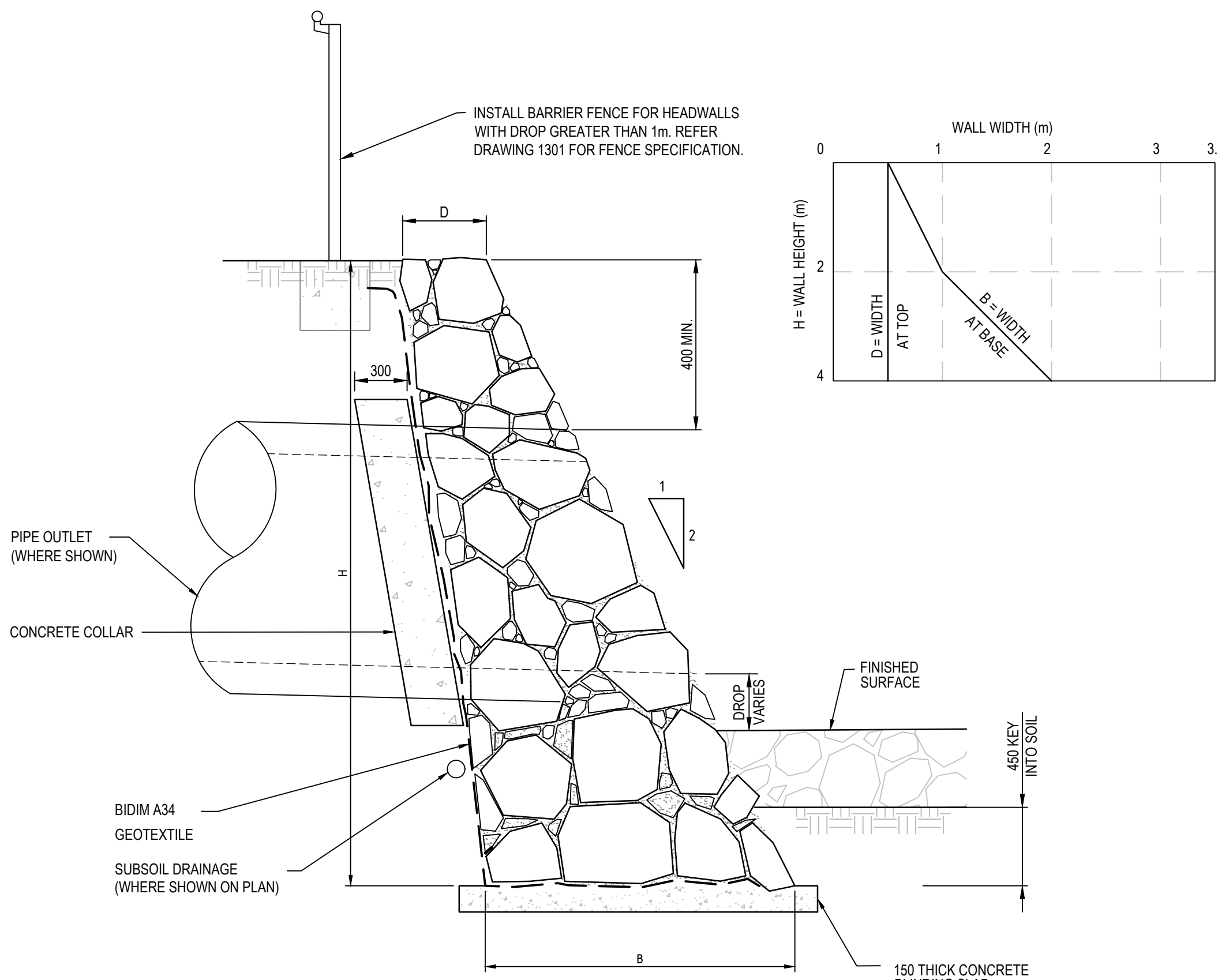
HEADWALL RIP-RAP SCOUR PROTECTION (MINIMUM DIMENSIONS)				
OUTLET NUMBER	LENGTH (mm)	WIDTH (mm)	THICKNESS (mm)	D50 (mm)
x	x	x	x	x

NOTE:

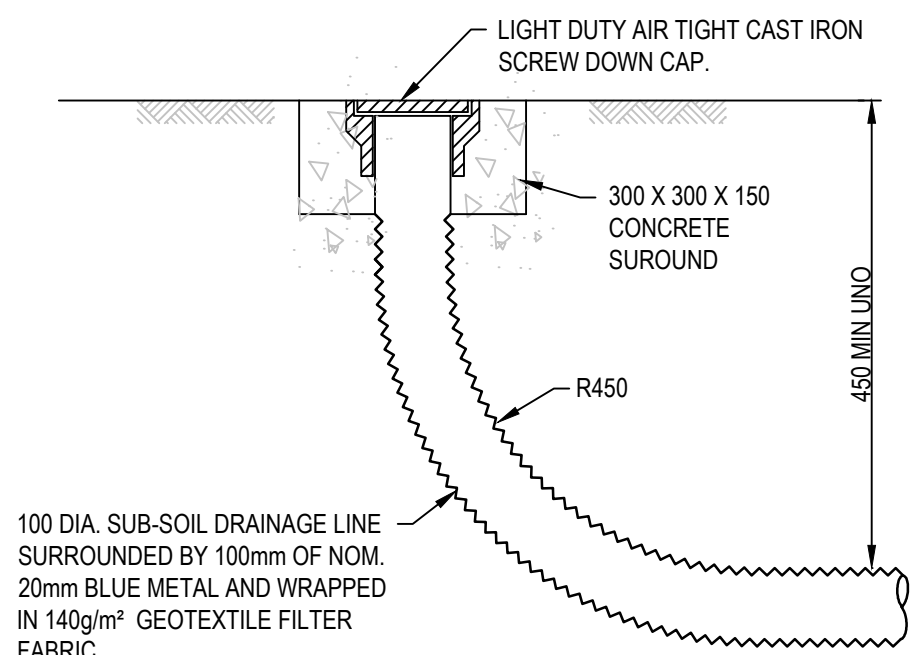
1. TABLE VALUES TO BE DETERMINED AT DETAILED DESIGN.



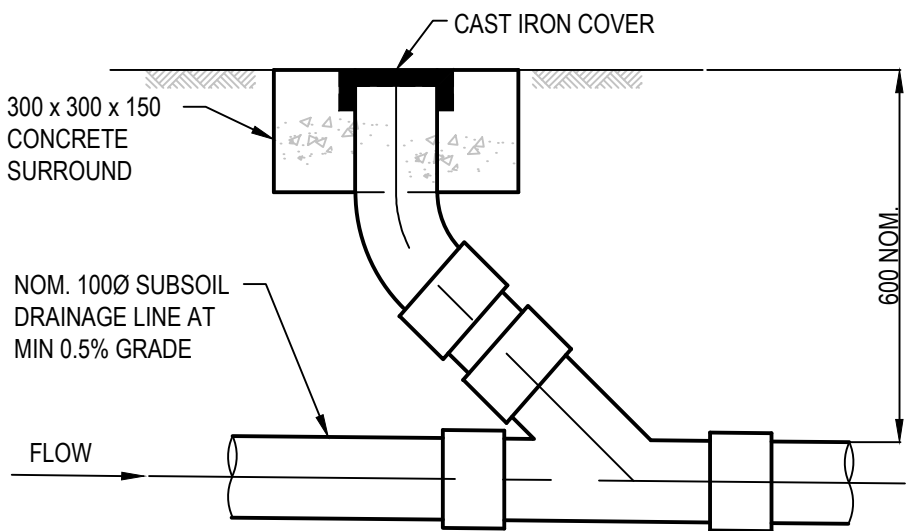
TYPICAL OUTLET HEADWALL SCOUR PROTECTION DETAIL
SCALE 1:50



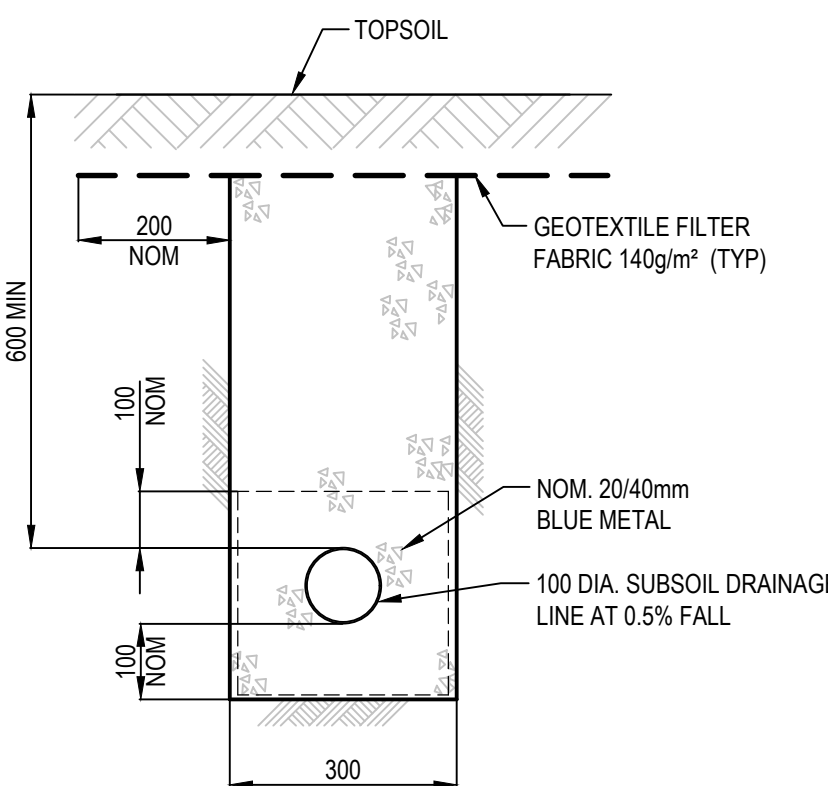
STACKED ROCK HEADWALL
SCALE 1:25



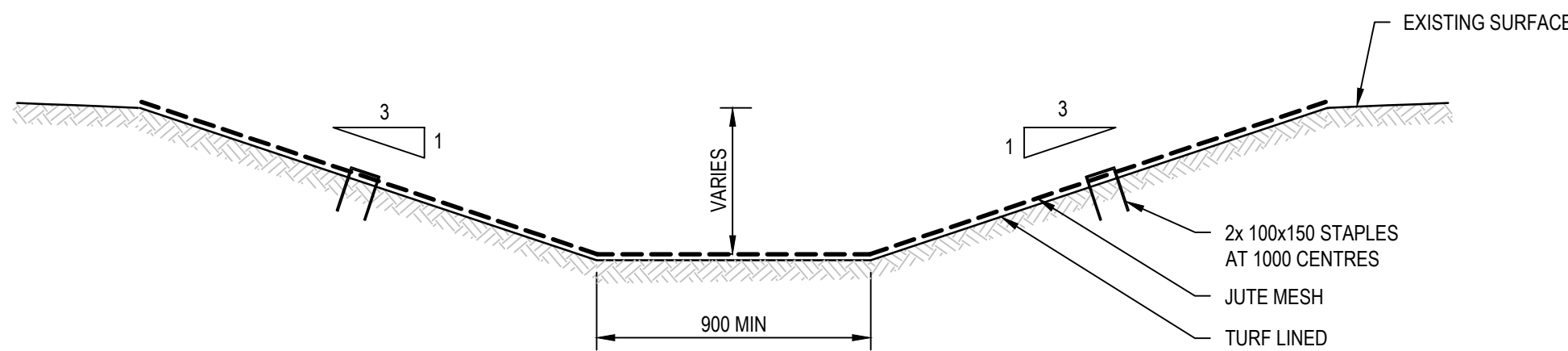
FLUSHING POINT
SCALE 1:10



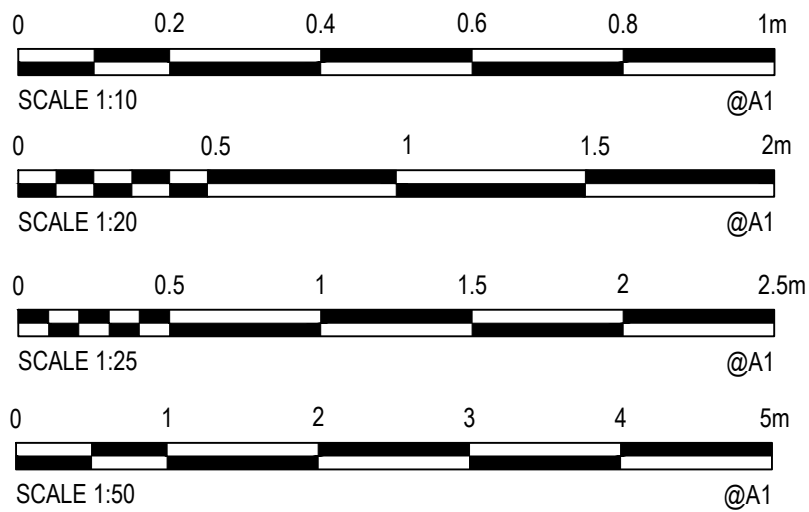
INTERMEDIATE RISER
SCALE 1:10



SUBSOIL IN LANDSCAPED AREAS
SCALE 1:10



TYPICAL SECTION THROUGH DIVERSION CHANNEL
SCALE 1:20



NOTES:

ROCK RIPRAP

1. 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.
2. 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.
3. RIPRAP IS TO BE PLACED BY HAND AND CROW-BARRED INTO PLACE TO ENSURE FIT WITH MINIMUM VOIDS.
4. ALL ROCK AND COBBLES TO BE PLACED WITH TOPSOIL. GAPS IN RIPRAP TO BE PLANTED AS SPECIFIED IN LANDSCAPING PLANS.
 - 4.1. M50 - 60KG (NDW 300MD)
 - 4.2. M15 - 25KG
 - 4.3. 100 - 120KG

SUBSOIL DRAINAGE BEHIND KERB

REFER PENRTH CITY COUNCIL STANDARD DRAWING SD2004 FOR DETAILS.

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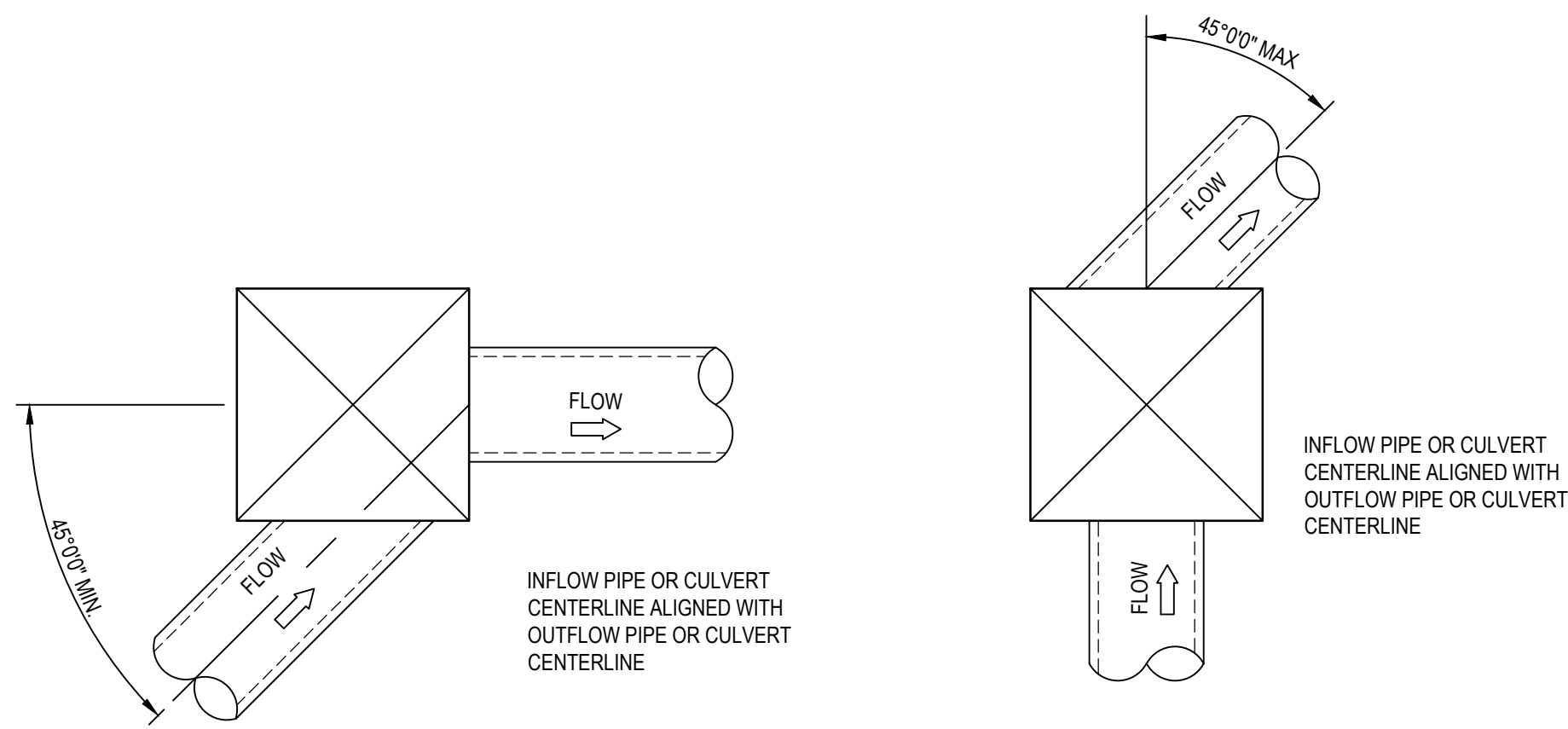
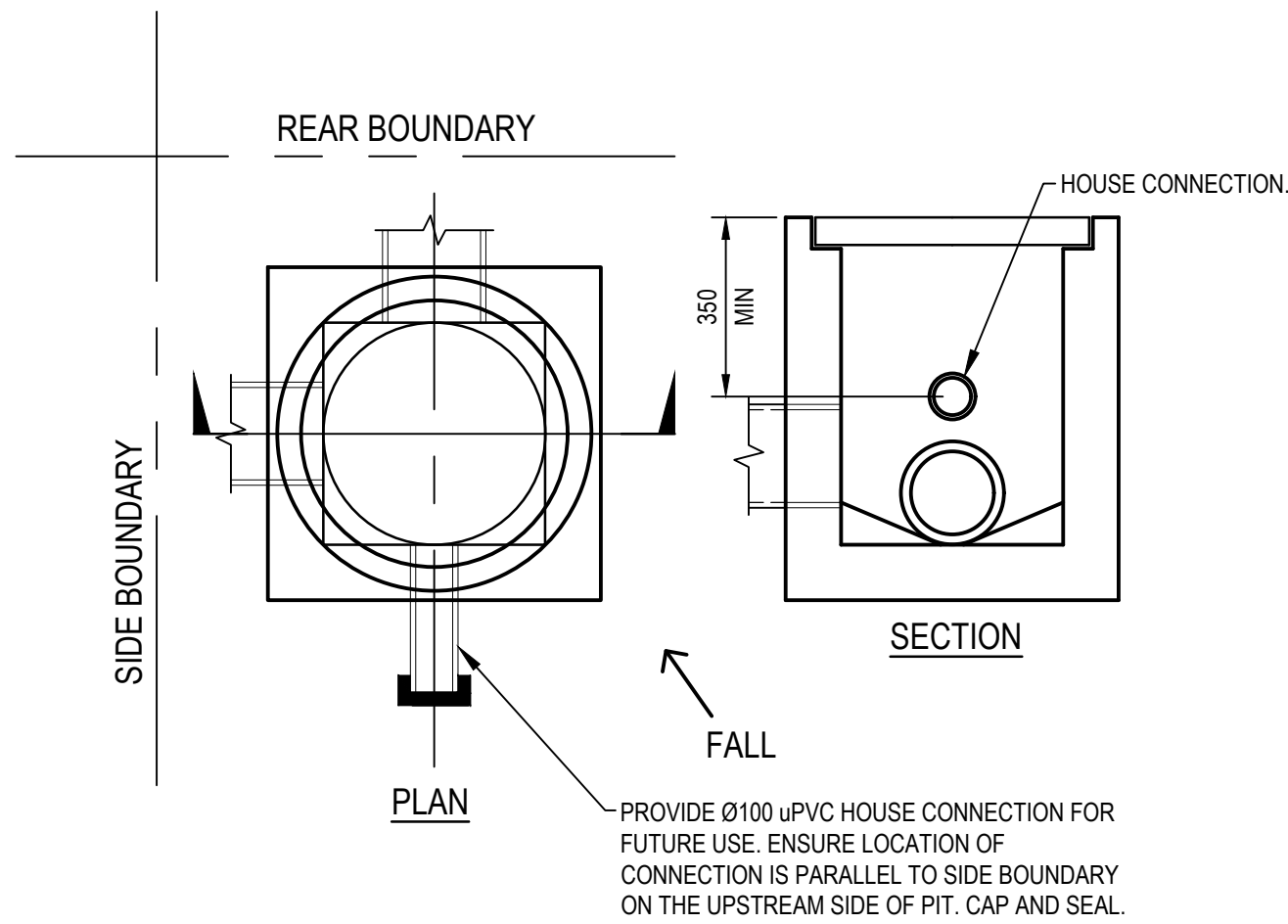
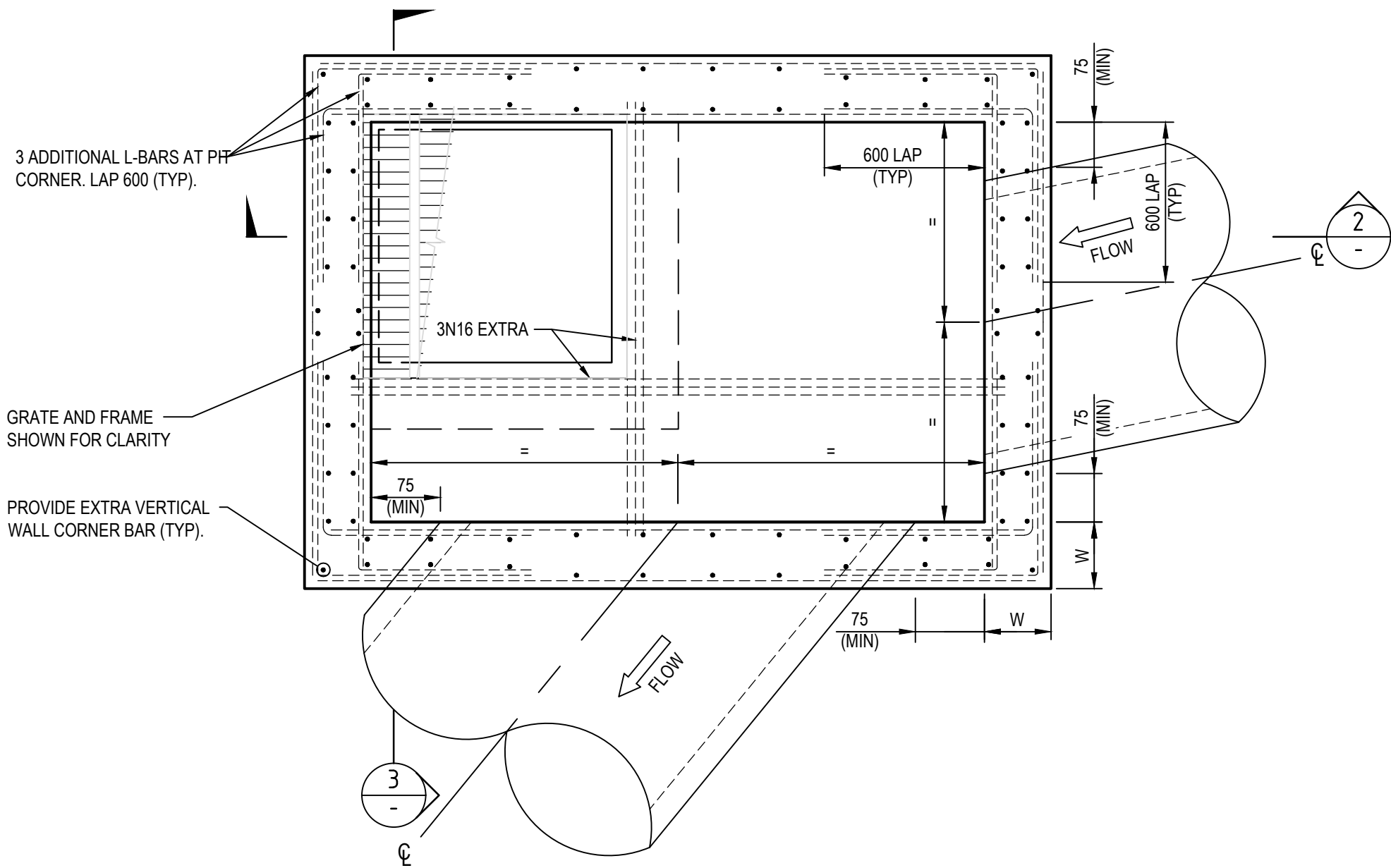
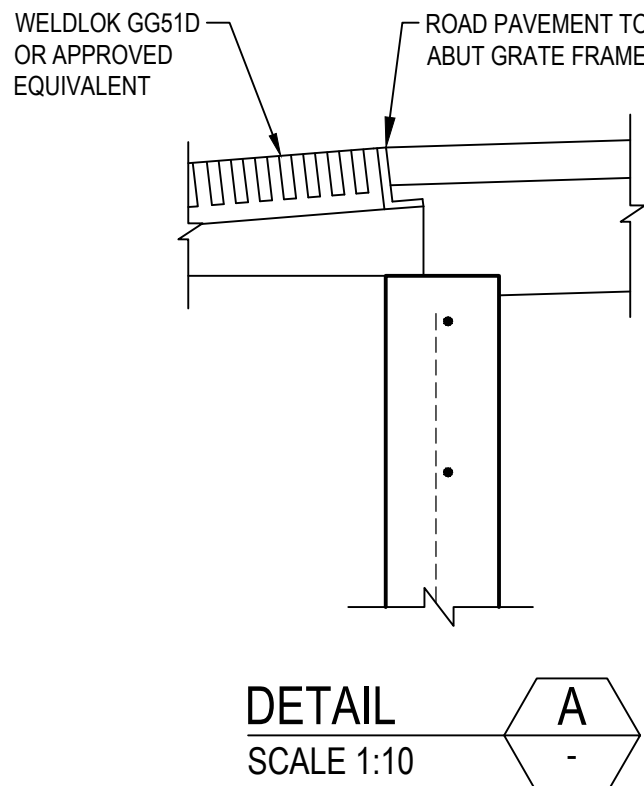
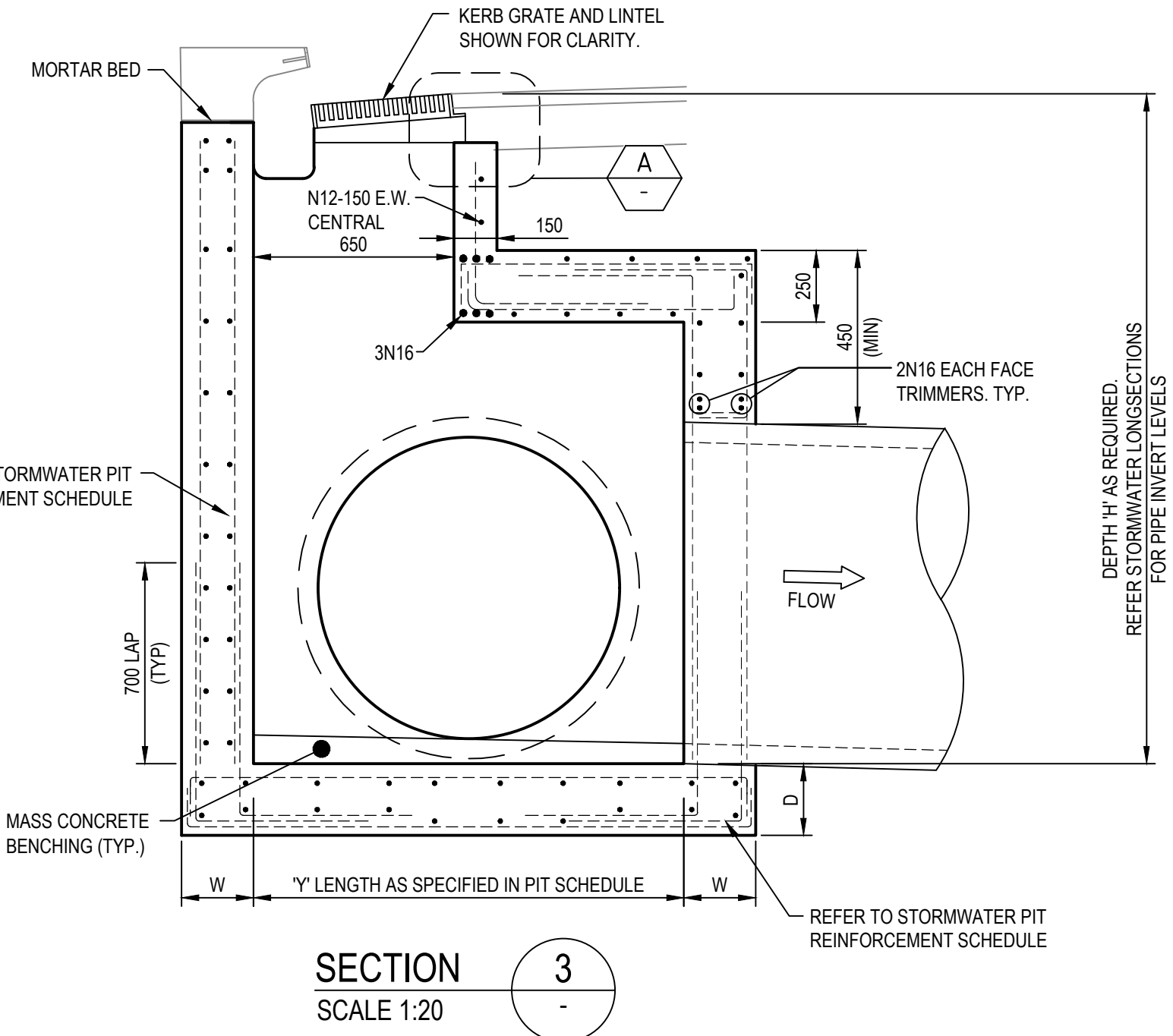
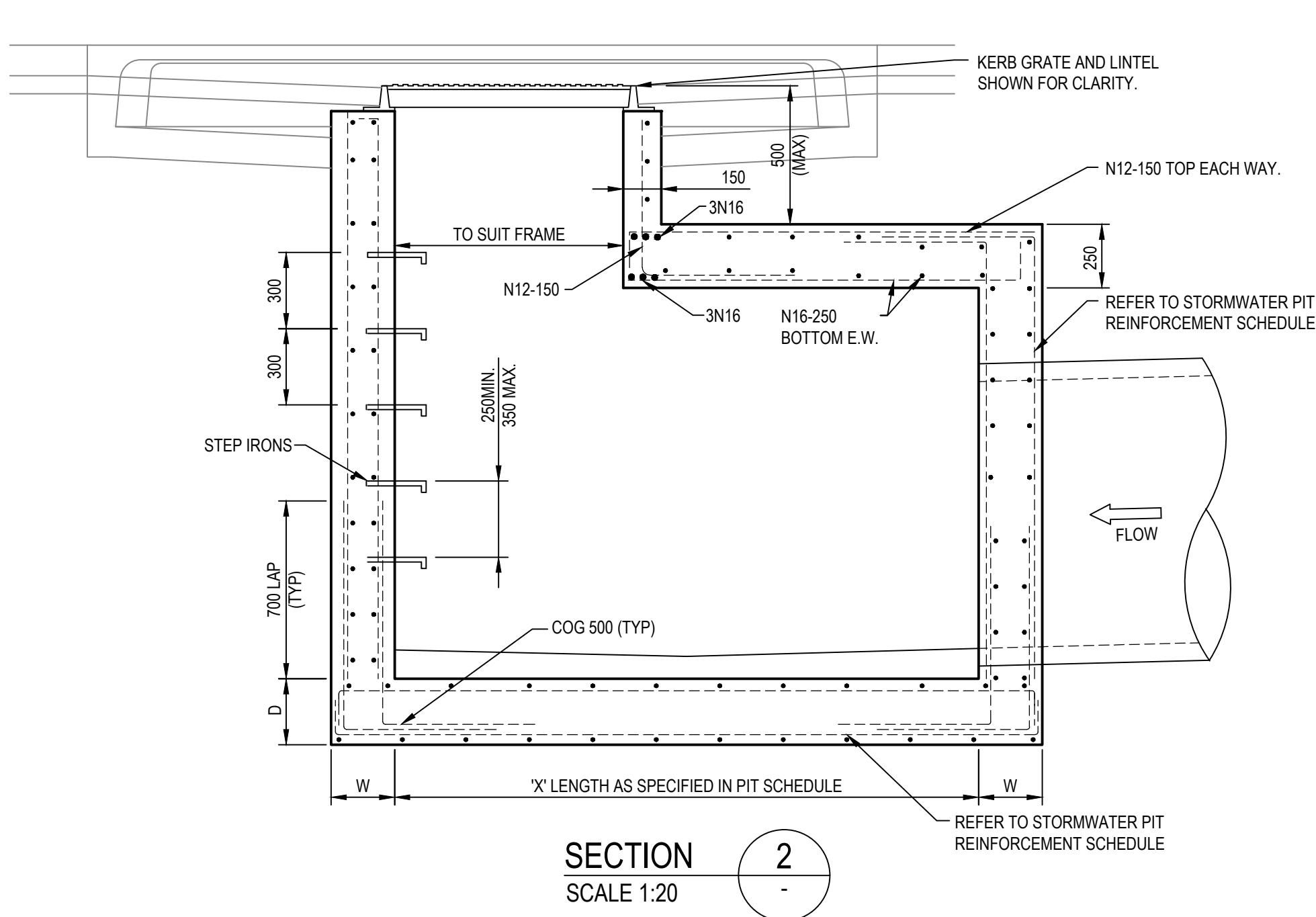
Drawn MCD 25.07.19
Checked DAC 25.07.19
Designed DAC 25.07.19
Verified ARM 25.07.19
Approved ARM 25.07.19

Client **LENLEASE**

Project **JORDAN SPRINGS EAST
STAGE 3C - CIVIL WORKS
DEVELOPMENT APPLICATION**
Title **STORMWATER DRAINAGE DETAILS
SHEET 1**

Status **FOR APPROVAL**
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Datum **AHD** Scale **AS SHOWN** Size **A1**
Drawing Number **CV-CARDNO-ST03C-2201** Revision **4**

DATE PLOTTED: 25 July 2019 3:02 PM BY: MARY DOZA



NON PENRITH CITY COUNCIL STANDARD STORMWATER PIT
SCALE 1:20

PENRITH CITY COUNCIL STANDARD
INTERALLOTMENT DRAINAGE PIT
SCALE 1:20

DEFLECTION ANGLE GREATER THAN 45° (SIDE OF PIT)
SCALE 1:25

PIT ALIGNMENT REQUIREMENTS
TYPICAL DETAILS OF STORMWATER PIPE OR CULVERT ALIGNMENTS THROUGH STORMWATER PITS. STORMWATER PIPE OR CULVERT ALIGNMENTS NOT SHOWN SHOULD BE CONSTRUCTED SIMILARLY IN ORDER TO STREAMLINE FLOWS FROM UPSTREAM TO DOWNSTREAM AND MINIMISE HEADLOSS.

IMPORTANT NOTE: PIT STANDARD DETAILS

PENRITH COUNCIL STANDARD GRATED GULLY PITS DETAIL, SD2001 TO BE USED FOR PIT DETAILS WHERE:
A. PIT INTERNAL WIDTH IN ANY DIRECTION IS LESS THAN OR EQUAL TO 1200mm, AND
B. PIT DEPTH FROM SETOUT POINT TO INVERT IS LESS THAN OR EQUAL TO 2000mm.

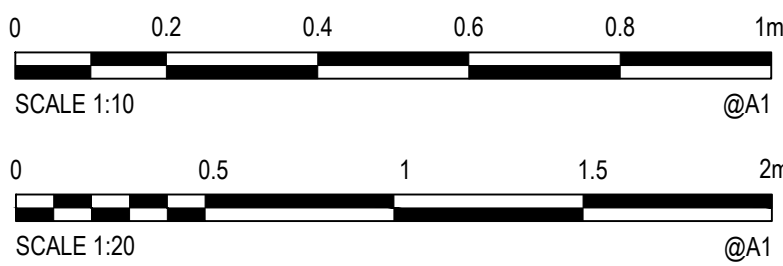
FOR PITS WIDER THAN 1200mm AND/OR DEEPER THAN 2000mm REFER TO THE BELOW TABLE AND DETAILS.

NON PCC STORMWATER PIT REINFORCEMENT SCHEDULE						
PIT DIMENSIONS(mm)		WALL DIMENSIONS(mm)		VERTICAL REINFORCEMENT	HORIZONTAL REINFORCEMENT	BASE REINFORCEMENT
LENGTH 'X', 'Y'	DEPTH 'H'	BASE THICKNESS 'D'	WALL THICKNESS 'W'			
1200<X,Y<3300	2000<H<3900	230	230	N12-200 E.F.	N12-200 E.F.	N12-200 E.F.
X,Y<1200	H<6000	230	230	N16-250 E.F.	N16-250 E.F.	N16-250 E.F.

NOTE: PIT REINFORCEMENT TO BE SELECTED USING MAXIMUM PIT DIMENSION

NOTES:

- PIT REINFORCEMENT TO BE SELECTED USING MAXIMUM PIT DIMENSION.
- MINIMUM COVER TO REINFORCING AND CONCRETE STRENGTH AS SPECIFIED ON SHEET 1011.



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Designed	DAC	Date	25.07.19
Verified	ARM	Date	25.07.19
Approved	ARM	Date	25.07.19

Client **LENDELEASE**
Project **JORDAN SPRINGS EAST
STAGE 3C - CIVIL WORKS
DEVELOPMENT APPLICATION**
Title **STORMWATER DRAINAGE DETAILS
SHEET 2**

Status				FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES	
Datum		Scale			
AHD		AS SHOWN		A1	
Drawing Number				Revision	
CV-CARDNO-ST03C-2202				4	

