

BUILDING 2 & 3 SSD 17161650

HDBP STAGE 2

COWPASTURE ROAD, WETHERILL PARK NSW

DRAWING LIST:

DRAWING NO. CO11492.19-DA10	DRAWING TITLE DRAWING LIST & GENERAL NOTES
CO11492.19-DA20	EROSION & SEDIMENT CONTROL PLAN
CO11492.19-DA25	EROSION & SEDIMENT CONTROL DETAILS
CO11492.19-DA40	DRAWING KEY PLAN
CO11492.19-DA41	CONCEPT STORMWATER PLAN - SHEET 1
CO11492.19-DA42	CONCEPT STORMWATER PLAN - SHEET 2
CO11492.19-DA45	CONCEPT STORMWATER DETAILS-SHEET 1
CO11492.19-DA51	FINISHED LEVELS PLAN-SHEET 1
CO11492.19-DA52	FINISHED LEVELS PLAN-SHEET 2
CO11492.19-DA53	TYPICAL SECTIONS

GENERAL NOTES:

- G1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- G2 ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
- G3 ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE. ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. ENGINEER'S DRAWINGS ISSUED IN ANY ELECTRONIC FORMAT MUST NOT BE USED FOR DIMENSIONAL SETOUT. REFER TO THE ARCHITECT'S DRAWINGS FOR ALL DIMENSIONAL SETOUT INFORMATION.
- G4 DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
- G5 UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
- G6 ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH ACCEPTABLE SAFETY STANDARDS & APPROPRIATE SAFETY SIGNS SHALL BE INSTALLED AT ALL TIMES DURING THE PROGRESS OF THE JOB.

ELECTRONIC INFORMATION NOTES:

1. THE ISSUED DRAWINGS IN HARD COPY OR PDF FORMAT TAKE PRECEDENCE OVER ANY ELECTRONICALLY ISSUED INFORMATION, LAYOUTS OR DESIGN MODELS.
2. THE CONTRACTOR'S DIRECT AMENDMENT OR MANIPULATION OF THE DATA OR INFORMATION THAT MIGHT BE CONTAINED WITHIN AN ENGINEER-SUPPLIED DIGITAL TERRAIN MODEL AND ITS SUBSEQUENT USE TO UNDERTAKE THE WORKS WILL BE SOLELY AT THE DISCRETION OF AND THE RISK OF THE CONTRACTOR.
3. THE CONTRACTOR IS REQUIRED TO HIGHLIGHT ANY DISCREPANCIES BETWEEN THE DIGITAL TERRAIN MODEL AND INFORMATION PROVIDED IN THE CONTRACT AND/OR DRAWINGS AND IS REQUIRED TO SEEK CLARIFICATION FROM THE SUPERINTENDENT.
4. THE ENGINEER WILL NOT BE LIABLE OR RESPONSIBLE FOR THE POSSIBLE ON-GOING NEED TO UPDATE THE DIGITAL TERRAIN MODEL, SHOULD THERE BE ANY AMENDMENTS OR CHANGES TO THE DRAWINGS OR CONTRACT INITIATED BY THE CONTRACTOR.

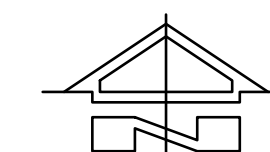
SURVEY NOTE:

EXISTING SITE LEVELS AND DETAILS BASED ON A PLAN OF SURVEY 160136A_02 BY MONTEATH & POWYS SURVEYORS 12.10.16 COORDINATES BASED ON MGA COORDINATES AS NOMINATED ON SURVEY DRAWING.

EROSION CONTROL NOTES :

ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

1. SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
2. HAY BALE BARRIERS AND GEOFABRIC FENCES ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
3. ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
4. CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
6. ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING, TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.
7. ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
8. ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
9. ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200MM.
10. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
11. AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
12. ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE SITE MANAGER TO PREVENT WIND AND WATER EROSION.
13. ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
14. ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
15. ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOIL MATERIALS FORM MOTOR VEHICLES.
16. THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
17. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP.



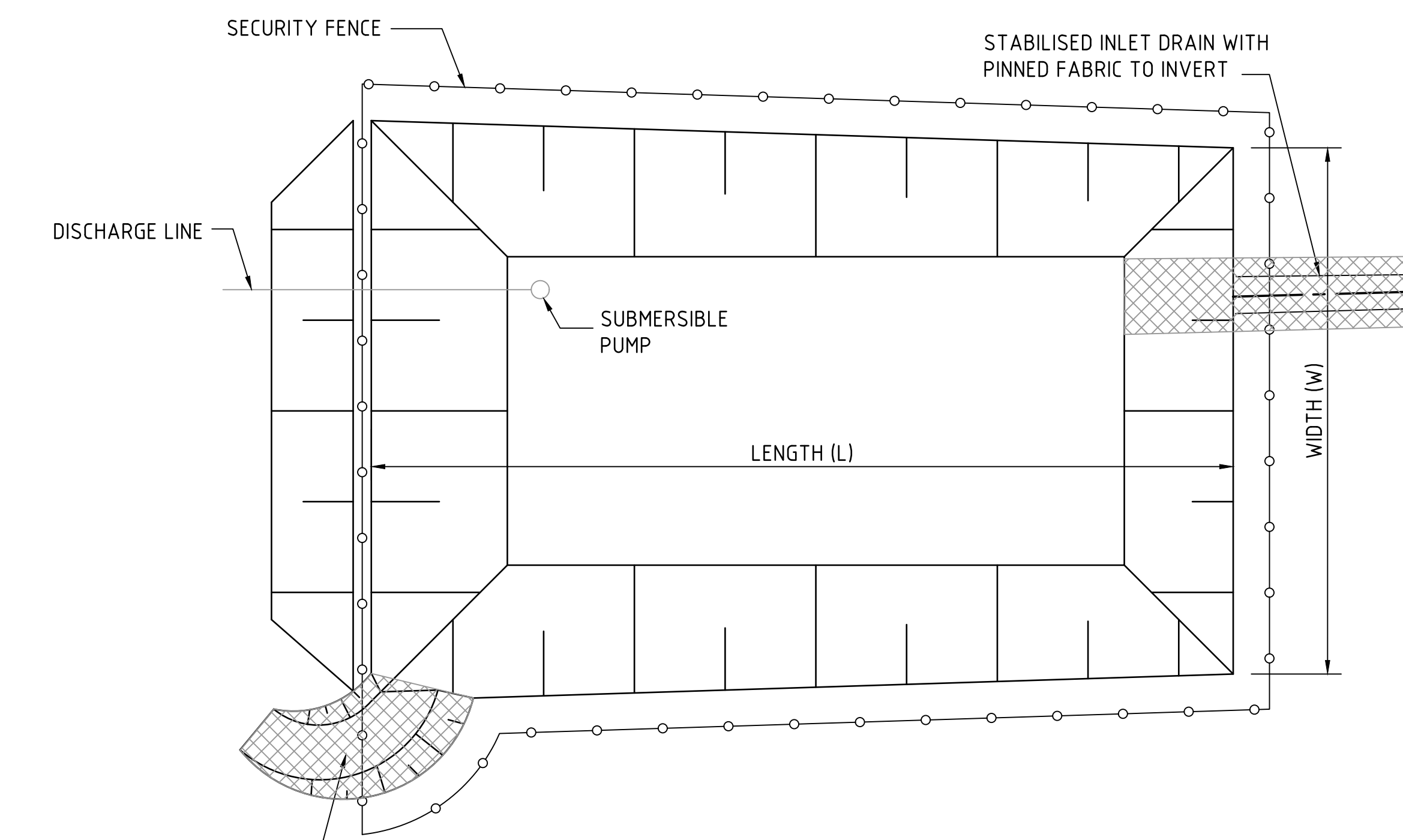
LOCALITY PLAN
NOT TO SCALE

FOR DEVELOPMENT APPLICATION

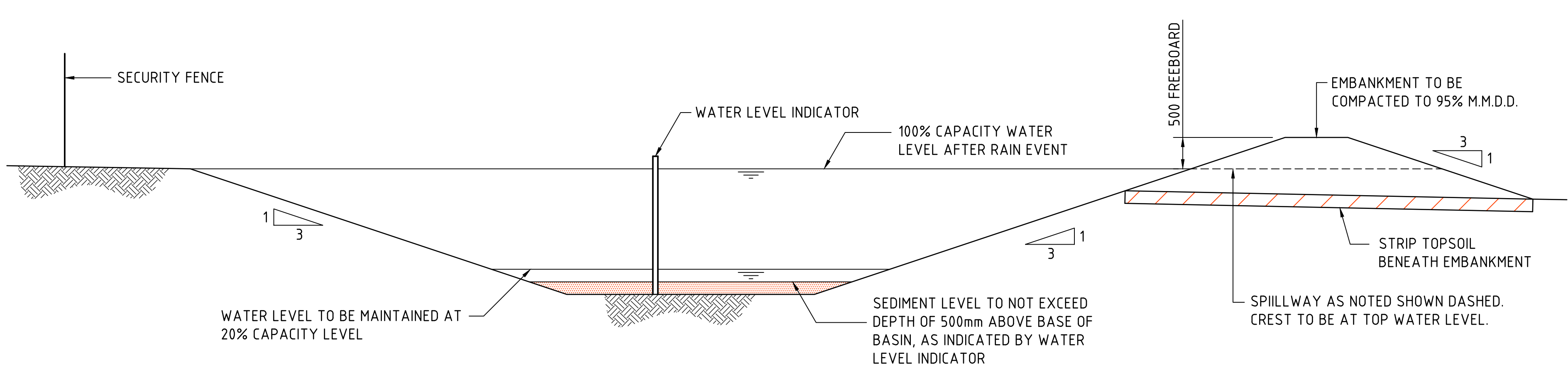
ISSUED FOR DEVELOPMENT APPLICATION			09.08.21			A			AMENDMENTS			DATE			ISSUE			AMENDMENTS			DATE			ISSUE		
AMENDMENTS			DATE			ISSUE			AMENDMENTS			DATE			ISSUE			AMENDMENTS			DATE			ISSUE		

ARCHITECT	CLIENT	PROJECT	DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF	Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Widdowhill Street Wahia Bay, Sydney NSW 2000 Tel: (02) 9251-7699 Fax: (02) 9241-3721 email: mail@costinroe.com.au ©				DRAWING TITLE	ISSUE
[watch this SPACE design]	Charter Hall	HORSLEY DRIVE BUSINESS PARK LOT 2&3 DEVELOPMENT COWPASTURE ROAD, WETHERILL PARK, NSW	M.C.	M.C.	JUN 21	M.W.	A0	AS SHOWN	Co11492.19-DA10	Costin Roe Consulting				DRAWING LIST & GENERAL NOTES	A

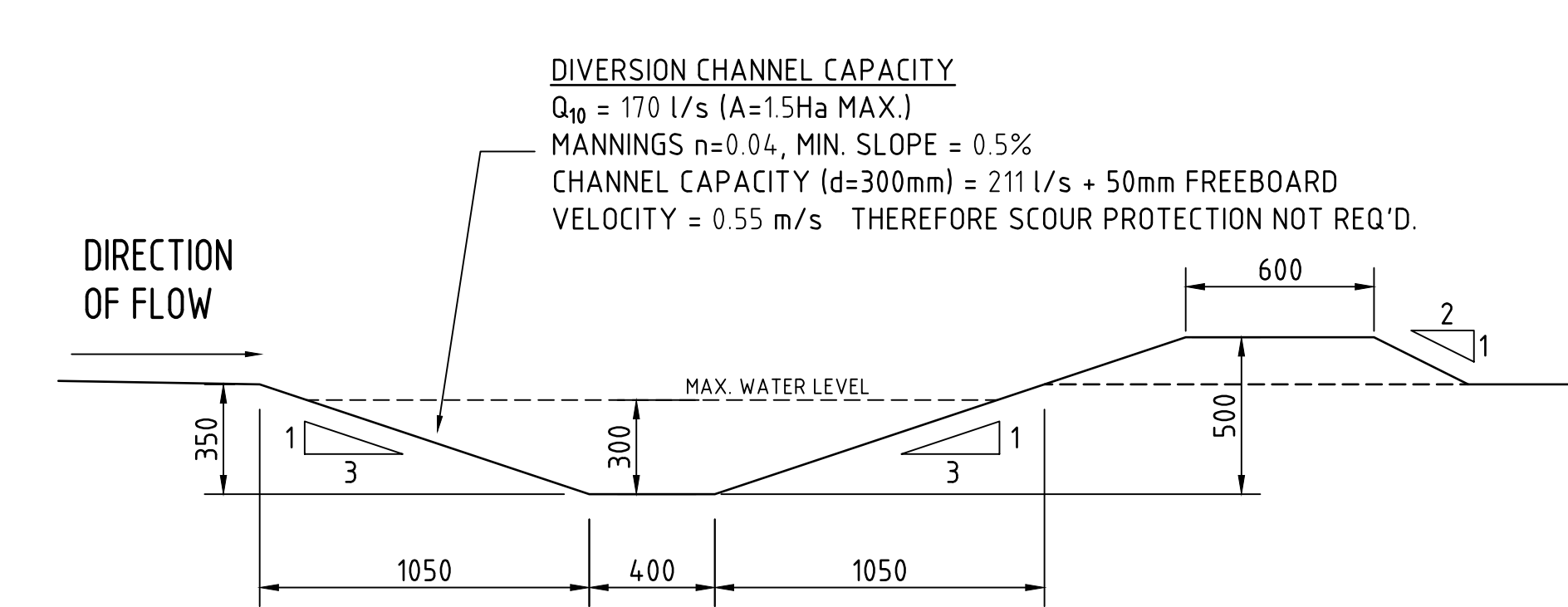
PRECISION	COMMUNICATION	ACCOUNTABILITY	DRAWING No	Co11492.19- DA10	ISSUE	A
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TYPICAL SEDIMENT CONTROL BASIN PLAN
SCALE 1:250



TYPICAL SEDIMENT CONTROL BASIN SECTION
SCALE 1:50

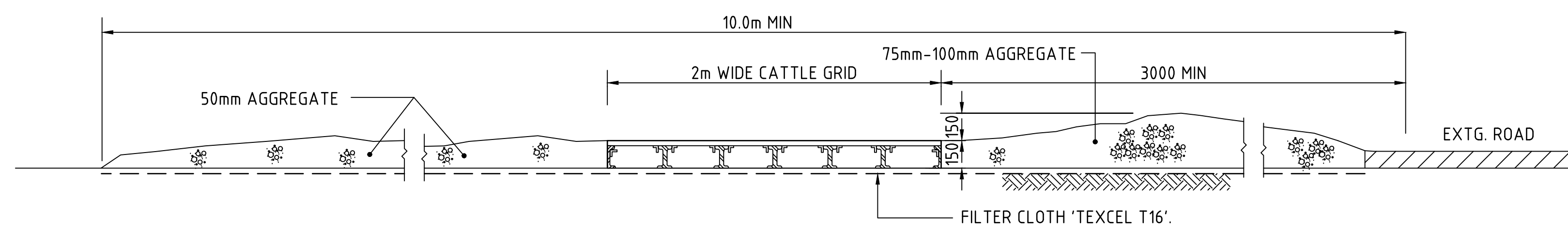


DIVERSION DRAIN TYPE 1 SECTION -2500 WIDE
SCALE 1:20

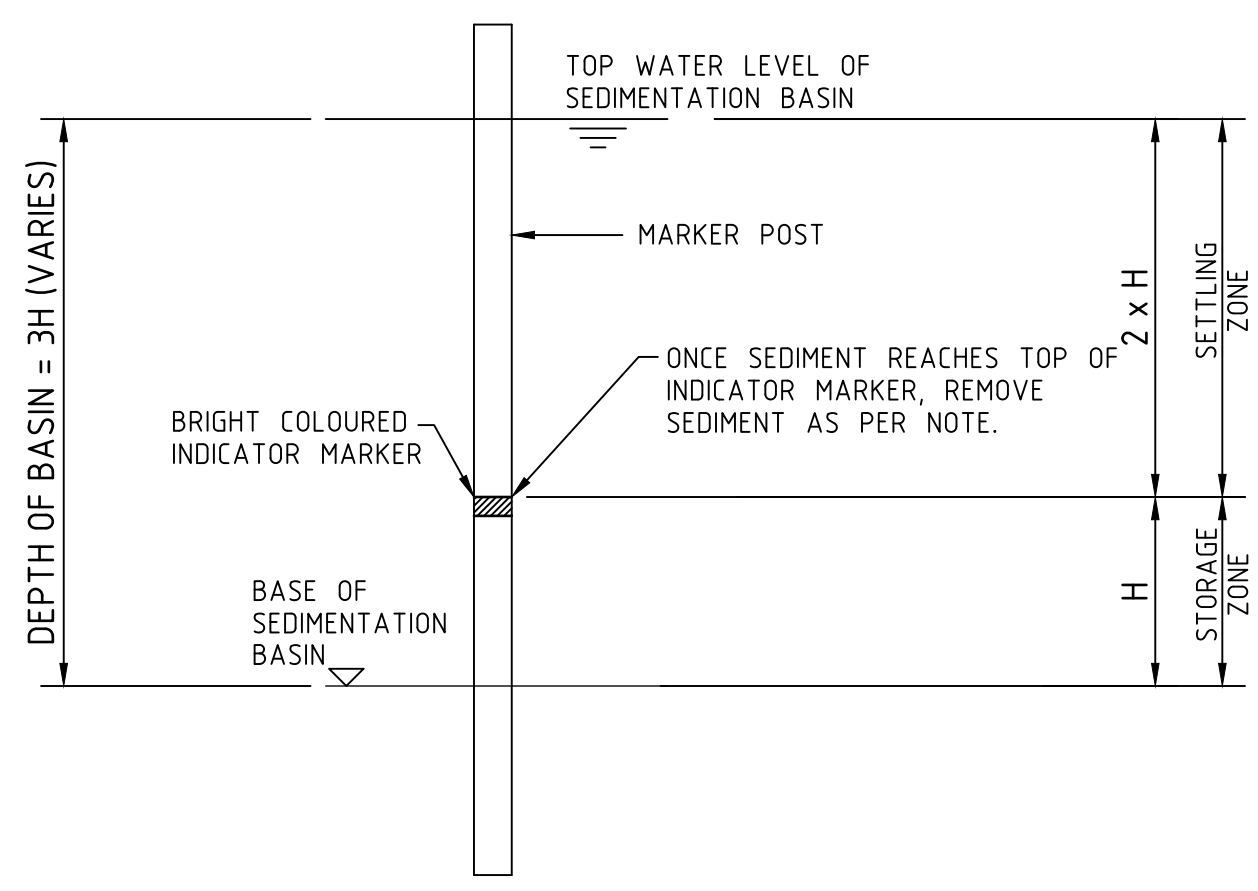
TEMPORARILY PROTECT THE SWALE FROM EROSION DURING CONSTRUCTION.

TEMPORARY DIVERSION DRAINS SHALL BE STABILISED BY:

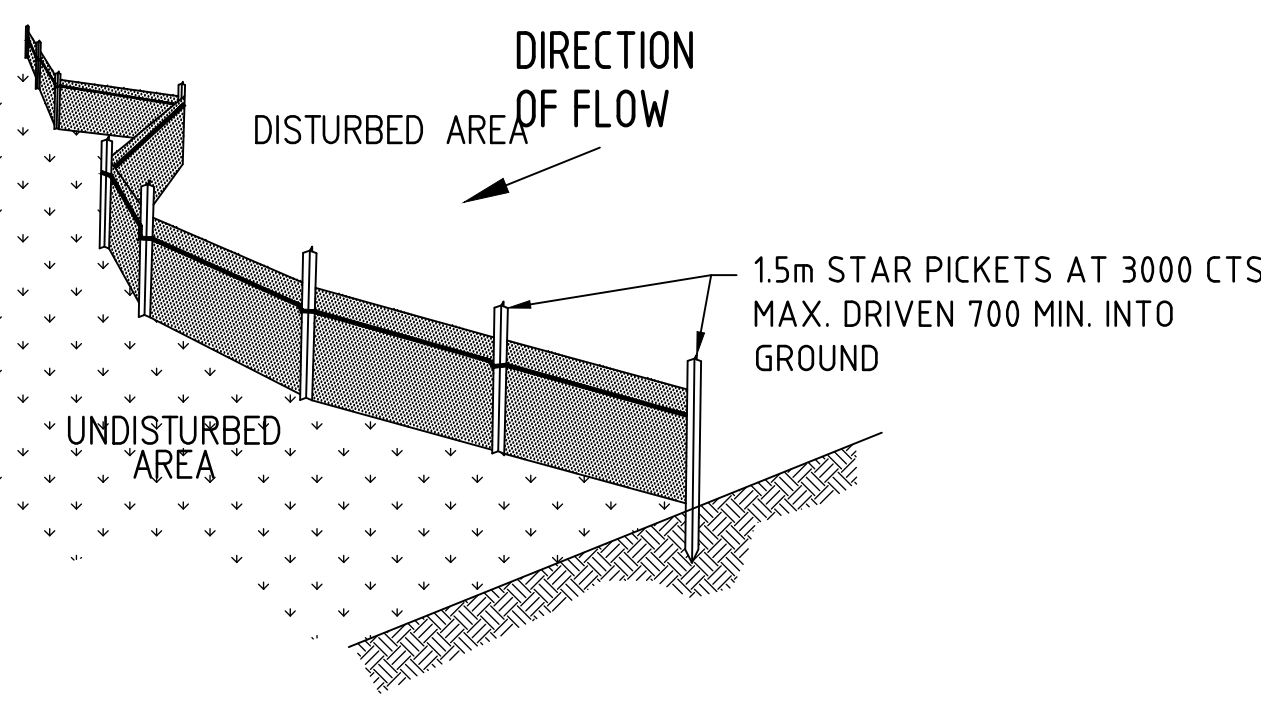
- a. TURF REINFORCEMENT; OR
- b. GEOFABRIC LINER; OR
- c. POLYMER HYDRAULIC SOIL STABILISER. DOSAGE TO BE TO MANUFACTURER'S SPECIFICATION FOR FLOW RATES NOMINATED. DOSAGE SHALL BE SUCH THAT $C=0.05$.



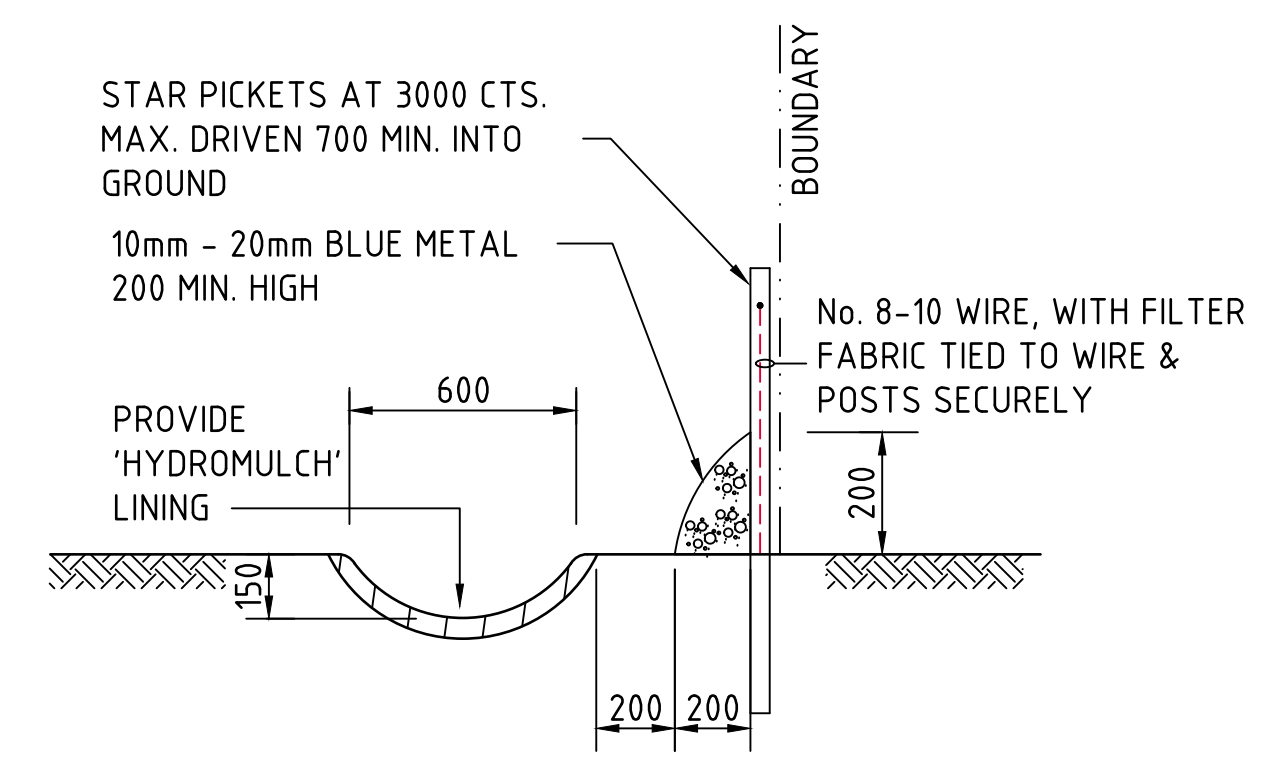
SECTION 1: STABILISED CONSTRUCTION ENTRANCE 'TRUCK SHAKER'



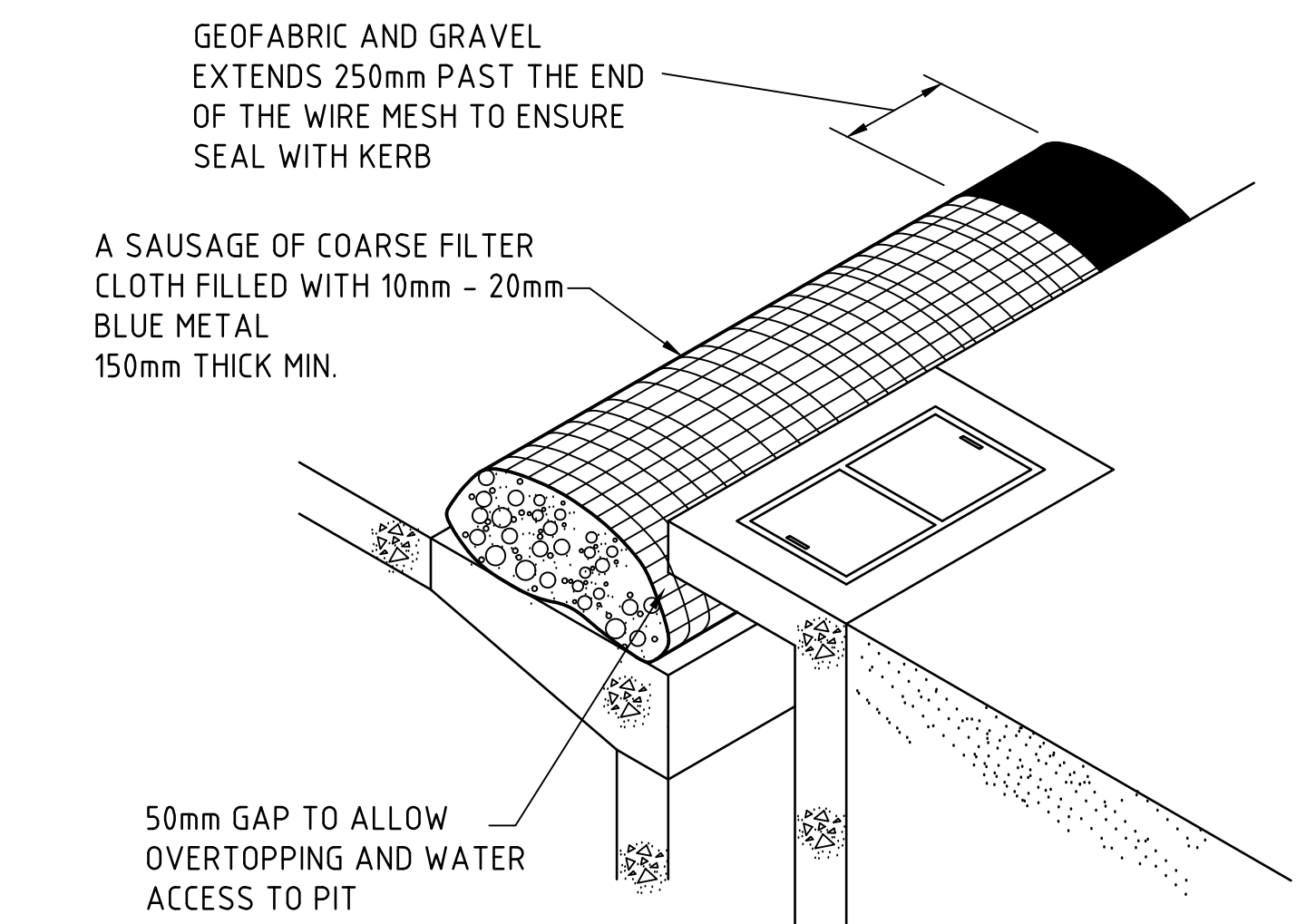
SEDIMENT STORAGE MARKER
SCALE 1:20



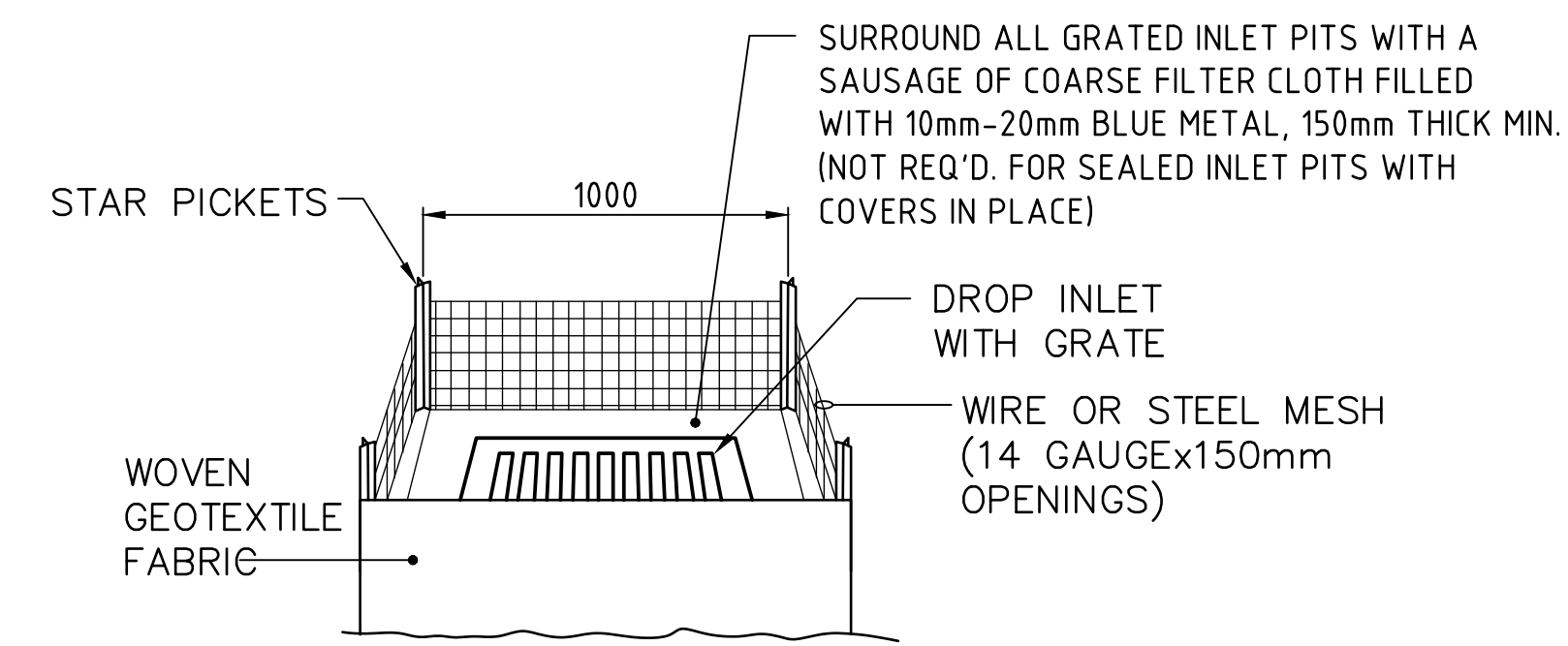
TYPICAL SILT FENCE DETAIL
N.T.S.
PROVIDE 1m RETURNS AT 30m INTERVALS.
TYPICAL



TYPICAL OPEN DRAIN & SILT FENCE
SCALE 1:20



KERB INLET PIT CONTROL
N.T.S.



GRADED INLET PIT FILTER DETAIL
N.T.S.

- STOCKPILE NOTES**
1. PLACE ALL STOCKPILES IN LOCATIONS MORE THAN 5m FROM EXISTING VEGETATION, ROADS & HAZARD AREAS.
 2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT ELONGATED MOUNDS. SIDE SLOPE TO BE 1 V: 2 H MAX.
 3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
 4. WHERE STOCKPILES ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, SUITABLY STABILISE OR COVER THE STOCKPILES.
 5. CONSTRUCT SILT FENCE WITH CATCH DRAIN ON UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES & SILT FENCE ONLY 1 TO 2m DOWNSLOPE AS SHOWN.

NOTES:

ALL EROSION & SEDIMENT CONTROL MEASURES TO BE INSPECTED & MAINTAINED DAILY BY SITE MANAGER.

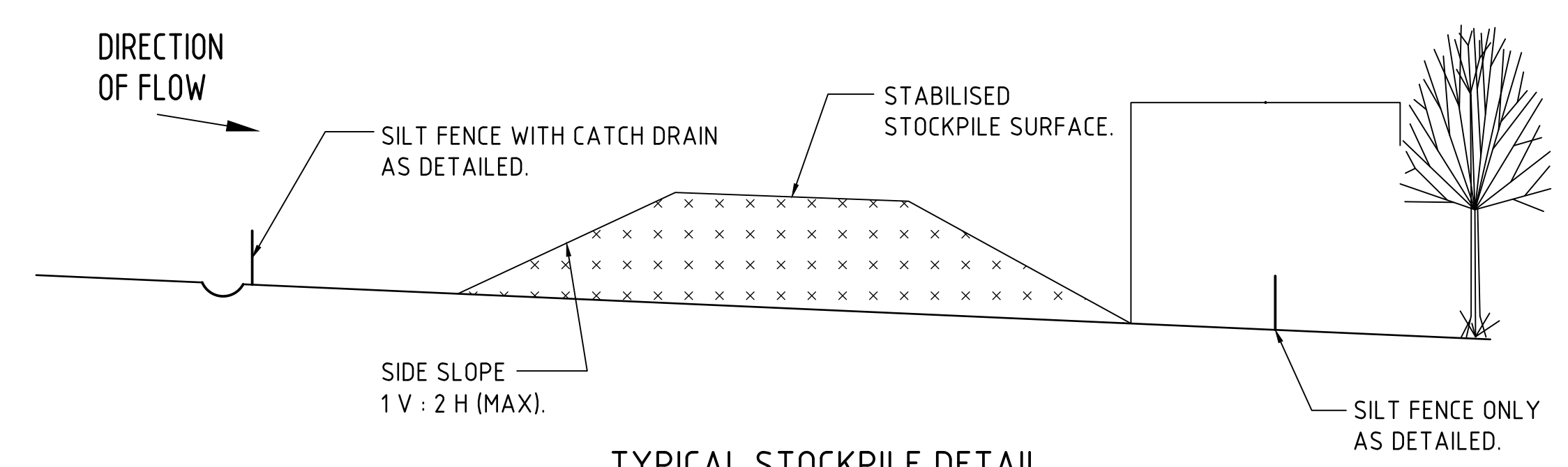
MINIMISE DISTURBED AREAS.

ROADS & FOOTPATHS TO BE SWEEPED DAILY.

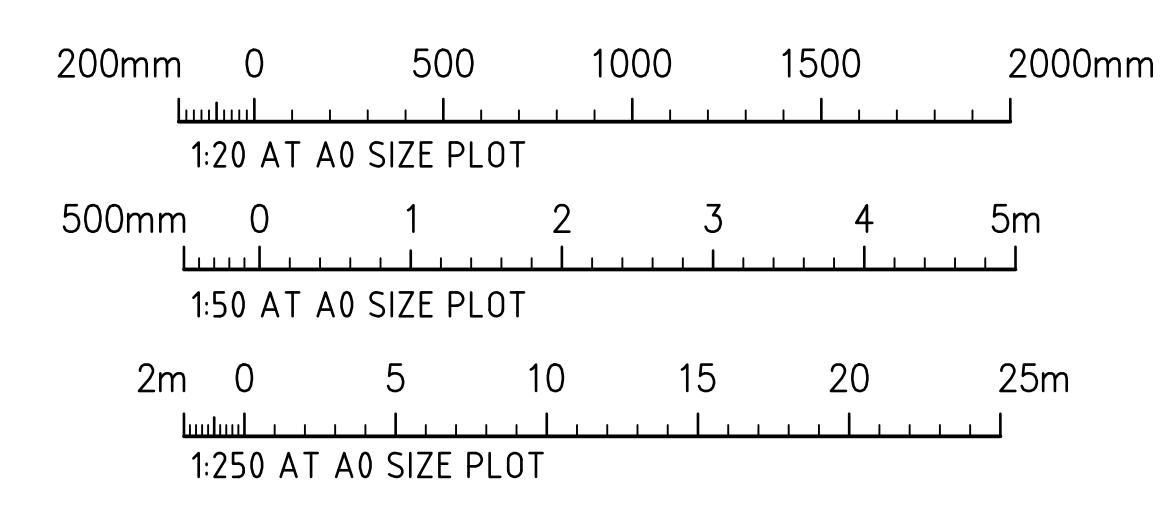
1.2m TURF TO BE PLACED BEHIND KERBS.

DUST MINIMISATION CONTROL BY WATERING TO BE IMPLEMENTED BY SITE MANAGER AS REQUIRED OR AS DIRECTED BY THE EPA.

NOTE: ADOPT ABOVE DETAILS AROUND ALL PITS WITHIN AREA ENCOMPASSED BY SILT FENCE & TO PITS ON THE ROAD ADJACENT TO SITE BOUNDARY.



TYPICAL STOCKPILE DETAIL
N.T.S.



FOR DEVELOPMENT APPLICATION

REFER TO DRAWINGS C011492.19-DA41 & DA51

REFER TO DRAWINGS C011492.19-DA42 & DA52

LOT 1 DEVELOPMENT APPROVED
AS PER SSD-10404

ESTATE ACCESS ROAD
APPROVED AS PER SSD 7664 MOD 1

ESTATE OSD/WATER QUALITY
—BASIN APPROVED AS PER SSD 7664
MOD 1

1. ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500 3:2003 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE.
2. THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 20 YEAR ARI STORM EVENT AND THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR ARI STORM EVENT.
3. ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS.
4. PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
5. EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
6. ALL STORMWATER PIPES Ø375 OR GREATER SHALL BE CLASS 2 REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
7. ALL PIPES UP TO AND INCLUDING Ø300 TO BE uPVC GRADE SN8 UNO.
8. PIPE CLASS NOMINATED ARE FOR IN-SERVICE LOADING CONDITIONS ONLY. CONTRACTOR IS TO MAKE ANY NECESSARY ADJUSTMENTS REQUIRED FOR CONSTRUCTION CONDITIONS.
9. ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTERED IN WALL AND BITE LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE Fc 32 MPa. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
10. IN ADDITION TO ITEM 6 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
11. PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING UNDER AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER SUITABLE TAMPING DETAILS.
12. WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED Ø100 uPVC TO EACH SIDE OF PIPE.
13. ALL SUBSOIL DRAINAGE LINES SHALL BE Ø100 SLOTTED uPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR IN 1 200 MINIMUM, PROVIDE CAPPED (CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT/ LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
14. ALL PIPE GRADES 1 IN 100 MINIMUM UNO.
15. PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
16. MIN. 600 COVER TO PIPE OVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
17. PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D "HEAVY DUTY" TYPE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B "MEDIUM DUTY" UNO.
18. PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
19. PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.

1. LEVELS DATUM IS A.H.D.
2. ALL CONTOUR LINES & SPOT LEVELS INDICATE FINISHED PAVEMENT LEVELS U.N.O. ON PLAN.
3. THE MAJOR CONTOUR INTERVAL IS 0.5m
4. THE MINOR CONTOUR INTERVAL IS 0.1m.
5. MINIMUM PAVEMENT GRADE IS TO BE 1:100 (1%).
6. MAXIMUM PAVEMENT GRADE IS TO BE 1:20 (5%) IN CARPARKING AREAS AND 1:25 (4%) ELSEWHERE.
7. MAXIMUM RAMP GRADES ARE TO BE 1:12 (8.3%) U.N.O. ON PLAN
8. PROVIDE MINIMUM 3.0m LONG TRANSITION WHERE CHANGES GRADE EXCEED 1:20 (5%).
9. PERMANENT BATTER SLOPES ARE TO HAVE A MAXIMUM GRADE OF 1V:3H.
10. ALL BATTER SLOPES WITH GRADES AT OR EXCEEDING 1V:6H ARE TO BE TURFED IMMEDIATELY, OR APPROPRIATE EROSION CONTROL IS TO BE PROVIDED TO THE SATISFACTION OF THE ENGINEER.
11. ALL FOOTPATHS ARE TO FALL AWAY FROM THE BUILDING AT 25% NOMINAL GRADE.
12. ALL PAVEMENTS ARE TO BE SET AT 50mm BELOW THE FINISHED FLOOR LEVEL OF THE WAREHOUSE AND OFFICE AREAS.

DRAWING KEY PLAN
SCALE 1:750

6m 0 15 30 45 60 75m
SCALE 1:750 AT A0 SIZE PLOT

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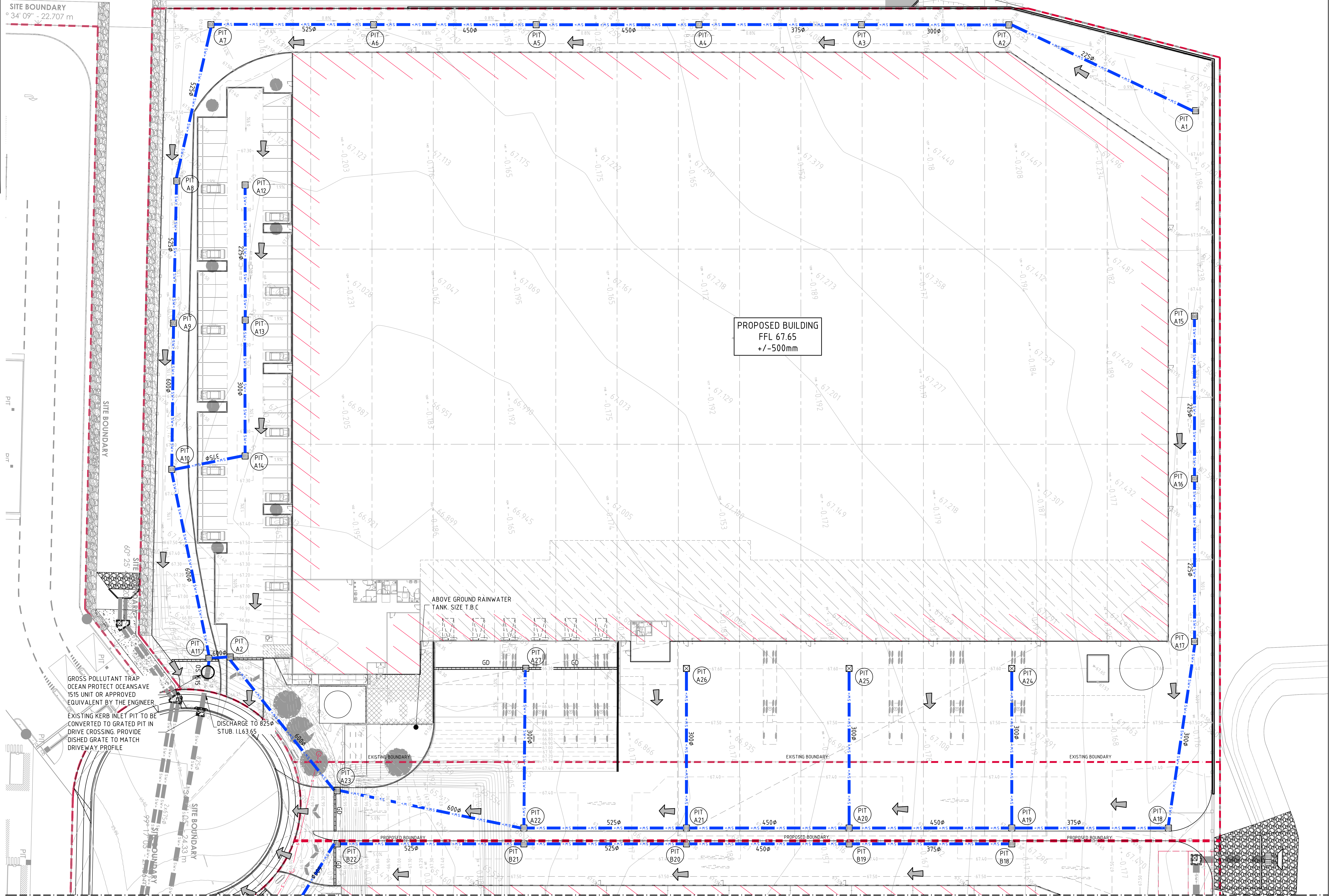
LEGEND:

LEVELS DATUM IS AHD.

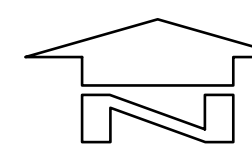
EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY
INFORMATION PROVIDED BY AWJ CIVIL DATED 19.05.21.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- DRAINAGE LINE
- ESTATE DRAINAGE LINE
- ROOFWATER DOWNPIPE (INDICATIVE)
- ROOFWATER LINE
- SUBSOIL LINE
- OVERLAND FLOW PATH
- FINISHED PAVEMENT CONTOUR (MAJOR)
0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR)
0.1m INTERVALS

SITE BOUNDARY
° 34' 09" - 22.707 m



BREAKLINE - REFER TO DRAWING DA42 FOR CONTINUATION



CONCEPT STORMWATER PLAN - SHEET 1
SCALE 1:250

FOR DEVELOPMENT APPLICATION

2m 0 5 10 15 20 25m
SCALE 1:250 AT A0 SIZE PLOT

ISSUED FOR DEVELOPMENT APPLICATION	09.08.21	C
REVISED OFFICE LAYOUT	10.06.21	B
FOR INFORMATION	04.06.21	A
AMENDMENTS	DATE	ISSUE

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
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ARCHITECT	
[watch this]	SPACE design

CLIENT	
PROJECT	HORSLEY DRIVE BUSINESS PARK LOT 283 DEVELOPMENT COWPASTURE ROAD, WETHERILL PARK, NSW

DESIGNED	DRAWN	DATE	CHECKED	DATE	SCALE	SIZE	SCALE	CHG REF
M.C.	M.C.	JUN 21	M.C.	JUN 21	1:250	A0	AS SHOWN	C0114.92-19-DA41

	Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Wahia Bay, Sydney NSW 2000 Tel: (02) 8551-7899 Fax: (02) 9241-3721 email: mail@costinroe.com.au
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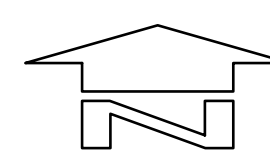
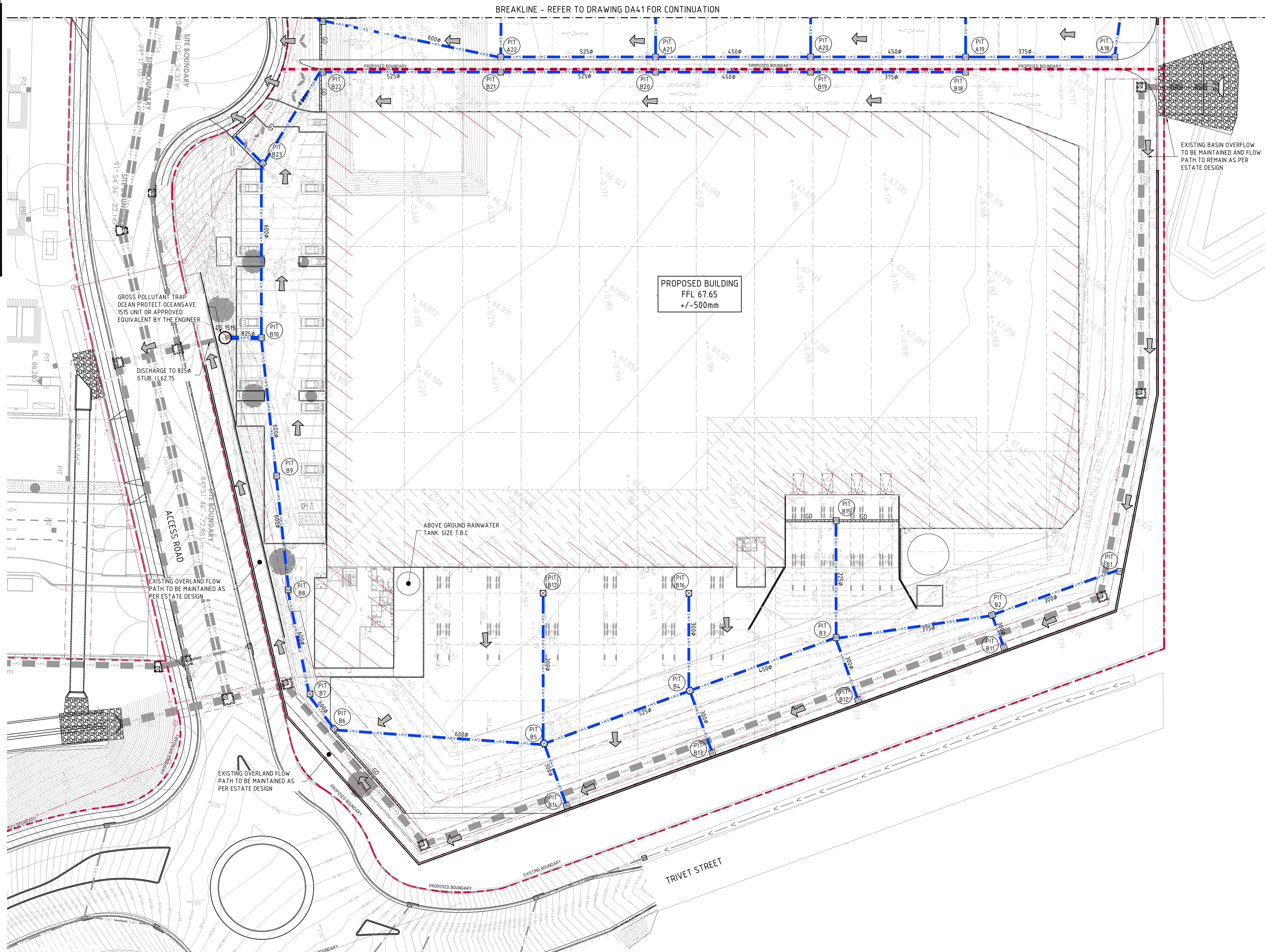
	PRECISION COMMUNICATION ACCOUNTABILITY
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DRAWING TITLE	CONCEPT STORMWATER PLAN SHEET 1
DRAWING No	C0114.92.19- DA41
ISSUE	C

LEGEND:
LEVELS DATUM IS AHD.

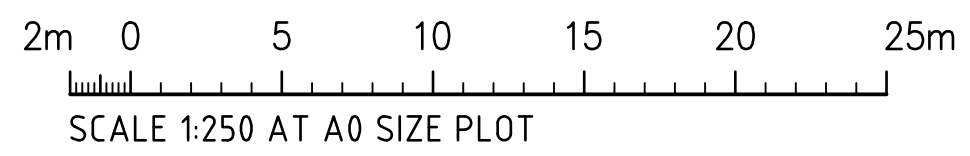
EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY AWJ CIVIL DATED 19.05.21.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- DRAINAGE LINE
- ESTATE DRAINAGE LINE
- ROOFWATER DOWNPIPE (INDICATIVE)
- ROOFWATER LINE
- SUBSOIL LINE
- OVERLAND FLOW PATH
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS



CONCEPT STORMWATER PLAN - SHEET 2
SCALE 1:250

FOR DEVELOPMENT APPLICATION



ISSUED FOR DEVELOPMENT APPLICATION	09.08.21	B
FOR INFORMATION	04.06.21	A
AMENDMENTS	DATE	ISSUE

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
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ARCHITECT

[watch this] **SPACE** design

CLIENT

Charter Hall

PROJECT

**HORSLEY DRIVE BUSINESS PARK
LOT 283 DEVELOPMENT**

COWPASTURE ROAD, WETHERILL PARK, NSW

COSTIN ROE CONSULTING PTY LTD.

Consulting Engineers

Level 1, 8 Windmill Street
Wahlab Bay, Sydney NSW 2000

Tel: (02) 9251-7899 Fax: (02) 9241-3721
email: mail@costinroe.com.au

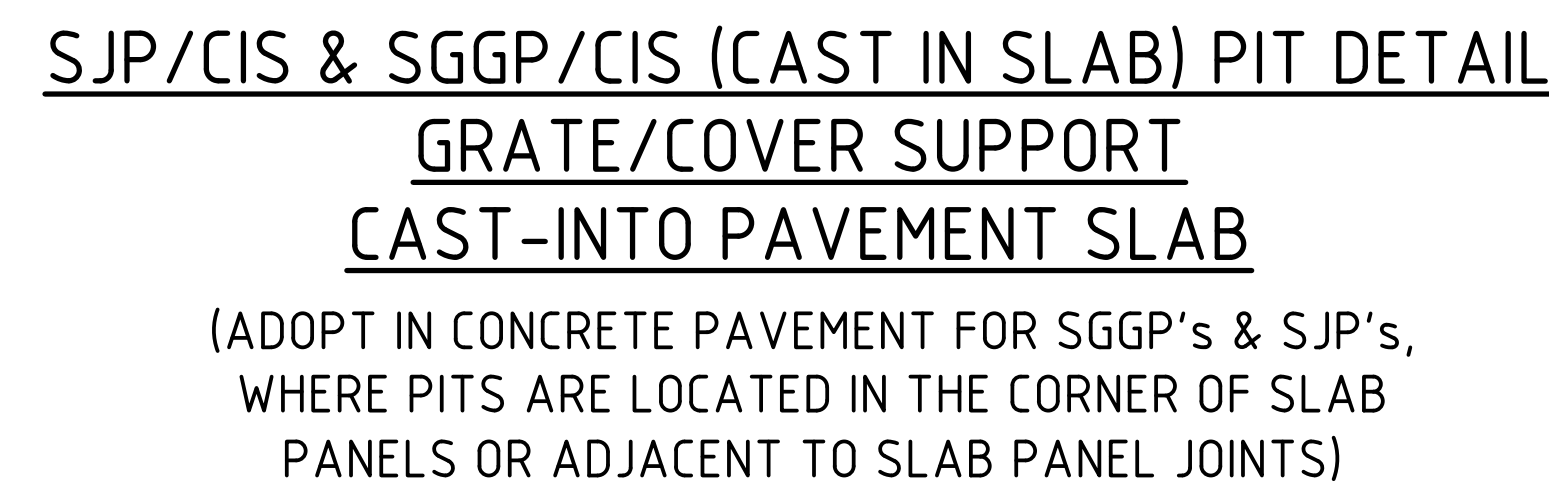
Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE

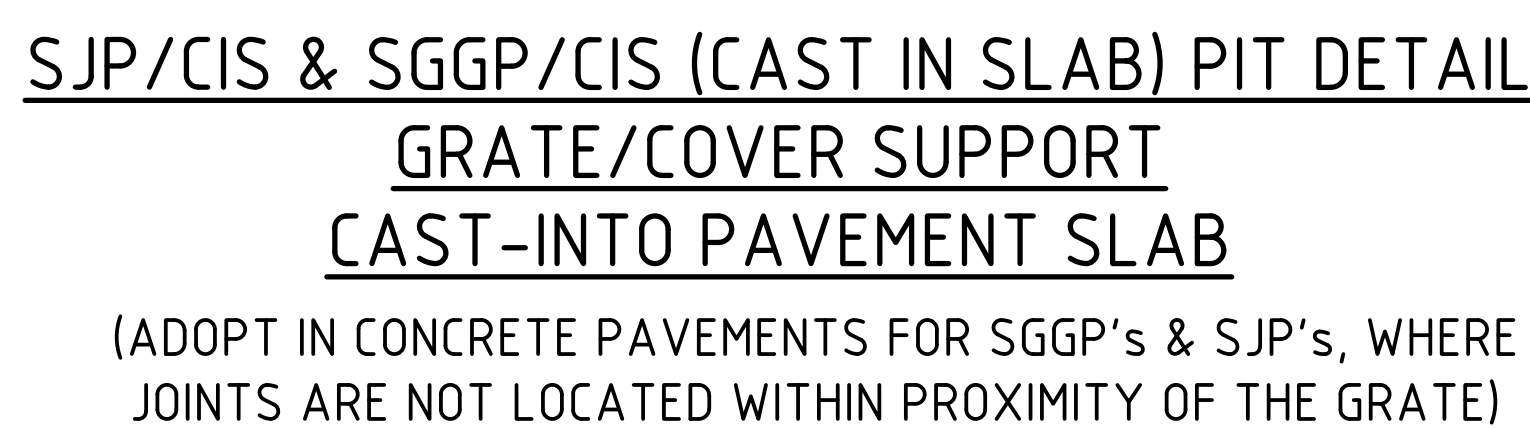
**CONCEPT STORMWATER PLAN
SHEET 2**

DRAWING No **Co114.92.19- DA42** ISSUE **B**



1. PROPRIETARY T-PIECE CONNECTORS SHALL BE USED TO WHERE DIRECT CONNECTIONS ARE REQUIRED TO uPVC PIPES
2. ALL JOINTS TO BE SEALED WITH SOLVENT WELDED JOINTS.
3. THE PVC PIPE SHALL NOT PROTRUDE BEYOND THE INNER SURFACE OF THE STORMWATER PIPE.

DOWNPIPE CONNECTION DETAILS



BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 50
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

SIDE ZONE WIDTH	
PIPE SIZE (mm)	t (mm)
$\leq 900\phi$	150
1050 ϕ	175
1200 ϕ	200
1350 ϕ	225
1500 ϕ	250
1650 ϕ	275
1800 ϕ	300

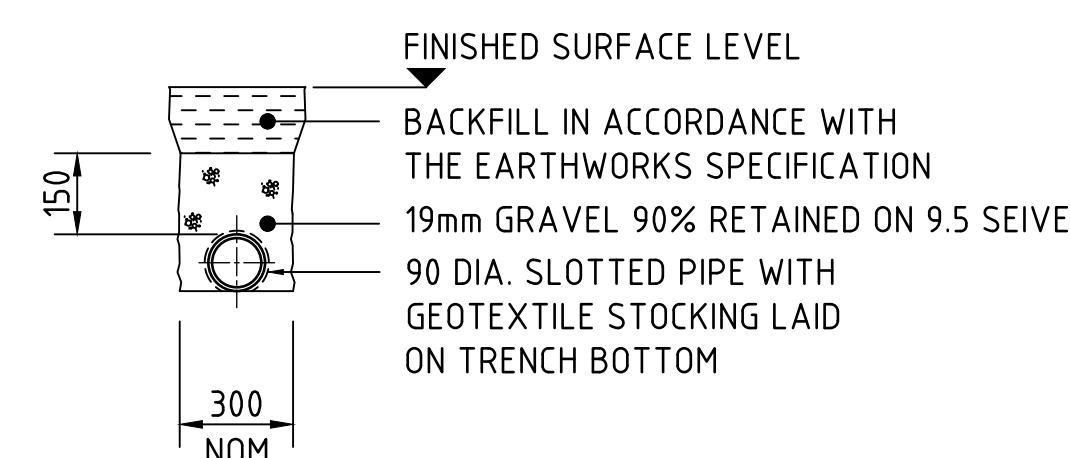
SIDE ZONE MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
75.0	100
9.5	100 TO 50
2.36	100 TO 50
0.60	50 TO 15
0.075	25 TO 0

SELECT FILL MATERIAL IN ACCORDANCE WITH
TABLE 1 AS 3725



BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 50
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

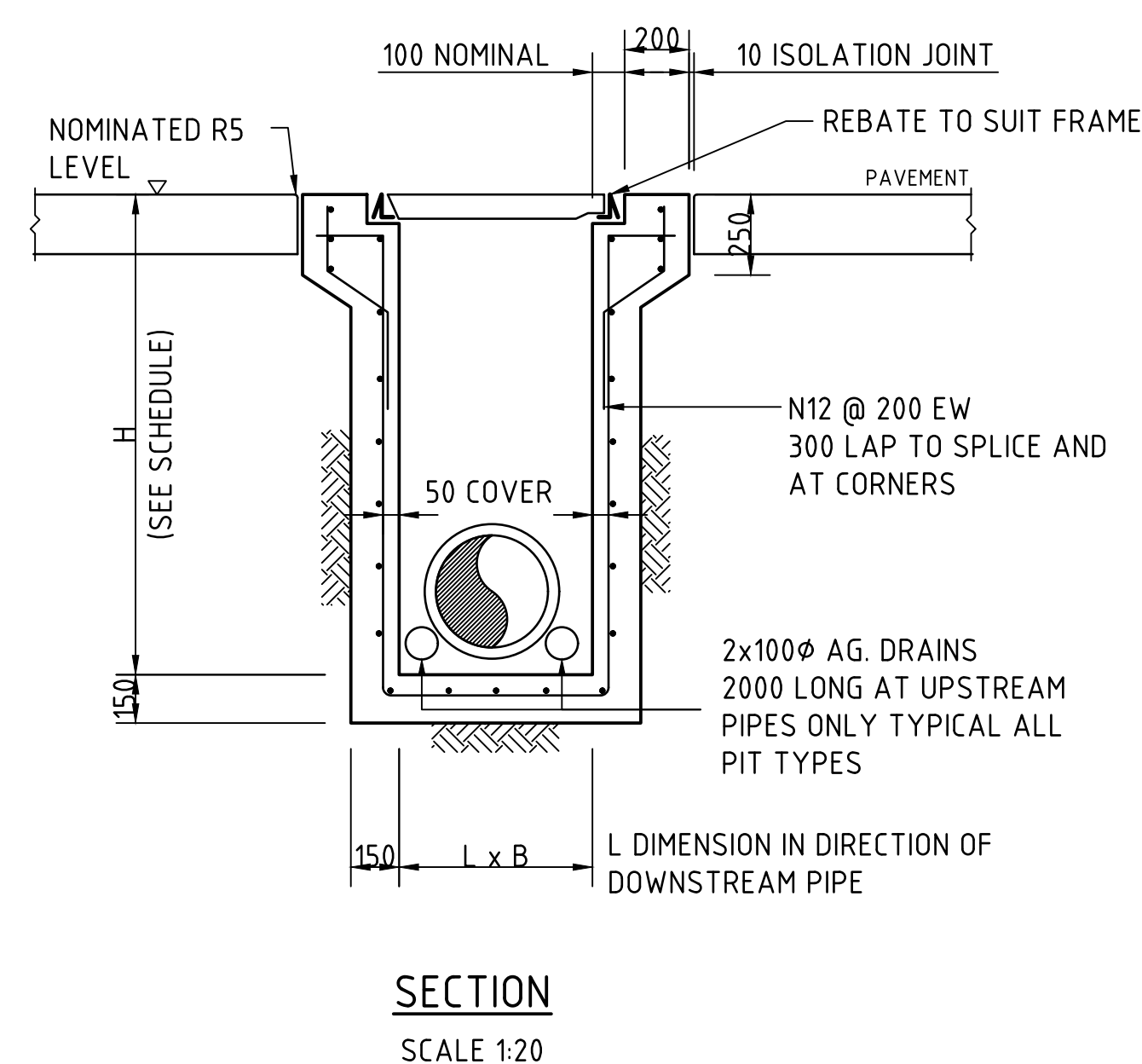
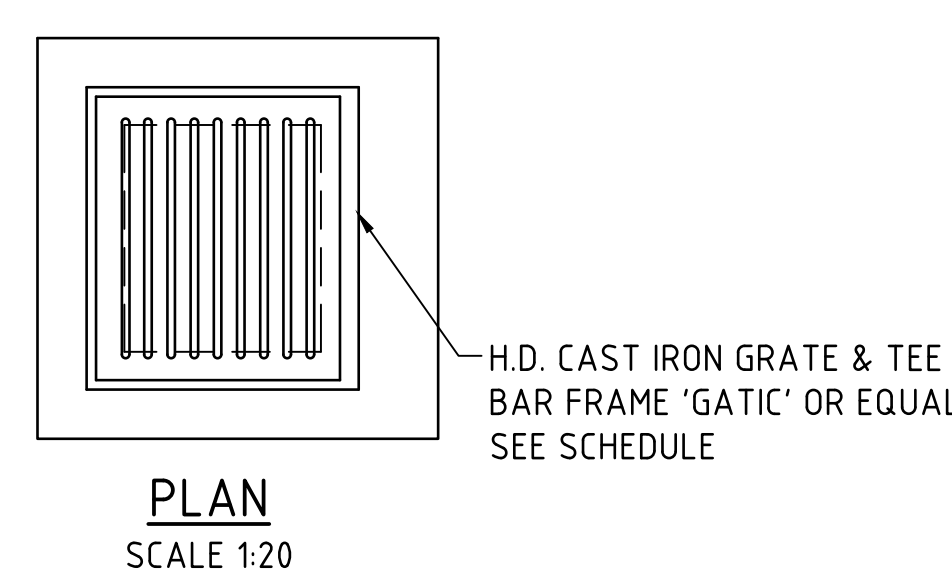
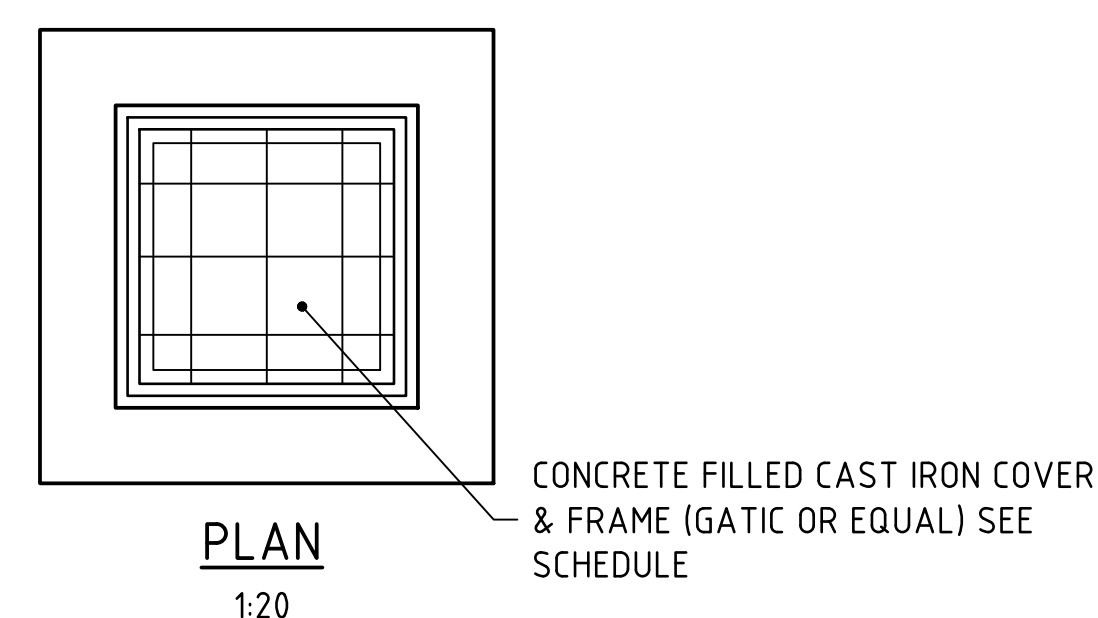
SIDE ZONE WIDTH	
PIPE SIZE (mm)	l_c (mm)
$\leq 900\phi$	150
1050 ϕ	175
1200 ϕ	200
1350 ϕ	225
1500 ϕ	250
1650 ϕ	275
1800 ϕ	300



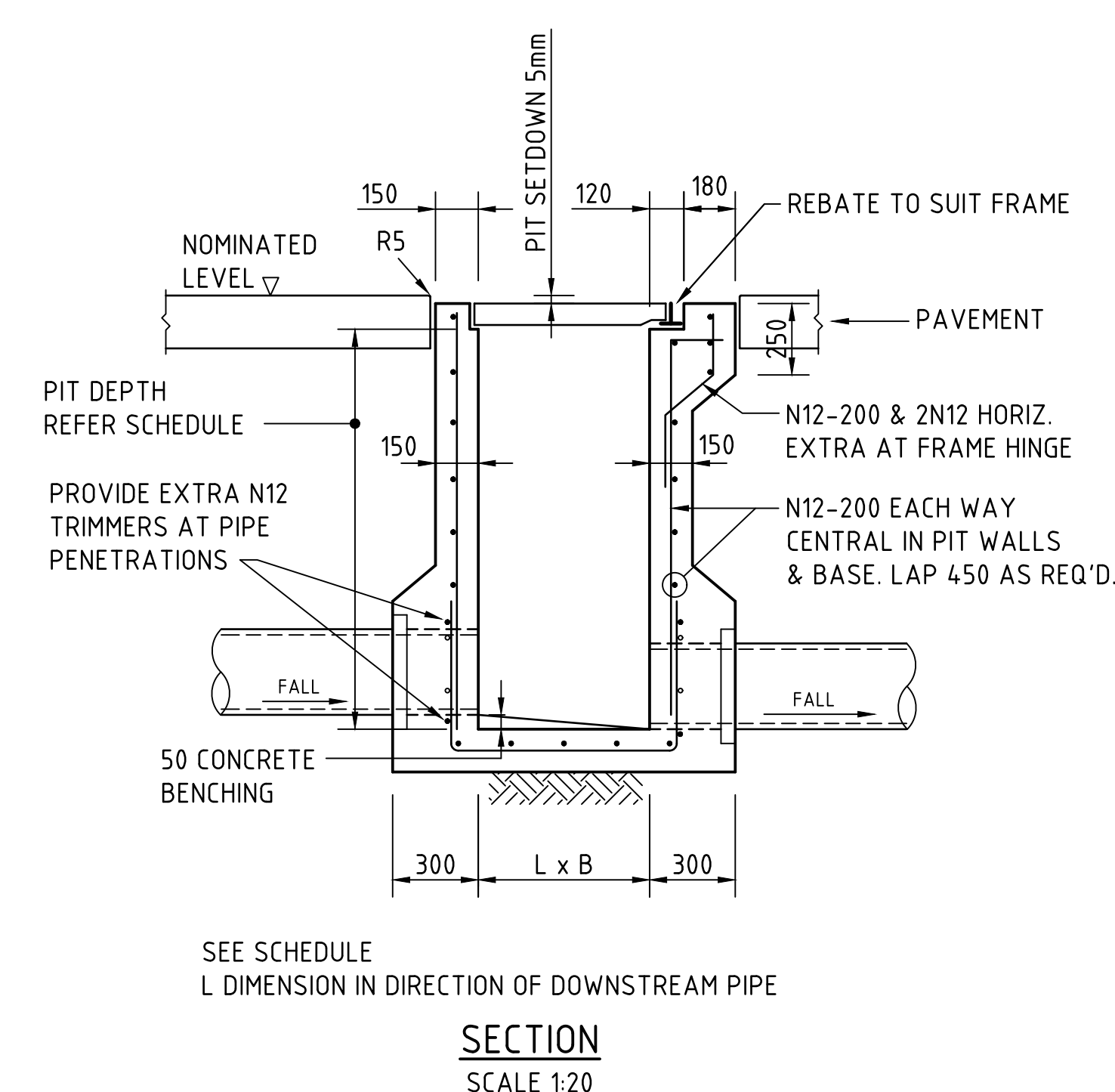
SUPPORT TO AGRICULTURAL DRAIN
SCALE 1:20

SIDE ZONE MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
9.5	100 TO 50
2.6	100 TO 30
0.60	50 TO 15
0.075	25 TO 0

PIPE LAYING DETAILS



SEALED PIT - SP



SINGLE GRATED GULLY PIT - SGGP

CONCRETE QUALITY					
ELEMENT	SLUMP	AGGREGATE (MAX. SIZE)	CEMENT TYPE	ADMIXTURE	F _c (MPa)
PIT	80	20	GP	NIL	32

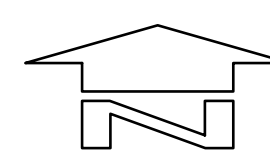
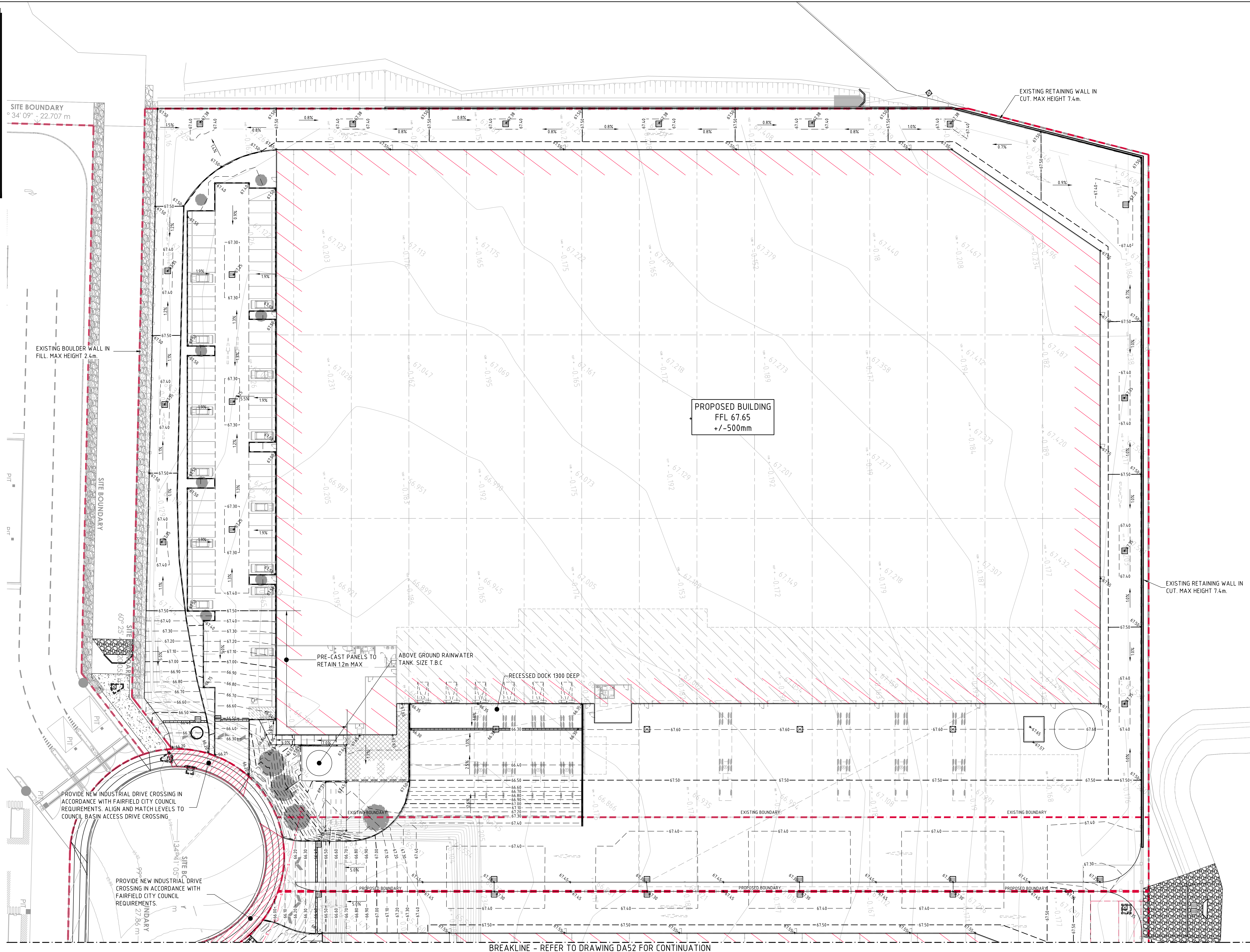
PIT NOTES:

1. WHERE GULLY PIT IS LOCATED ON KERB RETURNS OR BULB OF CUL-DE-SACS PROVIDE CURVED PRECAST CONCRETE LINTELS.
2. SAG PITS SHALL HAVE LINTEL PLACED CENTRALLY ABOUT THE GRATE.
3. ALL REINFORCING TO HAVE 50 MIN. CLEAR CONCRETE COVER.
4. FOR PITS DEEPER THAN 1000mm CLIMB RAILS SHALL BE PROVIDED.
5. ALL CONCRETE PITS GREATER THEN 3m DEEP SHALL HAVE WALL AND BASE THICKNESS INCREASED TO 200mm

LEGEND:
LEVELS DATUM IS AHD.

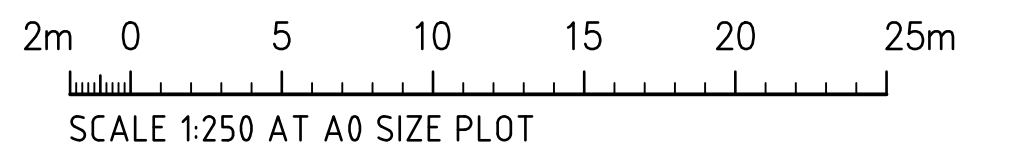
EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY AWJ CIVIL DATED 19.05.21.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- FINISHED PAVEMENT SPOT HEIGHT



FINISHED LEVELS PLAN - SHEET 1
SCALE 1:250

FOR DEVELOPMENT APPLICATION



FOR DEVELOPMENT APPLICATION	09.08.21	B
FOR INFORMATION	04.06.21	A
AMENDMENTS	DATE	ISSUE

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE
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ARCHITECT

[watch this SPACE design]

CLIENT

Charter Hall

PROJECT

**HORSLEY DRIVE BUSINESS PARK
LOT 2&3 DEVELOPMENT**
COWPASTURE ROAD, WETHERILL PARK, NSW

COSTIN ROE CONSULTING PTY LTD.

Consulting Engineers
Level 1, 8 Windmill Street
Wahia Bay, Sydney NSW 2000
Tel: (02) 9251-7899 Fax: (02) 9241-3721
email: mail@costinroe.com.au

Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY







DRAWING TITLE

**FINISHED LEVELS PLAN
SHEET 1**


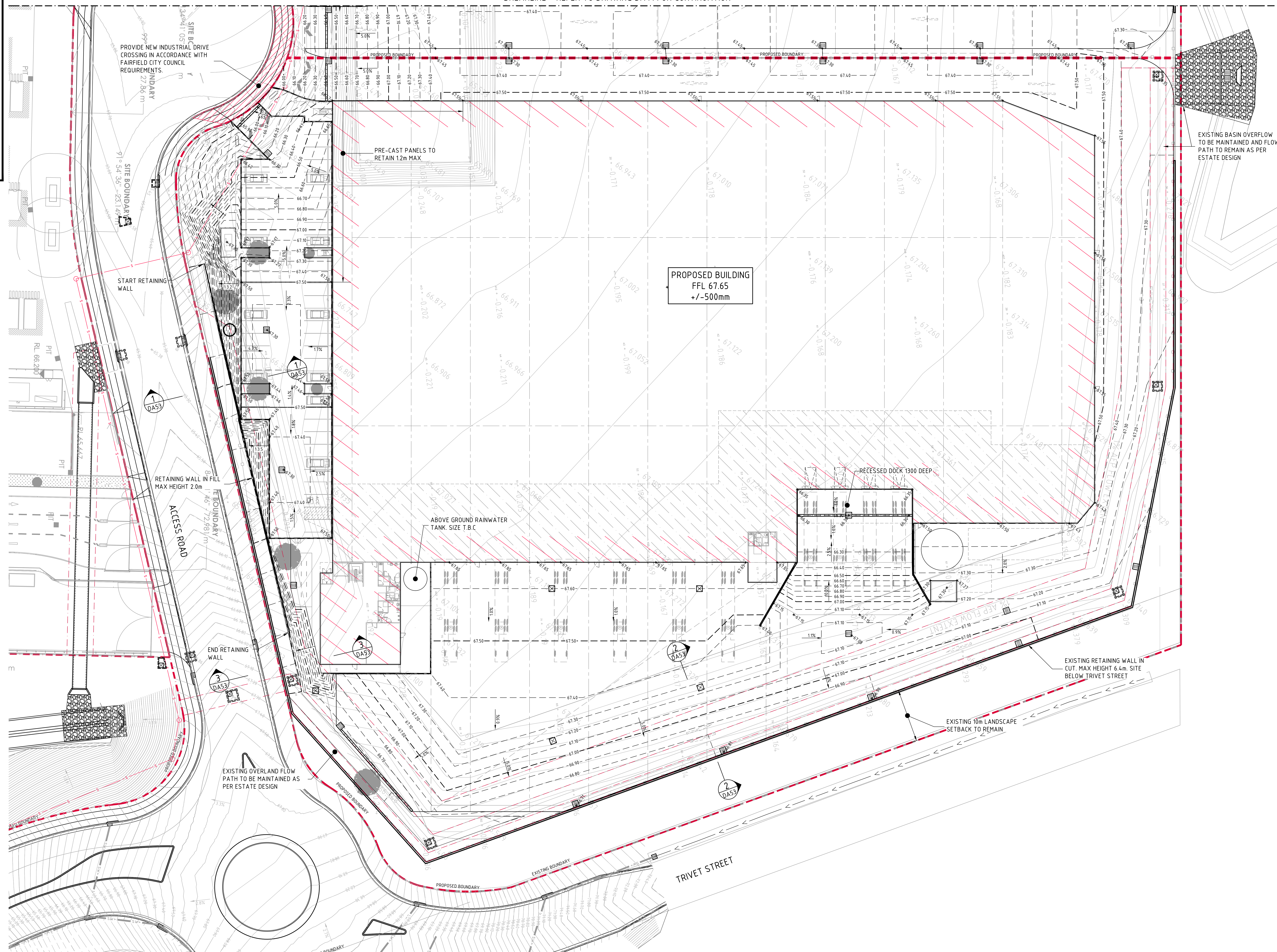
DRAWING No **Co114.92.19- DA51**

ISSUE **B**

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY
INFORMATION PROVIDED BY AWJ CIVIL DATED 19.05.21.

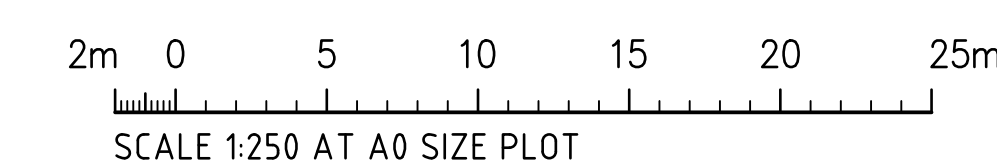
- | | |
|---|---|
|  | - SGGP, SINGLE GRATED GULLY PIT |
|  | - SJP, SEALED JUNCTION PIT |
|  | - KIP, KERB INLET PIT |
|  | - FINISHED PAVEMENT CONTOUR (MAJOR)
0.5m INTERVALS |
|  | - FINISHED PAVEMENT CONTOUR (MINOR)
0.1m INTERVALS |
|  | - FINISHED PAVEMENT SPOT HEIGHT |

BREAKLINE - REFER TO DRAWING DA41 FOR CONTINUATION

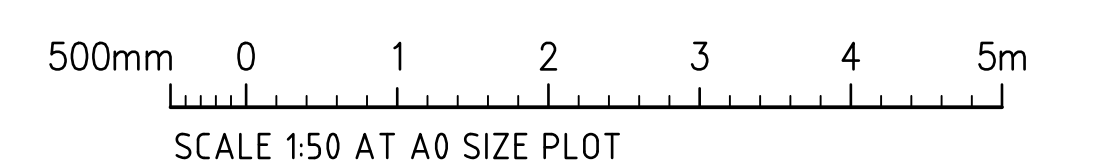
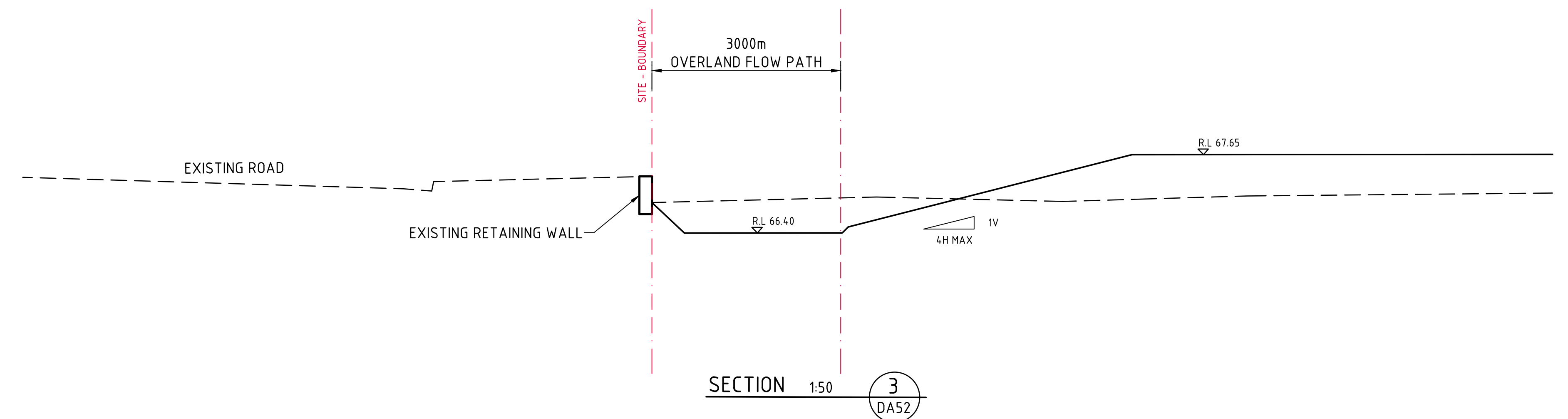


FINISHED LEVELS PLAN - SHEET 2
SCALE 1:250

FOR DEVELOPMENT APPLICATION



<div> <div> <div>FOR DEVELOPMENT APPLICATION</div> <div>09.08.21</div> <div>8</div> </div> <div> <div>FOR INFORMATION</div> <div>05.06.21</div> <div>4</div> </div> </div>										<div> <div>AMENDMENTS</div> <div>DATE</div> <div>ISSUE</div> <div>AMENDMENTS</div> <div>DATE</div> <div>ISSUE</div> </div>										<div> <div>AMENDMENTS</div> <div>DATE</div> <div>ISSUE</div> <div>AMENDMENTS</div> <div>DATE</div> <div>ISSUE</div> </div>										<div> <div>ARCHITECT</div> <div>  <div>[watch this SPACE design]</div> </div> </div>										<div> <div>CLIENT</div> <div>  <div>Charter Hall</div> </div> </div>										<div> <div>PROJECT</div> <div> <div>HORSLEY DRIVE BUSINESS PARK LOT 2&3 DEVELOPMENT</div> <div>COWPASTURE ROAD, WETHERILL PARK, NSW</div> </div> </div>										<div> <div>  <div>Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Wash Bay, Sydney NSW 2000 Tel: (02) 9625-7059 Fax: (02) 9641-3728 Email: mail@costinroe.com.au @</div> </div> </div>										<div> <div> <div>PRECISION</div> <div>COMMUNICATION</div> <div>ACCOUNTABILITY</div> </div> </div>										<div> <div> <div>DRAWING TITLE</div> <div>FINISHED LEVELS PLAN</div> <div>SHEET 2</div> </div> </div>										<div> <div> <div>DRAWING NO.</div> <div>C0114.92.19- DA52</div> </div> </div>										<div> <div> <div>ISSUE</div> <div>DATE</div> </div> </div>									
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DRAWING TITLE
TYPICAL SECTIONS

[illegible]