

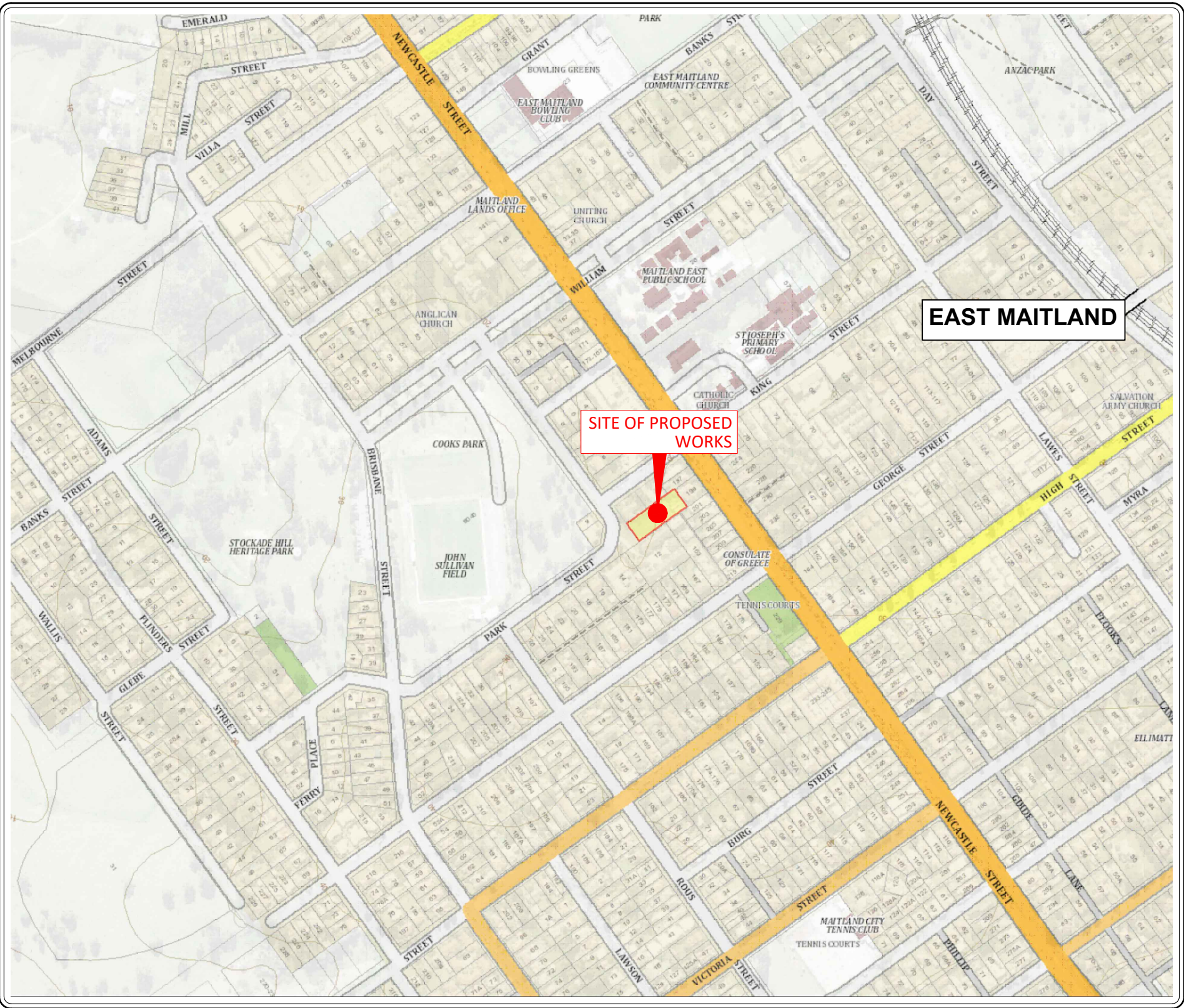
Civil Design Documentation

Proposed Core Cluster Refuge

10A Park Street EAST MAITLAND NSW 2323

SCHEDULE OF DRAWINGS

SHEET No.	DESCRIPTION
40560-C00	COVER SHEET AND DRAWING SCHEDULE
40560-C01	EXISTING SITE PLAN
40560-C02	PROPOSED SITE PLAN
40560-C10	PROPOSED STORMWATER MANAGEMENT PLAN
40560-C11	STORMWATER NOTES & DETAILS
40560-C12	STORMWATER ANALYSIS
40560-C20	PAVEMENT DESIGN PLAN
40560-C21	PAVEMENT NOTES & DETAILS
40560-C30	PROPOSED CUT & FILL PLAN
40560-C31	BULK EARTHWORKS SPECIFICATIONS
40560-C40	TURNING PATH ANALYSIS PLAN
40560-C50	PROPOSED EROSION AND SEDIMENT CONTROL PLAN
40560-C51	EROSION AND SEDIMENT CONTROL DETAILS



LOCALITY PLAN
NOT TO REDUCTION RATIO

SUBMISSION FOR DA

BARNSON PTY LTD

phone 1300 BARNSON (1300 227 676)
email generalenquiry@barnson.com.au
web barnson.com.au

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH GENERAL BUILDING DRAWINGS, SPECIFICATIONS & OTHER CONSULTANTS DRAWINGS APPLICABLE TO THIS PROJECT. ALL DIMENSIONS IN MILLIMETRES. DO NOT SCALE. DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORK. REPORT DISCREPANCIES TO BARNSON PTY LTD. NO PART OF THIS DRAWING MAY BE REPRODUCED IN ANY WAY WITHOUT THE WRITTEN PERMISSION OF BARNSON PTY LTD.

Rev	Date	Description
A	31-03-2023	ISSUED FOR REVIEW
B	17-04-2023	ISSUED FOR DA
C	04-10-2023	UPDATED TO SUIT WITH COUNCIL'S REQUEST
D	13-02-2024	DESIGN AMENDED TO SUIT WITH FLOOD ZONE
E	14-05-2024	ABOVE GROUND RAINWATER TANKS PROPOSED
F	12-06-2024	REISSUED FOR DA

Project
PROPOSED CORE & CLUSTER REFUGE

Site Address
**10A PARK STREET
EAST MAITLAND NSW 2323**

Client
HOUSING PLUS ORANGE

Drawing Title COVER SHEET

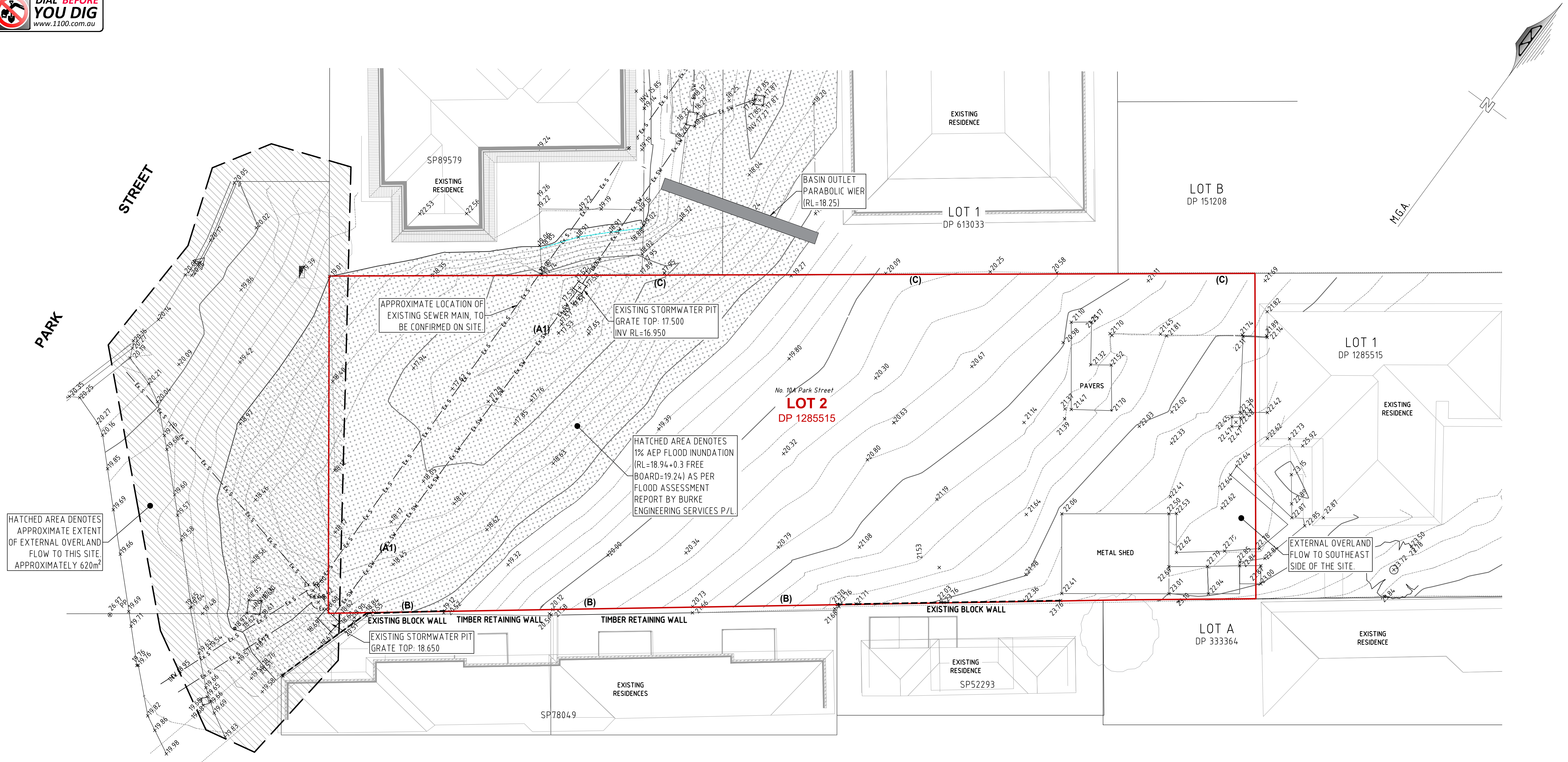
Design **LB**
Drawn **JS**
Check **DOS**

Original Sheet Size
Revision

A1
F

Certification
Project No
Drawing No

40560
C00



HATCHED AREA DENOTES
APPROXIMATE EXTENT
OF EXTERNAL OVERLAND
FLOW TO THIS SITE.
APPROXIMATELY 620m²

APPROXIMATE LOCATION OF
EXISTING SEWER MAIN, TO
BE CONFIRMED ON SITE

EXISTING STORMWATER PIT
GRATE TOP: 17.500
INV RL=16.950

HATCHED AREA DENOTES
1% AEP FLOOD INUNDATION
(RL=18.94+0.3 FREE
BOARD=19.24) AS PER
FLOOD ASSESSMENT
REPORT BY BURKE
ENGINEERING SERVICES P/L

EXISTING STORMWATER PIT
GRATE TOP: 18.650

EXTERNAL OVERLAND
FLOW TO SOUTHEAST
SIDE OF THE SITE

- (A1) PROPOSED EASEMENT TO DRAIN
WATER 3 WIDE (VIDE DP 592218)
(B) EASEMENT TO DRAIN WATER 1 WIDE
(VIDE 0199403)
(C) EASEMENT TO DRAIN WATER 1 WIDE
(VIDE DP 1285515)

EXISTING SITE PLAN
REDUCTION RATIO 1:150 @ A1
1:300 @ A3

LEGEND (existing)

— Ex. SW — Ex. SW — EXISTING STORMWATER PIPE

NOTE: REFER SURVEY DRAWING BY RENNIE
GOLLEDGE PTY LTD, REF: 538.18 AND
DATED 12th MAY 2019 FOR MORE DETAILS
ON EXISTING SITE.

SCALE 1:150(A1)
0 1 2 4 6 8 10
0 1 2 4 6 8 10
SCALE 1:300(A3)

SUBMISSION FOR DA

BARNSON PTY LTD

phone 1300 BARNSON (1300 227 676)
email generalenquiry@barnson.com.au
web barnson.com.au

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH GENERAL BUILDING DRAWINGS, SPECIFICATIONS & OTHER
CONSULTANTS DRAWINGS APPLICABLE TO THIS PROJECT. ALL DIMENSIONS IN MILLIMETRES. DO NOT SCALE. DIMENSIONS
TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORK. REPORT DISCREPANCIES TO BARNSON PTY LTD. NO PART
OF THIS DRAWING MAY BE REPRODUCED IN ANY WAY WITHOUT THE WRITTEN PERMISSION OF BARNSON PTY LTD.

Rev	Date	Description
A	31-03-2023	ISSUED FOR REVIEW
B	04-10-2023	ISSUED FOR DA
C	13-02-2024	FLOOD ZONE UPDATED
D	12-06-2024	REISSUED FOR DA

Project
PROPOSED CORE & CLUSTER REFUGE

Site Address
10A PARK STREET
EAST MAITLAND NSW 2323
Client
HOUSING PLUS ORANGE

Drawing Title
EXISTING SITE PLAN

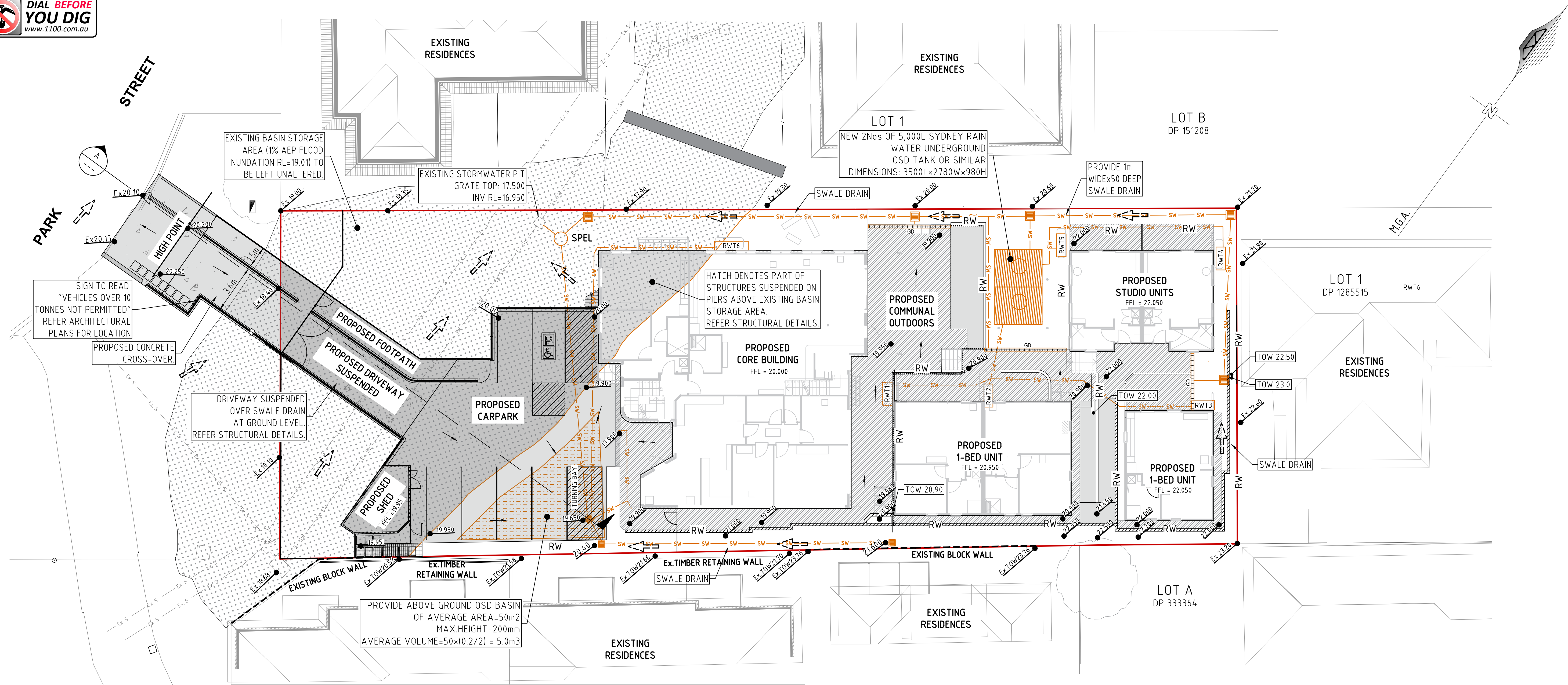
Design LB
Drawn LB
Check DOS

Original Sheet Size
Revision

A1
D

Certification
Project No
Drawing No

40560
C01



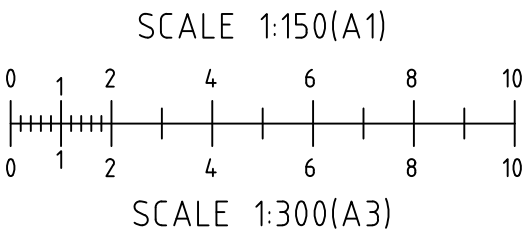
LEGEND (existing)

- EXISTING SUBJECT CADASTRAL BOUNDARIES
- EXISTING STORMWATER PIPE
- EXISTING SEWER PIPE

LEGEND (proposed)

- PROPOSED CONCRETE PAVEMENT AREA
- PROPOSED SUSPENDED SLAB AREA
- PROPOSED LANDSCAPE AREA
- PROPOSED PAVING AREA
- EXISTING FLOOD STORAGE AREA
- PROPOSED STORMWATER PIPE (Ø AS SHOWN)
- PROPOSED STORMWATER PIT
- PROPOSED SURFACE FALL DIRECTION
- FINISHED SURFACE RL's
- MAJOR OVERLAND FLOW PATH DIRECTION

PROPOSED SITE PLAN
REDUCTION RATIO 1:150 @ A1
1:300 @ A3



SUBMISSION FOR DA

BARNSON PTY LTD

phone 1300 BARNSON (1300 227 676)
email generalenquiry@barnson.com.au
web barnson.com.au

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH GENERAL BUILDING DRAWINGS, SPECIFICATIONS & OTHER CONSULTANTS DRAWINGS APPLICABLE TO THIS PROJECT. ALL DIMENSIONS IN MILLIMETRES. DO NOT SCALE. DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORK. REPORT DISCREPANCIES TO BARNSON PTY LTD. NO PART OF THIS DRAWING MAY BE REPRODUCED IN ANY WAY WITHOUT THE WRITTEN PERMISSION OF BARNSON PTY LTD.

Rev	Date	Description
A	31-03-2023	ISSUED FOR REVIEW
B	17-04-2023	ISSUED FOR DA
C	04-10-2023	UPDATED TO SUIT WITH COUNCIL'S REQUEST
D	13-02-2024	DESIGN AMENDED TO SUIT WITH FLOOD ZONE
E	14-05-2024	ABOVE GROUND RAINWATER TANKS PROPOSED
F	12-06-2024	REISSUED FOR DA

Project
PROPOSED CORE & CLUSTER REFUGE

Site Address
10A PARK STREET
EAST MAITLAND NSW 2323

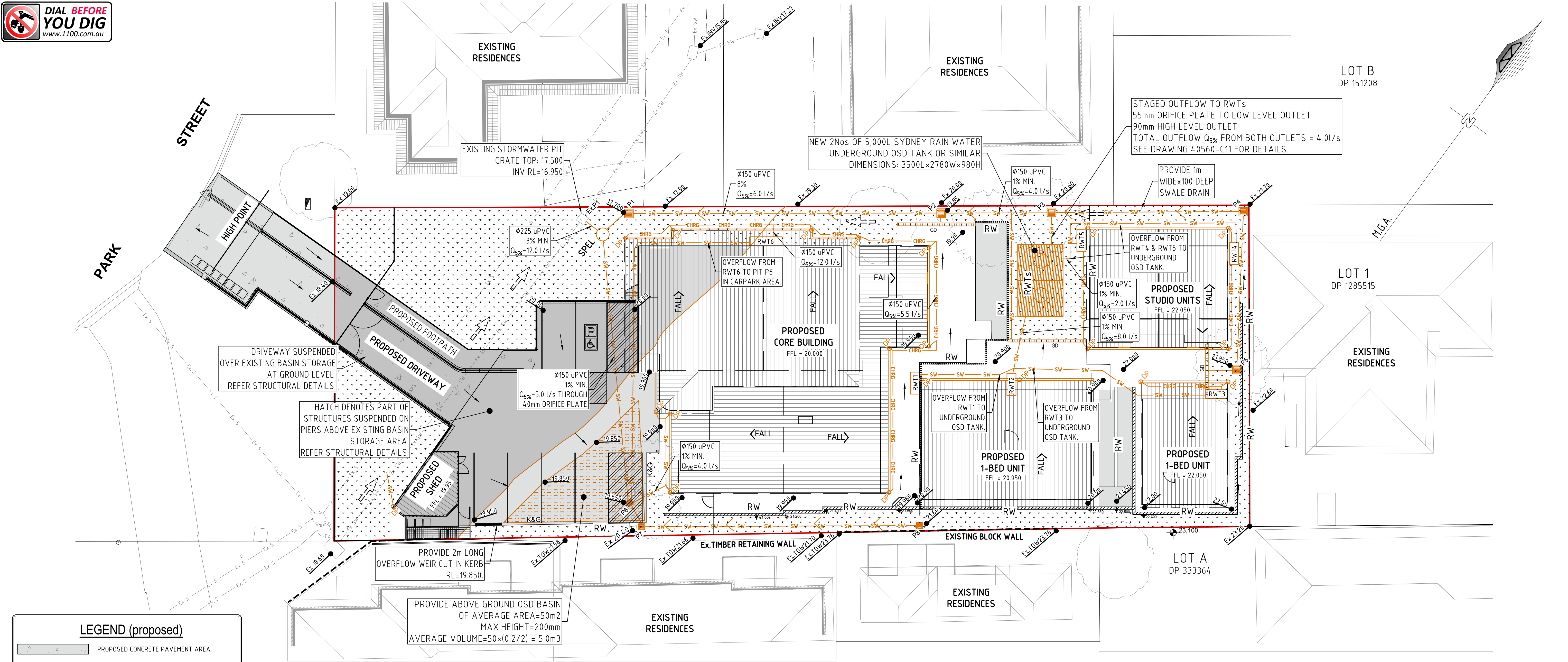
Client
HOUSING PLUS ORANGE

Drawing Title
PROPOSED SITE PLAN

Design	LB	Original Sheet Size
Drawn	JS	
Check	DOS	Revision

A1	Project No
F	Drawing No

40560
C02



LEGEND (proposed)

- PROPOSED CONCRETE PAVEMENT AREA
- PROPOSED LANDSCAPE AREA
- PROPOSED PAVING AREA
- PROPOSED STORMWATER PIPE (Ø AS SHOWN)
- PROPOSED STORMWATER PIPE (Ø AS SHOWN)
- PROPOSED CONCRETE KERB ONLY (150 HIGH)
- PROPOSED CONCRETE KERB & GUTTER (200 HIGH)
- PROPOSED STORMWATER PIT (PIT P1 & P6 TO HAVE 'SPEL STORMSACK' POLLUTION CONTROL SYSTEM OR SIMILAR)
- PROPOSED RWTS FOR RE-USE AS PER BASIX REQUIREMENTS, 2000L SIZE FOR RWT1,2,3,4 & 5 3000L SIZE FOR RWT 6.
- PROPOSED SURFACE FALL DIRECTION
- FINISHED SURFACE RL's
- MAJOR OVERLAND FLOW PATH DIRECTION

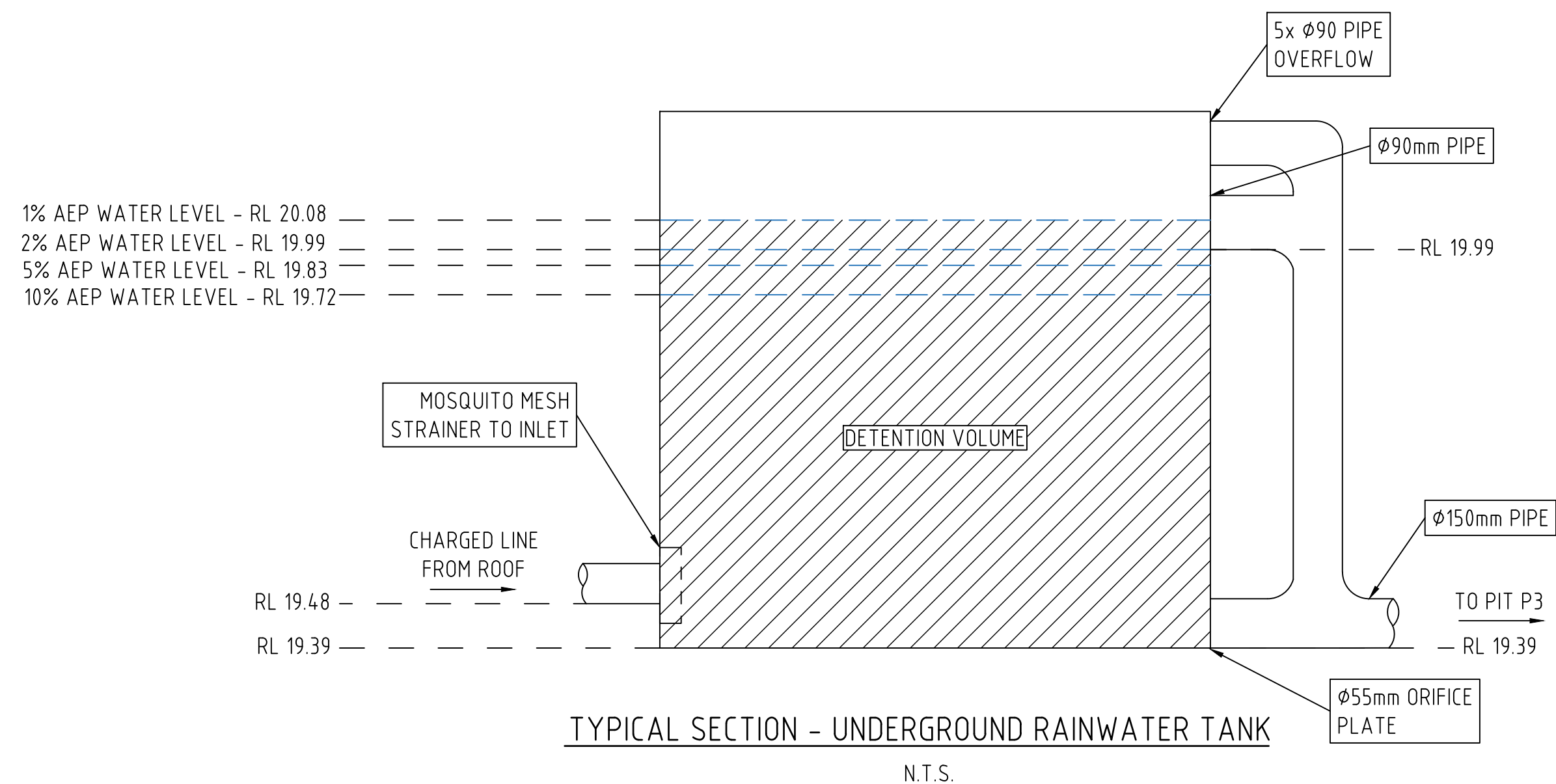
LEGEND (existing)

- EXISTING SUBJECT CADASTRAL BOUNDARIES
- EXISTING STORMWATER PIPE
- EXISTING SEWER PIPE

STORMWATER PIT SCHEDULE						
MARK	TOP R.L.	DEPTH (mm)	IL INLET	IL OUTLET	LxB	LID TYPE
P5	21.850	500	-	21.350	600x600	MD GRATED (GALV)
P4	21.600	500	21.120	21.100	600x600	MD GRATED (GALV)
P3	20.600	1220	19.620	19.380	900x900	MD GRATED (GALV)
P2	19.900	700	19.300	19.200	600x600	MD GRATED (GALV)
P1	17.700	600	17.200	17.100	600x600	MD GRATED (GALV)
Ex.P1	17.500	550	17.000	16.950	TBC	Ex. STORMWATER PIT

STORMWATER PIT SCHEDULE						
MARK	TOP R.L.	DEPTH (mm)	IL INLET	IL OUTLET	LxB	LID TYPE
P8	21.900	600	-	21.300	600x600	MD GRATED (GALV)
P7	20.400	700	19.720	19.700	600x600	MD GRATED (GALV)
P6	19.650	2350	19.020	17.300	600x600	MD GRATED (GALV)
Ex.P1	17.500	550	16.970	16.950	TBC	Ex. STORMWATER PIT

- NOTE: RAINWATER TANKS
- ON-SITE DETENTION HAS BEEN DESIGNED FOR THE RANGE OF RAINFALL EVENTS UP TO AND INCLUDING THE 1% AEP. RESULTS FROM THE DRAINS MODEL ARE SHOWN ON DRAWIN 40560-C11
 - ABOVE-GROUND RAINWATER TANKS RWT1 - RWT6 TO BE USED FOR RAINWATER HARVESTING. APPROVED USES FOR RAINWATER: OUTDOOR LANDSCAPING, FLUSHING TOILETS.



DRAINS MODEL RESULTS

STORM	FLOW (CU.M/S)		WATER LEVEL IN OSD TANK (m) (TANK ROOF @ 20.37)
	PRE-DEVELOPMENT	POST-DEVELOPMENT	
10% AEP	0.020	0.020	19.72
5% AEP	0.030	0.026	19.83
2% AEP	0.042	0.034	19.99
1% AEP	0.052	0.048	20.08

DRAINS MODEL AVAILABLE ON REQUEST

MUSIC MODEL RESULTS

Parrameter	Sources	Residual Load	% Reduction	MCC Reduction target %
Flow (ML/yr)	1.16	1.1	5.17	-
Total Suspended Solids (kg/yr)	160	14.6	90.9	80
Total Phosphorus (kg/yr)	0.334	3.33E-02	90	45
Total Nitrogen (kg/yr)	2.57	0.922	64.1	45
Gross Pollutants (kg/yr)	28.2	0	100	70

MUSIC MODEL AVAILABLE ON REQUEST

SPEL HYDROSYSTEM

Cartridge Filter For Tertiary Stormwater Treatment

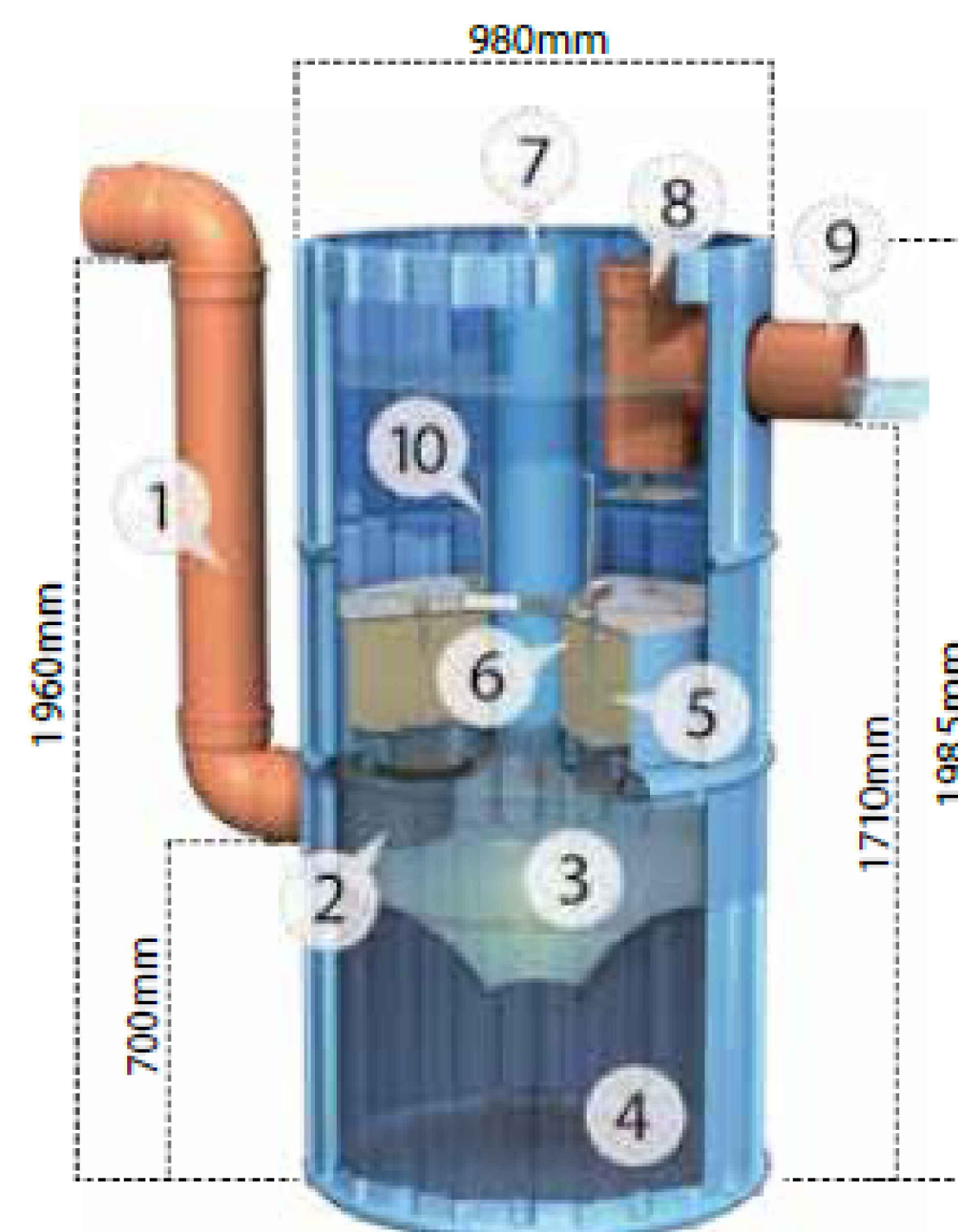
Example:

The SPEL Hydrosystem 1000 traffic installed in a concrete shaft DN1000.



Product structure:

1. Stormwater inlet (DN 200)
2. Deflector plate
3. Hydrodynamic separator
4. Sediment chamber
5. Filter element
6. Lifting point for filter element
7. Bypass pipe
8. Oil baffle
9. Outlet pipe
10. Filter locks



SUBMISSION FOR DA

BARNSON PTY LTD

phone 1300 BARNSON (1300 227 676)
email generalenquiry@barnson.com.au
web barnson.com.au

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH GENERAL BUILDING DRAWINGS, SPECIFICATIONS & OTHER CONSULTANTS DRAWINGS APPLICABLE TO THIS PROJECT. ALL DIMENSIONS IN MILLIMETRES. DO NOT SCALE. DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORK. REPORT DISCREPANCIES TO BARNSON PTY LTD. NO PART OF THIS DRAWING MAY BE REPRODUCED IN ANY WAY WITHOUT THE WRITTEN PERMISSION OF BARNSON PTY LTD.

Rev	Date	Description
A	31-03-2023	ISSUED FOR REVIEW
B	04-10-2023	ISSUED FOR DA
C	13-02-2024	DESIGN AMENDED TO SUIT WITH FLOOD ZONE
D	14-05-2024	RAINWATER TANK SECTION LEVELS UPDATED
E	20-05-2024	MUSIC MODEL RESULTS ADDED
F	12-06-2024	REISSUED FOR DA

Project

PROPOSED CORE & CLUSTER REFUGE

Site Address
10A PARK STREET
EAST MAITLAND NSW 2323
Client
HOUSING PLUS ORANGE

Drawing Title

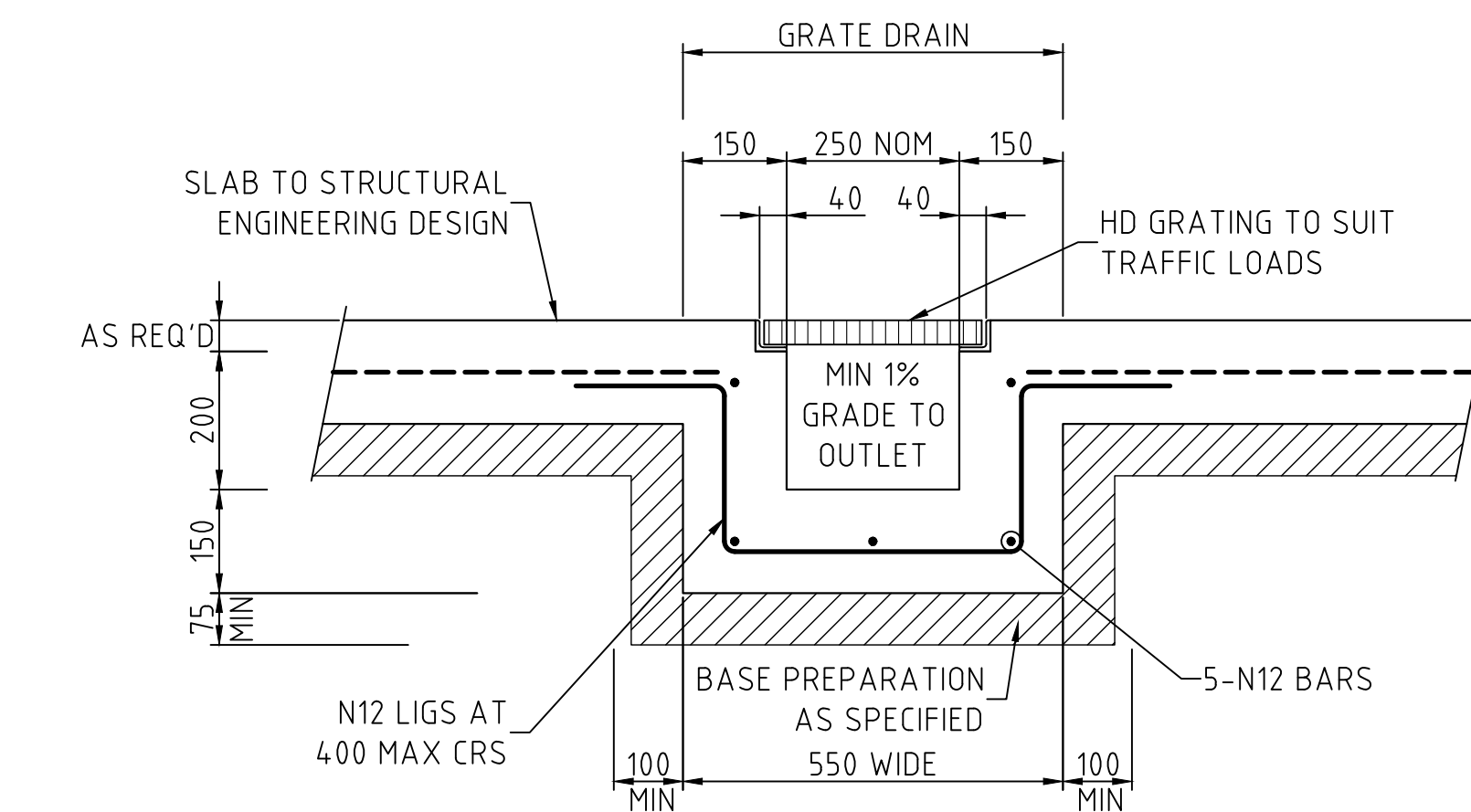
STORMWATER ANALYSIS

Design LB
Drawn JS
Check DOS
Original Sheet Size
Revision

A1
F
Project No
Drawing No

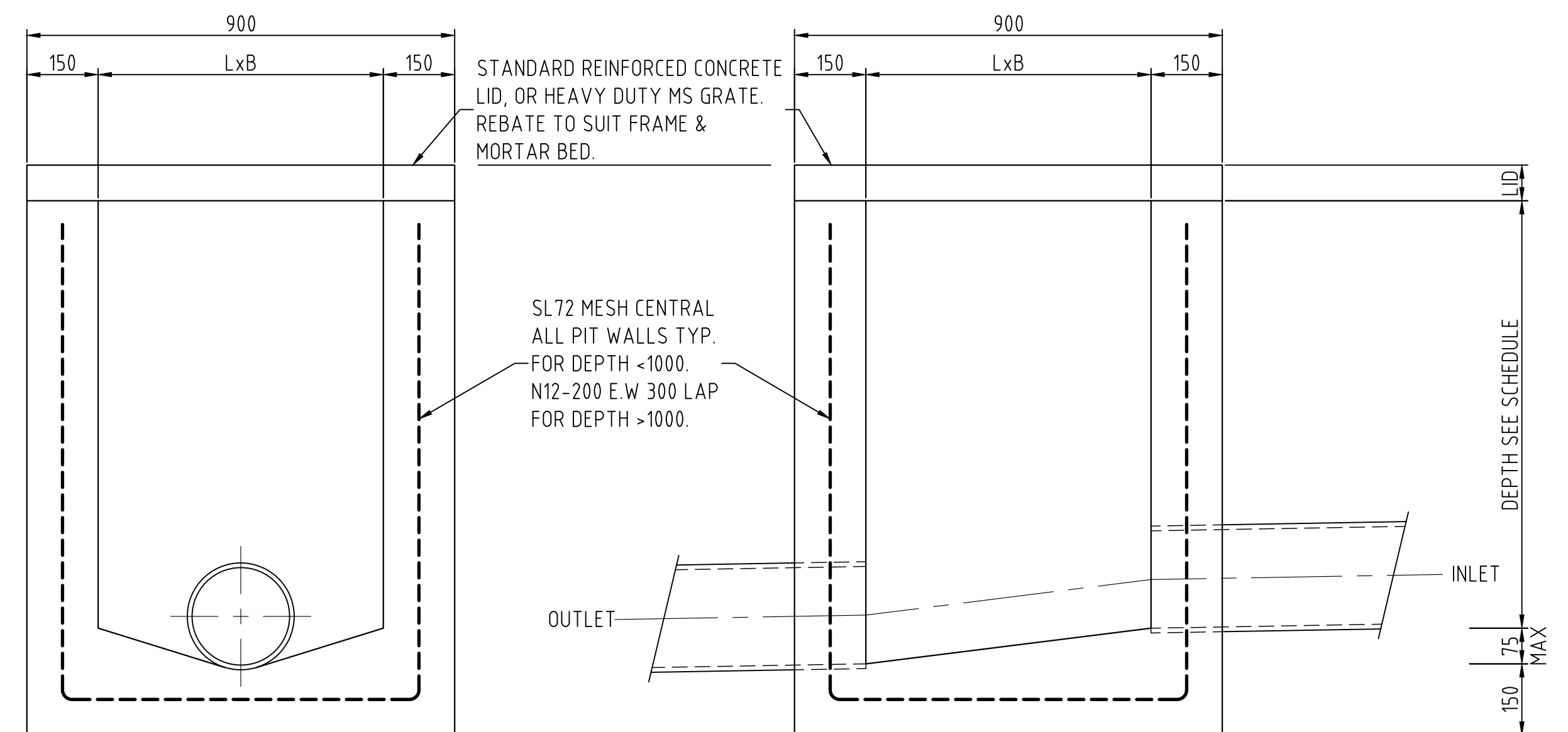
40560
C11

1. ALL DOWNPIPE LINES SHALL BE SEWER GRADE uPVC WITH SOLVENT WELD JOINTS (U.N.O)
2. EQUIVALENT STRENGTH VCP OR FCP PIPES MAY BE USED.
3. MINIMUM GRADE TO STORMWATER LINES TO BE 0.5% MINIMUM (U.N.O)
4. CONTRACTORS TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
5. ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
6. APPROVED PRECAST PITS MAY BE USED.
7. WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MIN. 50mm CONCRETE BED (75mm THICK BED OF 12mm BLUE METAL) UNDER THE BARREL OF THE PIPE. THE PIPE COLLAR AT NO POINT SHALL BEAR THE ROCK. IN OTHER THAN ROCK, PIPES SHALL BE LAID ON A 75mm THICK SAND BED. IN ALL CASES, BACKFILL THE TRENCH WITH THE SAND TO 200mm ABOVE THE PIPE. WHERE THE PIPE IS UNDER PAVEMENTS, BACKFILL REMAINDER OF TRENCH WITH SAND OR APPROVED GRANULAR BACKFILL COMPACTED IN 150mm LAYERS TO 98% MAX. DRY DENSITY.
8. WHERE STORMWATER LINES PASS UNDER FLOOR SLABS, SEWER GRADE RUBBER RING JOINTS ARE TO BE USED.
9. ALL PIPES IN THE ROADWAY AND FOOTPATH AREAS, WHERE THE DEPTH OF PIPE IS LESS THAN 500mm FROM THE FINISHED SURFACE LEVEL ARE TO BE CONCRETE ENCASED.



NOTE: EQUIVALENT PRECAST
GRATE CAN BE USED.
DESIGN BY OTHERS

GRATED BOX DRAIN DETAIL
SCALE = 1:10



STORMWATER PIT

SCALE = 1:10

PRECAST EQUIVALENT MAY BE USED

PIT DIMENSIONS		
DEPTH	L	B
<= 900	600	600
>1000	900	900

SEE SCHEDULE L DIMENSION IN
DIRECTION OF DOWNSTREAM PIPE.
PROVIDE STEP IRONS IF DEPTH
GREATER THEN 1500.

1. BEDDING SAND

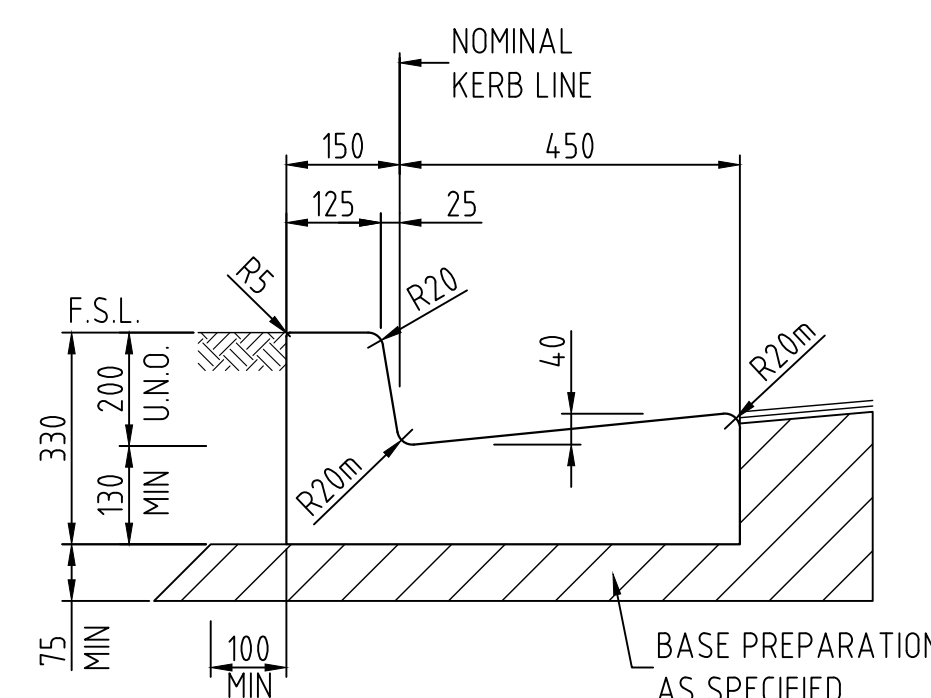
BEDDING SAND SHALL BE GRANULAR MATERIAL HAVING A LOW PERMEABILITY AND HIGH STABILITY WHEN SATURATED, CONFORMING TO THE GRADING LIMITS FOR BEDDING SAND AS INDICATED IN THE CONTRACT DOCUMENTS. BEDDING SAND SHALL BE COMPACTED TO A DENSITY INDEX OF 95% AS DETERMINED IN ACCORDANCE WITH AS1289.

2. APPROVED IMPORTED GRANULAR FILL

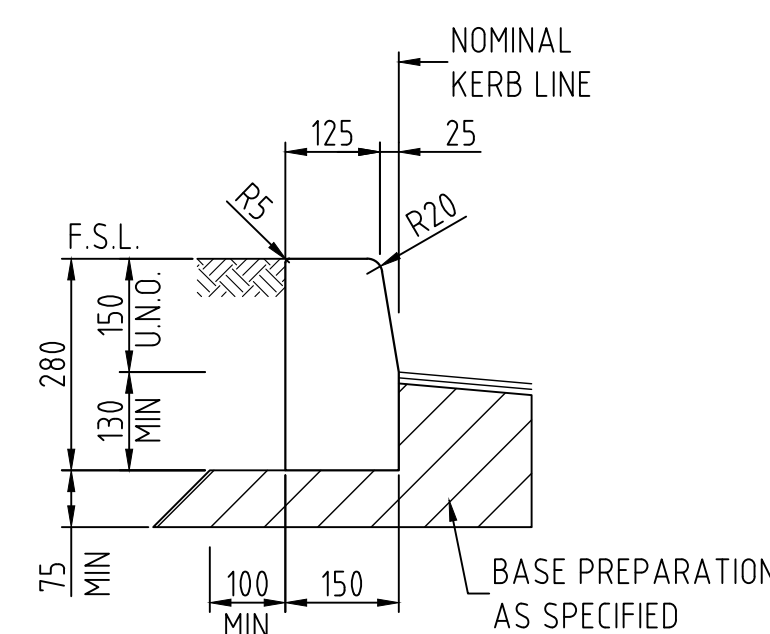
ONLY IMPORTED GRANULAR FILL MATERIAL APPROVED BY THE SUPERINTENDENT SHALL BE USED. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK TO A DRY DENSITY OF 100% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL AND WITH A MOISTURE CONTENT NO MORE THAN 1% ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.

3. ORDINARY EXCAVATED FILL MATERIAL

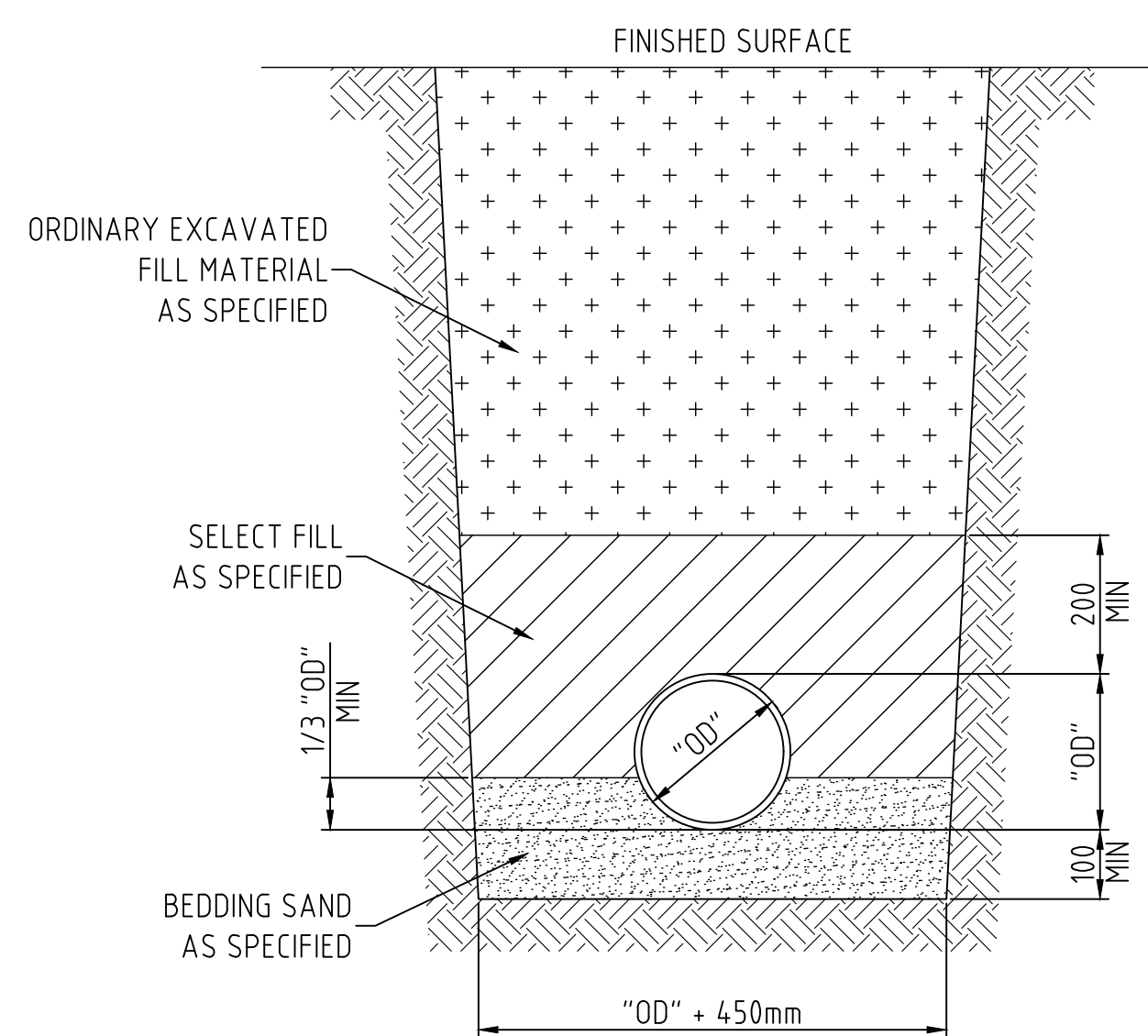
ORDINARY EXCAVATED FILL MATERIAL IS EXCAVATED TRENCH MATERIAL THAT IS FREE OF VEGETABLE MATTER, HUMUS, LARGE CLAY LUMPS AND ROCK BOULDERS. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK, TO A DENSITY OF 95% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL WITH A MOISTURE CONTENT OF NOT MORE THAN 1% ABOVE THE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.



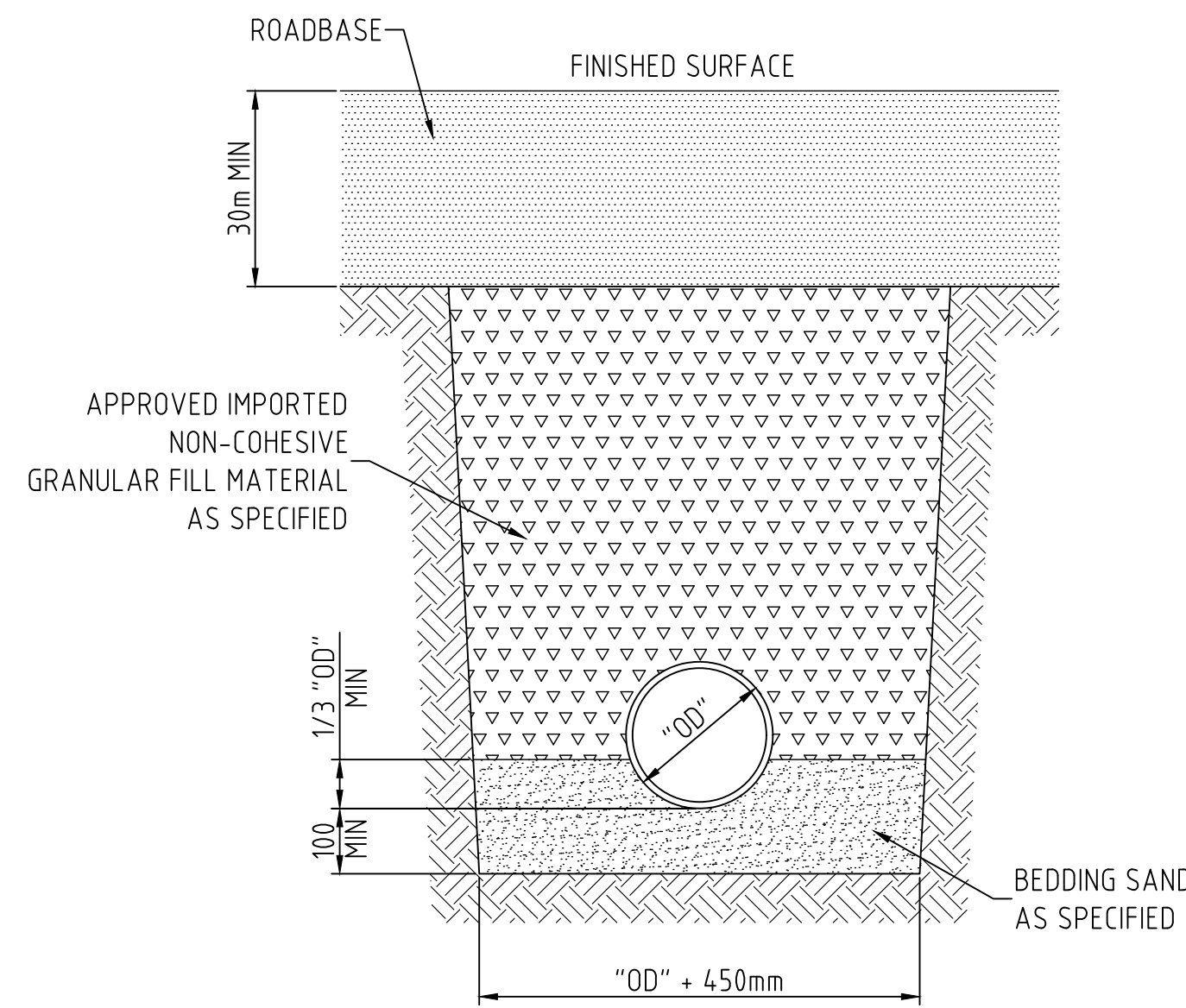
KERB & GUTTER DETAIL
SCALE = 1:10



KERB ONLY
SCALE = 1:10



PIPE TRENCH - EARTH FOUNDATION
SCALE = 1:10



PIPE TRENCH - ROADWAY

SCALE = 1:10

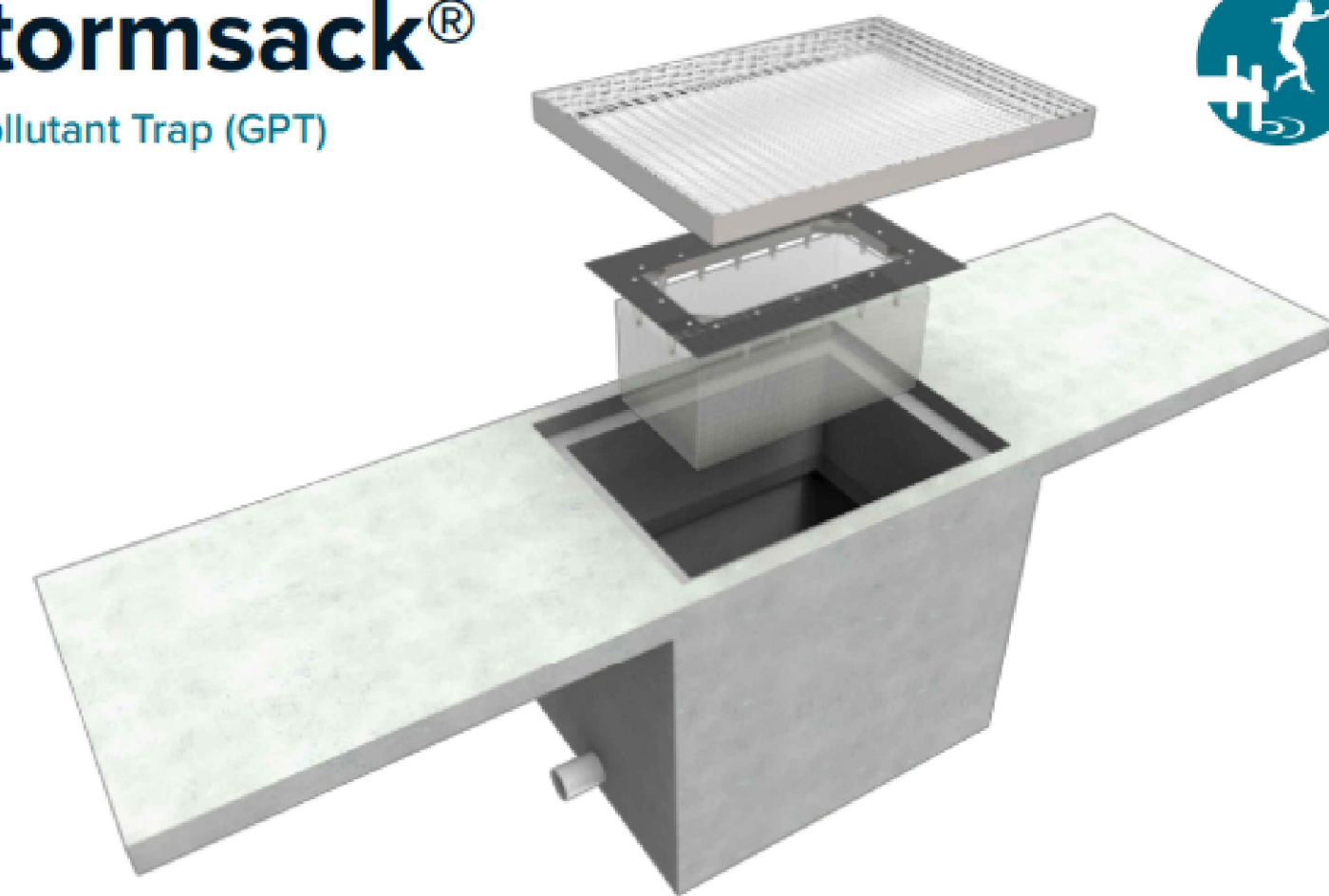
NOTE: PIPE COLLAR IS NOT TO REST ON ORIGINAL MATERIAL



Sizes

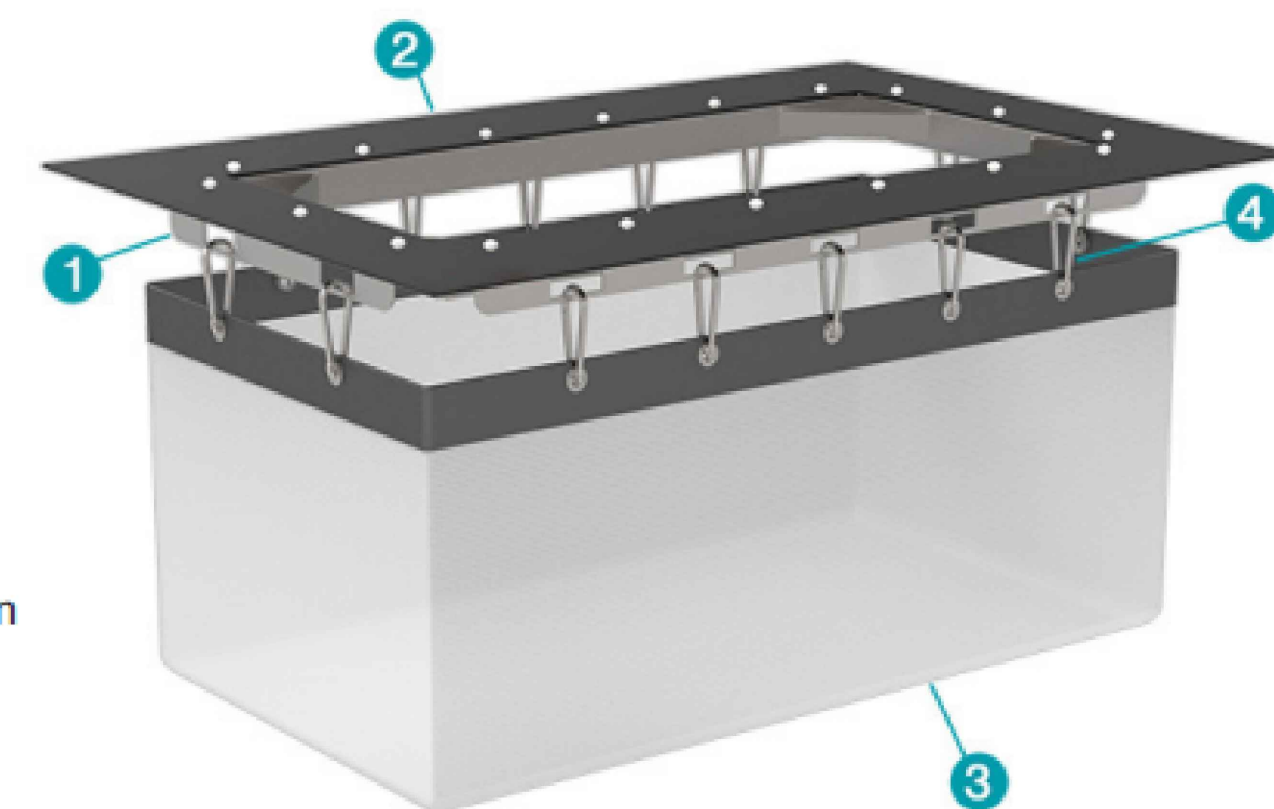
Dimensions (mm)*
450x450
600x600
600x900
900x900

Custom sizes (i.e. 1200x900mm) can be manufactured on short lead times.

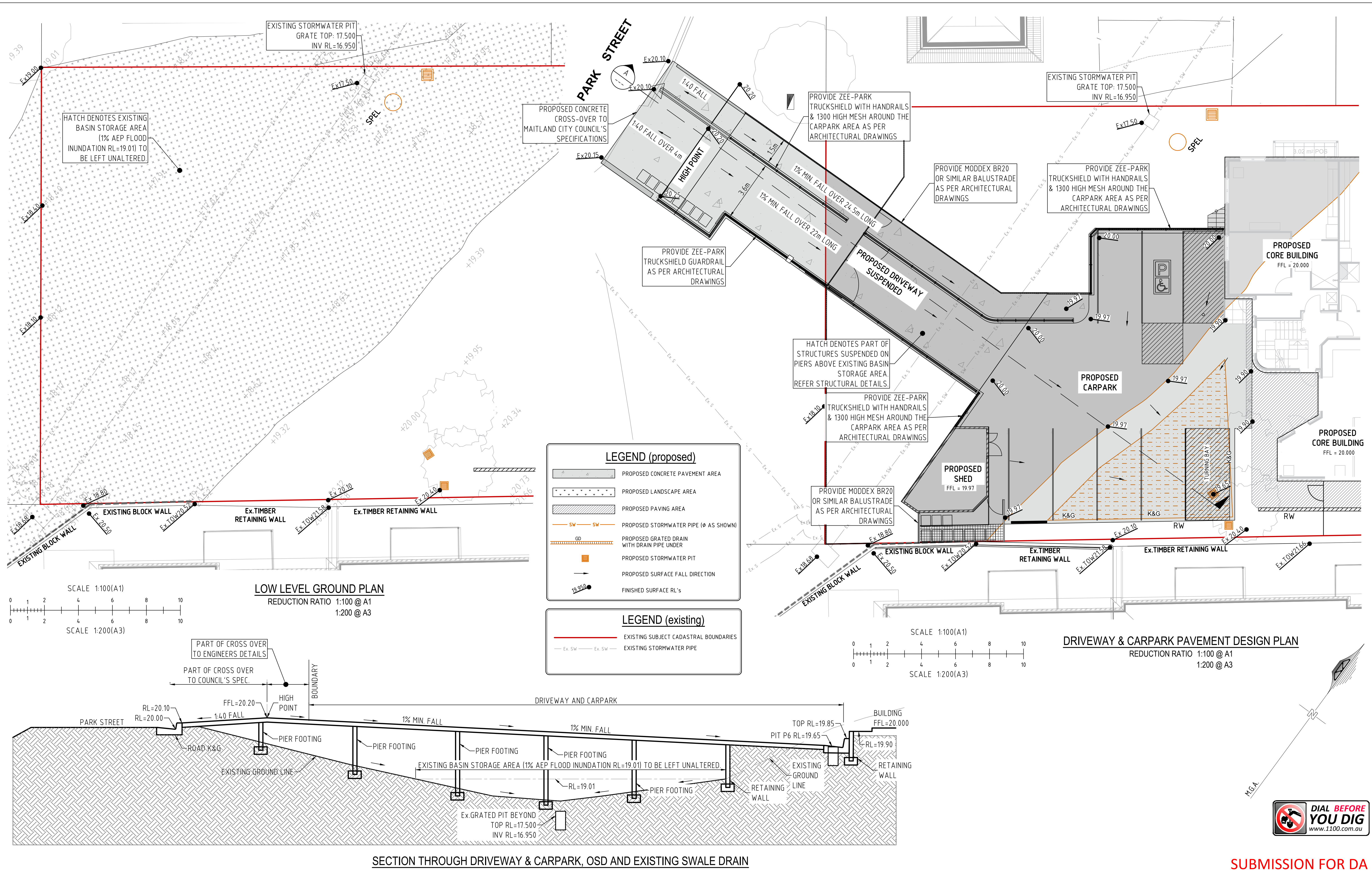


Features

1. Ultra-Durable Aluminium Frame
 - Custom pit arrangements upon request
2. Black Poly Surround riveted to Frame
 - Can be cut to suit on site
3. Reinforced Stormsack Bag
 - Bag has sewed eyelets
 - Square bottom design for even distribution
4. Karabiners attach Bag to Frame for easy service & replacement



SUBMISSION FOR DA



SITEWORKS NOTES

1. ORIGIN OF LEVELS :- AHD
2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK.
3. ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS, THE SPECIFICATIONS AND THE DIRECTIONS OF THE SUPERINTENDENT.
4. EXISTING SERVICES HAVE BEEN OBTAINED FROM SURFACE INSPECTION ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND THE LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
5. WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.
6. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A QUALIFIED SURVEYOR.
7. CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER TELECOM OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
8. ON COMPLETION OF CONSTRUCTION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS.
9. MAKE SMOOTH TRANSITION TO EXISTING AREAS.
10. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DIVERSION DRAINS AND MOUNDS TO ENSURE THAT AT ALL TIMES EXPOSED SURFACES ARE FREE DRAINING AND WHERE NECESSARY EXCAVATE SUMPS AND PROVIDE PUMPING EQUIPMENT TO DRAIN EXPOSED AREAS. ALL WORK TO BE UNDERTAKEN WITH ADHERENCE TO THE REQUIREMENTS OF THE SOIL AND WATER MANAGEMENT PLAN.
11. THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATIONS.

BASECOURSE DESIGN NOTES

- A) ALL BASE COURSE AND SUB-BASECOURSE MATERIALS SHALL CONFORM WITH AUSPEC SPECIFICATION FOR THE CONSTRUCTION OF NATURAL GRAVEL OR CRUSHED ROCK ROAD PAVEMENT AND AUSPSEC SPECIFICATION FOR THE SUPPLY AND DELIVERY OF BASE AND SUB-BASE MATERIALS FOR SURFACED ROAD PAVEMENTS.
- B) ALL BASECOURSE AND SUB-BASE MATERIALS SHALL BE COMPACTED TO ACHIEVE A MINIMUM OF 100% STANDARD MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT OF +0R- 2% IN ACCORDANCE WITH AS1289 E1.1

CONCRETE NOTES

1. CONCRETE FOR KERBS, DRIVEWAYS, RAMPS AND FOOTPATH SHALL HAVE A CONCRETE STRENGTH OF 25MPa AT 28 DAYS, MINIMUM SLUMP OF 60mm AND MAXIMUM AGGREGATE SIZE OF 20mm.

TRAFFIC CONTROL NOTES:

1. ADEQUATE SIGNPOSTING AND PROTECTION IS TO BE GIVEN TO THE MOTORING PUBLIC AND WORKERS ENGAGED ON SITE. ATTENTION IS DRAWN TO THE FOLLOWING SPECIFICATIONS AND GUIDELINES:
 - 1.1. AUSTRALIAN STANDARD AS1742.2-2009 TRAFFIC CONTROL DEVICES FOR GENERAL USE;
 - 1.2. AUSTRALIAN STANDARD AS1742.3-2009 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES;
 - 1.3. RTA GUIDELINES "TRAFFIC CONTROL AT WORK SITES"; AND
 - 1.4. WORKCOVER AUTHORITY CODE OF PRACTICE "WORKING NEAR MOBILE PLANT FOR TRAFFIC".
2. APPROPRIATE TRAFFIC CONTROL BASED UPON A LOWER SPEED ENVIRONMENT WHILE WORKS ARE IN PROGRESS SHOULD BE THE BASIS FOR ANY PROTECTION WORKS.

CROSS-OVER NOTES

1. CONSTRUCTION OF DRIVEWAY SLABS IS TO BE CARRIED OUT STRICTLY IN ACCORDANCE WITH MAITLAND CITY COUNCIL'S ROAD STANDARD DRAWINGS, RELEVANT AUS-SPEC DOCUMENTATION. THESE DOCUMENTS ARE AVAILABLE FROM COUNCIL'S CUSTOMERS SERVICE AREA.
2. CONTRACTORS/ OWNERS/DEVELOPERS ARE RESPONSIBLE FOR THE LOCATING OF ALL UNDERGROUND SERVICES AND THE ARRANGING AND COMPLETION OF REPAIRS WITH THE APPROPRIATE AUTHORITY SHOULD THEY BE BROKEN OR DAMAGED DURING CONSTRUCTION.
3. THE DRIVEWAY SLAB IS TO BE CONSTRUCTED TO THE DIMENSIONS AND SPECIFICATIONS SHOWN ON THIS PLAN. THE THICKNESS SHALL BE AS FOLLOWS:
 - A) FOR A COMMERCIAL SITUATION, THE CONCRETE SHALL BE 150mm THICK WITH TWO LAYERS OF SL82 MESH WITH 40mm TOP AND BOTTOM COVER AND A BROOM FINISH.THE COMPRESSIVE STRENGTH OF THE CONCRETE IS TO BE 25MPa AT 28 DAYS. ALL EXPOSED EDGES ARE TO 10MM RADIUS. ADDITIONALLY ALL POOR SUBGRADE MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE FILL MATERIAL. ALL SUBGRADES ARE TO BE WELL COMPACTED BEFORE THE PLACEMENT OF THE BASE MATERIAL. FORMWORK MUST EXTEND FROM FINISHED CONCRETE HEIGHT TO THE BASE MATERIAL FOR THE TOTAL AREA OF THE DRIVEWAY SLAB.
4. THE FOLLOWING INSPECTIONS ARE TO BE CARRIED OUT PRIOR TO AND DURING CONSTRUCTION. IN THIS REGARD, 24 HOURS NOTICE IS TO BE GIVEN BY PHONING 6801 400. THE INSPECTION REQUIRED ARE AS FOLLOWS:
 - A) SITE INSPECTION PRIOR TO THE COMMENCEMENT OF WORK.
 - B) WHEN THE FORMWORK AND COMPACTED BASE ARE IN PLACE AND PRIOR TO THE MESH BEING PLACED.
 - C) WHEN THE MESH HAS BEEN PLACED.
 - D) PRIOR TO THE BITUMEN SEALING OR ASPHALT WORKS.
 - E) AT THE COMPLETION OF ALL THE WORKS INCLUDING RESTORATION OF THE SITE.FAILURE TO HAVE THE ABOVE INSPECTION CARRIED OUT MAY RESULT IN THE REJECTION OF THE CROSSING.
5. THE FINISHED SURFACE IS TO BE KEPT FROM DRYING OUT TOO RAPIDLY BY COVERING WITH SAND OR PLASTIC SHEETING.
6. AN APPROVED TRAFFIC AND PEDESTRIAN CONTROL PLAN COMPLETED BY AN APPROPRIATELY QUALIFIED PERSON IN ACCORDANCE WITH AS 1742.3-2009 IS TO BE IN PLACE PRIOR TO ANY CONSTRUCTION WORKS COMMENCING AND DURING ANY CONSTRUCTION WORKS.
7. PRIOR TO CONSTRUCTION OF DRIVEWAY SLAB, SECTION 138 ROAD ACT - APPROVAL FOR WORKS IN THE PUBLIC ROAD TO BE LODGED AND APPROVED BY COUNCIL.
8. THE POTENTIAL FOR EROSION AND THE TRANSPORTATION OF SEDIMENT IS TO BE ADDRESSED. APPROPRIATE MEASURES ARE TO BE IN PLACE TO PREVENT THIS FROM HAPPENING.
9. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL FORMWORK AND RUBBISH ASSOCIATED WITH THE CONSTRUCTION FROM THE SITE AND THE REINSTATEMENT OF THE SURFACE ADJACENT TO THE WORKS UPON COMPLETION.
10. IF THE LENGTH OR WIDTH OF DRIVEWAY SLAB EXCEEDS 6M AN EXPANSION JOINT IS TO BE PROVIDED AT THE MID-POINT (SEE EXPANSION JOINT DETAIL).

SUBGRADE COMPACTION NOTES

1. STRIP TOPSOIL TO EXPOSE NATURALLY OCCURRING MATERIAL.
2. WHERE FILLING IS REQUIRED TO ACTIVATE DESIGN SUBGRADE PROOF ROLL EXPOSED NATURAL SURFACE WITH A MINIMUM OF 10 PASSES OF A VIBRATING ROLLER (MINIMUM STATIC WEIGHT OF 10 TONNES) IN THE PRESENCE OF THE SUPERINTENDENT.
3. ALL SOFT, WET OR UNSUITABLE MATERIAL TO BE REMOVED AS DIRECTED BY THE SUPERINTENDENT AND REPLACED WITH APPROVED MATERIAL SATISFYING THE REQUIREMENTS LISTED BELOW.
4. ALL FILL MATERIAL SHALL BE FROM A SOURCE APPROVED BY THE SUPERINTENDENT AND SHALL COMPLY WITH THE FOLLOWING:
 - A) FREE FROM ORGANIC AND PERISHABLE MATTER
 - B) MAXIMUM PARTICLE SIZE 75mm
 - C) PLASTICITY INDEX BETWEEN 2% AND 15%.
5. ALL FILL MATERIAL SHALL BE PLACED IN MAXIMUM 200mm THICK LAYERS AND COMPACTED AT OPTIMUM MOISTURE CONTENT (+ OR - 2%) TO ACHIEVE A DRY DENSITY DETERMINED IN ACCORDANCE WITH AS1289 E3.1 OF NOT LESS THAN THE FOLLOWING STANDARD MINIMUM DRY DENSITIES IN ACCORDANCE WITH AS1289 E1.1:

LOCATION	STANDARD DRY DENSITY
ALL EXTERNAL PAVE AREAS	98%
LANDSCAPED AREAS	90%
6. THE CONTRACTOR SHALL PROGRAM THE EARTHWORKS OPERATION SO THAT THE WORKING AREAS ARE ADEQUATELY DRAINED DURING THE PERIOD OF CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS, ROLLER MARKS AND SIMILAR WHICH WOULD ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM THE CONTRACTOR NOT OBSERVING THESE REQUIREMENTS SHALL BE RECTIFIED BY THE CONTRACTOR AT THEIR COST.
7. TESTING OF THE SUBGRADE SHALL BE CARRIED OUT BY AN APPROVED NATA REGISTERED LABORATORY AT THE CONTRACTORS EXPENSE.

INSPECTION HOLD POINTS

1. INSTALLATION OF SEDIMENT & EROSION CONTROL MEASURES.
2. WATER & SEWER LINE INSTALLATION PRIOR TO BACKFILL.
3. ESTABLISHMENT OF LINE & LEVEL FOR KERB & GUTTER PLACEMENT.
4. ROAD PAVEMENT CONSTRUCTION.
5. ROAD PAVEMENT SURFACING.
6. PRACTICAL COMPLETION.

SERVICES INSTALLATION

1. INSTALLATION OF ALL UUNDERGROUND PIPES BE INSTALLED PRIOR TO INSTALLATION OF ROAD PAVEMENT.

SUBMISSION FOR DA

BARNSON PTY LTD

phone 1300 BARNSON (1300 227 676)
email generalenquiry@barnson.com.au
web barnson.com.au

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH GENERAL BUILDING DRAWINGS, SPECIFICATIONS & OTHER CONSULTANTS DRAWINGS APPLICABLE TO THIS PROJECT. ALL DIMENSIONS IN MILLIMETRES. DO NOT SCALE. DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORK. REPORT DISCREPANCIES TO BARNSON PTY LTD. NO PART OF THIS DRAWING MAY BE REPRODUCED IN ANY WAY WITHOUT THE WRITTEN PERMISSION OF BARNSON PTY LTD.

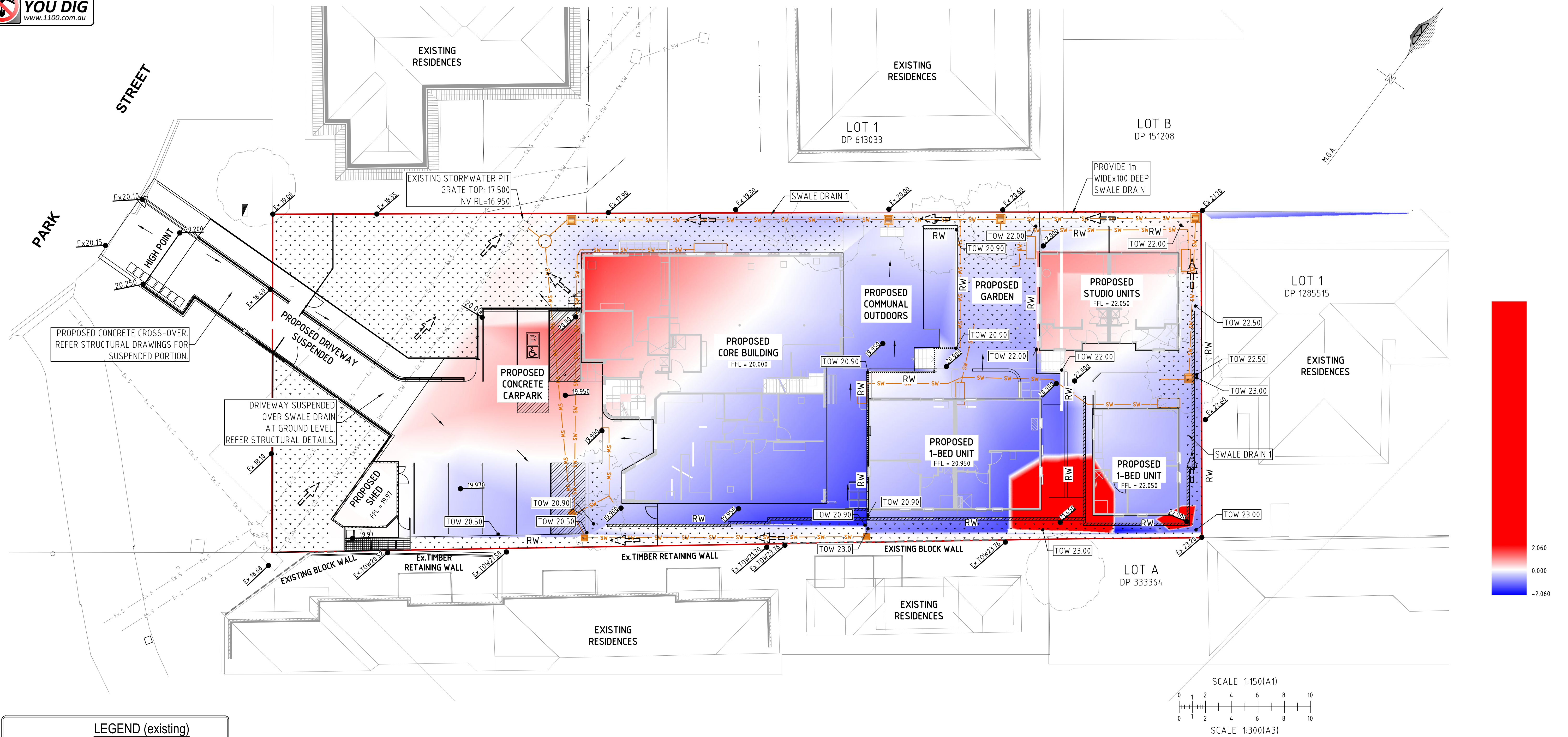
Rev	Date	Description
A	31-03-2023	ISSUED FOR REVIEW
B	04-10-2023	ISSUED FOR DA
C	12-06-2024	REISSUED FOR DA

Project	CIVIL CONSTRUCTION DOCUMENTATION PROPOSED CORE & CLUSTER REFUGE
Site Address	10A PARK STREET EAST MAITLAND NSW 2323
Client	HOUSING PLUS ORANGE

Drawing Title
PAVEMENT NOTES & DETAILS

Design	LB	Original Sheet Size
Drawn	JS	
Check	DOS	Revision


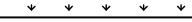

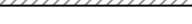




A1	Project No
C	Drawing No



LEGEND (existing)

— Ex. SW — Ex. SW — EXISTING SUBJECT CADASTRAL BOUNDARIES
— Ex. S — Ex. S — EXISTING STORMWATER PIPE
— Ex. S — Ex. S — EXISTING SEWER PIPE

LEGEND (proposed)

	PROPOSED CONCRETE PAVEMENT AREA
	PROPOSED LANDSCAPE AREA
	PROPOSED PAVING AREA
	PROPOSED STORMWATER PIPE (Ø AS SHOWN)
	PROPOSED STORMWATER PIT
	PROPOSED SURFACE FALL DIRECTION
	FINISHED SURFACE RL's
	MAJOR OVERLAND FLOW PATH DIRECTION

PROPOSED CUT & FILL PLAN

REDUCTION RATIO 1:150 @ A1
1:300 @ A3

SCALE 1:150(A1)

SCALE 1:300(A3)

SUBMISSION FOR DA

SITEWORKS NOTES

1. ORIGIN OF LEVELS :- AHD.
2. SUB-CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK.
3. ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS, THE SPECIFICATIONS AND THE DIRECTIONS OF THE SUPERINTENDENT.
4. EXISTING SERVICES HAVE BEEN OBTAINED FROM SURFACE INSPECTION ONLY. IT IS THE RESPONSIBILITY OF THE SUB-CONTRACTOR TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPER-INTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
5. WHERE NEW WORKS ABUT EXISTING THE SUB-CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.
6. THE SUB-SUB-CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.
7. CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER TELECOM OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
8. ON COMPLETION OF CONSTRUCTION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS.
9. MAKE SMOOTH TRANSITION TO EXISTING SURFACES.
10. THE SUB-CONTRACTOR SHALL PROVIDE ALL TEMPORARY DIVERSION DRAINS AND MOUNDS TO ENSURE THAT AT ALL TIMES EXPOSED SURFACES ARE FREE DRAINING AND WHERE NECESSARY EXCAVATE SUMPS AND PROVIDE PUMPING EQUIPMENT TO DRAIN EXPOSED AREAS. ALL WORK TO BE UNDERTAKEN WITH ADHERENCE TO THE REQUIREMENTS OF THE SOIL AND WATER MANAGEMENT PLAN.
11. THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATIONS.

BULK EARTHWORKS APPROVALS

1. APPROVAL IS REQUIRED BY ALL RELEVANT AUTHORITIES PRIOR TO COMMENCEMENT OF WORKS ON SITE.
2. THE BULK EARTHWORKS PLANS AND ALL SUPPORTING INFORMATION INCLUDING ALL EROSION AND SEDIMENT CONTROL PLANS SHALL REMAIN ON SITE AT ALL TIMES.

EXISTING SERVICES

1. EXACT LOCATION OF ALL SERVICES SHALL BE LOCATED PRIOR TO THE COMMENCEMENT OF WORK. IT IS THE BUILDERS RESPONSIBILITY TO CONFIRM THE DEPTH AND LOCATION OF SERVICES AND BARNSON PTY LTD ACCEPTS NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF THE SERVICES SHOWN.

ADJOINING PROPERTY

1. IT IS THE SUB-CONTRACTOR'S RESPONSIBILITY TO ENSURE THE EFFECTS OF THE EARTHWORKS DO NOT HAVE AN IMPACT TO THE NEIGHBOURING PROPERTIES. SHOULD AN ISSUE ARISE ON SITE, THE SUB-CONTRACTOR SHALL INFORM THE SUPERINTENDENT IMMEDIATELY.
2. THE SUB-CONTRACTOR IS TO RECEIVE WRITTEN PERMISSION PRIOR TO ENTERING OR COMMENCING WORK OUTSIDE THE DEVELOPMENT SITE AND SHALL RECEIVE PERMISSION FROM EASEMENT HOLDERS AND LOCAL AUTHORITY PRIOR TO WORK COMMENCING.

AUTHORITY REGULATIONS

1. HAUL ROUTES FROM SITE IS TO BE AS FOLLOWS: SITE > TO BE CONFIRMED, STAY ON MAIN ROADS.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO WORK COMMENCING AS REQUIRED BY THE COUNCIL APPROVED SEDIMENT & EROSION CONTROL PLAN.
3. ALL VEGETATION PROTECTION AND PRESERVATION MEASURES SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF WORK.

SOIL CONTAMINATION

1. ANY SUSPECTED GROUND OR GROUND WATER CONTAMINATION SHALL BE INVESTIGATED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER.

CONSTRUCTION RECORDS

- 1 ADEQUATE RECORDS SHALL BE KEPT THROUGHOUT CONSTRUCTION INCLUDING, BUT NOT LIMITED TO;
- LOCATION AND QUANTITY OF EXCESS CUT (DUMP SITE);

- THE AREAS ON SITE OF ALL FILL;

- LEVELS OF STRIPPED SURFACE;

- LOCATION OF ANY VEGETATION REMOVED;

- LOCATION OF SITE CONTAMINATION/UNSUITABLE MATERIAL;

- LEVELS AT COMPLETION OF BULK EARTHWORKS WORK;

- DETAILS OF SUB-GRADE TEST ROLLING (PROOF ROLLING);

- TYPES/SOURCE OF FILL MATERIAL;

- LOCATION LEVEL AND RESULT OF EACH COMPACTION TEST;

- RECORD OF ALL ACTIONS TAKEN ON SITE.

UNSUITABLE MATERIALS

1. REFER TO GEOTECHNICAL ENGINEER, AS REQUIRED, FOR DETERMINATION OF SUITABILITY OF MATERIAL WON ON SITE, OR BORROW PIT TO BE USED AS FILL MATERIAL.
2. ALL UNSUITABLE FILL SHALL BE EITHER REMOVED OR USED ORGANIC MATTER FROM BUILDING AND PAVEMENT AREAS TO AN
3. PRIOR TO ANY EARTHWORKS STRIP TOPSOIL, CONTAINING AS PER THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT. APPROXIMATE DEPTH OF 0.10M, SPOIL MATERIAL AS DIRECTED BY THE MANAGER. REMOVE RUBBLE, OVER SATURATED MATERIALS AND ALL ORGANIC MATTER.

TESTING/INSPECTIONS

1. ALL TESTING OF EARTHWORKS SHALL BE DONE AT THE SUB-CONTRACTOR'S EXPENSE, UNLESS NOTED OTHERWISE. SHALL A SUB-GRADE OR PROOF ROLL INSPECTION FAIL, OR 2. ADDITIONAL INSPECTIONS BE REQUIRED FOR ANY REASON OUTSIDE, THE SUB-CONTRACTOR WILL WEAR THE COSTS OF ANY SUBSEQUENT RE-INSPECTIONS UNLESS NOTED OTHERWISE.

EARTHWORKS SEQUENCE

1. INSTALL ALL VEGETATION PROTECTION, EROSION AND SEDIMENT CONTROL, AND SITE-SPECIFIC MEASURES PRIOR TO THE COMMENCEMENT OF ANY WORK.
2. STRIP ALL TOPSOIL/ORGANIC MATERIAL FROM CONSTRUCTION AREA AND REMOVE FROM SITE OR STOCKPILE AS DIRECTED BY THE SUPERINTENDENT.
3. EXCAVATE MATERIAL AS INDICATED ON THE BULK EARTHWORKS PLAN.
4. PRIOR TO PLACING FILL, PROOF ROLL EXPOSED SUB-GRADE WITH AN 8 TONNE (MINIMUM) ROLLER OR WATER TRUCK TO DETECT THEN REMOVE SOFT SPOTS, REPLACE UNSUITABLE MATERIAL WITH SUITABLE GRANULAR MATERIAL AND COMPACT TO THE MINIMUM COMPACTION REQUIREMENTS LISTED. (TO BE UNDERTAKEN IN THE PRESENCE OF A CIVIL/GEOTECHNICAL ENGINEER
5. GEOTECHNICAL ENGINEER TO UNDERTAKE SUB-GRADE COMPACTION TESTING TO LEVEL 1, AS PER AS 3798 (2007) AND PROVIDE CBR VALUES FOR ADJUSTMENT TO PAVEMENT DESIGN.
6. FILLING IS TO BE PLACED AND COMPACTED IN MAXIMUM 150MM LAYERS AND TO THE MINIMUM COMPACTION REQUIREMENTS LISTED.
7. AFTER ALL BULK EARTHWORKS HAVE OCCURRED, PROOF ROLL THE FINISHED PAD LEVEL WITH AN 8 TONNE (MINIMUM) ROLLER OR WATER TRUCK TO DETECT, THEN REMOVE SOFT SPOTS, REPLACE UNSUITABLE MATERIAL WITH SUITABLE GRANULAR MATERIAL AND COMPACT TO THE MINIMUM COMPACTION REQUIREMENTS LISTED.

6. FILLING IS TO BE PLACED AND COMPACTED IN MAXIMUM 150MM LAYERS AND TO THE MINIMUM COMPACTION REQUIREMENTS LISTED.

7. AFTER ALL BULK EARTHWORKS HAVE OCCURRED, PROOF ROLL THE FINISHED PAD LEVEL WITH AN 8 TONNE (MINIMUM) ROLLER OR WATER TRUCK TO DETECT, THEN REMOVE SOFT SPOTS, REPLACE UNSUITABLE MATERIAL WITH SUITABLE GRANULAR MATERIAL AND COMPACT TO THE MINIMUM COMPACTION REQUIREMENTS LISTED.

SCOUR PROTECTION NOTES

1. SCOUR PROTECTION IS TO BE PROVIDED AS A 3000mm WIDE DISTRIBUTION x 300mm DEEP D₅₀100mm RIP RAP PLACED ON A SINGLE LAYER OF GEOTEXTILE (BIDIM A34 OR EQUIVALENT)
2. GRADING TO BE AS PER TABLE BELOW

EQUIVALENT SPHERICAL DIAMETER ##	PERCENT (BY WEIGHT) OF RIP RAP OF SMALLER SIZE
1.5 - 2.0 TIMES D ₅₀ ++	100%
D ₅₀	50%
0.3 D ₅₀	10 - 20%

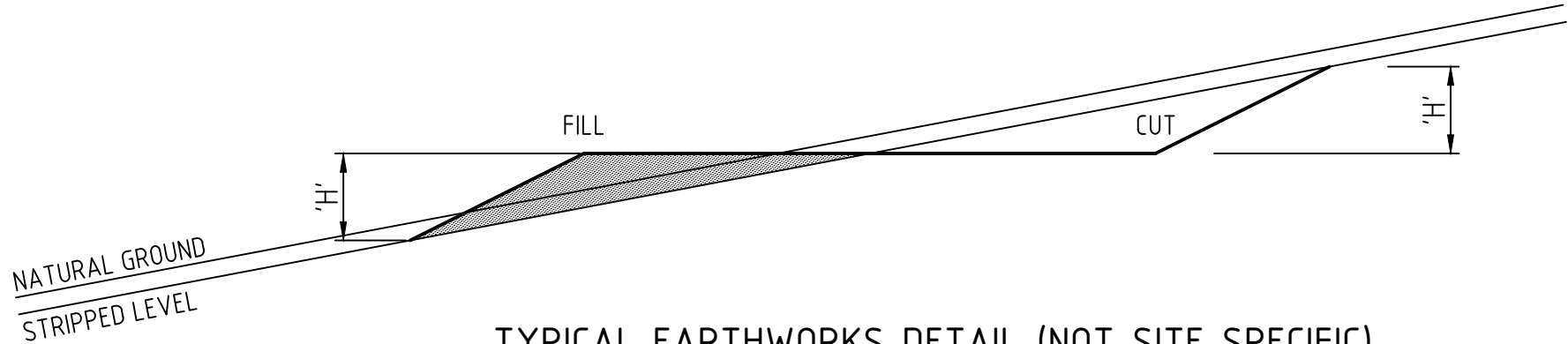
- ## THE DIAMETER OF A SPHERE WITH AN EQUIVALENT VOLUME TO THE INDIVIDUAL ROCK.
- ++ D₅₀ IS THE MEDIAN RIP RAP DIAMETER OF THE ROCK MIX. (i.e. 50% (BY WEIGHT) IS SMALLER AND 50% (BY WEIGHT) IS LARGER).

TYPICAL EARTHWORKS EMBANKMENT NOTES

1. IT IS THE BUILDER'S RESPONSIBILITY TO ENSURE THAT THE SITE WORKS DO NOT COMPROMISE/UNDERMINE OR PLACE ADDITIONAL SURCHARGE ON ANY EXISTING STRUCTURES.
2. BATTER ANGLES MUST COMPLY WITH LOCAL AUTHORITY REQUIREMENTS AND ARE TO CONFORM TO THE ABOVE DIAGRAM.
3. ALL BATTERS SHALL BE PROTECTED FROM EROSION, AND ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES IN PLACE PRIOR TO THE COMMENCEMENT OF WORK.
4. SHOULD THE ABOVE CONDITIONS NOT BE ACHIEVED, BARNSON MUST BE CONTACTED PRIOR TO ANY SITE WORKS BEING UNDERTAKEN.

PAD AND FINISHED LEVEL NOTES

1. ACTUAL FINISHED LEVELS SHOWN ON THIS PLAN ARE FOR THE SUB-CONTRACTOR'S GUIDANCE ONLY. ACTUAL FINISHED LEVELS SHALL BE SET-OUT IN ACCORDANCE WITH ARCHITECTURAL PLANS (REPORT ANY DISCREPANCIES TO BARNSON IMMEDIATELY).



TYPICAL EARTHWORKS DETAIL (NOT SITE SPECIFIC)
NOT TO SCALE

BATTER ANGLES – SHORT TERM

SLOPE = H:L H<2m L	MATERIAL TYPE (REFER GEOTECHNICAL REPORT)					
	STABLE ROCK	SAND	SILT	FIRM CLAY	SOFT CLAY	SOFT SOILS
COMPACTED FILL	1:1	1:3	1:4	1:2	N/A	N/A
CUTTING	N/A	1:3	1:4	1:2	1:3	N/A

- N/A = REFER TO GEOTECHNICAL REPORT FOR TREATMENT OF UNSUITABLE MATERIAL
- ALL BATTER ANGLES ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED BY A GEOTECHNICAL ENGINEER.

SUBMISSION FOR DA

BARNSON PTY LTD

phone1300 BARNSON (1300 227 676)

emailgeneralenquiry@barnson.com.au

webbarnson.com.au

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH GENERAL BUILDING DRAWINGS, SPECIFICATIONS & OTHER CONSULTANTS DRAWINGS APPLICABLE TO THIS PROJECT. ALL DIMENSIONS IN MILLIMETRES. DO NOT SCALE. DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORK. REPORT DISCREPANCIES TO BARNSON PTY LTD. NO PART OF THIS DRAWING MAY BE REPRODUCED IN ANY WAY WITHOUT THE WRITTEN PERMISSION OF BARNSON PTY LTD.

Rev	Date	Description
A	13-07-2023	ISSUED FOR DA
B	12-06-2024	REISSUED FOR DA

Project

CIVIL CONSTRUCTION DOCUMENTATION
PROPOSED CORE & CLUSTER REFUGE

Site Address

10A PARK STREET
EAST MAITLAND NSW 2323

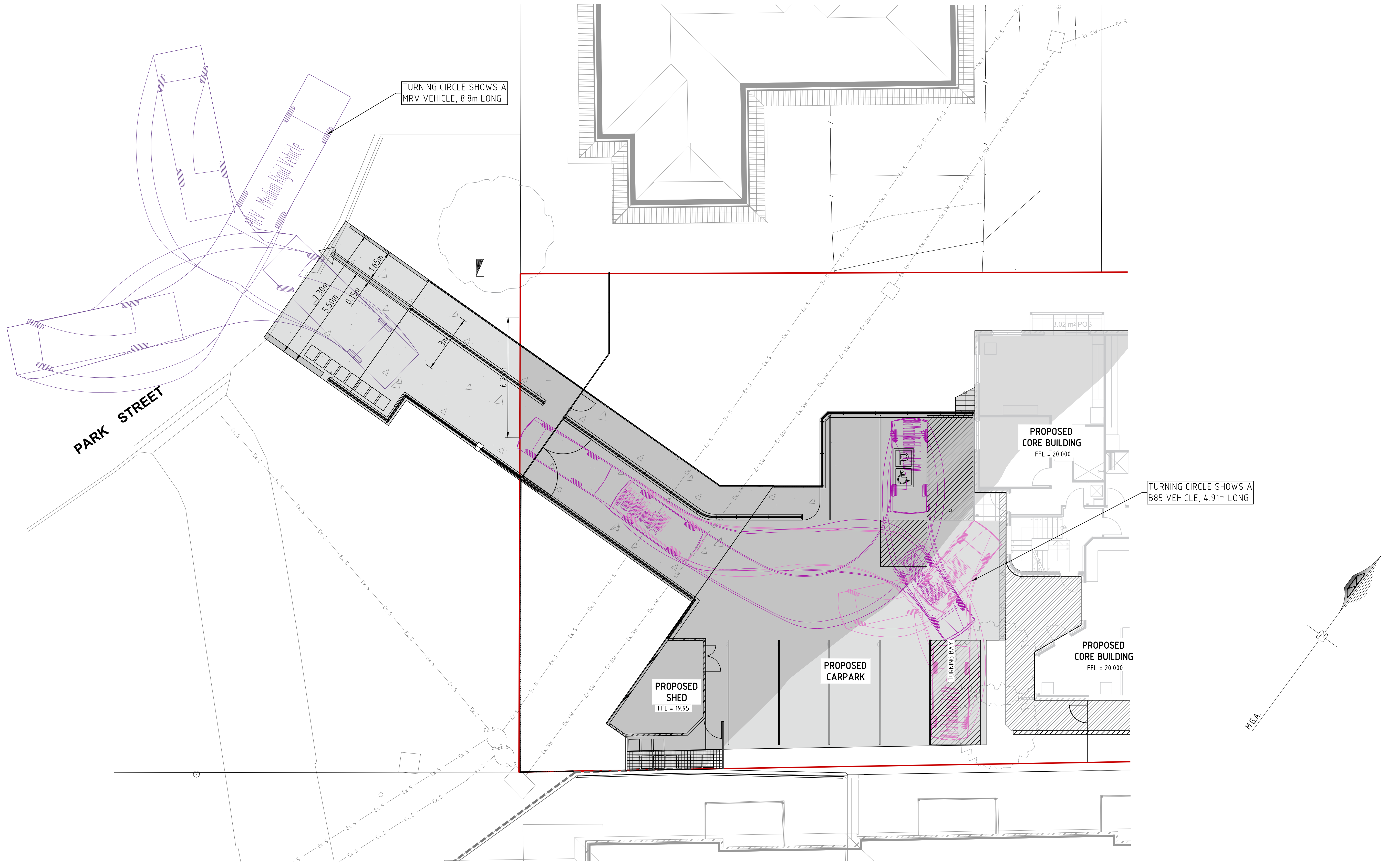
Client

HOUSING PLUS ORANGE

Drawing Title			
BULK EARTHWORKS SPECIFICATIONS			
Design	LB	Original Sheet Size	A1
Drawn	JS		
Check	LM	Revision	B

Certification
Project No
Drawing No

40560
C31



TURNING PATH ANALYSIS PLAN
REDUCTION RATIO 1:100 @ A1
1:200 @ A3

SUBMISSION FOR DA

BARNSON PTY LTD

phone 1300 BARNSON (1300 227 676)
email generalenquiry@barnson.com.au
web barnson.com.au

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH GENERAL BUILDING DRAWINGS, SPECIFICATIONS & OTHER CONSULTANTS DRAWINGS APPLICABLE TO THIS PROJECT. ALL DIMENSIONS IN MILLIMETRES. DO NOT SCALE. DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORK. REPORT DISCREPANCIES TO BARNSON PTY LTD. NO PART OF THIS DRAWING MAY BE REPRODUCED IN ANY WAY WITHOUT THE WRITTEN PERMISSION OF BARNSON PTY LTD.

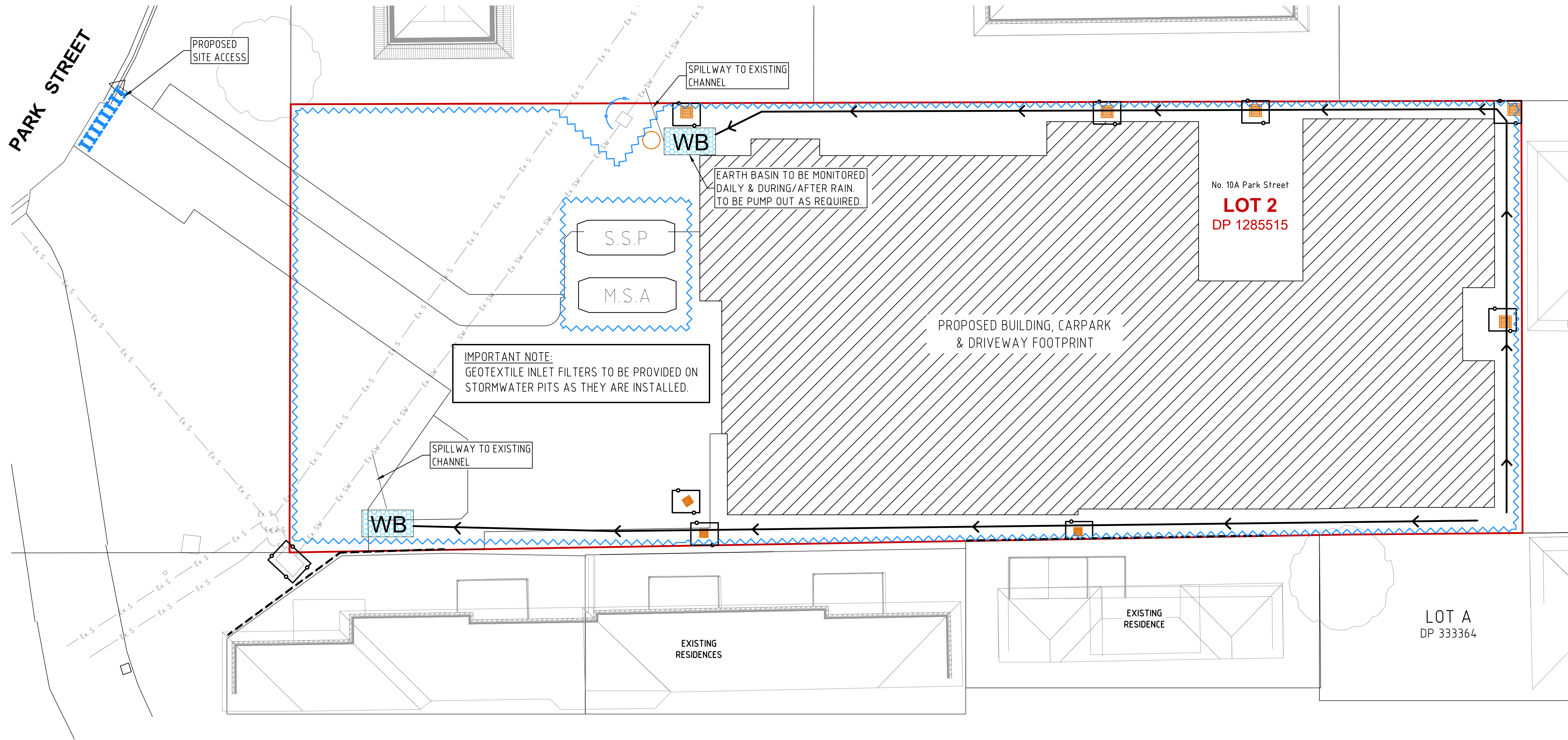
Rev	Date	Description
A	04-10-2023	ISSUED FOR DA
B	13-02-2024	BIN AREA WIDENED & BIN TRUCK TURNING CIRCLE ADDED
C	12-06-2024	REISSUED FOR DA

Project
CIVIL CONSTRUCTION DOCUMENTATION
PROPOSED CORE & CLUSTER REFUGE
Site Address
10A PARK STREET
EAST MAITLAND NSW 2323
Client
HOUSING PLUS ORANGE

Drawing Title
TURNING PATH ANALYSIS PLAN
Design LB
Drawn JS
Check DOS
Original Sheet Size
Revision

Certification
A1
C
Project No
Drawing No

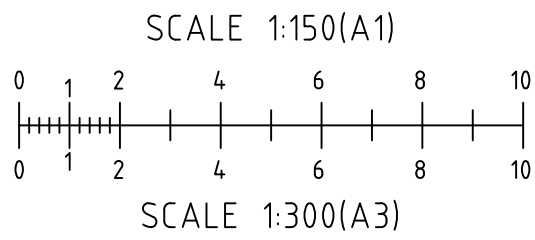
40560
C40



- SEDIMENT AND EROSION CONTROL NOTES:**
1. ALL SEDIMENT AND EROSION CONTROL STRUCTURES TO BE INSTALLED PRIOR TO SITE DISTURBANCE, UNLESS STATED OTHERWISE ON THIS PLAN.
 2. SEDIMENT AND EROSION CONTROL STRUCTURES TO BE BUILT AS PER DIAGRAMS PROVIDED.
 3. ALL SEDIMENT CONTROL STRUCTURES TO BE INSPECTED AND MAINTAINED BY PROJECT MANAGER AT LEAST WEEKLY AND FOLLOWING EACH RAINFALL EVENT. IF STRUCTURES ARE TO BE REMOVED, THEY ARE TO BE REINSTALLED AND INSPECTED BY PROJECT MANAGER.
 4. ALL SEDIMENT RETAINING STRUCTURES TO BE CLEARED ON REACHING 50% STORAGE CAPACITY AND SPREAD ON DISTURBED AREAS.
 5. TOPSOIL FROM ALL AREAS THAT WILL BE DISTURBED TO BE STRIPPED AND STOCKPILED WITHIN A NOMINATED AREA ONSITE. STOCKPILES TO BE NO HIGHER THAN 600MM. THIS IS BE ACCOMPANIED BY APPROPRIATE SEDIMENT AND EROSION CONTROLS (STRAW BALE SEDIMENT FILTER OR SEDIMENT FENCE OR OTHER DEVICE AS SPECIFIED ON THIS PLAN) LOCATED DOWNSLOPE OF STOCKPILES. IF STOCKPILES ARE TO REMAIN FOR LONGER THAN ONE MONTH, THEY ARE TO BE STABILISED WITHIN 14 DAYS. STOCKPILED TOPSOIL IS TO BE RESPREAD ON DISTURBED AREAS, SEEDED AND FERTILISED IN ACCORDANCE WITH THE REHABILITATION SPECIFICATION SHOWN ON THIS PLAN AS PART OF REHABILITATION WORKS.
 6. STOCKPILES OF ERODABLE BUILDING MATERIALS INCLUDING SAND AND SOIL TO BE LOCATED WITHIN DESIGNATED MATERIAL STORAGE AREAS (MSA) AND PROTECTED WITH SEDIMENT FENCE OR STRAW BALE SEDIMENT FILTERS OR OTHER DEVICE AS SPECIFIED ON THIS PLAN. THE PROJECT MANAGER TO NOMINATE SPECIFIED STORAGE AREAS WITHIN THE BOUNDARIES OF THE DISTURBED AREA.
 7. ALL VEGETATION OUTSIDE THE DISTURBED AREA BOUNDARY TO REMAIN UNDISTURBED. EXISTING VEGETATION ONSITE TO BE RETAINED AS PER RESTRICTION ON USE OF THE LAND. DISTURBANCE TO VEGETATIVE GROUND COVER TO BE MINIMISED AS FAR AS PRACTICABLE.
 8. ALL EROSION AND SEDIMENT CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL THE SITE IS FULLY STABILISED AND/OR REVEGETATED (UNLESS OTHERWISE STATED ON THIS PLAN).
 9. NO STORAGE OF VEHICLES OR VEHICLE MOVEMENTS ARE TO OCCUR OUTSIDE THE DISTURBED AREA BOUNDARY.
 10. ACCESS TO THE SITE TO BE THROUGH VIA CONSTRUCTION ENTRANCE AS DEPICTED ON THIS PLAN.
 11. THE PROJECT MANAGER IS TO INFORM ALL CONTRACTORS OF THEIR OBLIGATIONS UNDER THIS PLAN.
 12. ALL SEWER, WATER AND DRAINAGE LINES ARE TO BE BACKFILLED WITHIN 24 HOURS OF INSPECTION AND APPROVAL.
 13. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ARE SHOWN ON THIS PLAN.
 14. OPEN CHANNELS, RETENTION BASINS AND TABLE DRAINS ASSOCIATED WITH INTERNAL ROADS TO BE STABILISED AND REHABILITATED IN ACCORDANCE WITH THE REHABILITATION SPECIFICATION DEPICTED ON THIS PLAN WITHIN 14 DAYS OF THE COMPLETION OF EARTHWORKS.
 15. ALL CUT AND FILL BATTERS SHALL BE EFFECTIVELY STABILISED WITHIN 14 DAYS OF COMPLETION OF EARTHWORKS.
 16. ALL AREAS DISTURBED AS A RESULT OF EARTHWORKS SHALL BE PROGRESSIVELY STABILISED AND/OR REVEGETATED SO THAT NO AREAS REMAIN EXPOSED TO EROSION DAMAGE FOR MORE THAN 14 DAYS UPON COMPLETION OF EARTHWORKS. LIKEWISE ALL HARDSTAND AREAS SHALL BE STABILISED WITH COMPACTED SUB-GRADE AS SOON AS POSSIBLE AFTER THEIR FORMATION. THE RESPONSIBILITY FOR PROGRESSIVE REVEGETATION AND STABILISATION LIES WITH THE PROJECT MANAGER.
 17. THIS PLAN IS TO BE READ IN CONJUNCTION WITH STORMWATER MANAGEMENT PLANS AND OTHER APPLICABLE PLANS INCLUDING PLANS.
 18. SEDIMENT FENCES ASSOCIATED WITH TABLE DRAINS ALONG INTERNAL AND EXTERNAL ROADS TO BE AT A MAXIMUM OF 60 METRE SPACINGS.

SEDIMENT AND EROSION CONTROL LEGEND

- PROPOSED SEDIMENT FENCE
- PROPOSED EARTH BANK (SEE 40560-C51)
- PROPOSED EARTH BASIN WET (SEE 40560-C51)
- STABILISED SITE ACCESS (SEE 40560-C51)
- SOIL STOCK PILE (SEE 40560-C51)
- MATERIALS STORAGE AREA
- PROPOSED BUILDING FOOTPRINT
- GEOTEXTILE INLET FILTERS
- PROPOSED STORMWATER PIT
- MESH & GRAVEL INLET FILTER (SEE 40560-C51)



PROPOSED SEDIMENT & EROSION CONTROL PLAN
REDUCTION RATIO 1:150 @ A1
1:300 @ A3



SUBMISSION FOR DA

BARNSON PTY LTD

phone 1300 BARNSON (1300 227 676)
email generalenquiry@barnson.com.au
web barnson.com.au

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH GENERAL BUILDING DRAWINGS, SPECIFICATIONS & OTHER CONSULTANTS DRAWINGS APPLICABLE TO THIS PROJECT. ALL DIMENSIONS IN MILLIMETRES. DO NOT SCALE. DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCEMENT OF WORK. REPORT DISCREPANCIES TO BARNSON PTY LTD. NO PART OF THIS DRAWING MAY BE REPRODUCED IN ANY WAY WITHOUT THE WRITTEN PERMISSION OF BARNSON PTY LTD.

Rev	Date	Description
A	04-10-2023	ISSUED FOR DA
B	12-06-2024	REISSUED FOR DA

Project
PROPOSED CORE & CLUSTER REFUGE

Site Address
10A PARK STREET
EAST MAITLAND NSW 2323
Client
HOUSING PLUS ORANGE

Drawing Title
PROPOSED EROSION AND SEDIMENT CONTROL PLAN

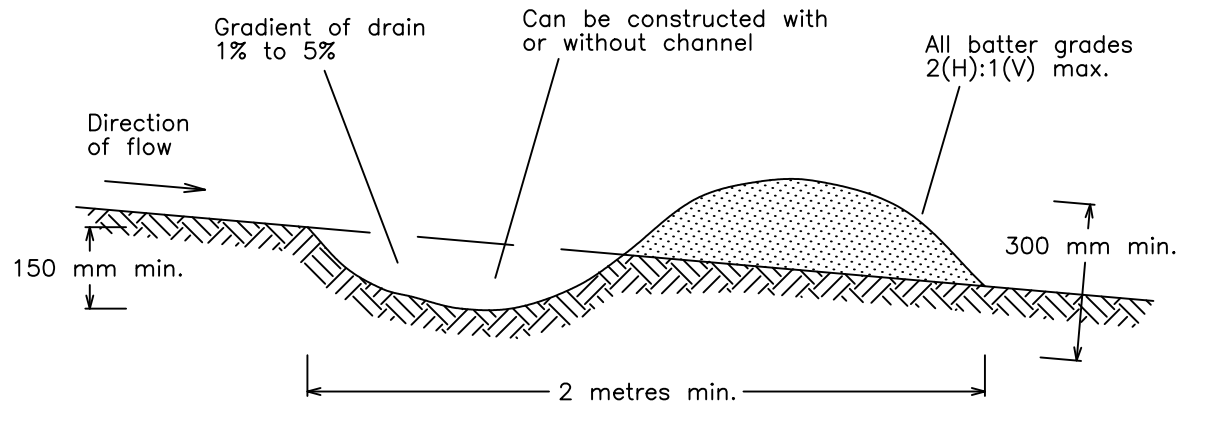
Design LB
Drawn LB
Check DOS

Original Sheet Size
Revision

A1
B

Certification
Project No
Drawing No

40560
C50

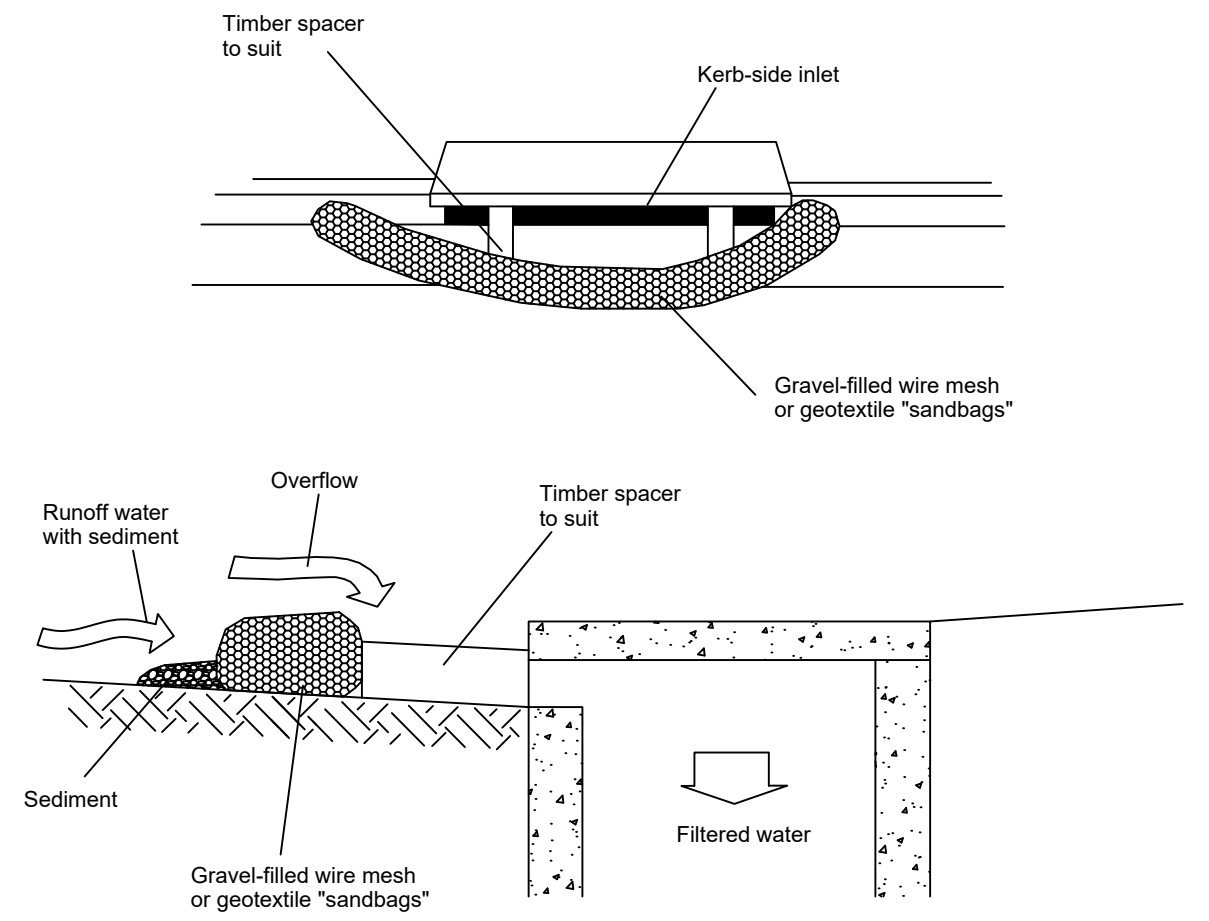


NOTE: Only to be used as temporary bank where maximum upslope length is 80 metres.

Construction Notes

- Build with gradients between 1 percent and 5 percent.
- Avoid removing trees and shrubs if possible - work around them.
- Ensure the structures are free of projections or other irregularities that could impede water flow.
- Build the drains with circular, parabolic or trapezoidal cross sections, not V shaped.
- Ensure the banks are properly compacted to prevent failure.
- Complete permanent or temporary stabilisation within 10 days of construction.

EARTH BANK (LOW FLOW)SD 5-5

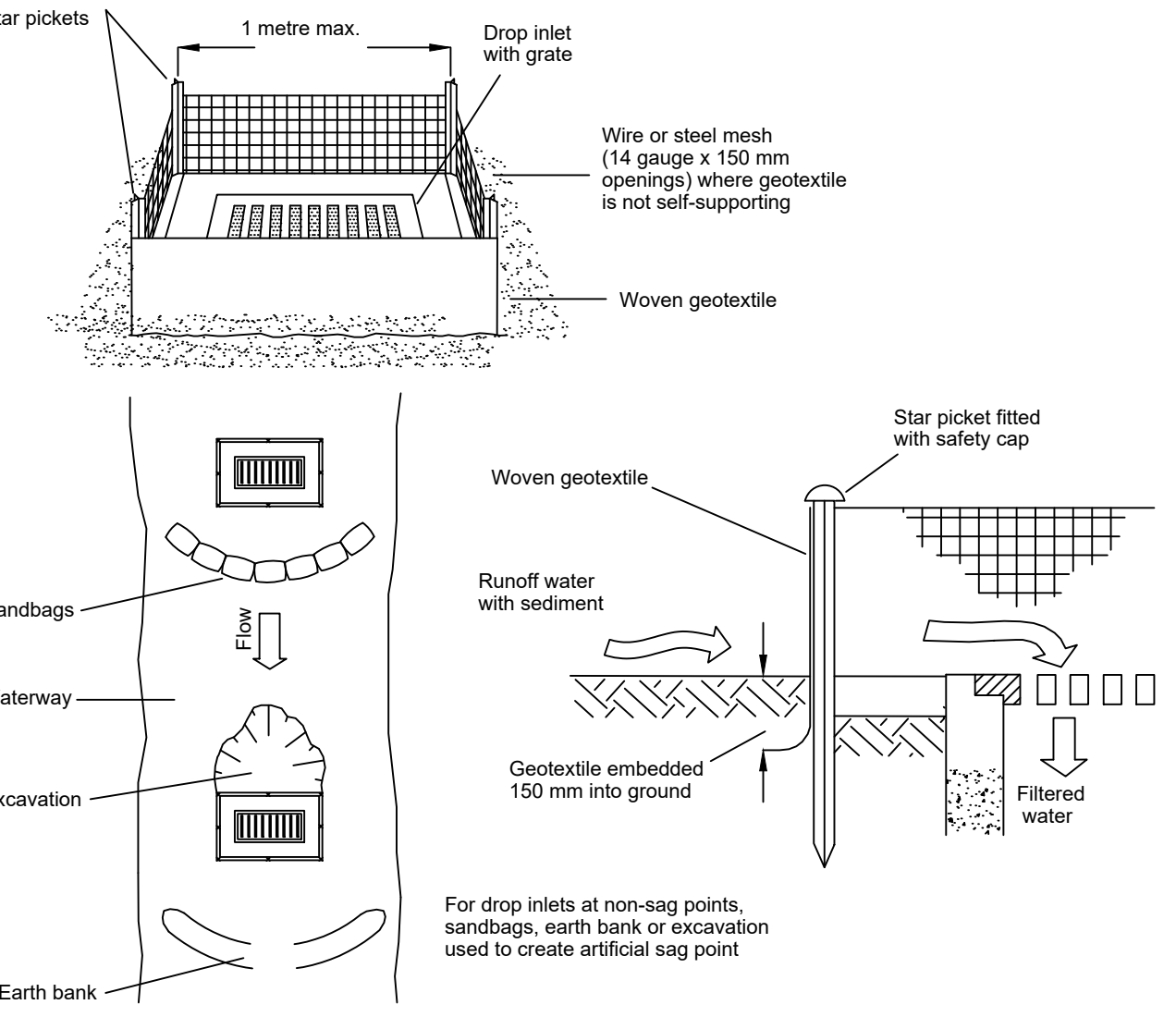


NOTE: This practice only to be used where specified in on approved SWMP/ESCP.

Construction Notes

- Install filters to kerb inlets only at sag points.
- Fabricate a sleeve made from geotextile or wire mesh longer than the length of the inlet pit and fill it with 25 mm to 50 mm gravel.
- Form an elliptical cross-section about 150 mm high x 400 mm wide.
- Place the filter at the opening leaving at least a 100 mm space between it and the kerb inlet. Maintain the opening with spacer blocks.
- Form a seal with the kerb to prevent sediment bypassing the filter.
- Sandbags filled with gravel can substitute for mesh or geotextile providing they are placed so that they firmly abut each other and sediment-laden waters cannot pass between.

MESH AND GRAVEL INLET FILTERSD 6-11

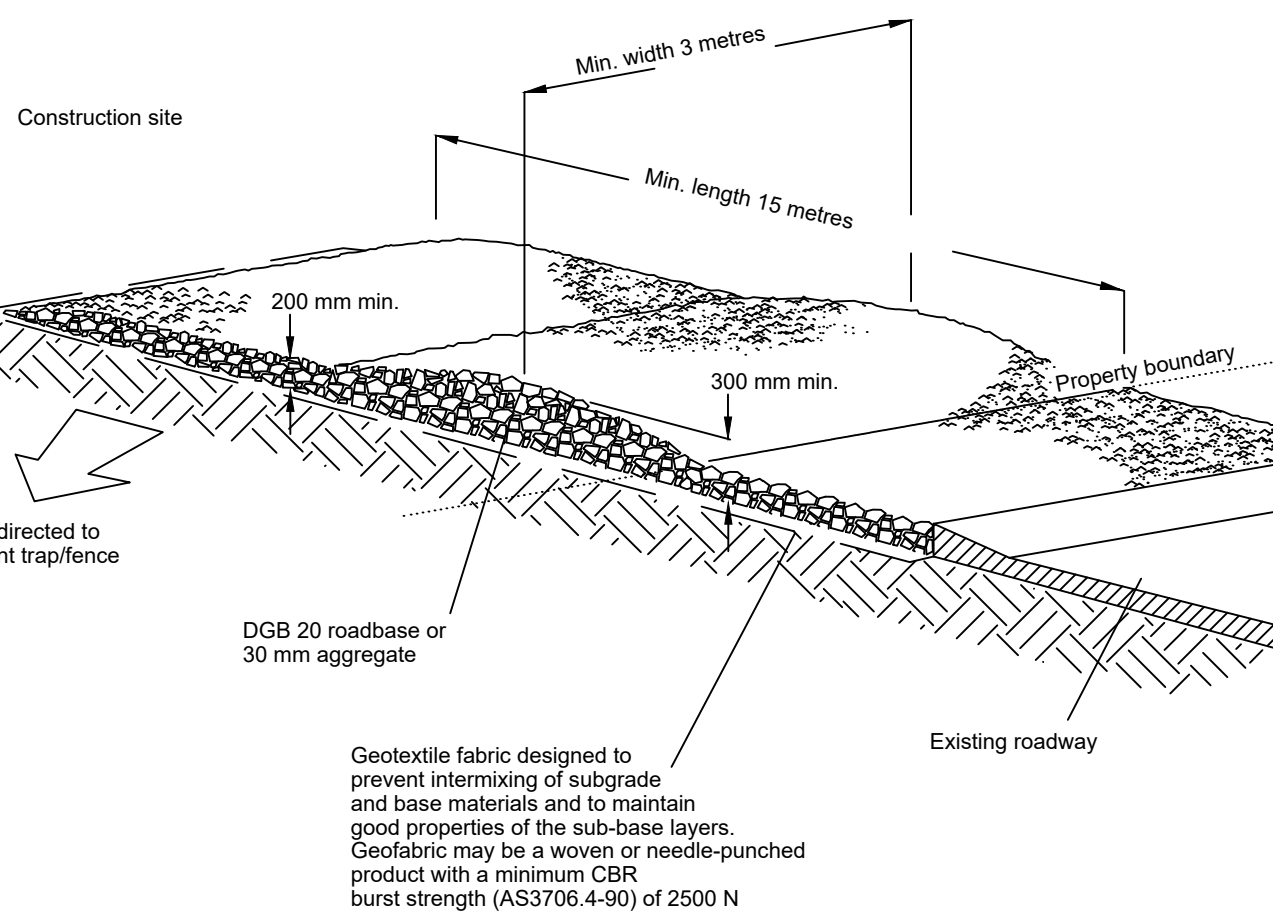


NOTE: This practice only to be used where specified in on approved SWMP/ESCP.

Construction Notes

- Fabricate a sediment barrier made from geotextile or straw bales.
- Follow Standard Drawing 6-7 and Standard Drawing 6-8 for installation procedures for the straw bales or geofabric. Reduce the picket spacing to 1 metre centres.
- In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
- Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

GEOTEXTILE INLET FILTERSD 6-12

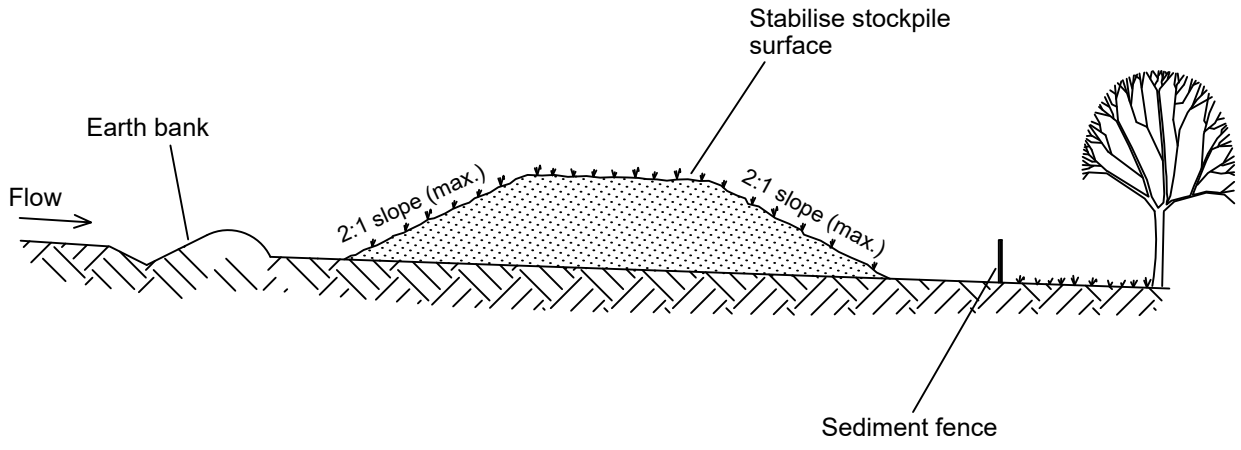


NOTE: This practice only to be used where specified in on approved SWMP/ESCP.

Construction Notes

- Strip the topsoil, level the site and compact the subgrade.
- Cover the area with needle-punched geotextile.
- Construct a 200 mm thick pad over the geotextile using road base or 30 mm aggregate.
- Ensure the structure is at least 15 metres long or to building alignment and at least 3 metres wide.
- Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence

STABILISED SITE ACCESSSD 6-14

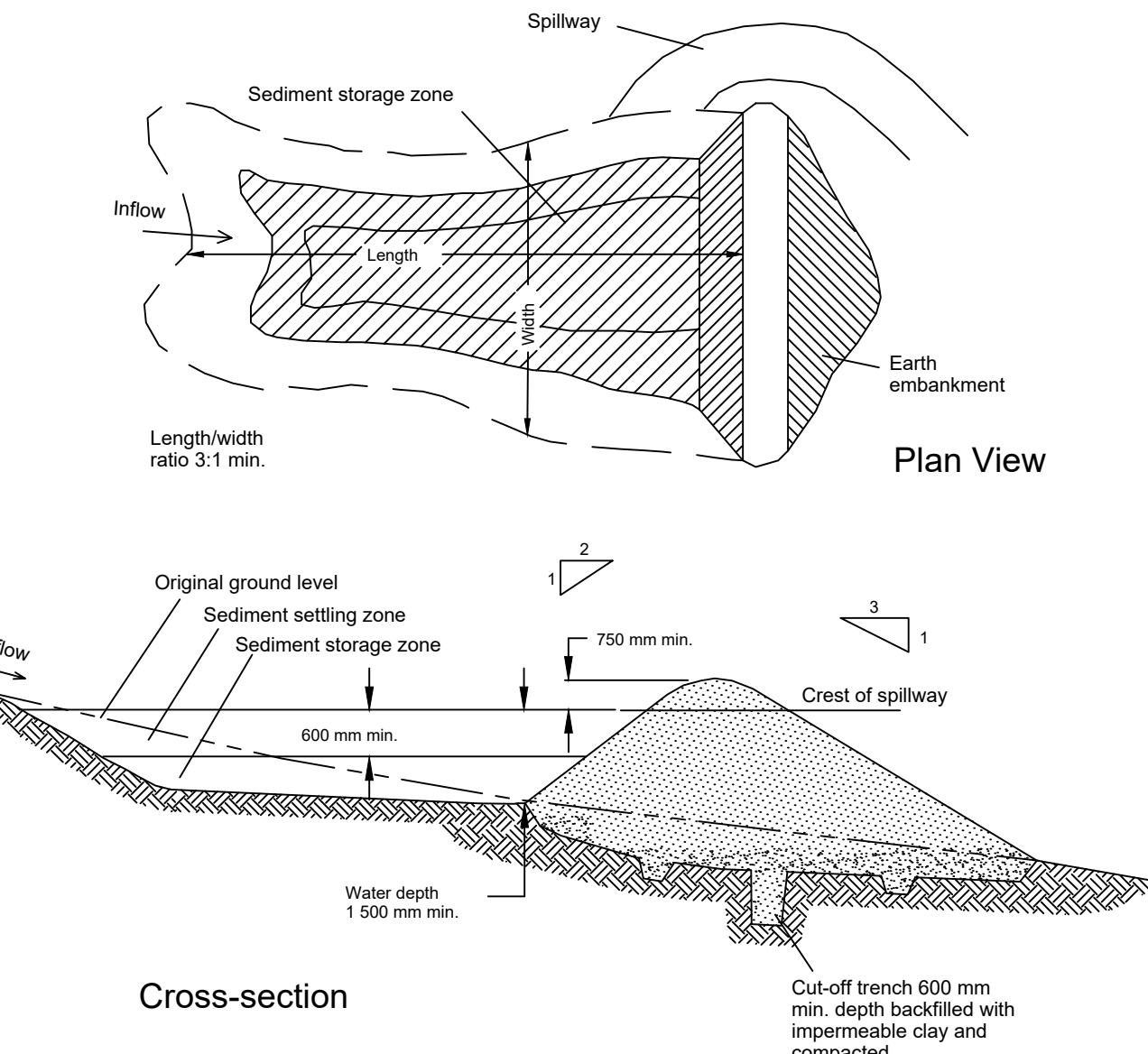


NOTE: This practice only to be used where specified in on approved SWMP/ESCP.

Construction Notes

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

STOCKPILES SD 4-1

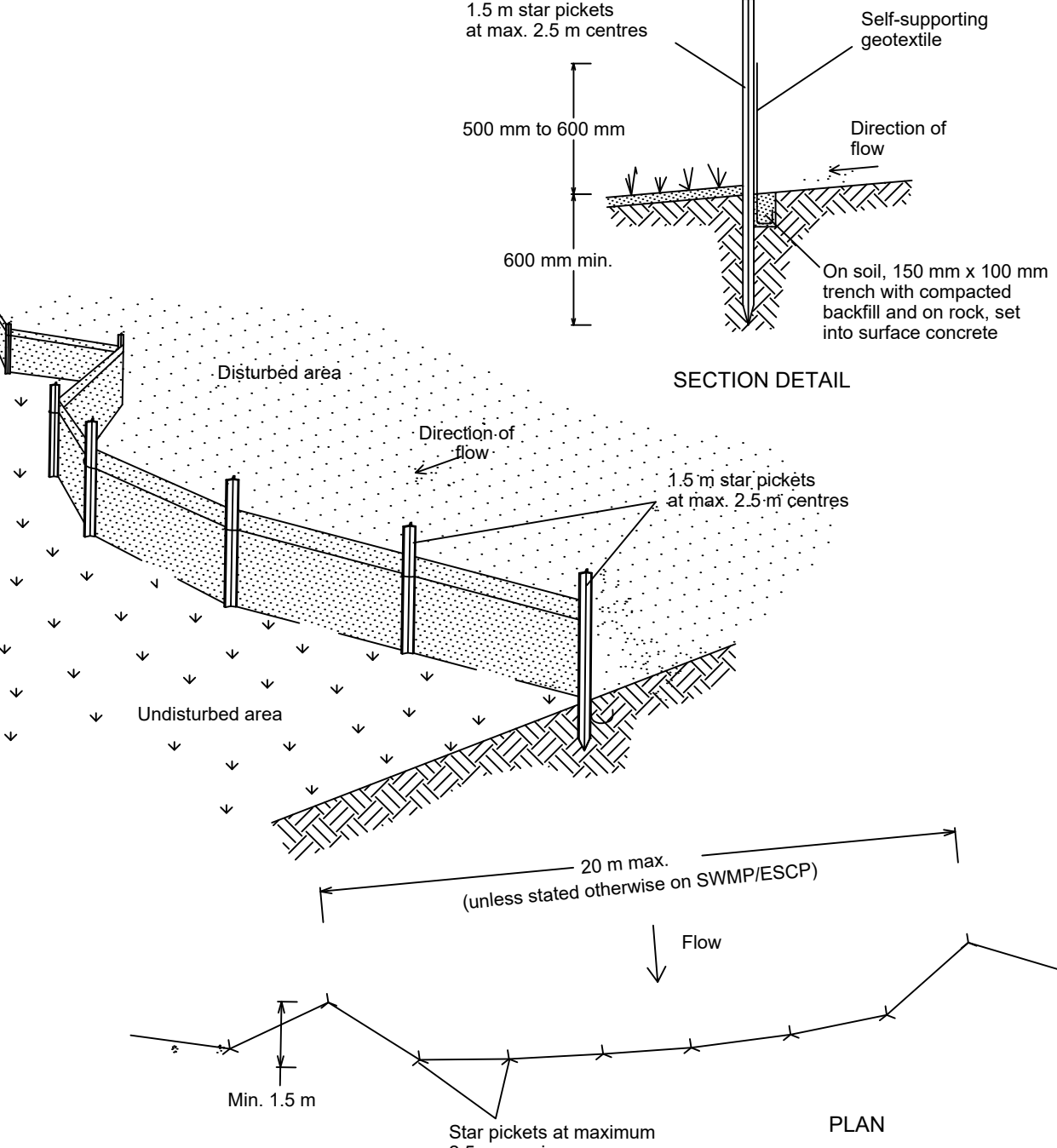


NOTE: This practice only to be used where specified in on approved SWMP/ESCP.

Construction Notes

- Remove all vegetation and topsoil from under the dam wall and from within the storage area.
- Construct a cut-off trench 500 mm deep and 1,200 mm wide along the centreline of the embankment extending to a point on the gully wall level with the riser crest.
- Maintain the trench free of water and recompact the materials with equipment as specified in the SWMP to 95 per cent Standard Proctor Density.
- Select fill following the SWMP that is free of roots, wood, rock, large stone or foreign material.
- Prepare the site under the embankment by ripping to at least 100 mm to help bond compacted fill to the existing substrate.
- Spread the fill in 100 mm to 150 mm layers and compact it at optimum moisture content following the SWMP.
- Construct the emergency spillway.
- Rehabilitate the structure following the SWMP.

EARTH BASIN - WET (APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY)SD 6-4



NOTE: This practice only to be used where specified in on approved SWMP/ESCP.

Construction Notes

- Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
- Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
- Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
- Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
- Join sections of fabric at a support post with a 150-mm overlap.
- Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

SEDIMENT FENCESD 6-8