

PROPOSED WAREHOUSES 5, 6 & 7

35-47 STENNETT ROAD

INGLEBURN NSW

DRAWING LIST:

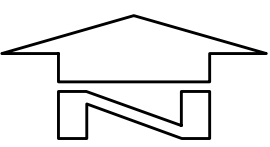
DRAWING NO.	DRAWING TITLE
C012813.09-C 10	DRAWING LIST & GENERAL NOTES
C012813.09-C 20	EROSION & SEDIMENT CONTROL PLAN
C012813.09-C 25	EROSION & SEDIMENT CONTROL DETAILS
C012813.09-C 31	BULK EARTHWORKS PLAN-SHEET 1
C012813.09-C 32	BULK EARTHWORKS PLAN-SHEET 2
C012813.09-C 33	BULK EARTHWORKS PLAN-SHEET 3
C012813.09-C 34	BULK EARTHWORKS PLAN-SHEET 4
C012813.09-C 35	BULK EARTHWORKS SECTIONS-SHEET 1
C012813.09-C 36	BULK EARTHWORKS SECTIONS-SHEET 2
C012813.09-C 40	DRAWING KEY PLAN
C012813.09-C 41	STORMWATER DRAINAGE PLAN-SHEET 1
C012813.09-C 42	STORMWATER DRAINAGE PLAN-SHEET 2
C012813.09-C 43	STORMWATER DRAINAGE PLAN-SHEET 3
C012813.09-C 44	STORMWATER DRAINAGE PLAN-SHEET 4
C012813.09-C 45	STORMWATER DRAINAGE DETAILS – SHEET 1
C012813.09-C 46	STORMWATER DRAINAGE DETAILS – SHEET 2
C012813.09-C 47	STORMWATER CATCHMENT PLAN
C012813.09-C 51	FINISHED LEVELS PLAN-SHEET 1
C012813.09-C 52	FINISHED LEVELS PLAN-SHEET 2
C012813.09-C 53	FINISHED LEVELS PLAN-SHEET 3
C012813.09-C 54	FINISHED LEVELS PLAN-SHEET 4
C012813.09-C 55	DRIVEWAY LONG SECTION & TYPICAL CROSS SECTION
C012813.09-C 60	RETAINING WALL DETAILS
C012813.09-C 61	RETAINING WALL PLAN-SHEET 1
C012813.09-C 62	RETAINING WALL PLAN-SHEET 2
C012813.09-C 63	RETAINING WALL PLAN-SHEET 3
C012813.09-C 64	RETAINING WALL PLAN-SHEET 4
C012813.09-C 65	RETAINING WALL ELEVATIONS-SHEET 1
C012813.09-C 66	RETAINING WALL ELEVATIONS-SHEET 2

GENERAL NOTES :

- G1
- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANT'S 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.



SITE LOCALITY PLAN
N.T.S

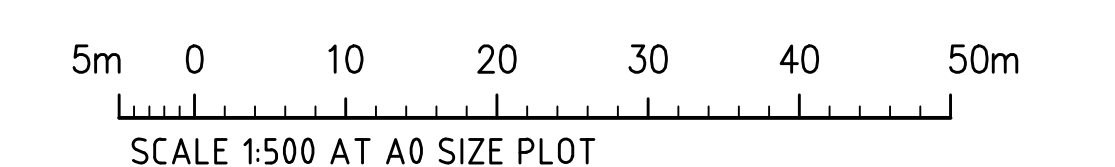
FOR TENDER

NOTE :

THESE DRAWINGS ARE ISSUED FOR THE PURPOSE OF PROVIDING THE CIVIL CONCEPT ONLY FOR THE DESIGN AND CONSTRUCT TENDER

THIS IS NOT DETAILED DESIGN.

THE CIVIL DETAILS SHALL BE SUBJECT TO CHANGE DURING THE DETAILED DESIGN STAGE.



MODEL STRUCTURAL PAVEMENT THICKNESS
REFER TO DRAWING C32

EARTHWORKS VOLUMES
REFER TO DRAWING C32

SITE PREPARATION NOTES :
REFER TO DRAWING C32

DEPTH RANGE			
No.	FROM DEPTH	TO DEPTH	COLOUR
1	-6.000	-5.500	
2	-5.500	-5.000	
3	-5.000	-4.500	
4	-4.500	-4.000	
5	-4.000	-3.500	
6	-3.500	-3.000	
7	-3.000	-2.500	
8	-2.500	-2.000	
9	-2.000	-1.500	
10	-1.500	-1.000	
11	-1.000	-0.500	
12	-0.500	0.000	
13	0.000	0.500	
14	0.500	1.000	
15	1.000	1.500	
16	1.500	2.000	
17	2.000	2.500	
18	2.500	3.000	
19	3.000	3.500	
20	3.500	4.000	
21	4.000	4.500	
22	4.500	5.000	
23	5.000	5.500	
24	5.500	6.000	
25	6.000	6.500	
26	6.500	7.000	

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LEGEND

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION
PROVIDED BY REALSERVE DATED 06.09.21

— 60 — EXISTING CONTOUR

— 30.50 — B.E.L. CONTOUR (MAJOR - 0.5m)

— 30.40 — B.E.L. CONTOUR (MINOR - 0.1m)

PAVEMENT FFL
PAVEMENT
BASE/SUBBASE
COURSES
SUBGRADE
NOMINATED B.E. LEVEL

DEPTH OF PAVEMENT.
REFER TO STRUCTURAL
PLANS FOR DETAILS.

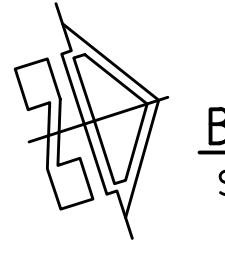
NOMINATED B.E.L. DETAIL
N.T.S.

RETAINING WALL 4
PILE WALL IN CUT
MAX HEIGHT = 4.8m
REFER TO DRAWING C60

RETAINING WALL 2
REINFORCED EARTH
KEYSTONE WALL IN FILL
MAX HEIGHT = 4.6m
REFER TO DRAWING C60

RETAINING WALL 5
REINFORCED EARTH
KEYSTONE WALL IN FILL
MAX HEIGHT = 2.8m
REFER TO DRAWING C60

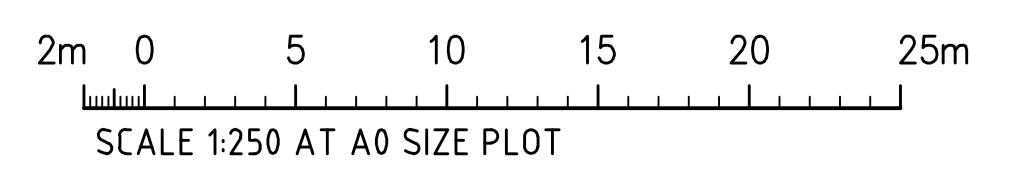
RETAINING WALL 1
REINFORCED EARTH
KEYSTONE WALL IN FILL
MAX HEIGHT = 4.4m
REFER TO DRAWING C60

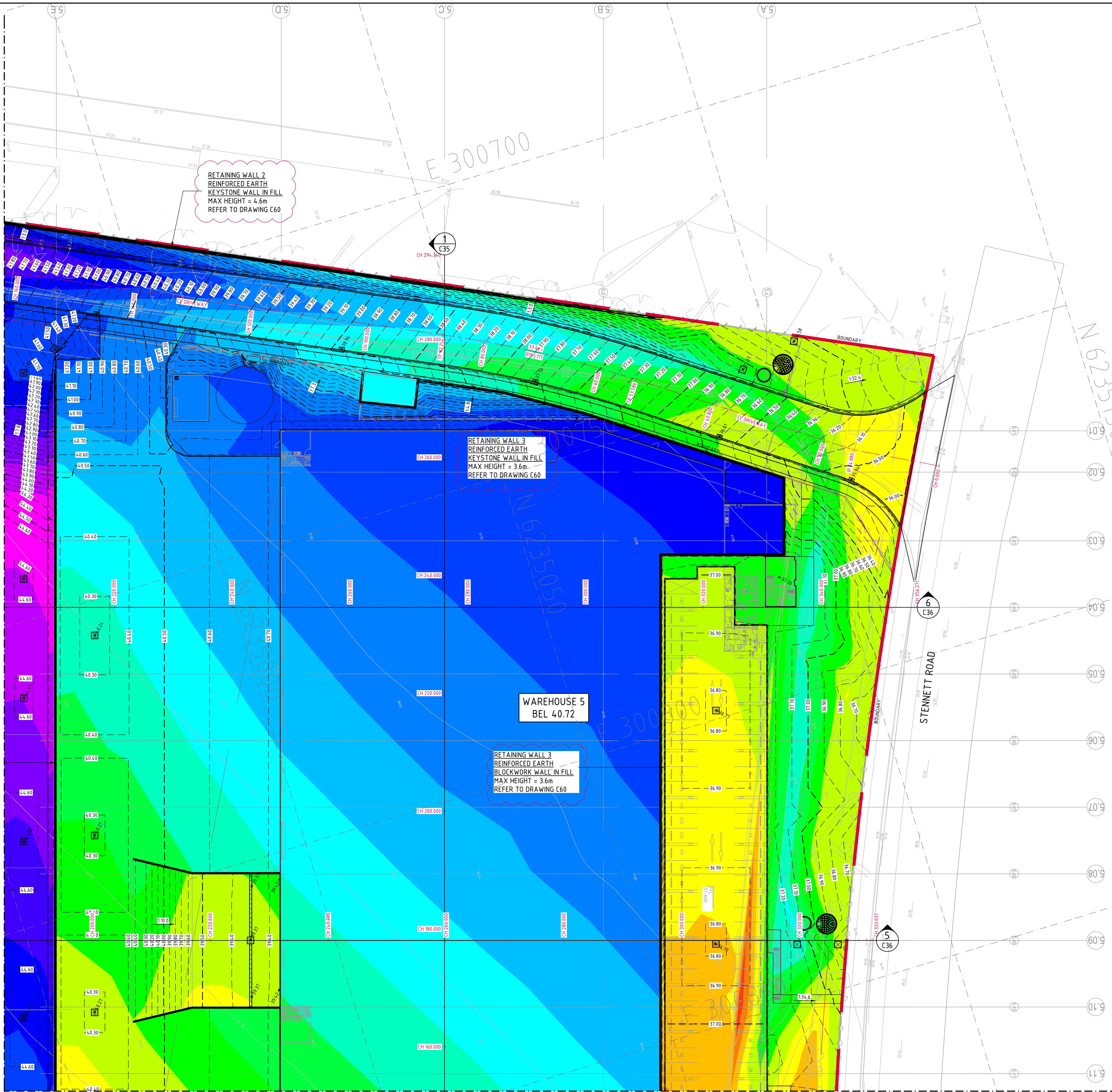


BULK EARTHWORKS PLAN-SHEET 1
SCALE 1:250

BREAKLINE - REFER TO DRAWING C33 FOR CONTINUATION

BREAKLINE - REFER TO DRAWING C32 FOR CONTINUATION





- SITE PREPARATION NOTES:**
- ALL EARTHWORKS SHALL BE COMPLETED GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED BY THE GEOTECHNICAL REPORT 76582.06 PROVIDED BY DOUGLAS PARTNERS DATED 09/05/16.
 - EXISTING LEVELS ARE BASED ON INFORMATION PROVIDED BY REALSERVE SURVEYORS REF # 78889.3P DATED 06/09/21.
 - STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND DISPOSE OF FROM SITE OR STORE AS DIRECTED.
 - COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF +0mm/-10mm THROUGH BUILDING PADS/PAVEMENTS AND +0mm/-20mm ELSEWHERE.
 - PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO FACILITATE FILL PLACEMENT AND COMPACTION.
 - AREAS TO RECEIVE FILL (THAT ARE NOT ON BENCHED BATTERS) AND AREAS IN CUT SHALL BE PROOF ROLLED TO IDENTIFY ANY SOFT HEAVING MATERIAL. SOFT MATERIAL SHALL BE BOXED OUT AND REMOVED PRIOR TO FILL PLACEMENT. PROOF ROLLING TO BE INSPECTED BY A GEOTECHNICAL ENGINEER OR THE EARTHWORKS DESIGNER.
 - SITE WON FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HLF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HLF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
 - IMPORTED FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HLF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HLF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
 - ALL ENGINEERED FILL PARTICLES SHALL BE ABLE TO BE INCORPORATED WITHIN A SINGLE LAYER. FURTHER, LESS THAN 30% OF PARTICLES SHALL BE RETAINED ON THE 37.5 MM SIEVE. ENGINEERED FILL SHALL BE ABLE TO BE TESTED IN ACCORDANCE WITH THE STANDARD COMPACTION METHOD (AS1289.5.4.1) OR HLF TEST METHOD (AS1289.5.7.1). THESE METHODS REQUIRE LESS THAN 20% RETAINED ON THE 37.5 MM SIEVE. WHERE BETWEEN 20% AND 30% OF PARTICLES ARE RETAINED ON THE 37.5 MM SIEVE THE ABOVE TEST METHODS SHALL STILL BE ADOPTED AND TEST REPORTS ANNOTATED APPROPRIATELY. THESE REQUIREMENTS SHOULD BE MET BY THE MATERIAL AFTER PLACEMENT AND COMPACTION.
 - ALL THE EARTHWORKS UNDERTAKEN AND THE SUBGRADE CONDITION IN THE CUT AREAS (IN THE STATED PERIOD) ARE DOCUMENTED IN THE REPORTS AND HAVE BEEN UNDERTAKEN IN ACCORDANCE WITH THE SPECIFICATION.
 - PRIOR TO ANY EARTHWORKS, EROSION CONTROL AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE COMPLETED.
 - EXISTING ROCK, IF ANY, SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING.
 - MATCH EXISTING LEVELS AT BATTER INTERFACE.
 - CONTRACTOR TO MATCH EXISTING LEVELS AT THE INTERFACE OF EARTHWORKS AND EXISTING SURFACE AT BATTER LOCATIONS OR WHERE NO RETAINING WALLS ARE PRESENT. ANY DISCREPANCY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS.
 - DURING EARTHWORKS THE CONTRACTOR IS TO ENSURE ALL AREAS ARE FREE DRAINING & WILL NOT RETAIN WATER DURING RAINFALL. PROVIDE TEMPORARY MEASURES AS REQUIRED TO ENSURE FREE FLOWING RUNOFF THROUGH MANAGED DRAINAGE PATHS, DIVERSION DRAINS OR OTHER SUITABLE DISPOSAL METHOD AS AGREED DURING THE WORKS. REFER ANY CONCERNS TO THE ENGINEER. REFER TO EROSION AND SEDIMENT CONTROL DRAWINGS AND NOTES.

LEGEND

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY REALSERVE DATED 06.09.21

— 60 — - EXISTING CONTOUR

— 30.50 — - EXISTING SPOT HEIGHT

— 30.50 — - B.E.L. CONTOUR (MAJOR - 0.5m)

— 30.40 — - B.E.L. CONTOUR (MINOR - 0.1m)

PAVEMENT
BASE/SUBBASE COURSES
SUBGRADE

PAVEMENT FFL
DEPTH OF PAVEMENT. REFER TO STRUCTURAL PLANS FOR DETAILS.

NOMINATED B.E. LEVEL

NOMINATED B.E.L. DETAIL
N.T.S.

EARTHWORKS VOLUMES

VOLUMES:

CUT = - 66 650 m³

FILL = + 127 000 m³

DETAILED EXCAVATION (700 m³/Ha) = 5 500 m³

RETAINING WALL BACKFILL = -12 500 m³

WAREHOUSE 4 BATTER SPOIL = -40 400 m³

BALANCE = +1950m³ (IMPORT)

EARTHWORK VOLUMES ARE APPROXIMATE ONLY & ARE CALCULATED ASSUMING NO TOPSOIL STRIP. NO ALLOWANCE HAS BEEN MADE FOR EROSION AND SEDIMENT CONTROL, BULKING, COMPACTION OF FILLED SOILS.

EROSION AND SEDIMENT CONTROL AS PER DRAWING DA20.

THE EXISTING SURFACE IS BASED ON SURVEY & DESIGN INFORMATION PROVIDED. THIS SURVEY IS MOST CURRENT HOWEVER IT MAY NOT ACCURATELY REFLECT ACTUAL GROUND LEVELS OR STOCKPILES ETC ON SITE. IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM VOLUMES AND ALLOWANCES FOR EARTHWORKS.

MODEL STRUCTURAL PAVEMENT THICKNESS

WAREHOUSE PAD	280mm
OFFICE PAD	100mm
EXTERNAL HARDSTAND	280mm
CARPARK	280mm
SPRINKLER TANK	300mm
PUMP ROOM	280mm
FOOTPATHS	150mm
LANDSCAPING	150mm

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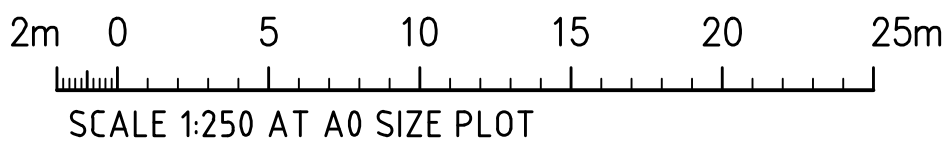
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FOR TENDER



MODEL STRUCTURAL PAVEMENT THICKNESS
REFER TO DRAWING C32

EARTHWORKS VOLUMES
REFER TO DRAWING C32

SITE PREPARATION NOTES :
REFER TO DRAWING C32

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LEGEND

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EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION
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— 60 — - EXISTING CONTOUR

— 30.50 — - EXISTING SPOT HEIGHT

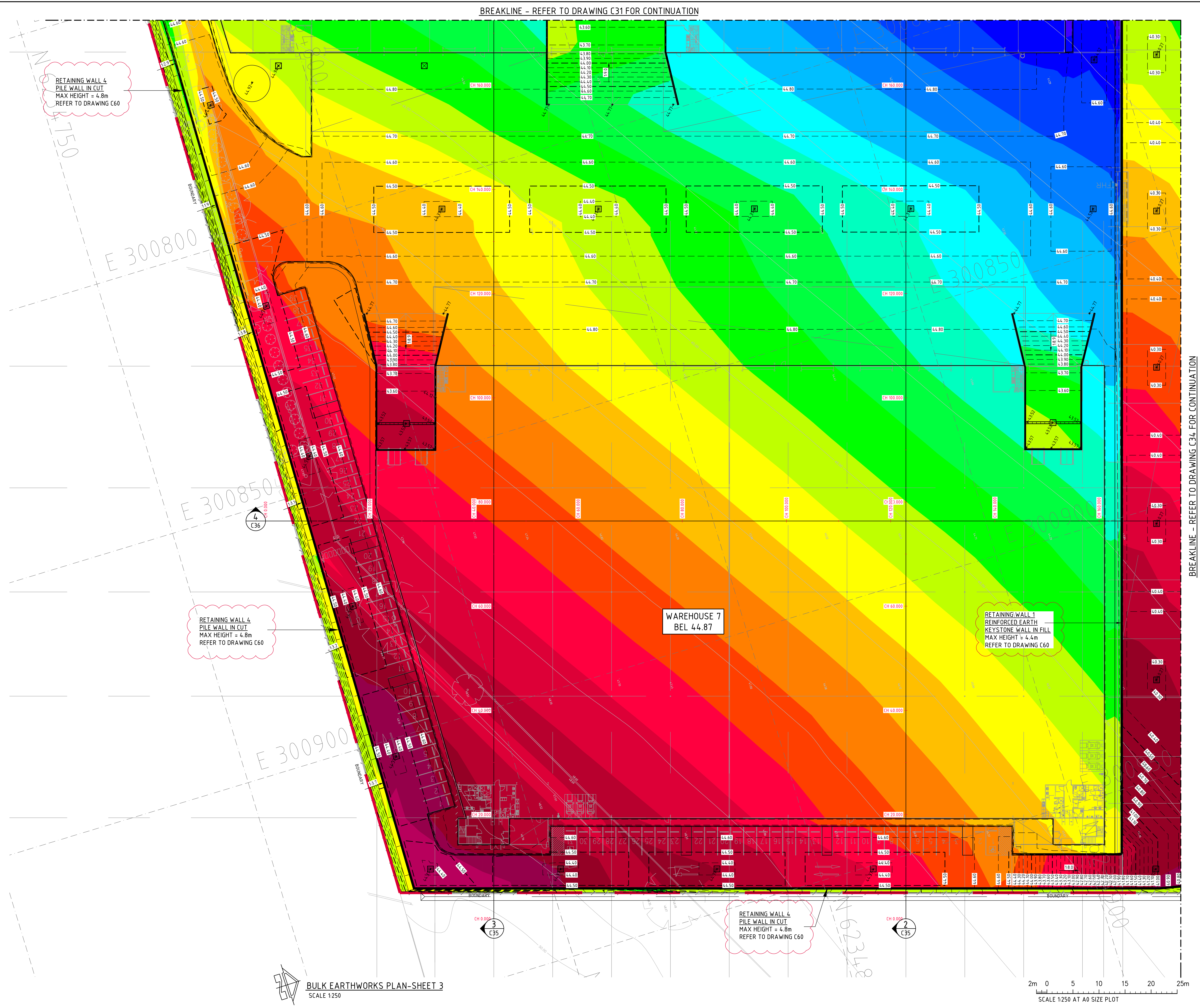
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PAVEMENT
BASE/ SUBBASE
COURSES
SUBGRADE
NOMINATED B.E. LEVEL

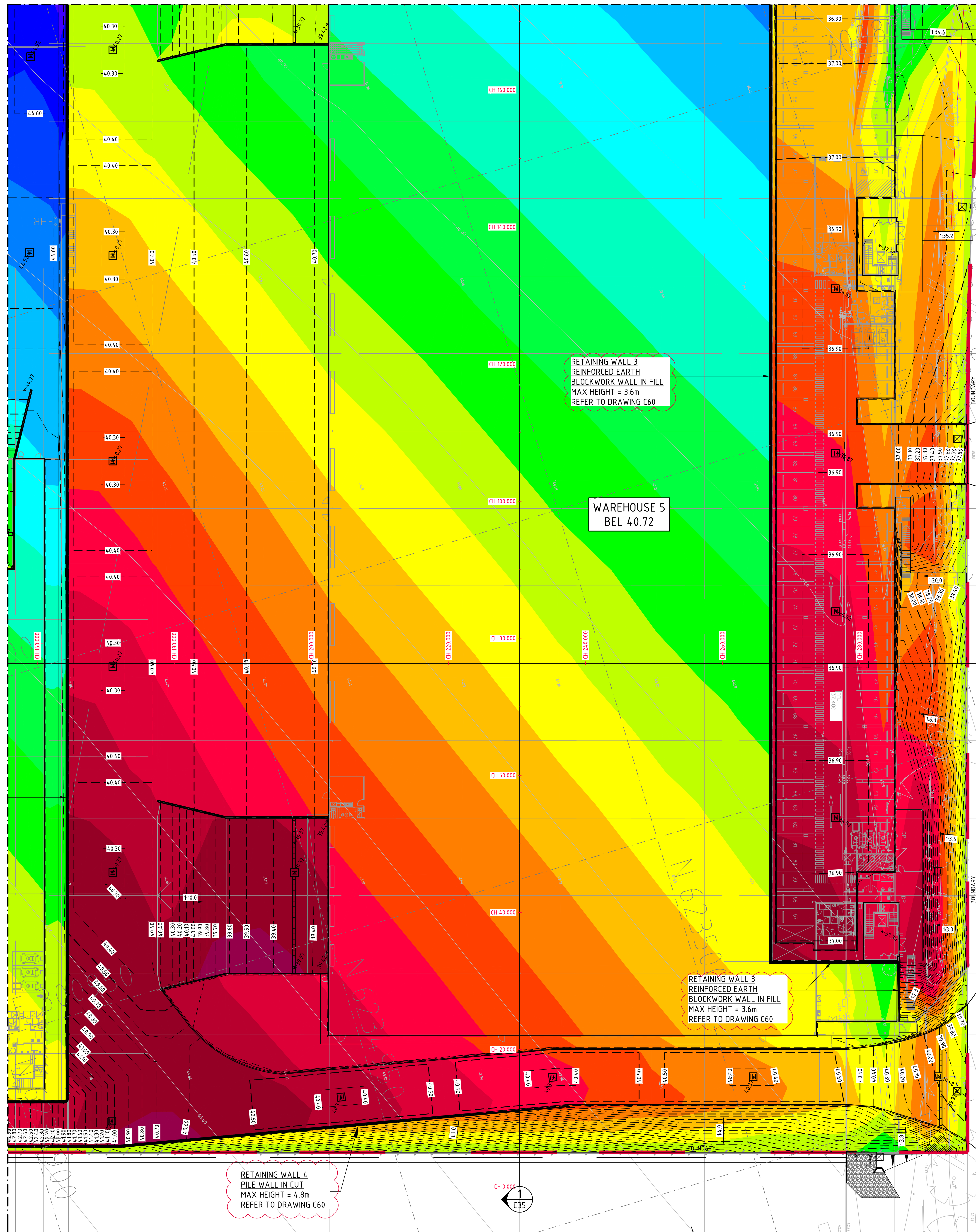
DEPTH OF PAVEMENT.
REFER TO STRUCTURAL
PLANS FOR DETAILS.

NOMINATED B.E.L. DETAIL
N.T.S.



BREAKLINE - REFER TO DRAWING C32 FOR CONTINUATION

BREAKLINE - REFER TO DRAWING C33 FOR CONTINUATION



MODEL STRUCTURAL PAVEMENT THICKNESS
REFER TO DRAWING C32

EARTHWORKS VOLUMES
REFER TO DRAWING C32

SITE PREPARATION NOTES :
REFER TO DRAWING C32

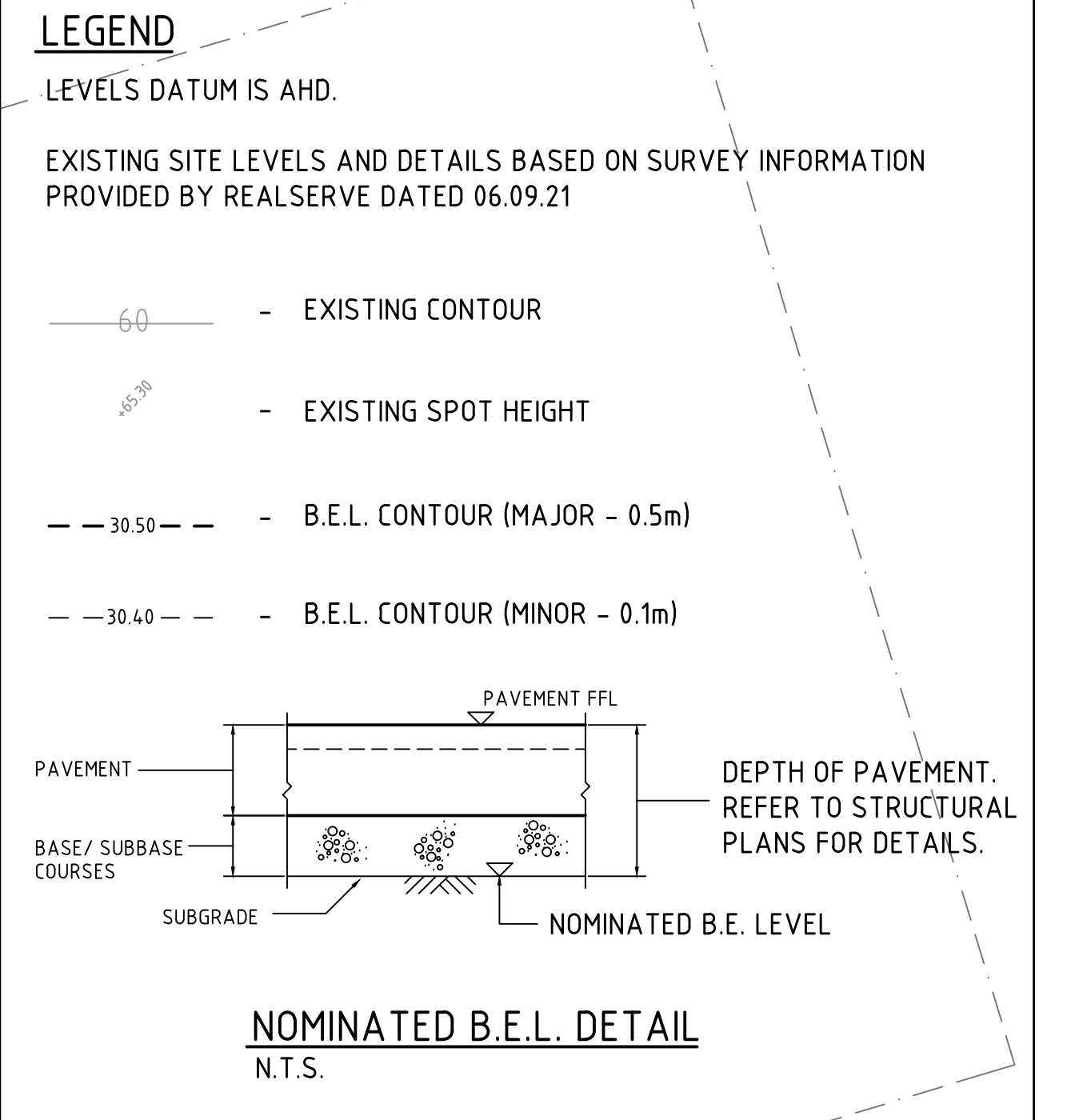
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No.	FROM DEPTH	TO DEPTH	COLOUR
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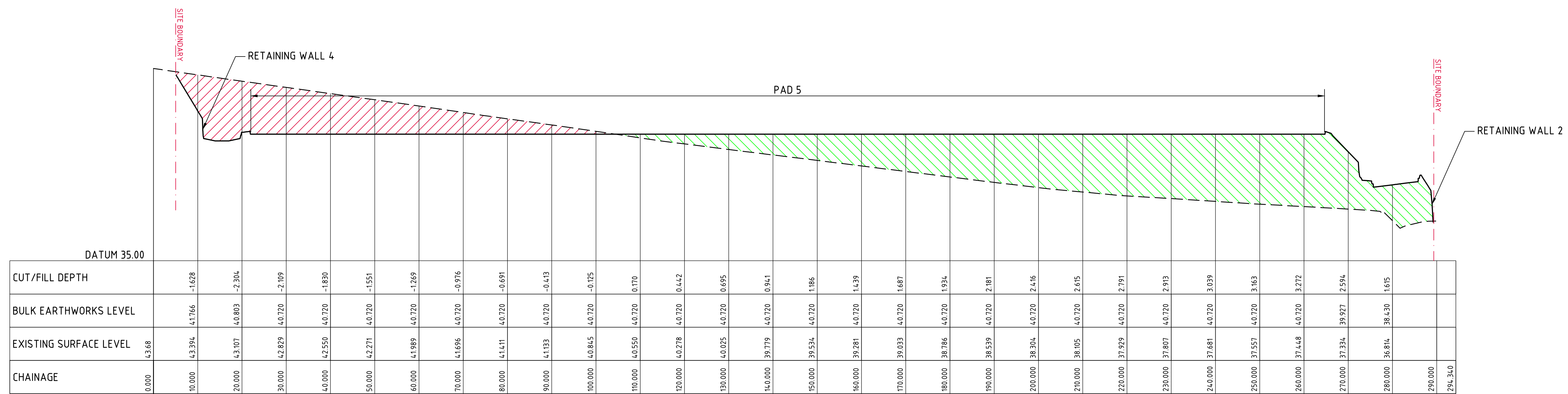
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FOR TENDER

BULK EARTHWORKS PLAN-SHEET 4
SCALE 1:250

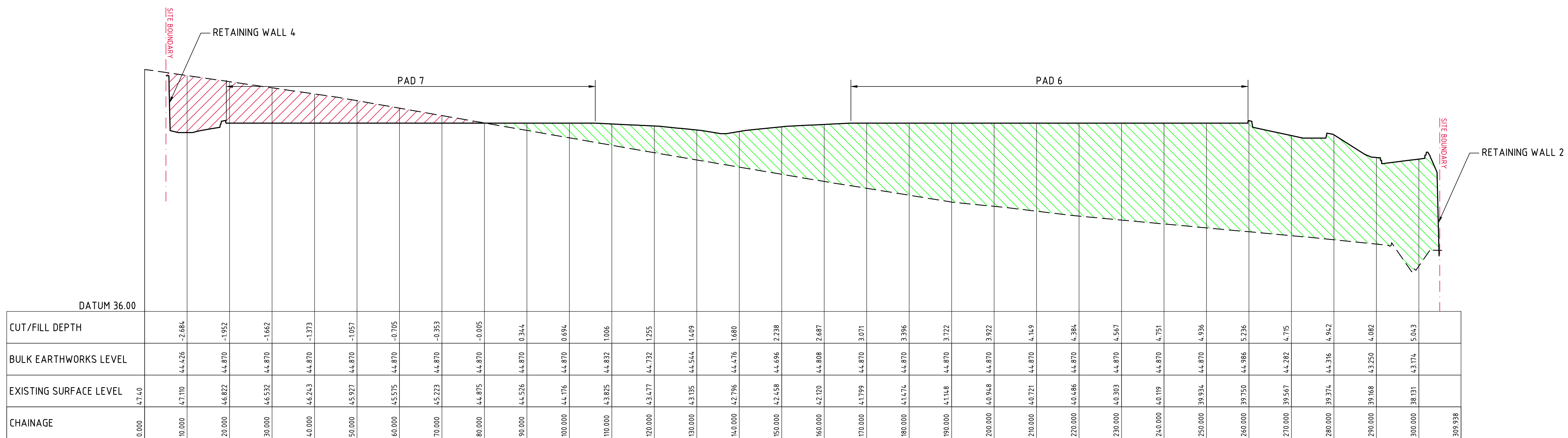
2m 0 5 10 15 20 25m
SCALE 1:250 AT A0 SIZE PLOT



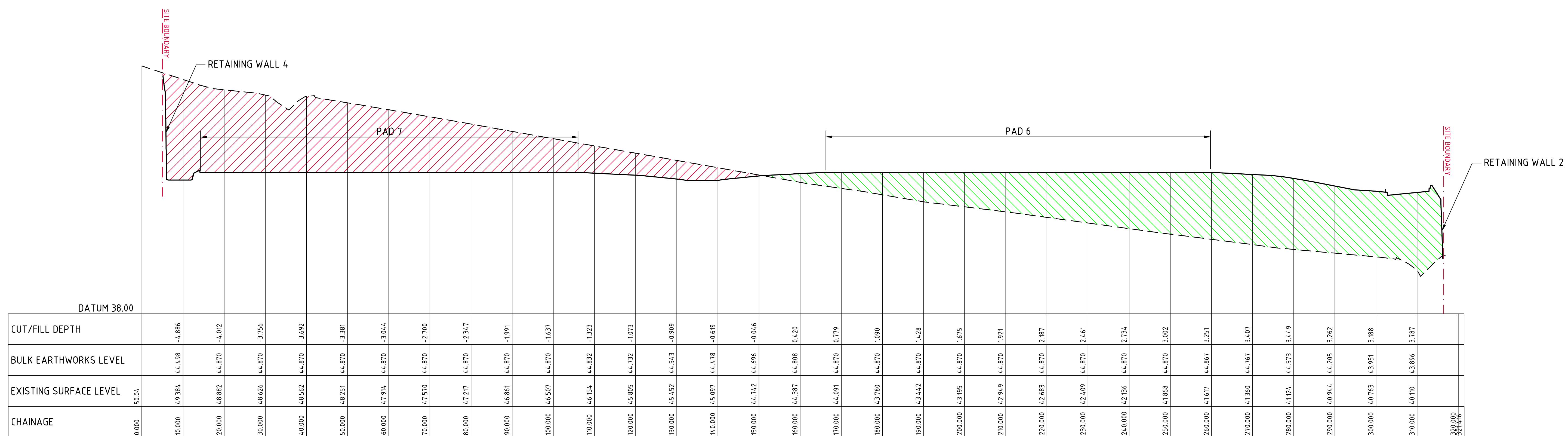
SECTION BULK EARTHWORKS 1
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

LEGEND:
LEVELS DATUM IS AHD.

- BULK EARTHWORKS PROFILE
- - - EXISTING SURFACE PROFILE
- AREA IN FILL
- AREA IN CUT



SECTION BULK EARTHWORKS 2
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



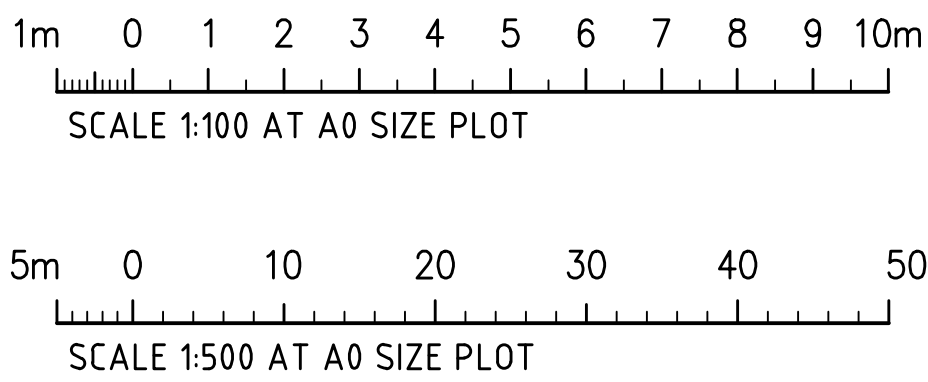
SECTION BULK EARTHWORKS 3
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

NOTE :

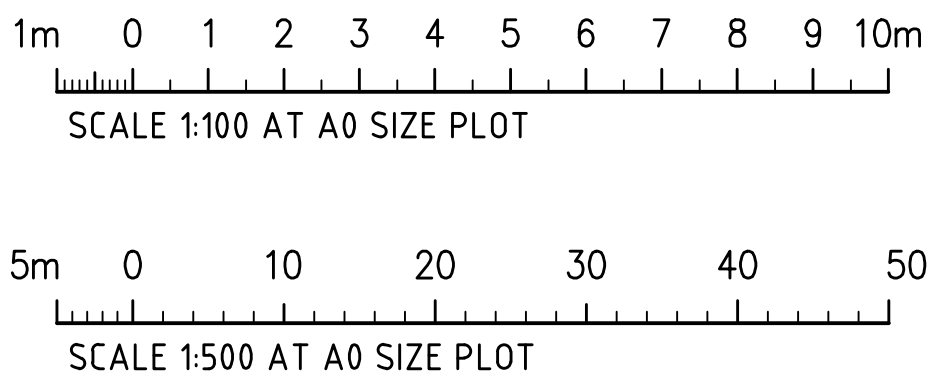
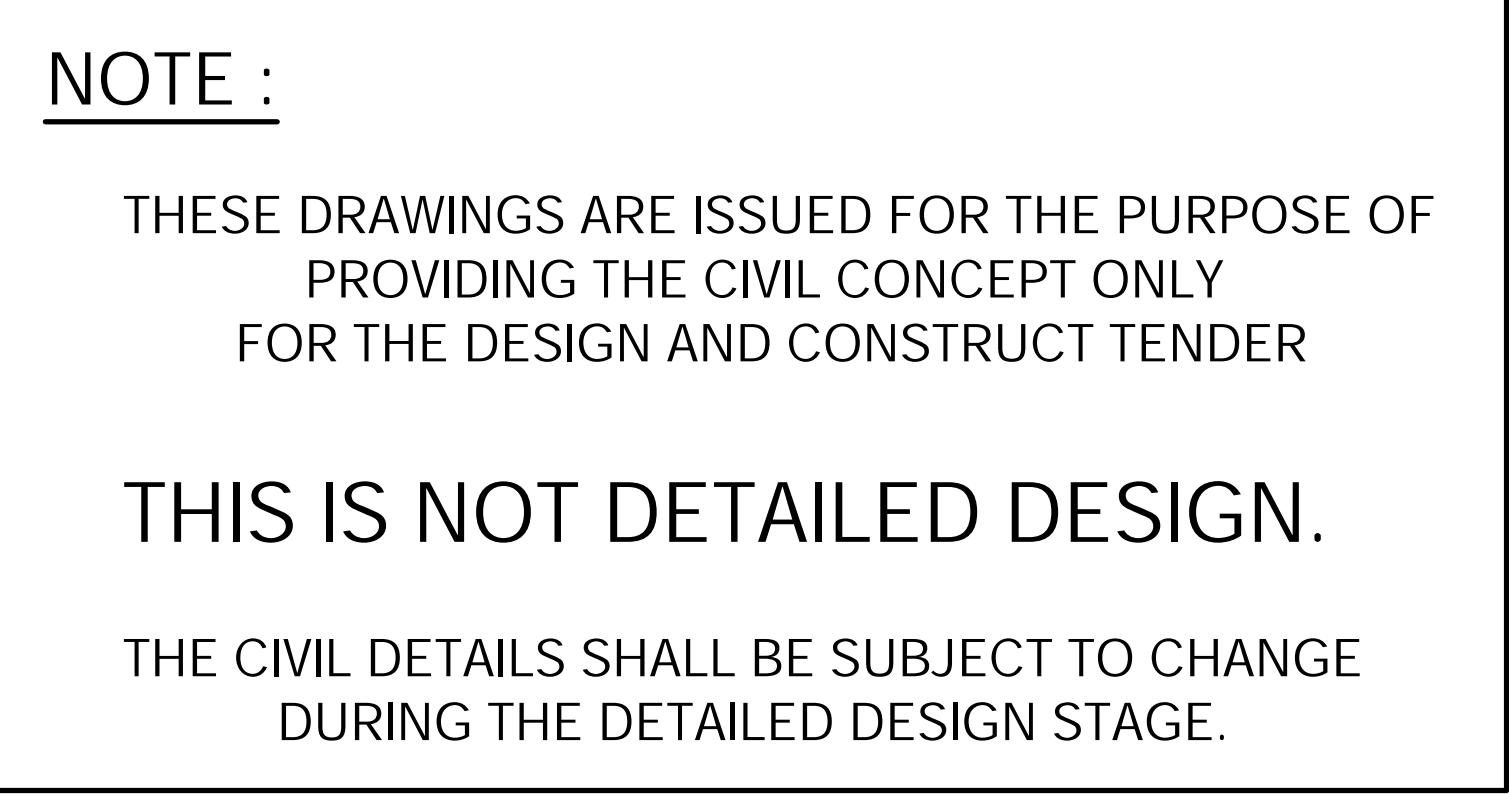
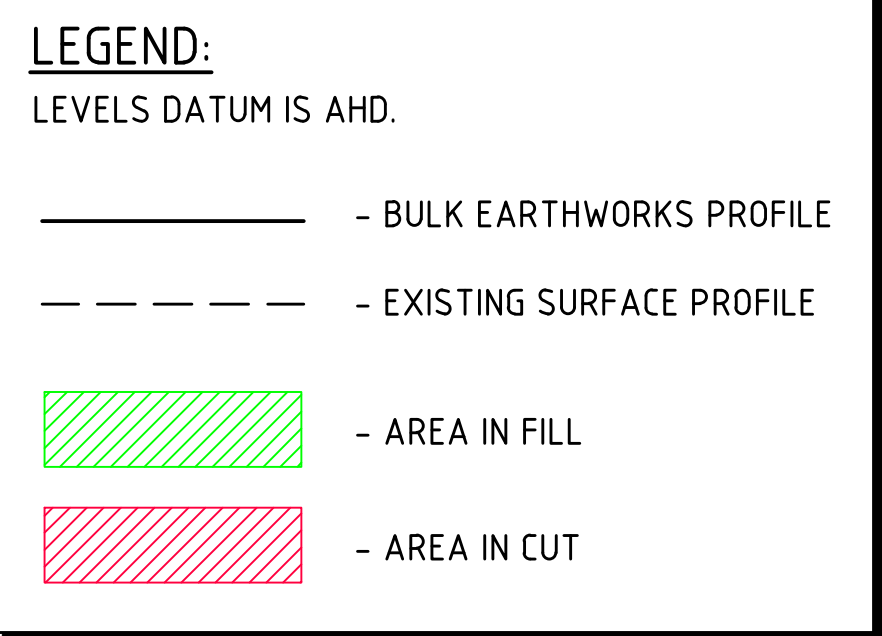
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FOR TENDER



FOR TENDER

						PROJECT nettletontribe <small>nettletontribe.com.au</small>			CLIENT  Stockland			PROJECT PROPOSED DEVELOPMENT WAREHOUSE 5, 6 & 7 35-47 STENNETT ROAD, INGLESBURN, NSW			 Costin Roe Consulting Pty Ltd. Consulting Engineers Level 4, 8 Windmill Street Walsh Bay, Sydney NSW 2000 Tel: (02) 9261-7899 Fax: (02) 9261-3731 email: mail@costinroe.com.au ©			<div> <div></div> <div>Costin Roe Consulting</div> </div> <div> PRECISION COMMUNICATION ACCOUNTABILITY </div>			DRAWING TITLE BULK EARTHWORKS SECTIONS SHEET 2		
ISSUED FOR TENDER AMENDMENTS			17.12.21 DATE ISSUE			AMENDMENTS DATE ISSUE			AMENDMENTS DATE ISSUE			DESIGNED DRAWN DATE CHECKED MW AUG 21 AS SHOWN CAD REF C012813.09-C36			DRAWING No C012813.09-C36						ISSUE A		

SHEET 1 - REFER TO DRG's C012813.09-C31, C41&C51

SHEET 2 - REFER TO DRG's C012813.09-C32, C42&C52

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SHEET 3 - REFER TO DRG's C012813.09-C33, C43&C53

SHEET 4 - REFER TO DRG's C012813.09-C34, C44&C54

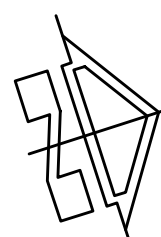
LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY
INFORMATION PROVIDED BY REALSERVE DATED JUNE 2021.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- PROPOSED DRAINAGE LINE
- EXISTING DRAINAGE LINE
- SUBSOIL LINE
- OVERLAND FLOW DIRECTION
- FINISHED PAVEMENT CONTOUR (MAJOR)
0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR)
0.1m INTERVALS

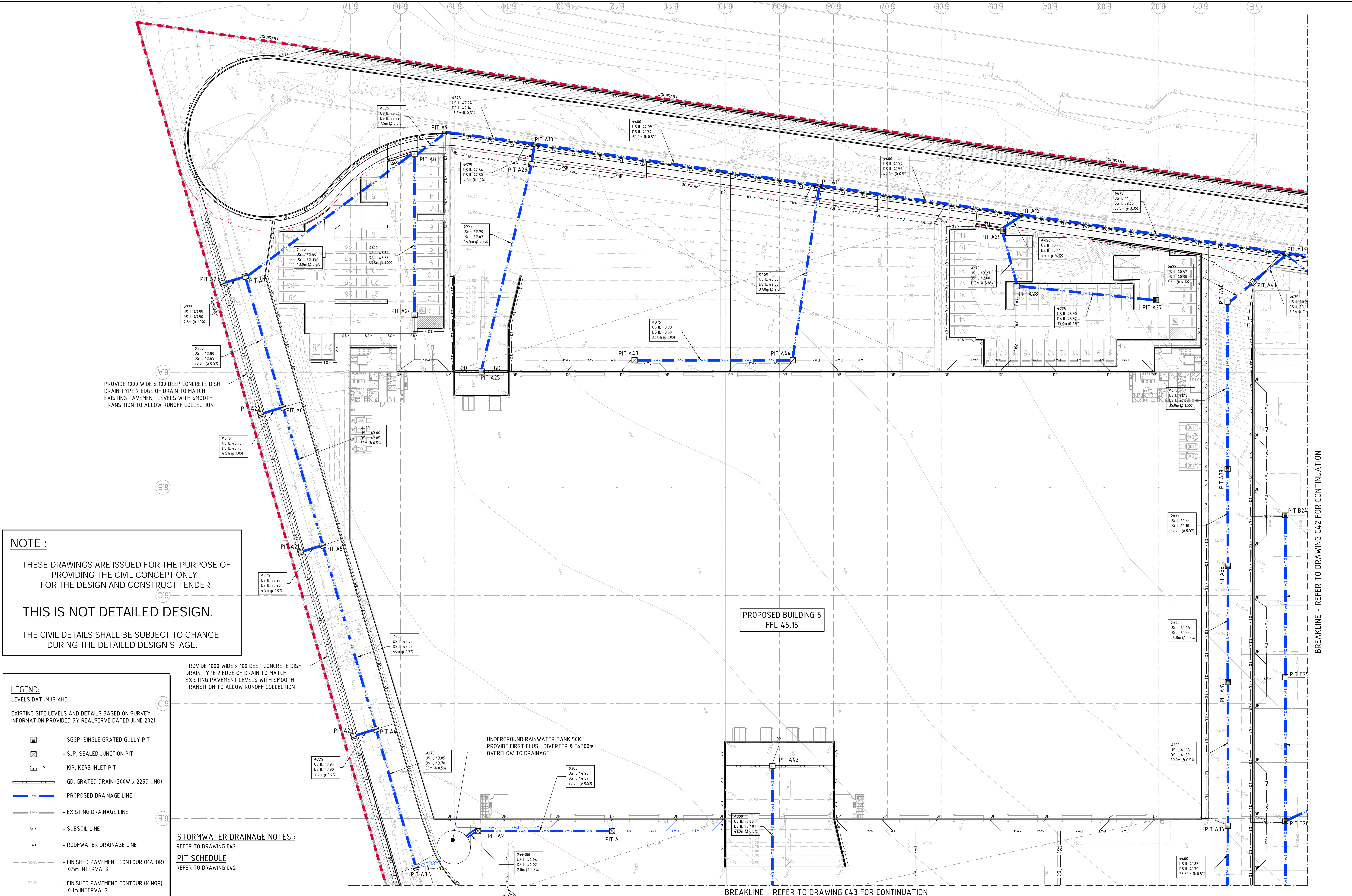
FOR TENDER



DRAWING KEY PLAN
SCALE 1:500

5m 0 10 20 30 40 50m
SCALE 1:500 AT A0 SIZE PLOT

ISSUED FOR TENDER ISSUED FOR INFORMATION AMENDMENTS			17.12.21 01.12.21 DATE			B A ISSUE			AMENDMENTS DATE ISSUE			ARCHITECT nettleontribe			CLIENT Stockland			PROJECT PROPOSED DEVELOPMENT WAREHOUSE 5, 6 & 7 35-47 STENNETT ROAD, INGLEBURN, NSW			DESIGNED MC CHECKED MC DATE AUG 21			SIZE A0 SCALE AS SHOWN			CADD REF: C012813.09-C40			Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Wahib Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3721 email: mail@costinroe.com.au			Costin Roe Consulting			DRAWING TITLE DRAWING KEY PLAN			DRAWING No C012813.09-C40			ISSUE A		
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NOTE :

THESE DRAWINGS ARE ISSUED FOR THE PURPOSE OF PROVIDING THE CIVIL CONCEPT ONLY FOR THE DESIGN AND CONSTRUCT TENDER

THIS IS NOT DETAILED DESIGN.

THE CIVIL DETAILS SHALL BE SUBJECT TO CHANGE DURING THE DETAILED DESIGN STAGE.

- LEGEND:**
LEVELS DATUM IS AHD.
- EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY REALSERVE DATED JUNE 2021.
- SGGP, SINGLE GRATED GULLY PIT
 - SJP, SEALED JUNCTION PIT
 - KIP, KERB INLET PIT
 - GD, GRATED DRAIN (300W x 225D UNO)
 - PROPOSED DRAINAGE LINE
 - EXISTING DRAINAGE LINE
 - SUBSOIL LINE
 - ROOFWATER DRAINAGE LINE
 - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
 - FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS

STORMWATER DRAINAGE NOTES :
REFER TO DRAWING C42

PIT SCHEDULE
REFER TO DRAWING C42

FOR TENDER

NOTE :

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DURING THE DETAILED DESIGN STAGE.

PIT SCHEDULE-SYSTEM A

PIT No.	GRATE/LID R.L.	DEPTH	TYPE	SIZE	COMMENT
PIT A1	45.13	900	SJP	900x900	
PIT A2	45.09	1050	SJP	900x900	
PIT A3	44.75	900	SGGP	900x900	
PIT A4	44.75	1000	SGGP	900x900	
PIT A5	44.25	1250	SGGP	900x900	
PIT A6	44.25	1450	SGGP	900x900	
PIT A7	44.25	1650	SGGP	900x900	
PIT A8	44.10	1770	SGGP	900x900	
PIT A9	43.88	1640	KIP	900x900	1800 ON GRADE LINTEL
PIT A10	43.80	1770	KIP	900x900	1800 SAG LINTEL
PIT A11	43.80	2060	KIP	900x900	1800 SAG LINTEL
PIT A12	43.51	2040	KIP	1200x1200	1800 ON GRADE LINTEL
PIT A13	41.10	1550	KIP	1200x1200	1800 ON GRADE LINTEL
PIT A14	39.22	1550	KIP	1200x1200	1800 ON GRADE LINTEL
PIT A15	38.04	1550	KIP	1200x1200	1800 ON GRADE LINTEL
PIT A16	36.89	1740	KIP	1200x1200	1800 ON GRADE LINTEL
PIT A17	37.22	2220	SGGP	1500x1500	900x900 RISER
PIT A18	NOT USED				
PIT A19	36.72	1980	SJP	1200x1200	900x900 RISER
PIT A20	44.85	900	SGGP	600x600	
PIT A21	44.25	900	SGGP	600x600	
PIT A22	44.25	900	SGGP	600x600	
PIT A23	44.25	900	SGGP	600x600	
PIT A24	44.89	1200	SGGP	900x900	
PIT A25	43.80	900	SGGP	900x900	
PIT A26	44.00	1360	SGGP	900x900	
PIT A27	44.80	900	SGGP	900x900	
PIT A28	44.22	950	SGGP	900x900	
PIT A29	43.80	1250	SGGP	900x900	
PIT A30	43.80	900	SGGP	900x900	
PIT A31	44.65	2010	SGGP	900x900	
PIT A32	44.65	2200	SGGP	900x900	
PIT A33	44.65	2400	SGGP	900x900	
PIT A34	44.65	2600	SGGP	900x900	
PIT A35	44.80	2950	SGGP	900x900	
PIT A36	44.80	3150	SGGP	900x900	
PIT A37	44.80	3350	SGGP	900x900	
PIT A38	44.85	3570	SGGP	900x900	
PIT A39	44.85	3720	SGGP	900x900	
PIT A40	42.12	1550	SGGP	1200x1200	900x900 RISER
PIT A41	41.80	1550	SGGP	1200x1200	900x900 RISER
PIT A42	36.22	1200	KIP	900x900	1800 SAG LINTEL
PIT A43	45.13	1200	SJP	900x900	1800 SAG LINTEL
PIT A44	45.13	1580	SJP	900x900	1800 SAG LINTEL

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY
INFORMATION PROVIDED BY REALSERVE DATED, JUNE 2021.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- PROPOSED DRAINAGE LINE
- EXISTING DRAINAGE LINE
- SUBSOIL LINE
- ROOFWATER DRAINAGE LINE
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS

STORMWATER DRAINAGE NOTES :

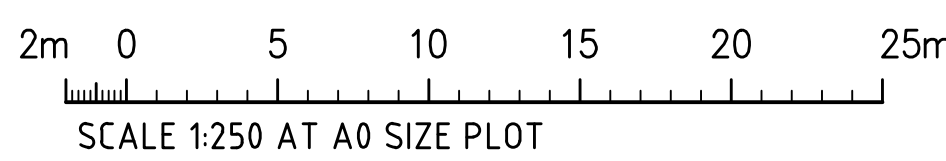
- ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3-2003 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE.
- THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 20 YEAR ARI STORM EVENT AND THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR ARI STORM EVENT. ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS C51 TO C54.
- PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
- EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
- ALL STORMWATER PIPES Ø375 OR GREATER SHALL BE CLASS 2 (WITH HS2 SUPPORT) REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
- ALL PIPES UP TO AND INCLUDING Ø300 TO BE uPVC GRADE SN8 UNO.
- PIPE CLASS NOMINATED ARE FOR IN-SERVICE LOADING CONDITIONS ONLY. CONTRACTOR IS TO MAKE ANY NECESSARY ADJUSTMENTS REQUIRED FOR CONSTRUCTION CONDITIONS.
- ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTERED IN WALL AND BASE. LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE Fc=25 MPa. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
- IN ADDITION TO ITEM 6 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
- 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 AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER SUITABLE TAMPING DETAILS.
- CONCRETE PIPES UNDER, OR WITHIN THE ZONE OF INFLUENCE OF PAVED AREAS SHALL BE LAID USING HS2 TYPE SUPPORT, AS A MINIMUM, IN ACCORDANCE WITH AS 3725. AGGREGATE BACKFILL SHALL NOT BE USED FOR PIPE BEDDING AND OR HAUNCH/SIDE SUPPORT.
- WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED Ø100 uPVC TO EACH SIDE OF PIPE.
- 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 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.
- ALL PIPE GRADES IN 200 MINIMUM UNO.
- PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
- MIN. 600 COVER TO PIPE OBVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
- PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY', THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' UNO.
- PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
- DOWN PIPES (DP) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP SIZE UNO. ON PLAN, PROVIDE CLEANING EYE AT GROUND LEVEL.
- 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.

PIT SCHEDULE-SYSTEM B

PIT No.	GRATE/LID R.L.	DEPTH	TYPE	SIZE	COMMENT
PIT B1	44.65	900	SGGP	900x900	
PIT B2	44.65	1100	SGGP	900x900	
PIT B3	44.65	1300	SGGP	900x900	
PIT B4	44.65	1500	SGGP	900x900	
PIT B5	44.65	1660	SGGP	900x900	
PIT B6	44.65	1840	SGGP	900x900	
PIT B7	44.65	2040	SGGP	900x900	
PIT B8	44.65	2240	SGGP	900x900	
PIT B9	41.31	4090	SGGP	1200x1200	900x900 RISER
PIT B10	40.65	3650	SGGP	1200x1200	900x900 RISER
PIT B11	40.65	3850	SGGP	1200x1200	900x900 RISER
PIT B12	40.65	4050	SGGP	1200x1200	900x900 RISER
PIT B13	40.27	3870	SGGP	1200x1200	900x900 RISER
PIT B14	38.10	1900	SGGP	1200x1200	900x900 RISER
PIT B15	37.10	1300	SGGP	1200x1200	900x900 RISER
PIT B16	37.10	1480	SGGP	1200x1200	900x900 RISER
PIT B17	37.15	1670	SGGP	1200x1200	900x900 RISER
PIT B18	37.10	1770	SGGP	1200x1200	900x900 RISER
PIT B19	37.05	1980	SGGP	1200x1200	900x900 RISER
PIT B20	37.30	2320	SGGP	1500x1500	900x900 RISER
PIT B21	36.80	2050	SJP	1500x1500	900x900 RISER
PIT B22	NOT USED		SJP	900x900	
PIT B23	NOT USED		SJP	900x900	
PIT B24	40.52	1500	SGGP	900x900	
PIT B25	40.55	1750	SGGP	900x900	
PIT B26	40.55	2300	SGGP	900x900	
PIT B27	40.55	2500	SGGP	900x900	
PIT B28	40.55	2700	SGGP	900x900	
PIT B29	40.55	2900	SGGP	1200x1200	900x900 RISER
PIT B30	40.55	3100	SGGP	1200x1200	900x900 RISER
PIT B31	39.65	1200	SGGP	900x900	
PIT B32	39.65	1200	SGGP	900x900	
PIT B33	37.05	1200	SGGP	900x900	

PIT SCHEDULE-SYSTEM C

PIT No.	GRATE/LID R.L.	DEPTH	TYPE	SIZE	COMMENT
PIT C1	42.00	3150	SJP	1200x1200	900x900 RISER
PIT C2	40.20	1550	SJP	1200x1200	900x900 RISER
PIT C3	37.95	1750	SJP	900x900	
PIT C4	37.50	1640	SJP	900x900	



STORMWATER DRAINAGE PLAN-SHEET 2
SCALE 1:250

FOR TENDER

ISSUED FOR TENDER 17.12.21 01.12.21 DATE		B A AMENDMENTS		DATE		ISSUE		AMENDMENTS		DATE		ISSUE	
ARCHITECT		CLIENT		PROJECT		DESIGNED		CHECKED		DATE		SCALE	
nettleontribe		Stockland		PROPOSED DEVELOPMENT WAREHOUSE 5, 6 & 7 35-47 STENNETT ROAD, INGLEBURN, NSW		ME		MW		AUG 21		A0	
COSTIN ROE CONSULTING PTY LTD.		COSTIN ROE CONSULTING PTY LTD.		Level 1, 8 Windmill Street Wahib Bay, Sydney NSW 2000		CAD		SIZE		AS SHOWN		C42	
PRECISION COMMUNICATION ACCOUNTABILITY		PRECISION COMMUNICATION ACCOUNTABILITY		DRAWING TITLE STORMWATER DRAINAGE PLAN SHEET 2		DRAWING NO. C012813.09-C42		ISSUE B					

BREAKLINE - REFER TO DRAWING C53 FOR CONTINUATION



STORMWATER DRAINAGE PLAN-SHEET 4








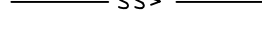


SCALE 1:250

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DURING THE DETAILED DESIGN STAGE.

LEVELS DATUM IS AHD.

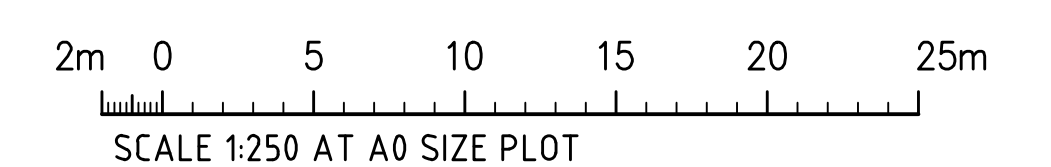
EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY
INFORMATION PROVIDED BY REALSERVE DATED JUNE 2021.

- | | |
|---|---|
|  | - SGGP, SINGLE GRATED GULLY PIT |
|  | - SJP, SEALED JUNCTION PIT |
|  | - KIP, KERB INLET PIT |
|  | - GD, GRATED DRAIN (300W X 225D UNO) |
|  | - PROPOSED DRAINAGE LINE |
|  | - EXISTING DRAINAGE LINE |
|  | - SUBSOIL LINE |
|  | - ROOFWATER DRAINAGE LINE |
|  | - FINISHED PAVEMENT CONTOUR (MAJOR)
0.5m INTERVALS |
|  | - FINISHED PAVEMENT CONTOUR (MINOR)
0.1m INTERVALS |

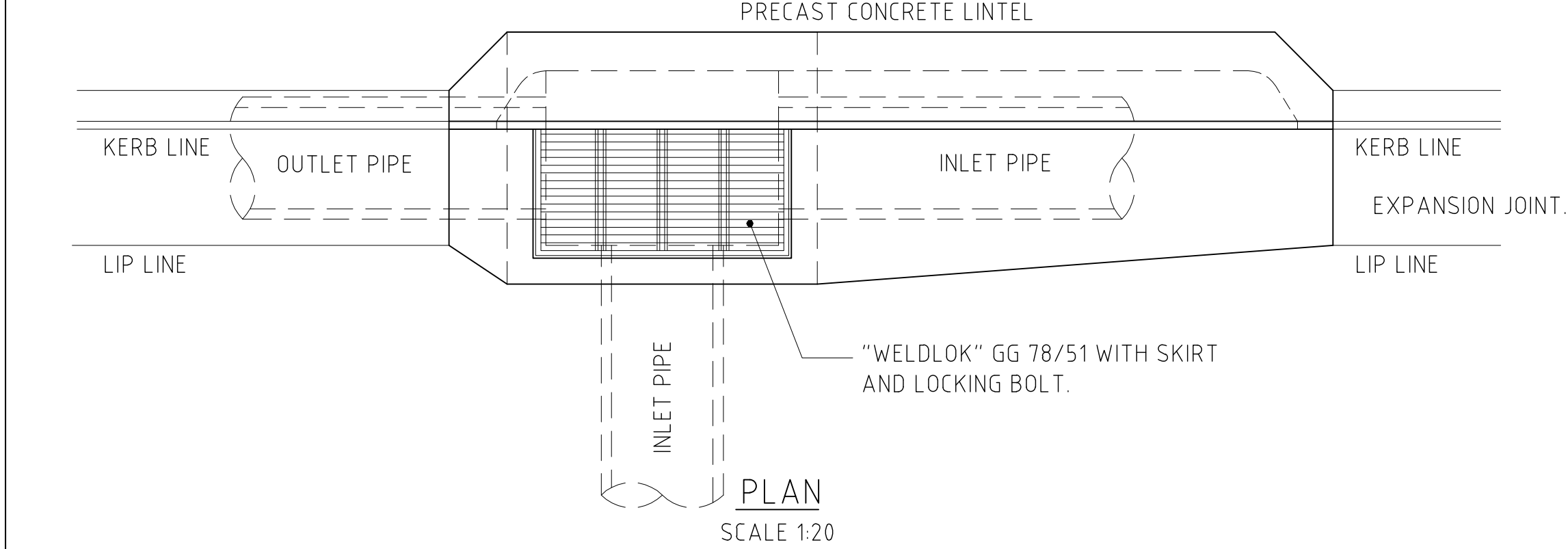
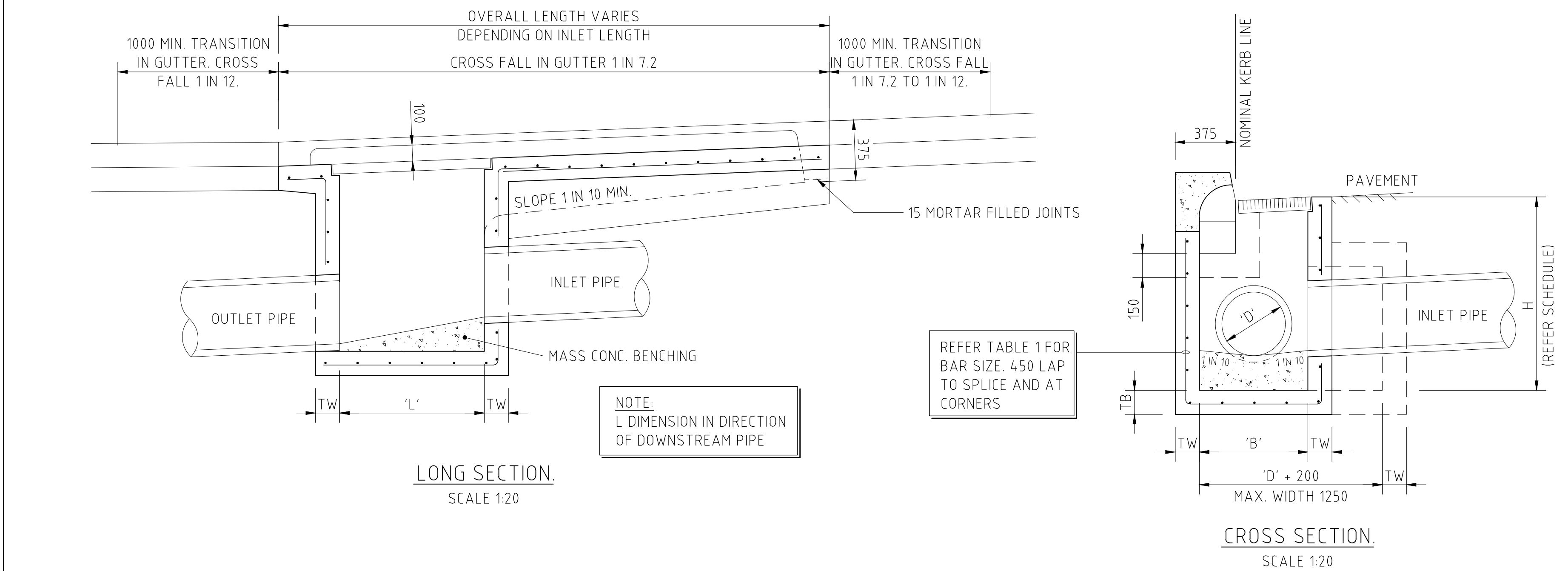
REFER TO DRAWING C42

PIT SCHEDULE

REFER TO DRAWING C42



										<div><div></div><div></div></div>										<div><div><div>PROJECT</div><div>PROPOSED DEVELOPMENT</div><div>WAREHOUSE 5, 6 & 7</div><div>35-47 STENNETT ROAD, INGLEBURN, NSW</div></div><div><div>DESIGNED</div><div>DRAWN</div><div>DATE</div><div>BY</div><div>CHECKED</div><div>DATE</div><div>BY</div><div>SCALE</div><div>SCALE</div><div>CAD REF</div><div>CO121813.09-C44</div></div></div>										<div><div><div>CLIENT</div><div>Costin Roe Consulting Pty Ltd.</div><div>Consulting Engineers</div><div>Level 1, 8 Windmill Street</div><div>Rahib Road, Sydney NSW 2000</div><div>Tel: (02) 9551-7999 Fax: (02) 9551-4321</div><div>email: mail@costinroe.com.au ©</div></div><div><div>DRAWING TITLE</div><div>STORMWATER DRAINAGE PLAN</div><div>SHEET 4</div></div></div>									
										<div><div><div>PRECISION</div><div>COMMUNICATION</div><div>ACCOUNTABILITY</div></div><div><div>DRAWING NO</div><div>CO121813.09-C44</div><div>ISSUE</div><div>B</div></div></div>																													



KERB INLET PIT - KIP

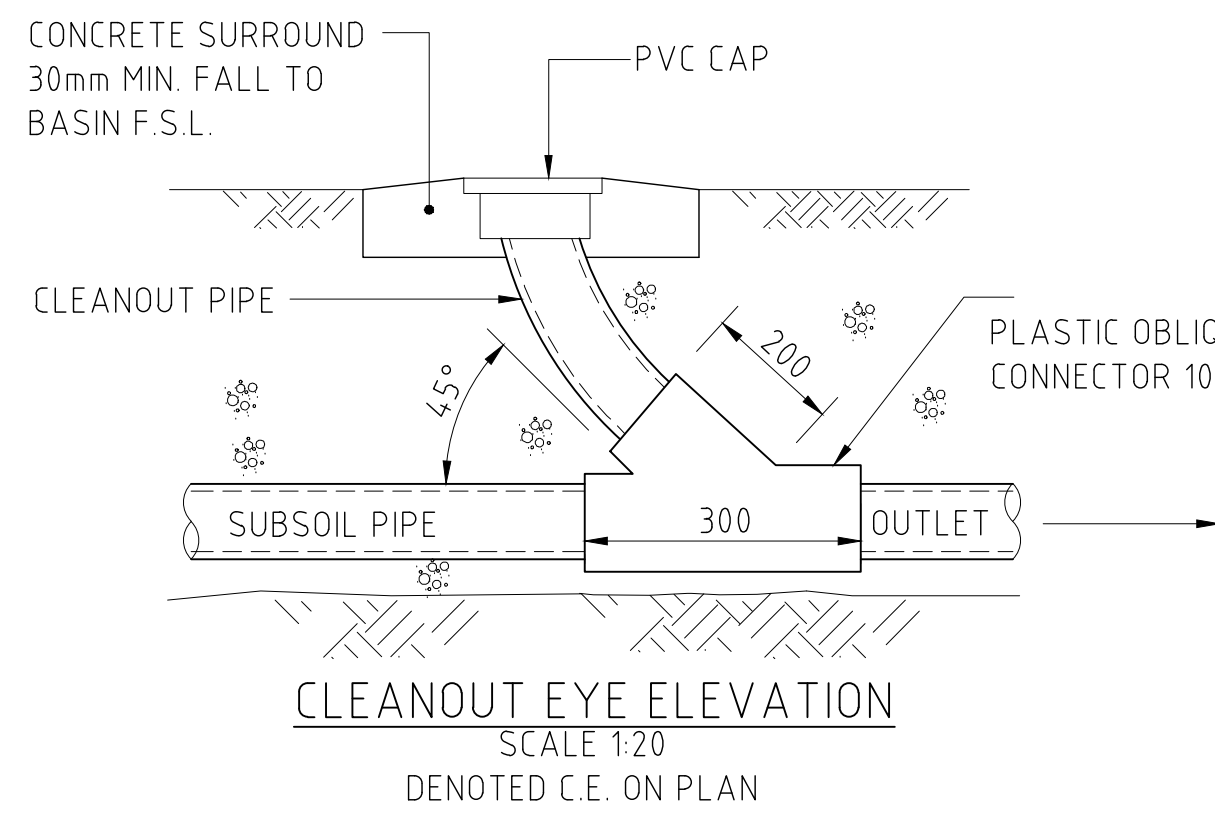
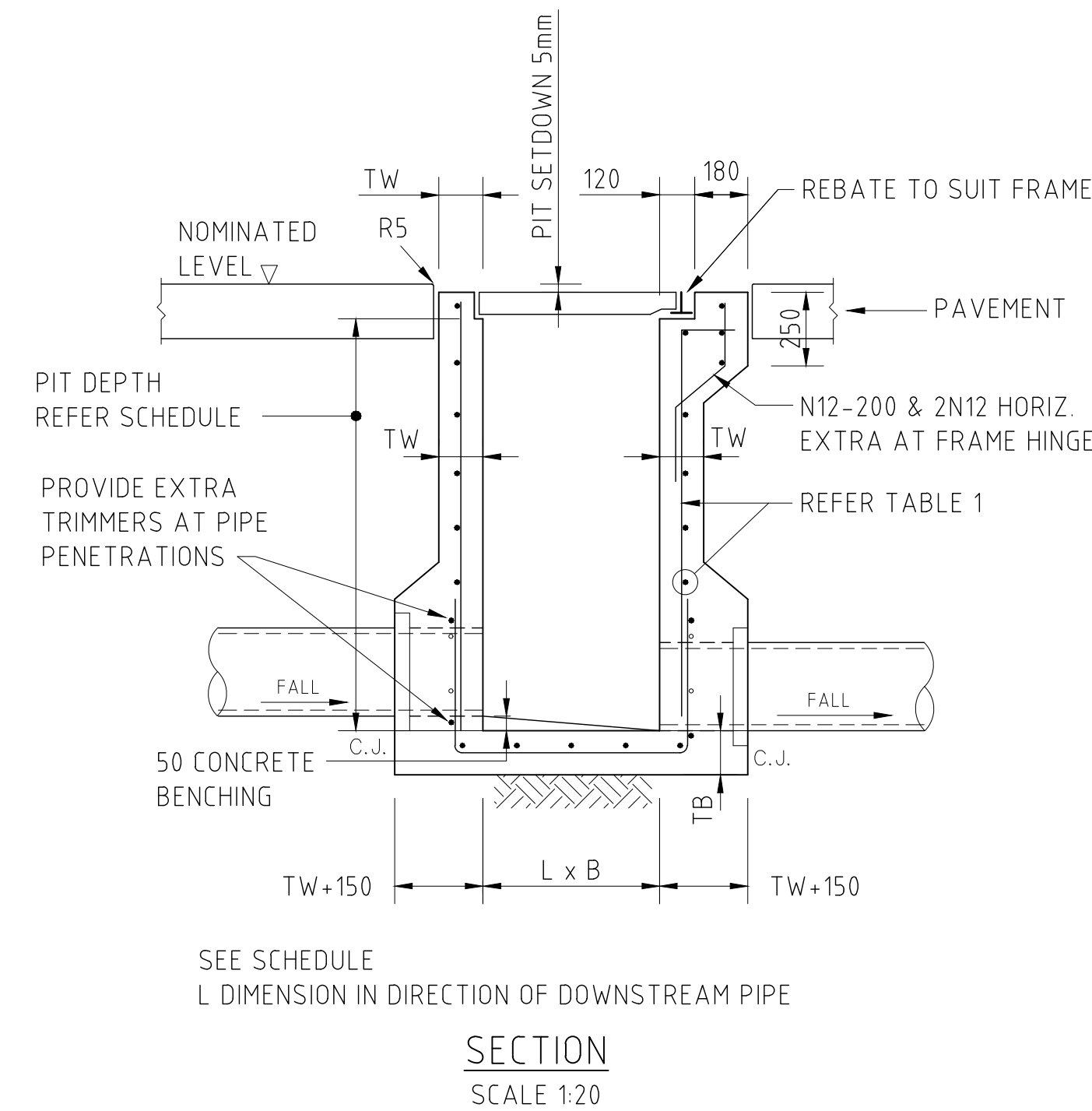
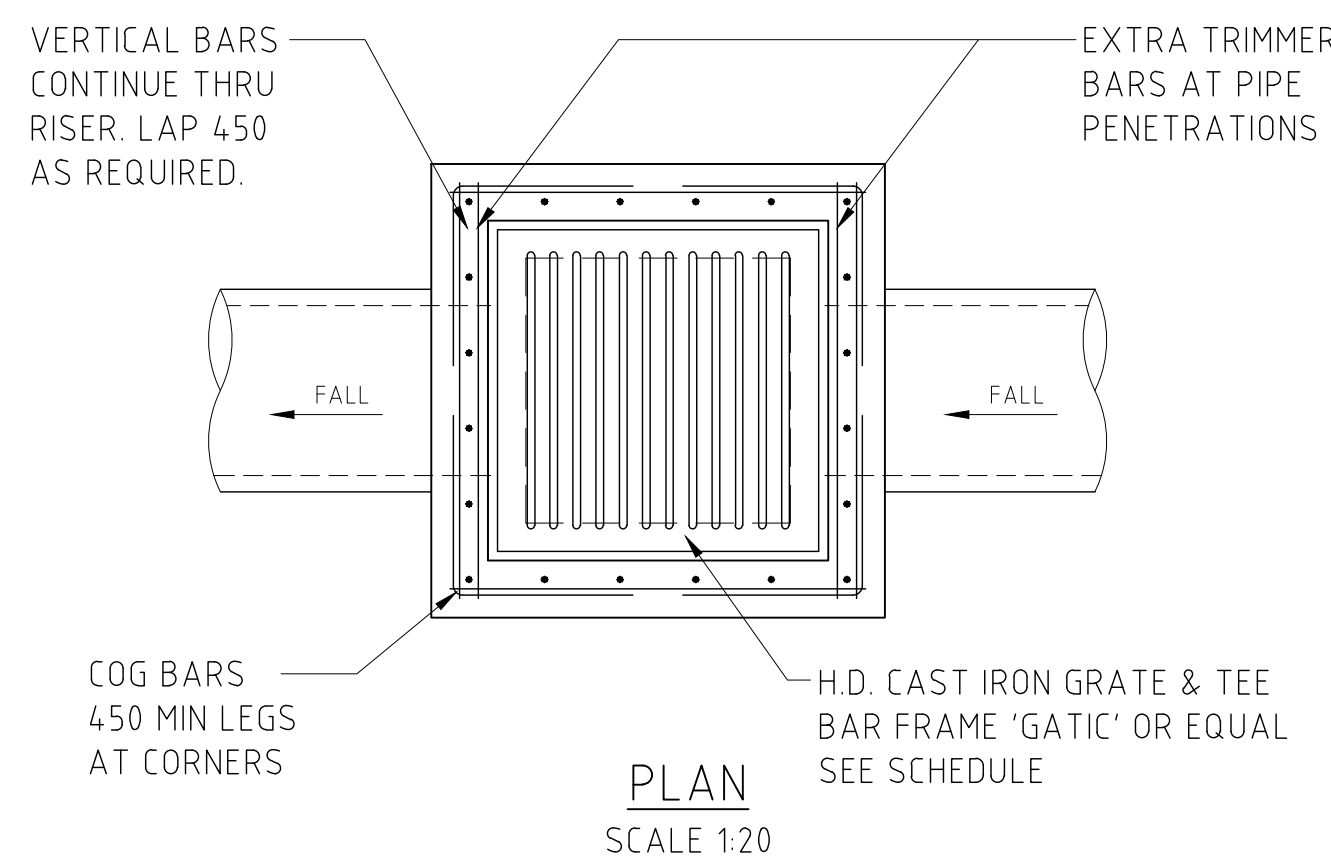


TABLE 3 - CLASS D <1200mm SQUARE PIT REINFORCEMENT & WALL THICKNESS				
DEPTH 'H'	WALL THICKNESS 'TW'	WALL REINFORCEMENT	BASE THICKNESS 'TB'	BASE REINFORCEMENT
< 1.0m	150mm	-	150mm	-
1.0m-3.0m	150mm	N12-200 EACH WAY	150mm	N12-200 EACH WAY
3.0m-4.5m	200mm	N12-200 EACH WAY	200mm	N12-200 EACH WAY
4.5-6.0	200mm	N16-200 EACH WAY	200mm	N16-200 EACH WAY

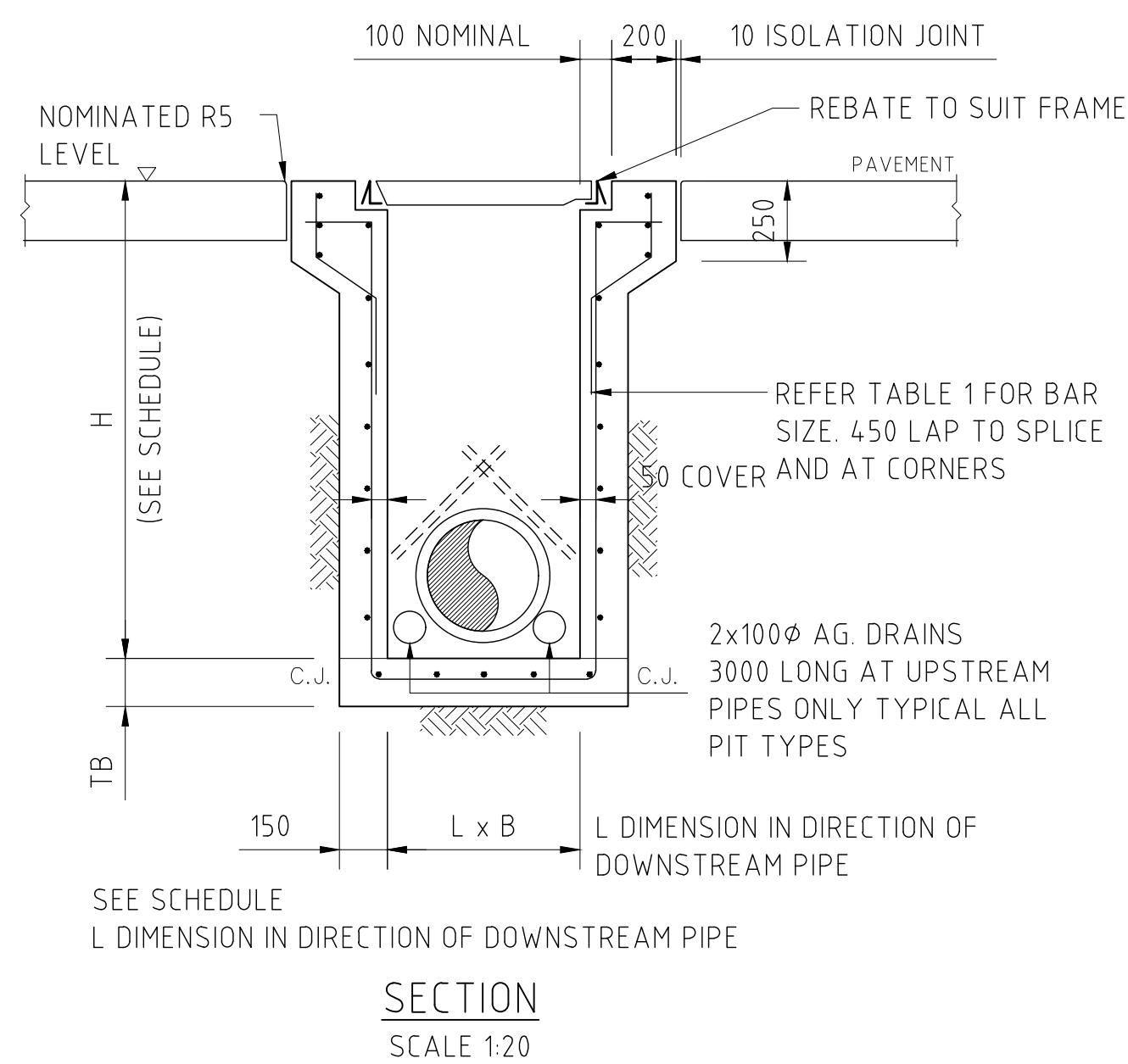
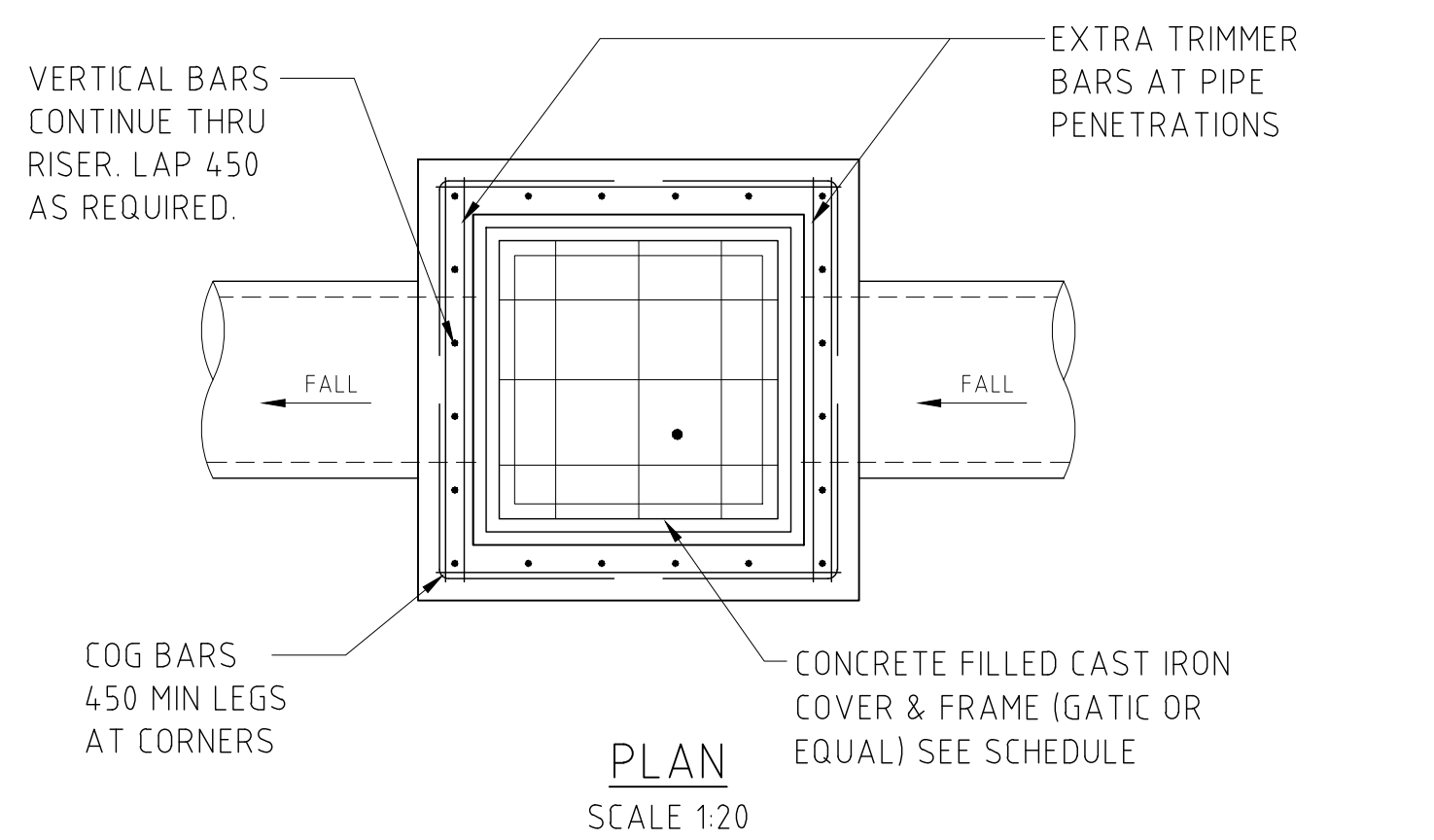
CONCRETE QUALITY				
ELEMENT	SLUMP	AGGREGATE (MAX SIZE)	CEMENT TYPE	AD MIXTURE F/C (MPa)
PIT	80	20	GP	NIL 32

NOTES:

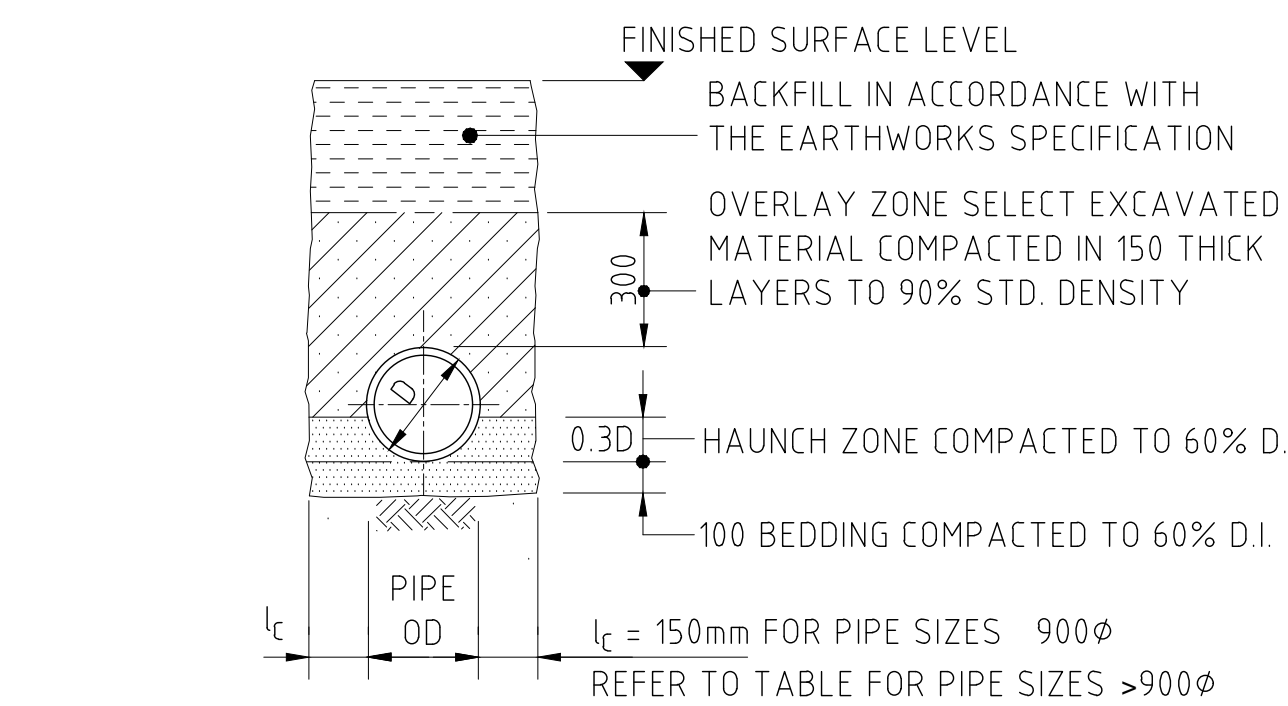
- WHERE GULLY PIT IS LOCATED ON KERB RETURNS OR BULB OF CUL-DE-SACS PROVIDE CURVED PRECAST CONCRETE LINTELS.
- SAG PITS SHALL HAVE LINTEL PLACED CENTRALLY ABOUT THE GRATE.
- ALL REINFORCING TO HAVE 30 MIN. CLAEK CONCRETE COVER.
- FOR PITS DEEPER THAN 1200mm CLIMB RAILS SHALL BE PROVIDED.



SINGLE GRATED GULLY PIT - SGGP



SEALED PIT - SP

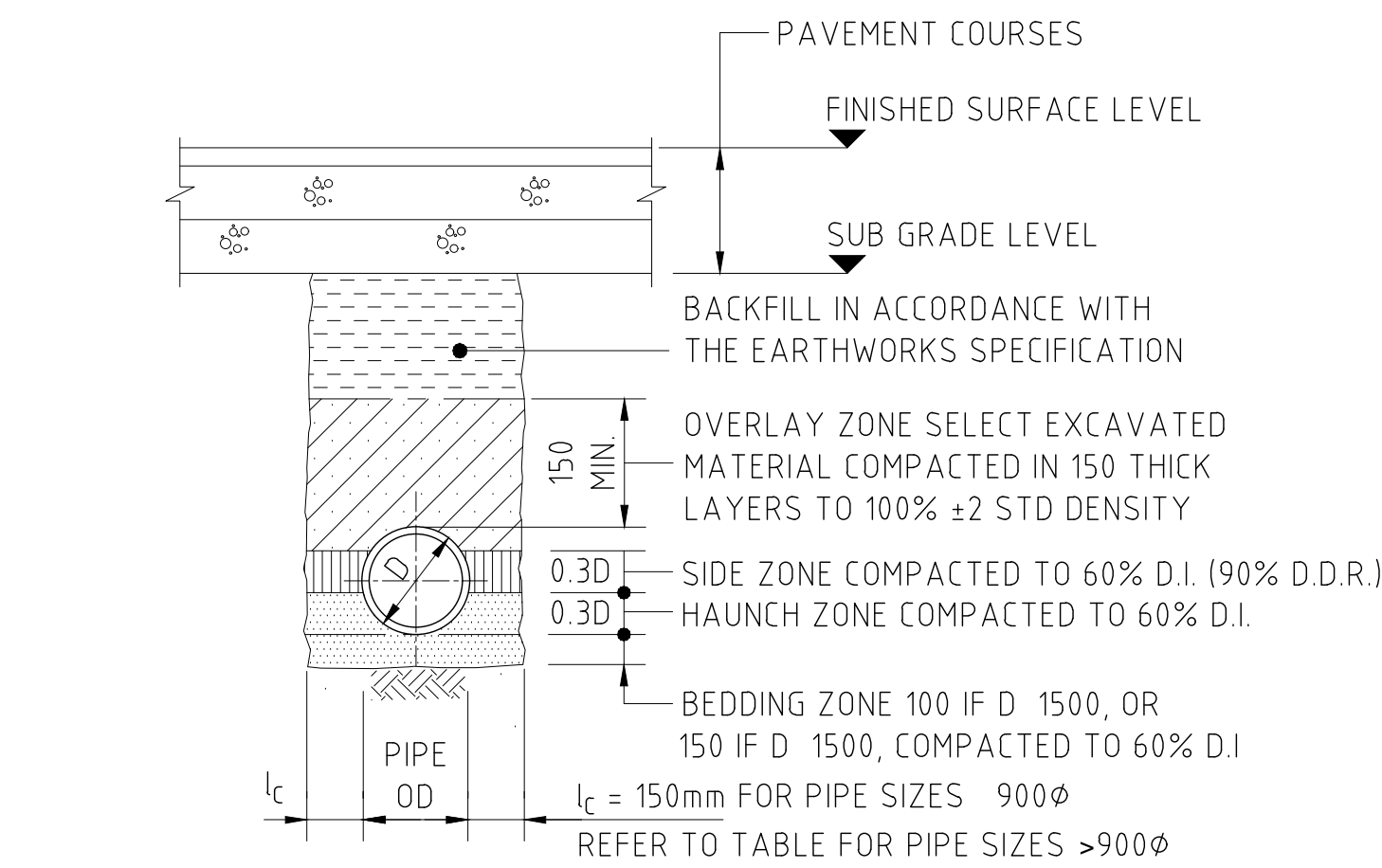


TYPE H1 SUPPORT TO CONCRETE PIPES AT LANDSCAPED AREAS

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)
900Ø	150
1050Ø	175
1200Ø	200
1350Ø	225
1500Ø	250
1650Ø	275
1800Ø	300

ENGINEER TO SPECIFY TRENCH WIDTHS FOR PIPE SIZES GREATER THAN 1800Ø



TYPE HS2 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT

SCALE 1:20
D 1350, MAX FILL = 4.0m
D >1350, MAX FILL = 3.0m

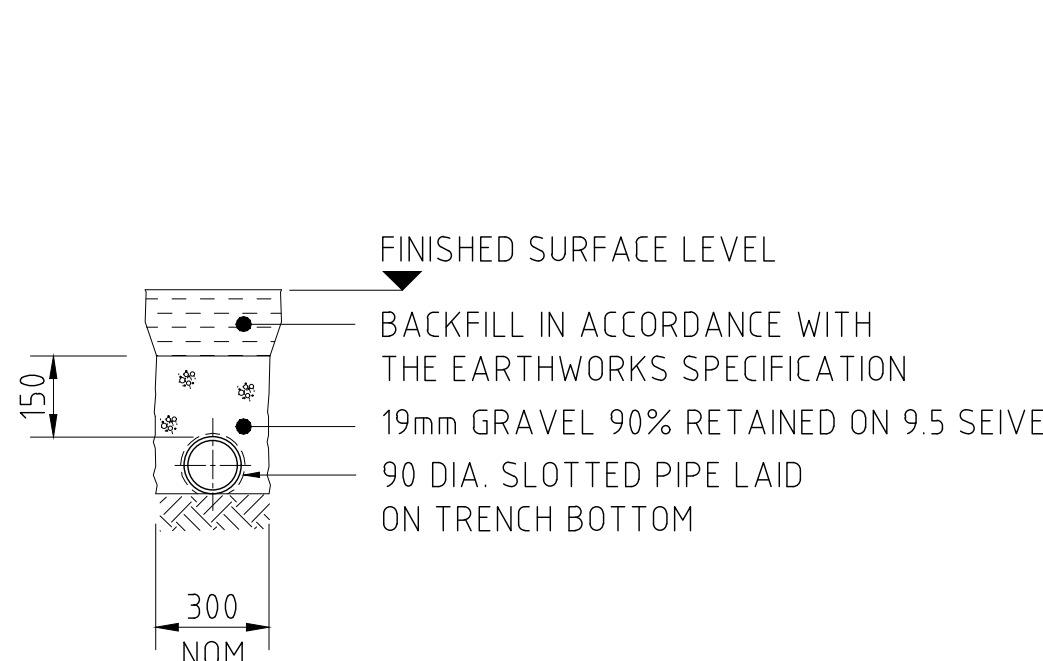
BEDDING & HAUNCH MATERIAL GRADING	
SIEVE SIZE (mm)	WEIGHT PASSING (%)
19.0	100
2.36	100 TO 50
0.60	90 TO 50
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

SIDE ZONE WIDTH	
PIPE SIZE (mm)	l _c (mm)
900Ø	150
1050Ø	175
1200Ø	200
1350Ø	225
1500Ø	250
1650Ø	275
1800Ø	300

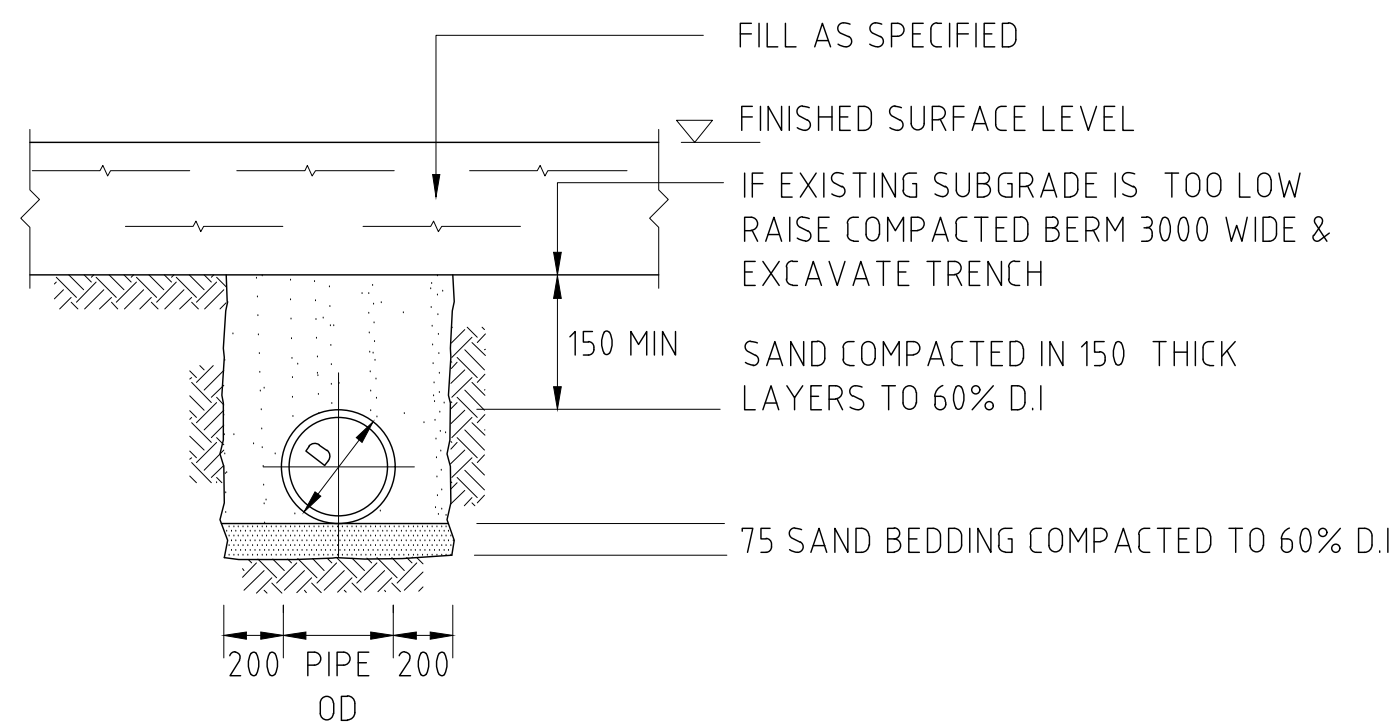
ENGINEER TO SPECIFY TRENCH WIDTHS FOR PIPE SIZES GREATER THAN 1800Ø

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



SUPPORT TO AGRICULTURAL DRAIN
FOR USE UNDER CAR PARK PAVEMENTS/LANDSCAPED AREAS
SCALE 1:20



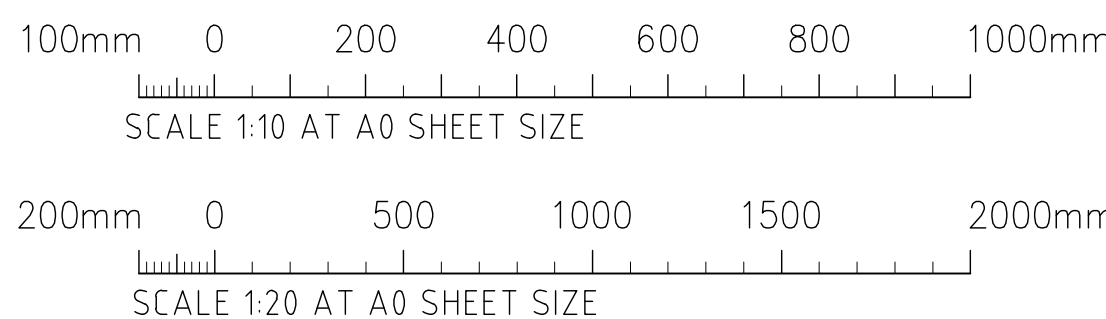
SUPPORT TO uPVC PIPES

NOTE :

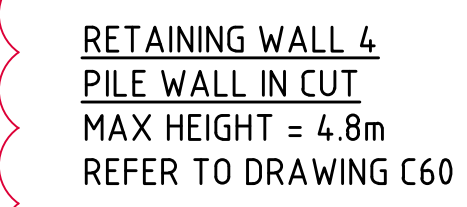
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FOR TENDER



RECESSED DOCK
1300 DEEP

UE

FINISHED LEVELS PLAN NOTES :
REFER TO DRAWING C51

LEGEND:

LEVELS DATUM IS AHD.

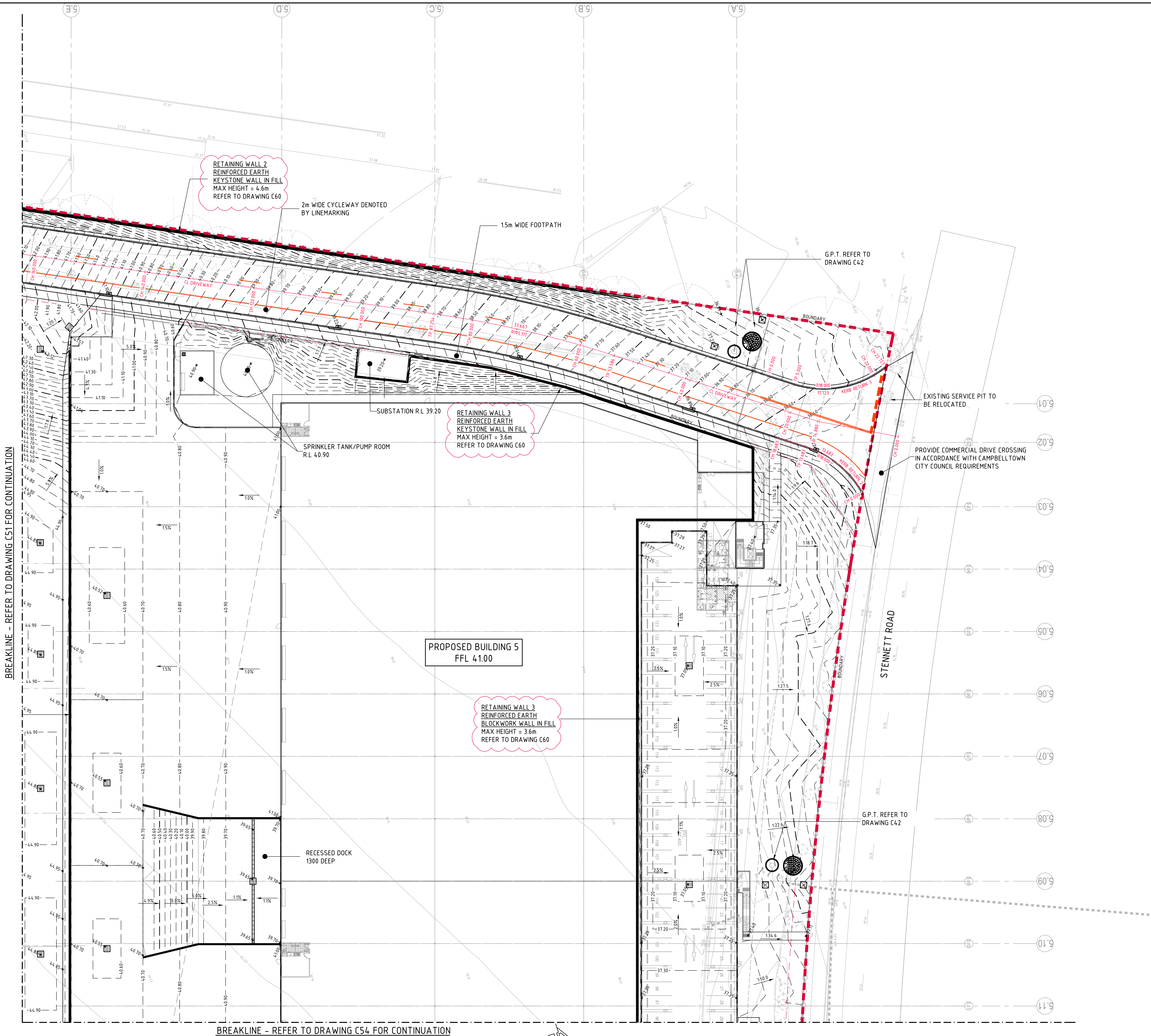
- SGGP, SINGLE GRATED GULLY PIT
- S.J.P, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- 50.00 - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.10 - FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- 50.10 - FINISHED PAVEMENT SPOT HEIGHT

NOTE :

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PROVIDING THE CIVIL CONCEPT ONLY
FOR THE DESIGN AND CONSTRUCT TENDER

THIS IS NOT DETAILED DESIGN.

THE CIVIL DETAILS SHALL BE SUBJECT TO CHANGE
DURING THE DETAILED DESIGN STAGE.

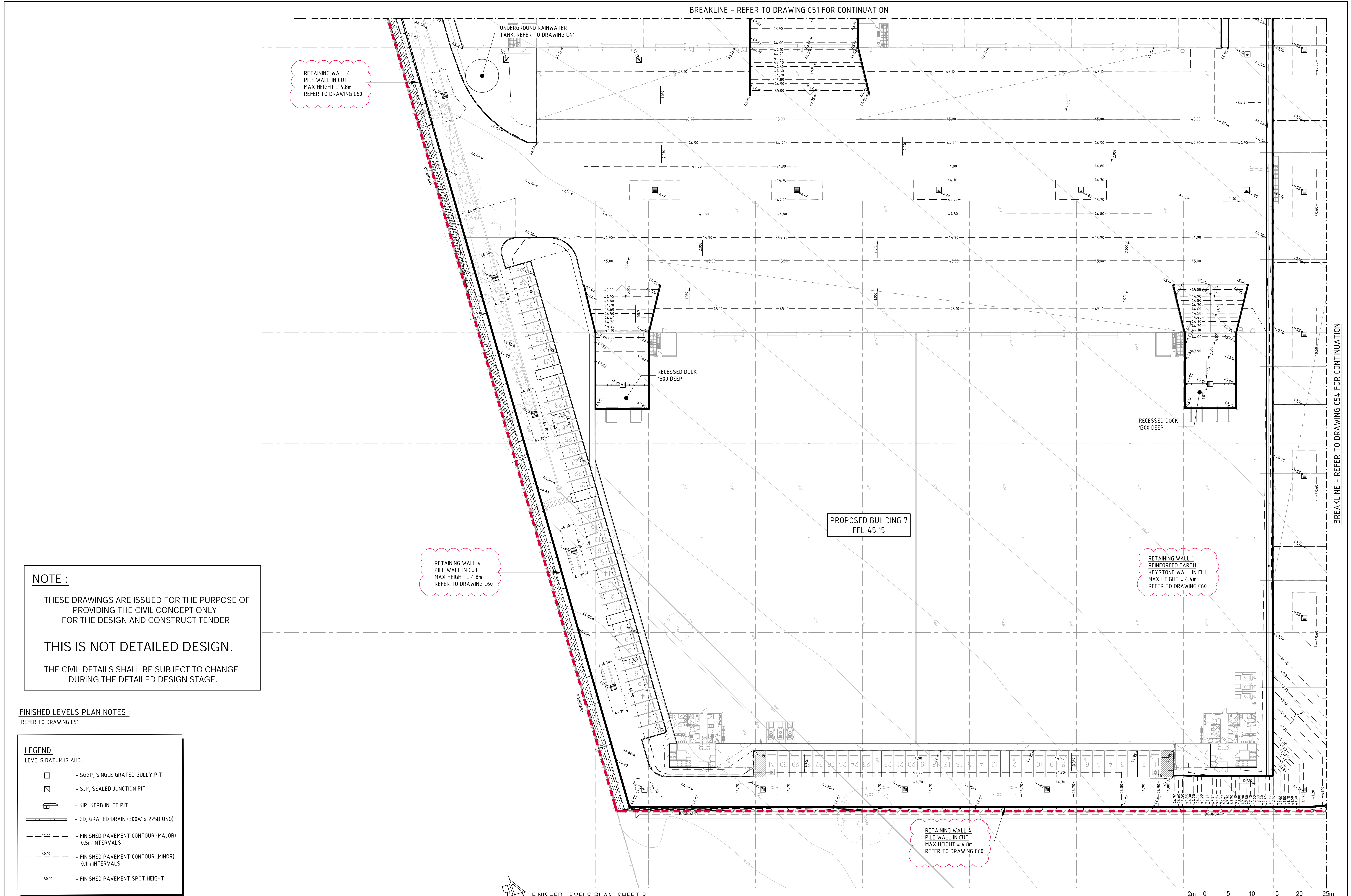


FINISHED LEVELS PLAN-SHEET 2
SCALE 1:250

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

FOR TENDER

									ARCHITECT			CLIENT			PROJECT			 Costin Roe Consulting Pty Ltd. Consulting Engineers <small>costinroe.com.au</small> Level 1, 8 Windmill Street Wahia Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3721 email: mail@costinroe.com.au			<div>PRECISION COMMUNICATION ACCOUNTABILITY</div>			DRAWING TITLE FINISHED LEVELS PLAN SHEET 2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
ISSUED FOR TENDER			23.12.21			C			nettleontribe			WAREHOUSE 5, 6 & 7			DESIGNED												DRAWING			MC			DATE			AUG 21			CHECKED			MW			SIZE			A0			SCALE			AS SHOWN			CNC REF			C012813.09-C52			ISSUE			C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
ISSUED FOR TENDER			17.12.21			B									35-47 STENNETT ROAD, INGLEBURN, NSW																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												



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FINISHED LEVELS PLAN NOTES :
REFER TO DRAWING C51

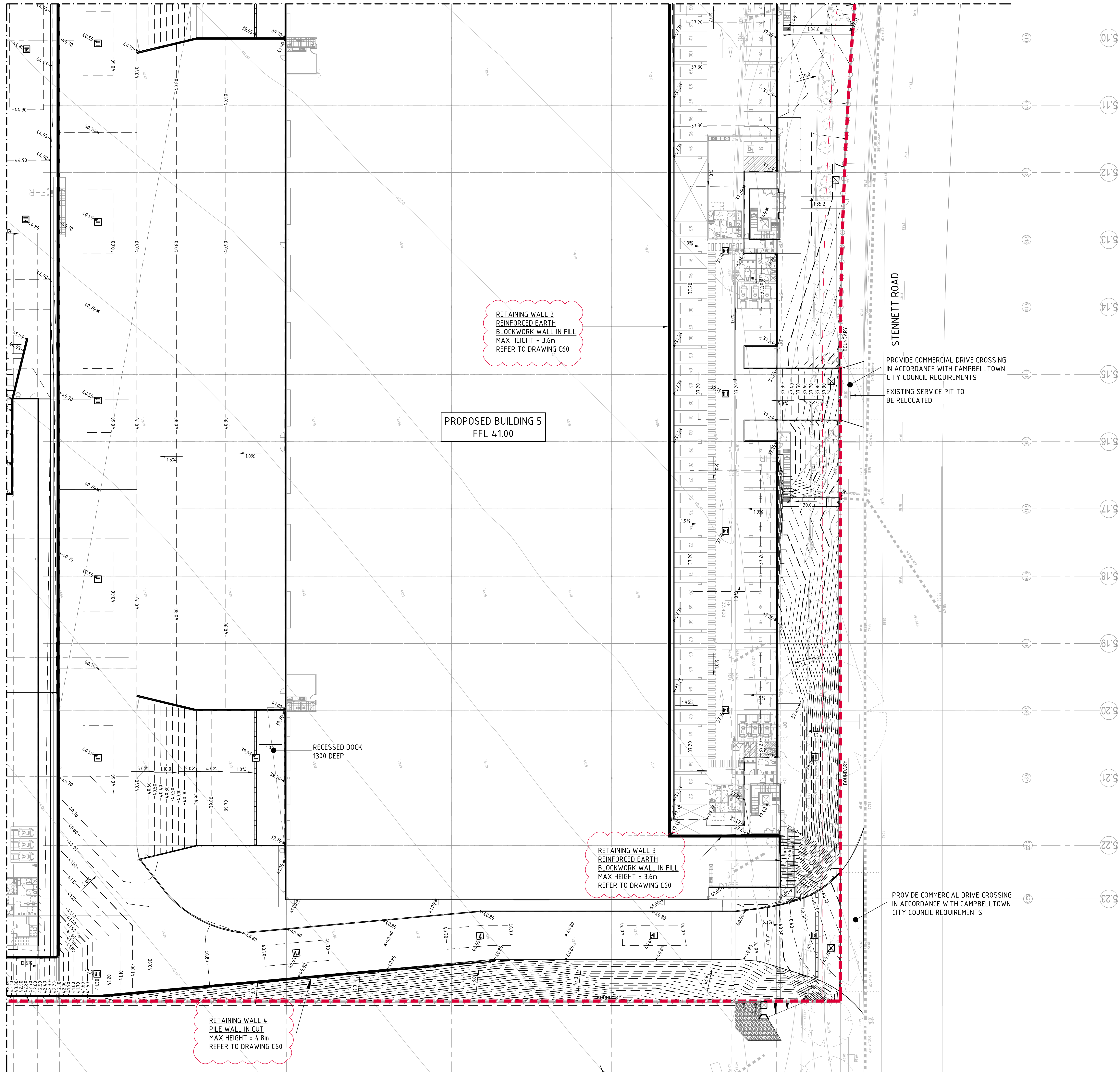
LEGEND:
LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- 90.00 - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.00 - FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- 50.00 - FINISHED PAVEMENT SPOT HEIGHT

FOR TENDER

BREAKLINE - REFER TO DRAWING C52 FOR CONTINUATION

BREAKLINE - REFER TO DRAWING C53 FOR CONTINUATION



NOTE :

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THIS IS NOT DETAILED DESIGN.

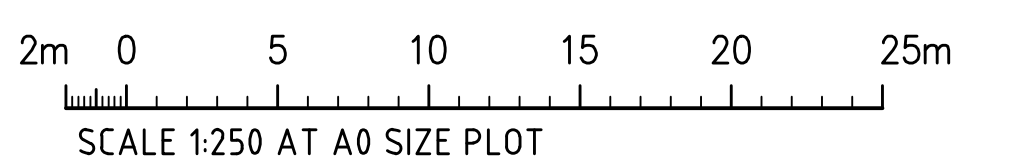
THE CIVIL DETAILS SHALL BE SUBJECT TO CHANGE DURING THE DETAILED DESIGN STAGE.

FINISHED LEVELS PLAN NOTES :
REFER TO DRAWING C51

LEGEND:

LEVELS DATUM IS AHD.

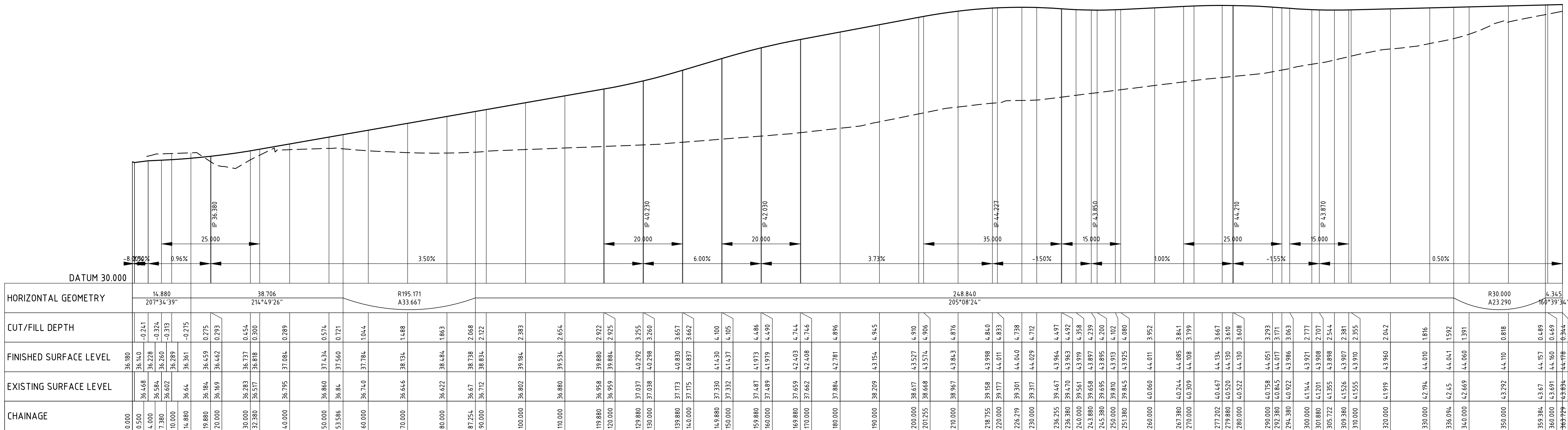
- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- FINISHED PAVEMENT SPOT HEIGHT



FOR TENDER

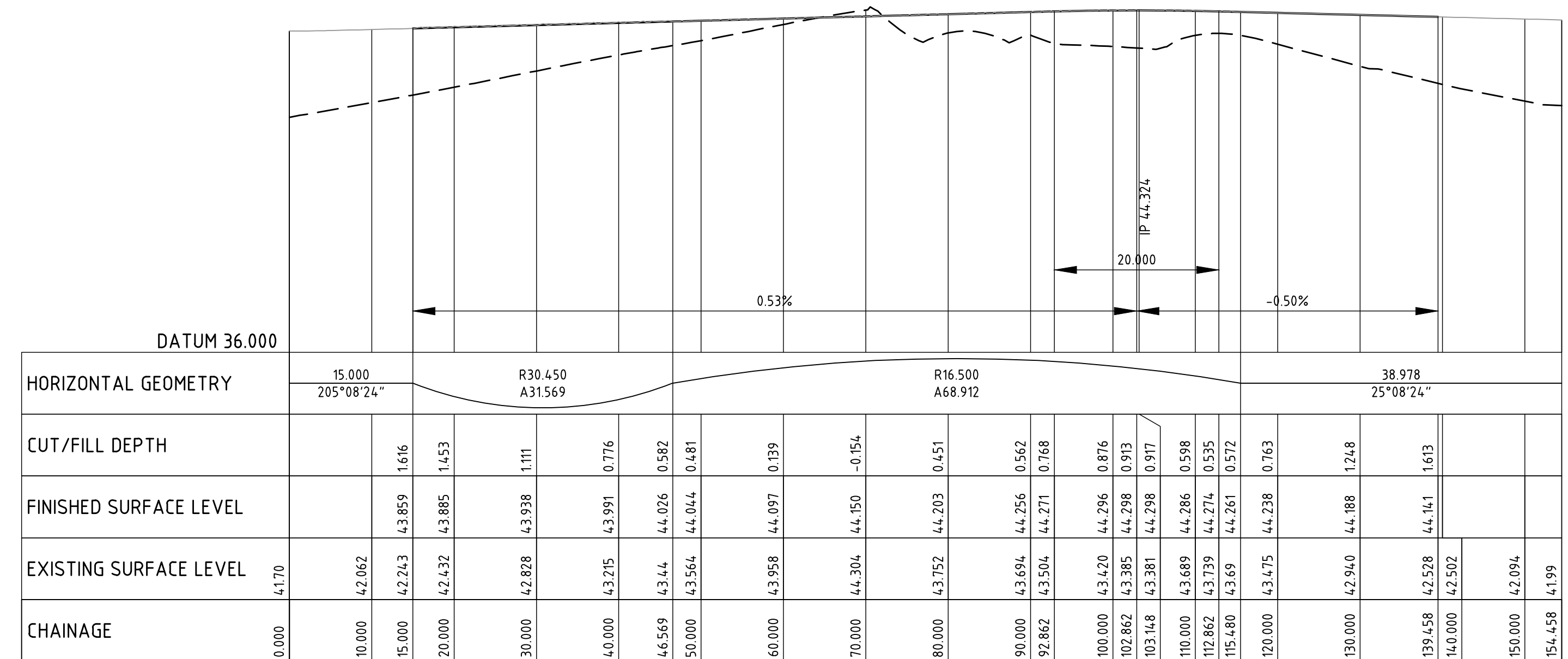
FINISHED LEVELS PLAN-SHEET 4
SCALE 1:250

ISSUED FOR TENDER 23.12.21 C			ARCHITECT nettleontribe			CLIENT Stockland			PROJECT PROPOSED DEVELOPMENT WAREHOUSE 5, 6 & 7 35-47 STENNETT ROAD, INGLEBURN, NSW			Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Wahib Bay, Sydney NSW 2000 Tel: (02) 8251-7899 Fax: (02) 8241-3721 email: mail@costinroe.com.au			PRECISION COMMUNICATION ACCOUNTABILITY			DRAWING TITLE FINISHED LEVELS PLAN SHEET 4		
ISSUED FOR TENDER 17.12.21 B																				
ISSUED FOR INFORMATION 01.12.21 A																				
AMENDMENTS			AMENDMENTS			AMENDMENTS			DESIGNED MC			CHECKED MC			DATE AUG 21			DRAWING No C012813.09-C54		
DATE			DATE			DATE			SIZE A0			SCALE AS SHOWN			ISSUE C					



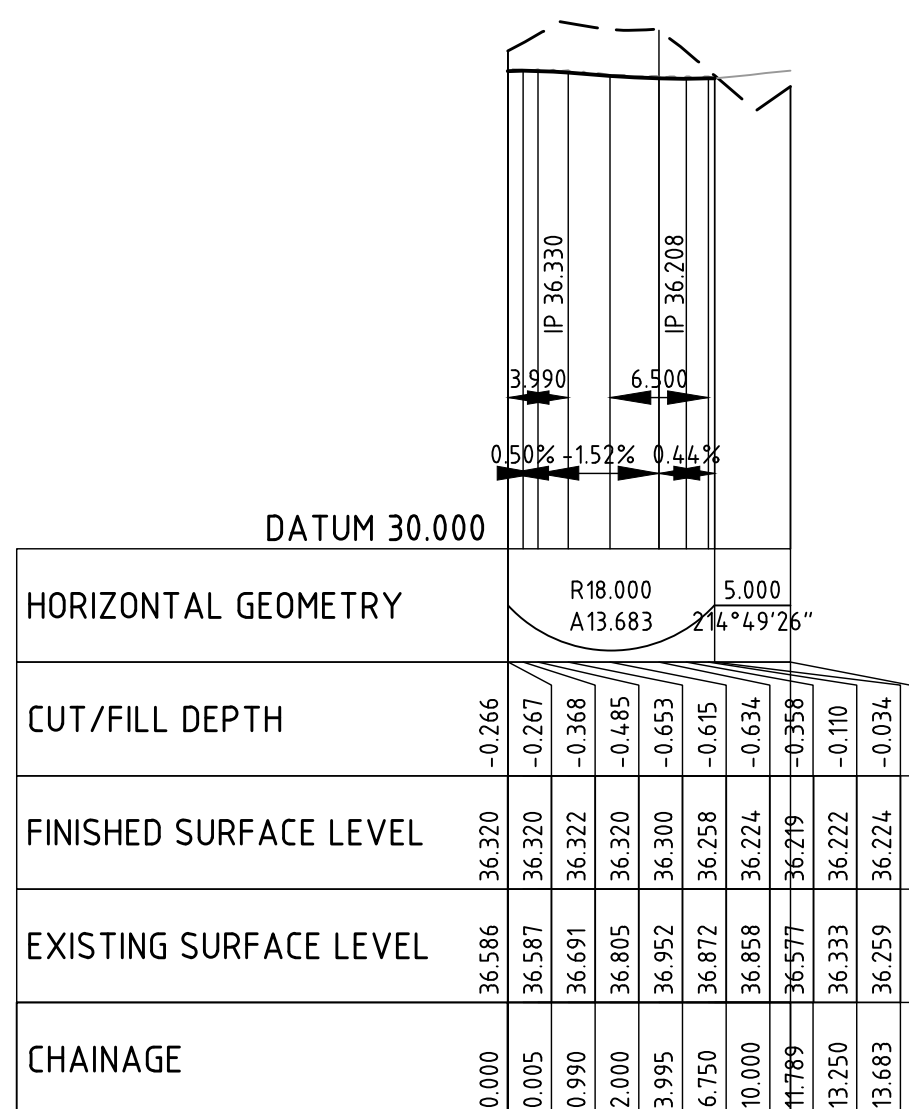
LONGITUDINAL SECTION - CL DRIVEWAY

HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



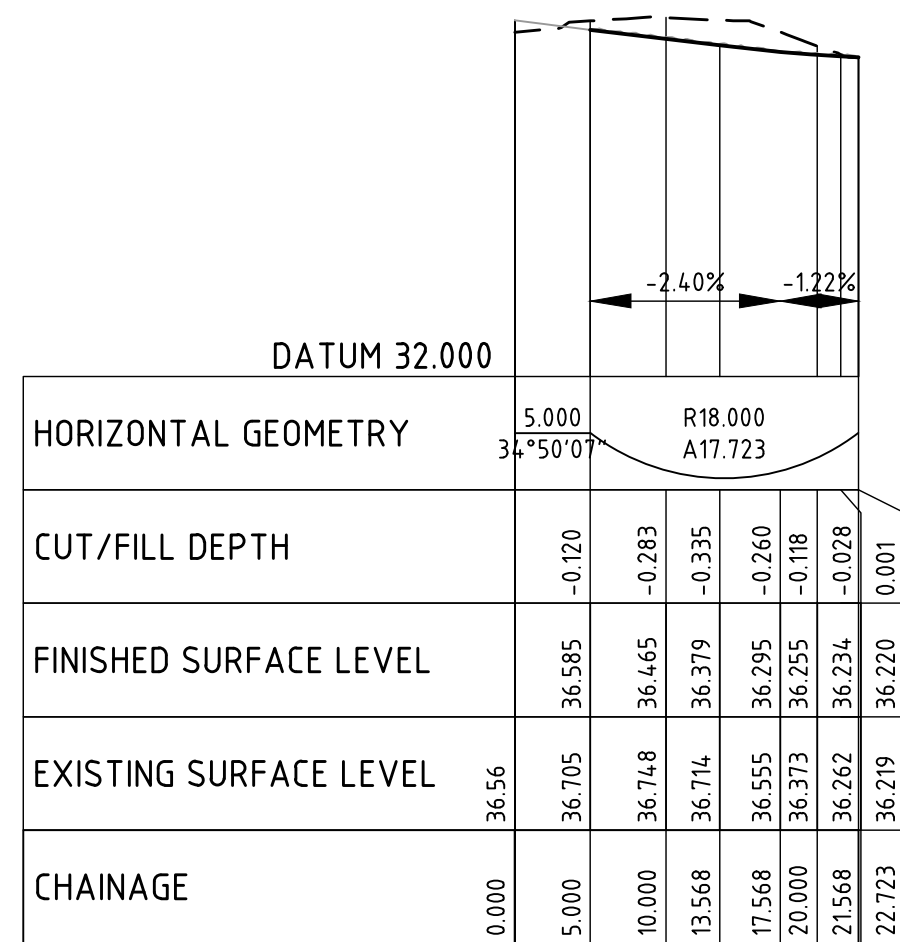
LONGITUDINAL SECTION - KERB RETURN 1

HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



LONGITUDINAL SECTION - KERB RETURN 2

HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



LONGITUDINAL SECTION - KERB RETURN 3

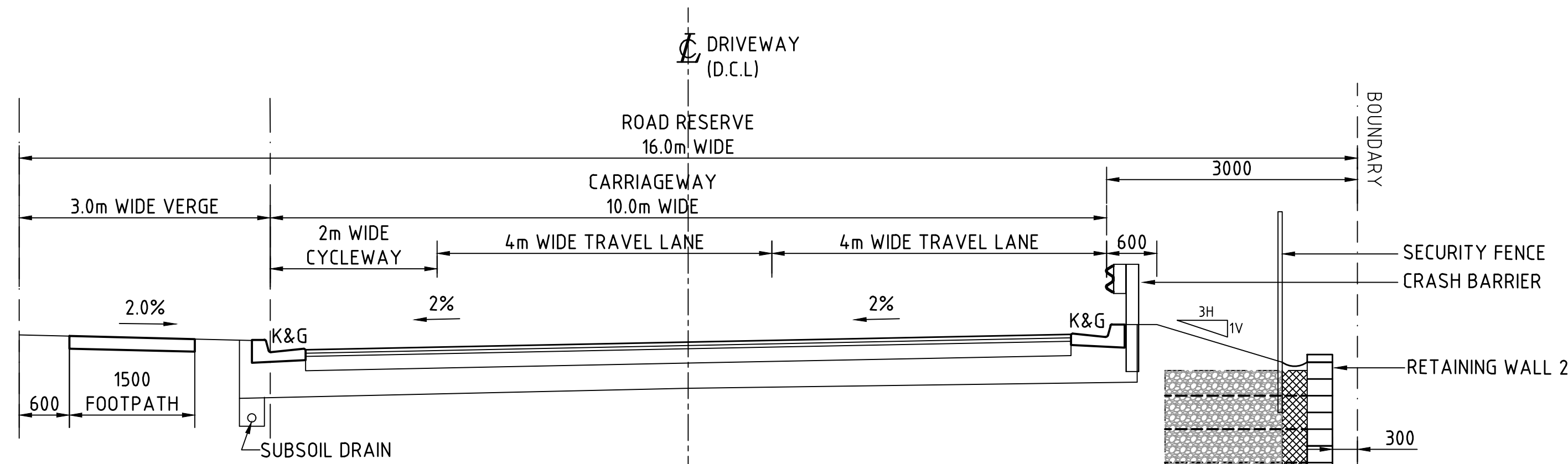
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

NOTE :

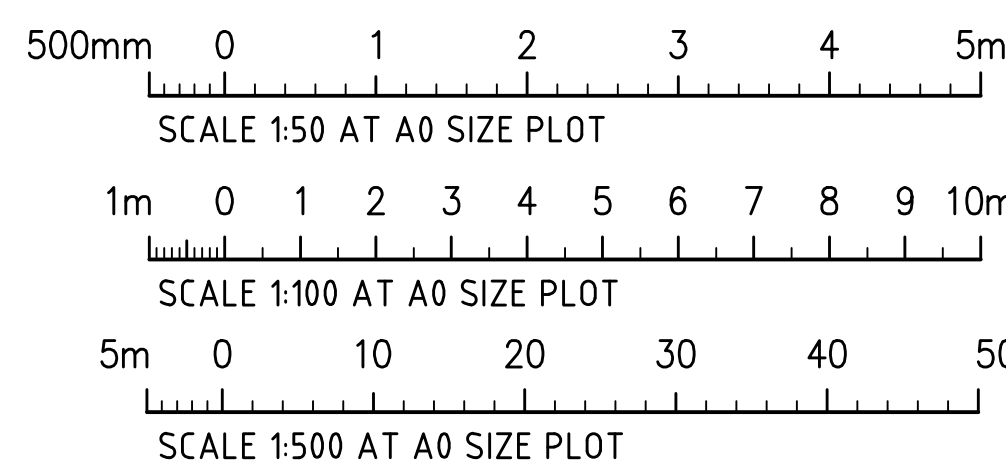
THESE DRAWINGS ARE ISSUED FOR THE PURPOSE OF
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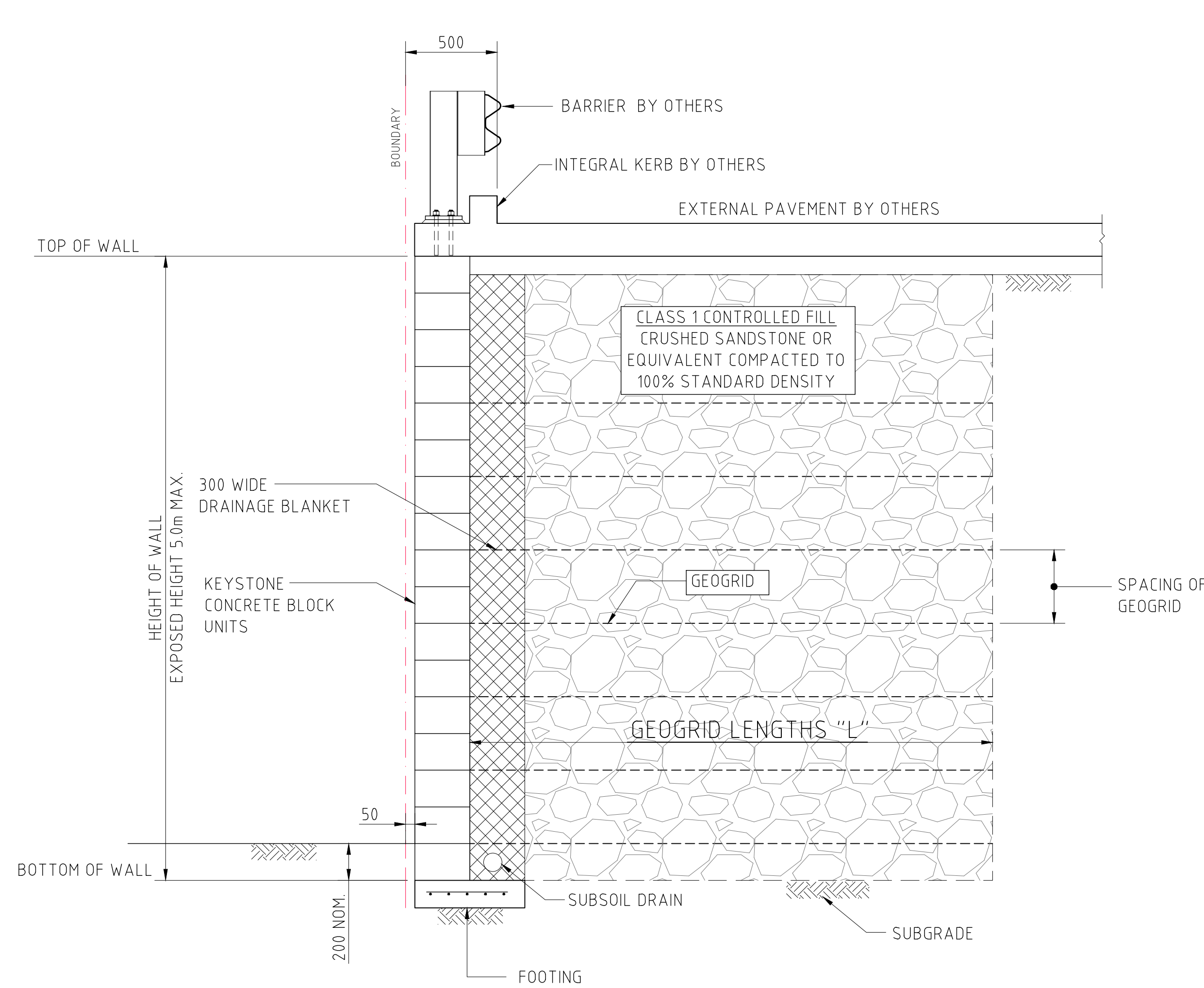
THIS IS NOT DETAILED DESIGN.

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DURING THE DETAILED DESIGN STAGE.



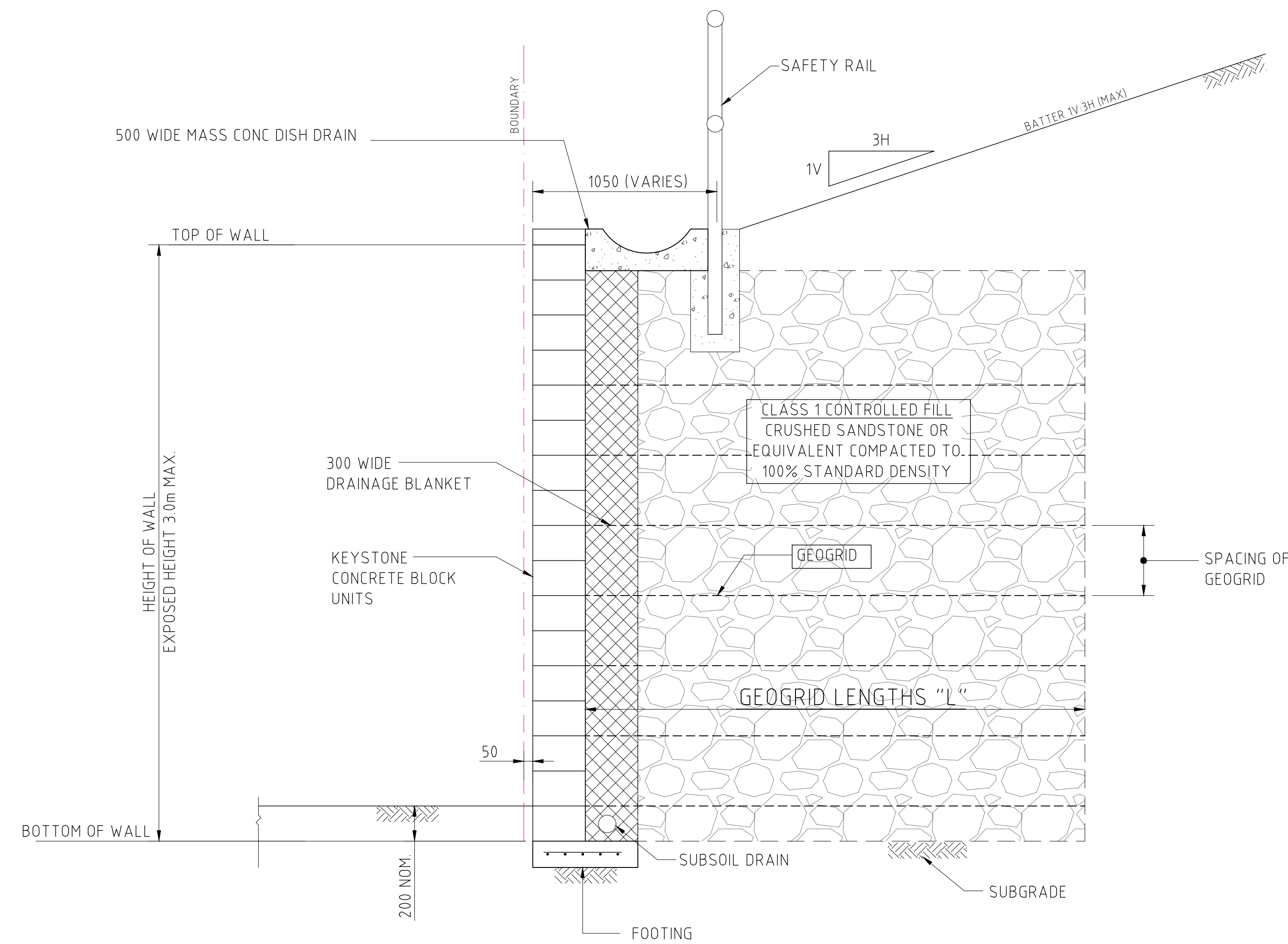
TYPICAL CROSS SECTION - SHARED TRUCK/CAR DRIVEWAY
SCALE 1:50





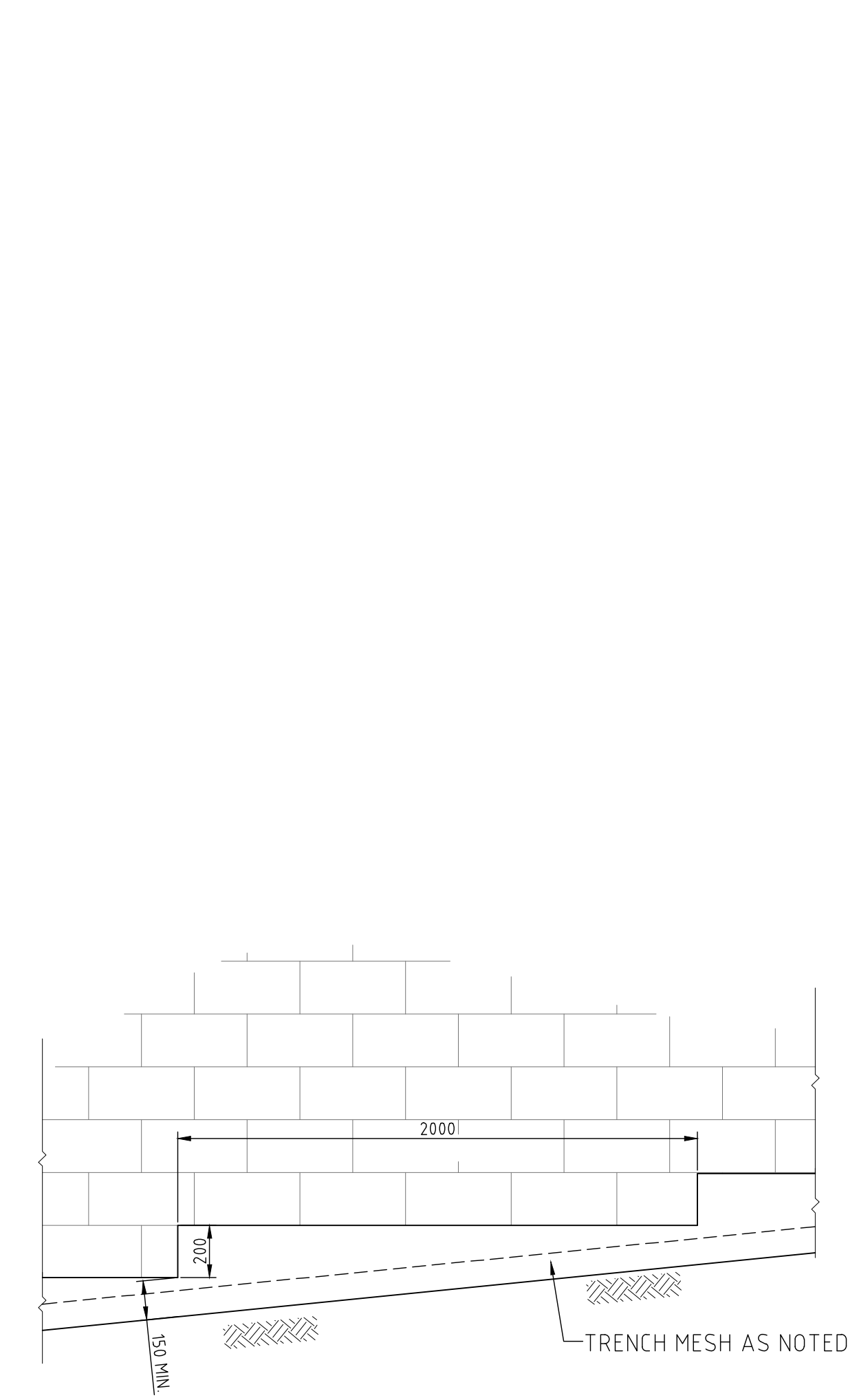
REINFORCED EARTH WALL-ADJACENT HARDSTAND/CARPARK
SCALE 1:20

REINFORCED EARTH RETAINING WALL
STRUCTURAL DESIGN TO D&C DETAILS



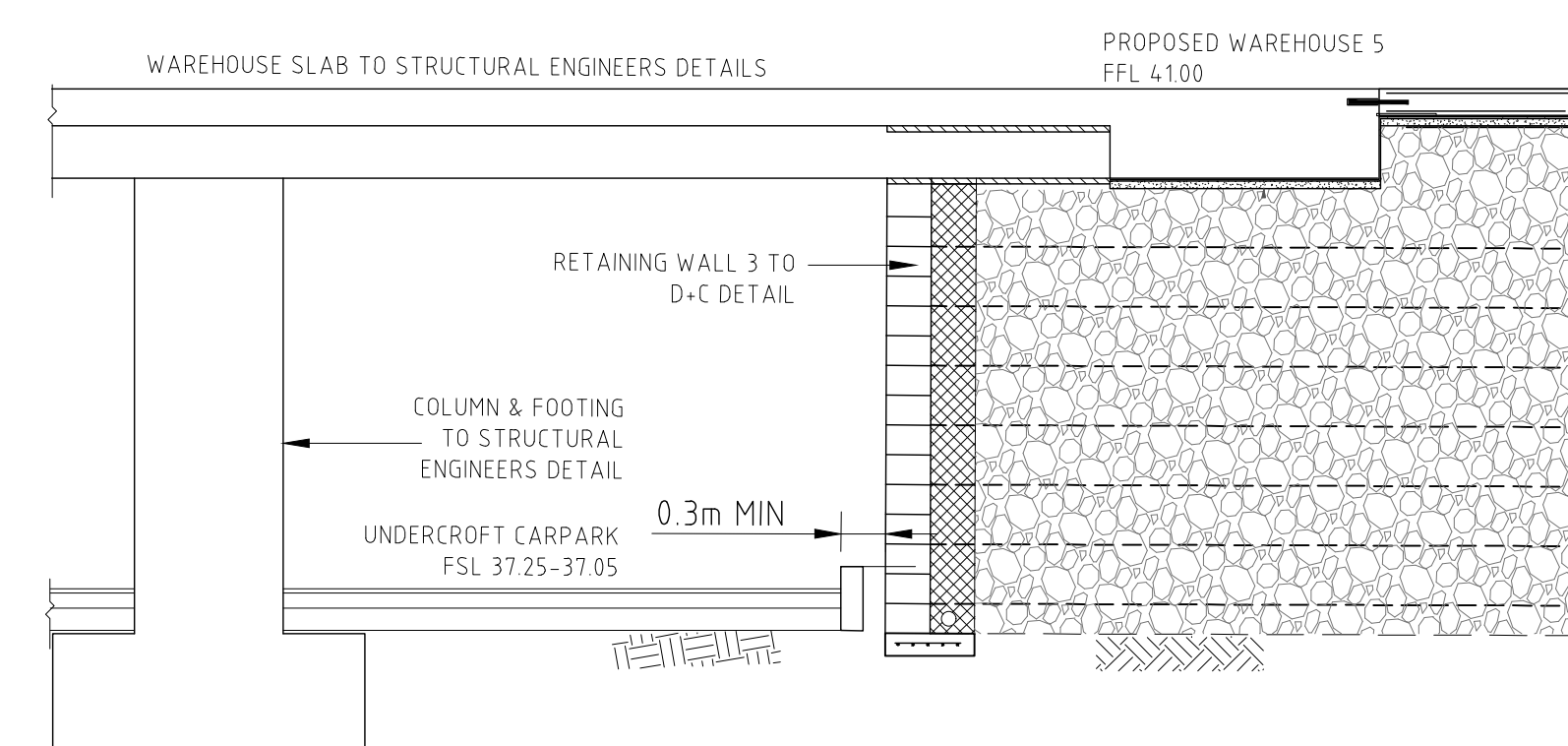
REINFORCED EARTH WALL-ADJACENT LANDSCAPING
SCALE 1:20

REINFORCED EARTH RETAINING WALL
STRUCTURAL DESIGN TO D&C DETAILS

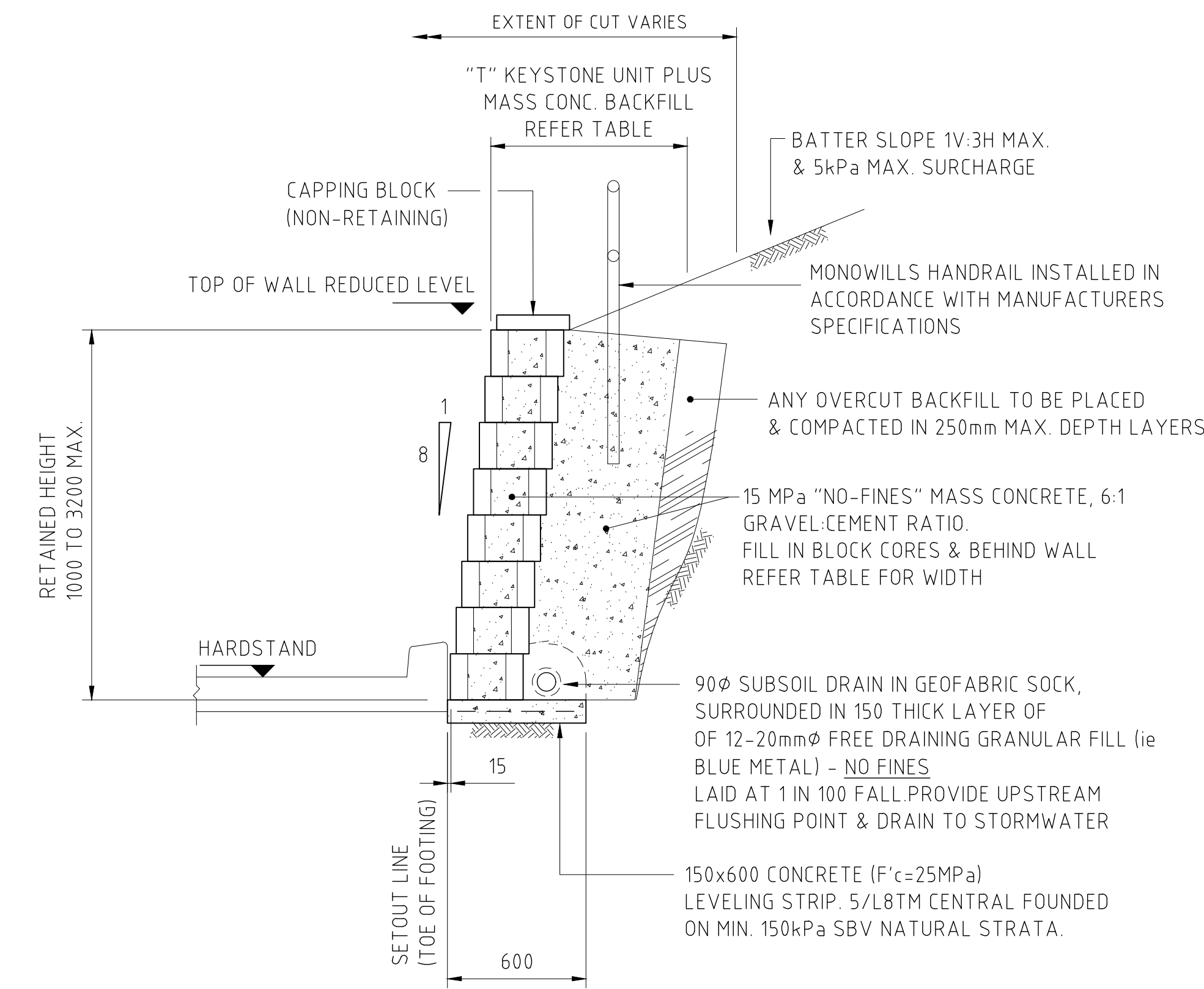


REINFORCED EARTH WALL TYPICAL LEVELLING STRIP STEP DETAIL
SCALE 1:20

REINFORCED EARTH WALL DETAILS

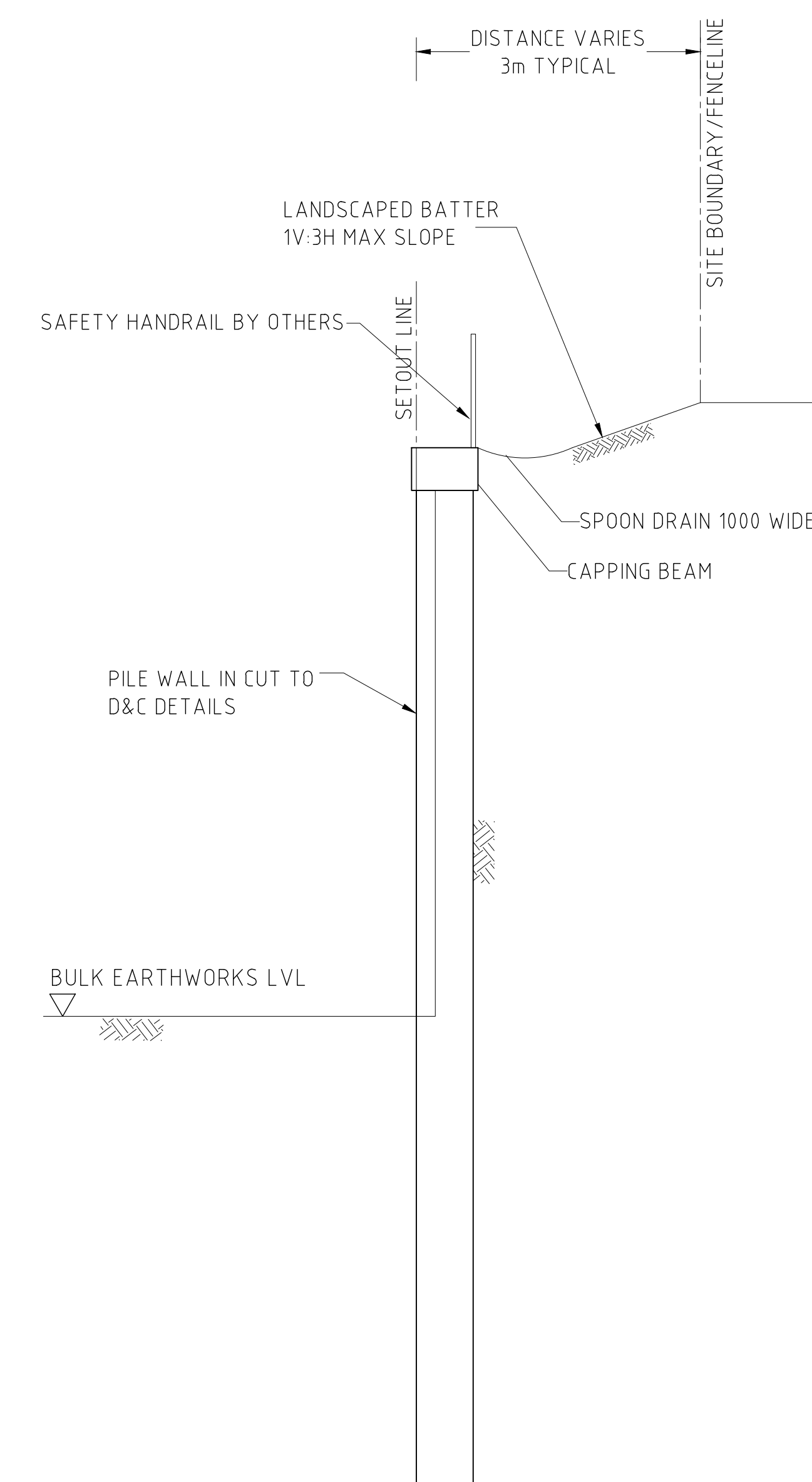


TYPICAL SECTION RETAINING WALL 3 AT CARPARK
SCALE 1:50



TYPICAL THRU' KEYSTONE RETAINING WALL (IN CUT) (5kPa)
(1000 TO 2500 MAXIMUM RETAINED HEIGHT)

NOTE: INDICATIVE DETAIL ONLY. WALL TO BE
DESIGNED BY D&C CONTRACTOR



TYPICAL SECTION THROUGH RETAINING WALL 4 - PILE SECTION
SCALE 1:50

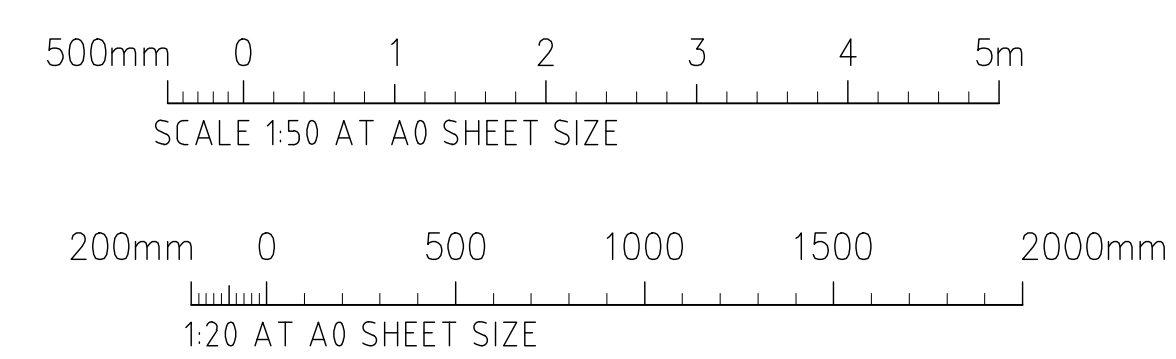
NOTE :

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FOR TENDER



			ARCHITECT		CLIENT		PROJECT		COSTIN ROE CONSULTING PTY LTD.		DRAWING TITLE	
			nettleontribe		Stockland		PROPOSED DEVELOPMENT WAREHOUSE 5, 6 & 7 35-47 STENNETT ROAD, INGLEBURN, NSW		Consulting Engineers Level 1, 8 Windmill Street Wahbi Bay, Sydney NSW 2000 Tel: (02) 9251-7699 Fax: (02) 9241-3721 email: mail@costinroe.com.au		RETAINING WALL DETAILS	
ISSUED FOR TENDER			17.12.21		A		DESIGNED DRAWN DATE		CHECKED SIZE SCALE		PRECISION COMMUNICATION ACCOUNTABILITY	
AMENDMENTS			DATE		ISSUE		MC		MC		C012813.09-C60	
											C012813.09-C60	

RETAINING WALL NOTES :
REFER TO DRAWING C62

NOTE :

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LEGEND:

LEVELS DATUM IS AHD.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- 50.00 - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 50.10 - FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- 50.10 - FINISHED PAVEMENT SPOT HEIGHT

RETAINING WALL PLAN-SHEET 1
SCALE 1:250

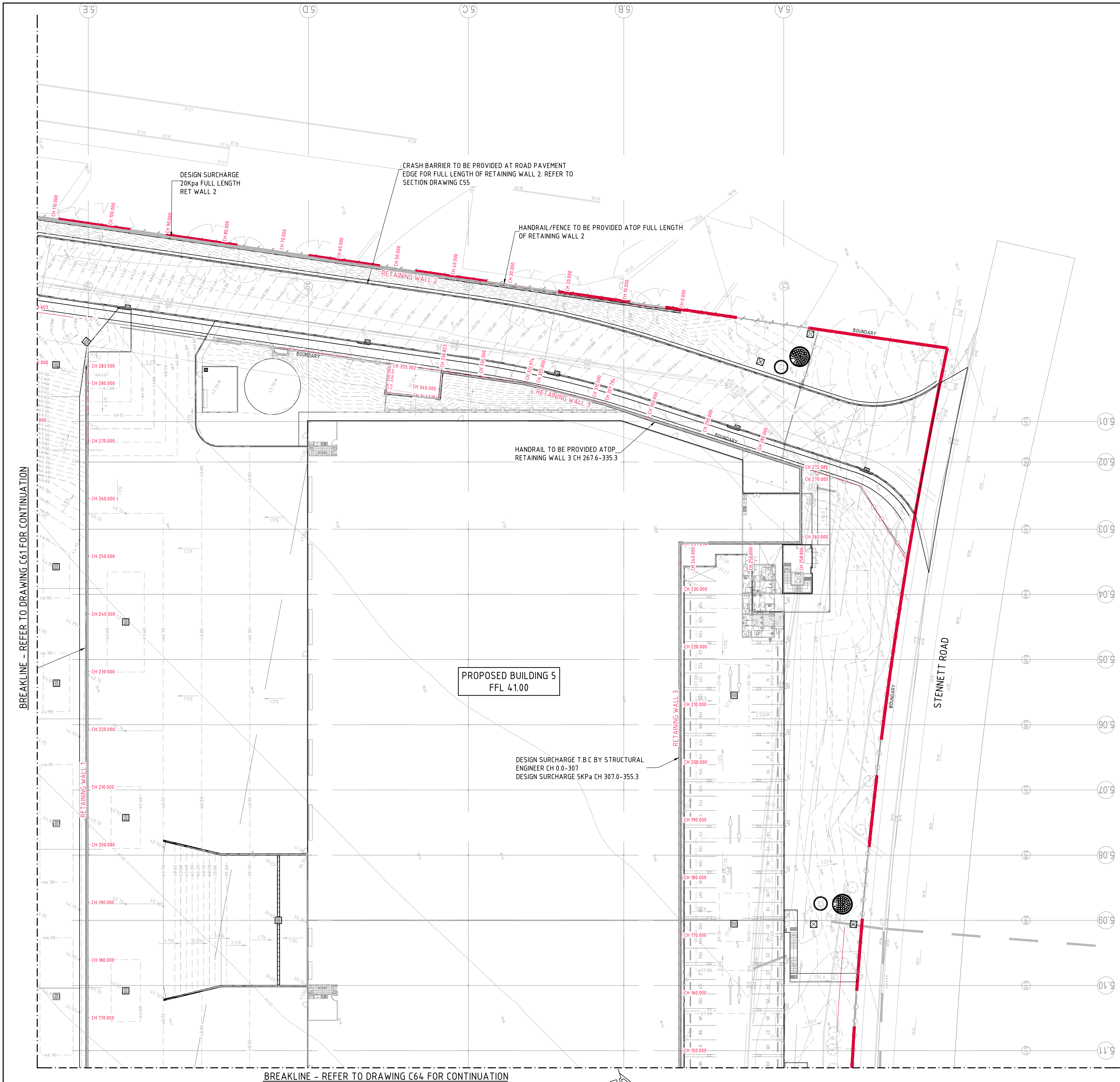
BREAKLINE - REFER TO DRAWING C63 FOR CONTINUATION

BREAKLINE - REFER TO DRAWING C62 FOR CONTINUATION

5m 0 10 20 30 40 50m
SCALE 1:500 AT A0 SIZE PLOT

FOR TENDER

ISSUED FOR TENDER		17.12.21	A	AMENDMENTS		DATE	ISSUE	AMENDMENTS		DATE	ISSUE	ARCHITECT	CLIENT	PROJECT	DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF	COSTIN ROE CONSULTING PTY LTD.		PRECISION COMMUNICATION ACCOUNTABILITY		DRAWING TITLE	ISSUE
AMENDMENTS				AMENDMENTS				AMENDMENTS				nettleontribe	Stockland	WAREHOUSE 5, 6 & 7 35-47 STENNETT ROAD, INGLEBURN, NSW	ME	ME	AUG 21	ME	A0	AS SHOWN	C012813.09-C61	Level 1, 8 Windmill Street Wahib Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3721 email: mail@costinroe.com.au		Costin Roe Consulting		RETAINING WALL PLAN SHEET 1	A



REINFORCED EARTH RETAINING WALL NOTES :

- ALL COMPONENTS AND INSTALLATION SHALL COMPLY WITH AS4678 AND THE STANDARDS REFERRED TO THEREIN.
 - MINIMUM HEIGHT (H) TO GEOGRID REINFORCEMENT LENGTH (L) TO BE 1.0.
 - MINIMUM BEARING CAPACITY OF FOUNDATION (BASED ON MINIMUM H/L RATIO OF 1.0) TO BE AS FOLLOWS:
 - H MAX. 2M = 100 KPA
 - H MAX. 3.5M = 150 KPA
 - H MAX. 5M = 200 KPA
- BEFORE COMMENCEMENT OF CONSTRUCTION THE FOUNDATION SHALL BE INSPECTED AND VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER.
- WHERE MINIMUM BEARING IS NOT ACHIEVABLE OR NOT MEETING DESIGN REQUIREMENT, THE FOUNDATION MATERIAL IS TO BE EXCAVATED AND REPLACED WITH APPROVED MATERIAL PLACED IN ACCORDANCE WITH THE FILLING SPECIFICATION TO A MINIMUM COMPACTION OF 100% SMDD AND PLACED WITHIN 2% OF OMC.
 - MINIMUM SURCHARGE LOADS TO BE APPLIED AS FOLLOWS U.N.O. ON PLAN:
 - LIVE LOAD = 20 KPA
 - DEAD LOAD = 5 KPA
 - CONSTRUCTION TRAFFIC LIVE LOAD = 10 KPA
 - CONCRETE BLOCK UNITS TO ADOPT THE KEYSTONE COMPAC II BLOCK & ASSOCIATED COMPONENTS. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
 - THE GEOGRIDS SHALL BE OF THE TYPE AND INDEX STRENGTH NOMINATED ON THE DRAWINGS. THE MINIMUM GEOGRIDS SHALL BE A SINGLE LENGTH IN THE DIRECTION OF DESIGN TENSION, NOT LAPPED, MAKING PROVISION FOR CONNECTION TO THE FACING ACROSS THE WHOLE WIDTH OF THE FACING AND PROVIDING FOR THE SPECIFIED ANCHORAGE WITHIN THE DESIGNATED ANCHORAGE ZONE. GEOGRIDS SHALL COVER THE WHOLE OF THE PLAN AREA BEHIND THE WALL FOR THE SPECIFIED ANCHORAGE LENGTH AND SHALL BE LAPPED WITH ADJACENT SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
 - MINIMUM WALL EMBEDMENT AT THE TOE OF THE WALL TO BE 300MM UNO.
 - DESIGN LIFE OF STRUCTURE IS TO BE 100 YEARS.
 - SELECT BACKFILL MATERIAL WITHIN THE REINFORCED SOIL BLOCK SHALL BE SOUND GRANULAR MATERIAL OF NATURAL OR INDUSTRIAL ORIGIN, NON-EXPANSIVE, FREE FROM ORGANIC OR OTHER DELETERIOUS MATERIAL CONFORMING TO THE PHYSICAL, CHEMICAL AND ELECTROCHEMICAL LIMITS AS SPECIFIED AND SHALL NOT BE SUBJECT TO BREAKDOWN UNDER COMPACTION. REFER TO DESIGN PARAMETERS NOTE FOR MATERIAL SPECIFICATIONS.
 - SELECT BACKFILL IS TO BE PLACED AND COMPACTED IN LAYERS NOT MORE THAN 300MM (LOOSE). COMPACTION TO NOT LESS THAN 100% SMDD WILL BE ACHIEVED AND MATERIAL PLACED WITHIN 2% OF OMC. DENSITY TESTING SHALL BE PERFORMED IN EACH COMPACTED LIFT IN ACCORDANCE WITH AS3798.
 - PROVIDE A DRAINAGE LAYER DIRECTLY BEHIND THE FACING UNITS IN A MINIMUM 300MM WIDE 12-20MM AGGREGATE LAYER. FACING UNIT VOIDS TO BE FILLED WITH AGGREGATE. PROVIDE 100MM MINIMUM AG. DRAIN IN GEOTEXTILE SOCK AT TOE OF WALL FACING AND CONNECT TO DRAINAGE SYSTEM AT 30M MAX. SPACING.
 - THE NEED FOR A CHIMNEY DRAIN OR DRAINAGE AT THE REAR OF THE MASS SOIL BLOCK IS TO BE CONFIRMED ON SITE BY THE GEOTECHNICAL ENGINEER AND DESIGNER FOLLOWING PREPARATION OF THE FOUNDATION AND PRIOR TO CONSTRUCTION OF THE MASS SOIL BLOCK.
 - CONSTRUCTION EQUIPMENT WEIGHING MORE THAN 500KG STATIC WEIGHT IS TO BE KEPT BACK 15 METRES FROM THE REAR FACE OF THE WALL FACING UNITS. COMPACTION OF THE SELECT FILL MATERIAL WITHIN THE 15 METRE STRIP ADJACENT TO THE WALL SHALL BE ACHIEVED BY LIGHT MECHANICAL TAMPERS (VIBRATING PLATE, TRENCH COMPACTOR OR SIMILAR) TO GIVE THE SAME DENSITY AS IN THE REMAINDER OF THE SELECT FILL.
 - ALL WALL SYSTEMS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS/SUPPLIERS SPECIFICATIONS.
 - ALL DESIGN AND CONSTRUCT WALL SYSTEM TO BE COMPLETED IN ACCORDANCE WITH THESE NOTES.
 - BARRIER TO BE MIN 10m FROM FACE OF THE WALL OR PROVIDED WITH SEPARATE FUTURE SUPPORT STRUCTURE WHICH DOES NOT IMPACT THE PROPOSED STRAP & REINFORCED EARTH BLOCK CONSTRUCTION.

LEGEND:

LEVELS DATUM IS AHD.

- SGPP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- FINISHED PAVEMENT SPOT HEIGHT

RETAINING WALL NOTES :

- ALL COMPONENTS AND INSTALLATION SHALL COMPLY WITH AS4678 AND THE STANDARDS REFERRED TO THEREIN.
 - MINIMUM BEARING CAPACITY OF FOUNDATION TO BE AS FOLLOWS :
 - H MAX. 2.0m = 100 kPa
 - H MAX. 3.5m = 150 kPa
 - H MAX. 5.0m = 200 kPa
- BEFORE COMMENCEMENT OF CONSTRUCTION THE FOUNDATION SHALL BE INSPECTED AND VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER.
- WHERE MINIMUM BEARING IS NOT ACHIEVABLE OR NOT MEETING DESIGN REQUIREMENT, THE FOUNDATION MATERIAL IS TO BE EXCAVATED AND REPLACED WITH APPROVED MATERIAL PLACED IN ACCORDANCE WITH THE FILLING SPECIFICATION TO A MINIMUM COMPACTION OF 100% SMDD AND PLACED WITHIN 2% OF OMC.
 - MINIMUM SURCHARGE LOADS TO BE APPLIED AS FOLLOWS U.N.O. ON PLAN :
 - LIVE LOAD = 20 kPa
 - DEAD LOAD = 5 kPa
 - CONSTRUCTION TRAFFIC LIVE LOAD = 10 kPa
 - MINIMUM WALL EMBEDMENT AT THE TOE OF THE WALL TO BE 300mm UNO UNLESS NOTED OTHERWISE.
 - DESIGN LIFE OF STRUCTURE IS TO BE 100 YEARS.
 - TIED WALLS ARE TO BE TEMPORARILY PROPPED AT TOP UNTIL SUCH TIME THE TOP OF WALL IS TIED TO THE SLAB AND 28-DAY CONCRETE STRENGTH HAS BEEN ACHIEVED.
 - CONSTRUCTION EQUIPMENT WEIGHING MORE THAN 500KG STATIC WEIGHT IS TO BE KEPT BACK 15m FROM THE REAR FACE OF THE WALL FACING UNITS. COMPACTION OF THE SELECT FILL MATERIAL WITHIN THE 15m STRIP ADJACENT TO THE WALL SHALL BE ACHIEVED BY LIGHT MECHANICAL TAMPERS (VIBRATING PLATE, TRENCH COMPACTOR OR SIMILAR) TO GIVE THE SAME DENSITY AS IN THE REMAINDER OF THE SELECT FILL.
 - ALL DESIGN AND CONSTRUCT WALL SYSTEM TO BE COMPLETED IN ACCORDANCE WITH THESE NOTES.

RETAINING WALL DESIGN PARAMETERS:

RETAINING WALLS ARE DESIGNED AND ASSUMED TO HAVE THE FOLLOWING PARAMETERS AND PROPERTIES.

BACKFILL MATERIAL
EFFECTIVE INTERNAL PEAK FRICTION ANGLE $\theta = 34^{\circ}$
MOIST UNIT WEIGHT $\gamma = 21kN/m^3$
pH $pH = 4-9$
EFFECTIVE COHESION $c' = 0$

RETAINED MATERIAL
EFFECTIVE INTERNAL PEAK FRICTION ANGLE $\theta = 27^{\circ}$
MOIST UNIT WEIGHT $\gamma = 18kN/m^3$
EFFECTIVE COHESION $c' = 0$

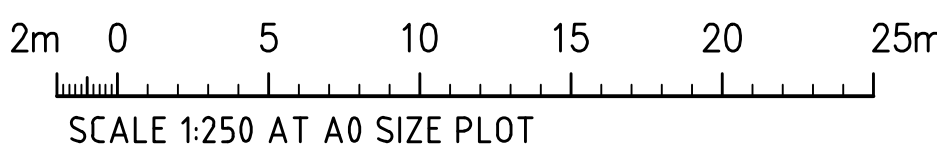
FOUNDATION MATERIAL
EFFECTIVE INTERNAL PEAK FRICTION ANGLE $\theta = 30^{\circ}$
MOIST UNIT WEIGHT $\gamma = 18kN/m^3$
EFFECTIVE COHESION $c' = 0$

NOTE :

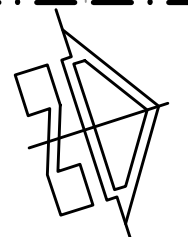
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FOR TENDER



FINISHED LEVELS PLAN-SHEET 2
SCALE 1:250

ISSUED FOR TENDER			ARCHITECT			CLIENT			PROJECT			COSTIN ROE CONSULTING PTY LTD.			DRAWING TITLE		
AMENDMENTS			nettleontribe			Stockland			PROPOSED DEVELOPMENT WAREHOUSE 5, 6 & 7 35-47 STENNETT ROAD, INGLEBURN, NSW			Costin Roe Consulting Engineers Level 1, 8 Windmill Street Wahib Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3721 email: mail@costinroe.com.au			RETAINING WALL PLAN SHEET 2		
17.12.21			A			DESIGNED			CHECKED			SCALE			PRECISION COMMUNICATION ACCOUNTABILITY		
DATE			ISSUE			DATE			DATE			AS SHOWN			DRAWING No		
AMENDMENTS			AMENDMENTS			AMENDMENTS			AMENDMENTS			AMENDMENTS			C012813.09-C62		
DATE			ISSUE			DATE			DATE			DATE			C012813.09-C62		
AMENDMENTS			AMENDMENTS			AMENDMENTS			AMENDMENTS			AMENDMENTS			C012813.09-C62		

BREAKLINE - REFER TO DRAWING C61 FOR CONTINUATION

PROVIDE HANDRAIL ATOP
WALL CH 210.00-390.40

DESIGN SURCHARGE 20KPa CH 20.80-283.00
PROVIDE CRASH BARRIER ATOP WALL CH 110.00-283.00

PROPOSED BUILDING 7
FFL 45.15

PROVIDE HANDRAIL ATOP
WALL CH 210.00-390.40

DESIGN SURCHARGE T.B.C BY STRUCTURAL
ENGINEER CH 0.0-20.80
PROVIDE HANDRAIL ATOP WALL CH 0.0-110.00

PROVIDE CRASH BARRIER ATOP WALL CH 50.00-210.00

BREAKLINE - REFER TO DRAWING C64 FOR CONTINUATION

NOTE :

THESE DRAWINGS ARE ISSUED FOR THE PURPOSE OF
PROVIDING THE CIVIL CONCEPT ONLY
FOR THE DESIGN AND CONSTRUCT TENDER

THIS IS NOT DETAILED DESIGN.




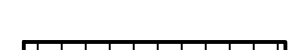



THE CIVIL DETAILS SHALL BE SUBJECT TO CHANGE
DURING THE DETAILED DESIGN STAGE.

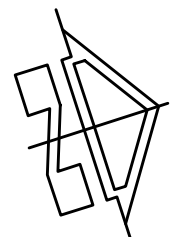
RETAINING WALL NOTES :

REFER TO DRAWING C62

LEGEND:

LEVELS DATUM IS AHD.

-  - SGGP, SINGLE GRATED GULLY PIT
-  - SJP, SEALED JUNCTION PIT
-  - KIP, KERB INLET PIT
-  - GD, GRATED DRAIN (300W x 225D UNO)
-  - FINISHED PAVEMENT CONTOUR (MAJOR)
0.5m INTERVALS
-  - FINISHED PAVEMENT CONTOUR (MINOR)
0.1m INTERVALS
-  - FINISHED PAVEMENT SPOT HEIGHT



RETAINING WALL PLAN-SHEET 3
SCALE 1:250

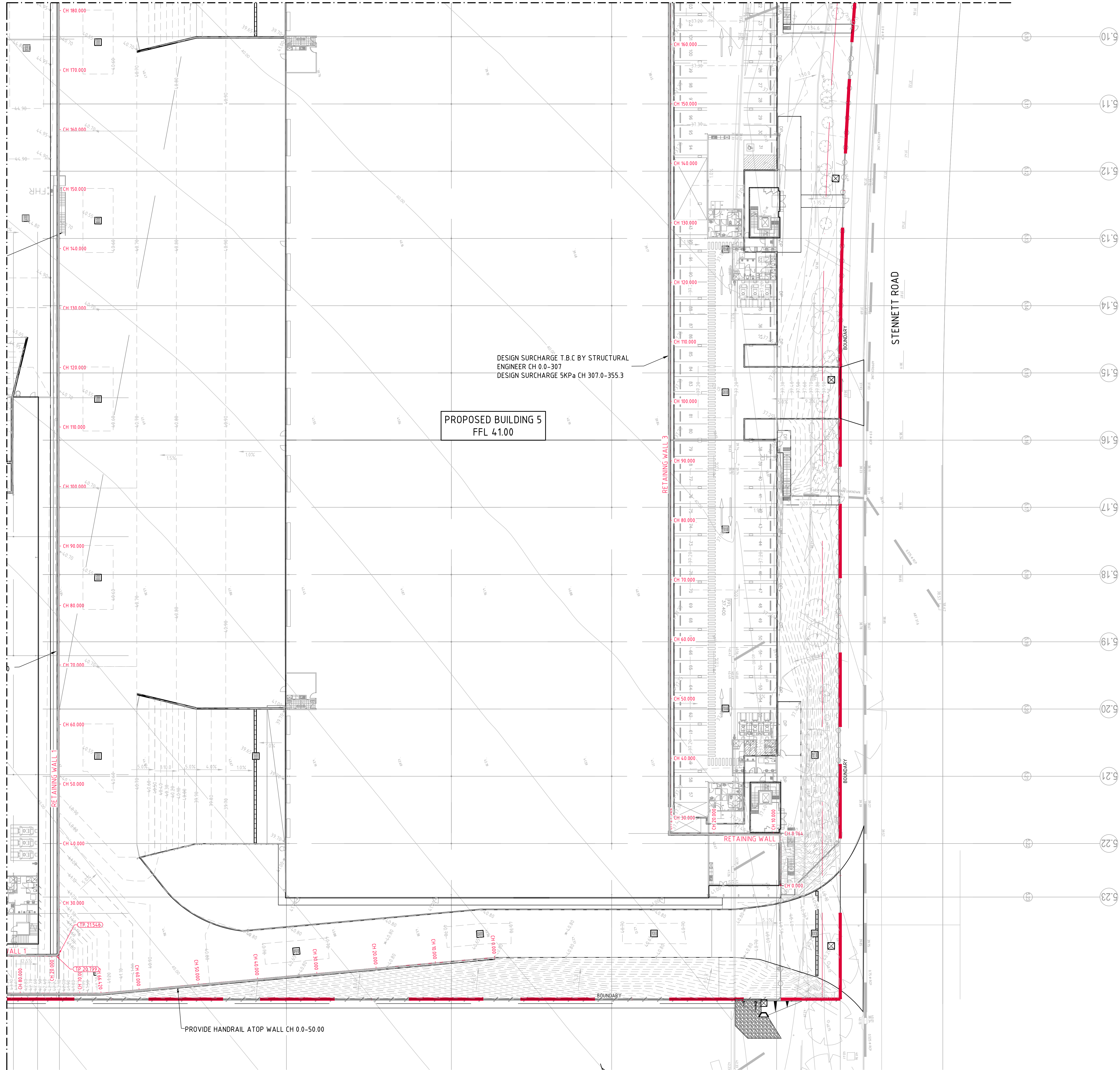
2m 0 5 10 15 20 25m
SCALE 1:250 AT A0 SIZE PLOT

FOR TENDER

			ARCHITECT		CLIENT		PROJECT		Costin Roe Consulting Pty Ltd.		Costin Roe Consulting		DRAWING TITLE	
			nettleontribe		Stockland		PROPOSED DEVELOPMENT WAREHOUSE 5, 6 & 7 35-47 STENNETT ROAD, INGLEBURN, NSW		Level 1, 8 Widdow Street Wahib Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3721 email: mail@costinroe.com.au				RETAINING WALL PLAN SHEET 3	
ISSUED FOR TENDER			17.12.21		A		DESIGNED		DRAWN		PRECISION COMMUNICATION ACCOUNTABILITY		DRAWING No	
AMENDMENTS			DATE		ISSUE		MC		MC		C012813.09-C63		C012813.09-C63	
							CHECKED		SCALE				ISSUE	
							PW		A0				A	
							AS SHOWN							

BREAKLINE - REFER TO DRAWING C62 FOR CONTINUATION

BREAKLINE - REFER TO DRAWING C63 FOR CONTINUATION



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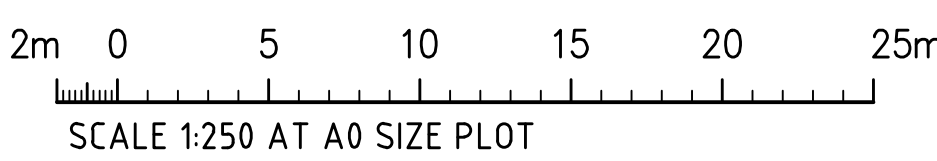
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RETAINING WALL NOTES :
REFER TO DRAWING C62

LEGEND:

LEVELS DATUM IS AHD.

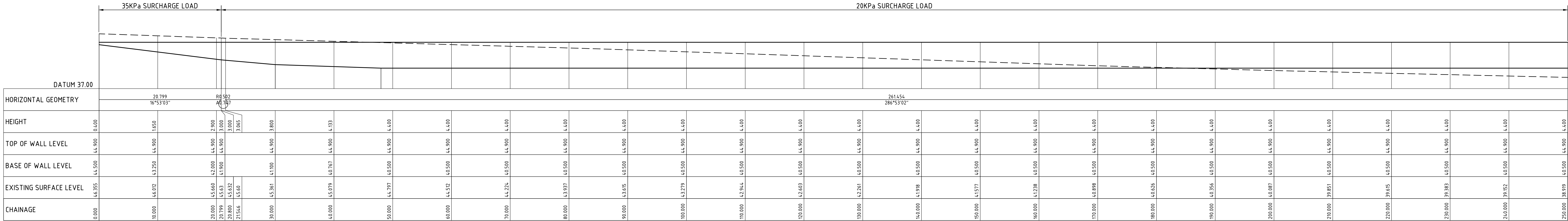
- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- KIP, KERB INLET PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- FINISHED PAVEMENT SPOT HEIGHT



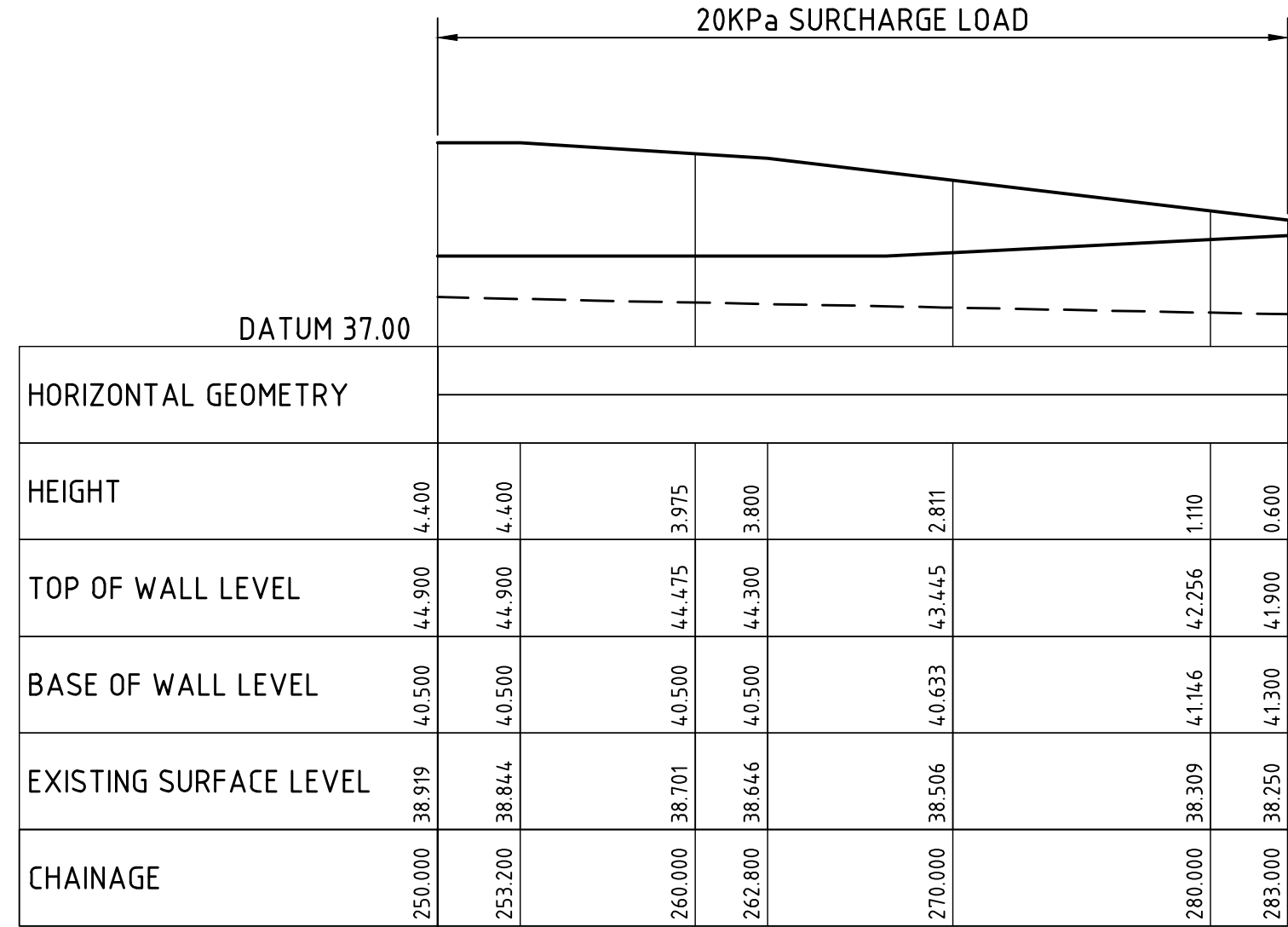
FOR TENDER

RETAINING WALL PLAN-SHEET 4
SCALE 1:250

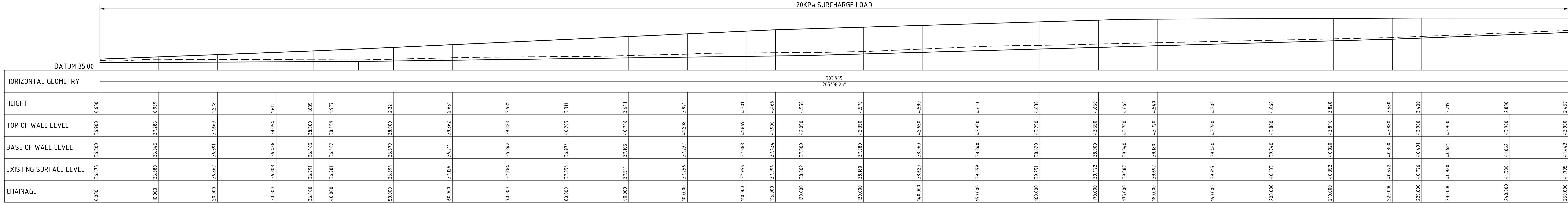
ISSUED FOR TENDER			ARCHITECT			CLIENT			PROJECT			COSTIN ROE CONSULTING PTY LTD.			DRAWING TITLE		
AMENDMENTS			nettleontribe			Stockland			PROPOSED DEVELOPMENT WAREHOUSE 5, 6 & 7 35-47 STENNETT ROAD, INGLEBURN, NSW			Level 1, 8 Windmill Street Wahib Bay, Sydney NSW 2000 Tel: (02) 9251-7899 Fax: (02) 9241-3721 email: mail@costinroe.com.au			RETAINING WALL PLAN SHEET 4		
17.12.21			A			DESIGNED: MC			CHECKED: MC			SCALE: AS SHOWN			PRECISION COMMUNICATION ACCOUNTABILITY		
DATE			ISSUE			DATE			DATE			DATE			DRAWING No		
AMENDMENTS			AMENDMENTS			AMENDMENTS			AMENDMENTS			AMENDMENTS			C012813.09-C64		
DATE			ISSUE			DATE			DATE			DATE			ISSUE		
AMENDMENTS			AMENDMENTS			AMENDMENTS			AMENDMENTS			AMENDMENTS			A		



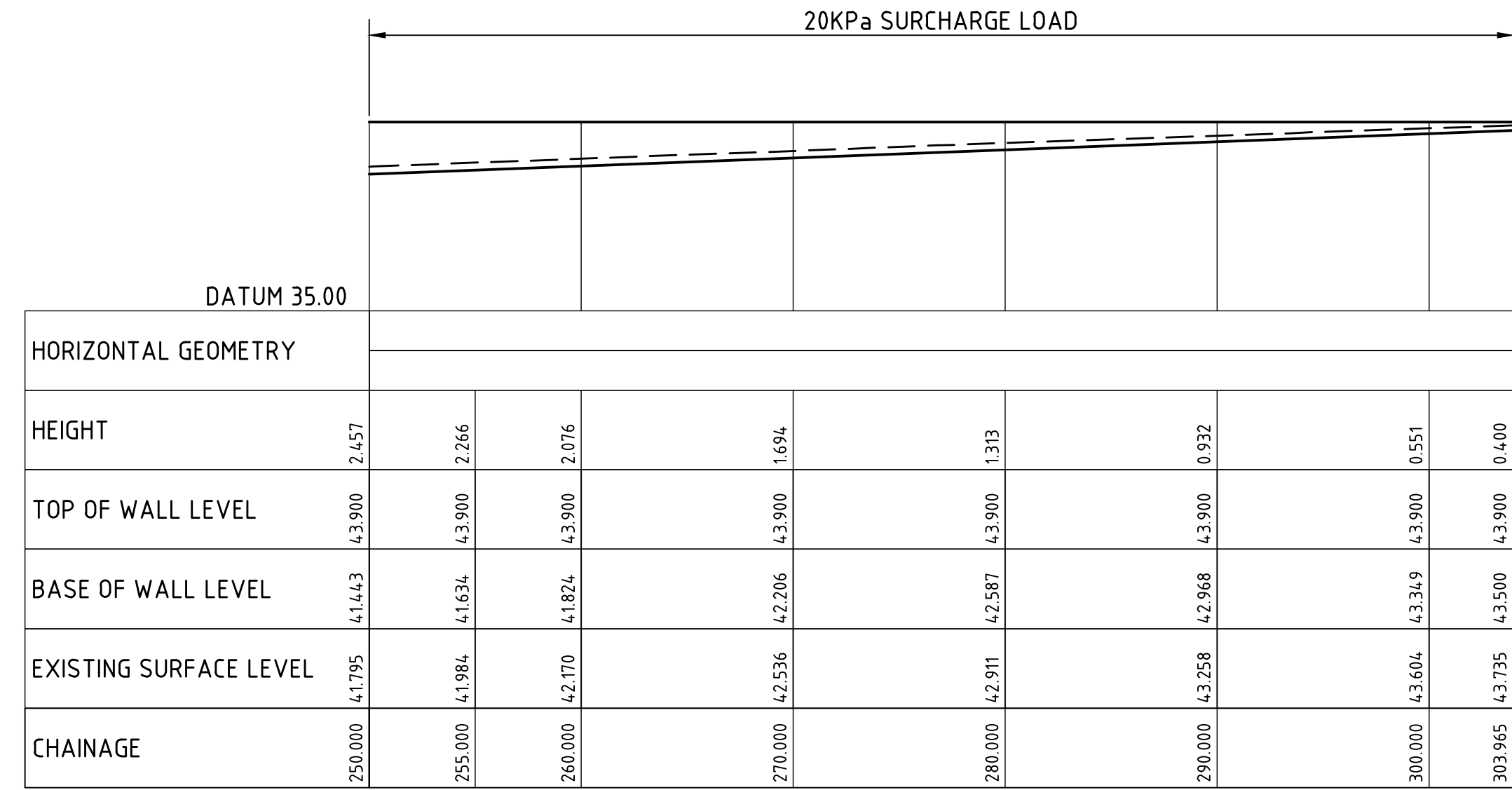
ELEVATION RETAINING WALL 1
SCALE 1:250
SURFACE AREA=1120m2 APPROX
REINFORCED EARTH KEYSTONE WALL



ELEVATION RETAINING WALL 1
SCALE 1:250
SURFACE AREA=1120m2 APPROX
REINFORCED EARTH KEYSTONE WALL



ELEVATION RETAINING WALL 2
SCALE 1:250
SURFACE AREA=920m2 APPROX
REINFORCED EARTH KEYSTONE WALL



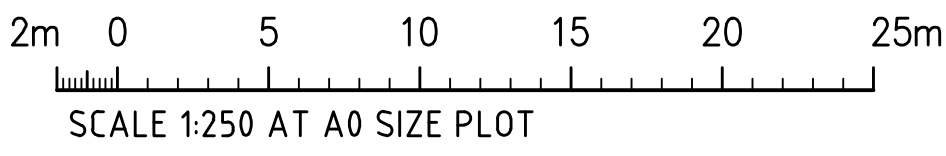
ELEVATION RETAINING WALL 2
SCALE 1:250
SURFACE AREA=920m2 APPROX
REINFORCED EARTH KEYSTONE WALL

NOTE :

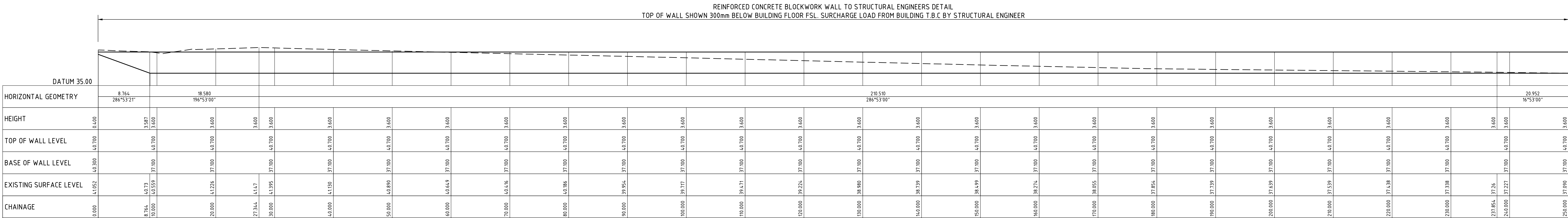
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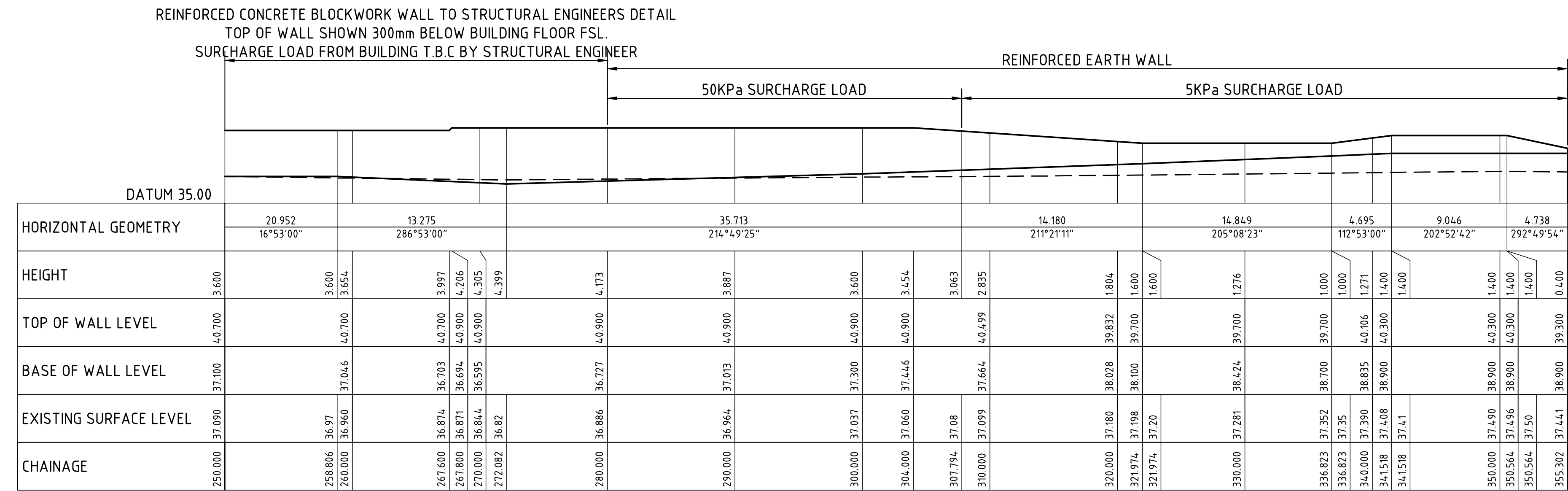
THE CIVIL DETAILS SHALL BE SUBJECT TO CHANGE DURING THE DETAILED DESIGN STAGE.



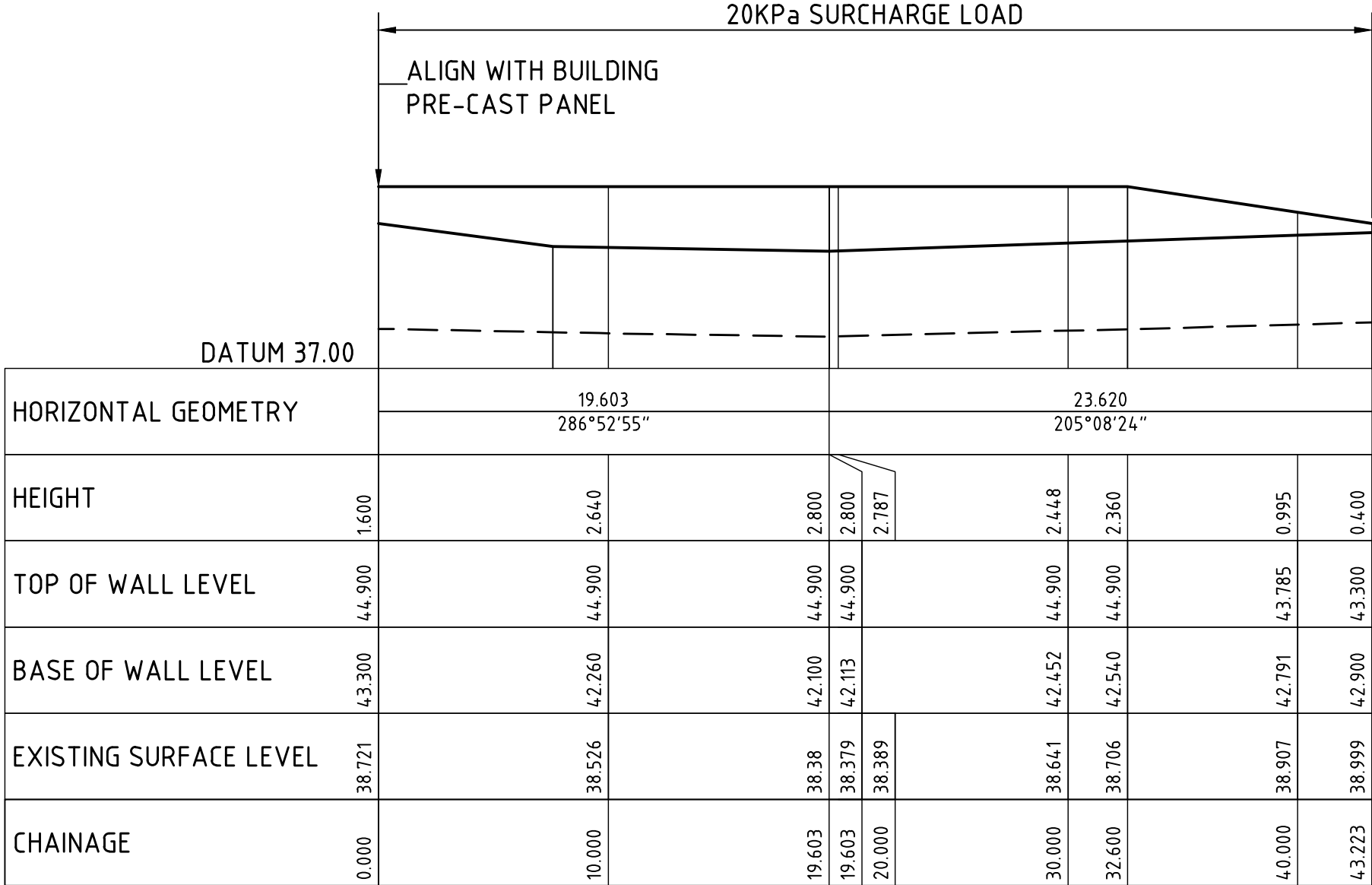
FOR TENDER



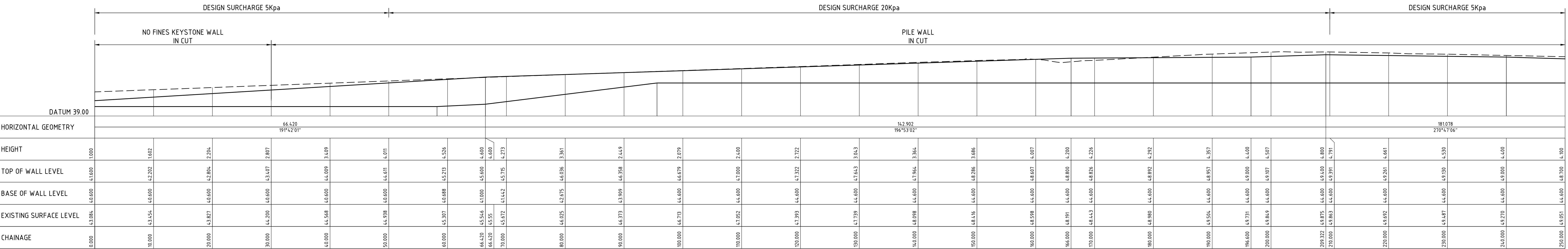
ELEVATION RETAINING WALL 3
SCALE 1:250
SURFACE AREA=1180m2 APPROX



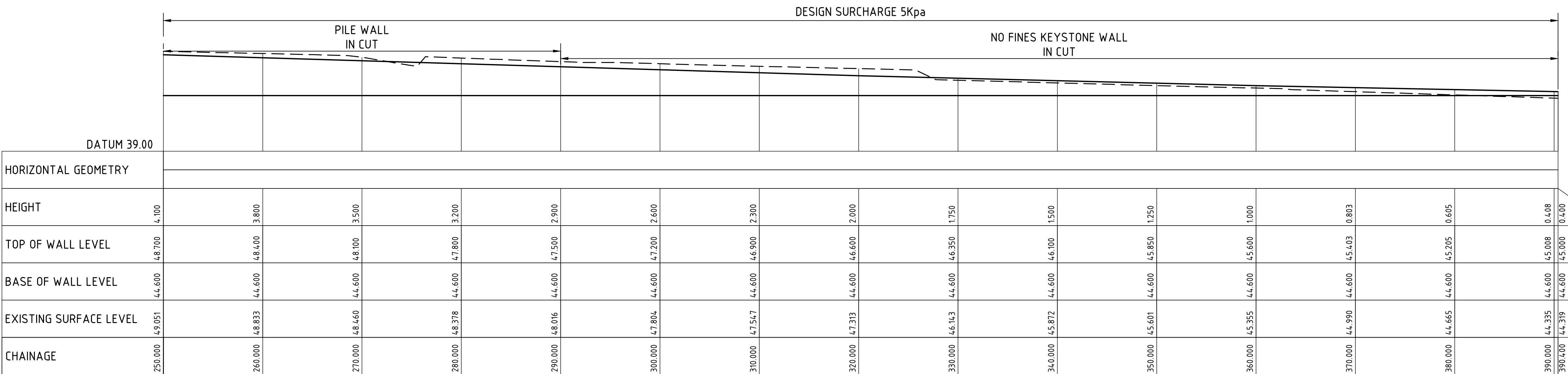
ELEVATION RETAINING WALL 3
SCALE 1:250
SURFACE AREA=1180m2 APPROX



ELEVATION RETAINING WALL 5
SCALE 1:250
SURFACE AREA=96m2 APPROX
REINFORCED EARTH KEYSTONE WALL



ELEVATION RETAINING WALL 4
SCALE 1:250
SURFACE AREA=1190m2 APPROX

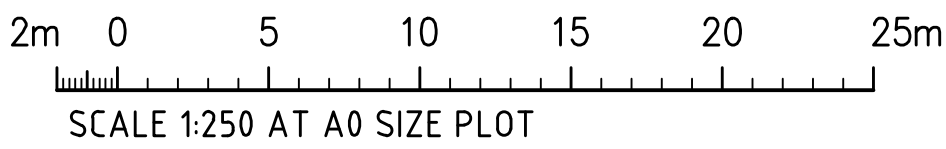


ELEVATION RETAINING WALL 4
SCALE 1:250
SURFACE AREA=1190m2 APPROX

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FOR TENDER