

SURFACE WATER DRAINAGE SYSTEM VERIFICATION REPORT

PROJECT	GRAVESEND
PROJECT NUMBER	22026
CLIENT	AVERY
REPORT DATE	DECEMBER 2024

REVISION	DATE	WRITTEN BY	REVIEWED BY
INITIAL ISSUE	20.12.2024	JBD (EngTech)	MG (MEng)
C02	02.01.2025	JBD (EngTech)	MG (MEng)

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1. INTRODUCTION

This Drainage Verification Report has been prepared by ARC Engineers on behalf of Avery Healthcare for the 62 Bed Care Home for the proposed development at Ascot Arms, Central Avenue, Gravesend, Kent, DA12 5AW as shown in the Site Location included in Appendix A, in order to address Planning Condition 9 received from Gravesham Borough Council which goes as follows:

No building on any phase (or within an agreed implementation schedule) of the development hereby permitted shall be occupied until a Verification Report, pertaining to the surface water drainage system and prepared by a suitably competent person, has been submitted to and approved by the Local Planning Authority. The Report shall demonstrate that the drainage system constructed is consistent with that which was approved. The Report shall contain information and evidence (including photographs) of details and locations of inlets, outlets and control structures; landscape plans; full as built drawings; information pertinent to the installation of those items identified on the critical drainage assets drawing; and the submission of an operation and maintenance manual for the sustainable drainage scheme as constructed.

2. AS-BUILT DRAWINGS

For the As-Built drawings please refer to Appendix B.

3. CONSTRUCTION DETAILS

For the Construction Details drawings please refer to Appendix C.

4. CCTV DRAINAGE SURVEY

For the CCTV Drainage Survey please refer to Appendix D.

5. PROGRESS & COMPLETION PHOTOS

For the Progress and Completion Photos please refer to Appendix E.

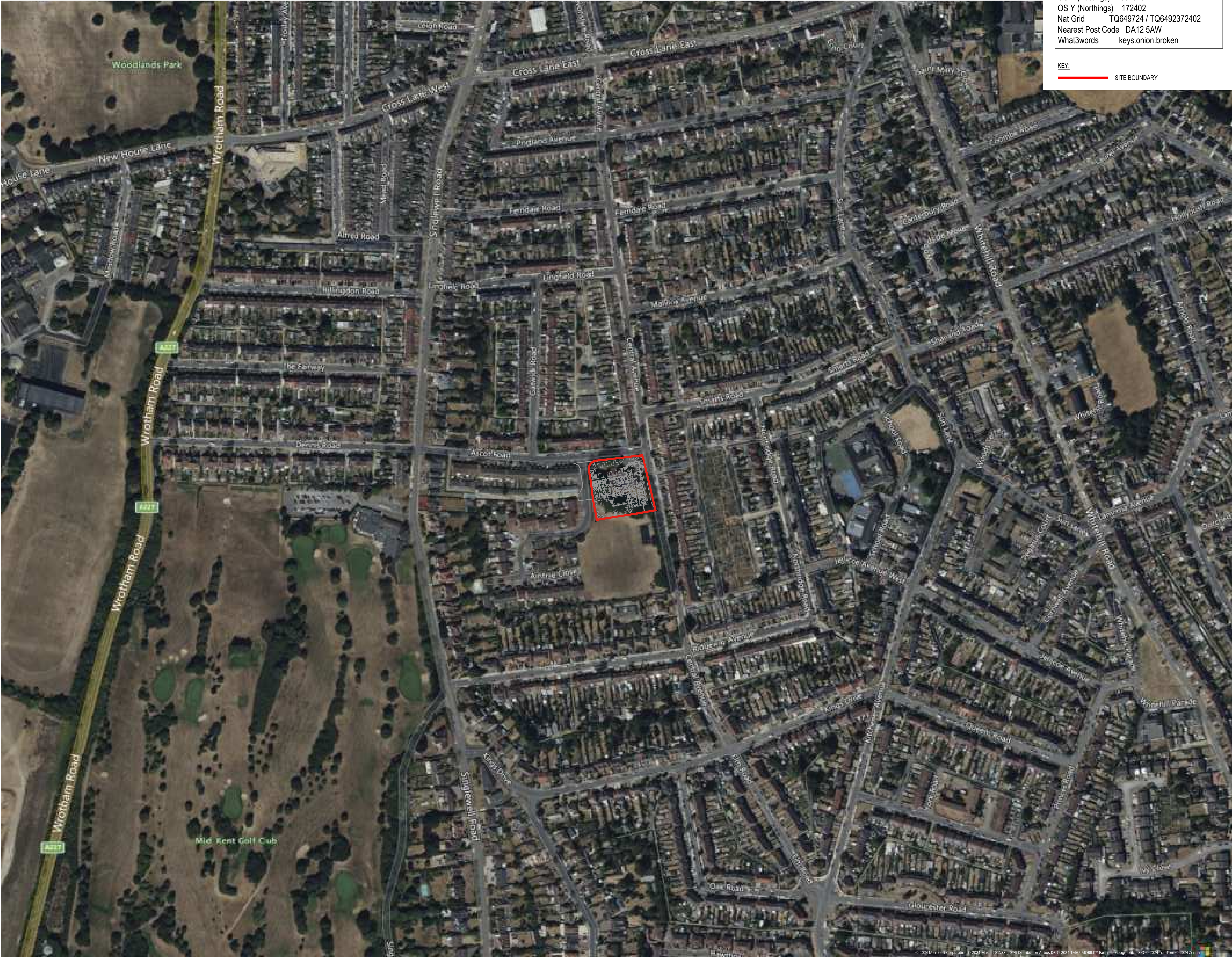
6. SUDS MAINTENANCE STRATEGY

For the SUDS Maintenance Strategy please refer to Appendix F.

7. CONCLUSION

- Planning Condition requests a verification report for the suitability of As-Built Surface Water drainage.
- ARC Engineers carried out a site visit on the 25th November 2024 to assess the constructed surface water drainage.
- Visual Inspection proved that surface manholes are constructed as shown on the design drawings.
- This Verification Report demonstrates that the Surface Water drainage system constructed is consistent with that which was approved.

APPENDIX A SITE LOCATION PLAN



SITE COORDINATE/LOCATION INFORMATION:
OS X (Easting) 564923
OS Y (Northing) 172402
Nat Grid TQ649724 / TQ6492372402
Nearest Post Code DA12 5AW
What3words keys.onion.broken

KEY:
SITE BOUNDARY

DO NOT SCALE

FOR THE AVOIDANCE OF DOUBT, NO APPROVALS, REVIEWS, COMMENTS OR INDICATION OF SATISFACTION GIVEN BY ARC ENGINEERS IN TERMS OF SUBCONTRACT DRAWINGS, PRODUCTS OR PROPOSED MATERIALS SHALL REDUCE OR EXTINGUISH THE OBLIGATION OF THE SUB-CONTRACTOR OR SUPPLIER TO ADHERE TO THE SPECIFICATION, GENERAL ARRANGEMENT DRAWINGS, STATUTORY REQUIREMENTS AND GOOD WORKING PRACTICE. ARC ENGINEERS ACCEPT NO LIABILITY FOR THE SELECTION OF MATERIALS OR WORKMANSHIP IN THE EXECUTION OF THE WORKS.

- GENERAL NOTES
- THESE NOTES ARE INTENDED TO AUGMENT DRAWINGS AND SPECIFICATIONS, WHERE CONFLICT OF REQUIREMENTS EXISTS THE ORDER OF PRECEDENCE SHALL BE AS SHOWN IN THE SPECIFICATIONS. OTHERWISE THE STRICTEST PROVISION SHALL GOVERN.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ENGINEERS AND ARCHITECTS DRAWINGS.
 - DRAWINGS NOT TO BE SCALED.
 - ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR, ANY DISCREPANCIES TO BE NOTIFIED TO THE ENGINEER/ARCHITECT AND FURTHER INSTRUCTIONS OBTAINED BEFORE WORK IS COMMENCED.
 - THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETE. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO DETERMINE THE ERECTION PROCEDURE AND SEQUENCE AND ENSURE THAT THE BUILDING AND ITS COMPONENTS ARE SAFE DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS OR TIE-DOWNS WHICH MAY BE NECESSARY, SUCH MATERIAL REMAINING THE PROPERTY OF THE CONTRACTOR UPON COMPLETION.
 - ALL WORK TO COMPLY TO CURRENT BUILDING REGULATIONS AND TO BE IN ACCORDANCE WITH THE RELEVANT BRITISH STANDARDS AND APPROPRIATE CODES OF PRACTICE.
 - FOR FURTHER NOTES REFER TO PROJECT SPECIFICATIONS.

SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following risks and information.

Risks listed here are not exhaustive. Refer to Risk Assessment Register: 22026

Construction:

ADD PROJECT NOTES HERE

Demolition
No Unusual hazards/risks

For information relating to Use, Cleaning and Maintenance see Health & Safety File

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement

	INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION
	INDICATES A RESIDUAL RISK FOR INFORMATION
	INDICATES A RESIDUAL RISK REQUIRING PROHIBITIVE ACTION
	INDICATES A RESIDUAL RISK AS A WARNING

C02 AS-BUILT ISSUE	JBD	MG	MG	02.01.2025
C01 INITIAL ISSUE	JBD	MG	MG	05.12.2024
REV DETAIL	BY	CHK	APP	DATE

CONSULTING STRUCTURAL AND CIVIL ENGINEERS

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CLIENT:
AVERY

PROJECT:
CARE HOME,
CENTRAL AVENUE,
GRAVESEND

TITLE:
SITE LOCATION PLAN

DRAWING STATUS:
AS-BUILT

DRAWN:	DATE:	CHECKED:	DATE:	APPROVED:	DATE:
JBD	DEC 24	MG	DEC 24	MG	DEC 24

CONTRACT No:	SCALE @ A1:
22026	1:2000

PROJECT No:	ORIGINATOR:	ZONE:	LEVEL:	TYPE:	DISCIPLINE:	NUMBER:	REVISION:
22026	ARC	XX	XX	DR	C	0511	C02

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APPENDIX B AS-BUILT DRAWINGS

DO NOT SCALE

For the avoidance of doubt, no approvals, reviews, comments or indication of satisfaction given by ARC Engineers in terms of subcontract drawings, products or proposed materials shall reduce or extinguish the obligation of the sub-contractor or supplier to adhere to the specification, general arrangement drawings, statutory requirements and good working practice. ARC Engineer's accept no liability for the selection of materials or workmanship in the execution of the works.

GENERAL NOTES

- These notes are intended to augment drawings and specifications. Where conflict of requirements exists the order of precedence shall be as shown in the specifications. Otherwise the strictest provision shall govern.
- This drawing is to be read in conjunction with all other relevant Engineers and Architects drawings.
- Drawings not to be scaled.
- All dimensions to be checked on site by the contractor. Any discrepancies to be notified to the Engineer/Architect and further instructions obtained before work is commenced.
- The structure is designed to be self-supporting and stable after the building is fully complete. It is the contractors sole responsibility to determine the erection procedure and sequence and ensure that the building and its components are safe during erection. This includes the addition of whatever temporary bracing, guys or tie-downs which may be necessary, such material remaining the property of the contractor upon completion.
- All work to comply to current building regulations and to be in accordance with the relevant British Standards and appropriate Codes of Practice.
- For further notes refer to Project Notes.

SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following risks and information.

Risks listed here are not exhaustive. Refer to Risk Assessment Register: XXXXXX

Construction:



ADD PROJECT NOTES HERE

Demolition

No Unusual hazards/risks

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INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION



INDICATES A RESIDUAL RISK FOR INFORMATION



INDICATES A RESIDUAL RISK REQUIRING PROHIBITIVE ACTION



INDICATES A RESIDUAL RISK AS A WARNING

PROPOSED SURFACE WATER CHAMBERS

MANHOLE REF:	OUTLET PIPE SIZE (mm)	PIPE GRADIENT	PIPE MATERIAL	DEPTH TO INVERT (m)	DEPTH TO CROWN (m)	COVER LEVEL (m)	INVERT LEVEL (m)	CHAMBER			COVER		SETTING OUT		COMMENTS
								TYPE	MATERIAL	SIZE	TYPE	SIZE	EASTING (mm)	NORTHING (mm)	
SW MH01	150	1:80	PLASTIC	0.729	0.579	35.120	35.391	TYPE 4	PLASTIC	450	A15	450 DIA	5648950652	1723880754	
SW MH02	150	1:80	PLASTIC	0.765	0.615	35.955	35.190	TYPE 4	PLASTIC	450	A15	450 DIA	564847874	172401861	
SW MH03	225	1:80	PLASTIC	0.742	0.517	35.820	35.078	TYPE 4	PLASTIC	600	A15	600 DIA	564847756	172406812	IL150:35.153
SW MH04	225	1:60	PLASTIC	1.004	0.779	35.905	34.901	TYPE 4	PLASTIC	600	A15	600 DIA	564845270	172420724	IL100:35.026
SW MH05	225	1:40	PLASTIC	1.126	0.901	35.750	34.624	TYPE 4	PLASTIC	600	B125	600 DIA	564842354	172437115	
SW MH06	225	1:40	PLASTIC	1.152	0.927	35.500	34.348	TYPE 4	PLASTIC	600	B125	600 DIA	564831469	172435174	
SW MH07	300	1:40	PLASTIC	1.726	1.426	35.800	34.074	TYPE 2	PCC	1200	D400	600x600	564822332	172429153	SILT TRAP - IL150:34.149, BD1:34.783, BASE:33.574m
SW MH08	150	1:67	PLASTIC	1.340	1.190	35.600	34.260	TYPE 4	PLASTIC	450	B125	450 DIA	564822611	172436632	
SW MH09	150	1:20	PLASTIC	0.690	0.500	35.900	35.250	TYPE 4	PLASTIC	450	B125	450 DIA	564823973	172419942	
SW MH10	150	1:80	PLASTIC	0.620	0.470	35.920	35.300	TYPE 4	PLASTIC	450	B125	450 DIA	564818624	172387959	
SW MH11	225	1:80	PLASTIC	0.913	0.688	35.940	35.027	TYPE 4	PLASTIC	600	B125	600 DIA	564814288	172394623	IL100:35.152, IL150:35.102
SW MH12	225	1:50	PLASTIC	0.988	0.763	35.820	34.832	TYPE 4	PLASTIC	600	B125	600 DIA	564809316	172391919	
SW MH13	225	1:50	PLASTIC	1.448	1.223	35.820	34.372	TYPE 4	PLASTIC	600	B125	600 DIA	564805078	172414574	
SW MH15	225	1:60	PLASTIC	1.616	1.391	35.950	34.334	TYPE 4	PLASTIC	600	B125	600 DIA	564806545	172414906	
SW MH16	225	1:40	PLASTIC	0.640	0.415	35.940	35.300	TYPE 4	PLASTIC	600	B125	600 DIA	564825248	172396574	
SW MH17	150	FLAT	PLASTIC	2.030	1.880	35.580	33.550	TYPE 3	PLASTIC	450	D400	600x600	564894765	172427067	PERFORATED PIPE
SW MH18	150	FLAT	PLASTIC	2.130	1.980	35.680	33.550	TYPE 3	PLASTIC	450	D400	600x600	564820659	172431679	PERFORATED PIPE
SW DB1	300	FLAT	PLASTIC	2.230	1.930	35.630	33.400	TYPE 2	PCC	1800	D400	600x600	564805205	172424328	DEEP BORE SOAKAWAY, IN 34.175, BASE 32.400
SW DB2	300	FLAT	PLASTIC	2.290	1.990	35.690	33.400	TYPE 2	PCC	1800	D400	600x600	564813865	172427642	DEEP BORE SOAKAWAY, IN 33.900, BASE 32.400
Indicated low cover concrete encasement required to Pipework								Indicated amendment made following revisions starting at Construction Issue							

PROPOSED FOUL WATER CHAMBERS

MANHOLE REF:	OUTLET PIPE SIZE (mm)	PIPE GRADIENT	PIPE MATERIAL	TO INVERT (m)	TO CROWN (m)	COVER LEVEL (m)	INVERT LEVEL (m)	CHAMBER			COVER		SETTING OUT		COMMENTS
								TYPE	MATERIAL	SIZE	TYPE	SIZE	EASTING (mm)	NORTHING (mm)	
FW MH01	150	1:140	PLASTIC	0.940	0.790	35.970	35.030	TYPE 4	PLASTIC	450	B125	450 DIA	564826604	172397427	IL100:35.080
FW MH02	150	1:140	PLASTIC	1.004	0.944	35.970	34.876	TYPE 4	PLASTIC	450	B125	450 DIA	564805319	172391628	
FW MH03	150	1:140	PLASTIC	0.993	0.843	35.820	34.827	TYPE 4	PLASTIC	450	B125	450 DIA	564838866	172395973	IL100:34.877
FW MH04	150	1:34	PLASTIC	1.129	0.979	35.825	34.696	TYPE 4	PLASTIC	450	B125	450 DIA	564835638	172414080	
FW MH05	150	1:100	PLASTIC	1.380	1.230	35.675	34.295	TYPE 4	PLASTIC	450	B125	450 DIA	564833530	172427603	
FW MH05A	150	1:18	PLASTIC	1.308	1.158	35.590	34.282	TYPE 3	PLASTIC	450	D400	600x600	564894779	172427825	
FW MH06	150	1:109	PLASTIC	1.227	1.077	35.660	34.433	TYPE 3	PLASTIC	450	D400	600x600	564811277	172430701	
FW MH07	150	1:100	PLASTIC	0.888	0.738	35.850	34.962	TYPE 4	PLASTIC	450	B125	450 DIA	564821769	172418739	IL100:35.011
FW MH08	150	1:80	PLASTIC	0.765	0.615	35.840	35.075	TYPE 4	PLASTIC	450	A15	450 DIA	564846449	172412245	IL100:35.125
FW MH09	150	1:80	PLASTIC	1.128	0.978	35.900	34.772	TYPE 4	PLASTIC	450	B125	450 DIA	564842171	172436120	
FW MH10	150	1:109	PLASTIC	0.938	0.788	35.488	34.580	TYPE 3	PLASTIC	450	D400	600x600	564820974	172433913	
Indicated low cover concrete encasement required								Indicated amendment made following revisions starting at Construction Issue							

C4	AS-BUILT ISSUE	JBD	MG	02.01.2025
C3	COORDS UPDATED FOR FWMH05A AND FWMH06	JE		24.08.2023
C2	FOUL UPDATED FOR NEW CONNECTION POINT	JAB		06.06.2023
C1	INITIAL ISSUE	JAB		28.04.2023
REV	DETAIL	BY	CHK	DATE

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CLIENT:

AVERY

PROJECT:

CARE HOME,
CENTRAL AVENUE,
GRAVESEND

TITLE:

DRAINAGE
MANHOLE SCHEDULES

DRAWING STATUS:

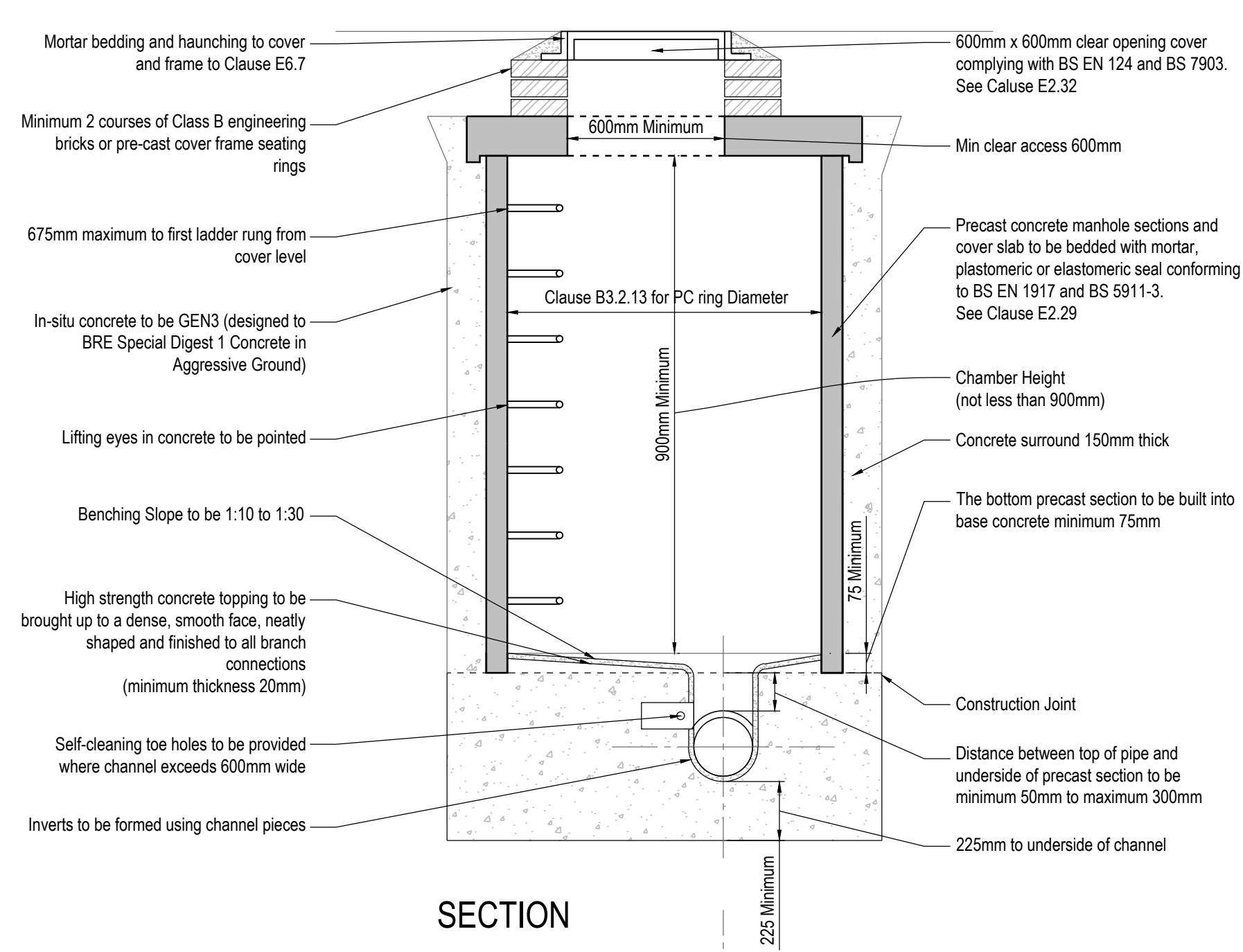
AS-BUILT

DRAWN: JAB	DATE: 28.04.2023	CHECKED: JAB	DATE: 28.04.2023
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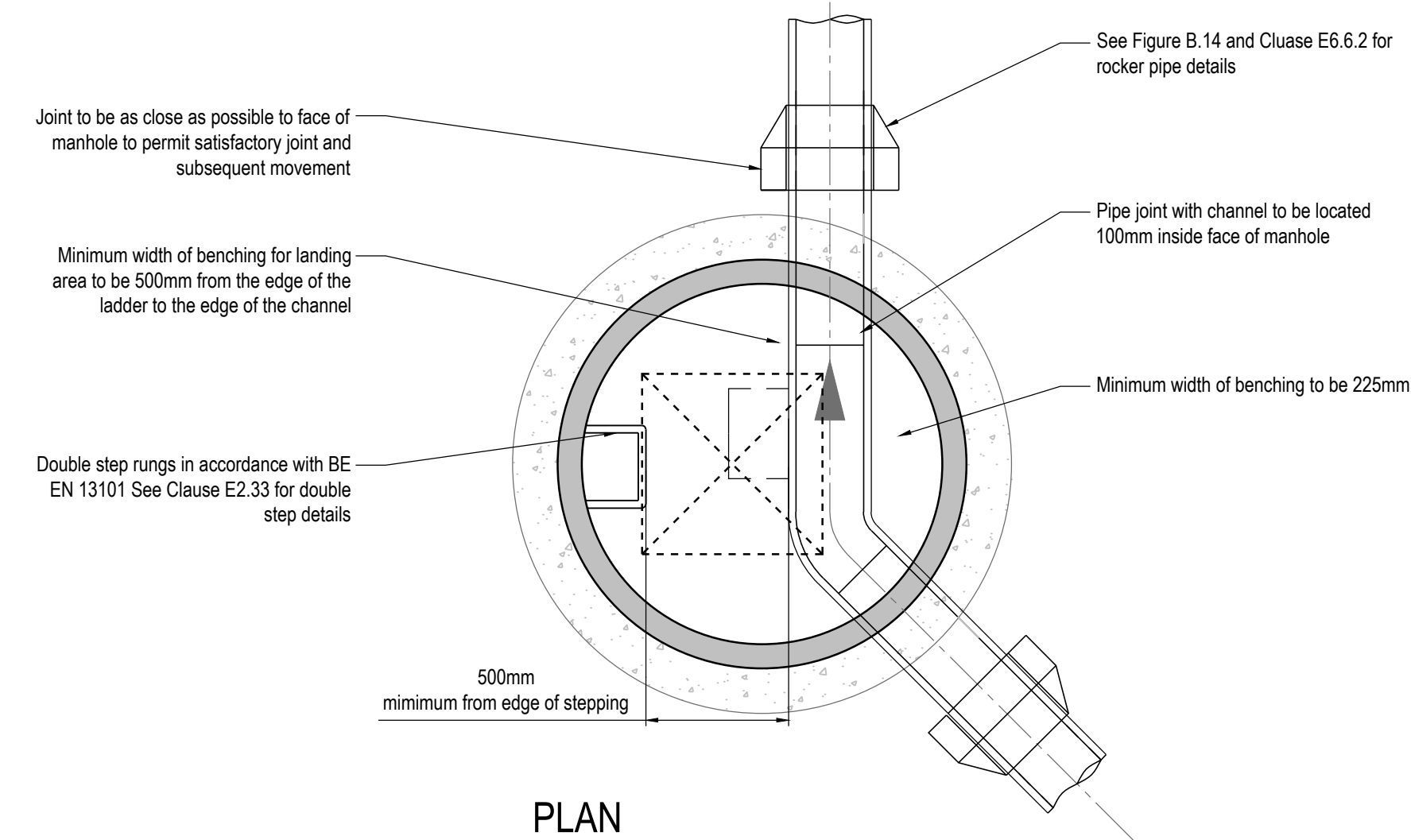
CONTRACT NO: 22026	SCALE @ A1: N/A
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PROJECT NO.	ORIGINATOR	ZONE	LEVEL	TYPE	DISCIPLINE	NUMBER	REVISION
22	026	- ARC	- XX	- XX	- DR	- D	0502 - C4

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SECTION



PLAN

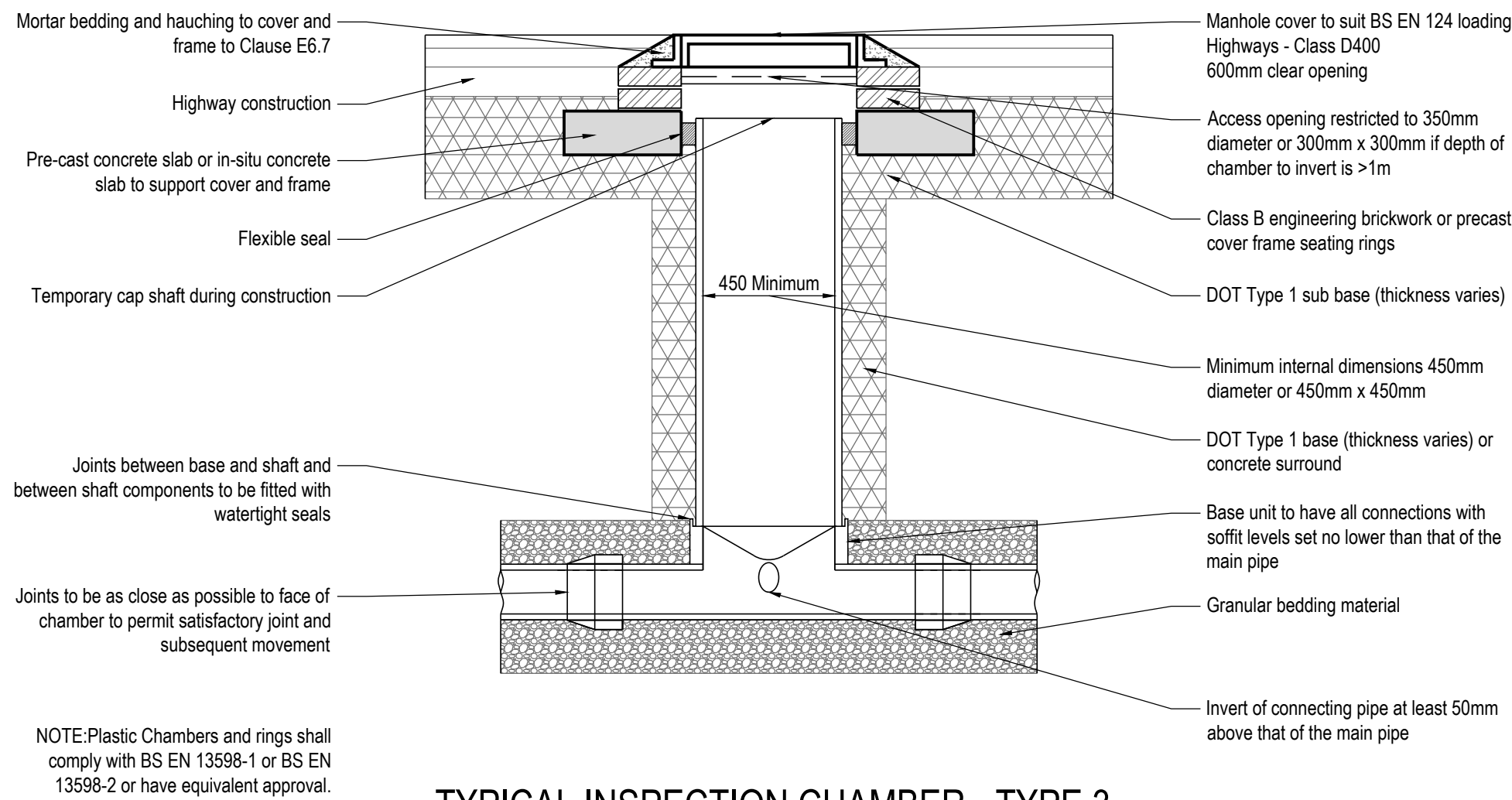
TYPICAL MANHOLE DETAIL - TYPE 2
MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE
3.0m
Scale 1:20

SHORT AND ROCKER PIPE LENGTHS TABLE APPLICABLE TO ALL MANHOLE TYPES FROM CLAUSE E6.6.2

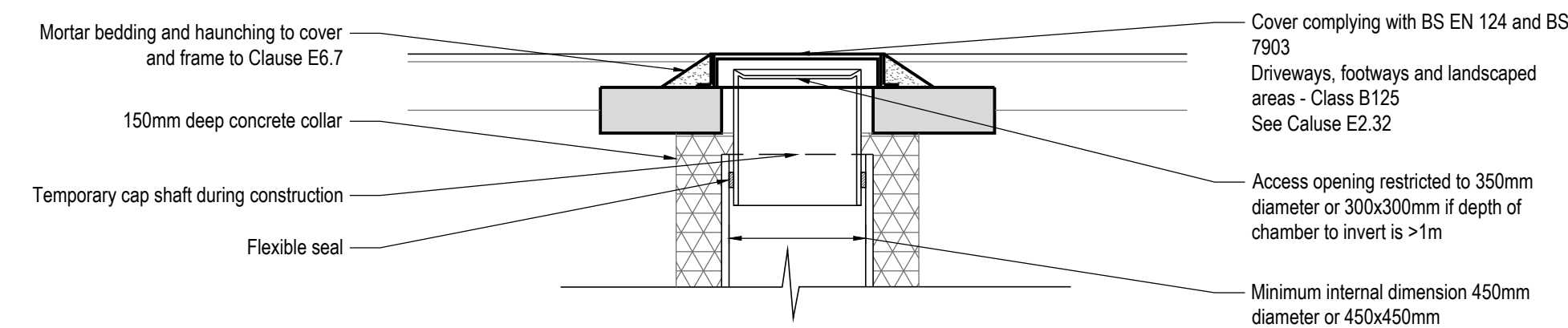
NOMINAL SIZE	EFFECTIVE LENGTH (mm)
150 TO 600	600
675 TO 675	1000
825 AND ABOVE	1250

DIA. OF LARGEST PIPE IN M.H.	CHAMBER SECTION INT.DIA. (mm)
LESS THAN 375mm	1200
375 TO 450	1350
500 TO 700	1500
750 TO 900	1800
900 TO 2100	2100

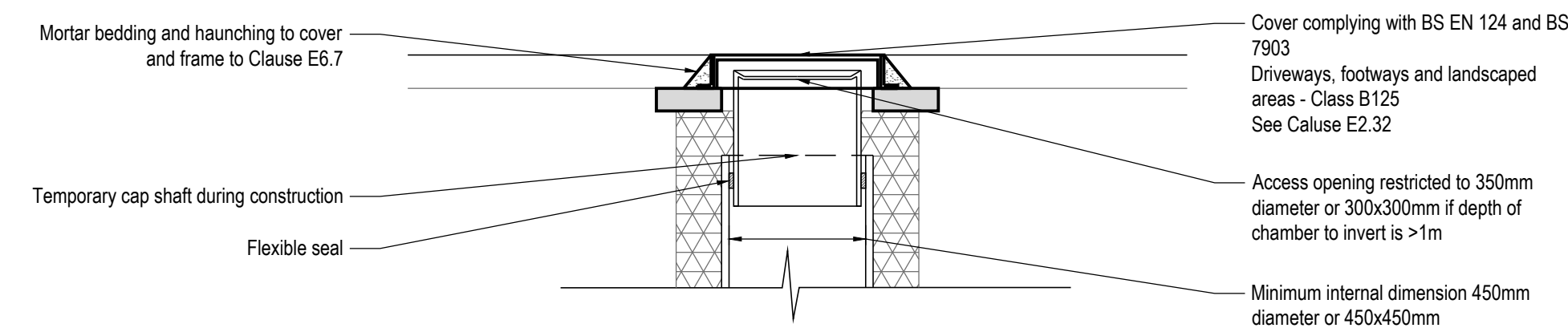
TABLE APPLICABLE TO MANHOLE CLAUSE B3.2.13
(CHAMBER SIZES ARE MINIMUM REQUIRED, SEE LAYOUT FOR VARIATIONS, IF ANY)



TYPICAL INSPECTION CHAMBER - TYPE 3
MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE
IN AREAS SUBJECT TO VEHICLE LOADING 3m, NON ENTRY
SCALE 1:20

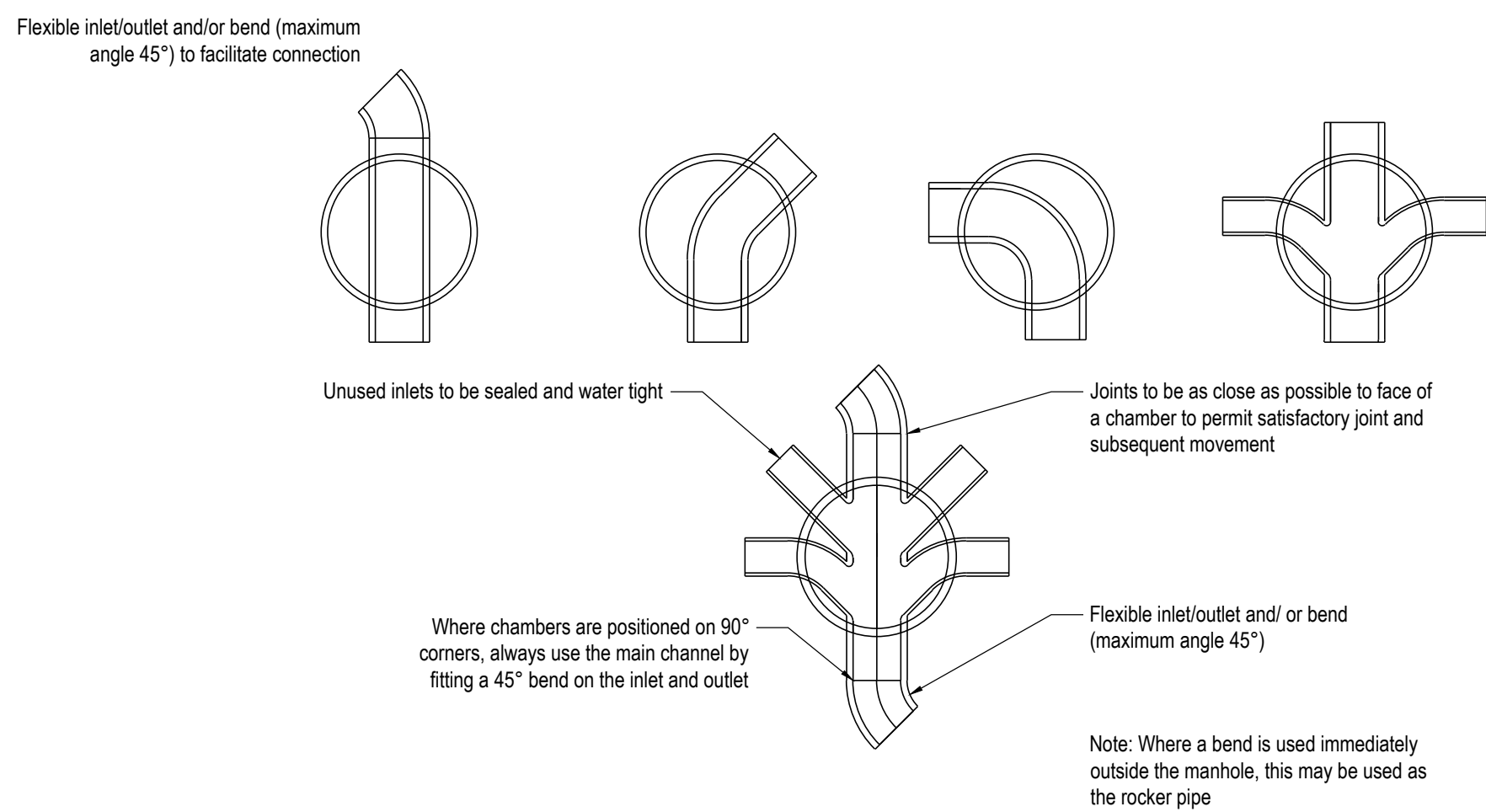


Sited in domestic driveway or footway



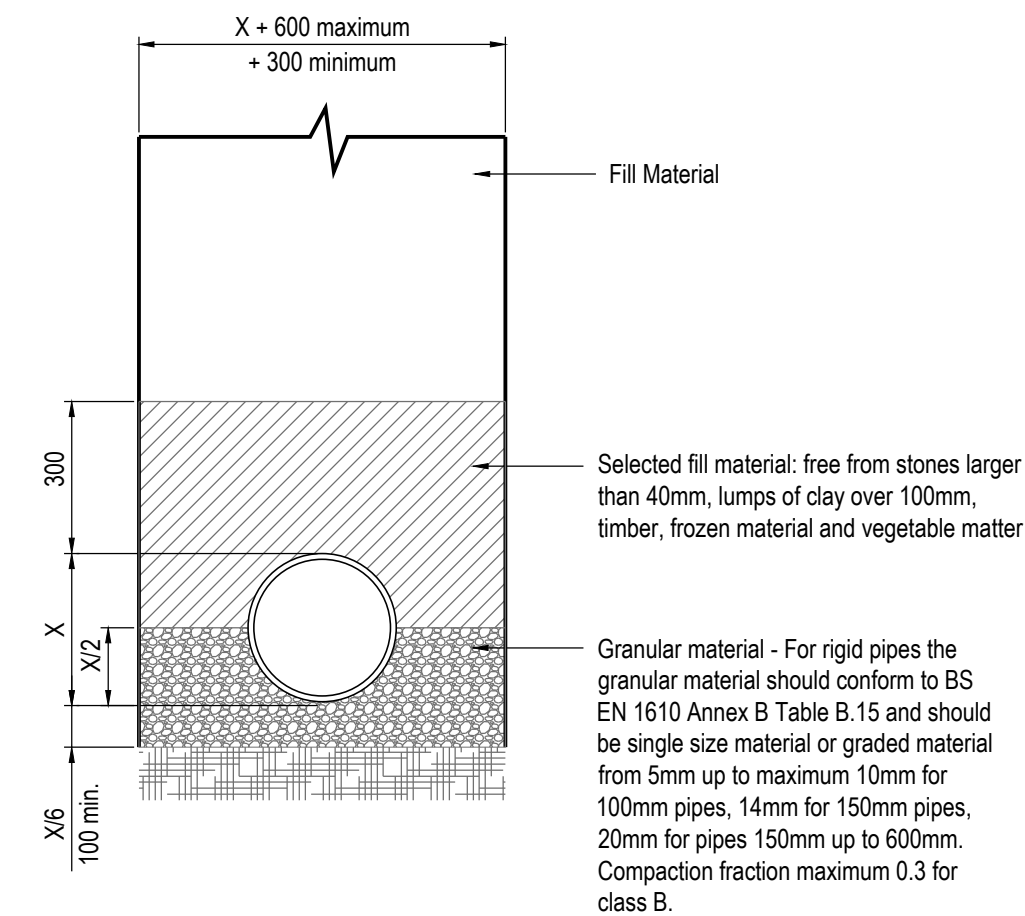
Sited in domestic gardens

ALTERNATIVE TOP DETAILS FOR LIGHT VEHICLE LOADING AND LANDSCAPED AREAS - TYPE 3
SCALE 1:20



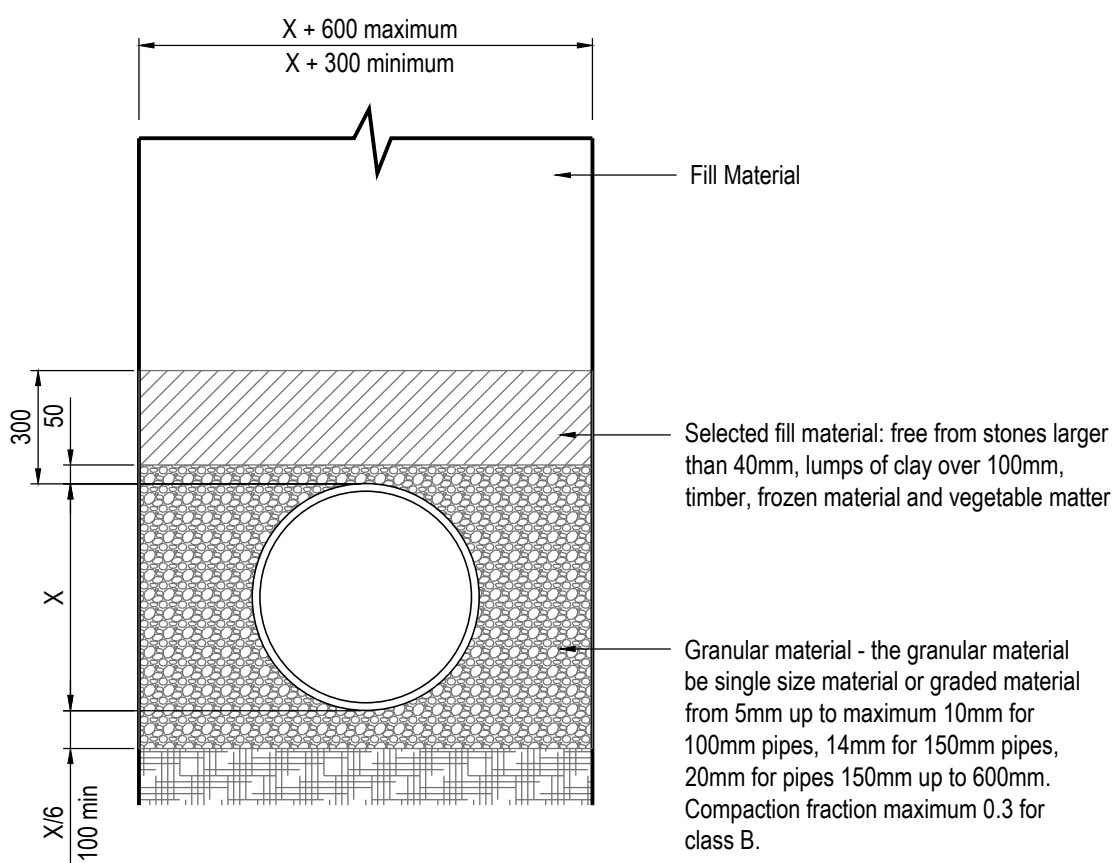
ALTERNATIVE BASE LAYOUT FOR TYPE 3 CHAMBER
SCALE 1:20

- Notes:
- All dimensions are in mm.
 - Dimension X is the external Ø of the pipe.
 - All pipe surround materials to be in accordance with the water services association, Sewers for Adoption 7th edition.
 - Pipe to be bedded to manufacturers recommendations



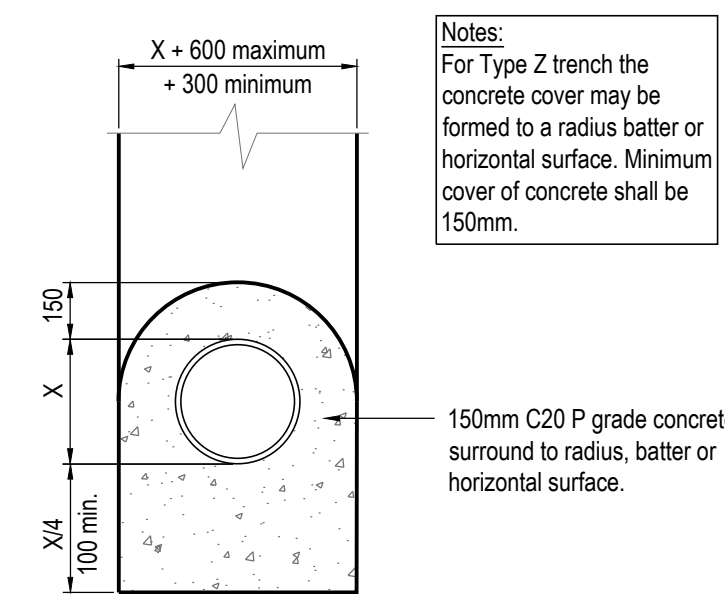
BED TYPE B(180°)
BEDDING FACTOR 1.9

FOR RIGID PIPES -
GENERALLY SUITABLE IN ALL SOIL CONDITIONS



BED TYPE S(360°)
BEDDING FACTOR 2.2

FOR FLEXIBLE PIPES -
GENERALLY SUITABLE IN ALL SOIL CONDITIONS



BED TYPE Z
CONCRETE SURROUND FOR SHALLOW PIPES

PIPE BEDDING DETAILS
SCALE 1:20

DO NOT SCALE

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- For further notes refer to Project Notes.

SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following risks and information.

Risks listed here are not exhaustive. Refer to Risk Assessment Register:

Construction:



PROJECT NOTES:
NO KNOWN RISK SPECIFIC TO WORKS THAT WOULD NOT BE NOTED BY A COMPETENT CONTRACTOR

Demolition
No Unusual hazards/risks

For information relating to Use, Cleaning and Maintenance see Health & Safety File

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement



INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION



INDICATES A RESIDUAL RISK FOR INFORMATION



INDICATES A RESIDUAL RISK REQUIRING PROHIBITIVE ACTION



INDICATES A RESIDUAL RISK AS A WARNING

C02	AS-BUILT ISSUE	JBD	MG	02.01.2025
C01	CONSTRUCTION ISSUE	JAB		28.04.2023
T1	AMENDED TO TENDER ISSUE	JAB		27.04.2022
P1	INITIAL ISSUE	JAB	JAB	14.04.2022
REV	DETAIL	BY	CHK	DATE

arcengineers

CONSULTING STRUCTURAL AND CIVIL ENGINEERS

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Phone: 0113 253 3904
www.arc-engineers.co.uk

CLIENT: **AVERY**

PROJECT: **CARE HOME CENTRAL AVENUE GRAVESEND**

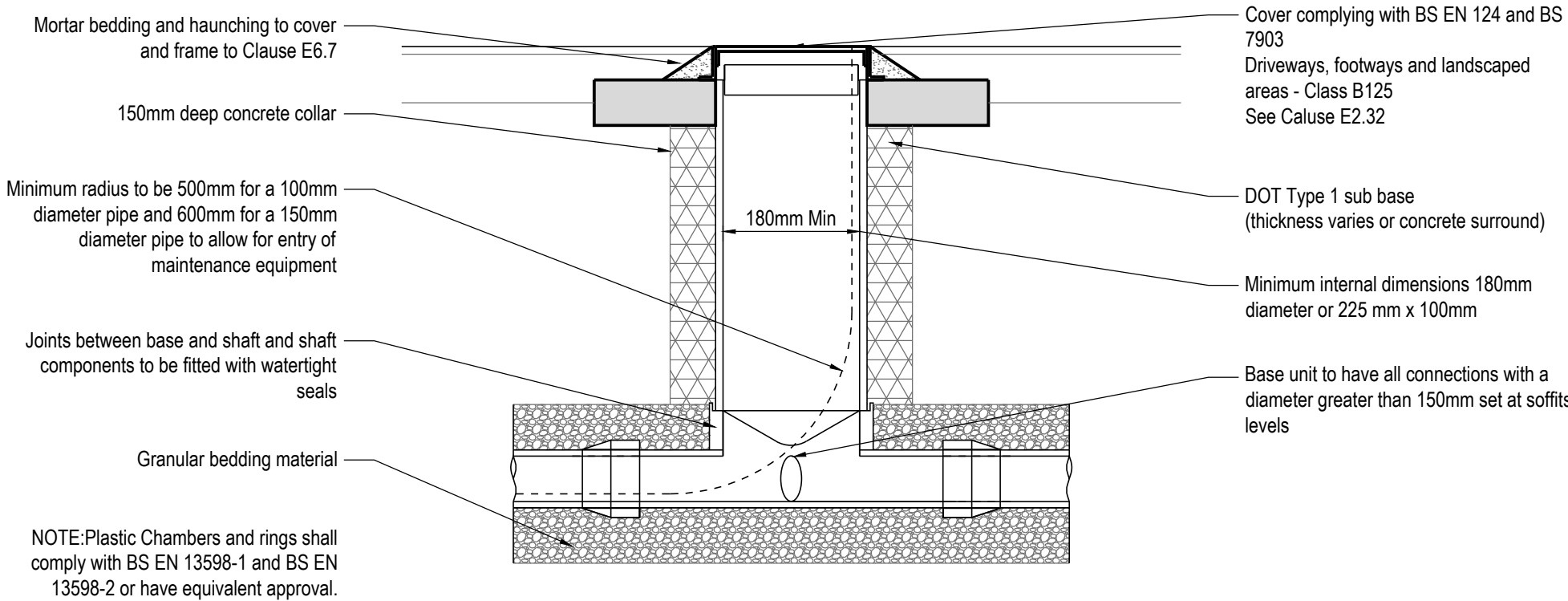
TITLE: **DRAINAGE DETAILS (1 of 3)**

DRAWING STATUS: **AS-BUILT**

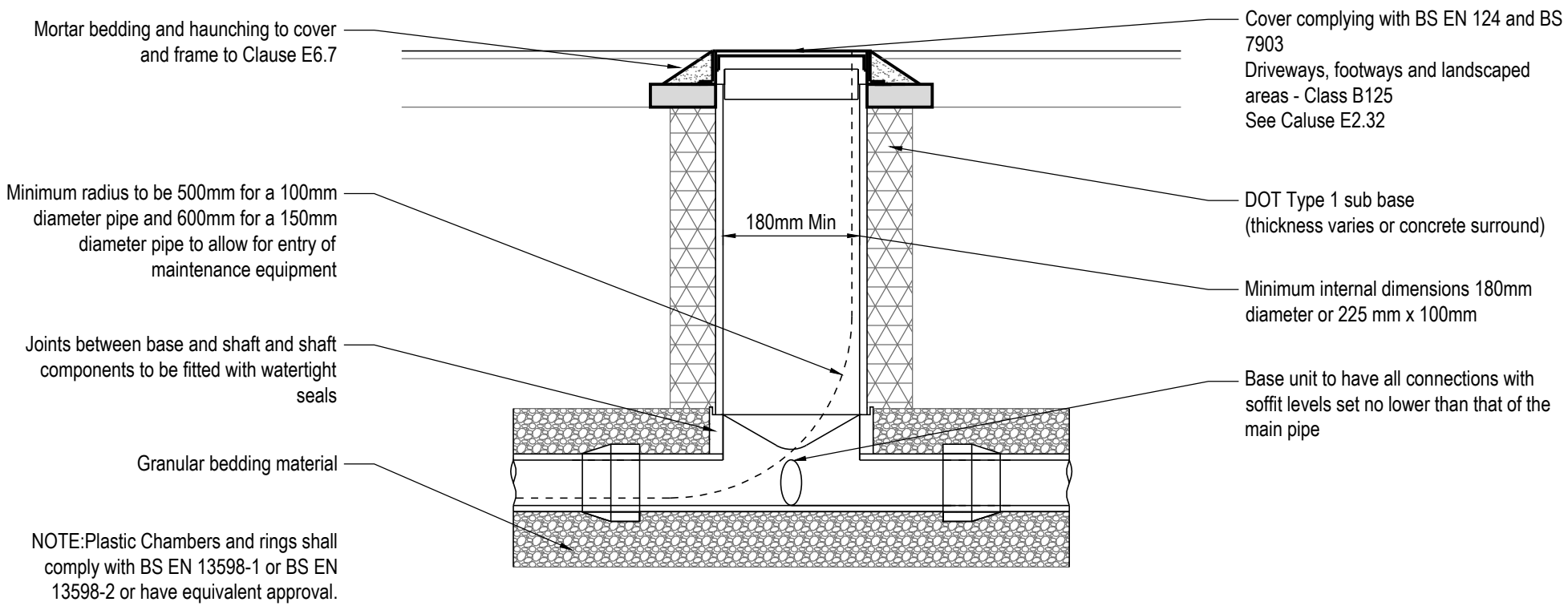
DRAWN: JAB	DATE: 14.04.2022	DRAWN: JAB	DATE: 14.04.2022
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CONTRACT No: 22026	SCALE @ A1: 1:100
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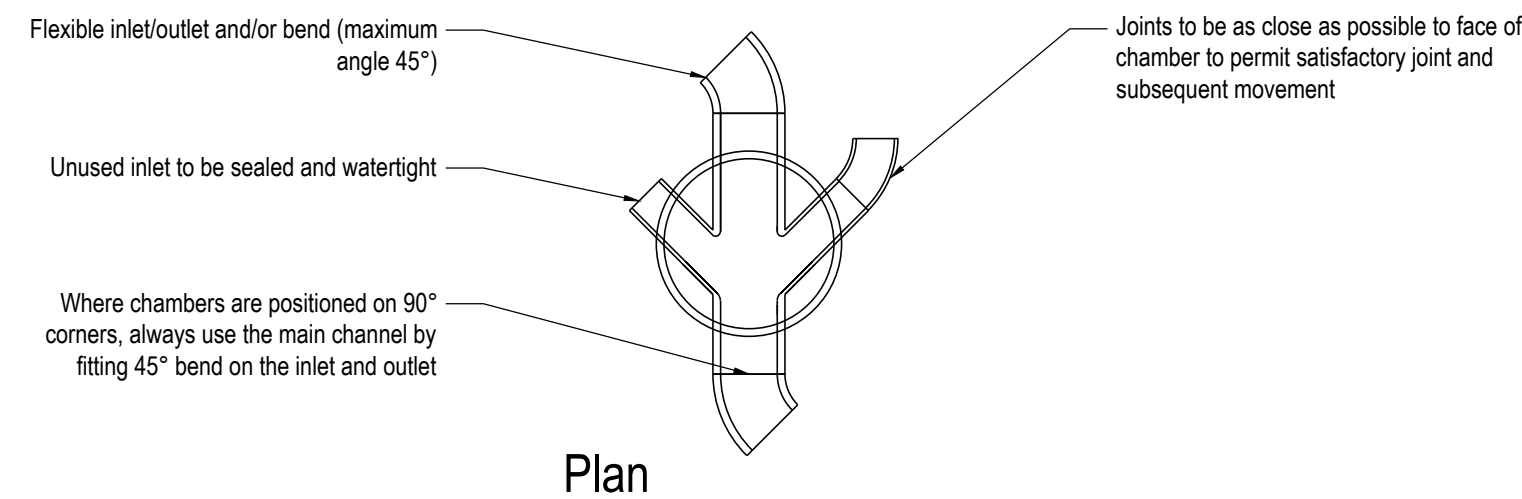
PROJECT No: 22026	ORIGINATOR: ARC	ZONE: XX	LEVEL: 00	DR: DR	D: D	0551	REVISION: C02
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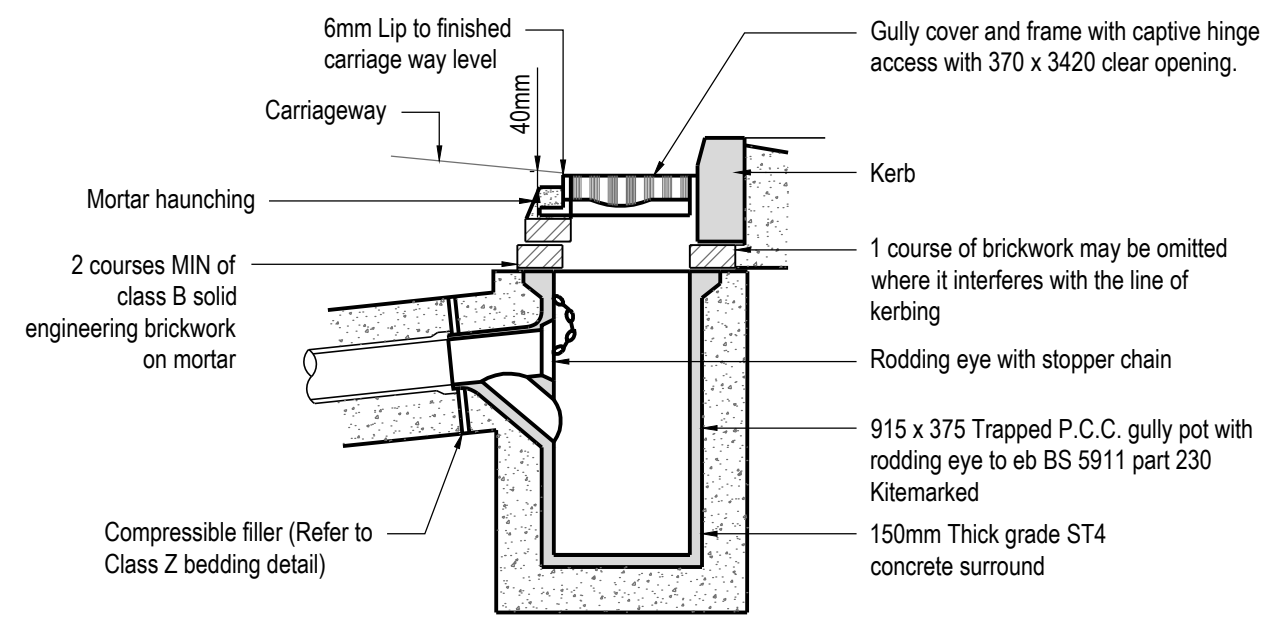
Sited in domestic driveway or footway



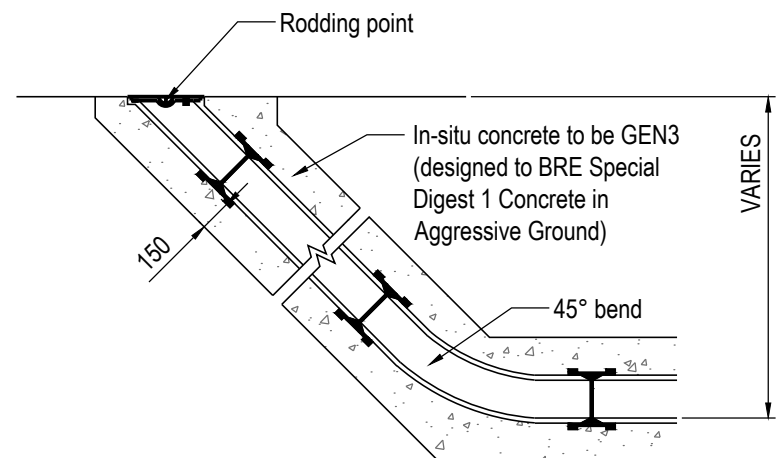
Sited in domestic garden



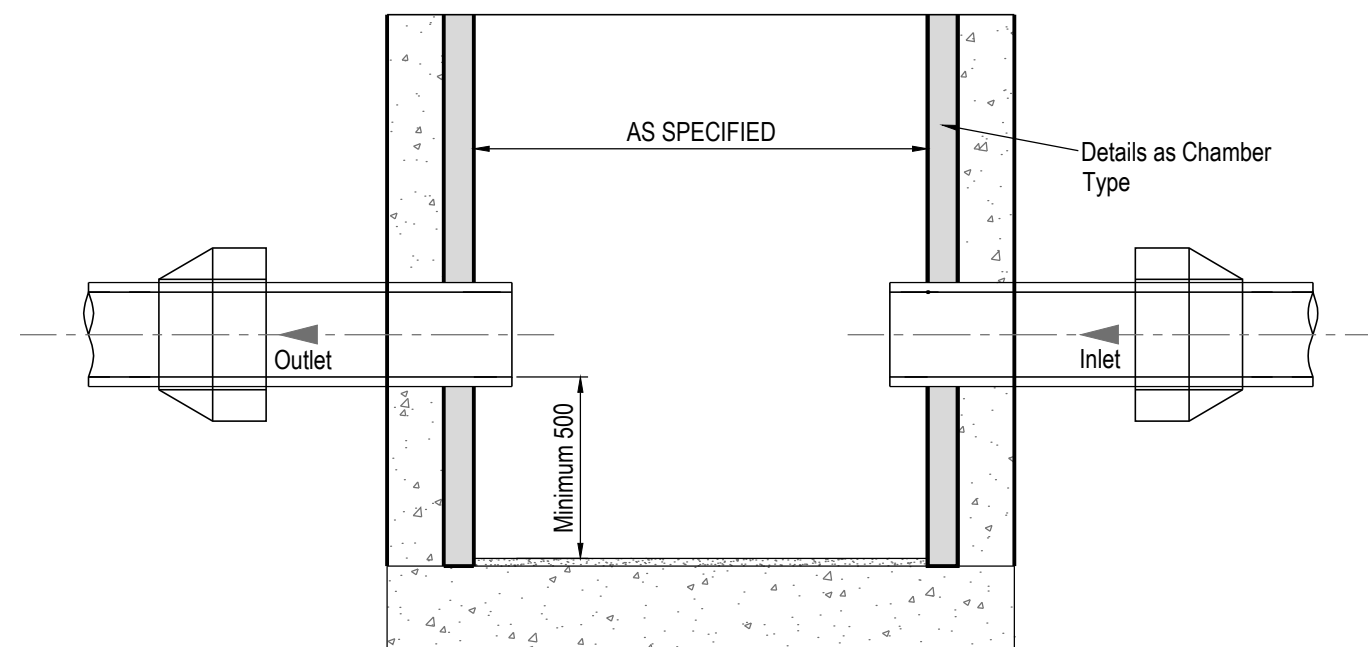
TYPICAL INSPECTION CHAMBER - TYPE 4
MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE
2m NON ENTRY
SCALE 1:20



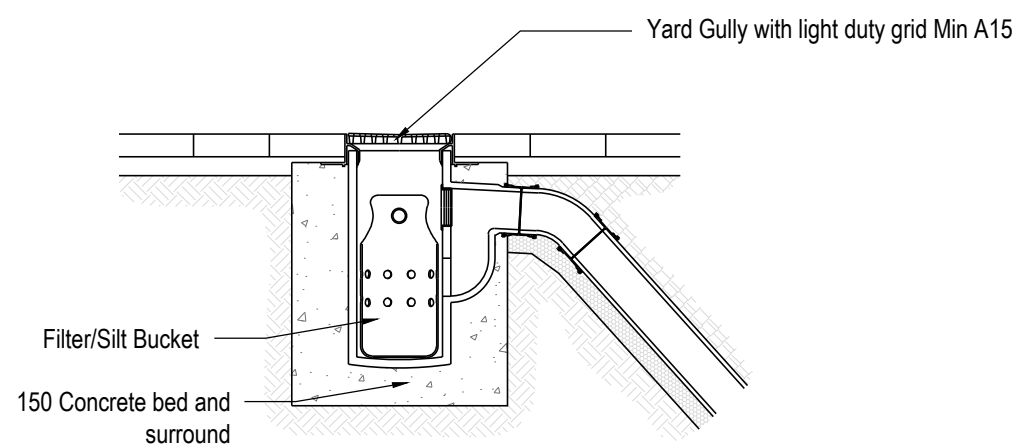
HIGHWAY DETAIL
TYPICAL ROAD GULLY
SCALE 1:20



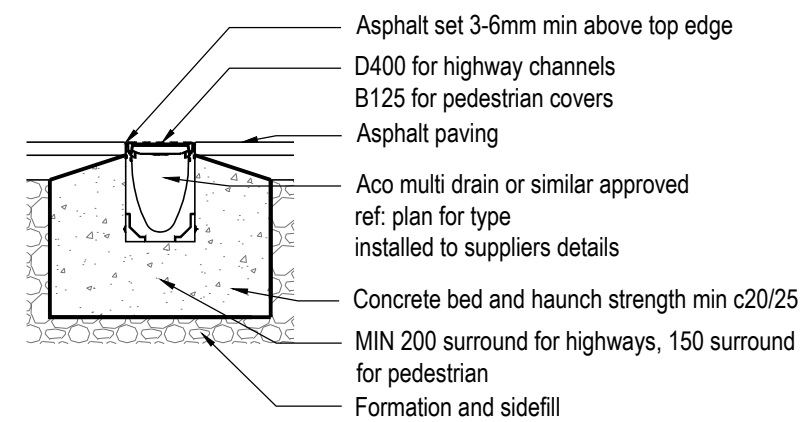
TYPICAL RODDING EYE
DETAIL
SCALE 1:20



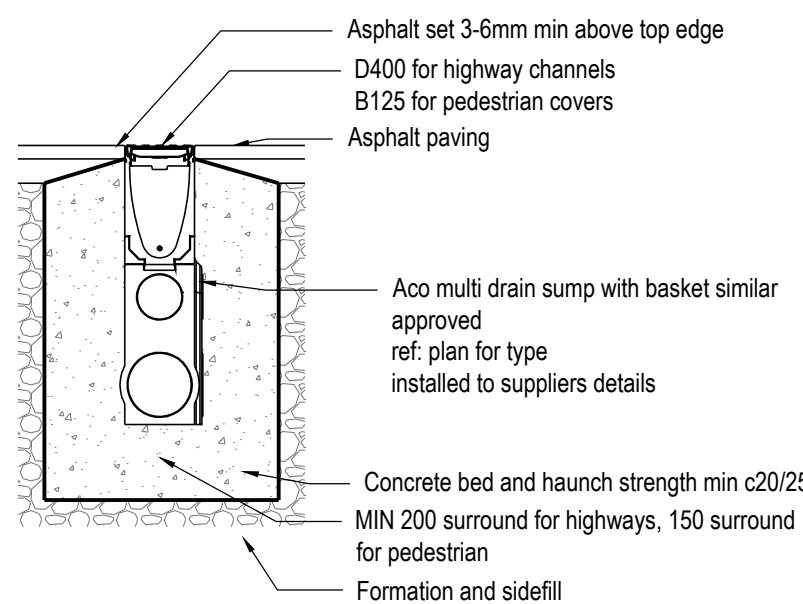
SILT TRAP DETAIL
SCALE 1:20



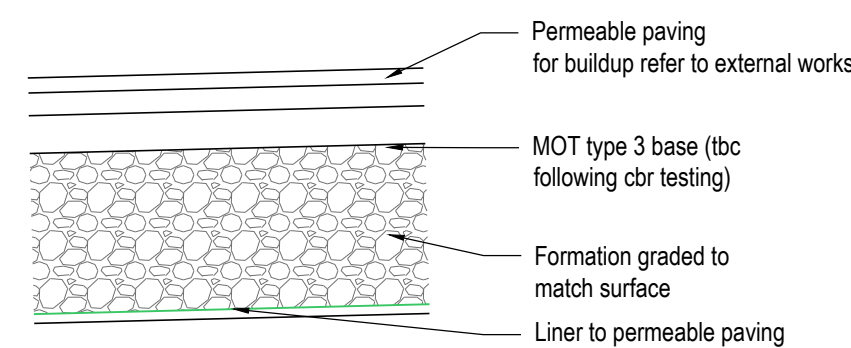
PAVEMENT GULLY
SCALE 1:20



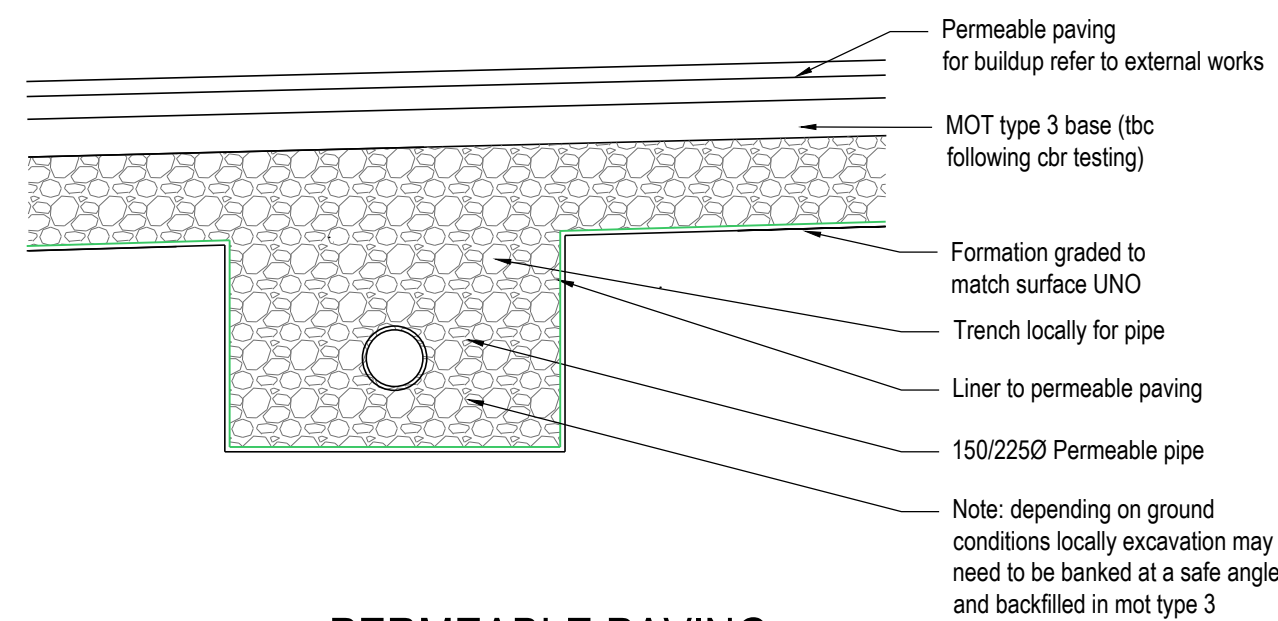
ACO MULTI DRAIN
CHANNEL TYPICAL DETAIL
SCALE 1:20



ACO MULTI DRAIN
SUMP TYPICAL DETAIL
SCALE 1:20



PERMEABLE PAVING DETAIL
SCALE 1:20



PERMEABLE PAVING
COLLECTION TRENCH/FILTER TRENCH DETAIL
SCALE 1:20

DO NOT SCALE

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Risks listed here are not exhaustive. Refer to Risk Assessment Register:

Construction:



PROJECT NOTES:
NO KNOWN RISK SPECIFIC TO WORKS THAT WOULD NOT BE NOTED BY A COMPETENT CONTRACTOR

Demolition

No Unusual hazards/risks

For information relating to Use, Cleaning and Maintenance see Health & Safety File

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement



INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION



INDICATES A RESIDUAL RISK FOR INFORMATION



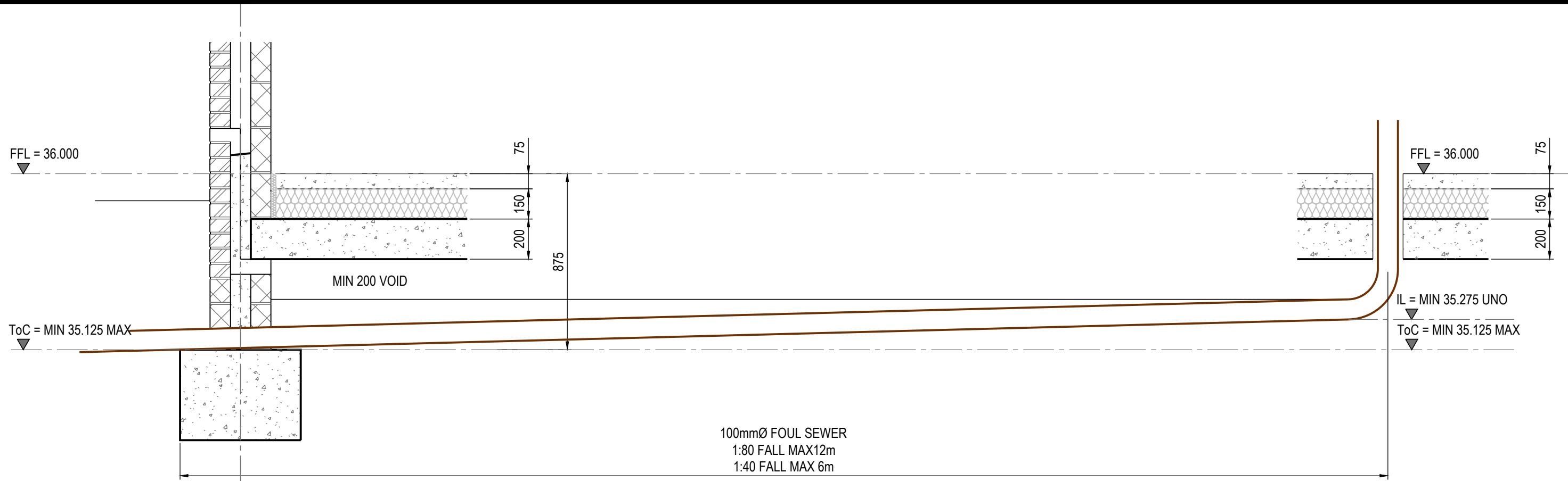
INDICATES A RESIDUAL RISK REQUIRING PROHIBITIVE ACTION



INDICATES A RESIDUAL RISK AS A WARNING

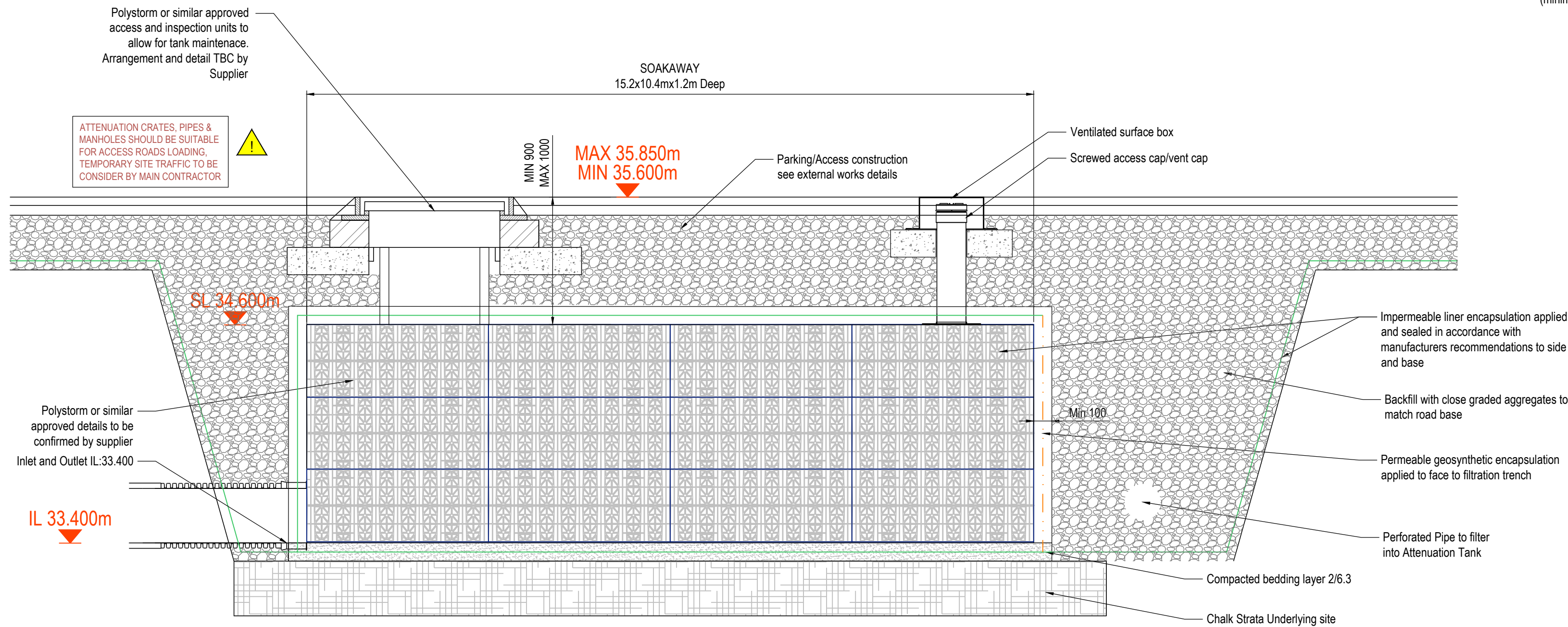
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C01	CONSTRUCTION ISSUE	JAB		28.04.2023
T1	AMENDED TO TENDER ISSUE	JAB		27.04.2022
P1	INITIAL ISSUE	JAB	JAB	14.04.2022
REV	DETAIL	BY	CHK	DATE

CONSULTING STRUCTURAL AND CIVIL ENGINEERS	
3 CADMAN COURT, LEEDS, LS27 0RX Phone: 0113 253 3904 www.arc-engineers.co.uk	
CLIENT: AVERY	
PROJECT: CARE HOME CENTRAL AVENUE GRAVESEND	
TITLE: DRAINAGE DETAILS (2 of 3)	
DRAWING STATUS: AS-BUILT	
DRAWN: JAB	DATE: 14.04.2022
DRAWN: JAB	DATE: 14.04.2022
CONTRACT No: 22026	SCALE @ A1: 1:100
PROJECT No:	ORIGINATOR
ZONE	LEVEL
TYPE	DISCIPLINE
NUMBER	REVISION
22026 - ARC - XX - 00 - DR - D - 0552 - C02	
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SECTION TO INDICATE SVP CONNECTIONS RELAVITE TO FOUNDATIONS

Scale 1:20



INDICATIVE SECTION THROUGH ATTENUATION TANK

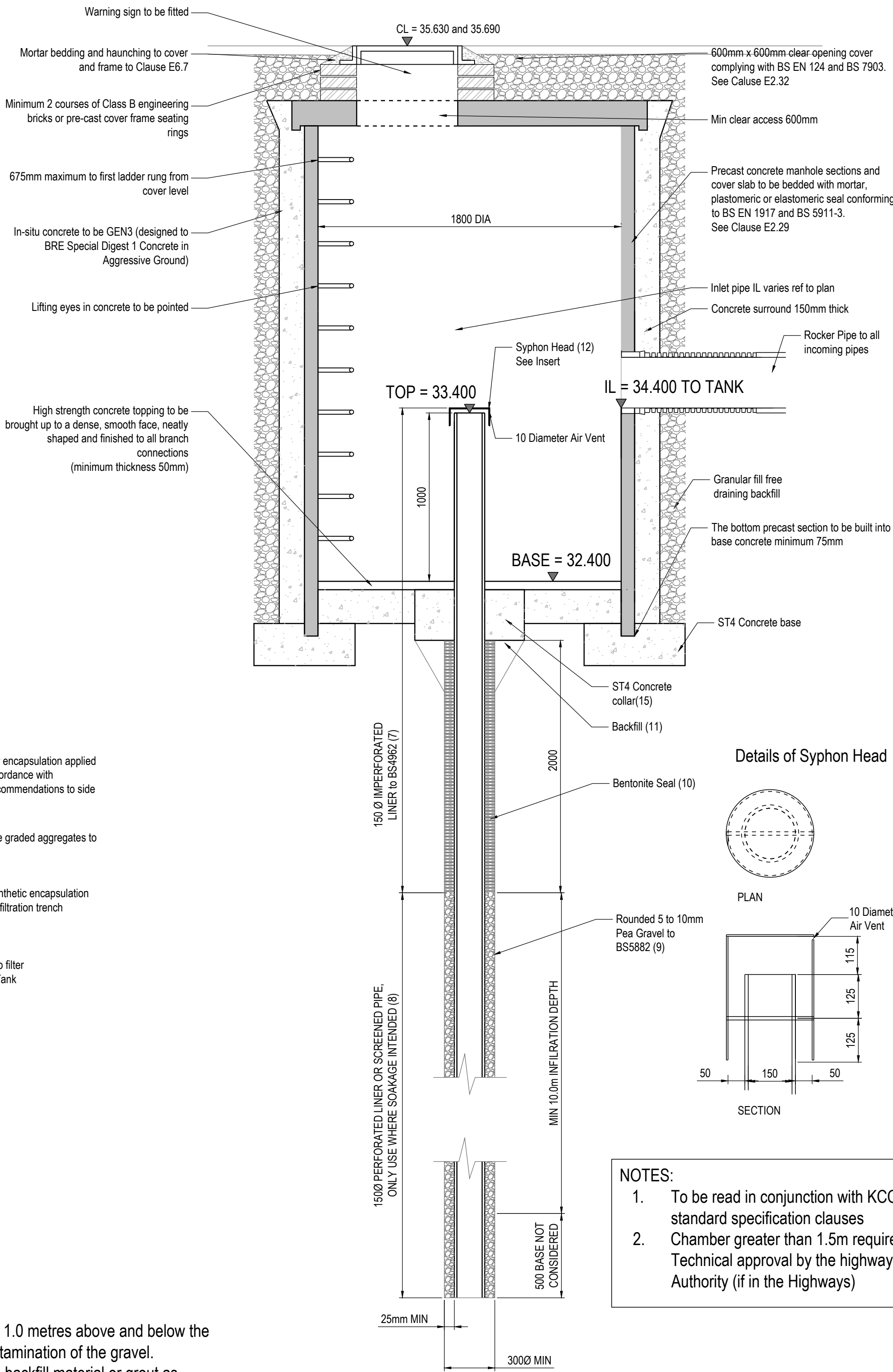
SCALE 1:20

INSTALLATION TO SUPPLIER RECOMMENDATIONS

Appendix D2 Kent County Council Specification: Deep Bored Soakaway

- These notes should be read in conjunction with drawing SDBS with all dimensions in millimetres.
- The conventional soakaway shall be constructed in accordance with the relevant specification (see Appendix D1 and Drawing SCS) .
- Where the conventional soakaway is to act purely as a storage chamber, it shall be backfilled in accordance with the 600 series clauses of the Department of Transport's "Specification for Highway Works"
- In all installations the inspection cover must be sited vertically above the borehole to facilitate future maintenance.
- Each location considered for the installation of a soakaway should be investigated by means of a constant or falling head soakage test. These tests should be carried out in the deposits considered suitable and at vertical intervals as agreed with the Engineer. Alternatively a proof test may be undertaken on the installed liner.
- When the soakage tests are complete, the borehole could be deepened, if necessary, to provide the required length within the soakage layer and a deep bored soakaway liner installed.
- The borehole liner shall have an internal diameter of at least 100mm but normally not more than 250mm. It may be UPVC in accordance with BS 4962 or other durable material agreed with the Engineer. It must be capable of insertion in the borehole without risk of breakage, or damage to the joints.
- Perforated slotted or screened pipe shall only be used in that section where soakage is intended. The apertures in such a pipe shall be smaller than any aggregate placed between the liner and the borehole wall. The perforated pipe shall commence a minimum of 2 metres below the interface with the overlying unsuitable strata.
- After installation of the lining tube, rounded 5mm to 10mm pea gravel shall be placed in the annulus between the borehole wall and the lining tube to a level 1 metre above the perforated pipe as the casing is withdrawn. Care must be taken to ensure that the level of the aggregate is maintained just above the bottom of the casing to prevent collapse of the borehole. In addition excessive heights of aggregate above the bottom of the casing could jam the casing during withdrawal and risk lifting the liner to the detriment of the installation.

- A bentonite seal shall be placed on top of the aggregate to extend nominally 1.0 metres above and below the interface with the overlying unsuitable material. Care should be taken to prevent contamination of the gravel.
- As the casing is withdrawn the remaining annulus shall be filled with suitable backfill material or grout as directed by the Engineer.
- The removable syphon head shall be in any approved non-rusting material. A suitable design in UPVC is illustrated. It shall have a 10mm diameter air vent at its highest point. It shall be fixed to the liner in a manner agreed by the Engineer. Correctly fitted push fitting syphon heads are acceptable to remove the need for entry into a confined space. .
- On completion, if requested, the soakaway shall be tested to the satisfaction of the Engineer.
- Where the deep bored liner has to be installed within an existing chamber without a concrete foundation, a Class ST4 concrete floor, 225mm thick, shall be cast to avoid any necessary erosion of the soil at the base of the chamber.
- Where the deep bored liner has to be installed within a chamber in which a hole has been made during drilling, or preformed in the base, the annulus remaining after completion of the installation shall be filled with a 225mm thick concrete plug Class ST4.
- Where the deep bored liner has to be installed within an existing chamber which does not have a concrete base and which is showing signs of instability then the bottom rings should be underpinned and a concrete floor (Class ST4), 225mm thick be cast beneath them. More serious instability will require additional ground improvement and/or relocation of the soakaway.
- All joints, soakaway holes and lifting eyes in the precast concrete rings located in unsuitable strata should be sealed with mortar or other sealing materials approved by the Engineer. This shall prevent seepage of water by any other means than through the deep bored liner.



DEEP BORE SOAKAWAY DETAILS

Scale 1:20

NOTES:

- To be read in conjunction with KCC standard specification clauses Chamber greater than 1.5m requires Technical approval by the highways Authority (if in the Highways)

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PROJECT NOTES:
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Demolition

No Unusual hazards/risks

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INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION



INDICATES A RESIDUAL RISK FOR INFORMATION



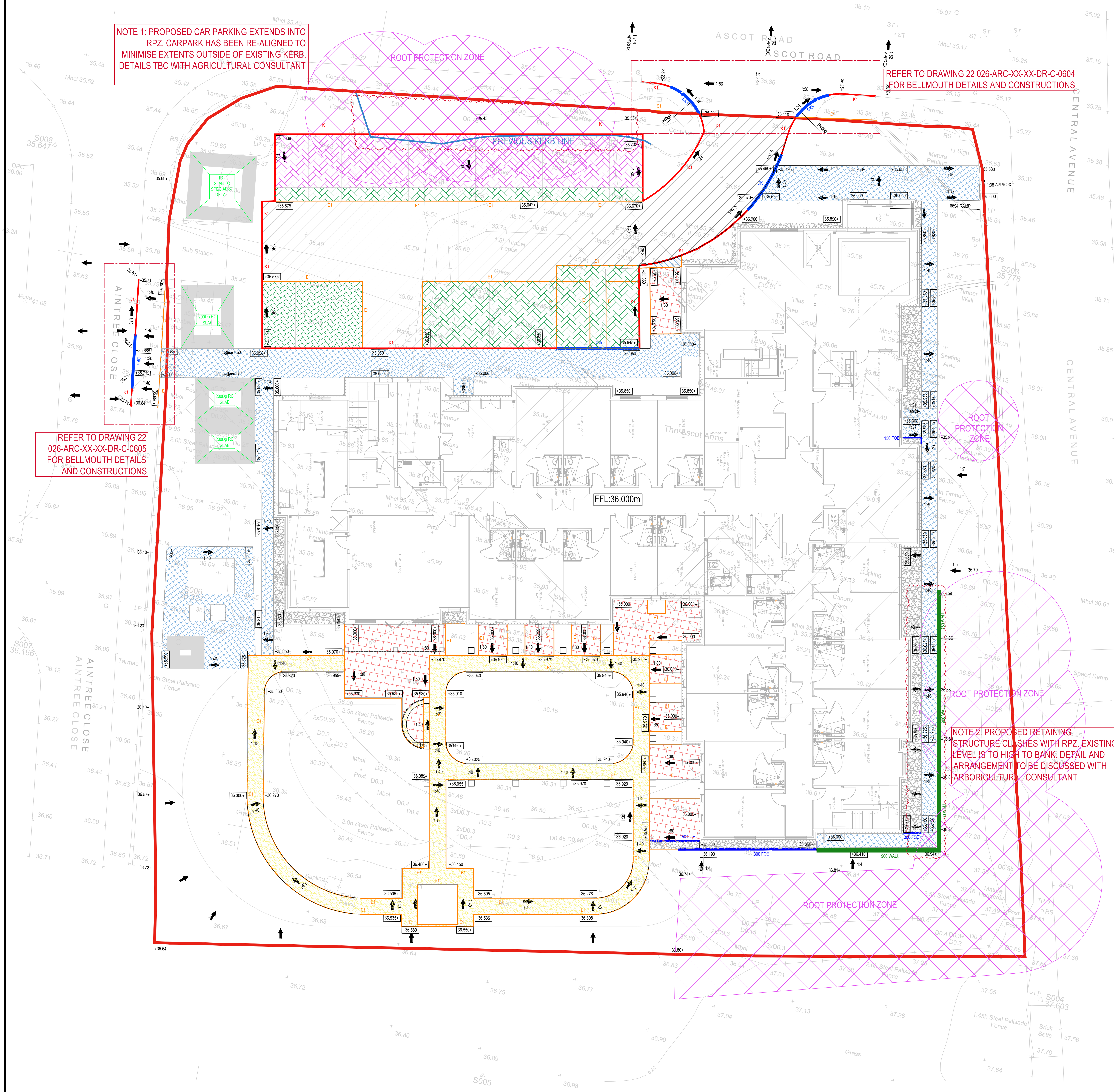
INDICATES A RESIDUAL RISK REQUIRING PROHIBITIVE ACTION



INDICATES A RESIDUAL RISK AS A WARNING

C03	AS-BUILT ISSUE	JBD	MG	02.01.2025
C02	ATTENUATION TANK DETAILS UPDATED	JAB		05.05.2023
C01	CONSTRUCTION ISSUE	JAB		28.04.2023
T1	AMENDED TO TENDER ISSUE	JAB		27.04.2022
P1	INITIAL ISSUE	JAB	JAB	14.04.2022
REV	DETAIL	BY	CHK	DATE

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CLIENT:	AVERY		
PROJECT:	CARE HOME CENTRAL AVENUE GRAVESEND		
TITLE:	DRAINAGE DETAILS (3 of 3)		
DRAWING STATUS:	AS-BUILT		
DRAWN: JAB	DATE: 14.04.2022	CHECKED: JAB	DATE: 14.04.2022
CONTRACT No: 22026		SCALE @ A1: 1:100	
PROJECT No. ORIGINATOR ZONE LEVEL TYPE DISCIPLINE NUMBER REVISION			
22026 - ARC - XX - 00 - DR - D - 0553 - C03			
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NOTE 1: PROPOSED CAR PARKING EXTENDS INTO RPZ. CARPARK HAS BEEN RE-ALIGNED TO MINIMISE EXTENTS OUTSIDE OF EXISTING KERB. DETAILS TBC WITH AGRICULTURAL CONSULTANT

REFER TO DRAWING 22 026-ARC-XX-XX-DR-C-0605 FOR BELLMOUTH DETAILS AND CONSTRUCTIONS

REFER TO DRAWING 22 026-ARC-XX-XX-DR-C-0604 FOR BELLMOUTH DETAILS AND CONSTRUCTIONS

NOTE 2: PROPOSED RETAINING STRUCTURE CLASHES WITH RPZ, EXISTING LEVEL IS TO HIGH TO BANK. DETAIL AND ARRANGEMENT TO BE DISCUSSED WITH ARBORICULTURAL CONSULTANT

NON-ADOPTABLE EXTERNAL WORKS LEGEND

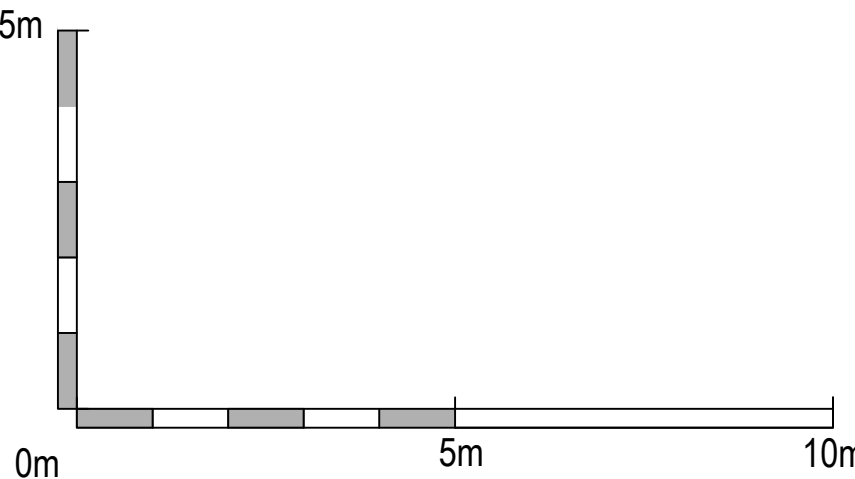
- ACCESS ROAD: PERMEABLE VEHICULAR TARMAC**
35mm SURFACE COURSE - 150mm CHALK/SLAG
115mm BASE - AC32 BINDER GRADE 100/150 TO PD6891 ANNEX B
BASE TO BE CORE DRILLED WITH 75mm HOLES
@ 750mm MAX c/c TO ENSURE PERMEABILITY
350mm SUB-BASE - CLOSE GRADED AGGREGATE (40% VOIDS)
TO BS EN 12065:2010 AND BS EN 12424:2002
IMPERMEABLE GEOTEXTILE WHERE FORMED ON GROUND (NOT OVER TANK)
ANY SOFT SPOTS TO BE FULLY REMOVED AND REPLACED WITH MOT TYPE 1 WITH LEVELS MADE UP & PROOF ROLLED
FOR CBR 2.5% - 5% 100mm ADDITIONAL SUB-BASE
MOT TYPE 3 TO BS EN 12065:2010 AND BS EN 12424:2002
FOR CBR <2.5% SPECIALIST DESIGN REQUIRED
- CAR PARK: PERMEABLE VEHICULAR BLOCK PAVING**
60mm SURFACING - PERMEABLE BLOCK PAVING TO BS EN 1338:2003 (TO ARCHITECT / LANDSCAPE ARCHITECTS SPEC)
50mm BEDDING - COMPACTED BEDDING LAYER TYPE 2B.3 TO BS EN 12065:2010 AND BS EN 12424:2002
100mm BASE - AC32 BINDER GRADE 100/150 TO PD6891 ANNEX B
BASE TO BE CORE DRILLED WITH 75mm HOLES
@ 750mm MAX c/c TO ENSURE PERMEABILITY
350mm SUB-BASE - CLOSE GRADED AGGREGATE (40% VOIDS)
TO BS EN 12065:2010 AND BS EN 12424:2002
IMPERMEABLE GEOTEXTILE WHERE FORMED ON GROUND (NOT OVER TANK)
ANY SOFT SPOTS TO BE FULLY REMOVED AND REPLACED WITH MOT TYPE 1 WITH LEVELS MADE UP & PROOF ROLLED
FOR CBR 2.5% - 5% 100mm ADDITIONAL SUB-BASE
MOT TYPE 3 TO BS EN 12065:2010 AND BS EN 12424:2002
FOR CBR <2.5% SPECIALIST DESIGN REQUIRED
- CAR PARK: PERMEABLE VEHICULAR BLOCK PAVING OVER EXISTING**
60mm SURFACING - PERMEABLE BLOCK PAVING TO BS EN 1338:2003 (TO ARCHITECT / LANDSCAPE ARCHITECTS SPEC)
50mm BEDDING - COMPACTED BEDDING LAYER TYPE 2B.3 TO BS EN 12065:2010 AND BS EN 12424:2002
100mm BASE - AC32 BINDER GRADE 100/150 TO PD6891 ANNEX B
BASE TO BE CORE DRILLED WITH 75mm HOLES
@ 750mm MAX c/c TO ENSURE PERMEABILITY
100mm MIN SUB-BASE - MOT TYPE 3 TO BS EN 12065:2010 AND BS EN 12424:2002
EXISTING BASE RETAINED CBR MIN 10% ON TOP OF EXISTING
- COURTYARDS AND PATIOS: FLAGS**
60mm SURFACING - PERMEABLE BLOCK PAVING TO BS EN 1338:2003 (TO ARCHITECT / LANDSCAPE ARCHITECTS SPEC)
30mm BEDDING - COMPACTED BEDDING SAND OR MORTAR
70mm BASE - AC32 BINDER GRADE 100/150 TO PD6891 ANNEX B
200mm SUB-BASE - MOT TYPE 1 TO BS EN 12065:2010 AND BS EN 12424:2002
ANY SOFT SPOTS TO BE FULLY REMOVED AND REPLACED WITH MOT TYPE 1 WITH LEVELS MADE UP & PROOF ROLLED
SPECIFICATION ALLOWS FOR MOW ACCESS FOR MAINTENANCE
- COMMUNAL PATIOS: RESIN BOUND GRAVEL**
20mm SURFACING - RESIN BOUND GRAVEL (TO ARCHITECT / LANDSCAPE ARCHITECTS SPEC)
70mm BASE - AC32 BINDER GRADE 100/150 TO PD6891 ANNEX B
200mm SUB-BASE - MOT TYPE 1 TO BS EN 12065:2010 AND BS EN 12424:2002
ANY SOFT SPOTS TO BE FULLY REMOVED AND REPLACED WITH MOT TYPE 1 WITH LEVELS MADE UP & PROOF ROLLED
SPECIFICATION ALLOWS FOR MOW ACCESS FOR MAINTENANCE
- ACCESS PATHS: BLOCK PAVING**
60mm SURFACING - BLOCK PAVING (TO ARCHITECT / LANDSCAPE ARCHITECTS SPEC)
30mm BEDDING - COMPACTED BEDDING SAND OR MORTAR
70mm BASE - AC32 BINDER GRADE 100/150 TO PD6891 ANNEX B
200mm SUB-BASE - MOT TYPE 1 TO BS EN 12065:2010 AND BS EN 12424:2002
ANY SOFT SPOTS TO BE FULLY REMOVED AND REPLACED WITH MOT TYPE 1 WITH LEVELS MADE UP & PROOF ROLLED
SPECIFICATION ALLOWS FOR MOW ACCESS FOR MAINTENANCE
- EXTERNAL CONCRETE SLABS**
200 SLAB PAV 2 CONCRETE (A393 MESH TOP 50mm COVER) 450mm MIN LAP
VIBROQUE 100kg CURING MEMBRANE
25mm SAND BLINDING
225mm MOT TYPE 1 - DEPTH TBC FOLLOWING CBR TESTING
- LANDSCAPING: GRAVEL**
40 SURFACING - GRAVEL (TO ARCHITECT / LANDSCAPE ARCHITECTS SPEC)
PERMEABLE WEED SUPPRESSANT MEMBRANE
EDGED IN TANKLISED TIMBER WHERE REQUIRED

KERBS LEGEND

- DENOTES KERB TYPE K1 (125 x 225mm) HALF BATTER KERB
- ALL KERBS TO BE K1 UNLESS NOTED OTHERWISE
- DENOTES KERB TYPE C1 (145 x 145mm) CHANNEL KERB
- DENOTES KERB TYPE DK (125 x 150mm) DROPPED KERB
- DENOTES KERB TYPE E1 (50 x 150mm) EDGE KERB
- FLAG ON EDGE RETAINING (300mm MAX) RETAINING WALL

EXTERNAL WORKS GENERAL ARRANGEMENT TO BE READ IN CONJUNCTION WITH CURRENT ARCHITECTS SITE PLAN - LANDSCAPE ARCHITECTS SITE PLAN WHERE RELEVANT

- PROPOSED SITE LEVEL
- EXISTING SITE LEVEL
- 300 THICK CAVITY
- FILL MASONRY WALL
- SITE BOUNDARY



SCALE BAR 1:100

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Construction

ADD PROJECT NOTES HERE

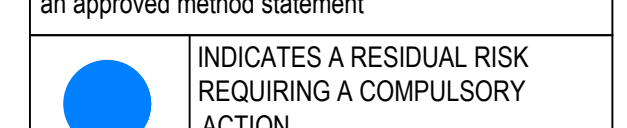


Demolition

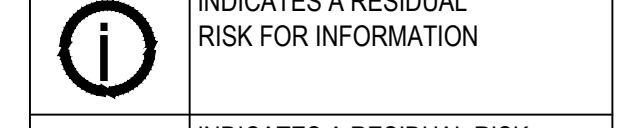
No Unusual hazards/risks

For information relating to Use, Cleaning and Maintenance see Health & Safety File

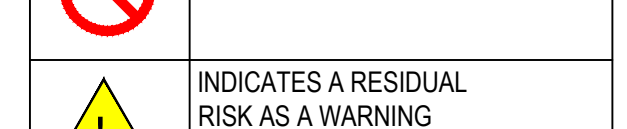
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INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION



INDICATES A RESIDUAL RISK FOR INFORMATION



INDICATES A RESIDUAL RISK REQUIRING PROHIBITIVE ACTION



INDICATES A RESIDUAL RISK AS A WARNING

C02	AS-BUILT ISSUE	JAB	MD	02.01.2025
C01	ISSUED FOR CONSTRUCTION	JAB	JAB	28.04.2023
D01	SCALE BAR ADDED	JAB	JAB	07.03.2023
T3	FULL PERMEABLE PAVING CONSTRUCTION EXTENDED INTO PARKING BAYS (MOT TYPE 1) ADDITIONAL SUB-BASE FOR PARKING, EDGING REMOVED TO BLOCK PAVING BAY BLOCK TO BE USED, GRAVEL EXTENDED AND EDGE REMOVED TO TIERED EDGE. BIDDING UPDATES	JAB	JAB	20.10.2022
T2	MINOR AMENDMENTS TO LEVELS, HIGHWAY DETAILS REFERENCED, CARPARK ARRANGEMENT AMENDED TO AVOID RPZ	JAB	JAB	07.10.2022
T1	AMENDED TO TENDER ISSUE	JAB	JAB	27.04.2022
P1	INITIAL ISSUE	JAB	AR	19.04.2022
REV	DETAIL	BY	CHK DATE	

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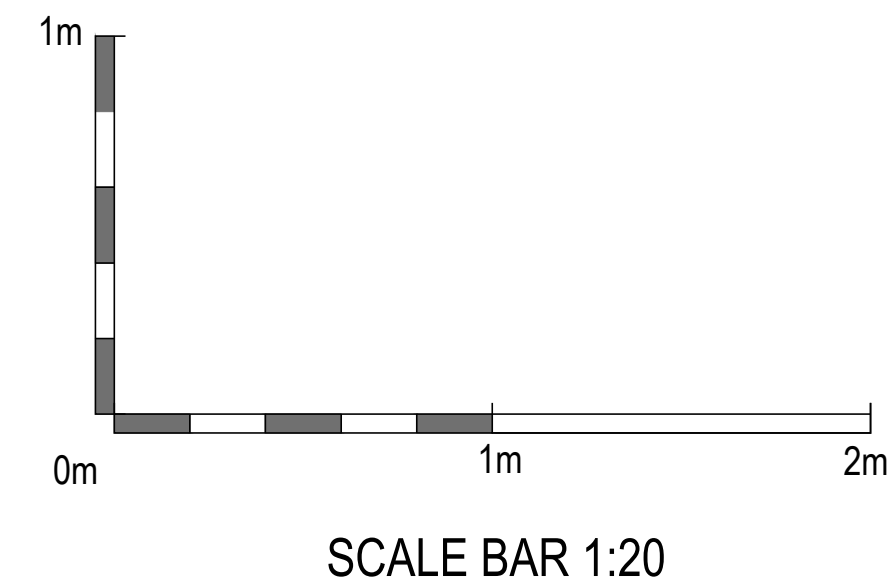
CLIENT: AVERY
PROJECT: CARE HOME, CENTRAL AVENUE, GRAVESEND
TITLE: EXTERNAL WORKS GENERAL ARRANGEMENT

DRAWING STATUS: AS-BUILT	
ISSUED FOR CONSTRUCTION	DATE: 19.04.2022
DESIGNED	DATE: 19.04.2022
CONTRACT NO: 22026	SCALE: 1:100
PROJECT NO: 22 026 - ARC - XX - XX - DR - C - 0601 - C02	
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	INDICATES A RESIDUAL RISK AS A WARNING
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C02	AS-BUILT ISSUE	JBD	MG	02.01.21
C01	ISSUED FOR CONSTRUCTION	JAB		28.04.21
T3	SCALE BAR ADDED	JAB		07.03.21
T2	RETAINING WALL DETAIL ADDED	JAB		07.10.20
P1	AMENDED TO TENDER ISSUE	JAB		27.04.21
T1	INITIAL ISSUE	PJH	JAB	19.04.21
REV	DETAIL	BY	CHK	DATE



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AVERY

CARE HOME,
CENTRAL AVENUE,
GRAVESEND

EXTERNAL WORKS

KERB DETAILS

AS-BUILT

PROJECT No.	ORIGINATOR	ZONE	LEVEL	TYPE	DISCIPLINE	NUMBER	REVISION
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22 026 - ARC - XX - XX - DR - C - 0651 - C02

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Construction:



ADD PROJECT NOTES HERE

Demolition

No Unusual hazards/risks

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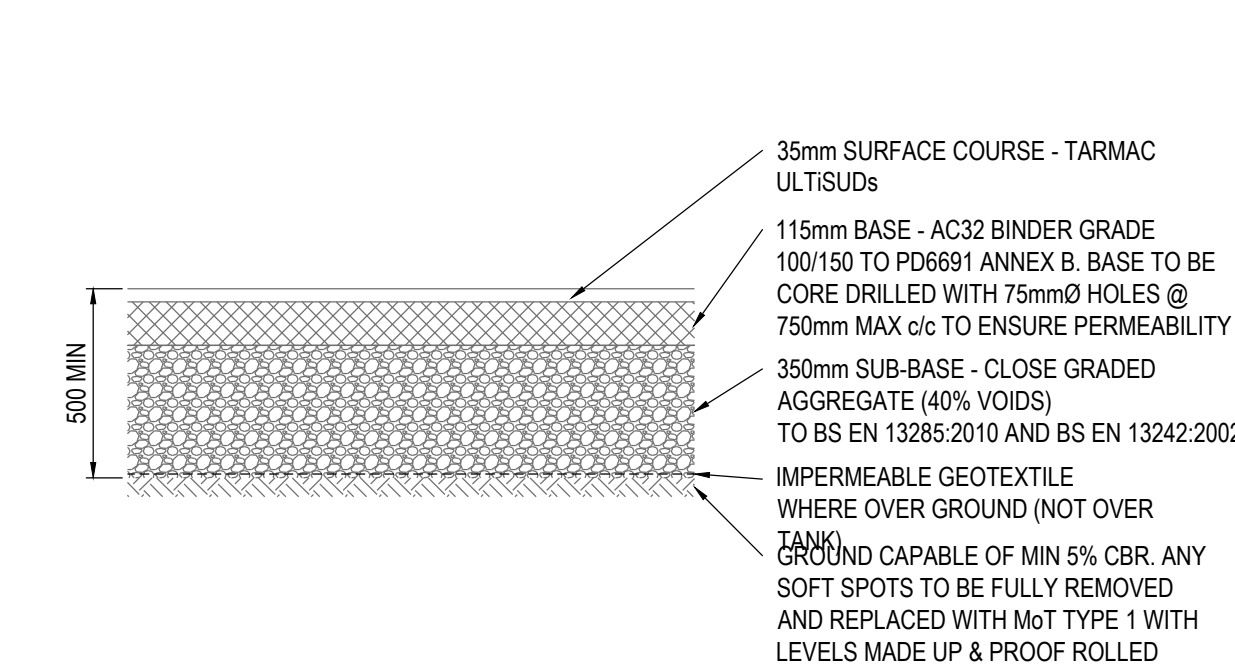
INDICATES A RESIDUAL RISK FOR INFORMATION



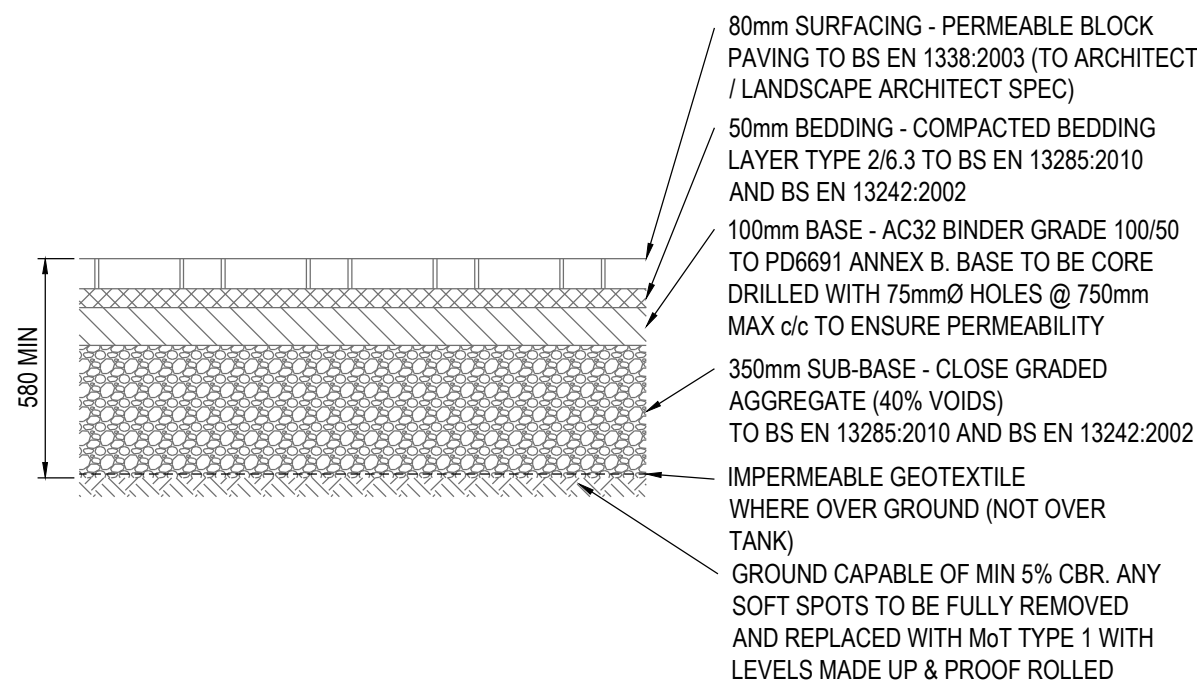
INDICATES A RESIDUAL RISK REQUIRING PROHIBITIVE ACTION



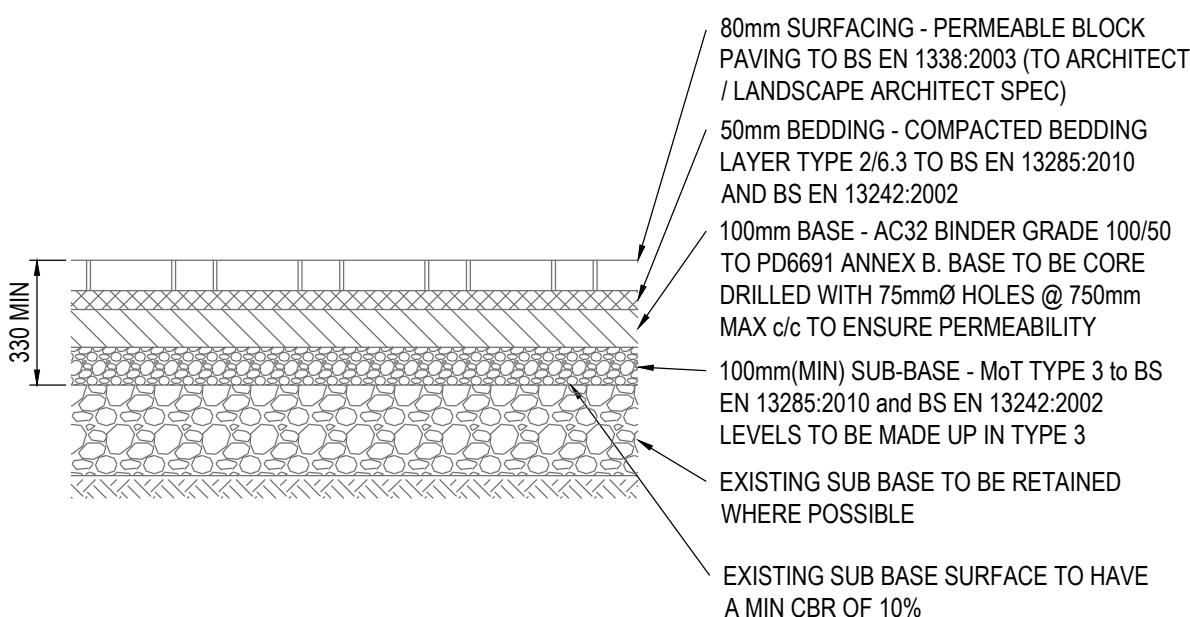
INDICATES A RESIDUAL RISK AS A WARNING



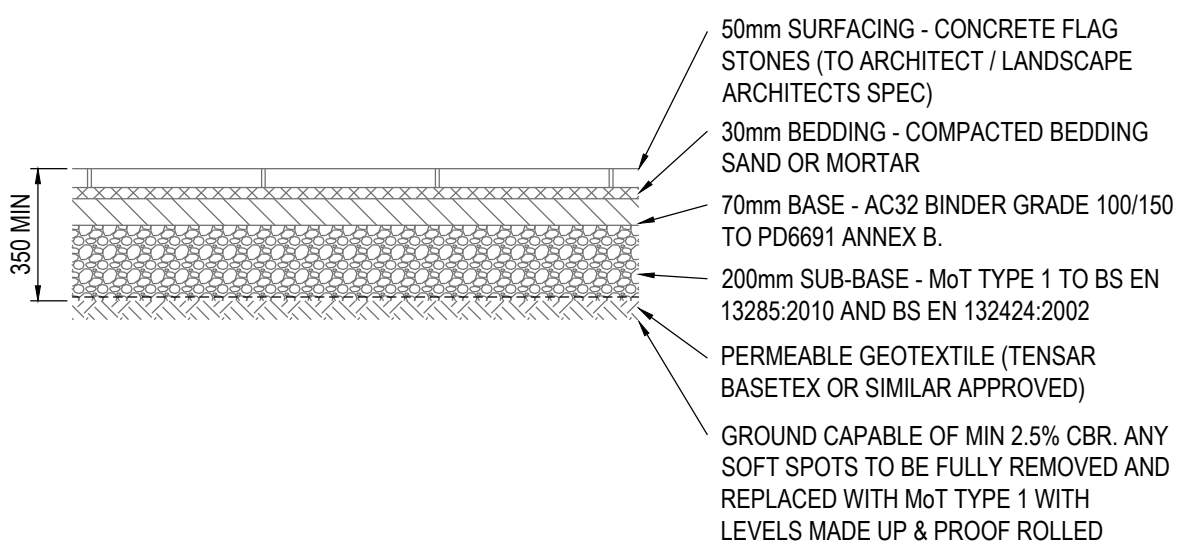
ACCESS ROAD: PERMEABLE VEHICULAR TARMAC
SCALE 1:20



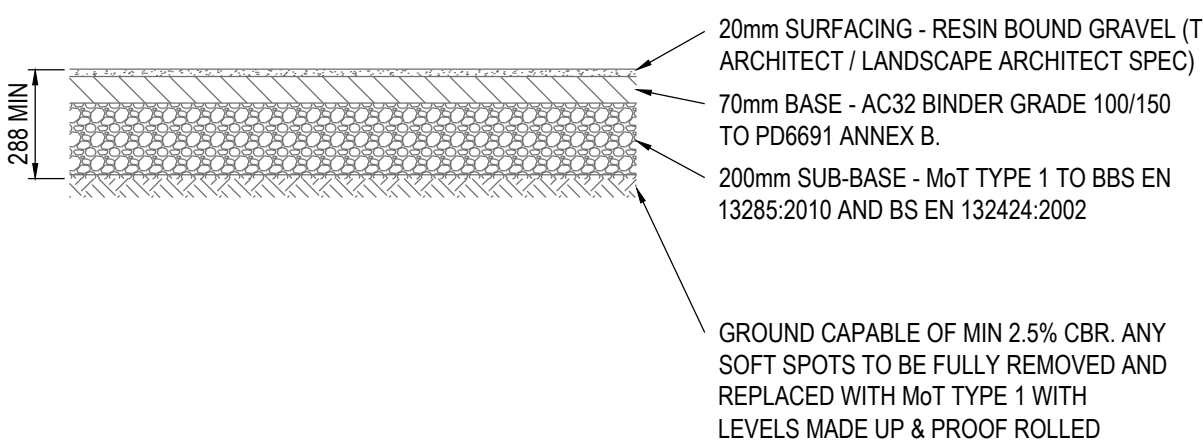
CAR PARK:PERMEABLE VEHICULAR BLOCK PAVING
SCALE 1:20



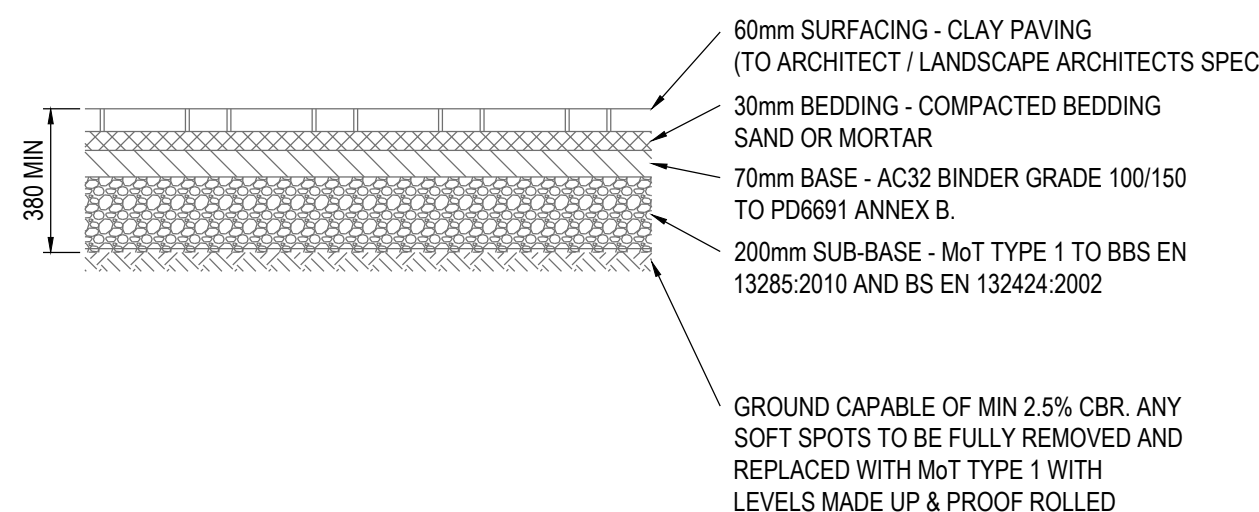
CAR PARK: PERMEABLE VEHICULAR BLOCK PAVING OVER EXISTING
SCALE 1:20



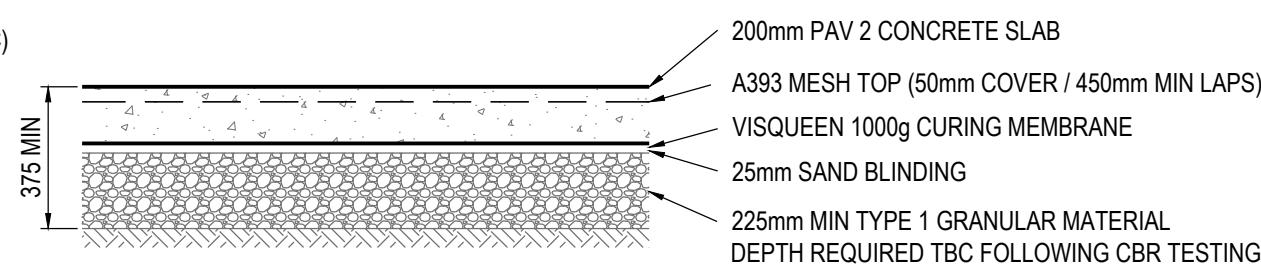
COURTYARDS AND PATION:FLAGS
SCALE 1:20



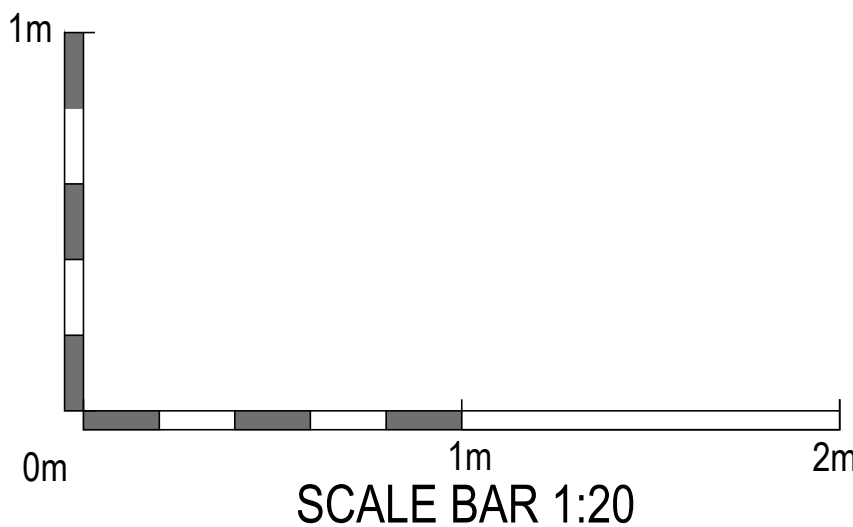
COMMUNAL PATHS:RESIN BOUND GRAVEL
SCALE 1:20



ACCESS PATHS: BLOCK PAVING
SCALE 1:20

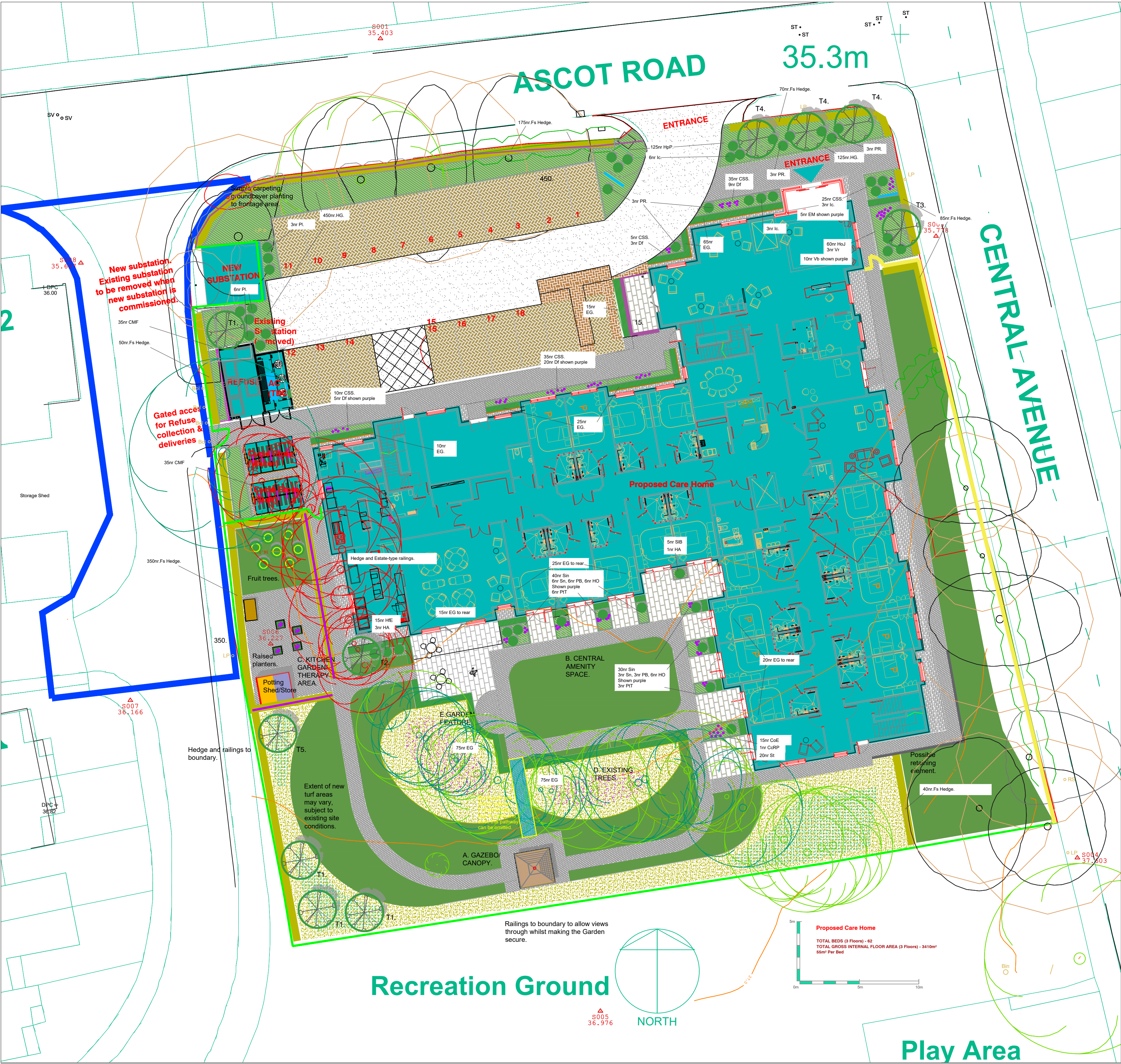


EXTERNAL CONCRETE SLAB (BIN STORE) DETAIL
SCALE 1:20



C02	AS-BUILT ISSUE	JBD	MG	02.01.2025
C01	ISSUED FOR CONSTRUCTION	JAB		28.04.2023
T2	SCALE BAR ADDED	JAB		07.03.2023
T1	INITIAL ISSUE - SUPPLEMENTARY INFORMATION	JAB		
REV	DETAIL	BY	CHK	DATE

CONSULTING STRUCTURAL AND CIVIL ENGINEERS							
3 CADMAN COURT, LEEDS, LS27 0RX Phone: 0113 253 3904 www.arc-engineers.co.uk							
CLIENT:	AVERY						
PROJECT:	CARE HOME, CENTRAL AVENUE, GRAVESEND						
TITLE:	EXTERNAL WORKS NON-ADOPTABLE CONSTRUCTION DETAILS						
DRAWING STATUS:	AS-BUILT						
DRAWN: JAB	DATE: 17.10.2022	CHECKED:	DATE:				
CONTRACT No: 22026	SCALE @ A1: 1:20						
PROJECT No:	ORIGINATOR:	ZONE:	LEVEL:	TYPE:	DISCIPLINE:	NUMBER:	REVISION:
22 026 - ARC - XX - XX - DR - C - 0652 - C02							
© ARC ENGINEERS LTD 2022							



Planting Schedule

Proposed Tree planting									
Nr	Key	Plant Name	Form	Ht(cm)	Girth(cm)	CSstem(cm)	Root	Cntr	
4	T1	Betula utilis Jaquemontii	Multistemmed	450-600	-	-	C	90L	
1	T2	Prunus serrula	Multistemmed	350-400	-	-	C	45L	
1	T3	Catalpa bignonioides 'Aurea'	Multistemmed	250-300	-	-	C	45L	
1	T4	Acer campestre 'Streetwise'	EHS	-	18-20	-	C	45L	
1	T5	Liquidamber styraciflua 'Worplesdon'	EHS	-	18-20	-	C	45L	

7nr Fruit trees, eating variety. Containerised.

Proposed specimen shrubs.

Nr	Key	Species	Ht(cm)	Root	Cntr
3	IC	Ilex crenata 'Ball'	35 dia.	C	15L
4	HA	Hydrangea 'Annabelle'	90-120	C	15L
6	PT	Pittosporum tenuifolium 'Tom Thumb'	90-150	C	15L
4	PR	Photinia 'Red Robin'	90-120	C	15L
3	PI	Prunus lusitanica	90-120	C	7.5L
3	Vr	Viburnum rhytidophyllum	60-90	C	15L
1	CoRP	Cotinus Royal Purple'	60-90	C	15L

Proposed Shrub and herbaceous planting.

Nr	Key	Species	Ht(cm)	Root	Cntr	Density(nr/m2)
32	DI	Dryopteris filix-mas	40-60	C	3L	5
15	CoE	Carex oshimensis 'Everillo'	15-20	C	3L	4
110	CS	Carex 'Silver Sceptre'	15-20	C	3L	4
20	EG	Eucynymus 'Green Spire'	30-40	C	3L	5
5	EM	Euphorbia 'Martini'	30-40	C	3L	5
325	HG	Hedera helix 'Glacier'	30-40	C	9cm	5
100	HuP	Hebe pinguifolia 'Page'	30-40	C	3L	5
60	HoJ	Hebe ochracea 'James Stirling'	30-40	C	3L	5
20	St	Stipa tenuissima 'Pony Tails'	40-60	C	3L	4
12	HO	Heuchera 'Obsidian'	20-30	C	3L	4
15	HIE	Hosta fortunei 'Elegans'	20-30	C	3L	4
9	PB	Perovskia 'Blue Spire'	30-40	C	3L	4
9	Sn	Salvia nemorosa 'Caradonna'	30-40	C	3L	4
70	Sn	Santolina incana 'Nana'	30-40	C	3L	5
5	SB	Stachys lanata 'Silver Carpet'	30-40	C	3L	4
10	Vb	Verbena bonariensis	60-90	C	3L	5

Proposed hedge planting.

Nr	Key	Plant Name	Ht(cm)	Root	Cntr
Hedge planting. Cb double staggered rows @ 5nr per linear metre					
730	Fs	Fagus sylvatica	90-120	C	3

Proposed Bulb and Wildflower plug planting.

Bulb planting to be Narcissus planted @20nr. per m2. Total nr.1600.

Wildflower plugs to consist of Woodland and shade plant plug collection, planted @150nr per 30m2. Total nr. 450.

Available from:

Wild Flower Lawns and Meadows Ltd
Downsview Farm
North Corner
Horam
East Sussex
TN21 9HJ

PLANTING NOTES: SEE ALSO SOFT LANDSCAPE SPECIFICATION.

Site and imported topsoil is to conform to BS 3882 2015 multi-purpose grade. Areas of existing ground to be planted/ grassed, in-situ, are to remain free of compaction and building materials/ waste.

Soil depth for imported topsoil areas after settlement should be:

- 400+mm deep to shrub/ herbaceous areas
- 150mm deep to amenity grass areas.

Herbicide and cultivation: Prior to laying topsoil to previously stripped areas subsoil should be cleared of builders waste, weeds,

large stones and other deleterious material, graded and ripped/ cultivated as necessary to relieve compaction.

Emergent weed growth to topsoil planting areas is to be treated with suitable herbicide in accordance with manufacturer's instructions. Leaf symptoms showing die-back is to be allowed to develop prior to final cultivation of soil before planting. All planting areas to then have 50mm depth planting compost spread evenly over surface and worked into top 150mm, with

Ericaceous compost added to Rhododendron species, removing all stones greater than 50mm dia, roots and other debris. Ensure subsoil is free-draining, if necessary carrying out ripping to a suitable depth, although avoid areas beneath existing protected trees.

Trees: To be planted in pits 900x900x800mm or dimensions of rootball, whichever is greater with a addition 25L planting compost. All trees to be underground- guyed. Where planted in grass areas to have 900mm dia, area free of turf and mulched. Native hedge and trees to be rabbit proofed.

Mulch: Immediately following planting, areas are to be watered to field capacity and mulched with 75mm depth pulverised bark.

Grass: All turf/seeded areas to be cultivated to a fine tilth and levelled, removing any stones greater than 25mm dia, together with any other debris. Pre-seeding fertilizer applied at 35gms per m2 to ornamental turf areas. Prior to hand over areas are to be managed to create a uniform and dense sward, free of weeds. All planting areas are to be maintained reasonably free of weed growth and litter, with all dead, dying and otherwise defective plant material to be replaced prior to handover.

Poisonous plants: Please note that we have made every effort to avoid use of poisonous plant materials on the site; however, it should be noted that consumption of any ornamental plant may lead to adverse symptoms.

	Date	Revision	
A	05.02.21	New Sub Station added. Car Park layout adjusted.	CD
B	27.04.22	Planting plan added.	CD
C	30.05.23	Brick piers and rail omitted. Benches omitted. Resin bound gravel substituted with block paving. Other paving made non-specific. Potting shed, Gazebo and planter specs altered. Note regarding biodiversity added to Wildflower plug spec.	CD
D	06.11.24	Cycle shelters and refuse compound repositioned. AC compound added. Car Park layout updated. Planting layout and quantities adjusted. Mulch footpath added.	CD
E	07.11.24	Paved footpath added to south of building.	

FOR CONSTRUCTION.

PDP Ltd. Landscape architecture, urban design.

Popeshead Court Offices, Peter Lane, York, North Yorkshire. YO1 8SU.
Tel. 07921 663628. chris.dykes@pdpland.com
www.pdplandscapeandurbandesign.co.uk

Client
Avery Healthcare Limited.

Project
Proposed Care Home
Central Avenue, Gravesend Kent.

Drawing Title
Landscape proposals

Scale
1:200 @ A1
Date
Feb. 2021

Drawn by
CD

Job No.
CAG
Drawing No.
CAG L1
Rev.
E.

SCHEDULE OF PROPOSALS.

- A. GAZEBO/ CANOPY. Open sided canopy for shelter and to provide focal point. Positioned on a slightly elevated area to link and 'borrow' views of adjacent Park.
- B. CENTRAL AMENITY SPACE. South facing garden with bedrooms, terraces and social spaces having direct connection. Central Lawn for activity, with 'Return' footpath giving a continuous legible route to encourage access to the garden to encourage social interaction and well-being.
- C. KITCHEN GARDEN/ THERAPY AREA. Enclosed within Beech hedging, with Potting Shed and Vegetable plot, together with raised planters. Fruit trees adjacent.
- D. EXISTING TREES. Crown-lifted, with understorey removed, to create more openness and light. Limited removal of trees to improve amenity value of garden, including circulation and usage.

LANDSCAPE KEY.

- Proposed specimen trees Rootballed/ containerised. Underground guyed. Multistemmed trees, 4.5-5.00m high: T1 Betula utilis 'Jaquemontii', T2 Catalpa bignonioides 'Aurea', T3 Prunus serrula 'Tibetica'. EHS trees: 18-20cm girth Rootballed/Containerised. T4 Acer campestre 'Streetwise' T5 Liquidamber styraciflua 'Worplesdon'.
- Proposed specimen shrubs. Generally 90-120cm high/ spread. Containerised, minimum 12 L pot. Spot planted at approx. 1m centres within ground cover in groups of 3/5. Species to include the following: Acer palmatum dissectum Atropurpureum, Ilex crenata 'Sphere', Choisya ternata Sundance, Cotinus coggyria Royal Purple, Hydrangea in Var.
- Proposed Groundcover shrub planting. 20-35cm ht/spr. Minimum 3L pot. Planted at 4-5no. per m2 in minimum groups of 10 no. Species to include the following: Euonymus fortunei Emerald and Gold, Pachysandra terminalis, and Hebe Sutherlandii.
- Proposed Herbaceous planting, spot planted into ground cover. Species to include Astilbe, Allium 'Purple Sensation' Hosta in Var, Heuchera in Var.
- Proposed single species Beech hedging, 90-120cm high, bare rooted or in 2l pots. Planted at 5no per metre in staggered rows. Species to consist of the following: 100% Fagus sylvatica
- Proposed 'Box' hedge planting, 30-40cm high. Containerised 3L pot. Planted at 8no per metre in staggered rows 400 wide. Species to consist of Euonymus 'Jean Hughes'.
- Areas of existing grass retained and supplemented with wild flower plugs and bulb planting, managed as low maintenance area.
- Proposed ornamental grade Turf.
- Proposed Bulb planting for naturalising. Species to consist of Narcissus.
- Proposed shade tolerant wildflower plug planting in the interests of protecting wildlife and encouraging biodiversity and pursuant to the requirements of Policy CS12 (Green Infrastructure) of the Gravesham Local Plan Core Strategy 2014. See schedule for details.

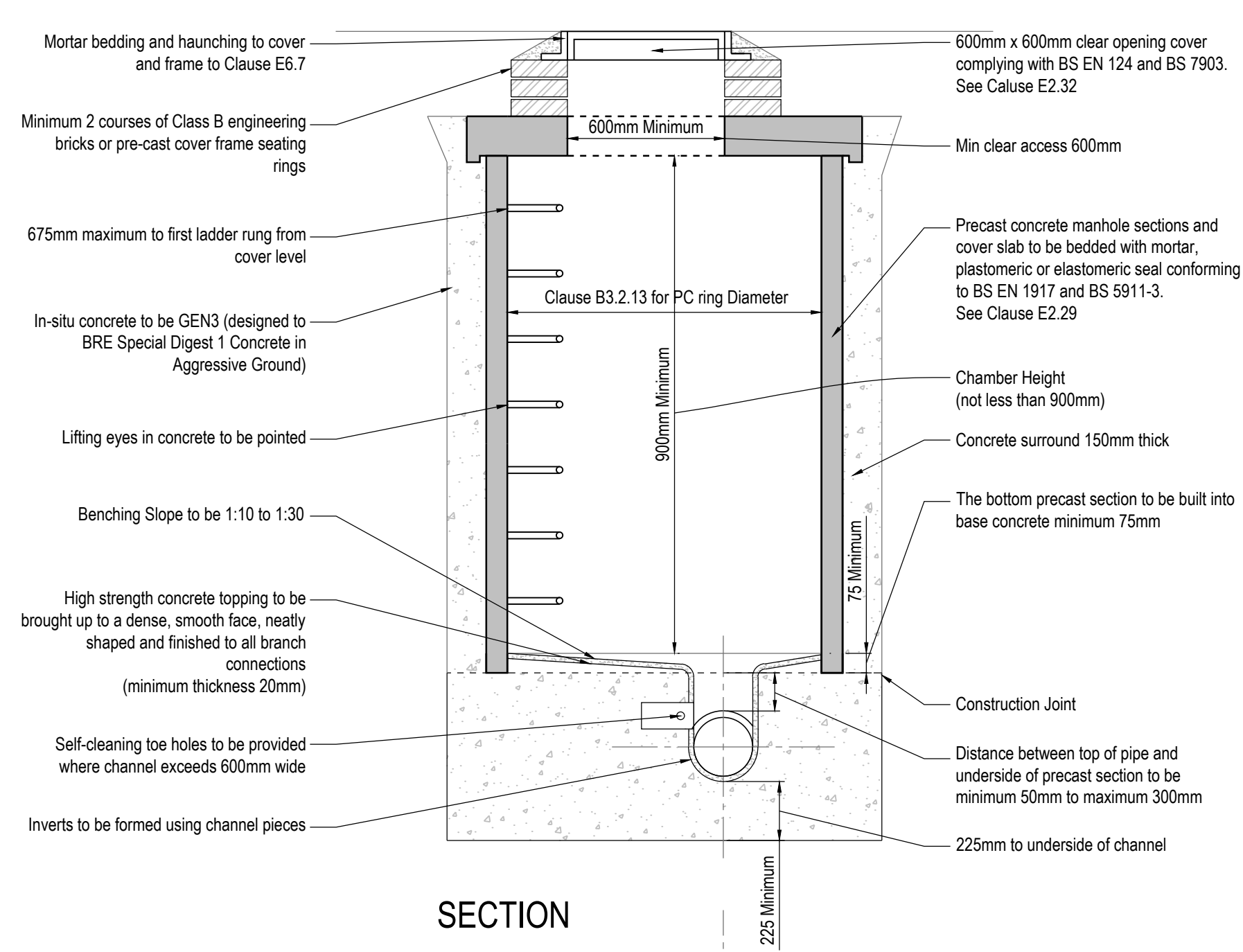
- Concrete block paving 200x100x50 to parking bays. Colour Brindle with white blocks to demarcate bays.
- Concrete block paving 200x100x50 Edged with 80 thick blocks. Colour Slate.
- Concrete slab paving, colour Grey textured, 600x400x50. Staggered joints.
- Min. 40mm Pebbles on Geotextile. Tanalised timber edging. Sample for approval to be provided.

- 1200 x 1800 Timber storage shed. Lockable.
- 4 nr medium Veg Trug Planters.
- Gazebo. Softwood construction. Contractor choice to Client approval.
- Potting shed. Specification to match installation at Edenbridge.

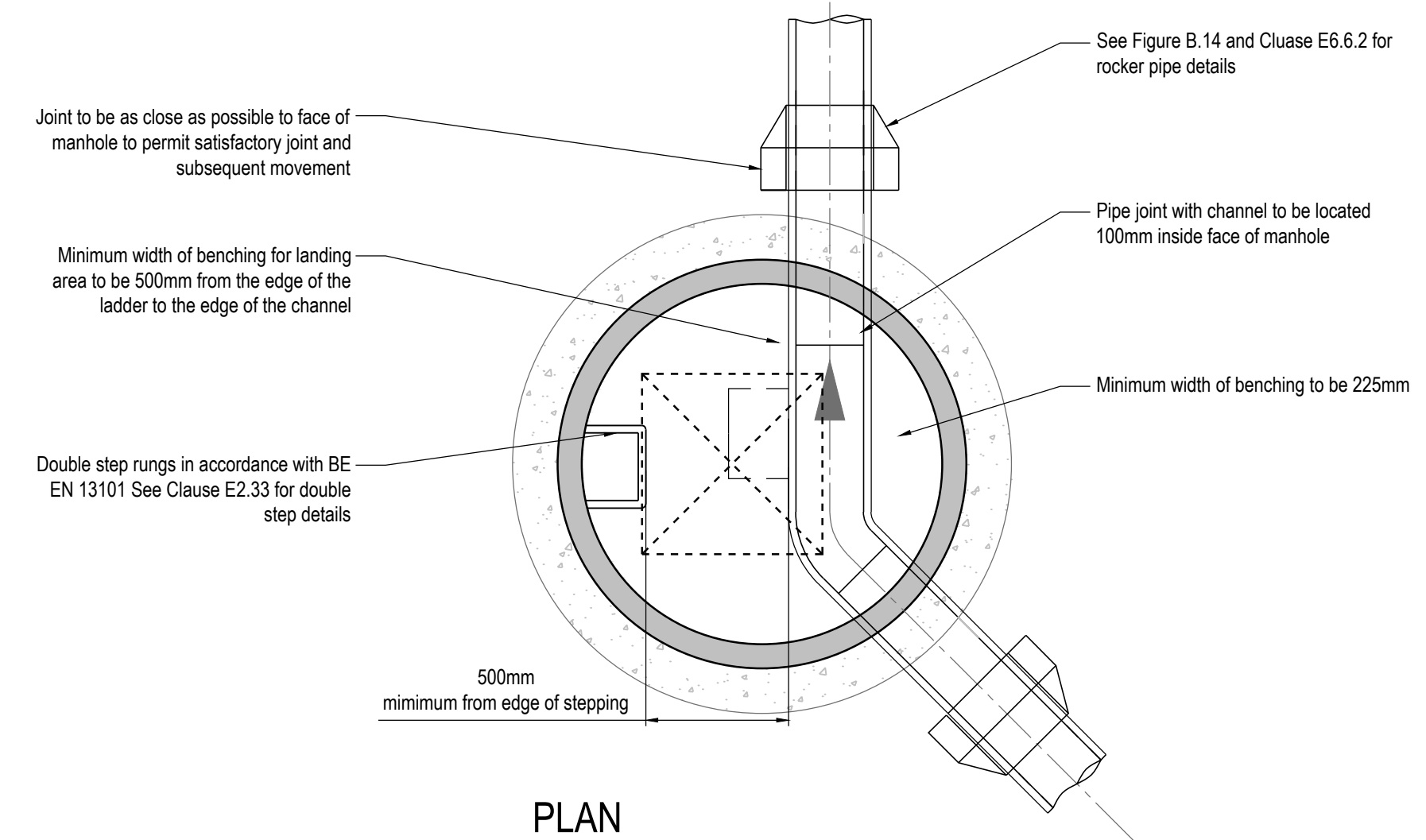
Metal Estate railings from Jacksons fencing. Combined with hedge planting to Therapy garden. Fence panel height: 1.215m above finished ground level Fence Panel width: 2m wide overall. Uprights/posts: 50 x 25 x 2mm RHS (end posts are drilled with 2 holes for bolting to the next panel) Rails: 5 x 10mm diameter CHS Panels are bolted together using 2 x M8 x 65 Coach bolts (B04100). If a panel needs reducing to size at the end of a run, a 50x50mm SHS end post is required (078901), the cut rails are then fed into the end post with uneven cuts hidden inside post (no fixings required).

APPENDIX C

CONSTRUCTION DETAILS DRAWINGS



SECTION



PLAN

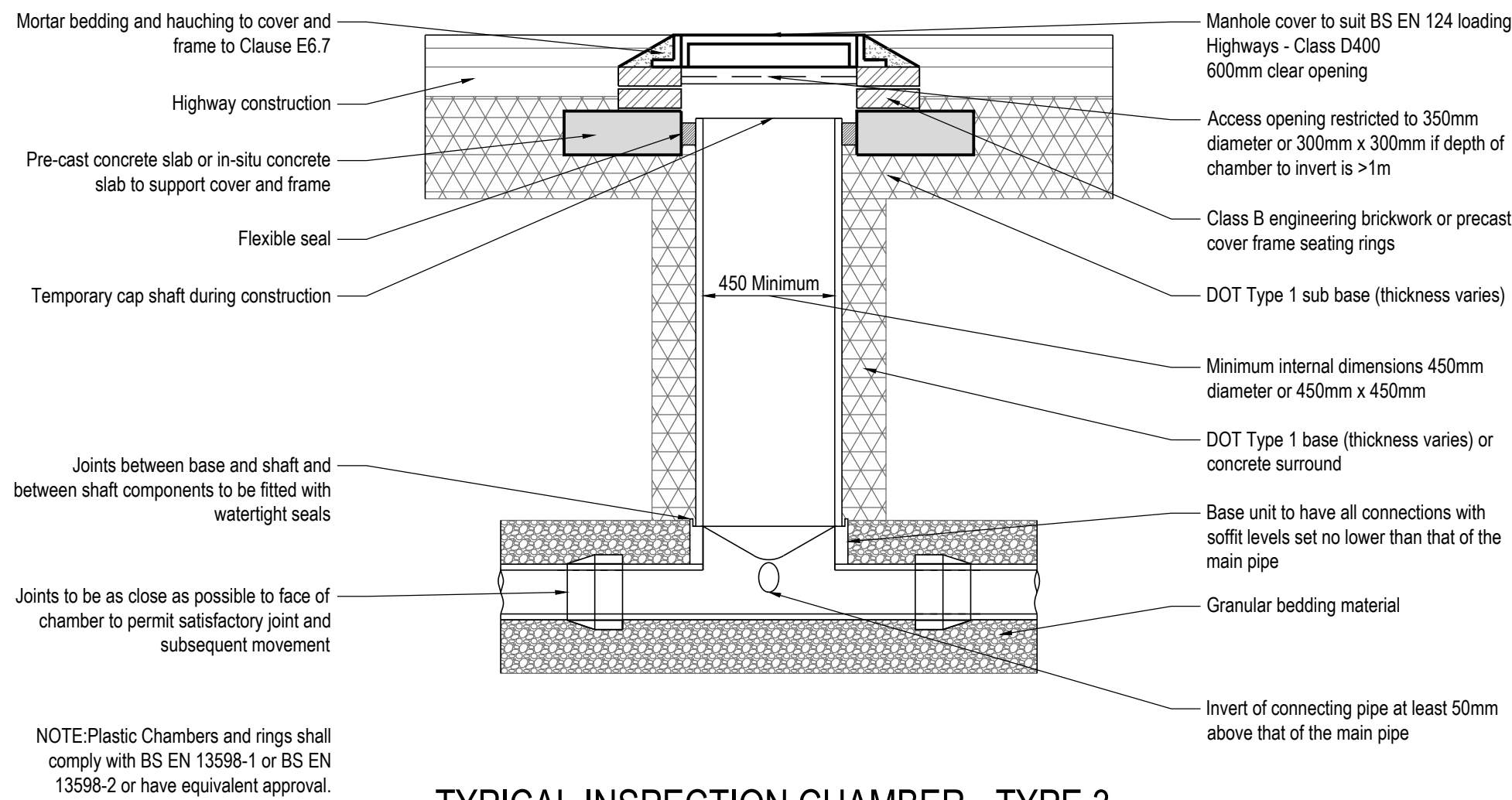
TYPICAL MANHOLE DETAIL - TYPE 2
MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE
3.0m
Scale 1:20

SHORT AND ROCKER PIPE LENGTHS TABLE APPLICABLE TO ALL MANHOLE TYPES FROM CLAUSE E6.6.2

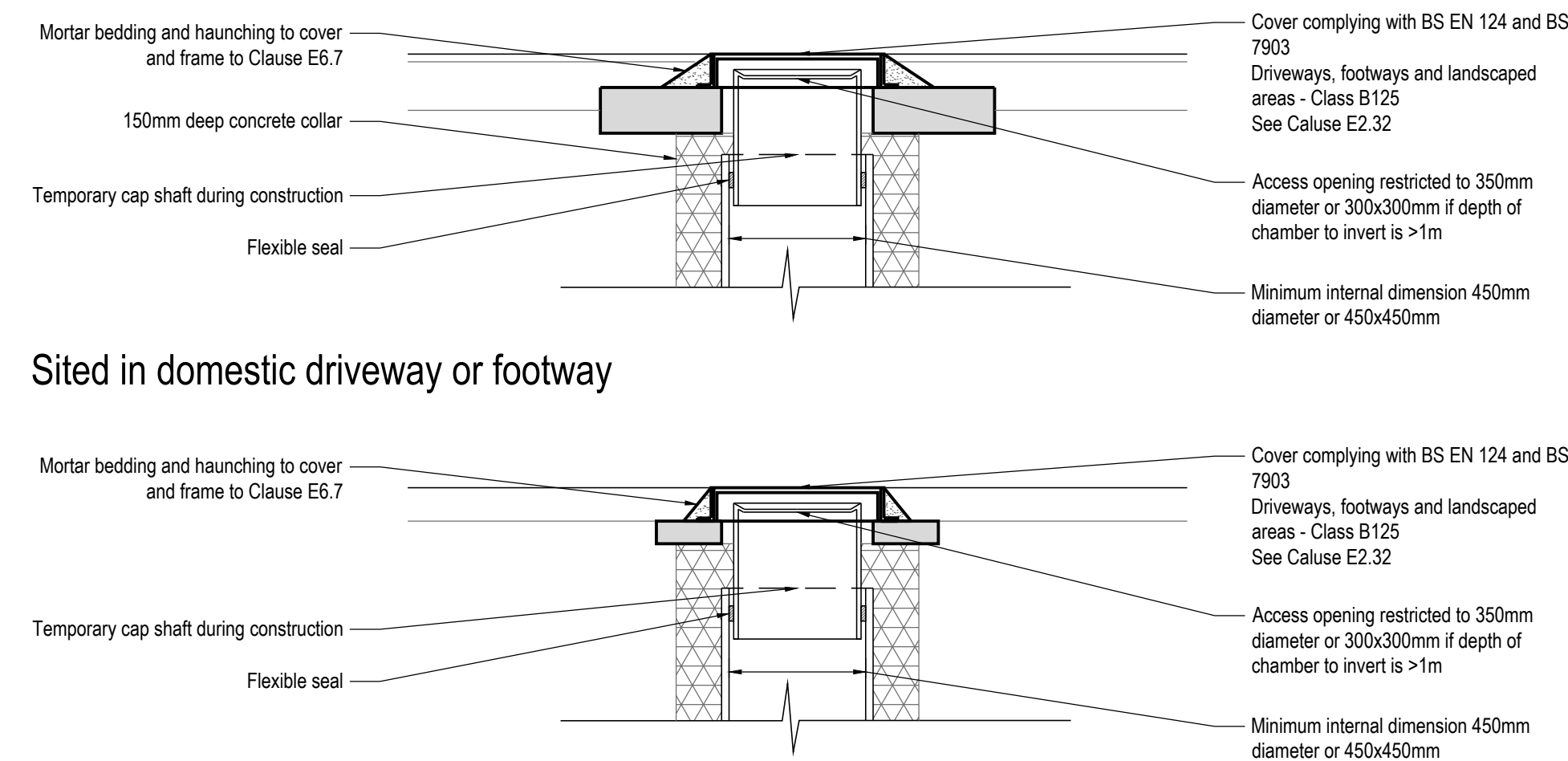
NOMINAL SIZE	EFFECTIVE LENGTH (mm)
150 TO 600	600
675 TO 675	1000
825 AND ABOVE	1250

DIA. OF LARGEST PIPE IN M.H.	CHAMBER SECTION INT.DIA. (mm)
LESS THAN 375mm	1200
375 TO 450	1350
500 TO 700	1500
750 TO 900	1800
900 TO 2100	2100

TABLE APPLICABLE TO MANHOLE CLAUSE B3.2.13
(CHAMBER SIZES ARE MINIMUM REQUIRED, SEE LAYOUT FOR VARIATIONS, IF ANY)



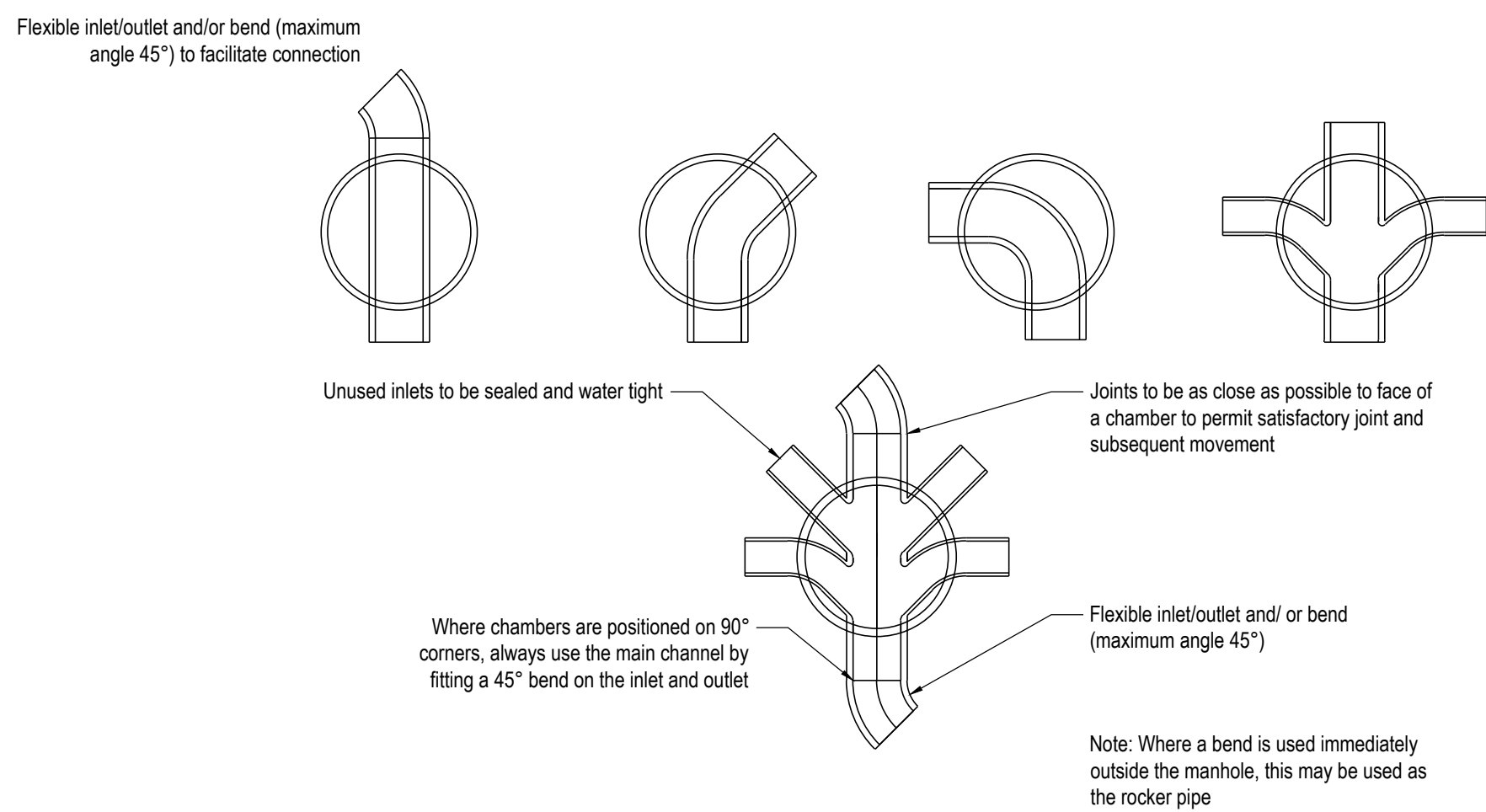
TYPICAL INSPECTION CHAMBER - TYPE 3
MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE
IN AREAS SUBJECT TO VEHICLE LOADING 3m, NON ENTRY
SCALE 1:20



Sited in domestic driveway or footway

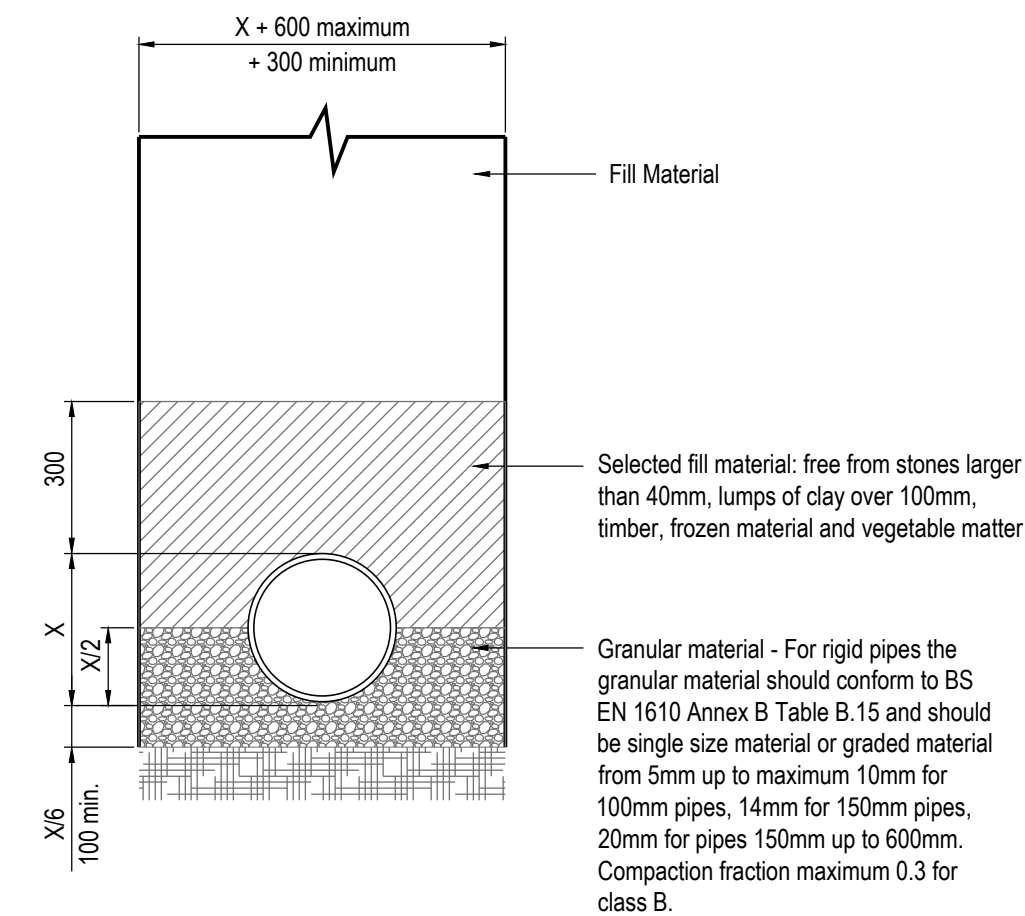
Sited in domestic gardens

ALTERNATIVE TOP DETAILS FOR LIGHT VEHICLE LOADING AND LANDSCAPED AREAS - TYPE 3
SCALE 1:20



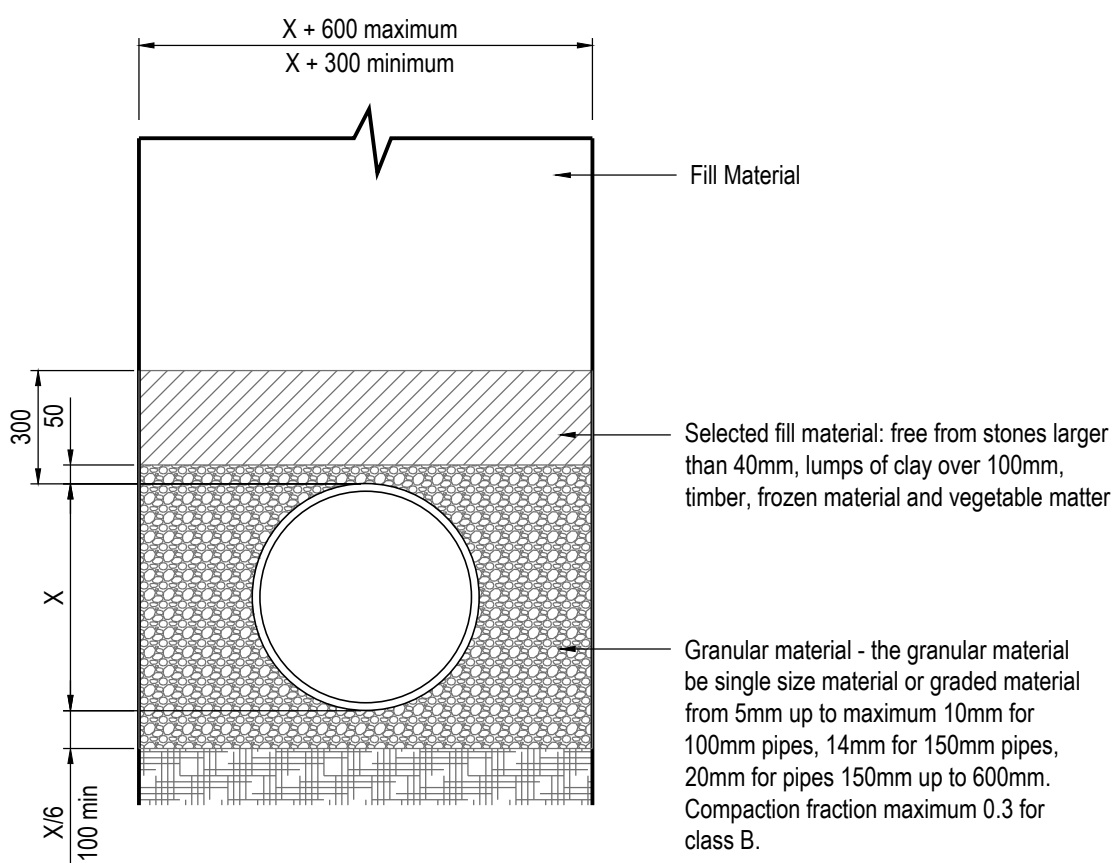
ALTERNATIVE BASE LAYOUT FOR TYPE 3 CHAMBER
SCALE 1:20

- Notes:
- All dimensions are in mm.
 - Dimension X is the external Ø of the pipe.
 - All pipe surround materials to be in accordance with the water services association, Sewers for Adoption 7th edition.
 - Pipe to be bedded to manufacturers recommendations



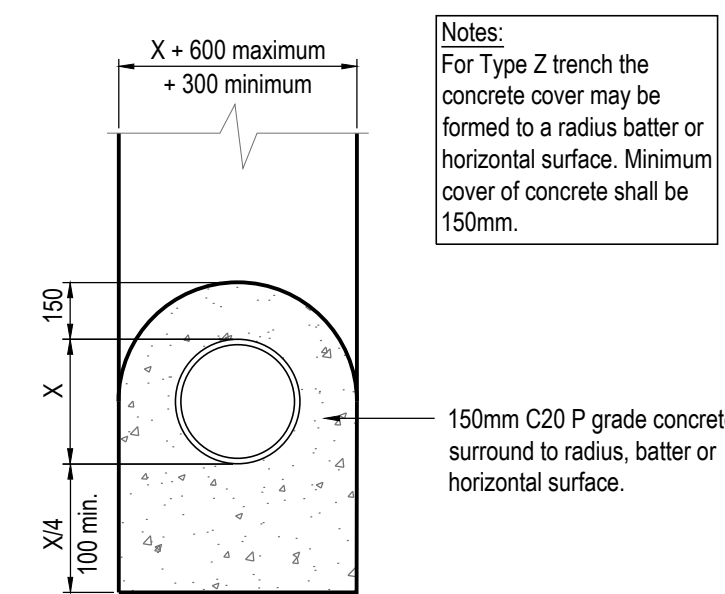
BED TYPE B(180°)
BEDDING FACTOR 1.9

FOR RIGID PIPES -
GENERALLY SUITABLE IN ALL SOIL CONDITIONS



BED TYPE S(360°)
BEDDING FACTOR 2.2

FOR FLEXIBLE PIPES -
GENERALLY SUITABLE IN ALL SOIL CONDITIONS



BED TYPE Z
CONCRETE SURROUND FOR SHALLOW PIPES

PIPE BEDDING DETAILS
SCALE 1:20

DO NOT SCALE

For the avoidance of doubt, no approvals, reviews, comments or indication of satisfaction given by ARC Engineers in terms of subcontract drawings, products or proposed materials shall reduce or extinguish the obligation of the sub-contractor or supplier to adhere to the specification, general arrangement drawings, statutory requirements and good working practice. ARC Engineers accept no liability for the selection of materials or workmanship in the execution of the works.

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- All work to comply to current building regulations and to be in accordance with the relevant British Standards and appropriate Codes of Practice.
- For further notes refer to Project Notes.

SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following risks and information.

Risks listed here are not exhaustive. Refer to Risk Assessment Register:

Construction:



PROJECT NOTES:
NO KNOWN RISK SPECIFIC TO WORKS THAT WOULD NOT BE NOTED BY A COMPETENT CONTRACTOR

Demolition
No Unusual hazards/risks

For information relating to Use, Cleaning and Maintenance see Health & Safety File

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement



INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION



INDICATES A RESIDUAL RISK FOR INFORMATION



INDICATES A RESIDUAL RISK REQUIRING PROHIBITIVE ACTION



INDICATES A RESIDUAL RISK AS A WARNING

C02	AS-BUILT ISSUE	JBD	MG	02.01.2025
C01	CONSTRUCTION ISSUE	JAB		28.04.2023
T1	AMENDED TO TENDER ISSUE	JAB		27.04.2022
P1	INITIAL ISSUE	JAB	JAB	14.04.2022
REV	DETAIL	BY	CHK	DATE

arcengineers

CONSULTING STRUCTURAL AND CIVIL ENGINEERS

3 CADMAN COURT, LEEDS, LS27 0RX
Phone: 0113 253 3904
www.arc-engineers.co.uk

CLIENT: **AVERY**

PROJECT: **CARE HOME CENTRAL AVENUE GRAVESEND**

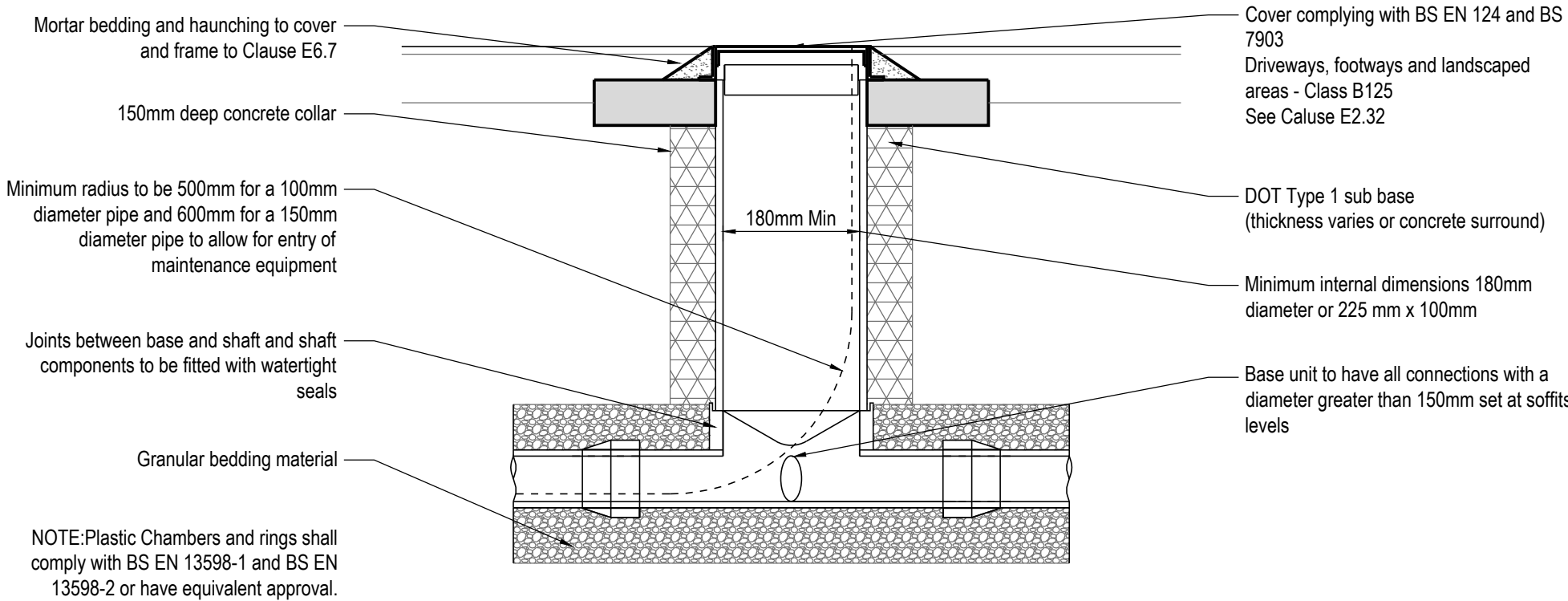
TITLE: **DRAINAGE DETAILS (1 of 3)**

DRAWING STATUS: **AS-BUILT**

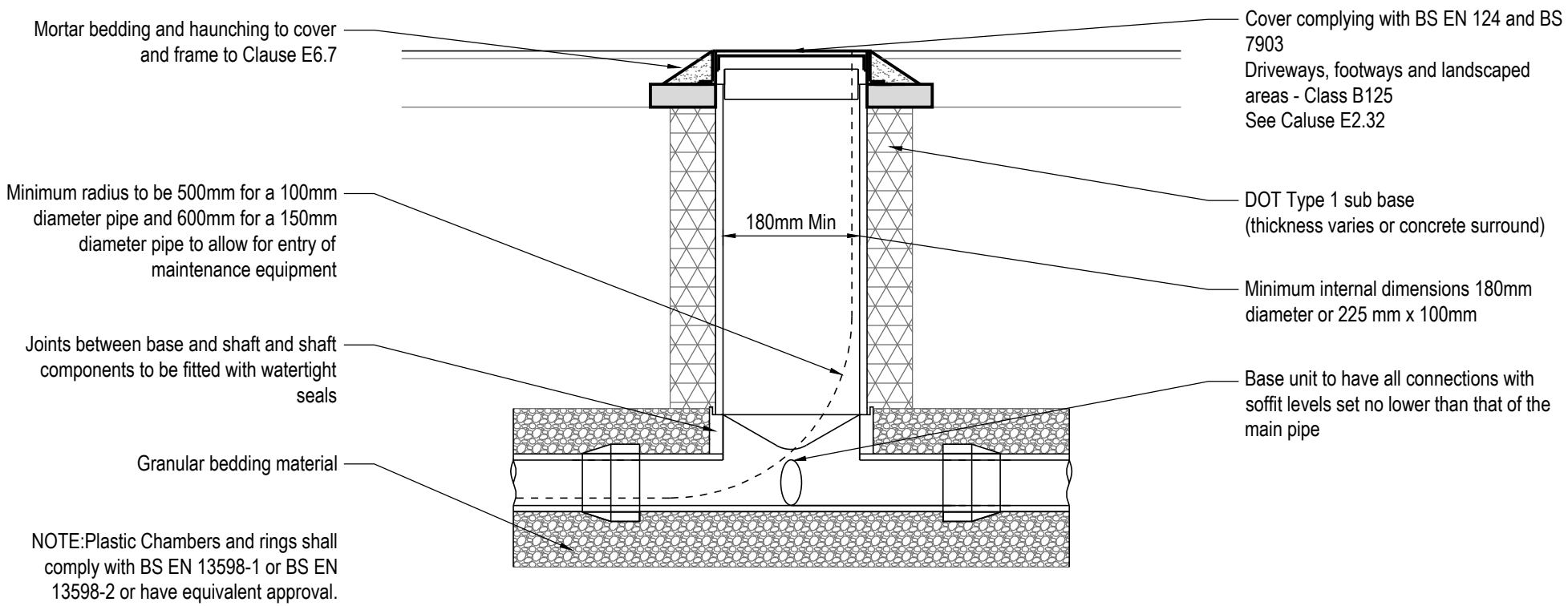
DRAWN: JAB	DATE: 14.04.2022	DRAWN: JAB	DATE: 14.04.2022
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CONTRACT No: 22026	SCALE @ A1: 1:100
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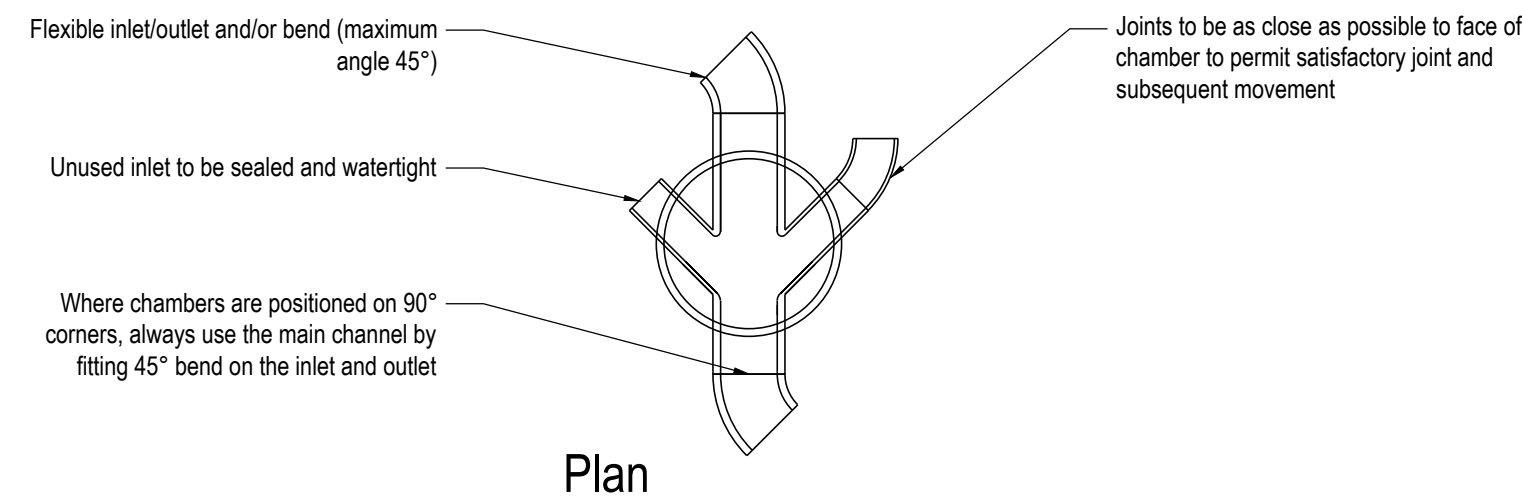
PROJECT No: 22026	ORIGINATOR: ARC	ZONE: XX	LEVEL: 00	DR: DR	D: D	0551	REVISION: C02
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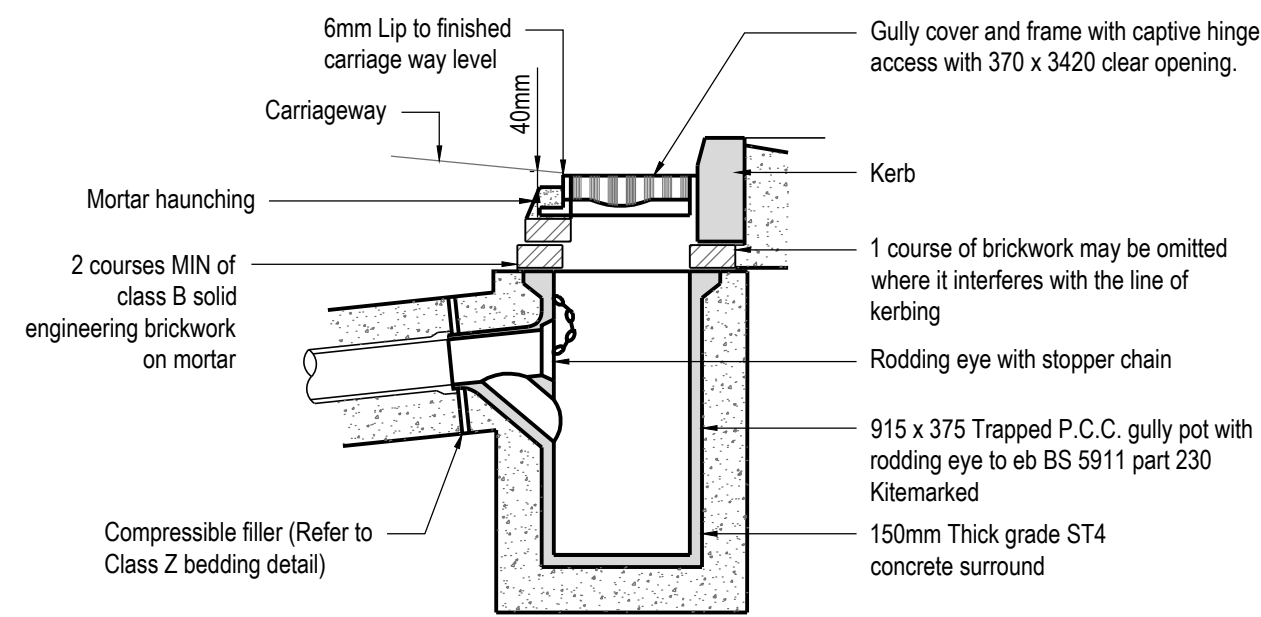
Sited in domestic driveway or footway



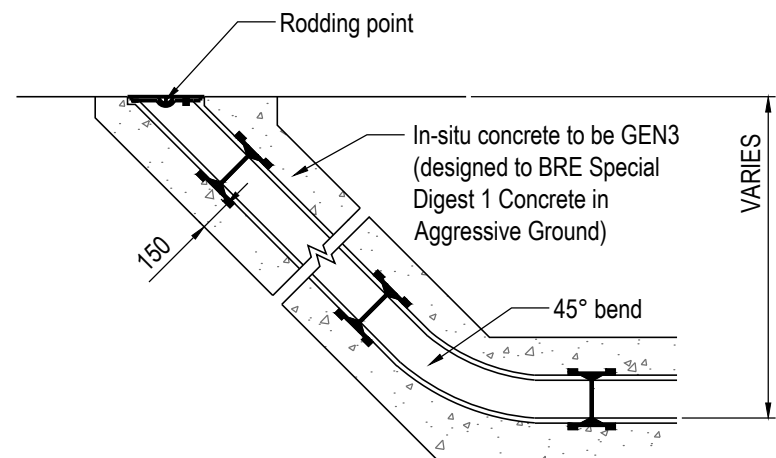
Sited in domestic garden



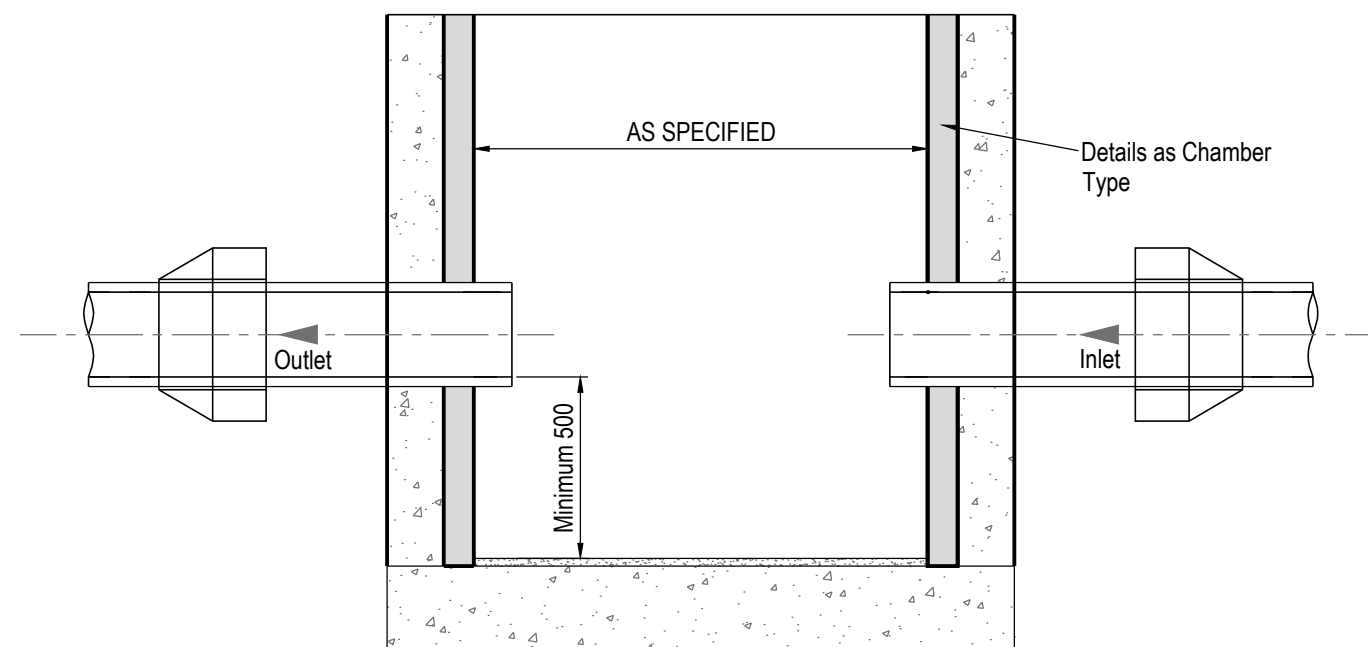
TYPICAL INSPECTION CHAMBER - TYPE 4
MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE
2m NON ENTRY
SCALE 1:20



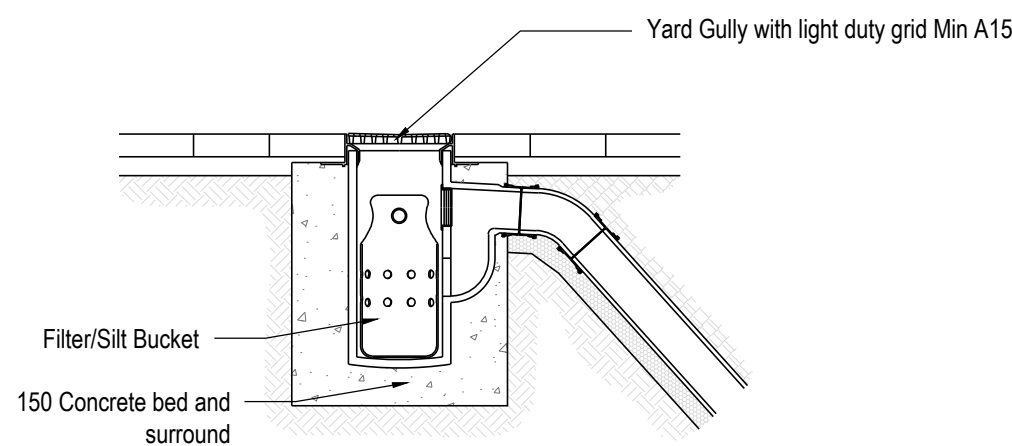
HIGHWAY DETAIL
TYPICAL ROAD GULLY
SCALE 1:20



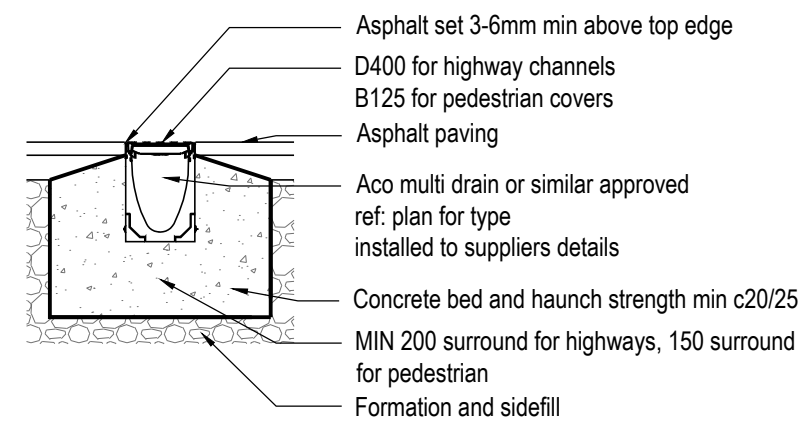
TYPICAL RODDING EYE
DETAIL
SCALE 1:20



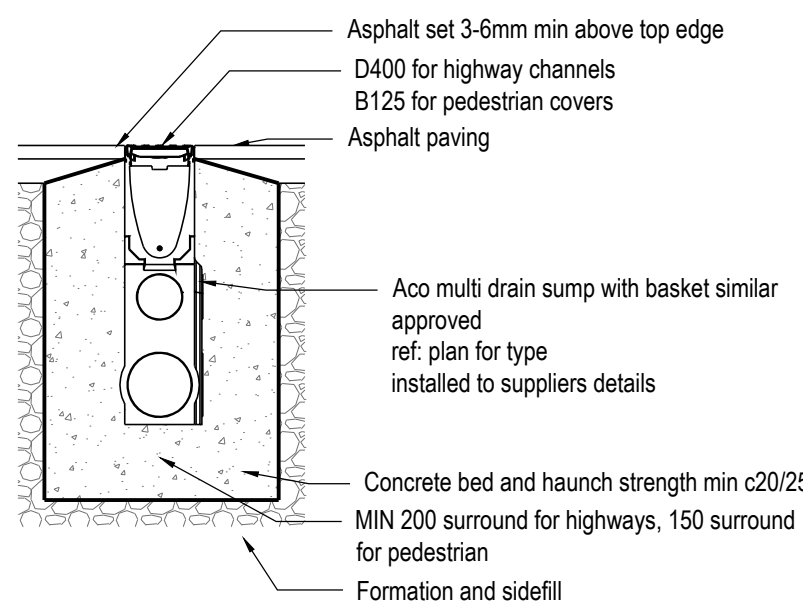
SILT TRAP DETAIL
SCALE 1:20



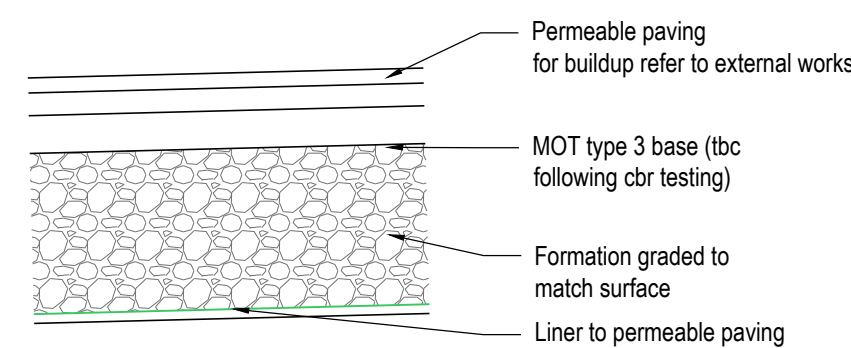
PAVEMENT GULLY
SCALE 1:20



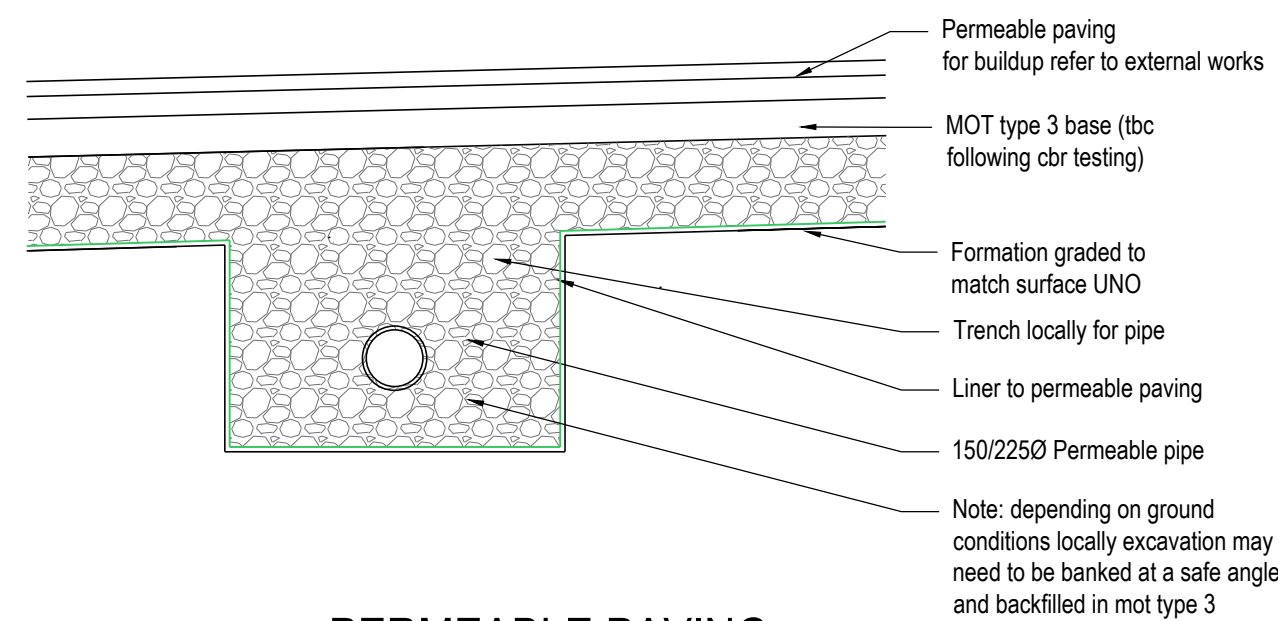
ACO MULTI DRAIN
CHANNEL TYPICAL DETAIL
SCALE 1:20



ACO MULTI DRAIN
SUMP TYPICAL DETAIL
SCALE 1:20



PERMEABLE PAVING DETAIL
SCALE 1:20



PERMEABLE PAVING
COLLECTION TRENCH/FILTER TRENCH DETAIL
SCALE 1:20

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Demolition

No Unusual hazards/risks

For information relating to Use, Cleaning and Maintenance see Health & Safety File

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement



INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION



INDICATES A RESIDUAL RISK FOR INFORMATION



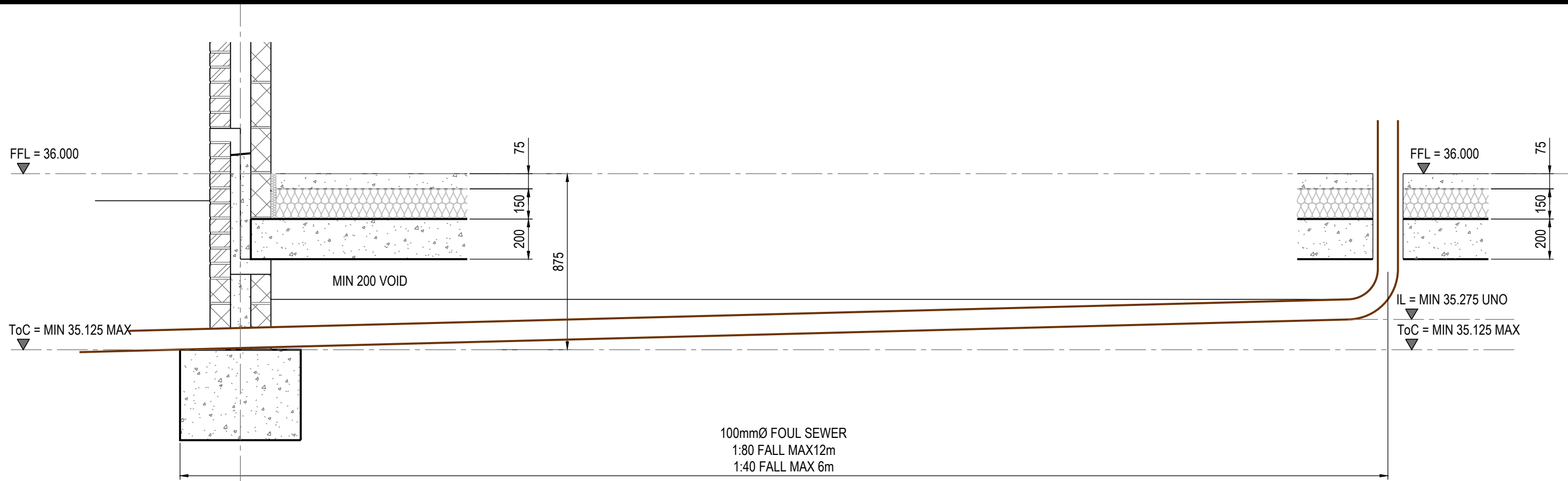
INDICATES A RESIDUAL RISK REQUIRING PROHIBITIVE ACTION



INDICATES A RESIDUAL RISK AS A WARNING

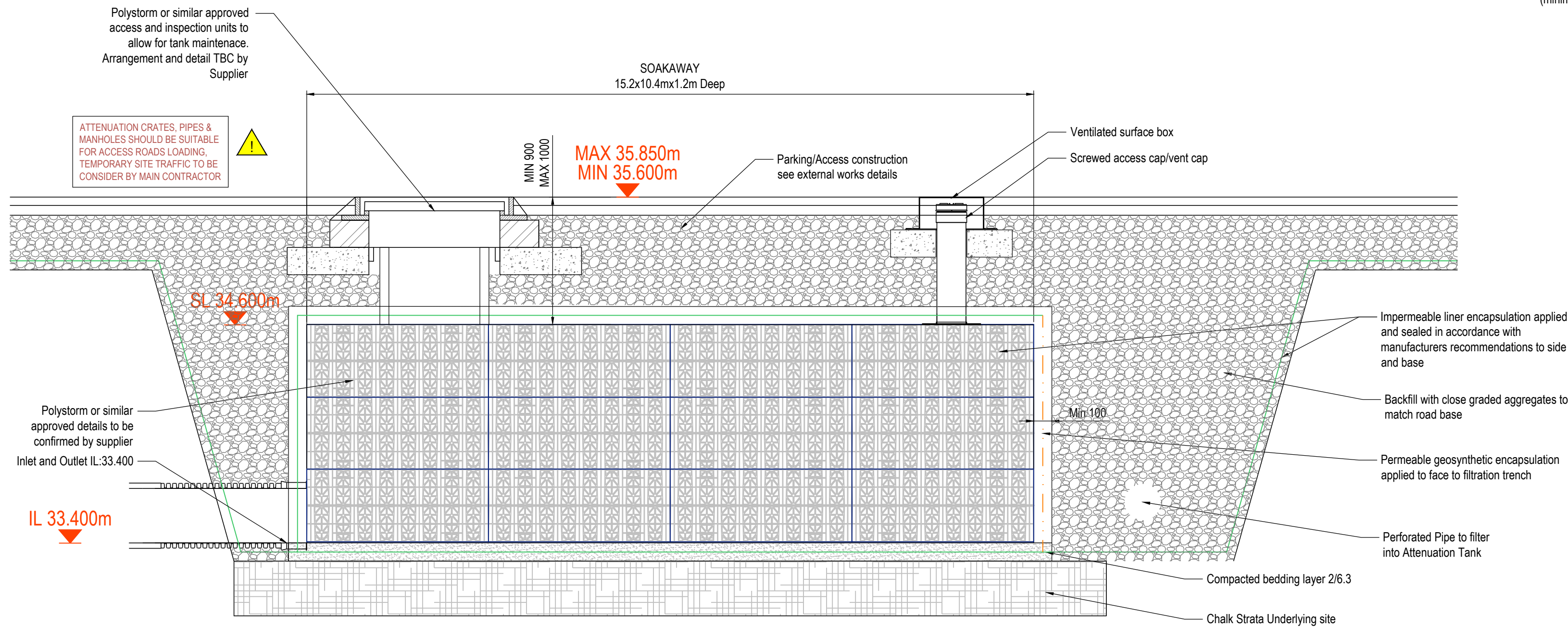
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C01	CONSTRUCTION ISSUE	JAB		28.04.2023
T1	AMENDED TO TENDER ISSUE	JAB		27.04.2022
P1	INITIAL ISSUE	JAB	JAB	14.04.2022
REV	DETAIL	BY	CHK	DATE

CONSULTING STRUCTURAL AND CIVIL ENGINEERS	
3 CADMAN COURT, LEEDS, LS27 0RX Phone: 0113 253 3904 www.arc-engineers.co.uk	
CLIENT: AVERY	
PROJECT: CARE HOME CENTRAL AVENUE GRAVESEND	
TITLE: DRAINAGE DETAILS (2 of 3)	
DRAWING STATUS: AS-BUILT	
DRAWN: JAB	DATE: 14.04.2022
DRAWN: JAB	DATE: 14.04.2022
CONTRACT No: 22026	SCALE @ A1: 1:100
PROJECT No:	ORIGINATOR
ZONE	LEVEL
TYPE	DISCIPLINE
NUMBER	REVISION
22026 - ARC - XX - 00 - DR - D - 0552 - C02	
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SECTION TO INDICATE SVP CONNECTIONS RELAVITE TO FOUNDATIONS

Scale 1:20



INDICATIVE SECTION THROUGH ATTENUATION TANK

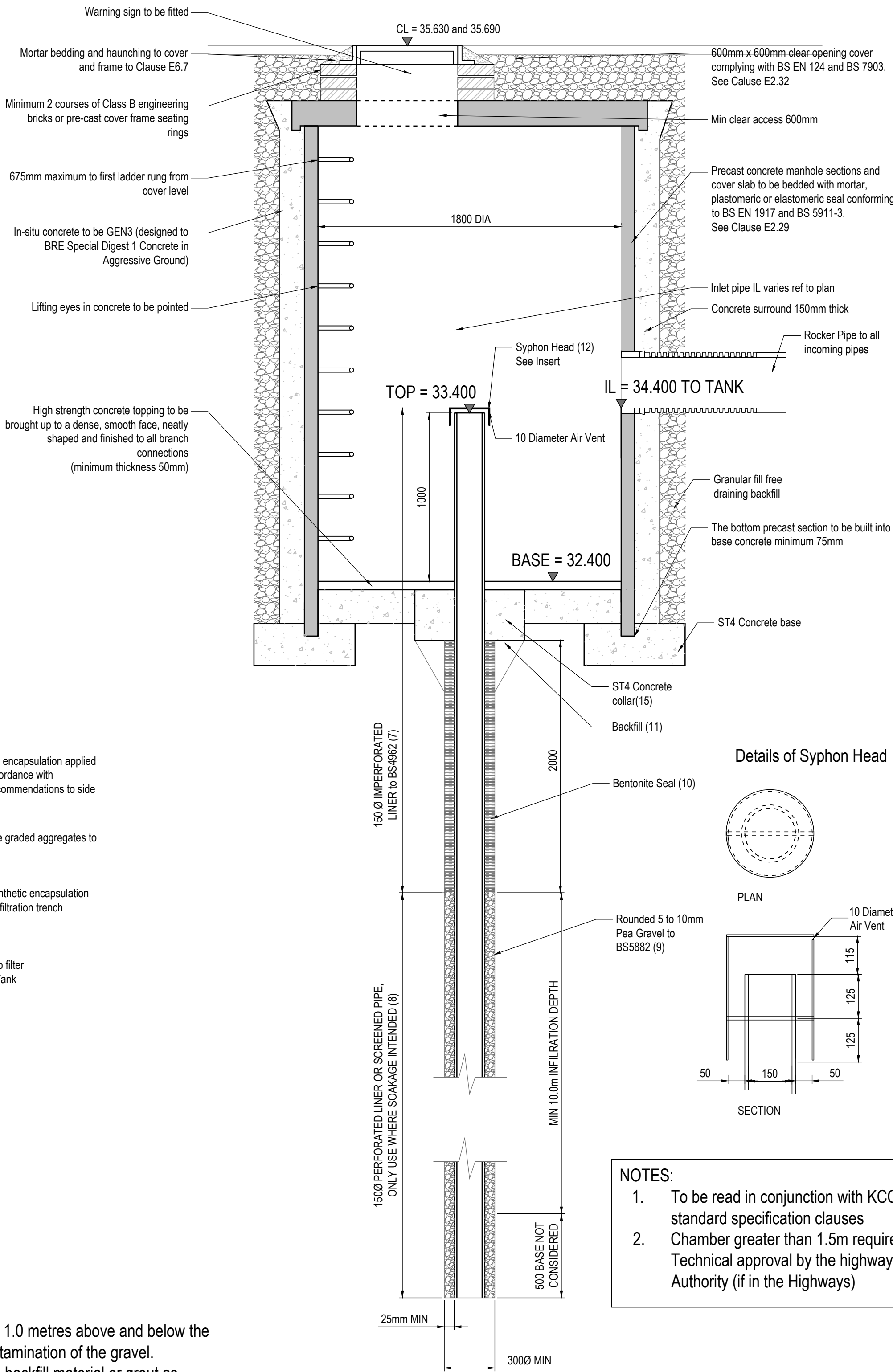
SCALE 1:20

INSTALLATION TO SUPPLIER RECOMMENDATIONS

Appendix D2 Kent County Council Specification: Deep Bored Soakaway

- These notes should be read in conjunction with drawing SDBS with all dimensions in millimetres.
- The conventional soakaway shall be constructed in accordance with the relevant specification (see Appendix D1 and Drawing SCS) .
- Where the conventional soakaway is to act purely as a storage chamber, it shall be backfilled in accordance with the 600 series clauses of the Department of Transport's "Specification for Highway Works"
- In all installations the inspection cover must be sited vertically above the borehole to facilitate future maintenance.
- Each location considered for the installation of a soakaway should be investigated by means of a constant or falling head soakage test. These tests should be carried out in the deposits considered suitable and at vertical intervals as agreed with the Engineer. Alternatively a proof test may be undertaken on the installed liner.
- When the soakage tests are complete, the borehole could be deepened, if necessary, to provide the required length within the soakage layer and a deep bored soakaway liner installed.
- The borehole liner shall have an internal diameter of at least 100mm but normally not more than 250mm. It may be UPVC in accordance with BS 4962 or other durable material agreed with the Engineer. It must be capable of insertion in the borehole without risk of breakage, or damage to the joints.
- Perforated slotted or screened pipe shall only be used in that section where soakage is intended. The apertures in such a pipe shall be smaller than any aggregate placed between the liner and the borehole wall. The perforated pipe shall commence a minimum of 2 metres below the interface with the overlying unsuitable strata.
- After installation of the lining tube, rounded 5mm to 10mm pea gravel shall be placed in the annulus between the borehole wall and the lining tube to a level 1 metre above the perforated pipe as the casing is withdrawn. Care must be taken to ensure that the level of the aggregate is maintained just above the bottom of the casing to prevent collapse of the borehole. In addition excessive heights of aggregate above the bottom of the casing could jam the casing during withdrawal and risk lifting the liner to the detriment of the installation.

- A bentonite seal shall be placed on top of the aggregate to extend nominally 1.0 metres above and below the interface with the overlying unsuitable material. Care should be taken to prevent contamination of the gravel.
- As the casing is withdrawn the remaining annulus shall be filled with suitable backfill material or grout as directed by the Engineer.
- The removable syphon head shall be in any approved non-rusting material. A suitable design in UPVC is illustrated. It shall have a 10mm diameter air vent at its highest point. It shall be fixed to the liner in a manner agreed by the Engineer. Correctly fitted push fitting syphon heads are acceptable to remove the need for entry into a confined space. .
- On completion, if requested, the soakaway shall be tested to the satisfaction of the Engineer.
- Where the deep bored liner has to be installed within an existing chamber without a concrete foundation, a Class ST4 concrete floor, 225mm thick, shall be cast to avoid any necessary erosion of the soil at the base of the chamber.
- Where the deep bored liner has to be installed within a chamber in which a hole has been made during drilling, or preformed in the base, the annulus remaining after completion of the installation shall be filled with a 225mm thick concrete plug Class ST4.
- Where the deep bored liner has to be installed within an existing chamber which does not have a concrete base and which is showing signs of instability then the bottom rings should be underpinned and a concrete floor (Class ST4), 225mm thick be cast beneath them. More serious instability will require additional ground improvement and/or relocation of the soakaway.
- All joints, soakaway holes and lifting eyes in the precast concrete rings located in unsuitable strata should be sealed with mortar or other sealing materials approved by the Engineer. This shall prevent seepage of water by any other means than through the deep bored liner.



DEEP BORE SOAKAWAY DETAILS

Scale 1:20

NOTES:

- To be read in conjunction with KCC standard specification clauses Chamber greater than 1.5m requires Technical approval by the highways Authority (if in the Highways)
-

DO NOT SCALE

For the avoidance of doubt, no approvals, reviews, comments or indication of satisfaction given by ARC Engineers in terms of subcontract drawings, products or proposed materials shall reduce or extinguish the obligation of the sub-contractor or supplier to adhere to the specification, general arrangement drawings, statutory requirements and good working practice. ARC Engineer's accept no liability for the selection of materials or workmanship in the execution of the works.

GENERAL NOTES

- These notes are intended to augment drawings and specifications. Where conflict of requirements exists the order of precedence shall be as shown in the specifications. Otherwise the strictest provision shall govern.
- This drawing is to be read in conjunction with all other relevant Engineers and Architects drawings.
- Drawings not to be scaled.
- All dimensions to be checked on site by the contractor. Any discrepancies to be notified to the Engineer/Architect and further instructions obtained before work is commenced.
- The structure is designed to be self-supporting and stable after the building is fully complete. It is the contractors sole responsibility to determine the erection procedure and sequence and ensure that the building and its components are safe during erection. This includes the addition of whatever temporary bracing, guys or tie-downs which may be necessary, such material remaining the property of the contractor upon completion.
- All work to comply to current building regulations and to be in accordance with the relevant British Standards and appropriate Codes of Practice.
- For further notes refer to Project Notes.

SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following risks and information.

Risks listed here are not exhaustive. Refer to Risk Assessment Register:

Construction:



PROJECT NOTES:
NO KNOWN RISK SPECIFIC TO WORKS THAT WOULD NOT BE NOTED BY A COMPETENT CONTRACTOR

Demolition

No Unusual hazards/risks

For information relating to Use, Cleaning and Maintenance see Health & Safety File

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement



INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION



INDICATES A RESIDUAL RISK FOR INFORMATION



INDICATES A RESIDUAL RISK REQUIRING PROHIBITIVE ACTION



INDICATES A RESIDUAL RISK AS A WARNING

C03	AS-BUILT ISSUE	JBD	MG	02.01.2025
C02	ATTENUATION TANK DETAILS UPDATED	JAB		05.05.2023
C01	CONSTRUCTION ISSUE	JAB		28.04.2023
T1	AMENDED TO TENDER ISSUE	JAB		27.04.2022
P1	INITIAL ISSUE	JAB	JAB	14.04.2022
REV	DETAIL	BY	CHK	DATE

arcengineers CONSULTING STRUCTURAL AND CIVIL ENGINEERS 3 CADMAN COURT, LEEDS, LS27 0RX Phone: 0113 253 3904 www.arc-engineers.co.uk													
CLIENT:	AVERY												
PROJECT:	CARE HOME CENTRAL AVENUE GRAVESEND												
TITLE:	DRAINAGE DETAILS (3 of 3)												
DRAWING STATUS:	AS-BUILT												
DRAWN:	JAB	DATE:	14.04.2022	CHECKED:	JAB	DATE:	14.04.2022						
CONTRACT No:	22026	SCALE @ A1:	1:100										
PROJECT No:	22026	ORIGINATOR:	ARC	ZONE:	XX	LEVEL:	00	DR:	D	DISCIPLINE:	0553	NUMBER:	C03
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For the avoidance of doubt, no approvals, reviews, comments or indication of satisfaction given by ARC Engineers in terms of subcontract drawings, products or proposed materials shall reduce or extinguish the obligation of the sub-contractor or supplier to adhere to the specification, general arrangement drawings, statutory requirements and good working practice. ARC Engineer's accept no liability for the selection of materials or workmanship in the execution of the works.

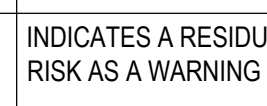
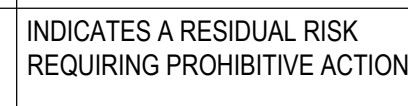
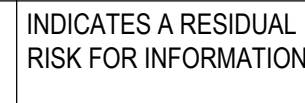
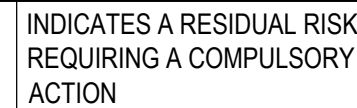
- These notes are intended to augment drawings and specifications. Where conflict of requirements exists the order of precedence shall be as shown in the following sequence:
 - a) The contract documents
 - b) The approved tender
- This drawing is to be read in conjunction with all other relevant Engineers and Architects drawings.
- Drawings not to be scaled.
- All work to be checked on site by the contractor. Any discrepancies to be notified to the Engineer/Architect and further instructions obtained before work is commenced.
- The structure is designed to be self-supporting and stable after the building is fully completed. It is the contractors sole responsibility to determine the erection sequence and ensure that the building and its components are safely during completion. This includes the addition of whatever temporary bracing girders or tie-downs which may be necessary, such material remaining the property of the contractor upon completion.
- All work to conform to British Standards and to be in accordance with the relevant British Standards and appropriate Codes of Practice.
- For further references refer to Project Notes.

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following risks and information.

Construction



It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement



FOOTPATHS TO BE MADE GOOD TO
MATCH EXISTING CONSTRUCTION.
LAYERS IN 300mm MIN STEPS
SIMILAR TO DETAIL AS SHOWN

C02	AS-BUILT ISSUE	JBD	MG	02.01.21
C01	ISSUED FOR CONSTRUCTION	JAB		28.04.24
T3	SCALE BAR ADDED	JAB		07.03.23
T2	RETAINING WALL DETAIL ADDED	JAB		07.10.20
T1	AMENDED TO TENDER ISSUE	JAB		27.04.24
P1	INITIAL ISSUE	PJH	JAB	19.04.24
REV	DETAIL	RY	CHK	DATE



AVERY

CARE HOME,
CENTRAL AVENUE,
GRAVESEND

EXTERNAL WORKS

KERB DETAILS

AS-BUILT

PROJECT No.	ORIGINATOR	ZONE	LEVEL	TYPE	DISCIPLINE	NUMBER	REV
22 026 - ARC - XX - XX - DR - C - 0651 - C02							

DO NOT SCALE

For the avoidance of doubt, no approvals, reviews, comments or indication of satisfaction given by ARC Engineers in terms of subcontract drawings, products or proposed materials shall reduce or extinguish the obligation of the sub-contractor or supplier to adhere to the specification, general arrangement drawings, statutory requirements and good working practice. ARC Engineers accept no liability for the selection of materials or workmanship in the execution of the works.

GENERAL NOTES

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- All work to comply to current building regulations and to be in accordance with the relevant British Standards and appropriate Codes of Practice.
- For further notes refer to Project Notes.

SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following risks and information.

Risks listed here are not exhaustive. Refer to Risk Assessment Register: XXXXXXX

Construction:



ADD PROJECT NOTES HERE

Demolition

No Unusual hazards/risks

For information relating to Use, Cleaning and Maintenance see Health & Safety File

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement



INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION



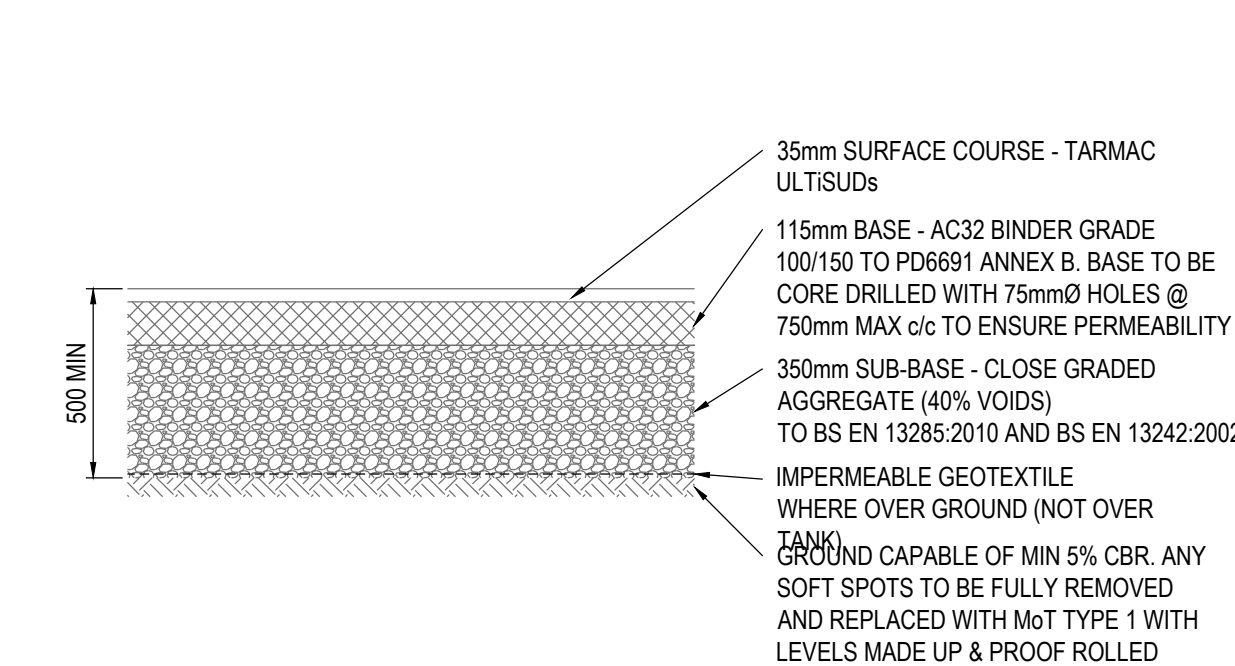
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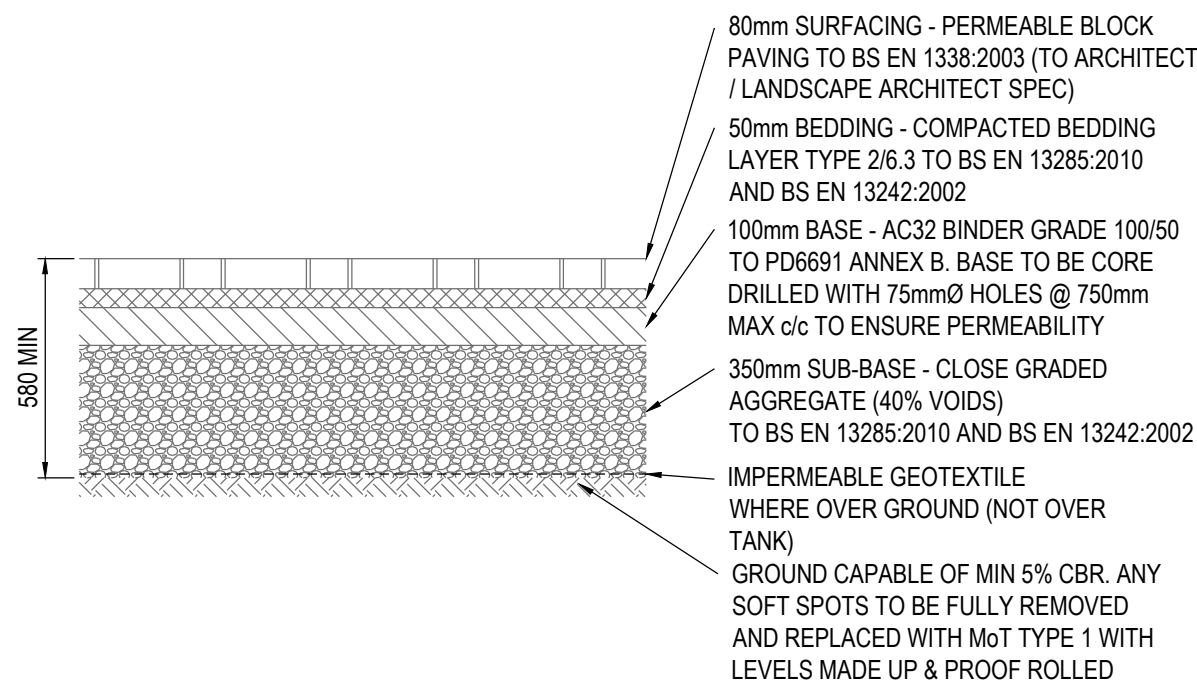
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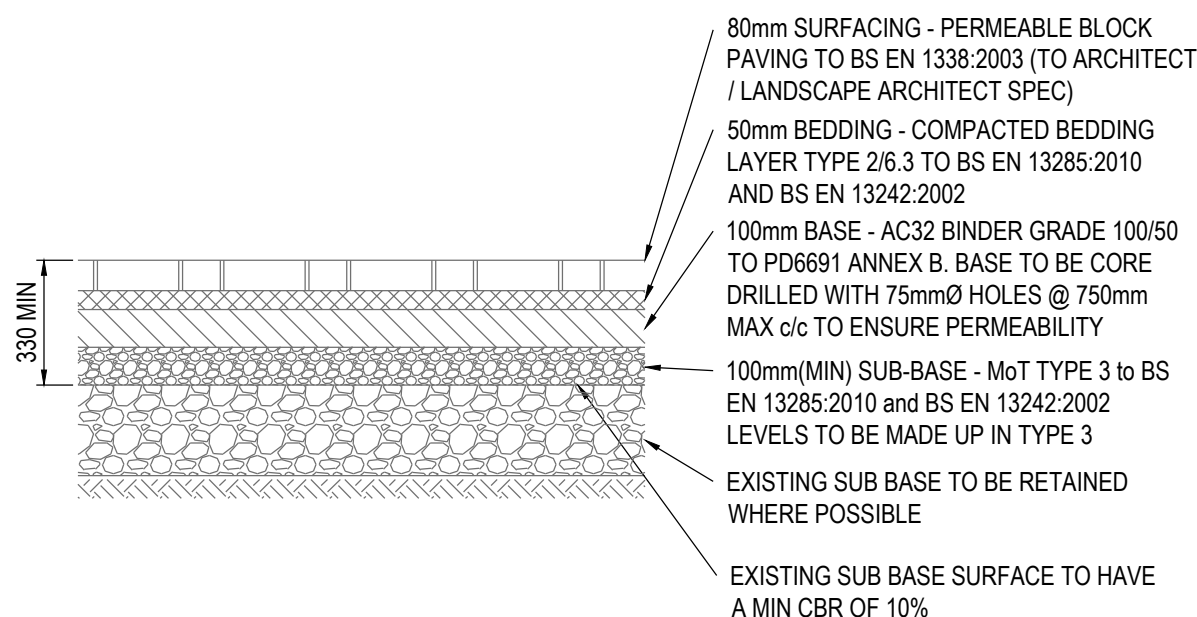
INDICATES A RESIDUAL RISK AS A WARNING



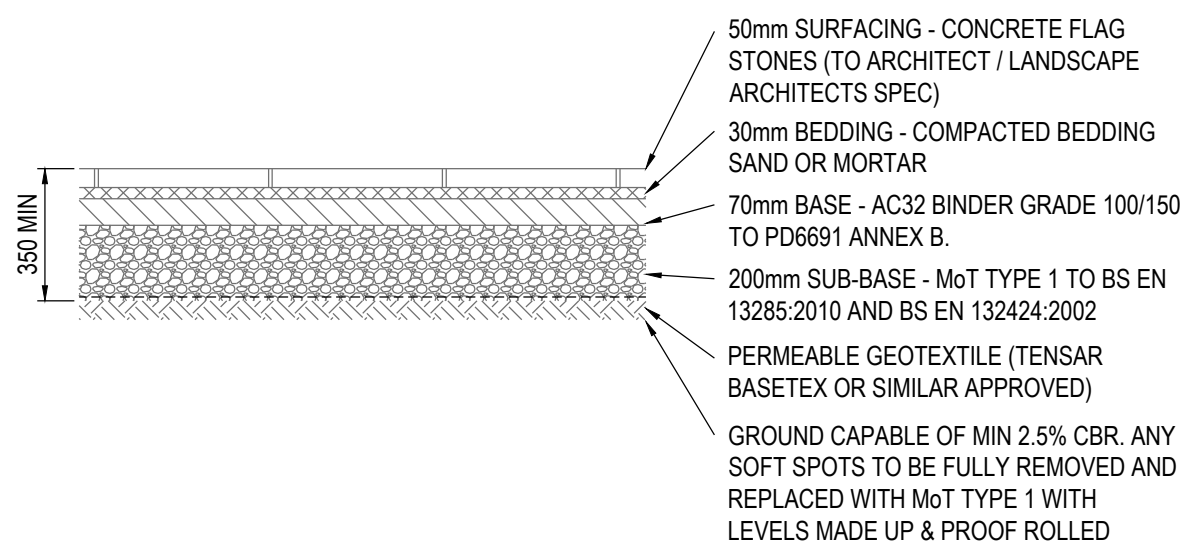
ACCESS ROAD: PERMEABLE VEHICULAR TARMAC
SCALE 1:20



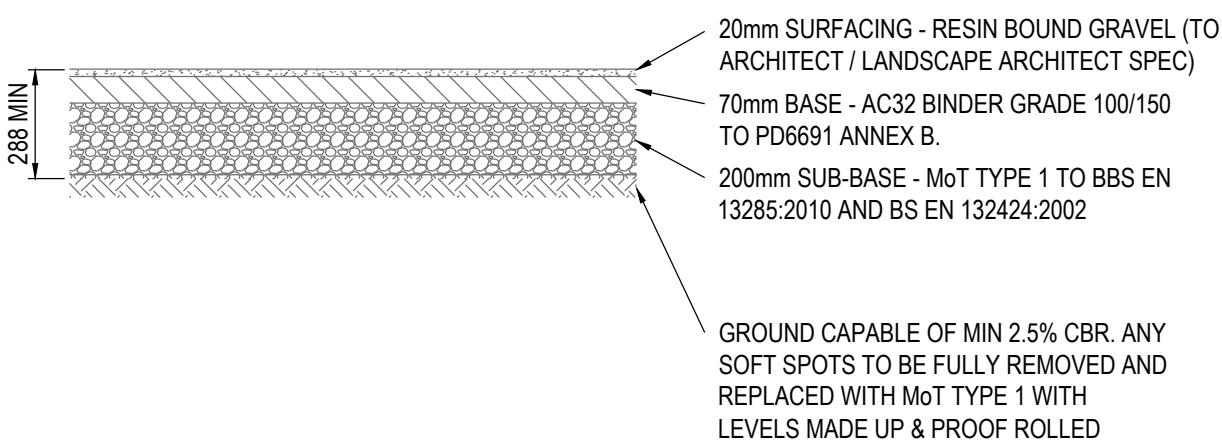
CAR PARK: PERMEABLE VEHICULAR BLOCK PAVING
SCALE 1:20



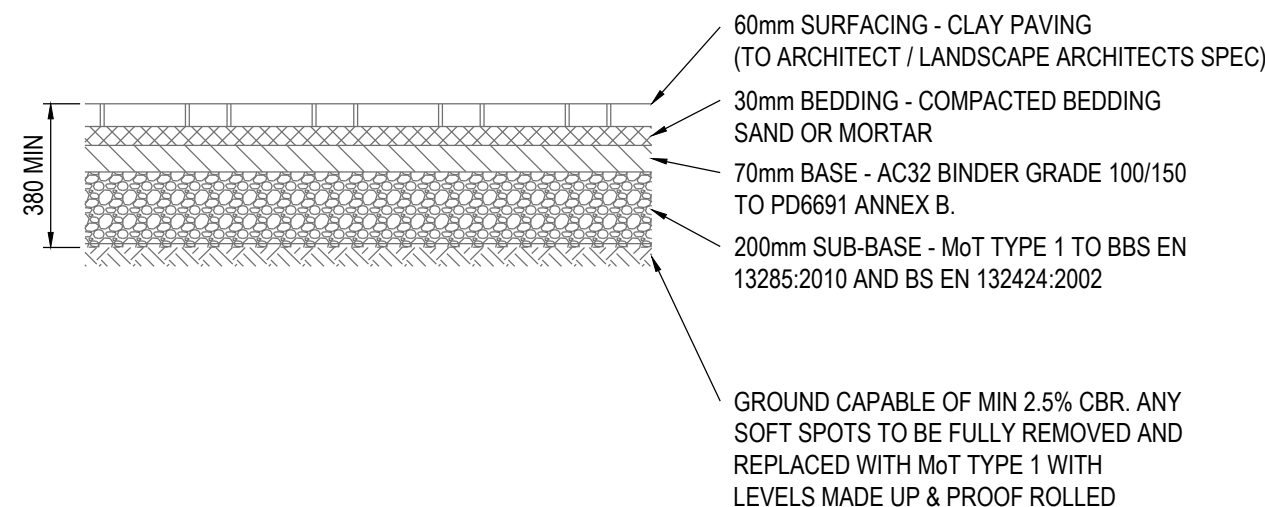
CAR PARK: PERMEABLE VEHICULAR BLOCK PAVING
OVER EXISTING
SCALE 1:20



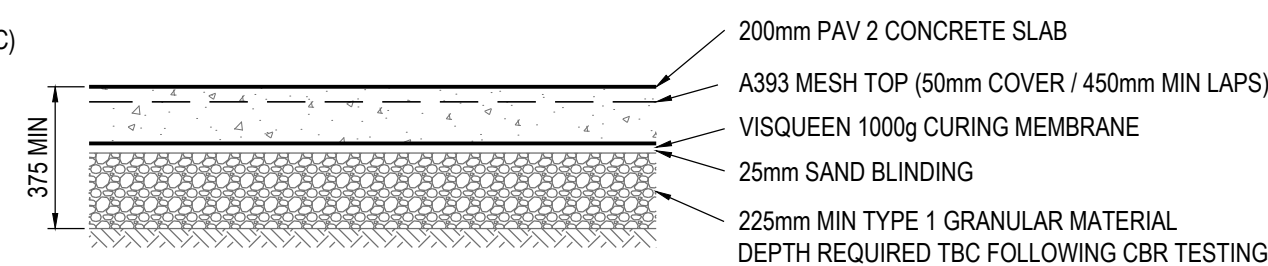
COURTYARDS AND PATION: FLAGS
SCALE 1:20



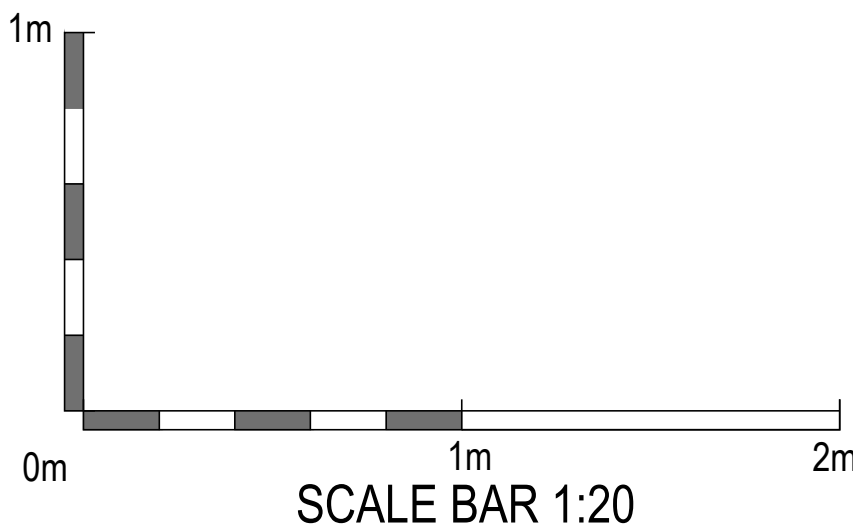
COMMUNAL PATHS: RESIN BOUND GRAVEL
SCALE 1:20



ACCESS PATHS: BLOCK PAVING
SCALE 1:20

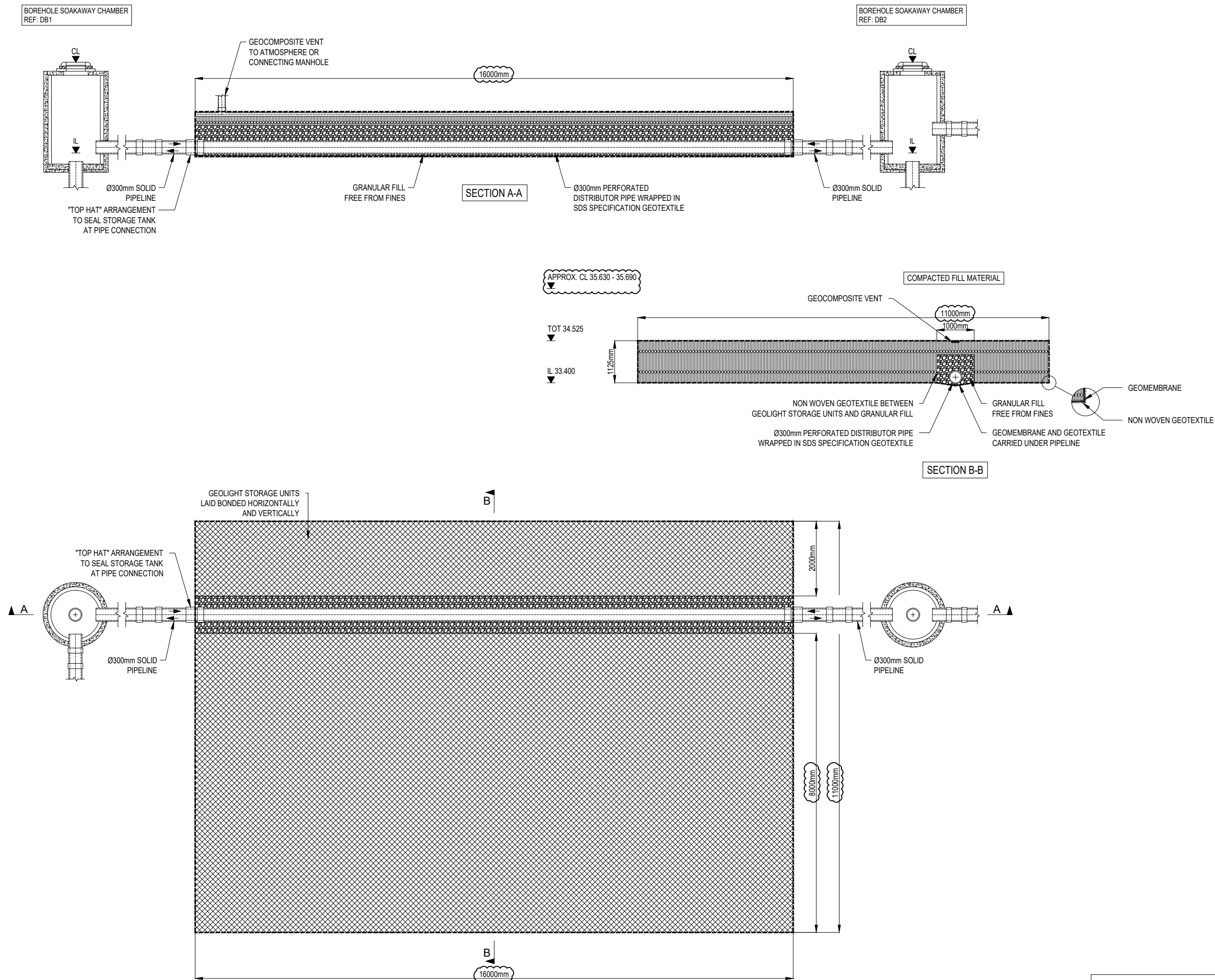


EXTERNAL CONCRETE SLAB (BIN STORE) DETAIL
SCALE 1:20



C02	AS-BUILT ISSUE	JBD	MG	02.01.2025
C01	ISSUED FOR CONSTRUCTION	JAB		28.04.2023
T2	SCALE BAR ADDED	JAB		07.03.2023
T1	INITIAL ISSUE - SUPPLEMENTARY INFORMATION	JAB		
REV	DETAIL	BY	CHK	DATE

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CLIENT:	AVERY						
PROJECT:	CARE HOME, CENTRAL AVENUE, GRAVESEND						
TITLE:	EXTERNAL WORKS NON-ADOPTABLE CONSTRUCTION DETAILS						
DRAWING STATUS:	AS-BUILT						
DRAWN: JAB	DATE: 17.10.2022	CHECKED:	DATE:				
CONTRACT No: 22026	SCALE @ A1: 1:20						
PROJECT No:	ORIGINATOR:	ZONE:	LEVEL:	TYPE:	DISCIPLINE:	NUMBER:	REVISION:
22 026 - ARC - XX - XX - DR - C - 0652 - C02							
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Notes:

This Drawing is to be read in conjunction with all relevant Architect's Engineer's and specialists' drawings and specifications.

Do not scale from this drawing in either paper or digital form. Use written dimensions only.

SDS to leave solid stub only, exiting tank for connection by others.

All external Manholes, Access Points, Junctions & Pipe are shown for guidance only and not part of the SDS program unless otherwise agreed.

A	DIMENSIONAL UPDATE	20.06.23
	ISSUED FOR APPROVAL	RJ SP
-	ISSUED FOR APPROVAL	26.05.23
		RJ SP
Rev	Comments	Date
		DRW CHK



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Biddisham
Somerset
BS26 2RE
+44 (0)1934 751303

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CARE HOME,
CENTRAL AVENUE

VKE CONTRACTORS

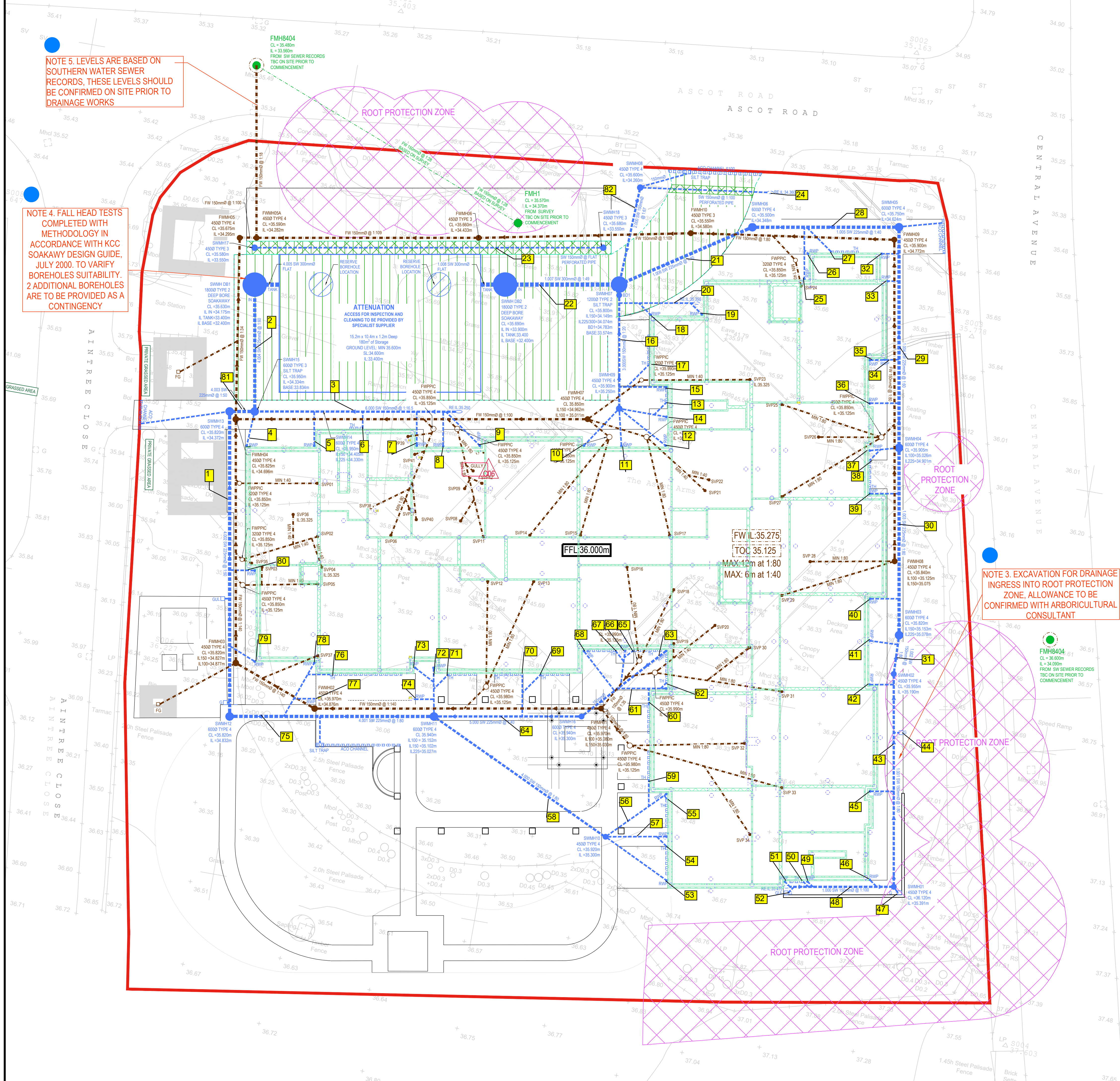
ATTENUATION TANK 1 DETAIL

Drawing Number	Revision	Drawing Title	Date
22026-0501	C02	DRAINAGE GENERAL ARRANGEMENT	05.05.23

Scale	NTS	Date	26.05.23
Drawing No	E210722_01	Rev	A

APPENDIX D

CCTV DRAINAGE SURVEY



NOTE 5. LEVELS ARE BASED ON SOUTHERN WATER SEWER RECORDS, THESE LEVELS SHOULD BE CONFIRMED ON SITE PRIOR TO DRAINAGE WORKS

NOTE 4. FALL HEAD TESTS COMPLETED WITH METHODOLOGY IN ACCORDANCE WITH KCC SOAKAWAY DESIGN GUIDE, JULY 2000. TO VERIFY BOREHOLES SUITABILITY. 2 ADDITIONAL BOREHOLES ARE TO BE PROVIDED AS A CONTINGENCY

NOTE 3. EXCAVATION FOR DRAINAGE
INGRESS INTO ROOT PROTECTION
ZONE, ALLOWANCE TO BE
CONFIRMED WITH ARBORICULTURAL
CONSULTANT

- DRAINAGE KEY:**
- FW 1.000 150mm Ø @ 1.60 FOUL WATER PIPE (150mm Ø U.N.O.)
- SW 1.000 150mm Ø @ 1.60 SURFACE WATER PIPE (150mm U.N.O.)
- SWMH151 BACKDROP MANHOLE
- EXISTING FW SEWER
- EXISTING SW SEWER
- SWMH101 CL = TBC IL = TBC SURFACE WATER MANHOLE
- FMH201 CL = TBC IL = TBC FOUL WATER MANHOLE
- PPIC PPIC POLYPROPYLENE INSPECTION CHAMBER
- CONNECTION TO EXISTING FW SEWER
- EXISTING MANHOLE
- RG ROAD GULLY
- RE RODDING EYE
- G G
- RWP FOUl WATER GULLY
- CHANNEL / TH RAINWATER PIPE
- LINEAR DRAINAGE CHANNEL OR THRESHOLD DRAINAGE (BUILT IN FALLS)
- SURFACE WATER ATTENUATION SOAKAWAY POLYSTYROM OR SIMILAR SUITABLE FOR VEHICLE ACCESS MIN COVER 0.9m
- PERMEABLE PAVING AREA
- 600mm WIDE PERMEABLE PAVING COLLECTION TRENCH
- SOIL BOUNDARY
- TREE ROOT PROTECTION ZONE

DO NOT SCALE

For the avoidance of doubt, no approvals, reviews, comments or indication of satisfaction given by ARC Engineers in terms of subcontract drawings, products or proposed materials shall reduce or extinguish the obligation of the sub-contractor or supplier to adhere to the specification, general arrangement drawings, statutory requirements and good working practice. ARC Engineer's accept no liability for the selection of materials or workmanship in the execution of the works.

GENERAL NOTES

1. These notes are intended to augment drawings and specifications. Where conflict of requirements exists the order of precedence shall be as shown in the following hierarchy:
 - a. Drawings
 - b. Specifications
 - c. Notes
2. This drawing is to be read in conjunction with all other relevant Engineers and Architects drawings.
3. Drawings not to be scaled.
4. All dimensions to be checked on site by the Contractor. Any discrepancies to be notified to the Engineer/Architect and further instructions obtained before work is commenced.
5. The structure is designed to be self-supporting and stable after the building is fully complete. It is the contractors sole responsibility to determine the erection procedure and sequence and ensure that the building and its components are erected in the correct sequence. This includes the addition of whatever temporary bracing girds or tie-downs which may be necessary, such material remaining the property of the contractor upon completion.
6. Work to comply to current building regulations and to be in accordance with the relevant British Standards and appropriate Codes of Practice.
7. For all other matters refer to the relevant drawings and specifications.

SAFETY, HEALTH &
ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following risks and information.
Risks listed here are not exhaustive. Refer to Risk Assessment Register: XXXXXXXX

ADD PROJECT NOTES HERE

ADD PROJECT NOTES HERE

[illegible]

demolition

For information relating to Use, Cleaning and

It is assumed that all work will be carried out by a

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to

INDICATES A RESIDUAL RISK

REQUIRING A COMPULSORY ACTION

	ACTION
	INDICATES A RESIDUAL

 INDICATES A RESIDUAL RISK FOR INFORMATION

[illegible]

 INDICATES A RESIDUAL RISK
REQUIRING PROHIBITIVE ACTION

 INDICATES A RESIDUAL RISK AS A WARNING

Q36	POU AIR REVISED TO SUIT PRECAST		18.06.2023
Q37	POU AIR REVISED TO SUIT PRECAST		18.06.2023
Q38	POU AIR REVISED AS CLOSED		20.07.2023
Q39	FOUL DRAINAGE AMENDED TO SUIT NEW CONNECTION POINT	JAB	06.09.2023
Q40	ATTENTION TASK AMENDED TO 1.2m DEEP. VOLUME 100L	JAB	05.09.2023
Q41	RWP AND SVP LOCATIONS CHECKED AND AMENDED TO LATEST ARCHITECTS DRAWINGS	JAB	28.09.2023
Q42	JARCE SOAKWASH REPLACES WITH THE DEEP SORE CONNECTION COLLECTION TRENCH AND AMEND MINOR REVISIONS TO FLOW WATER TO ADJACENT ROADWAY FOR SCALE RAMP	JAB	09.03.2024
Q43	FLUSH PARKING PAVING EXTENDED INTO PAVED AREA, FPMMS UPDATED TO TYPE 3	JAB	17.10.2022
Q44	POU AIR REVISED TO SUIT PRECAST WITHIN HIGHWAY BOUNDARY TO BE		
Q45	PERFERRABLE		05.10.2022
Q46	POU AIR REVISED TO SUIT PRECAST		27.06.2023
Q47	INITIAL SVP		14.09.2022
Q48	REVISED	BY CHM DATE	

																															
CONSULTING STRUCTURAL AND CIVIL ENGINEERS																															
3 CADMAN COURT - LEEDS, LS27 0RX Phone: 011 253 3864 www.arc-engineers.co.uk																															
CLIENT: AVERY PROJECT: CARE HOME, CENTRAL AVENUE, GRAVESEND TITLE: DRAINAGE GENERAL ARRANGEMENT DRAWING STATUS: CONSTRUCTION <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 5px;"> <tr> <td style="width: 20%;">DRAWING NO.</td> <td style="width: 20%;">DATE</td> <td style="width: 20%;">CHECKED BY</td> <td style="width: 20%;">DATE</td> <td style="width: 20%;"></td> </tr> <tr> <td>22026</td> <td>14/04/2022</td> <td>AR</td> <td>14/04/2022</td> <td></td> </tr> <tr> <td colspan="2">PROJECT NO.</td> <td colspan="2">SCALE</td> <td></td> </tr> <tr> <td colspan="2">22026 - ARC - XX - XX</td> <td colspan="2">1:100</td> <td></td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">PROJECT NO.</td> <td style="width: 20%;">ORIGINATOR</td> <td style="width: 20%;">DRAWN</td> <td style="width: 20%;">DATE</td> <td style="width: 20%;">REVISION</td> </tr> <tr> <td>22026 - ARC - XX - XX</td> <td>DR - D</td> <td>0501</td> <td>2022</td> <td>006</td> </tr> </table>		DRAWING NO.	DATE	CHECKED BY	DATE		22026	14/04/2022	AR	14/04/2022		PROJECT NO.		SCALE			22026 - ARC - XX - XX		1:100			PROJECT NO.	ORIGINATOR	DRAWN	DATE	REVISION	22026 - ARC - XX - XX	DR - D	0501	2022	006
DRAWING NO.	DATE	CHECKED BY	DATE																												
22026	14/04/2022	AR	14/04/2022																												
PROJECT NO.		SCALE																													
22026 - ARC - XX - XX		1:100																													
PROJECT NO.	ORIGINATOR	DRAWN	DATE	REVISION																											
22026 - ARC - XX - XX	DR - D	0501	2022	006																											

DRAWING NOT TO BE USED FOR SETTING OUT. ARCHITECT AND M&E TO PROVIDE SETTING OUT.

APPENDIX E

PROGRESS & COMPLETION PHOTOS



PHOTO 1



PHOTO 2



PHOTO 3

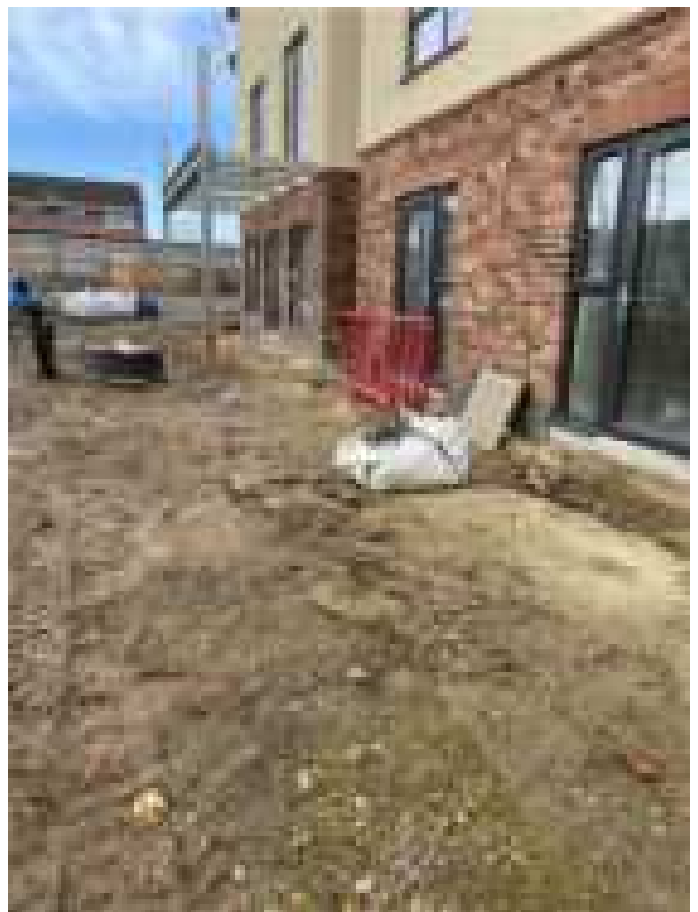


PHOTO 4



PHOTO 5



PHOTO 6



PHOTO 7



PHOTO 8



PHOTO 9



PHOTO 10



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PHOTO 14



PHOTO 15



PHOTO 16



PHOTO 17



PHOTO 18



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PHOTO 29



PHOTO 30



PHOTO 31



PHOTO 32

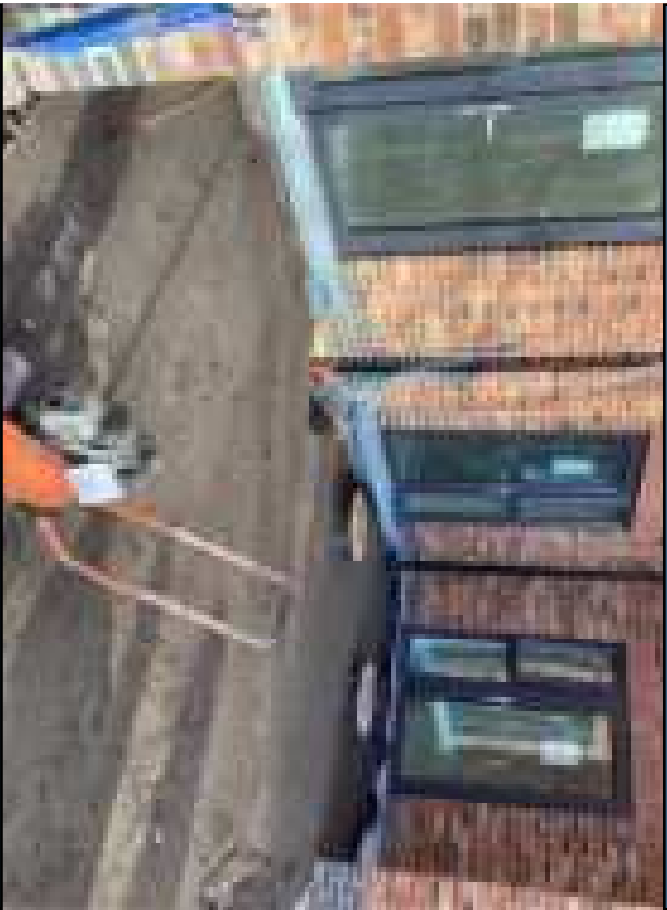


PHOTO 33



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PHOTO 44



PHOTO 45



PHOTO 46



PHOTO 47



PHOTO 48



PHOTO 49



PHOTO 50

APPENDIX F

SUDS MAINTENANCE STRATEGY



SUDS MANAGEMENT AND MAINTENANCE STRATEGY

PROJECT	GRAVESEND
PROJECT NUMBER	22026
CLIENT	AVERY
REPORT DATE	31st JANUARY 2024

REVISION	DATE	WRITTEN BY	REVIEWED BY
P1	1 st Feb 2024	AA	JE

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1. INTRODUCTION

This management strategy has been prepared by ARC Engineers on behalf of Avery Healthcare in respect of BREEAM Requirements and the operational requirements and functionality of the development whilst it is in use.

It should be borne in mind that the development is a fully functioning care home, operated and managed under a single point of ownership. It is important to understand this aspect differs considerable from a development where communal areas and external works maybe handed over to an independent management company which can quickly start to ignore their duties and responsibilities. In the circumstances of this development, the Care Home Operator fully understands their requirements for regular on-going maintenance, which is fundamental to providing an attractive living environment for their residents and guests.

2. SUDS PROVISION WITHIN THE DEVELOPMENT

The SUDS incorporated into this development are employed to:

- Reduce and manage surface water runoff.
- Improve the quality of water being discharged from the site.

The above provided for a design return period of one hundred years plus climate change, such that the development will not increase the risk of flooding to the site and its environs.

SUDS methods incorporated are:

- Permeable paving – Type C (No infiltration to ground)
- Geocellular system for attenuation.
- Filter drain
- Deep bore soakaways

This document outlines the long-term maintenance of the proposed surface water system and will make reference to the following documents, some of which provide further detail on the maintenance operations required:

- CIRIA Report C753 'The SUDS Manual', 2015
- CIRIA Report C625 'Model Agreements for Sustainable Water Management Systems', 2004
- Interpave, 'Permeable pavements: Guide to the Design, Construction and Maintenance of Concrete Block Permeable Pavements', ed. 4, 2006

3. MAINTENANCE RESPONSIBILITIES

The Care Home Operator will appoint a specific, named, Care home manager for the site as required under CQC legislation who will be responsible for all aspects of the operation of the site. To support the care home manager with general maintenance issues, a site-based caretaker / maintenance operative will also be appointed. The duties of these directly employed members of staff will be to undertake general inspections of all aspects of the building, and to identify areas that need attention from specialist Contractors. In respect of the maintenance of external works and SUDS features, a term contractor will be employed for this specific work to ensure that all necessary Health and Safety requirements and method statements are in place.

4. MAINTENANCE REGIME

The inspection of the SUDS features will be carried out by the site-based maintenance operative.

This will include inspecting:

- All external gullies draining hard landscaping areas.
- Inspecting external Rainwater Pipe connections.
- Inspecting hard landscaping areas with permeable paving to ensure there is no vegetation growth or trapped debris in the gaps between pavements.
- Lifting the PPIC inspection covers to all silt traps in the car parking and access road area to determine when to instruct specialist contractor to clear them.
- Inspection of the swale outfall to ensure there is no debris blocking the head wall.

The following section describes the required maintenance for each feature in turn. The SUDS Maintenance requirements listed below should be reviewed after the first 5 years, with a view to agreeing a new regime for the ongoing maintenance.

Notwithstanding the routine inspections and maintenance requirements, after severe storm events all features shall be inspected to clear debris and repair damaged structures or features. Records of the maintenance carried out shall be prepared by the maintenance manager / team.

GEOCELLULAR SYSTEM (ATTENUATION TANKS)		
Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months then annually
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary	Annually
	Remove sediment from pre-treatment structures and/or internal forebays	Annually, or as required
Remedial Actions	Repair/rehabilitate inlets, outlets, overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment build up and remove if necessary	Every 5 years or as required

PERMEABLE PAVEMENTS		
Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Brushing and vacuuming (standard cosmetic sweep over the whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment
	Stabilise and mow contributing and adjacent areas	As required
Occasional Maintenance	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying	As required- once per year on less frequently used pavements
	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of the paving	As required
Remedial Actions	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three months after inspection
	Inspect for evidence of poor operation and/or weed growth – if required take remedial action	Three monthly 48h after large storms in first six months
	Inspect slit accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

MANHOLES AND PIPES		
Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Remove and surface litter and detritus.	Monthly
	Inspect manhole covers for damage.	Annually
	Clean sumps and remove silt.	Annually
Occasional Maintenance	Carry out CCTV of outgoing pipework to identify problems.	Ten yearly
Remedial Actions	Replace damaged manhole covers.	As required
	Repair damaged manholes.	As required and as identified by CCTV
	Remove any root ingress or damage to pipework.	As required and as identified by CCTV

5. INSPECTION LOGS

SUDS / EXTERNAL SURFACE WATER DRAINAGE MAINTENANCE INSPECTION CHECKLIST				
SITE NAME AND ADDRESS				
Date of inspection		Details	Action Required (y/n)	Date Completed
Undertaken by				
Page 1 of 3				
Is there any evidence of erosion, channelling, ponding (where not desirable) or other poor hydraulic performance to car parking / access road?				
Is there any evidence of accidental spillages, oils, poor water quality, odours or nuisance insects?				
Have health and safety risks been identified to either the public or maintenance operatives?				
Silt/Sediment Accumulation				
Is there any sediment accumulation at inlets (or other defined accumulation zones such as the surface of filter drains, swales or infiltration basins and within proprietary devices)? If yes, state depth (mm) and extent. Is removal required? If yes, state waste disposal requirements and confirm that all waste management requirements have been complied with (consult environmental regulator)				

SUDS / EXTERNAL SURFACE WATER DRAINAGE MAINTENANCE INSPECTION CHECKLIST				
SITE NAME AND ADDRESS				
Date of inspection		Details	Action Required (y/n)	Date Completed
Undertaken by				
Page 2 of 3				
Is surface clogging visible potentially problematic where water has to soak into the underlying construction or ground (e.g. under drained swale or infiltration basin)?				
Does permeable or porous surfacing require sweeping to remove silt?				
Is there evidence of litter accumulation in the system? If yes, is blockage a risk?				
Is there any evidence of any other clogging or blockage of outlets or drainage paths?				
Is the vegetation condition satisfactory (density, weed growth, coverage, etc.)? (check against approved planning regime)				
Does any part of the system require weeding, pruning or mowing? (check against maintenance frequency state in approved design)				
Is there any evidence of invasive species becoming established? If yes, state action required				
Are any check dams or weirs in good condition?				

SUDS / EXTERNAL SURFACE WATER DRAINAGE MAINTENANCE INSPECTION CHECKLIST				
SITE NAME AND ADDRESS				
Date of inspection		Details	Action Required (y/n)	Date Completed
Undertaken by				
Page 3 of 3				
Is there any evidence of any accidental damage to the system (eg wheel ruts)?				
Is there any evidence of cross connections or other unauthorised inflows?				
Is there any evidence of tampering with the flow control?				
Are there any other matters that could affect the performance of the system in relation to the design objectives for hydraulic, water quality, biodiversity and visual aspects?				
OTHER OBSERVATIONS				
Information appended (eg photos)				
Continue as current				
Increase maintenance				
Decrease maintenance				
Proposed date for next inspection				