



**ARCH
ASSOCIATES**

ROADS VERIFICATION REPORT



LAND AT MOORGREEN,
HEDGE END



**ARCH
ASSOCIATES**

ROADS VERIFICATION REPORT

for

LAND AT MOORGREEN,
HEDGE END

Client:
Foreman Homes Ltd.
1300 Parkway
Solent Business Park
Whiteley
PO15 7AE

ISSUE		A	B	C
Issued By	C Hendry			
Date	Sept 2023			
Purpose	Information			
Approved By	CH			

Project No. FHL006

CONTENTS

1.0 Introduction

2.0 Road Verification

3.0 Conclusion

APPENDIX 1 – Site Layout

APPENDIX 2 – CBR Results

APPENDIX 3 – Site Photographs

1.0 Introduction

Arch Associates Limited has been commissioned by Foreman Homes Ltd. to prepare a Road Verification Report for the development at Moorgreen, Hedge End. Planning reference CM/64/19/PL.

A pre-occupation planning condition has been applied, which is worded as follows:

Condition 11

Written verification by an appropriate consultant confirming that the construction of all un-adopted roads, footpaths and cycle paths within the development is in accordance with the approved plans and details shall be provided to the Local Planning Authority prior to the first occupation of the 99th dwelling unit.

Reason: to ensure that the development is provided to an appropriate standard

This report has been prepared in consideration of the wording of planning condition 11 as noted above.

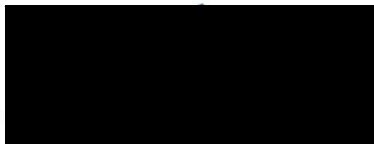
2.0 Road Verification

- 2.1 The roads on site were designed by Reuby & Staggs Ltd. and the construction issue drawings can be found in Appendix 1.
- 2.2 Roads are generally impermeable and are of mixed surface materials, either being tarmac or block paving.
- 2.3 CBR results were undertaken on behalf of the groundworker and can be found in Appendix 2.

- 2.4 Roads and hard surfacing generally are drained via gullies, which connect into the on-site gravity piped network.

3.0 Conclusion

- 3.1 Arch Associates Limited have reviewed the as-built road network on site and compared it to the design intent.
- 3.2 The system has been functioning effectively since completion of the works, and has taken site traffic well.
- 3.3 The ground worker has provided confirmation that the road construction is in accordance with the design drawings from Reuby and Stagg.
- 3.4 We have seen no evidence of subsidence or excessive settlement.
- 3.5 Based on the record information provided, we are satisfied that the roads have been installed in accordance with the design intent.



Chris Hendry MSc CEng MStructE
Director
For and on behalf of Arch Associates Limited



**ARCH
ASSOCIATES**

APPENDIX 1

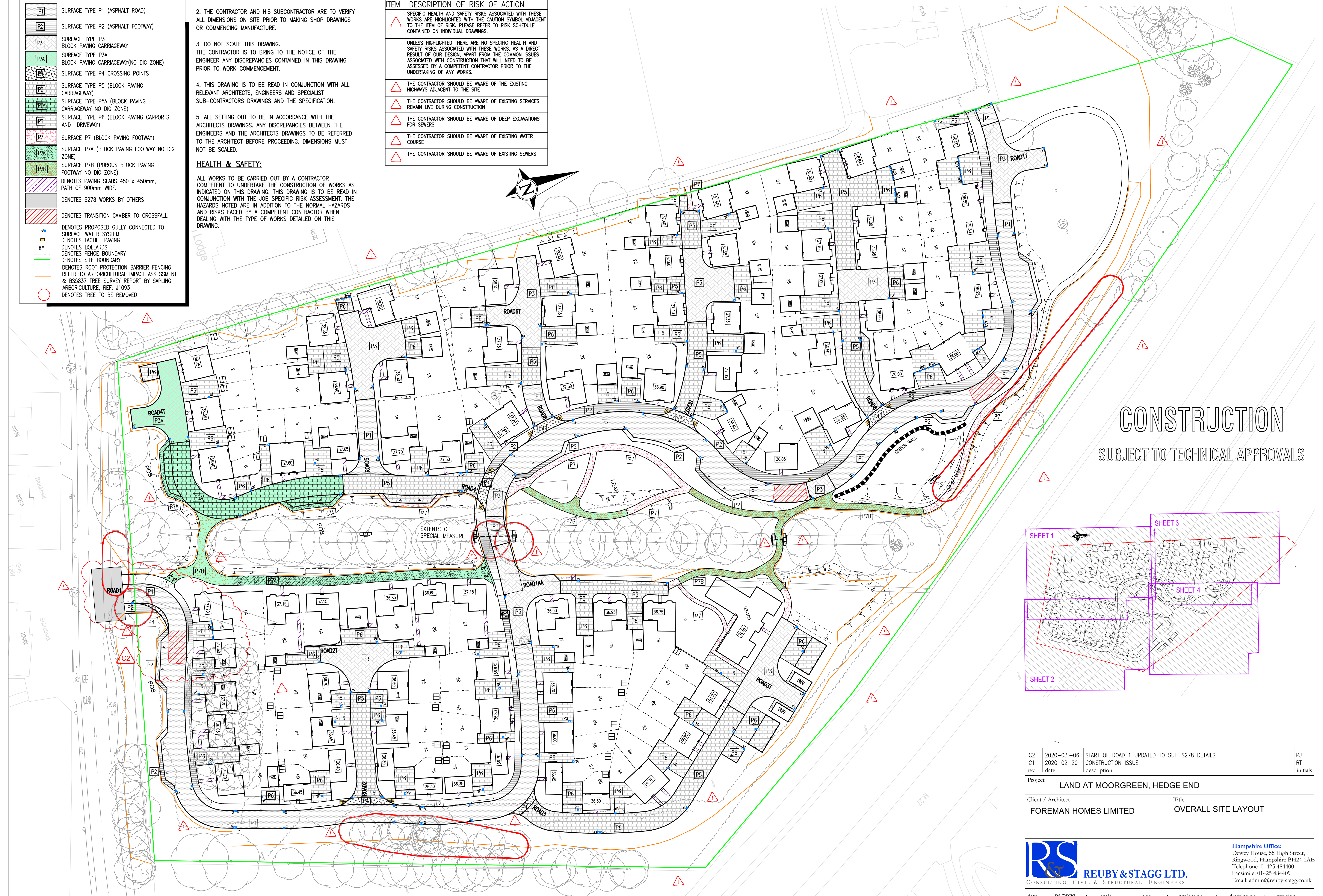
Road Design Drawings

	SURFACE TYPE P1 (ASPHALT ROAD)
	SURFACE TYPE P2 (ASPHALT FOOTWAY)
	SURFACE TYPE P3 BLOCK PAVING CARRIAGEWAY
	SURFACE TYPE P3A BLOCK PAVING CARRIAGEWAY(NO DIG ZONE)
	SURFACE TYPE P4 CROSSING POINTS
	SURFACE TYPE P5 (BLOCK PAVING CARRIAGEWAY)
	SURFACE TYPE P5A (BLOCK PAVING CARRIAGEWAY NO DIG ZONE)
	SURFACE TYPE P6 (BLOCK PAVING CARPORTS AND DRIVEWAY)
	SURFACE P7 (BLOCK PAVING FOOTWAY)
	SURFACE P7A (BLOCK PAVING FOOTWAY NO DIG ZONE)
	SURFACE P7B (POROUS BLOCK PAVING FOOTWAY NO DIG ZONE)
	DENOTES PAVING SLABS 450 x 450mm, PATH OF 900mm WIDE.
	DENOTES S278 WORKS BY OTHERS
	DENOTES TRANSITION CAMBER TO CROSSFALL
	DENOTES PROPOSED GULLY CONNECTED TO SURFACE WATER SYSTEM
	DENOTES TACTILE PAVING
	DENOTES BOLLARDS
	DENOTES FENCE BOUNDARY
	DENOTES SITE BOUNDARY
	DENOTES ROOF PROTECTION BARRIER REFLECT
	REFER TO ARBORICULTURAL IMPACT ASSESSMENT & BS5837 TREE SURVEY REPORT BY SAPLING ARBORICULTURE, REF: J1093
	DENOTES TREE TO BE REMOVED

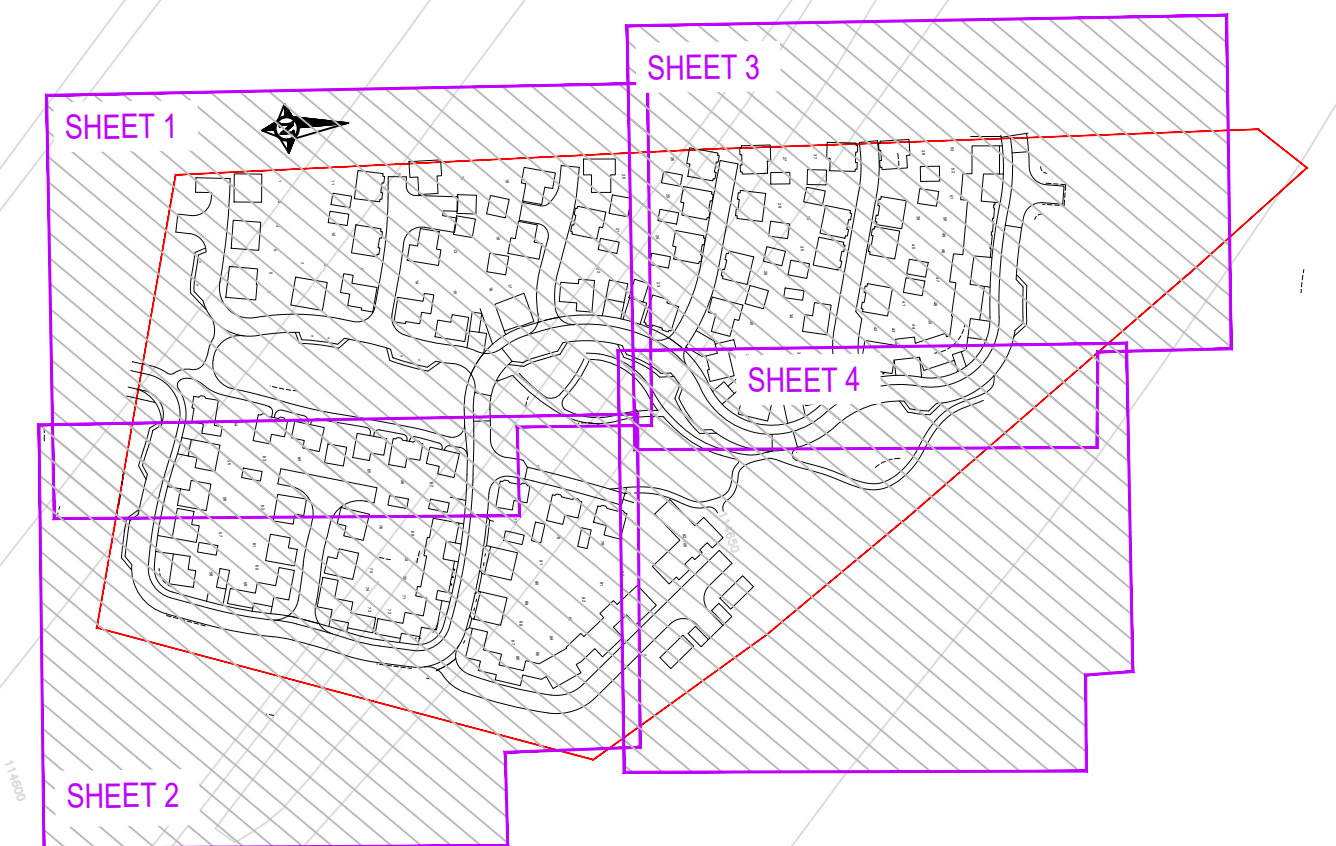
1. THIS DRAWING IS COPYRIGHT.
2. THE CONTRACTOR AND HIS SUBCONTRACTOR ARE TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO MAKING SHOP DRAWINGS OR COMMENCING MANUFACTURE.
3. DO NOT SCALE THIS DRAWING.
THE CONTRACTOR IS TO BRING TO THE NOTICE OF THE ENGINEER ANY DISCREPANCIES CONTAINED IN THIS DRAWING PRIOR TO WORK COMMENCEMENT.
4. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST SUB-CONTRACTORS DRAWINGS AND THE SPECIFICATION.
5. ALL SETTING OUT TO BE IN ACCORDANCE WITH THE ARCHITECTS DRAWINGS. ANY DISCREPANCIES BETWEEN THE ENGINEERS AND THE ARCHITECTS DRAWINGS TO BE REFERRED TO THE ARCHITECT BEFORE PROCEEDING. DIMENSIONS MUST NOT BE SCALED.

ALL WORKS TO BE CARRIED OUT BY A CONTRACTOR
COMPETENT TO UNDERTAKE THE CONSTRUCTION OF WORKS AS
INDICATED ON THIS DRAWING. THIS DRAWING IS TO BE READ IN
CONJUNCTION WITH THE JOB SPECIFIC RISK ASSESSMENT. THE
HAZARDS NOTED ARE IN ADDITION TO THE NORMAL HAZARDS
AND RISKS FACED BY A COMPETENT CONTRACTOR WHEN
DEALING WITH THE TYPE OF WORKS DETAILED ON THIS
DRAWING.

ITEM	DESCRIPTION OF RISK OF ACTION
	SPECIFIC HEALTH AND SAFETY RISKS ASSOCIATED WITH THESE WORKS ARE HIGHLIGHTED WITH THE CAUTION SYMBOL ADJACENT TO THE ITEM OF RISK. PLEASE REFER TO RISK SCHEDULE CONTAINED ON INDIVIDUAL DRAWINGS.
	UNLESS HIGHLIGHTED THERE ARE NO SPECIFIC HEALTH AND SAFETY RISKS ASSOCIATED WITH THESE WORKS, AS A DIRECT RESULT OF OUR DESIGN, APART FROM THE COMMON ISSUES ASSOCIATED WITH CONSTRUCTION THAT WILL NEED TO BE ASSESSED BY A COMPETENT CONTRACTOR PRIOR TO THE UNDERTAKING OF ANY WORKS.
	THE CONTRACTOR SHOULD BE AWARE OF THE EXISTING HIGHWAYS ADJACENT TO THE SITE
	THE CONTRACTOR SHOULD BE AWARE OF EXISTING SERVICES REMAIN LIVE DURING CONSTRUCTION
	THE CONTRACTOR SHOULD BE AWARE OF DEEP EXCAVATIONS FOR SEWERS
	THE CONTRACTOR SHOULD BE AWARE OF EXISTING WATER COURSE
	THE CONTRACTOR SHOULD BE AWARE OF EXISTING SEWERS



CONSTRUCTION
SUBJECT TO TECHNICAL APPROVALS



C2	2020-03-06	START OF ROAD 1 UPDATED TO SUIT S278 DETAILS	PJ
C1	2020-02-20	CONSTRUCTION ISSUE	RT
rev	date	description	initials
Project			

Client / Architect	Title
FOREMAN HOMES LIMITED	OVERALL SITE LAYOUT

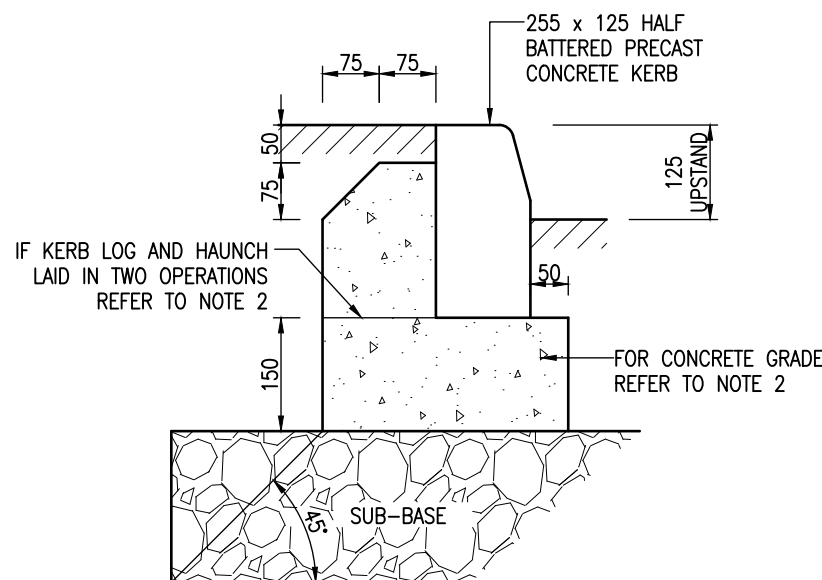
RS
&
REUBY & STAGG LTD.
CONSULTING CIVIL & STRUCTURAL ENGINEERS

Hampshire Office:
Dewey House, 55 High Street,
Ringwood, Hampshire BH24 1AE
Telephone: 01425 484400
Facsimile: 01425 484409
Email: admin@reuby-stagg.co.uk

date	01/2020	scale	size	project no.	drawing no.	revision
drawn	RT	1:500	A1	10496	3200	C2
checked	PJ					

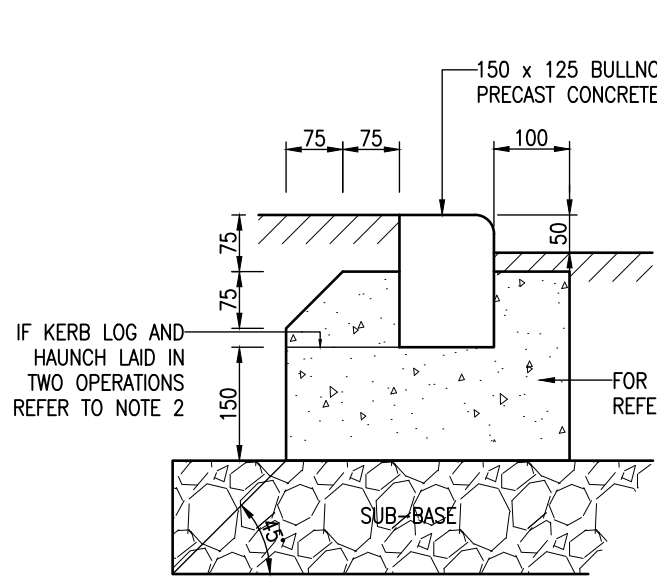
KERB NOTES:

- KERBS SHALL BE PRECAST CONCRETE KERBS COMPLYING WITH BS EN 1340 AND CLAUSE 1101 OF SPECIFICATION FOR HIGHWAY WORKS.
- MIX ST2 CONCRETE KERB BASE TO CLAUSE 2602 SHALL BE LAID ON THE SUB-BASE AND SHALL BE A MINIMUM THICKNESS OF 150mm. SUB-BASE SHALL BE EXCAVATED WHERE NECESSARY TO ACHIEVE 150mm THICKNESS. RECOMPACT DISTURBED SUB-BASE PRIOR TO CONSTRUCTION OF KERB BASE. THE KERB BASE AND BACKING WILL NORMALLY BE LAID IN ONE OPERATION. HOWEVER WHERE CONCRETE BASE IS LAID IN ADVANCE OF KERBS, 200 x 20mm DIAMETER MILD STEEL DOWEL BARS WILL BE REQUIRED IN BACKING AT 450mm CENTRES. KERBS WILL THEN BE LAID ON 0mm TO 10mm THICKNESS CEMENT MORTAR DESIGNATION (I) BED TO CLAUSE 2404.
- WHERE EXCAVATION INTO EXISTING CARRIAGEWAY IS REQUIRED, A TRENCH SHALL BE EXCAVATED OF SUFFICIENT DEPTH AND WIDTH TO ACCOMMODATE THE COMPLETE BASE, BED AND BACKING OF THE KERB TYPE SCHEDULED WHILST PROVIDING SUFFICIENT SPACE FOR THE NECESSARY USE OF MECHANICAL LIFTING APPARATUS.
- WHERE IT IS REQUIRED TO LAY KERBS TO RADII LESS THAN 12 METRES, HYDRAULICALLY PRESSED RADIUS KERBS TO THE APPROPRIATE RADIUS SHALL BE USED AND CONSIDERATION SHALL BE GIVEN TO THE USE OF SHORTER KERBS WHERE THE ALIGNMENT REQUIRES SUCH KERBS TO ACHIEVE A SATISFACTORY LINE WITHOUT LARGE JOINTS. GRANITE KERBS MAY BE REQUIRED IN CONSERVATION AREAS.
- THE MAXIMUM GAP BETWEEN KERBS SHALL BE 3mm. ANY GAP WIDER THAN 3mm SHALL BE FLUSH POINTED WITH CEMENT MORTAR.
- THE APPROPRIATE 914mm LONG PRECAST CONCRETE TRANSITION KERB SHALL BE INSTALLED AT EACH CHANGE IN KERB TYPE, TIE-INS TO EXISTING AND TERMINATIONS.
- INSTALLATION OF DOWEL BARS MAY ALSO BE INSTRUCTED BY THE ENGINEER AT LOCATIONS WHERE STANDARD KERBS ARE CONSIDERED TO BE VULNERABLE TO DAMAGE CAUSED BY VEHICLE IMPACT.
- THE MINIMUM LENGTH OF ANY CUT KERB SHALL BE 450mm.



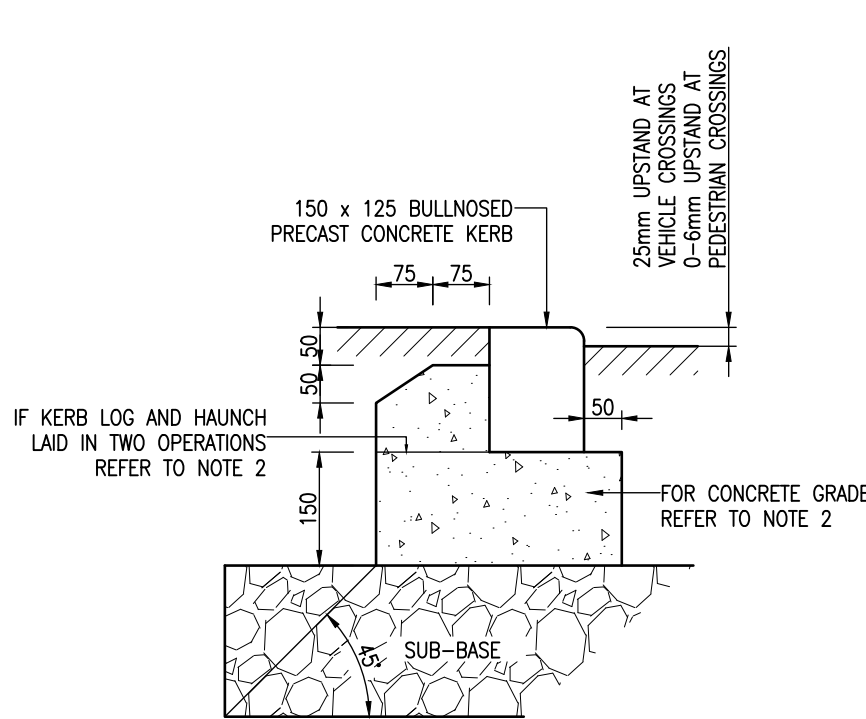
HALF BATTERED KERB (K1)

SCALE 1:10



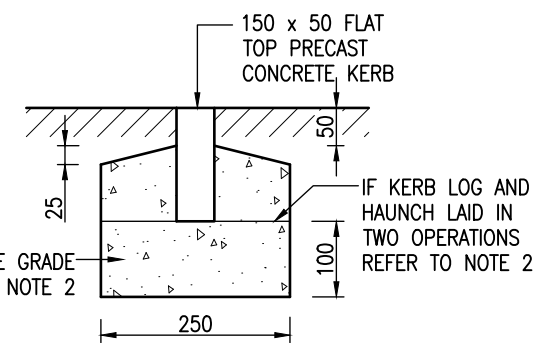
50mm UPSTAND BULLNOSED KERB (K2)

SCALE 1:10



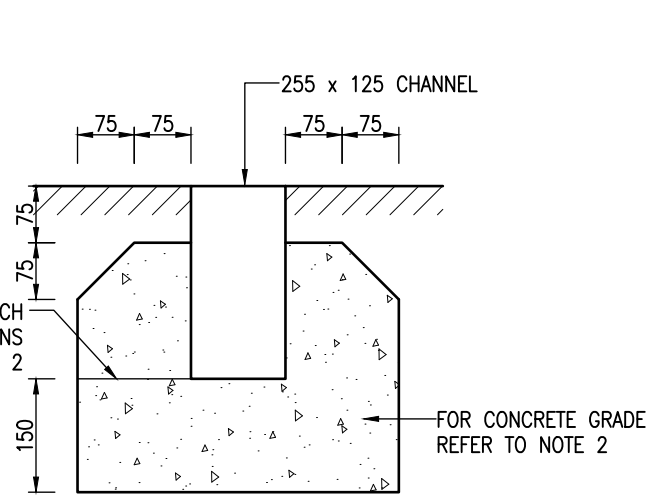
BULLNOSED DROP KERB (K3)

SCALE 1:10



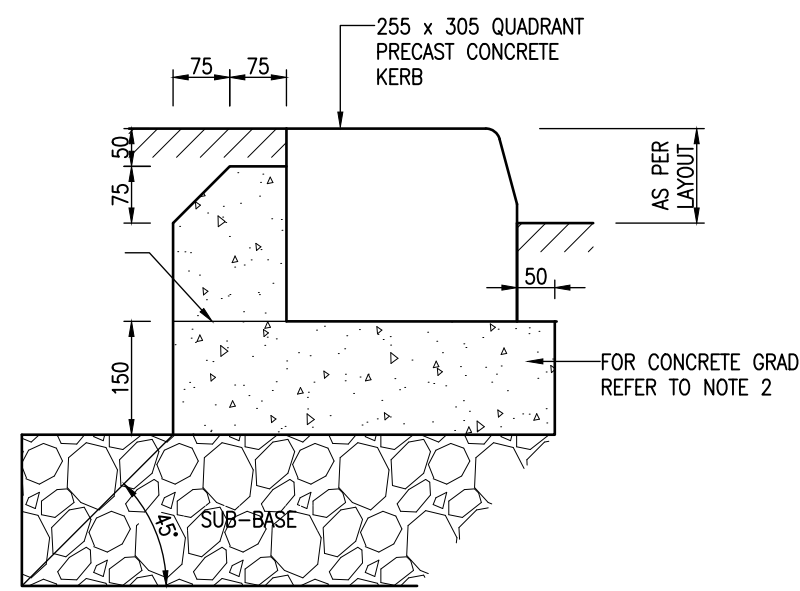
HEEL KERB (K4)

SCALE = 1:10



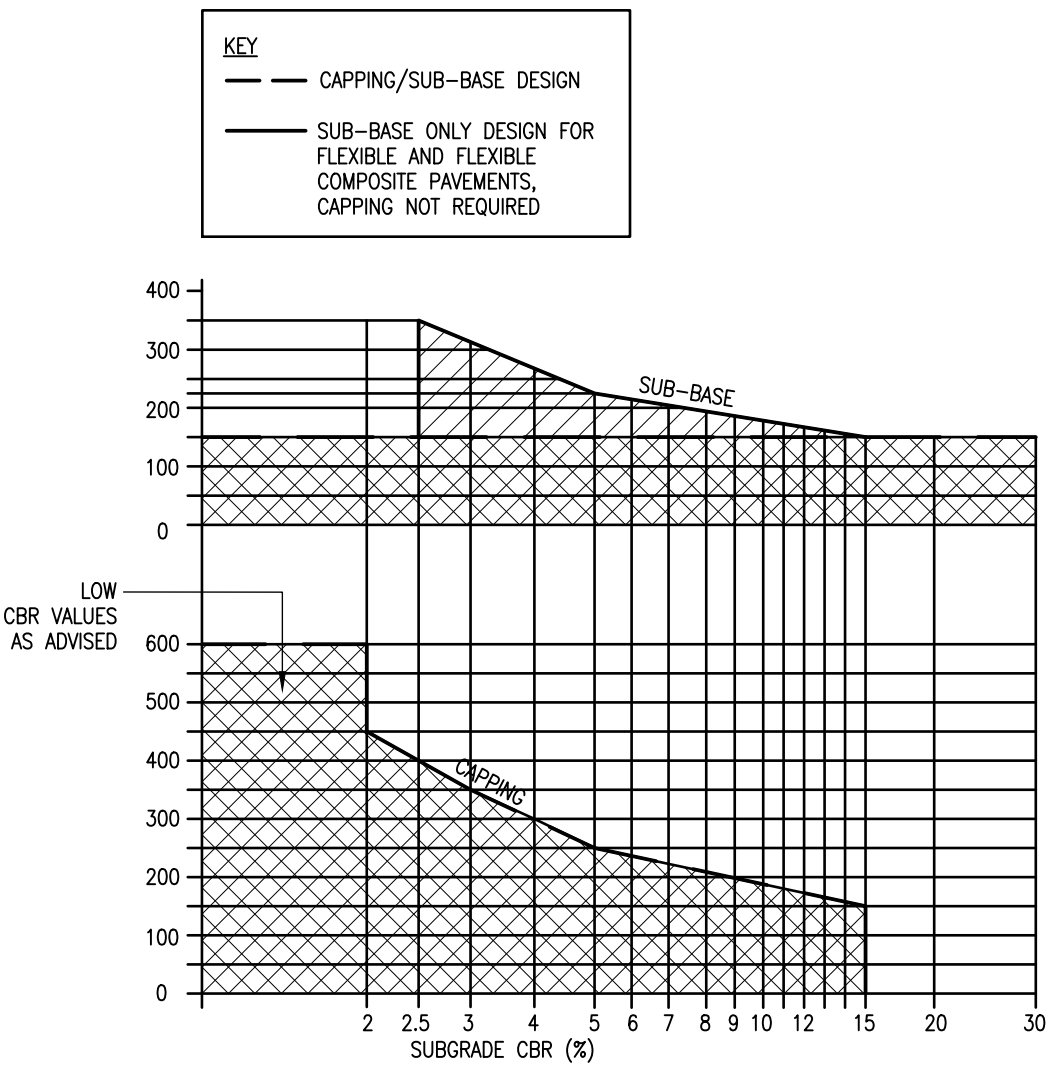
CHANNEL BLOCK (K5)

SCALE 1:10



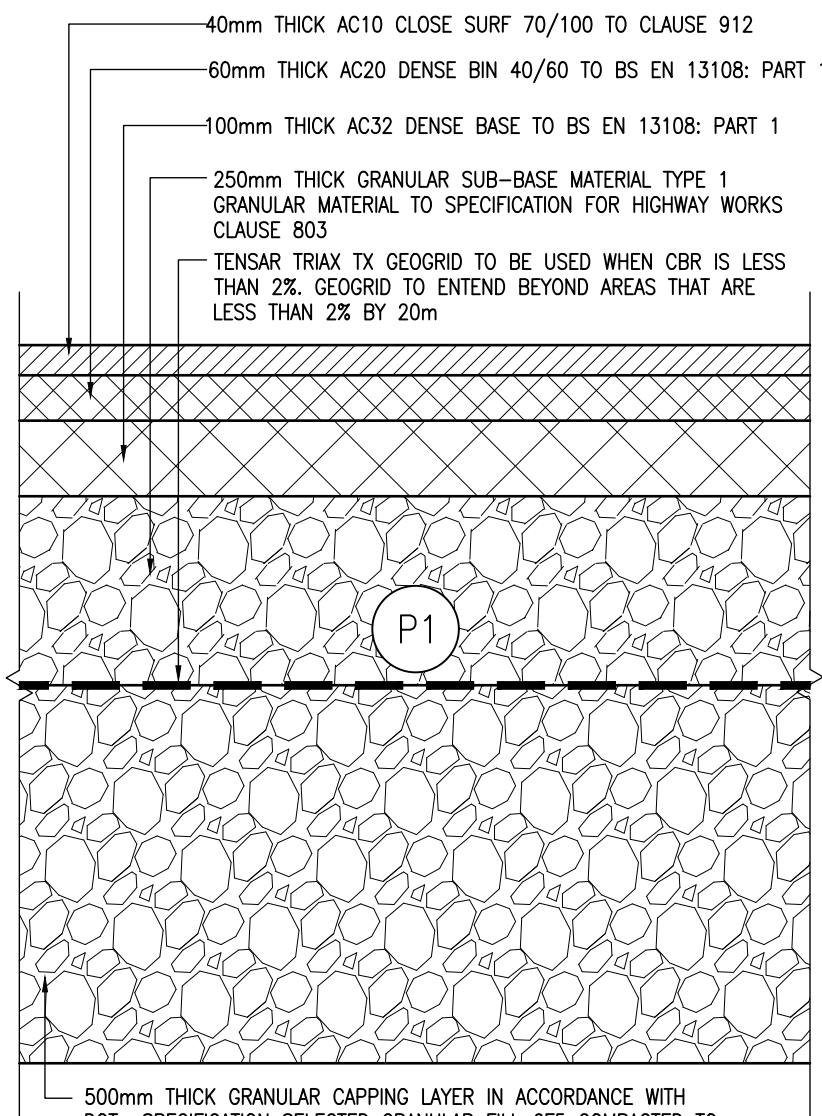
QUADRANT KERB (Q)

SCALE 1:10



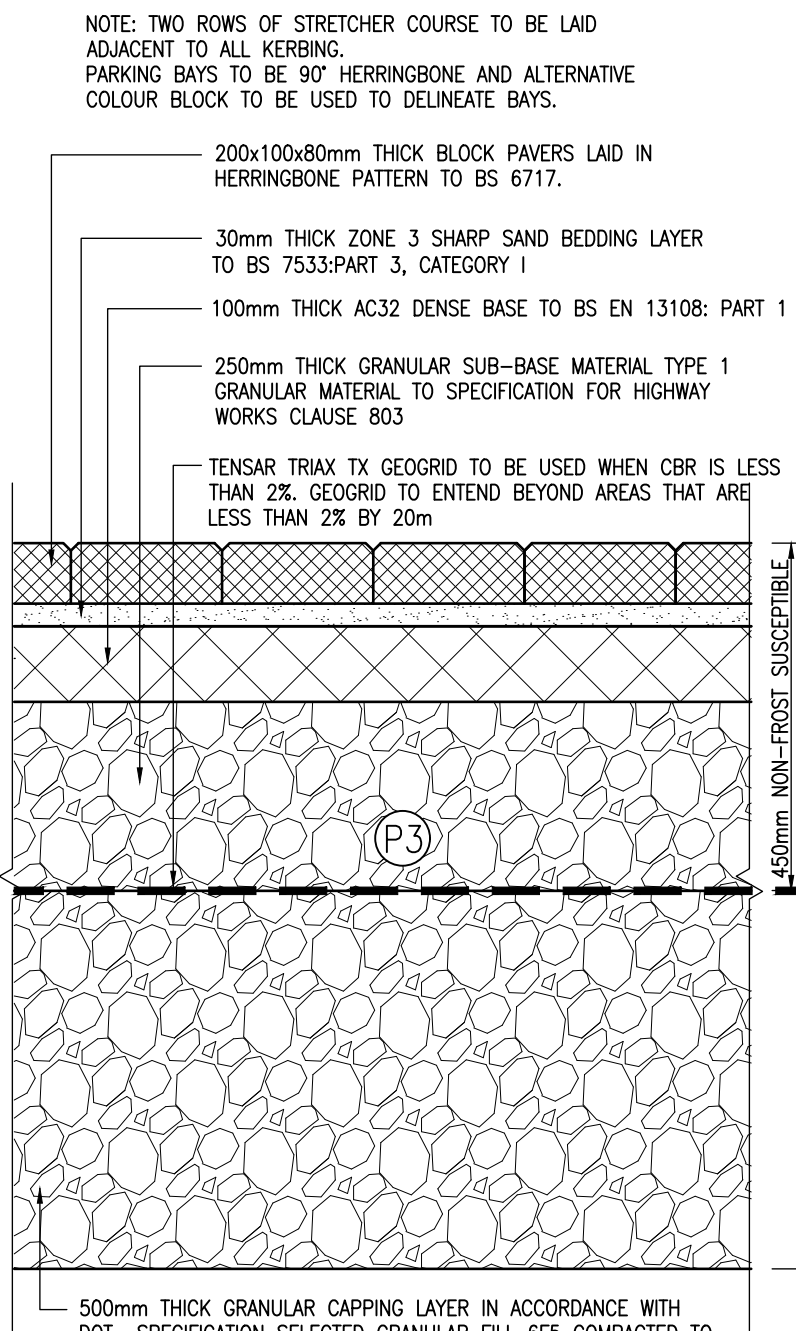
FIRST 450mm OF ROAD TO BE NON-FROST SUSCEPTIBLE MATERIAL. THEREFORE WHERE A CAPPING IS REQUIRED IN LIEU OF 150mm OF CAPPING MATERIAL, SUB-BASE TO BE INCREASED. CBR TO BE CONFIRMED BY SITE INVESTIGATION REPORT.

SUB-BASE AND CAPPING LAYER THICKNESSES



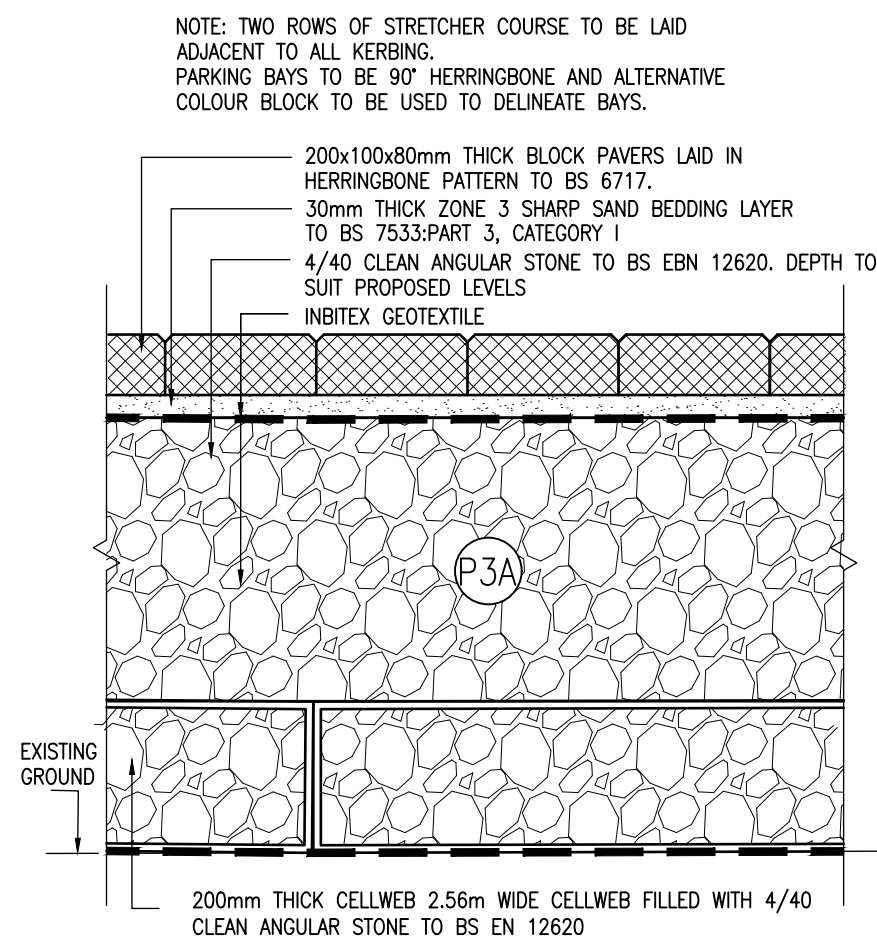
CARRIAGEWAY CONSTRUCTION PAVING TYPE P1

SCALE 1:10



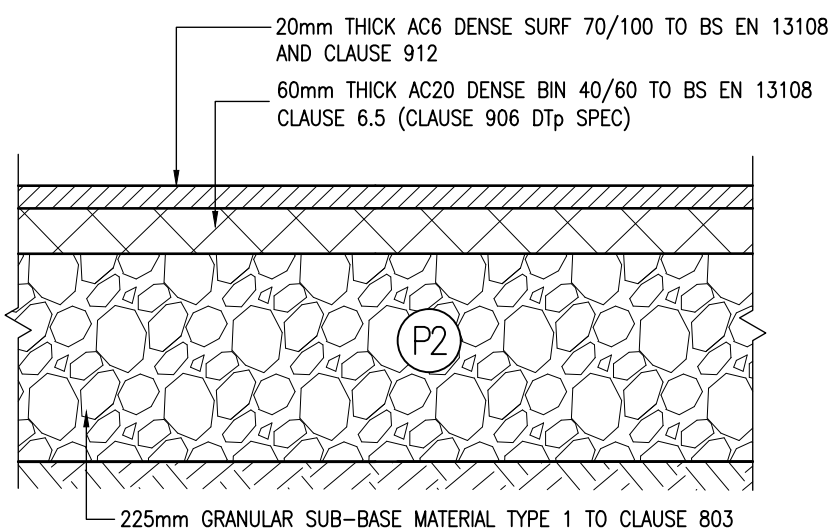
BLOCK PAVING CARRIAGEWAY PAVING TYPE P3

SCALE 1:10



BLOCK PAVING CARRIAGEWAY NO DIG ZONE PAVING TYPE P3A

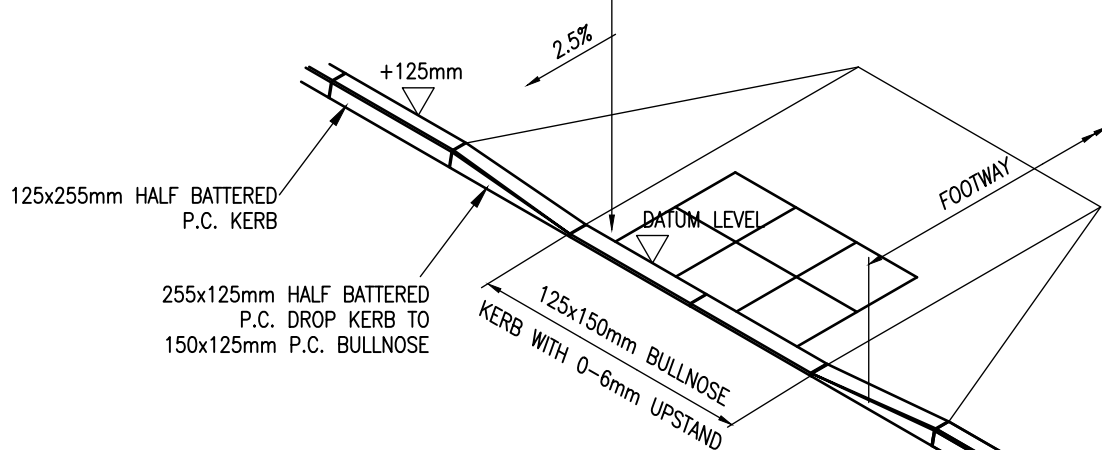
SCALE 1:10



FOOTWAY CONSTRUCTION - PAVING TYPE 2

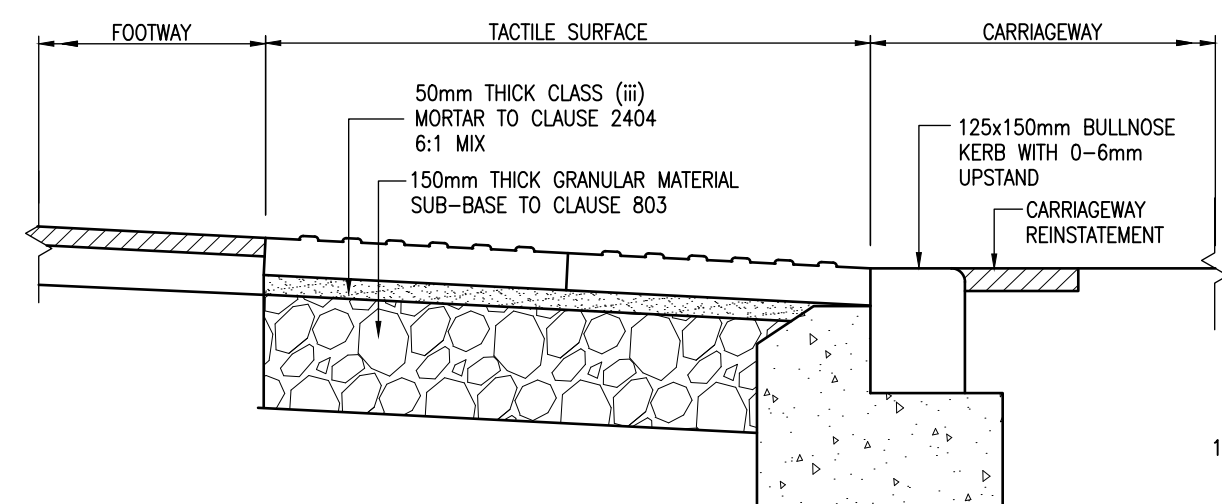
SCALE 1:10

BUFF COLOURED BLISTER TACTILE SLABS SHALL BE 400x400x60mm MANUFACTURED TO BS EN 1339 AND BS 7997, WHERE A SERVICE COVER OCCURS WITHIN AN AREA OF TACTILE FLAG PAVING THE CONTRACTOR SHALL APPLY 'STICK-ON' TILES TO THE SURFACE AREA OF THE COVER TO PROVIDE CONTINUITY OF PATTERN. THE TILES SHALL MATCH THE SURROUNDING TACTILE IN PATTERN AND COLOUR AND SHALL BE AS SUPPLIED VISUAL DESIGNS LTD. OR EQUIVALENT. ALL INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.



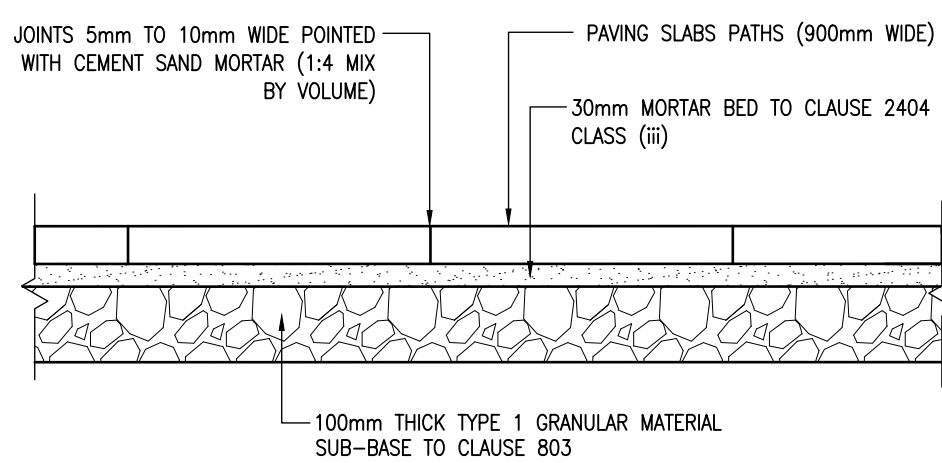
UNCONTROLLED PEDESTRIAN CROSSING

NOT TO SCALE



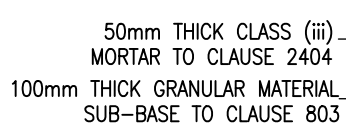
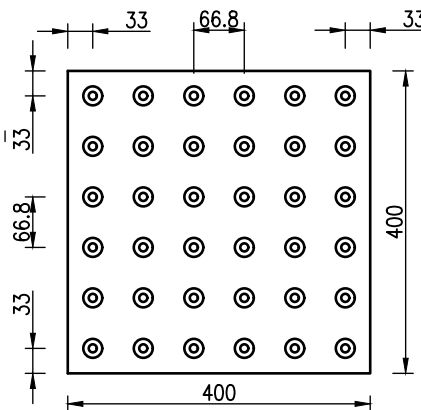
TACTILE PAVING BEDDING DETAIL

SCALE 1:10



PAVING SLAB FOOTWAY CONSTRUCTION

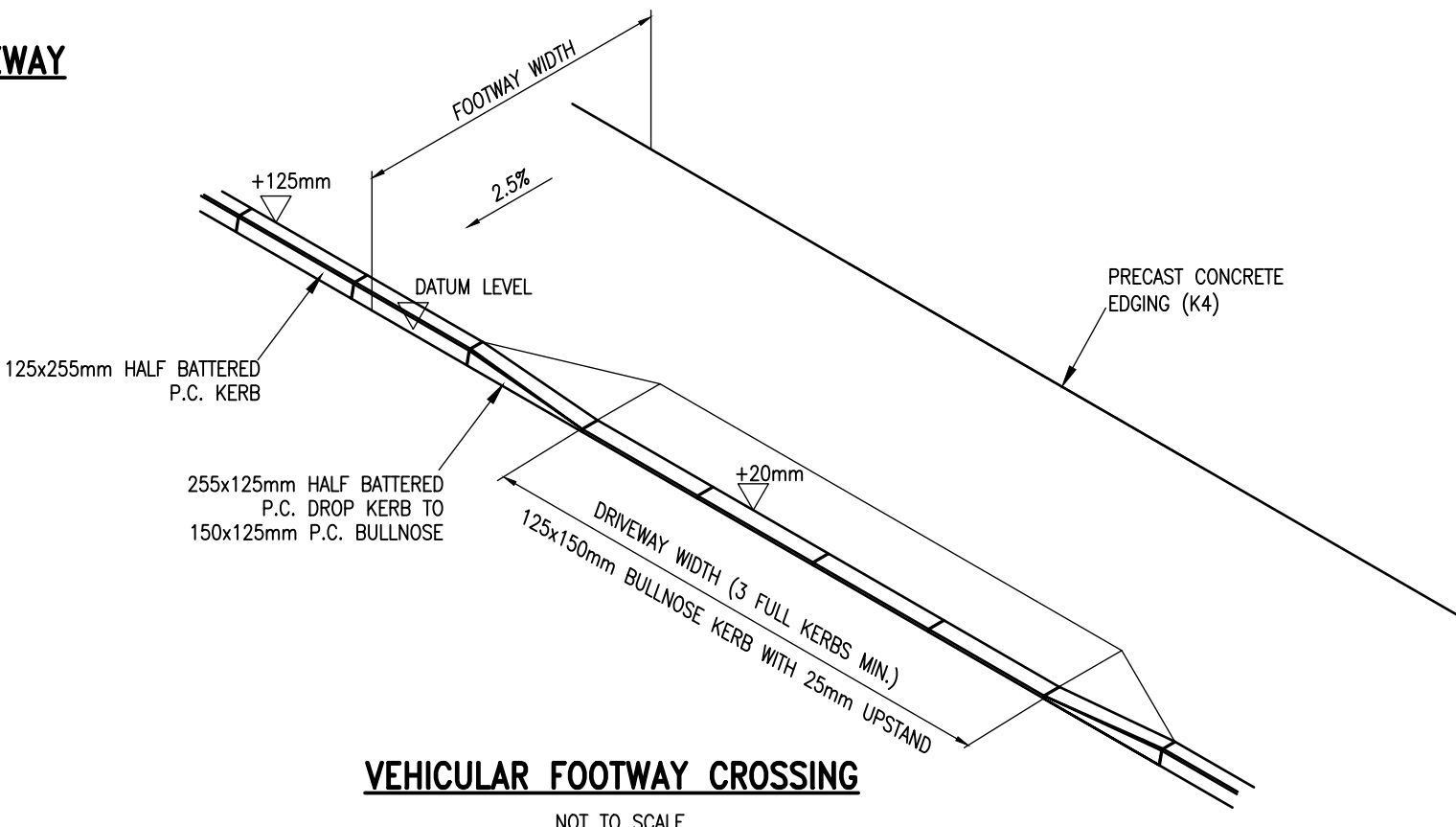
SCALE 1:10



PLAN AND PROFILE OF TACTILE PAVING

NOT TO SCALE

NOTE:- "Q" ON SITE LAYOUT DENOTES A QHB QUADRANT 305 x 255mm, TO BE PLACED AT CORNERS OF PARKING LAYERS AND MAIN KERBS.



VEHICULAR FOOTWAY CROSSING

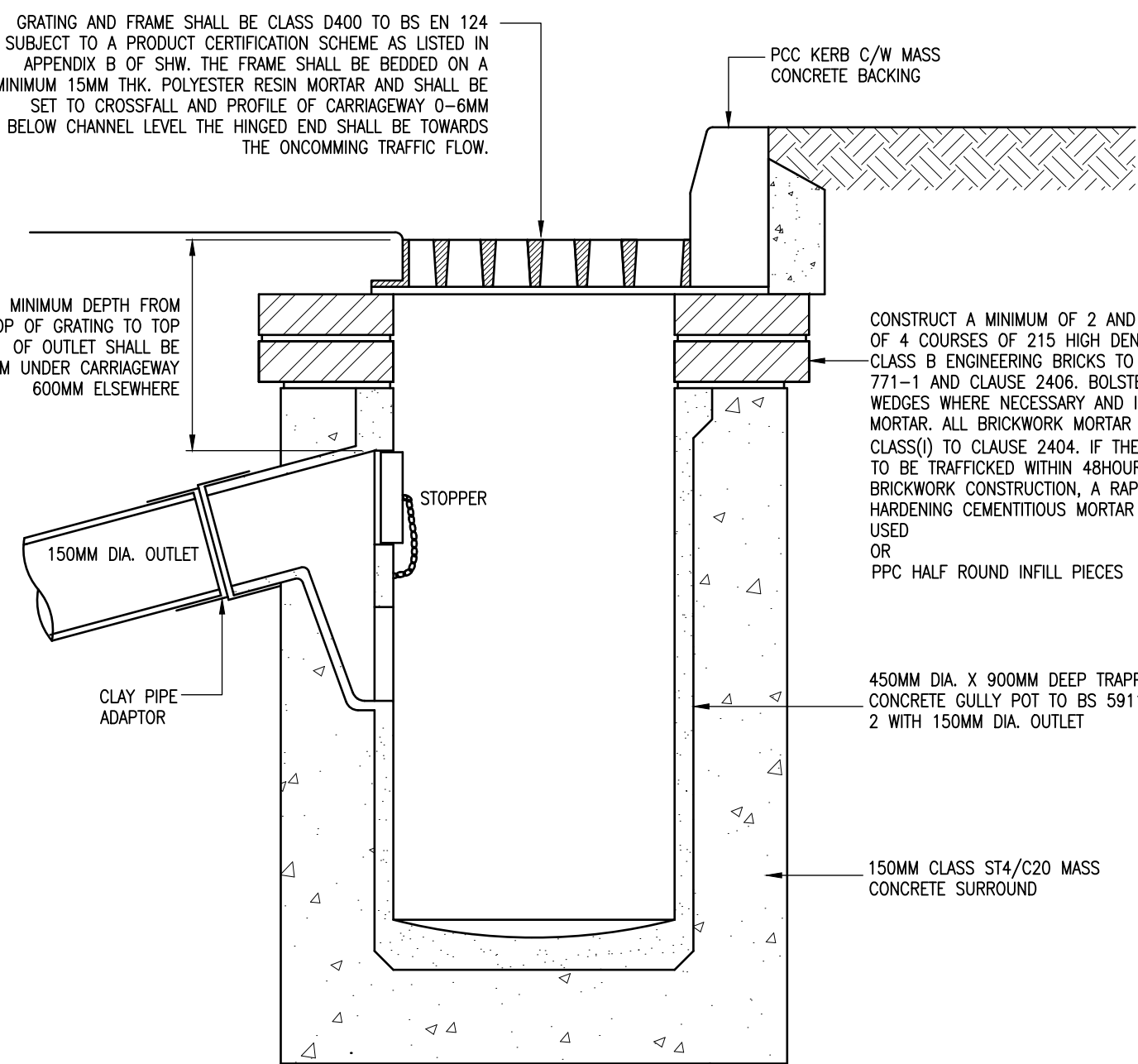
NOT TO SCALE

NOTES

- THIS DRAWING IS COPYRIGHT.
- THE CONTRACTOR AND HIS SUBCONTRACTOR ARE TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO MAKING SHOP DRAWINGS OR COMMENCING MANUFACTURE.
- DO NOT SCALE THIS DRAWING. THE CONTRACTOR IS TO BRING TO THE NOTICE OF THE ENGINEER ANY DISCREPANCIES CONTAINED IN THIS DRAWING PRIOR TO WORK COMMENCEMENT.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST SUB-CONTRACTORS DRAWINGS AND THE SPECIFICATION.
- ALL SETTING OUT TO BE IN ACCORDANCE WITH THE ARCHITECTS DRAWINGS. ANY DISCREPANCIES BETWEEN THE ENGINEERS AND THE ARCHITECTS DRAWINGS IS TO BE REFERRED TO THE ARCHITECT BEFORE PROCEEDING. DIMENSIONS MUST NOT BE SCALED.

HEALTH & SAFETY:

ALL WORKS TO BE CARRIED OUT BY A CONTRACTOR COMPETENT TO UNDERTAKE THE CONSTRUCTION OF WORKS AS INDICATED ON THIS DRAWING. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE JOB SPECIFIC RISK ASSESSMENT. THE HAZARDS NOTED ARE IN ADDITION TO THE NORMAL HAZARDS AND RISKS FACED BY A COMPETENT CONTRACTOR WHEN DEALING WITH THE TYPE OF WORKS DETAILED ON THIS DRAWING.



P.C.C. ROAD GULLY DETAIL

NOT TO SCALE

NOTE: GULLY GRATINGS AND FRAMES SHALL BE OF DUCTILE IRON AND COMPLY WITH THE REQUIREMENTS OF BS EN 124, CLASS D400. THEY SHALL BE KITEMARKED OR AN APPROVED EQUIVALENT. PROTECTION SHALL BE BY BITUMEN COATING OR BY AN EQUIVALENT APPROVED METHOD. GRATINGS SHALL BE OF THE CAPTIVE-HINGE, NON-ROCKING TYPE WITH MINIMUM DIMENSIONS OF 370 x 430mm. FRAMES SHALL BE FLANGED ON 3 SIDES ONLY AND HAVE A MINIMUM OVERALL DEPTH OF 100mm. FRAMES SHALL BE SET TO THE CROSSFALL OF THE CARRIAGEWAY WITH THE TOP SURFACE 6mm BELOW FINISHED ROAD LEVEL.

C1	2020-02-20	CONSTRUCTION ISSUE	RT
rev	date	description	initials

Project LAND AT MOORGREEN, HEDGE END

Client / Architect FOREMAN HOMES LIMITED

Title ROAD CONSTRUCTION DETAILS SHEET 1 OF 2

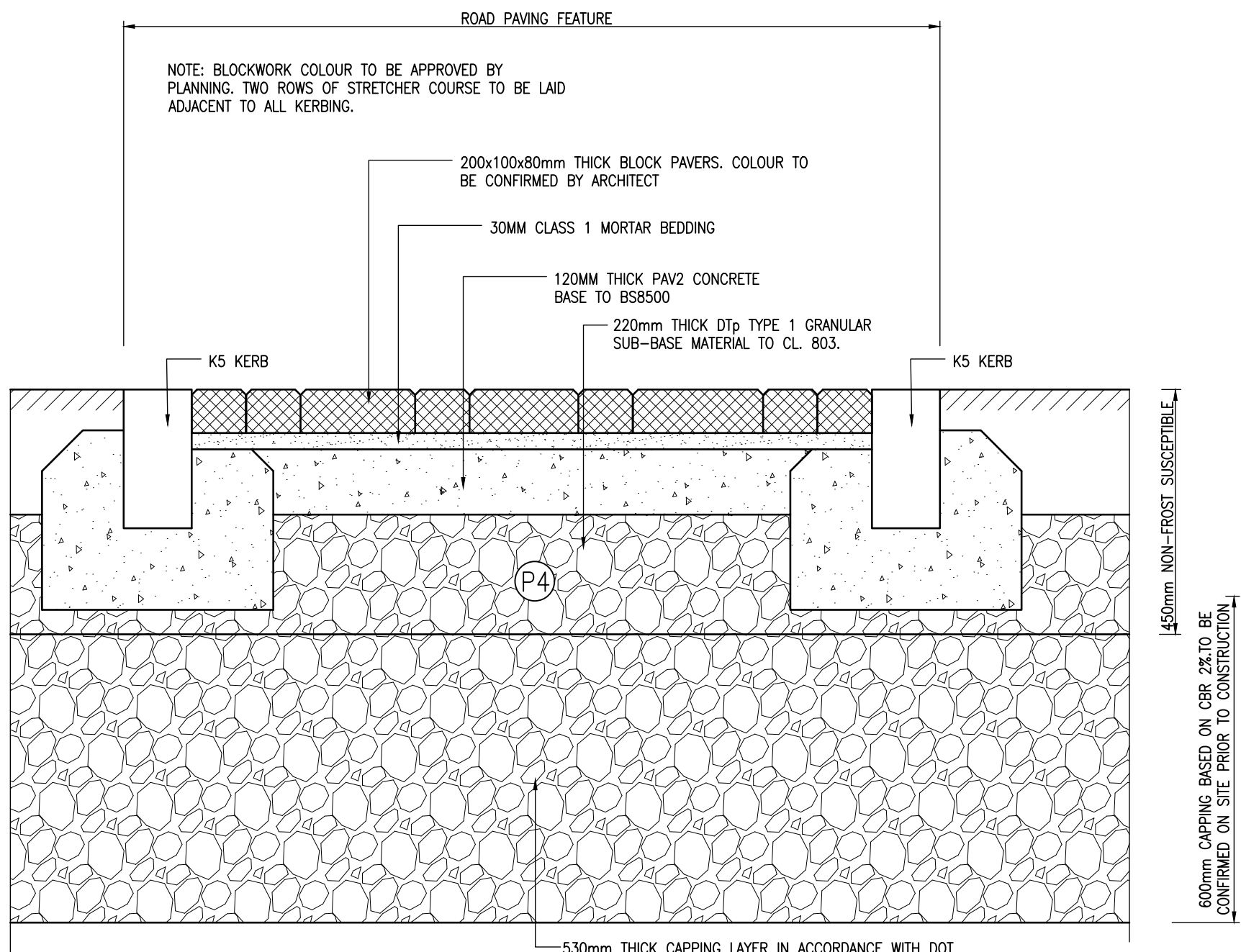


Hampshire Office:
Dewey House, 55 High Street,
Ringwood, Hampshire BH24 1AE
Telephone: 01425 484400
Facsimile: 01425 484409
Email: admin@reuby-stagg.co.uk

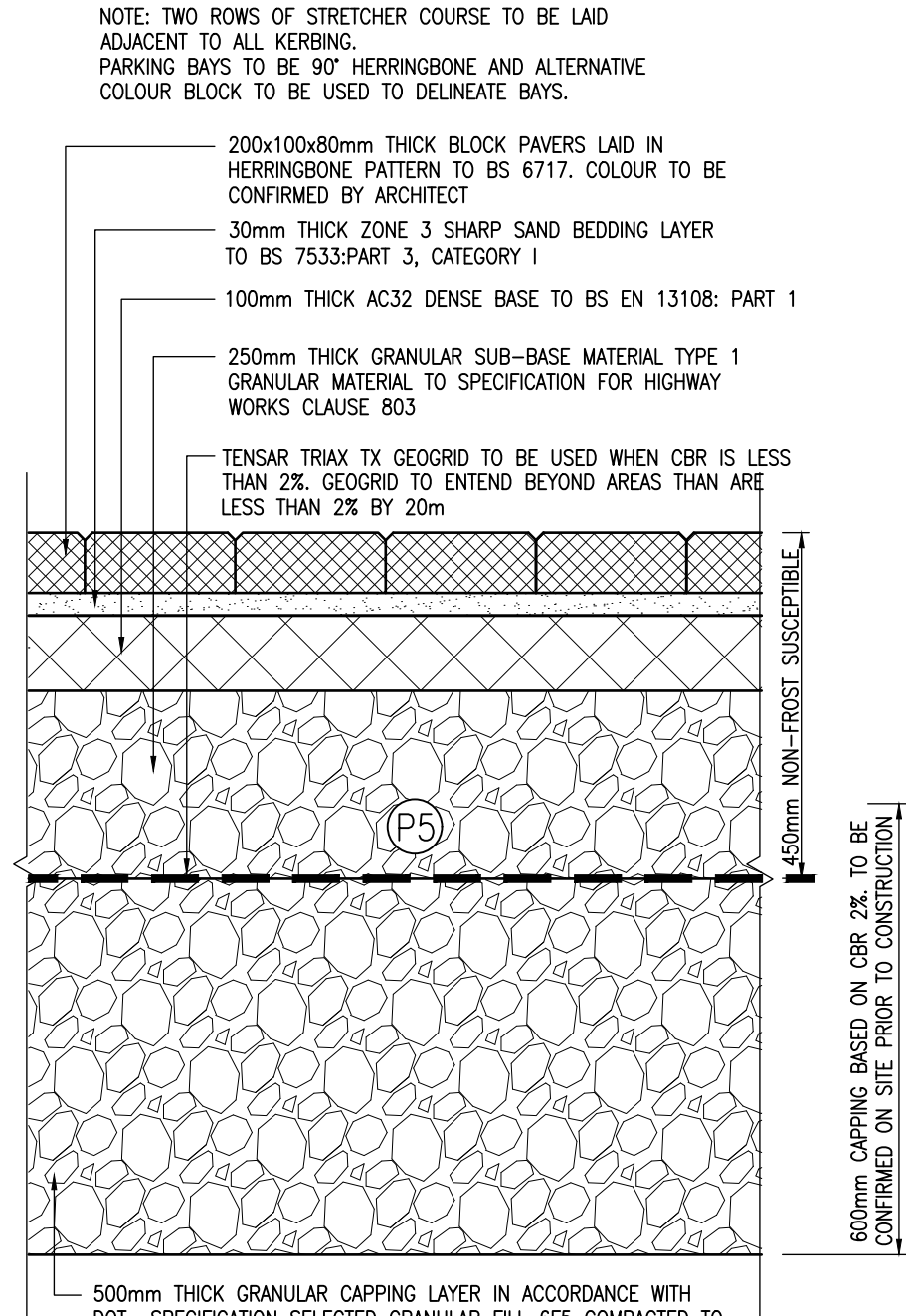
date	01/2020	scale	AS SHOWN	size	project no.	drawing no.	revision
drawn	RT			A1	10496	3208	C1
checked	PJ						

CONSTRUCTION

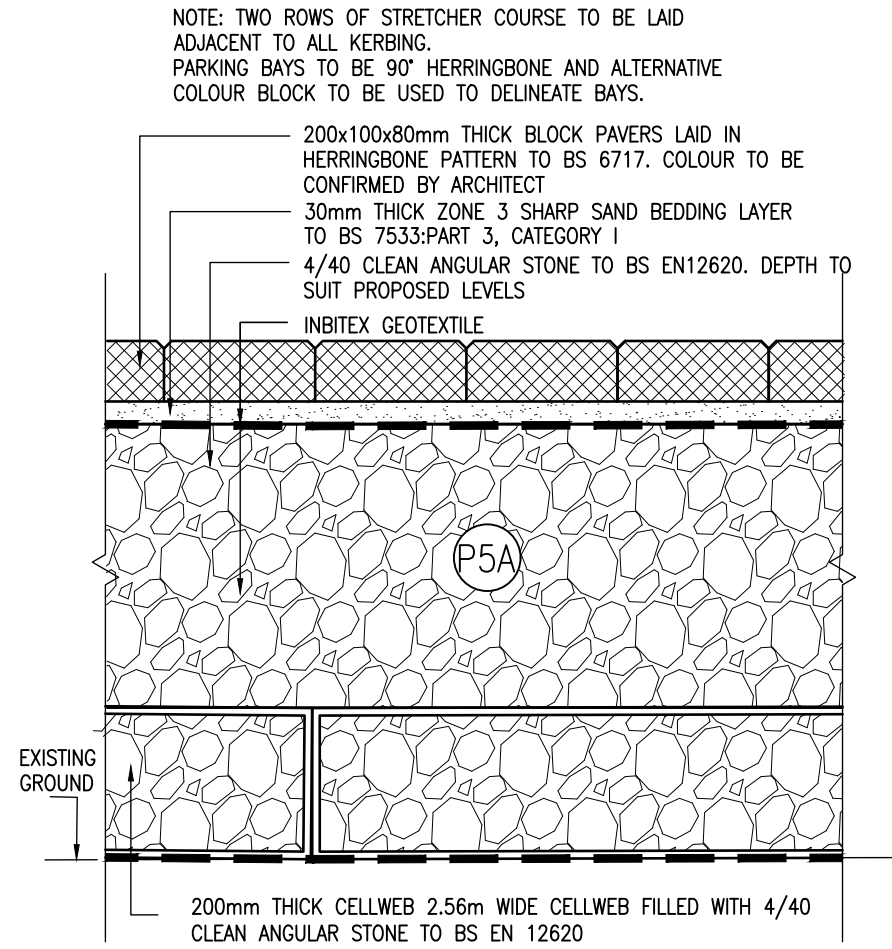
SUBJECT TO TECHNICAL APPROVALS



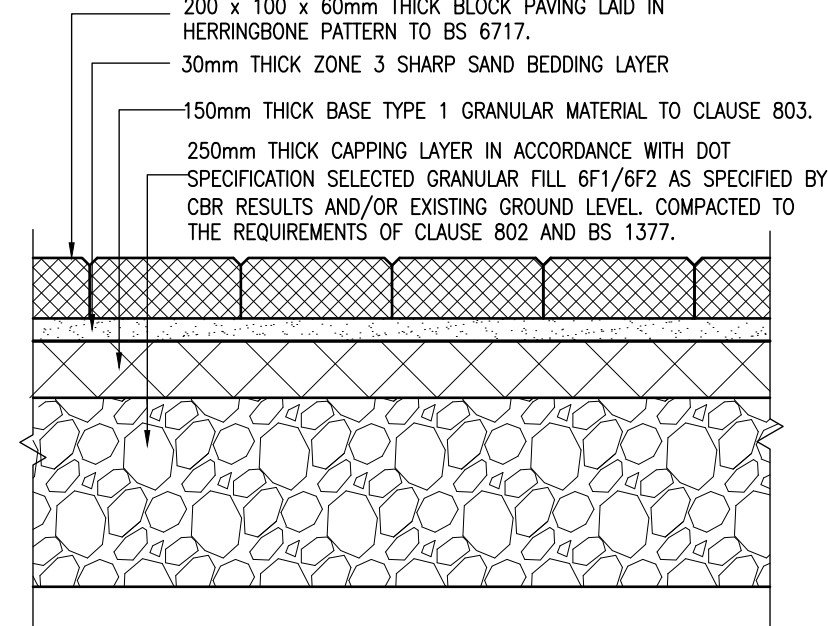
**BLOCK PAVING CONSTRUCTION
(ROAD CROSSING POINTS)
PAVING TYPE P4**
SCALE 1:10



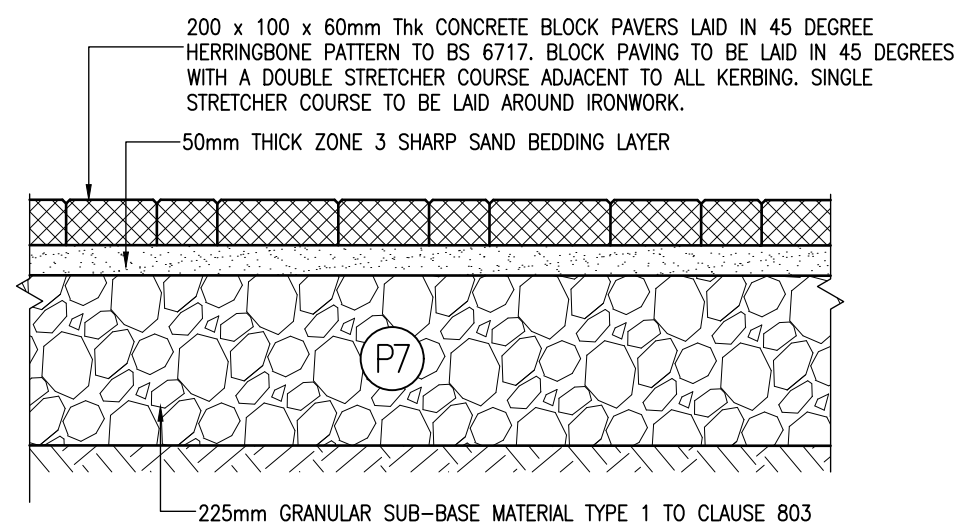
**BLOCK PAVING CARRIAGEWAY
NO DIG ZONE
PAVING TYPE P5**
SCALE 1:10



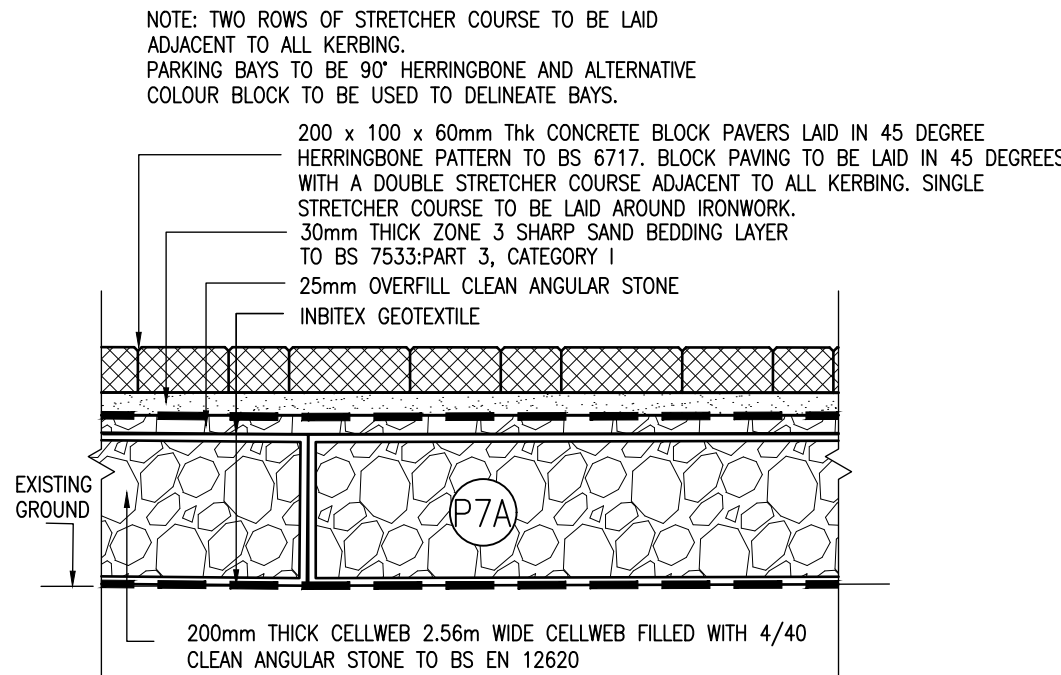
**BLOCK PAVING CARRIAGEWAY
NO DIG ZONE
PAVING TYPE P5A**
SCALE 1:10



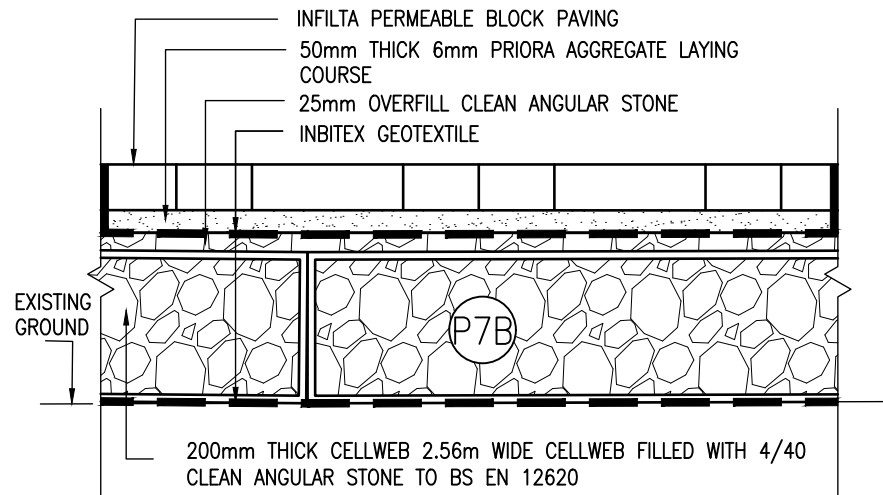
**CARPORT AND DRIVEWAY CONSTRUCTION
PAVING TYPE P6**
SCALE 1:10



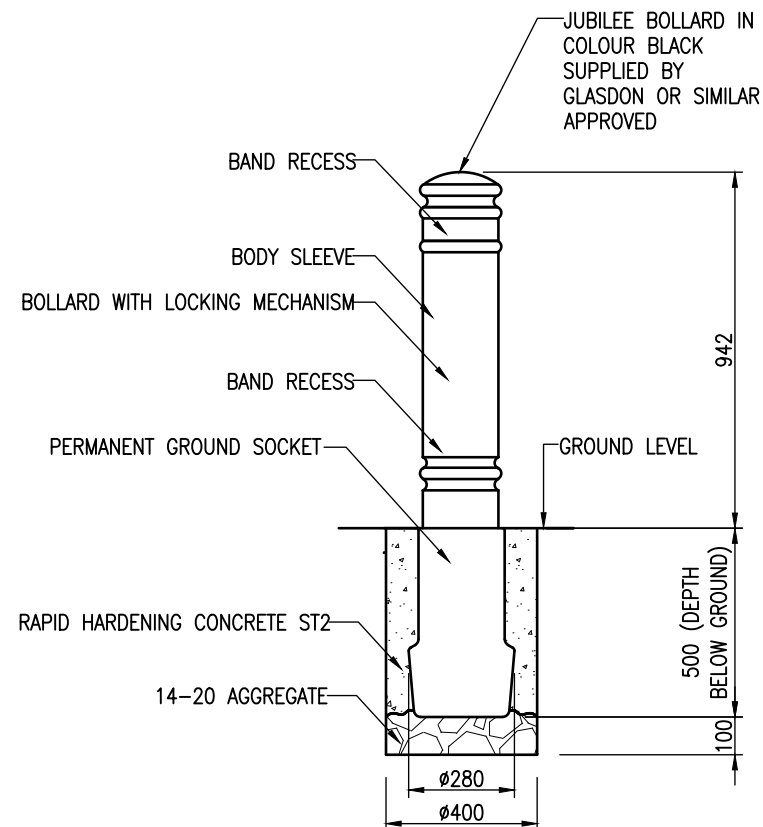
**BLOCKWORK FOOTWAY CONSTRUCTION
PAVING TYPE P7**
SCALE 1:10



**BLOCK PAVING CARRIAGEWAY
NO DIG ZONE
PAVING TYPE P7A**
SCALE 1:10

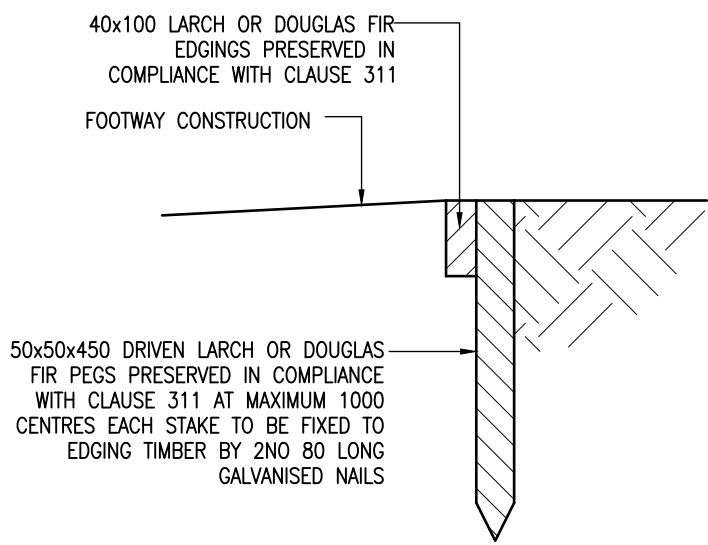


**FOOTWAY POROUS BLOCK PAVING
NO DIG ZONE
PAVING TYPE P7B**
SCALE 1:10



NOTES:
FOR SAFETY SITE KEY HOLE ON OPPOSITE SIDE TO TRAFFIC
RECOMMENDED HOLE SIZE Ø400x600 DEEP
COVER SOCKET TO AVOID BUILD UP OF CONCRETE/GRAVEL IN SOCKET, WHICH WILL PREVENT BOLLARD FROM SEATING AND LOCKING

SOCKETED PLASTIC BOLLARD
SCALE 1:20



40x100 TIMBER FOOTWAY EDGING
SCALE 1:10

NOTES

1. THIS DRAWING IS COPYRIGHT.
2. THE CONTRACTOR AND HIS SUBCONTRACTOR ARE TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO MAKING SHOP DRAWINGS OR COMMENCING MANUFACTURE.
3. DO NOT SCALE THIS DRAWING. THE CONTRACTOR IS TO BRING TO THE NOTICE OF THE ENGINEER ANY DISCREPANCIES CONTAINED IN THIS DRAWING PRIOR TO WORK COMMENCEMENT.
4. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST SUB-CONTRACTORS DRAWINGS AND THE SPECIFICATION.
5. ALL SETTING OUT TO BE IN ACCORDANCE WITH THE ARCHITECTS DRAWINGS. ANY DISCREPANCIES BETWEEN THE ENGINEERS AND THE ARCHITECTS DRAWINGS TO BE REFERRED TO THE ARCHITECT BEFORE PROCEEDING. DIMENSIONS MUST NOT BE SCALED.

HEALTH & SAFETY:

ALL WORKS TO BE CARRIED OUT BY A CONTRACTOR COMPETENT TO UNDERTAKE THE CONSTRUCTION OF WORKS AS INDICATED ON THIS DRAWING. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE JOB SPECIFIC RISK ASSESSMENT. THE HAZARDS NOTED ARE IN ADDITION TO THE NORMAL HAZARDS AND RISKS FACED BY A COMPETENT CONTRACTOR WHEN DEALING WITH THE TYPE OF WORKS DETAILED ON THIS DRAWING.

C1	2020-02-20	CONSTRUCTION ISSUE	RT
rev	date	description	initials

Project
LAND AT MOORGREEN, HEDGE END

Client / Architect
FOREMAN HOMES LIMITED

Title
ROAD CONSTRUCTION DETAILS
SHEET 2 OF 2

CONSTRUCTION
SUBJECT TO TECHNICAL APPROVALS

RS
REUBY & STAGG LTD.
CONSULTING CIVIL & STRUCTURAL ENGINEERS

Hampshire Office:
Dewey House, 55 High Street,
Ringwood, Hampshire BH24 1AE
Telephone: 01425 484400
Facsimile: 01425 484409
Email: admin@reuby-stagg.co.uk

date	01/2020	scale	AS SHOWN	size	project no.	drawing no.	revision
drawn	RT			A1	10496	3209	C1
checked	PJ						



ARCH
ASSOCIATES

APPENDIX 2

CBR Results

DF Groundworks
Unit 2 Station Industrial Park
Duncan Road
Park Gate
Southampton
SO31 1BX

Certificates Of Test

Job No : 19-54605

For the attention of : Mr. Dave Riley
Site Address: SO30 3XH - Botley Road
Customer Order No: DAVE RILEY SO30 3XH
Date Received: 05/07/2019

Please find enclosed our certificates of test.

If you require further assistance, please do not hesitate to contact us.

Yours sincerely



Daniel Paris Senior Technician

Head Office

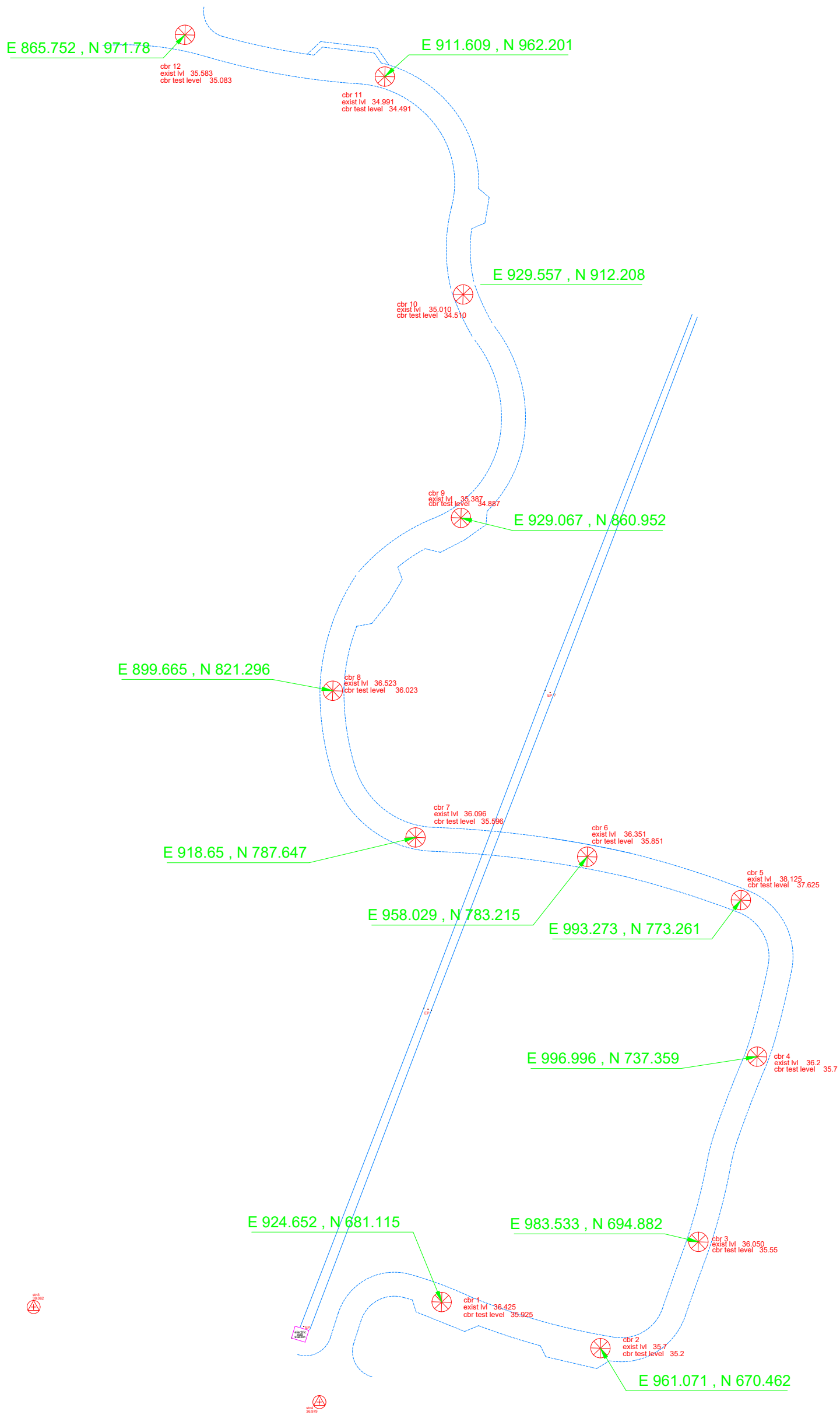
Unit 14
Blackhill Road West
Holton Heath Trading Park
Poole
Dorset BH16 6LE

Tel 01202 622858
Fax 01202 625045

Registered Office

Unit 14
Blackhill Road West
Holton Heath Trading Park
Poole
Dorset BH16 6LE
ACS Testing Limited
Registered in England and
Wales No. 4639658

**Quality Testing & Materials Consultancy
to the
Construction Industry**



**RECORD OF TEST - DETERMINATION OF THE IN-SITU PLATE LOADING VALUE
(INCREMENTAL METHOD)**

Laboratory reference no(s) : **19-54605 - 472001** Head Office Certificate No : **472001-19-54605-S32**

Client : **DF Groundworks**
 Certificate address : **Unit 2 Station Industrial Park, Duncan Road
 Southampton, , SO31 1BX**

Contract : **SO30 3XH - Botley Road**
 Source of material (as indicated by client) : **In Situ**
 Client reference/data : **Test 1**
 Location of sample on site : **Location 1 @ 0.500m**
 Borehole/pit no / depth : **N/A @ N/A m**
 Material description : **Sandy Clay**
 Variation from test procedure : **None**
 Weather conditions : **Sunny**
 Client's indicated specification(s) : **CBR Value**

Description of reaction load: **360° Excavator**

Plate Load Set No. **1**

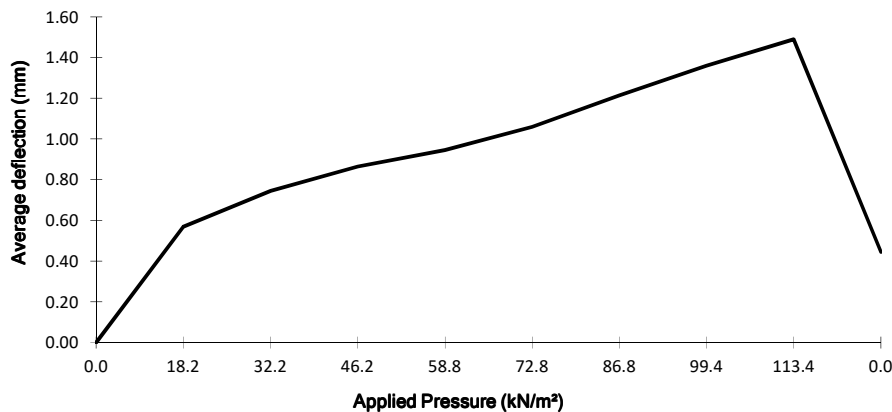
Plate Diameter (mm)	Area (mm ²)	Conversion from k300 to k760
300	70695	k300 / 2.25

Applied pressure to obtain 1.25 mm deflection (p) **90** kN/m²

$k_{300} = p / 0.00125$ **72000** kN/m²/m

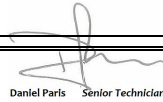
k760 modulus of subgrade reaction **32000** kN/m²/m

32 MN/m²/m



Applied Pressure (kN/m ²)	Average Deflection (mm)
0.0	0.00
18.2	0.57
32.2	0.75
46.2	0.87
58.8	0.95
72.8	1.06
86.8	1.22
99.4	1.36
113.4	1.49
0.0	0.45

Remarks: **Estimated CBR value = 3.9 %** (Determined in accordance with : DMRB : IAN 73/06 Rev 1(2009) : Clause 7.14 - Empirical Relationship)

Tested by: **JF** Date tested: **04.07.19** Approved by:  Date: **08/07/2019**

Daniel Paris Senior Technician

Bulk samples will be retained for a minimum of 21 days from date of receipt unless a written instruction is received within 14 days of receipt requesting sample retention. Opinions and interpretations, if stated, are not within the scope of our UKAS accreditation. This report shall not be reproduced, except in full, without prior written approval of the laboratory

Head Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE

Tel 01202 622858
Fax 01202 626046

Registered Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE
 ACS Testing Limited
 Registered in England and Wales
 No. 4639658

*Quality Testing & Materials Consultancy
 to the
 Construction Industry*

**RECORD OF TEST - DETERMINATION OF THE IN-SITU PLATE LOADING VALUE
(INCREMENTAL METHOD)**

Laboratory reference no(s) : **19-54605 - 472002** Head Office Certificate No : **472002-19-54605-S32**

Client : **DF Groundworks**
 Certificate address : **Unit 2 Station Industrial Park, Duncan Road
 Southampton, , SO31 1BX**

Contract : **SO30 3XH - Botley Road**
 Source of material (as indicated by client) : **In Situ**
 Client reference/data : **Test 2**
 Location of sample on site : **Location 2 @ 0.500m**
 Borehole/pit no / depth : **N/A @ N/A m**
 Material description : **Sandy Clay**
 Variation from test procedure : **None**
 Weather conditions : **Sunny**
 Client's indicated specification(s) : **CBR Value**

Description of reaction load: **360° Excavator**

Plate Load Set No. **1**

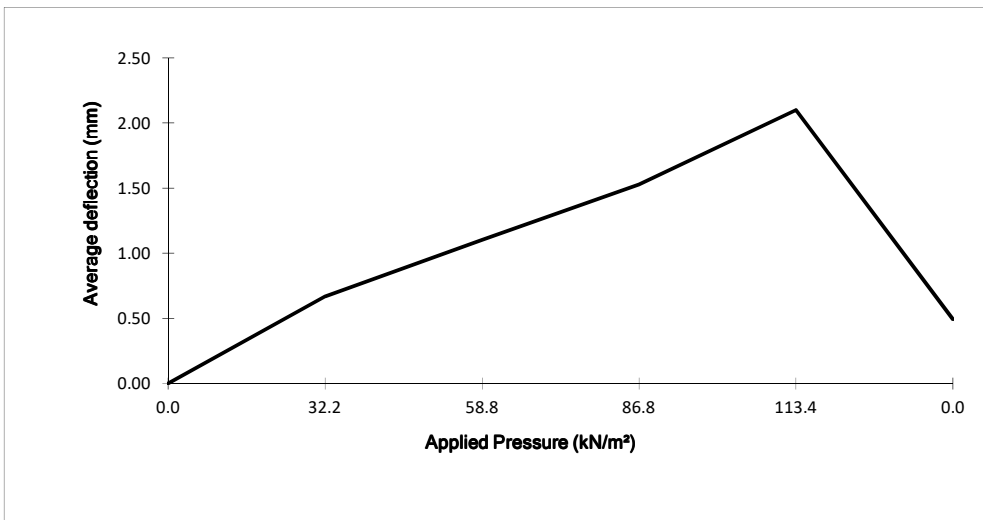
Plate Diameter (mm)	Area (mm ²)	Conversion from k300 to k760
300	70695	k300 / 2.25

Applied pressure to obtain 1.25 mm deflection (p) **68** kN/m²

$k300 = p / 0.00125$ **54400** kN/m²/m

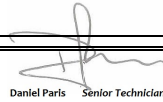
k760 modulus of subgrade reaction **24178** kN/m²/m

24 MN/m²/m



Applied Pressure (kN/m ²)	Average Deflection (mm)
0.0	0.00
32.2	0.67
58.8	1.11
86.8	1.53
113.4	2.10
0.0	0.50

Remarks: **Estimated CBR value = 2.4 %** (Determined in accordance with : DMRB : IAN 73/06 Rev 1(2009) : Clause 7.14 - Empirical Relationship)

Tested by: **JF** Date tested: **04.07.19** Approved by:  Date: **08/07/2019**

Daniel Paris Senior Technician

Bulk samples will be retained for a minimum of 21 days from date of receipt unless a written instruction is received within 14 days of receipt requesting sample retention. Opinions and interpretations, if stated, are not within the scope of our UKAS accreditation. This report shall not be reproduced, except in full, without prior written approval of the laboratory

Head Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE

Tel 01202 622858
Fax 01202 626046

Registered Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE
 ACS Testing Limited
 Registered in England and Wales
 No. 4639658

***Quality Testing & Materials Consultancy
 to the
 Construction Industry***

**RECORD OF TEST - DETERMINATION OF THE IN-SITU PLATE LOADING VALUE
(INCREMENTAL METHOD)**

Laboratory reference no(s) : **19-54605 - 472003**

Head Office Certificate No : **472003-19-54605-S32**

Client : **DF Groundworks**
Certificate address : **Unit 2 Station Industrial Park, Duncan Road
Southampton, , SO31 1BX**

Contract : **SO30 3XH - Botley Road**
Source of material (as indicated by client) : **In Situ**
Client reference/data : **Test 3**
Location of sample on site : **Location 3 @ 0.500m**
Borehole/pit no / depth : **N/A @ N/A m**
Material description : **Sandy Clay**
Variation from test procedure : **None**
Weather conditions : **Sunny**
Client's indicated specification(s) : **CBR Value**

Description of reaction load: **360° Excavator**

Plate Load Set No. **1**

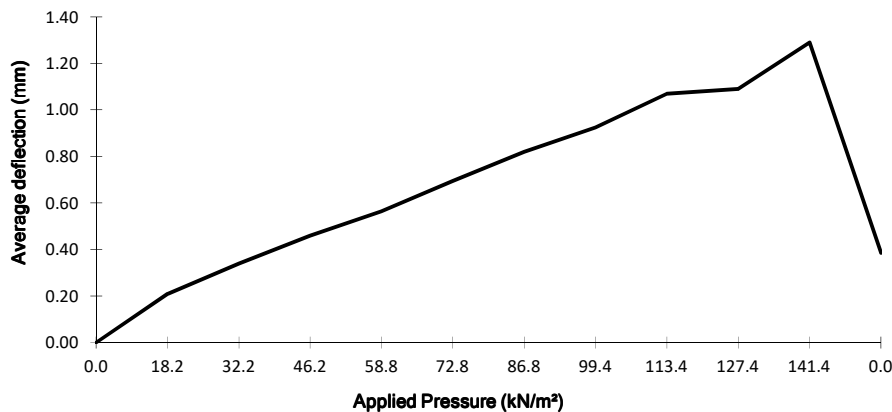
Plate Diameter (mm)	Area (mm ²)	Conversion from k300 to k760
300	70695	k300 / 2.25

Applied pressure to obtain 1.25 mm deflection (p) **139** kN/m²

k300 = p / 0.00125 **111200** kN/m²/m

k760 modulus of subgrade reaction **49422** kN/m²/m

49 MN/m²/m

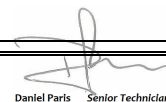


Applied Pressure (kN/m ²)	Average Deflection (mm)
0.0	0.00
18.2	0.21
32.2	0.34
46.2	0.46
58.8	0.57
72.8	0.70
86.8	0.82
99.4	0.93
113.4	1.07
127.4	1.09
141.4	1.29
0.0	0.39

Remarks: **Estimated CBR value = 8.3 %** (Determined in accordance with : DMRB : IAN 73/06 Rev 1(2009) : Clause 7.14 - Empirical Relationship)

Tested by: **JF** Date tested: **04.07.19**

Approved by:


Daniel Paris Senior Technician

Date: **08/07/2019**

Bulk samples will be retained for a minimum of 21 days from date of receipt unless a written instruction is received within 14 days of receipt requesting sample retention. Opinions and interpretations, if stated, are not within the scope of our UKAS accreditation. This report shall not be reproduced, except in full, without prior written approval of the laboratory

Page 1 of 1

Head Office

Unit 14
Blackhill Road West
Holton Heath Trading Park
Poole
Dorset BH16 6LE

Tel 01202 622858
Fax 01202 626046

Registered Office

Unit 14
Blackhill Road West
Holton Heath Trading Park
Poole
Dorset BH16 6LE
ACS Testing Limited
Registered in England and Wales
No. 4639658

*Quality Testing & Materials Consultancy
to the
Construction Industry*

**RECORD OF TEST - DETERMINATION OF THE IN-SITU PLATE LOADING VALUE
(INCREMENTAL METHOD)**

Laboratory reference no(s) : **19-54605 - 472004** Head Office Certificate No : **472004-19-54605-S32**

Client : **DF Groundworks**
 Certificate address : **Unit 2 Station Industrial Park, Duncan Road
 Southampton, , SO31 1BX**

Contract : **SO30 3XH - Botley Road**
 Source of material (as indicated by client) : **In Situ**
 Client reference/data : **Test 4**
 Location of sample on site : **Location 4 @ 0.500m**
 Borehole/pit no / depth : **N/A @ N/A m**
 Material description : **Sandy Clay**
 Variation from test procedure : **None**
 Weather conditions : **Sunny**
 Client's indicated specification(s) : **CBR Value**

Description of reaction load: **360° Excavator**

Plate Load Set No. **1**

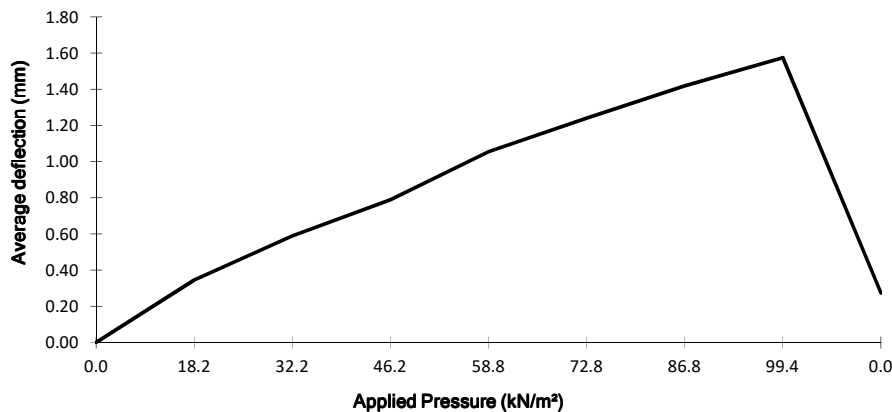
Plate Diameter (mm)	Area (mm ²)	Conversion from k300 to k760
300	70695	k300 / 2.25

Applied pressure to obtain 1.25 mm deflection (p) **74** kN/m²

k300 = p / 0.00125 **59200** kN/m²/m

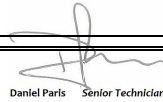
k760 modulus of subgrade reaction **26311** kN/m²/m

26 MN/m²/m



Applied Pressure (kN/m ²)	Average Deflection (mm)
0.0	0.00
18.2	0.35
32.2	0.59
46.2	0.79
58.8	1.06
72.8	1.24
86.8	1.42
99.4	1.58
0.0	0.28

Remarks: **Estimated CBR value = 2.8 %** (Determined in accordance with : DMRB : IAN 73/06 Rev 1(2009) : Clause 7.14 - Empirical Relationship)

Tested by: **JF** Date tested: **04.07.19** Approved by:  Date: **08/07/2019**

Daniel Paris Senior Technician

Bulk samples will be retained for a minimum of 21 days from date of receipt unless a written instruction is received within 14 days of receipt requesting sample retention. Opinions and interpretations, if stated, are not within the scope of our UKAS accreditation. This report shall not be reproduced, except in full, without prior written approval of the laboratory

Head Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE

Tel 01202 622858
Fax 01202 626046

Registered Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE
 ACS Testing Limited
 Registered in England and Wales
 No. 4639658

***Quality Testing & Materials Consultancy
 to the
 Construction Industry***

**RECORD OF TEST - DETERMINATION OF THE IN-SITU PLATE LOADING VALUE
(INCREMENTAL METHOD)**

Laboratory reference no(s) : **19-54605 - 472005** Head Office Certificate No : **472005-19-54605-S32**

Client : **DF Groundworks**
 Certificate address : **Unit 2 Station Industrial Park, Duncan Road
 Southampton, , SO31 1BX**

Contract : **SO30 3XH - Botley Road**
 Source of material (as indicated by client) : **In Situ**
 Client reference/data : **Test 5**
 Location of sample on site : **Location 5 @ 0.500m**
 Borehole/pit no / depth : **N/A @ N/A m**
 Material description : **Sandy Clay**
 Variation from test procedure : **None**
 Weather conditions : **Sunny**
 Client's indicated specification(s) : **CBR Value**

Description of reaction load: **360° Excavator**

Plate Load Set No. **1**

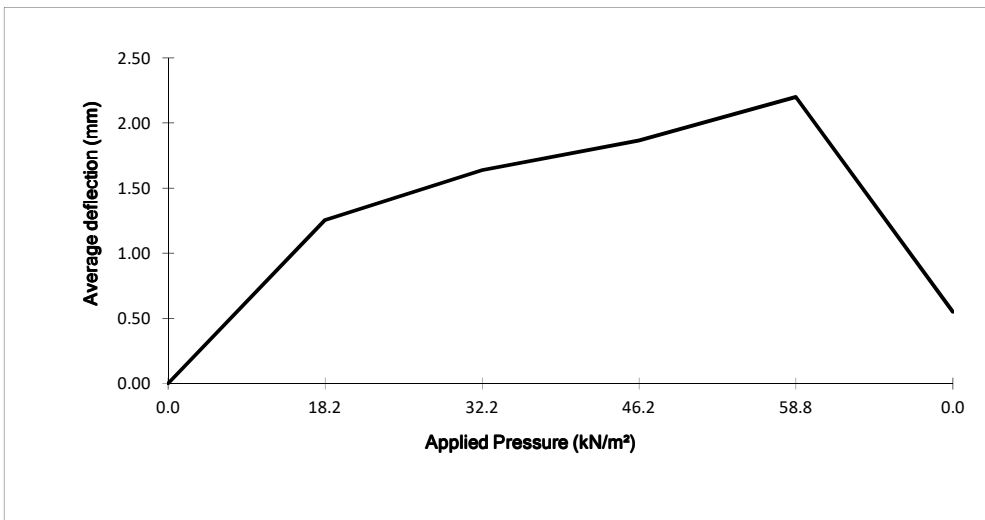
Plate Diameter (mm)	Area (mm ²)	Conversion from k300 to k760
300	70695	k300 / 2.25

Applied pressure to obtain 1.25 mm deflection (p) **18** kN/m²

$k300 = p / 0.00125$ **14400** kN/m²/m

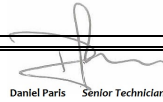
k760 modulus of subgrade reaction **6400** kN/m²/m

6 MN/m²/m



Applied Pressure (kN/m ²)	Average Deflection (mm)
0.0	0.00
18.2	1.26
32.2	1.64
46.2	1.87
58.8	2.20
0.0	0.55

Remarks: **Estimated CBR value = 0.2 %** (Determined in accordance with : DMRB : IAN 73/06 Rev 1(2009) : Clause 7.14 - Empirical Relationship)

Tested by: **JF** Date tested: **04.07.19** Approved by:  Date: **08/07/2019**

Daniel Paris Senior Technician

Bulk samples will be retained for a minimum of 21 days from date of receipt unless a written instruction is received within 14 days of receipt requesting sample retention. Opinions and interpretations, if stated, are not within the scope of our UKAS accreditation. This report shall not be reproduced, except in full, without prior written approval of the laboratory

Head Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE

Tel 01202 622858
Fax 01202 626046

Registered Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE
 ACS Testing Limited
 Registered in England and Wales
 No. 4639658

***Quality Testing & Materials Consultancy
 to the
 Construction Industry***

**RECORD OF TEST - DETERMINATION OF THE IN-SITU PLATE LOADING VALUE
(INCREMENTAL METHOD)**

Laboratory reference no(s) : **19-54605 - 472006** Head Office Certificate No : **472006-19-54605-S32**

Client : **DF Groundworks**
 Certificate address : **Unit 2 Station Industrial Park, Duncan Road
 Southampton, , SO31 1BX**

Contract : **SO30 3XH - Botley Road**
 Source of material (as indicated by client) : **In Situ**
 Client reference/data : **Test 6**
 Location of sample on site : **Location 6 @ 0.500m**
 Borehole/pit no / depth : **N/A @ N/A m**
 Material description : **Sandy Clay**
 Variation from test procedure : **None**
 Weather conditions : **Sunny**
 Client's indicated specification(s) : **CBR Value**

Description of reaction load: **360° Excavator**

Plate Load Set No. **1**

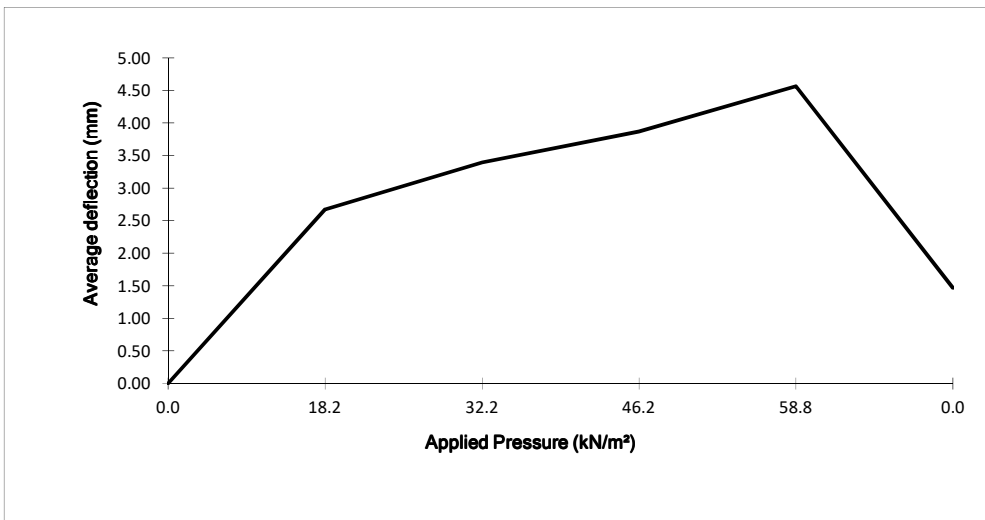
Plate Diameter (mm)	Area (mm ²)	Conversion from k300 to k760
300	70695	k300 / 2.25

Applied pressure to obtain 1.25 mm deflection (p) **9** kN/m²

k300 = p / 0.00125 **7200** kN/m²/m

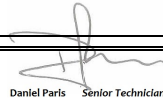
k760 modulus of subgrade reaction **3200** kN/m²/m

3 MN/m²/m



Applied Pressure (kN/m ²)	Average Deflection (mm)
0.0	0.00
18.2	2.68
32.2	3.40
46.2	3.87
58.8	4.57
0.0	1.47

Remarks: **Estimated CBR value = 0.1 %** (Determined in accordance with : DMRB : IAN 73/06 Rev 1(2009) : Clause 7.14 - Empirical Relationship)

Tested by: **JF** Date tested: **04.07.19** Approved by:  Date: **08/07/2019**
 Daniel Paris Senior Technician

Bulk samples will be retained for a minimum of 21 days from date of receipt unless a written instruction is received within 14 days of receipt requesting sample retention. Opinions and interpretations, if stated, are not within the scope of our UKAS accreditation. This report shall not be reproduced, except in full, without prior written approval of the laboratory

Head Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE

Tel 01202 622858
Fax 01202 626046

Registered Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE
 ACS Testing Limited
 Registered in England and Wales
 No. 4639658

***Quality Testing & Materials Consultancy
 to the
 Construction Industry***

**RECORD OF TEST - DETERMINATION OF THE IN-SITU PLATE LOADING VALUE
(INCREMENTAL METHOD)**

Laboratory reference no(s) : **19-54605 - 472007** Head Office Certificate No : **472007-19-54605-S32**

Client : **DF Groundworks**
Certificate address : **Unit 2 Station Industrial Park, Duncan Road
Southampton, , SO31 1BX**

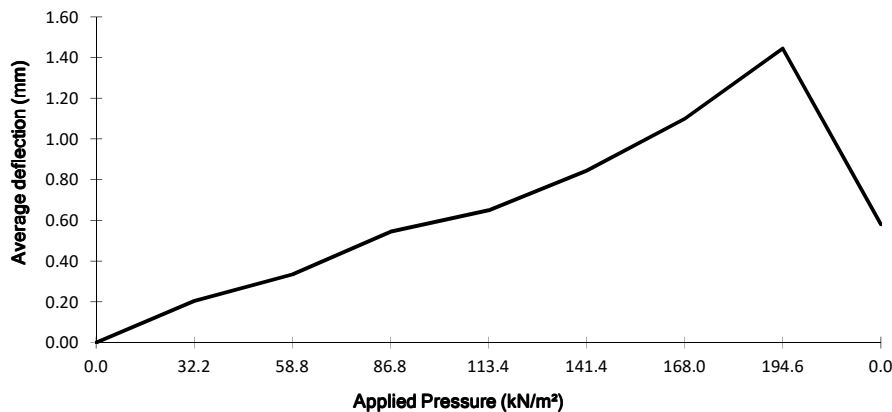
Contract : **SO30 3XH - Botley Road**
Source of material (as indicated by client) : **In Situ**
Client reference/data : **Test 7**
Location of sample on site : **Location 7 @ 0.500m**
Borehole/pit no / depth : **N/A @ N/A m**
Material description : **Stone Sandy Clay**
Variation from test procedure : **None**
Weather conditions : **Sunny**
Client's indicated specification(s) : **CBR Value**

Description of reaction load: **360° Excavator**

Plate Load Set No. **1**

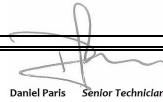
Plate Diameter (mm)	Area (mm ²)	Conversion from k300 to k760
300	70695	k300 / 2.25

Applied pressure to obtain 1.25 mm deflection (p)	180	kN/m ²
k300 = p / 0.00125	144000	kN/m ² /m
k760 modulus of subgrade reaction	64000	kN/m ² /m
	64	MN/m ² /m



Applied Pressure (kN/m ²)	Average Deflection (mm)
0.0	0.00
32.2	0.21
58.8	0.34
86.8	0.55
113.4	0.65
141.4	0.85
168.0	1.10
194.6	1.45
0.0	0.58

Remarks: **Estimated CBR value = 13 %** (Determined in accordance with : DMRB : IAN 73/06 Rev 1(2009) : Clause 7.14 - Empirical Relationship)

Tested by: **JF** Date tested: **04.07.19** Approved by:  Date: **08/07/2019**
Daniel Paris Senior Technician

Bulk samples will be retained for a minimum of 21 days from date of receipt unless a written instruction is received within 14 days of receipt requesting sample retention. Opinions and interpretations, if stated, are not within the scope of our UKAS accreditation. This report shall not be reproduced, except in full, without prior written approval of the laboratory

Head Office

Unit 14
Blackhill Road West
Holton Heath Trading Park
Poole
Dorset BH16 6LE

Tel 01202 622858
Fax 01202 626046

Registered Office

Unit 14
Blackhill Road West
Holton Heath Trading Park
Poole
Dorset BH16 6LE
ACS Testing Limited
Registered in England and Wales
No. 4639658

***Quality Testing & Materials Consultancy
to the
Construction Industry***

**RECORD OF TEST - DETERMINATION OF THE IN-SITU PLATE LOADING VALUE
(INCREMENTAL METHOD)**

Laboratory reference no(s) : **19-54605 - 472008** Head Office Certificate No : **472008-19-54605-S32**

Client : **DF Groundworks**
 Certificate address : **Unit 2 Station Industrial Park, Duncan Road
 Southampton, , SO31 1BX**

Contract : **SO30 3XH - Botley Road**
 Source of material (as indicated by client) : **In Situ**
 Client reference/data : **Test 8**
 Location of sample on site : **Location 8 @ 0.500m**
 Borehole/pit no / depth : **N/A @ N/A m**
 Material description : **Stony Sandy Clay**
 Variation from test procedure : **None**
 Weather conditions : **Sunny**
 Client's indicated specification(s) : **CBR Value**

Description of reaction load: **360° Excavator**

Plate Load Set No. **1**

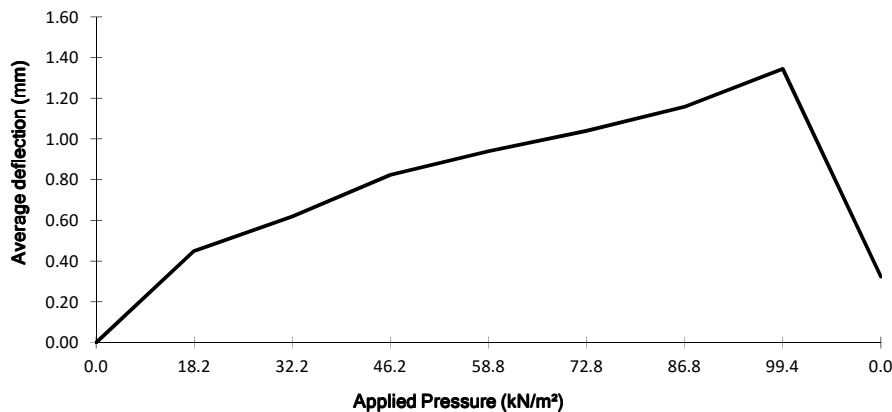
Plate Diameter (mm)	Area (mm ²)	Conversion from k300 to k760
300	70695	k300 / 2.25

Applied pressure to obtain 1.25 mm deflection (p) **93** kN/m²

k300 = p / 0.00125 **74400** kN/m²/m

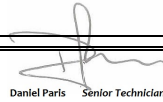
k760 modulus of subgrade reaction **33067** kN/m²/m

33 MN/m²/m



Applied Pressure (kN/m ²)	Average Deflection (mm)
0.0	0.00
18.2	0.45
32.2	0.62
46.2	0.83
58.8	0.94
72.8	1.04
86.8	1.16
99.4	1.35
0.0	0.33

Remarks: **Estimated CBR value = 4.1 %** (Determined in accordance with : DMRB : IAN 73/06 Rev 1(2009) : Clause 7.14 - Empirical Relationship)

Tested by: **JF** Date tested: **04.07.19** Approved by:  Date: **08/07/2019**

Daniel Paris Senior Technician

Bulk samples will be retained for a minimum of 21 days from date of receipt unless a written instruction is received within 14 days of receipt requesting sample retention. Opinions and interpretations, if stated, are not within the scope of our UKAS accreditation. This report shall not be reproduced, except in full, without prior written approval of the laboratory

Head Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE

Tel 01202 622858
Fax 01202 626046

Registered Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE
 ACS Testing Limited
 Registered in England and Wales
 No. 4639658

***Quality Testing & Materials Consultancy
 to the
 Construction Industry***

**RECORD OF TEST - DETERMINATION OF THE IN-SITU PLATE LOADING VALUE
(INCREMENTAL METHOD)**

Laboratory reference no(s) : **19-54605 - 472009** Head Office Certificate No : **472009-19-54605-S32**

Client : **DF Groundworks**
Certificate address : **Unit 2 Station Industrial Park, Duncan Road
Southampton, , SO31 1BX**

Contract : **SO30 3XH - Botley Road**
Source of material (as indicated by client) : **In Situ**
Client reference/data : **Test 9**
Location of sample on site : **Location 9 @ 0.500m**
Borehole/pit no / depth : **N/A @ N/A m**
Material description : **Sandy Clay**
Variation from test procedure : **None**
Weather conditions : **Sunny**
Client's indicated specification(s) : **CBR Value**

Description of reaction load: **360° Excavator**

Plate Load Set No. **1**

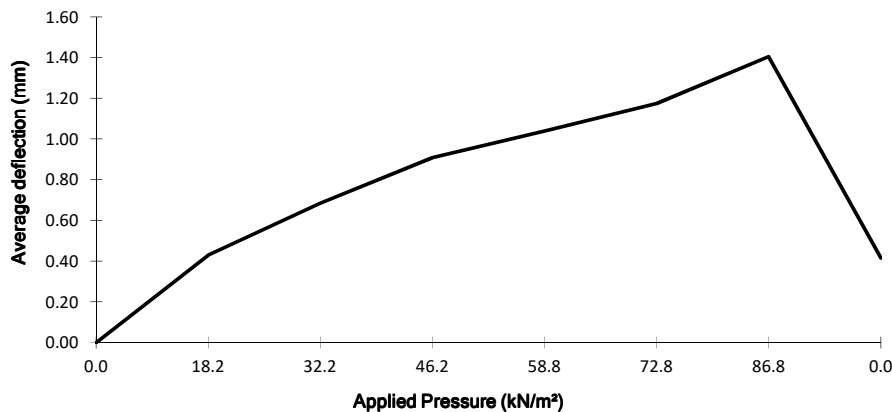
Plate Diameter (mm)	Area (mm ²)	Conversion from k300 to k760
300	70695	k300 / 2.25

Applied pressure to obtain 1.25 mm deflection (p) **77** kN/m²

$k300 = p / 0.00125$ **61600** kN/m²/m

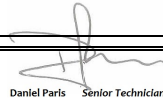
k760 modulus of subgrade reaction **27378** kN/m²/m

27 MN/m²/m



Applied Pressure (kN/m ²)	Average Deflection (mm)
0.0	0.00
18.2	0.43
32.2	0.69
46.2	0.91
58.8	1.04
72.8	1.18
86.8	1.41
0.0	0.42

Remarks: **Estimated CBR value = 3.0 %** (Determined in accordance with : DMRB : IAN 73/06 Rev 1(2009) : Clause 7.14 - Empirical Relationship)

Tested by: **JF** Date tested: **04.07.19** Approved by:  Date: **08/07/2019**

Daniel Paris Senior Technician

Bulk samples will be retained for a minimum of 21 days from date of receipt unless a written instruction is received within 14 days of receipt requesting sample retention. Opinions and interpretations, if stated, are not within the scope of our UKAS accreditation. This report shall not be reproduced, except in full, without prior written approval of the laboratory

Head Office

Unit 14
Blackhill Road West
Holton Heath Trading Park
Poole
Dorset BH16 6LE

Tel 01202 622858
Fax 01202 626046

Registered Office

Unit 14
Blackhill Road West
Holton Heath Trading Park
Poole
Dorset BH16 6LE
ACS Testing Limited
Registered in England and Wales
No. 4639658

***Quality Testing & Materials Consultancy
to the
Construction Industry***

**RECORD OF TEST - DETERMINATION OF THE IN-SITU PLATE LOADING VALUE
(INCREMENTAL METHOD)**

Laboratory reference no(s) : **19-54605 - 472010** Head Office Certificate No : **472010-19-54605-S32**

Client : **DF Groundworks**
 Certificate address : **Unit 2 Station Industrial Park, Duncan Road
 Southampton, , SO31 1BX**

Contract : **SO30 3XH - Botley Road**
 Source of material (as indicated by client) : **In Situ**
 Client reference/data : **Test 10**
 Location of sample on site : **Location 10 @ 0.500m**
 Borehole/pit no / depth : **N/A @ N/A m**
 Material description : **Sandy Stoney Clay**
 Variation from test procedure : **None**
 Weather conditions : **Sunny**
 Client's indicated specification(s) : **CBR Value**

Description of reaction load: **360° Excavator**

Plate Load Set No. **1**

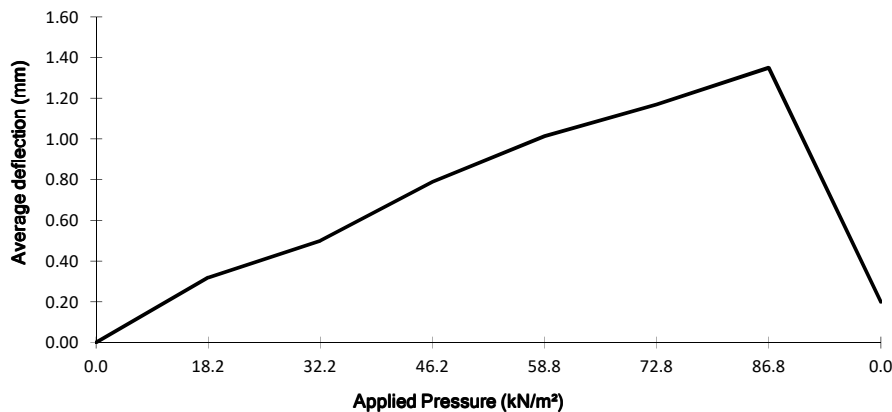
Plate Diameter (mm)	Area (mm ²)	Conversion from k300 to k760
300	70695	k300 / 2.25

Applied pressure to obtain 1.25 mm deflection (p) **79** kN/m²

$k300 = p / 0.00125$ **63200** kN/m²/m

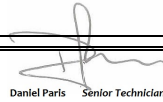
k760 modulus of subgrade reaction **28089** kN/m²/m

28 MN/m²/m



Applied Pressure (kN/m ²)	Average Deflection (mm)
0.0	0.00
18.2	0.32
32.2	0.50
46.2	0.79
58.8	1.02
72.8	1.17
86.8	1.35
0.0	0.20

Remarks: **Estimated CBR value = 3.1 %** (Determined in accordance with : DMRB : IAN 73/06 Rev 1(2009) : Clause 7.14 - Empirical Relationship)

Tested by: **JF** Date tested: **04.07.19** Approved by:  Date: **08/07/2019**

Daniel Paris Senior Technician

Bulk samples will be retained for a minimum of 21 days from date of receipt unless a written instruction is received within 14 days of receipt requesting sample retention. Opinions and interpretations, if stated, are not within the scope of our UKAS accreditation. This report shall not be reproduced, except in full, without prior written approval of the laboratory

Head Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE

Tel 01202 622858
Fax 01202 626046

Registered Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE
 ACS Testing Limited
 Registered in England and Wales
 No. 4639658

*Quality Testing & Materials Consultancy
 to the
 Construction Industry*

**RECORD OF TEST - DETERMINATION OF THE IN-SITU PLATE LOADING VALUE
(INCREMENTAL METHOD)**

Laboratory reference no(s) : **19-54605 - 472011** Head Office Certificate No : **472011-19-54605-S32**

Client : **DF Groundworks**
 Certificate address : **Unit 2 Station Industrial Park, Duncan Road
 Southampton, , SO31 1BX**

Contract : **SO30 3XH - Botley Road**
 Source of material (as indicated by client) : **In Situ**
 Client reference/data : **Test 11**
 Location of sample on site : **Location 11 @ 0.500m**
 Borehole/pit no / depth : **N/A @ N/A m**
 Material description : **Sandy Stoney Clay**
 Variation from test procedure : **None**
 Weather conditions : **Sunny**
 Client's indicated specification(s) : **CBR Value**

Description of reaction load: **360° Excavator**

Plate Load Set No. **1**

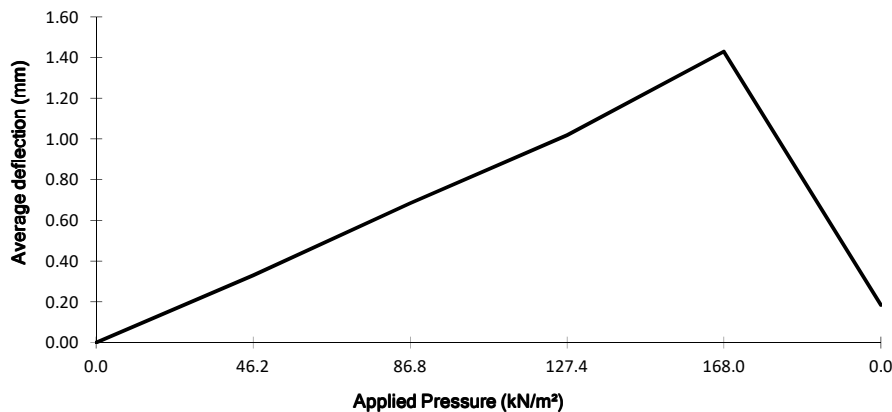
Plate Diameter (mm)	Area (mm ²)	Conversion from k300 to k760
300	70695	k300 / 2.25

Applied pressure to obtain 1.25 mm deflection (p) **150** kN/m²

k300 = p / 0.00125 **120000** kN/m²/m

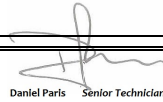
k760 modulus of subgrade reaction **53333** kN/m²/m

53 MN/m²/m



Applied Pressure (kN/m ²)	Average Deflection (mm)
0.0	0.00
46.2	0.33
86.8	0.69
127.4	1.02
168.0	1.43
0.0	0.19

Remarks: **Estimated CBR value = 9.5 %** (Determined in accordance with : DMRB : IAN 73/06 Rev 1(2009) : Clause 7.14 - Empirical Relationship)

Tested by: **JF** Date tested: **04.07.19** Approved by:  Date: **08/07/2019**

Daniel Paris Senior Technician

Bulk samples will be retained for a minimum of 21 days from date of receipt unless a written instruction is received within 14 days of receipt requesting sample retention. Opinions and interpretations, if stated, are not within the scope of our UKAS accreditation. This report shall not be reproduced, except in full, without prior written approval of the laboratory

Head Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE

Tel 01202 622858
Fax 01202 626046

Registered Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE
 ACS Testing Limited
 Registered in England and Wales
 No. 4639658

***Quality Testing & Materials Consultancy
 to the
 Construction Industry***

**RECORD OF TEST - DETERMINATION OF THE IN-SITU PLATE LOADING VALUE
(INCREMENTAL METHOD)**

Laboratory reference no(s) : **19-54605 - 472012** Head Office Certificate No : **472012-19-54605-S32**

Client : **DF Groundworks**
 Certificate address : **Unit 2 Station Industrial Park, Duncan Road
 Southampton, , SO31 1BX**

Contract : **SO30 3XH - Botley Road**
 Source of material (as indicated by client) : **In Situ**
 Client reference/data : **Test 12**
 Location of sample on site : **Location 12 @ 0.500m**
 Borehole/pit no / depth : **N/A @ N/A m**
 Material description : **Sandy Clay**
 Variation from test procedure : **None**
 Weather conditions : **Sunny**
 Client's indicated specification(s) : **CBR Value**

Description of reaction load: **360° Excavator**

Plate Load Set No. **1**

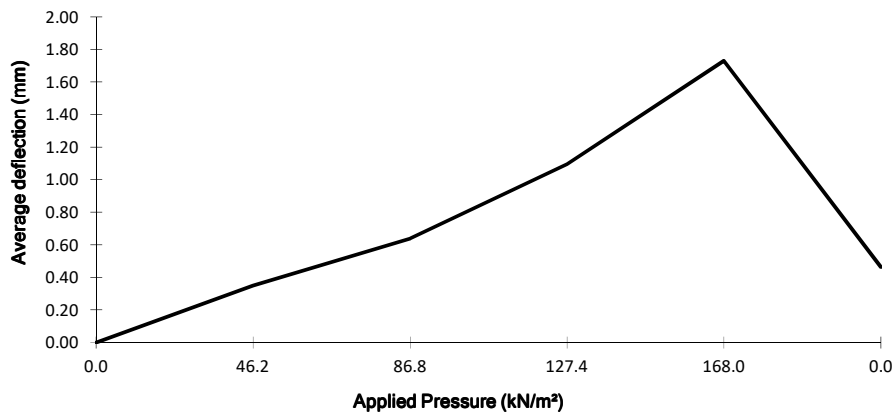
Plate Diameter (mm)	Area (mm ²)	Conversion from k300 to k760
300	70695	k300 / 2.25

Applied pressure to obtain 1.25 mm deflection (p) **137** kN/m²

$k300 = p / 0.00125$ **109600** kN/m²/m

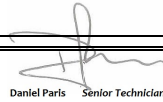
k760 modulus of subgrade reaction **48711** kN/m²/m

49 MN/m²/m



Applied Pressure (kN/m ²)	Average Deflection (mm)
0.0	0.00
46.2	0.35
86.8	0.64
127.4	1.10
168.0	1.73
0.0	0.47

Remarks: **Estimated CBR value = 8.1 %** (Determined in accordance with : DMRB : IAN 73/06 Rev 1(2009) : Clause 7.14 - Empirical Relationship)

Tested by: **JF** Date tested: **04.07.19** Approved by:  Date: **08/07/2019**

Daniel Paris Senior Technician

Bulk samples will be retained for a minimum of 21 days from date of receipt unless a written instruction is received within 14 days of receipt requesting sample retention. Opinions and interpretations, if stated, are not within the scope of our UKAS accreditation. This report shall not be reproduced, except in full, without prior written approval of the laboratory

Head Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE

Tel 01202 622858
Fax 01202 626046

Registered Office

Unit 14
 Blackhill Road West
 Holton Heath Trading Park
 Poole
 Dorset BH16 6LE
 ACS Testing Limited
 Registered in England and Wales
 No. 4639658

***Quality Testing & Materials Consultancy
 to the
 Construction Industry***



ARCH
ASSOCIATES

APPENDIX 3

Site Photographs











**ARCH
ASSOCIATES**





ARCH
ASSOCIATES





ARCH
ASSOCIATES











**ARCH
ASSOCIATES**







**ARCH
ASSOCIATES**







**ARCH
ASSOCIATES**









**ARCH
ASSOCIATES**





**ARCH
ASSOCIATES**

