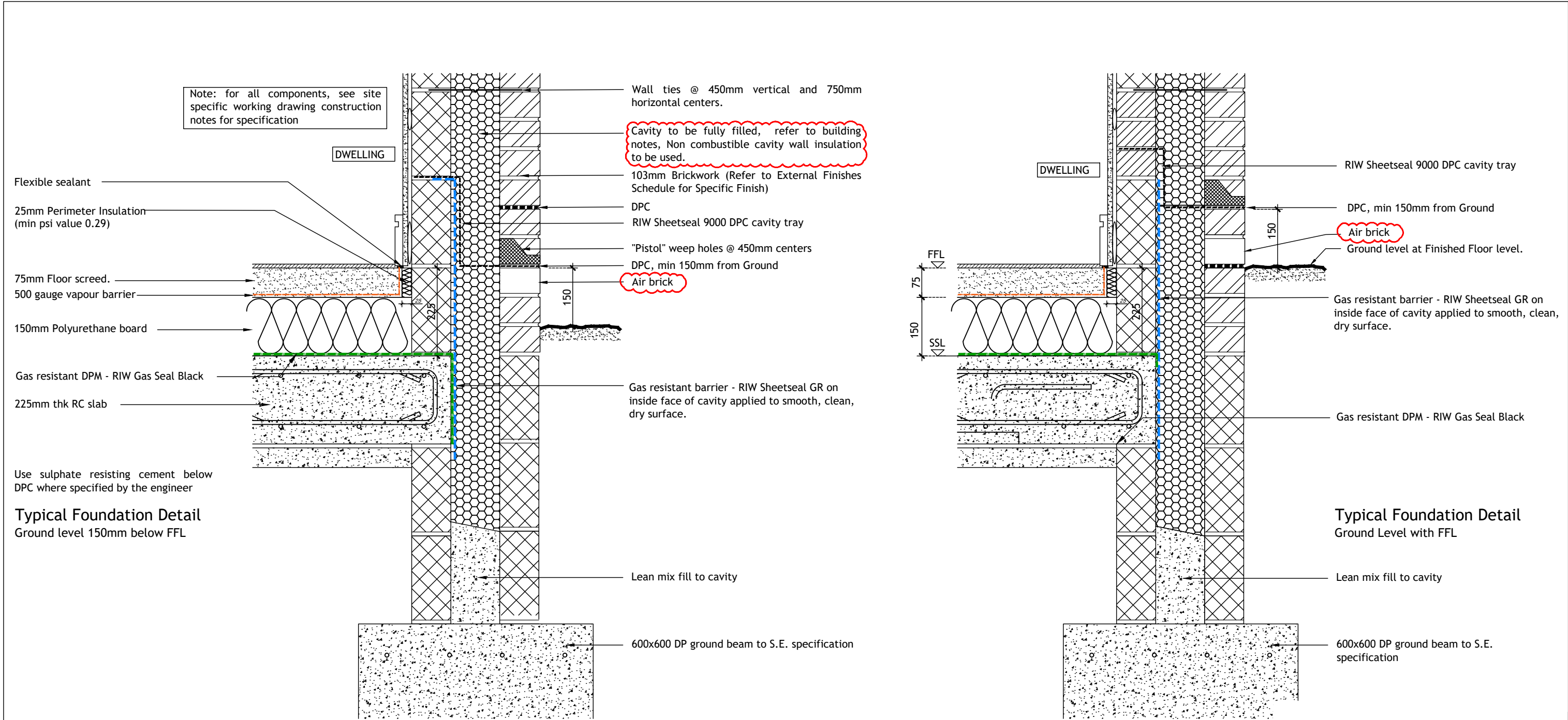


## Appendix C Gas membrane information



## **Construction Specifications**

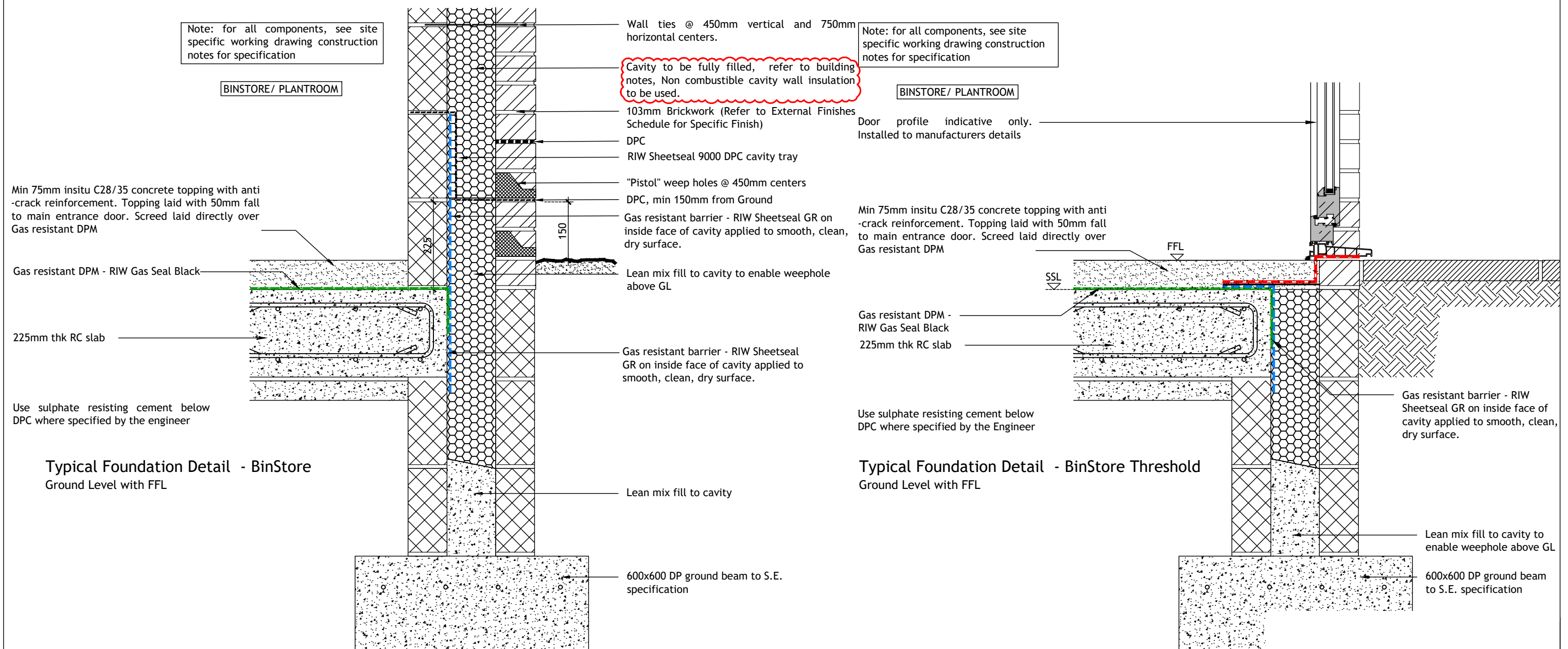




Drawing Notes

DO NOT scale from this drawing. If in doubt ASK.  
Contractors, Sub Contractors and Suppliers are to check all relevant dimensions and levels of the site and building before commencing any shop drawings or building work.  
Any discrepancies should be recorded to the Architect.  
Where applicable this drawing is to be read in conjunction with the Consultants' drawings.  
This drawing is the copyright of Abri and may not be copied, traced, reproduced or passed onto a third party without the express permission of Abri in writing  
NOTES: THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE ABRI CONSTRUCTION MANAGEMENT TEAMS CONSTRUCTION SPECIFICATION AND PROJECT DRAWINGS

|                                                                   |                |
|-------------------------------------------------------------------|----------------|
| Collins House, Bishopstoke Road,<br>Eastleigh, Hampshire SO50 6AD |                |
| Sheet Content<br>Typical External Wall                            |                |
| Scale<br>1:10@A3                                                  | Date<br>Jan 22 |
| Drawing no<br>5000                                                | Revision<br>C1 |



## Drawing Notes

DO NOT scale from this drawing. If in doubt ASK.  
Contractors, Sub Contractors and Suppliers are to check all relevant dimensions and levels of the site and building before commencing any shop drawings or building work.  
Any discrepancies should be recorded to the Architect.  
Where applicable this drawing is to be read in conjunction with the Consultants' drawings.  
This drawing is the copyright of Abri and may not be copied, traced, reproduced or passed onto a third party without the express permission of Abri in writing  
NOTES: THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE ABRI CONSTRUCTION MANAGEMENT TEAMS CONSTRUCTION SPECIFICATION AND PROJECT DRAWINGS

Collins House, Bishopstoke Road,  
Eastleigh, Hampshire SO50 6AD

Sheet Content

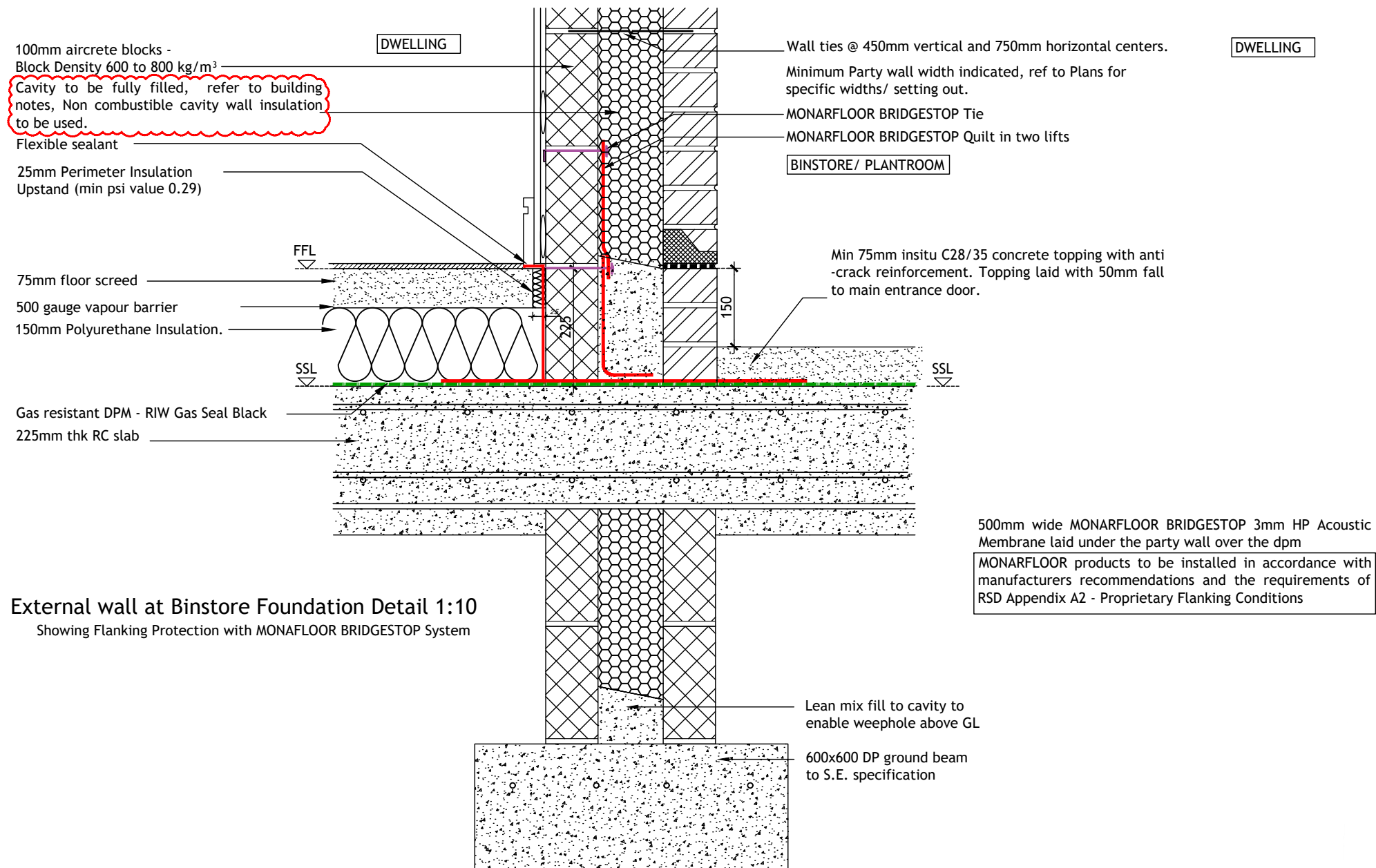
Typical External Bin Store Wall

Scale  
1:10@A3

Date  
Jan 22

Drawing no  
5001

Revision  
C1



**External wall at Binstore Foundation Detail 1:10**  
Showing Flanking Protection with MONARFLOOR BRIDGESTOP System

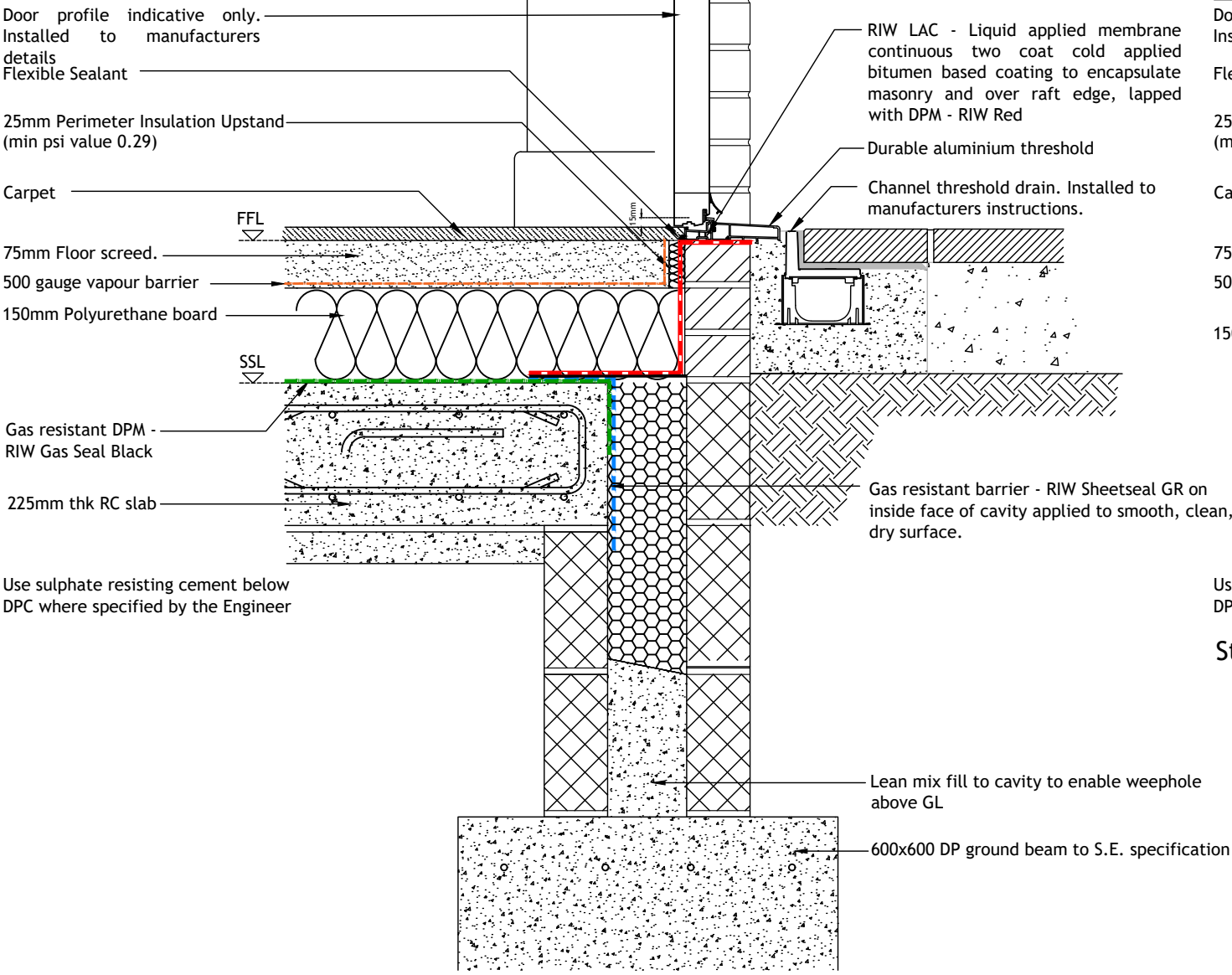
## Drawing Notes

DO NOT scale from this drawing. If in doubt ASK.  
Contractors, Sub Contractors and Suppliers are to check all relevant dimensions and levels of the site and building before commencing any shop drawings or building work.  
Any discrepancies should be recorded to the Architect.  
Where applicable this drawing is to be read in conjunction with the Consultants' drawings.  
This drawing is the copyright of Abri and may not be copied, traced, reproduced or passed onto a third party without the express permission of Abri in writing  
NOTES: THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE ABRI CONSTRUCTION MANAGEMENT TEAMS CONSTRUCTION SPECIFICATION AND PROJECT DRAWINGS



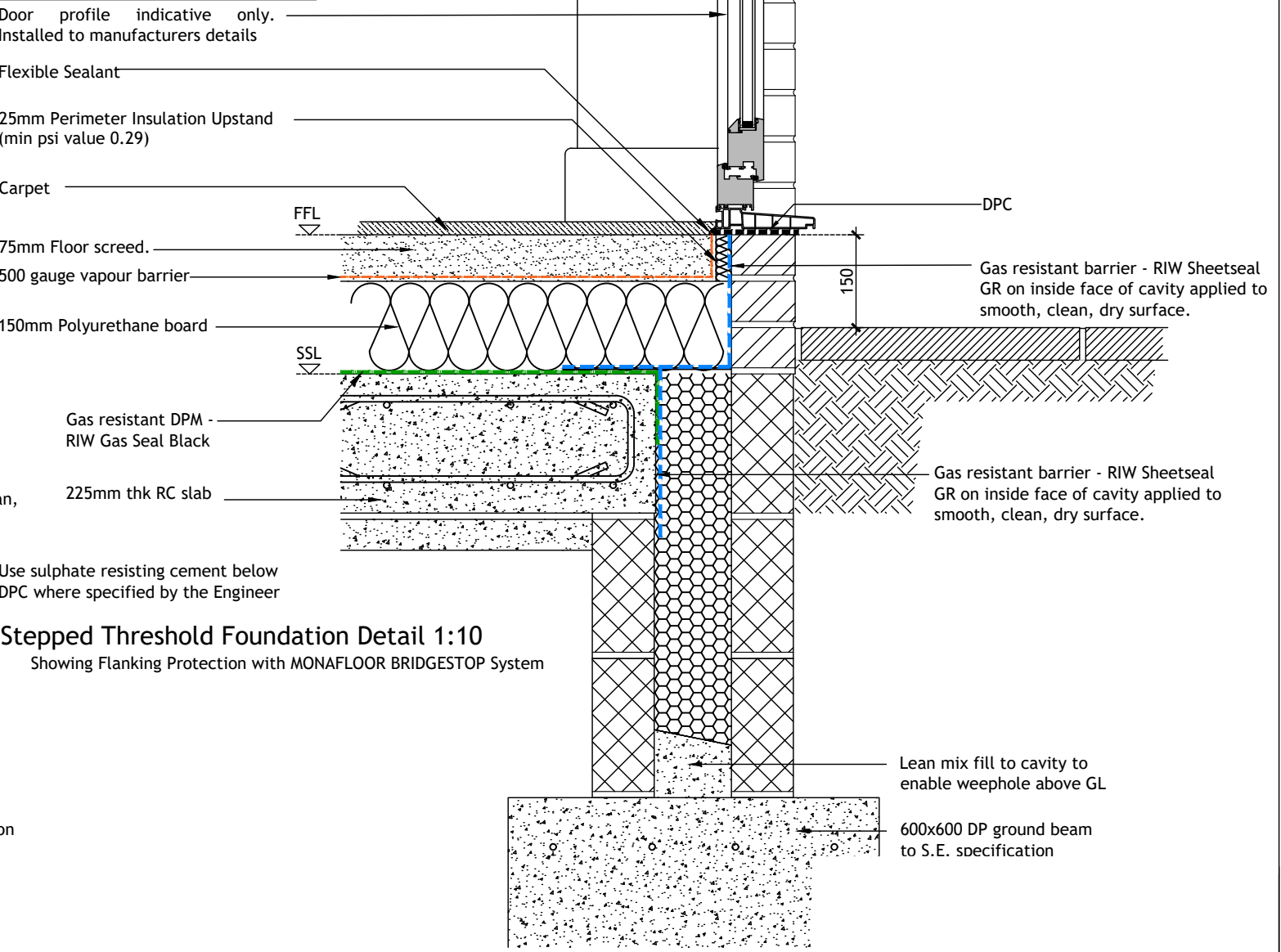
|                                                                   |                       |
|-------------------------------------------------------------------|-----------------------|
| Collins House, Bishopstoke Road,<br>Eastleigh, Hampshire SO50 6AD |                       |
| Sheet Content<br>External Wall Detail at Binstore                 |                       |
| Scale<br><b>1:10@A3</b>                                           | Date<br><b>Jan 22</b> |
| Drawing no<br><b>5002</b>                                         | Revision<br><b>C1</b> |

Note: for all components, see site specific working drawing construction notes for specification



Mobility Level Threshold Detail / Front Door

Note: for all components, see site specific working drawing construction notes for specification



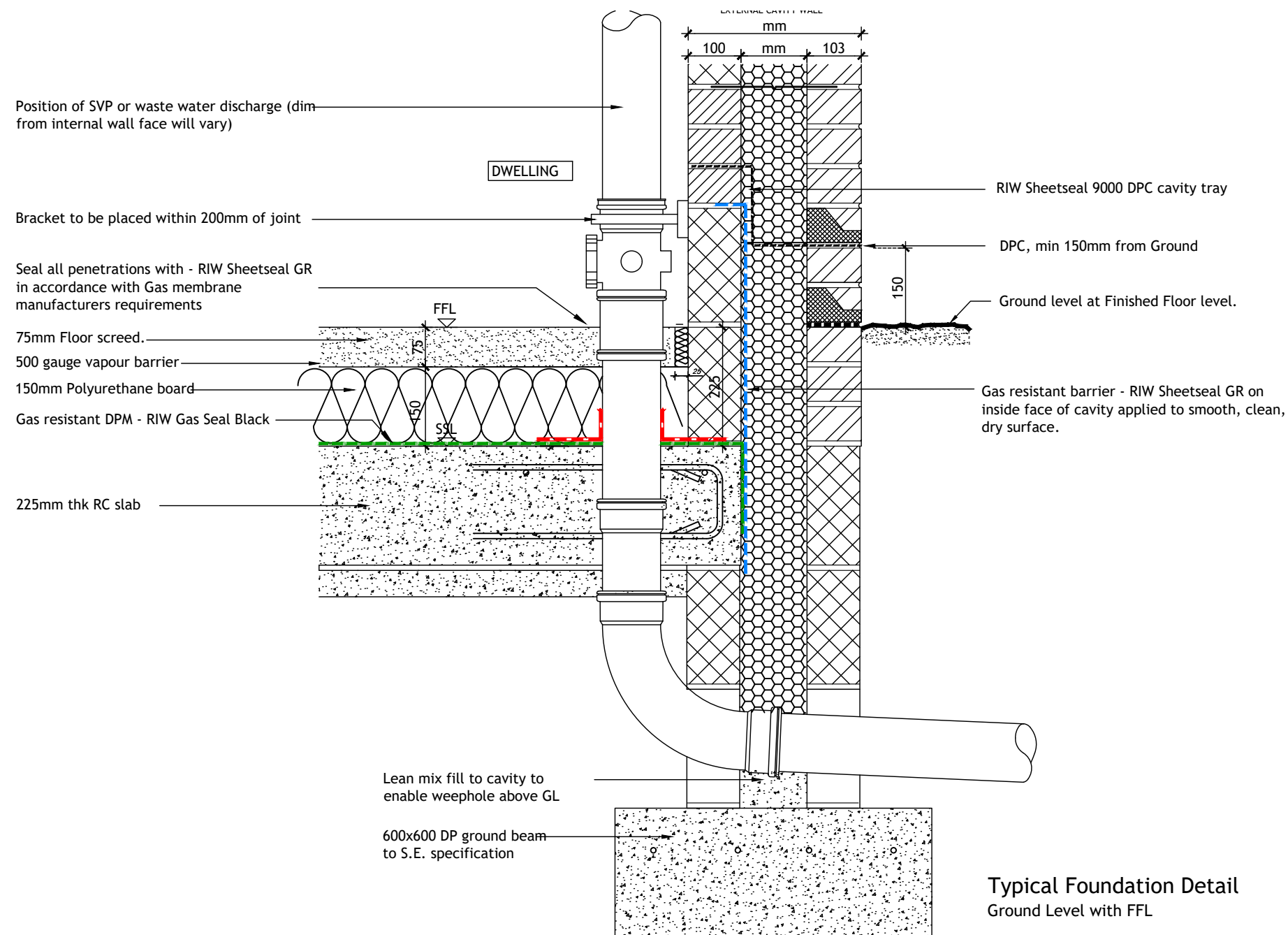
Stepped Threshold Foundation Detail 1:10  
Showing Flanking Protection with MONAFLOOR BRIDGESTOP System

### Drawing Notes

DO NOT scale from this drawing. If in doubt ASK.  
Contractors, Sub Contractors and Suppliers are to check all relevant dimensions and levels of the site and building before commencing any shop drawings or building work.  
Any discrepancies should be recorded to the Architect.  
Where applicable this drawing is to be read in conjunction with the Consultants' drawings.  
This drawing is the copyright of Abri and may not be copied, traced, reproduced or passed onto a third party without the express permission of Abri in writing  
NOTES: THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE ABRI CONSTRUCTION MANAGEMENT TEAMS CONSTRUCTION SPECIFICATION AND PROJECT DRAWINGS



|                                                                   |                |
|-------------------------------------------------------------------|----------------|
| Collins House, Bishopstoke Road,<br>Eastleigh, Hampshire SO50 6AD |                |
| Sheet Content<br>Threshold Details                                |                |
| Scale<br>1:10@A3                                                  | Date<br>Jan 22 |
| Drawing no<br>5003                                                | Revision<br>C1 |



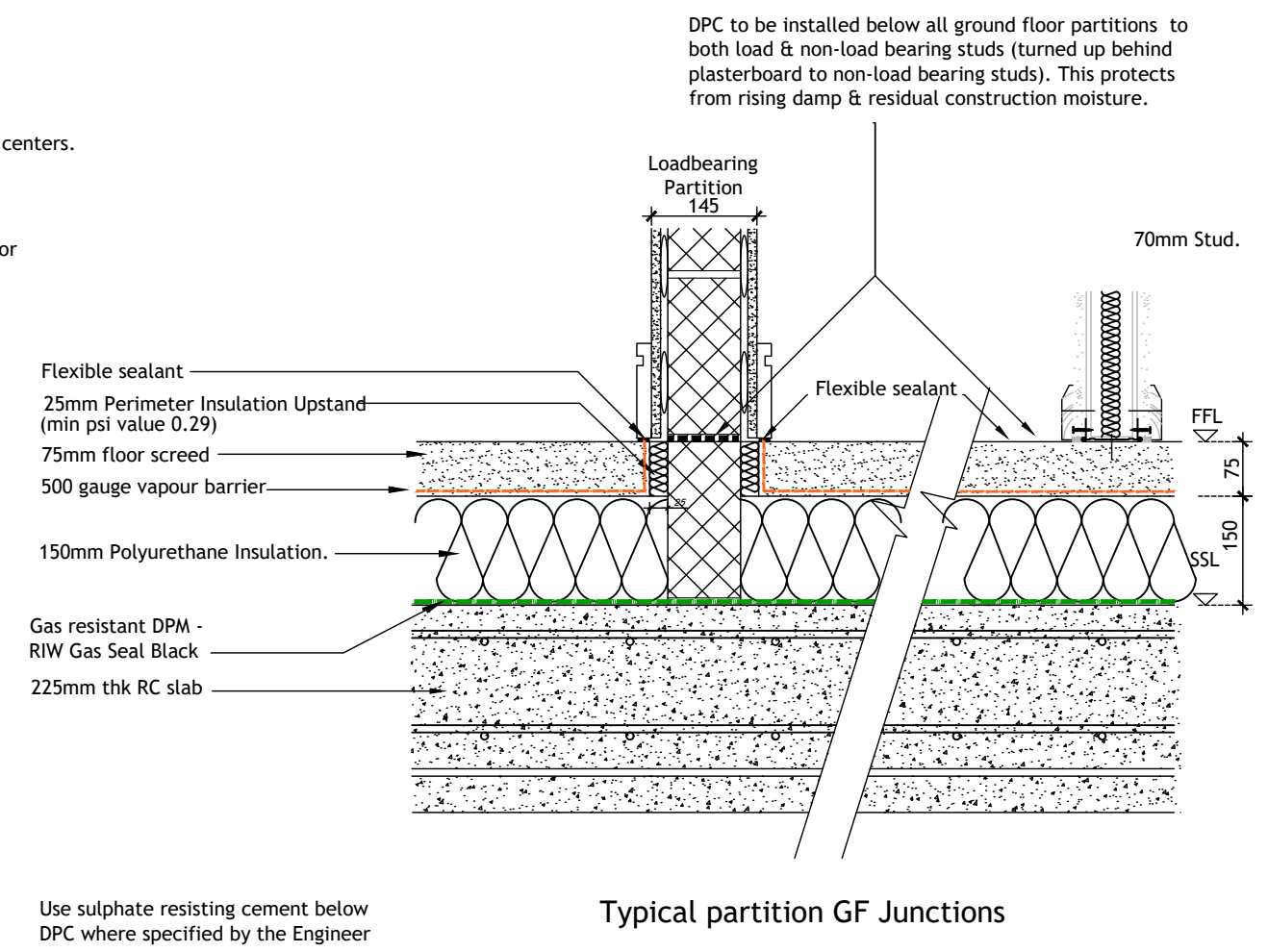
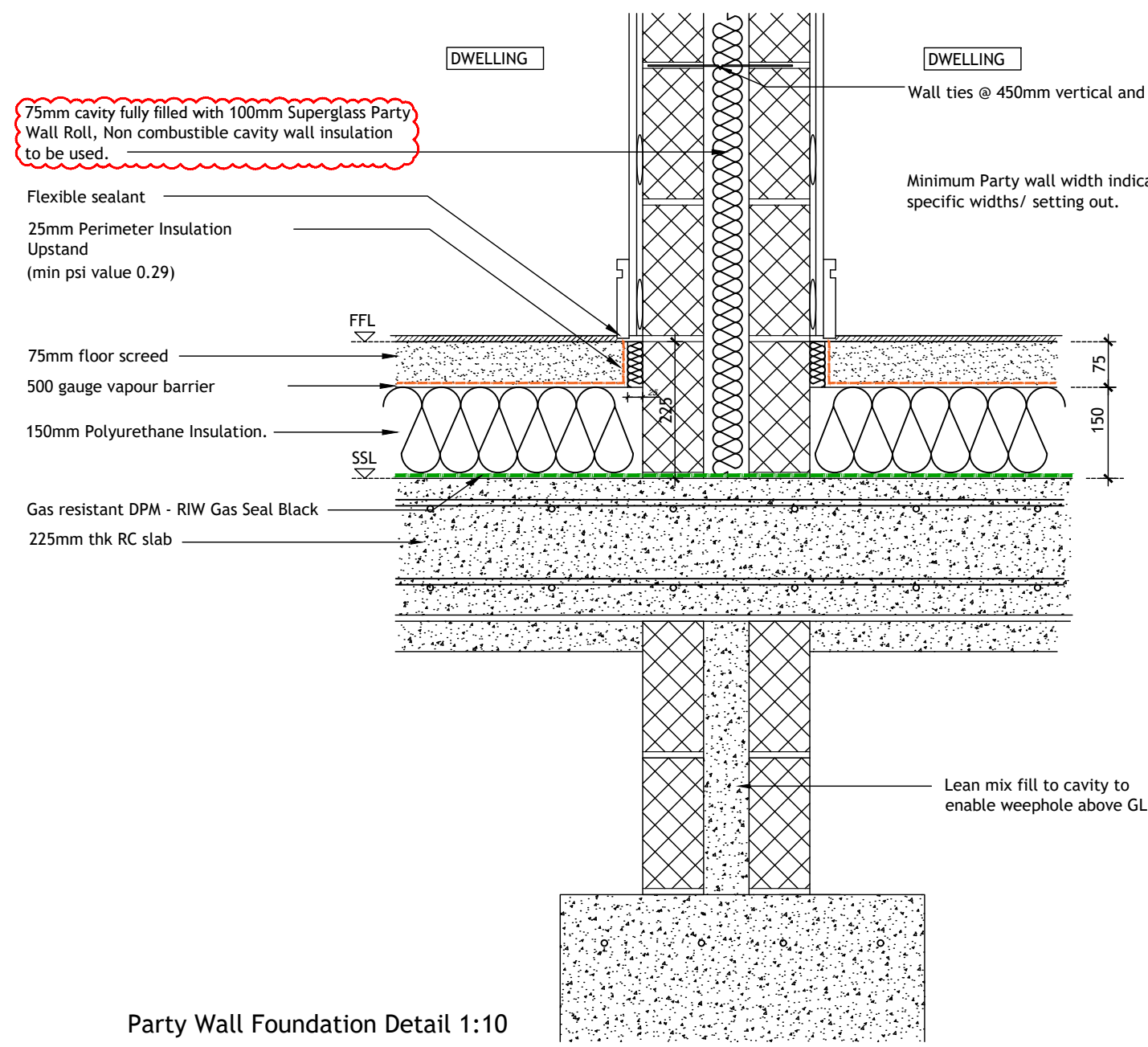
Typical Foundation Detail  
Ground Level with FFL



## Drawing Notes

DO NOT scale from this drawing. If in doubt ASK.  
Contractors, Sub Contractors and Suppliers are to check all relevant dimensions and levels of the site and building before commencing any shop drawings or building work.  
Any discrepancies should be recorded to the Architect.  
Where applicable this drawing is to be read in conjunction with the Consultants' drawings.  
This drawing is the copyright of Abri and may not be copied, traced, reproduced or passed onto a third party without the express permission of Abri in writing  
NOTES: THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE ABRI CONSTRUCTION MANAGEMENT TEAMS CONSTRUCTION SPECIFICATION AND PROJECT DRAWINGS

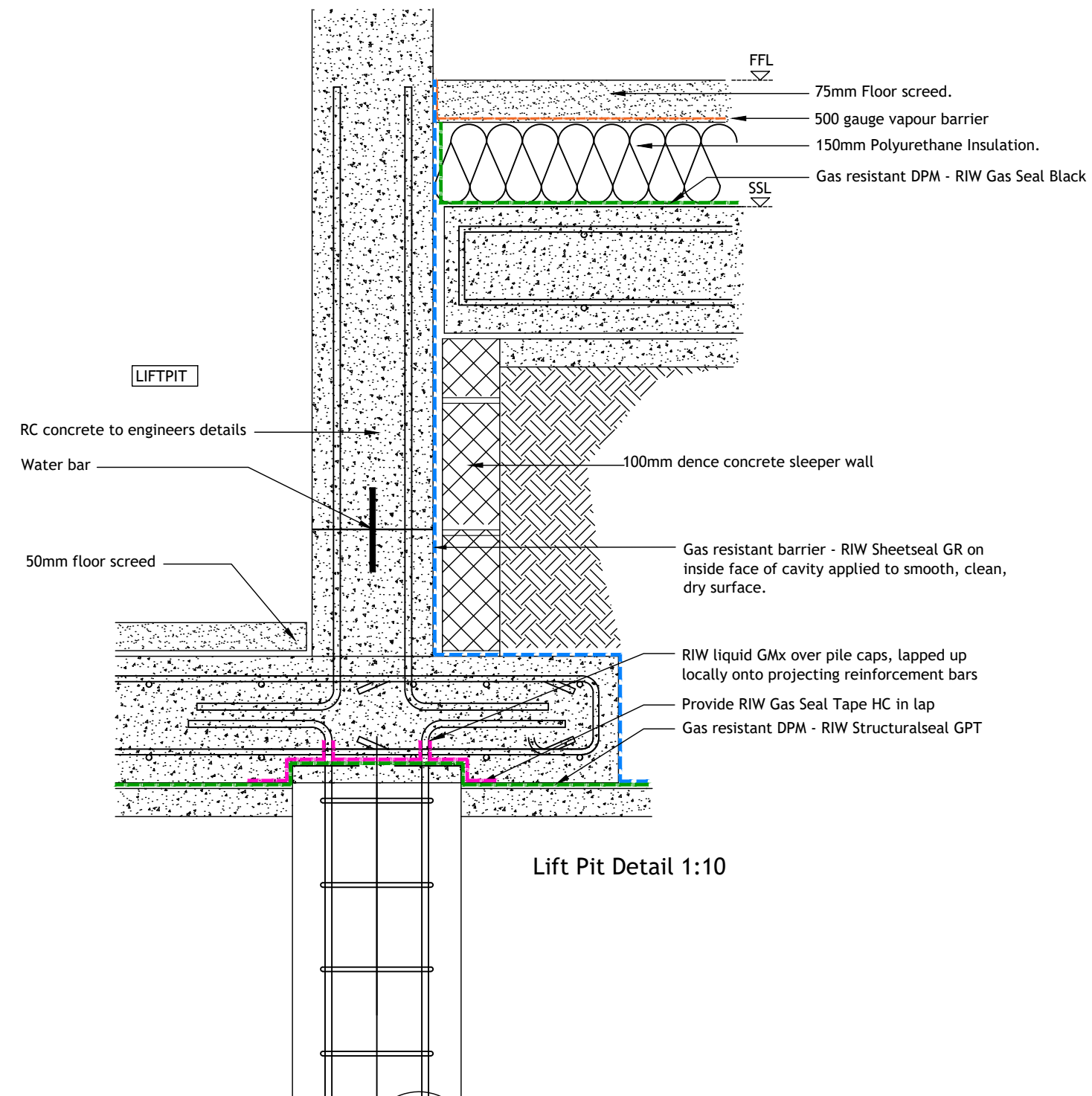
|                                                                   |                |
|-------------------------------------------------------------------|----------------|
| Collins House, Bishopstoke Road,<br>Eastleigh, Hampshire SO50 6AD |                |
| Sheet Content<br>Gas Membrane to Drainage                         |                |
| Scale<br>1:10@A3                                                  | Date<br>Jan 22 |
| Drawing no<br>5004                                                | Revision<br>C1 |



## Drawing Notes

DO NOT scale from this drawing. If in doubt ASK.  
 Contractors, Sub Contractors and Suppliers are to check all relevant dimensions and levels of the site and building before commencing any shop drawings or building work.  
 Any discrepancies should be recorded to the Architect.  
 Where applicable this drawing is to be read in conjunction with the Consultants' drawings.  
 This drawing is the copyright of Abri and may not be copied, traced, reproduced or passed onto a third party without the express permission of Abri in writing  
 NOTES: THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE ABRI CONSTRUCTION MANAGEMENT TEAMS CONSTRUCTION SPECIFICATION AND PROJECT DRAWINGS

|                                                                   |                |
|-------------------------------------------------------------------|----------------|
| Collins House, Bishopstoke Road,<br>Eastleigh, Hampshire SO50 6AD |                |
| Sheet Content<br>Typical Party Wall and Internal Walls            |                |
| Scale<br>1:10@A3                                                  | Date<br>Jan 22 |
| Drawing no<br>5005                                                | Revision<br>C1 |



## Drawing Notes

DO NOT scale from this drawing. If in doubt ASK.  
 Contractors, Sub Contractors and Suppliers are to check all relevant dimensions and levels of the site and building before commencing any shop drawings or building work.  
 Any discrepancies should be recorded to the Architect.  
 Where applicable this drawing is to be read in conjunction with the Consultants' drawings.  
 This drawing is the copyright of Abri and may not be copied, traced, reproduced or passed onto a third party without the express permission of Abri in writing  
 NOTES: THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE ABRI CONSTRUCTION MANAGEMENT TEAMS CONSTRUCTION SPECIFICATION AND PROJECT DRAWINGS

Collins House, Bishopstoke Road,  
 Eastleigh, Hampshire SO50 6AD

Sheet Content

Typical Lift Pit Detail

Scale

1:10@A3

Date

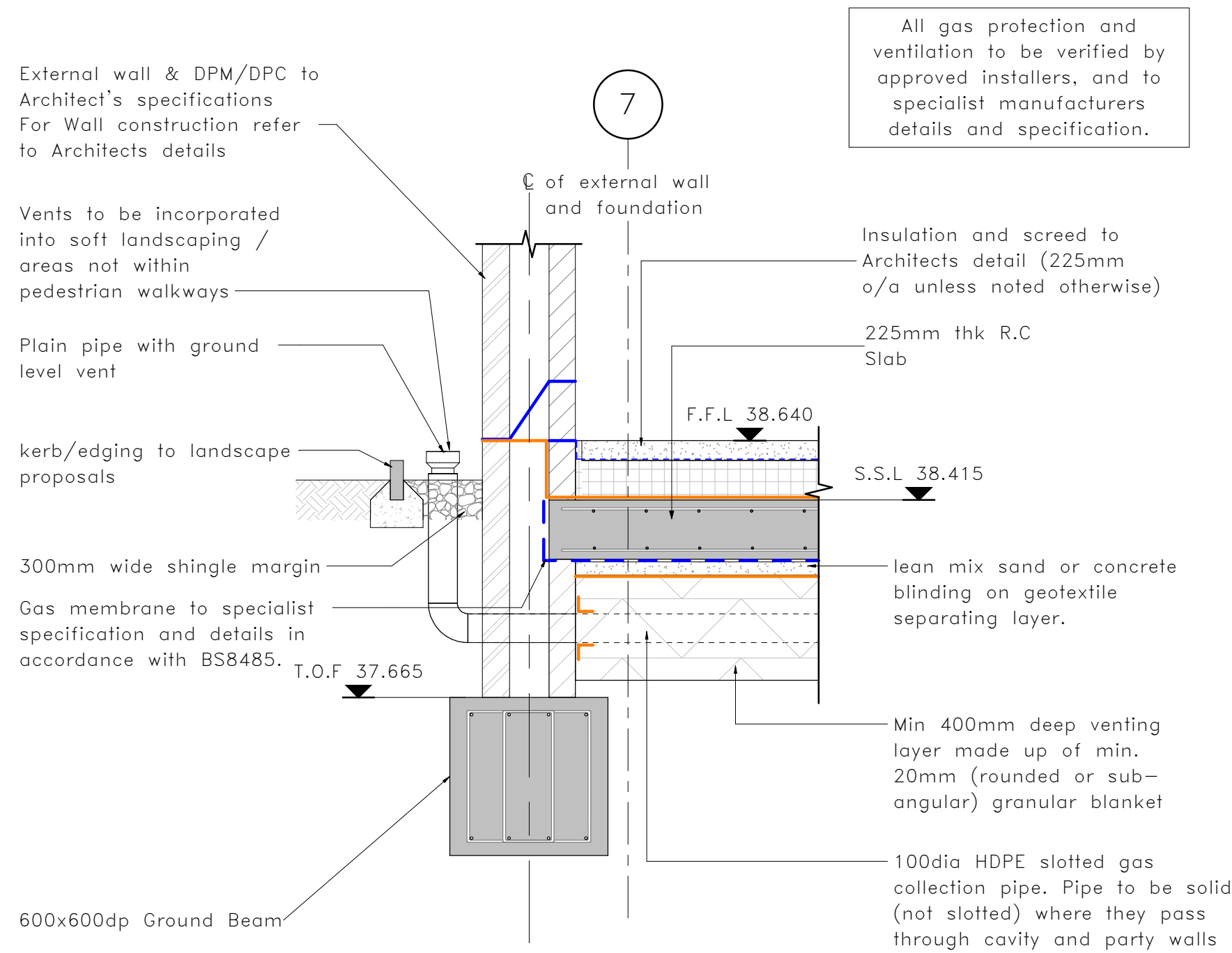
Jan 22

Drawing no

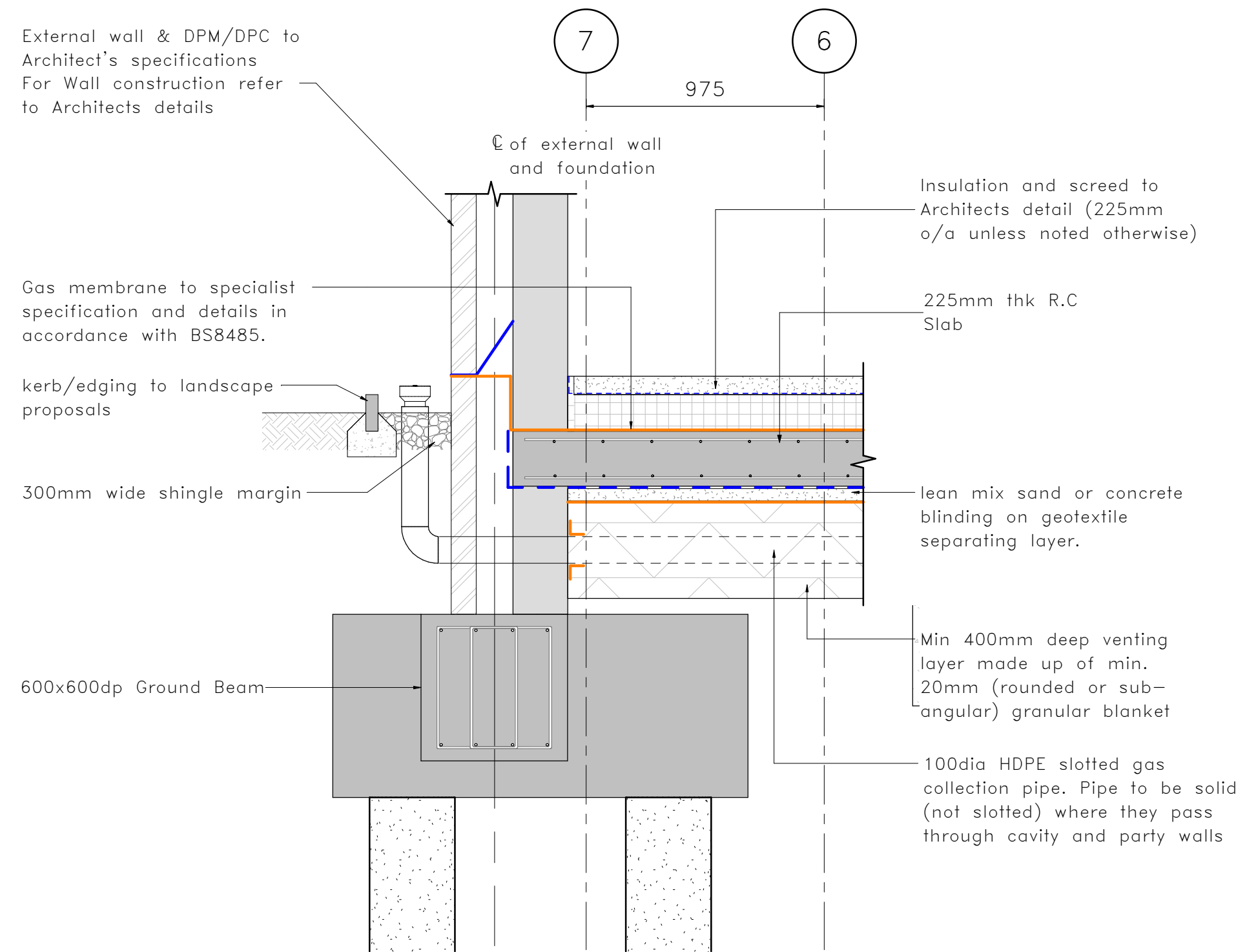
5005

Revision

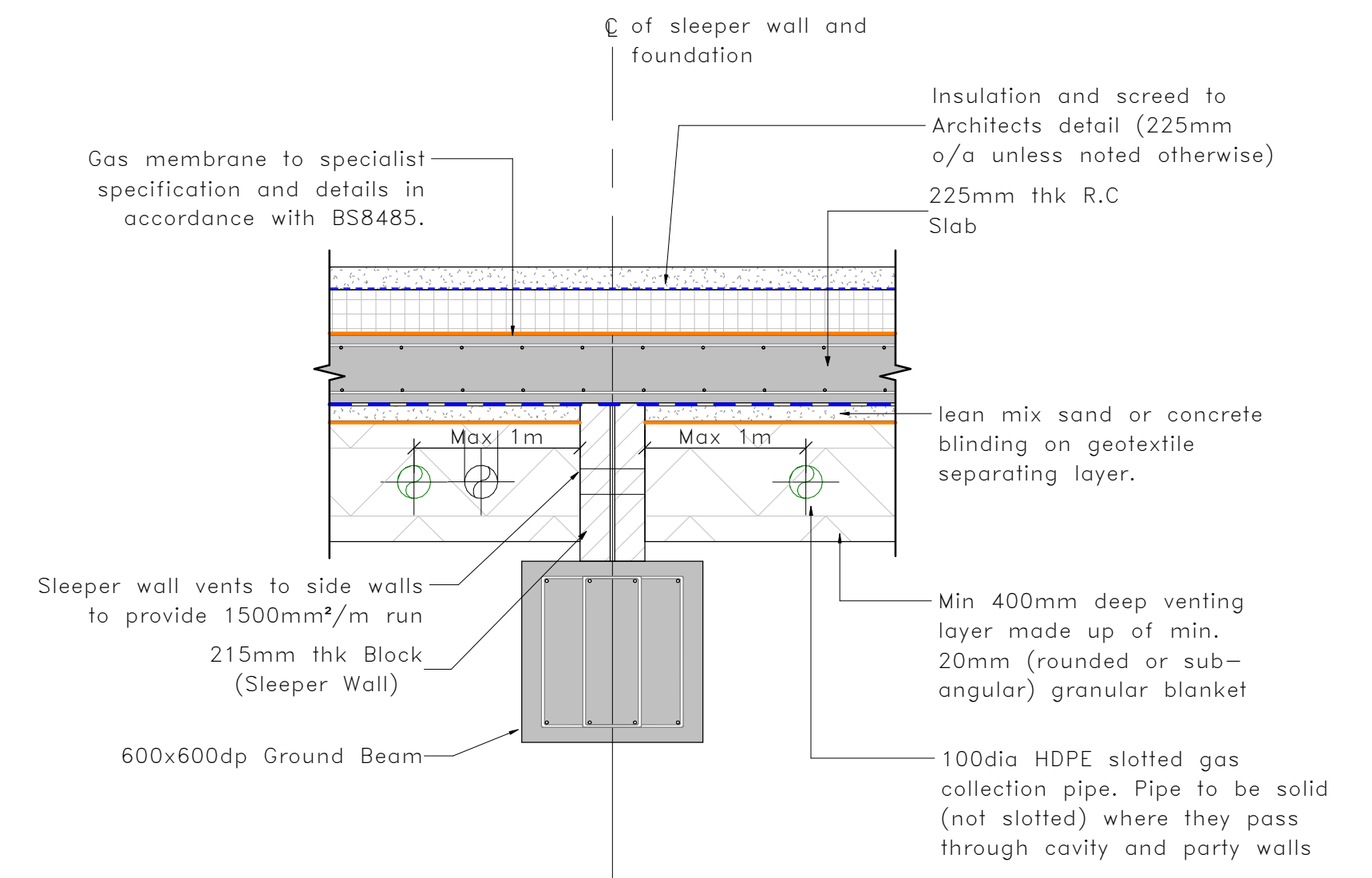
C1



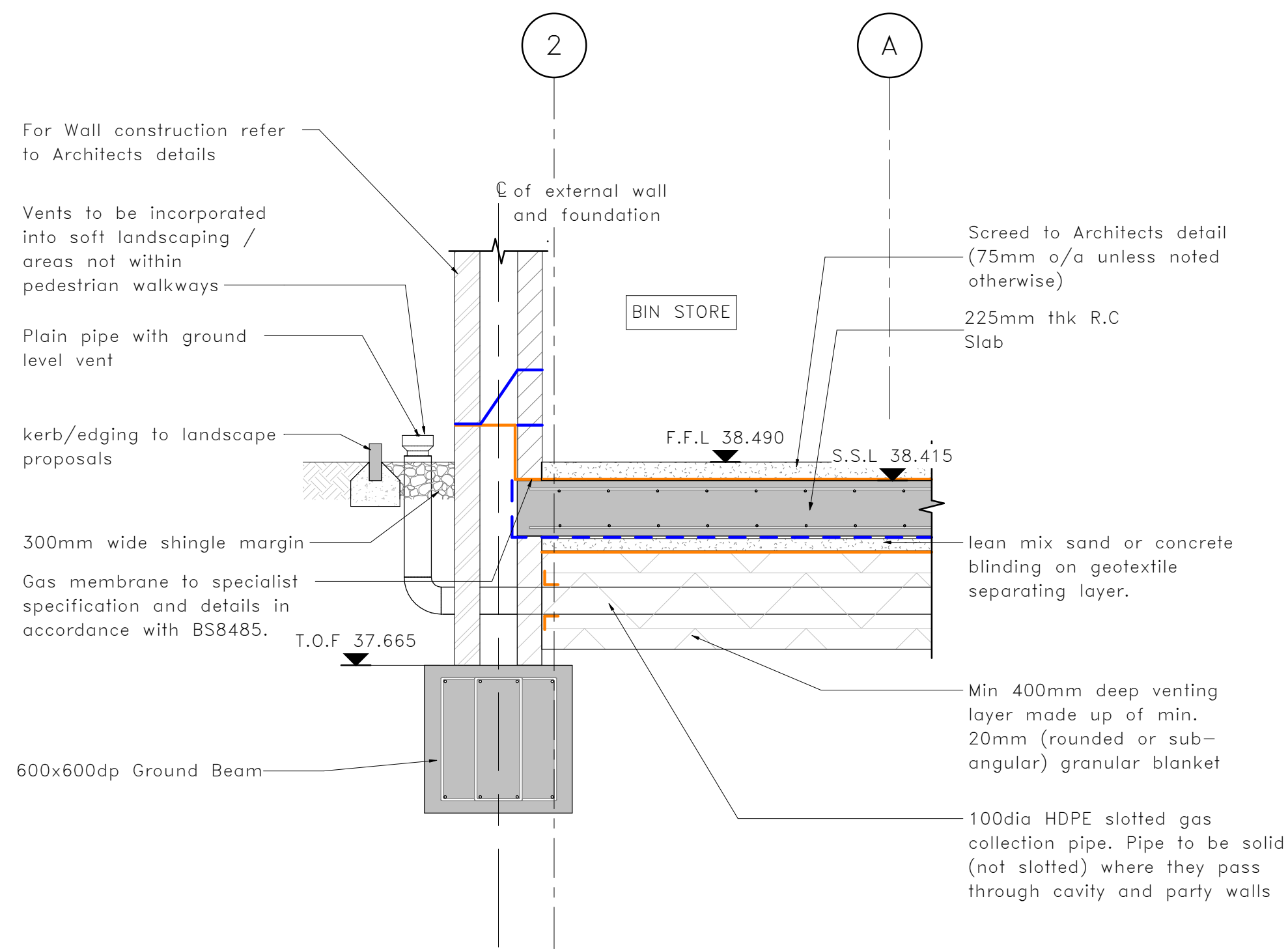
Section G1-G1  
1 : 20



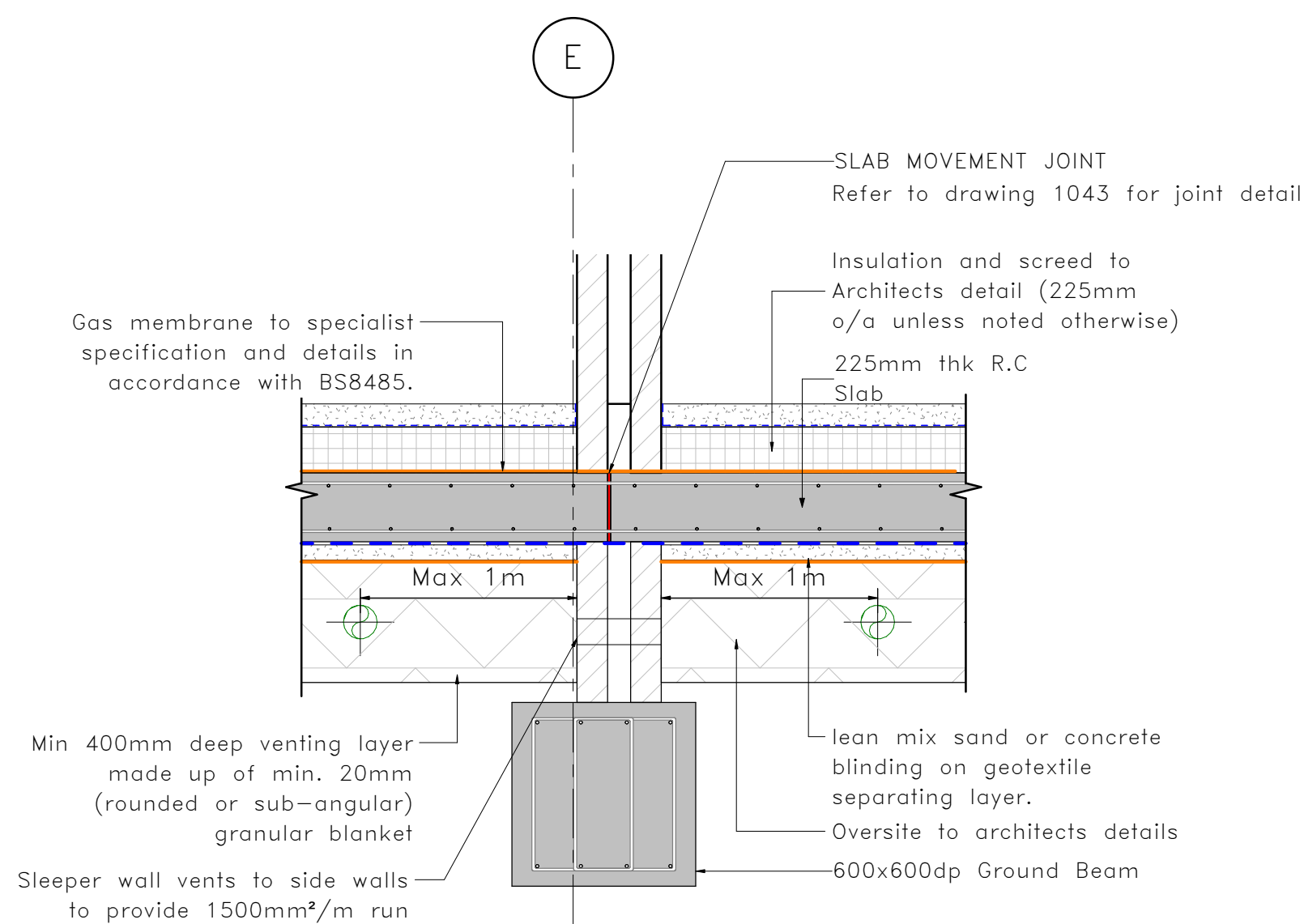
Section G2-G2  
1 : 20



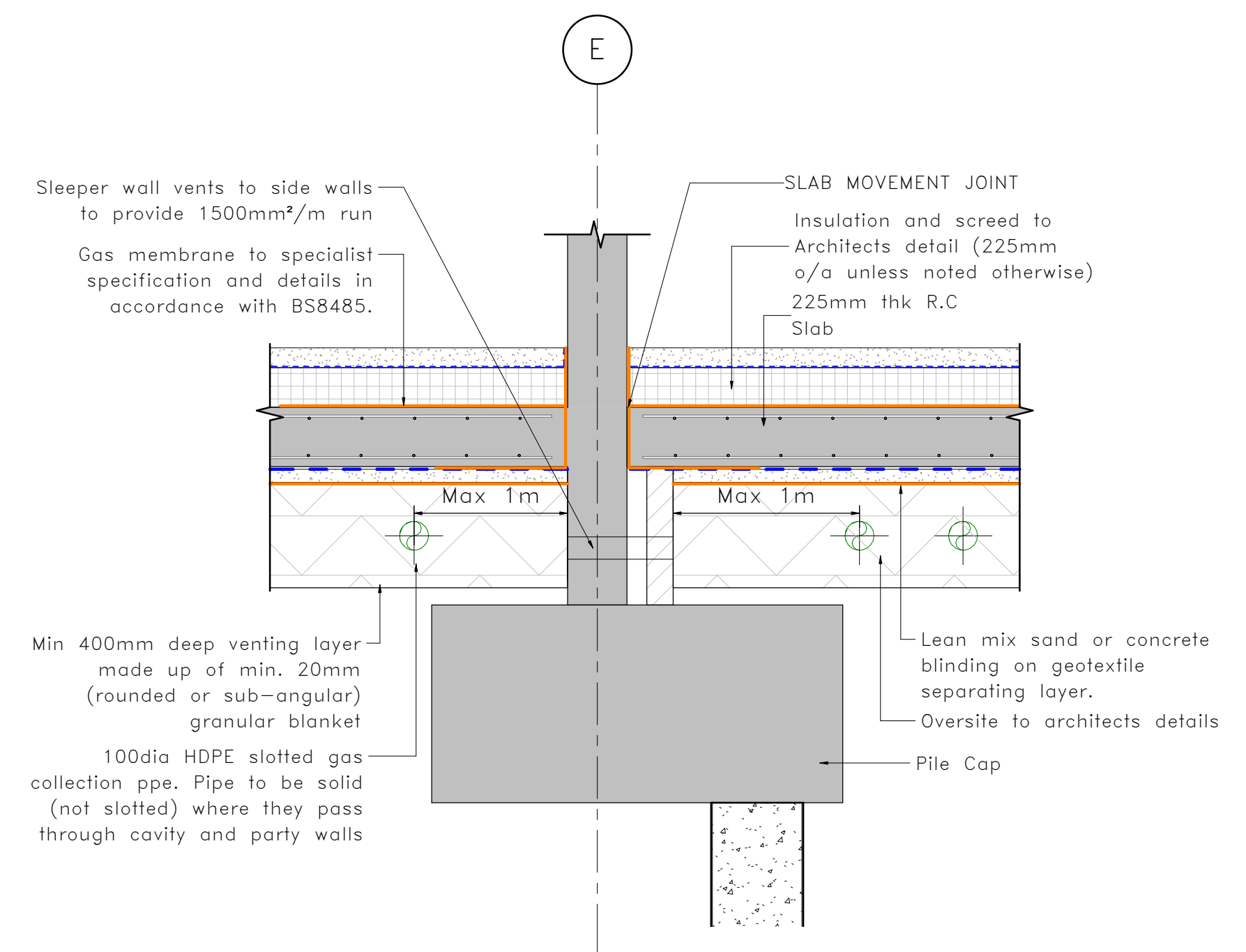
Section G3-G3  
1 : 20



Section G4-G4  
1 : 20



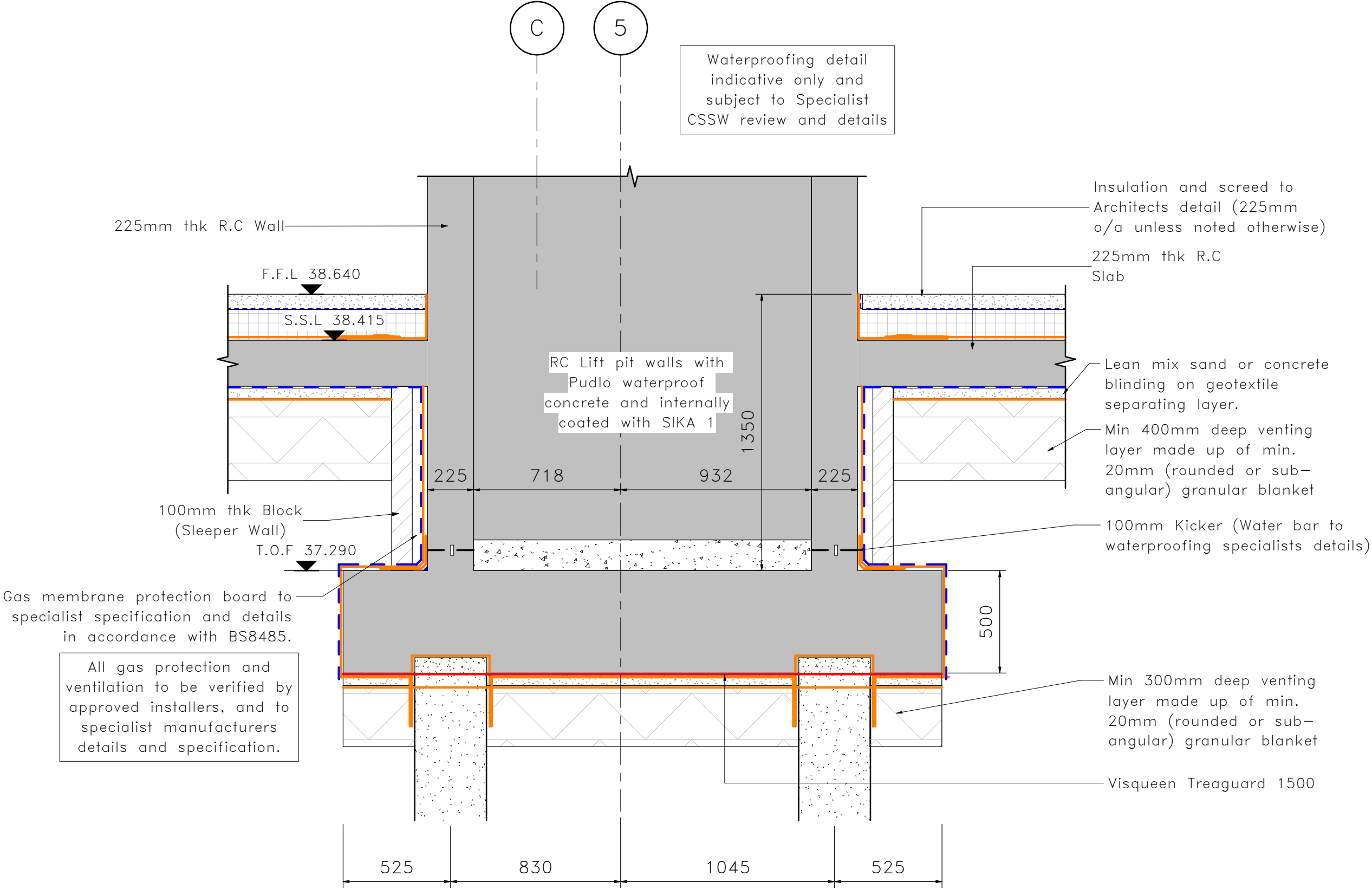
Section G5-G5  
1 : 20



Section G6-G6  
1 : 20

FOR GAS MEMBRANE DETAILS & NOTES  
REFER TO DRAWING  
6445-MJA-45CR-XX-DR-S-1043

| P3                                            | 15-06-22                  | Revised Preliminary Issue                                                                                                                 | P.C.                   | M.W.    |
|-----------------------------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------|
| P2                                            | 24-02-22                  | Notes updated                                                                                                                             | J.Y.                   | M.W.    |
| P1                                            | 10-09-21                  | Preliminary Issue                                                                                                                         | P.C.                   | M.W.    |
| REV                                           | DATE                      | DESCRIPTION                                                                                                                               | DRAWN                  | CHECKED |
| Client:                                       |                           |                                                                                                                                           |                        |         |
|                                               |                           | <b>MJA CONSULTING</b><br>CIVIL & STRUCTURAL ENGINEERS                                                                                     |                        |         |
| Project:<br>45 Caversham Rd,<br>Reading       |                           | Ipsium Court, 24 The Quadrant,<br>Abingdon Science Park, Abingdon,<br>Oxon, OX14 3YS<br>Tel: 01235 555173 Email: mail@mjaconsulting.co.uk |                        |         |
| Title:<br>Foundation Details<br>Sheet 1       |                           | Scale:<br>1 : 20 @ A1                                                                                                                     | Status:<br>PRELIMINARY |         |
| Drawn:<br>P.C.                                | Project Engineer:<br>M.W. | MJA Project No:<br>6445                                                                                                                   | Date:<br>Sept 2021     |         |
| Drawing Number:<br>6445-MJA-45CR-XX-DR-S-1040 | Rev:<br>P 3               |                                                                                                                                           |                        |         |



Section LT1-LT1

1 : 20

FOR GAS MEMBRANE DETAILS & NOTES  
REFER TO DRAWING  
6445-MJA-45CR-XX-DR-S-1043

|                                               |                   |                           |                                                                                                                                                                                            |         |
|-----------------------------------------------|-------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| P2                                            | 15-06-22          | Revised Preliminary Issue | P.C.                                                                                                                                                                                       | M.W.    |
| P1                                            | 24-02-22          | Preliminary Issue         | J.Y.                                                                                                                                                                                       | M.W.    |
| REV                                           | DATE              | DESCRIPTION               | DRAWN                                                                                                                                                                                      | CHECKED |
| Client:                                       |                   |                           | MJA CONSULTING<br>CIVIL & STRUCTURAL ENGINEERS<br>Ipsum Court, 24 The Quadrant,<br>Abingdon Science Park, Abingdon,<br>Oxon, OX14 3YS<br>Tel: 01235 555173 Email: mail@mjaconsulting.co.uk |         |
| Project:<br>45 Caversham Rd,<br>Reading       |                   |                           | Scale:<br>1 : 20 @ A1                                                                                                                                                                      |         |
| Title:<br>Foundation Details<br>Sheet 2       |                   |                           | Status:<br>PRELIMINARY                                                                                                                                                                     |         |
| Drawn:                                        | Project Engineer: | MJA Project No:           | Date:                                                                                                                                                                                      |         |
| P.C.                                          | M.W.              | 6445                      | Feb 2022                                                                                                                                                                                   |         |
| Drawing Number:<br>6445-MJA-45CR-XX-DR-S-1041 |                   |                           | Rev: P 2                                                                                                                                                                                   |         |

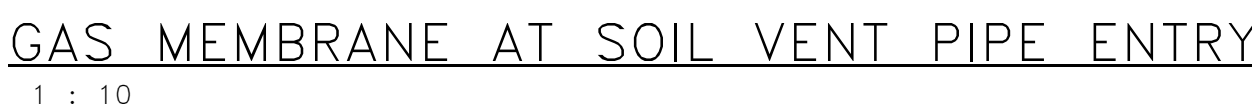


Continuous membrane on top slab

### Service Entries

### Protection during construction, jointing and sealing

**NOTE**  
WELDED JOINTS ARE PREFERRED RECOMMENDATION TO JOIN MEMBRANES AND PREFORMED COMPONENTS TOGETHER BY A SPECIALIST INSTALLER. TAPED INDICATED FOR GUIDANCE IF THIS OPTION IS CHOSEN, TAPING MUST BE USING MANUFACTURERS COMPLETE PRODUCT RANGE AND STRICTLY TO THEIR RECOMMENDATIONS



|                                                                                       |          |                   |                                                                                                                                                                                               |         |
|---------------------------------------------------------------------------------------|----------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| P1                                                                                    | 15-06-22 | Preliminary Issue | J.Y.                                                                                                                                                                                          | M.W.    |
| REV                                                                                   | DATE     | DESCRIPTION       | DRAWN                                                                                                                                                                                         | CHECKED |
| Client:                                                                               |          |                   |                                                                                                          |         |
|  |          |                   |                                                                                                          |         |
| Project<br>45 Caversham Rd,<br>Reading                                                |          |                   | Ipsium Court, 24 The Quadrant,<br>Abingdon Science Park, Abingdon,<br>Oxon, OX14 3YS<br>Tel: 01235 555173 Email: <a href="mailto:mail@mjaconsulting.co.uk">mail@mjaconsulting.co.uk</a>       |         |
| Title<br>Gas Membrane Details                                                         |          |                   | Scale: As Indicated @ A0<br>Status: <b>P1</b> PRELIMINARY<br>Drawn: P.C. Project Engineer: M.J.A Project No: 6445 Date: _____<br>Drawing number: 6445-MJA-45CR-XX-DR-S-1043<br>Rev: <b>P1</b> |         |

## **Third Party Verification Certificates**



Gas Membrane Installation  
Validation Report  
ABRI Homes  
Gracelands  
Caversham Road  
Reading  
RG1 7BT  
Version 1  
Issued 09/02/23

**THIS PAGE IS INTENTIONALLY BLANK**

## 1. INTRODUCTION

### 1.1 Purpose

MB Membranes are installing a gas protection membrane to the aforementioned site. MEC Environmental Ltd (MEC) has been appointed by MB Membranes to carry out independent validation of the installation of the membrane on the site as per our terms of engagement. The frequency of independent inspections has been determined by the client, comprehensive CQA should be forwarded by the installer to cover any data gaps for areas that have not been subjected to independent inspections.

The **SOLE** purpose of the works undertaken by MEC Environmental is to provide independent inspections and a factual report as and when requested to assist the client in gaining regulatory approval with regards to the gas membrane installation. This is as per the scope of work section within our term's engagement.

### 1.2 Limitations

This report is limited to providing lines of evidence to the regulatory authority for the areas components inspected by MEC only in support of the discharging of the relevant planning conditions only and cannot be used or relied upon for any other purpose. No professional liability shall be extended to any other parties by MEC, the report should explicitly not be relied on by any future vendor or tenant as proof that the gas protection measures are sufficient for the site and functioning at the time of purchase or start of any tenancy. Gas protection systems are not solely reliant on the gas membrane as points are scored under BS8485 for the floor slab, membrane and venting, these components work collaboratively to provide a gas protection system. This is as per the conditions within our term's engagement.

The report has been provided on the assumption that no damage or works that may have compromised the components and integrity of the gas membrane have been made after our inspections, failure to report any such occurrences will invalidate any liability and render the report and contents invalid. This is as per the conditions within our term's engagement.

This report has been prepared in accordance with the best available practice and the relevant guidance documents listed below of which the author of the report was a contributor and member of the steering committees:

**Mallett H, Wilson S, Corban M (2014)** "Good practice on the testing and verification of protection systems for buildings against hazardous ground gases". CIRIA Report C735

### 1.3 Compliance with Regulation 7 of Building Regulations

Regulation 7 of the building regulations requires that building work shall be carried out in a workmanlike manner. Approved document 7 suggests installation can comply with the regulation if workmanship is such that, where relevant, materials are adequately mixed or prepared and applied, used or fixed so as to perform adequately the functions for which they are intended.

A reasonable standard may be demonstrated by:

Compliance with a standard and independent certification - The relevant standard for gas protection measures is BS8485:2015 +A1:2019, Table 7 of the standard requires that gas membranes are verified as per CIRIA C735.

Past experience – The installers qualifications are checked by MEC Environmental to ensure that the installation supervisor holds the NVQ Level 2 in gas membrane installations.

Integrity Testing methods. – are carried out as prescribed in CIRIA C735, unless stated elsewhere  
Frequency of Visits – MEC have not been employed to prepare a validation plan for this project, the frequency of visits is as per the instructions of the client, in essence MEC inspected the available membrane that could be inspected each time an inspection visit was requested. The area inspected on each visit is noted on the survey sheets in appendix 1. This report should be read in conjunction with the installers CQA report.

### 1.4 Method of Inspection (Per Visit)

All seams and non-seam areas of the available gas membrane were inspected/tested by the Validation Surveyor for identification of defects, protruding and penetrating objects, lack of subgrade support, overheating, holes, blisters, undispersed raw materials, scratches and gouges, and any sign of contamination by foreign matter.

Any portion of the gas membrane exhibiting a flaw or failing a visual inspection/testing was repaired. Several procedures exist for the repair of these areas. The final decision as to the appropriate repair procedure was agreed upon between the Validation Consultant and the Installer at the time of the repair and is noted in the survey sheets.

Major repairs are visually inspected/tested, repairs passing the inspection/testing were considered acceptable. In some cases minor repairs maybe carried out under contractor CQA and photographic evidence supplied to the verifier for inclusion in the report.

### 1.5 MEC Staff Competency

All site inspections have been carried out by suitably qualified staff as defined in CIRIA C735, the qualification held by all MEC inspection surveyors is either the NVQ Level 4 in gas protection verification or the NVQ Level 2 in gas membrane installation

The author of this report is also a CL:AIRE accredited Specialist in Gas Protection Verification (SGPV) and holds both the NVQ Level 2 in gas membrane installation and the NVQ Level 4 in gas protection verification.

### 1.6 Conclusion

During our inspections to the areas denoted in Appendix 1 (Site Surveys Sheets) we witnessed the installer carrying out the installation in a workmanlike manner, the materials were adequately prepared and applied, used and fixed so as to perform adequately the functions for which they are intended as per Regulation 7 of the building regulations. In instances where 100% of the installation has not been independently inspected/tested then this report should be read in conjunction with the gas membrane installers CQA records.

The installers all hold the NVQ Level 2 "Gas membrane Installations" qualification and as such are classed as a qualified and experienced installer. MEC Environmental have checked the CSCS Trade Cards of the installers, which confirms the holder has attained the qualification.

Signed



Date: 06/02/2023

Michael Corban S.G.P.V.

Director

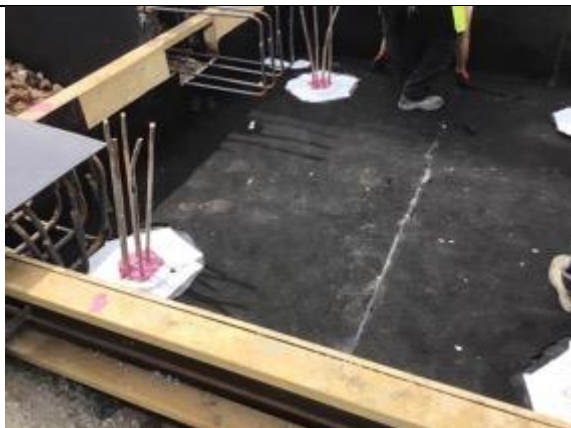
MEC Environmental Ltd

## Appendix 1 – Site Survey Sheets

| Housebuilder Name: ABRI Homes.                                                                                                                                                                                   |                                                                                                                                                                                                                                                              | Plot Number: Apartment Block A.<br>Line out to lift pit base 1 & 2. |                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Site Name: Gracelands, Caversham Road, Reading.                                                                                                                                                                  |                                                                                                                                                                                                                                                              | Detached House                                                      | <input type="checkbox"/>                                                              |
|                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                              | Semi-Detached                                                       | <input type="checkbox"/>                                                              |
| Postcode: RG1 7BT.                                                                                                                                                                                               | Weather: 25 °C Dry.                                                                                                                                                                                                                                          | Terrace                                                             | <input type="checkbox"/>                                                              |
| Installer: MB Membranes.                                                                                                                                                                                         |                                                                                                                                                                                                                                                              | Apartment Block                                                     | <input checked="" type="checkbox"/>                                                   |
| Surveyor: Adam Mcdermott                                                                                                                                                                                         |                                                                                                                                                                                                                                                              | Detached Garage                                                     | <input type="checkbox"/>                                                              |
| Date: 28/06/2022                                                                                                                                                                                                 |                                                                                                                                                                                                                                                              | Flat Over Garage                                                    | <input type="checkbox"/>                                                              |
| Full Footprint <input type="checkbox"/> Perimeter Only <input type="checkbox"/> Infill Only <input type="checkbox"/> Other <input type="checkbox"/><br>If other, please describe Line out to 2no lift pit bases. |                                                                                                                                                                                                                                                              |                                                                     |                                                                                       |
| Item                                                                                                                                                                                                             | Comments                                                                                                                                                                                                                                                     |                                                                     |                                                                                       |
| Sub-floor void                                                                                                                                                                                                   | Inspected by MEC <input type="checkbox"/> Not Inspected by MEC contractor advised <input checked="" type="checkbox"/> N/A <input type="checkbox"/>                                                                                                           |                                                                     |                                                                                       |
|                                                                                                                                                                                                                  | Beam & Block min 150mm <input checked="" type="checkbox"/><br>Strips of 25mm Geocomposite <input type="checkbox"/><br>Full Cover of 25mm Geocomposite <input type="checkbox"/>                                                                               |                                                                     |                                                                                       |
|                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>The venting has passed inspection and is installed as per the design <input checked="" type="checkbox"/></li> <li>The venting has failed inspection, see notes in defects section <input type="checkbox"/></li> </ul> |                                                                     |                                                                                       |
|                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                              |                                                                     |                                                                                       |
| Ventilation Inlets and Outlets                                                                                                                                                                                   | (Inlet/Outlet Type)    Air Bricks <input type="checkbox"/> Ventboxes <input type="checkbox"/> Not in Place at Time of Inspection <input checked="" type="checkbox"/>                                                                                         |                                                                     |                                                                                       |
|                                                                                                                                                                                                                  | Number of Vents: Not Applicable/ built on raft foundations.                                                                                                                                                                                                  |                                                                     |                                                                                       |
| Materials used:                                                                                                                                                                                                  | Membrane Name: Juta GP Titanbond gas Barrier.                                                                                                                                                                                                                |                                                                     |                                                                                       |
|                                                                                                                                                                                                                  | Self-Adhesive Membrane <input checked="" type="checkbox"/>                                                                                                                                                                                                   | Preformed Tophats <input type="checkbox"/>                          |                                                                                       |
|                                                                                                                                                                                                                  | Double Sided Butyl Tape <input type="checkbox"/>                                                                                                                                                                                                             | Preformed Corners <input type="checkbox"/>                          |                                                                                       |
|                                                                                                                                                                                                                  | Others Please List: Juta pile cap sealer & Juta GP Liquid membrane.                                                                                                                                                                                          |                                                                     |                                                                                       |
| Type of Joint                                                                                                                                                                                                    | Tape Joint <input type="checkbox"/>                                                                                                                                                                                                                          | Auto Weld <input type="checkbox"/>                                  | Hand Weld <input checked="" type="checkbox"/> Extrusion Weld <input type="checkbox"/> |
| Testing/Inspection                                                                                                                                                                                               | <input checked="" type="checkbox"/> Visual Inspection                                                                                                                                                                                                        | <input checked="" type="checkbox"/> Air Lance (ASTM D4437)          | <input type="checkbox"/> Tracer Gas Test                                              |
|                                                                                                                                                                                                                  | <input checked="" type="checkbox"/> Probe Test (ASTM D4437)                                                                                                                                                                                                  |                                                                     | <input type="checkbox"/> Dielectric Test (NACE RP0188-99)                             |
| Laps, welds and detailing                                                                                                                                                                                        | Have all joints passed testing prior to surveyor leaving site?                                                                                                                                                                                               | <input checked="" type="checkbox"/> Yes                             | <input type="checkbox"/> No <input type="checkbox"/> N/A                              |
|                                                                                                                                                                                                                  | Have all pipes passed testing prior to surveyor leaving site?                                                                                                                                                                                                | <input type="checkbox"/> Yes                                        | <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A                   |

|                                                                                                                                             |                                                                          |                              |                             |                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------|-----------------------------|-----------------------------------------|
|                                                                                                                                             | Have all corners passed testing prior to surveyor leaving site?          | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
|                                                                                                                                             | Have all acoustic details passed testing prior to surveyor leaving site? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| <p><b><u>Surveyors Comments</u></b></p> <p>NOTE: the pile cap sealer was applied prior to our inspection.</p>                               |                                                                          |                              |                             |                                         |
| <p><b><u>Result of Inspection</u></b> The Plots/Area has passed inspection</p> <p>Signed: <b>Adam Mcdermott</b> Date: <b>28/06/2022</b></p> |                                                                          |                              |                             |                                         |

**Photographs 28/06/2022**



Overview of installed Juta GP Titanbond gas barrier to lift pit 2.



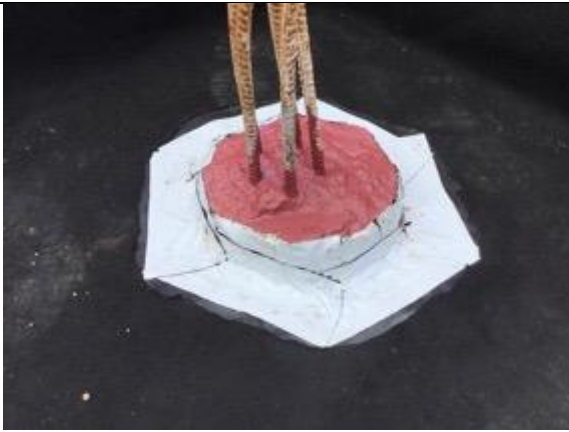
Pick testing all hand welded membrane laps.



Overview of installed Juta GP Titanbond gas barrier to lift pit 1.



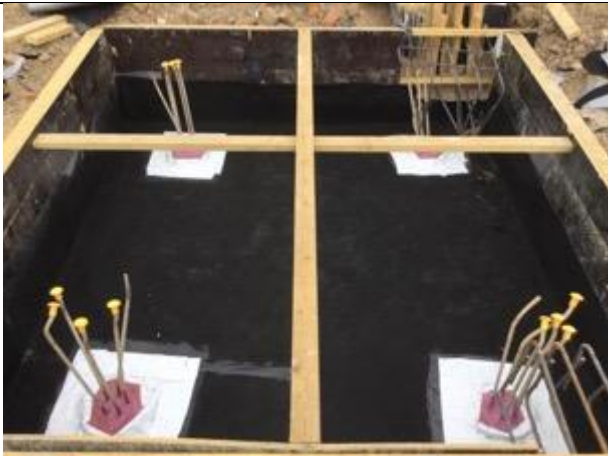
Site plan.



2 coats of liquid membrane have been applied to the tops of 8no pile caps, sealing around each pile cap using SAGM.

|                                                             |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                          |
|-------------------------------------------------------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Site name: Gracelands, ABRI Homes, Caversham Road, Reading. |                                | Units/ plots checked: Lift pit base Gridlines 5-6 / K & lift pit wrap Gridlines 5-F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                          |
| Postcode: RG1 7BT                                           |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                          |
| Installers Name: MB Membranes                               |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                          |
| Date: 20/07/2022                                            |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                          |
| Inspection by: Ross Edwards                                 |                                | Weather: 23°C Dry                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                          |
|                                                             | Item                           | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                          |
|                                                             | Sub-floor void                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                          |
|                                                             | Ventilation Inlets and Outlets | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                          |
|                                                             | Number Of Vents                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                          |
|                                                             | Materials used:                | Membrane – JUTA Titan Bond<br>Self-Adhesive Membrane <input checked="" type="checkbox"/> Yes      Preformed Top hats <input type="checkbox"/> Yes<br>Double Sided Butyl Tape <input type="checkbox"/> Yes      Preformed Corners <input type="checkbox"/> Yes<br>Others Please List: JUTA Bitumen Primer, JUTA Pile cap sealer, JUTA GP liquid membrane                                                                                                                                                                                                                                              |                                                                                                                          |
|                                                             | Installation Notes             | <b><u>(brief description of area/plots and list of defects/repairs identified to the main membrane sheet, excluding detailing and joints)</u></b><br><br>MEC Environmental carried out a thorough visual inspection of the membrane, the membrane had been installed to a good standard. Membrane has been installed in the lift pit base and hand welded, pile heads have been coated with JUTA GP liquid membrane and SAGM patches applied.<br><br>Lift pit wrap has had JUTA bitumen primer applied before the SAGM tanking has been applied this has been adhered to the lift pit base membrane. |                                                                                                                          |
|                                                             | Type of Joint                  | Tape Joint <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Auto Weld <input type="checkbox"/> Hand Weld <input checked="" type="checkbox"/> Extrusion Weld <input type="checkbox"/> |
|                                                             | Jointing/Detailing Testing     | <input type="checkbox"/> Air Lance (ASTM D4437) <input checked="" type="checkbox"/> Probe Test (ASTM D4437)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                          |
|                                                             | Laps, welds and detailing      | Have all joints passed testing prior to surveyor leaving site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                          |
|                                                             | Ventilation Inlets & Outlets   | Have all pipes passed testing prior to surveyor leaving site? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                          |
|                                                             |                                | Have all stanchions/wind braces/columns passed testing prior to surveyor leaving site? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                          |
|                                                             |                                | Have all piles and pile caps passed testing prior to surveyor leaving site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                          |
|                                                             |                                | Has all other detailing work passed inspection <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                          |

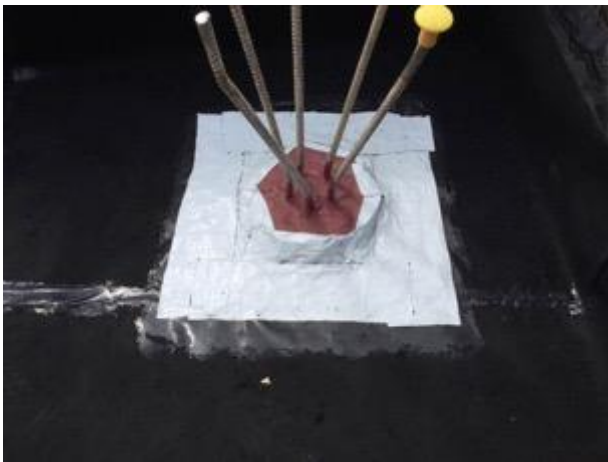




Overview to the lift pit base lined out with JUTA Titan Bond.



Pick testing to the welded lap joint.



Close up showing the completed pile head detail.



Overview to the completed lift pit base.



Lift pit has been coated in JUTA Bitumen Primer.



SAGM tanking applied to the lift pit wrap.



Overview showing the lit pit wrap.

| Housebuilder Name: ABRI Homes.                                                                                                                                                                        |                                                                                                                                                                                                                                                              | Plot Number: Apartment Block A,<br>Lift pits 1 & 2.                         |                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Site Name: Gracelands, Caversham Road, Reading.                                                                                                                                                       |                                                                                                                                                                                                                                                              | Detached House                                                              | <input type="checkbox"/>                                                              |
|                                                                                                                                                                                                       |                                                                                                                                                                                                                                                              | Semi-Detached                                                               | <input type="checkbox"/>                                                              |
| Postcode: RG1 7BT.                                                                                                                                                                                    | Weather: 33 °C Dry.                                                                                                                                                                                                                                          | Terrace                                                                     | <input type="checkbox"/>                                                              |
| Installer: MB Membranes.                                                                                                                                                                              |                                                                                                                                                                                                                                                              | Apartment Block                                                             | <input checked="" type="checkbox"/>                                                   |
| Surveyor: Adam Mcdermott                                                                                                                                                                              |                                                                                                                                                                                                                                                              | Detached Garage                                                             | <input type="checkbox"/>                                                              |
| Date: 11/08/2022                                                                                                                                                                                      |                                                                                                                                                                                                                                                              | Flat Over Garage                                                            | <input type="checkbox"/>                                                              |
| Full Footprint <input type="checkbox"/> Perimeter Only <input type="checkbox"/> Infill Only <input type="checkbox"/> Other <input type="checkbox"/><br>If other, please describe SAGM lift pit wraps. |                                                                                                                                                                                                                                                              |                                                                             |                                                                                       |
| Item                                                                                                                                                                                                  | Comments                                                                                                                                                                                                                                                     |                                                                             |                                                                                       |
| Sub-floor void                                                                                                                                                                                        | Inspected by MEC <input type="checkbox"/>                                                                                                                                                                                                                    | Not Inspected by MEC contractor advised <input checked="" type="checkbox"/> | N/A <input type="checkbox"/>                                                          |
|                                                                                                                                                                                                       | Beam & Block min 150mm <input checked="" type="checkbox"/><br>Strips of 25mm Geocomposite <input type="checkbox"/><br>Full Cover of 25mm Geocomposite <input type="checkbox"/>                                                                               |                                                                             |                                                                                       |
|                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>The venting has passed inspection and is installed as per the design <input checked="" type="checkbox"/></li> <li>The venting has failed inspection, see notes in defects section <input type="checkbox"/></li> </ul> |                                                                             |                                                                                       |
|                                                                                                                                                                                                       |                                                                                                                                                                                                                                                              |                                                                             |                                                                                       |
| Ventilation Inlets and Outlets                                                                                                                                                                        | (Inlet/Outlet Type)    Air Bricks <input type="checkbox"/> Ventboxes <input type="checkbox"/> Not in Place at Time of Inspection <input checked="" type="checkbox"/>                                                                                         |                                                                             |                                                                                       |
|                                                                                                                                                                                                       | Number of Vents: N/A.                                                                                                                                                                                                                                        |                                                                             |                                                                                       |
| Materials used:                                                                                                                                                                                       | Membrane Name: N/A.                                                                                                                                                                                                                                          |                                                                             |                                                                                       |
|                                                                                                                                                                                                       | Self-Adhesive Membrane <input checked="" type="checkbox"/>                                                                                                                                                                                                   | Preformed Tophats <input type="checkbox"/>                                  |                                                                                       |
|                                                                                                                                                                                                       | Double Sided Butyl Tape <input type="checkbox"/>                                                                                                                                                                                                             | Preformed Corners <input type="checkbox"/>                                  |                                                                                       |
|                                                                                                                                                                                                       | Others Please List: Primer.                                                                                                                                                                                                                                  |                                                                             |                                                                                       |
| Type of Joint                                                                                                                                                                                         | Tape Joint <input type="checkbox"/>                                                                                                                                                                                                                          | Auto Weld <input type="checkbox"/>                                          | Hand Weld <input checked="" type="checkbox"/> Extrusion Weld <input type="checkbox"/> |
| Testing/Inspection                                                                                                                                                                                    | <input checked="" type="checkbox"/> Visual Inspection                                                                                                                                                                                                        | <input checked="" type="checkbox"/> Air Lance (ASTM D4437)                  | <input type="checkbox"/> Tracer Gas Test                                              |
|                                                                                                                                                                                                       | <input checked="" type="checkbox"/> Probe Test (ASTM D4437)                                                                                                                                                                                                  | <input type="checkbox"/> Dielectric Test (NACE RP0188-99)                   |                                                                                       |

|                           |                                                                 |                                         |                             |                                         |
|---------------------------|-----------------------------------------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------|
| Laps, welds and detailing | Have all joints passed testing prior to surveyor leaving site?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            |
|                           | Have all pipes passed testing prior to surveyor leaving site?   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
|                           | Have all corners passed testing prior to surveyor leaving site? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            |

|                                                                                                                                             |                                                                          |                              |                             |                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------|-----------------------------|-----------------------------------------|
|                                                                                                                                             | Have all acoustic details passed testing prior to surveyor leaving site? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| <p><b><u>Surveyors Comments</u></b></p> <p>N/A.</p>                                                                                         |                                                                          |                              |                             |                                         |
| <p><b><u>Result of Inspection</u></b> The Plots/Area has passed inspection</p> <p>Signed: <b>Adam Mcdermott</b> Date: <b>11/08/2022</b></p> |                                                                          |                              |                             |                                         |

**Photographs 11/08/2022**



Site plan.



Overview of wrapped SAGM to lift pit 1.



Pick testing all SAGM detailing.



The SAGM has been adhered to the previously installed membrane.



Overview of wrapped SAGM to lift pit 2.



Corner seal using SAGM.

| Housebuilder Name: ABRI Homes.                                                                                                                                                                       |                                                                                                                                                                                                                                                              | Plot Number: Apartment Block A,<br>Lift pit 3.                              |                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Site Name: Gracelands, Caversham Road, Reading.                                                                                                                                                      |                                                                                                                                                                                                                                                              | Detached House                                                              | <input type="checkbox"/>                                                              |
|                                                                                                                                                                                                      |                                                                                                                                                                                                                                                              | Semi-Detached                                                               | <input type="checkbox"/>                                                              |
| Postcode: RG1 7BT.                                                                                                                                                                                   | Weather: 22 °C Dry.                                                                                                                                                                                                                                          | Terrace                                                                     | <input type="checkbox"/>                                                              |
| Installer: MB Membranes.                                                                                                                                                                             |                                                                                                                                                                                                                                                              | Apartment Block                                                             | <input checked="" type="checkbox"/>                                                   |
| Surveyor: Adam Mcdermott                                                                                                                                                                             |                                                                                                                                                                                                                                                              | Detached Garage                                                             | <input type="checkbox"/>                                                              |
| Date: 25/08/2022                                                                                                                                                                                     |                                                                                                                                                                                                                                                              | Flat Over Garage                                                            | <input type="checkbox"/>                                                              |
| Full Footprint <input type="checkbox"/> Perimeter Only <input type="checkbox"/> Infill Only <input type="checkbox"/> Other <input type="checkbox"/><br>If other, please describe SAGM lift pit wrap. |                                                                                                                                                                                                                                                              |                                                                             |                                                                                       |
| Item                                                                                                                                                                                                 | Comments                                                                                                                                                                                                                                                     |                                                                             |                                                                                       |
| Sub-floor void                                                                                                                                                                                       | Inspected by MEC <input type="checkbox"/>                                                                                                                                                                                                                    | Not Inspected by MEC contractor advised <input checked="" type="checkbox"/> | N/A <input type="checkbox"/>                                                          |
|                                                                                                                                                                                                      | Beam & Block min 150mm <input checked="" type="checkbox"/><br>Strips of 25mm Geocomposite <input type="checkbox"/><br>Full Cover of 25mm Geocomposite <input type="checkbox"/>                                                                               |                                                                             |                                                                                       |
|                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>The venting has passed inspection and is installed as per the design <input checked="" type="checkbox"/></li> <li>The venting has failed inspection, see notes in defects section <input type="checkbox"/></li> </ul> |                                                                             |                                                                                       |
|                                                                                                                                                                                                      |                                                                                                                                                                                                                                                              |                                                                             |                                                                                       |
| Ventilation Inlets and Outlets                                                                                                                                                                       | (Inlet/Outlet Type)    Air Bricks <input type="checkbox"/> Ventboxes <input type="checkbox"/> Not in Place at Time of Inspection <input checked="" type="checkbox"/>                                                                                         |                                                                             |                                                                                       |
|                                                                                                                                                                                                      | Number of Vents: N/A.                                                                                                                                                                                                                                        |                                                                             |                                                                                       |
| Materials used:                                                                                                                                                                                      | Membrane Name: N/A.                                                                                                                                                                                                                                          |                                                                             |                                                                                       |
|                                                                                                                                                                                                      | Self-Adhesive Membrane <input checked="" type="checkbox"/>                                                                                                                                                                                                   | Preformed Tophats <input type="checkbox"/>                                  |                                                                                       |
|                                                                                                                                                                                                      | Double Sided Butyl Tape <input type="checkbox"/>                                                                                                                                                                                                             | Preformed Corners <input type="checkbox"/>                                  |                                                                                       |
|                                                                                                                                                                                                      | Others Please List: Primer.                                                                                                                                                                                                                                  |                                                                             |                                                                                       |
| Type of Joint                                                                                                                                                                                        | Tape Joint <input type="checkbox"/>                                                                                                                                                                                                                          | Auto Weld <input type="checkbox"/>                                          | Hand Weld <input checked="" type="checkbox"/> Extrusion Weld <input type="checkbox"/> |
| Testing/Inspection                                                                                                                                                                                   | <input checked="" type="checkbox"/> Visual Inspection                                                                                                                                                                                                        | <input checked="" type="checkbox"/> Air Lance (ASTM D4437)                  | <input type="checkbox"/> Tracer Gas Test                                              |
|                                                                                                                                                                                                      | <input checked="" type="checkbox"/> Probe Test (ASTM D4437)                                                                                                                                                                                                  | <input type="checkbox"/> Dielectric Test (NACE RP0188-99)                   |                                                                                       |

|                           |                                                                 |                                         |                             |                                         |
|---------------------------|-----------------------------------------------------------------|-----------------------------------------|-----------------------------|-----------------------------------------|
| Laps, welds and detailing | Have all joints passed testing prior to surveyor leaving site?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            |
|                           | Have all pipes passed testing prior to surveyor leaving site?   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
|                           | Have all corners passed testing prior to surveyor leaving site? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A            |

|                                                                                                                                             |                                                                          |                              |                             |                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------|-----------------------------|-----------------------------------------|
|                                                                                                                                             | Have all acoustic details passed testing prior to surveyor leaving site? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| <p><b><u>Surveyors Comments</u></b></p> <p>N/A.</p>                                                                                         |                                                                          |                              |                             |                                         |
| <p><b><u>Result of Inspection</u></b> The Plots/Area has passed inspection</p> <p>Signed: <b>Adam Mcdermott</b> Date: <b>25/08/2022</b></p> |                                                                          |                              |                             |                                         |

**Photographs 25/08/2022**



Site plan.



Overview of installed SAGM as a wrap to lift pit 3.



Pick testing all SAGM detailing.



Corner seal using SAGM.

|                                                             |                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                          |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Site name: ABRI Homes, Gracelands, Caversham Road, Reading. |                                                                                        | Units/ plots checked: Apartment Block A line out to perimeter & internal walls ( see marked plan below).                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                          |
| Postcode: RG1 7BT.                                          |                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                          |
| Installers Name: MB Membranes.                              |                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                          |
| Date: 06/02/2023                                            |                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                          |
| Inspection by: Adam Mcdermott                               |                                                                                        | Weather: 10°C Dry.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                          |
|                                                             | Item                                                                                   | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                          |
|                                                             | Sub-floor void                                                                         | N/A.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                          |
|                                                             | Ventilation Inlets and Outlets                                                         | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                          |
|                                                             | Number Of Vents                                                                        | N/A.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                          |
|                                                             | Materials used:                                                                        | Membrane – Juta Gas Resistant DPC.<br>Self-Adhesive Membrane <input checked="" type="checkbox"/> Yes      Preformed Top hats <input type="checkbox"/> Yes<br>Double Sided Butyl Tape <input type="checkbox"/> Yes      Preformed Corners <input type="checkbox"/> Yes<br>Others Please List: Primer.                                                                                                                                                                                                   |                                                                                                                          |
|                                                             | Installation Notes                                                                     | <b><u>(brief description of area/plots and list of defects/repairs identified to the main membrane sheet, excluding detailing and joints)</u></b><br><br>MEC Environmental carried out a thorough visual inspection of the membrane, the Juta GR DPC membrane has been installed to a good standard to the perimeter and internal walls, priming and sealing to all concrete columns as a retro fit detail using SAGM. All door thresholds, pipe penetrations and corners have been sealed using SAGM. |                                                                                                                          |
|                                                             | Type of Joint                                                                          | Tape Joint <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Auto Weld <input type="checkbox"/> Hand Weld <input checked="" type="checkbox"/> Extrusion Weld <input type="checkbox"/> |
|                                                             | Jointing/Detailing Testing                                                             | <input type="checkbox"/> Air Lance (ASTM D4437) <input checked="" type="checkbox"/> Probe Test (ASTM D4437)                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                          |
| Laps, welds and detailing<br>Ventilation Inlets & Outlets   | Have all joints passed testing prior to surveyor leaving site?                         | <input checked="" type="checkbox"/> Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/> No <input type="checkbox"/> N/A                                                                 |
|                                                             | Have all pipes passed testing prior to surveyor leaving site?                          | <input checked="" type="checkbox"/> Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/> No <input type="checkbox"/> N/A                                                                 |
|                                                             | Have all stanchions/wind braces/columns passed testing prior to surveyor leaving site? | <input type="checkbox"/> Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A                                                      |
|                                                             | Have all piles and pile caps passed testing prior to surveyor leaving site?            | <input type="checkbox"/> Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A                                                      |
|                                                             | Has all other detailing work passed inspection                                         | <input checked="" type="checkbox"/> Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/> No <input type="checkbox"/> N/A                                                                 |

**(List any defects to detailing work and joints):**

During our inspection the following defects and repairs were carried out: N/A.

Have any defects identified above been satisfactorily rectified ☐ Yes ☐ No ☒ N/A

The Area has passed inspection ☒

The Area has failed inspection and a corrective action sheet has been left with the contractor ☐

The Area is incomplete as detailed above ☐

Signed: **Adam Mcdermott**

Date: **06/02/2023**

**Area Inspected**

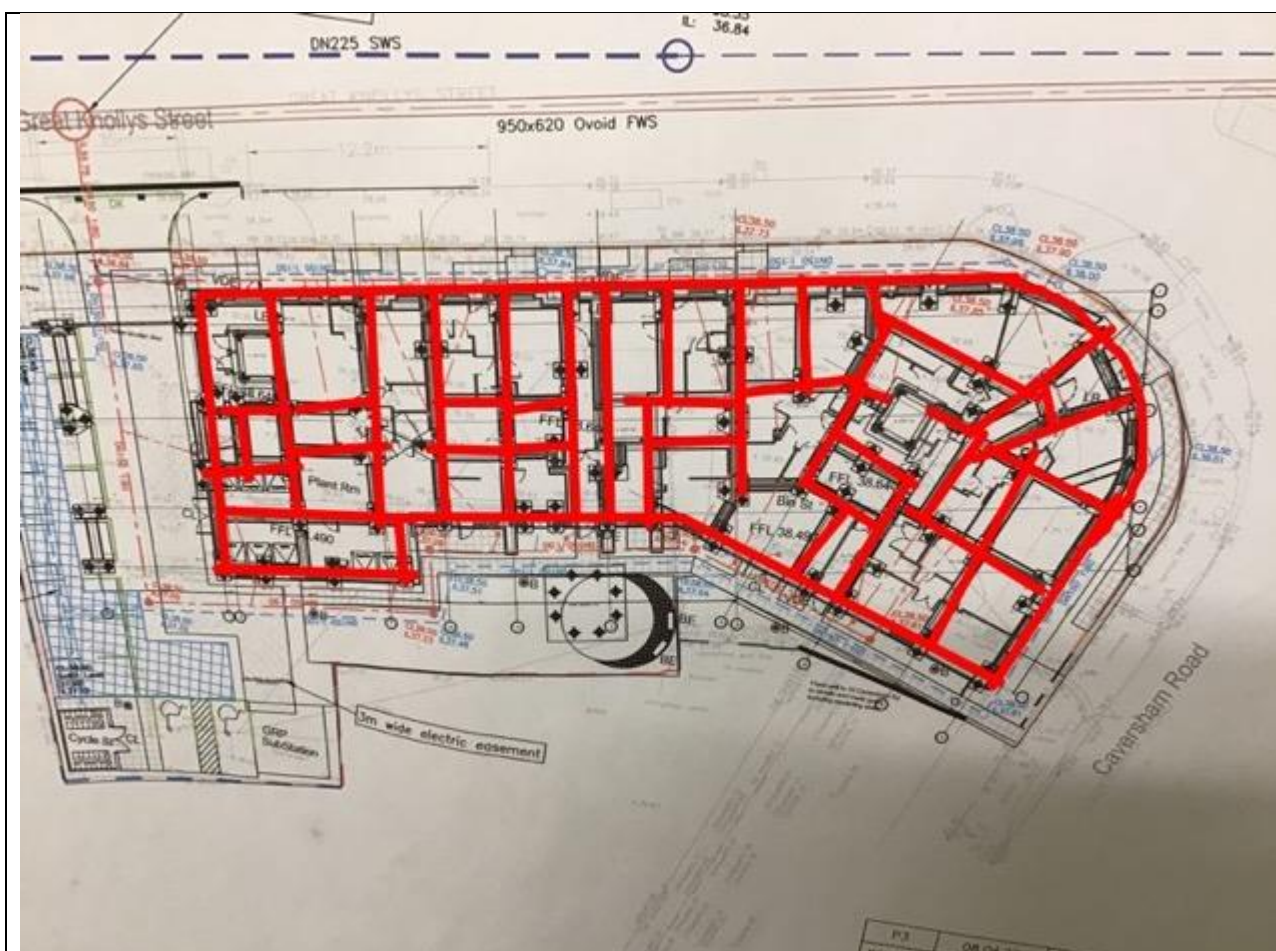


Photo 06/02/2023



Overview of installed Juta GR DPC to the perimeter of Apartment Block A.



Sealed concrete column using SAGM.



Pick testing all welded membrane laps.



Typical pipe penetration seals using SAGM.



Typical door threshold seal using SAGM.



Retro fit detail using SAGM.



Typical corner seal using SAGM.



Overview of installed Juta GR DPC to the internal wall.



MB Membranes Ltd.

Unit 2, The Fairway, Harlow. CM18 6LY

*Installation Completion Certificate*

*Certificate No: 22/223*

*Company Name: Gracelands Ltd.*

*Project Address: ABRI HOMES. CAVERSHAM ROAD, READING. RG1 7BT*

*Plot No: Apartments,*

*Materials installed: Juta Gas DPC, GP1 and GMA.*

*Application: Gas Barrier*

*3rd Party Validation in MBM Subcontract: Yes*

*MB Membranes Ltd. certify that the products that have been installed meet the required specification for the project and latest industry guidance.*

*MB Membranes Ltd. confirms that the Installation Team Leader is NVQ Level 2 Gas Membranes qualified.*

| <i>Director</i>      | <i>Signed</i>                                                                       | <i>Date</i>       |
|----------------------|-------------------------------------------------------------------------------------|-------------------|
| <i>Neil McNamara</i> |  | <i>12/06/2025</i> |

## Appendix D Cover system information



## **Topsoil Import Certification**





## TIM O'HARE ASSOCIATES

SOIL & LANDSCAPE CONSULTANCY

Mr James Owen  
R Collard Limited  
Eversley Haulage Park  
Brickhouse Hill  
Eversley, Hook  
Hampshire RG27 0PZ

28<sup>th</sup> March 2025  
Our Ref: TOHA/25/1765/1/SS  
Your Ref: PO AG30/118

Dear Sirs

### **Topsoil Analysis Report: Eversley Quarry**

We have completed the analysis of the soil sample recently submitted, referenced *Eversley Topsoil*, and have pleasure reporting our findings.

The purpose of the analysis was to determine the suitability of the sample for general landscape purposes (trees, shrubs, amenity grass). In addition, the sample has been assessed to determine its compliance with the requirements of the British Standard for Topsoil (*BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil*).

This report presents the results of analysis for the sample submitted to our office, and it should be considered 'indicative' of the topsoil source. The report and results should therefore not be used by third parties as a means of verification or validation testing or waste designation purposes, especially after the topsoil has left the R Collard Limited site.

### **SAMPLE EXAMINATION**

The sample was described as a very dark grey (Munsell Colour 10YR 3/1), slightly moist, non-plastic, slightly calcareous, LOAMY SAND with a weakly developed, fine to medium granular structure\*. The sample was slightly stony and contained a high proportion of organic fines and frequent woody fragments. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

\*This appraisal of soil structure was made from examination of a disturbed sample. Structure is a key soil characteristic that may only be accurately assessed by examination in an in-situ state.

---

Tim O'Hare Associates LLP  
Howbery Park Wallingford Oxfordshire OX10 8BA  
T:01491 822653 E:info@toha.co.uk  
www.toha.co.uk

## **ANALYTICAL SCHEDULE**

The sample was submitted to a UKAS and MCERTS accredited laboratory for a range of physical and chemical tests to confirm the composition and fertility of the soil, and the concentration of selected potential contaminants. The following parameters were determined:

- detailed particle size analysis (5 sands, silt, clay);
- stone content (2-20mm, 20-50mm, >50mm);
- pH and electrical conductivity values;
- exchangeable sodium percentage;
- major plant nutrients (N, P, K, Mg);
- organic matter content;
- C:N ratio;
- heavy metals (As, B, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn);
- total cyanide and total (mono) phenols;
- speciated PAHs (US EPA16 suite);
- aromatic and aliphatic TPH (C5-C35 banding);
- benzene, toluene, ethylbenzene, xylene (BTEX);
- asbestos screen.

The results are presented on the attached Certificate of Analysis and an interpretation of the results is given below.

## **RESULTS OF ANALYSIS**

### **Detailed Particle Size Analysis and Stone Content**

The sample fell into the *loamy sand* texture class and exceeded our maximum recommended sand content of 85% for general landscape purposes. Further detailed particle size analysis found the sample to have a high proportion of particles in the *fine sand* (0.15-0.25mm) and *medium sand* (0.25-0.50mm) fractions with lower proportions of *very fine sand* (0.05-0.15mm) and *coarse sand* (0.50-1.0mm).

Such soils typically have good aeration and drainage properties, but can possess reduced water and nutrient retention capacities. However, in this instance the soil's organic matter content (5.0 %) is likely to offset these factors and provide a suitable growing medium for general landscape applications.

The sample was virtually stone-free and as such, stones should not restrict the use of the soil for general landscape purposes.

### **pH and Electrical Conductivity Values**

The sample was alkaline in reaction (pH 7.7). This pH value would be considered suitable for general landscape purposes provided species with a wide pH tolerance or those known to prefer alkaline soils are selected for planting, turfing and seeding.

The electrical conductivity (salinity) value (water extract) was moderate, which indicates that soluble salts should not be present at levels that would be harmful to plants.

The electrical conductivity value by  $\text{CaSO}_4$  extract (1545  $\mu\text{S}/\text{cm}$  - BS3882 requirement) slightly exceeded the maximum specified value (3300  $\mu\text{S}/\text{cm}$ ) given in BS3882:2015 - Table 1. Further testing of electrical conductivity by water extract indicates that excess soluble salts should not present a significant risk to plants.

### **Organic Matter and Fertility Status**

The sample was adequate to well supplied with organic matter and all major plant nutrients.

The C:N ratio of the sample was acceptable for general landscape purposes.

### **Potential Contaminants**

With reference to BS3882:2015 – Table 1: Notes 3 and 4, there is a requirement to confirm levels of potential contaminants in relation to the topsoil's proposed end use. This includes human health, environmental protection and metals considered toxic to plants. In the absence of site-specific assessment criteria, the concentrations that affect human health have been compared with the residential with homegrown produce land use in the Suitable For Use Levels (S4ULs) presented in The LQM/CIEH S4ULs for Human Health Risk Assessment (2015) and the DEFRA SP1010: Development of Category 4 Screening Levels (C4SLs) for Assessment of Land Affected by Contamination – Policy Companion Document (2014).

Of the potential contaminants determined, none was found at levels that exceeded their guideline values.

### **Phytotoxic Contaminants**

Of the phytotoxic (toxic to plants) contaminants determined (copper, nickel, zinc), none was found at levels that exceeded the maximum permissible levels specified in BS3882:2015 – Table 1.

### **CONCLUSION**

The purpose of the analysis was to determine the suitability of the topsoil sample for general landscape purposes. The analysis has also been undertaken to determine the sample's compliance with the requirements of the British Standard for Topsoil (BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil).

From the soil examination and subsequent laboratory analysis, the sample was described as a alkaline, non-saline, slightly calcareous loamy sand with an adequate structure and a low stone content. The sample was adequately supplied with organic matter and all major plant nutrients. Of the potential contaminants determined, none exceeded their respective guideline values.

Based on our findings, the topsoil represented by this sample would be considered suitable for general landscape purposes (trees, shrubs and amenity grass (low footfall)), provided that the species selected have a wide pH tolerance or are known to prefer alkaline soils, and the physical condition of the soil is satisfactory.

The topsoil was also fully compliant with the requirements of the British Standard for Topsoil (BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil).

### **RECOMMENDATIONS**

#### **Soil Handling Recommendations**

It is important to maintain the physical condition of the soil and avoid structural damage during all phases of soil handling (e.g. stockpiling, resspreading, cultivating, planting, seeding or turfing). As a consequence, soil handling operations should be carried out when soil is sufficiently dry to be non-plastic (friable) in consistency.

It is important to ensure that the soil is not unnecessarily compacted by trampling or trafficking by site machinery, and soil handling should be stopped during and after heavy rainfall and not continued until the soil is friable in consistency. If the soil is structurally damaged and compacted at any stage during the course of soiling or landscaping works, it should be cultivated appropriately to relieve the compaction and to restore the soil's structure prior to any planting, turfing or seeding.

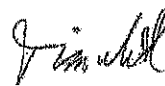
Further details on soil handling are provided in Annex A of BS3882:2015.

We hope this report meets with your approval and provides the necessary information. Please do not hesitate to contact the undersigned if we can be of further assistance.

Yours faithfully



**Ebony Gheorghe**  
BSc MSc  
Soil Scientist



**Tim White**  
BSc MSc M(Soil Sci) OCSi  
Senior Associate

For & on behalf of Tim O'Hare Associates LLP



## **Membrane Specification**



## FasTrack™



### Applications for FasTrack™ Orange

- Contamination
- Warning Barrier

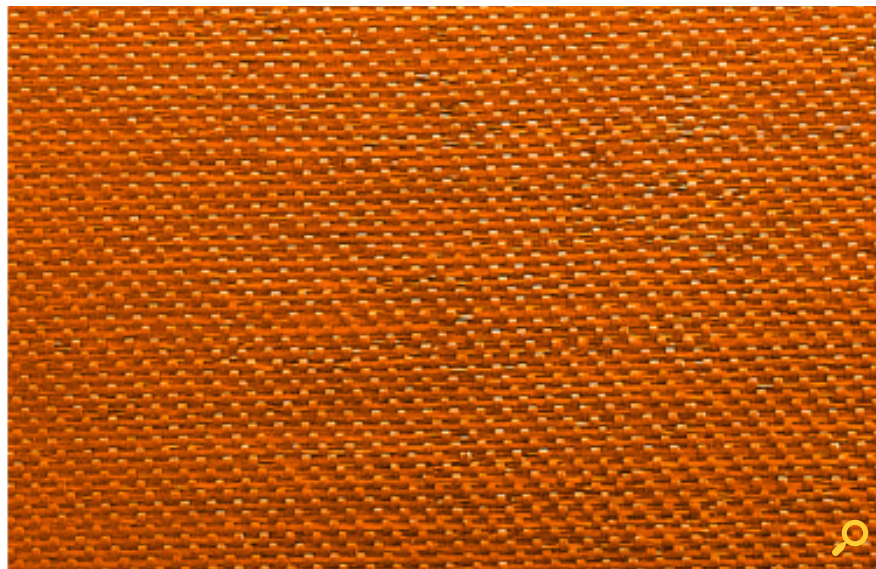
### Benefits of FasTrack™ Orange

- Bright Colour For Visibility
- Reinforcement
- Separation

1. Wrekin Products Ltd is continually seeking to improve our products and therefore reserves the right to alter product specifications without prior notice.
2. It is the responsibility of all users to satisfy themselves the above data is current.
3. Installation details are available on request.
4. Published April 2019 - Version 2.CT



SCAN QR  
CODE FOR  
MORE INFO



## FasTrack™ Orange

### Standard Grade (SG) woven geotextiles

Based on our popular 609 geotextiles, FasTrack™ Orange prevents the intermixing of contaminated and uncontaminated soils and its bright colour also alerts users and future users to the potential danger of further excavation. It is designed and manufactured to conform to the old Department of Transport & Highways specification for road and earthworks separation.



Separation - Prevents intermixing of dissimilar soil layers



Filtration - Allows passage of fluids whilst retaining soil particles

| MECHANICAL PROPERTIES              | TEST          | UNITS               | FASTRACK ORANGE |
|------------------------------------|---------------|---------------------|-----------------|
| Tensile Strength - MD              | EN ISO 10319  | kN/m                | 16              |
| Tensile Strength - XD              | EN ISO 10319  | kN/m                | 11.5            |
| Elongation at break - MD           | EN ISO 10319  | %                   | 18.5            |
| Elongation at break - XD           | EN ISO 10319  | %                   | 18.5            |
| CBR Puncture Resistance            | EN ISO 12236  | N                   | 1500            |
| HYDRAULIC PROPERTIES               |               |                     |                 |
| Water flow normal to the plane     | EN ISO 11058  | l/m <sup>2</sup> /s | 17              |
| Characteristic opening (pore) size | EN ISO 12956  | µm                  | 250             |
| PHYSICAL PROPERTIES                |               |                     |                 |
| Thickness under 2 kPa              | EN ISO 9863-1 | mm                  | 0.4             |
| Weight                             | EN ISO 9864   | g/m <sup>2</sup>    | 75              |
| Roll width                         |               | cm                  | 450             |
| Roll length                        |               | m                   | 100             |

Other grades of geotextiles within the Wrekin range include:  
Standard Grade, High Flow, and High Strength woven fabrics and Needle Punched non-wovens.

## **Haulier Import Certificates**



A JOHN STACEY COMPANY

# JOHN STACEY & SONS LTD

TIPPER & PLANT HIRE - DEMOLITION  
RECYCLED CONSTRUCTION MATERIALS

SILCHESTER ROAD, TADLEY, BASINGSTOKE, HANTS. RG26 3PZ

Telephone: (0118) 981 3531

Fax: (0118) 981 3458

This Transfer Note forms part of the Duty of Care laid down by the Environment Protection Act 1991. Please ensure the information given is accurate.

C 568035

CONVEYANCE NOTE C (Weight and Vol.)  
CONTROLLED WASTE TRANSFER NOTE

ACCOUNTS COPY



VAT Reg. No. 198 9545 85

PLACE OF LOADING

DATE: 1 5 25

VEHICLE REG. No.:

K10JSS

FLEET No:

366

NAME OF PERSON IN CHARGE OF VEHICLE:

CUSTOMER:

GRACELANDS

SITE ADDRESS:

CAVERSHAM RD  
READING

Standard Industrial  
Classification (SIC) Code

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|

DESCRIPTION OF MATERIAL

BS3882 Soil

WEIGHT OR VOLUME TONNES Kg

Gross Weight of  
Vehicle at Weighbridge

This aggregate was produced under a quality scheme  
meeting the WRAP Aggregate Quality Protocol

SOIL + STONES

17 - 05 - 04

Tare Weight of Vehicle

CONCRETE

17 - 01 - 01

Net Weight

BRICK

17 - 01 - 02

OTHER

For Other Write the six digit waste classification code  
See inside front cover for relevant code

DAYWORK / WAITING TIME

TIME ARRIVED ON SITE

TIME LEFT SITE

TRAVELLING TIME

TOTAL HOURS

QUANTITY IN METRES

15

HAULIER WASTE  
CARRIER NO.

ADDRESS OF TIP/TRANSFER POINT

Certified that the above particulars are true and relate to the  
material being conveyed in the vehicle described, which material is  
being so conveyed in pursuance of:-

- (a) A sale or an agreement for the sale thereof made by weight.
  - (b) An agreement for the carriage thereof made by weight.
- Delete (a) or (b) as applicable.  
On behalf of the seller.

Registered  
Waste  
Carrier

Registration  
No.

CBDU92361

Issued  
by:

Environment  
Agency

SIGNED BY PRODUCER/SITE

PRINT NAME

M. B. J.

TRANSFER OF WASTE

WASTE PRE-TREATED YES ☐ NO ☐

SITE LICENCE No.

We have applied the Waste Management hierarchy as required by regulation 12 of the Waste (England & Wales) regulations 2011.

SIGNED BY TIP OPERATOR

SIGNED BY DRIVER

The Company will not be responsible in any circumstances for damage to private property by our vehicles when delivering material off the Public Road to Customer's instructions. The above consignment remains the property of the Consignor until payment for the goods has been received. The consignor reserves the right to retrieve these goods when subject of non-payment.

A JOHN STACEY COMPANY

# JOHN STACEY & SONS LTD

TIPPER & PLANT HIRE - DEMOLITION  
RECYCLED CONSTRUCTION MATERIALS

SILCHESTER ROAD, TADLEY, BASINGSTOKE, HANTS. RG26 3PZ

Telephone: (0118) 981 3531

Fax: (0118) 981 3458

This Transfer Note forms part of the Duty of Care laid down by the Environment Protection Act 1991. Please ensure the information given is accurate.



C 567053

CONVEYANCE NOTE C (Weight and Vol.)  
CONTROLLED WASTE TRANSFER NOTE

ACCOUNTS COPY

VAT Reg. No. 198 9545 85

|                                                                                                  |                      |                                                                                                                                                                                                                                                                                                                                                                         |  |
|--------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| PLACE OF LOADING<br><b>WAF</b>                                                                   |                      | DATE: <b>8 5 25</b>                                                                                                                                                                                                                                                                                                                                                     |  |
| VEHICLE REG. No.:<br><b>K10JSS</b>                                                               | FLEET No: <b>366</b> | NAME OF PERSON IN CHARGE OF VEHICLE:                                                                                                                                                                                                                                                                                                                                    |  |
| CUSTOMER:<br><b>GRACELANDS</b>                                                                   |                      | SITE ADDRESS:<br><b>CAVERSHAM ROAD<br/>READING</b>                                                                                                                                                                                                                                                                                                                      |  |
| Standard Industrial Classification (SIC) Code                                                    |                      |                                                                                                                                                                                                                                                                                                                                                                         |  |
| DESCRIPTION OF MATERIAL<br><b>CERTIFIED SOIL</b>                                                 |                      | WEIGHT OR VOLUME                                                                                                                                                                                                                                                                                                                                                        |  |
| This aggregate was produced under a quality scheme meeting the WRAP Aggregate Quality Protocol   |                      | TONNES                                                                                                                                                                                                                                                                                                                                                                  |  |
| SOIL + STONES                                                                                    |                      | Kg                                                                                                                                                                                                                                                                                                                                                                      |  |
| CONCRETE                                                                                         |                      | Gross Weight of Vehicle at Weighbridge                                                                                                                                                                                                                                                                                                                                  |  |
| BRICK                                                                                            |                      | Tare Weight of Vehicle                                                                                                                                                                                                                                                                                                                                                  |  |
| OTHER                                                                                            |                      | Net Weight                                                                                                                                                                                                                                                                                                                                                              |  |
| For Other Write the six digit waste classification code See inside front cover for relevant code |                      | Certified that the above particulars are true and relate to the material being conveyed in the vehicle described, which material is being so conveyed in pursuance of:-<br>(a) A sale or an agreement for the sale thereof made by weight.<br>(b) An agreement for the carriage thereof made by weight.<br>Delete (a) or (b) as applicable.<br>On behalf of the seller. |  |
| DAYWORK / WAITING TIME                                                                           |                      | Registered Waste Carrier <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                                            |  |
| TIME ARRIVED ON SITE                                                                             |                      | Registration No. <b>CBDU92361</b>                                                                                                                                                                                                                                                                                                                                       |  |
| TIME LEFT SITE                                                                                   |                      | Issued by: <b>Environment Agency</b>                                                                                                                                                                                                                                                                                                                                    |  |
| TRAVELLING TIME                                                                                  |                      | SIGNED BY PRODUCER/SITE                                                                                                                                                                                                                                                                                                                                                 |  |
| TOTAL HOURS                                                                                      |                      | PRINT NAME <b>M.F.</b>                                                                                                                                                                                                                                                                                                                                                  |  |
| QUANTITY IN METRES <b>15</b>                                                                     |                      | ADDRESS OF TIP/TRANSFER POINT                                                                                                                                                                                                                                                                                                                                           |  |
| HAULIER WASTE CARRIER NO.                                                                        |                      | TRANSFER OF WASTE                                                                                                                                                                                                                                                                                                                                                       |  |
|                                                                                                  |                      | WASTE PRE-TREATED YES <input type="checkbox"/> NO <input type="checkbox"/>                                                                                                                                                                                                                                                                                              |  |
|                                                                                                  |                      | SITE LICENCE No.                                                                                                                                                                                                                                                                                                                                                        |  |

We have applied the Waste Management hierarchy as required by regulation 12 of the Waste (England & Wales) regulations 2011.

|                        |                  |
|------------------------|------------------|
| SIGNED BY TIP OPERATOR | SIGNED BY DRIVER |
|------------------------|------------------|

The Company will not be responsible in any circumstances for damage to private property by our vehicles when delivering material off the Public Road to Customer's instructions. The above consignment remains the property of the Consignor until payment for the goods has been received. The consignor reserves the right to retrieve these goods when subject of non-payment.