

Our Ref: ADB/17931/SoakawayTechnicalNote

Your Ref:

Contact: Mr Alan Beattie

21<sup>st</sup> June 2024

Morgan Sindall Construction & Infrastructure Ltd  
Unit 5  
Cae Gwyrdd  
Greenmeadow Springs Business Park  
Tongwynlais  
Cardiff  
CF15 7AB

For the attn. of Mr Mark Cowley

Dear Sir,

## **SOAKAWAY TECHNICAL NOTE: THE PAVILIONS, TONYPANDY**

### **1.0 Introduction**

A comprehensive site investigation has been undertaken on the above site and this soakaway technical note has been produced in advance of the full site investigation report which will follow in due course.

### **2.0 Site Works**

A geotechnical site investigation comprising three soakaway infiltration tests was undertaken on the 21<sup>st</sup> March 2024. A subsequent round of soakaway testing was conducted on 18<sup>th</sup> June 2024 with six locations tested.

The fieldwork was supervised by TFW Group Ltd (Terra Firma), who logged the exploratory holes to the requirements of BS 5930:2015+A1:2020. The proposed locations of the first three exploratory holes was determined by Terra Firma with the additional six locations determined by Cambria Consulting, the structural and civil engineers for the project.

The trial pits were formed using a mechanical excavator and on completion all trial pits were backfilled with materials arising compacted in layers using the excavator bucket. The ground surface was left proud to accommodate future settlement of backfilled materials.

Soakaway tests were carried out in the trial pits in general accordance with BRE DG 365:2016. The excavation sides were squared using the excavator bucket and dimensions recorded within the test section. The trial pit was partially filled with clean water using a dedicated bowser with a 75mm diameter outlet and the fall in level recorded against time.

The soakaway test locations are shown on **Figure 1**.



**Figure 1 Soakaway Test Locations**

## 2.1 Groundwater

Groundwater information recorded during the site investigation is summarised in **Table 3.2**.

**Table 3.2 Groundwater Summary**

Location	Depth (m)	Details
SA01 (TFW)	0.80	Small groundwater inflow which slowly fills trial pit.
SA02 (TFW)	-	No groundwater encountered.
SA03 (TFW)	-	No groundwater encountered.
SA01 (Cambria)	-	To Follow.
SA02 (Cambria)	-	To Follow.
SA03 (Cambria)	-	To Follow.
SA04 (Cambria)	-	To Follow.
SA05 (Cambria)	-	To Follow.
SA06 (Cambria)	-	To Follow.

## 2.1 Stability and Obstructions

Trial pits remained stable and vertical during excavation.

#### 4.0 In-situ Permeability Testing

During the site investigations a total of nine trial pit soakaway tests were undertaken and carried out in general accordance with BRE DG 365:2016.

Soakaway test results are summarised in **Table 3.3**.

**Table 3.3 Summary of Soakaway Results**

Trial Pit	Depth Range of Test (m)	Infiltration Rate (ms <sup>-1</sup> )
SA01 (TFW)	1.50 – 2.00	No infiltration recorded.
SA02 (TFW)	1.50 – 2.10	No infiltration recorded.
SA03 (TFW)	-	Unable to undertake test due to groundwater inflow which slowly fills trial pit.

The soakaway tests, SA01 (Cambria) to SA06 (Cambria), were only recently completed and the site data is still to be written up. The tests however have also found negligible infiltration in line with the findings of the tests undertaken in March. Further detail will be provided in due course with the completion of the site investigation report.

As the soakaway tests have recorded insufficient infiltration it is considered that soakaway storm water drainage is unsuitable at the site in the locations and at the depths tested.

Yours sincerely

for: Terra Firma



Mr Alan Beattie