



Homes and Communities Agency

# Rear of 92 Duke Street, Liverpool

Structural Stability Survey

285341-01 (00)

JANUARY 2013

**RSK**

# CONTENTS

---

DOCUMENT CONTROL.....	1
1 INTRODUCTION .....	4
2 PURPOSE OF SURVEY .....	4
3 EXTENT OF INVESTIGATION .....	4
4 DISCUSSION .....	5

## APPENDICES

**APPENDIX A – SKETCH** - Wall Heights and Length  
- Scaffold propping Layout

**APPENDIX B – SITE PHOTOGRAPHS**

## RSK DOCUMENT CONTROL

---

**Report No.:** 285341-1 (00)


**Title:** Rear of 92 Duke Street, Liverpool - Structural Stability Survey

**Client:** Homes and Communities Agency


**Date:** 18<sup>th</sup> January 2013

**Office:** Hemel Hempstead

**Status:** Interim

**Author** G T Jones  
Director  


**Date:** 18/01/2013

**Reviewed by** Yan Aldridge  
Project Manager  


**Date:** 18/01/2013

RSK Environment Ltd (RSK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and RSK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by RSK for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

No part of this report may be copied or duplicated without the express permission of RSK and the party for whom it was prepared.

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Environment Ltd.

# **1 INTRODUCTION**

---

90-92 Duke Street, Liverpool 1 are currently empty, 3 storey buildings, in a somewhat dilapidated condition. They are owned by the Homes and Communities Agency and are scheduled for redevelopment, most likely in 2014. There is currently concern over the stability of the rear and westernmost flank wall to No. 92, Duke Street.

Some other two storey and single storey buildings are located on the same site, including a former café on the corner of Suffolk Street and Henry Street.

On the instructions of Mr Peter Henebery of TEP acting on behalf of The Homes and Communities Agency (The Client) RSK Environment Ltd has carried out a review of a November 2012 structural report by Messrs. Roger Hetherington & Associates on 90-92 Duke Street, Liverpool and undertaken a site visit to the premises on Friday 14<sup>th</sup> December 2012 to further review the recommendations made in the report.

# **2 PURPOSE OF SURVEY**

---

The purpose of the survey was to witness the site conditions and form an opinion on the most suitable means of temporary propping to the westernmost flank wall and rear wall to No. 92 Duke Street. A review of the condition of the single storey former café building was also required.

# **3 EXTENT OF INVESTIGATION**

---

A visual survey from ground level was conducted along with measurement of wall lengths/heights.

## **4 DISCUSSION**

---

It is understood that redevelopment of the site, including the likely demolition of part or all of the buildings will commence in 2014. From the present day until demolition occurs there is a real concern that unless certain walls of the buildings are restrained in position there is a risk of partial collapse.

The westernmost flank wall to No. 92, adjacent to the rear car park area, and the rear wall to No. 92 are the main areas of concern. All other defects noted in the report, some of which are referred to in the photographs in Appendix B, do not appear to constitute a risk of building collapse at this time although there is some uncertainty of the condition of the monopitch roof to the single storey former café building at the corner of Suffolk Street and Henry Street. An internal inspection of the café building would be required to determine if this risk is real and although a roof collapse would mainly occur within the confines of the building some debris could fall on the public highway. To make matters worse the roof covering has been supplemented with broken glass (presumably a past crude security measure).

With regard to No. 92, the photographs in Appendix B show vertical separation and bowing at the corner of the rear wall and westernmost flank wall and to a lesser extent at the corner of the rear wall and easternmost flank wall.

It is recommended that a propping scheme using a fixed scaffold approach be adopted to restrain the westernmost flank wall and rear wall. It may be possible to 'novate' the scaffold structure across to the developer to assist with demolition at the appropriate time.

A plan is given in Appendix A which shows a potential propping scheme, the budget cost for which is:

Erect, Hire for 12 months until Jan 2014 then dismantle = £35,000.00 (extra weekly hire = £340/week). Or purchase scaffold for £70,000.00 (including erection) with a £20,000 buy back credit up to a 2 year period.

We have sought budget prices from two other scaffold firms and will update our report when these estimates have been received.

# APPENDIX A

## SKETCH

---

**Wall Heights and Lengths**

**Scaffold Propping Scheme**

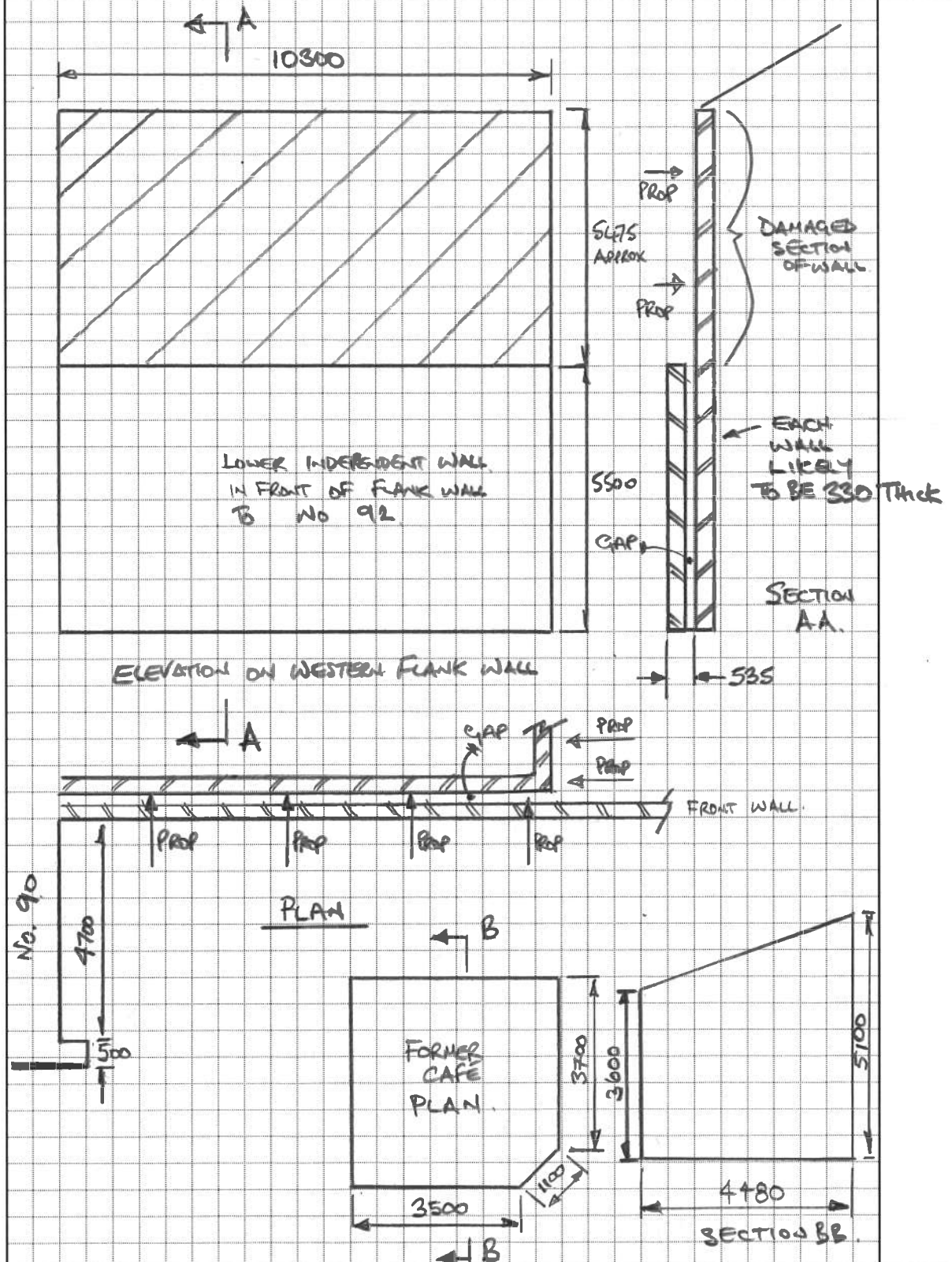
*This appendix contains 3 pages, including this one.*

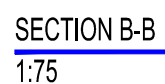
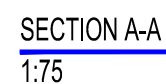
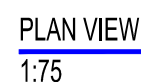


Job No.: 285341  
 Date: 18/01/13  
 Author/Calc by: GTJ.  
 Checked by:

PROJECT NAME:

SUBJECT: 92 DUKE STREET





Drawn	Date	Customer	Systems
SL	10/01/13	BSL SYSTEMS	ALLROUND
Checked	Scales	Contact	Materials
	As Shown @ A1	JOE BRIDGE	STEEL
Approved	OriginalSize	Drg Status	Grade
	A1	NON-WORKING	S235

NOTES
-This drawing is confidential and is the exclusive property of Layher Ltd. No unauthorised use, copy or disclosure is to be made and it is to be returned upon request. All equipment, materials and services are supplied subject to our General Terms and Conditions of Supply, copies available on request.
-This drawing has been prepared from information supplied to us by, or on behalf of the Customer, who should check that we have correctly interpreted his requirements and that all loadings, dimensions, details, erection, and dismantling sequences etc. are as required and practicable.

CONSTRUCTION	
-	All Layher equipment to be constructed in accordance with relevant health and safety legislation and additionally as detailed by technical information and method statements provided by Layher Ltd.
-	All dimensions are as stated or calculated. Drawings must not be scaled.
-	The following drawings obtained on loan have been used to prepare this scheme:-
-	
-	

DESIGN / IMPOSED LOADS			
The structure detailed on this drawing has been designed to support the following loads uniformly distributed:			
Access:-	-	Wind- B56399 Part 2:1997	Gantry:-
Console brackets:-	-	Snow:-	Hoist:-
The following maximum loads have been calculated for the structure detailed on this drawing:			
Standards:-	-	Beam Spans:-	Other:-
Anchors:-	-	Other:-	Other:-

**FOUNDATIONS AND SUPPORTS**

~Unless otherwise noted, no sleepers or other means of spreading the imposed loads are supplied by Layher Ltd. The customer must ensure that the foundations provided are adequate. Where Layher Ltd equipment is supported, suspended, anchored or tied to an existing structure or the ground, the Customer must ensure that the structure or ground is adequate to safely support the additional imposed loads.

~Unless specifically stated, it is assumed that any other working platforms (for erection or dismantling purposes) will be designed, supplied and filled by the customer.

MATERIALS AND MODIFICATION	
<p>-All equipment not supplied by Layher Limited is the responsibility of the Customer.</p> <p>-No sheathing or netting should be attached to the scaffold without reference to Layher, unless already indicated.</p> <p>-This drawing has been prepared using the Safe Working Load of the Layher Limited system components specified.</p> <p>No alteration to components, assembly, loading or any other aspect must be made without written authority from Layher Limited. The following should be read in conjunction with this drawing:</p>	
Ref#1: ALLROUND TECHNIQUE MANUAL	Ref#3: ALLROUND ASSEMBLY VIDEO
Ref#2: ALLROUND ASSEMBLY MANUAL	Ref#4:

CUSTOMERS RESPONSIBILITIES
<ul style="list-style-type: none"> <li>-To ensure that all structures are adequately tied and/or braced to carry the load and ensure stability as indicated on the drawing. No ties or braces are to be removed without the written authority of Layher Limited. The supply and fixing of all necessary building ties is the responsibility of the Customer. Maximum intervals of ties as indicated.</li> <li>-Setting out and final levelling of scaffolding and supporting systems.</li> <li>-To ensure that all foundations are of sufficient strength to withstand the imposed loads.</li> <li>-To ensure that existing buildings/structure can safely support the imposed loads.</li> <li>-To obtain all permits and permissions prior to erection.</li> <li>-To ensure that loading allowed on floor is self evident.</li> </ul>

Drawn SL	Date 10/01/13	Customer BSL SYSTEMS
Checked	Scales As Shown @ A1	Contact JOE BRIDGE
Approved	OriginalSize A1	Drg Status NON-WORKING

Systems ALLROUND	Drawing Title BSL SYSTEMS FACADE RETENTION DUKE STREET, LIVERPOOL	Dwg No. 12567_01
Materials STEEL		Revision
Grade S235	NON-WORKING GENERAL ARRANGEMENT	A



## APPENDIX B

# SITE PHOTOGRAPHS

---

*This appendix contains 9 pages, including this one.*



P1090053 **Photograph No: 1**

Front elevation No 90 Duke Street to the right No 92 Duke Street to the left



P1090013 **Photograph No: 2**

Rear of No 90 Duke Street





P1090069 **Photograph No: 3**

Rear car park area from where propping of the wall shown to the right is required (rear of No 90 Duke Street shown straight ahead)



P1090026 **Photograph No: 4**

Serious vertical crack to rear corner of No 92





P1090071

**Photograph No: 5**

Close up view of vertical crack to the rear of No 92 Duke Street



P1090027

**Photograph No: 6**

Side view of crack to the rear of No 92 Duke Street



P1090025 **Photograph No: 7**

Rear wall bowing outwards at rear corner due to lack of bond



P1090035 **Photograph No: 8**

Crack to the other rear corner to No 92 Duke Street





P1090037 **Photograph No: 9**

General view of rear of No 92 showing cracking at corner



P1090036 **Photograph No: 10**

General view of rear of No 92 showing cracking at corner





P1090030 **Photograph No: 11**

General view of 2 storey building (side elevation) at rear of No 92 Duke Street



P1090032 **Photograph No: 12**

Loose brickwork at top of gable wall



P1090033 **Photograph No: 13**

Loose brickwork at top of gable wall



P1090044 **Photograph No: 14**

Damaged brickwork to gable wall to building at rear of No 92 Duke Street





P1090045 **Photograph No: 15**

General view of single storey café building



P1090046 **Photograph No: 16**

General view of single storey café building