ROOF CONDITION REPORT

PREPARED FOR

St Anns Quay Management Ltd

SITE ADDRESS

St Anns Quay
Quayside
Newcastle upon Tyne
NE1 3BB

PREPARED BY

Dave MacCallum
Roof Investigations Ltd
Albert House
42 Seymour Road
Astley Bridge
Bolton
BL1 8PT

DATE

6th July 2018

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Signed: ……..

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1. INTRODUCTION

This report has been prepared for St Anns Quay Management Ltd.

Its purpose is to identify by non-destructive electronic testing the locations where water can enter sections of the Sarnafil single-ply PVC waterproofing system installed to the flat roof areas of St Anns Quay, Quayside, Newcastle upon Tyne.

Roof Investigations attended site on the 6th July 2018 to undertake electronic leak detection testing and visual inspection.

2. ELECTRONIC LEAK DETECTION

The roof area surveyed was approximately 550m².

The ELD and visual survey identified a total of 172no. defects to the cleared roof areas available for testing.

West Roof

Defect No.	Description of defect found at site
1	Upstand termination not sealed
2-17 & 19-23	Weak weld to membrane seam
18	Partial lap release

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East Roof

Defect No.	Description of defect found at site
1,2,4,7,8,23A,25-31,33-36,41,47-51,53,63-66,84,87,88,92,94,96,97,103,109,113,114,118, 130,136,139,142, 146 & 147	Failed weld
3,5,13-19,21,22,24,32,37-39,42-44,55,60,70-73,75, 77-83,86,90,95,98,100,105,108,112, 117,119,121,123,126,127,129,132,134,138 & 143	Partial lap release
6	Upstand termination not sealed
9-11,40,54,56,76,102,122,125,137,141 & 145	Weak weld to membrane seam
12,23,45,46,52,57,61,62,67-69,74,85, 89,91,93,99,101,104,106,107,115,116,120,124,128,131 ,133,135,140,144 & 148	Puncture/split
20	Non-standard repair (flashband patch)
58 & 59	Failed weld (2m length)
110 & 111	Failed weld (2m length)
149	Failed bitumen patch repair

TEST CONCLUSIONS

The Electronic Leak Detection Survey identified ONE HUNDRED AND SEVENTY-TWO defects to the roof areas surveyed.

All defects have been marked to deck and their locations are indicated on the attached Roof Plan.

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APPENDIX A

PHOTOGRAPHS

AREAS TESTED

West Roof



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Defects



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AREAS TESTED

East Roof

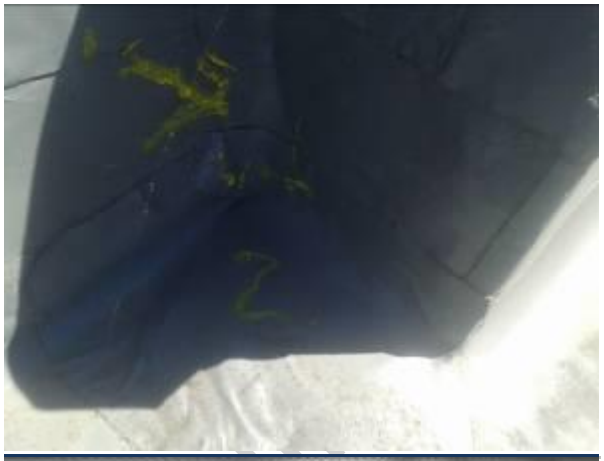


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Examples of Defects













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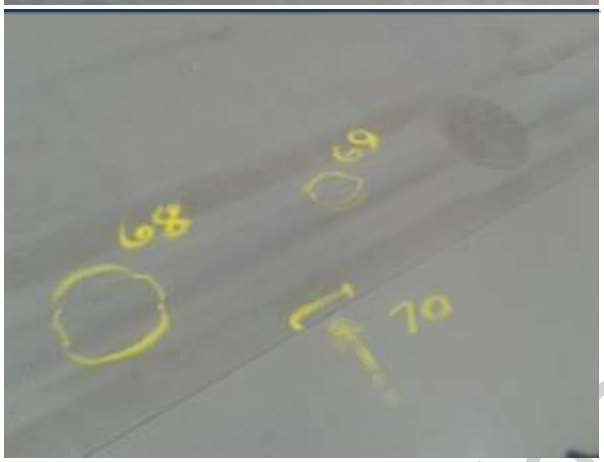




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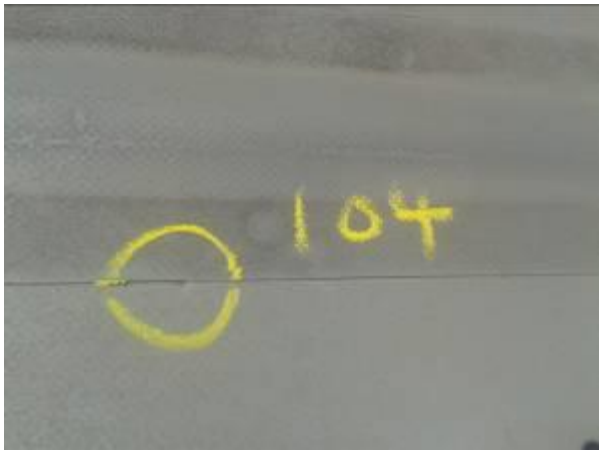


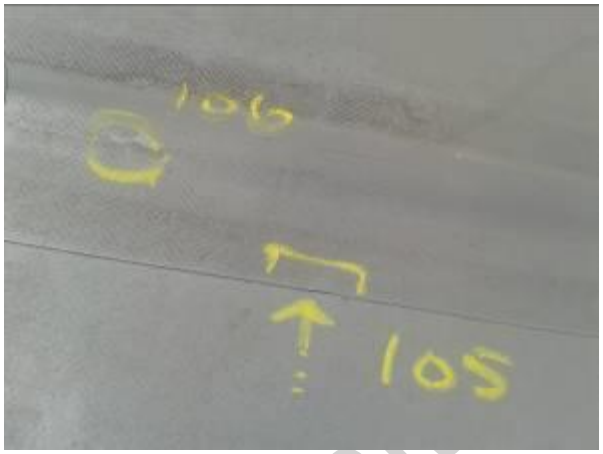






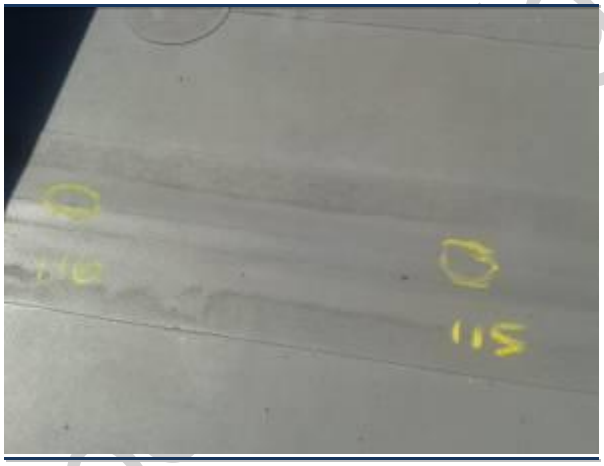
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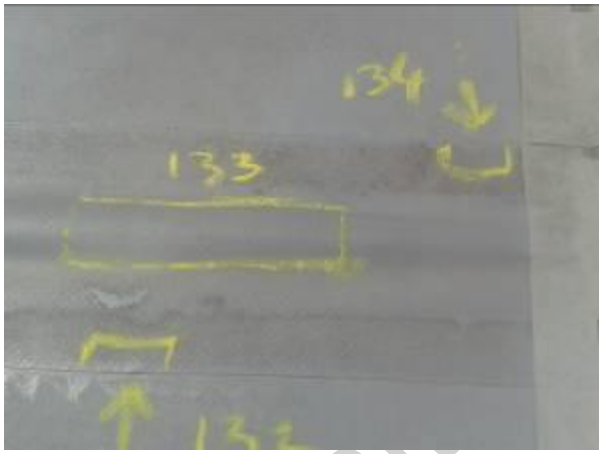


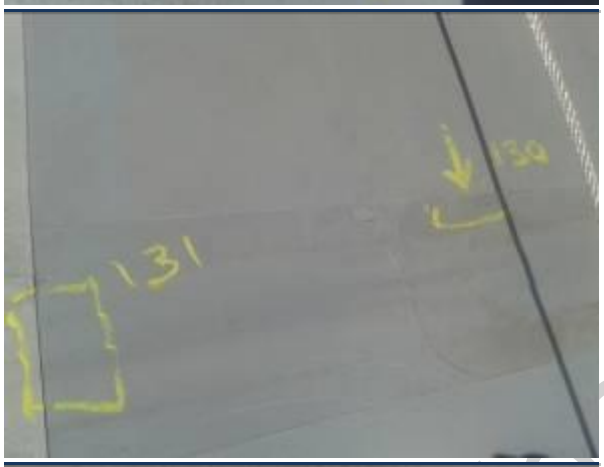




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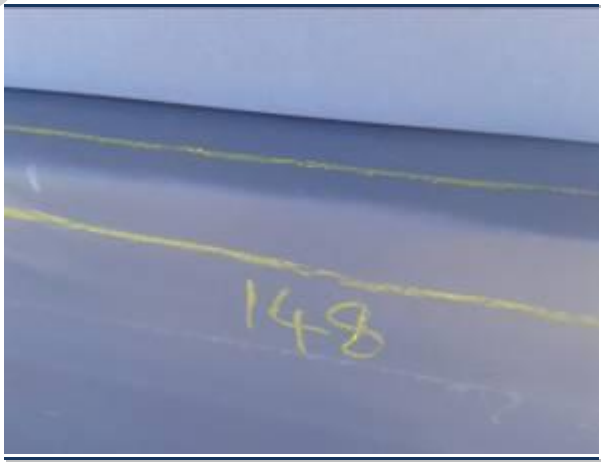












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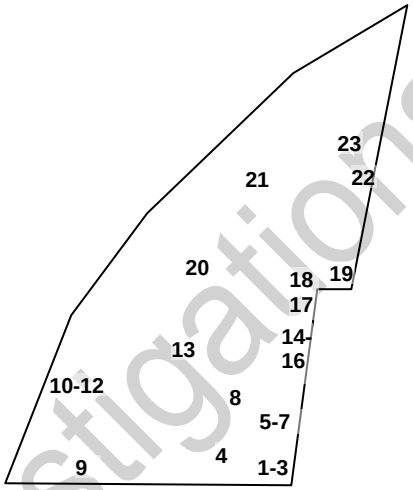
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APPENDIX B

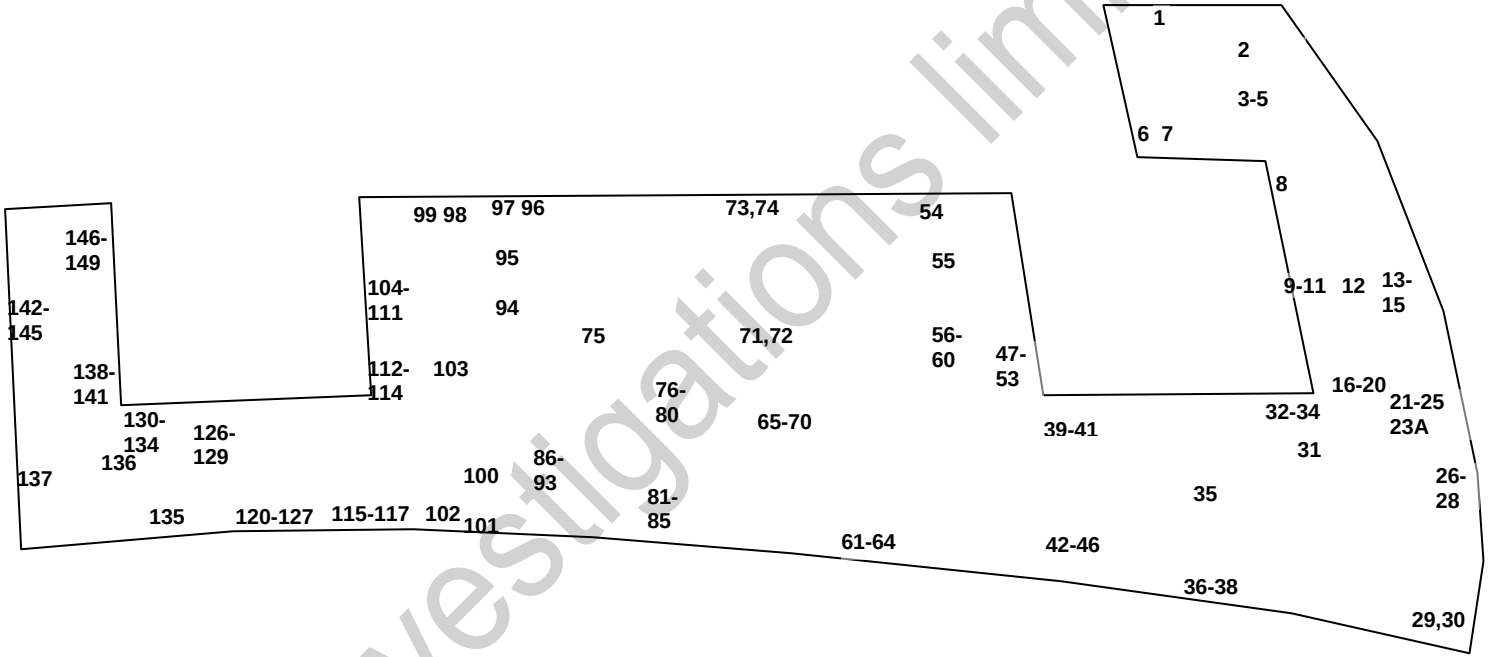
ROOF DEFECT PLAN

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Project:	St Anns Quay, Newcastle-upon-Tyne		Job No:		C	
Title:	Roof Integrity Test: West Roof		Checked:		B	
			Date:	06.04.18	A	
Drawn By:	D MacCallum		Scale:	NTS	REVISIONS	



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Project:	St Anns Quay, Newcastle-upon-Tyne		Job No:		C
Title:	Roof Integrity Test: East Roof		Checked:		B
			Date:	06.07.18	A
Drawn By:	D MacCallum		Scale:	NTS	REVISIONS

APPENDIX C

METHOD STATEMENT

Dry Method

The equipment used is a development of the pinhole detectors used for identifying tiny holes and porosity in protective coatings. The Roof Test Kit has been specifically developed for its purpose and it works with great accuracy on mineral and sand finished bitumen felt, polymeric single ply membranes, liquid applied waterproofing and mastic asphalt.

The PHD equipment comprises of a battery, which is capable of providing a stabilized direct current of between 2-40Kv D.C. a test probe handle (with HV lead and pressure safety switch), extension rods, 600mm phosphor bronze electrode and an earth lead. The test principals are as follows.

1. *The test can only be carried out on roof membranes with known faults. Water must have penetrated enough to make contact with the structure of the building which must be made of steel, brick or concrete, as these are conductive.*

2. *The earth lead from the PHD battery unit is connected to the structure at a convenient place. A high voltage (the level of which is determined by the membrane thickness) is applied (using a phosphor bronze brush electrode of suitable width) to the dry outside of the membrane. On an area free of faults, the membrane acts as an insulator, stopping the flow of current out of the PHD unit. When a fault is passed over with the brush electrode, the high voltage jumps the gap between the electrode and the water under the membrane. This causes a current to flow from the PHD unit, which is detected, and an alarm sounded to alert the operator.*

3. *A number of devises are built into the unit for operator safety and to prevent current flow into the building. As soon as the voltage jumps the gap between the electrode and the water beneath the membrane a bleep alarm sounds, and the current flow is automatically collapsed. The HV test probe handle is operated via a pressure sensitive switch, which immediately collapses the current flow as soon as the pressure is released.*

4. *In order to carry out this test method the roof must be dry. As water conducts electricity it would be impossible to find the faults if the roof was wet.*

5. *The leak points are marked on the roof and located on a sketch plan which is given to the Client in report form if required or repaired by the contractor and retested whilst we are on site.*

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