

THE RUDDING PARK CASE





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A – Andromeda

1. Andromeda is a privately owned company that specialises in forensic investigations and produces reports and documentary films to support its findings.
2. Andromeda acts for “*any individual or company who has been disadvantaged by another*”, in this case we act for the Defendant “*Planet Alpha Ltd*”.

B – Introduction

3. Henry Boot Construction Ltd was contracted by the owners of Rudding Park Hotel to redevelop its spa facilities at the property in Harrogate.
4. In the construction industry the work is divided into small parts and given to small contractors to tender for the same.
5. Successful firms will then enter into formal contracts with the Main Contractor, in this case Henry Boot, and will then be known as “subcontractors”
6. Our client “Planet Alpha Ltd” (Defendant) entered into a contract with Henry Boot Ltd, on the **8th September 2016** and which was referred to as BC09163/APE21 from that point in time.
7. Every sub-contractor would rely on the work carried out by a previous contractor as if such work was not up to standard, or faulty in any way it would have an impact on the work carried out by our clients.
8. What is important is the integrity of the parties who carried out **the initial investigations as to the cause of the problem with the shrubs and trees located in the roof garden and which specific area was identified.**

C – The Parties

9. RUDDINGS PARK HOTEL

Rudding Park Hotel, Spa and Golf is a Grade I listed Regency-style country house in Harrogate, North Yorkshire. It is situated within the 2,000-acre (8.1 km²) Rudding Park estate at Follifoot on the southern outskirts of Harrogate.

In May 2017 a new spa building was completed with a rooftop spa and gardens.

Rudding Park was voted Independent Hotel of the Year 2019 and Best Hotel in England by Visit England’s Awards for Excellence 2018.

The stylish hotel includes 90 luxury bedrooms, an award-winning spa which features the UK’s first Roof Top Spa and Garden, an indoor swimming pool, juniper log sauna, bucket shower and mud rasul.

Visitors can enjoy fine dining at award winning 3 AA Rosette Horto Restaurant, 2 AA Rosette Clocktower Restaurant and explore Rudding Park Kitchen Garden.

The luxury hotel features a 14-seat cinema and a range of private event rooms for hire. The 18-hole Hawtree Golf Course and 6-hole Repton Short Course runs through the existing 300-acre parkland.

10. ENJOY DESIGN (The Architects)

Enjoy Design Ltd is an established architecture practice based in Leeds led by four **architect** directors offering a full **architectural** and master planning service.

Enjoy Design were commissioned by Ridding Park Hotel in Spring 2013 to extend their existing hotel with a new contemporary spa facility which would provide for both hotel and day spa guests.

The Spa operates on three floors, with the lower ground floor containing the various treatment rooms along with associated relaxation spaces.

The ground floor hosts the main reception, changing facilities, indoor pool, restaurant, hair & beauty, retail, rasul and juniper log sauna.

On the first floor is the hydrotherapy pool, herbal steam room, scenic sauna and features a steam room all leading to the landscaped roof terrace which contains a further spa bath and log sauna.

The Spa is as much about the outside as the inside, in so much as the two seamlessly work in tandem with each other.

The roof top terrace, with deep planted shrubs and trees, takes the spa experience into the landscape with open air spa baths, hydrotherapy pools and saunas that can be utilised throughout the year.

11. HENRY BOOT (The Builder / The Claimant)

Henry Boot PLC is a unique Group of Companies that creates sustainable value and long-term growth from land, property & development and construction.

Inspired by their founding principles and the Henry Boot Way of working, they always strive to operate in accordance with their values and utmost professionalism.

Together, we've been unlocking value from our operations for over 130 years.

12. PLANET ALPHA LTD T/A APEX ASPHALT LTD. (Our Clients / The Defendants)

Planet Alpha are specialists in commercial roofing services, dedicated to providing customer service that is second to none. Whether you have a new construction project, or it is time for repairs.

PART 1 – Claimants Position

D – The Contract works

The Sub-Contract works were specified as;

“The Sub-Contract Works comprise installation/manufacturing/fabrication drawings/proposals for permanent metal decking and rooflights and manufacture permanent metal decking and rooflights and supply labour, plant and materials to carry out the permanent metal decking, single ply roofing, green roofing, roof access hatch and rooflight works as more particularised in the Sub-Contract Documents”

13.

The Sub-Contract was based on the standard JCT Sub-Contract Agreement.

14.

Section 2.1 of the JCT Sub-Contract says

“The Sub-Contractor shall carry out and complete the Sub-Contract works in a proper and workmanlike manner, in compliance with the Sub-Contract Documents...”

Section 2.4 of the JCT Sub-Contract agreement, together with the additions detailed in the Sub-Contract, sets out explicit contractual obligations relating to materials, goods and workmanship including provision that;

- Materials and goods shall, so far as procurable, be of the kind and standard described in the Sub-Contract.
- Materials and goods shall not be substituted without the Contractor’s consent.
- Materials and goods shall be new and appropriate for their use and of a satisfactory quality.
- Consent of the contractor to substitute materials and goods does not relieve the Sub-Contractor of its other contractual obligations.
- Workmanship shall be of the standard described in the Sub-Contract.
- Workmanship shall be of a satisfactory quality.

15.

Section 2.5 of the JCT Sub-Contract agreement sets out explicit terms in relation to the provision of an indemnity. Specifically 2.5.2 says

“... the Sub-Contractor shall indemnify and hold harmless the Contractor against and from any claim, damage, loss or expense due to or resulting from any negligence or breach of duty on the part of the Sub-Contractor, his employees or agents ... due to the failure of Products to comply with the provision of the contract (including the manner of their delivery or supply to the Company)...”

16.

Clause 2.22 of the JCT Sub-Contract states;

“The Sub-Contractor shall make good at his own cost and in accordance with any direction of the Contractor all defects ... and other faults in the Sub-Contract works or in any part of them due to materials, goods or workmanship not in accordance with this Sub-Contract.”

17.

Clause 3.11 deals with work, not in accordance with the Sub-Contract

18.

Clause 3.13 deals with workmanship not in accordance with the Sub-Contract.

19.

Clause 3.15 of the JCT Sub-Contract, states;

“The Sub-Contractor shall indemnify the Contractor in respect of any liability and reimburse the Contractor for any costs which the Contractor has incurred as a direct result of compliance by the Sub-Contractor with clauses 3.11 ... and/or 3.13...”

E – Acknowledgement

20. It is acknowledged that there is no dispute with our clients and Henry Boot with regard to the scope of the works to be carried out, contained within the contract.

F – The Claimants positions

21. The particular works in question relate to the installation of the roof top garden and the roof top drainage system.
22. The roof top garden and drainage system was designed and specified by the Project Architect, Mr G Mitchell of Enjoy Design Limited. You were provided with a copy of the Architect's drawings and specification. At all times you were fully aware of the nature of the installation and the specified products to be used.
23. The Project Architect's Specification provided for a "*drainage geo-composite (ABG Deckdrain 2540 S)*" to be installed across the entire roof as per Clause 350A, plus a "*drainage and attenuation layer (Roofdrain 40S1RXss c3h)*" to be fitted under the planters as per Clause 350B.
24. Products manufactured by ABG were specified by the Project Architect. A copy of the Project Architect's specification is attached.
25. You did not use the materials specified by the Project Architect, instead you purchased cheaper materials supplied by 'Sky Garden Ltd'. The Sky Garden product is inferior to that which was specified. Further the Sky Garden system is not designed to work in the same way as the ABG system and cannot therefore be installed to the same design.

G – Use of Alternative materials

26. You were unable to source the specified materials from ABG as the lead time was too long and the materials would not have been available in time for you to complete the Sub-Contract works in accordance with the works schedule.
27. In due course we will produce witness evidence to prove that you were told there was a significant lead time for the supply of the ABG products and that you were advised to order the products at the outset of the Sub-Contract works to ensure they were available in time.
28. Despite this knowledge, you failed to order the products in time to ensure they were available and in the circumstances you were left with no alternative other than to source cheaper inferior products.
29. It is accepted that you informed the Claimant that you were substituting the specified ABG materials with the Sky Garden product.
30. As it was reasonably required to do so (by the terms of the Sub-Contract), the Claimant agreed to the substitution of the product. However, its agreement was given on the basis that the materials being used in place of those which were specified, were equal in terms of both design and quality. This is the way in which the substitution was explained to the Claimant. You are the expert Sub-Contractor and the Claimant was entitled to rely on your perceived expertise, when agreeing to your request.
31. For the avoidance of doubt it is now considered that the substituted materials were not equivalent or of the same quality as those specified. Had this been explained to the Claimant, when the request to substitute the materials was made, it would not have been agreed. You clearly misrepresented the quality and function of the replacement products.
32. The Claimant will adduce witness evidence that will set out the detail of the request for substitution of the materials in due course.

H – The Problem (the claimant's position)

33.

Upon completion, it initially appeared that the roof garden/drainage installation was functioning correctly, which is unsurprising as there were no immediate significant periods of inclement weather.

34.

Problems with the drainage system first became apparent in August 2017. The Claimant was notified by Rudding Park Spa that a number of the plants that had been set in the raised beds were beginning to die. The plants were becoming discoloured and their condition was deteriorating rapidly.

35.

A number of investigations were undertaken to determine the cause of the problem. It was found that the beds had become waterlogged. The rainwater was unable to drain out of the beds, preventing 'aerobic activity' around the roots.

36.

Initially, it was considered that the topsoil used in the planters had too high water retention properties. The topsoil used was different from that which was originally specified. However, samples of the topsoil were sent for laboratory analysis by Rudding Park Spa. The tests indicated that the water retention and flow rate properties of the topsoil were within normal range and the topsoil was suitable for general landscape purposes (planting trees, shrubs and amenity grass). The topsoil used was found to be fully compliant with the requirements of the British Standard for Topsoil (BS3882.2015 - Specification for Topsoil - Table 1, Multipurpose Topsoil). The topsoil was therefore deemed not to be the cause of the problem.

37.

The investigations moved on and focused on the drainage system. A number of the beds were excavated to expose the drainage system that had been installed beneath the planters.

38.

Upon carrying out these investigations it became clear that the drainage system had not been installed in accordance with the Project Architect's design and was sub-standard.

I – Investigation and Cause (Henry Boot)

39.

The specified system incorporated 2 'egg crate' layers manufactured by ABG.

The specified bottom layer is known as a 'drainage layer'. It is a high strength, impermeable layer that does not attenuate water. Excess water that reaches the drainage layer, has unobstructed access to flow into the installed drainage gulleys. A photograph of the specified ABG drainage layer is below.

40.

The specified top 'egg crate' layer was an attenuation layer. This had large 40mm deep cups, which retained water to help keep plants hydrated in periods of dry weather. The attenuation layer also had large 15mm drainage holes, which allowed excess water to drain to the drainage layer where it was able to migrate into the installed drainage gulleys. The attenuation layer also had a thin filter geotextile bonded to the top of it and second geotextile bonded to the bottom. A photograph of the specified attenuation layer is below.

41.

The Installed System

The investigations revealed a number of serious problems with the installed system, which prevented it from functioning. It should be noted that different problems were found in different areas of the installation. The list below should therefore not be treated as exhaustive.

42.

Bottom Layer

- The installed bottom layer was not a drainage layer. The product fitted was a lightweight, low strength 20mm attenuation layer. A photograph of the installed bottom layer is below. The bottom layer was installed in the same orientation as shown in the photograph.

43.

- The installed bottom layer provided unnecessary water storage in the back of its cusped cores, causing stagnant water and unpleasant odours. The specified drainage layer did not attenuate water.

44.

- The low strength characteristics of the installed bottom layer deformed due to the imposed landscaping loads, causing undulations to the surface finish level.

45.

- The installed bottom layer was permeable (had holes - as indicated by the arrows in the photograph above), allowing any water that did manage to reach the bottom level of the system to penetrate through onto the structure of the sub-roof. The specified bottom drainage layer had no holes and was impermeable.

46.

- The bottom layer had been installed on top of a protection fleece. The cusped design of the attenuation layer that had been installed caused the protection fleece to deform, significantly restricting the flow of any water that managed to reach that level from finding its way to the installed drains. A photograph of the deformed

47.

Top Layer

- The installed attenuation layer was substandard. It had 25mm deep cups as opposed to 40mm as specified. The smaller cups would not have attenuated sufficient water to keep the plants hydrated in periods of dry weather. A photograph of the installed attenuation layer is below.

48.

- A heavy duty protection geotextile was loose laid on top of the attenuation layer. Pressure from the weight of the topsoil, caused the loose laid geotextile to depress into the attenuation cells of the attenuation layer, which reduced water attenuation and restricted flow of excess water to the drainage layer.

49.

- The geotextile used on the top of the attenuation layer was incorrect. It was a thick protection geotextile (it should have been a thin filter geotextile). The thick protection geotextile severely restricted the flow of excess water passing through it. In one instance stagnant water was found ponding on top of the geotextile in a planting hole. When a small cut was made in the geotextile, the water (slowly) soaked through.

50.

- The drainage perforations of the attenuating layer were small (2-3mm) and infrequent, significantly reducing the efficiency of the drainage system. The drainage holes became blocked when the geotextile, which was loose laid on top of the

51.

attenuation layer, was depressed. The infrequent, small drainage holes are indicated by the arrows above.

52.

Other Problems

- The drainage and attenuation layers beneath the planters had been installed above the lip of the retaining metal work, effectively creating a dam and preventing any water that was able to pass through to the bottom layer from draining away. A photograph of this installation is below.

53.

- The installed water control layer was cut short and failed to form a continuous barrier for the water to flow within, allowing water to run behind and under the insulation layer. This resulted in flotation of the insulation and damage to the Pilates decking. These problems are clearly observed in the photographs below.

54.

- Poor asphalt detailing around the drainage gulley created a dam, which prevented water from entering the gulley. See the photograph below.

55.

- The asphalt had de-bonded from the sub-roof structure allowing water to penetrate. It is not clear if this is a result of poor initial installation of the asphalt or the fact that water had been allowed to penetrate to this level as a result of the way in which the drainage system had been installed. In any event, the issues required rectification by the Claimant. A photograph of the de-bonded asphalt is below.

56.

The investigations concluded that the planting beds had become waterlogged as a consequence of the way in which you had installed the drainage system. Excess rainwater was not routed to the drains, via the drainage layer, causing the planting beds to become waterlogged.

57.

The installed system also allowed water to penetrate to the sub-roof, below the insulation. The hydrostatic pressure caused the insulation to float, which in turn caused damage to the Pilates deck.

58.

The system that had been installed was significantly out of spec, inadequate and not fit for purpose. It comprised lower quality substitute materials. Those materials were not installed in a way which enabled them to operate with the required amount of efficiency to provide the necessary or appropriate drainage.

59.

The substitute materials that were sourced from Sky Garden, were not properly installed in accordance with the manufacturer's instructions.

60.

Remedial Works

Once the problems had been brought to the attention of the Claimant, it worked closely with Ridding Park Spa to ensure a resolution could be achieved as quickly and economically as possible.

61. It was established that the problem related to the drainage system in November 2017 and you were asked by John Watkins on 01 November 2017, to provide a formal response. Details of the investigations that had been undertaken to arrive at this conclusion were sent to you.
62. You replied on 03 November 2017, referring the Claimant to various data sheets and disputing some of the findings, without providing any evidence to support what you were alleging.
63. You were subsequently contacted on 22 November 2017 by Keith Burns. The Claimant and Rudding Park Spa had managed to maintain an amicable relationship and reasonable proposals for remedial works were put to you.
64. You responded by letter the same day, refuting the allegations and indicating you would not be returning to site to rectify any of the problems.
65. You were further contacted by the Claimant on 04 December 2017, who advised you that monies had been withheld by Rudding Park Spa as a result of the defective works. You were requested to co-operate and return to site to remedy the defects as was your contractual duty, failing which an alternative Sub-Contractor would be used and the associated costs would be recovered from you.
66. You responded to that email and asked if a site meeting could be arranged, which was set up for 11 December 2017.
67. The meeting took place but was not productive. You failed to properly engage and accept that any of the problems were a result of the way in which the drainage had been installed. You maintained the problems were caused by the soil and indicated that you would not be returning to site to rectify any of the defects as they were nothing to do with you. Despite this, you verbally offered to pay Henry Boot Construction £20,000 to *'put this matter to bed'*.
68. At that point it became clear that you were not willing to adopt a sensible and pragmatic approach to resolution of this issue, even though the cost of undertaking the remedial works were limited (owing to the reasonable approach adopted by Rudding Park Spa). Therefore, in an effort to preserve its reputation and to ensure the good working relationship with Rudding Park Spa continued, the Claimant arranged for the remedial works to be undertaken, removing the inadequate, out of spec drainage system that had been installed by you and replacing it with the specified design.

69.

Breach and Losses

The Claimant contends that you failed to perform the sub-contract works in accordance with the express and implied terms of the Sub-Contract.

70.

In the alternative you were negligent in the way in which you procured materials/goods and in the way the work was undertaken.

71.

The quality of the materials used and the way that you chose to install those materials fell significantly below the standard of work that was required, pursuant to the express and implied terms of the Sub-Contract.

72.

Your acts have resulted in significant losses and as a consequence the Claimant seeks damages to recover the losses that have been incurred as a result of your breaches and/or negligent acts.

73.

As a result of the remedial works undertaken by the Claimant, caused by your defective work, the following losses have been incurred.

J – Schedule of Works

HENRY BOOT CONSTRUCTION LIMITED

RUDING PARK SPA - PHASE 2 WORKS

ROOF REPAIRS - 9724262702

Item	Description	Qty	Unit	Rate	Total
1	<u>PRELIMINARIES</u>				
1.1	<u>Staff</u>				
	<u>Sam Cookson:</u>				
	<u>Site supervision during remedial works period</u>				
	<u>(Dec '17 - Feb '18)</u>				
	Contracts Manager - Gary Holmes	6.5	days	650.00	4,225.00
	Project Manager - Jon Watkins	6.5	days	386.00	2,509.00
	Site Manager - Mick Wake	13.0	days	425.00	5,525.00
	General Foreman - Mick Fairbrother	13.0	wks	1,515.00	19,695.00
	Managing Surveyor - Keith Burns	6.5	days	600.00	3,900.00
	Project Quantity Surveyor - Samuel Cookson	6.5	days	386.00	2,509.00
1.2	<u>Chargeouts</u>				
	Buyer	1	IT	90.00	90.00
	Staff Levies @ 1.69% = £556	1	IT	556.00	556.00
1.3	<u>General Labour</u>				
	<u>Sam Cookson:</u>				
	<u>MPG receiving/ unloading/ distributing</u>				
	<u>materials/ cleaning/ general site duties</u>				
	HB Labour - Salaries-31/01/2018	1	IT	1,683.38	1,683.38
	HB Labour - Salaries-28/02/2018	1	IT	8,245.93	8,245.93
1.4	<u>General Materials</u>				
	General Expenses - Mileage-31/12/2017	1	IT	286.97	286.97
	General Expenses - Mileage-31/01/2018	1	IT	573.71	573.71
	General Expenses - Mileage-28/02/2018	1	IT	500.00	500.00
1.5	<u>General Plant</u>				
	Battery Operated Suction Slab Lifter c/w				
	Charger/ Puddle Pumps/ Vacuum Cleaners (Wet/				
	Dry)	1	IT	304.62	304.62

	TOTAL PRELIMINARIES			50,603.61
2	<u>REMEDIAL WORKS - ALL AS ENJOY DESIGN DRAWINGS</u>			
2.1	<u>Ares Landscape Architects Limited</u>			
	Sam Cookson: <u>Landscape Architects appointed by HBC to complete an independent review of the completed roof terrace - specifically to compare the installed roof drainage products with the specified roof drainage products and advise if they are equal products and that they can form a system that is equal in its intended function.</u>			
	Invoice Nr : ALA450-001/18	1	SUM	650.00
				650.00
2.2	<u>A.B.G. Limited</u>			
	Sam Cookson: <u>Roofing sub-contractor - temporarily remove pebble margins, remove defective drainage system/ materials, install specified drainage system and reinstate pebble margins to all areas</u>			
	Payment Notice dated Fri 09/02/2018 - FORECAST FINAL ACCOUNT	1	SUM	31,586.00
				31,586.00
2.3	<u>Plaken Joinery Limited</u>			
	Sam Cookson: <u>LO sub-contractor - Carefully remove defective composite timber decking, sub-frame and pedestals (salvaging and safely storing sub-frame for reuse) and carefully removing and safely storing bespoke edge retaining profiles</u>			
	Application for Payment No :- RPS-005	1	IT	1,580.00
				1,580.00
2.4	<u>Plaken Joinery Limited</u>			
	Sam Cookson: <u>LO sub-contractor - Installing new composite decking (reuse existing sub-frame and pedestals) + bespoke edge retaining profiles - includes NPO for out-of-hours working to the requirements of Rudding Park</u>			
	Application for Payment No :- RPS-006	1	IT	2,280.00
				2,280.00

	<u>Sam Cookson:</u> <u>Composite decking materials</u> Keyline Builders Merchants Limited Invoice 2327 AVG405	1	IT	6,569.85	6,569.85
2.5	<u>Sothall Roofing Limited</u> <u>Sam Cookson:</u> <u>Roofing sub-contractor - Making good hot melt</u> <u>system due to water damage + resetting level of</u> <u>RWP outlets</u> Valuation dated 29th January 2018	1	IT	7,270.00	7,270.00
2.6	<u>The Plastic Surgeon Limited</u> <u>Sam Cookson:</u> <u>Specialist sub-contractor - Making good damage/</u> <u>paint chips to bespoke edge retaining profiles</u> Work Request No. 870238	1	IT	4,270.00	4,270.00
TOTAL REMEDIAL WORKS					53,555.85
3	<u>OH&P</u>				
3.1	<u>OH&P @ 6.5%</u>	6.5	%	104,809.46	6,812.61
					111,622.07

Summary of Claimants claim

Insured losses	£46,337.94
Expenses	£4,864.00
Uninsured losses	£111,622.07
Total	£162,824.01

PART 2 – Andromeda’s Findings

K – Andromeda’s investigation

74. Andromeda has considered all documents supplied by the claimant’s solicitor Kennedy’s in the letter before claim dated the 23rd November 2018 and have continued to work on the case since that time.
75. During the period from November 2018 to February 2019 we have been assisted by the recovery of video evidence which we have been able to analyse in order to present our client’s position and at the same time challenge the provenance of the claimant’s.
76. The photographic evidence is informative, unchallengeable and conclusive.

L – The Basis of Claim

77. The basis of the claim is that the defendant’s breached the contract and as a result the claimant has been disadvantaged by the fact that they have suffered a loss by virtue of having to remedy a fault that has occurred as a direct result of the defendants negligence.
78. The claimant is seeking recovery of losses incurred together with legal costs relating to the remedy.
79. It is the claimant’s position that the defendant has used an alleged inferior product to the one specified without approval and which is not designed to work in the same way.
80. The Sky Garden system does in fact work in the exact same way as the ABG system, and approval was sought and given prior to installation.

M – Potential Causation (claimant’s position)

81. It is Henry Boots position, that Planet Alpha Ltd did not use the materials specified by the project architect and included in the contract, and that is allegedly the “**causation**” of the claimants claim.
82. It is further alleged that the materials purchased by way of alternatives to the specified materials are cheaper and inferior.
83. It is also alleged that the alternative materials are not designed to work in the same way and cannot therefore be installed in the same design.

N – Evidence submitted by the claimant

84. What we now need to examine is the description of the work that was required to remedy the alleged problem with regard to the **shrubs and trees planted in the roof garden**.
85. In order to remedy the problem as referred to by the claimant, it was found necessary to remove all infrastructure and systems of the original works carried out by the defendant and replace the same with an alternative supplier namely ABG.
86. It is our understanding that the replacement system was not as per the original architects specifications.

O – ABG Systems vs Sky Garden

87. The main issue according to Henry Boot is that the Sky Garden system is inferior to the ABG system. The ABG System was not used by the defendant and that all the alleged problems have arisen as a result.
- That is the claimant's position.**

P – Andromeda's Position

88. Based on our forensic investigation and detailed analysis of all evidence examined we do not concur with the findings of the claimant.
89. The only problem with the entire spa facility is in fact the health of a number of shrubs and trees in a particular area of the roof garden and that is the centre of the claim.
90. There is no dispute between the parties that the installation of the roof garden was completed without incident and that the spa complex opened in May 2017.
91. The question is “**what was the causation of the problem?**”

Q – The Causation

92. It is Andromeda’s position that based our forensic investigation which includes historic photographic and video evidence proves beyond doubt the **“causation of the problem”**.
93. Based on our findings we do not accept that the drainage system had any significant part to play in the **“demise of the trees and shrubs”**.
94. The causation of the problem which led to the **“demise of the trees and shrubs”** began prior to our client’s involvement with the project during the roof construction of the **“lower level”** which had a back fall and created **“ponding”**.
95. It is clear from the video evidence that ponding began prior to our client’s commencement of the roof garden and would continue after the planting of the **“shrubs and trees”** and would form an underground reservoir undetected with no potential source of drainage, with a capacity of potentially 500 gallons of water.
96. There is no dispute between the parties that ponding existed before any work was carried out by the defendant.
97. The outcome was that the **“shrubs and trees”** eventually drowned.
98. No roof garden drainage system is designed to operate in a reservoir.
99. The original investigations into the alleged causation of the problem carried out by Henry Boot, delivered a faulty diagnosis, therefore created a flawed remedy.

R – Conclusions

100. There is no **“provenance”** to support the claimant’s position that the demise of the **“plants and trees”** was caused by the failure of the roof garden system installed (Sky Garden) by the defendants and which was not the one specified by the architects.
101. We have uncovered compelling evidence which identifies the **“causation”** of the problem with the roof garden. It has been caused by the fact that the concrete slab of the roof, and in particular the lower area had been completed with a significant back fall which prevented the area from draining and caused substantial ponding.
102. As a result of the ponding it was irrelevant as to which system had been installed, Sky Garden or ABG, as neither would have functioned until the growing problem of ponding had been remedied.
103. The fact that the claimant was aware of the ponding situation prior to our client’s involvement, we find it incomprehensible that it was allegedly considered in the initial findings, but never accepted as the fundamental cause of the problem.

104. The fact that the rectification of ponding was included as part of the remedial works to be carried out by Sothall Roofing is an admission in itself.
105. It is a matter of fact that repairs carried out by the claimants, included the correction of the roof level to eradicate the ponding.
106. The fact that part of the remedial work to rectify the problem of the “trees and plants”, was to correct the level adds credence to our prognosis.
107. Our clients (defendants) did inform the main contractor (claimant) of the ponding issues before commencing work as it was apparent that water was not draining off the lower roof.
108. Our clients (defendants) were assured that the ponding issue was rectified prior to commencement of our client’s contract works.
109. By reference to the photographic evidence obtained from a camera located on site and which took photographs at hourly intervals we can establish that the rectification was not carried out as promised prior to our client’s commencement of the contract to install the roof garden.
110. No sub-contractor is duty bound to establish the integrity of the work carried out by a previous sub-contractor. This duty must lie with the architect Mr G Mitchell of Enjoy Design, the main contractor Henry Boot, and more specifically surveyors in the employment or control of the main contractor (claimant).
111. The roof construction specification with regarding roof levels was specified by the Architect and may well be in conflict with the specification of the roof drainage system.
112. From the time of the hand over, in May 2017 to the time when some of the plants and shrubs died, the build-up of the water ponding has continued unabated throughout, and it must follow that by October 2017, there was substantial amounts of water trapped under the lower roof garden with no potential to drain.
113. The invoice from Sothall roofing catalogues the work done, as follows:
a) Dry, clean and prime areas that require building up
b) Apply anti root hot melt to the ponding areas. All as IKO recommendation.
c) Grind back concrete deck around outlets to improve water flow and reseal.
d) Seal felt laps to deck and upstands.
114. The description included in the schedule of works is completely opposite with the repair works carried out by Sothall roofing and provides evidence of a coverup.
115. The work done by Sothall roofing necessitated disturbing the original waterproof roof installed by the defendants, which had been inspected and signed off by the suppliers and who had provided the necessary guarantees.
116. The result of disturbing the original roof waterproof membrane is that the guarantee provided is now null and void.

117. Based on evidence uncovered there can be no doubt that the causation of the problem which led to the dysfunction of the roof garden was in the main caused by ponding which came about by the fault, namely a back fall in the construction of the concrete roof slab.
118. Changing the system after carrying out major repairs on the floor slab as describe by Sothall roofing does not condemn the Sky Garden system.
119. We have no doubt that if there had been no ponding from the outset, then either the system Sky Garden or the ABG would have functioned.
120. No system would have been able to deal with ponding of this magnitude and in addition the drainage outlets were set too high and remedied by Sothall roofing.
121. If the problem was with the system then a simple replacement of the Sky Garden System with ABG system would have been sufficient to solve the drainage problem, and therefore it would have been unnecessary to carry out substantive repairs to the concrete roof slab and drainage outlets before any work could begin on changing the system.
122. The sky garden is a leading supplier and installer of green roofs nationwide and by reference to the company's website various installations can be viewed.
123. The finished level of the lower had back fall, hence ponding and therefore the gully outlets fitted to the finished roof level had no prospect of functioning, irrespective of who fitted them.
124. A number of site meetings, discussions and on-site tests have been carried out by representatives of Sky Garden which the claimant has attended to establish the integrity of the Sky Garden product, all of which passed with flying colours.

S – Epilogue

125. **It is not in our remit to establish who if anyone made mistakes with regard to the initial diagnosis of the demise of the “trees and shrubs” however we are certain based on evidence uncovered that our clients are totally innocent of any charge of negligence and therefore are not entitled to pay for or make any contributions to the remedial works.**
126. **We have spent considerable time to establish our client innocence and have been assisted by conclusive photographic and video evidence.**
127. **There can be no doubt that our costs of investigations, the compilation of the report and the cost of the film production, should be borne by the claimant (Henry Boot).**



