

## Visit Report

Our Reference

Claim Reference

Prepared for

Aviva

### Claim Details:

Report Date

07 February 2014

Policyholder


Claim address

16, Downside Crescent  
London  
NW3 2AP



## DETAILS OF REVISIT

A revisit was required after InFront Innovation had taken over the management of the claim from the previous Loss Adjuster. A meeting was therefore arranged to inspect the property during which we were able to discuss matters with Miss Herbert and her appointed Loss Assessor Graham Kershberg. Prior to the appointment we had also reviewed some of the earlier correspondence and reports which had been prepared by the previous adjusters.

<b>Description of property and site</b> 	<p>The subject property is a three storey semi-detached house which has been converted into three self contained flats. It is likely the property was built in around 1900 but the date of conversion is unknown. Construction is traditional with solid brick walls under a pitched slate roof. The property benefits from a single storey rear extension which is likely to have been built during the 1960's.</p> <p>The property is located within an established residential area on a plot that is essentially level. There are trees within rooting distance of the rear of the property as highlighted under the Vegetation section of this report.</p> <p>The Geological Drift map of the area indicates that the subsoil comprises London Clay.</p>
<b>Claim History</b>	<p>We understand that cracking to the property was first noted during 2007. In view of the nature of damage advice was obtained from a local firm of Consulting Engineers, Walsh Associates, who had previously represented Miss Herbert in respect of earlier Party Wall discussions in relation to underpinning works to the rear of the adjoining property, 18 Downside Crescent. The Engineers had advised that some of the damage within the property could have developed as a result of subsidence of the site and a claim was subsequently intimated to Insurers.</p> <p>Localised site investigations were undertaken involving the excavation of a trial hole to the rear of the property and it was concluded that subsidence to the rear single storey extension had developed as a result of clay shrinkage subsidence due to the moisture demands of adjacent trees. Of particular concern were an ash tree and Swamp Cypress sited on Third Party land to the rear. The property is located within a Conservation Area and it was therefore necessary for a notification to be submitted to the Local Authority seeking consent for the trees to be felled. We understand that the Council refused the application and Tree Preservation Orders were placed on the trees.</p> <p>A period of crack width monitoring was undertaken</p>

	<p>and as this did not demonstrate any significant progression in the level of damage it was concluded that only localised superstructure repairs and decorations would be required. Tree removal was not progressed. A schedule of repair works was prepared and consent was requested from Miss Herbert for an approved contractor to be appointed.</p> <p>Miss Herbert had requested that the services of her own preferred contractor be utilised but it would appear that agreement with the previous adjusters was not reached. A cash settlement was suggested but this was rejected and after a period of time the claim was closed off.</p> <p>However in October 2011 the claim was resurrected and supplementary investigations were undertaken together with a period of monitoring.</p>
<b>Property Ownership and Insurance Arrangements</b>	<p>As outlined the subject property comprises a semi detached house which has been converted into three flats. Miss Herbert originally purchased the ground floor flat in 1978 and then proceeded to buy the first floor flat in 1987 and finally the second floor flat in 1999. The ground floor flat is occupied by Miss Herbert and the other flats are let to tenants.</p> <p>Buildings insurance has been placed with Aviva since 12/4/2002 with the policy being arranged via Stackhouse Poland Insurance Brokers.</p>
<b>Nature and Extent of Damage</b>  	<p>It is apparent that there has been downward and rotational movement of the rear single storey extension relative to the rear elevation of the main building resulting in a vertical tapering crack to the left hand flank wall at the junction between the structures.</p> <p>Within the first floor rear bedroom, there is cracking to the rear elevation beneath the windows, together with a crack above the left hand window which extends up to the cornice to the left hand party wall alcove. The crack extends along the cornice to the rear wall and at the juncture between the rear elevation and the internal cross wall to the kitchen. Whilst the cracking beneath the rear windows is likely to have developed as a result of longterm deflection of the supporting beam / bressumer which extends across the ground floor opening, it is possible that the cracking to the rear left hand corner could have developed as a result of slight foundation movement to the rear left hand corner of the main building.</p> <p>There is also slight cracking within the rear bedroom within the second floor flat.</p> <p>There is a longstanding crack within the ground floor flat to the main internal loadbearing wall between the front bedroom and rear reception room, which</p>



extends up within the first floor flat. Whilst the precise cause of this crack has not been formally established, the crack is considered to have been present for a number of years and was highlighted within the Engineers report from 2008. In addition the crack width monitoring exercise which was undertaken between March 2012 and August 2013 has not demonstrated any progressive movement.

It is possible that the cracking could have developed as a result of movement to the neighbouring property or as a consequence of subsequent underpinning. However in the absence of any indications of progressive movement only localised repairs would appear necessary.

During our visit we also inspected the brick boundary wall to the rear of the site. We understand the wall failed several years ago but reinstatement works have yet to be undertaken. In view of the nature of damage it is not possible to formally establish the cause and whether the failure developed as a result of age related deterioration, subsidence or due to direct root action from adjacent trees. However we consider the damage is remote and separate from this current subsidence claim which essentially dates back to 2007 when the initial report was prepared by Walsh Associates. Accordingly we must advise that we are not in a position to consider any possible repair costs as part of this claim.

## Site Investigations

Site investigations have been undertaken with the works involving the excavation of a trial hole to the rear left hand corner of the rear extension. We have been provided with a copy of the Factual Report of Investigation from CET Safehouse Ltd following investigations which were undertaken in February 2012 together with the results of investigations carried out in April 2008.

The trial hole to the rear of the extension revealed a concrete foundation to a depth of 900mm. Both sets of investigations involved a trial hole to the rear left hand corner of the extension and whilst the earlier investigation confirmed that the underlying subsoil was a firm silty CLAY, the subsequent excavation revealed a suspected made ground to a depth of 1.1m. After further reviewing the results of the earlier investigations and the actual location of the trial hole we consider that the subsequently identified made ground is likely to represent the back filling of the earlier trial hole.

A borehole was sunk to a depth of 8.0m with soil testing to a depth of 5.0m. The borehole revealed a firm to stiff silty CLAY throughout.

In situ soil testing was undertaken and the shear vane readings within the borehole were consistent high.

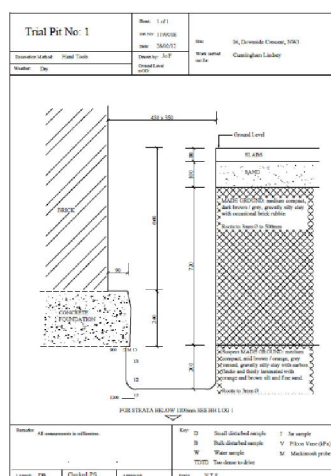
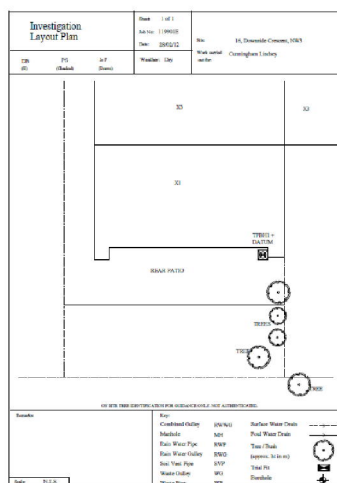
Soil analysis was undertaken and the subsoil has been classified as being of high to very high plasticity and as such the subsoil will be highly susceptible to volumetric changes due to variations in moisture content.

Based upon the results of the laboratory testing it would appear that the subsoil was desiccated at a depth of 2.5m.

Roots were noted at the underside of the foundation and within the borehole to a depth of 2.7m. Botanical analysis of root samples was undertaken and this identified roots from the *Fraxinus* species (Ash) and also *Taxodiaceae* (inc Redwood, Wellingtonia, cedar).

As detailed within the Vegetation section of this report there are two Ash trees and a Swamp Cypress (*taxodium distichum*) within neighbouring gardens to the rear.

The drainage system is essentially remote from the area of movement and accordingly a CCTV drainage survey has not been undertaken.



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Date Sampled: 28/02/2012

Date Received : 29/02/2012

Date of Report :	12/03/2012
Site :	Salpêtre Creek

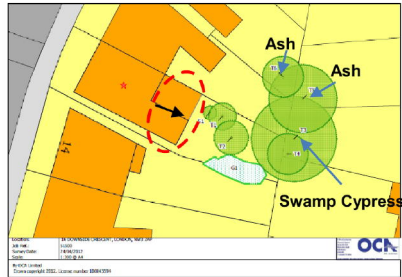
Iteration	Initial Test		Type	Access Control	File Size (KB)	Access Time (s)	Local Latency (ms)	Remote Latency (ms)	Transfer Rate (MB/s)	Mobile Transfer Rate (MB/s)	Net Cost	Flow Control Type	Flow Control Rate (MB/s)	Std. Deviation (MB/s)	Jitter Time (ms)	Jitter Rate (MB/s)	Opacities Control (%)	pH Value	Indirect Transfer Rate (MB/s)	Ch. Rate (MB/s)
	Initial Test Time (s)	Initial Test Rate (MB/s)																		
1	0.00	0.00	D	31	34	56	20	36	0.00	24	CM									
1	1.5		D	31	<5	81	23	58	0.20	58	CM	168	77				= 120			
	2.0		D	33	<5															
	2.5		D	32	<5	79	23	55	0.15	55	CM	168	191							
	3.0		D	32	<5															
	3.5		D	31	<5	76	23	53	0.15	53	CM	168	160				= 120			
	4.0		D	32	<5															
	4.5		D	32	<5															
5	5.0		D	31	<5							168	192				= 120			
												168	206							

[illegible][illegible]

Key	
D	Disturbed sample (Control)
S	Disturbed sample (S4S)
U	Undisturbed sample
W	Overdisturbed sample
SPR	Necessity: new plants by spontaneous
SPR	Undisturbed of reproduction



## Vegetation



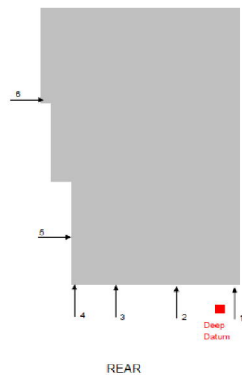
Damage to the rear of the property is considered to have developed as a result of clay shrinkage subsidence exacerbated by the moisture demands of adjacent vegetation. It is considered that foundation stability could be achieved if a programme of tree management were to be undertaken. An arboricultural report was therefore commissioned upon vegetation within potential influencing distance of the property and OCA UK Ltd had recommended the felling of the Swamp Cypress identified as T3 and two Ash tree (T5 and T6). The trees are under the control of three separate neighbours.

During the course of the original claim it had been established that the property is located within a Conservation Area and a notification was made to Camden Council seeking consent to fell the Swamp Cypress and an Ash tree. Objections were raised and Tree Preservation Orders were placed on both trees.

Following consideration of the arboricultural report an application was subsequently made to fell the Ash tree within the Conservation Area but in June 2013, the Council also placed a Tree Preservation Order on this tree.

A formal application was therefore made to fell all three protected trees but the council refused consent.

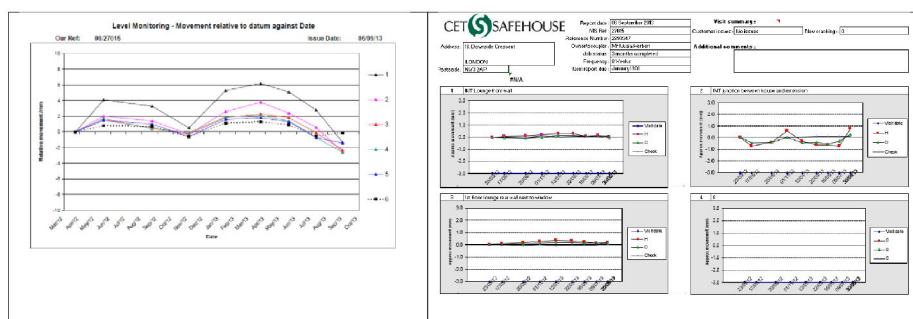
## Monitoring



A programme of level monitoring has been undertaken March 2012 through to August 2013 and this has demonstrated a pattern of cyclical movement indicative of vegetation related clay shrinkage with downward movement over the summer period and subsequent ground recovery over the winter months.

In addition a programme of crack width monitoring was undertaken incorporating the cracking to the internal cross wall between the ground floor front bedroom and rear lounge, a crack adjacent to the first floor bedroom window together with the vertical crack between the rear extension and the main building. The monitoring of the cracking to the internal cross wall and within the rear first floor bedroom has not demonstrated any significant progression, whereas the crack between the main building and rear extension has shown a pattern of cyclical movement with the crack opening during the summer and closing over the winter.

It would therefore appear that it is only the rear single storey extension that continues to be affected as a result of vegetation related subsidence.



## Recommendations

Following consideration of the results of the earlier investigations and monitoring exercises it is considered that the rear single storey will continue to be affected as result of clay shrinkage subsidence unless the offending vegetation were to be removed or some form artificial intervention or stabilisation were to be undertaken.

With regard to the issue of tree removal, there are several trees within influencing distance of the rear extension and even if consent could be obtained from Camden Council to fell the protected trees, we consider that it is unlikely that the Third Party tree owners would agree to actually remove the trees. The implicated trees are under the control of three separate neighbours and we are aware from earlier correspondence that they are keen for the trees to be retained.

We have given further consideration to the possibility of installing a root barrier across the rear of the extension but in order for such a system to be successful it would be necessary for the barrier to extend beyond the left hand site boundary across the rear garden of the adjoining property 18 Downside Crescent. Whilst the installation of a barrier across the rear garden of the subject property would not result in excessive disturbance as it could be positioned to the rear of the patio, the installation would result in disturbance to the rear external paving to the neighbouring property. The external surfacing to the adjoining property appears of good quality and there are also surrounding walls which would be disturbed. Accordingly consent is unlikely to be secured.

We have also considered the option of installing a rehydration channel to the rear of the property which would seek to decrease the water uptake of the adjacent vegetation thereby lessening the subsidence risk by conserving soil moisture and reducing clay subsoil shrinkage. However the installation of a rainwater harvesting system would again be restricted to the rear of the risk address thereby providing a degree of protection to the rear elevation and right hand portion of the extension but there would remain a concern that the left hand flank wall of the extension could continue to be affected by the tree roots. The integrity of the flank wall could be improved by way of above ground masonry reinforcement but there would remain a risk of ongoing movement to the left hand portion.

In light of the above it would appear necessary for the rear extension to be artificially stabilised and we would propose that a system of Shire clay piles / stabilisers be utilised with the scheme extending to include the external walls to the extension. This would involve the installation of small diameter steel piles with helical fins which are in turn connected to the existing foundation with a designed connection detail.

The addition of stabilisers to augment the existing foundation of the extension will assist in preventing further damage. As part of the scheme, the stabilisers are driven immediately adjacent to the foundation and to a "set" beyond the zone of desiccation and root activity.

In view of the site restrictions with no direct external access to the left hand flank wall it will be necessary for the works to be undertaken internally from within the rear extension. If the works are undertaken internally then there should be no need for the rear patio to be disturbed.



We will now make arrangements for one of our Contracts Managers to carry out an inspection so that the remedial schedule can be prepared.

Once the schedule has been prepared and a contractor selected then we can further discuss the implementation of the works and the issues surrounding the removal and storage of the contents within the extension including the high value instruments, and the issue surrounding short term alternative accommodation.

Whilst the localised cracking beneath the windows within the rear first floor bedroom is likely to have developed as a result of deflection of the supporting beam beneath, it is possible that localised movement to the rear left hand corner of the property could have resulted in some cracking within the room. Accordingly the remedial scheme will incorporate associated repairs and decorations.

We would also propose a relatively robust repair to the crack to the internal cross wall between the ground floor front bedroom and rear reception room incorporating the provision of stainless steel helibars at horizontal centres across the height of the crack.

**Michael Robinson**  
**InFront Innovation Subsidence Management Services**