ADDENDUM TECHNICAL REPORT

Crawford Reference: SU1807857

Mrs M Orlowski
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Cowbit
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PE12 6AH



Prepared for

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Claim Reference 6358551V

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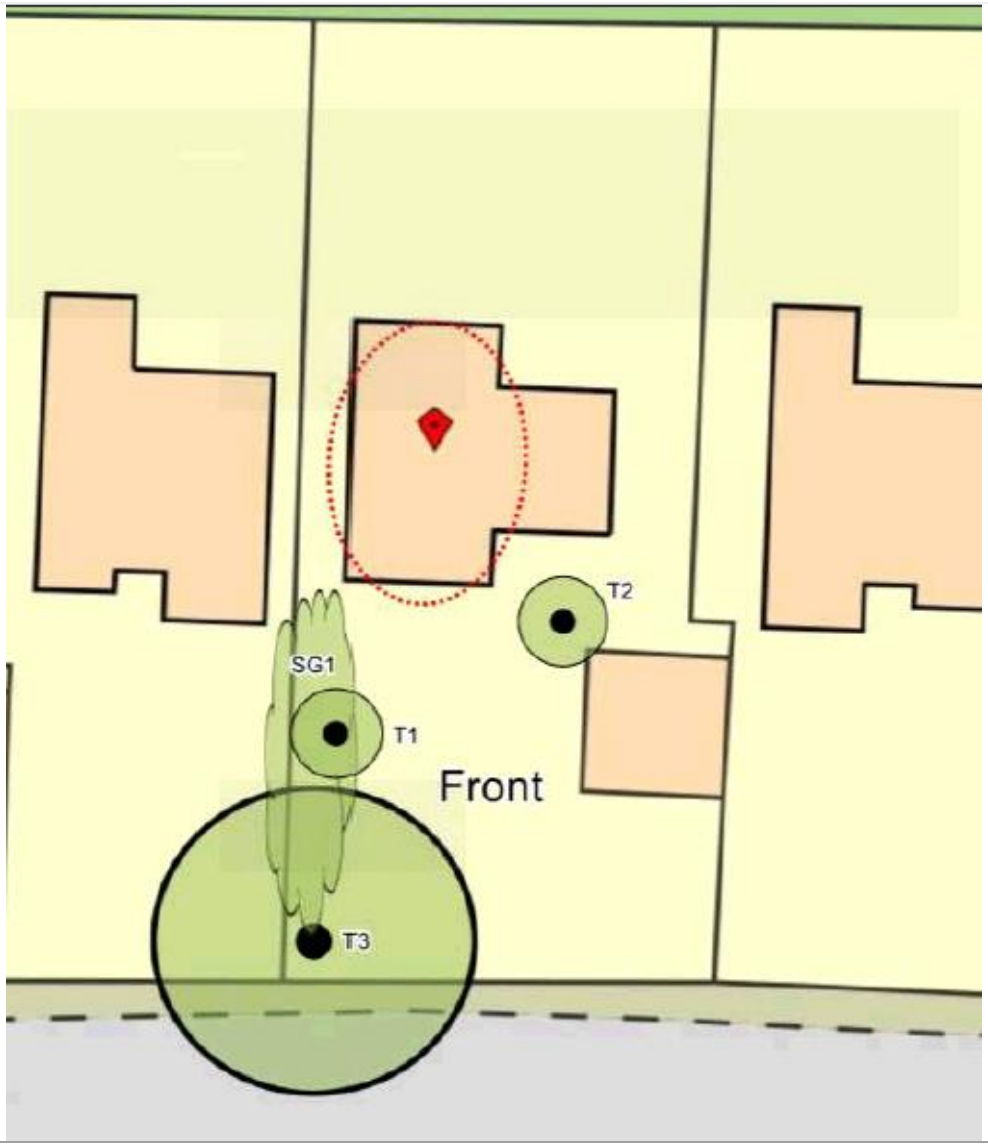
SUBSIDENCE CLAIM

6th October 2020

Crawford®

Site Plan	This plan is Not to Scale

This is a plan of the property and the immediate surrounding area. The positions of utilities etc are only indicative and contractors must satisfy themselves regarding actual location before commencing works.



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Key:

	Tree: Deciduous		Tree: Conifer		Shrub
	Hedge		Area of Damage		Bore Hole
	Trial Hole		Trial & Bore Hole		Level Monitoring
	Rain Water Manhole		Rain Water Gulley		Rain Water Pipe
	Waste Water Manhole		Waste Water Gulley		Toilet Pipe
	Rain Water Drain		Waste Water Drain		Electricity Cable
	Water Supply Pipe		Gas Supply Pipe		Incoming Gas Pipe
	Incoming Water		Incoming Electrics		

INTRODUCTION

We have been instructed by insurers to investigate a claim for subsidence at the above property. The area of damage, timescale and circumstances are outlined in our initial Technical Report. This report should be read in conjunction with that report.

To establish the cause of damage, further investigations have been undertaken and these are described below.

DESCRIPTION

The subject property is a two storey large detached house of traditional construction with brick walls surmounted by a ridged tiled roof with a detached brick built double garage with tiled pitched roof.

AGE AND CONDITION

The property was constructed in 1998. The property was also maintained and decorated to a good standard.

DISCOVERY

The damage was first noticed in 2015 but the insureds husband was very poorly at the time, so no action was taken. The damage at that time was only minor and of no concern so the insured filled in the cracks to the walls.

The damage worsened in September 2018 the insured sought advice from a surveyor who initially inspected the property and undertook initial crack monitoring. It is understood that the insured then contacted insurers to instigate a claim for possible subsidence damage.

DAMAGE

Front Left Hand Bedroom

- Cracking from front wall through coving into ceilings from front to back up to 5mm wide
- Cracking below front window less than 1mm wide.

En-suite

- Diagonal crack above left hand window up to 1mm wide.
- Cracking through coving to ceiling from bedroom to rear wall with disturbance of artex finish.

Landing

- Cracking up to 10mm wide through from front to back in a 'Z' shaped pattern.
- Cracking through coving into ceiling above landing up to 3mm wide.
- Diagonal cracking above and below front window up to 1mm wide.
- Diagonal cracking above and below rear window up to 1mm wide.

Front Right Hand Bedroom

- Vertical tapering crack to right hand wall up to 0.5mm wide.
- Cracking through ceiling/coving up to 3mm wide from front to back.

En-suite

- Cracking through ceiling/coving front to back up to 3mm wide.

Main Bathroom

- Diagonal crack above left hand window up to 1mm wide.
- Cracking through ceiling/coving up to 1mm wide.

Rear Left Hand Bedroom

- Cracking through coving/ceiling from door onto landing to rear wall up to 5mm wide.
- Vertical cracking to rear left hand corner up to 1mm wide.
- Cracking under rear window up to 0.5mm wide.

Rear Mid Bedroom

- Cracking through coving/ceiling from front to back up to 1mm wide.
- Cracking above door onto landing up to 1mm wide.
- Cracking under rear window up to 1mm wide.

Hallway

- Gap at floor/landing connection where stairway returns at top up to 10mmw wide.
- Cracking between wall and coving to lounge/diner door area up toward front up to 6mm wide.
- Diagonal crack above front door of less than 0.5mm wide.

Lounge/Diner

- Cracking between wall and coving to hall door wall up to 3mm wide.
- Diagonal cracking above left hand window up to 1mm wide.

Kitchen

- Cracking between wall and coving up to 2mm wide.

There was no evidence of crack damage to the Study, Toilet or Utility.

Front Elevation

- Minor cracking to junction at return junction by landing window.

Left Hand Elevation

- Hairline crack to solider course above lounge/diner window.
- Stepped crack under en-suite window up to 0.5mm wide.

There was no evidence of damage to the Right hand Elevation, Left hand elevation or the double garage.

INVESTIGATIONS

A site investigation comprising the excavation of two trial holes was undertaken by CET Property Assurance to expose the foundation to the main house together with the supporting subsoil details for insitu testing and logging. Each trial hole was extended by hand auger to retrieve root and soil samples for formal identification and testing respectively.

Trial hole 1, located against the front wall to the main house revealed the foundation to comprise of a 150mm thick concrete strip footing formed at a depth of 700mm below ground level and supported on a medium dense sandy SILT. At approximately 900mm a stiff silty sandy CLAY was encountered which continued to 1500mm at which depth a very soft moist silty sandy CLAY was recorded. This soil description continued to 3000mm at which depth the bore hole was terminated.
A water strike was recorded at 1700mm below ground level.

Trial hole 2, located against the rear wall of the main house revealed the foundation to comprise of a 210mm thick concrete strip footing formed at a depth of 750mm below ground level and supported on a stiff sandy silty CLAY. At approximately 1000mm a very soft silty sandy CLAY was encountered. This soil description continued to 4000mm at which depth the bore hole was terminated. A water strike was recorded at 1400mm below ground level.

Roots were encountered within Trial hole 1 / Bore hole 1 only of up to 7mm in diameter below foundation level to a depth of 2000mm. Roots samples retrieved were formally identified as belonging to the Prunus spp. which include blackthorn, cherry, cherry-laurel, Portuguese laurel, peach, plum, and related species and the Quercus spp. which are oaks. Starch was present which indicates that the root samples were alive at the time of retrieval.

The soil testing highlighted the clay subsoil to be of medium shrinkage potential below foundation level and thus susceptible to volumetric movement due to changes in its soil moisture content.

ARBORICULTURAL REPORT

Independent arboricultural experts at MWA Arboriculture provided their report and identified trees T1 & T2 (Cypress) and T3 (Oak) as the principal causes of movement and damage.

Table 1 **Current Claim** - Tree Details & Recommendations

Tree No.	Species	Ht (m)	Dia (mm)	Crown Spread (m)	Dist. to building (m)	Age Classification	Ownership
T1	Cypress	6.5	400 *	2.0	6.7	Younger than Property	Policy Holder
Management history		No past management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T2	Cypress	5.5	380 *	2.5	4.4	Younger than Property	Policy Holder
Management history		No past management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					
T3	Oak	17.5	1000 *	19.0	15.9	Older than Property	Policy Holder
Management history		No past management noted.					
Recommendation		Remove (fell) to near ground level and treat stump to inhibit regrowth.					

Ms: multi-stemmed * Estimated value

Other vegetation has also been identified as being a potential future risk to the building with recommendations for reduction or maintaining no greater than current height.

LEVEL MONITORING

Level monitoring around the perimeter of the house has been carried out over a period from October 2019 to July 2020. The readings displayed in graphical form below are related to a nearby manhole cover datum. They indicate a downward trend throughout this period consistent with and supportive of root induced clay shrinkage.

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17 Hoveden Road
London NW2 3XE

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e.mail: mon@geo-serv.com

Subsidence Monitoring Services
GEO-SERV

Your ref SU1807857

Our ref ZAM06152CRAW4

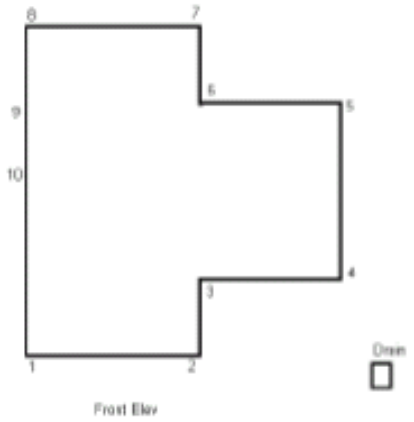
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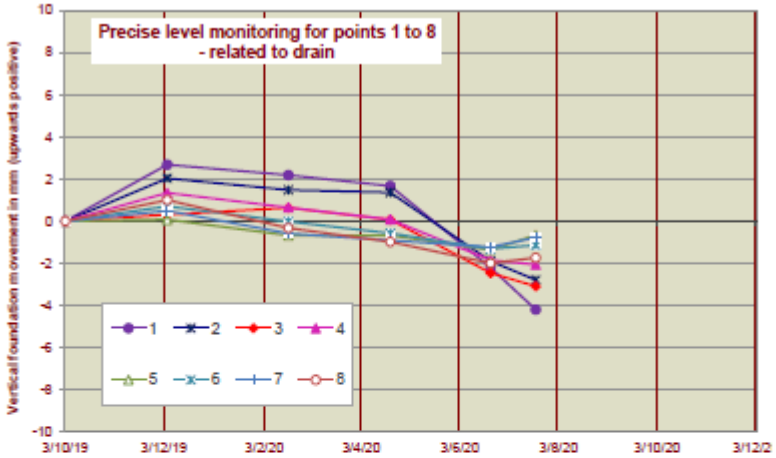
Issue date: 20/07/2020

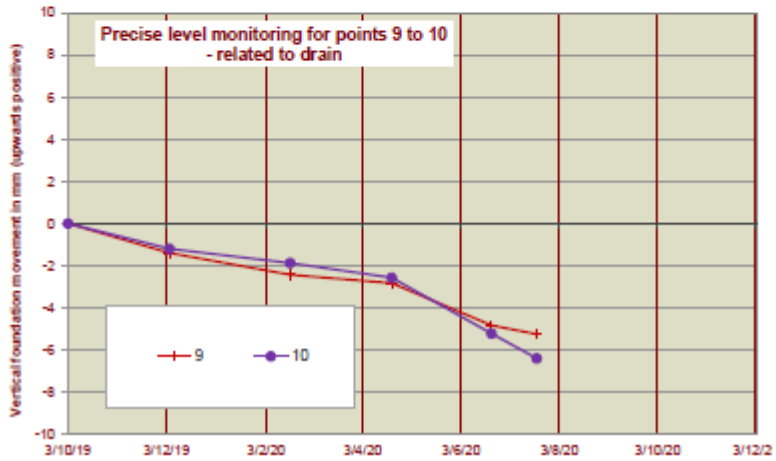
following survey No: 6

Monitoring Plus Report

Owners name		Suspected cause	To be advised	Monitoring type	Levels
Address	42 Stonegate Cowbit Spalding Lincolnshire PE12 6AH	Principal area of damage	To be advised	Installed	03/10/2019
		Damage category	To be advised	No of visits / weeks	7 @ 8.7
		Surface geology	To be advised	Completion date	Oct-20
				Status	open
Home phone	01234 741 726	Feedback from last visit	0		
Work phone	0.00				
Correspondence address		Sketch showing location of monitoring points			
Comment					
Max movement	6.9				
Focal area					
0					







DISCUSSION

The results of the site investigations and level monitoring confirm the cause of the subsidence to be root-induced clay shrinkage. The vegetation in closest proximity to the area of damage has been identified as the effective and substantive cause of the movement. This view is supported by the following investigation results:-

- The moisture content profile indicates a reduction in moisture content beneath the underside of the foundations.
- Roots identified from beneath the building foundations have been identified as consistent with the species within influencing range of the damage.
- Level monitoring thus far indicates a progressive and downward trend particularly over the summer months where ground water levels/soil moisture content is affected by extraction by tree root systems.

RECOMMENDATION

The cause of the movement needs to be dealt with first, prior to arranging the necessary building repairs. Arboricultural experts MWA Limited have considered the efficacy of tree reduction works and confirmed that such measures will not be sufficient to create relative stability. In the view of the arboricultural experts, the only viable long term solution is for T1, T2 & T3 to be removed in full. Based on our analysis, the age of the trees and the building structure we are satisfied that there is no risk of adverse heave to the property.

Superstructure repairs are currently estimated to be in the region of £35,000 provided the tree works are completed promptly. If the trees are allowed to remain then further damage is likely to ensue, requiring the need for either underpinning or the installation of a root barrier (if practical) incurring additional and significant costs.

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