

Engineers Addendum Report

This report sets out in concise terms the nature of the evidence collected and the consultant's conclusions and recommendations

Policy Holder:	Mr & Mrs Steven Greagsby	Date:	22/09/2020
Property Address:	55 Darton Rd., Barnsley, S75 4HY	Our Ref:	IFS-AVI-SUB-18-0076894
Description Of Property:	The damaged risk address is a traditionally built 1920's 2 storey detached domestic property with a rear extension and an integral garage. There are cavity brick walls with a hipped roof overlain with a clay roof tile. The site is generally level located in a quiet residential street.		
Location Of Damage:	Damage has occurred to the front and rear elevations. Internal damage has occurred within the entrance hall, lounge, dining room, kitchen, utility room and rear bedroom.		
Date Of Relevant Construction:	1929		
Nature Of The Damage:	Diagonal cracking both internally and externally		
Indicated Mechanism Of Movement:	Downward and rotational movement due to root ingress and trespass.		
Category Of Damage:	The damage is category 3 – BRE digest 251 (between 5 to 15 mm)		
Date Of Discovery:	01.08.2018		
Occupiers' Observations:	Policy holder noted cracking to the areas described and being concerned that subsidence movement was occurring contacted their building insurers.		
Previous Relevant Movement:	The risk address suffered from previous subsidence damage in the distant past due to neighbouring third party vegetation, part of the garage and right hand elevation have been underpinned.		
Comments:	Following geotechnical investigations, we found that the foundations were constructed "as built" in 1929 with evidence of root trespass from Aesculus spp. which are horse chestnuts.		

Investigation Evidence:

Examination By Building Professional:	Yes - Alun Dwyer BSc (Hons) ACIAT ACIOB		
Trial Hole/ Bore Hole Excavations:	Yes	(2 January 2019 / C41821G19345)	
CCTV Drainage Survey:	No	The drainage defects have been repaired (13 th October 2018/ C41821 D14298)	
Soil Laboratory Testing:	Yes	Shrinkable soils (18 January 2019/ C13854S41821)	Yes
		Desiccated soils (18 January 2019/ C13854S41821)	Yes
Root Analysis	Yes	(18 December 2018 / R24164)	
Arboriculture Assessment:	Yes	Recommendations: Third Party tree removal (28/11/2018/SA-241691) (Revised: 31/01/2019)	
Heave Risk After Tree Removal:	No	(18 January 2019 / C13854S41821)	
Building Monitoring:	Yes	Crack width: (18 October 2018 / M11896) to 12/07/19) Changed to level	Level / distortion: Yes (07/11/2019 / 10/09/2020)
Monitoring To Date Confirms:	The influence of vegetation as we see cyclical and seasonal fluctuations		
Comments:	Root ingress from 0.65-1.50 metres from Cupressaceae spp. which include Lawson cypress, western red cedar, Monterey cypress, Leyland cypress and junipers at rear elevation. 0.45-1.50 metres from Aesculus spp. which are horse chestnuts to the front elevation.		

Repair Scope And Value

If Prompt Vegetation Removal:	Superstructure repairs	Potential Cost	£ 8000
If No Vegetation Is Removed:	Foundation stabilisation ((piling to the front and part rear elevation).	Potential Additional Cost	£ 25,000
Comments:	An engineered design solution to the foundations is the only alternative solution for a long term and durable stabilisation method due to the root ingress from the offending vegetation if the vegetation remains in situ.		

CONCLUSIONS AND RECOMMENDATIONS	
Following my initial review of the damage and subsequent geotechnical, arboriculture investigation reports and accurate level monitoring readings. I confirm that the cause of the movement to this property is directly related to the seasonal water demands of the nearby third party and insureds vegetation which has a tree preservation order implemented by the local authority, which is causing clay shrinkage subsidence to the risk address.	
Report prepared by:	Alun Dwyer BSc (Hons) ACIAT ACIOB