

Our Ref: 232777/ZH
Your Ref: MUK.227980

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18 March 2024

McLarens
76 King Street
Manchester
M2 4NH

by email only: Paul.Taylor@mclarens.com

For the attention of Paul Taylor

Dear Paul

Re: 27 HIGH STREET, BARFORD, WARWICK CV35 8BU

We write further to our initial report, having now received site investigation results from Smart Drain and our analysis and recommendations are provided below.

1.0 SITE INVESTIGATIONS

- 1.1 A trial hole was excavated to the front elevation of the single-storey extension to the right-hand side of the property to a depth of 1.2m, the sub-soil predominantly composed of dry brown sandy clay. It was terminated at this depth due to the desiccated soils and inability to penetrate any deeper without hole collapse. It revealed 400mm of brick below ground level, bearing on a 300mm stepped concrete strip foundation.
- 1.2 The moisture contents indicate desiccated soil at a depth of 2.1m – 3m. The soil analysis revealed the soils to be high plasticity.
- 1.3 No roots were found below the foundations in this trial hole.
- 1.4 A second trial hole was excavated to the side elevation of single-storey extension noted above, to a depth of 1.2m, the sub-soil predominantly composed of dry brown sandy clay. It was terminated at this depth due to the desiccated soils and inability to penetrate any deeper. It also revealed 400mm of brick below ground level, bearing on a 300mm stepped concrete strip foundation.
- 1.5 A shear vane strain test found high results, along with the corresponding moisture contents, indicating desiccated soil at a depth of 0.8m – 1.9m. Due to the desiccation, the trial hole was terminated at only 1.9m.

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1.0 SITE INVESTIGATIONS

- 1.6 Cupressaceae roots and possibly pomoideae or prunus, were found at a depth of 1200mm.
- 1.7 A third trial hole was excavated to the rear elevation of the conservatory extension to a depth of 2.2m and revealed 250mm of brick below ground level, bearing on a 600mm concrete strip foundation. The sub-soil predominantly composed of very stiff red / brown clay.
- 1.8 A shear vane strain test found high results, along with the corresponding moisture contents, indicating a highly desiccated soil at a depth of 0.8m – 1.9m. Due to the desiccation the trial hole was terminated at 2.2m.
- 1.9 From the CCTV survey, defects and root masses were found within the below ground foul drainage that runs the length of the property (below the garage / utility and shower room) and across the rear elevation, where it runs below the conservatory and adjacent to the rear elevation of the main property. There is also a surface water drain that runs below the conservatory and along the rear elevation which is defective with root masses. The drains are made of vitrified clay which are susceptible to damage from compression and contraction of clay soil.

2.0 CONCLUSIONS & RECOMMENDATIONS

- 2.1 As per our initial report, we can conclude that this damage, related to clay shrinkage subsidence is related to moisture abstraction by vegetation.
- 2.2 The origin of the cypress roots will be either TG2 cypress group or T4 cypress both of which are within influencing distance of the building. The source of the tentatively identified either pomoideae or prunus roots is less clear. T1 purple leaved plum is the most likely source, or other related vegetation not visible from the subject property garden. Note there is possibly a cotoneaster beyond TG2.
- 2.3 Irrespective of the identification of recovered root samples, our survey has identified vegetation within influencing distance of the building/area of movement with a current potential to affect soil volumes below foundation level, the most significant of which in relation to the current damage are recorded in table 1 below and comprise the ivy growth CG1, the TG2 cypress group, the T1 purple leaved plum and the T4 cypress. Other more distant vegetation may also be involved, however, this cannot currently be ascertained while the more proximal vegetation remains in situ.
- 2.4 The implicated trees are located across the Policyholder's land and the neighbouring domestic third-party landowner.

2.0 CONCLUSIONS & RECOMMENDATIONS

- 2.5 There is vegetation in the current claim table of the attached Arboriculturist Report that is protected because the property is in a conservation area. In order to carry out this work, a S211 notification must be submitted to the local authority. Prior to commencing any tree works we will need to conduct a heave analysis due to the implicated trees being older than the garage/extensions and the trees proximity to the buildings.
- 2.6 The drain damage is proximate to the areas of subsidence and requires repair as detailed in the attached Drainage Report.
- 2.7 We would recommend continuing the crack and level monitoring for a period following the recommended tree works and drainage repairs to confirm the property has stabilised prior to the crack repairs/decoration works being instructed.

We trust the above meets with your approval, however, should you wish to discuss any aspects in greater detail, please do not hesitate to contact the writer.

Yours faithfully

GATELEY SMITHERS PURSLOW



ZOE HILLER BA(Hons) MSc
Building Surveyor

Encs MWA Report
Smart Drain Report