

TREE PRESERVATION ORDER	TPO 96/00967/c T1
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TREE(S) - as referenced in the MWA Arboricultural Report	WORKS
T1 Sycamore	Crown reduce by 2.0m (linear reduction) all round and prune on a triennial cycle to maintain broadly at reduced dimensions.

Reason: The above tree is considered to be responsible for root induced clay shrinkage subsidence damage to 83 Yew Tree Cottages, HX2 6UG.

Investigations in to the damage have been conducted and the following information/evidence obtained:

1. Engineering opinion is that damage is due to clay shrinkage subsidence. Details of the damage are included in the technical report submitted.
2. Foundations are bearing on to clay.
3. The clay subsoil has a medium to high volume change potential (NHBC Guidelines) susceptible to undergoing volumetric change in relation to changes in soil moisture.
4. A comparison between moisture content and the plastic and liquid limits suggests moisture depletion in TP/BH1, BH2 and BH4 (January 2021).
5. The subject tree is within the normally accepted influence distance of the building and area of damage. Roots of the tree are likely to be present below foundation level of the property and influencing soil moisture and volumes.
6. Level monitoring for the period 15/01/2021 – 15/03/2023 has recorded a pattern of movement indicative of the effects of seasonal soil drying by the subject tree below foundation level. The uplift phase of the building can only be attributable to an expanding clay soil from a desiccated (shrunken) state due to the soil drying effects of the implicated tree. Crack monitoring has also recorded a pattern of crack width variation consistent with the seasonal influence of vegetation. Crack monitoring for the period 21/05/2021 – 15/11/2023 has recorded a pattern of crack movement indicative of the effects of the offending tree on soil moisture and volumes to the property.
7. The drains have been surveyed and though signs of defects were found, these are not considered to be the cause of the current damage.
8. In July 2023 it was noted that T1 Sycamore had been crown thinned by ~20% (following consent notice 21/20162/TPO), SG1 had been removed and H1 stems within 4.0m of the building had been removed. T2 Willow also appeared to have been removed.

9. No recent structural alterations or building works have been carried out. The property has not been underpinned.
10. The evidence confirms that on the balance of probabilities the subject tree is a contributory factor in the damage of the property.
11. Superstructure repairs and decorations are currently estimated to be £30k should the tree works be undertaken. Costs for underpinning in the event the tree works do not proceed are currently estimated to be £75k.

SUBSIDENCE CHECK LIST

- A description of the property, including a description of the damage and the crack pattern, the date that the damage first occurred/was noted, details of any previous underpinning or building work, the geological strata for the site identified from the geological map.
Technical Report and Site Investigation Report provided.
- Details of vegetation in the vicinity and its management since discovery of the damage. Include a plan showing the vegetation and affected building.
MWA Arboricultural Report provided.
- Measurement of the extent and distribution of vertical movement using level monitoring. Where level monitoring is not possible, state why and provide crack monitoring data. Data provided must be sufficient to show a pattern of movement consistent with the presence of the implicated tree(s).
Level Monitoring provided.
- A profile of a trial/bore hole dug to identify foundation type and depth and soil characteristics.
Site Investigation Report provided.
- The sub-soil characteristics including soil type (particularly that on which the foundations rest), liquid limit, plastic limit and plasticity index.
Site Investigation Report provided.
- The location and identification of roots found. Where identification is inconclusive, DNA testing should be carried out.
Site Investigation Report provided.
- Proposals and estimated costs of options to repair the damage.
Repair costs provided.