Note<sup>(1)</sup>: This reduced format report is an initial appraisal only and may have been produced without the benefit of site investigations. It is intended for use between the client, Marishal Thompson & Co. (Environmental) Ltd and any parties detailed within the report. It is based on the assumption that Engineers are satisfied that current damage is due to clay shrinkage subsidence attributable to vegetation.

### 1. Case Details

| Insured        | 6 Langland Gardens Ltd      | angland Gardens Ltd Address 6 Langland Gardens, London, NW3 6PY |                   |             |               |  |  |  |
|----------------|-----------------------------|---|-------------------|-------------|---------------|--|--|--|
| Client         | GAB Robins Contact          |   | David Nimmo-Smith | Claim No.   | B1214169      |  |  |  |
| MT Ref         | NL/3007121153/TP Consultant |   | Thomas Peppiatt   | Contact No. | 08702 416 180 |  |  |  |
| Report<br>Date | 17/08/2012                  |   |                   |             |               |  |  |  |

**Scope of Report:** To survey the property and determine significant vegetation contributing to subsidence damage, make recommendation for remedial action, initiate mitigation action and assess recovery prospects. The survey does not make an assessment for decay or hazard evaluation.

### 2. Property and Damage Description

The insured structure is a 3 storey semi-detached house. It has been extended with a single-storey extension to the rear. The property occupies a level site with no adverse topographical features.

Damage relates to the rear elevation of the insured dwelling.

### 3. Technical Reports

In preparing our report we have had the benefit of the following technical investigations:

| Soil Analysis | $\boxtimes$ | Foundation Detail | $\boxtimes$ | Root Analysis | $\boxtimes$ |
|---------------|-------------|-------------------|-------------|---------------|-------------|
| Borehole Log  | $\boxtimes$ |                   |             | -             |             |

### 4. Action Plan

| litigation                             |     |
|--|-----|
| Insured involved?                      | Yes |
| Local Authority involved?              | No  |
| Other third party Mitigation involved? | Yes |
| Recovery                               |     |
| Is there a potential recovery action?  | Yes |
|  |     |

### 5. Technical Synopsis

This report is based upon our understanding at the time of visiting the property that GAB Robins engineers are satisfied that damage is due to clay shrinkage subsidence exacerbated by vegetation.

We have been instructed to advise on the causal vegetation and to deliver management proposals which will provide on-going and long term stability allowing repairs to be undertaken.

The footings of the subject property fall within the anticipated rooting range of a quantity of vegetation, many with the capacity to be influencing soil moisture values below foundation level. Vegetation is therefore judged to have the capacity to be the source of ground movement through clay shrinkage as a result of moisture abstraction.

Site Investigations indicate that the foundations to the property extend to a depth of 1500mm below ground level in TP/BH1. NHBC chapter 4.2 (2010) categorises the soil samples recovered as being of high plasticity, i.e. capable of significant volume change.

Atterberg testing for soils recovered recorded soil moisture content to be below plastic limit at 1.5m, 2m and 2.5m depth. Moisture content comparison with plastic limit is a reliable indicator of moisture depletion / desiccation.

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Platanus roots have been identified that confirm the influence of T2 (Plane (London)) below foundation level.

Based on our site investigations, and taking account of vegetation location, relative to the focal area of movement/ damage, it is our opinion that T2 (Plane (London)) will be exerting the principal vegetative influence.

We also consider that, whilst not directly implicated by current site investigations, T1 (Oak), T6 (Laurel (Bay)), T7 (Elder) and SG2 (Mixed Species Group (H)) will also be exerting a significant (albeit secondary) influence in the current damage. This influence is determined by size and proximity relative to the area of advised damage.

Vegetation management in the form of removal and appropriate stump treatment will help to promote the restoration of long-term stability to the insured property; pruning should not be considered as representing an effective or reliable long-term alternative solution given the size and proximity of the vegetation.

There is sufficient space to support replacement planting; species selection should be appropriate for the available space and ultimate height should not exceed 75% of the available distance to built structures.

Please refer to Section 6 for management prescriptions.

Further monitoring should establish the efficacy of the prescribed works. A review of recommendations may be required if stability is not restored.

| Is vegetation likely to be a contributory factor in the current damage?  | Yes |
|--|-----|
| Is vegetation management likely to contribute to the future stability of the property?   | Yes |
| Is replacement planting considered appropriate?  | Yes |
| Does the potential of <b>ground heave</b> need to be assessed by Consulting Engineers before management recommendations are implemented? | Yes |
| Will implementation of the management recommendations result in significant amenity loss?  | No  |
| Would DNA profiling be of assistance in this case?   | No  |

## 6. Recommendations (Table 1)

These recommendations may be subject to review following additional site investigations

| Tree<br>No. | Species  | Age<br>Cat | Approx.<br>Height<br>(m) | Distance to<br>Building<br>(m) | Ownership   | Action                            | Requirement   |
|-------------|--|------------|--------------------------|--------------------------------|---|-----------------------------------|---|
| CG1         | lvy  | 1          | 4                        | 0                              | C - Insured   | Action to<br>avoid future<br>risk | Remove and treat stump to inhibit regrowth.   |
| H1          | Cypress  | 1          | 3                        | 1                              | A - Third Party<br>No 8 Langland<br>Gardens.<br>London.<br>NW3 6PY. | Action to<br>avoid future<br>risk | Remove x4 Cypress trees. Do not<br>allow remaining Cypress trees in<br>hedge to exceed current dimensions<br>by way of regular pruning. |
| S1          | Rose   | 1          | 1.8                      | 0                              | C - Insured   | Action to<br>avoid future<br>risk | Remove and treat stump to inhibit regrowth.   |
| SG1         | Privet   | 1          | 3                        | 3                              | C - Insured   | Action to<br>avoid future<br>risk | Reduce to 2m height and maintain at reduced dimensions.   |
| SG2         | Mixed Species<br>Group (H) Including<br>Forsythia.               | 1          | 4                        | 2                              | C - Insured   | Remove                            | Remove and treat stump to inhibit regrowth.   |
| SG3         | Mixed Species<br>Group (H) Including<br>Euonymus and<br>Jasmine. | 1          | 2                        | 1.8                            | A - Third Party<br>No 4 Langland<br>Gardens.<br>London.<br>NW3 6PY. | Action to<br>avoid future<br>risk | Do not allow to exceed current<br>dimensions by way of regular<br>pruning.  |

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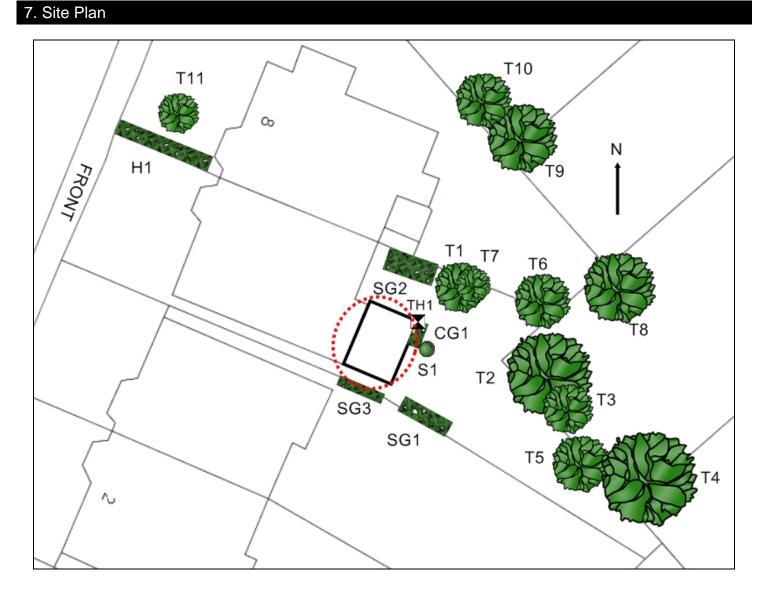
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| T1      | Oak  | 3 | 7   | 5    | C - Insured   | Remove                            | Remove and treat stump to inhibit<br>regrowth subject to heave<br>assessment.                                 |
|---------|--|---|-----|------|---|-----------------------------------|---|
| T10     | Acer   | 3 | 14  | 15*  | D - Unknown   | Action to<br>avoid future<br>risk | Reduce to 10-12m and maintain at reduced dimensions.  |
| T11     | Walnut   | 1 | 5.5 | 5    | A - Third Party<br>No 8 Langland<br>Gardens.<br>London.<br>NW3 6PY. | Action to<br>avoid future<br>risk | Reduce and maintain at 4m height.   |
| T2      | Plane (London)   | 3 | 22  | 12.5 | D - Unknown   | Remove                            | Remove and treat stump to inhibit regrowth subject to heave assessment.                                       |
| Т3      | Holly  | 3 | 11  | 13.5 | D - Unknown   | Action to<br>avoid future<br>risk | Reduce and maintain at 9m height.   |
| T4      | Plane (London)   | 3 | 18  | 21   | D - Unknown   | Action to<br>avoid future<br>risk | Do not allow to exceed current<br>dimensions by way of regular<br>pruning.                                    |
| T5      | Oak  | 3 | 10  | 15.5 | C - Insured   | Action to<br>avoid future<br>risk | Do not allow to exceed 12m height by way of regular pruning.  |
| Т6      | Laurel (Bay)   | 1 | 9   | 7.5  | A - Third Party<br>No 8 Langland<br>Gardens.<br>London.<br>NW36PY.  | Remove                            | Reduce to 6m height and maintain at reduced dimensions.   |
| T7      | Elder  | 1 | 6.5 | 6    | C - Insured   | Remove                            | Reduce to 4m height and maintain at reduced dimensions.   |
| Т8      | Lime   | 3 | 18  | 15*  | D - Unknown   | Action to<br>avoid future<br>risk | Reduce to 12m height and maintain at reduced dimensions.  |
| Т9      | Lime   | 3 | 18  | 12*  | D - Unknown   | Action to<br>avoid future<br>risk | Reduce to 10m height and maintain<br>at reduced dimensions. Note: 15-<br>16m to single storey rear extension. |
| Age Cat | Age Cat: 1 = Younger than property; 2 = Similar age to the property; 3 = Significantly older than property |   |     |      |   |                                   |   |

\* Estimated

Third party property addresses should be treated as indicative only, should precise detail be required then Marishal Thompson can undertake Land Registry Searches

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Please note that this plan is not to scale. OS Licence No. 100043218

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### 8. Photographs



T1 - Oak



T2 - Plane (London)



SG2 - Mixed Species Group (H)



T6 - Laurel (Bay)

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T3 - Holly



T4 - Plane (London)



T5 - Oak



SG1 - Privet

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T8 - Lime

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Date: 17/08/2012

Property: 6 Langland Gardens

### 9. Tree Works Reserve - Does not include recommendations for future risk.

| Insured Property Tree Works | £900                         |
|-----------------------------|------------------------------|
| Third Party Tree Works      | £Formal<br>Quote<br>Required |
| Provisional Sum             | £0                           |

- > The above prices are based on works being performed as separate operations.
- The above is a reserve estimate only.
- Ownerships are assumed to be correct and as per Section 6.
- A fixed charge is made for Tree Preservation Order/Conservation Area searches unless charged by the Local Authority in which case it is cost plus 25%.
- Should tree works be prevented due to statutory protection then we will automatically proceed to seek consent for the works and Appeal to the Secretary of State if appropriate.
- > All prices will be subject to V.A.T., which will be charged at the rate applying when the invoice is raised.
- Stump removal is not included within the above price, and would be an additional charge if required. Where this is requested please note that responsibility cannot be accepted for damage to underground services unless these are identified prior to the works being undertaken.
- Where chemical application is made to stumps it cannot always be guaranteed that this will prevent future re-growth. Should this occur we would be pleased to provide advice to the insured on the best course of action available to them at that time. Where there is a risk to other trees of the same species due to root fusion, chemical control may not be appropriate.

### 10. Limitations

This report is intended as a preliminary appraisal of vegetation influence on the property and assumes that engineers suspect or have confirmed that vegetation is contributing to clay shrinkage subsidence, which is impacting upon the building. Recommendations for remedial tree works and future management are made to meet the primary objective of assisting in the restoration of stability to the property. In achieving this, it should be appreciated that recommendations may in some cases be contrary to best Arboricultural practice for tree pruning/management and is a necessary compromise between competing objectives.

Any connection between the structural damage to the property and trees will require the clear identification of shrinkable clay soils below foundation depths. Following tree works we recommended that the building be monitored to establish the effectiveness of the works. Should sufficient stability not be achieve this may be indicative of the fact that an Arboricultural solution is not possible in isolation.

The influence of trees on soils and building is dynamic and vegetation in close proximity to vulnerable structure should be inspected annually.

The presence of Tree Preservation Orders (TPO) or Conservation Area status must be determined prior to any tree works being implemented, failure to do so can result in fines in excess of £20,000.

Our flagging of a possible recovery action is based on a broad approach that assume all third parties with vegetation contributing to the current claim have the potential for a recovery action (including domestic third parties). This way opportunities do not "fall through the net"; it is understood that domestic third parties with no prior knowledge may be difficult to recover against but that decision will be fully determined by the client.

A legal Duty of Care requires that all works specified in this report should be performed by qualified, arboricultural contractors who have been competency tested to determine their suitability for such works in line with Health & Safety Executive Guidelines. Additionally all works should be carried out according to British Standard 3998 (1989) *Recommendations for Tree Work.* 

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