TREE REPORT

in support of a Planning Application to convert the existing barn, known as Sunny Bank Barn, into a dwelling

Altered access at Sunny Bank Barn Broxa Lane Hackness

For Mrs I Stuart

LAWSONHARPER
LAWSON HARPER
February 2015

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Illustrations

R ion for submission of this report

This report was commissioned by Mrs Ivy Stuart, Sunnt Bank Cottage, Broxa Lane, Hackness, Scarborough

The survey is required in order to assess the impact of creating acceptable sight line for a revision to the approved site entrance at Sunny Bank Hackness, to accommodate the conversion of an existing barn to a single dwelling.

Following discussion, the North York Moors National Park Authority have requested an arboricultural report to assess the impact of the proposed access roadway on the adjacent trees.

The Autority served a provisional Tree Preservation Order 2012/2 to protect two of the mature limes at Sunny Bank due to concerns arising from the proposed development of the site. Specific mention was made of the potential damage to the trees and possible removal to accomodate the development and the order did not include the third tree in the group which is situated in the garden of the adjacent property.

Survey methodology

An initial survey was undertaken at ground level on 29th April 2013 before leafing out and again on 24 June 2013 when in full leaf. . A third condition change check was undertaken 29th September 2014. This report compiled by Mr Geoff Pickering BA (Hons.) Dip LA (Hons) a landscape and environmental consultant with 25 years experience as senior Landscape and Nature Conservation Officer in private practice and with Humberside and East Riding of Yorkshire Councils.

Proposed scheme

The application is a revision to the currently approved access for the barn conversion (NYM/2009/0887/FL) which involved the provision of a new access to the west of the existing access and adjacent Sunny Bank Cottage. It is proposed to form a combined access for the barn conversion and Sunny Bank Cottage by utilising the existing access. The existing track way has very poor visibility at the junction with Broxa Lane / Stoor Lane and the creation of an improved visibility splay will be necessary to support these proposals and substantially improve safety when vehicles exit the site. The development will not necessitate or require removal of the trees.

Scope of this report.

The report considers the location and condition of the trees assessing age, size spread, condition and landscape significance. It summarises the likely effect of the development on the trees and makes recommendation for any tree works and constructional methods necessary to complete the development

Site location and planning status

The site is located at the junctions of Broxa Lane, Storr Lane and Mowthorp Road..
The trees are located on a distinct bend in the road and are seen as the focal point along Mowthorp Road.
The site is directly opposite the Village Hall and close to Red House.
The roads are well used by visitors to the National Park and to the attractions locally in Hackness. The site is therefore prominent both from a visual aspect and in terms of public use.

The lime trees at the site entrance are acknowledged as providing a significant contribution to the street scape

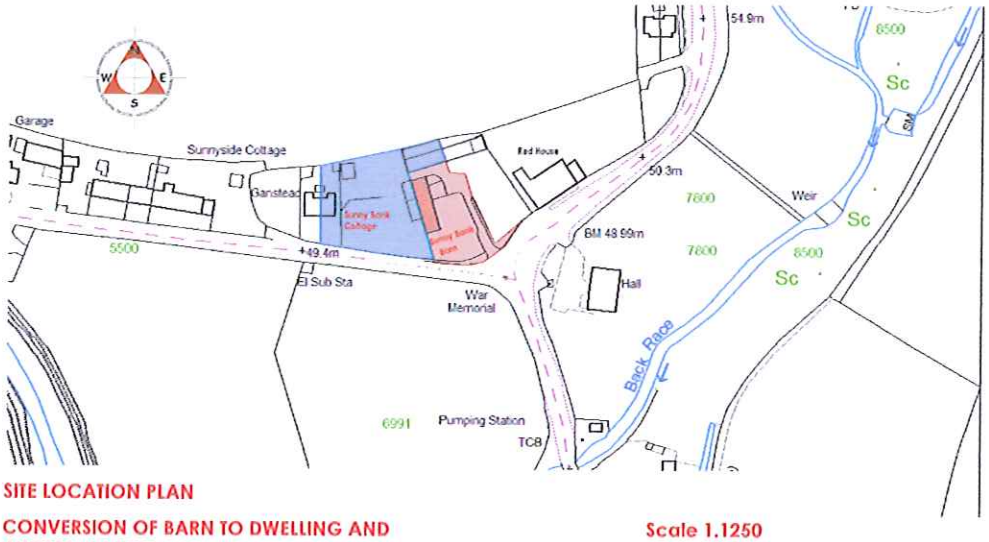

Fig 1: Location Plan

The original barn conversion was approved in March 2010 and a significant start has been made.

The Autority served a provisional Tree Preservation Order 2012/2 to protect two of the mature limes at Sunny Bank due to concerns arising from the further development of the site.

Site Description

The site occupies a prominent elevated position to the north of the three way junction opposite the village hall.

Stone built agricultural buildings line the north side of the road which occupies a narrow level platform of land on the toe of the southern slope of Broxa Hill. The line of development extends from Hackness Grange in the West to the junction. South of the junction the development pattern is determined by topography and hydrology To the south and west the land falls markedly to the River Derwent. This land is divided into small meadows which occasionally flood.

The junction of the three roads creates a wide open space to the front of the entrance to Sunny Bank.

The trees are highly prominent and are a significant feature in the village landscape where farmsteads are generally marked with trees.

In the wider landscape trees follow the banks of the Derwent and feeder streams or are in woodland blocks on the steep valley sides. Although highly wooded this planting pattern tends to make individual stands all the more prominent.

T surface around the trees is clear of significant vegetation and covered in stone, it appears as if it is partly made up if has been covered in rubble. The land adjacent to the barn has been made up to a level platform and it is likely this material has migrated down hill over time.

Excavated material arising from work to the barn conversion has been kept clear of the drip line. There is a temporary mound of rubble immediately to the north of the trees.

Topography and soils

The soils in and Hackness area are classified as gravel, loam and sand. The sub soil is of inferior Oolite, Oxford Clay and Corallian Beds overlaying limestone and sandstone loam. Within the site soils are typical of this having largely free draining structure enriched and cultivated as agricultural soils but overlain by rubble.

The Hackness area has a gently rolling terrain typical of the North York Moor valleys.
The site is on an narrow elevated platform which contains a number of farm buildings and dwellings at the northern side of the Derwent Valley behind which the land rises steeply. The ground falls to the south along Mowthorp Road.

The site of the trees is retained by the boundary wall which follows the line of the Broxa Lane, Storr Lane Road and has a level 1.3m higher than the surrounding highway

Topographical Site Survey

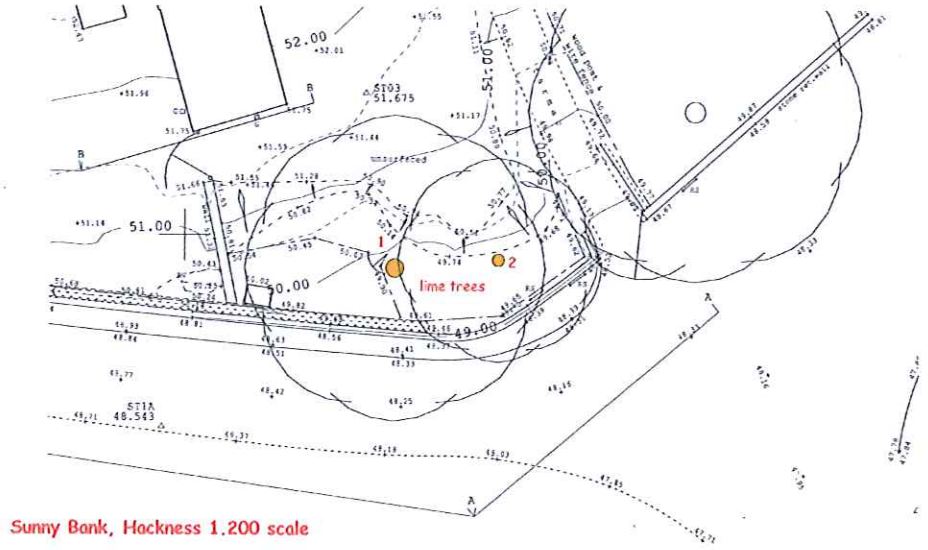

Fig 2 Tree positions and spread

T1

Species	*Tiliax* europaea
Common Name	Common or European Lime
Height	IRO 30 M
Approximate Age	80+ Years
Girth at 1.5 M	1.0 M
Crown Spread North	6.0 M
Crown Spread to East	6.0 M
Crown Spread to South	7.0 M
Crown Spread to West	6.0. M
Overall Condition	Good

T2

Species	*Tiliax* europaea
Common Name	Common or European Lime
Height	IRO 35 M
Approximate Age	80+ Years
Girth at 1.5 M	1.2 M
Crown Spread North	6.0 M
Crown Spread to East	4.0 M
Crown Spread to South	5.0 M
Crown Spread to West	2.0. M
Overall Condition	Good

Fig 3 Tree T1 and T2

C ments

A pair of mature Limes (T1 and T2) growing approximately five meters apart and having integrated crown. In terms of visual impact the trees are considered as a group along with a third mature lime (T3) on the opposite side of the entrance within the adjacent property.

Trees 1 and 2 are situated within the garden / former fold yard of Sunny Bank and located near the southern retaining boundary wall which accommodates a change in ground level averaging around 1.3m.
Tree 3 occupies a similar elevation within the garden of the adjacent property.

The three trees forms a significant group either side of the entrance to Sunny Bank and are the focus of the three way junction. as seen from Mowthorp Road

The overlapping crown of T1 and T2 has resulted in reduced spread for both trees which would be left with unbalanced and poorly shaped crow should either one be removed.

T1 appears to have grown from two leaders which have conjoined . there is a distinct joint ridge on the east and west side of the tree. The dominant lead to the north has a distinct lean to the north. The southern branch has been previously cut back due to overhanging of the highway, this has left a stub with much suckering and several pegs.

There are several short pegs left from previous pruning, most showing dieback, numerous minor healed and healing lesions from minor limb removal.
The tree in tandem with T2 has light, balanced crown but is now growing out from previous thinning, spread has been restricted by previous tree work.

The trees are located within 2 m to 3m of a retaining wall which forms a sharp change of level of some 1.3m. There is no sign of heave or root damage to this wall and the roots apear to have established to accommodate the level change.

The surface around the trees is covered in stones which are thought to have historically migrated from the barn or been used to make up the ground. Some originate from the wall which apeards to have been higher as some point in its history.

There was slight late leafing out towards the top of the tree on the northern side but other than this no major issues observes there is moderate to light suckering at the base. Aphid residue is present as expected for the species but there are no signs of gall might or fungal disease
Trees 1 and 2 are in good to excellent condition.

Potential affect of the works

The cutting back of the retaining wall to the extent of the sight line would sever the entire southern rooting plate to within 0.75m of the bowl of both trees T1 and T2 removing both the feeding and anchorage roots of both trees over approximately 30% of the rooting area. Despite the roots to the south being restricted by the retaining wall and cutting back of the crown to prevent overhang to the highway, this is highly likely to result in stability issues particularly when the northward lean of T1 is taken into account. It would also potentially affect the long term viability of the both trees.

Localised stress and die back is likely to result with the trees drying after a number of years. Whilst this would offer an opportunity for replacement with the mature T3 remaining.

T potential instability could reduce the longevity of the trees and overturning would be likely to damage any adjacent replacement. The condition of T3 suggests the tree is in decline and so can not be relied upon to retain the visual impact.
It is therefore considered that realignment of the line of the retaining wall is not an option unless the trees were felled and replaced.

The development can however be accomplished with adequate sighting and without detrimental effect on the trees if both the angle and the height of the sight line are considered.
The sight line is intended to provide clear view of highway traffic to drivers of vehicles seated in vehicles exiting the site. Therefore the sight line is as from a sitting position within the vehicle rather than at ground level. Taking this into account the sight line needs to establish a clear line of vision from 1.0 m

The wall is built up higher than the surrounding ground level and this would result in a reduction of soil surface level of 200-300mm. Limes belongs to a group of species where the lateral roots descend diagonally to a depth of 200-500cm at a distance of about 2m from the trunk and then continue growing outwards horizontally.
This habit along with the fact that the ground has been made up with stones would allow for minor surface level changes without significant determent to the trees.

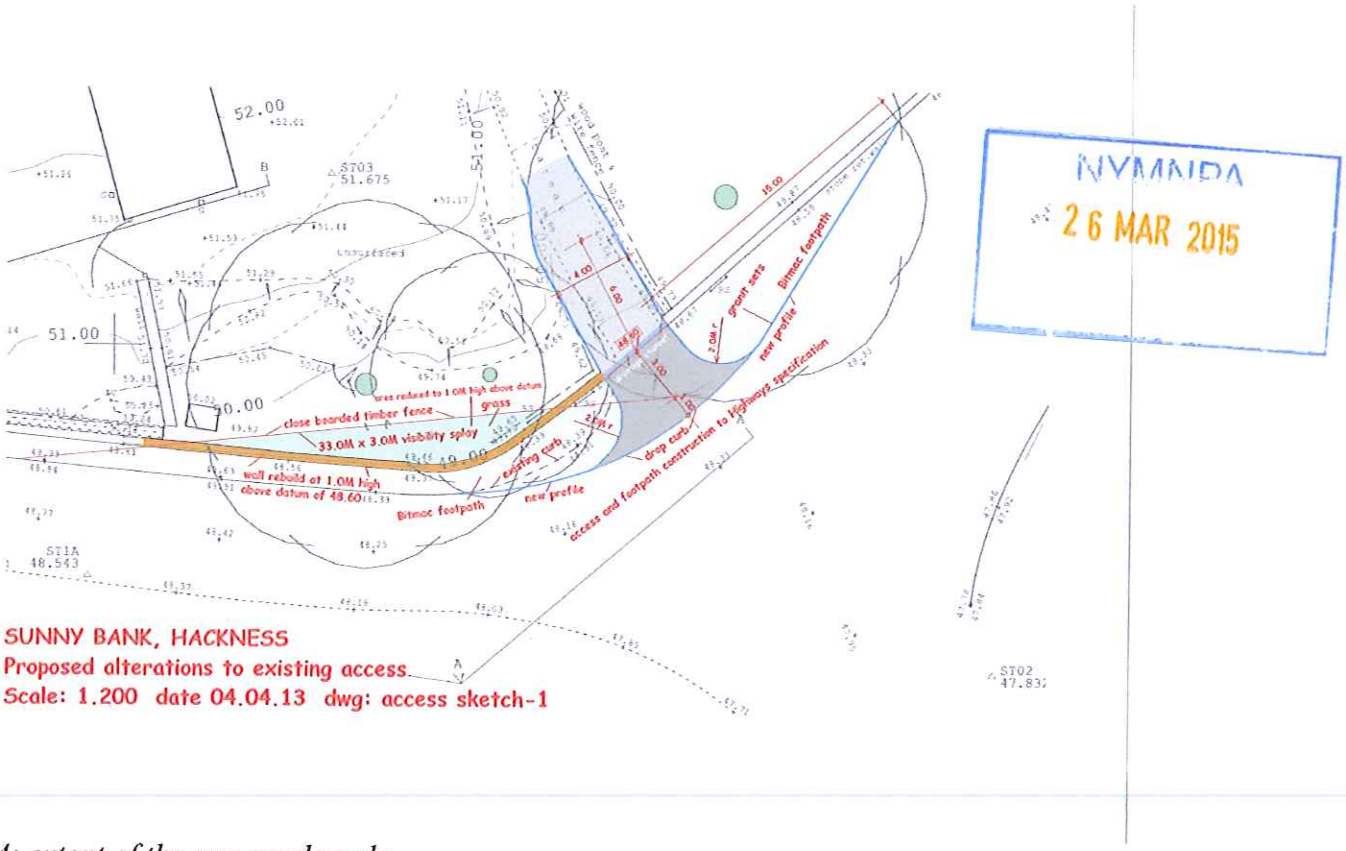

Fig 4: extent of the proposed works

Cutting back of the retaining wall to to ground level to accommodate the sightline would result in the loss of the trees and is considered unacceptable.

However, the sightline can be accommodated by careful hand grading of the ground profile to reduce the level to accommodate a sightline at 1.0m above datum.

Action Required

Minor works to T1 to remove or balance the reduced limb to the south
reduction in the height of the wall and rebuilding to ensure retention capability and stability

Recommendation

Sightlines be accommodates by changes to ground profile

T3

Species	*Tilia x* europaea
Common Name	Common or European Lime
Height	IRO 40 M
Approximate Age	100+ Years
Girth at 1.5 M	1.5 M
Crown Spread North	6.0 M
Crown Spread to East	5.0 M
Crown Spread to South	8.0 M
Crown Spread to West	7.0. M
Overall Condition	Fair

The tree is the largest of the group and appears to have been established prior to those at Sunny Bank. It is not affected by the development and is not subject to the emergency TPO
Th tree has an unbalanced crown with a large limb extending almost right-angled to the south. and three distinct leaders.
The tree showed signs of late leafing and early leaf drop. There was also minor crown dieback on all three stems The tree is showing signs of stress but as no obvious cause can be found and the stress response is general and uniform it is likely to be from age or water table or climatic issues rather than mechanical root damage. The lack of corresponding stress in the trees at Sunny Bank make environmental factors unlikely. The tree is currently in fair condition but this condition can be expected to deteriorate in the near the medium future.

Fig 5: T3

Potential affect of the works

This tree is not affected by the works

Conclusion

Its condition rules out any proposal that the loss of the trees at Sunny Bank would be mitigated by the retention of this tree.

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Action Required.

None

Recommendation

None

Overall Summary

The works are potentially damaging to all trees identified within this survey.

Conventional tarmac construction would potentially remove feeding and structural roots which would affect long term viability and could adversely affect the stability of the trees.

The works can be successfully accommodated without detrimental effect to the trees surveyed by reducing the height of the wall and the ground level in a small section of the land to the south of the trees. as indicated in Fig 4 - The extent of the proposed works

Overall Recommendation

It is recommended that the wall be taken down and rebuilt in sections **on the line of the existing** wall to avoid any issues with stability of the retained soil and trees.

The reduction in ground profile to be limited to the areas required by the sightline and to be evenly graded back to the tree bowl. All regarding works to be completed by hand and monitored for root position and damage.

The area of sightline is to be kept clear of vegetation.

Prior to construction:

- Pre development tree works such as removal of pegs and reshaping previously poorly cut back limb must be agreed with and approved by the Local Authority.

- The proposed works must be clearly marked out on the ground and is to be agreed with and approved by the Local Authority.

- A Construction Exclusion Zone as defined in BS5837: 2005 paragraphs 9.1 — 9.4.3 (The construction exclusion zone: barriers and ground protection) should be erected around each retained tree prior to the commencement of any works on site. The protected (fenced) area should be calculated using Table 2 of BS5837: 2005. Due consideration should also be given to detail laid down in clause 7 of BS5837: 2005. Such detail should be agreed with and approved by the Local Authority.

- Education/Induction of the workforce involved must take place prior to the commencement of any works: any induction programmed should highlight that:

    1. No soil stripping, excavation or removal is to take place.
    2. No compacting of soil is to take place.
    3. No machinery or vehicles are to be taken into the construction area (unless onto filled Geogrid)
    4. No materials are to be staked inside the protective fencing.
    5. Caution must be taken at all times to avoid any damage to trees.
    6. Any damage to trees, where the trees are protected by a Tree Preservation Order may result in fines to the workers of up to £20,000

- Protective fencing is to remain in position until all site works are finished.

Lawson Harper: February 2015