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BS 5837:2012 Arboricultural Impact Assessment and Arboricultural Method Statement

The Old Post Office
for:

Tesla Motors Ltd

3030.014.ENZ.XX.00.RP.AR.45.102

'Experience and expertise working in union'

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BS 5837:2012 Arboricultural Impact Assessment and Arboricultural Method Statement

Project:	The Old Post Office
For:	Tesla Motors Ltd
Status:	PL01
Date:	May 2023
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Contents

1.0 Non-Technical Summary

1.1 Arboricultural Survey

1.1.1 The site is an area of carpark adjacent to the restaurant 'The Old Post Office' and is located immediately south of the M1 Junction 38, within an area characterised by major highway infrastructure and agricultural land. The tree survey for the site was prepared by Enzygo Ltd. in March 2023, recording five trees, five tree groups, and one hedgerow within the site and within 15m of the site boundary. These are a mix of native and non-native species, with the majority being semi-mature features of moderate and low value.

1.1.2 At the time of writing this report from basic desktop searches there would not appear to be any Tree Preservation Orders or Conservation Area designation affording legal protection to trees on or adjacent to this site.

1.2 Development Proposals

1.2.1 The Client proposes the development of 12no. Tesla V3 Supercharger, EV charging stalls, 3no. Tesla V3 Supercharger cabinets and an associated substation, all to be sited in the southern portion of the car park.

1.3 Arboricultural Impact Assessment

1.3.1 The provision of a 1-1.5m wide working area around the southern edge of the development will require the cutting back of two groups along the edge of the car park, with removal of a small number of young individual trees which is expected to have a low impact on the character of the site.

1.3.2 Unless adequate protection measures are provided, operations linked to the development may have an adverse effect on any retained trees on site.

1.4 Arboricultural Method Statement

1.4.1 Protective measures include the erection of a Protective Barrier.

1.4.2 Replacement tree planting should be specified by the Project Landscape Architect with a focus on species already present on site.

2.0 Objectives

2.1 Introduction

2.1.1 Enzygo Limited [Enzygo] have been commissioned by Tesla Motors Ltd. to prepare an Arboricultural Impact Assessment and Arboricultural Method Statement for their site at The Old Post Office in support of a planning application for the development of 12no. Tesla V3 Superchargers, EV charging stalls, 3no. Tesla V3 Supercharger cabinets and an associated substation.

2.1.2 This report should assist both the client, their design team and decision makers in understanding the impact of the development proposals both on trees on and in close proximity to the site and subsequent effects on the wider landscape and which measures should be in place to adequately protect retained trees.

2.2 Structure of the Report

2.2.1 **Chapter 2.0** provides a brief description of the site and its location as well as a summary of the existing Arboricultural Survey report on which this report is based.

2.2.2 **Chapter 3.0** gives a brief description of the development and details the direct and indirect impact the proposals are expected to have on existing trees.

2.2.3 **Chapter 3.0** provides full details of any methodologies to be adopted in order to adequately protect any retained trees during construction and safeguard the health and safety of the trees in the future. It further makes recommendations for the mitigation of any adverse arboricultural impact.

2.3 Site Overview

2.3.1 The site is the carpark adjacent to the restaurant 'The Old Post Office' which is located immediately to the South of Junction 38 of the M1, approximately 7km northwest of Barnsley and 10km southwest of Wakefield. The application boundary for the site is approximately 7860m² (0.8 hectares).

2.3.2 To the North of the site is the restaurant with a large hardstanding area, to the East is the M1 motorway and slip roads to Junction 38 beyond. To the south lies open undulating countryside. The A637 runs along the western boundary, with open countryside beyond.

2.3.3 The site falls within the Metropolitan Borough of Barnsley in South Yorkshire.

2.4 Arboricultural Survey

2.4.1 An Arboricultural Survey Report to BS 5837:2012 covering all trees both within the development site as well as within 12m of the site boundary was prepared by Enzygo Ltd. in March 2023.

2.4.2 It recorded five trees, five tree groups, and one hedgerow largely along the perimeter of the car park, with a cluster of mature trees in the centre of the site. These are a mix of native and non-native species, with the majority being semi-mature features of moderate and low value.

2.4.3 The report includes a full tree survey schedule which describes each tree in accordance with BS 5837:2012 clause 4.4.2.

2.5 Project Description

2.5.1 It is understood the planning application is for the development of 12no. Tesla V3 Superchargers, EV charging stalls, 3no. Tesla V3 Supercharger cabinets and an associated substation.

2.5.2 Further details regarding the proposed development can be found in the information submitted with the planning application.

3.0 Arboricultural Impact Assessment (AIA)

3.1 Development proposals

3.1.1 This AIA is based on the development proposals as shown on Tesla CD30-Site Layout drawing ref. 362 – The Old Post Office – CD30_revA3, dated 30th March 2023.

3.2 Tree removal

3.2.1 The provision of a 1-1.5m working area around the edge of the car park will require the reduction of two tree groups (G01 & G02).

3.2.2 The arboricultural impact of the tree removal on the site and the local landscape is considered to be low.

Aesthetic and safety reasons

3.2.1 It is recommended to remove one category U tree (T004), due to significant stem decay making it unsuitable for retention.

3.3 Residual impact of development on retained trees

3.3.1 Unless adequate protection measures are provided

- Construction operations near retained trees are likely to cause accidental damage of tree trunks and low hanging branches.
- Excavations for underground services may have an impact where they are proposed within the RPA of retained trees.

3.4 Recommendations

3.4.1 All methodologies specified in the Arboricultural Method Statement (AMS) in Chapter 4.0 should be implemented to ensure any retained trees are adequately protected during site set-up and construction.

3.4.2 All site managers and site operatives should be aware of the potential impact of the works on retained trees and follow the protection methodologies specified in the AMS in Chapter 4.0.

3.4.3 Replacement tree planting should be specified by the Project Landscape Architect with a focus on species already present on site.

4.0 Arboricultural Method Statement (AMS)

This AMS should be read in conjunction with Appendix 1 – Tree Protection Plan.

4.1 Tree Removal and Access Facilitation Pruning

4.1.1 Prior to the site being set-up, a qualified arborist will remove only the trees listed in 3.2 above and carry out any tree works included in the Preliminary Management Recommendations of the Tree Survey Schedule (refer to Enzygo report ref. 3030.014.ENZ.XX.00.RP.AR.45.101).

4.1.2 Any tree works should be carried out in accordance with *BS 3998:2010- Tree works recommendations*. To find a suitably qualified tree surgeon, please refer to the Arboricultural Association's list of Registered Contractors.

4.1.3 Any tree works proposed in the respective survey season should be preceded by a nesting bird and roosting bat check carried out by a suitably qualified ecologist.

4.2 Protective Barrier

4.2.1 Where construction operations are likely to cause damage to above ground parts of retained trees or compaction of the Root Protection Areas (RPA), a protective barrier should be erected prior to commencement of any works on site to create a sacrosanct Construction Exclusion Zone (CEZ). The alignment of the fence should follow the canopy line of the trees or the edges of the RPA, whichever is greater.

4.2.2 Where possible, the CEZ should be extended to include any areas proposed for soft landscaping to minimise compaction in these areas and ensure new planting can establish successfully.

4.2.3 The alignment of the barrier, including indicative setting-out information, is shown on the drawing included in Appendix 1 – Tree Protection Plan.

4.2.4 The protective barrier should be installed in accordance with *BS 5837:2012 Figure 2 Default specification for protective barrier* which consists of a horizontal and vertical scaffold framework that should be braced to resist impact from construction plant and vehicles. Please refer to Appendix 2 – Protective barrier to BS5837:2012 for further information and a detailed specification.

4.2.5 An alternative barrier of a lower specification (i.e. Herras fencing in rubber feet and clamped together) may be installed where the likelihood of vehicle or plant impact is minimal and where construction space is limited.

4.2.6 All weather notices should be firmly attached to the barrier to inform any site operatives of the purpose of the fencing, e.g. “Construction Exclusion Zone- No access”.

4.2.7 The protective barrier must not be removed or realigned unless in accordance with this report or until all construction work has been completed and all construction vehicles and plant have departed from site.

4.3 Removal of hard landscape

4.3.1 Where necessary, areas of hard landscaping should be taken up carefully and without disturbing the ground within the RPA of existing trees. Where new hard landscaping is proposed in the same location, the existing subbase should be retained.

4.4 Installation of Charger infrastructure

4.4.1 Where the installation of chargers and substations is proposed within the RPA of retained trees, excavations should be kept to a minimum and be carried out carefully by hand.

4.5 Installation of Utility Apparatus

4.5.1 Underground services which require excavations should be located outside the Root Protection Areas (RPA) of retained trees, or outside the Tree Protection Zone as shown in Figure 1 of the *National Joint Utility Group (NJUG) Volume 4- Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees* (NJUG Volume 4), whichever is greater. Refer to Appendix 3 – NJUG Tree Protection Zone

4.5.2 Where the location of underground services within the RPA is justified, trenchless solutions should be applied in accordance with *BS 5837:2012 Clause 7.7.2* and *NJUG Volume 4*.

5.0 Appendix 1 – Tree Protection Plan

Low Swithen

69.8m

The Old Post Office (PH)

HUDDERSFIELD ROAD

G01

G02

G03

G04

G05

H01

T001

T002

T003

T004

T005

T004: Remove for safety reasons

T001-T003
25m from development site
No physical protection required

G02: Cut back to create 1m working space and erect protective barrier
Protective barrier to be Herras type set up along edge of working area

G01 and G02: Cut back to create 1.5m working space around cabinet and erect protective barrier
Protective barrier to be Herras type set up along edge of working area

0 10 20 30 40 50m

Scale 1:500

NOTES

- Do not scale from this drawing for construction purposes
- This drawing is to be read in conjunction with all relevant drawings and documents associated with this project.
- All surveyed information including levels and layout is provided by others
- All existing and proposed dimensions, levels and locations to be checked and verified by the main contractor on site prior to the commencement of the works and any anomalies reported to the engineer.

KEY - Tree Protection Plan

Tree Categories BS 5837 (2012)

- Tree Category A
- Tree Category B
- Tree Category C
- Tree Category U
- Tree to be removed
- Root Protection Area (RPA)
- Protective barrier — BS 5837 (2012) Figure 2 or Herras fence as specified on drawing

Rev	Date	Description	DRA	CHK	APP
PL01	16/05/2023	For Planning	JR	VM	TB

Project
The Old Post Office

Client
Tesla Motors Ltd

Drawing Title
Tree Protection Plan

Status	Date	Scale
For Planning	15/05/2023	1:500 @ A2

Drawn	Designed	Checked	Approved
JR	JR/VM	VM	TB

DWG No. 3030.014.ENZ.XX.00.DR.AR.45.102

Revision PL01

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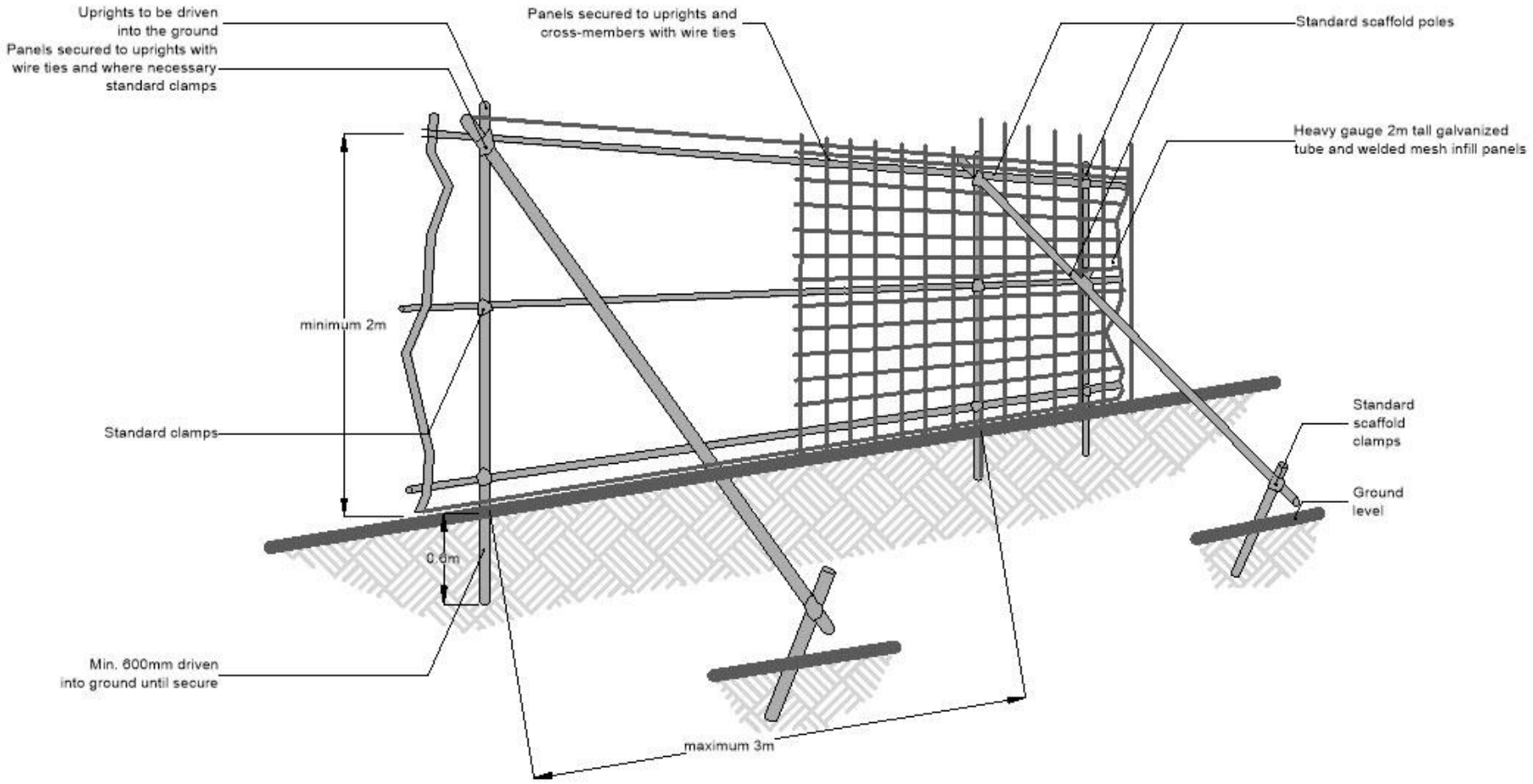
6.0 Appendix 2 – Protective barrier to BS5837:2012

6.1 Default specification for protective barrier

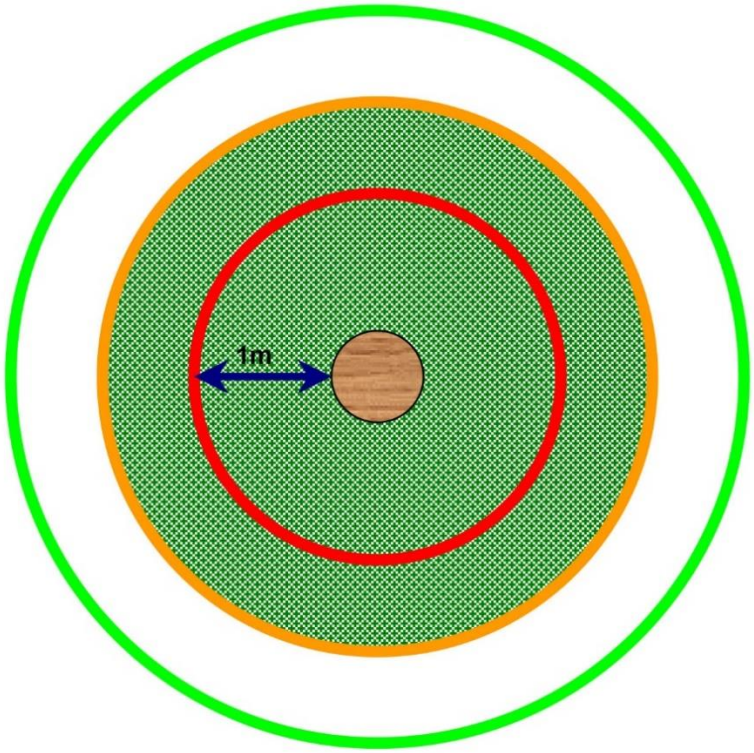


7.0 Appendix 3 – NJUG Tree Protection Zone

The National Joint Utilities Group

NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees

FIGURE 1 – Tree Protection Zone



Key

Trunk of tree

Canopy or branch spread

PROHIBITED ZONE – 1m from trunk. Excavations of any kind must not be undertaken within this zone unless full consultation with the local authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.

PRECAUTIONARY ZONE – 4 x tree circumference. Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with the local authority Tree Officer if in any doubt.

PERMITTED ZONE – outside of the precautionary zone. Excavation works may be undertaken within this zone, however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

8.0 Appendix 4 – Methodology

8.1 Introduction

8.1.1 This report and all methodologies adopted to carry out the Arboricultural Impact Assessment and Arboricultural Method Statement are based on recommendations outlined in *British Standard (BS) 5837:2012 Trees in relation to design, demolition and construction-Recommendations*. This was published by BSI Standards Limited and came into effect on 30th April 2012. It supersedes BS 5837:2005 which is withdrawn.

8.2 Arboricultural Impact Assessment (AIA)

8.2.1 Once the Tree Survey and Tree Constraints Plan has been prepared and a site layout is available, these are superimposed to establish the potential impact of the development, including the construction phase, on the existing tree stock.

8.2.2 The requirement for tree removal is ascertained where tree stems are located within or very close to proposed building footprints and hard landscape and/or within areas with significant proposed level changes and other works requiring soil movement (incl. excavations).

8.2.3 In a second stage an assessment is carried out of the impact both the construction operations and the development proposals may have of retained trees, including hard landscape in RPA, vertical structures and tree canopies

8.2.4 Using information provided by the client on construction operations, including site access, construction vehicle and plant movement and location of the site compound and material storage areas, the potential impact on both below and above ground parts of retained trees is assessed.

8.2.5 In addition to assessing the impact of the development on existing trees, Enzygo also include an assessment of the impact of existing trees on the future use of the site, including shading, spatial constraints and the use of gardens, open spaces, paths and roads. Potential conflicts between trees and the safety of the site have also been analysed.

8.3 Arboricultural Method Statement (AMS)

8.3.6 The Arboricultural Method Statement (AMS) gives an overview on all methodologies to be adopted to minimise the effects the development, including construction operations, are expected to have on retained trees.

8.3.7 The AMS further includes a full specification for all methodologies which are necessary to protect retained trees.

8.3.8 Methodologies include protective barriers installed to create a Construction Exclusion Zone (CEZ) around retained trees, temporary ground protection where Root Protection Areas (RPA) cannot be fully fenced off, access facilitation pruning where there are conflicts between parts of the canopy and the development, specialist construction methods for buildings within the RPA and any methodologies to be adopted for utilities within the RPA.

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