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Arboricultural Report

Client: Jon Downing

Site: 14 Palewell Park London SW14 8GJ

Survey undertaken: Trees in relation to design, demolition and construction – Recommendations.

Author: Frank Parsons
RFS certificate in Arboriculture
AA Technicians certificate in Arboriculture
(Level 4 Diploma in Arboriculture)

12th November 2024

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Appendices

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1. Background:

This report is to be read in conjunction to the tree survey attached, which has been undertaken to identify any trees within or affected by the proposed development at the site address that should be removed or retained and therefore protected during the proposed development. This report will outline tree categorization methodology with reference to BS 5837:2012. The proposed site is within a conservation area. The local authority is the London Borough of Richmond.

2. Clients Brief:

- To undertake a tree survey within the rear gardens of affected properties. To scale plan supplied by the client.

- To provide an Arboricultural report identifying the trees to be retained, removed or worked on within the proposed development and outline and evaluate the constraints posed by the trees retained on site via:

- Root Protection Area (RPA) – Layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of a tree, shown in plan form.

- Construction Exclusion Zone – Area based on the RPA, identified by an arboriculturalist, to be protected during development, including demolition and construction work, using barriers and or ground protection, fit for purpose to ensure the successful long-term retention of a tree.

- Tree Protection Plan (TPP) – Scale drawing prepared by an arboriculturalist showing the finalized layout proposals, tree retention and tree landscape protection measures detailed within the arboricultural method statement (AMS), shown in plan form.

- Arboricultural Implications Assessment – Study undertaken by an arboriculturalist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise because of the implementation of any site layout proposal.

- Arboricultural method statement (AMS) – Methodology for the implementation of any aspect of development that has the potential to result in loss or damage to a tree. N.B. The AMS is likely to include details of an on-site tree protection monitoring regime, construction traffic management plan in relation to trees and a tree pruning schedule.

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3. Scope:

The survey has been conducted in accordance with BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.

4. Site Observations:

14 Palewell Park is a semi-detached property in the London borough of Richmond. The road is a tree lined street planted predominantly with Lime trees, mostly mature all of which have had some pruning history. The front elevation of the property is east facing, the side return leading to the rear garden is on the north side of the property. There is one mature street tree to the east of the front garden gate approximately 2m away from the boundary pier. The other street tree is approximately 5m away from the opposite pier on the south side of the front garden. The front garden is paved with some shrubs on the south bed leading up to the front door. A brick wall separates the front boundary from the footpath. Parking is for residents only within restricted hours. Many of the adjacent properties on Palewell Park have installed off street parking driveways with a dropped curb. The weather at the time of survey was overcast with no wind. The soil profile is unknown.

5. The Proposed Development:

The proposed project is an installation of forecourt parking and dropped curb with an opening of 3.5m in between brick piers and a depth of 5.2m from front boundary to bay window. Ground surface would be permeable block paving with planting around edges to soften. Existing pathway to the porch would be updated, a bin store would be added to the opposite side with more planting around the new structure.

6. (i) *Construction Exclusion zones (CEZ's):*

Hoarding will protect the street trees that are being retained adjacent to site before any materials or machinery are brought onto the site, and before any demolition, development or stripping of soil commences. The hoarding will be constructed of 15mm Plyboard 3m in height encasing the planting pit to ensure no mechanical damage occurs to the tree stems because of the works.

The mixing and storage of materials is prohibited within the construction exclusion zones, contractors and machinery are also prohibited within CEZ's to mitigate soil contamination. This should be communicated via the project manger at commencement of each stage of the project.

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(ii) ***Recommendations to mitigate or eliminate damage to tree roots within RPA's -***

To mitigate severance of roots for foundation construction specialist methods should be used.
Designs for foundations that would minimize adverse impact on trees should include particular attention to existing levels, proposed finished levels and cross-sectional details. To arrive at a suitable solution, site-specific and specialist advice regarding foundation design should be sought from the project architect, developer and an engineer.

7. Arboricultural Implications Assessment:

The installation of the dropped curb and forecourt parking at 14 Palewell park has the potential to impact T1 – Lime because the calculated RPA is within the proposed area for development, extending into the front driveway and footpath.

Stripping of existing ground surfaces may expose soil profiles where roots are present. Further excavation will sever roots and cause a negative impact on the physiological and structural condition of the tree.

Tree roots will typically extend 1.5m below ground level, barriers to growth will be present and divert rooting activity in advantageous directions. The calculated RPA is used as a tool to estimate the rooting area of a tree but in a street tree environment this estimate does not always prove to be correct. The protection radius has been calculated at 6.8m from stem but the presence of the front boundary wall footings may divert roots away from the front garden of number 14.

Foundations for the forecourt will be shallow so excavation can be kept to a minimum without the need for removal of more than 150mm of soil. The existing public footpath would not need to be removed, the dropped curb can be installed without impacting roots of T1.

Mechanical damage to the tree stem and lower canopy branches from construction vehicle parking, unloading and loading is a possibility, to mitigate this; protection measures such as installation of hoarding and crown lifting should be adopted. T1 crown clearance measure at 4m so vans should be able to park underneath without contacting lower branches.

T2 is 4.3m away from the front boundary corner tier and 5m away from the proposed crossover. The root protection radius is 3.6m so the roots would not be impacted by the proposed development. However, protective hoarding should be installed around the planting pit, as for T1 to mitigate any mechanical damage to the stem from construction vehicles.
I do not foresee any negative impacts on T2 because of installing forecourt parking.

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8. Site Observations

Photo 1: Illustrates front elevation of no.14 with T1 on the right of photo and T2 on the left. T1 being the closer of the two trees to the proposed forecourt installation. The street trees have been maintained cyclically and both canopies have been previously reduced. Crown clearance is currently at 4m above ground level.

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Photo 2 & 3: Depicts proximity of T1 Lime to front boundary wall. 2.1m from stem to front corner tier, 2m to proposed crossover link.

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Photo 4: Taken of the opposite side of the road where a parking forecourt has been installed next to a street tree which has the same distance away from the front of property as no.14.

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9. Arboricultural Method Statement:

To ensure the health and existing vitality of the trees that grow in and around the proposed site, the AMS should be used in conjunction with the tree protection plan attached to this report. (*TPP 14 Palewell Park*). See below for trees that require protection prior to demolition and construction.

T1 – Lime (street tree): RPA impacted by installation of proposed parking forecourt. Install 2.4m high ply hoarding around tree stem to prevent mechanical damage to stem during works. No storage or mixing of materials within RPA. No excavation of soil within front garden below 150mm. See Tree protection plan for methodology

T2 – Lime (street tree): RPA not impacted by installation of proposed parking forecourt.

(i) **Pruning:**
No pruning would currently be required to facilitate the proposed development.

(ii) **Installation of services and utility runs:**
Utilities and services would not be impacted or installed. Drainage channels may be necessary although the proposed ground surface in the front garden is permeable.

(iii) **Construction exclusion zones:**
Hoarding around the stems of T1 and T2 will act as CEZ's the hoarding will encase the planting pit to ensure no contaminants or rubble will be stored against tree stems. Dimensions will be 2.4m in height and constructed from 15mm Ply.

(iv) **Site access:**
The front garden project will have good access for extraction of materials. It may be advisable to have a skip for rubble in front of the property.

(v) **CTMP – construction traffic management plan with regards to deliveries.**
Contractors will need to suspend parking bays outside the front of property for the delivery of materials and parking of construction vehicles

(vi) **Site monitoring**
1.1 The following sequences for site monitoring are governed by operational constraints and subject to change. The local authority must be noted of any changes to this schedule:

Pre-development Stage-
A pre-commencement site meeting between Richmond appointed tree officer, the client, contractor, and me must be arranged before any development activity begins to confirm the timing and implementation of the agreed tree works and installation of Tree protection measures.
• Tree protection measures installed to T1.
• Site to be inspected by council tree officer.

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Development Stage
This stage is subject to site monitoring visits by the arboriculturalist at intervals as agreed at the precommencement site meeting. These visits are to ensure that the agreed protection measures are functional and correctly achieving their purpose, for the site to be accessible for demolition and construction traffic.

Post Development
Removal of Protective hoarding as agreed.
Landscape contractor to be briefed by the arboriculturalist.
Hard and soft landscaping implemented.

1.2 Arboricultural supervision is to be carried out at all crucial stages throughout the development process to ensure tasks are carried out as per the approved methodology. At points as detailed in section 1.1 and during: Any demolition of existing structures near to trees or within RPA's; Any incursion into CEZ's for whatever reason.
1.3 This supervision will require the arboriculturalist to be present throughout the tasks, to ensure all the arboricultural objectives are met.
1.4 If the task is to take a long period of time, provided the arboriculturalist is satisfied, the supervision may be reduced to telephone contact between the site Project Manager and the arboriculturalist.
1.5 The local authority arboriculturalist will have free access to the site and pass any recommendations direct to the developers arboriculturalist.
1.6 Any alterations to the protective hoarding should be approved by the developers arboriculturalist and Local Authority arboriculturalist.

10. Conclusion

Parking forecourts on Palewell Park are a common installation and have been adopted by numerous properties on the road. The mature street trees provide high landscape contribution and amenity value to the road and should be considered during the design, demolition and construction phases.

The proximity of T1 to the proposed forecourt does not concern me with regards to the maintaining the condition of the tree in relation to the construction works so long as this report is communicated to the contractor.

The proximity of T2 to the proposed forecourt is far enough away for the proposed works not to impact the rooting area of the tree nor the stem or canopy. However, it would be prudent install the same hoarding as T1 around the tree stem for the duration of works.

The Tree Protection Plan demonstrates measures to protect trees on site and provided this report is communicated to the contractor prior to the project commencing I do not foresee the proposed forecourt build causing adverse effects on the trees surveyed within this report. I would oversee the project prior to works commencing, during and after the proposed development for continuity should the client gain planning.

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11. References:

- BS 5837:2012 – Trees in relation to design, demolition and construction – Recommendations
- Original scale site survey supplied by the client.

12. Plans:

(i) Tree Survey
*Attached as a separate pdf document: Reference - **FP/TS/313***

(ii) Survey Map - *attached below as a pdf document identifying tree numbers and BS Tree Categories: Reference – TMS* 14 Palewell Park.

(iii) Tree Constraints Plan:
Attached below as a pdf drawing: Reference TCP 14 Palewell Park

(iv) Tree Protection Plan:
Attached below as a pdf drawing: Reference TPP 14 Palewell Park

Below: Table 1 – Cascade chart for tree quality assessment

Table 1 **Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Tree Survey

Client: Jon Downing
Site: 14 Palewell Park London SW14 8JG
Date of Survey: 29/10/2024
Job reference: FP/TS/313

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Tree ID	Species	Height	Branch spread	DBH	Crown clearance	Age class	Physiological condition	Structural condition	Landscape Contribution	Estimated contribution	BS Cat'	Protection Radius
T1	Tilia X europaea (Common Lime)	10.00m	N 4m E 4m S 4m W 4m	572.73mm	4m	Mature	Fair. No significant defects.	Fair. Previously reduced under a street tree management program.	High	20+	B	6.87m
T2	Tilia X europaea (Common Lime)	7.00m	N 4m E 4m S 4m W 4m	302.27mm	4m	Semi-mature	Good.	Fair. Previously reduced under a street tree management program.	High	20+	B	3.63m

Notes

1 Height describes the approximate height of the tree in meters from ground level.

2 The Branch Spread refers to the crown radius in meters from the stem centre and is shown on each of the four compass points (i.e. N, E, S, W).

3 DBH is the diameter of the stem measured in millimeters at 1.5m from ground level or just above ground level for multi stemmed trees. The diameter may be estimated (e), where access is restricted. An average is taken for tree groups.

4 Crown Clearance is the height in meters of crown clearance above adjacent ground level.

5 Physiological condition – Good (normal growth), Fair (below normal), Poor (sparse/weak), Dead (dead or dying tree). Individual observations are included in this section.

6 Structural Condition - Good (no or only minor defects), Fair (remediable defects), Poor – (major defects present or suspected), No significant defects – (defects of no concern present), Dangerous – (dead, diseased or dangerous). Individual observations are included in this section.

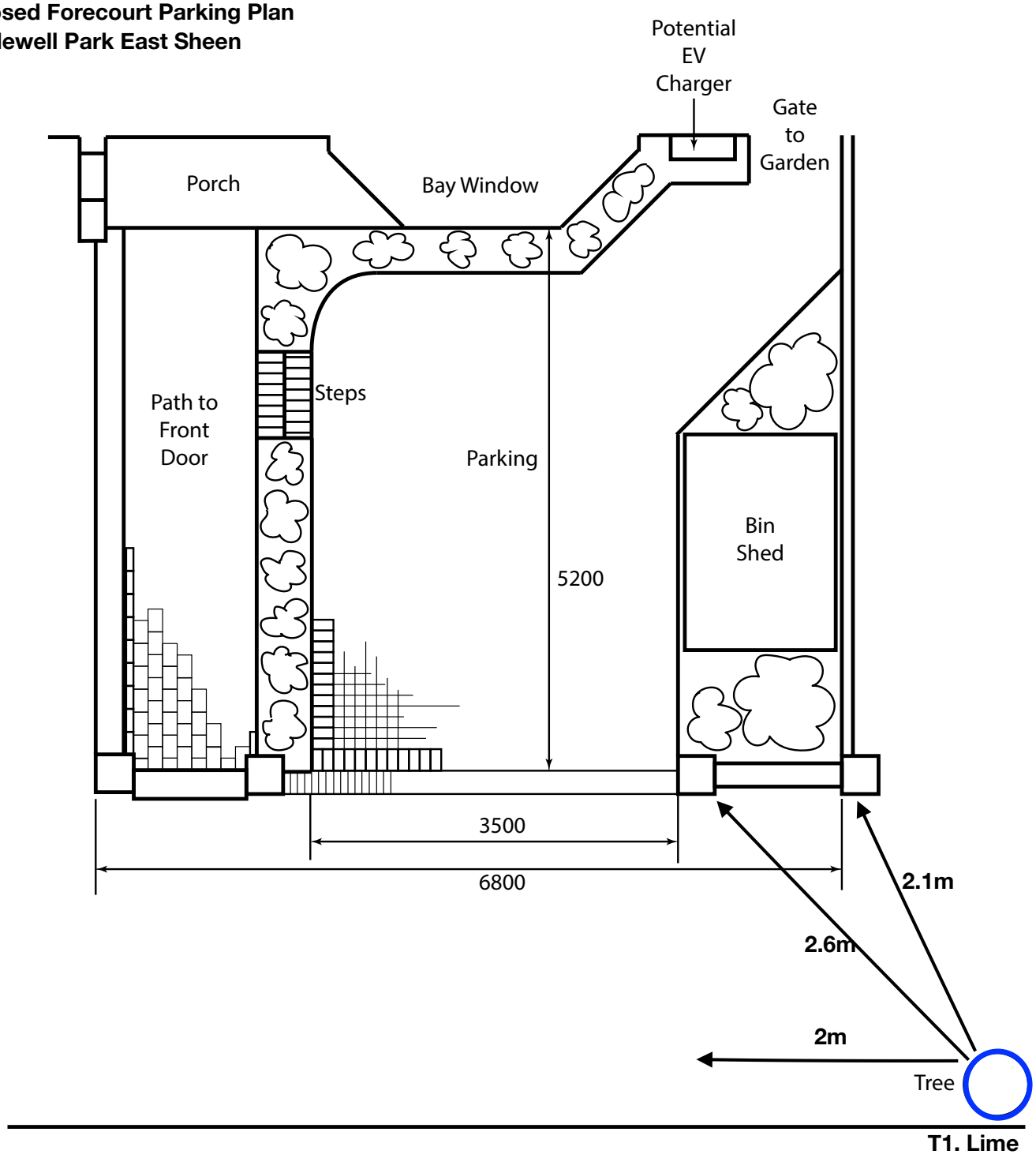
7 Landscape Contribution - High (prominent landscape feature), Medium (visible in landscape), Low (secluded/among other trees).

8 Estimated contribution is the tree's estimated remaining effective contribution in years.

9 BS Cat refers to British Standard 5837:2012 Table 1 category and refers to tree/group quality and value; 'A' - High, 'B' - Moderate, 'C' - Low, 'U' - Remove or very poor quality.

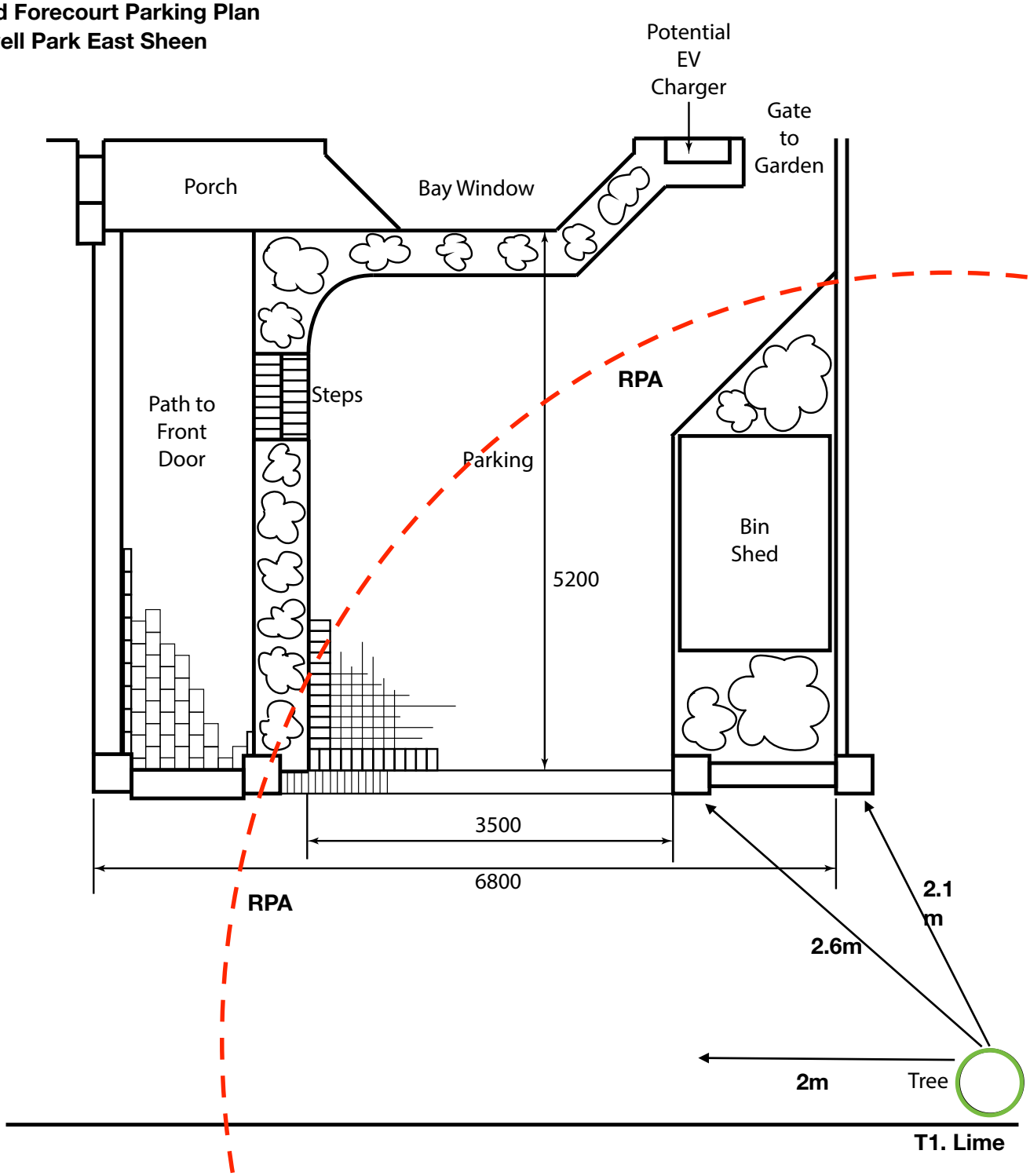
10 Protection Radius is a radial distance measured from the trunk centre and is used to calculate the BS RPA.

Proposed Forecourt Parking Plan
14 Palewell Park East Sheen



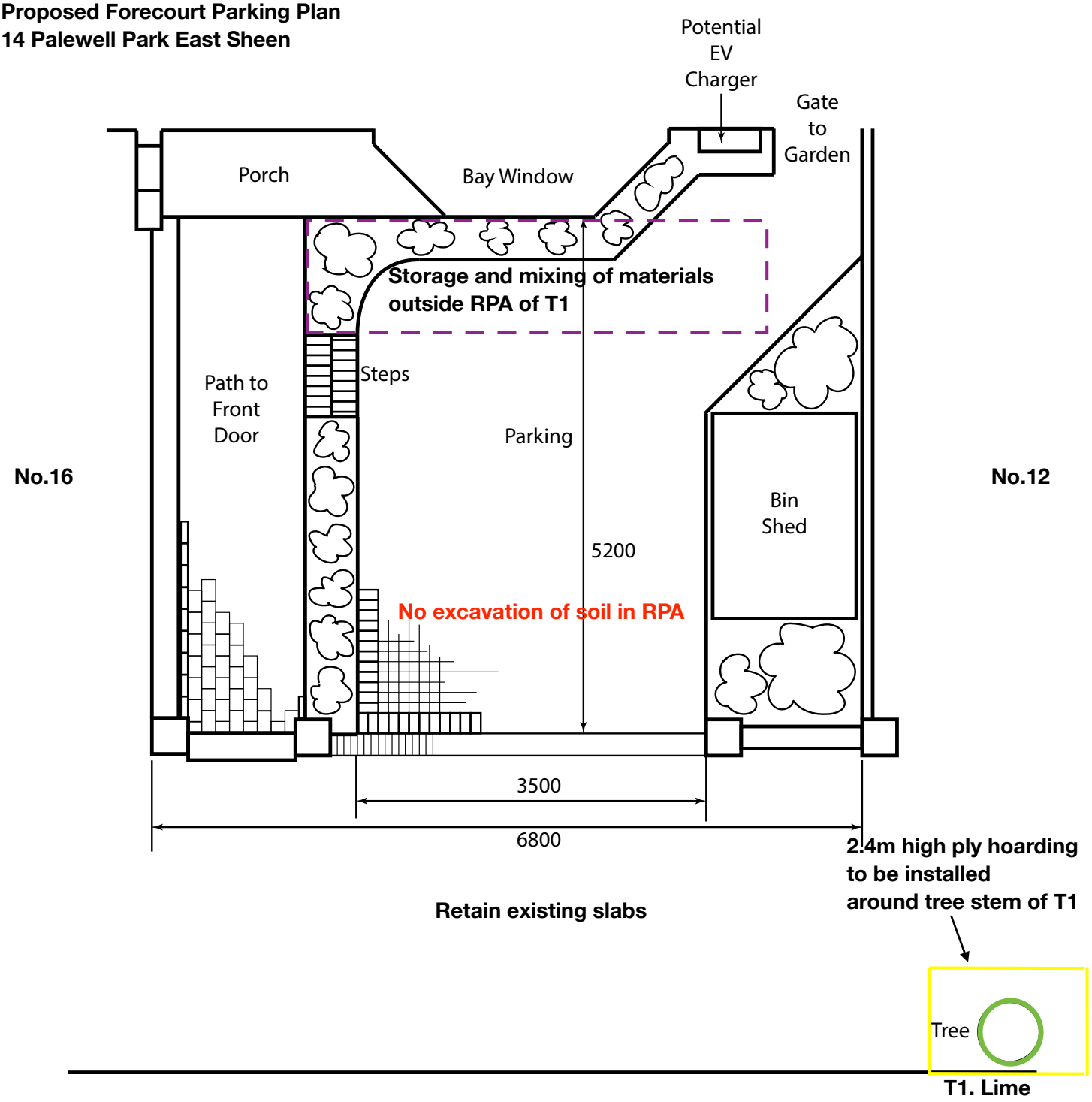
Revision - 12/11/2024 TMS 14 Palewell Park
BS category map
A - Green
B - Blue
C - Grey
Please refer to Table 1 –
Cascade chart for tree quality assessment

Proposed Forecourt Parking Plan
14 Palewell Park East Sheen



REVISED DRAWING
12/11/2024
KEY: Tree Constraints Plan
TCP 14 Palewell Park
Scale 1:50
NOTES:
Root Protection Area (RPA)
Red dashed circle
Trees to be retained -
Green circle

Proposed Forecourt Parking Plan
14 Palewell Park East Sheen



REVISED DRAWING 12/11/2024
TPP 14 Palewell Park
KEY:
Scale 1:50
Tree Protection Plan
Trees to be retained - Green
Trees to be removed - Red
CEZ Hoarding - Yellow lines
Storage and mixing of materials - Purple dashed lines