

Broad Oak Tree Consultants Limited

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**ARBORICULTURAL IMPLICATIONS ASSESSMENT
FOR PROPOSED
EIGHT UNIT REDEVELOPMENT**

AT

**LAND TO NORTH OF NO. 67 GREENFIELDS
LITTLEHAMPTON**

by

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1. INTRODUCTION

- 1.1 Broad Oak Tree Consultants Ltd. have received instructions from Arun District Council through MH Architects to undertake an inspection of trees located on and immediately adjacent to the site referred to as Land to the North of No. 67 Greenfields, Littlehampton. The purpose of the inspection was to produce a base inventory of the tree stock, advise on any safety issues and produce an Arboricultural Implications Assessment of redevelopment proposals.
- 1.2 The proposals are for the construction of two terraces of four residential properties with private gardens and provision of a total of 22 parking spaces for the new and existing houses, along with associated landscaping. Details of the proposals will have been submitted by MH Architects.
- 1.3 The trees were inspected on Tuesday 28th January 2014 by Tim Laddiman, BSc.(Hons) M.I.C.For. M.Arbor.A., Chartered Arboriculturist and Principal Consultant of Broad Oak Tree Consultants Ltd.

2. GENERAL SITE DESCRIPTION

- 2.1 The site comprises an “L” shaped area of relatively level surfaced parking understood to previously have had rows of garages, since removed. To the east is a large, open grassed area with residential properties to the south east, south and west with an access road to the south. To the north of the site is a low grass bank with a recently erected metal palisade fence and surfaced cycle/footpath running approximately east/west. Between the path and fence to the north are two developing cherry trees.

3. SCOPE OF TREE SURVEY

- 3.1 All trees and shrubs of 75mm diameter or more at 1.5m above ground level were included in the survey. This included trees immediately adjacent to the site.

4. DATA COLLECTION

- 4.1 All trees were inspected from the ground and no climbing or specialist investigations were undertaken. Each tree was inspected to the requirements of Section 4.4 of BS 5837:2012 “Trees in Relation to Design, Demolition and Construction - Recommendations”.
- 4.2 The tree survey followed the numbered sequence from 1 to 2 inclusive. Tree numbers, together with BS recommended colour coding of condition, have been added to the Tree Constraints Plan, our drawing no. J48.22/01 in Appendix 2. This drawing also includes crown spreads based on four compass points and BS calculated root protection areas.

- 4.3 The following categories of information were obtained for each tree. A separate detailed tree survey sheet is attached in Appendix 1, together with comprehensive explanatory sheets which cover the details of the categories listed below.

- (1) Tree reference number
- (2) Species
- (3) Height in metres
- (4) Stem count
- (5) Stem diameter or equivalent in millimetres
- (6) Branch spread in metres
- (7) Age class
- (8) Height of crown clearance in metres
- (9) Physiological condition
- (10) Estimated remaining contribution in years
- (11) Category grading
- (12) Structural condition
- (13) Preliminary management recommendations

- 4.4 Within the assessment of physiological condition and remaining contribution, a visual inspection of each tree was undertaken to assess the crown and stem for any weak structures, deadwood, hollows, forks or other defects that might affect its stability and safety. The base of each tree was also visually inspected, together with tapping and probing, to search for signs of root lifting, bark death or decay. Where stems were heavily ivy clad, no full assessment of structural integrity could be undertaken. Clearance of the ivy would be necessary for confirmation of tree condition.

5. RISK ASSESSMENT – INFORMATIVES

- 5.1 Although the potential risk to someone passing beneath a tree when the tree or part of it fails is relatively remote, the risk is present. This increases significantly in areas of consistent and regular usage on a year round basis, such as footpaths, gardens and roadways. Where static structures exist, the risks become constant and an assessment is made as to whether complete or partial failure of a tree could potentially cause physical damage to such structures.
- 5.2 Within the scope of any tree survey it is a fact that not all risks of stem or crown failure can be covered, particularly in relation to freak occurrences of weather when even healthy trees can suffer stem snap or windblow. There is also a well known propensity for mature trees to occasionally shed limbs for no discernible reason, even on calm days. Although relatively rare, limbs may occasionally be shed and this should be acknowledged as a risk that cannot entirely be mitigated.

6. RESULTS OF TREE INSPECTIONS

- 6.1 A total of two young cherry trees were inspected, of which one was noted to have multiple stems with weak compression unions. These represent weak attachments where future failure is highly likely. The tree has been classified as BS Category U due to the risk of future stem failures and their impact on its viability and visual amenity. The other tree is a well defined developing tree beginning to be crowded by the adjoining cherry in terms of its crown symmetry.
- 6.2 Of the trees inspected, the following is a breakdown of the various numbers of the trees in each BS category.

BS Category	Tree No.	Sub Total
A	-	-
B	1	1
C	-	-
U	2	1
	TOTAL	2

6.3 *Interpretation of table*

- Category A** Retention most desirable. Of high quality and value and in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested).
- Category B** Retention desirable. Of moderate quality and value and in such a condition as to make a significant contribution (a minimum of 20 years is suggested).
- Category C** Could be retained – of low quality and value. Poor crown form, heavily asymmetric, large numbers of similar species/size. Currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested) or young trees with a stem diameter below 150mm.
- Category U** Trees for removal. Dead/dying/dangerous trees due to structural defects, fungal decay or root plate uplift. Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management.

7. BS CALCULATED ROOT PROTECTION AREAS (RPAs)

- 7.1 To provide an indication of the critical areas of root plate necessary for tree survival and longevity, BS 5837:2012 requires the calculation of RPAs for trees in the BS Categories A, B and C. Calculations are not made for Category U trees which will require removal on safety grounds within 10 years.
- 7.2 The table below has been calculated using the measured stem diameters and the formula as described in Section 4.6 in BS 5837:2012. These are represented as basic circles on the Tree Constraints Plan. Where buildings, walls, services and hard surfacing exist within the indicated RPAs it is likely that the architecture of root systems will have been affected. Foundations to walls and buildings can completely obstruct root development, depending on their depth and the nature of the underlying soils. In the absence of detailed site investigations the indicated RPA circles should be used for guidance only within any redevelopment proposals.

Tree no.	Species	BS Category	Stem diameter or calculated equivalent (mm.)	BS calc. radial equiv. root protection area (m.)	BS calc. total RPA (m²)
1	Wild Cherry	B	260	3.1	30
2	Wild Cherry	U	-	-	-

ARBORICULTURAL IMPLICATIONS ASSESSMENT

8. REDEVELOPMENT PROPOSALS

- 8.1 The proposals are for the construction of two terraces of four residential properties with private gardens and provision of a total of 22 parking spaces for the new and existing houses, along with associated landscaping. Details of the proposals will have been submitted by MH Architects.
- 8.2 The supplied MH Architects proposed layout has been used as the base for the Broad Oak Tree Consultants Ltd. Tree Protection Plan, drawing no. J48.22/02 in Appendix 3.

9. TREES FOR REMOVAL ON SAFETY GROUNDS

- 9.1 At present tree no. T2 represents a high risk of shedding stems into the existing parking area or onto the well used cycle/footpath which could represent a risk to vehicles and users. As such risks will increase annually as increased branch and foliar weight/leverage are added it has a short safe lifespan and removal would be recommended on safety grounds.
- 9.2 Tree no. T2 is indicated for removal on safety grounds on the Tree Protection Plan with a red dashed crown outline.

10. TREES FOR REMOVAL FOR REDEVELOPMENT

- 10.1 The remaining tree no. T1 would need to be removed for the redevelopment to proceed due to its proximity to the proposed building and new footpath.
- 10.2 Whilst this is a BS Category B tree it is still relatively young and of limited dimensions and not of such size and visual amenity value as to represent a significant loss. New proposed feature trees indicated on the Tree Protection Plan by others could readily replace the tree lost and the tree to be removed on safety grounds, provided they are of appropriate size, species and quality. Such replacements could be covered in a specifically worded landscaping Condition.
- 10.3 The tree for removal to facilitate the redevelopment is indicated as such on the Tree Protection Plan with a blue dashed crown outline.

11. SUMMARY

- 11.1 Only two young cherry trees are located within the general site area, one of which is recommended for removal on safety grounds due to inherently weak stem unions.
- 11.2 The second tree is of good form and quality with future potential but is still young and of limited overall size compared to a mature tree. Whilst it would be lost to the redevelopment proposals, new replacement planting, proposed by others, could readily replace the visual amenity of both trees. These would have to be of reasonable dimensions, good quality and of a species appropriate to form a future feature tree. This could be covered in a specifically worded landscaping Condition.

Tim Laddiman
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Broad Oak Tree Consultants Ltd.

APPENDIX 1

TREE SURVEY EXPLANATORY SHEET

Height	in metres (estimated where ground uneven or access restricted).
Stem count	number of stems
Stem diameter	in mm. at 1.5m. above ground level.
Branch spread	radial spread in metres at four main compass points (estimated where no access).
Age class	Young - Y Middle aged - MA Mature - M Over mature - OM Veteran - V
Height of crown clearance	in metres. Normally range of heights of outer branches above ground level, e.g. 2-4m.
Physiological condition	Good, Fair, Poor, Dead, Variable
Estimated remaining contribution	in years e.g. less than 10, 10-20, 20-40, 40+
Category grading	see attached sheet
Structural condition	comment on presence of defects, decay, crown form, past management, deadwood, other features worthy of note. N.B. If trees are ivy clad, no full structural assessment will have been possible.
Preliminary management recommendations	requirements of further investigations, works necessary to alleviate potential hazards based on current setting and levels of access. NB: Works that may be necessary in relation to development are not included here

CASCADE CHART FOR TREE QUALITY ASSESSMENT

TREES FOR REMOVAL				
Category and definition	Criteria			Identification on plan
Category U Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management	<ul style="list-style-type: none">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 R category trees (i.e. 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 (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality <p>NOTE Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree.)</p>			DARK RED
TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	Criteria - Subcategories			Identification on plan
	1. Mainly arboricultural values	2. Mainly landscape values	3. Mainly cultural values, including conservation	
Category A Those of high quality and value: in such a condition as to be able to make a substantial construction (a minimum of 40 years is suggested)	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN
Category B Those of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually as groups or woodland, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	MID BLUE
Category C Those of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150mm.	Trees not qualifying in higher categories	Trees present in groups or woodland, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit.	Trees with very limited conservation or other cultural benefits	GREY
NOTE Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation				

Tree ref. no.	Species	Height (m.)	Stem Count	Stem diameter or equivalent (mm.)	Branch spread (m.)				Age class	Ht. of crown clearance (m.)	Physiological condition	Estimated remaining contribution (years)	Category grading		Structural condition	Preliminary management recommendations
					N	E	S	W								
1	Wild Cherry	9	1	260	2	2.5	4	2.5	Y	2+	Good	40+	B	2		
2	Wild Cherry	9	1	440	4.5	4.5	4	2.5	Y	1.5+	Poor	<10	U		Multi stemmed from under 1.4m with weak unions.	Consider felling.

APPENDIX 2

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LAND TO NORTH OF
NO 67 GREENFIELDS
LITTLEHAMPTON

TREE CONSTRAINTS PLAN

T1 – T2 Tree numbers

BS Category of Condition

BS Condition A

T1 BS Condition B

BS Condition C

T2 BS Condition U

Partial crown spread

BS Calculated root protection areas

The root protection areas have been calculated using the formulae as described in Section 4.6 in BS5837:2012. These are represented as basic circles on the Tree Constraints Plan. Where buildings, walls, services and hard surfacing are shown, the locations of RPA's are likely to be the architecture of root systems will have been affected. Foundations to walls and buildings can completely obstruct root development, depending on their depth and the nature of the underlying soils. In the absence of detailed site investigations, the indicated RPA circles should be used for guidance only within any redevelopment proposals.

DRAWING NO. J48.22/01
Scale: 1:200 at A3
Added to by: NL
30/01/2014

APPENDIX 3

New planting proposed by others

landscaped connection to Footpath

T1 Wild Cherry B

T2 Wild Cherry U

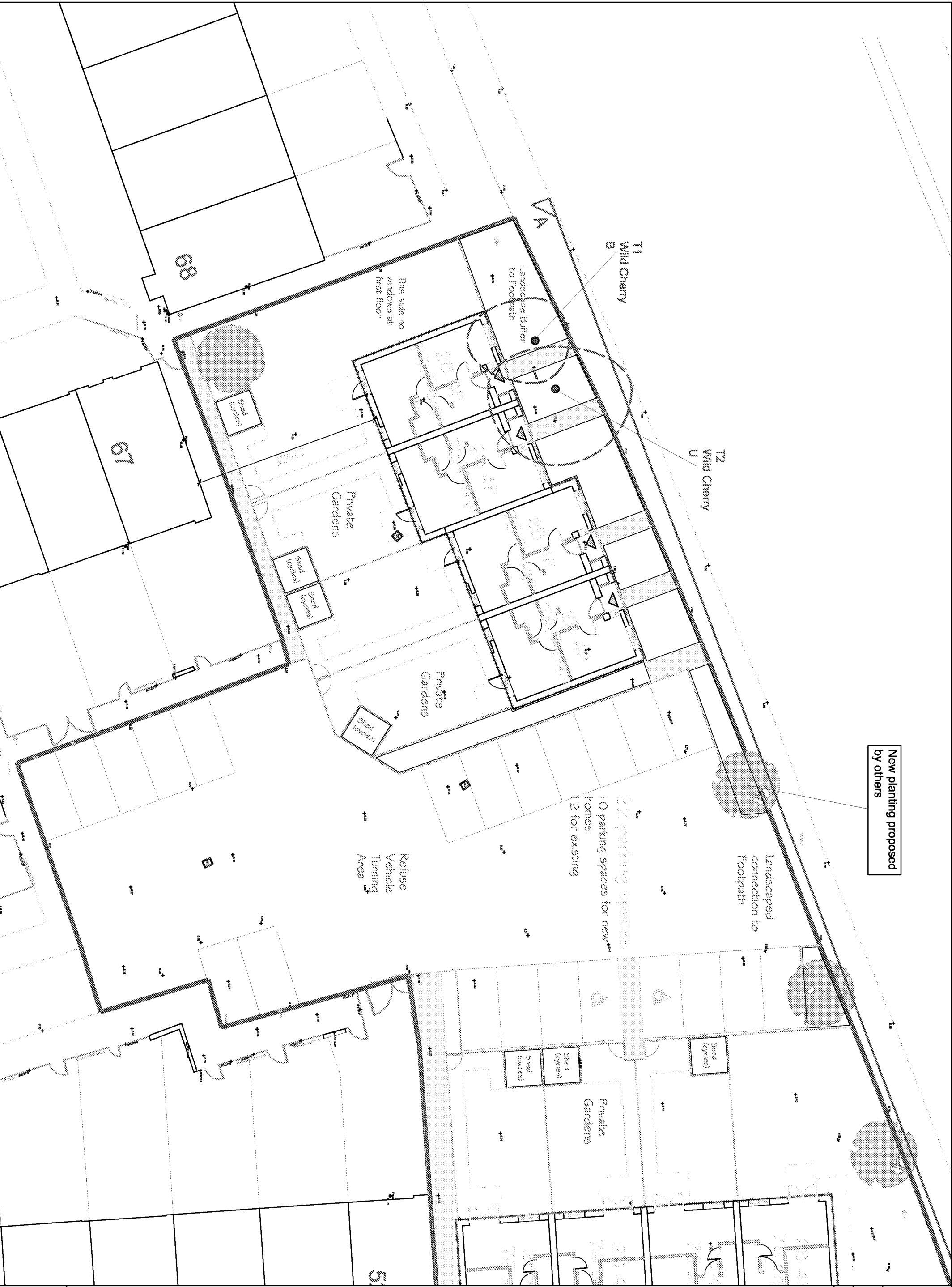
22 parking spaces
10 parking spaces for new
homes
12 for existing

Private Gardens

Private Gardens

Refuse Vehicle
Turning Area

Private Gardens



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TREE PROTECTION PLAN	
T1 - T2 Tree numbers	
BS Category of Condition	
○ BS Condition A	
○ BS Condition B	
○ BS Condition C	
T2 BS Condition U	
○ Road crown spread	
○ BS Category not protection area	
○ Tree to be removed for development	
○ Tree to be removed for safety	

DRAWING NO. J48.22/02
Scale: 1:200 at A3
Added to by: NL
03/02/2014