19th June 2024 Report Number MB240601

REPORT FOR MORELANDS PARK, WATERLOOVILLE

SITE SPECIFIC ARBORICULTURAL METHOD STATEMENT

INTRODUCTION

Arbor-Eco Consultancy were commissioned by Havant Borough Council to provide a Site-Specific Arboricultural Method Statement for the works to construct a new footpath arrangement at Morelands Park, Waterlooville. This report will support Planning Application Reference APP/23/01044.

The individual trees and associated groups of vegetation adjacent to the proposed new footpath route have been surveyed in accordance with BS5837:2012 Trees in relation to demolition, design and construction – Recommendations.

The report has been written to provide guidance for the construction of a footpath within proximity of a number of trees.

SITE DESCRIPTION

The site is located adjacent to Portsmouth Golf Club, accessed off Crookhorn Lane, Waterlooville in the county of Hampshire and within the administrative boundary of Havant Borough Council.

The site is bound to the north by properties off Privett Road, minor road. The eastern boundary is demarcated by Morelands Primary School off Crookhorn Lane, minor road. The southern boundary is delineated by Portsmouth Golf Club. The site is centred at Ordnance Survey Grid Reference SU 6804 0698.

The topography of the study area is undulating with scattered trees internally to the site and bound by woodland shelterbelts. The location of the trees surveyed can be found on Drawing Number Mb240601-01, enclosed within this report.

STATUTORY PROTECTION

Examination of Havant Borough Council (2024) interactive mapping, (https://maps.havant.gov.uk/havant.aspx), accessed on 16th June 2024, indicated that the trees surveyed are not the subject of a Tree Preservation Order.

Further examination of Havant Borough Council (2024) interactive mapping, (https://maps.havant.gov.uk/havant.aspx), accessed on 16th June 2024, indicated that the site is not situated within a Conservation Area.

LAND DESIGNATIONS (NATURAL ENGLAND)

For land you own or occupy, Natural England can select all or part of it for protection. Natural England will do this when it believes the site has features of special interest, such as its:

- wildlife
- geology
- landform

Natural England will 'notify' (or designate) the land, for example, as a site of special scientific interest (SSSI).

Morelands Park is adjacent to, and north of, Purbrook Park Site of Interest to Nature Conservation (SINC).

TREE CONDITION AND PRUNING

The trees and group of shrubs and trees that form the boundary of the site have been inspected in accordance with BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.

It was deemed, at the time of the inspection that a number of trees were considered to be of C Category and of low retention value when considered in accordance with the guidance set out in BS5837:2012.

The majority of trees inspected were deemed to be Category B, tree of moderate quality when considered in accordance with the guidance set out in BS5837:2012

Trees and vegetation that overhang footways and footpaths should be crown-lifted to at least 2.5 m and cut back to ensure the footpath/way is at least 1.2 m in width. This is to allow safe passage for all footpath/way users including wheelchairs, mobility scooters, etc.

These heights have been selected as an acceptable standard and any vegetation below this may be deemed to be an obstruction.

It will be necessary to undertake facilitation pruning works to the retained trees, as the height of the canopy overhanging the proposed footpath access may not accommodate the delivery of materials or good working space as was noted that a number of trees had low hanging branches. However, until such time as the project start date is known, it would be better for the trees if they were pruned just prior to works being conducted.

During the survey the trees were in full leaf and the branches were at a height that will fluctuate through the seasons. In addition, the date of construction commencement is yet to be determined and further growth will occur to all of the vegetation on this site. The exact measurements required for each pruning activity will be determined on the day of tree works under the supervision of the Project Arboriculturist. In addition, the hedgerow vegetation will require to be faced back to the back of the kerb edge to remove any footpath obstructions.

All tree works should be carried out by a suitably qualified and experienced arborist to British Standard 3998:2010 Tree work – Recommendations.

ROOT PROTECTION AREA (RPA)

In order to avoid damage to the roots or rooting environment of retained trees the protection of the roots and soil structure in this area should be treated as sacrosanct.

The Construction Exclusion Zone is the area considered necessary to ensure that the tree roots and canopy are protected from damage during the construction processes. The extent of the exclusion zone is based upon guidance within BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations' in particular the diameter of the stem of each tree (when measured at a height of 1.5 m from ground level) in combination with the canopy spread of the tree is considered.

There are three areas where construction is in conflict with adjacent trees and these are shown on the Tree Protection Plan (enclosed).

- The north-east corner is being refurbished and the existing hard surface hard core base layer can be retained to provide an element of root protection thereby alleviating any root damage that would otherwise be envisage when breaking unmade ground.

- The south-west corner is deemed to be the most invasive where a mature Oak tree is immediately adjacent to the footpath. Three-dimensional cellular confinement and a no-dig solution is required as detailed below.

- The south-east corner is an area where there is an opportunity to relocate the footpath north and out of the RPAs of the adjacent trees. If this were acceptable then no further tree protection, other than the barriers, will be required. Should this not be possible, then a three-dimensional cellular confinement and a no-dig solution is required as detailed below.

The exclusion zones are to be defined on site throughout the course of the construction by the use of protective barriers as described below.

The Construction Exclusion Zones are to be afforded protection at all times. No works that cause compaction of the soil or severance of tree roots, except where undertaken in accordance with the guidance provided within this document, will be undertaken within any exclusion zone.

Tree Protection Barriers

It is recommended to contain the area of construction using HERAS fencing barriers for added security to prevent accidental or forced access to the proposed site. The protective barriers will be erected prior to the commencement of any site works e.g., before any materials or machinery are brought on site or the stripping of soil commences. Signs will be installed on the protective barriers, at regular intervals, to inform contractors of the importance of protecting trees.

The locations of the protective barriers to be installed are shown on the Tree Protection Plan Drawing Number MB240601-01, enclosed within this report.

The protective barriers are to be constructed in accordance with the specification detailed in BS5837:2012 (Figure 3; Appendix 4) or agreed at the initial Tree Protection Barrier audit (audit and supervision dates to be confirmed). Any variation to the specification of the protective barrier will be agreed with the Tree Preservation Officer for Havant Borough Council or Project Arboriculturist. It is recommended that the default variant is avoided due to the method of installation of the upright supports being so close to the stems of the trees. The preferred method would be to utilise stabilising bars attached to the rear of every other panel post to avoid unnecessary root damage or compaction.

The Contracts Manager will inform the Project Arboriculturist when the protective barriers have been installed and the Project Arboriculturist will attend site to confirm that they have been installed in accordance with the Tree Protection Plan Drawing Number MB240601-01, attached to this report. The Local Planning Authority will be notified in writing once this inspection has been undertaken.

The tree protection measures will only be removed with the consent of the Arboricultural Officer for Havant Borough Council or Project Arboriculturist to permit the final completion of the scheme.

Other than works detailed within this Method Statement or approved in writing by the Local Planning Authority no works, including storage or dumping of materials, shall take place within the Construction Exclusion Zone as defined by the protective barriers.

METHODOLOGY OF WORKS

Construction work carried out within the RPAs of the retained trees will cause the greatest damage. Soil that has been compacted will not provide suitable conditions for the survival and growth of vegetation, whether existing or new, and is a common cause of post-construction tree loss on development sites. Compacted soil will adversely affect drainage, gas exchange, nutrient uptake and organic content, and will seriously impede or restrict root growth. The risk of soil compaction is greatest in soils with a significant clay content and in wet conditions. It can result from temporary or short-term loadings, such as the passage of a single vehicle, or from longer-term construction activities, including materials storage.

The requirements for tree root growth to function effectively and to construct the proposed new hard surfaces shall be designed so that:

- No excavation of bare ground is required for their installation; to ensure that physical root damage does not occur.
- The surface can be installed without compaction of the existing soils; thus, ensuring damage to the soil structure does not occur.
- The surface is permeable; thus, ensuring that oxygen and water can reach the root system and that CO2 can diffuse vertically out of the soil as high concentrations can cause root suffocation.

Where hard surfacing already exists on site, consideration should be given so that these areas will be retained and utilised as ground protection within the RPAs of retained trees until the replacement of hard landscaping is implemented into the construction phase of the development. The retention of the hard surfacing is deemed suitable ground protection and therefore the conflict with retained tree’s roots is eliminated.

To minimise the potential for harm to occur to root systems of retained trees from hard surfacing creation it is proposed to construct the hard surfacing areas in accordance with a no-dig methodology and ensure that they are finished with a permeable surface.

In particular:

- Works shall be conducted in such a manner as to prevent physical damage to roots during construction, such as soil compaction or root severance.
- Provision for water and oxygen to reach the roots must be made and the soil structure must not be disturbed.
- Provision must be made for future root growth and precautions taken to ensure that such root growth does not cause unacceptable levels of damage to the finished construction.

- The soil must not be compacted and soil bulk density must be maintained at suitable levels for tree root growth and function. In this respect, a soil bulk density of over 1.8g/cm^3 is likely to impede root growth and function.

  To achieve the above requirements for tree root growth and function the proposed temporary hard surfaces shall be designed so that:
- No excavation of bare ground is required for their installation; to ensure that physical root damage does not occur.
- The surface can be installed without compaction of the existing soils; thus, ensuring damage to the soil structure does not occur.
- The surface is permeable; thus, ensuring that oxygen and water can reach the root system and that CO^2 can diffuse vertically out of the soil as high concentrations can cause root suffocation.

There are various methods of creating such a surface and examples that are commonly in use and therefore recommended here is the use of a three-dimensional cellular confinement system, such as CellWeb produced by Geosynthetics or Geoweb produced by Greenfix UK (other contractors provide similar products which are available in the marketplace) to provide for load suspension above the existing soil structure and therefore reducing vertical loads on the underlying soils.

In the absence of any of the manufacturers' installation instructions then the following methodology shall be adhered to for the installation of the areas of hard surfacing across the site where unmade ground is present within RPAs:

1. Prior to commencement of the works the areas identified for the hard surfacing will be marked out and investigated to identify if any existing services are present.

2. Where necessary, any existing ground cover and vegetation present within the area will be carefully stripped / strimmed using hand tools.

3. Should levels be required to be altered, then an air spade shall be used to break up the compacted ground and a soil-vac system utilised to remove the upper 75 mm to 100 mm of upper compacted soil horizon to leave an aerated soil structure below.

4. The exposed soil will be covered with a permeable geotextile membrane. The geotextile layer shall be laid with overlaps of 300 mm beyond the edge of the proposed construction and it shall be temporarily retained with pins, stakes or weights.

5. Where uneven ground is present this will be made-up using washed sand (builders' sand is contaminated with salt) and raked to the desired levels.

6. A cellular confinement system will then be installed on top of the sand and fixed in position in accordance with the manufacturer's recommendations.

7. Where installed into existing ruts or ground depressions the cellular confinement system shall be trimmed to size and layered to achieve a level top surface. A further layer of the cellular confinement system shall then be laid and fixed into position.

8. The cellular confinement system to be used should be specified by an engineer though the use of Geosynthetics 75 mm to 100 mm for pedestrians or 150 mm or 200 mm Cellweb or similar is typically appropriate for tree root protection beneath vehicle access.

9. The edges of the cellular confinement system shall be retained by timber boards staked into place with road pins or similar.

10. The cellular confinement system will then be filled with the specified aggregate in accordance with the manufacturer's recommendations. The stone used to fill the cellular confinement system must not contain any limestone or other soluble materials that may contaminate the underlying soil through water runoff.

11. The infill aggregate will then be rolled or whacked to ensure cohesion with the cellular confinement system.

12. A second geotextile fabric layer will then be laid over the filled cellular confinement system.

13. The finished surface shall then be installed.

It should be noted however that should such an approach be adopted some limited impact upon the trees is likely and whilst they are species that will typically adapt to changes in their growing environment some short-term loss of vigour could be expected.

MONITORING AND MANAGING

All operations will be monitored by the Contracts Manager to ensure that all works within this document are followed (this will be built into the contract specification).

The Arboricultural Officer for Havant Borough Council or Project Arboriculturist shall confirm that the tree protection measures have been erected correctly and that no works shall be carried out within the RPA of the tree or group surveyed.

Induction and Personnel Awareness
Details of tree protection and methods of working around trees will be included within site inductions to new members of site staff and included within tool-box talks at daily briefings to staff. All personnel inducted on site will include a statement of acceptance of responsibility should any tree be damaged during operations.

The retained Arboricultural Consultant will provide an initial brief to the Site Manager, Contracts Manager and Foreman prior to any works being carried out at this site. A copy of this document and the related Tree Protection Plans will be kept on site and accessible to staff. A copy of the Tree Protection Drawing will be on display to all staff and contractors.

The Contracts Manager will be responsible for carrying out a daily check of all tree protection measures on this site to include signage and security of barriers. Where a sign, ground protection or tree protection barrier is damaged it will be immediately replaced.

Monitoring/Audits
A Pre-Commencement Site Meeting will be arranged between the contractor, Project Arboriculturist and any other interested party. During this meeting all outstanding items will be finalised and these will be communicated to the Local Planning Authority.

In accordance with the guidelines within BS5837:2012 periods of supervision and inspection audits will be undertaken by the Project Arboriculturist. Feedback will be provided to the Arboricultural Officer for Havant Borough Council on completion of each visit with photographic evidence where appropriate.

The meeting shall include the following:

- Auditing and inspection period.
- Tree work requirements.
- Installation of Tree Protection measures.
- Installation of three-dimensional cellular confinement.
- Post development tree inspection, removal of tree protection measures.

The Arboricultural Officer for Havant Borough Council will have the opportunity to carry out unannounced audits and inspection at the discretion of the Local Planning Authority.

Use of Subcontractors
The Contracts Manager will be responsible for ensuring sub-contractors do not carry out any process or operation that is likely to adversely impact upon any tree on site. Inspections and audits will be regularly carried out by the Contracts Manager during the development. The Contracts Manager will be responsible for the protection of all of the trees and should any concerns be raised by sub-contractual staff then contact with the Project Arboriculturist will be made for advice.

Contingency Plan for Soil Contamination
Water will be available on site to wash down the trees stems and canopy in the event of dust from the construction process accumulating upon them.

Spill kits and water will be readily available on site and will be used to contain spilt materials and to wash away the soil in order to avoid contamination to tree roots. At the time of any spillage the main contractor will contact the Project Arboriculturist for advice.

Where any vehicles or plant are to be operated or parked in a static location in close proximity to the site, they must be sited on a spill berm containment mat. All vehicles and plant operating internally to the site must carry a suitable spill containment and absorption kit.

DISCLAIMER

The contents of this report are the responsibility of Arbor-Eco Consultancy. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Arbor-Eco Consultancy accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

VALIDITY OF DATA

The findings of this study are valid for a period of 12 months from the date of survey. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified and experienced arboriculturist to assess any changes to the trees, groups and woodlands on site and to inform a review of the conclusions and recommendations made.

It should be noted that trees are dynamic living organisms that are subject to natural changes as they age or are influenced by changes in their environment. As such following any significant meteorological event or changes in the growing environment of the trees they should be re-assessed by a suitably qualified and experienced arboriculturist.

CONTACT DETAILS

If any issues arise in relation to the retained trees the Project Arboriculturist will be contacted for advice. The Project Arboriculturist for the development is:

Name: Marco Bartolini
Position: Arboricultural Consultant
Company: Arbor-Eco Consultancy
Mobile: 07542 093882

Local Authority: Havant Borough Council
Offices Location: Public Service Plaza, Civic Centre Road, Havant, PO9 2AX
Tel: 023 9244 6019

Should you have any further questions please do not hesitate us.

Yours sincerely,

Marco Bartolini
Arboricultural Consultant TechArborA, PTI, FdScWM, Dip Mgmt
For and On Behalf of Arbor-Eco Consultancy

Enclosures;

1. Table A.1; Tree Schedule
2. Table A.2; RPA Table.
3. MB240601-01, Tree Protection Plan.
4. Tree Protection Sign (example).
5. Construction Damage to Trees Poster.
6. Photographic Montage of Existing Site.

Tree No.	Species	No. Stems	Diam (mm)	H't (m)	Ht 1st Branch (m)	Branch Spread (m)				Crown Clearance (m)				Age	Phys Cond	Struc Cond	Est. Remain Contrib (Years)	Cat	Comments	Preliminary Management Recommendations
						N	E	S	W	N	E	S	W							
1	Silver Birch	1	330	11.0	0.0 S	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	M	G	G	20+	B1	• Artificial structures within RPA. • Suckers at base. • Low hanging branches.	Remove suckers at base.
2	Silver Birch	1	280	15.0	2.5 N	4.0	4.0	4.0	4.0	2.0	2.0	2.0	2.0	EM	G	G	20+	B1	• Artificial structures within RPA.	-
3	Silver Birch	1	250	11.0	2.5 S	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	EM	P	F	<10	U	• Significant bark damage to stem with heartwood exposed. • Asymmetrical canopy. • Major deadwood in crown. • Artificial structures within RPA.	Crown clean deadwood.
4	Norway Maple	1	500	16.0	2.0 S	5.0	5.0	5.0	3.0	2.0	2.0	2.0	2.0	EM	G	G	20+	B1	• Major deadwood in crown. • Tight forks with included bark in crown.	Crown clean deadwood.
5	Norway Maple	1	480	16.0	2.0 N	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	EM	G	G	20+	B1	• Exposed surface roots. • Tight forks with included bark in crown.	-
6	Norway Maple	1	360	14.0	2.0 W	6.0	4.0	5.0	5.0	2.0	2.0	2.0	2.0	EM	F	G	10+	C1	• Suppressed by group. • Tall and etiolated.	-
7	Oak	1	1010	16.0	4.0 E	9.0	11.0	10.0	3.0	4.0	3.0	2.0	2.0	M	F	G	20+	B1	• Heavily pruned over property. • Asymmetrical canopy due to poor past management. • Ivy on stem. • Major deadwood in crown. • Artificial structures within RPA.	Crown clean deadwood.
8	Lime	1	130	4.0	2.0 E	2.0	1.0	0.5	1.5	2.0	2.0	2.0	2.0	Y	P	F	<10	U	• Significant bark wounds from mower and people damage. • Poor form.	Replace.
9	Norway Maple	1	140	7.0	2.0 S	2.0	1.5	1.5	1.0	3.0	3.0	3.0	3.0	Y	P	F	<10	U	• Significant bark wounds from mower and people damage. • Poor form.	Replace.
10	London Plane	1	560	18.0	2.0 S	8.0	6.0	7.0	8.0	2.0	2.0	4.0	4.0	EM	G	G	20+	B1	• Exposed surface roots. • Major deadwood in crown. • Artificial structures within RPA.	Crown clean deadwood.
11	Ash	1	600	24.0	2.0 W	9.0	6.0	9.0	5.0	2.0	4.0	4.0	2.0	M	F	G	10+	C1	• Artificial structures within RPA. • Ash dieback evident (see note). • Major deadwood in crown.	Crown clean deadwood.
12	London Plane	1	430	20.0	2.0 S	8.0	7.0	8.0	6.0	4.0	2.0	2.0	3.0	EM	G	G	20+	B1	• Artificial structures within RPA. • Exposed surface roots. • Major deadwood in crown.	Crown clean deadwood.
13	Ash	1	470	20.0	2.0 W	9.0	6.0	2.0	4.0	2.0	5.0	4.0	2.0	M	F	F	10+	C1	• Artificial structures within RPA. • Ash dieback evident (see note). • Major deadwood in crown. • Exposed surface roots.	Crown clean deadwood.

Table A.1: Results of Arboricultural Survey (continues)

Tree No.	Species	No. Stems	Diam (mm)	H't (m)	Ht 1st Branch (m)	Branch Spread (m)				Crown Clearance (m)				Age	Phys Cond	Struc Cond	Est. Remain Contrib (Years)	Cat	Comments	Preliminary Management Recommendations
						N	E	S	W	N	E	S	W							
14	Norway Maple	1	720	23.0	2.0 N	9.0	9.0	9.0	9.0	2.0	2.0	3.0	4.0	M	G	G	20+	B1	• Major deadwood in crown. • Exposed surface roots.	Crown clean deadwood.
15	Norway Maple	1	390	13.0	2.0 E	6.0	6.0	6.0	6.0	2.0	2.0	2.0	2.0	EM	G	G	20+	B2	• Artificial structures within RPA. • Major deadwood in crown. • Exposed surface roots.	Crown clean deadwood.
G1	Raywood Ash, Norway Maple	1	500	16.0	2.0 E	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	EM	G	G	20+	B2	• Artificial structures within RPA. • Provides good visual separation from golf course.	-
G2	Ash, Elm	1	300	14.0	2.0 N	6.5	3.0	2.0	3.0	0.0	0.0	0.0	0.0	Y EM	P	F	<10	U	• Artificial structures within RPA. • Ash dieback evident (see note). • Dead trees in group. • Major deadwood in crown. • Self-set adjacent to footpath.	Remove dead trees. Crown clean deadwood.
G3	Goat Willow, Ash, Hazel, Poplar, Hawthorn	1	600	24.0	0.0 W	8.0	8.0	8.0	8.0	0.0	0.0	0.0	0.0	Y EM M	F	G	20+	B2	• Artificial structures within RPA. • Ash dieback evident (see note). • Dead trees in group. • Major deadwood in crown. • Impassible due to dense understorey. • Restricted access prevented detailed assessment.	Crown clean deadwood.

Key

Age Class
Y: Young = tree within first third of average life expectancy
EM: Early mature = tree within second third of average life expectancy
M: Mature = tree within final third of average life expectancy
OM: Over mature = tree beyond average life expectancy
V: Veteran = shows signs of retrenchment and in decline.
D: Dead.

Physiological Condition
G: Good = no health problems
F: Fair = symptoms of ill health that may be remedied
P: Poor = poor health
D: Dead

Structural Condition
G: Good = no structural defects
F: Fair = remedial structural defects
P: Poor = significant structural defects
D: Dead

000: Estimated measurement due to access restrictions

RPA: Root Protection Area

Major deadwood: branches in excess of 50 mm diameter
Minor deadwood: branches/twigs less than 50 mm diameter

Int: Interim category due to access restrictions.

Table A.1: (cont'd) Results of Arboricultural Survey

Note: It is considered that the Ash trees surveyed cannot realistically be categorised higher that Category C, or low retention value, until further scientific evidence suggests that UK trees are resistant.

Table A.2 provides details of the Root Protection Area (RPA) of all trees surveyed. This table also gives an approximate root protection radius for these trees.

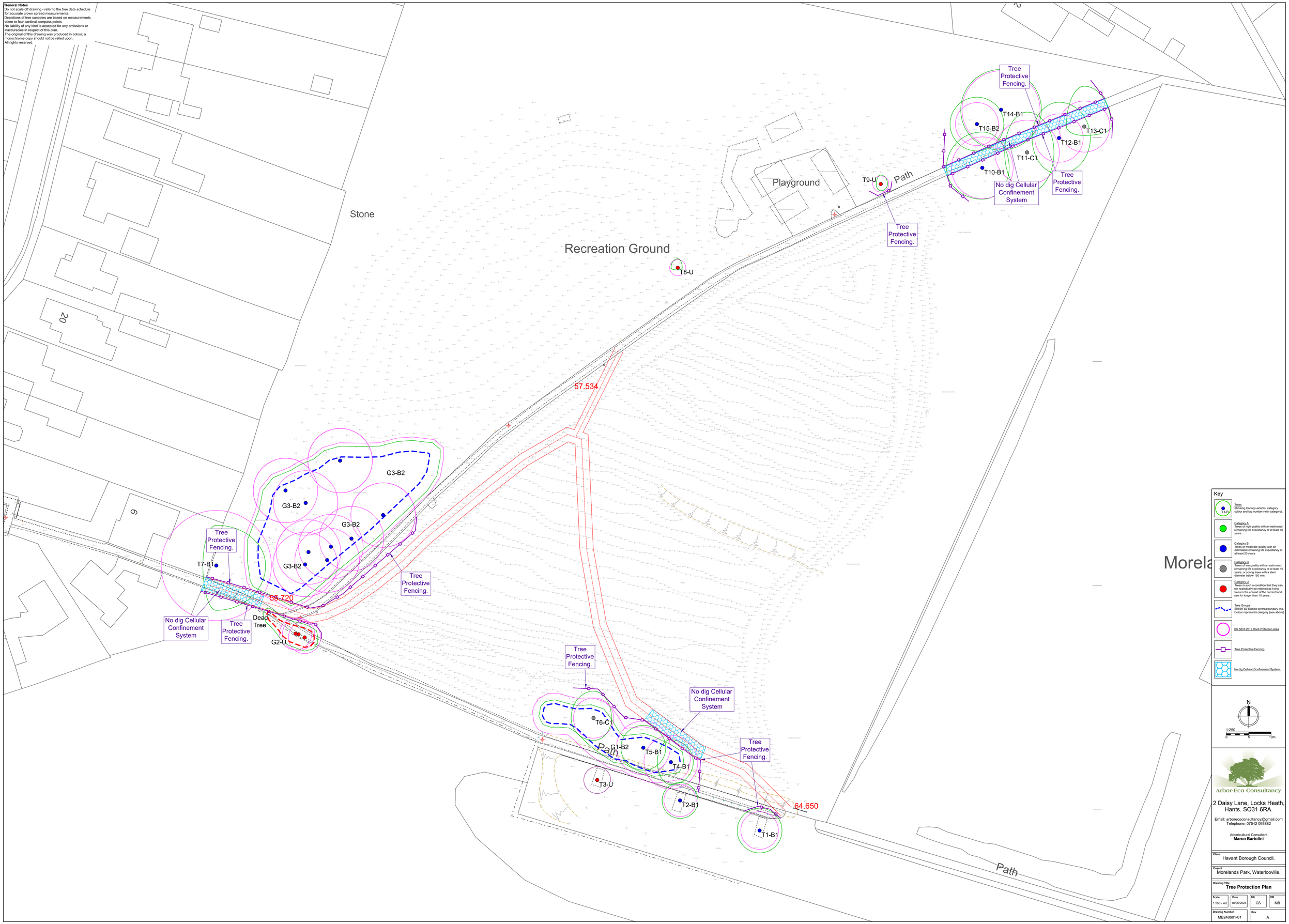
Tree No.	Species	Diam (mm)	Approximate Root Protection Radius (m)	Root Protection Area (m2)
1	Silver Birch	330	4.2	55
2	Silver Birch	280	3.6	41
3	Silver Birch	250	3.0	28
4	Norway Maple	500	6.0	113
5	Norway Maple	480	6.0	113
6	Norway Maple	360	4.5	64
7	Oak	1010	12.3	475
8	Lime	130	1.8	10
9	Norway Maple	140	1.8	10
10	London Plane	560	6.9	150
11	Ash	600	7.2	163
12	London Plane	430	5.4	92
13	Ash	470	5.7	102
14	Norway Maple	720	8.7	238
15	Norway Maple	390	4.8	72
G1	Raywood Ash, Norway Maple	500	6.0*	113*
G2	Ash, Elm	300	3.6*	41*
G3	Goat Willow, Ash, Hazel, Poplar, Hawthorn	600	7.2*	163*

Key:
000: Estimated dimensions due to access restrictions or averaged measurements over group or hedgerow.
*: Measured around centre of each group.

Table A.2: RPA and Approximate Root Protection Radius of Trees Surveyed

DRAWING NUMBER MB240601-01, TREE PROTECTION PLAN

General Notes
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.
The original of this drawing was produced in colour; a monochrome copy should not be relied upon.
All rights reserved.



Key

- Trees — Showing Canopy extents, category colour and tag number (with category).
- Category A — Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- Category B — Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
- 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.
- Category U — Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.
- Tree Groups — Shown as dashed centre/boundary line. Colour represents category (see above)
- BS 5837:2012 Root Protection Area
- Tree Protective Fencing
- No dig Cellular Confinement System.

N

1:250 — 0 5 10m

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Arboricultural Consultant
Marco Bartolini

Client	Havant Borough Council.
Project	Morelands Park, Waterlooville.
Drawing Title	**Tree Protection Plan**

Scale	Date	DB	CB
1:250 - A0	18/06/2024	CS	MB

Drawing Number	Rev
MB240601-01	A

TREE PROTECTION SIGN (EXAMPLE)

PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.

TREE PROTECTION AREA

KEEP OUT !

(TOWN & COUNTRY PLANNING ACT 1990)

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.

CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION

ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

Root Protection Area (RPA) Model Notice

DON'T excavate within this area
DON'T use any form of mechanical plant with this area
DON'T store materials, plant or equipment within this area
DON'T move plant or vehicles within this area

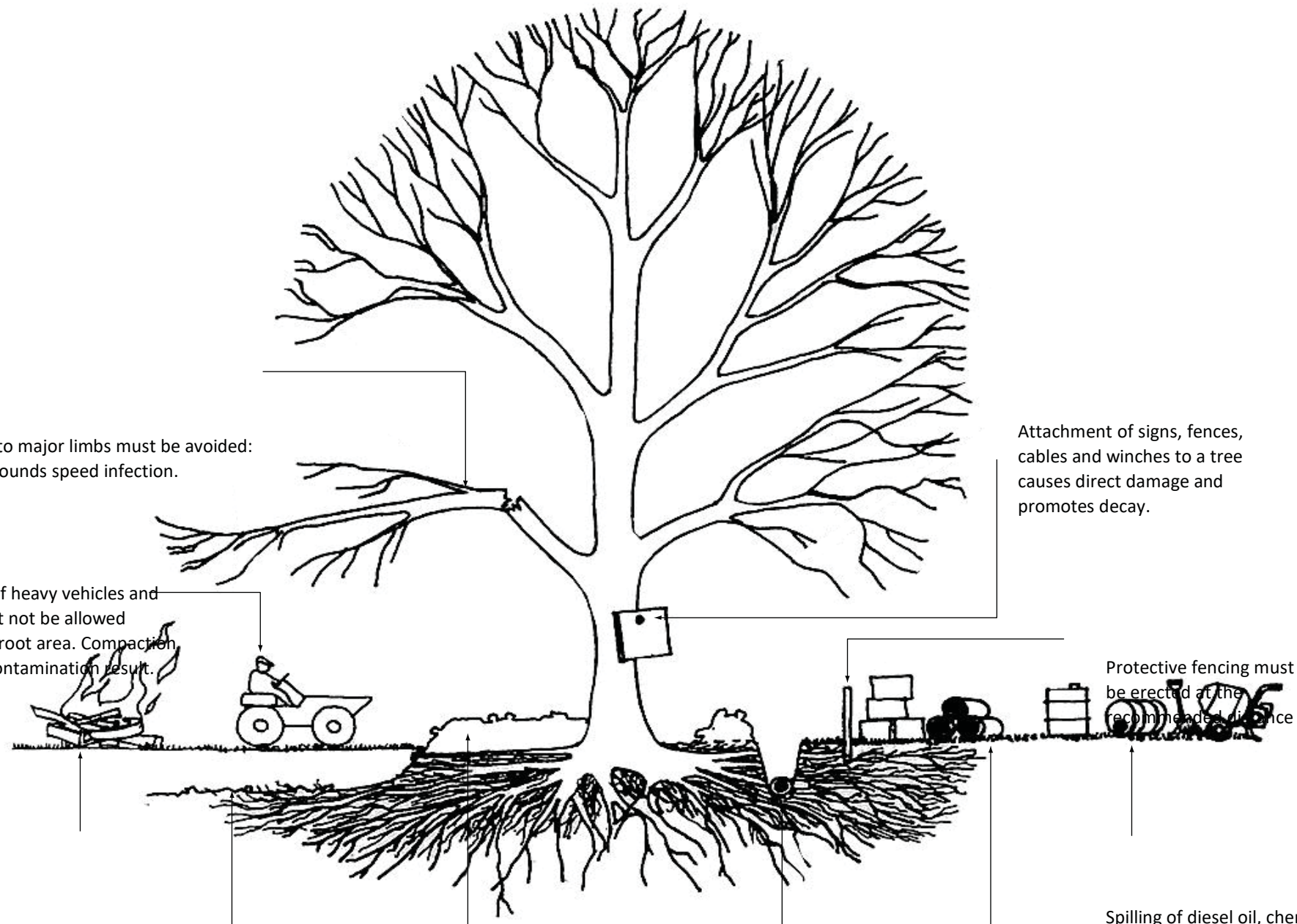
DO contact the Local Authority Arboricultural Officer or owner of the tree if excavation within this area is unavoidable
DO protect any exposed roots uncovered within this area with dry sacking
DO backfill with a suitable inert granular and top soil material mix as soon as possible on completion of work

ANY WORK in this area requires permission from the Local Authority Arboricultural Officer

CONSTRUCTION DAMAGE TO TREES (POSTER)

Common Causes of Tree Death

The use of properly positioned protective fencing can prevent tree deaths occurring.
For site offices and contractors.

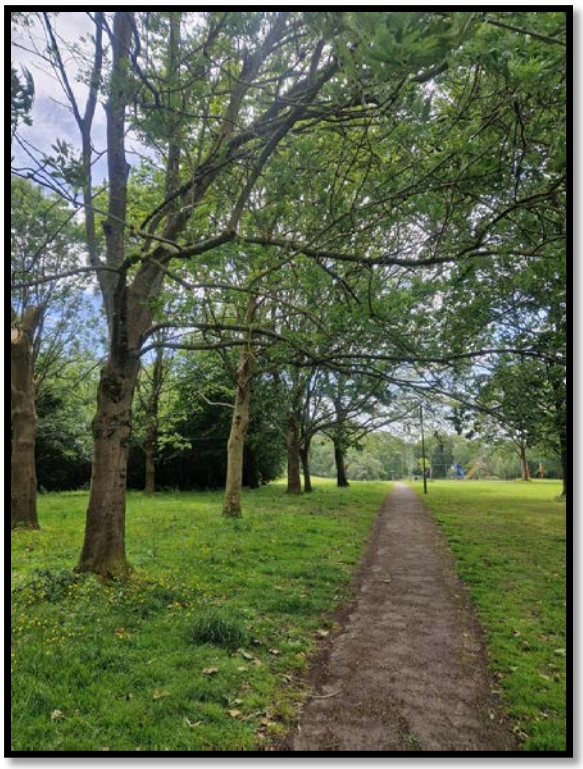


Lowering ground levels severs roots causing severe dieback and Instability.

Raising ground levels even for only a few weeks and by merely several centimetres can suffocate roots, close off the lenticels on the stem causing severe dieback or suffocation.

Trenches dug within root areas may sever roots, causing instability and reduce longevity.

Storage of materials within root area causes compaction and root suffocation.

Source: http://www.aie.org.uk/vault/dsp1.htm - Adapted by Marco Bartolini

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