



Canopy Cover

Supplementary Planning Document (SPD)

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The SPD

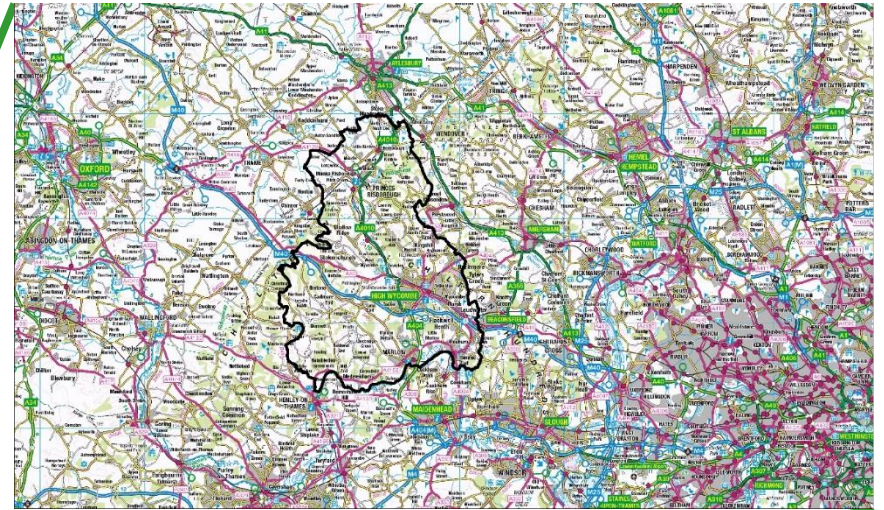
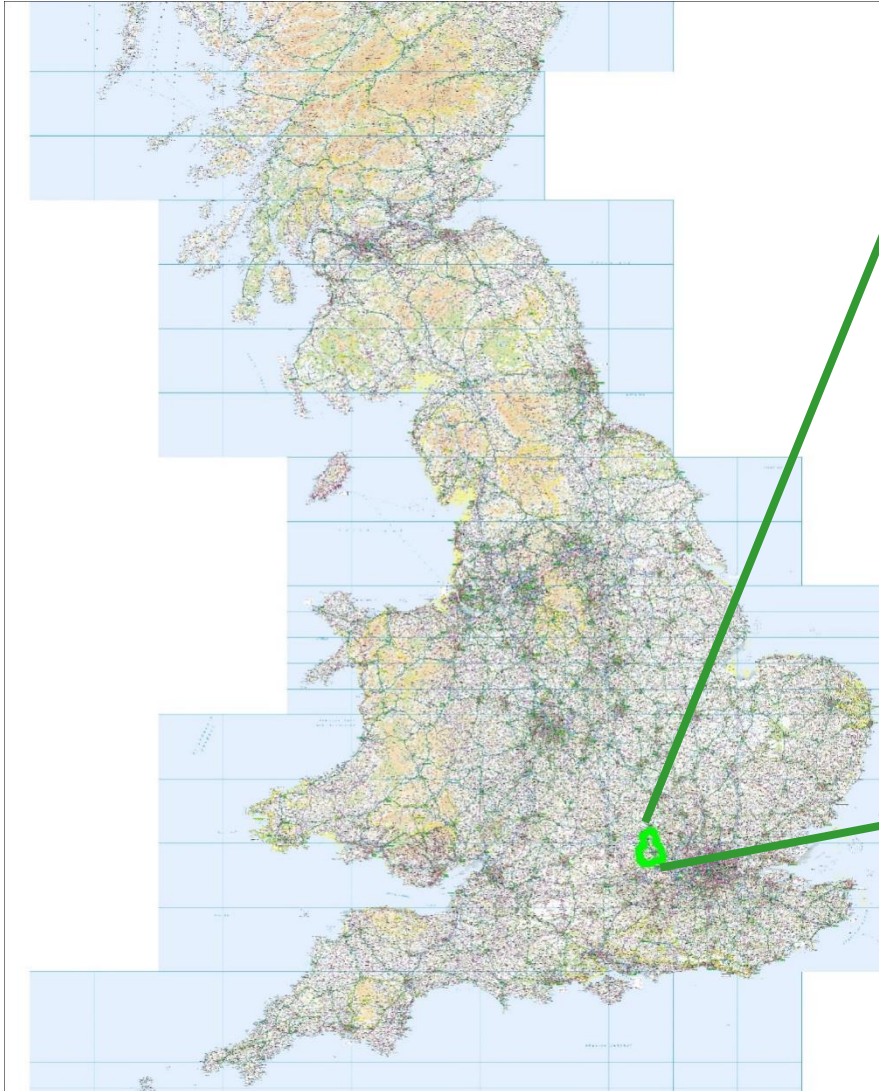
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Recap

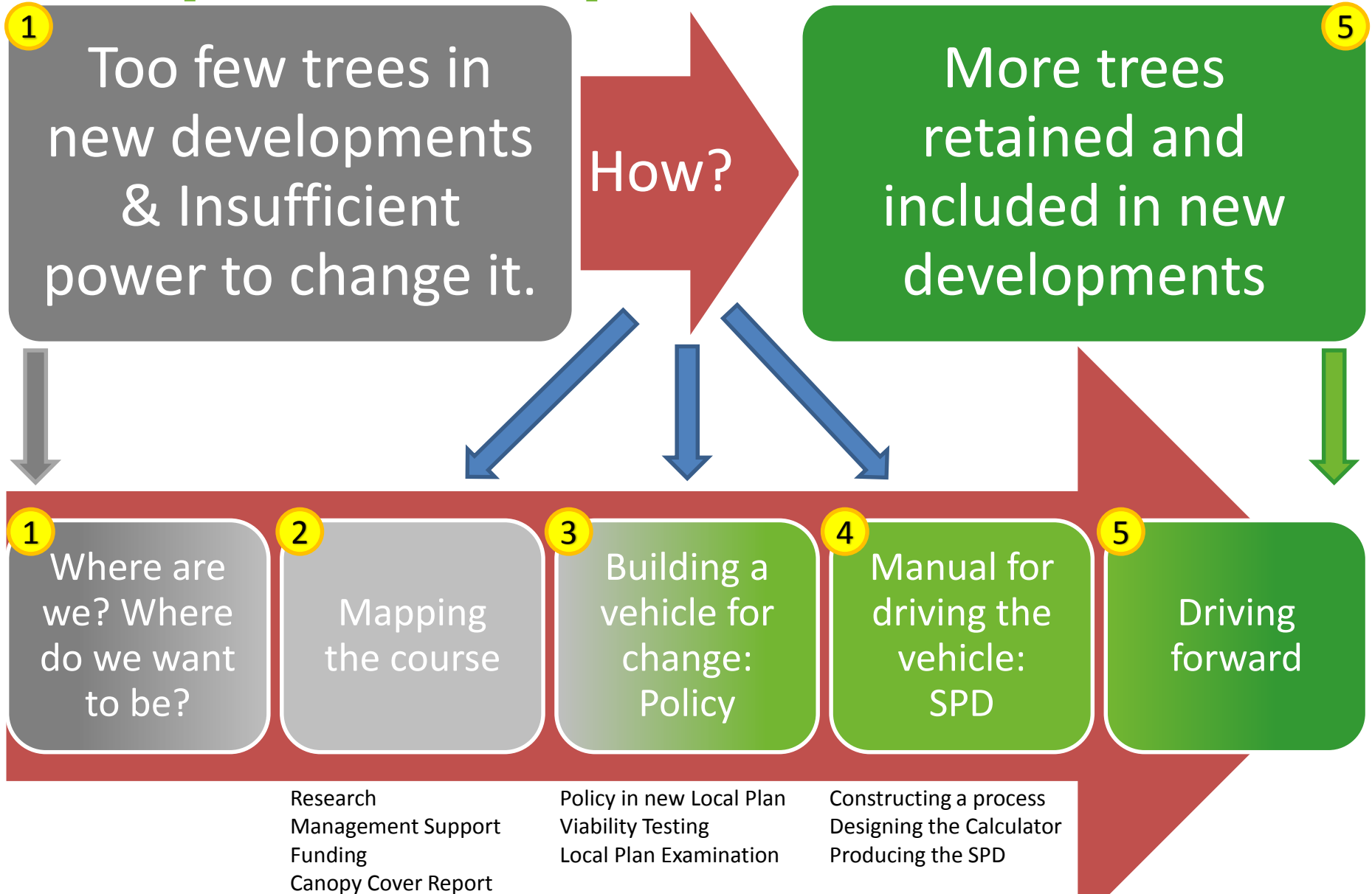
Where's Wycombe?



WYCOMBE
DISTRICT COUNCIL



Inception to Implementation



Making the case

Town and Country Planning Act 1990

Chapter I

Trees

General duty of planning authorities as respects trees

197. It shall be the duty of the local planning authority—

(a) to ensure, whenever it is appropriate, that in granting planning permission for any development adequate provision is made, by the imposition of conditions, for the preservation or planting of trees; and

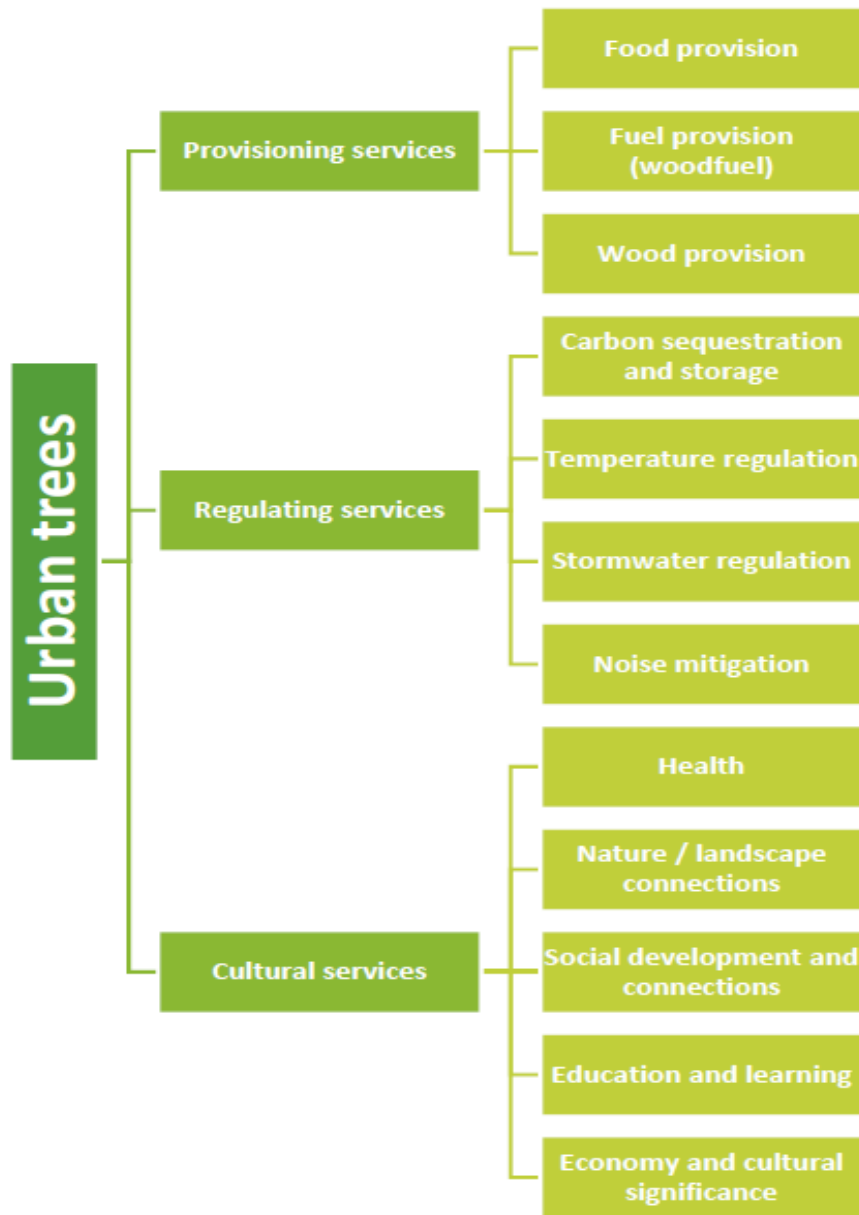
(b) to make such orders under section 198 as appear to the authority to be necessary in connection with the grant of such permission, whether for giving effect to such conditions or otherwise.

Planning permission to include appropriate provision for preservation and planting of trees.

Canopy Cover Assessment

2

Supporting
for taking
action



Canopy Cover Assessment & Recommendations for Wycombe District

Understanding local context

Supporting for taking action



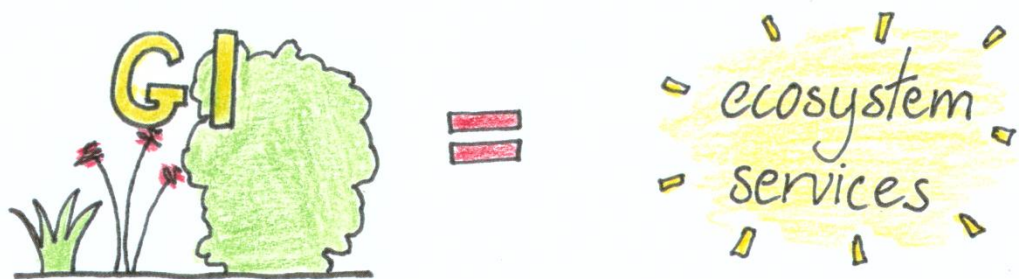
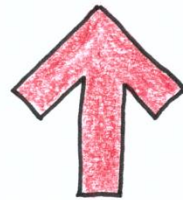
WycombeCanopyPostCodes

0.321 to 0.957	(705)
0.221 to 0.321	(653)
0.161 to 0.221	(667)
0.119 to 0.161	(672)
0.08 to 0.119	(663)
0.041 to 0.08	(659)
0 to 0.041	(691)

How to Maximise Ecosystem Services?

2

Supporting for taking action



New Local Plan

Policy DM34 –25% Canopy Cover

3

Building a vehicle for change: Policy



Wycombe District Local Plan

Adopted August 2019



25% applies

- Outside Town Centres
- Sites of 0.5 ha & more

Otherwise

- Maximise opportunities

In all cases

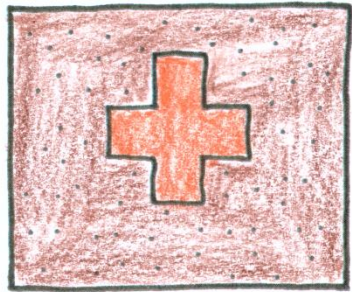
- Retain & Planting trees first.
- Then consider Green roofs & Green walls.

POLICY DM34 – DELIVERING GREEN INFRASTRUCTURE AND BIODIVERSITY IN DEVELOPMENT

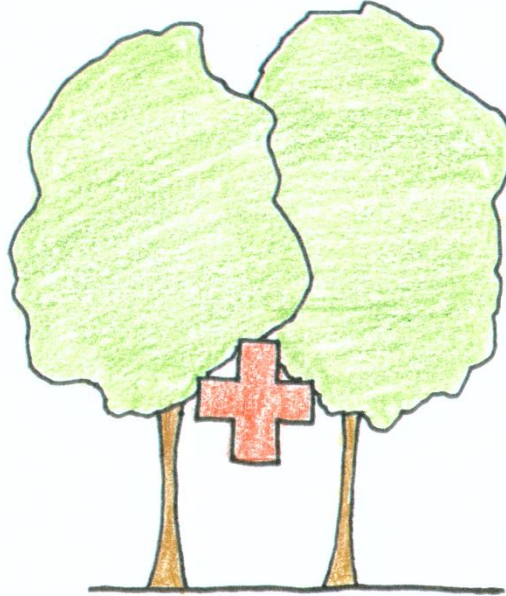
1. All development is required to protect and enhance both biodiversity and green infrastructure features and networks both on and off-site for the lifetime of the development.
2. Developments proposals are required to evidence a thorough understanding of context through the preparation of a proportionate assessment of existing and planned green infrastructure, biodiversity and ecological features and networks both on the site and in the locality, and demonstrate how:
 - a) Through physical alterations and a management plan for the lifetime of the development:
 - i. Existing green infrastructure and biodiversity assets will be maximised;
 - ii. Opportunities to enhance existing and provide new green infrastructure and biodiversity assets will be maximised;
 - iii. Development will deliver long lasting measurable net gains in biodiversity;
 - iv. Where appropriate, a monitoring plan will be put in place to review delivery of i - iii.
 - b) The mitigation hierarchy has been applied by following a sequential approach to avoid, minimise, mitigate, and finally compensate for (on then off-site) any harm to biodiversity. If significant harm cannot be avoided in this way, development will not be permitted.
3. Development (excluding householder applications) is required as a minimum to:
 - a) Secure adequate buffers to valuable habitats;
 - b) Achieve a future canopy cover of 25% of the site area on sites outside of the town centres and 0.5 ha or more. This will principally be achieved through retention and planting of trees, but where it can be demonstrated that this is impractical the use of other green infrastructure (e.g. green roofs and walls) can be used to deliver equivalent benefit;
 - c) Within town centres and on sites below 0.5 ha development is required to maximise the opportunities available for canopy cover (including not only tree planting but also the use of green roofs and green walls);
 - d) Make provision for the long term management and maintenance of green infrastructure and biodiversity assets;
 - e) Protect trees to be retained through site layout and during construction.

Give trees what they need!

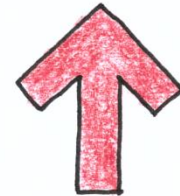
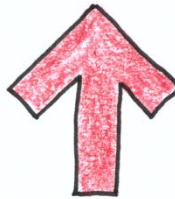
4 Manual for driving the vehicle: SPD



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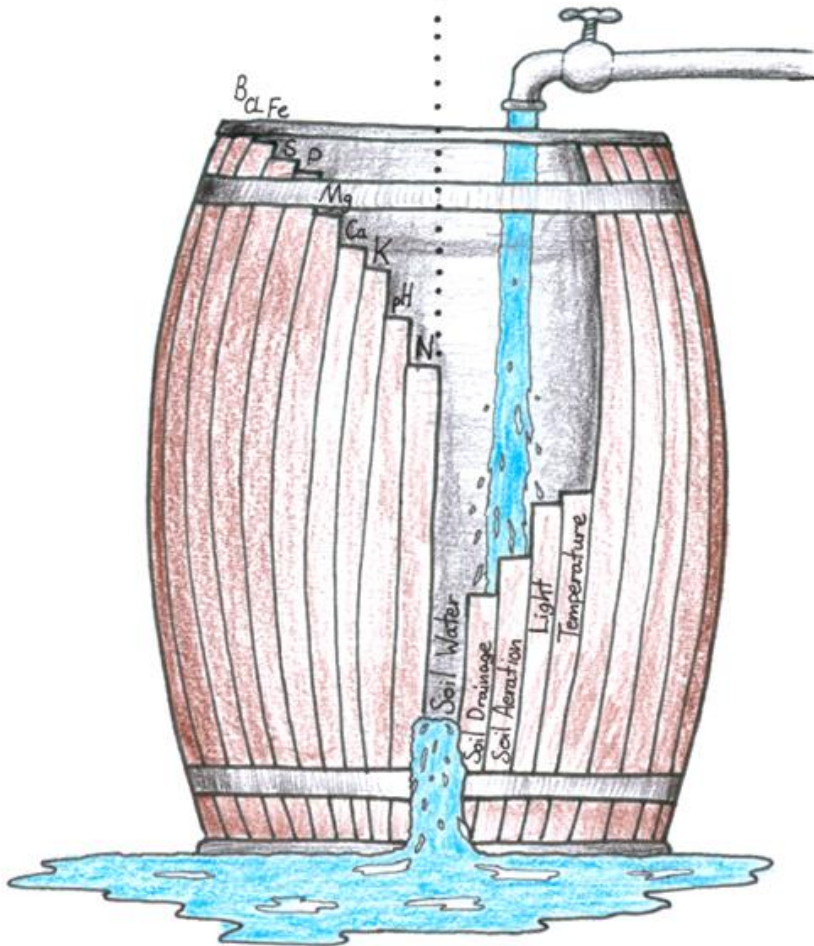


What do Trees Need?

Liebig's Law - & - Lindsey & Bassuk

4 Manual for driving the vehicle: SPD

Soil Chemistry : Physical Environment
Macro & Micro : Above & Below
Nutrients : Ground

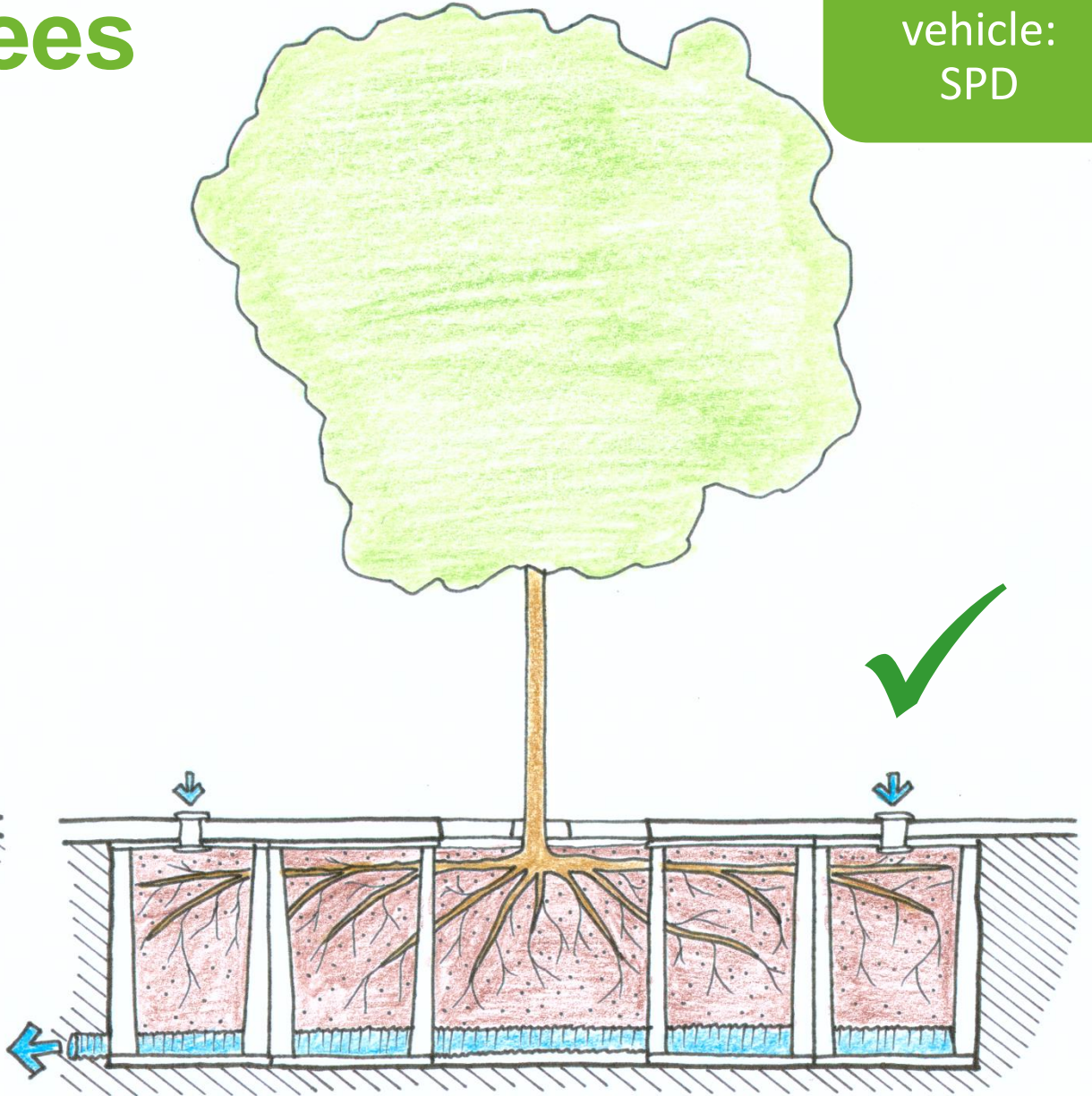
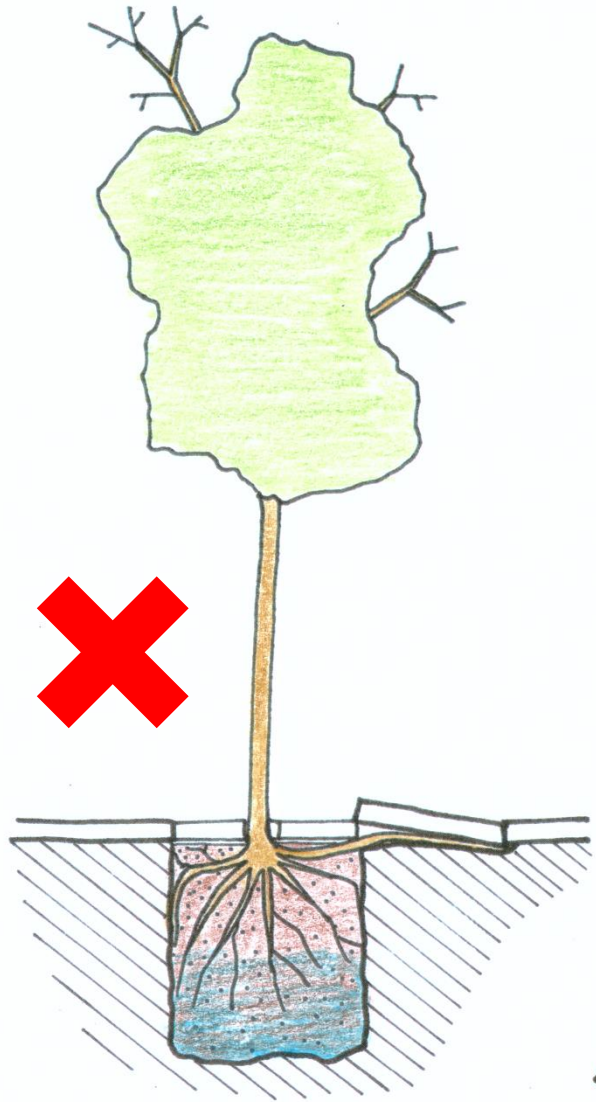


- The growth of trees (like all plants) is controlled by 'Limiting factors'.
- Lack of water is the most common – this comes to the tree through the soil.
- If you control the soil type and volume, you can control the trees destiny.
- Lindsey and Bassuk spell out the formula for working out how much.
- See: Arboricultural Journal 1992, Vol 16 pp 25-39

More healthy soil = Larger healthier trees

4

Manual for driving the vehicle:
SPD



Soil Formula for Healthy Trees

Lindsey & Bassuk Formula

4

Manual for driving the vehicle:
SPD

1. Whole tree water loss

- a) Canopy Projection
e.g. 28.26m^2
- b) Leaf Area Index (LAI).^{*}
e.g. 4
- c) Daily evaporation from location. e.g. 3.87mm
- d) Transpiration to Evaporation ratio. e.g. 0.2

$$a \times b^* \times c \times d = \underline{1.}$$

$$28.26 \times 4 \times 3.87 \times 0.2 = 87.5 \text{ litres}$$

2. Adequate soil volume

- e) How long must the tree survive without water (how many summer days between rainfall which recharges the soil)? e.g. 10 days
- f) Available Water Holding Capacity (AWHC) of soil. e.g. $0.2 (20\%)$

$$\underline{1.} \times e \div f = \underline{2.}$$

$$87.5 \times 10 \div 0.2 = 4375 \text{ litres } (4.375 \text{ m}^3)$$

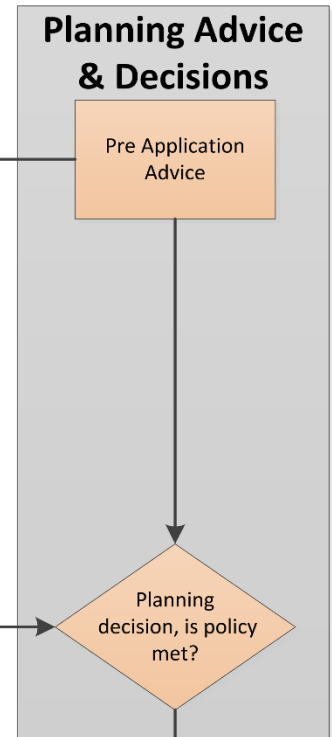
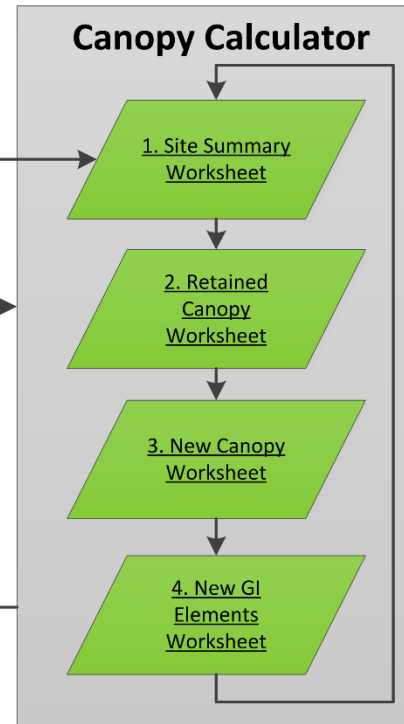
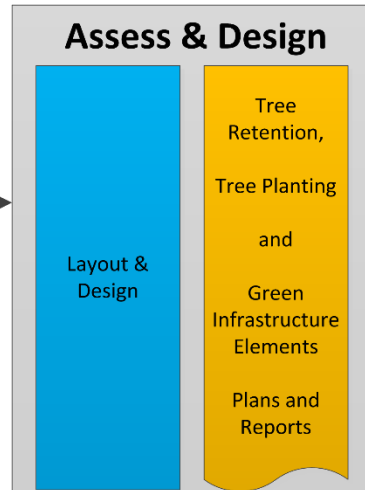
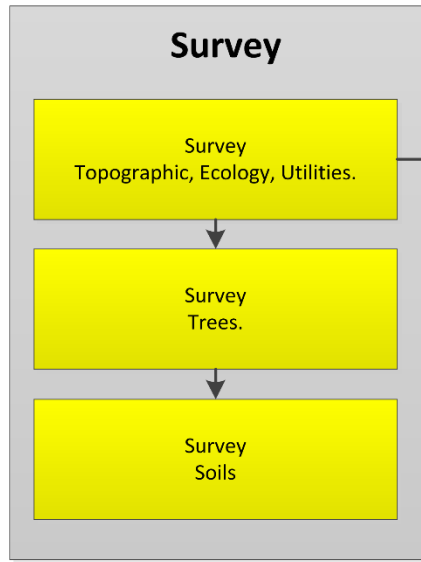
* I have created a proxy for LAI by using TDAG's Crown Density and adjusting it with a Shape Factor derived from a ratio between the tree height and crown diameter.

The SPD

Supplementary Planning Document

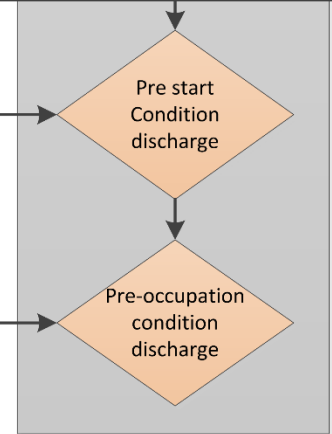
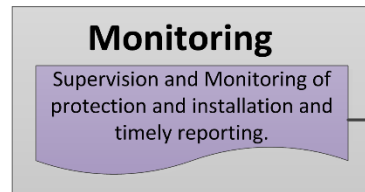
SPD Canopy Cover Process

Towards a planning decision



Post permission

4 Manual for driving the vehicle: SPD



Process on Plan

4

Manual for driving the vehicle: SPD

KEY

Red Edge Site Area	Excluded from Red Edge	Retained Trees	New Trees	Green Roof	Green Wall



Canopy Calculator

Site Summary - Worksheet

4

Manual for driving the vehicle:
SPD

1. Site Summary

Application Number:	19/0000/FUL	Site Name/Address:	Site, Development Road, New Town
Date:	01/11/2019	Assessor:	Mr A. P. Plicant

	Area m ² (1ha = 10,000m ²)	Comments
Red edge site area:	15000	
Retained protected habitat excluded from new tree planting:	4000	
Other area excluded from red edge area (e.g. Utility Corridor)	300	
Net Site Area	10700	
Canopy Cover Area Required:	2675	
Retained Tree Canopy Cover:	609	
New Tree Canopy Cover:	1,226	
New GI Value:	853	
Canopy Cover Area Provided:	2,688	
Canopy Cover Balance	13	

KEY	
Enter value	
Drop-down menu	
Calculation	
Automatic lookup	
Result	

Version 1

Please do not edit the formulae or structure

To condense the form for display hide vacant rows, do not delete them

If you wish to provide feed back on the calculator, please contact Wycombe District Council Tree Service

Manual for driving the vehicle: SPD

Canopy Calculator Species List - Worksheet

Example Soil Volume

Canopy Radius & Value

Used in Calculations

Original Details from TDAG Species Selection Database + Additional Species

5. Species List										Enter a soil type here to understand the impact it has on required soil volume:										Coarse Sand	Calculations factors (circa 25 year)										
6 Trees and Design Action Group Trust																															
Species name	Use potential						Tree size and crown characteristics			Environmental tolerance			Ornamental qualities			Canopy Radius - Cover		Canopy Area Value		Soil Volume Based on new imported soil		Calculations factors (circa 25 year)									
	Park	Paved	SuDS	Small garden	Coastal	Transport corridor	Mature size	Crown form	Crown density	Shade	Drought	Waterlogging	Peak flowering	Peak fruiting	Leaf type	For Plans	Area Value	Height	Diameter	Height / Diameter	LAI	Shape Factor	Adjusted Daily Tree Water Use								
Abies concolor	Yes	No	No	No	No	No	Massive	Conical	Dense	Tolerant	Moderately tolerant	Sensitive	Early summer	Late summer	Evergreen conifer	2.0	15.1	23.7	3.0	4.0	2.3	6.0	13	8.0	78.1						
Abies faseri	Yes	No	No	No	No	No	Large	Conical	Dense	Tolerant	Moderately sensitive	Moderately sensitive	Early summer	Early autumn	Evergreen conifer	2.0	14.3	29.0	7.0	4.0	18	6.0	13	7.6	73.7						
Abies grandis	Yes	No	No	No	No	No	Massive	Conical	Dense	Tolerant	Moderately sensitive	Moderately sensitive	Early summer	Early autumn	Evergreen conifer	3.0	38.4	77.3	22.0	6.0	3.7	6.0	16	9.3	203.5						
Abies koreana	Yes	No	No	Yes	No	No	Small	Conical	Dense	Tolerant	Moderately sensitive	Moderately sensitive	Early summer	Late summer	Evergreen conifer	1.5	8.3	8.2	6.0	3.0	2.0	6.0	13	7.8	42.7						
Abies nordmanniana	Yes	No	No	No	No	No	Massive	Conical	Dense	Tolerant	Moderately sensitive	Moderately sensitive	Early summer	Early autumn	Evergreen conifer	2.5	28.3	55.4	20.0	5.0	4.0	6.0	16	9.6	145.9						
Abies procera	Yes	No	No	No	No	No	Massive	Conical	Dense	Partially tolerant	Moderately sensitive	Sensitive	Early summer	Late summer	Evergreen conifer	2.5	27.2	53.4	16.0	5.0	3.6	6.0	15	9.2	140.4						
Acacia dealbata	Yes	No	Yes	No	No	No	Medium	Globular	Dense	Moderately tolerant	Moderately tolerant	Moderately sensitive	Early spring	Late summer	Evergreen broadleaved	2.0	9.9	19.1	4.0	4.0	2.5	4.5	12	5.2	50.3						
Acer buergerianum	Yes	Yes	No	No	No	Yes	Large	Ovoid	Dense	Moderately tolerant	Moderately tolerant	Moderately sensitive	Late spring	Late summer	Deciduous broadleaved	2.0	19.3	27.2	8.0	4.0	15	5.0	12	7.4	71.5						
Acer campestre	Yes	Yes	No	No	No	Yes	Medium	Globular	Dense	Moderately tolerant	Moderately tolerant	Moderately tolerant	Late spring	Late summer	Deciduous broadleaved	3.5	42.1	62.5	10.0	7.0	14	6.0	12	7.3	217.0						
Acer campestre subsp. Elstrijk	Yes	Yes	No	No	No	Yes	Medium	Ovoid	Dense	Moderately tolerant	Moderately tolerant	Moderately tolerant	Late spring	Late summer	Deciduous broadleaved	3.0	31.8	62.4	10.0	6.0	17	6.0	13	7.5	164.1						
Acer campestre subsp. Streetwise	Yes	Yes	No	No	No	Yes	Medium	Ovoid	Dense	Moderately tolerant	Tolerant	Moderately tolerant	Late spring	Late summer	Deciduous broadleaved	1.5	8.6	15.8	3.0	3.0	2.3	6.0	14	8.1	44.3						
Acer campestre subsp. William Cadwell	Yes	Yes	No	Yes	No	Yes	Small	Columnar	Dense	Moderately tolerant	Moderately tolerant	Moderately tolerant	Late spring	Late summer	Deciduous broadleaved	1.0	4.3	8.5	7.0	2.0	3.5	6.0	15	8.2	22.2						
Acer capillipes	Yes	No	No	Yes	No	No	Medium	Obovoid	Dense	Partially tolerant	Moderately sensitive	Moderately sensitive	Late spring	Early autumn	Deciduous broadleaved	2.5	21.3	43.0	8.0	5.0	16	6.0	12	7.4	113.1						
Acer cappadocicum	Yes	Yes	No	No	No	No	Large	Ovoid	Moderately dense	Partially tolerant	Moderately tolerant	Moderately tolerant	Late spring	Early autumn	Deciduous broadleaved	5.0	64.9	127.3	15.0	10.0	15	4.5	12	5.5	336.1						
Acer cappadocicum subsp. Lobellii	Yes	Yes	No	Yes	No	No	Medium	Columnar	Moderately dense	Partially tolerant	Moderately tolerant	Moderately tolerant	Late spring	Early autumn	Deciduous broadleaved	2.0	11.7	22.9	10.0	4.0	2.5	4.5	14	6.2	60.3						
Acer dasycarpum	Yes	Yes	No	Yes	No	No	Medium	Obovoid	Moderately dense	Moderately tolerant	Moderately tolerant	Moderately sensitive	Late spring	Early autumn	Deciduous broadleaved	3.0	22.4	44.0	7.0	6.0	12	4.5	12	6.3	116.7						
Acer x freemanii	Yes	Yes	Yes	No	No	No	Large	Ovoid	Moderately dense	Moderately tolerant	Moderately tolerant	Moderately tolerant	Early spring	Early autumn	Deciduous broadleaved	3.0	23.9	46.8	10.0	6.0	17	4.5	13	5.6	123.1						
Acer gresium	Yes	No	No	Yes	No	No	Medium	Globular	Moderately dense	Moderately tolerant	Moderately tolerant	Moderately sensitive	Late spring	Early autumn	Deciduous broadleaved	1.5	6.0	11.7	5.0	3.0	17	4.5	13	5.6	30.9						
Acer ignatum	Yes	No	Yes	No	No	No	Medium	Globular	Dense	Moderately tolerant	Moderately sensitive	Moderately sensitive	Early spring	Late summer	Deciduous broadleaved	2.5	21.4	41.9	7.0	5.0	14	6.0	12	7.3	110.3						
Acer monspeliacum	Yes	Yes	No	No	Yes	No	Medium	Globular	Dense	Moderately tolerant	Tolerant	Moderately sensitive	Early spring	Late summer	Deciduous broadleaved	2.5	24.4	41.9	7.0	5.0	14	6.0	12	7.3	110.3						
Acer negundo	Yes	No	Yes	No	No	No	Large	Globular	Moderately dense	Partially tolerant	Moderately tolerant	Moderately tolerant	Early spring	Late summer	Deciduous broadleaved	4.0	40.3	79.0	10.0	8.0	13	4.5	12	5.3	207.9						
Acer palmatum	Yes	No	No	Yes	No	No	Medium	Globular	Moderately dense	Tolerant	Moderately sensitive	Moderately sensitive	Late spring	Early autumn	Deciduous broadleaved	1.5	5.5	10.8	3.0	3.0	10	4.5	12	5.5	28.4						
Acer platanoides	Yes	Yes	No	Yes	No	No	Large	Ovoid	Dense	Tolerant	Moderately tolerant	Moderately sensitive	Early spring	Late summer	Deciduous broadleaved	6.0	50.0	63.6	15.0	6.0	2.5	6.0	14	8.2	160.5						
Acer platanoides subsp. Columnare	Yes	Yes	No	Yes	No	No	Medium	Columnar	Dense	Tolerant	Moderately tolerant	Moderately sensitive	Early spring	Late summer	Deciduous broadleaved	1.3	6.3	12.2	7.0	2.5	2.8	6.0	14	8.5	32.9						
Acer platanoides subsp. Crimson King	Yes	Yes	No	No	No	No	Large	Ovoid	Dense	Tolerant	Moderately tolerant	Moderately sensitive	Early spring	Late summer	Deciduous broadleaved	3.0	35.0	63.8	15.0	6.0	2.5	6.0	14	8.3	180.5						
Acer platanoides subsp. Crimson Sentry	Yes	Yes	No	No	No	No	Medium	Columnar	Dense	Tolerant	Moderately tolerant	Moderately sensitive	Early spring	Late summer	Deciduous broadleaved	1.5	8.8	17.5	8.0	3.0	2.7	6.0	14	8.4	46.0						
Acer platanoides subsp. Deborah	Yes	Yes	No	No	No	No	Medium	Ovoid	Dense	Tolerant	Moderately tolerant	Moderately sensitive	Early spring	Late summer	Deciduous broadleaved	2.0	14.4	28.7	15.0	2.1	7.0	6.0	13	7.9	226.3						
Acer platanoides subsp. Drummondii	Yes	Yes	No	No	No	No	Medium	Globular	Dense	Partially tolerant	Moderately tolerant	Moderately sensitive	Early spring	Late summer	Deciduous broadleaved	2.5	23.9	43.0	10.0	5.0	16	6.0	12	7.4	113.1						
Acer platanoides subsp. Emerald Queen	Yes	Yes	No	No	No	No	Large	Ovoid	Dense	Tolerant	Moderately tolerant	Moderately sensitive	Early spring	Late summer	Deciduous broadleaved	3.5	45.8	89.7	15.0	7.0	2.1	6.0	13	7.9	236.2						
Acer platanoides subsp. Globosum	Yes	Yes	No	Yes	No	No	Small	Globular	Dense	Tolerant	Moderately tolerant	Moderately sensitive	Early spring	Late summer	Deciduous broadleaved	1.5	7.6	15.0	4.0	3.0	13	6.0	12	7.2	34.4						
Acer platanoides subsp. Obelisk	Yes	Yes	No	No	No	No	Medium	Columnar	Dense	Tolerant	Moderately tolerant	Moderately sensitive	Early spring	Late summer	Deciduous broadleaved	0.8	3.2	6.2	10.0	1.0	1.0	1.0	1.0	1.0	1.0						
Acer platanoides subsp. Pinetown Gold	Yes	Yes	No	No	No	No	Medium	Ovoid	Dense	Moderately tolerant	Moderately tolerant	Moderately sensitive	Early spring	Late summer	Deciduous broadleaved	1.5	8.8	17.5	8.0	3.0	2.3	6.0	14	8.1	44.3						
Acer pseudoplatanus	Yes	No	No	No	Yes	No	Massive	Ovoid	Dense	Tolerant	Moderately sensitive	Moderately tolerant	Late spring	Late summer	Deciduous broadleaved	3.5	45.8	89.7	15.0	7.0	2.1	6.0	13	7.9	236.2						
Acer pseudoplatanus subsp. Atropurpureum	Yes	No	No	No	Yes	No	Massive	Ovoid	Dense	Tolerant	Moderately sensitive	Moderately tolerant	Late spring	Late summer	Deciduous broadleaved	3.5	43.9	85.4	12.0	7.0	1.7	6.0	13	7.5	224.7						
Acer pseudoplatanus subsp. Brillantissimum	Yes	No	No	Yes	No	Yes	Small	Ovoid	Dense	Tolerant	Moderately sensitive	Moderately tolerant	Early spring	Early autumn	Deciduous broadleaved	4.0	12.4	26.3	15.0	4.0	2.0	1.0	1.0	1.0							
Acer pseudoplatanus subsp. Erectum	Yes	No	No	No	Yes	No	Large	Columnar	Dense	Tolerant	Moderately tolerant	Moderately tolerant	Late spring	Late summer	Deciduous broadleaved	2.5	24.0	47.1	15.0	5.0	24	6.0	14	8.2	124.0						
Acer pseudoplatanus subsp. Spaethii	Yes	No	No	No	Yes	No	Large	Ovoid	Dense	Tolerant	Moderately sensitive	Moderately tolerant	Late spring	Late summer	Deciduous broadleaved	3.5	43.5	85.4	12.0	7.0	1.7	6.0	13	7.5	224.7						
Acer pseudoplatanus subsp. Variegate	Yes	No	No	Yes	No	No	Medium	Irregular	Dense	Tolerant	Moderately sensitive	Moderately tolerant	Late spring	Late summer	Deciduous broadleaved	2.5	21.9	43.0	8.0	5.0	16	6.0	12	7.4	113.1						
Acer rubrum	Yes	Yes	No	No	Yes	Yes	Large	Ovoid	Open	Moderately tolerant	Moderately tolerant	Moderately sensitive	Early spring	Early autumn	Deciduous broadleaved	1.5	6.4	12.6	3.0	3.0	1.5	4.5	12	3.7	80.4						
Acer rubrum subsp. Armstrong	Yes	Yes	Yes	No	No	Yes	Large	Columnar	Dense	Moderately tolerant	Moderately tolerant	Moderately sensitive	Early spring	Early autumn	Deciduous broadleaved	2.0	15.6	30.5	10.0	4.0	2.5	6.0	14	8.3	80.2						
Acer rubrinerve	Yes	No	No	Yes	No	No	Medium	Obovoid	Moderately dense	Tolerant	Moderately sensitive	Moderately sensitive	Early spring	Early autumn	Deciduous broadleaved	2.0	10.1	19.8	5.0	4.0	13	4.5	12	5.3	52.0						
Acer saochianum	Yes	No	Yes	No	No	No	Large	Globular	Open	Moderately tolerant	Moderately tolerant	Moderately tolerant	Early spring	Early summer	Deciduous broadleaved	4.0	29.0	56.8	15.0	8.0	19	3.0	13	3.8	149.9						
Acer saochianum subsp. Laciniata Vieri	Yes	No	No	Yes	No	No	Large	Vegeting	Open	Moderately tolerant	Moderately tolerant	Moderately sensitive	Early spring	Early summer	Deciduous broadleaved	3.5	41.3	80.6	10.0	7.0	13	6.0	13	3.9	149.3						
Acer saochianum subsp. Fygmiale	Yes	No	Yes	No	No	No	Large	Conical	Moderately dense	Moderately tolerant	Moderately tolerant	Moderately tolerant	Early spring	Early summer	Deciduous broadleaved	2.5	19.2	37.7	15.0	5.0	3.0	4.5	15	6.5	98.2						
Acer saochianum	Yes	No	No	No	No	No	Large	Globular	Dense	Tolerant	Moderately tolerant	Sensitive	Late spring	Early autumn	Deciduous broadleaved	4.5	71.8	140.3	10.0	9.0	17	6.0	13	7.5	363.3						
Acer shirasawanum	Yes	No	No	Yes	No	No	Small	Globular	Dense	Moderately tolerant	Moderately sensitive	Moderately sensitive	Late spring	Early autumn	Deciduous broadleaved	1.5	7.3	14.3	3.0	3.0	10	6.0	12	6.9	37.8						
Acer tataricum	Yes	Yes	No	No	Yes	Yes	Medium	Obovoid	Dense	Moderately tolerant	Tolerant	Moderately sensitive	Late spring	Early autumn	Deciduous broadleaved	2.0	18.4	36.3	10.0	4.0	1.5	4.5	12	5.2	84.4						
Acer tataricum subsp. Ginnala	Yes	No	No	Yes	Yes	Yes	Small	Obovoid	Dense	Partially tolerant	Moderately tolerant	Moderately sensitive	Late spring	Early autumn	Deciduous broadleaved	2.0	18.4	36.3	5.0	4.0	13	6.0	12	7.1	69.9						
Acer triflorum	Yes	No	No	Yes	No	No	Small	Globular	Moderately dense	Moderately tolerant	Moderately tolerant	Moderately sensitive	Late spring	Early autumn	Deciduous broadleaved	3.0	22.4	44.0	7.0	6.0	12	4.5	12	5.3	115.2						
Acer x zoesehense	Yes	Yes	Yes	No	No	No	Large	Ovoid	Moderately dense	Moderately tolerant	Moderately tolerant	Moderately sensitive	Early summer	Early autumn	Deciduous broadleaved	3.0	22.8	44.9	8.0	6.0	13	4.5	12	5.4	118.7						
Aesculus camnea	Yes	No	No	No	No	No	Large	Globular	Dense	Moderately tolerant	Moderately tolerant	Moderately sensitive	Late spring	Early autumn	Deciduous broadleaved	3.0	41.3	80.6	9.0	7.0	13	6.0	12	7.9	213.2						
Aesculus flava	Yes	No	No	No																											

Canopy Calculator

New Canopy - Worksheet

4 Manual for driving the vehicle: SPD

Species Look up Table

Soil Look up Table

3. New Canopy Calculator

Application Number:	19/0000/FUL
Site Name:	Site, Development Road, New Town
Assessor:	Mr A. P. Plicant
Date:	01/11/2019

Soil Calculator

New Imported Soil	Fine Sand
Retained On Site Soil	Sandy Loam

Soil m ³	
New Imported Soil	457.0
Retained On Site Soil	255.8
Total	712.8

KEY	
	Enter value
	Drop-down menu
	Calculation
	Automatic lookup
	Result

Canopy m ²	
New Imported Soil	699.1
Retained On Site Soil	527.2
Total	1226.3

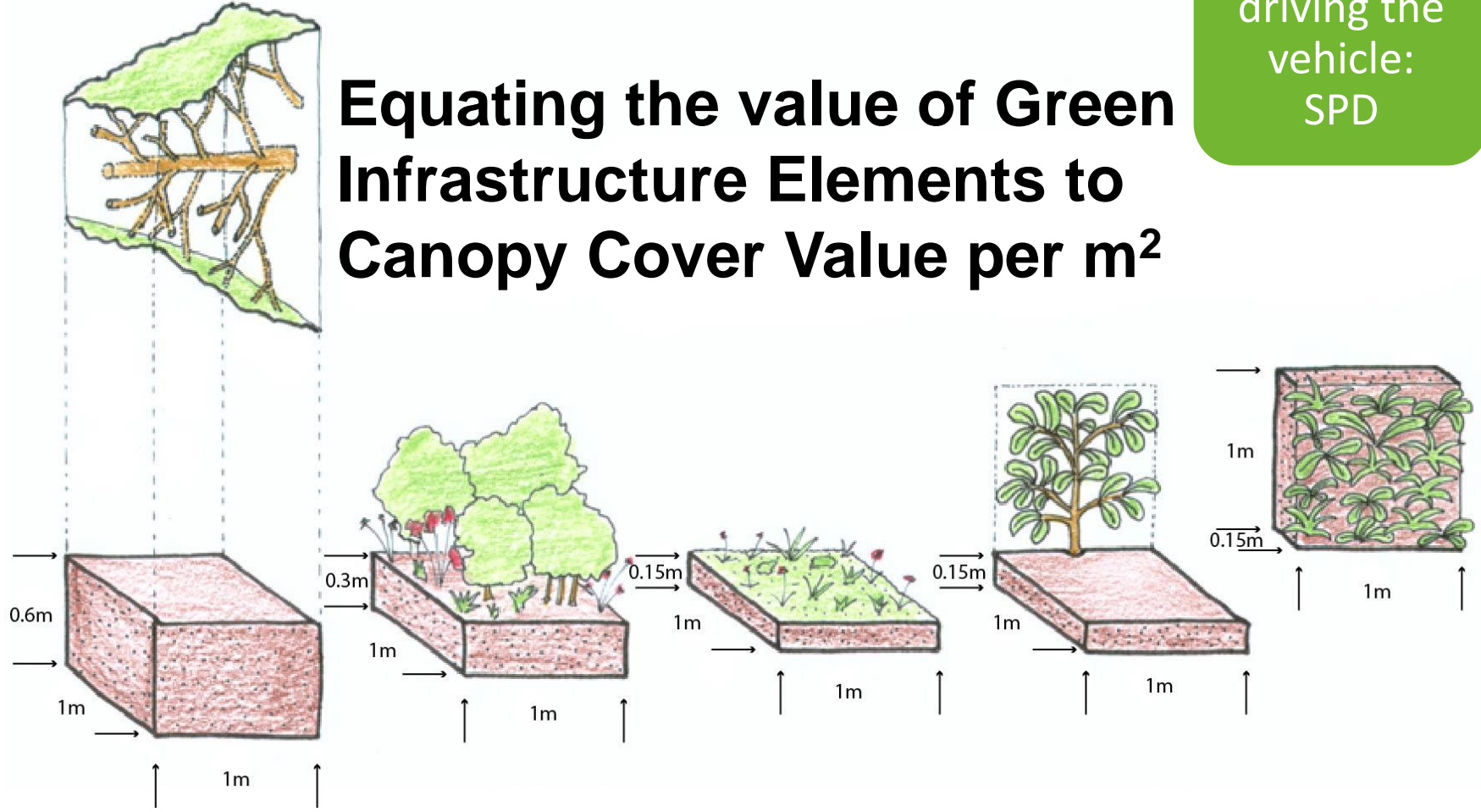
Tree No.	Species	Projected new canopy					Soil Source	AWHC	Required Soil		
		CC radius on plan (m)	Projected overlap area (m ²)	Overlap %	CC value pre reduction (m ²)	CC value (m ²)			Soil Volume (m ³)	Shared Soil &/or part of SuDS chain	Required Soil Volume (m ³)
NT1	Acacia dealbata	2	0%	0%	9.8	9.8	New Imported Soil	0.15	6.4	No	6.4
NT2	Acer platanoides subsp. Globosum	1.5	0%	0%	7.6	7.6	Retained On Site Soil	0.2	3.7		3.7
NT3	Tilia tomentosa	3	0%	0%	23.9	23.9	New Imported Soil	0.15	15.6		15.6
NT4	Koeleria paniculata	3.5	0%	0%	31.0	31.0	Retained On Site Soil	0.2	15.2	Yes	12.2
NT5	Malus Rudolph'	1.5	14%	0%	6.0	5.1	Retained On Site Soil	0.2	2.9		2.9
NT6	Betula pubescens	3	0%	0%	15.9	15.9	New Imported Soil	0.15	10.4		10.4
NT7	Betula pubescens	3	0%	0%	15.9	15.9	New Imported Soil	0.15	10.4		10.4
NT8	Parrotia persica	2	0%	0%	10.4	10.4	New Imported Soil	0.15	6.8		6.8
NT9	Ginkgo biloba	2.5	0%	0%	17.2	17.2	New Imported Soil	0.15	11.3		11.3
NT10	Ginkgo biloba	2.5	0%	0%	17.2	17.2	New Imported Soil	0.15	11.3		11.3
NT11	Crataegus monogyna	2	0%	0%	13.9	13.9	New Imported Soil	0.15	9.1		9.1
NT12	Crataegus monogyna	2	0%	0%	13.9	13.9	New Imported Soil	0.15	9.1		9.1
NT13	Paulownia tomentosa	3.5	0%	0%	31.0	31.0	New Imported Soil	0.15	20.3		20.3
NT14	Prunus 'Pandora'	1.75	0%	0%	8.4	8.4	New Imported Soil	0.15	5.5		5.5
NT15	Aesculus indica	2	0%	0%	14.7	14.7	New Imported Soil	0.15	9.6		9.6
NT16	Betula pubescens	3	0%	0%	15.9	15.9	New Imported Soil	0.15	10.4		10.4
NT17	Betula pubescens	3	0%	0%	15.9	15.9	New Imported Soil	0.15	10.4		10.4
NT18	Malus Rudolph'	1.5	0%	0%	6.0	6.0	New Imported Soil	0.15	3.9		3.9
NT19	Liriodendron tulipifera	3	0%	0%	24.8	24.8	New Imported Soil	0.15	16.2		16.2
NT20	Robinia pseudoacacia	4	0%	0%	28.6	28.6	New Imported Soil	0.15	18.7		18.7
NT21	Malus Rudolph'	1.5	0%	0%	6.0	6.0	New Imported Soil	0.15	3.9		3.9
NT22	Alnus cordata	1.5	0%	0%	10.2	10.2	New Imported Soil	0.15	6.7		6.7
NT23	Alnus cordata	1.5	0%	0%	10.2	10.2	New Imported Soil	0.15	6.7		6.7
NT24	Alnus cordata	1.5	0%	0%	10.2	10.2	New Imported Soil	0.15	6.7		6.7
NT25	Ostrya carpinifolia	2.5	0%	0%	17.6	17.6	New Imported Soil	0.15	11.5		11.5
NT26	Quercus robur subsp. Fastigiata	2	0%	0%	17.7	17.7	New Imported Soil	0.15	11.6		11.6

Green Infrastructure Elements

4

Manual for driving the vehicle:
SPD

Equating the value of Green Infrastructure Elements to Canopy Cover Value per m²



	Tree	Intensive Green Roof	Extensive Green Roof	Green Wall - Climbers	Green Wall Planted
Canopy Cover Value per m ²	1 m ²	0.5 m ²	0.25 m ²	0.25 m ²	0.25 m ²
Soil volume required in m ³	0.6 m ³	0.3 m ³	0.15 m ³	0.15 m ³	0.15 m ³

Canopy Calculator

New GI Elements - Worksheet

4. New Green Infrastructure (GI) for Canopy Cover Calculator

4 Manual for driving the vehicle: SPD

Application Number:	19/0000/FUL
Site Name:	Site, Development Road, New Town
Assessor:	Mr A. P. Plicant
Date:	01/11/2019

KEY	
Enter value	
Drop-down menu	
Calculation	
Automatic lookup	
Result	

	GI Canopy Equivalent m ²
Green Infrastructure Area Value	852.5

GI Number	Green Infrastructure Feature Type	GI Feature Area (m ²)	GI Factor	GI Area Value (m ²)
GI1	Green Roof - Extensive + SuDS 6-15cm substrate	1000	0.3	300.0
GI2	Green Roof - Extensive + SuDS 6-15cm substrate	800	0.3	240.0
GI3	Green Roof - Extensive + SuDS 6-15cm substrate	500	0.3	150.0
GI4	Green Wall - Climbers from ground in 0.16-0.3m ³ growing medium per m ²	50	0.65	32.5
GI5	Green Wall - Climbers from ground in 0.16-0.3m ³ growing medium per m ³	50	0.65	32.5
GI6	Green Wall - Climbers from ground in 0.16-0.3m ³ growing medium per m ⁴	50	0.65	32.5
GI7	Green Wall - Climbers from ground in 0.16-0.3m ³ growing medium per m ⁵	100	0.65	65.0
GI8			0	0.0
GI9			0	0.0
GI10			0	0.0
GI11			0	0.0
GI12			0	0.0
GI13			0	0.0
GI14			0	0.0
GI15			0	0.0
GI16			0	0.0

Public Consultation on SPD

25th November – 5th January

5

Driving
forward

The draft SPD and Calculator will be available at:
www.wycombe.gov.uk/canopy-cover-consultation

Please take a look and make comments.

In the future, all our developments should be greener!



Thank you

If your Council would like to employ me on a consultancy basis to help set up something similar for your council, please make contact through my own website:

www.CanopyCoverConsulting.com