

1. GENERAL TREE PLANTING PRINCIPLES

Scale 1:20 TREE SUPPORT SYSTEMS & IRRIGATION MEASURES OMITTED FOR CLARITY

TREE PIT: PLAN VIEW

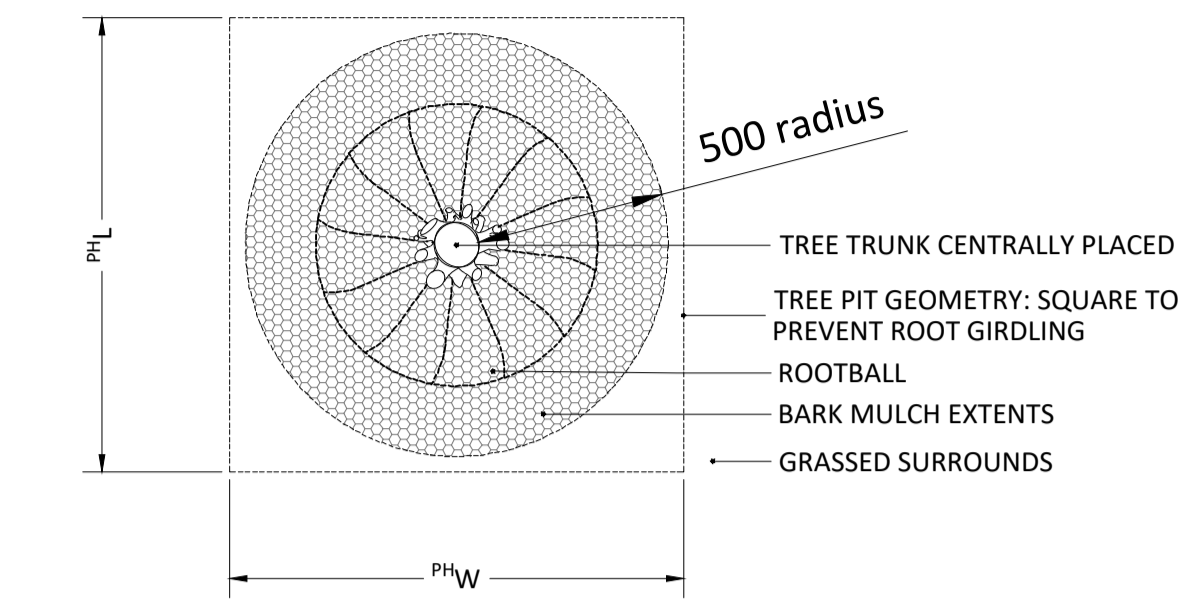
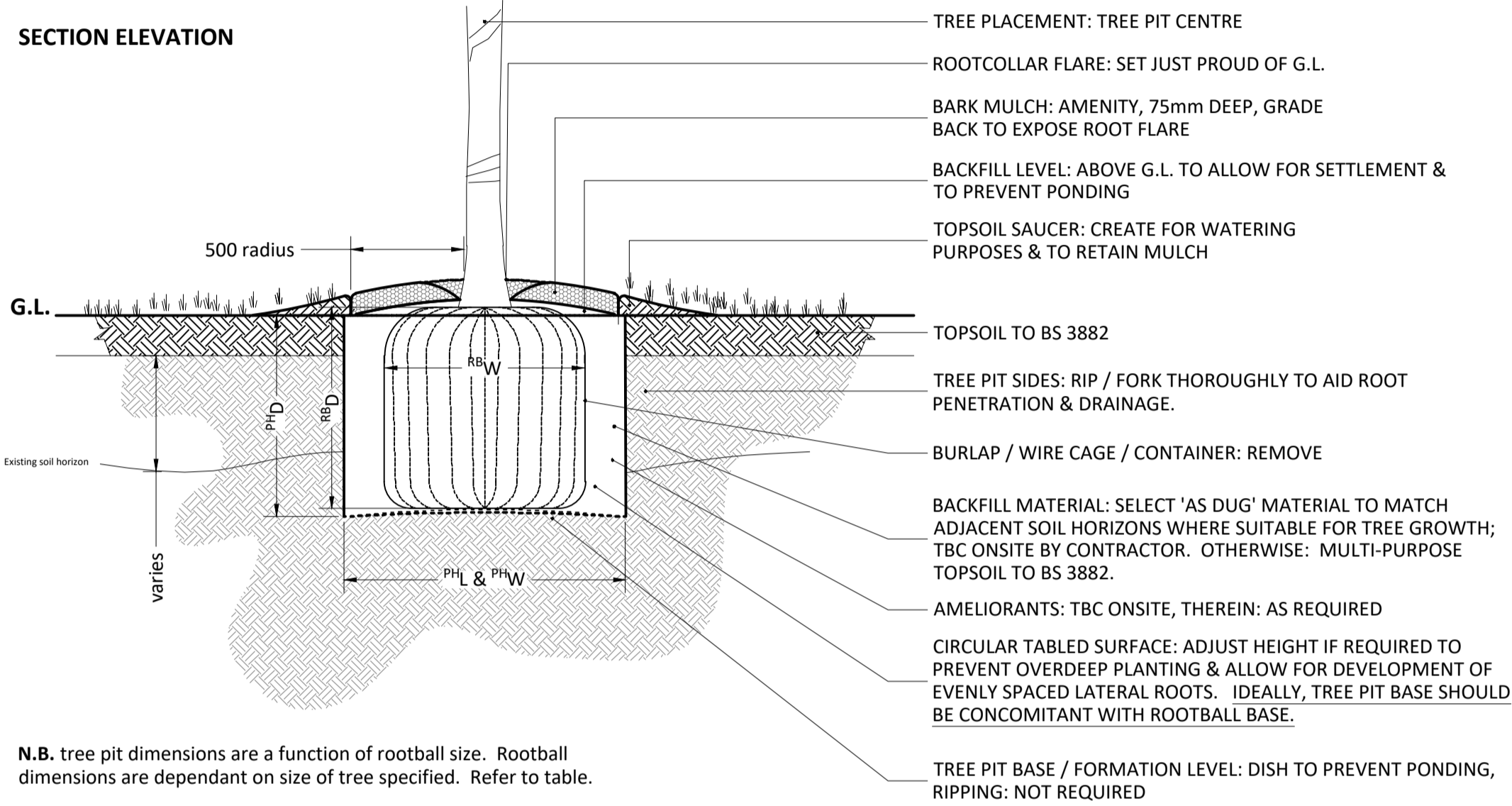


TABLE 1: TREE PIT DIMENSIONS

FORM	GIRTH	DIMENSIONS		ROOTBALL		
		(^{PH} L)	(^{PH} W)	(^{RB} D)	(^{RB} W)	(^{PH} D)
LS	6-8	400	300	700	700	300
S	8-10	400	300	700	700	300
Sse	10-12	400	400	700	700	400
H	12-14	500	400	800	800	400
EH	14-16	600	500	900	900	500
	16-18	600	500	900	900	500
	18-20	600	500	900	900	500
	20-25	750	750	1050	1050	750
SM	30-35	1000	1000	1300	1300	1000

based on: BS 4428: 1989 & BS 8545: 2014, together with suppliers (James Coles) stated rootball dimensions
 where: ^{PH}L = Rootball diameter, ^{PH}W = Rootball depth, ^{RB}D = Rootball depth, ^{RB}W = Rootball width, ^{PH}D = Planting Hole depth
 &: ^{PH}L = Planting Hole length, ^{PH}W = Planting Hole width, ^{PH}D = Planting Hole depth
 L = Light Standard, S = Standard, Sse = Selected Standard, H = Heavy Standard, EH = Extra Heavy Standard, SM = Same Mature
 N.B. Stated tree planting hole dimensions to accommodate the rootball are a minimum. Rootball dimensions can, & do, vary some variance to the expected naturally between species, tree stock, suppliers and season. In the event that the rootball exceeds the stated dimensions, the contractor shall seek advice from the Landscape Architect before commencing further. Thereafter, the Landscape Contractor shall create the hole (in Open Ground) to the advice given in BS 8545: 2014 with the exception of tree pit dimensions which shall be varied to achieve a minimum dimension of 150mm greater** than the rootball. Tree pit depth shall generally be no greater than the existing rootball or container depth. The Landscape Contractor shall take care not to damage any underground utilities &/or services.
 * where root spread is taken to be rootball size.
 **Section 10.5.10 of BS 8545:2014 states that, "Tree pits should have a diameter at least 75mm greater than that of the root system." However, this does not allow adequate space for firming in around the rootball by footfall.

SECTION ELEVATION



N.B. tree pit dimensions are a function of rootball size. Rootball dimensions are dependant on size of tree specified. Refer to table.

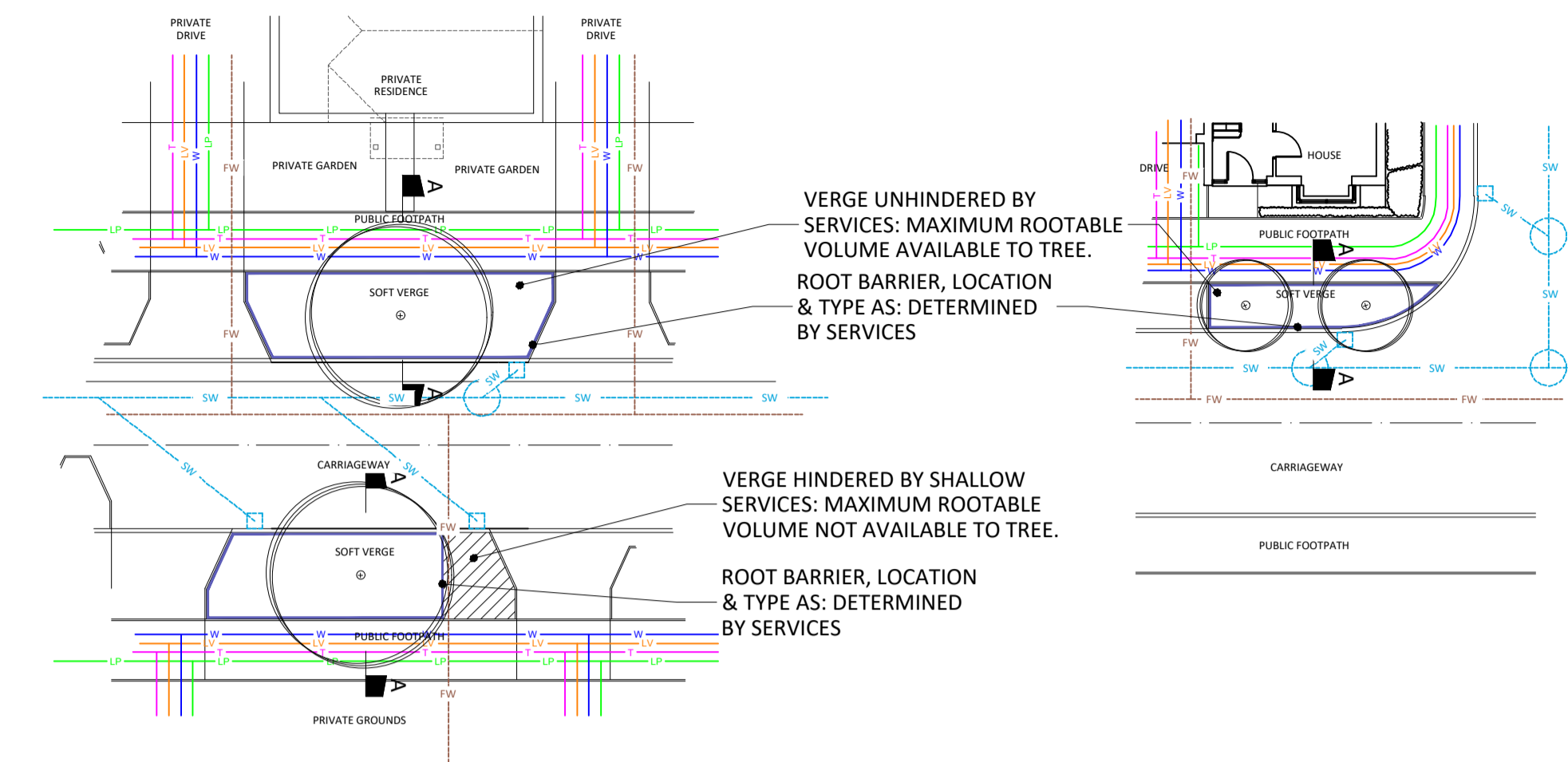
- N.B.
- BS 8545: 2014 states that, "Sensible tree pit design begins with intention of doing as little as possible other than digging a pit, planting the tree, and using the existing soil, separated as subsoil and topsoil, as backfill. Each additional level of complexity added to the basic pit design can be related to the amelioration of a particular constraint".
 - Tree shown planted in open ground in optimal conditions with minimal site constraints.
 - Tree support systems are omitted for clarity.
 - Tree pit dimensions are a function of rootball size. Rootball dimensions are dependant on size of tree specified. Refer to table.

TREE PLACEMENT: TREE PIT CENTRE
 ROOTCOLLAR FLARE: SET JUST PROUD OF G.L.
 BARK MULCH: AMENITY, 75mm DEEP, GRADE BACK TO EXPOSE ROOT FLARE
 BACKFILL LEVEL: ABOVE G.L. TO ALLOW FOR SETTLEMENT & TO PREVENT PONDING
 TOPSOIL SAUCER: CREATE FOR WATERING PURPOSES & TO RETAIN MULCH
 TOPSOIL TO BS 3882
 TREE PIT SIDES: RIP / FORK THOROUGHLY TO AID ROOT PENETRATION & DRAINAGE.
 BURLAP / WIRE CAGE / CONTAINER: REMOVE
 BACKFILL MATERIAL: SELECT 'AS DUG' MATERIAL TO MATCH ADJACENT SOIL HORIZONS WHERE SUITABLE FOR TREE GROWTH; TBC ONSITE BY CONTRACTOR. OTHERWISE: MULTI-PURPOSE TOPSOIL TO BS 3882.
 AMELIORANTS: TBC ONSITE, THEREIN: AS REQUIRED
 CIRCULAR TABLED SURFACE: ADJUST HEIGHT IF REQUIRED TO PREVENT OVERDEEP PLANTING & ALLOW FOR DEVELOPMENT OF EVENLY SPACED LATERAL ROOTS. IDEALLY, TREE PIT BASE SHOULD BE CONCOMITANT WITH ROOTBALL BASE.
 TREE PIT BASE / FORMATION LEVEL: DISH TO PREVENT PONDING, RIPPING: NOT REQUIRED

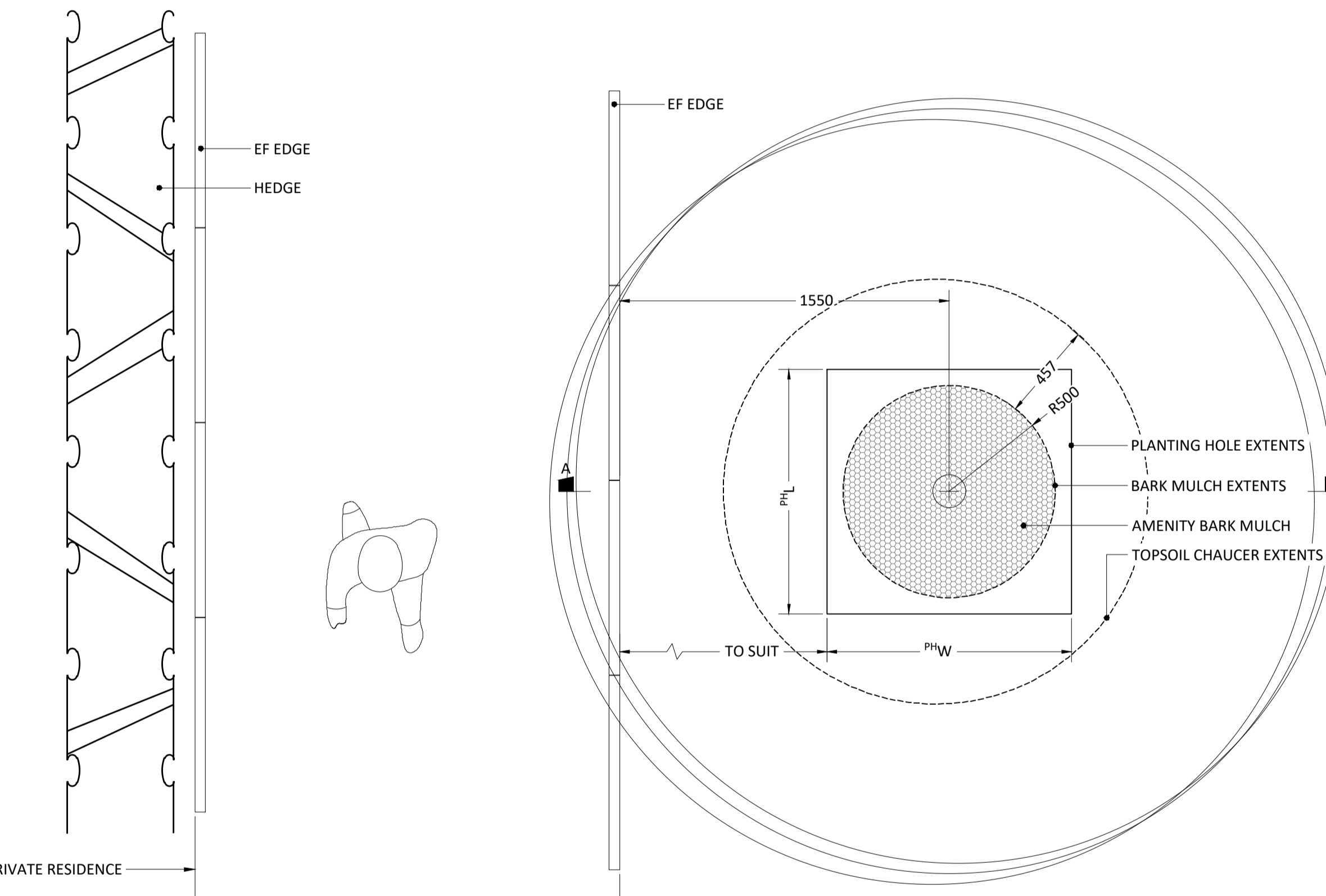
Notes
 Information regarding "Tree Planting in Open Ground, Generally" on this sheet is derived from "BS 8545: 2014 Trees: From nursery to independence in the landscape - recommendations".
 While every attempt is made to address the most salient points raised (within the BS), this list should not be considered exhaustive as it is presented in summary format only. For further information, the reader is referred back to the relevant British Standard.

3. PROPOSED TREE PLANTING IN CONFINED SPACES &/OR VERGES NOT SUBJECT TO PEDESTRIAN / VEHICULAR OVERRUN BUT WITH POTENTIAL CONFLICTS TO ONE SIDE OR MORE SIDES

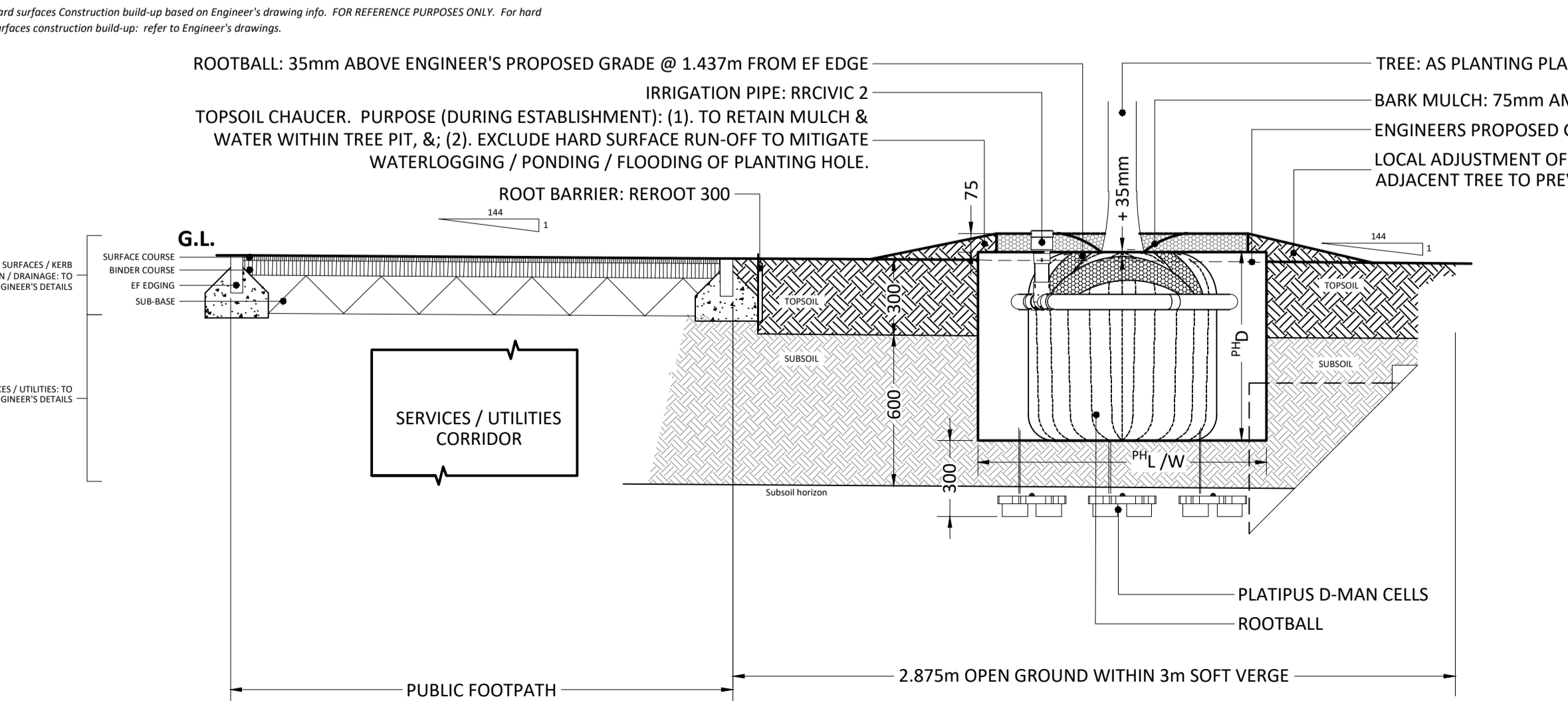
PLAN VIEW (NTS): TYPICAL TREES IN VERGES



PLAN VIEW: TREE POSITION IN RELATION TO CARRIAGEWAY



SECTION ELEVATION: AA



PLAN VIEW (NTS): CALCULATION OF ROOT BARRIER EXTENTS FOR TREES IN VERGES

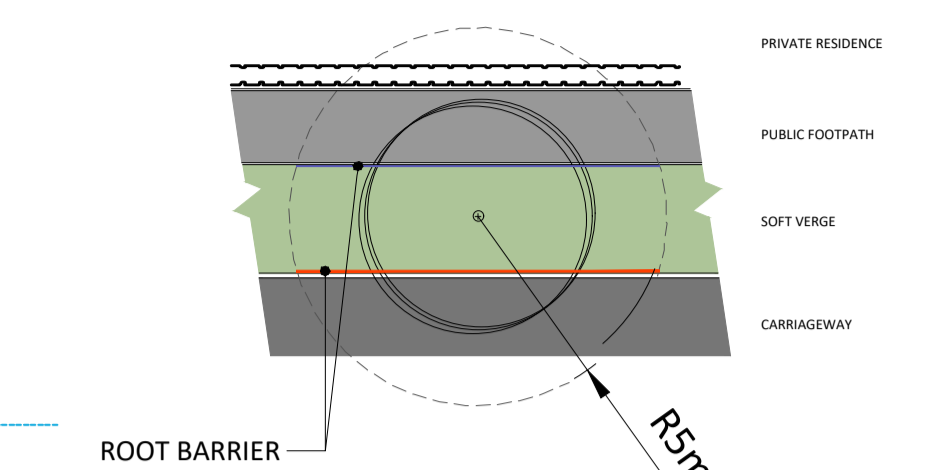


TABLE 3: VERGE TREE PLANTING SPECIFICATION & ACCESSORIES

ITEMS	SPECIFICATION
TREE:	AS PLANTING PROPOSALS.
PLANTING HOLE DIMENSIONS:	(^{PH} L + 100)(^{PH} W + 100)(^{PH} D)mm, ALLOWING FOR D-MAN CELLS.
MULCH:	75mm DEEP, AMENITY BARK MULCH TO 1m Ø AROUND BASE OF TREE.
TREE SUPPORT SYSTEM:	UNDERGROUND GUYED, AS DETAIL 2 & TABLE 2.
ROOT BARRIER:	GREENLEAF REROOT 300

- GENERAL TREE PIT PLANTING NOTES:
- SPECIFIED MATERIALS:** all to be installed in accordance with the manufacturer's recommendations and/or instruction.
 - PLANTING GENERAL:** Correct planting depth is critical for transplanting success, with over-deep planting identified as a common cause of failure. The Contractor shall therefore ensure that the natural root flare of the tree is clearly visible at proposed finished soiling surface. To ensure that correct final planting position / depth is achieved, the Contractor shall therefore take care to remove all:
 - soil placed above natural root flare during nursery packaging & production - rootballing, containerization, etc.
 - adventitious roots above the root flare,
 - wire encircling the main stem,
 - wire cage & burlap where possible. Otherwise, peel back and remove once the tree is in the planting pit.
 - BACKFILL MATERIAL:** Open ground & Verges: select 'as dug' material to be reused taking care to match adjacent soil horizons (where suitability assured for tree growth); TBC onsite by Contractor. All 'as dug' material to conform to BS 3882:2015 General Purpose Topsoil). Remove all deleterious material arising (weeds, broken brick & large stones, etc). Backfill & lift in layers no greater than 150-230mm deep. Compact to between 1.5 - 2.0 mega pascals: tread down using footfall, paying particular attention to the planting hole edges and rootball extents to eliminate voids. Avoid over compaction.
 - BACKFILL SOIL AMELIORANTS:** The Contractor shall satisfy himself of the general suitability of the top soil supplied for long term tree growth. Reason: to ensure the long term longevity of the tree supplied. Thereafter: TBC onsite.
 - ARISINGS:** all deleterious material arising, shall be removed off-site to a licensed tip by the Contractor.
 - TREE SUPPORT SYSTEMS:** Unless otherwise stated, all trees in highways verges will be supported using Earth Anchors as identified in Detail 2 & Table 2 opposite.
 - Underground guying to be installed in accordance with manufacturer's recommendations and/or instruction.
 - Earth anchors to include all rgr'd straps, cables, cable tensioner & deadman anchors (kerbstones, timber sleepers etc.)
 - Tensioning mechanisms and straps should be placed as shallowly as possible with only a light covering of the approved surfacing to avoid planting too deep.
 - Retention rootball after installation to allow for settlement.
 - Tensioning mechanisms should be removed to a minimum 150mm below root firmness is proven.
 - Irrigation pipes to be installed over the top of the BG tree support system.
 - ROOT PROTECTION MEASURES:** supply & install Terram ReRoot 300 adjacent verges (fibs to face tree) & Terram RootGuard, (or equal & approved) to a min. depth of 600mm below ground. Installation: as per manufacturer's instruction. Finished level: top of barrier to be 10mm above G.L. Zone of Deployment: protection of hard surfacing / services lying within a min. 5m radius of the proposed tree.
 - IRRIGATION:** Open ground & Verges: Create topsoil chaucer as Detail 3. Water at frequency necessary to ensure establishment & survival. Install Root Rain Cvic 2.
 - DRAINAGE:** the contractor shall satisfy himself that the tree pit is free draining. The contractor shall notify the Contract Administrator of any problem areas and await further instruction before proceeding further. Reason: to ensure the longevity & visibility of the tree supplied. TBC onsite.

Notes
 Issue: Drawn by David Jarvis Associates Limited (CROWN COPYRIGHT). ALL RIGHTS RESERVED 2019
 LICENCE NUMBER 0100031. This drawing is for information purposes only - Do not use this drawing for PLANNING.
 Drawing Information: This is a composite drawing based on information supplied by other consultants. Tree pit details adapted to reflect British Standard updates (BS 8545:2014) and to allow a ditched tree pit base.
 Scaling: Do not scale this drawing. Use given dimensions only.
 Construction Design Information: to Engineer's design, detail & specification.
 Setting out: refer to Engineers for information regarding setting out. In the event of discrepancy, refer to the appointed Engineer in the first instance.
 Construction Information: all detailed design (including, but not necessarily limited to, bond patterns, kerbing, edging, tactile crossing demarcation, construction build up, levels, drainage etc., to Withers design for presentation to [and subsequent discharge from] the relevant supervising authority and/or body.
 Planting: All plants and planting procedure to conform to the David Jarvis Associates Limited Landscape Specification that will accompany the Construction Issue drawings. Plant species are selected and located in line with consideration of the site conditions, NBS guidelines and discussions with the Local Authority and design team. If planting is required outside the October-March season, bare root trees will be replaced by a containerised equivalent as approved by the Landscape Architect. No species or plant location is to be varied without prior consent of the Landscape Architect.
 Bioscience: All plant stock to be sourced from a supplier certified to be pest and disease free and in accordance with Plant Passport / Animal and Plant Health Agency (APHA) and current DEFRA requirements. Supplier information / certification to be retained for a period of not less than 12 years and must be made available upon request.
 Foundations: Developers / Contractors to ensure that all foundations (buildings and external walling) are designed and constructed so as to take into account, at the time of maturity, any existing or proposed trees, hedgerows or other vegetation on the application site or existing vegetation on land adjoining the site at the time of construction and any trees / hedgerows removed on or adjacent to the site during the previous 15 years. For this purpose the developer / contractors will submit all relevant details to the authority dealing with the Building Regulations Certificate.

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R1	20/12/2019	Final Issue	MS	SL

Status **PLANNING**

DAVID JARVIS ASSOCIATES
 DAVID JARVIS ASSOCIATES LIMITED
 1 Tenmison Street Swindon Wiltshire SN1 5DT
 t: 01793 612173
 e: mail@davidjarvis.biz
 w: www.davidjarvis.biz

Client
BARRETT DAVID WILSON HOMES

Project
WHITE POST ROAD, BODICOTE

TREE PLANTING ADJACENT HARD SURFACES

Scale	Sheet Size	Date
1:20	A1	DEC 2019

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-	2832-5-2	DR-5501	P1

