



Public Document Pack

Cambridge City Council

WEST / CENTRAL AREA COMMITTEE

To: Councillors Smith (Chair), Kightley (Vice-Chair), Bick, Cantrill, Hipkin, Reid, Reiner, Rosenstiel,
County Councillors Tucker, Brooks-Gordon, Nethsingha and Whitebread

Despatched: Wednesday, 22 February 2012

Date: Thursday, 1 March 2012

Time: 7.00 pm

Venue: Turnstone Suite, Cambridge Rugby Union Football Club, Volac Park,
Grantchester Road, Cambridge, CB3 9ED

Contact: Toni Birkin

Direct Dial: 01223 457086

AGENDA

3 PLANNING APPLICATIONS (*Pages 1 - 46*)

Information for the public

Public attendance

You are welcome to attend this meeting as an observer, although it will be necessary to ask you to leave the room during the discussion of matters which are described as confidential.

Public Speaking

You can ask questions on an issue included on either agenda above, or on an issue which is within this committee's powers. Questions can only be asked during the slot on the agenda for this at the beginning of the meeting, not later on when an issue is under discussion by the committee.

If you wish to ask a question related to an agenda item contact the committee officer (listed above under 'contact') **before the meeting starts**. If you wish to ask a question on a matter not included on this agenda, please contact the committee officer by 10.00am the working day before the meeting. Further details concerning the right to speak at committee can be obtained from the committee section.

Filming Protocol

Filming, recording and photography at council meetings is allowed subject to certain restrictions and prior agreement from the chair of the meeting.

Requests to film, record or photograph, whether from a media organisation or a member of the public, must be made to the democratic services manager at least three working days before the meeting.

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WEST/CENTRAL AREA COMMITTEE MEETING – 1st MARCH 2012

AMEND/DE-BRIEF NOTE

CIRCULATION: First

ITEM: APPLICATION REF: 11/1482/FUL

Location: 1 Hoadly Road

Target Date: 31 January 2012

To Note:

Following the publication of the Committee Report, a further letter of representation has been received from 3 Hoadly Road. This is attached to the Amendment Sheet as Appendix 1 for your information. I have the following comments to make about the points raised in this letter:

Lack of site visit to 3 Hoadly Road

Attempts were made to visit 3 Hoadly Road, but the offer was not accepted.

Comparisons with 17 Hoadly Road

Each application is decided on its own merits, but the existing extensions to neighbouring houses are relevant to the assessment of this application because they are part of the character of the area. The extension at 17 Hoadly Road has not been built in accordance with the approved plans. Planning permission was granted for a two-storey extension, and a single storey extension abutting the common boundary with the adjoining neighbour, 15 Hoadly Road. The single storey extension that has been built does not abut the common boundary, but is not so materially different as to warrant further investigation.

Comparisons have been made with the extensions to 17 Hoadly Road as, although they are not identical to the extensions proposed at 1 Hoadly Road, they are similar in scale and design, and their existence supports the conclusion that the proposed extensions would not be out of character with the area. It also demonstrates that an extension of this scale may be, on balance, acceptable in terms of its impact on the adjoining neighbour.

Amendment to the window at first floor level

To overcome the concerns raised about the large window at first floor level, and the potential to overlook 3 Hoadly Road, the window has been reduced in size. The amended plans are attached to the Amendment Sheet as Appendix 2.

I recommend that condition 3 is removed, as, in my opinion, reducing the size of the

window will mean that there is no potential for any direct overlooking of 3 Hoadly Road.

The following Appendices are attached:

- Appendix 1 – Further representation from 3 Hoadly Road
- Appendix 2 – Amended plans
- Appendix 3 – Comparison of existing and proposed floorplans
- Appendix 4 – Birds eye view of the site and photograph
- Appendix 5 – Shadow analysis (prepared by the City Council)

Amendments To Text:

Pre-Committee Amendments to Recommendation:

DECISION:

CIRCULATION: First

ITEM: APPLICATION REF: 11/1585/FUL

Location: **Rear of 82 – 94 Richmond Road**

Target Date: **22 February 2012**

To Note:

Recent Appeal Decision 11/0921/FUL

The previously refused planning application on this site has been dismissed by the Planning Inspectorate. I have attached a copy to the amendment sheet.

Paragraph 9 sets out the key conclusions of the Inspector. In the round, the Inspector concluded the height, mass and angular design would be too intrusive in its context, particularly when viewed from number 78 Richmond Road. The Inspector concluded that a transition in height to the north of the site may be more appropriate.

Officer Comments

I remain of the view that the application proposal addresses the previous reason for refusal and does not conflict with the recent appeal decision. The overall visual impact upon number 78 is in my view much improved. This is because of the reduced overall height and the reduction in scale of the proposed roofs. I have attached photomontages to the amendment sheet of the previously refused scheme and of the application proposal. The comparison plan attached also illustrates the revised massing of the proposed roofs, which I consider acceptable.

Additional boundary planting

The Inspector raised doubts as to whether any trees planted along the boundary with number 78 would survive and flourish (paragraph 10 of the appeal decision). In response, the applicants arboricultural consultant has confirmed the boundary can adequately accommodate further tree planting.

Officer Comments

I am satisfied the applicant has suitably addressed this issue. Further technical tree pit details have been submitted and are attached to the amendment sheet.

Amended Plans

Following the original submission, amended plans have been received responding to consultee comments. The following minor changes are proposed.

- Removal of rumble strips.
- Further details on waste bin provision.
- Obscure glass to the second floor balcony of plot 1.

Additional Plans

The applicant has responded to concerns regarding the access to the site for a fire tender. I have attached a tracking plan showing a sweep path analysis which is satisfactory.

Attachments

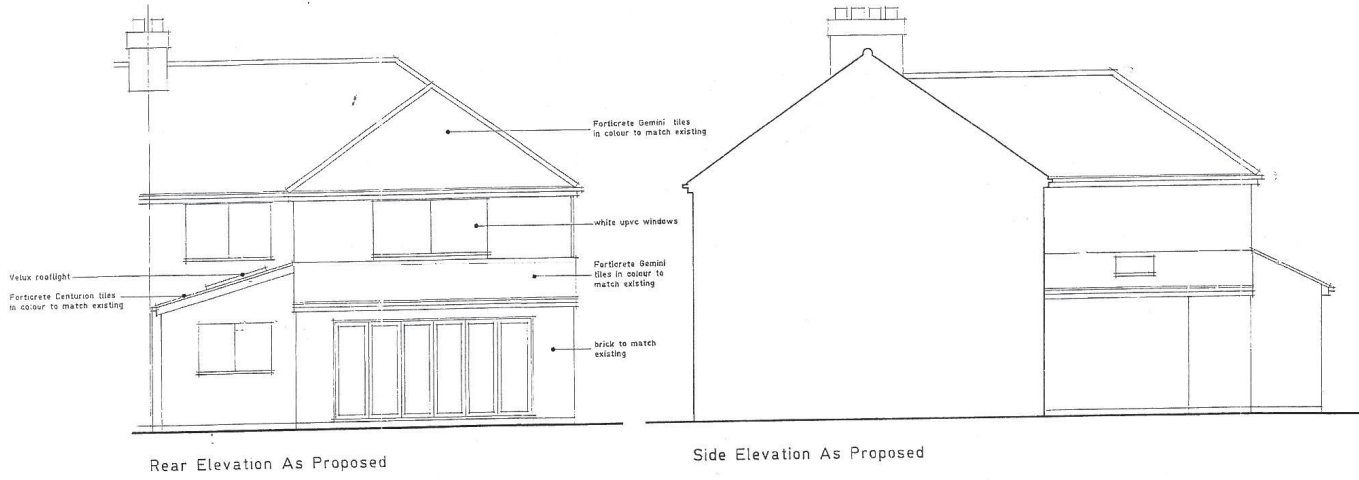
- 11/0921/FUL 82 Richmond Road Appeal Decision
- Letter response from applicants agent
- Watercolour sketch of application proposal
- Photomontage of previously refused application (dismissed at appeal 11/0921/FUL)
- Comparison plan showing the footprint and elevation of the application proposal in relation to the refused scheme.
- Sweep Path Analysis
- Technical Note on the access arrangements
- Tree planting technical details

Amendments To Text: None.

Pre-Committee Amendments to Recommendation:

Removal of proposed **condition 15**: Rumble strips. These have now been omitted from the scheme.

DECISION:



Rear Elevation As Proposed

Side Elevation As Proposed

NOV 11
(ACTUAL)



Side Elevation As Proposed

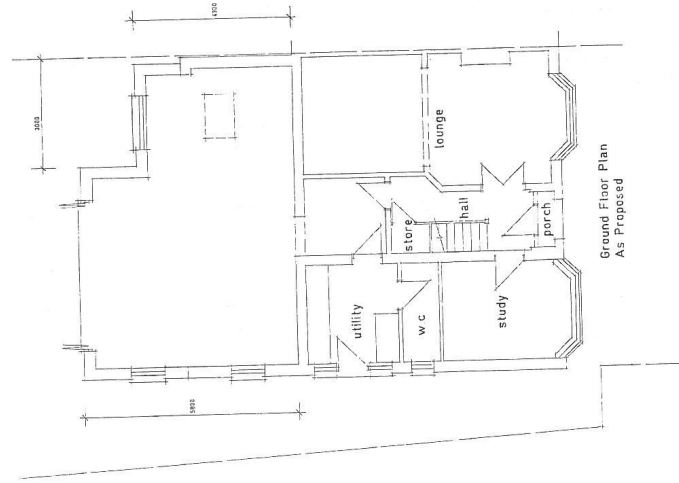
Proposed Extension
1 Hoadly Road
Cambridge
For Mr. & Mrs P Zaffaroni

Malcolm J Bowman
3B Townsend
Soham
Ely
Cams.
CB7 5DD
01353 721599

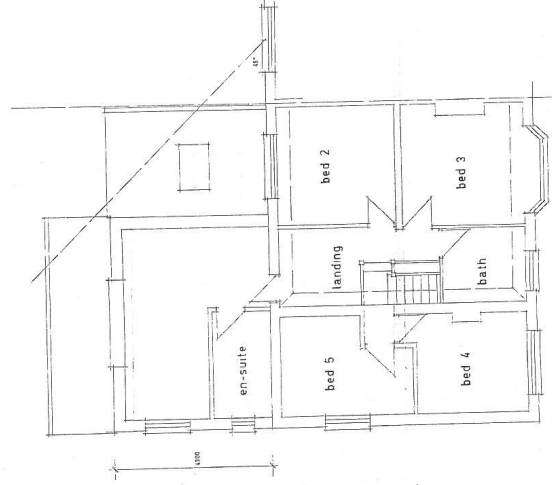
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Elevations As Proposed

Revision F



Ground Floor Plan
As Proposed



First Floor Plan
As Proposed

Not II
(Actual)

Proposed Extension
1 Healdy Road
Cambridge
For Mr & Mrs P Zaffaroni

Malcolm J Bowman
Architectural Technician
3B Townsend
Soham
Ely

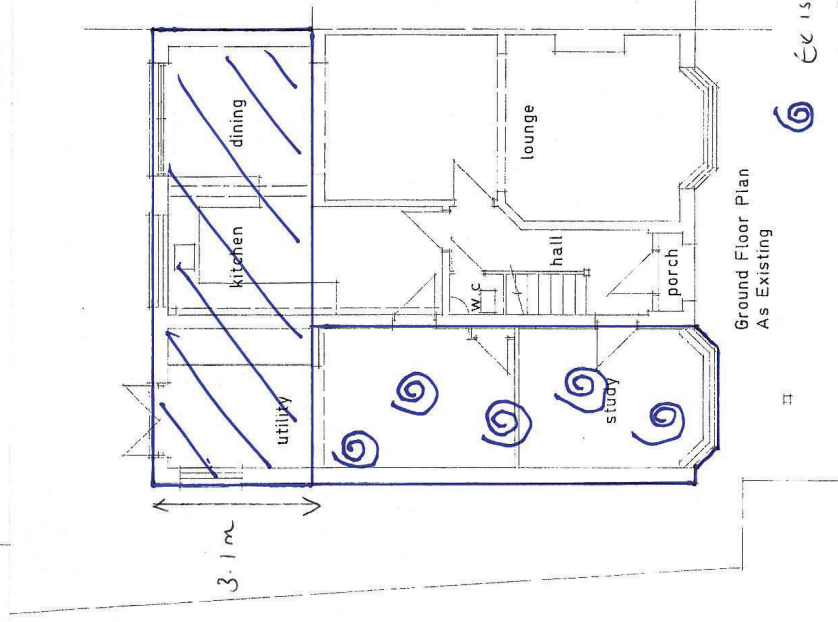
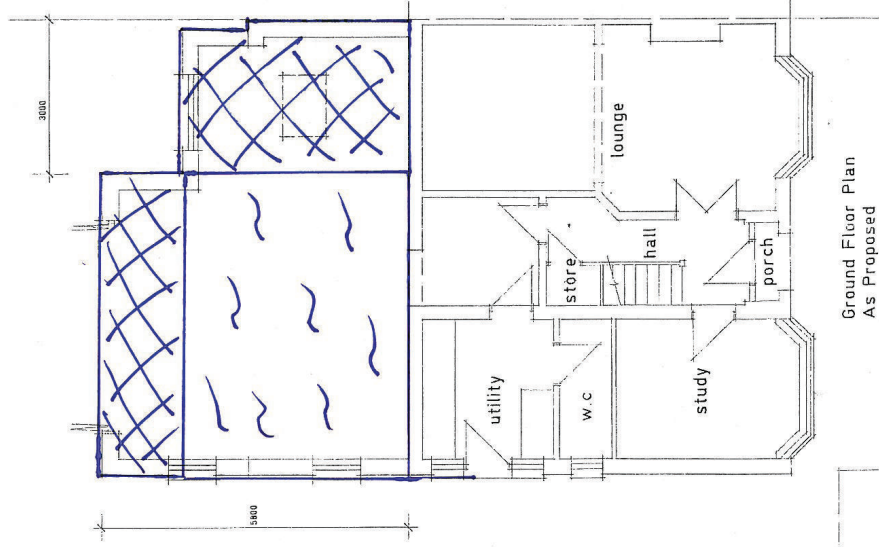
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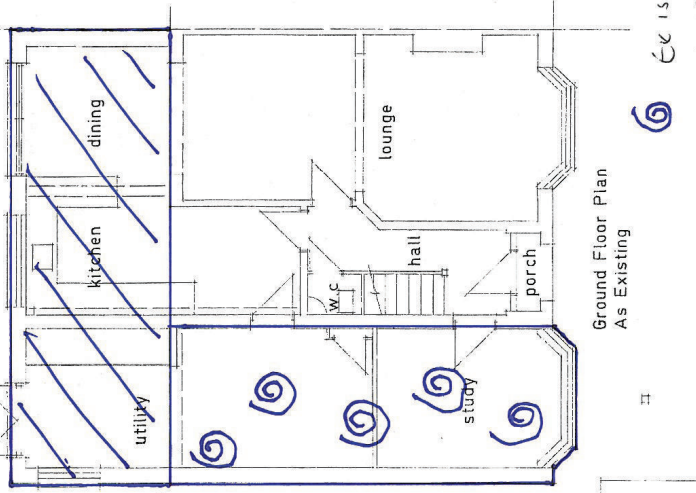
Plans As Proposed

Revision F

Proposed single storey extensions
Page 7
Proposed two storey extension



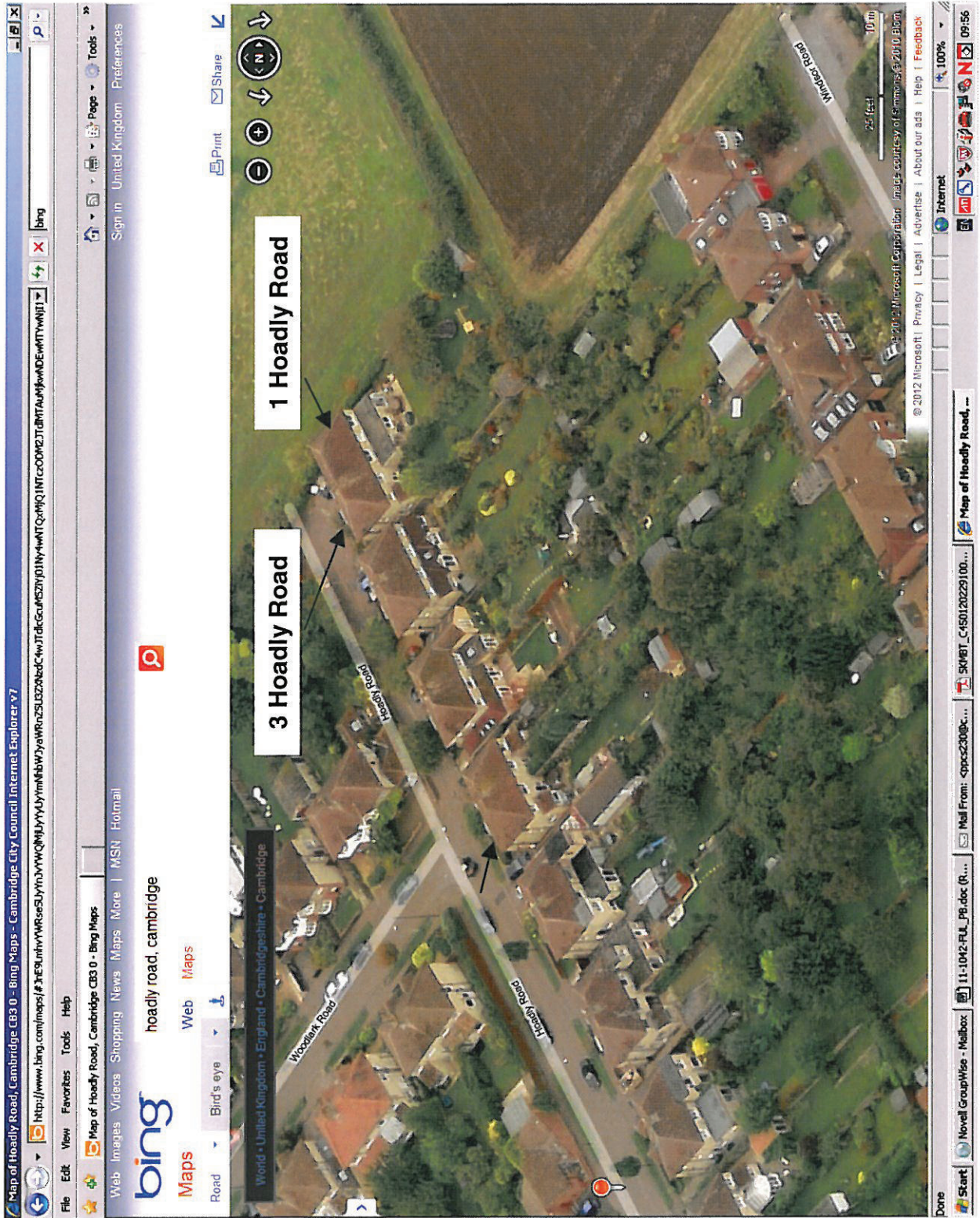
Existing single-storey extension to be demolished



Existing two-storey side extension



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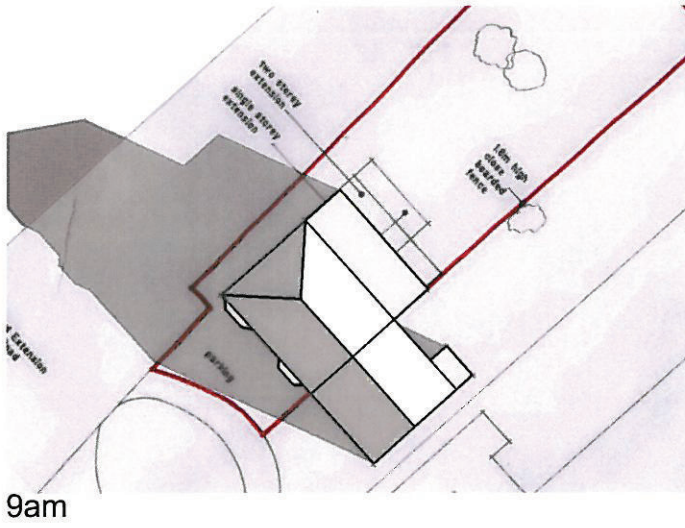




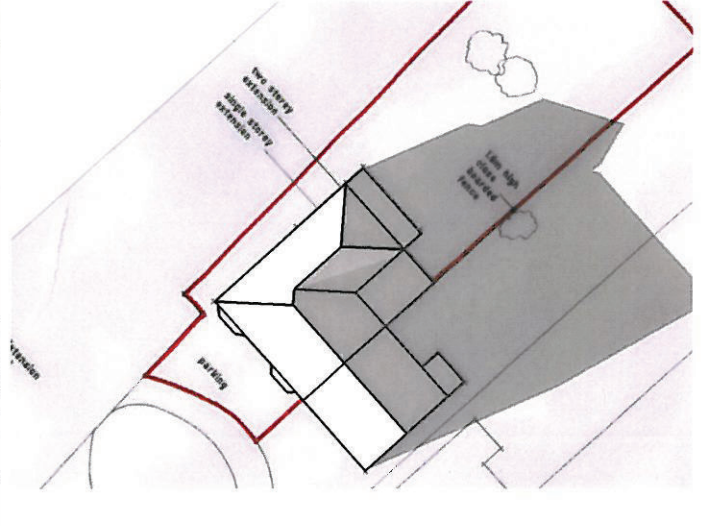
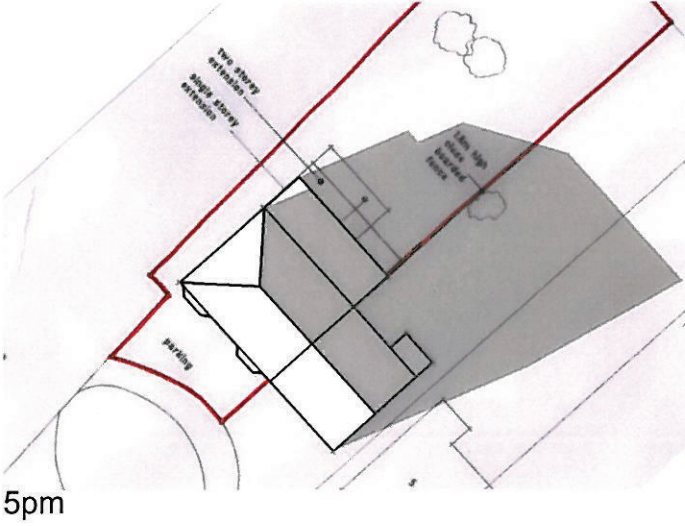
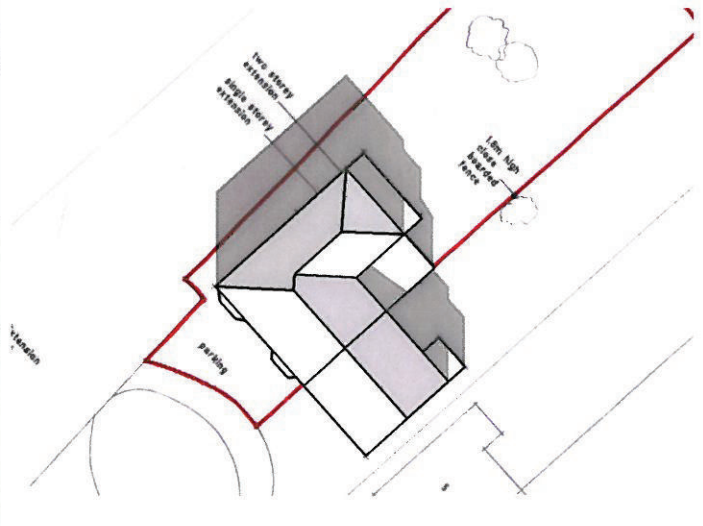
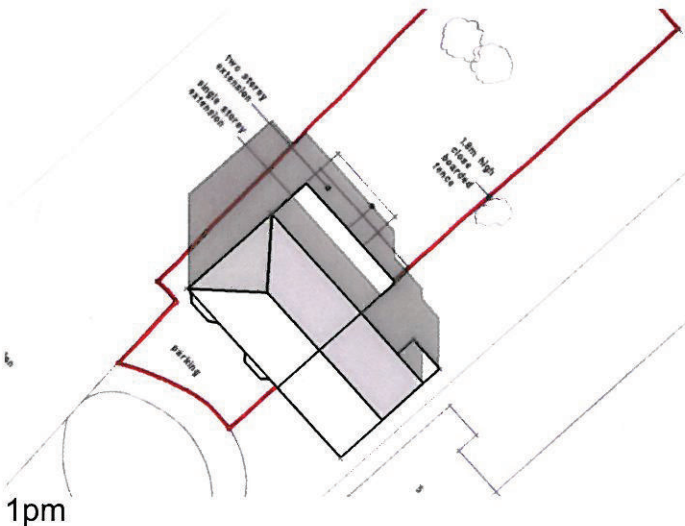
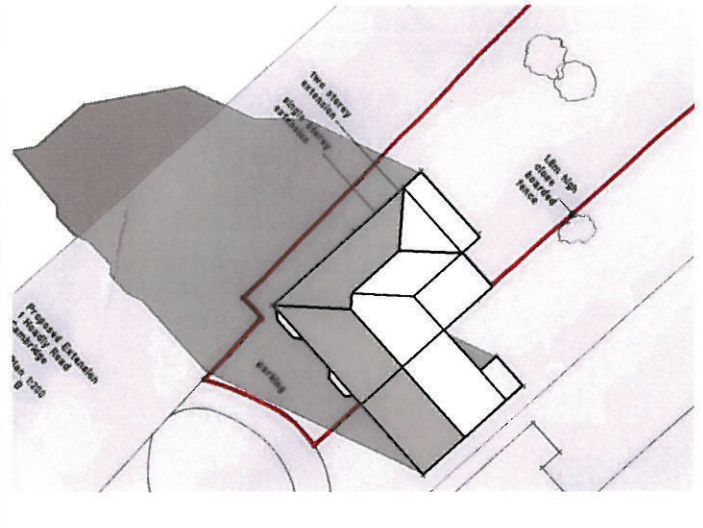
Proposed Extension - 1 Hoadly Road, Cambridge
Scale: 1:500 A4

March 21st

Existing



Proposed

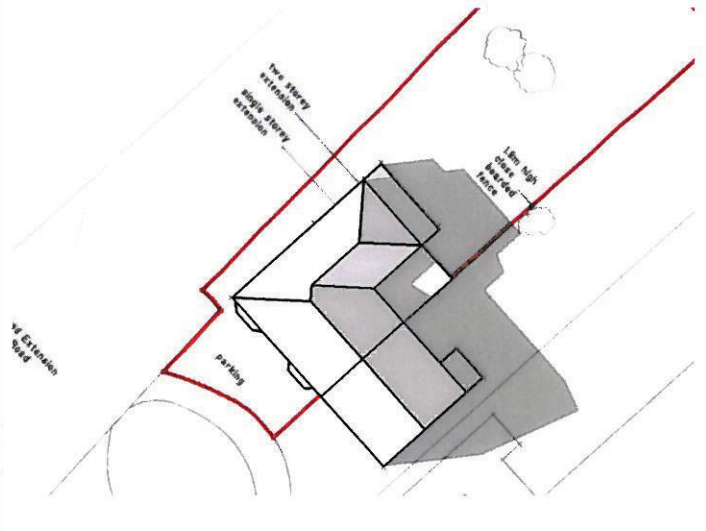
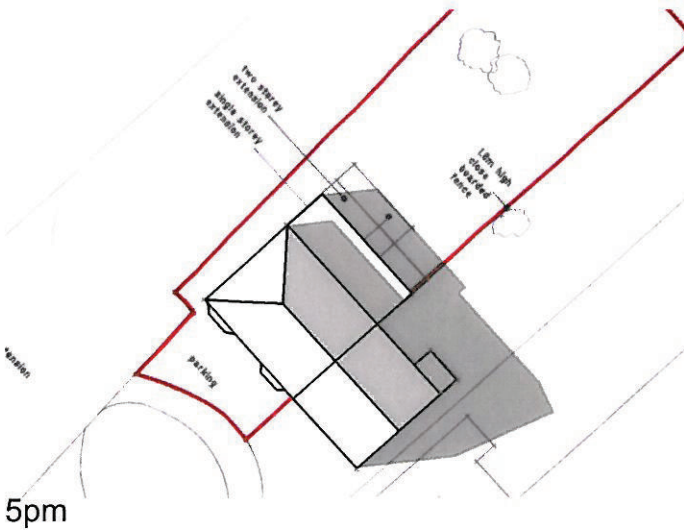
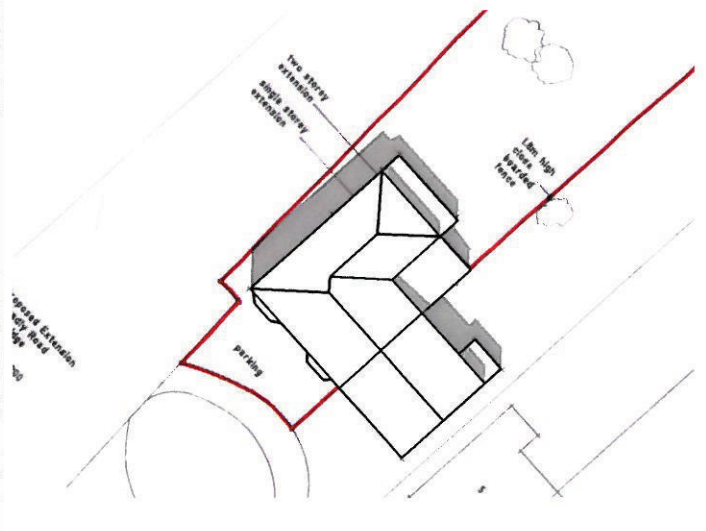
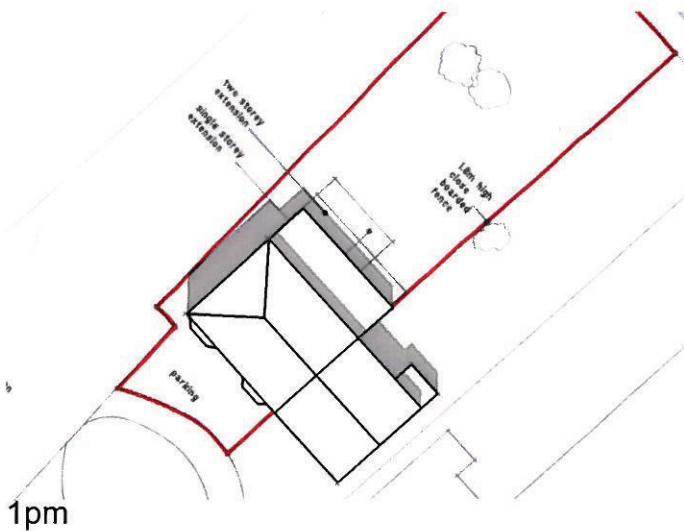
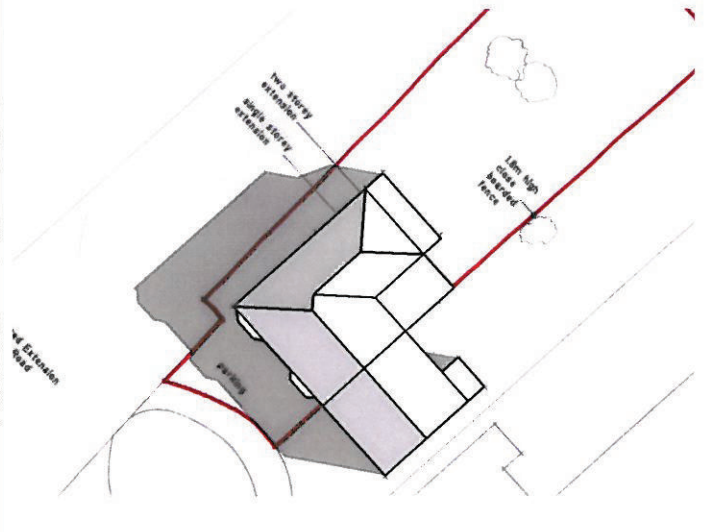
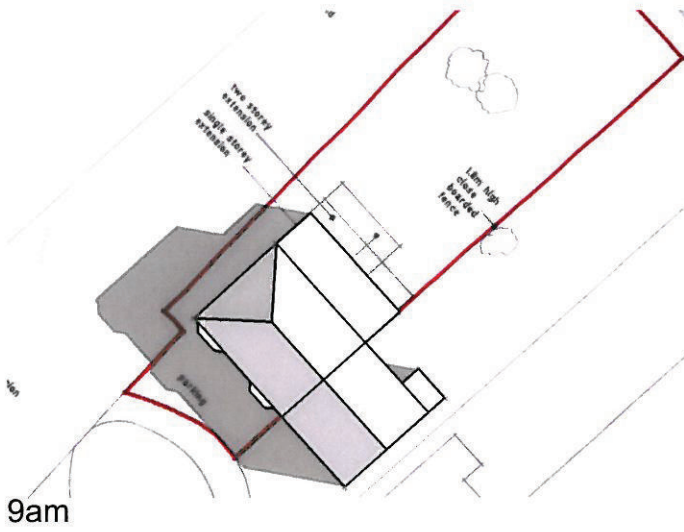


Proposed Extension - 1 Hoadly Road, Cambridge
Scale: 1:500 A4

June 21st

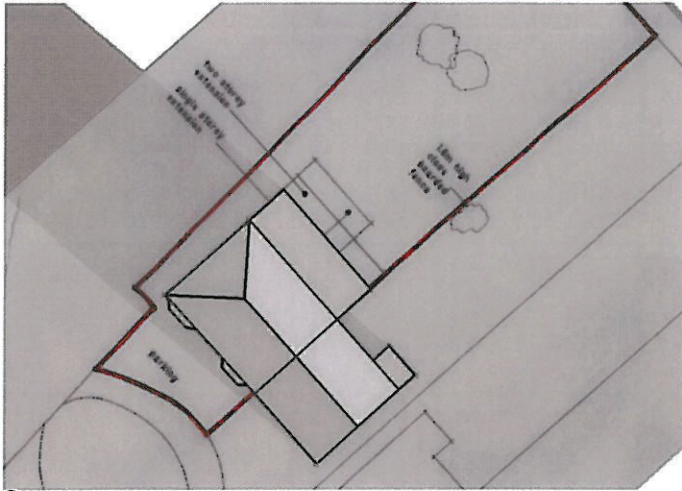
Existing

Proposed



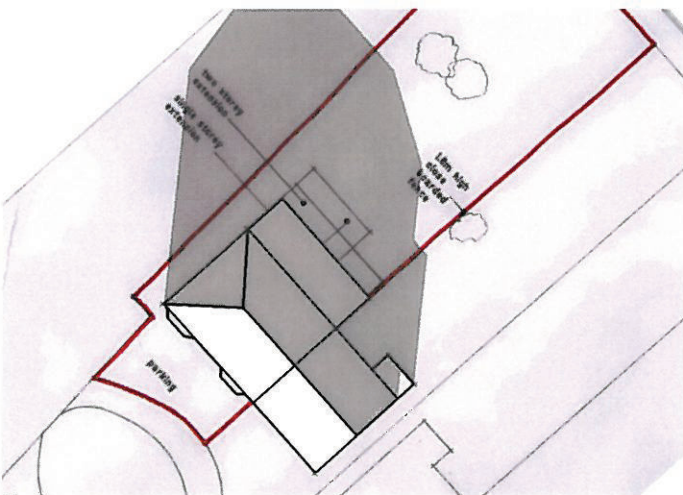
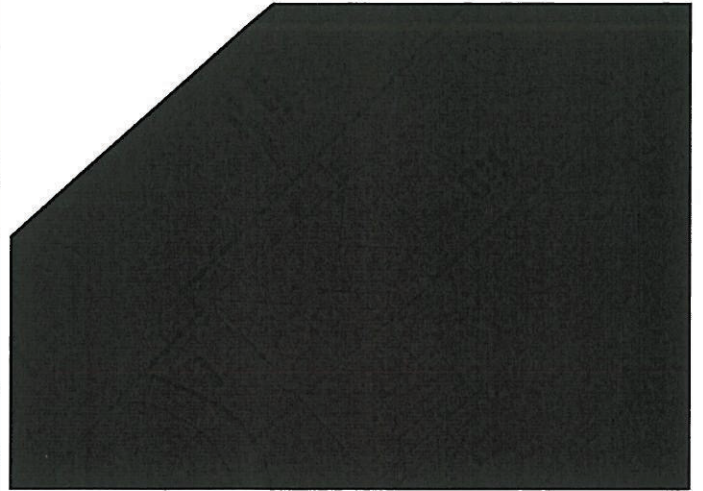
December 21st

Existing

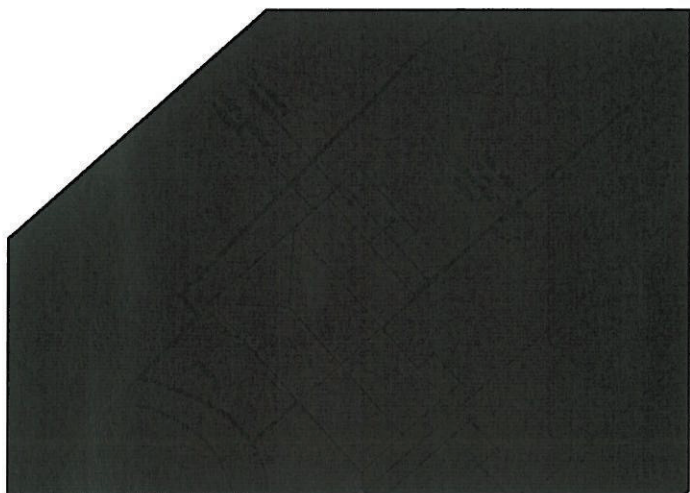
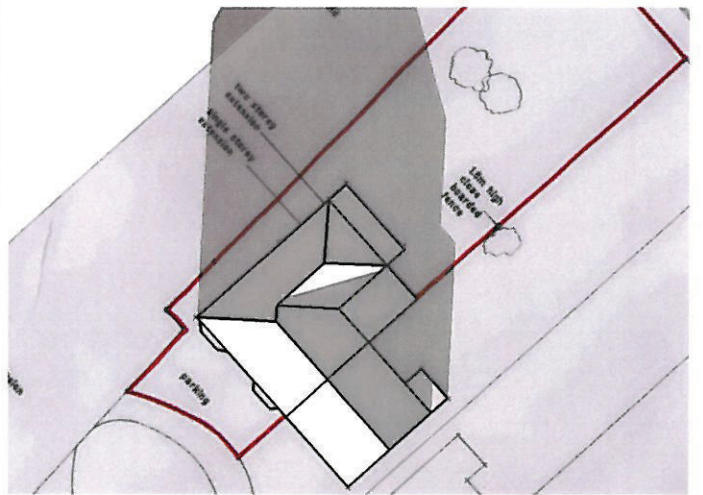


9am

Proposed



1pm



5pm



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Appeal Decision

Site visit made on 14 February 2012

by **David Vickery DipT&CP MRTPI**

an Inspector appointed by the Secretary of State for Communities and Local Government

Decision date: 23 February 2012

Appeal Ref: APP/Q0505/A/11/2165867

Land to the rear of 82 Richmond Road, Cambridge CB4 3PT

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant planning permission.
 - The appeal is made by Richmond Road (Cambridge) LLP and Mr E Seaby against the decision of Cambridge City Council.
 - The application Ref 11/0921/FUL, dated 1 August 2011, was refused by notice dated 4 November 2011.
 - The development proposed is the erection of 4 No. four-bed semi-detached residential units, together with 9 No. car parking spaces, cycle parking and associated landscaping works (following demolition of the existing outbuildings to the side and rear of 82 Richmond Road).
-

Decision

1. The appeal is dismissed.

Main Issue

2. The main issue is the effect of the proposal on the character and appearance of the surrounding residential area.

Reasons

3. The Council in its committee report and statement of case referred to financial contributions towards the provision of infrastructure (open space, outdoor and indoor sports facilities, children's space, community development facilities, household waste and recycling receptacles, life long learning and pre-school facilities). These, it was said, were required to be accordance with the Council's Planning Obligation Strategy 2010, Structure Plan policies P6/1 and P9/8, and Local Plan policies 3/7, 3/8, 3/12, 5/14 and 10/1. The appellants have submitted a completed planning obligation under section 106 of the Act to make these contributions.
4. Unfortunately, the Council did not provide me with copies of some of the above policies or the Planning Obligation Strategy. The policies that were provided, such as Structure Plan policy P9/8 and Local Plan policies 3/7 and 3/12, are generalised and do not provide the required development specific justification. More importantly, the figures required by the Council are standard, fixed payments for which no justification or explanation concerning each infrastructure provision by relating it to this particular development has been provided. I am therefore unable to assess whether the payments comply with the statutory tests in Regulation 122 of the Communities Infrastructure Levy

Regulations 2010 and the advice in Circular 5/2005 on *Planning Obligations*. Consequently, I am unable to take the obligation into account. In any event, the obligation does not affect my assessment of the main issue.

5. The site lies on the south-eastern side of Richmond Road behind the existing houses facing the road. It is currently occupied by a number of old, vacant, garages and outhouses in a poor state of repair, many constructed of corrugated iron and timber. There are two narrow accesses to the site which run up between Nos. 78 and 82, and Nos. 90 and 94.
6. Richmond Road, to the north-west of the site consists of 2-storey houses, mainly terraced, with pitched roofs which are set in long, narrow plots. I saw that some of the houses close to the appeal site have large rear roof extensions in various design forms. To the south-east lie a number of commercial premises and sites which are allocated for residential development, and which are screened by a number of protected trees and other vegetation.
7. I agree with the appellant that, in the main, the site's location behind the existing houses means that it is capable of creating its own character, identity and design. But, even so, account still has to be taken of the prevalent built form and layout and the impact of the proposal on the surrounding area. I saw that the existing terraced houses in the centre of the site would be largely screened from the proposed houses by existing trees and vegetation and, in several cases, by single storey outbuildings at the end of their gardens. And the proposed houses would also be largely screened from the occupiers of No. 94 by existing protected trees.
8. However, the proposed houses would be seen from the rear garden of No. 78, particularly in winter when there are few leaves on trees, over the hedge to the joint boundary. I am also concerned, although to a lesser extent, about the impact of the proposal as seen from No. 82 - this concern is less due to distance, the proposed bin store and landscaping opportunities beyond. The southern pair of proposed houses would be tall and bulky in both these views. This is due to the steep sided mansard roofs (containing high level windows) and a central stair tower which would give them a three-storey appearance. The height and bulk would be emphasised by the fact that these are semi-detached houses, and so they would together be perceived as one large, extensive built mass.
9. The proposed design of the houses would be modern and distinctive, and owes little to the surrounding design forms. I do not, of itself, find that to be objectionable, but the result in this location would be a tall, massive, angular and very modern building block with strong horizontal lines, large areas of windows, and sharp set-backs between its various built elements. It would look almost commercial in its finished appearance. When seen in particular from the long rear garden of No. 78, the two houses would look intrusive, out of place, and over-dominant. I consider that this more sensitive part of the site needs to respond more flexibly and positively to the design context and built form of the surrounding houses in order to successfully integrate. And it should provide a transition in height and design style to the northern part of the site where a more modern design solution could be attempted.
10. I appreciate that some tree planting is proposed along the common boundary to No. 78 to screen views, but they would take years to mature and I am not

convinced that any trees would successfully survive and/or flourish given the narrow planting border available and the closeness of the proposed access.

11. I therefore conclude that the proposal would seriously harm the character and appearance of the surrounding residential area. It would be contrary to the Council's design policies in its Local Plan, particularly policies 3/4 and 3/12.
12. I have considered all the other matters raised in the representations, but I find nothing of sufficient weight to override the conclusion which has led to my decision. For the reasons given above I conclude that the appeal should be dismissed.

David Vickery

INSPECTOR

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PLANNING

To All Members of the West Area Committee

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f +44 (0) 1223 329402
e peter@januarys.co.uk
w januarys.co.uk

Our ref: PMcK/CWB
Your ref:

28 February 2012

Dear Councillor

11/1585/FUL – PROPOSED ERECTION OF 4no. FOUR BED LINK DETACHED RESIDENTIAL UNITS, TOGETHER WITH 11 CAR PARKING SPACES, CYCLE PARKING AND ASSOCIATED LANDSCAPING WORKS (FOLLOWING DEMOLITION OF EXISTING OUTBUILDINGS TO THE SIDE AND REAR OF 82 RICHMOND ROAD)

82 RICHMOND ROAD, CAMBRIDGE, CB4 3PT

I am writing to you in advance of the forthcoming West Area Committee Meeting on Thursday 1st March 2012, when the above-mentioned planning application is to be considered with a recommendation of approval. I am the applicants' agent. The submission is a joint application on behalf of the present site owner, Mr E Seaby and Richmond Road (Cambridge) LLP, a joint venture set up by established local developers Enterprise Property Group and Laragh House Developments.

This amended proposal for the site is submitted in response to application 11/0921/FUL that was refused planning permission on the site in November 2011 despite a recommendation of approval from planning officers. This application has subsequently been dismissed at appeal in February 2012. The site was however deemed to be acceptable by both the local Planning Authority and the Planning Inspectorate. The principle of development on the site is acceptable and the sole refusal of this previous application related to design. We believe that this fresh application has addressed the design shortcomings considered to exist within the previous application by Members of the Area Committee.

Importantly, throughout the entire development process for this site, the applicants have been keen to involve all local members of the community in their attempts to bring forward the sustainable development of this previously developed site, in a manner which will be of benefit to the area. This application has once again been the subject of extensive public consultation and following submission of the application a public exhibition was held on the 25th January 2012. Further 'one to one' visits to neighbours in close proximity to the subject site were undertaken to provide an opportunity to discuss the revised design.

Following this exhibition, some additional information has been submitted to address concerns raised by the local residents. The main concerns raised by the local residents have been in relation to the access/egress and its potential impact on the surrounding properties within Richmond Road. An additional Technical Note, along with Tracking drawings, has been prepared by SLR Consulting and we are of the opinion that these have successfully addressed

the issues that have been raised by the Residents Association and within the Highways Consultation response. I have attached a copy of this information for reference. In summary:

- The initially proposed traffic calming rumble strips (cobblestones) have been removed;
- Suitable signing will be installed at the site entrance to ensure traffic uses the southern access;
- A fire tender can access the site via both entrances; and
- Correct car parking space sizes (2.5m x 6m) are now provided.

The Highways Authority has confirmed that the additional material submitted has addressed any minor concerns that they had. For the avoidance of doubt the Inspectorate who determined the appeal did not raise any concerns as far as the access arrangement for the site is concerned.

With regards to the design of the proposed dwellings and in particular the previous application, this new application, though crisp and contemporary in detailing and finish, has a plan form which is based on the model of the traditional terraced house and should be viewed as a materially different form of architecture to the previous scheme. Importantly, it cannot be viewed as incongruous and this view is supported within the committee report which states that the proposed dwellings will be **“more contextually appropriate and will create a more pleasing overall appearance”**. In scale and massing terms this amended scheme is much improved compared to the previous application, due to its more relaxed layout and its variable roof form. This relationship is further improved due to the lower ridge height and the windows on the front elevation being significantly smaller, more domestic and therefore do not give the perception of being commercial in look and feel. The scheme, by accommodating the vehicle spaces between the units and to break down the massing, is spread further across the width of the site and has a shallower depth. The massing has been further broken up by the introduction of timber boarding to the recessed linking element which extends over the parking space. This change of materials also helps to break the scheme up and means that it is easy to distinguish between the four units. With regard to the front elevation a more attractive fenestration has now been provided and this will ensure the development enjoys a sympathetic relationship with the surrounding built form and not one that is heavy and industrial in appearance. The perspective drawing shown below clearly shows that the four dwellings now have more articulation and visual interest and as a result this scheme represents should be considered an entirely acceptable design for the site. This amended design represents a more appropriate design for the site which is more refreshing and non-commercial in its appearance.



We are of the opinion that the proposal addresses all the reasonable interests of neighbours and this view is supported within the committee report which states **"the proposal adequately respects the residential amenity of its neighbours"**. The residents of No.78 Richmond Road (adjacent to the southern boundary) have raised concerns regarding the balconies on the rear elevation of plot 1 and that these will overlook their garden. The garden of this property is approximately 45 metres long and this is considered to be an acceptable distance and as a result no overlooking or loss of amenity will result. However in response to this, part of the glass screen provided for the 2nd floor balcony of Plot 1 has been specified as obscured glazing which further limits views to the south west. This relationship will be further protected by the presence of two new birch trees at this location which also formed part of the previous application. The Inspectorate has indicated within the appeal decision letter for the previous application that any trees planted along the boundary with No.78 may struggle to survive and flourish. This is not the case and the attached note from Hayden's Arboricultural Consultants indicates that these trees will survive and flourish and they will provide an instant impact that will create an element of screening that will develop further as they mature. With regard to the appeal decision an acceptable relationship between Unit 1 and No.78 has now been provided and importantly the scheme will not appear as intrusive or overdominant.

A number of changes have been made to the scheme and we believe that this fresh application has successfully addressed the sole reason for refusal of the previous application that referred entirely to design. We again support the Officer's recommendation of approval in this regard and we believe that this innovative and modern design should also be viewed in a positive way by the members of the Area Committee. This proposal represents an entirely appropriate design for the site and importantly it will not cause any adverse harm to either highway safety or neighbour amenity.

For all of the above reasons, we would invite you to support this planning application, and we very much hope you will feel able to do so.

Yours sincerely



Colin Brown BA (Hons) MRTPI
Director

cc. John Evans, Planning Officer, Cambridge City Council

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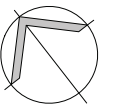
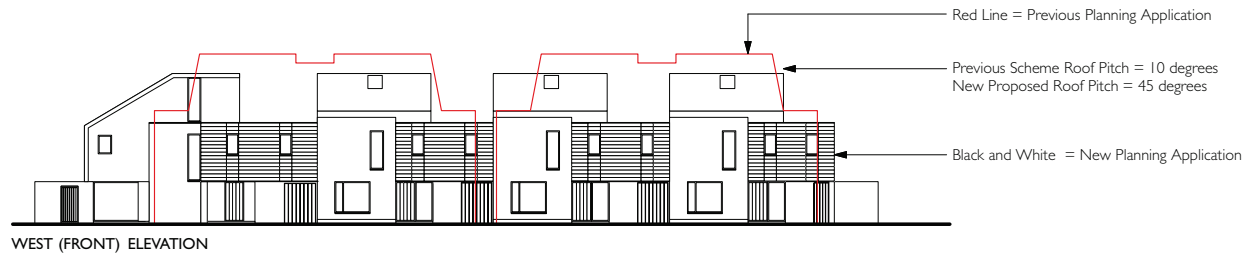
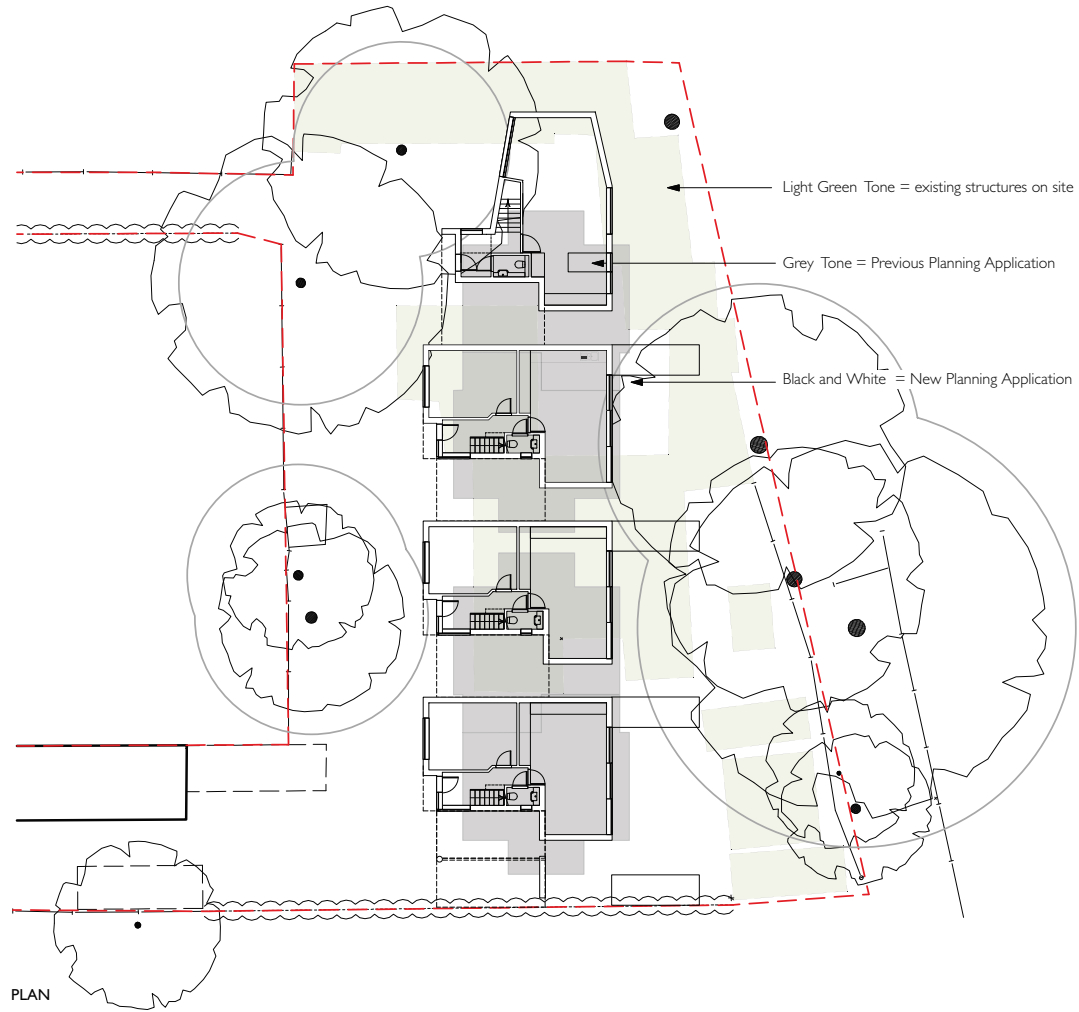


3d Visual
North West (Front View)
NTS

PLANNING

Rev.	Date	Description	Drawn	Checked	<p>Do not scale from this drawing, use figured dimensions only. All dimensions to be checked on site. All drawings to be read in conjunction with other contract documentation. Any discrepancies to be reported to the Contract Administrator before any work commences. © Copyright cavaleri partnership ltd</p>	<p>cavaleri partnership Unit A, Trinity Hall Farm Industrial Estate, Millfield Road, Cambridge, CB4 1TG T: 01223 425404 F: 01223 425405 E: enquiries@cavaleri.co.uk www.cavaleri.co.uk Registered Number 08893929</p>	CLIENT	Enterprise Property Group Limited	DNR	OTC	CMKO	
							PROJECT	Richmond Road Cambridge				
							TITLE	3D Visual North West - Front View				
							DATE	15/07/11	SCALE	@ A3	DWG No.	1107-RR-DR-950
									MIS			REV.

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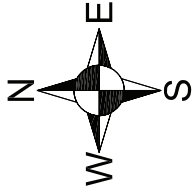


Notes	Date	Rev.
1. This drawing must not be scaled - work only to figured dimensions		
2. Dimensions must be verified on site by the contractor before preparation of shop drawings		
3. The architect must be notified of any discrepancies immediately		
4. This drawing applies only to this job and site		
5. This information on this drawing is copyright protected		

HaysomWardMiller Architects		Development Comparison	
7 Downing Place Cambridge CB2 3EL	Project	Land to rear of 82 to 90 Richmond Road, Cambridge	
T : 01223 578545 F : 01223 351955	For	Richmond Road (Cambridge) LLP & Mr E Seaby	
email : info@haysomwardmiller.co.uk	Scale	1:200	Paper Size A2

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(CAMBRIDGE) LLP**

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www.slrconsulting.com



**82 RICHMOND ROAD
CAMBRIDGE**

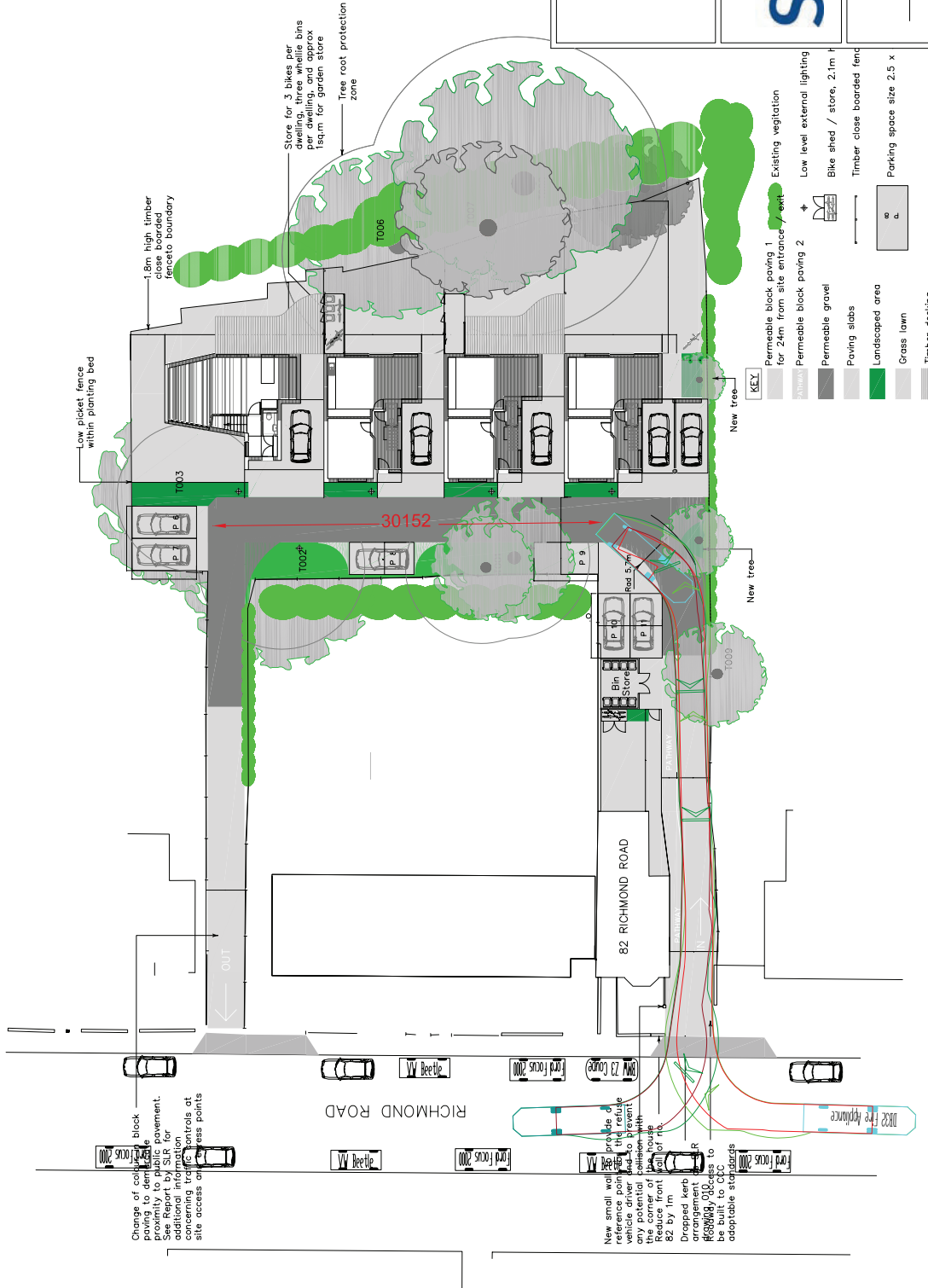
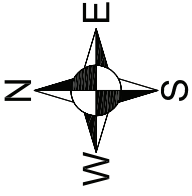
**TRANSPORT ASSESSMENT
SWEEP PATH ANALYSIS**

ATR04

Scale 1:500 @ A4

Date FEBRUARY 2012

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Change of color block paving to demarcate pavement. See Report by SLR for additional information concerning traffic controls at site access and access points

New small wall provide a vehicle parking bay to reduce any potential collisions with the corner of the house. Reduce front wall of road 82 by 1m. Driveway layout arrangement shown to be built to CCC adoptable standards

- Permeable block paving 1 for 24m from site entrance
- Permeable block paving 2
- Permeable gravel
- Paving slabs
- Landscaped area
- Grass lawn
- Timber decking
- Existing vegetation
- Low level external lighting
- Bike shed / store, 2.1m
- Timber close boarded fence
- Parking space size 2.5 x

RICHMOND ROAD (CAMBRIDGE) LLP

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82 RICHMOND ROAD
 CAMBRIDGE

TRANSPORT ASSESSMENT
 SWEEP PATH ANALYSIS

ATR05

Scale 1:500 @ A4

Date FEBRUARY 2012

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Technical Note

**Land to rear of 82 – 94 Richmond Road, Cambridge
Planning application 11/1585/FUL**

Access and Circulation

1.0 Introduction

This technical note is produced to examine detailed matters relating to the access and circulation for the proposed redevelopment of land to the rear of 82 – 94 Richmond Road, Cambridge.

2.0 Access

The access points to the site, both the northern and southern points, are existing vehicle crossovers that comprise double dropped-kerb facilities paired with the units immediately to the south. Both these accesses have been in existence for many years. Following the specific request of the highway authority at the pre-application submission stage, the access to the south will be used as the “in” for the 4 units, whilst that to the north, the existing access for the garages and unit, will be retained for traffic exiting the site.

To emphasise the locations of both these access crossover points for pedestrians using the pavement, the footway at this point will be resurfaced within the existing highway to provide a new, darker footway surfacing material once the construction works are complete. This will not only identify the dropped kerb crossing points but also ensure that any damage, either existing or caused by heavy vehicles during the construction phase, will be rectified and the layout and construction specification of the crossovers thereafter accord with the requirements of the local highway authority. The back edge of the footway at both access points will also be defined by PCC kerb edging.

The driveway within the site, both the access and egress points, will be surfaced with a permeable block paving. On the approach to the exit point, a band of blockwork in a contrasting colour will be installed across the drive to emphasise the approach to the exit point and footway crossing. This contrasting band will not, to avoid any noise issues, be raised or created in cobbles but will comprise a differing colour of the same type of blockwork surfacing as the remainder of the drive.

3.0 Drive Signing

As a result of the nature of the road layout on the approaches to the site, the great majority of traffic approaching the site will do so from the south, which is the junction with Huntingdon Road. Suitable signing will therefore be installed at the entrance to the site to ensure traffic uses the southern access, that which is reached first, to access the site and clearly identify the route in.

Within the site, signing will be positioned such that traffic circulates through the development and leaves via the existing northern access. Signing will also be installed at this point to emphasise the need to use the southern drive for access, but it is not envisaged that many vehicles will attempt this manoeuvre.

4.0 Fire Tender Access

The initial tracking exercise indicated that to circulate within the site, the fire tender would need to access the site in an opposing manoeuvre to that of normal traffic due to the nature of the internal layout. A further tracking exercise has been undertaken relating to this manoeuvre and showing that this can be undertaken, albeit very tightly, without the need to affect the cars parked along the far side carriageway edge or nearside where on-street parking exists due to the layout of the dropped kerbs. This is shown on Drawing ATR04.

The applicant is preparing a statement relating to the future maintenance of the drive and communal areas within the site.

Nonetheless, it is recognised that the tender may access the site via to normal entrance route in an emergency. Drawing ATR05 shows that the tender can easily access the drive at this point and reach to a point well within the maximum hose distance, and thereafter reverse out as necessary.

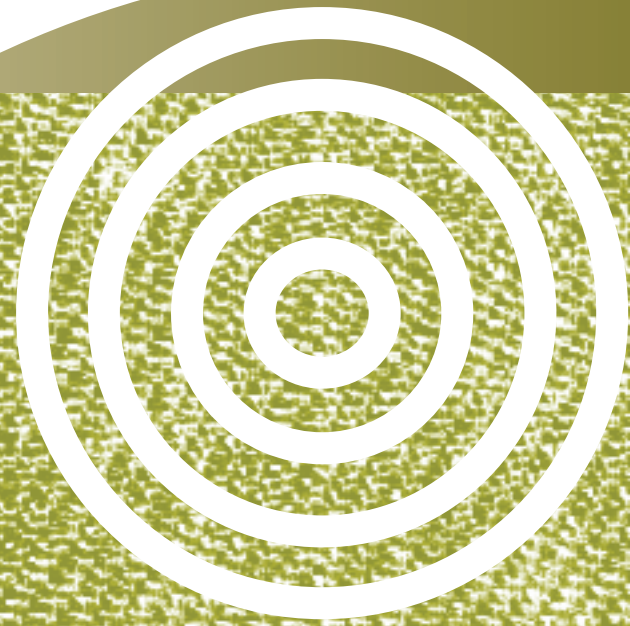
Therefore, whilst it is clearly not envisaged that a fire tender will access the site anymore than very sporadically, provision within the site will ensure that both routes offer a suitable access to the dwellings.

5.0 Refuse Tender Access

Following discussions with the Technical Services Department of the City Council, agreement has been reached to ensure suitable provision is made within the site for bin storage.

It is not envisaged that the refuse tender will access the site, but should this be the case the first length of the drive will be constructed to a full adoptable standard of the highway authority such that the drive can take the loading of the refuse vehicle.

406.01871.00002
13th February 2012



Silva Cell



Integrated tree and
stormwater system

DeepRoot®

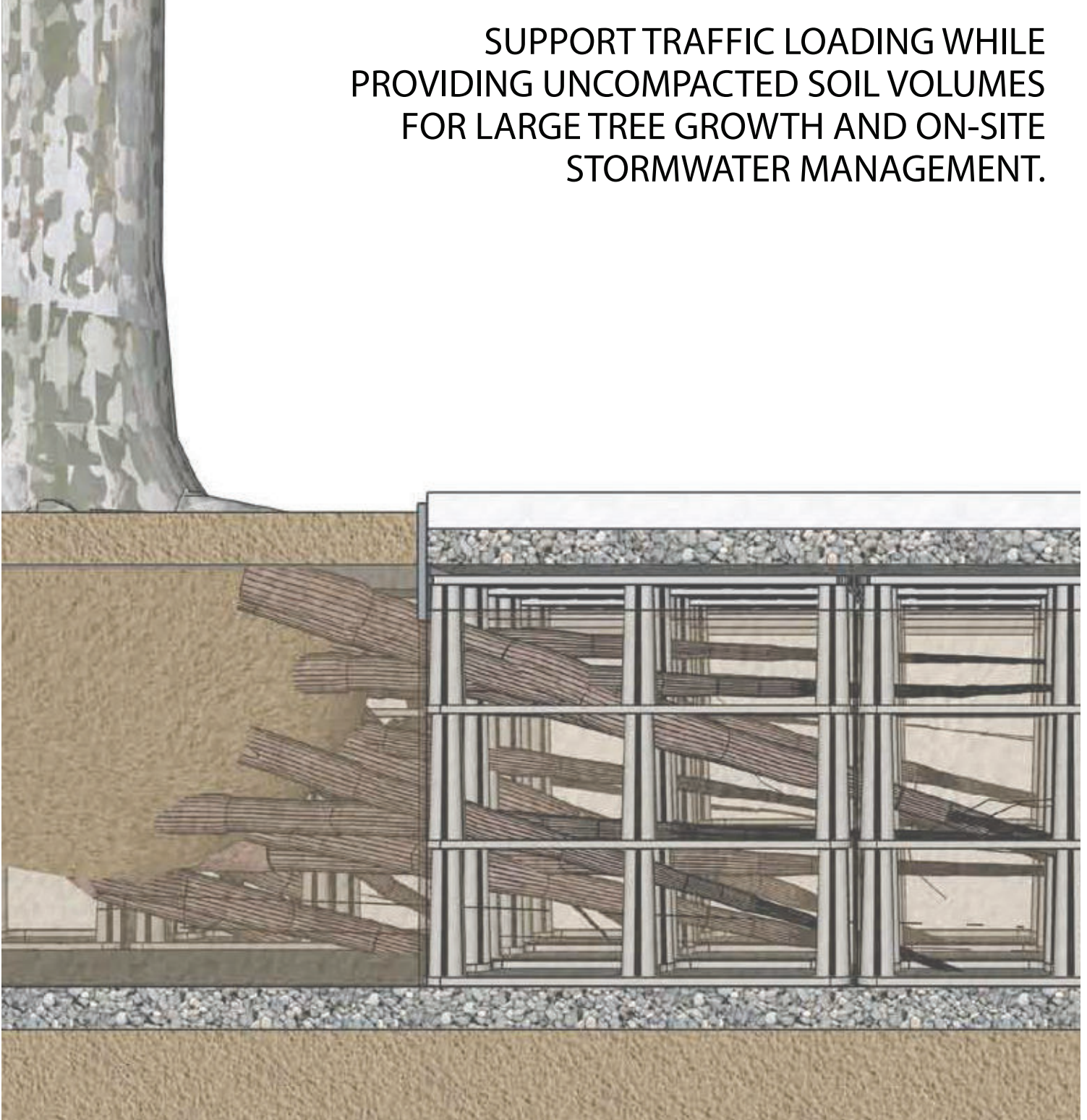


Geosynthetics

HOW THE SILVA CELL WORKS

MODULAR DESIGN ACCOMMODATES ANY SITE

SUPPORT TRAFFIC LOADING WHILE PROVIDING UNCOMPACTED SOIL VOLUMES FOR LARGE TREE GROWTH AND ON-SITE STORMWATER MANAGEMENT.



APPLICATIONS

The Silva Cell can be used in a wide variety of applications. Some of the most common are:

- STREETSAPES AND PLAZAS
- CAR PARKS
- GREEN ROOFS/ON-STRUCTURE
- GREEN WALLS

Each of these applications can be designed for tree growth and storm-water management.

Each Silva Cell is composed of a frame and a deck. Frames can be stacked one, two, or three units high before they are topped with a deck to create a maximum amount of soil volume for supporting tree root growth and stormwater management.

Material Specifications

Fiberglass reinforced, chemically-coupled, impact modified polypropylene.
Galvanised steel tubes.

Frame Dimensions

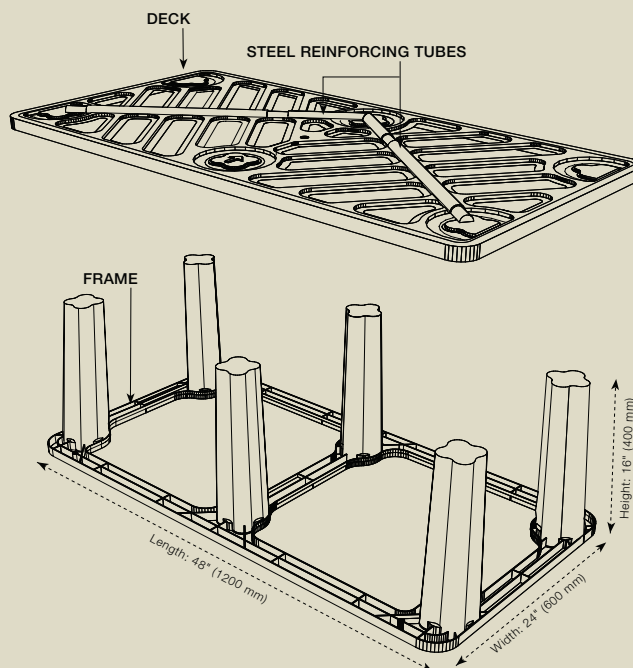
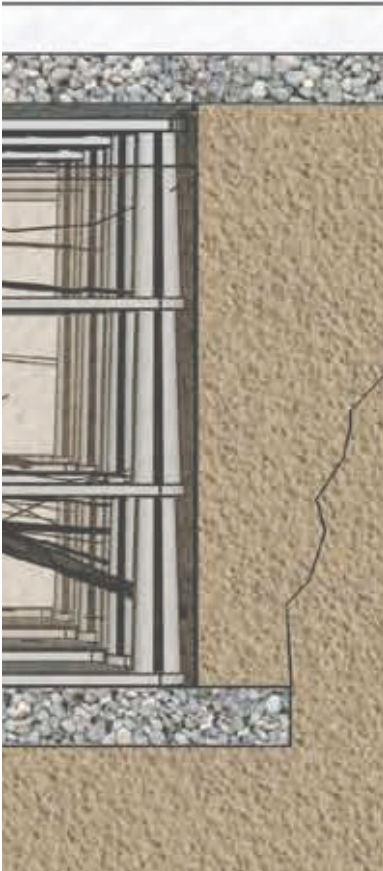
Length: 1200 mm
Width: 600 mm
Height: 400 mm

Deck Dimensions

Length: 1200 mm
Width: 600 mm
Height: 51.5 mm

Capacity

Void capacity: approximately 92%
Soil capacity: approximately 0.28 m³



THE SILVA CELL[®]

INTEGRATING TREES, SOIL AND STORMWATER FOR SUSTAINABLE DEVELOPMENT

SOIL IS CRITICAL TO THE LONG TERM SUSTAINABILITY OF DEVELOPMENT SITES.

Provide the basis for healthy vegetation, treat stormwater as a resource, and restore ecosystem services with the Silva Cell.

The Silva Cell is a modular framework / void former for containing unlimited amounts of healthy soil beneath paving while supporting traffic loads and accommodating surrounding utilities. The Silva Cell is filled with high-quality, uncompacted soil to grow trees and manage the rate, quality and volume of stormwater. The modular system can be easily sized to accommodate the needs of any site without compromising effectiveness or site design.

By combining on-site stormwater management with expanded rooting volumes for healthy tree growth, Silva Cells create an unparalleled ability to restore ecological function to developed areas.

INTEGRATING SOIL...

Increasing attention is being paid to soil, and the conclusion is inescapable – soil matters. A Report by the National Research Council commissioned by the United States Environmental Protection Agency concludes:

“Nearly all of the associated problems [of urbanised watersheds] result from one underlying cause: loss of the water-retaining and evapotranspiring functions of the soil and vegetation in the urban landscape¹.”

The report goes on to state:

“Stormwater Control Measures that harvest, infiltrate, and evapotranspire stormwater are critical to reducing the volume and pollutant loading of small storms².”

... TREES

The more healthy soil is available to trees, the bigger they can grow – and the bigger a tree grows, the more significant environmental and social benefit it provides. USDA Forest Service research shows that a tree with a 30-inch diameter removes 70 times the pollution of a tree with just a 3-inch diameter³. Typically, urban tree growth is stunted by limited access to soil and poor soil quality. Damaged pavements from roots are hazardous and a major cost to repair. The Silva Cell overcomes these challenges by providing unlimited soil volumes without compromising above ground surface area.

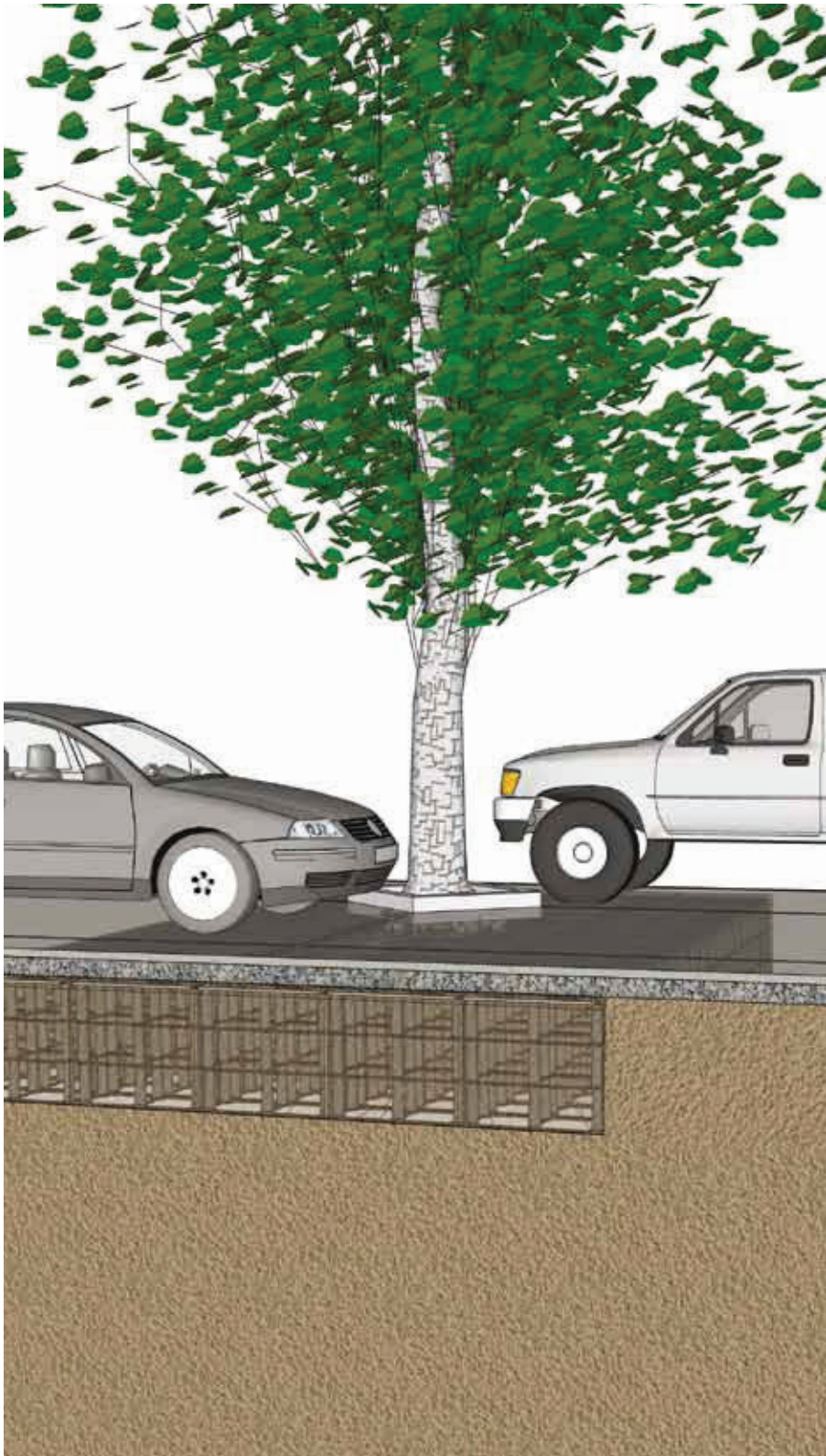
... AND STORMWATER

The Silva Cell integrates trees and soil with stormwater management, utilising the proven capacity of soils to act as an underground bioretention system. When rainfall moves across impermeable paving, it picks up pollutants. As it is channelled off-site, it deposits these pollutants in oceans, lakes, rivers and wetlands. This non-point source pollution, a leading cause of urban pollution, is significantly mitigated by use of the Silva Cell. Through soil filtration, bioremediation and evapotranspiration, the Silva Cell treats stormwater directly on-site, restoring ecosystem services and saving money while protecting one of our most valuable resources.

1. Urban Stormwater Management in the United States (a report by the National Research Council: National Academies Press, 2008).

2. Ibid. 8.

3. David Nowak, “Trees Pollute? A “TREE” Explains It All!” (Proceedings of the 7th National Urban Forest Conference, Washington, D.C, USA, 1995).



The story of the Silva Cell has been one part eureka! and a thousand parts sweat and hard work. James Urban (FASLA, ISA), a renowned landscape architect and advocate of urban trees, has been critical to the development of the Silva Cell, and his vision, passion, and technical expertise have guided our design from the outset.

Our pursuit of a more sustainable world through the integration of green utilities demands affordable solutions that synthesize modern engineering needs with effective and sustainable ecological principles. The Silva Cell - which takes its name from the Latin word for forest - reflects these goals. We continue to collaborate with industry leaders to help us develop practical, earth-friendly solutions to the ecological challenges that face us.

We work with a team of highly qualified landscape architects, engineers and hydrologists for technical planning and design services. We would welcome the opportunity to discuss your potential projects and ensure that the use of the Silva Cell is optimised for your site needs.

For more information on Silva Cell specifications and applications, please call us on +44 (0)1455-617-139 or visit us online at www.geosyn.co.uk

ENGINEERING AND LOADING

FRAME AND DECK FEATURES

POST DETAIL



FRAME



DECK



FRAMES CAN BE STACKED, ONE, TWO OR THREE HIGH



FRAME DESIGN FEATURES

Six rigid vertical posts protrude from the frame, providing structural support of paving and the loads it carries. Their cross-sectional shape maximises axial rigidity and prevents them from telescoping together when the frames are stacked.

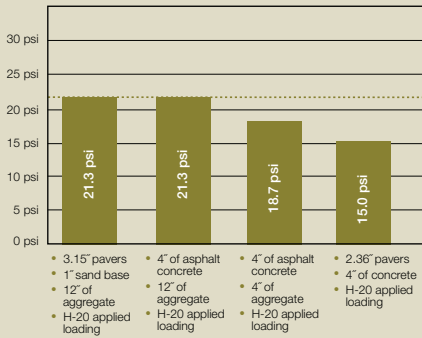
Their rounded edges prevent significant stress concentrations, meaning that paving supported by the Silva Cell does not settle due to compressive forces. The bottom portion of the frame is relatively pliable, allowing it to conform to irregularities in the earth without breaking or suffering loss of strength.

DECK DESIGN FEATURES

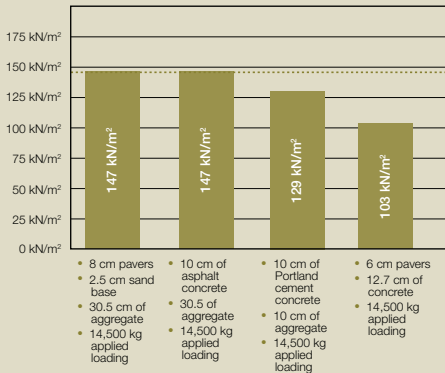
The deck is a rigid platform with six recesses positioned to rest securely on the six posts of the frame. Openings on the deck allow ample room for air and water to penetrate and nourish the enclosed soil. Two diagonal channels on the upper portion of the deck house galvanised steel tubes that prevent deformation of the posts and help eliminate plastic creep.

SUMMARY OF TOP DECK STRESSES UNDER VARIOUS AXIAL LOADING SITUATIONS

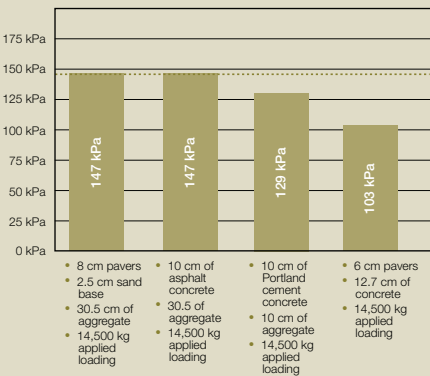
UNITED STATES



UNITED KINGDOM



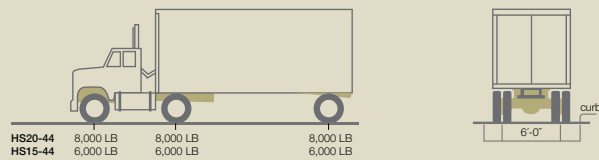
EUROPE / CANADA



-- This line represents the maximum allowable stress that can be applied to the deck and it also represents a factor of safety equal to 1.50 when compared to the ultimate stress value.



TYPICAL H-20 REAR AXLE LOADING



The Silva Cell can support vehicle loading up to AASHTO H-20 rating of 32,000 lbs. (14,514 kgs) per axle. This rating refers to the ability of a roadway to safely accommodate 3-4 axle vehicles, such as a large semi-truck and trailer.

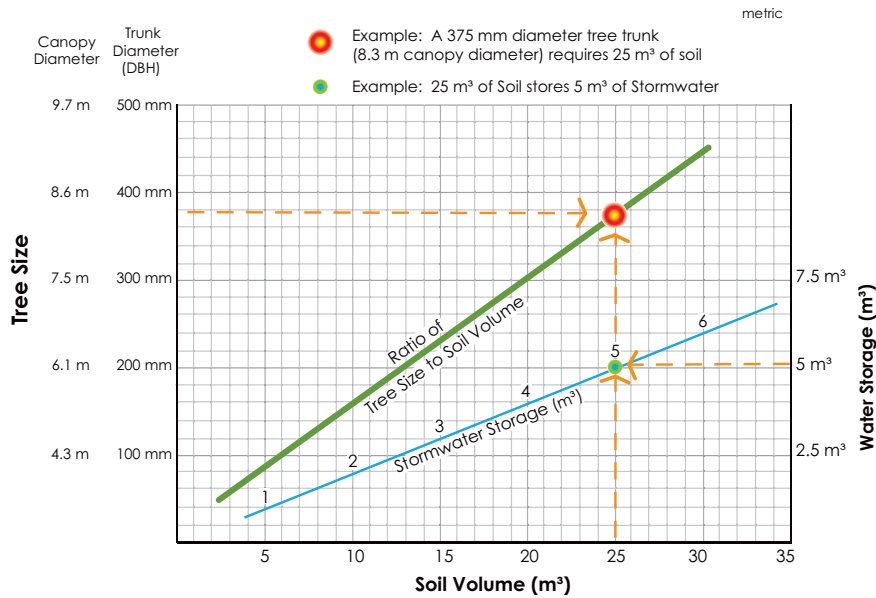
The charts and associated paving conditions listed here are represented in our standard product details and specifications which enable the Silva Cells to support traffic loads up to H-20 standards. Loading standards vary worldwide and your particular project may have different needs. Please consult with

Deep Root to review and optimise the use of the Silva Cell to your project requirements.

Load testing was provided by TRI environmental. Applied stress values were determined using Sigma/W, a finite element program. Self-weight of materials above deck of Silva Cell is included in the reported top deck stress value.

DESIGN GUIDANCE

SOIL VOLUME / STORMWATER STORAGE AND BIG URBAN TREES



WATERSHED AREA THAT CAN BE TREATED PER MODULE WHERE 90% RAINFALL EVENT = 25mm- 75mm

Number of Silva Cell layers	Number of Silva Cells	Approximate soil volume (m ³)	Approximate water holding capacity per module (m ³)	Watershead area that can be treated per module (m ²)
One	41	11.6	2.1	88.5
Two	82	22.2	4.2	177
Three	123	34.8	6.4	265.6

This brochure is produced to give an example of the products we supply and how, subject to your own testing, our product may be used. Nothing in this brochure shall be construed so as to make any ascertain or give any warranty as to the fitness for purpose of any of our products in respect of any specific job. You should satisfy yourself through your own testing as to the suitability of our products for any specific purpose and rely solely on such testing and/or the advice of any professional(s) your commission. While we ensure as far as it is possible that all information given in the brochure is accurate at the time of print, information and examples given in this brochure are by way of illustration only and nothing contained in this or any other promotional literature produced by us shall in any way constitute an offer or contract with you or shall be relied upon by you as a statement or representation of fact.

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Email: sales@geosyn.co.uk

DeepRoot®



Geosynthetics

Greenleaf |

Urban tree and landscape products

Arborsystem





ARBORSYSTEM

The definitive urban tree pit package

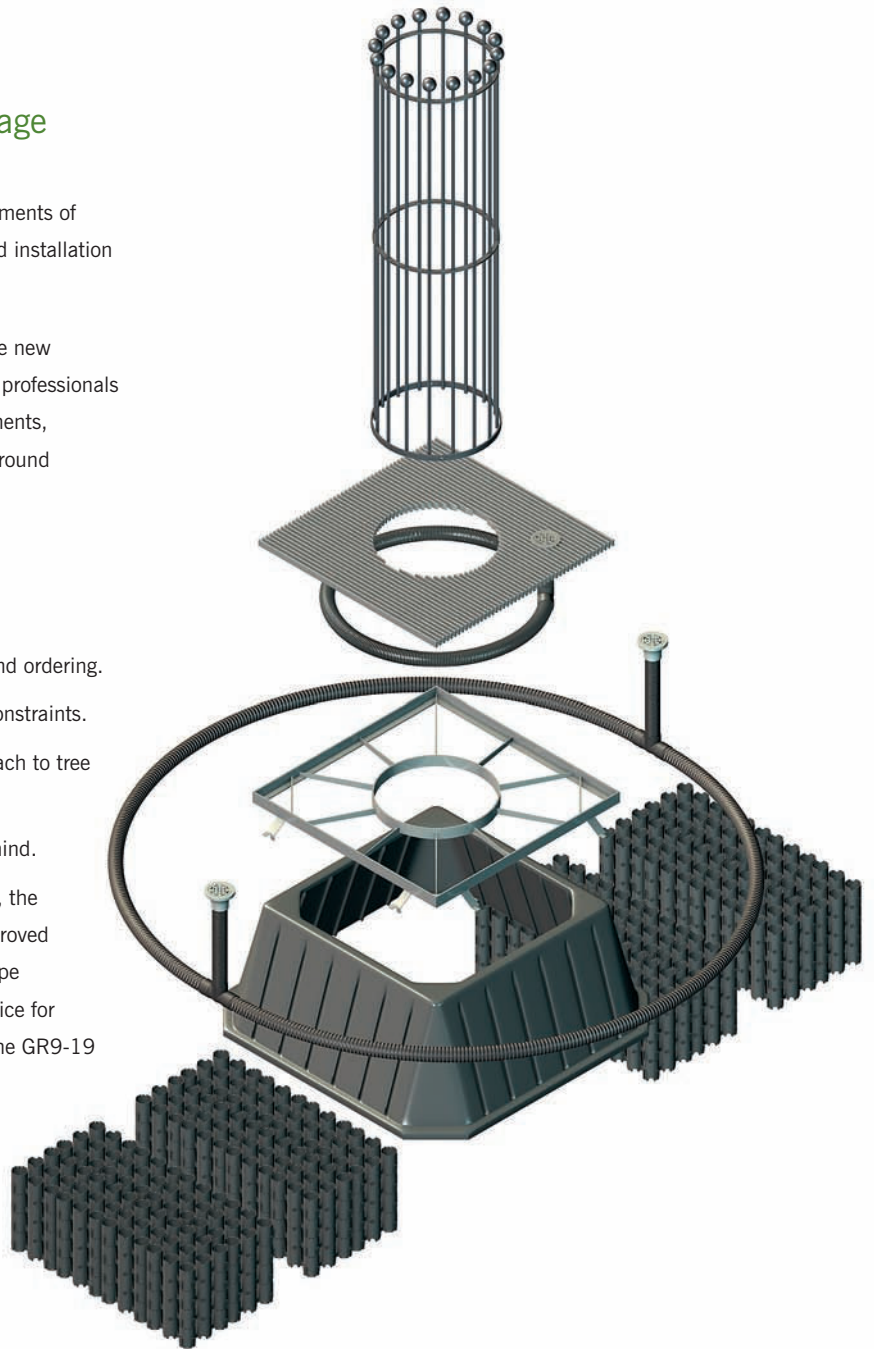
The Greenleaf Arborsystem brings together the key elements of successful tree pit design and simplifies the design and installation process for specifiers and installers.

By using our CAD disc or hard copies together with the new standard NBS format specification clauses, landscape professionals can combine root management, structural soil components, aeration, irrigation and choose an appropriate above ground surface grille and vertical guard – in a single package.

By utilizing Arborsystem, landscape designers can:

- Ensure product compatibility.
- Drastically reduce time spent on specifying, quoting and ordering.
- Adapt a system to suit differing location and budget constraints.
- Demonstrate to clients a professional long term approach to tree planning and management issues.
- Benefit from our on site support service for peace of mind.

Since its inception and development over recent years, the Arborsystem integrated tree pit product package has proved itself in many demanding locations. For many landscape specifiers, Arborsystem has become the system of choice for integrating trees into the urban environment. Indeed the GR9-19 packages are the most advanced and comprehensive complete tree pit systems available on the market.

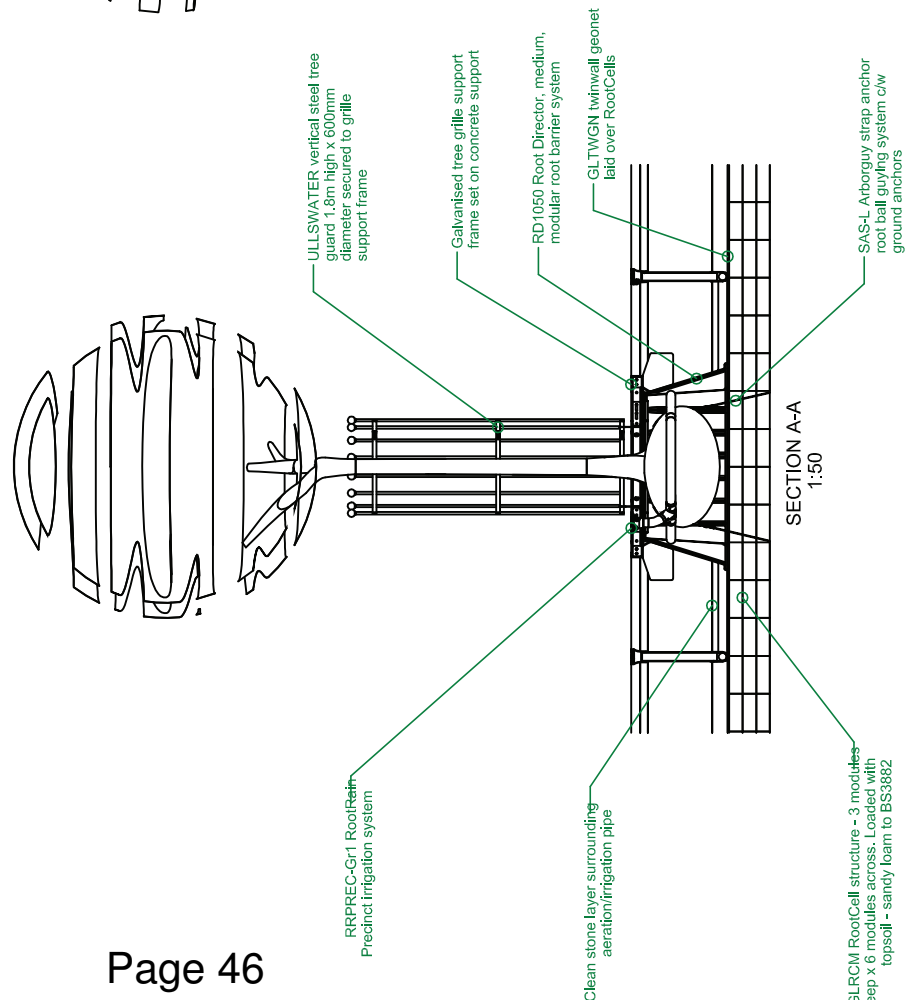
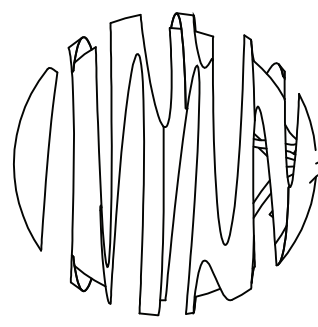
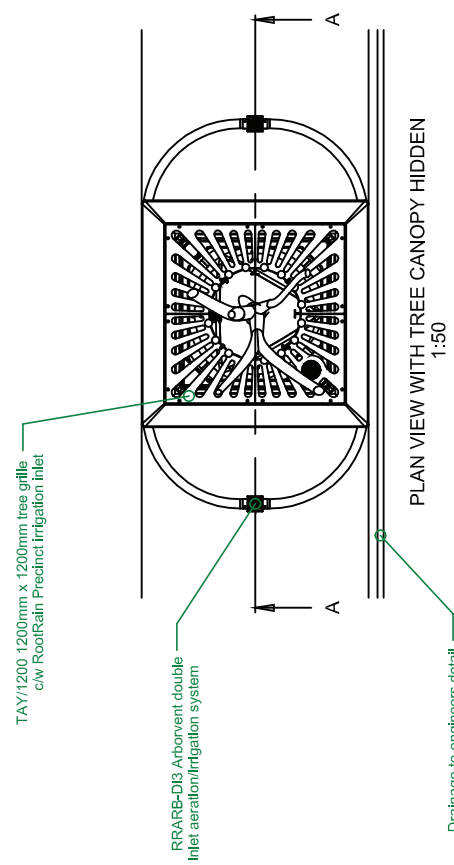




REV	DESCRIPTION	DATE	APPROVED

Product descriptions

- GLRCM RootCells, 312 No. 250mm x 250mm x 90mm
- RD1050 Root Director
- SAS-L root ball guying system
- RRPREC-Gr1 irrigation system
- RRARB-DI3 Arborvent double inlet aeration/irrigation system with cast inlets
- TAY/1200 1200mm x 1200mm tree grille and support frame finished in black
- ULLSWATER vertical steel tree guard, galvanised and finished in black
- GLTWGN twinwall geonet 6.5 Sq. m



Tree pit system incorporating triple stack RootCell load bearing soil module. Structure surround root management, irrigation, aeration, guying, tree grille and guard.

NAME	DATE	TITLE	SIZE	REV
DRAWN: Adrian White	13/02/2008	GREENLEAF Urban tree and landscape products Tel: 01424 717797 Fax: 01424 205240	A4	B
CHECKED:		TREE PRODUCT PACKAGES		
ENG APPR:		GR16 Tree pit system installation		
MGR APPR:				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS ANGLES ±XX°		FILENAME: GR16.dft	SCALE: 2 PL ±:XX:3 PL ±:X:XXX	WEIGHT: SHEET 1 OF 1

If in doubt - Ask!
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