

Bonn Square
Oxford

design statement

February 2006

Project Team

Architect

Graeme Massie Architects
21 Roseneath Place
Edinburgh
EH9 1JD

T 0131 228 9911
F 0131 228 9911
E info@graememassie.com

Quantity Surveyor

Davis Langdon
Avalon House
Marcham Road
Abingdon
Oxon
OX14 1TZ

T 01235 555025
F 01235 554909

Civil, Structural and Lighting Engineer

Buro Happold
Camden Mill
Lower Bristol Road
Bath
BA2 3DQ

T 01225 320600
F 01225 320601

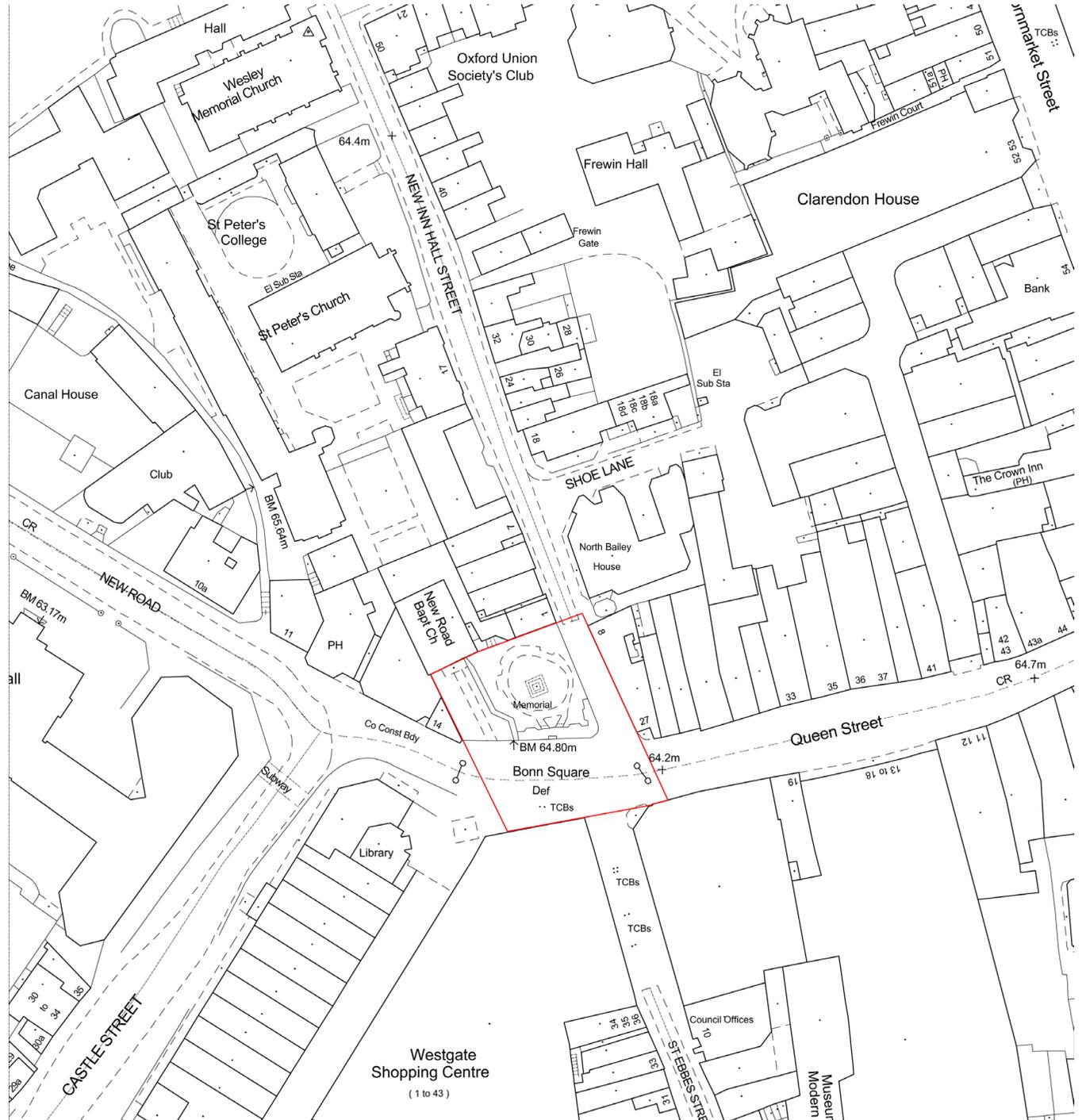
Planning Supervisor

Buro Happold
Camden Mill
Lower Bristol Road
Bath
BA2 3DQ

T 01225 320600
F 01225 320601

Contents

	Preface	5
1.0	Background	
1.1	Design Competition	7
1.2	Results	7
2.0	Brief	
2.1	Context	9
2.2	Vision	9
2.3	The Oxford Public Realm Strategy	11
2.4	Consultation	13
3.0	Analysis	
3.1	Character	15
3.2	Access and Legibility	17
3.3	Adaptability and Diversity	19
3.4	Antisocial Behaviour	21
4.0	Design Principles	
4.1	Project Description	23
4.2	Unified Surface	25
4.3	Trees	29
4.4	Lighting	31
4.5	Street Furniture	33
4.6	Public Art	35
4.7	Accessibility	37
4.8	Public Safety	39
4.9	Transport	41
4.10	Sustainability	43
4.11	Maintenance	45
4.12	Archaeology	47
4.13	Conservation Area	49
4.14	Tirah Memorial	51
5.0	Conclusion	
5.1	The Future of Bonn Square	53
6.0	Appendices	
6.1	Arboreal Impact Study	55
6.2	Archaeological Report	69



Preface

This Design Statement has been prepared by Graeme Massie Architects, in association with the other members of the design team, and is to be read in conjunction with the drawings and model submitted with the Full Planning Application for the redevelopment of Bonn Square, Oxford.

This Design Statement sets out to:

- describe the background to the project
- appraise the inherent qualities and problems of the existing square
- present a series of integrated strategies for the redevelopment and improvement of Bonn Square
- establish the rationale for the implementation of these strategies

We believe that this Design Statement demonstrates that there is a practical, deliverable and elegant architectural response to the complex issues facing this project and that the reinvention of Bonn Square as a dynamic, inspirational city space is a viable goal.



No. 14 New Road

The existing property contributes little to the fabric of Bonn Square. It presents a conventional blank wall to the square, over the church wall, and an uninviting facade to New Road.

How can we overcome the problem? The building floor plan is awkward and, in some parts, almost unusable. The ground floor area is minimal, and vertical circulation obscures the rest of the area.

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Proposing cut from the existing street to the proximity of No. 14 New Road has historic precedent, on Albert Taylor's map of Oxford (1755).

We propose extending the existing street to the proximity of No. 14 New Road, but also extend it further to the additional lanes, then engaging the combined structure as a continuous axis.

A walk, with both internal and external seating on the ground floor will make the building accessible to everyone to sit.

The removal of all external storeys of the existing structure will create a large light gallery space.

A top floor studio will provide flexible education resources, suitable for both classes and suitable to other engage the community.

BONN SQUARE *material transformation*

Oxford is a unique place, with a distinct visual identity.

Bonn Square lies within the Central Conservation Area.

It contains many layers of history, with listed structures both in and around it.

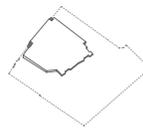
It is well connected, with good links to both the historic areas and the commercial west end.

At present, it does not have a clear civic role to play.

It suffers from significant criminal and anti-social behaviour.

How can we develop a project which responds to these issues?

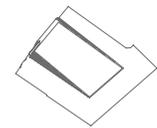
- develop a material dialogue with the fabric of Oxford
- minimise impact on historic structures, archaeological remains and the existing treescape
- create an open, flexible events space
- increase the diversity of users.



Historic Cemetery

The historic cemetery is of archaeological significance, but its presence contributes much to the current problems and fractured appearance of Bonn Square.

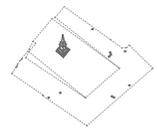
How can we retain the archaeological remains in situ AND resolve the problems associated with the square?



Surface

A third plane, with a stepped perimeter for all round access, will allow retention of the archaeological remains, while also spatially unifying the whole square.

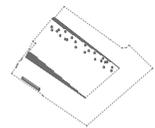
The use of a single material - local sandstone - will further add to the unity; however, by using this material in a number of different forms and scales we can subtly articulate areas and respond to anticipated usage.



Public Art

The Tirah Memorial is a significant piece of public art. It's a listed structure, and must retain its prominence in the square.

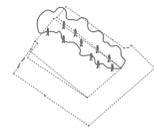
In order to allow this, we propose a background installation. Below ground, intermittent stool seating adjacent to New Inn Hall Street, creates an informal meeting point; the stepped perimeter of the tiled plane could be adopted as an additional option.



Seating

In response to differing needs and conditions, an integrated range of seating options are provided.

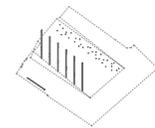
A dignified, sandstone bench is located adjacent to the New Road Baptist Church; intermittent stool seating adjacent to New Inn Hall Street, creates an informal meeting point; the stepped perimeter of the tiled plane could be adopted as an additional option.



Trees

The existing trees make a significant contribution to the character of Bonn Square. However, they are of varied quality and their locations are disparate.

We propose a consolidated grove of trees adjacent to New Inn Hall Street. This will incorporate the majority of significant existing trees and will be supplemented by additional Limes, Sycamores and Trees of Heaven.



Lighting

The existing lighting strategy for Bonn Square is uncoordinated. We propose an integrated solution of background and accent lighting.

Background lighting is achieved by wall lights attached to the perimeter buildings; lighting masts will be programmed for particular tasks; random uplighting of the tree grove creates a sense of place; a strip light articulates the church bench.



Section AA 1:200

Materiality

Although materially consistent, the detail will be highly articulated through the use of scale and texture.

The various sandstone forms to be utilised are as follows:

Slabs 200x200x20mm, containing flat sandstone, as a base surface, and honed finish to define principal pedestrian routes.

Planks 200x100x20mm, with a 'honed' finish. Used to introduce rhythm into pedestrian routes.

Slabs 600x300x20mm, with a honed finish. Used to define significant areas of stone, and transitional conditions.

Aggregate Sandstone 'Teal' are utilised in a wide tapered aggregate finish to provide a low maintenance surface at the multi-purpose tiled plane.

Events Space

The clear open space proposed allows the focus of events to be the central area, ensuring adequate circulation around for those not participating in the event. The tiled nature of the area makes it ideal for performance events, but the pitch is shallow enough to accommodate all other activities.

We believe that the skills should remain in that current form, but added to regular inspections to maintain an appropriate standard.

The prime location of Bonn Square makes a perfect location for the promotion of local events.

We propose the use of large vertical banners, integrated into the design of the lighting masts.

The proposed signage maintains visibility, and avoids the possibility of fly-posting.

Street Traders

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The proposed signage maintains visibility, and avoids the possibility of fly-posting.

Waste Disposal

Litter is a common ailment in many public areas, including the walking square, often due to the lack of facilities.

To counter this trend, litter bins will be located before the green of trees (designed in bronze, with a form to complement the roof seating), with additional wall-fixed bins attached to the surrounding buildings.

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Access, Permeability & Public Safety

Bonn Square benefits from good links to the rest of Oxford, being located at the crossroads of New Road, Queen Street, New Inn Hall Street and St. Ebbe's Street. However, the square itself suffers from a lack of permeability, and is not fully accessible to all users.

The removal of all external storeys of the existing structure will create a large light gallery space.

A walk, with both internal and external seating on the ground floor will make the building accessible to everyone to sit.

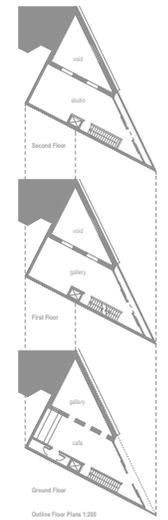
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1.0 Background

1.1 Design Competition

In spring 2005, Oxford City Council appointed the Royal Institute of British Architects to assist them in running an international design competition to find a solution to the problem of redeveloping Bonn Square.

Competitors were set the challenge of transforming the square into a high quality contemporary city square, central to the everyday life of the city. The judges were looking for a winning design that could respond to the City Council's vision for Bonn Square as a dynamic, inspirational city square. Designers were asked to be courageous in their thinking, be aware of the opportunities afforded by the enhanced role of Bonn Square in the city's west end, and respect its setting within the central (city and university) conservation area.

93 submissions were made for the first stage of which 36 were overseas entries from countries including Australia, Japan, USA, Malaysia, and Taiwan.

1.2 Results

Six schemes were shortlisted from the first stage open design and the projects put on public exhibition. These teams were then invited to present their schemes to the Jury Panel.

The teams to reach the shortlist were:

- FKDA, with artist Stephen Broadbent and The Vinden Partnership (Manchester)
- Malcolm V Lelliott Ltd (Godalming)
- Daniel Mancini, James Mackenzie, Juliet Matthews, Justine Owen (Oxford)
- Breeze Landscape Architects, with Equation Lighting and Davis Langdon (London)
- Sue Goodman Architect, with Colvin and Moggridge (Lechlade)
- Graeme Massie Architects (Edinburgh)

Graeme Massie Architects were announced as winners of the competition in May 2005, and the scheme was considered by Oxford City Council to be of such quality that it should be developed to a detailed stage and submitted for planning approval.



2.0 Brief

2.1 Context

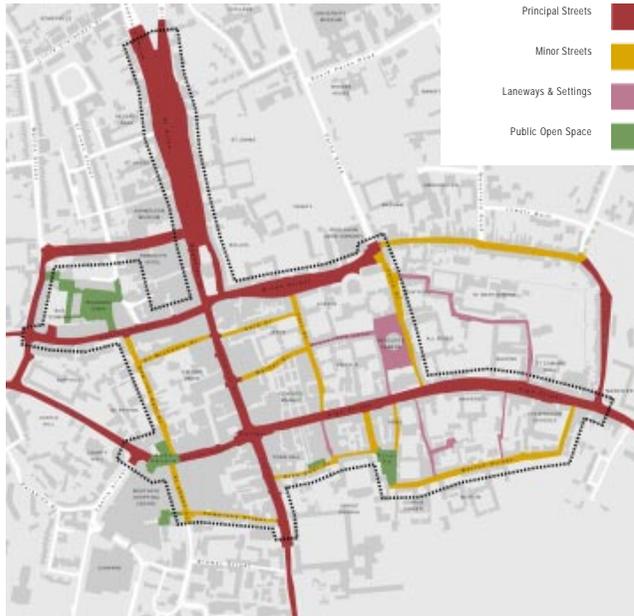
Bonn Square is located in the heart of Oxford city centre at the convergence of four important shopping and commercial streets, and was named as such in 1974 to celebrate the links between Oxford and Bonn. It is one of the very few public spaces within the city centre; however, it is a space which has developed in an ad-hoc manner, encompassing the landscaped memorial garden (created at the end of the 19th century, over a former graveyard) for the Grade II listed Tirah Memorial, the forecourt to the Grade II listed New Road Baptist Church, and the public highways of New Road / Queen Street, to the south, and New Inn Hall Street, to the east.

It is a hub for heavy pedestrian flows during the day and in the evening but its present layout, lack of natural surveillance and degraded appearance make it a focus for some of the worst criminal and anti-social behaviour in the city centre. Buses, taxis and delivery vehicles pass west to east along its southern side into Queen Street, further inhibiting people from enjoying the full potential of the square.

2.2 Vision

The transformation of Bonn Square into a high quality, contemporary city square is one of the most important tasks facing Oxford City Council. To be successful the project must demonstrate a fusion of current public space requirements with the requirements of conservation legislation.

The vision is for Bonn Square to become a dynamic, inspirational city square which people will love and use; which will form the hub of the revitalized west end of the city; but which also respects and enhances the history of the square and its historic setting.



Principal streets

- Principal streets form the 'backbone' of the urban pattern of Oxford. They are defined by their scale, architecture and role as major pedestrian and vehicular routes.

Minor streets

- Minor streets are narrower than principal streets but wider than lanes and alleys. They comprise the secondary circulation network within the grid plan of central Oxford.

Laneways and settings

- Laneways and settings include the network of narrow lanes and alleys of central Oxford as well as other building settings with intact traditional paving. They have a varied palette of materials and details.

Public spaces

- These are places of repose. They perform a variety of roles, for example as meeting places, seating areas, café terraces and as large spaces for markets or performances.

**SURFACES:
PUBLIC SPACES**

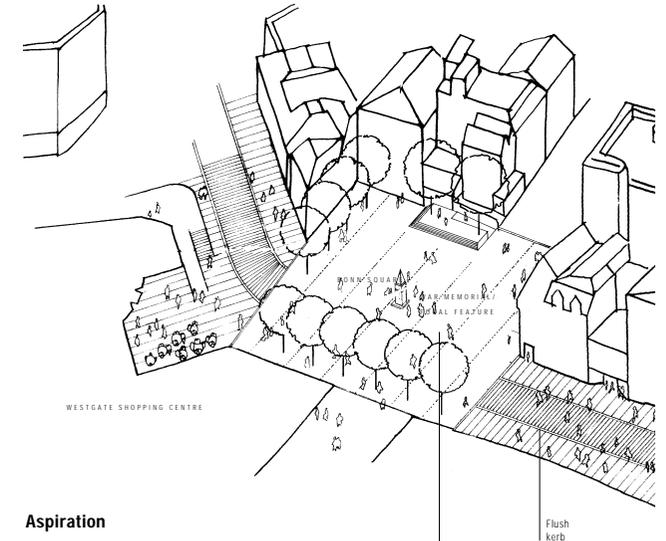
These spaces include Bonn Square, Carfax, Oriel Square and Magdalen Square and are visually related to other streets and spaces. Visual continuity with them should be achieved by applying the materials palette. There are opportunities for modern and innovative contemporary design, particularly in Gloucester Green and Bonn Square.

Design principles:

- Redevelopment of the public spaces should respond to visual and physical linkages with the urban context
- The design of public open spaces should allow for a variety of pedestrian uses at a range of times of the day, for example street trading during the day, performance and eating out at the weekend
- The design approach to materials, street furniture and signage should generally be in keeping with the proposals for surrounding streets
- New elements that help to create a distinct identity and sense of place should also be considered
- The opportunity to create exciting new contemporary public open spaces at Gloucester Green & Bonn Square should be investigated



**QUEEN STREET
AND BONN SQUARE**



Aspiration

Bonn Square should become a major public open space that offers a variety of uses in the busy shopping hub of Oxford City Centre.
Following the removal of buses from Queen Street redevelop the street as an extension of the design treatments for Cornmarket Street.

Option 1
Create a new large scale square at street level. This would be achieved by unifying the street with the square, incorporating the existing church terrace, removing existing trees and walls and reducing levels. Relocate the war memorial or consider the placement of a new central focal feature. Introduce strategic planting and seating.

Note: Lowering levels would probably involve disinterment of parish burials associated with the former church and graveyard.

2.3 The Oxford Public Realm Strategy

In September 2000 Oxford City Council Planning Committee endorsed the principles of the Public Realm Strategy developed by Gillespies.

The Public Realm Strategy proposes the introduction of a consistent approach to the design of the public spaces of the city centre, without implying a uniformity. It seeks high quality solutions that are appropriate for the city's international reputation, and makes recommendations regarding urban design, hard and soft landscape materials, street furniture, signage, and public art.

The main recommendations of the Public Realm Strategy relevant to the landscaping works to Bonn Square are as follows:

- The needs of current users must be met, while creating a sense of continuity with the past
- Proposals should be accessible to all
- The city centre should be safe for all social groups
- Listed Buildings, their settings, and the character of conservation areas should be protected and enhanced
- Proposals should take into account the possibility that, in the future, the central area could become fully pedestrianised
- Appropriate natural materials should be used
- New tree planting should be considered in Bonn Square to provide shade and visual interest
- Lighting should be used to enliven space and create a sense of drama
- Small scale artworks are most appropriate, but Bonn Square is a possible setting for larger scale works
- Clutter should be kept to a minimum

As an appendix to the Public Realm Strategy a number of Concept Developments are shown, illustrating how the Public Realm Strategy could be interpreted. Bonn Square is highlighted within this appendix (see opposite), and suggests it must aspire to “become a major public open space that offers a variety of uses in the busy shopping hub of Oxford city centre,” and that it is an opportunity for “modern and innovative contemporary design.”

We believe that the proposed solution for Bonn Square responds positively, and imaginatively, to the recommendations of the Oxford Public Realm Strategy.

2.4 Consultation

As part of the competition and design process the client and project team have undertaken extensive consultations seeking the informal and expert views of a number of interested parties and amenity groups. The design has responded in many ways to their suggestions. Their formal views will be sought during consultation on this planning application. Parties consulted other than the Councillors and officers of the City Council itself include:

- Oxfordshire County Council
- South East England Development Agency
- West End Steering Group
- English Heritage
- Commission for Architecture and the Built Environment
- The Westgate Partnership
- New Road Baptist Church
- Oxford Diocesan Committee
- St. Peters College
- Trustee of the Oxfordshire and Buckinghamshire Light Infantry Museum Trust
- Oxford Architectural and Historical Society
- Oxford Civic Society
- Oxford Preservation Trust
- Forest of Oxford
- OX1
- Modern Art Oxford
- Artpoint
- Thames Valley Police
- Stagecoach in Oxfordshire
- Oxford Bus Company
- Bus Users UK
- Oxford Council for Disabled People
- Dialability
- Oxford Pedestrian Association
- SUSTRANS
- Cyclox
- Right to Ride Representative, Oxfordshire Cyclist's Touring Club



Existing character of Bonn Square

3.0 Analysis

3.1 Character

The origins of the present 'Bonn Square', a name first devised in 1973, are to be found in the Anglo-Saxon town of Oxford, a sizable settlement laid out on a grid plan. The configuration of the routes now called New Inn Hall Street, Queen Street and Castle Street remain unchanged and establish the basic spatial pattern of the site.

In the 11th century Bonn Square was the site of the church of St Peter-le-Bailey, one of the original city gate Churches. This collapsed in 1726 and was not rebuilt. A new church was erected on the same footprint in 1728, but was demolished in 1874 to accommodate the construction of New Road. The archaeological remains of this Georgian church and its cemetery (and possibly the remains of the earlier medieval church) remain in-situ beneath the highway and the Tirah Memorial Garden, and continue to exert a remarkable physical presence within the site.

The construction of New Road reduced the extent of what was a garden in front of the New Road Baptist Church which is presently a paved area bounded by a wall and railings.

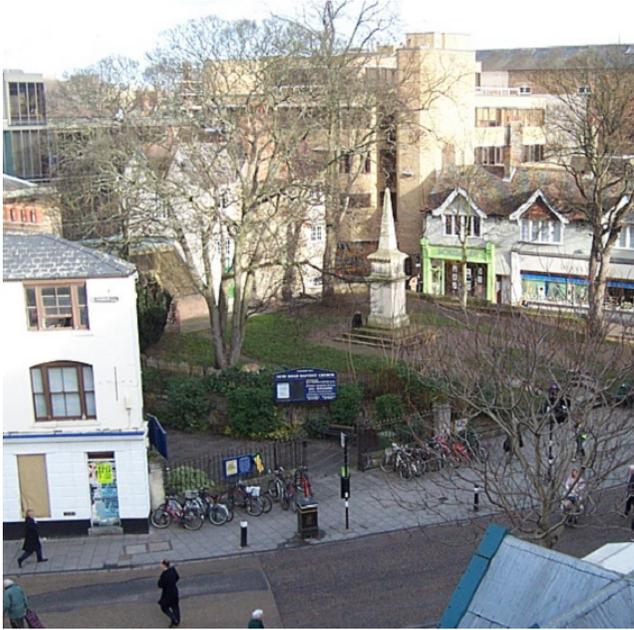
The piecemeal formation of Bonn Square has led to a space that is fragmentary in character.

Present day Bonn Square lies at the heart of the central retail district, and is addressed by many commercial properties, including the Westgate Shopping Centre. Consequently the two principal routes through the square, namely New Inn Hall Street and Queen Street, are heavily trafficked by pedestrians, bicyclists and buses. This busy streetscape is further congested by street furniture, kiosks, bicycle racks which appear to have been positioned without a coherent strategy. In spite of the proliferation of other forms of street furniture there is an under-provision of seating which prohibits users from lingering in the space.

In purely visual terms one might expect the raised area of the former churchyard to provide some respite from the surrounding activity, with the monument at its centre and fringed by established trees. However this space has been poorly maintained and has gained a reputation for significant antisocial and criminal behaviour (see 3.4 Antisocial Behaviour).

Despite its significance within the city, the condition and treatment of Bonn Square is such that the first impression for most people is that it holds limited interest, is not valued by the local community or visitors and as a public space is abused or misused.

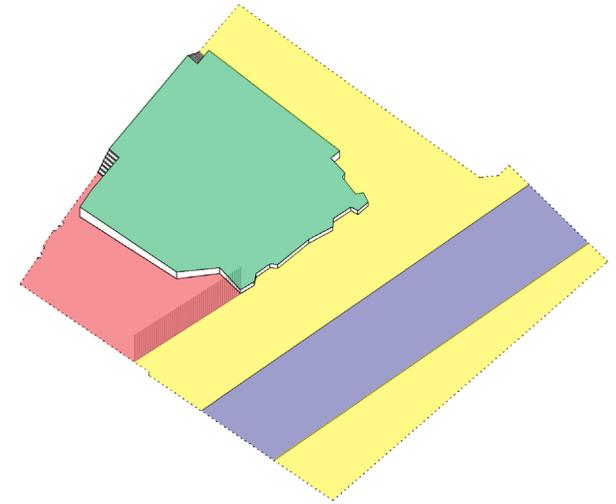
At present, Bonn Square has neither a clear identity nor a defined civic role within the city.



Varied surfaces and levels within Bonn Square



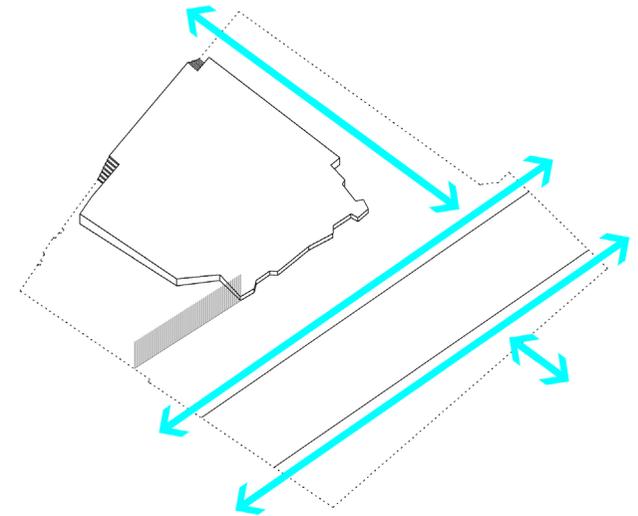
Frequent bus traffic inhibits access



Existing land parcels



Level changes and vertical obstructions



Existing pedestrian movement patterns are restricted

3.2 Access and Legibility

The ambiguous identity of Bonn Square is in large part due to its piecemeal creation: formed through the addition of smaller parcels of land with different owners, functions and spatial characters. The boundaries of the component parcels, defined by walls, vegetation and changes in level, fragment the space. This fragmentary character is exacerbated by a proliferation of ground surfaces, street furniture and kiosks. These factors lead to unclear distinctions between the public and semi-public space within the square and limit its permeability, both visually and physically.

Consequently, areas of the square are poorly maintained and many of the public routes through the site are not immediately apparent. The only obvious routes through the site are along New Inn Hall Street and Queen Street. The changes in level and uneven surfaces of the other routes restrict the access of disabled and elderly users. The reputation of the square for antisocial and criminal activity (see 3.4 Antisocial Behaviour) and lack of natural surveillance further reduces circulation through parts of the square.

In addition, the frequency of buses along New Road - Queen Street further inhibits pedestrian access through, and across, the square.

For Bonn Square to become an open and inclusive space it must be designed to be accessible to all members of society, be easily navigable and make apparent its public role.



Diversity of function, and architecture: New Road Baptist Church and the Westgate Shopping Centre



Multiple levels, surfaces and lack of infrastructure lead to reduced adaptability of public space

3.3 Adaptability and Diversity

Bonn Square is a heterogeneous space composed of multiple parcels, levels and owners. Whilst this establishes a diverse visual character it lacks the infrastructure to accommodate different functions. Insufficient provision of seating and lighting throughout the square inhibit typical everyday activities; consequently, Bonn Square does not currently fulfil the range of uses typical of successful public spaces. As a result Bonn Square is principally used as a thoroughfare for pedestrians, cyclists and buses.

Although the buildings that surround Bonn Square accommodate a broad range of uses, the square itself does not sustain diversity. The restricted dimensions of the component parcels, congested streetscapes and multiple levels minimise its potential to accommodate varied usage, such as performances, markets or special events.

If Bonn Square is to become a vibrant, inspirational urban space it must be designed to accommodate both the everyday and special public events. It must provide the infrastructure to support and enable these activities and realise the latent potential of the diverse activities that bound the square.



Physical barriers and changes in level minimise permeability and natural surveillance

3.4 Antisocial Behaviour

Bonn Square has suffered from various forms of crime and anti-social behaviour for around 20 years. Despite the significant progress which has been made recently in reducing drug and alcohol abuse in the square, these and other problems such as fouling, rough sleeping and violence (particularly at night) still persist.

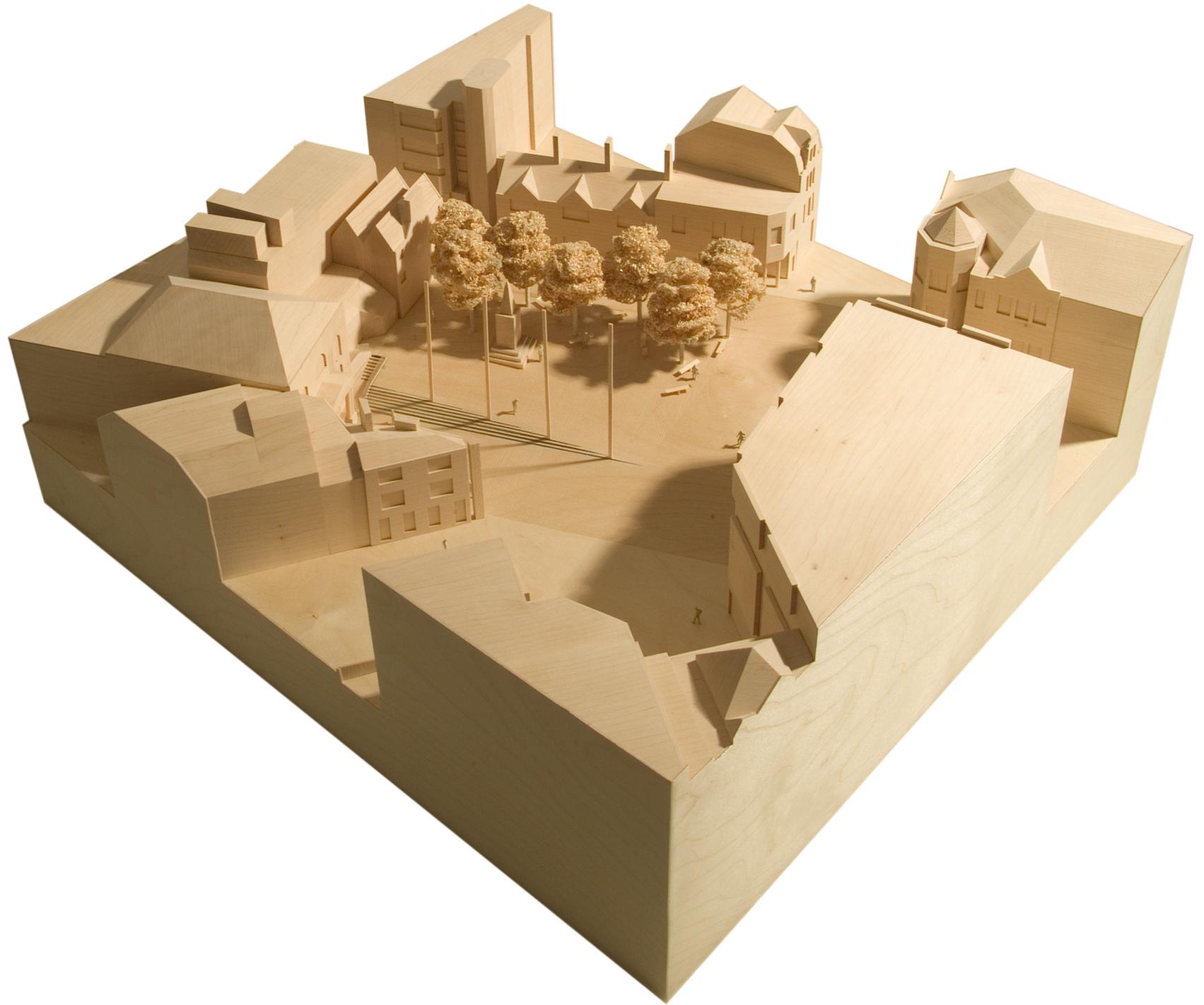
The measures currently employed for reducing crime and anti-social behaviour in the vicinity of Bonn Square have focused on non-physical, compensatory, interventions such as the introduction of the alcohol exclusion zone and the installation of CCTV cameras. However, to make a significant impact on this type of behaviour, a more fundamental approach to design of the physical characteristics of the space is of utmost importance.

Many of the problems are related to the lack of permeability of the square. At present the varied ownership and differing levels lead to routes across the square being minimal. In general, there is no need or desire for the public to enter the raised memorial garden, while the railings to the church forecourt do not welcome the public to enter.

Additionally, the square suffers from a lack of natural surveillance. The fragmentation and division of the space, compounded by the memorial garden existing at a higher level than the surrounding streets, ensures that many parts of the square are not visible except from nearby. The type, scale and distribution of the existing vegetation further adds to this problem.

These factors ensure that the memorial garden in particular is prone to crime and anti-social behaviour.

For Bonn Square to become a dynamic, inspirational space it must be designed in a manner which, through maximising permeability and natural surveillance, significantly reduces the opportunity for antisocial behaviour.



4.0 Design Principles

4.1 Project Description

Bonn Square falls within the historic core of Oxford, not far from the Castle and within the line of the medieval city walls. It also falls within the boundary of the Oxford Central (City and University) Conservation Area. Its location at the intersection of four major routes, and adjacency to the Westgate Shopping Centre ensures that it is a hub for heavy pedestrian flows during the day and in the evening. However, its present layout, lack of natural surveillance and degraded appearance make it a focus for some of the worst criminal and anti-social behaviour in the city centre.

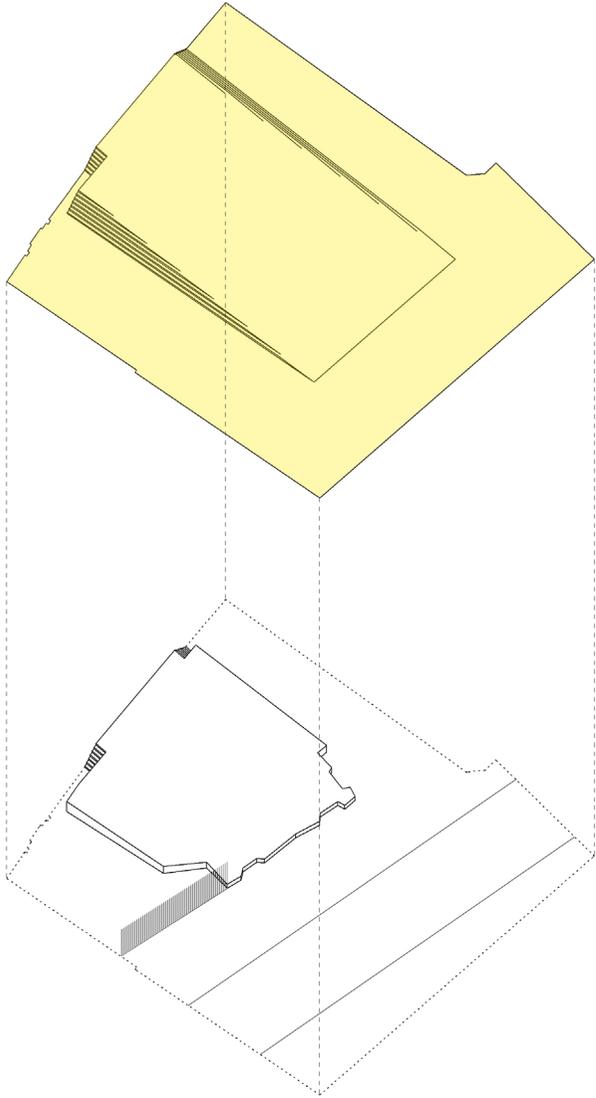
The quality of Bonn Square needs to be improved to create a place that everyone in the city, whether residents, workers or tourists, can fully enjoy. Additionally its improvement will support the major investment in the newly opened Castle site, the proposed improvements to the Westgate Centre and the regeneration of the rest of the West End of the City.

In responding to that which is essential and of historic value and augmenting it with a series of discrete interventions we propose a sympathetic, yet radical, reinterpretation of the square.

The proposals seek to maximise the potential offered by the well connected location of the square within the city centre through the creation of a contemporary, civilised public space which can readily accommodate both day-to-day use and special events.

We propose a multi-layered solution which will:

- develop a material dialogue with the fabric of Oxford
- minimise impact on historic structures and archaeological remains
- provide an open, flexible space suitable for many types of activity
- create a safe environment through maximising permeability and natural surveillance
- increase the diversity of users
- incorporate an integrated programme of public art



Proposed surface folds over the existing graveyard



Use of texture to articulate land parcels and uses

4.2 Unified Surface

The existing square is currently spatially fragmented, however, by folding a taut sandstone surface over the extent of the square we can maximise the retention of the existing graveyard, achieve spatial clarity and form a material dialogue with the fabric of Oxford (and the recommendations of The Public Realm Strategy).

The new surface will be composed of 100 x 100mm Clashach sandstone setts, combining split and sawn faces. The setts are laid 'Passe' i.e. alternate rows are offset by half a sett. This contributes to the strength of the surface and establishes the primary pattern. By arranging the sawn and split faces in different configurations the surface subtly articulates different conditions whilst retaining a unified appearance. Four principle areas are articulated through varying the surface pattern: the church forecourt, the tilted plane over the former graveyard, the roadway connecting New Road and Queen Street, and the remaining areas. Beneath the grove of trees the surface is further elaborated with black Caithness flagstone setts arranged in a random configuration (see 4.8 Public Art).

The use of tone, modulation and varying textures will lead to an expressive surface, which over time will wear, providing a trace of people's movements through the square, in a similar manner to that encountered in the old stone stairs of the university colleges. The surface variation is also forgiving to day to day use, and abuse, allowing for a degree of grime before becoming unsightly, while the textured split faces will discourage use by skateboarders.

Following problems with Cornmarket Street we have been in consultation with industry experts, and Oxfordshire County Council. In this respect, two different loading situations have been identified:

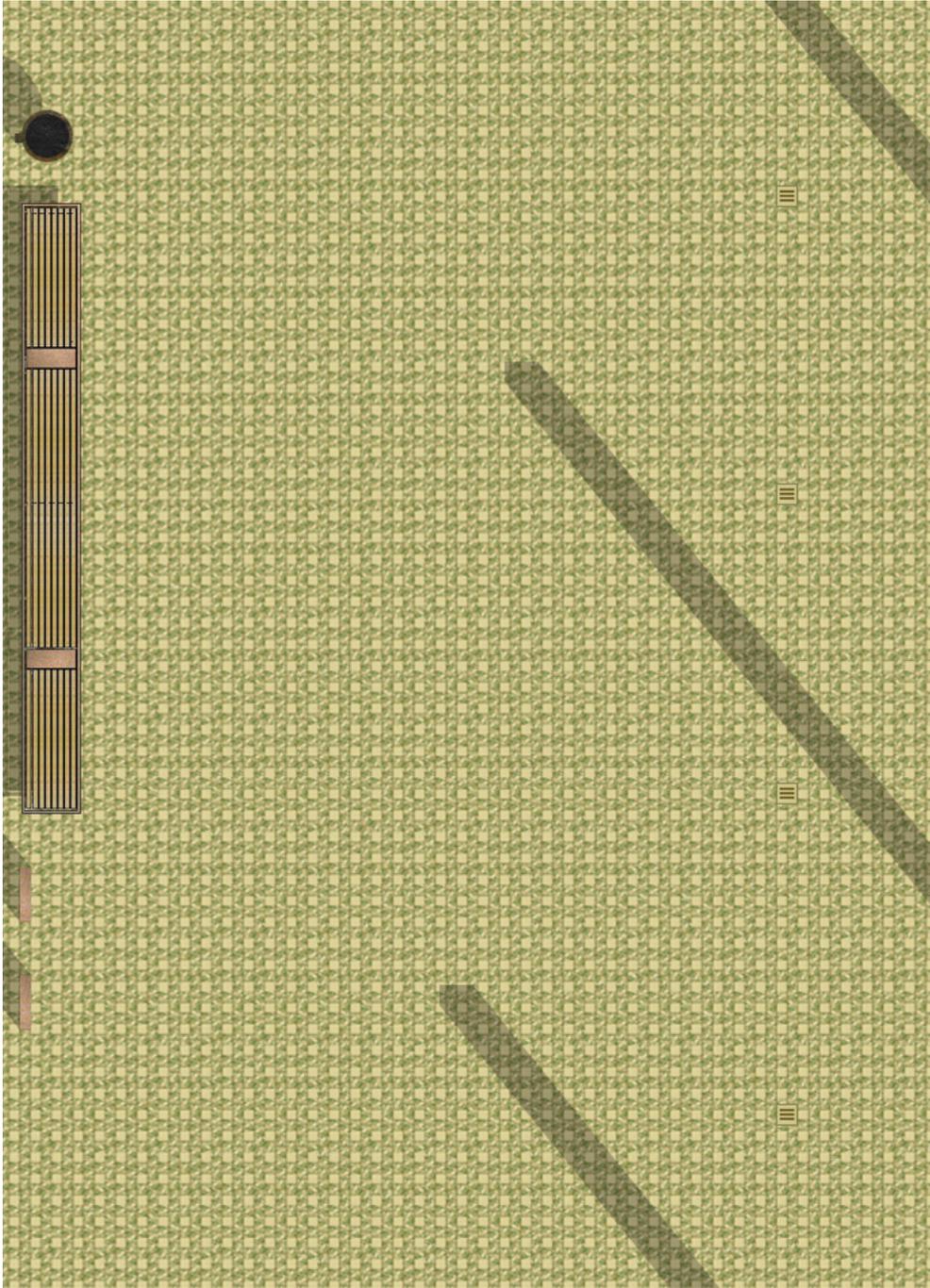
- heavily trafficked bus lane
- mainly pedestrian traffic with an allowance for some rare heavy vehicles (averaging 1 per day)

A reinforced concrete slab is proposed as a base: 200 mm thick in heavily trafficked areas; 125mm thick in pedestrian areas. The steel reinforcement will avoid the need for expansion joints, and during the detailed design phase concrete manufacturers will be consulted to provide a low shrinkage material and construction method that will reduce/remove the need for contraction joints. The concrete slabs will be bed on a layer of Type 1 sub-base material. The reasons for using a reinforced concrete slab are as follows:

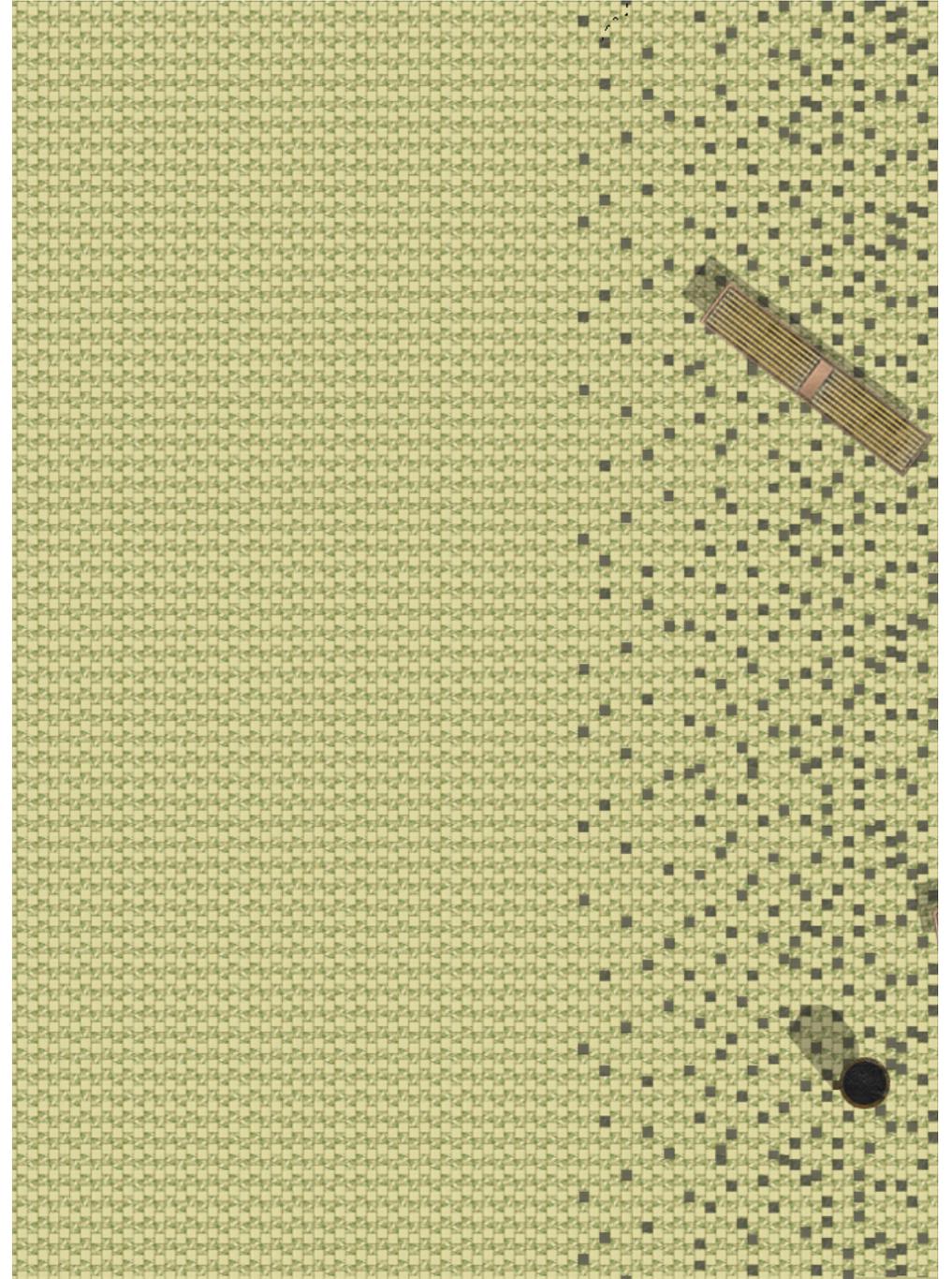
- the strength and rigidity that it provides
- it is easier to replace to a high quality than an asphalt base when services need to be accessed
- it will provide a good "raft" structure that will bridge any in-ground irregularities/obstructions

In all areas a high strength, low shrinkage, hydrophobic joint mortar will be used to rigidly bond the setts together. A high strength bedding mortar will also be used to ensure adhesion between the setts and the road base. In the area of the heavily trafficked bus lane the setts will have a thickness of 100mm, while in pedestrian areas this will be reduced to 60mm.

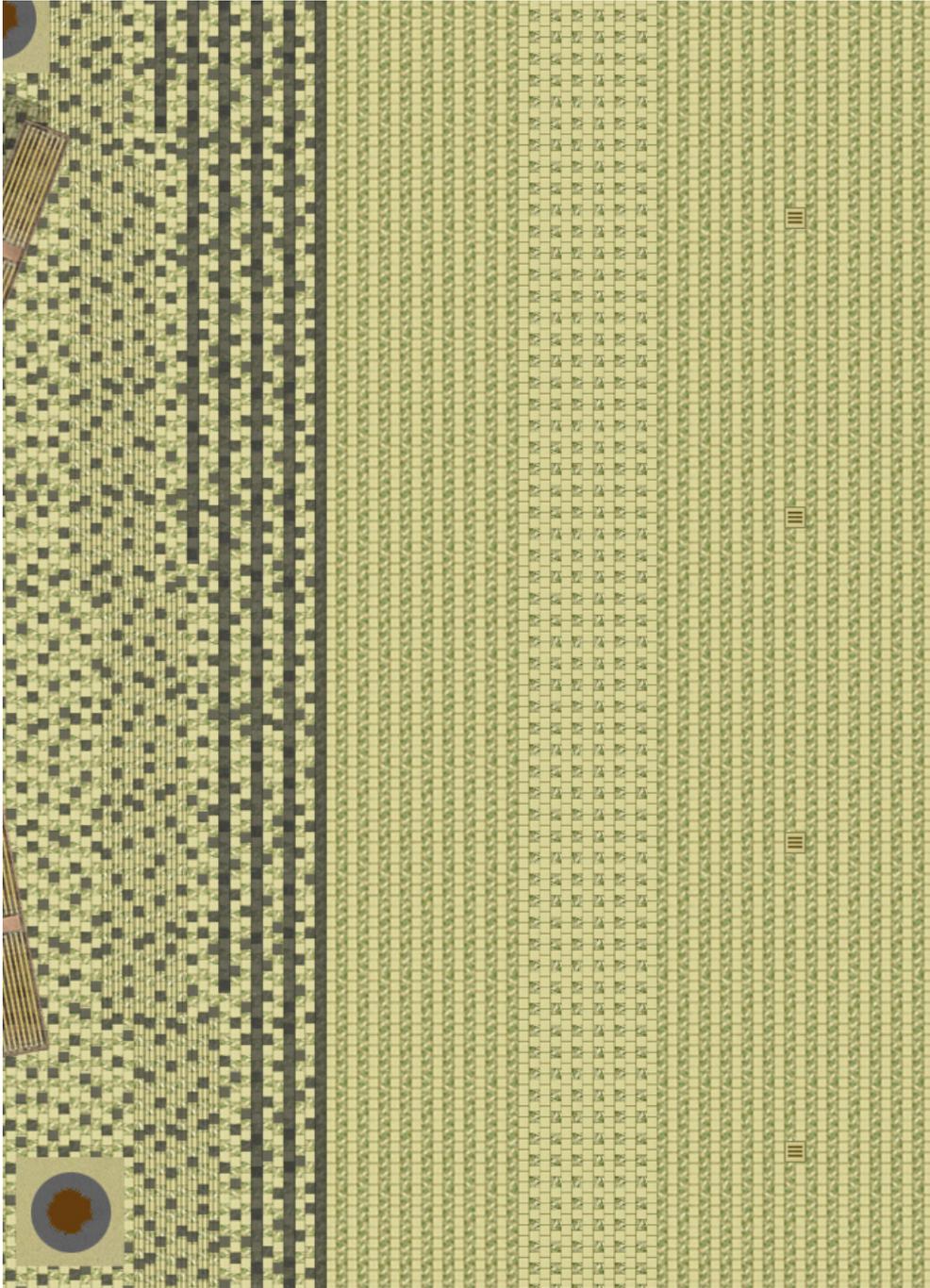
A similar construction has been used successfully in Rippon Market Place: heavy traffic loading, existing concrete roadbase circa 30 Newtons maintained; Yorkstone setts, sawn all sides 100 x random lengths 100 - 200 x 100mm deep.



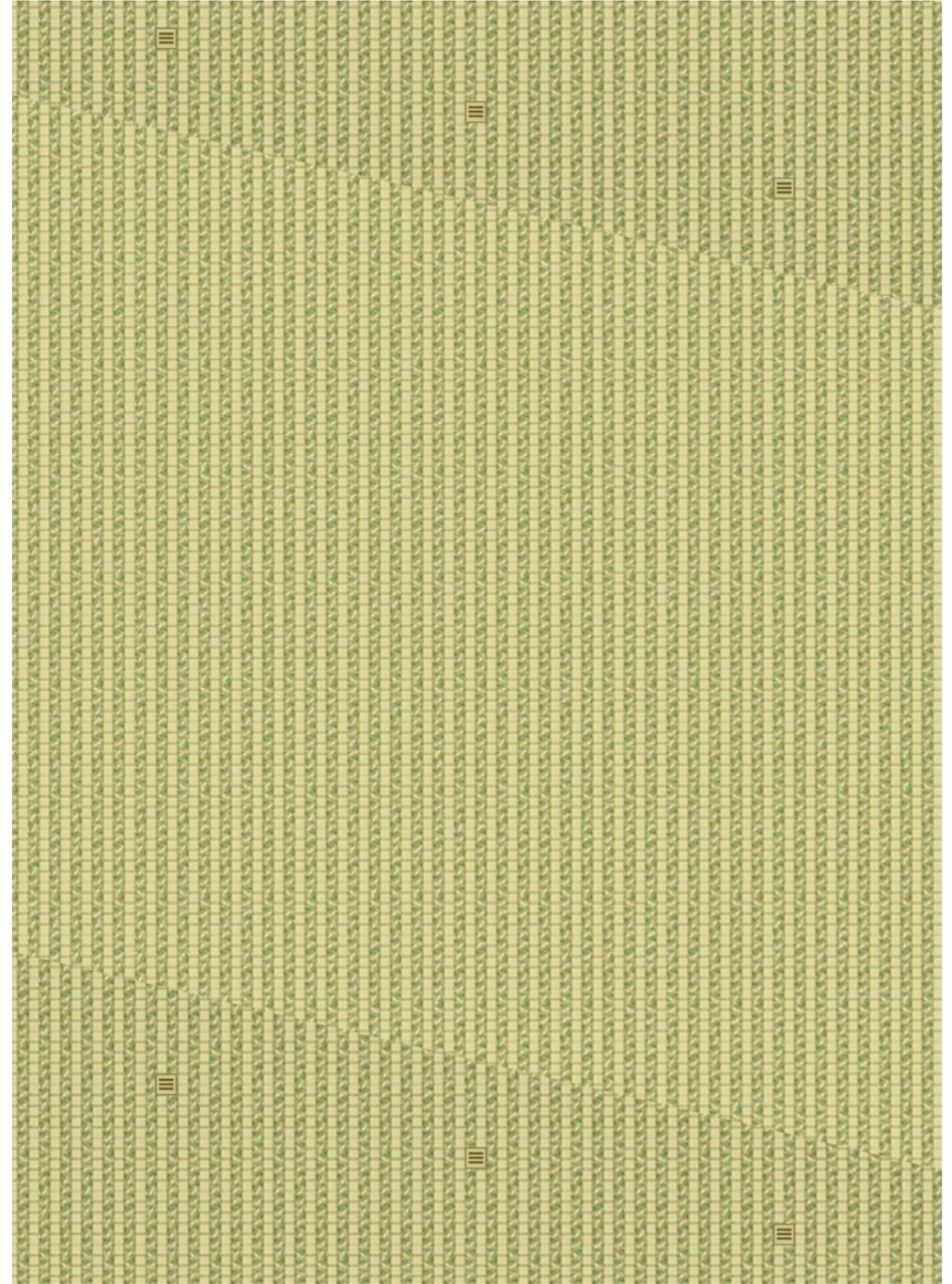
Proposed surface to church forecourt



Proposed surface over graveyard



Proposed surface to New Inn Hall Street



Proposed surface to New Road / Queen Street

4.3 Trees

In October 2005, Oxford City Council commissioned an independent Arboreal Impact Study (see 6.1 Arboreal Impact Study) which provided an audit and assessment of the existing trees in Bonn Square. The subsequent report stated that, whilst relatively healthy, the trees were out of scale with the space and lack visual coherence.

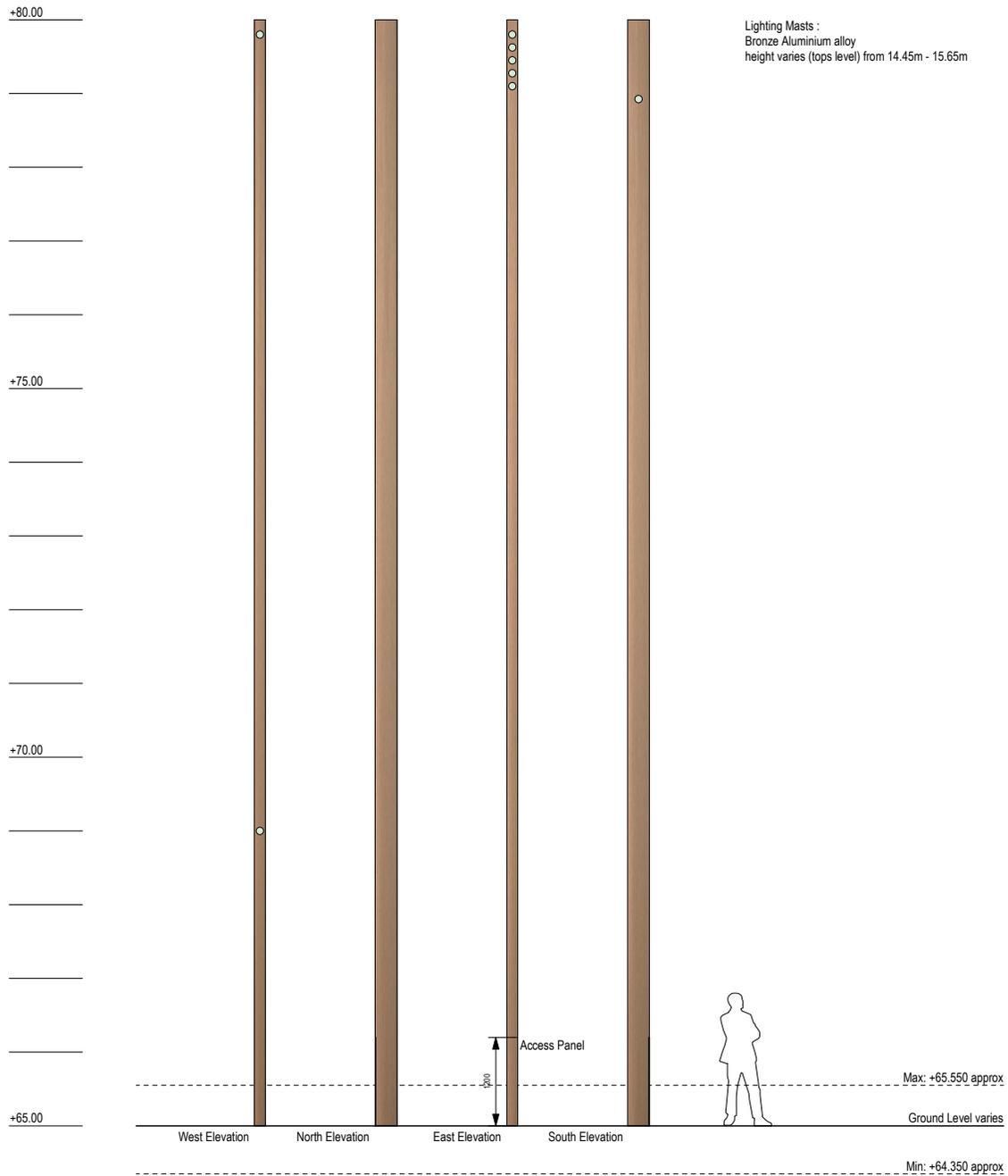
The report also recognised that the improvement of pedestrian flow, accessibility and natural surveillance within Bonn Square was predicated upon a reduction of the existing ground level. Consequently, the ground level around the extant trees would also need to be reduced. The guidelines in BS 5837:2005 *Trees in Relation to Construction* for the provision of protective areas in order to avoid undue root damage indicate that an area somewhat greater than the extent of the tree canopies would need to be protected from any reduction in level or other damaging activities. Were any increase or reduction to take place the resultant exposure or compaction of the rootball, and disturbance of the ground around the rootball, would have a detrimental effect upon the health and stability of the trees. It is therefore difficult to imagine how the redevelopment or resurfacing of Bonn Square could be undertaken without damaging the existing trees. In these circumstances the retention of the existing trees would not be possible.

Applying the 'Helliwell' system of appraisal, the report concluded that the loss of the existing trees, in light of other considerations, would be acceptable especially as new planting is proposed. This view was supported by the Forest of Oxford organisation.

It is proposed that a new grove of seven semi-mature Robinia Pseudoacacia, or Black Locust, be planted parallel to New Inn Hall Street, providing colour, scent and shade in summer.

The Robinia Pseudoacacia is commonly found in the gardens of Oxford's old colleges and have been chosen for their seasonal variation: fronds of blue-green leaves in spring; hanging clusters of pea-like, fragrant white blossoms in early summer; large dark brown pods in autumn. The Robinia Pseudoacacia has a loosely columnar form and a light canopy that allows a filtered light to pass through. It is suitable for urban environments: remaining vigorous in poor soil conditions and capable of withstanding drought.

Where appropriate the new trees are to be planted in the same locations as the existing in order to minimise excavation. Each new tree pit will be 1.5 m³ and shall be considered an individual archaeological excavation with recorded finds. The trees are to be anchored using a Platypus Rootball System and backfilled with 'engineered soil', which will allow for sufficient compaction without cutting off the supply of air and moisture to the tree roots or prohibiting their growth. A perforated Clashach sandstone tree-grate will protect the root and admit air and rainwater.



Proposed lighting masts

4.4 Lighting

The existing lighting strategy for Bonn Square is unfocused. We propose an integrated solution, combining both accent and background lighting, which subtly defines particular areas in response to their given requirements.

The main lighting element within the square are the bronze-aluminium alloy lighting masts, approximately 15 metres in height. The masts will act as landmarks within the city, and functionally will provide focus: lighting the church forecourt from low level, and the tilted surface from high level. All lamps will be gimbel-mounted so that each lamp can be aimed independently of the others to ensure a uniform and glare free lighting installation. Control gear for the lamps will be concealed within the mast, and will be dimmable and addressable to facilitate the use of the public square for particular tasks or special events. All cable entry locations will be concealed within the base of the mast. Each lighting mast will also incorporate speakers to further increase the potential activities within the square.

In addition, random uplighting of the grove of trees create a sense of place, while background lighting is provided by refitting the existing wall lights mounted to the perimeter buildings.

The new lighting installation is designed to meet the following Standards:

- BS 5489 -1:2003

Code of practice for design of road lighting of roads and public amenity areas

- BS EN 13201:2003

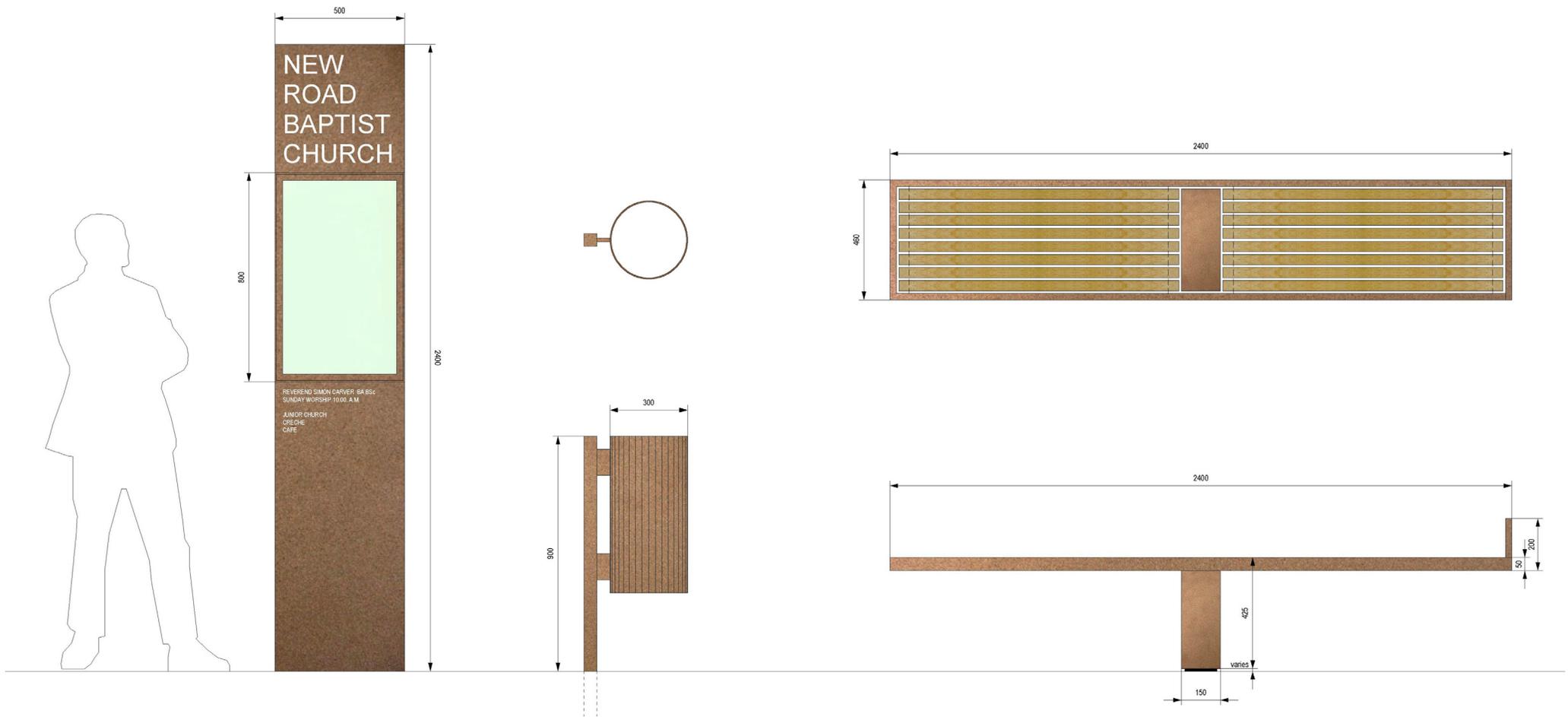
Road lighting performance requirements, calculation of performance and methods of measuring lighting performance

- CIBSE Lighting guide LG 6 Outdoor environment

These standards and guides require that Bonn Square will be lit to the following requirements as a minimum:

Maintained illuminance	Eave (lux)	20 lux at 1.5m above ground
Uniformity	Uo (Emin /Eave)	0.4
Colour Rendering	Ra	80
Colour Temperature	TCP	3300k to 5300k

The proposals will also comply with the Oxfordshire County Council Highway Design Guide, Street Lighting Design Guide, the design brief prepared by the County Council, and the Institute of Lighting Engineers (ILE) Guidance Note for the Reduction of Light Pollution (2000).



Bronze aluminium alloy street furniture

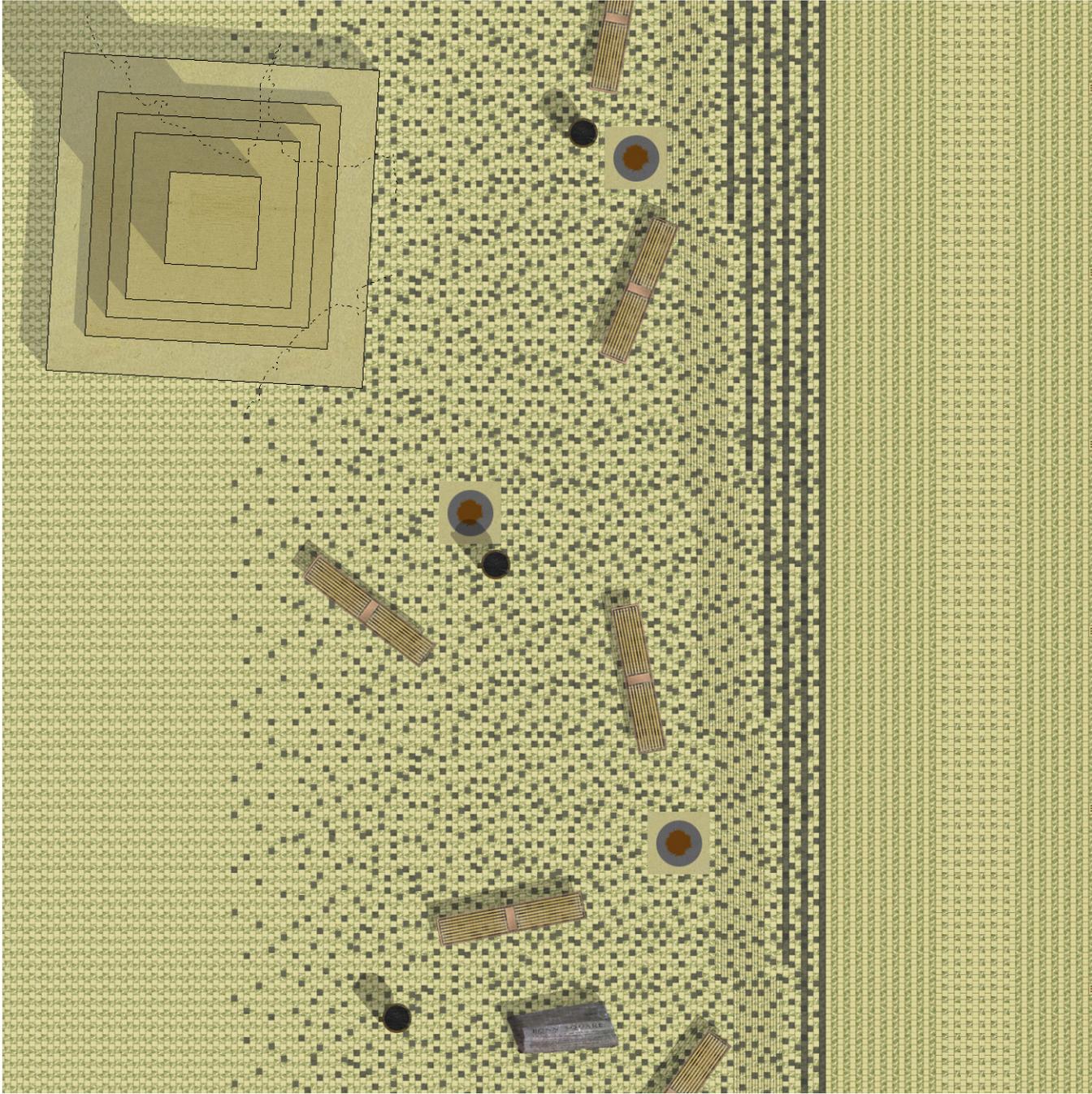
4.5 Street Furniture

The proposals seek a balance between the desire to reduce clutter within the space, as recommended in the Public Realm Strategy, and the need to provide appropriate levels of street furniture to accommodate the day to day activities.

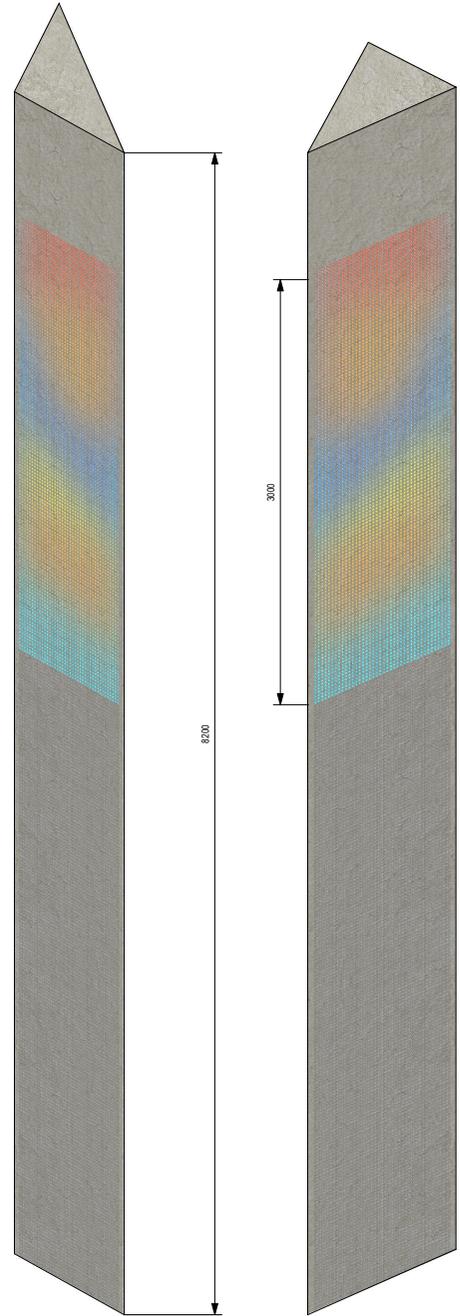
Street furniture is primarily grouped together in an informal manner beneath the trees, with a smaller grouping located within the church forecourt. Such an approach allows the retention of significant areas of clear, open space which can be adapted to many uses. The informality of such an approach is also more social, allowing people to gather together at key points which relate to the uses of the surrounding built fabric.

We propose bespoke furniture, fabricated from a single material to further contribute to the clarity of the project. The use of a bronze-aluminium alloy compliments the sandstone surface of the square, and responds to the traditional materials found within the historic fabric of the city; however, the individual designs are very much contemporary. Additionally, just as the sandstone surface will wear gracefully through time, the bronze fittings will patinate, further tracking the passage of time.

All items are designed to be robust, vandal-proof and easily maintained.



Proposed surface to area beneath trees



Arts Totem

4.6 Public Art

As a public space in the heart of the city, Bonn Square is perfectly situated to play an important cultural role. Through the inherent flexibility of the design, it can be used in numerous ways across all the arts.

To develop proposals for the integration of public art into Bonn Square, Oxford City Council appointed Artpoint, a local arts consultancy, to advise. Further to this Jacqueline Poncelet was appointed as lead artist for the project.

In collaboration with the architects, and in line with the principles of the overall design, three proposals have been fully developed:

- Surface

The use of different qualities of finished stone, light and dark, smooth and textured, will give richness to the surface, accommodating the robust use they are likely to encounter. The distribution of Caithness flagstone setts within the sandstone surface beneath the trees will echo the dappled light created by leaves in summer. As this area is likely to be heavily used, breaking up the uniformity of the colour will also help to prevent the area from looking dirty through use. The frequency of the Caithness flagstone setts will vary from approximately 1 stone in every 4, directly beneath the trees, and will gradually fade out as they progress towards the memorial.

- Arts Totem

Rather than using traditional methods for advertising events, the square presents the perfect opportunity to use modern technology to fulfil several needs. A structure housing LED's will be utilised for advertising forthcoming events across the arts and relaying information about the past history of the square, as well as offering great potential for the commissioning of programmed, digital artworks providing visual animation. No.14 New Road has a truncated end. Placing a triangular structure the same height as the existing building on this corner would appear to complete the form. It will be visible from the street and Westgate Centre, as well as from the square, making it the ideal location for such a structure.

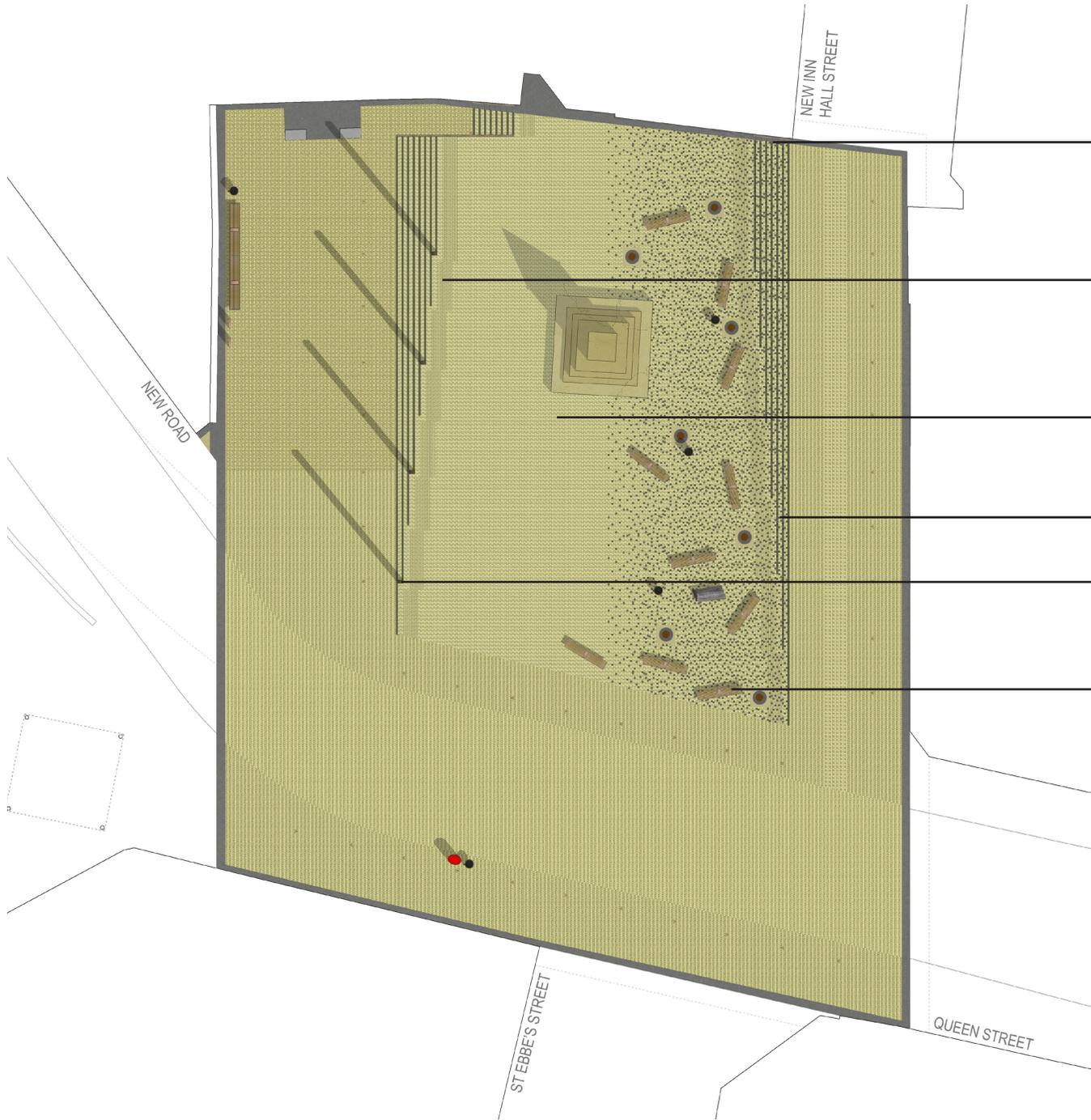
- Sound

Speakers will be integrated into the lighting masts, functioning both as amplifiers for music, poetry, oral history or literary readings and as a resource for the commissioning of sound artists to create works for the square.

Additionally, we propose a further arts project, which will be developed in due course:

- Historical Interpretation

Bronze, in addition to being used architecturally within the proposals, is one of the materials traditionally associated with sculpture. In the hands of the best practitioners it can be used to produce work that is entirely contemporary. One of the pleasures of walking round a city with a rich past is in discovering decorative features, often in unexpected places that draw the eye around the space, anywhere from roof height right down to the ground. We propose a number of commissions to make a small figurative bronze sculpture - about the size of a head. The selected artists would choose where their sculpture would be most appropriately located from a list of sites determined prior to the commission. The anticipated interventions would add to the pleasure of being in the square and signal the importance of contemporary culture in Oxford.



Bronze aluminium alloy freestanding balustrades at steps

Corduroy paving to top of all steps

Tilted surface over existing graveyard provides full accessibility

Caithness flagstone nosings to all steps provides contrast with Clashach sandstone surface

Improvements to lighting provides greater visibility throughout the square

Street furniture minimised to reduce potential obstacles, and manufactured from bronze aluminium alloy to provide contrast with sandstone surface

4.7 Accessibility

The existing square is spatially fragmented and the differentiation of public, semi-public and private space is unclear. Consequently the routes through the square are ambiguous and difficult to navigate. These problems are exacerbated by multiple changes in ground level, a lack of visual permeability and a reputation for antisocial and criminal behaviour. Taken together these factors preclude the squares wider use by the community, in particular its vulnerable members.

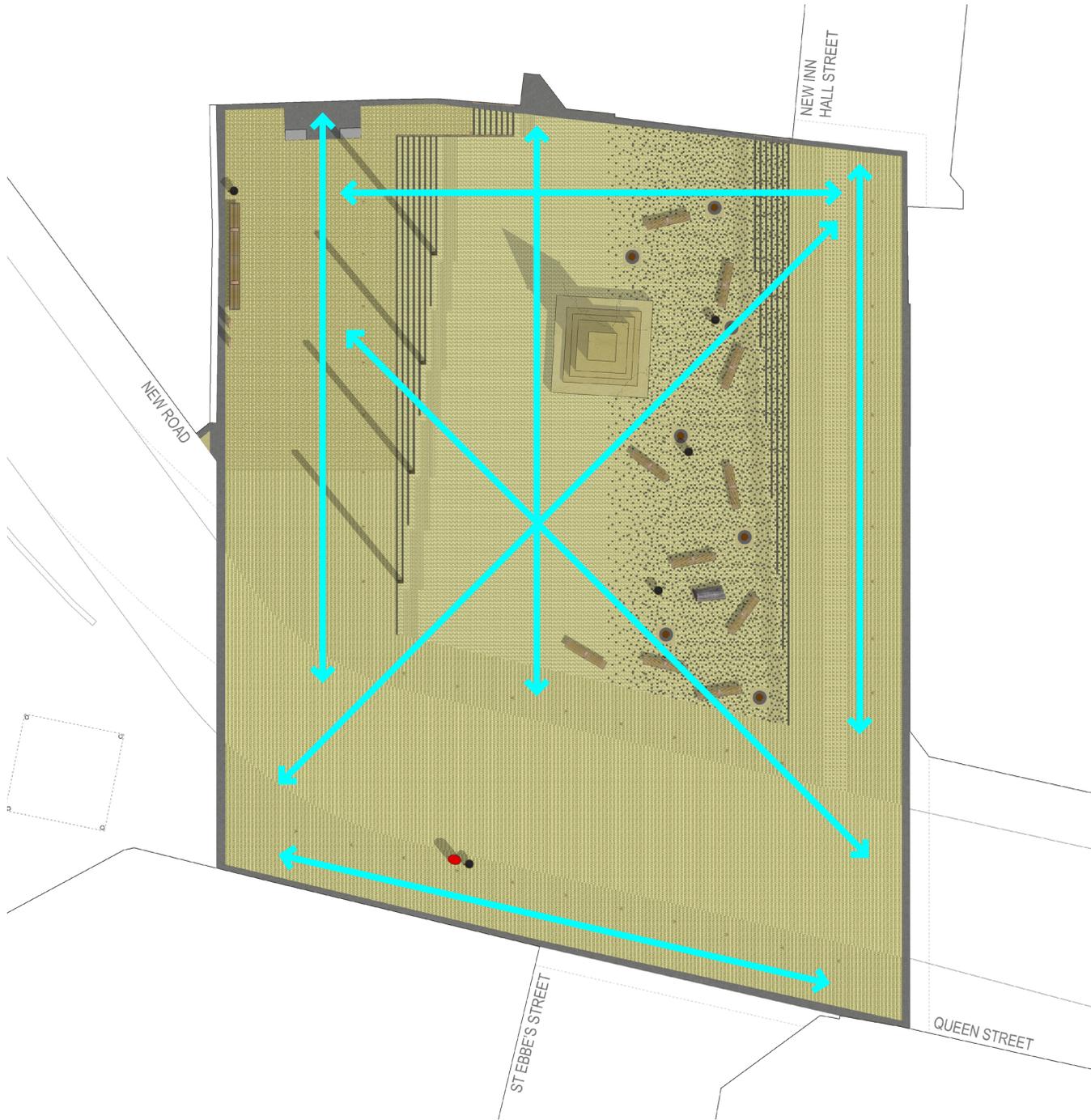
Our design proposes a number of practical solutions to these problems.

Pedestrian circulation will be radically improved by the creation of a new ramped surface, above the existing graveyard, flanked by steps along New Inn Hall Street and the forecourt of New Road Baptist Church. The ramped surface will allow disabled and elderly users to access the full extent of the square, while the steps will allow diagonal movement across the space. The use of a single material, Clashach Sandstone, throughout the entire extent of the square visually unites the space and clearly defines it as a single public space.

The removal of as many vertical obstacles as possible will increase the visual permeability of the square allowing users entering the space to see their exit: new diagonal routes can be easily apprehended.

Special attention has been given to the detailed design of the staircases which flank the ramped surface: a corduroy pattern will be applied to the stone setts at the head of the stairs; handrails are to be located at the North edge of the square; Caithness flagstone stair nosings will provide high contrast against the honey colour of the Clashach sandstone to those with partially sight. Similarly, the dark tone of the new bronze street furniture will stand out against the sandstone surface.

A more focused approach to lighting (see 4.4 Lighting) within the square will ensure adequate light levels throughout, providing greater visibility.



Unified surface allows maximum permeability

4.8 Public Safety

The need for a significant improvement in the level of public safety within Bonn Square is paramount. Section 3.4 of this report outlines and analyses the current situation. We believe that to make a real difference in this respect a fundamental approach to the spatial arrangement of the square is essential.

The proposals radically alter the spatial qualities of the square through the application of a unified surface (see 4.2 Unified Surface), with the minimum amount of street furniture (see 4.5 Street Furniture) required for daily use, creating a more open space. The benefits of such an approach to public safety are as follows:

- maximum natural, visual surveillance across the square ensuring that there is no place to hide
- maximum permeability, ensuring that all parts of the square are frequently used by the public

Additionally, the constituent parts of the square are designed to be vandal-proof. All materials are selected for their natural qualities and are significantly textured.



4.9 Transport

The Oxford Transport Strategy was adopted by both Oxford City Council and Oxfordshire County Council in 1993, with the aim of reducing car travel in the city centre, through the provision of park-and-ride facilities, bus priority lanes and increasing the cycle network. These measures have contributed to making the city centre a more attractive, less polluted environment.

Bonn Square is located in the heart of the west-end of Oxford, and benefits from good connections. The square is easily accessed by foot, bicycle or bus, and the train station is only a 5-10 minute walk away.

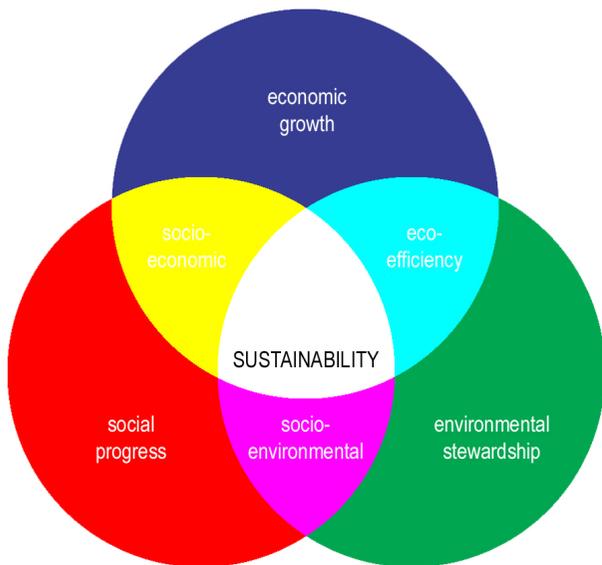
One of the key aims of this project is to create a unified space (see 4.2 Unified Surface). In so doing, the square becomes a shared surface for use by pedestrians, cyclists and buses. In order therefore that people may understand the square and move around it in comfort and safety, we propose textural variations to identify the highway (New Road / Queen Street) and the National Cycle Network Route 5.

At present the square can feel dominated by the buses which pass along New Road / Queen Street. Although a long-term strategy is being developed which would remove buses in this from Bonn Square, or at least significantly reduce their numbers, the proposals have been developed in such a way as to be able to carry the loadings of the current bus numbers. Any future reductions in loading will therefore have no impact. Although the roadway is to be demarcated through a subtle change in the patterning of the surface, if required at any time to improve pedestrian comfort and safety, the identification of this route could be further reinforced by adding bollards.

Currently there is one bus stop located within Bonn Square. Through consultation with Oxfordshire County Council and the bus companies we are examining the possibility for relocating this bus stop to a new position just off the square on New Road. This will contribute to reducing the number of vehicles in Bonn Square.

New Road / Queen Street will remain in use for emergency vehicles and out-of-hours deliveries, and the design loadings for the surface have taken this into account.

Cycling is integral to both the Oxford Transport Strategy and to the character of the city, and as mentioned above, National Cycle Network Route 5 passes north-south through Bonn Square. Cycle parking provision within the existing square is for 27 cycles (10 Sheffield stands adjacent to the railings of the New Road Baptist Church, and 7 rings on the wall to New Inn Hall Street). We propose to provide cycle stands in association with the project, but not within the square itself: this is in line with the aim of the project to create an open, uncluttered, inspirational city square, suitable for accommodating many types of activity. In consultation with Oxfordshire County Council therefore, we propose providing cycle stands sufficient for 30 cycles in St Ebbe's Street and New Inn Hall Street.



Social, economic and environmental sustainability



Natural materials, sourced from within the UK: (clockwise from top left) Caithness flagstone, Oak, Bronze, Clashach sandstone

4.10 Sustainability

When analysing the impact of any project it is vital to ensure that the proposals are reviewed in terms of social, economic and environmental sustainability. The proposals for the redevelopment of Bonn Square address all three issues positively.

Social Sustainability

We believe it is imperative that for any design proposal to be a success it should address the needs of both the local and wider communities. The government White Paper 'Our Towns and Cities' states "people have a right to determine their future and be involved in deciding how their town or city develops." In 2003 Oxford City Council commissioned 'Oxford City Centre Street Life Consultation' as a means of determining how the centre of Oxford could be developed in line with the views of local residents and businesses. While this report was wide ranging, from transport issues to management of tourists, one of the key findings of this report was the need for more safe, open spaces for people to sit and relax. Bonn Square will be such a place - pleasant, inviting and accessible to all.

Economic Sustainability

Bonn Square is located in the commercial heart of the west-end, however the proposed improvements to the square will lead to a better trading environment. The redevelopment of Bonn Square will create an environment which will attract more people by providing a new pleasant space in which to relax - one of very few in Oxford city centre. The proposals therefore have the potential to make a positive impact on businesses through attracting inward investment, diversifying the business base, increasing property values and increasing the viability of local businesses.

Environmental Sustainability

Although the project deals with the landscaping of a square, not with a building with a daily energy requirement, we have endeavoured to ensure that energy usage is minimised during construction. It is our aim to source all materials from within the UK. The scheme has been designed to be constructed from high quality, durable and very long lasting natural materials, ensuring that its renewal is not foreseen for many years leading to a low life-cycle energy requirement. The design incorporates a sustainable urban drainage system, slowing down the run-off rates to rivers, watercourses and aquifers, and so filtering out some of the pollutants. Although a full ecological assessment of the existing square has not been carried, we understand that the proposals will not significantly impact upon local biodiversity and natural habitat.

4.11 Maintenance

The ongoing maintenance of Bonn Square represents a considerable financial burden. Consequently, we have sought to minimise the future requirement for maintenance in our proposals.

The existing square is composed of a multitude of surfaces (e.g. stone, tarmac, concrete slabs, brick pavers, grass, flower beds), each of which requires a different form of maintenance. The changes in ground level make the movement of maintenance equipment difficult and rubbish collects in the low lying bushes.

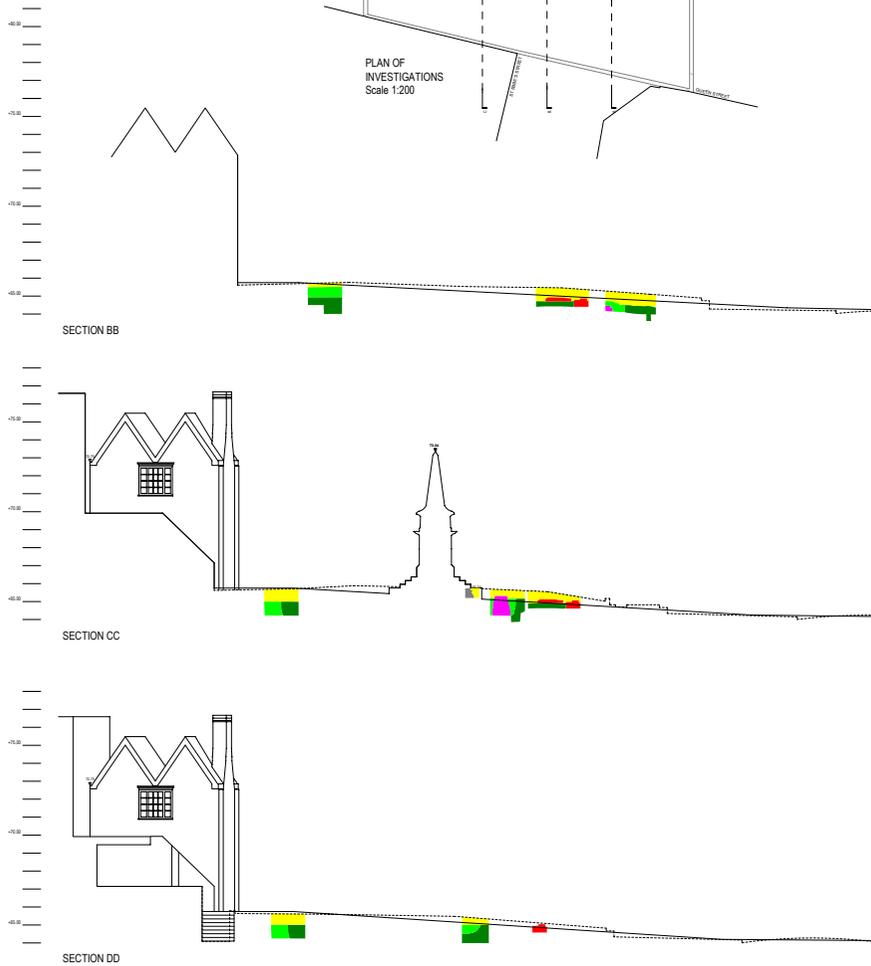
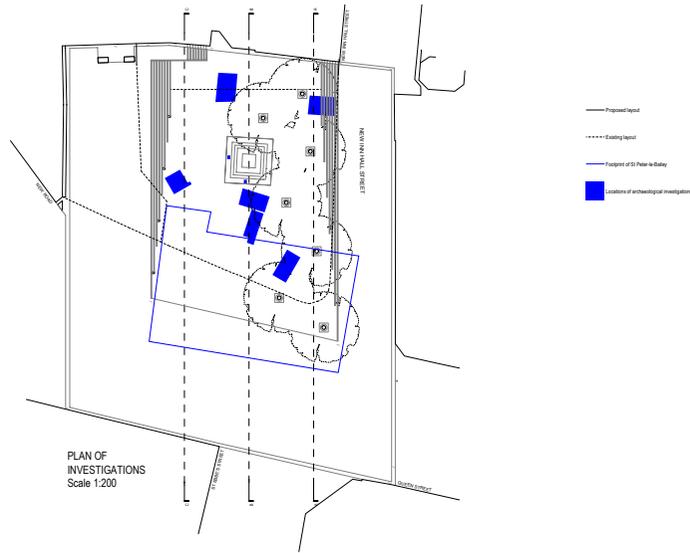
The materials for the proposed design have been chosen for their inherent robustness, longevity and ease of maintenance. The textured surfaces of these materials will reduce the likely-hood of graffiti and vandalism.

By using a Clashach sandstone surface over the entire extent of the square and fabricating all street furniture from bronze aluminium alloy the number of types of maintenance will be radically reduced.

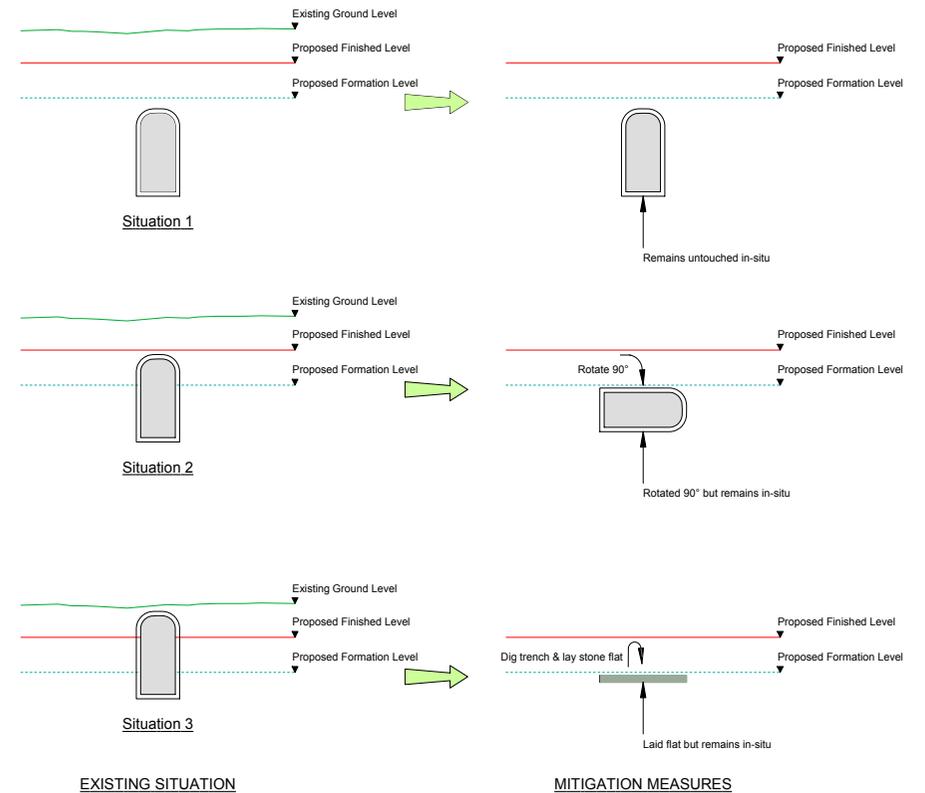
All the items of street furniture (see 4.6 Street Furniture) have been designed with single points of contact with the ground making them easy to clean around and beneath. Litter bins are positioned throughout the square.

For reasons already outlined we propose the removal of the existing planting within Bonn Square and the planting of seven new Robinia Pseudoacacia trees (see 4.3 Trees). This species has been chosen for its hardy qualities and resistance to urban environments. The tree pits have been designed so that the trees can be easily watered and fed.

Upon completion of the renewal of Bonn Square a manual will be produce outlining the best practice for its ongoing maintenance.



Archaeological investigations (from JMHS drawings)



Solution to uncovering of gravestones

4.12 Archaeology

The archaeology of Bonn Square is the subject of two reports, commissioned by Oxford City Council. These were undertaken by Thames Valley Archaeological Services (2003) and John Moore Heritage Services (2005) (see 6.2 Archaeological Report). In both cases archaeological excavations took place to determine the nature and extent of the human burial remains within the former graveyard site. The report conducted by John Moore Heritage Services also established the location of the North wall of the church.

The proposed design is predicated upon the retention and preservation in-situ of the archaeology wherever possible. However, the requirement to improve the pedestrian flow, accessibility and natural surveillance within Bonn Square necessitates a reduction of the existing ground level. In order to satisfy these seemingly conflicting demands we propose the creation of a sloping ground plane with stepped flanks which simultaneously: improves circulation; increases visibility; as far as possible allows the archaeology to remain intact.

An assessment of the proposed design was conducted by John Moore Heritage Services in December 2005 with reference to the information contained within the two previous reports. The assessment concluded that the proposed solution allowed for the majority of the archaeology to remain in-situ but that there would potentially be a number of locations where deposits may be affected: at the foot of the sloping surface where the remains of the church wall and gravestones lie; along the stepped flanks of the sloping surface where inhumations and gravestones are located; excavations for new tree pits.

To reduce the impact upon the archaeology in these locations the constructional depth of the new sandstone surface including its sub-base and the foundations for the stepped flanks have been minimised.

However, in the circumstance that archaeological deposits will be encountered the following provisions will be made:

- an archaeological contractor will supervise the construction site during procedures that may encounter archaeological remains e.g. groundworks, excavation for tree pits.
- any remains will be the subject of an individual archaeological excavation with recording of finds.
- standing gravestones shall be preserved in-situ, by carefully setting them in a horizontal position beneath the new sub-base.
- the remains of the former church walls will be reduced to a height immediately beneath the new sub-base.
- with reference to the 1857 Burials Act, any inhumations containing articulated bone structure will be disinterred and removed by an individual who is subject to a Burials License.



New Inn Hall Street approach



Queen Street approach



St Ebbe's Street approach



New Road approach

4.13 Oxford Central Conservation Area

Bonn Square falls within the boundary of the Oxford Central (City and University) Conservation Area and is bounded by, or contains within its curtilage, three Grade II listed structures: the Tirah Memorial; No. 1 New Inn Hall Street; New Road Baptist Church. Its importance in historical, architectural and archaeological terms is focused on the open space that provides a setting for the Tirah memorial and the other adjoining listed buildings, but also includes other elements such as trees, views in and out of adjoining streets and physical features such as the boundary wall along New Inn Hall Street, which defines the extent of the former graveyard.

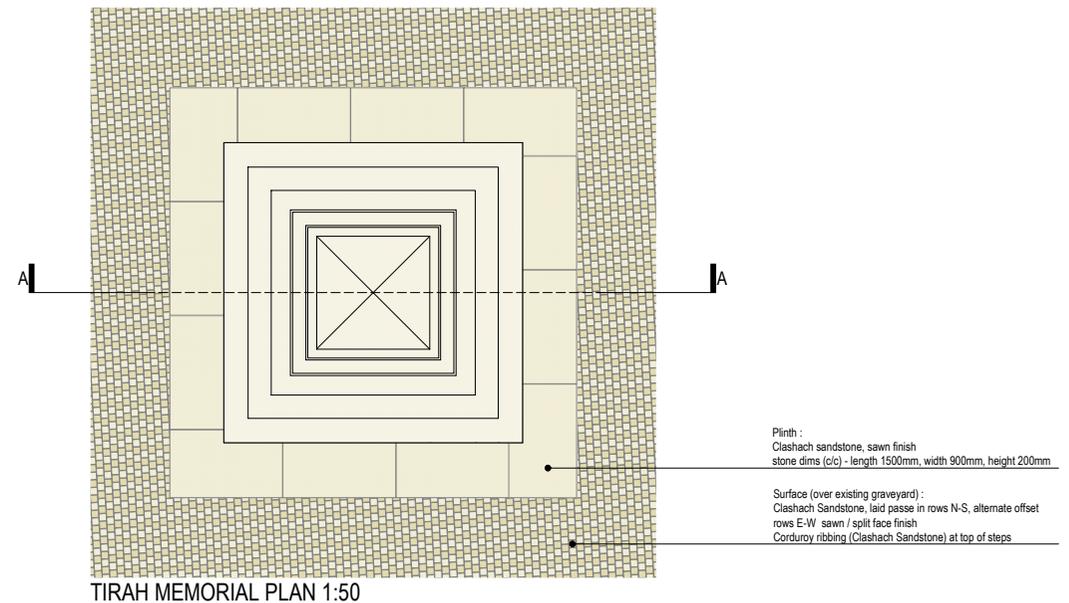
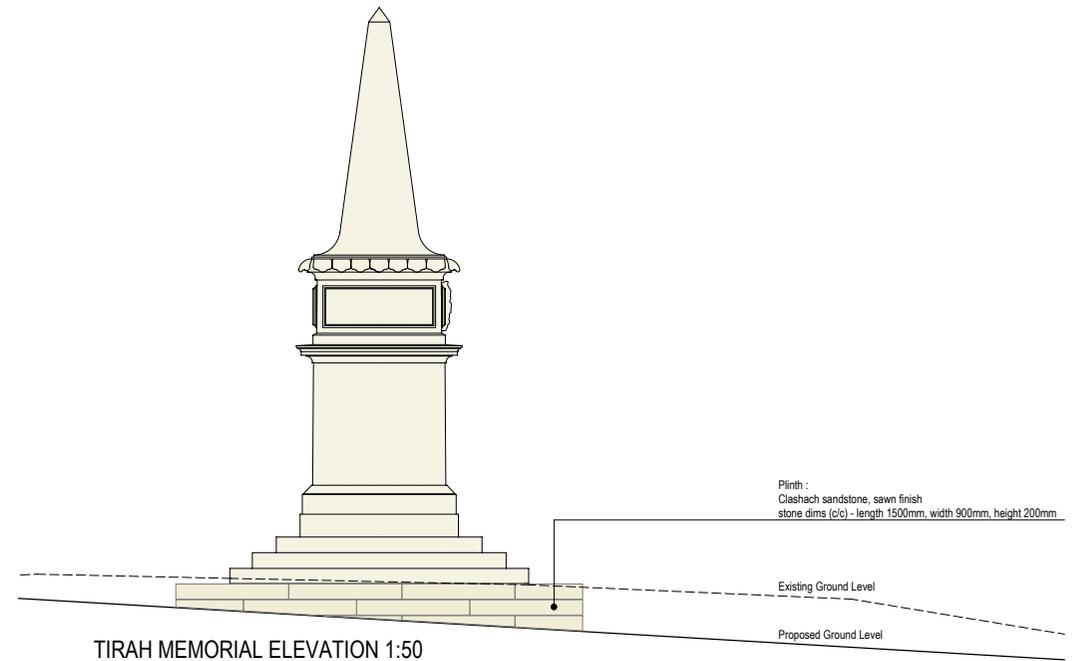
We have endeavoured, wherever possible, to retain the principal features which contribute to the history of the square, whilst embracing the vision set out by the City for the creation of a dynamic and inspirational open space.

We propose the use of robust, high-quality materials which will complement the historic fabric of Oxford and, of equal importance, will age appropriately. The surface will principally be constructed from Clashach sandstone - a warm, honey coloured stone from Scotland - while all furniture and fittings will be manufactured from a bronze aluminium alloy. The construction of the new sandstone surface can be undertaken without significantly impacting upon the surrounding buildings; however, alterations to the Tirah Memorial are required due to the regrading of the ground levels (see 4.13 Tirah Memorial) within its vicinity.

The raised levels of the former cemetery, and its archaeology, (see 4.11 Archaeology) have been, for the most part, retained but modified to form a sloping surface with stepped flanks to improve the circulation, accessibility and natural surveillance within the square. Although this requires the demolition of the existing boundary wall along New Inn Hall Street, the scale of the sloping surface and location of the steps preserves the pattern of the constituent parcels of land that formed the square. The definition of these parcels, along with that of New Road as it passes through the square, shall be subtly articulated through the patterning of the new sandstone surface, and so provides a trace of the history and evolution of Bonn Square.

While it has not been possible to retain the existing trees (see 4.6 Trees), we propose a new grove of seven semi-mature trees to be planted parallel to New Inn Hall Street. The view of trees which terminate the approaches from Queen Street and New Inn Hall Street will therefore be preserved.

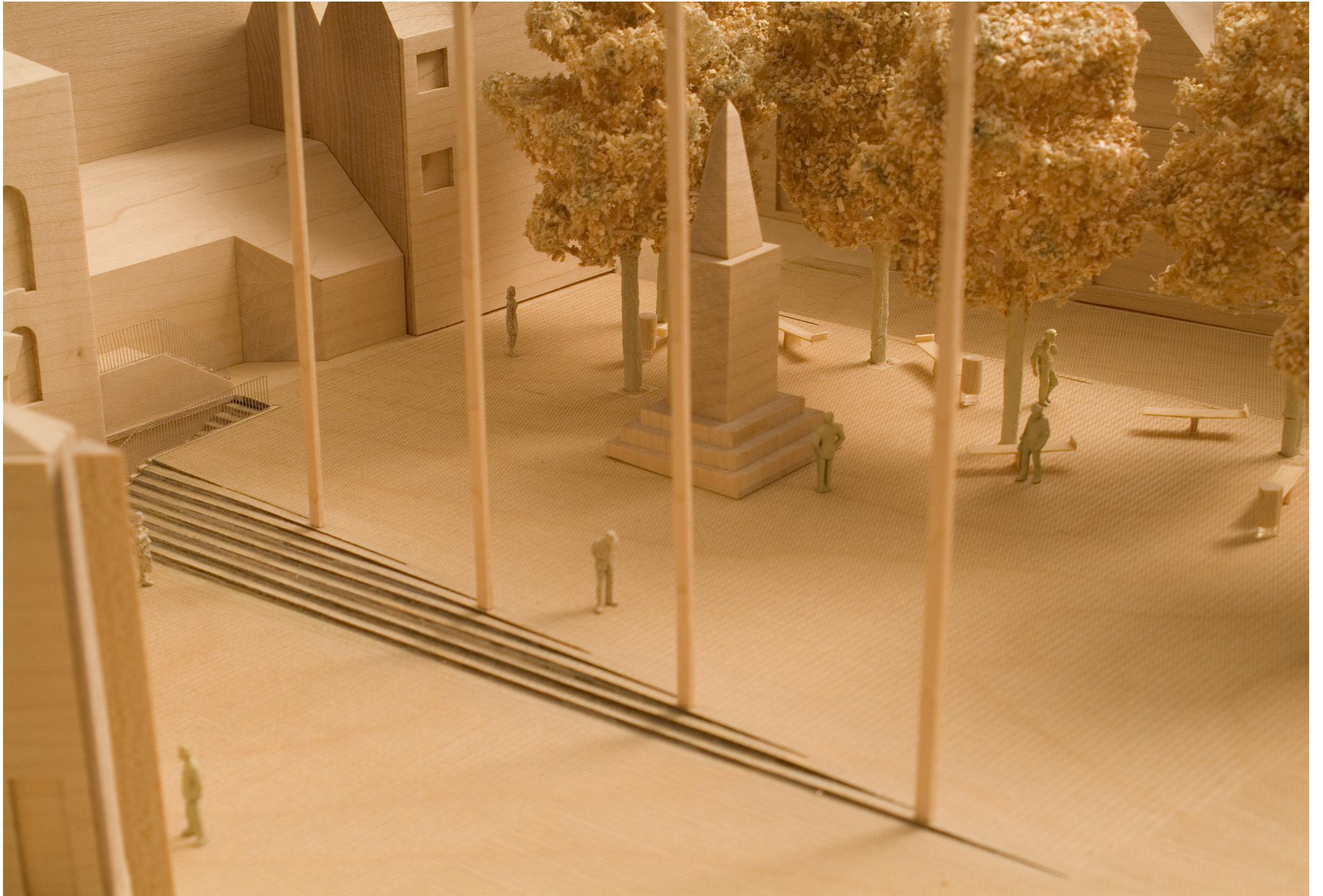
Contained within the Grade II listing of the New Road Baptist Church are the boundary wall and railings of its forecourt. These features partition the existing space and conceal areas of the square which have periodically been used for criminal and antisocial activities e.g. drug dealing, drug use and graffiti. Given the imperative to create an open and safe space, which is contingent upon improved pedestrian flow, accessibility and natural surveillance, we propose that the existing walls and railings be demolished. We believe that the considerable benefits of removal outweigh those of retention. In their place we propose that the extent of the church forecourt be subtly registered by a change in pattern on the new sandstone paving.



4.14 Tirah Memorial

The Tirah Memorial is a Grade II Listed Structure, located at the centre of the existing raised memorial garden within Bonn Square.

The proposal retains the Tirah memorial in its present location. However, the demand to reduce the potential for antisocial behaviour within the square has led to an overall design solution which, through improving circulation, accessibility and natural surveillance, necessitates a reduction in the ground level around the memorial of approximately 600 mm. To accommodate these needs we therefore propose that a new plinth be formed at the base of the monument to mediate between the new levels and the existing memorial. The new plinth will be built from Clashach sandstone, as used for the construction of the new surface. In this way the new plinth can be subtly differentiated from the Douling stone of the original monument base, while complimenting the new surface of the square.



5.0 Conclusion

5.1 The Future of Bonn Square

Bonn Square is one of the few public spaces within central Oxford. It benefits from a location within the historic city centre and at the heart of the city's commercial district. As such it ought to be a considerable asset to the city.

However, its fragmentary spatial character, neglected appearance and reputation for criminal behaviour combine to create a space which has neither a clear identity nor a defined civic role and excludes certain user groups.

Our proposed design seeks to reveal the latent potential of the site, its ideal location and historic associations, whilst proposing positive and realistic solutions to its problems. Its development process has been informed by extensive public consultation and has sought to adopt the recommendations of the Public Realm Strategy endorsed by Oxford City Council in 2003.

The proposal sets out strategies for the protection and enhancement of the listed structures and the character of the conservation area. Through the creation of a new ramped surface and the laying of a new sandstone surface we will establish spatial clarity and a dialogue with the material fabric of Oxford. New bronze lighting, bronze street furniture and planting will consolidate the identity of the square and provide the backdrop and infrastructure for both everyday and special events. The reconfiguration of the existing ground levels creates a space that is accessible to all. By improving the circulation and visual permeability of the square we will eradicate factors in the physical environment which enable criminal activity to occur within the square.

By responding to those aspects which are essential and of historic value and augmenting them with a series of discrete interventions we propose a sympathetic, yet inspirational, new urban space.

We believe that the implementation of this project will create an important legacy for the city of Oxford.

6.0 Appendices

6.1 Arboreal Impact Study - Rodney Helliwell

Consultant in silviculture, arboriculture, and plant ecology

YOKECLIFFE HOUSE, WEST END, WIRKSWORTH, DERBYSHIRE DE4 4EG

Tel: (01629) 824676 Fax: (01629) 825389

mail@rodneyhelliwell.co.uk www.rodneyhelliwell.co.uk

Report on trees in Bonn Square, Oxford

October 2005

1 Instructions

1.1 I was instructed by Fiona Bartholomew of the Planning Services section of Oxford City Council, and was asked to inspect trees in Bonn Square and to report on their condition and the implications for the trees of a proposed scheme of renovation of the Square.

1.2 I was supplied with a copy of a brief assessment of the trees by Kevin Caldicott, the Council's tree officer, dated 6th October 2004, and with copies of plans which outline a scheme submitted by Graeme Massie Architects dated August 2005.

1.3 I met Mrs Bartholomew on site on 13th October 2005 before carrying out my inspection.

2 Background

2.1 Bonn Square occupies an important location in the central part of Oxford, about 150m west of Carfax Tower. The area which contains most of the trees is on raised ground over a cemetery, and there is a monument to soldiers who died in various parts of the British Empire in the 19th century in

the centre of this area.

2.2 Due to the differences in level, the piecemeal character of buildings which have been re-built around the Square during the last 50 years, and the rather worn quality of the surface within the treed area, the Council felt that it would be desirable to undertake a scheme of renovation in order to improve accessibility through the Square and to unify the various elements of this part of the City.

2.3 Accordingly, a competition was held to select a scheme which achieved these objectives. It was stated in the design brief that it would be desirable to retain at least some of the existing trees, if this was possible within the constraints set by other factors.

2.4 The winning scheme was submitted by Graeme Massie Architects of Edinburgh. Their scheme involves a sloping plane surface of stone setts over the area where the trees are situated, with steps on both sides. In order for the new surface to come down evenly to the level of Queen Street there would be a need for some reduction of existing levels, except at the northern edge. In addition to this, there would be a need for some removal of soil to provide sufficient depth for the sub-base beneath the paving and for the paving itself. In some places this would involve a reduction in level of about 1m, while in the northern 5 to 6m of the area the reduction that is needed may be no more than 0.4 to 0.5m.

3 Description of trees

3.1 I have followed the same numbering sequence as Kevin Caldicott, and I have indicated the crown spread of the eight trees in this area on the appended 1:100 scale plan.

3.2 The table below gives the following information:

Numbers are as on my plan

Species have been given their common name

Diameters are measured at a height of approximately 1.5m

Heights have been estimated

Condition **classes** are:

- 1 Best trees, with no significant defects
- 2 Trees with minor defects, but still suitable for retention as individual trees
- 3 Trees which would only be suitable for retention as part of a group, for a limited number of years, or in locations where falling branches would not be a problem
- 4 Unsuitable trees

Classes 1-2 and 2-3 are intermediate.

No.	Species	Diam. (cm)	Ht. (m)	Class	Comments
1	Sycamore	59	14	1-2	Mature, but still relatively vigorous. Slightly miss-shapen crown and slightly coarsely branched. Forked at 2.5m, but the fork appears to be sound.
2	Ailanthus	24	10	2	Slightly spindly. Close to retaining wall. Surface bark removed by vandals from lower part of stem. (Not sure how the tree will respond to this, but it might survive.)
3	Lime	70	18	1-2	Tall and slightly spindly. A few old pruning wounds, but nothing serious. A few very small dead branches (as is normal in lime trees).
4	Ailanthus	28	10	1-2	Nice young tree. Rather close to chapel, at least visually.
5	Irish yew	--	4	2-3	Multi-stemmed. Shaded by No.4.
6	Irish yew	--	3.5	2-3	Multi-stemmed. Shaded by No.4. Rather one-sided.
7	Sycamore	40, 45, 52	15	2	Forked into 4 main stems in lower 1.7m, but forks appear to be sound. Not terribly vigorous. Slightly coarsely branched.
8	Ailanthus	36	9	1-2	Slightly coarsely branched.

4 Value of the trees

4.1 The trees are clearly of importance within the square. They provide contrast to the buildings, a degree of naturalness and fine detail, provide shade in hot weather, and a modifying effect on wind eddies during windy conditions.

4.2 At the present time, the overall visual effect of the trees is somewhat less than it might have been, due to the lack of cohesion between the various elements in the Square and a lack of any very clear relationship between the trees and the other elements.

4.3 When the Square is viewed from the north, from New Inn Hall Street, trees No.1-3 are visible, and these contribute to the quality of this view, but when the Square is viewed from further along Queen Street or from New Road, most of the trees are hidden. From St Ebbe's Street the centre of the Square is in view, with trees on either side.

4.4 Applying the Helliwell system for "Visual Amenity Valuation of Trees and Woodlands" (as currently published in Guidance Notes No.4 by the Arboricultural Association), I obtain a value of just under £7,000 for tree No.1 and around £25,000 for all the trees in the Square. This is not intended to be an exact figure, but it may help to place the value of these trees in context. If trees of similar size, but in rather better condition and more suitably placed in relation to buildings and other features had been valued using this system, it would have been possible to achieve a score of up to about six or seven times this figure.

5 Retention of trees

5.1 Even a valuation of £150,000 for the existing trees might not have been sufficient to necessarily over-rule other considerations; and I think that the figure of about £25,000 quoted above properly reflects the importance of retaining these trees. It would be good if some or all of them could be retained, but if that is not feasible within the requirements of the scheme, then this degree of loss ought to be acceptable.

5.2 The guidelines in BS 5837:2005 *Trees in relation to construction* for protective areas to avoid undue damage to roots indicate that an area somewhat more extensive than the extent of the tree canopies on this site would need to be protected from any reduction in level or other damaging activities, if these trees are to be retained. This would not be possible under the proposed scheme.

5.3 If the existing trees are not retained, it will be very important to ensure that new trees are planted, and that they are of suitable species or type, located appropriately, and provided with suitable conditions in which to grow.

5.4 Plans are appended, at a scale of 1:500, showing the trees as at present (2005) and as proposed under the new scheme, some 15 and 80 years later (2020 and 2085). There would be a period when the trees would have less impact than at present, but in a historical perspective this would be relatively short. [And all trees in locations such as this do of course need to be replaced at some time.]

5.5 Under these circumstances, it would seem to be most sensible to remove the existing trees and plant some new ones.

6 New planting

6.1 The existing sycamore tree No.1 is 19.5m to the south of the building which forms the northern edge of the Square, on the western side of New Inn Hall Street. The planting indicated on the submitted scheme shows trees planted in approximately the same location as existing trees No.1-3, but extending a further 8.5m southwards. When these trees have achieved a moderate size, they should be as visible from New Hall Inn Street as the existing trees, and they would be more visible from Queen Street and New Road.

6.2 No planting is proposed in the eastern part of the Square, where a row of specially designed lamp standards is proposed.

6.3 Initially, the plan shows seven new trees to be planted. If these are capable of growing to a large size, as would be appropriate here, there is likely to be room for no more than three or four at maturity, but the planting of seven trees in the first instance would be appropriate.

6.4 It will be important to ensure that the soil beneath the raised area is maintained in a condition which is suitable for the growth of tree roots, and that it is not contaminated or subjected to excessive compaction during the construction process. The construction of the finished surface will also need to be such as to avoid excessive compaction and to allow free access by air and rainwater to the soil in which the roots are growing. [It also should be noted, in passing, that the placement of paved surfaces over a heavily compacted sub-base would be almost certain to result in problems caused by roots growing just beneath the paving, in the only suitable place available to them, and thereby lifting the paving.]

6.5 The method of construction, together with details of the treatment of the areas around the stems of the trees, will need to be agreed at the outset. It is likely that some sort of “structural soil” will be needed, which allows sufficient compaction to carry the expected loading without cutting off the supply of air and moisture to tree roots or preventing them from growing through the soil. Such soil would consist of uniformly sized particles of sand, with an admixture of finer particles and organic matter in amounts which are not great enough to fill the voids between the sand particles.

6.6 It will be necessary to calculate the maximum expected load on the new surface and to calculate the depth of materials and the bearing capacity which will be needed to meet this.

6.7 There is likely to be pressure to plant trees at as large a size as possible, but it will be most important to obtain suitable conditions for growth, to select suitable tree species or types, and to ensure that the trees are properly planted and maintained. The over-riding requirement will be to get the new trees growing well, rather than merely trying to obtain an instant effect.

6.8 The exact choice of species will need to be discussed. Bearing in mind the possibility of new pests or diseases arriving or climatic changes occurring, it would probably be sensible to avoid planting only one type or species, and as this is not a formal avenue this should not present any problem in design terms.

R Helliwell
19th October 2005

6.1 Archaeological Report - John Moores Heritage Services

The Archaeological Impact of the Proposed Ground Reduction in Bonn Square, Oxford (SP 5118 0615)

Architects drawing (0501-010) was supplied showing the location of five sections across the proposed development. These were labelled A-A to E-E. These were then plotted onto the 2005 JMHS excavation location map. A second drawing from the architect (0501-011 B) shows the individual sections .

Each section has been assessed for its archaeological impact, with data from the TVAS excavation of 2003 and the JMHS excavation of 2005 superimposed.

The outline of the old church has been overlaid onto the location map from the first edition ordnance survey. The TVAS location being incorrect and on the wrong alignment. The church wall is noted to be slightly too far north on the map. Its exact location being identified in the 2005 JMHS excavation in Trench 5. This has been adjusted for the location and plotted on the subsequent sections.

Section A-A

There is no archaeological trench from either the TVAS or JMHS work along this section, as this section runs the length of New Inn Hall Street.

However, if the area between sections A-A and B-B is going to be reduced to 64.50m AOD along the line of the present wall. This will seriously impact on deposits containing inhumations, possibly exposing them. TVAS recorded that grave cuts were visible in this area at a height of 64. 61m and possibly higher. A published photograph by TVAS shows the inhumation continuing under the New Inn Hall Street boundary wall and into this area.

Section B-B

TVAS Trench 1 section contains no information regarding the present level of topsoil, only a cryptic dotted line labelled “line of old topsoil”. No datum line is shown on this section, however the line of old topsoil is recorded at 65.95m AOD. The plan for Trench 1 shows a height on the outside of the trench, to the north, presumably at ground level of 66.02m AOD. Unfortunately this height does not match up with the section drawing. A second height outside the trench to the west is given as 65.84m AOD. No indication of a sloping topsoil is indicated on the section of Trench 1, and the ground does not appear to slope on the published photograph. The depth of the trench is given as 1.8m which does correspond with the 65.95m AOD line. No further information regarding the topsoil is given in the brief results for the trench. The section and plan width dimensions do not correspond. The Plan and written description of the trench give the trench at 2m wide while the section is only 1.75m wide. This is not helped by the fact that both plan and section are at two different scales.

The drawings (0501-011 B) supplied by the Architect Graeme Massie shows the present topsoil surface in this area to be at 65.75m. This height being between 0.06m and 0.27m below the levels reported by TVAS.

The TVAS section 1 was superimposed onto the Architect drawings matching the levels on both drawings at 65.75m AOD, the ground level given by Graeme Massie. The JMHS section 1 from Trench 6 was superimposed using the datum provided of 65.30m OD that exactly matched with the Architects drawings.

The northern wall of the church located in the 2005 JMHS excavations is also marked on the 1st edition OS map of the area. And can be shown to cross into section B-B. For this reason Trench 5 is also superimposed on this section. This shows that both the path and wall will be affect in this area.

Section C-C

TVAS trench 3 fall on the line of this section and TVAS trench 4 is close enough to be projected onto the section as well. Also projected onto this line are JMHS trench 5 and test pit 7.

Again the plan and section for TVAS trench 3 are at two different scales and the width is inconsistent. The datum for the topsoil is given as 65.68m AOD and corresponds to the Architect drawings (0501-011 B).

The Architects drawings are incorrect in depicting the monument. They show a lower tier 5.5m wide. This is possibly a supposition of the extent of the foundations however JMHS test pit 7 and unpublished archive photographs show that this tier does not exist and that the foundations are in fact less extensive.

The sections of TVAS Trench 3 and JMHS Trench 5 and test pit 7 were superimposed onto the section without problems. The AODs from all the trenches match those on the Architects drawings.

TVAS Trench 4 has no published section drawing, only a plan and a brief written description. A section has been reconstructed from the these and the single published photograph. The ground level to the north of the area is recorded at 65.71m AOD, this would correspond to the levels given on the Architects drawings. The ground, in the photographs, appears to slope towards the south, but this may be due to the angle that the photographs was taken from.

The headstone located by TVAS in Trench 4 is recorded as standing on an original ground surface at 65.02m AOD. Unfortunately no height for this stone is given, so one must assume that it did not show above the present ground surface before excavation. This surface is recorded as 65.71m AOD.

The lowering of the ground level will impact upon the churchyard path and northern church wall located in the 2005 JMHS excavation. Completely removing the path and exposing the wall above the proposed new ground surface.

Section D-D

TVAS Trench 2 has no published section drawing, only a plan and the very briefest of written descriptions. A section has been reconstructed from the these and a single published photograph. The ground level in the area is recorded at 65.55m AOD.

Due to the proximity of TVAS Trench 4 this has been projected onto this section. Also projected onto the section is the probable location of the old church wall. This is based on the JMNS 2005 excavations and the first edition OS map of the area.

Section E-E

There is no archaeological trench from either the TVAS or JMHS work along this section, as this section runs the length of pathway associated with a nearby building.

There is a significant difference in height from the area of the old graveyard and the level outside the western boundary. If this wall is removed as depicted in the plans (0501-010) then it may impact on several inhumations.

Illustrations

Illustrations have been redrawn from the PDF files supplied by Fiona Bartholomew of Oxford City Council. These were completed before the DWG files were received from James Benson at Davis Langdon & SEAH International.

These illustrations show the proposed new ground surface and how the present archaeological deposits will be impacted upon.

1589 drawing01 location
1589 drawing02 SecBB
1589 drawing03 SecCC
1589 drawing04 SecDD
1589 drawing05 sections A3

These are supplied as both CDR and DWG files.

David Gilbert
Project Officer, JMHS.
02-12-05

