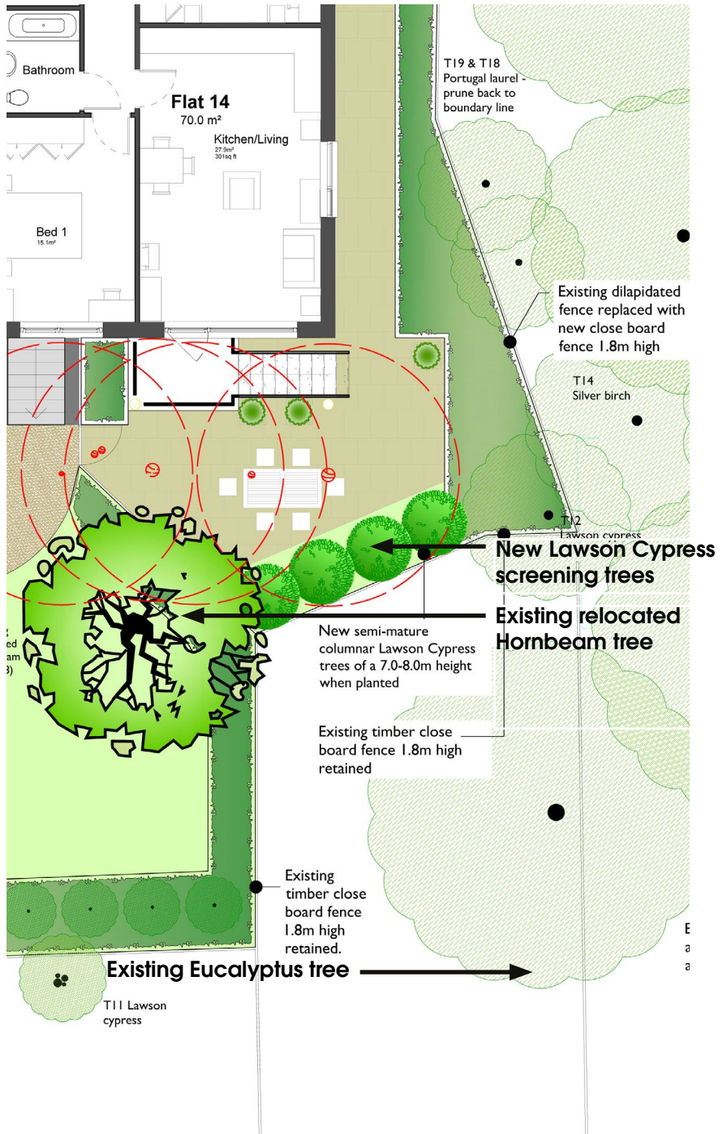
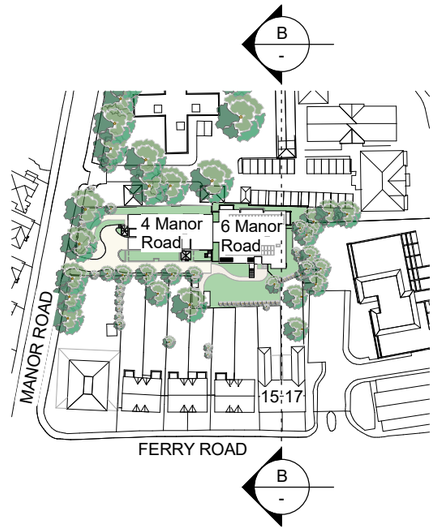
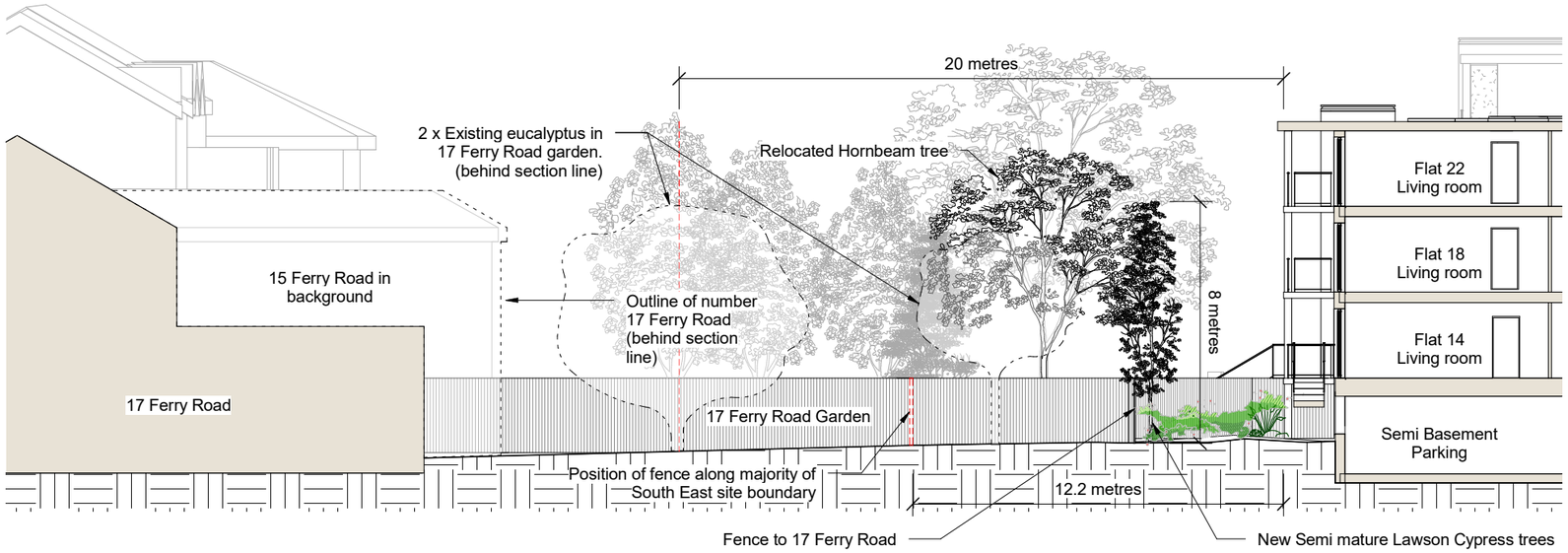


Extract of Landscaping Plan by Bradford-Smith showing approximate size and position of trees. See Section B-B for approximate heights.



Section Location Plan
Scale 1:2000 @ A3



Section B-B
Scale 1:200 @ A3

10.0 ACCESS

There are two main modes of public transport which serve the site, in particular bus and train links towards Richmond. These have been previously detailed in the section titled Linkages under the heading Evaluation and covered in more detail in the Transport Statement.

The site is situated very close to the junctions of the A310 (Manor Road) and the A313 (Ferry Road) which are significant links to neighbouring boroughs.

Both 4 and 6 Manor Road are currently accessed via the same entrance off Manor Road and the development will continue to utilise this. There is existing secure and covered undercroft parking beneath 4 Manor Road which will be extended beneath 6 Manor Road. This will serve as the entrance to the undercroft parking for 6 Manor Road and will provide fifteen further car parking spaces for the proposed building, as well as 10 bicycle spaces. In addition to the undercroft bicycle storage, there will be 20 secure and sheltered bicycle spaces at the entrance to the site. These will be accessed down the existing lane which runs in front of 4 Manor Road.

The undercroft parking can be accessed by lift from the floors over or via a staircase from ground level, which will be adjacent to the lift and main entrance to No. 6. The lift system will be specified to protect it during any flood event. It is situated centrally along the long edge of the new basement parking and means that, as an escape, it will be within 18m of the furthest corners of the parking. This pedestrian entrance to the parking will require a security gate which will be operated by a fob and will need a secure gate closing system.

A paved path will run from the stairs to the basement past the front of the entrance to No. 6 and will continue on the same line as the entrance lane past 4 Manor Road.

The flats will be accessed by a generous communal stair leading to a sheltered entrance. To the side of the stair will be a wheelchair platform lift which will provide access to disabled residents and visitors alike.

The flats have been designed in accordance with M4(2) Accessible and Adaptable Dwellings (similar to Lifetime Homes) of the 2015 edition of Part M of the Building Regulations including the following:

- The approach to the dwellings at Number 6 will be step-free from the street and car parking.
- The main entrance doors at Number 6 will have a level external landing and a covered porch. The doors will have a minimum clear width of 850mm with a flush threshold and minimum 300mm nib to the leading edge.
- All hallways and circulation routes will exceed the minimum required widths.
- There will be no level change in the entrance storey and the staircases have been designed to accommodate a stair lift at Number 6.
- Living rooms, dining rooms and kitchens are on the entrance floor and have adequate circulation space.
- Bedrooms have been designed to exceed the minimum space requirements around the bed.
- Sanitary facilities have been designed to exceed the minimum required space standards.
- Services and controls will be set out between the heights detailed in Part M of the Building Regulations.

11.0 CONCLUSION

This Design and Access Statement has examined and analysed the site and the surrounding area and concludes that:

- Although the site is within the CA27 Conservation Area, it does not make a significant contribution to it and is not within one of the key locations. This is supported by PowerHaus Consultancy's Heritage Statement.

- The buildings that surround the site are varied with differing ages and styles from Victorian houses to contemporary blocks of flats.

- The existing building on the front of the site (No. 4) is a modern building of recently constructed flats. It is set well back from the road and is lower than most of its neighbours including the houses on Ferry Road.

- No. 6 is set behind No. 4 and is largely screened from Manor Road by it. No. 6 has been substantially altered over time with the addition of a pitched roof, various extensions and internal alterations.

- No. 6 does not comply with current flood policy and would require extensive alterations to bring it in line. Even with these, it would be incapable of improvement and conversion to a satisfactory standard to provide an equivalent scheme.

- The design of the scheme has been developed from analysis of the site and the surrounding area, advice from planning officers and input from a number of consultants.

- Feedback from the public consultation inspired the redesign of some flats to further minimise potential noise and overlooking.

- The additional storey at 4 Manor Road will complete this building and give it a more balanced appearance. The extra floor will bring it in line with neighbouring frontage sites. The new floor has been detailed to reflect the host building below.

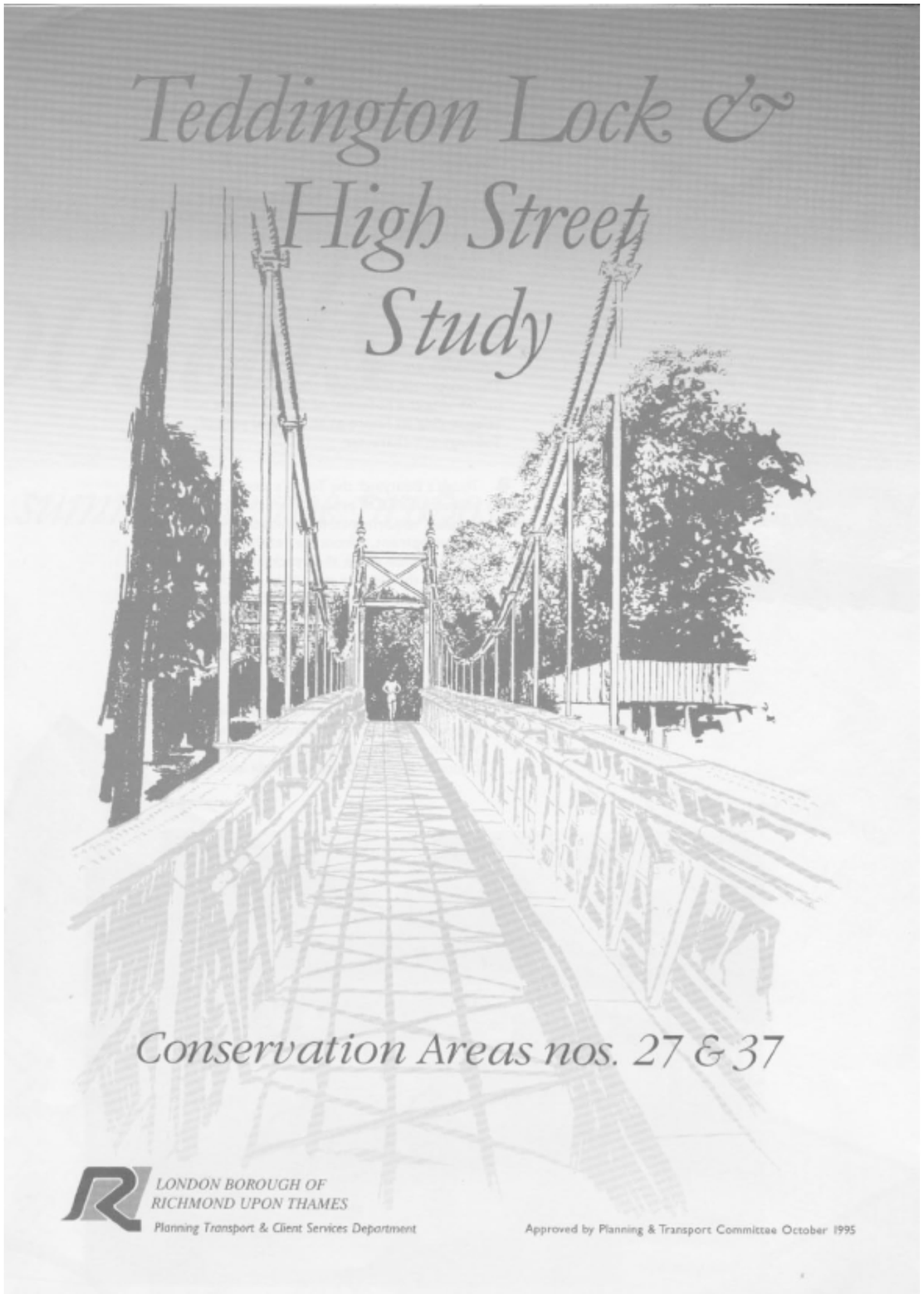
- The new flats at 6 Manor Road will be lower than the frontage building and feature a fine level of detail to the high standard of 4 Manor Road. The elevations will be based upon the existing 4 Manor Road building but, by responding to subtle differences, it will acquire its own character without losing its connection.

- The dwellings have been designed to be as accessible as possible.

The proposal has been carefully designed to suit its surroundings, meet planning policy and provide 15 attractive modern dwellings. We therefore believe that planning permission should be granted.

12.0 APPENDICES

APPENDIX A **Teddington Lock and High Street Study**



Teddington Lock & High Street Study

Conservation Areas nos. 27 & 37

LONDON BOROUGH OF
RICHMOND UPON THAMES
Planning Transport & Client Services Department

Approved by Planning & Transport Committee October 1995

Character of the Area

High Street - main shopping area

There is a considerable variety of architecture in this traditional shopping street with mostly Victorian, or earlier, buildings on the north side and Edwardian on the south which date from the 1903 road widening for the tram. The differences in form, and changes in roof level and building frontages, contribute significantly to the visual interest. This variety is partly the result of the development of different uses in the High Street; for example on the north side, single storey late 19th century shops were built in the gardens of 18th/early 19th century houses. These contrast with the remnants of 16th and 17th century low two storey buildings such as 93 & 95 High Street and, on the south side, the long tall blocks of Edwardian shops with flats above in red and yellow stock brick. A number of buildings are worthy of special note: Elmfield House, Lloyds Bank and 79-85 High Street are listed for their architectural or historic interest. Teddington is fortunate in having many good Victorian and Edwardian shop-fronts whose survival in the High Street may be mainly due to the location of chain stores in Broad Street. Their retention and restoration is essential to maintaining the special quality of the street. Many retain some, if not all, of their original features; because of this, shop-fronts which are worthy of retention and/or restoration are the subject of separate guidance available from the Council.

At a right-angle to the High Street, Watts Lane forms a compact group of two storey 19th century cottages possibly built in connection with the adjacent works buildings. Watts Lane is indicated on the Ordnance Survey map of 1863 as an established route from the High Street to the then agricultural land beyond.

There are many interesting views of the architectural interest in the conservation area whether one is travelling by car or on foot. For example, the rising ground to the road bridge over the railway gives views along the length of the High Street as it curves gently away. Further along the street, the view gradually unfolds to take in the landmark of St Alban's. At the west end, the railway bridge signals a termination to the High Street with Elmfield House and its well-planted garden making a positive contribution at this end. There are also glimpses, especially on the north side, of interesting enclosed spaces through narrow openings such as Wades Lane.

High Street

Issues

The nature of the High Street's commercial heart has changed in recent years with the loss of such businesses as the hardware shop, fishmonger and cobbler. These have been replaced with shops selling upmarket clothes, toys and specialised goods. While retail use continues these changes have meant that most everyday food shopping has to take place outside the immediate area. Other economic factors have created dead frontages, such as the closure of the old post office and the building of the telephone exchange, now also closed down. Similarly, dead areas have been created by poor forecourt treatments of, for example, public houses. The High Street has to cope not only with these pressures but also with those caused by demands for servicing and parking, the need to keep traffic moving, and safety for pedestrians and cyclists.

The challenge is to preserve and enhance the unique character of the High Street as an attractive shopping and residential area in the face of such pressures. Below are listed some of the immediate and sometimes site specific concerns which have to be addressed if this challenge is to be met.

Threats to commercial character:

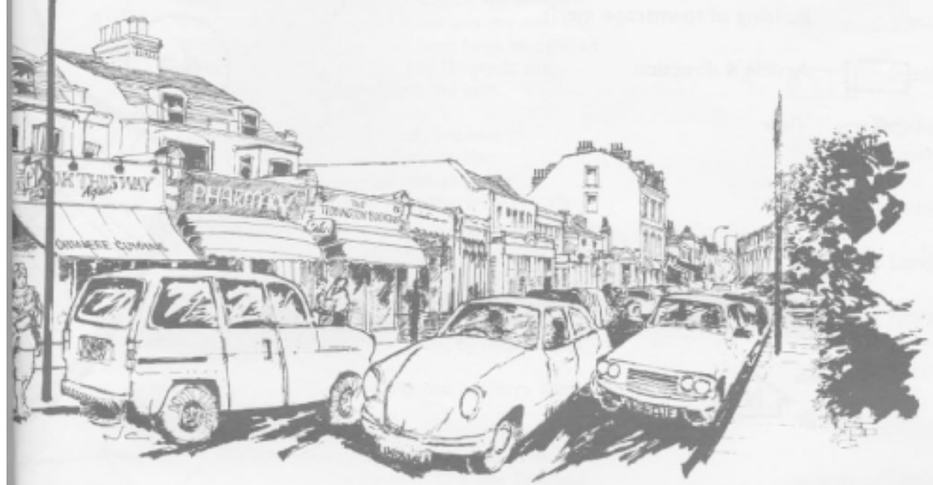
- shop-fronts and signs which are out of keeping with the character of the area (subject of separate guidance)
- large advertising boards on sides of buildings and A-boards obstructing the footway
- relocation of the post office has left a dead frontage at its earlier purpose built site
- sites which would benefit from improvement or redevelopment (e.g. telephone exchange, see map overleaf)

Threats to setting of buildings:

- a large number of poles, carrying signs and lighting, cluttering the footways
- unattractive boundary and surface treatments at Cedar Road Car Park which have created an unattractive space in a prominent position
- opportunity for improvements to the surfacing and boundary treatments of private forecourts e.g. Midland Bank, public houses (see map overleaf)
- worn out/vandalised seats and under-used area between junction of High Street and Station Road
- lack of provision for cyclists outside present post office
- unsympathetic surfacing to narrow entrances on the north side of the High Street
- forecourt parking in Watts Lane which destroys the character of the front gardens through the removal of boundary walls and soft landscaping and so detracts from the setting of the cottages

Traffic/pedestrian conflict:

- width of junctions e.g. Elmfield Avenue/ High Street/Station Road
- parking on bus stops and loading areas
- unattractive traffic signs and markings
- lack of provision for cyclists
- noise and air pollution caused by traffic



Objectives for the Conservation Area

The analysis in this study of Teddington's special character, and the issues identified within it, form the basis for setting objectives for the conservation areas. These objectives are focussed on the preservation and enhancement of four key areas:

- buildings
- surfacing and highway conditions
- street furniture
- open spaces, including trees

Everyone involved in the study area, whether it be the Council, developers, commercial users or residents, needs to contribute to achieving the proposals set out in this study. The Council will strictly apply UDP policies and the detailed proposals listed overleaf to preserve and enhance the special interest of the area. When, and if, money is available, the Council will implement proposals on its own land.

Residential property

The High Street and Teddington Lock areas contain a large amount of housing, mainly in the form of flats, either above shops or as a result of sub-division of large houses. The Council is able to control new development through its powers under the planning acts and is always willing to give advice to those who want to undertake new work. There is a range of guidance leaflets available on development requiring planning permission and if you are in any doubt about the need to obtain permission for intended works you should contact the Planning and Building Control Division at the Civic Centre.

As illustrated on the map, many of the buildings in the study area are either Buildings of Townscape Merit or on the statutory List of Buildings of Special Architectural or Historic Interest. Where there is a particularly good group of houses which would suffer if work were to be carried out which does not necessarily require planning permission (e.g. changing windows, demolition of front boundary walls) then the Council can make an Article 4 Direction. This means that certain permitted development rights, as specified in the Direction, are then removed and owners would have to apply for planning permission to carry out these works. Such a Direction has been made for 7-17(odd) Twickenham Road, 1-9(odd) Kingston Road and 4-10 (even) Broom Road.

What residents can do:
Under present legislation, house owners are entitled to carry out certain minor works to their houses as 'permitted development', which means that permission does not have to be obtained from the Council. Flats do not enjoy these rights. There is, therefore, a great responsibility on owners to consider the quality of the street and the area, not just their own needs, when carrying out work. There is plenty of opportunity to preserve or enhance the character of conservation areas by paying attention to the small details of houses which can make a huge impact on the wider scene. For example, the study area contains several groups of cottages and houses which have retained their original windows only to be spoilt by the odd one or two that have installed aluminium or uPVC versions. Similarly, painting a house which is part of a brick terrace spoils the appearance of the whole terrace. Front garden car parking has been identified as an issue, particularly in Watt's Lane, and this needs to be addressed sensitively if the 'public' part of the private landscape is to look attractive. What constitutes development can be a complex matter and residents should consult the Council if in any doubt whether or not intended work requires consent. In any case, the Council's officers are always happy to give advice and guidance.

Shop-fronts:

The quality of Teddington's shop-fronts has been identified as a major factor in its special character. Therefore businesses need to maintain their frontages and forecourts to a high standard. In recognition of this, advice on shop-fronts is the subject of a separate leaflet. Grants are currently available from the Council towards the repair and/or reinstatement of well designed shop-fronts.

Introduction

This study has been prepared by the Planning and Building Control Division of the London Borough of Richmond upon Thames, in consultation with other departments of the Council. Its purpose is to take forward relevant policies in the Unitary Development Plan (UDP) by formulating and publishing proposals for the preservation and enhancement of the area's character. This will provide a framework for action by the Council, residents, commercial users, developers and statutory bodies. The identification of the area's special character and problems provides the basis for specific proposals, including the improvement of less attractive areas.

Location and History

Teddington provides evidence of human activity from pre-historic times and its name is derived from the Anglo-Saxon meaning 'Tudas Farm'. The original settlement was on the river terrace, elevated from the flood plain of the Thames. Situated not far from Bushy Park and Hampton Court Palace, it was the property of Westminster Abbey before becoming part of Henry VIII's hunting estate in the 16th century, after which time it returned to being an independent manor. Long dependent on agriculture as its economic base, its rural setting and riverside location attracted wealthy residents; during the 17th and 18th centuries Teddington saw the development of many large houses standing in their own grounds such as The Grove, Teddington Place, Elmfield House and Udney House. The area became an attractive rural retreat to such people as John Walter, the founder of The Times; Charles Duncombe, who became Lord Mayor of London and Orlando Bridgeman, Keeper of the Seal, who is buried in St Mary's Church. The explosion of Teddington as a commuter area came in 1863 with the arrival of the railway which cut through the village pond. The development and redevelopment of many High Street frontages dates from this period although traces of the older village are evident in the survival of 18th century villas behind 19th century shop-fronts along the north side of the High Street. Commuter pressures led to the demolition of many of the large houses and their gardens disappeared under speculative housing; the widening of the High Street in 1903 to accommodate the tram also led to extensive redevelopment of the street's south side. The main commercial centre serving everyday needs has now shifted to Broad Street while the High Street has evolved more specialised shops.

That the area near to the river was largely undeveloped until the 19th century may be attributable to the fact that the river was tidal beyond this point until the present weir was constructed in 1812 and the first lock built. Consequently, any flooding would be less controlled. This then marked the highest point of the tidal Thames and became a focus for leisure activity with the suspension bridge being built in 1888. Until this time Ferry Road, as its name suggests, led to an early crossing point by boat to Ham. The Porter and Bryce Building was used as the Royal Boathouse in the late 19th century, illustrating Teddington's status on the Thames. Boat building became an established industry here and is now an essential part of the area's character. The Ham side of the bank has remained rural in nature being inaccessible except by foot.

The High Street and riverside areas are divided physically by the main Twickenham to Kingston road which replaced the original route along Twickenham Road. This has meant that the centre of Teddington has to some extent been by-passed by heavy traffic travelling between the two centres. This is not to say, however, that the High Street is not subject to traffic pressures from Hampton Hill and beyond, as well as local shopping traffic. Today Teddington's tightly defined old shopping street remains distinct from the surrounding centres of Twickenham, Hampton Wick and Hampton Hill mainly because of the residential areas which separate them.

There are many important trees throughout the area, whether standing as individuals or in groups. The riverside, in particular, has a good range of trees on the islands and banks on both public land and in private gardens. Udney Park Gardens and St Mary's Churchyard similarly have several groups of trees which add to the character of this end of Teddington. Street trees, whether actually on the street or in front gardens, have also made a major contribution. There has been new tree planting in the study area, particularly in the High Street, which reinforces this.

Policies and Protection

The protection of the area through the Council's planning policies in the UDP is shown on the map overleaf and referred to in the text of the study, specifically in the list of proposals. Also taken into account is central government guidance and the Thames Landscape Strategy which aims to identify the character of the river landscape between Hampton and Kew and implement proposals to preserve and enhance it. The Study has also been prepared with consideration to proposals of the London Bus Priority Network which provides funds for various environmental improvements. The Council will strictly apply all UDP policies relevant to the study area.

High Street - east end

Towards its eastern end the character of the High Street begins to change, with more houses and green open spaces, and a view of the river. In the process of restoration and now in community use, the flamboyant St Alban's, left half finished in 1886, stands in dynamic contrast to the smaller 16th century St Mary's Church set in its tiny and crowded graveyard, home to a variety of wild flowers and trees. The new housing development respects the scale of both churches and emphasises the kink in the road which marks the end of the High Street. There are two groups of distinctive houses in the Voysey style in Twickenham Road and Kingston Road. The listed Peg Woffington's Cottages form a compact group and provide a termination to the view to the west, effectively screening the High Street from the river. Next to St Alban's is Udney Park Gardens, formerly the grounds of the now demolished Teddington Place; this valuable open space, used informally and for activities such as the Teddington Village Fair, is also important as one of the few green spaces on Kingston Road, and partly alleviates the effect of the road junction. The wide open space occupied by the Lensbury Club sports fields is hidden from view by an unattractive concrete fence.

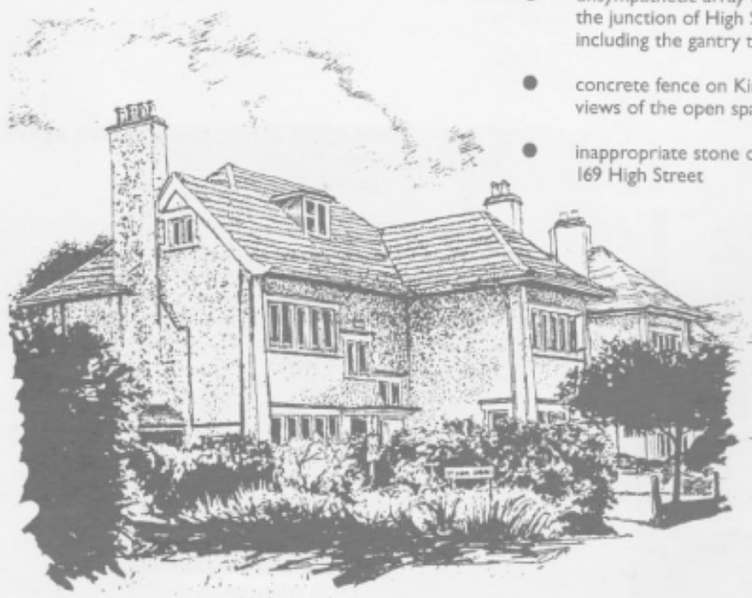
Issues

While different in character to the main High Street, this area suffers similar problems associated with traffic, especially as Manor Road/Kingston Road is the main route between Twickenham and Kingston. Consequently, the most should be made of opportunities to reduce the impact of this traffic and to allow the enjoyment of the buildings and the green, leafy spaces that form their settings. The following specific problem areas have been identified with this in mind.

Streetscape:

- poor condition of fence and hedge to St Mary's churchyard
- narrow stretch of pavement at bus stop causing pedestrian congestion
- unattractive junction of High Street/ Twickenham Road/Ferry Road caused by excessive roadway width, badly sited cabinets and street furniture
- unattractive chain link fence between Udney Park Gardens and St Alban's
- unsympathetic array of poles and cabinets at the junction of High Street/Kingston Road including the gantry traffic lights
- concrete fence on Kingston Road blocks views of the open space of the Lensbury Club
- inappropriate stone cladding to 169 High Street

Twickenham Road

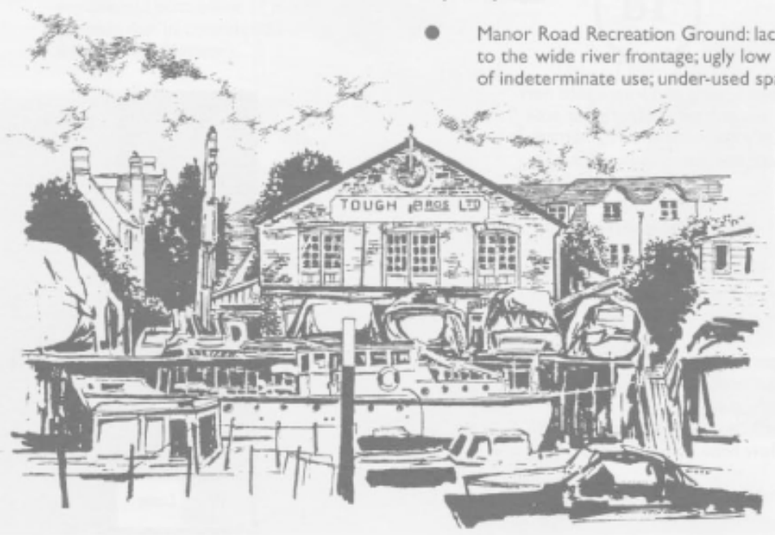


The Riverside

Beyond Kingston Road, Ferry Road forms both route and gateway to the Thames focussing on the landmark of the colourful pedestrian suspension bridge which comes magnificently into view as one travels down the gentle slope towards the river. The road is lined by large Victorian houses set in their own gardens on the north side, giving way to smaller cottages, public houses and riverside uses by the water and on the south side. The river and Ham bank form a secluded, semi-rural environment framed by dense tree cover on the islands and the Ham bank itself. The Thames Path, which stretches 213 miles from the Cotswolds to the Thames Barrier, follows the Ham bank and attracts visitors to Teddington from both the Kingston and Richmond directions. They can enjoy the striking contrast between the noise and action of the weir and the peaceful neatness of the well tended lock area. Views from the banks and the suspension bridge extend along the sweep of the Thames in both directions. To the south, beyond the television studios, the feel is rural with Kingston on the horizon beyond the trees and the green open space of the meadows in Ham. In contrast, to the north, Tough's boatyard and its associated buildings provide vitality, activity and a reminder of the river's long tradition of boatbuilding.

Manor Road Recreation Ground is a rare area of green public open space on the west bank and allows the first glimpse of the river for some distance on the approach from Twickenham.

Tough's Boatyard River Frontage



Issues

Removed from the bustle of the High Street and the need to accommodate through traffic, the challenge of the riverside lies in promoting public enjoyment of this natural resource while ensuring that the quality of that resource in no way suffers as a result. Below are listed specific opportunities for improvement:

Threat to quality of built environment:

- eyesore created by closed toilet block
- insufficient screening of television studios by trees

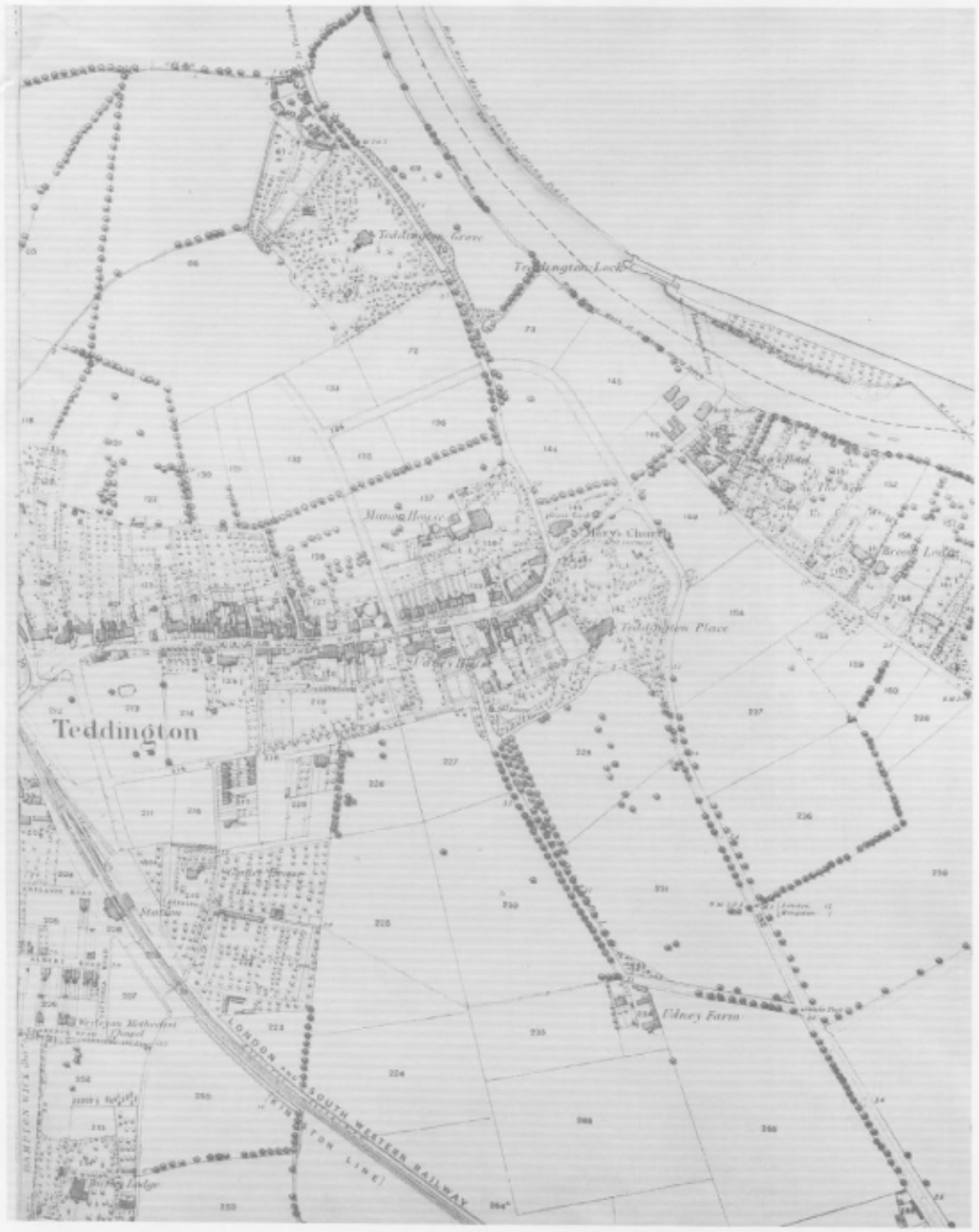
Traffic/pedestrian issues:

- Ferry Road (beyond Broom Road junction): impact of traffic and provision for vehicles (tarmac, kerbs, yellow lines) on an area primarily used by pedestrians and cyclists
- inappropriate siting of seating area on Ferry Road side of flood wall which blocks views to river
- poor state of seats and signs on Ham side of river and need for more seats, especially between the lock and footbridge
- inadequate signing to Teddington from the Ham bank and footbridge

Open spaces:

- Manor Road Recreation Ground: lack of access to the wide river frontage; ugly low structure of indeterminate use; under-used space

Ordnance Survey Map 1863



John M Barkley CEng Dip FICE MIHT MIMgt
Director, Planning, Transport & Client Services

Yvonne Trimmer BA MCD
Head of Planning & Building Control

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APPENDIX B Teddington Lock Conservation Area Statement 27

Teddington Lock Conservation Area 27

Designation

Conservation area designated:
15.03.1977

Conservation area extended:
07.09.1982
22.02.2005

Location
OS Sheets: 1671
Teddington Lock conservation area incorporates the historic centre of Teddington, midway between Twickenham and Hampton. It falls between the High Street to the West and the Surrey bank of the Thames to the East. It adjoins High Street (Teddington) (37) conservation area.

History and Development

The riverside village of Teddington dates from at least the Anglo-Saxon period. At its centre the present St Mary's Church dates from the 16th century, largely rebuilt in the 18th century. During the 17th and 18th centuries the appealing riverside setting of this area and the nearby Royal parkland attracted the wealthy to develop villas. Teddington Lock and weir was constructed in 1812 to control the river and the present footbridge completed in 1888 to replace a former ferry. Teddington expanded West along the high street and riverside, accelerated by the coming of the railways in 1863 and industrial development on the riverside. Residential development including modern larger scale flat blocks North along the Thames has continued to the present day.

Character

Teddington Lock conservation area forms the distinctive historic core of Teddington. Key landmarks are the contrasting pair of the modest brick St Mary's Parish Church and the exceptionally grand French Gothic stone St Alban's Church, which was left uncompleted in 1886. These buildings both enjoy a landscape setting with mature trees, including the important churchyard and Udney Park Gardens. The conservation area can be divided into two distinct character areas, although the whole conservation area is unified by its relationship to the river. The two churches and their landscape form both the bridge and the divide between these two areas, reinforced by the busy Twickenham and Kingston Road.

Riverside
Ferry Road retains its historic village character and provides the gateway to the Thames. Here a mix of modest two storey cottages and more substantial later Victorian semi-detached houses, behind small front gardens and boundary walls, and the distinctive timber clad boathouse at its terminus enclose the view North to the river. Along the riverside there is a busy collection of boathouses, moored boats, wharfage and slipways which create a rich panorama of riverside activity and make this a centre of navigation and tourism on the Thames. Teddington Lock, the noisy weir and the suspension footbridge between the Middlesex bank, Swan Ait and Surrey bank are key landmark features, also allowing for wide views up and down stream. The remarkable natural tidal shingle beaches under the bridge are well used by fishermen. To the North the traditional working riverside scene meets larger scale blocks of flats overlooking the river. Here Manor Road Recreation Ground is an important area of open space and trees on the riverside, which provides wide views of the well, maintained lock scene. In contrast to the Middlesex bank, the Surrey bank has a rural character providing a treed background to the lock and its neat cottages. The towpath on this bank forms part of the Thames Path well used by walkers and cyclists. Along Broom and Kingston Roads is a distinctive group of unspoilt early 20th century houses of roughcast render, mullioned stone window surrounds and hipped slate roofs.

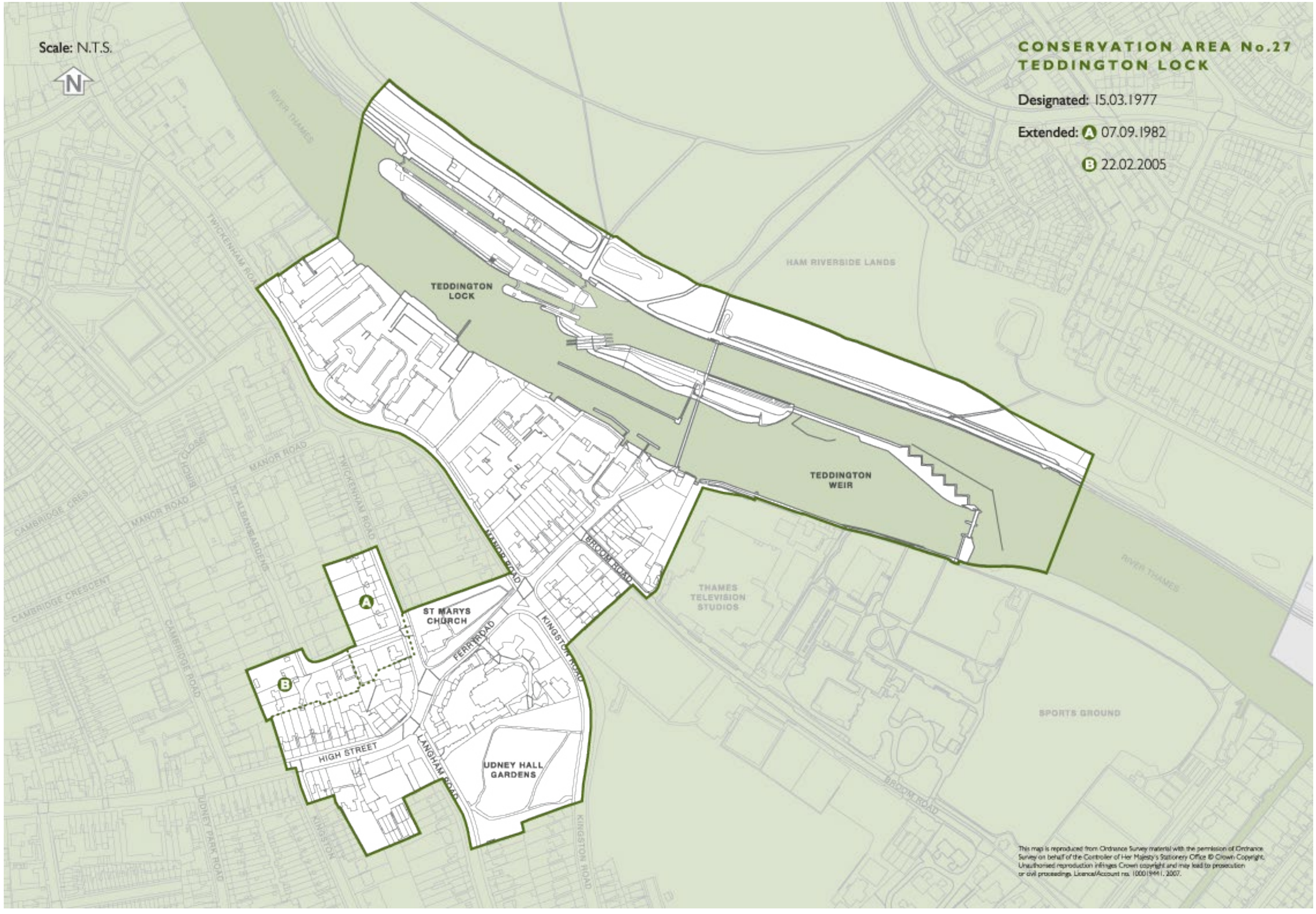
High Street
The attractive listed group of Peg Woffington's Cottages and Oak Lodge mark the gateway to the high street and terminate the view West along Ferry Road from the riverside. They are modest two storey cottages dating from the 18th century, the earliest domestic buildings surviving in the conservation area, which in association with the parish church are so evocative of the original village character of Teddington. To the West the high street has a more urban character of later Victorian and Edwardian buildings enclosing the street, which blends into the adjoining conservation area. On Twickenham Road is an exceptional and distinctive early 20th century group of large houses of roughcast render, stone dressings and hipped roofs, similar in character to its contemporary group on Broom and Kingston Roads, both perhaps inspired by the work of Voysey.

Problems and Pressures

- Development pressure which may harm the balance of the river and landscape-dominated setting, and the obstruction or spoiling of views, skylines and landmarks
- Loss of traditional architectural features and materials due to unsympathetic alterations
- Loss of front boundary treatments and front gardens for car parking
- Lack of coordination and poor quality of street furniture and flooring
- Domination of traffic and poor pedestrian safety leading to clutter of signage and street furniture

Opportunity for Enhancement

- Improvement and protection of river and landscape setting
- Preservation, enhancement and reinstatement of architectural quality and unity
- Retain and enhance front boundary treatments and discourage increase in the amount of hard surfacing in front gardens
- Coordination of colour and design and improvement in quality of street furniture and flooring
- Improvement of highways conditions and pedestrian convenience, and rationalisation of existing signage and street furniture
- Areas identified for environmental improvement include: Ferry Road Flood Wall, Udney Park Gardens.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CONSERVATION AREA No.27
TEDDINGTON LOCK
Designated: 15.03.1977
Extended: A 07.09.1982
B 22.02.2005
RIVER THAMES
HAM RIVERSIDE LANDS
TEDDINGTON LOCK
TEDDINGTON WEIR
TWICKENHAM ROAD
MANOR ROAD
CAMBRIDGE CRES
CAMBRIDGE CRESCENT
CAMBRIDGE ROAD
ST ALEMANS GARDENS
UDNEY PARK ROAD
KINGSTON
KINGSTON ROAD
MANOR ROAD
BROOM ROAD
FERRY ROAD
ST MARYS CHURCH
HIGH STREET
LANGHAM ROAD
UDNEY HALL GARDENS
THAMES TELEVISION STUDIOS
SPORTS GROUND
A
B
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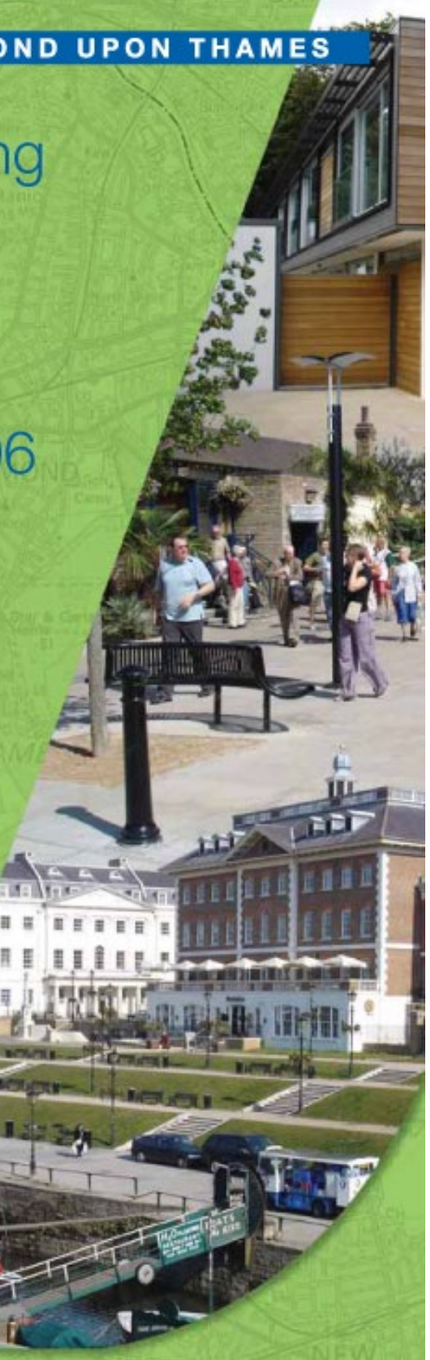
APPENDIX C Richmond's Supplementary Planning Document: Design Quality

LONDON BOROUGH OF RICHMOND UPON THAMES

Supplementary Planning Document

Design Quality

Adopted February 2006



LONDON BOROUGH OF RICHMOND UPON THAMES

Contents

2.1 Character- A place with its own identity

The Borough is made up of places with distinctive characters shaped by the design and arrangement of buildings, the spaces and connections between them and the uses which define them. New development should complement and enhance the character of these places by starting with an analysis of the existing urban form and avoid standard 'of the shelf' designs. A summary of Borough wide character is given in chapter 3.

Character and Context Appraisal

A character and context appraisal should be undertaken before any design work to ensure that the characteristics of each site influence the final design. It is important that new development is grounded in what is special about a place. There will be positive attributes to all sites which should enrich the final design. The level of detail required for a character and context appraisal will depend on the scale of the proposal. A relevant area around the site should also be considered to identify any common themes within the vicinity. A number of layers of understanding exist which should be considered to inspire the design process:

- **Borough wide** - the characteristics which define the Borough as a whole.
- **Character areas** - the distinctive forms and building relationships within the neighbourhood or locality as well as any wider movement linkages.
- **Street setting** - the relationship between the site and the street as well as the characteristics of local building forms, detailing and materials.
- **Site characteristics** - any built or natural characteristics within the site itself.

A detailed site appraisal will need to encompass the main urban design issues of activity, linkages, townscape and landscape. When considering these issues the appraiser should consider what local people value about the place and how it can be improved. The following points highlight some immediate questions the appraiser should ask but this is by no means exhaustive.

Activity

Key themes: Uses of buildings (ground and upper floors) and public space, densities, intensity, day/evening activities.

Some considerations:

- What is the character of local activity- residential, commercial, recreation, leisure, industrial, mixed?
- What is the intensity and density of activity- semi-rural, suburban, urban?
- How does the site relate to local services and activities- schools, open space, shops?
- Does the site relate to any major activity nodes- road corridors, public space or public transport interchanges?
- Is the area busy throughout the day?

Linkages

Key themes: Settlement patterns, access, road and pedestrian network, public transport.

Some considerations:

- What is the character of local streets- street proportion, blocks, patterns?
- Where are the pedestrian and vehicular access points located?
- Are there any existing rights of way?
- How can the development create new connections?
- How do local streets align with contours?
- How will topography influence pedestrian and cycle routes?
- How does the site relate to public transport?

Townscape

Key themes: Building forms, local vernacular and heritage, enclosure, views, landmarks.

Some considerations:

- What are the local building forms in terms of scale, form, height, massing and layout?
- What is the local vernacular- detailing, fenestration, materials, texture and colour?
- What is the sense of enclosure- gaps, frontages?
- What is the character of local roofscape - how will the proposal affect the local or Borough wide skyline?
- How can the development make the most of views into or out of the site?
- How do local buildings deal with changes in level?
- Are there any landmarks and how does the site relate to them?

Landscape

Key themes: Open space, natural features, microclimate.

Some considerations:

- How does the site relate to areas of open space- parks, wildlife corridors, the River Thames?
- How does the site relate to drainage in the area?
- What is the natural character of the site- are there any on site trees, hedgerows, shrubs or water bodies?
- Is the site exposed to the elements?
- What is the orientation of the site and how can development utilise the path of the sun?

APPENDIX D

Verified CGI views

realm

Manor Road, Teddington

Verified Photomontages: Methodology and Supporting Evidence

January 2016

Contents

1.0 Overview

This document has been prepared by Realm to explain the methodology used to create accurate visual representations (AVRs) of the proposed development of Manor Road, Teddington. The visual assessment of the proposed development reflects current best practice in relation to the verification of images, a process which is constantly being refined and improved with advances in technology and industry experience.

The purpose of the photomontages is to present an accurate overview of the proposed development which enables its effect on the landscape and views to be objectively evaluated. Every image contained within this document is verified unless otherwise stated. Final images should not be used as a standalone tool to assess the suitability of a development, but should be used in conjunction with a site visit.

In this document, you will be guided through a step-by-step description of how Realm has produced an accurate representation of the maximum envelope of built form in accordance with development parameters, in pictorial form, to explain the processes used (including statements from the photographer and survey team). The methodologies described in this document are based on current best practice and follow recommendations from The Landscape Institute's "Guidelines for Landscape and Visual Impact Assessment" (3rd Edition 2013) and their supplementary Advice Note "Photography and Photomontage in Landscape and Visual Impact Assessment" (Jan 2011).

This document includes an audit trail to demonstrate the key stages of production (see Section 3.0) that can, if required, be checked by a third party. This document sets out the methodologies used for the photography, surveying, 3D modelling and camera matching processes - all critical to ensuring the accuracy of the final photomontages.

The photomontage images represent how the maximum envelope of the built form would be perceived from locations in the public realm. These locations were established as positions from which the building will be most apparent at a time of year when it will be most visible (winter). This approach and the locations for the photomontage viewpoints were agreed in liaison with 'Turley Associates' (Planning Consultants).

The entities responsible for the preparation of the views that are set out in the following pages comprise:

Photography
Arcminute Ltd
62 Grove Park Terrace
London W4 3QE
Phone: 07774 857627

Survey of existing views and camera locations
Datum Survey Services Ltd
Brickfield Business Centre, Brickfield House
High Road, Thornwood, Epping CM16 6TH
Phone: 07977 111935

Production and checking of verified images
Realm Communications
The Workshop, Old Barn Cottage, Down Lane
Compton, Guildford GU3 1DQ
Phone: 01483 813888

Supply of block model and spot height information
Brookes Architects
The Works, 28 Barnes Avenue
London SW13 9AB
Phone: 020 8563 0181

2.0 Methodology

2.1 Photography

The professional architectural photographer employed on this project was briefed by Realm to work to a methodology which conforms to the principles specified in section 1.0 Overview.

The following methodology statement has been supplied by Arcminute:

Photography brief The following methodology applies to the production of photographic images originated in September 2014 & October 2015 that form the pictorial basis for visual impact assessment photomontages for 4 views for Manor Road, Teddington.

Equipment Images are captured on a 36mm x 24mm 21 megapixel digital sensor in combination with the following shift lenses:

- Focal length 24mm | Horizontal FOV 74° (for close views in built-up streetscapes)
- Focal length 35mm | Horizontal FOV 55° (for close views requiring selective framing)
- Focal length 50mm | Horizontal FOV 40° (for long distance views)

Lenses outside these parameters are also available for use in certain circumstances but these 3 lenses have been found to cover the vast majority of situations required in this type of work.

Choice of lens We prefer to replicate (as far as possible) what may have already been provided in terms of preliminary view studies as typically these would have been generated using pre-considered factors as to what each view would need to illustrate e.g. context, key visual receptors etc. In the absence of a definitive steer, we will generally use a 74° HFOV lens for medium to close views in an urban environment and a 40° HFOV lens for long distance views. However, the actual size and nature of a scheme (single building or large multibuilding development) and its location will also be considered before lens selection. The Landscape Institute's latest guidelines have been relaxed with regard to lens choice and they are no longer insistent that a 'standard' lens be used wherever possible.

Photography The camera is mounted on a tripod at eye level which on level ground is 1.65m within a +/- 100mm tolerance. The camera is then levelled in roll and pitch to a tolerance of 30mm per 100m using a precision spirit level. The point on the lens which coincides with the virtual render camera is horizontally referenced to a survey mark (nail or paint) to +/- 2mm using a survey standard procedure and the height above this is measured using a steel tape measure to the same tolerance. A photograph is taken of the tripod in its location, the survey point on the ground and the tape measure reading against a reference point on the camera mount. During image capture particular emphasis is placed on the following:

- Rendering all points in the scene as sharply as possible to avoid any sense of selective focus.
- Capturing all tonal detail in the scene and avoiding 'blown out' highlights and 'blocked up' shadows.

Where a scene's brightness range exceeds that of the sensors dynamic capture range it may be necessary to combine two or more different exposures to create a final image to overcome this limitation and to maintain a realistic tonal rendering closer to that of the human eye.

Post production The camera images are captured using a native camera or 'RAW' format and a software application is used to turn these into universally accessible RGB raster images. At this conversion stage colour and tonal adjustments are made to recreate as honestly as possible the scene as was presented to the photographer at the time of capture. RGB images are corrected using specialist software to remove non-perspectival optical distortion in order to create a geometrically accurate 2D projection which can be precisely aligned with CGI renderings and survey data. The image is then placed in a standard sized image template and the calibrated lens axis position is aligned with the documents centre. This accounts for both deliberate offset through lens shift and manufacturing tolerances in lens to camera body alignment. A text file in the image document records camera height above the survey point, lens focal length, film gate, date and time, nominal lens offset and document pixel dimensions. All images are also accompanied with photographic evidence of camera location, survey point location and height above survey point.

2.2 Survey

All of the baseline photographs were taken by a professional architectural photographer. Each viewpoint location is surveyed and identified by Ordnance Survey co-ordinates. The heights and distances of significant points within each view that are easily distinguishable have also been recorded as Ordnance Survey grid and level datum and their accuracy has been checked relative to the fixed camera position. The survey points for each view provide an effective check for ensuring that the 3D model and existing views are accurately merged together.

The following methodology statement has been supplied by Datum Survey Services:

Survey brief We were commissioned to survey and record co-ordinates (Eastings, Northings and AOD Height) of known points of detail located around the study site known as Manor Road, Teddington. Digital files of the 2 views together with camera point locations were provided by the photographer.

Date of surveys September 2014 (Views 4 & 5) & October 2015 (Views 1 & 6)

Camera point positioning Network RTK solutions were established using a Leica GPS + GLONASS SmartRover receiver. The equipment was set-up directly over the camera position (survey nail) and multiple observations were recorded. A second (reference) point was taken approximately 100m away from the camera position using the same method.

Data capture Traditional survey techniques were employed to record the points of detail within each view. A Leica TCRA TS15 Total Station with long range reflector-less distance measurement capabilities was set-up directly over the camera point and orientated to Ordnance Survey National Grid using the two sets of co-ordinates determined by the SmartRover receiver.

Deliverables The completed survey data was issued as follows:

- Microsoft Excel Spreadsheet comprising point numbers, coordinate data and descriptions
- PDF copies of each photo with point locations and view specific point numbers clearly marked
- AutoCAD DWG file containing 3D survey points with view specific point numbers.

2.3 3D building model

The 3D computer model of the proposed development which is superimposed upon the existing views is based upon CAD supplied by Brookes Architects. The 2D drawings of the proposed development are supplied by the architect and initially imported into 3DS Max. The drawings are then traced over using snap tools within this program to create an accurate 1:1 scale model of the proposed development. A manual crosscheck of heights is then carried out by Realm across all buildings working with a range of spot height information as supplied by the architect. Once the 3D model has been approved by the architect, a corresponding issue number is recorded.

2.4 3D landscape

Working to CAD and planting plan as supplied by Brookes Architects, we added hard landscape model elements including a road, gate, post, path and bollards. A selection of CG trees, plants and grass were also rendered into the final photomontages.

2.5 Camera matching

The verification process confirms the accuracy of the 3D model in relation to each view. The camera matching process involves accurately matching the position of the virtual camera with the real world camera in OS space, and the location of the 3D model of the proposed development within each (existing) view. This is achieved through aligning the imported 3D cloud of survey points within the base photo and 3D environment, creating a virtual camera that replicates the exact position and height of the real world camera to produce an image where the rendered survey points match in visual location those recorded by the survey team and photographer.

The specifications of the lens type relating to each existing view is also entered into 3DS Max to help guide with alignment. An alignment is deemed correct only when all survey points sit exactly over the pixel in the photo that corresponds with the marked-up survey photo. If all points match, the virtual camera must therefore be correctly aligned.

For each view we measure the distance from camera to target and apply respective equations to establish the potential adjustment necessary to compensate for both curvature of the earth and light refraction. Typically, when the real world camera is positioned within 1.5km from the target, the effects of curvature of the earth and light refraction are deemed to be negligible in terms of their visual impact and therefore no adjustment is made to the Z axis of the building model within the view.

2.6 Lighting and rendering

To accurately light the 3D model, 3DS Max's 'daylight system' is set to replicate the solar time, date and geographic location (longitude and latitude) as recorded in the base photograph. The settings used for each base photograph (F stop, shutter speed etc) are replicated in both this 'daylight system' and the virtual camera set-up. This process mimics the virtual sun so that the lighting falls upon the 3D model as it would in real life at the point when the photograph was captured. Fine tuning is sometimes necessary to better match the resultant lighting and shadows to the base photograph.

Once the camera matching and lighting processes are complete, the render of the 3D model is output to the same pixel resolution as per each respective base photograph.

2.7 Post production

The render of the three-dimensional model is superimposed on the existing still views in Adobe Photoshop. The foreground of the existing views is then copied and placed over the rendered model in order to ensure that the depth is accurate within the photomontage view between the foreground, background and the rendered model. At this stage, for the fully rendered photomontages, the textured model can be further adjusted to match the resolution, colouring and saturation of the photograph taken to create a close impression of what the textures of the buildings and structures would look like. This is a qualitative exercise and requires interpretation by the designer on how the structure will look. A final qualitative check of all of the photomontage images has been carried out to ensure that they provide objectively accurate views of the proposed development.

2.8 Recommended viewing distances

It is recommended that final images are viewed at an optimum viewing distance (in relation to the size of printed photomontage) to give a correct sense of scale. We recommend that images are printed to a size that creates a comfortable viewing distance of between 300 to 500mm. The recommended viewing distance for each image is specified within Section 4.0 of this document.

2.9 Caveats

- The landscape was modelled to the CAD and then adjusted to fit the camera matched view.
- A reference photograph was used to determine the cladding texture size in relation to the extension.
- The 3D model for balustrades used on the extension has been adjusted by eye to better resemble the existing balustrades. The model for the roof extension made using the architect's 2D CAD had to be moved using our local survey information so that the model sat correctly over the existing building. In addition, further model changes had to be made to align the model with the actual building it is matching as the CAD was not accurate enough to achieve this.