Royal Wharf London

Design + Access Statement Plot 21

2004-A-DR-01-001

Oxley

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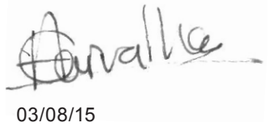
Signed	
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Royal Wharf is a residential led mixed use scheme in the heart of the London Borough of Newham. The project proposes a significant opportunity to provide new family housing alongside small scale commercial, retail and leisure uses providing for the housing and amenity needs of the local community.

Submitted in July 2015, this document forms the design and access statement of the reserved matters planning application for building plot 21.

The plot has been designed within the parameters set out in the original outline permission. Amendments to the parameters affecting Phase 2 and Phase 3 plots have recently been subject to a resolution to grant from LB Newham as part of a Section 73 application (15/00577/VAR). However, Plot 21 is not affected by these changes;

This report summarises the design process undertaken when developing proposals for this key site. It records development of the building proposals from their initial concepts at masterplanning stage, through their relationship to the Royal Wharf masterplan design code and leads onto detailed design proposals; submitted for each plot as part of this reserved matters application.

In addition, this report records the process of LBN Design Review Panel (DRP) consultation and subsequent design development undertaken based on their recommendations. The outcome of the review process has had a positive effect on the plot design with the amended scheme providing greater consideration to a wider range of issues, sensitivities and opportunities particular to the locality.

The comprehensive development of Plot 21 will include a combined 241, in a mixture of 1 to 4 bedroom apartments and 3 to 5 bedroom duplex apartments with mixed use commercial units at ground floor level. TThe mix will consist of 56% affordable rented and 44% intermediate

New elements of public realm including external paving with an interface to the consented Phase 01 development works will stand alongside large areas of private courtyards and semi private open space.

Royal Wharf seeks to be an exemplary residential development. The design strategy aspires to realise the full potential of this unique site, benefiting from its location in the heart of the London Borough of Newhams Royal Docks, and providing a new district of growth; thus achieving a vision of an attractive and sustainable development within which to live, work and play.

Royal Wharf will be an exemplary landmark development. In addition to the masterplan vision as a whole, the design strategy for Plot 21 aspires to realise the full potential of this unique opportunity, which combines a large site in single ownership next to the River Thames, benefitting from views to the Thames Barrier, Canary Wharf and the Millennium Dome, to be an attractive place in Newham to live, work and play.

Achieving this requires the clear and carefully considered integration of well-designed, high quality residential buildings with both house typologies and apartments alongside business workspace, local retail and a wide range of diverse community uses including leisure and fitness.

The proposed concept focuses on family living and places shaped by building edges to make a high quality residential setting protected from the scale and hustle of neighbouring roads and public transport routes. The sensitive deployment of materials and landscape will enhance the sense of place and allow attractive private outdoor spaces creating a place where people feel they can belong within a wider contextual setting framed by famous London landmarks and city parks.

The scheme proposals also aim to build upon and engage with existing and future designs for neighbouring sites; while also generating a successful individual and site specific urban strategy. This will be achieved by learning from significant examples of urban development, both historical and contemporary from within London and from further afield.

The design proposals comprise of a rich variety of architectural elevations, unified through common materials and detail language to emulate the range of textures and materials historically present in London. Each building's aesthetic, materials and design language draws on the Royal Wharf parameter plans and design code as well as the immediate context of the detail consented Phase 01 and Phase 02 proposals.

Within each plot a number of distinct elevations are proposed, each connected at ground level either by landscaping or an architecturally detailed junction. This ensures that an articulate plot massing, which is respectful to the adjacent context and maintains the range of elevation scales required for the plot, is achieved in balance.

This design and access statement may be read alongside the *Minoco Masterplan Design and Access Statement (May 2011)* and the *addendum Royal Wharf Section 73: Phase 3 Design and Access Statement (March 2015)* for further background information on the project in its wider planning and design context.

Design Team

Client	**Oxley Wharf Property Ltd**
Project Manager	**Roundstone Development Mgt**
Masterplanning Architect	**Glenn Howells Architects**
Plot Design Architect	**Fielden Clegg Bradley Studios**
Planning Consultant	**Rolfe Judd Planning**
Environmental Consultant	**Aecom**
Transport Consultant	**TPP**
Landscape Architect	**Townshend Landscape Architects**
Structural Engineers	**OCSC**
M+E Engineers	**OCSC**
Daylight Assessor	**eB7**

Scope of the Design and Access Statement

This design and access statement has been prepared in context of, and to comply with the The Town and Country Planning (Development Management Procedure) (England) Order 2010 and the circular Guidance on changes to the development control system 01/2006.

This document provides information on the amount, layout, scale, access and the landscaping of the proposed development and should be read alongside previously consented Minoco Wharf outline masterplan application documents pursuant to approved planning permission 11/00856/OUT and accompanying relevant planning guidance.

We believe that place making is the key ingredient to creating a successful scheme and buildings will only prosper if people want to be around them. The combination of a unique location and a London setting provides a great opportunity for integrating Plot 21 into the previously consented Phase 01 proposals, bounded by high quality public realm within the emerging masterplan.

The design and access statement sets out to explain in detail the resolution of the design proposed. It clearly illustrates the commitment to design and quality in the design development process to ensure that the proposed scheme realises the full potential for this site.

The report is subdivided into the following broad chapter groupings which follow the chronology of the design process undertaken:

- Introduction
- Site Context
- Royal Wharf Outline Masterplan
- Design Code
- Character Location Plan
- Design Proposals
- Landscape Proposals
- Access, Environment and Community
- Site Maintenance
- Conclusion

Consultation Process DRP

The Newham Design Review Panel (DRP) helps to improve the quality of urban design and architecture through the borough's planning process. The panel advises on major developments in the borough and does not make planning decisions itself; but helps the council to get the best built environment for residents.

The panel includes a chair and up to three others taken from a group of 15 built environment professionals, including architects, urban designers and landscape architects.

Plot 21 was formally **presented to the DRP on 2nd June 2014 and again on 22nd July 2014 in its previous design form alongside Plot 14. It was presented once more on the 2nd December 2014 in the amended design form.**

A brief synopsis of the panel's comments recieved during the 02 June and 02 December reviews are recorded adjacent, with each comment having been responded to through the design process and included in the proposals presented in this report:

Plot 21 Notes from 2nd June 2014

- Breaking the block is a good decision and the amenity space will benefit.
- Daylight to the kitchens of the apartments facing the DLR will be limited. Consider
- introducing windows to these rooms.
- Defensible space should be provided to ground floor units on the southern end of the block. Removing surface parking from the adjacent access street could free up some space for this. Where possible access to ground floor units should be via the street rather than the core.
- The use of a very dark brick on such a large building is a brave choice and the effect of this needs to be understood. Does it also undermine the cohesion of materiality across the masterplan area?
- The brick selection should be looked at, at a scale of 1:50. Visuals of the building from various vantage points will help to determine if the dark brick is the right choice.
- A multi with some silvery, greys could be very nice. A blue engineering brick is less likely to be successful. The use of a dark brick with an even darker infill panel seems to exacerbate the issue.
- The amenity space looks beautiful, but is there enough useful, useable space?

Plot 21 Notes from 2nd December 2014

- The material strategy across the masterplan area still appears to lack coherency. Further work should be done exploring key street views in order to providing a convincing rationale for material choices for the plots now coming forward.
- Nevertheless the decision to move away from the previous black brick to a buff colour is supported and makes the central amenity space feel far brighter. It will be important for planning officers to have certainty about the quality of the brick at an early stage.
- There are a large amount of projecting balconies which will have a major bearing on the character of the building. Therefore the materiality and design of the balustrades, bases and soffits, and the successful incorporation of drainage will be key to the appearance of the building.
- The landscaping of the central space will provide a great visual amenity but its usefulness remains questionable. The DRP would encourage the landscape architects to maximise the lawn space available to sit and play on and ensure that the all routes are useful.

Detailed CGI's Phase 01 and 02 Development

Phase 01 and 02

At present Phase 01, which received detailed approval as part of the 2012 planning permission, is currently under construction and reserved matters approval was granted for the Plots 01, 03, 09, 11, 12, 15,16 and 22 within Phase 02 in 2014. Plots 13 and 14a were submitted for approval in May 2015.

The images adjacent provide an illustration of how the Phase 01 and 02 buildings have been designed and the range of architecture and landscape proposed in this section of the development.

Brief

The client's brief to the design and planning team was to explore the following issues:

- Provide attractive family housing at a mix of tenures, that comply with the S106 requirements;
- Accessible / walkable community heart to the development, reinforcing the parameters of the outline masterplan;
- Provision of good space for future occupancy by a range of mixed use facilities;
- Develop a design which sits well within its own site but also respects neighboring context, both within the Royals and adjacent communities;
- Design an appropriate mix and range of unit types for the residential accommodation;
- Develop a better understanding of real community value that can be provided within the plot design strategy;
- Scale testing: models / visual montages;
- Provide a viable sustainability strategy;
- Address existing constraints;
- Provide spaces to meet the required range of facilities and services that support a new community, while providing that community independent identity within the development;
- Develop a clear and appropriate open space strategy, both for public realm as for private amenity spaces;
- Develop a clear connections strategy for each plot within its wider context;
- Prepare easily understandable information;
- Meet the cost plan and viability testing of the S106.

This document follows a logical progression through the issues above and in conclusion measures the proposals against the aspirations of the brief.

SITE CONTEXT

The photograph below illustrates the location of the Royal Wharf site within the London Borough of Newham (LBN). The masterplan site boundary is shown outlined in red

Location Plan

The Royals- An Introduction

The Royals site has been developing for over two centuries. First managed as areas of pasture maintained in a low lying flood plane the context changed dramatically in the 18th and 19th centuries.

Throughout the 18th and 19th centuries the industrial revolution necessitated land east of the city be developed into industrial factories and warehousing culminating in the development of the Royal Docks which remained in use through to the 1980s.

As trade declined and Britain's economic focus shifted the Royal Wharf area steadily lost its focus as a centre for import and export. This steady decline from an industrial led centre, has left a legacy of dereliction and vacant land which is only recently being positively addressed in proposals such as the Royal Wharf masterplan.

Now the Royals area is undergoing significant change. The former historic industrial land uses are relocating to more appropriate sites and a new mixed use community is emerging including significant residential developments, led by public investment in the DLR and attraction of a riverside setting.

The airport, ExCeL, Siemens and the University of East London are amongst the new businesses. Britannia Village, Barrier Point East, Barrier Park East, Tradewinds and the land east of ExCeL illustrate significant new residential developments alongside the Royal Wharf homes. A new mixed use community is emerging.

The Royal Wharf site in this context provides the opportunity to connect existing communities with new areas of development on both sides of North Woolwich Road while creating a diverse local and intensely active new urban quarter of London.

Transport and Connections

The Royal Docks have benefited from significant public investment in the DLR and Crossrail, which will provide excellent accessibility to Canary Wharf, central London and the southeast of England.

The closest Crossrail station will be at Custom House and is expected to be complemented with feeder bus services to provide access for current and future Newham residents and businesses. Latent provision has also been made for a future DLR station on the Woolwich branch to the west of the site. London City Airport provides both national and international connections, along with related business opportunities.

Development at the Royal Wharf site will maximise the benefits of these nodes, linking with Canning Town and supporting the bus, cycle and river networks, encouraging a greater use of the waterway and riverside through improved pedestrian links and a potential extension to the current river bus routes.

- Britannia Village
- River Thames
- Peruvian Wharf
- Royal Victoria Dock
- Future Development Site
- Vanesta Wharf
- Minoco Wharf Oil Pontoon
- Sunshine Wharf
- Manhattan Wharf
- Deanston Wharf
- Thames Barrier
- Thames Barrier Park
- Minoco and Crescent Wharf
- Lyle Park
- DLR Viaduct
- North Woolwich Road
- Barrier Point Residential Development

Existing Site

The application site (Plot 21) covers approximately 0.86 hectares of brown field land and sits within the context of two former wharfs; Vanesta Wharf and Minoco and Crescent Wharf. None of the wharfs have the status of safeguarded wharfs. The western area of the wider site houses a number of warehouses and industrial buildings; all of which are either derelict and / or in a poor state of repair. The remainder of the wider site comprises cleared vacant land and unused temporary structures.

The site is situated in the London Borough of Newham (LBN) and all but the extreme eastern part of the site was previously in the administrative area of the London Thames Gateway Development Corporation (LTGDC). The River Thames is located to the south, Barrier Point Road to the east and North Woolwich Road to the north.

The wider site forms part of a series of underdeveloped low grade industrial sites that are situated along the River Thames from the mouth of the River Lea in the west to the Tate and Lyle plant in the east. West Silvertown DLR station is located to the north west of the site and the Thames Barrier is located to the south east.

The site is currently accessed from North Woolwich Road. This is the primary route connecting the Royals to Canning Town via Silvertown Way. Along North Woolwich Road to the East, Pontoon Dock, Docklands Light Railway station is located. The Thames Barrier is in close proximity to the south of the site where the river width reaches 550 metres.

The Barrier Point residential development comprising mainly 7 - 8 storeys with an 18 storey tower on the river front, is located to the east of the site on the former Prince Regents Wharf, overlooking Thames Barrier Park . The building is a white rendered linear block running the full length of its site with stepped terraces facing Barrier Park and is raised above a decked carpark by several metres.

Thames Barrier Park is a 9 hectare park which opened in 2000. It is owned and maintained by the London Development Agency and includes a riverside walk and a sunken landscaped garden overlooking the Thames Barrier. The park also incorporates formal and informal planting as well as a children's playground and a hard surfaced area for basketball.

The Kierbeck Business Complex, which consists of warehouses and industrial units used by small businesses and for storage is an indent into the northern perimeter of the site.

Deanston Wharf stands as a brick warehouse building running approximately 350m uninterrupted along the entire length of the western site boundary. The building is in a poor state of repair.

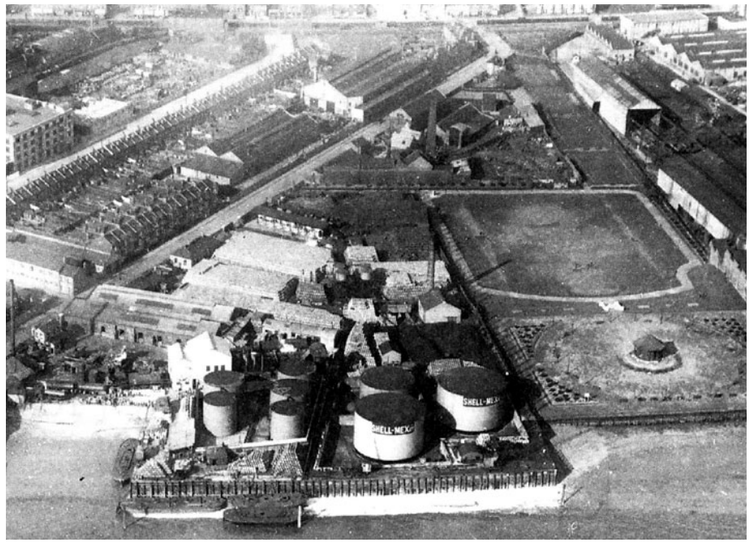
To the west of Venesta Wharf is Lyle Park, which was established in 1924, by Tate and Lyle for factory workers within the Royal Docks area. The park comprises open green space, play areas, a football pitch, tennis courts and formal and informal planting.

To the north of the site are located a number of warehouses and former industrial buildings, one of which is Grade II listed, Silo D. To the north west of the site, adjacent to the Silvertown Quays area, is located Britannia Village a residential development which also contains a primary school. This development began in 1994 and comprises private and social housing as well as community facilities such as a village hall and a health centre.

Knight’s Road c1950

Aerial Photograph c1945

Aerial Photograph c1980



Lyle Park Aerial photograph c1940

Aerial Photograph c1940

Boxley Street c1959

Site History

The Royal Victoria Dock, opened in 1855, was the first dock built expressly for steam ships and the first to be connected to the national railway system through the North Woolwich branch of the Great North Eastern Railway. The Graving and Pontoon Docks were the first to use hydraulic power to raise ships out of the water for maintenance. The King George V Dock was opened in 1921, completing the Royal group of docks which formed the largest area of impounded water in the world.

The demand for land for factories here was encouraged. One of the first to arrive, in 1852, was Samuel Silver's waterproof clothing works which gave its name to the Silvertown district. C.J.Mare built an iron works and ship-building facility at Orchard Yard, which became the world renowned Thames Ironworks. Important among the industrialists were Henry Tate and Abram Lyle who brought their refineries to the area. All this and the Royal Victoria Dock, created employment and very soon there was a huge demand for housing to accommodate the workers and their families. Thus originated new settlements such as those at Hallsville, Canning Town and North Woolwich and before long there was housing in much of what is now Custom House, Silvertown and West Silvertown.

By the 1880s the area had become a major centre of industry attracting people from all over Britain to work in the factories, docks and the Beckton Gasworks. Minoco Wharf was in the mid 1890s, an oil storage depot operated by Shell Lubricants. The adjacent Crescent Wharf was established as a chemical works in the 1890s by Brunner Mond Ltd.

Many of these industries were unhealthy or dangerous. This was highlighted on 19th January 1917 when 50 tons of TNT blew up in the Brunner Mond & Co works in Crescent Wharf, which had been given over to making munitions for the First World War. The noise of the greatest explosion in London's history could be heard as far as Southampton and Norwich. Upwards of 70,000 buildings were damaged and 73 people were killed.

Traffic through the Royal Docks reached its peak in the 1950s and early 1960s. Following the development of containerisation, technological changes and with EEC membership, Britain's trade rapidly declined. The Royal Docks were closed for general cargo handling at the end of 1981.

Such was the situation in mid 1981 when the London Docklands Development Corporation was established to secure the regeneration of the area. This was a response to a huge decline in the economy of the area brought about by the progressive closure of the docks from the 1960s onwards.

Among the projects on the new Corporation's early agenda was the proposal to build London City Airport. This was put to the Corporation in November 1981. It was pursued with great determination and following a public inquiry in 1983 work started on building the new facility in 1986. The proposal to build London City Airport was a radical break with the past and opened in 1987.

In addition, there have been a number of other significant developments in this area of the Royal Docks most notably the Thames Barrier completed in 1984.

ExCeL, the large-scale exhibition Centre on the north side of the Royal Victoria Dock opened in November 2000. It represents London's largest single site exhibition centre, with 65,000 square metres of column-free exhibition space. The listed warehouses at ExCeL west were converted at the turn of 2002 / 03. They provide a theme pub and restaurant, a nightclub, offices and apartments.

Thames Barrier Park opened in November 2000. Key features are a sunken landscaped garden, the 'Green Dock', a riverside promenade, cafe and a children's play area. The sites fringing the park are allocated for residential development; Barrier Point to the West and Tradewinds to the East.

Outline Planning Application

Generally in London the opportunity for a joined-up riverside environment along the River Thames has largely been missed because high value development enclaves, mostly concentrate on the relationship of the site to the river and not the east-west connections. There are many examples of the failure of this approach in west London.

In east London there is the opportunity to realise what has been lost in the west, a 10-mile long tapestry of walkable developments on both sides of the river stretching from Southwark to beyond the Thames Barrier, taking advantage of under used land.

To realise this fantastic opportunity, we need a clear vision, bigger than individual developments creating isolated pockets of housing as the early enterprise zone Docklands residential developments did in the 1980s.

The Royal Wharf site is located both physically and strategically central to achieving the goals outlined above. To this regard a comprehensive outline planning masterplan framework was developed from October 2009 through to May 2011, for the Royal Wharf site to play its part in achieving this strategic vision.

The resulting planning approved masterplan was the clear output of a collaborative approach with the Greater London Authority (GLA), London Borough of Newham (LBN) as well as the London Thames Gateway Development Corporation (LTGDC), all of whom played a significant role in the development of the Royal Wharf site.

This collaborative approach to the design process allowed the structuring of a carefully prepared framework which embodied best practice in urban design, aimed to improve the quality of any resultant surrounding development, encourage more ownership and opportunity on the part of local communities and would lead to a better understanding of the site and development in its context.

Outline planning permission was granted by Newham Borough Council on 30th March 2012 for the overall Masterplan on the Royal Wharf site (previously known as Minoco). The consented masterplan for the Royal Wharf development covers 15 hectares and will provide a vibrant mixed use development with up to 3,385 homes, a new school, shops, offices and restaurants. The masterplan was subdivided into 26 plots broadly reflecting the disposition of the proposed development within the project. Seven of these development parcels were brought forward as part of a detailed planning application alongside the outline masterplan.

As the implementation of the planning permission moved on to Phase 03 of development on the site it became clear that the approved outline plots within this Phase required amendment to enable them to be effectively delivered. Approvals for these amendments are being sought through a Section 73 application which was submitted to LB Newham on 3rd March 2015 (Ref: 15/00577/VAR).

With specific regard to the detailed proposals presented within this design + access statement, the enclosed designs have been developed in full accordance with the masterplan principles and design code of the Section 73. Design proposals for Plot 21 seek to reinforce the aims and objectives of the wider Royal Wharf vision.

Left: Illustrative Masterplan Aerial Image

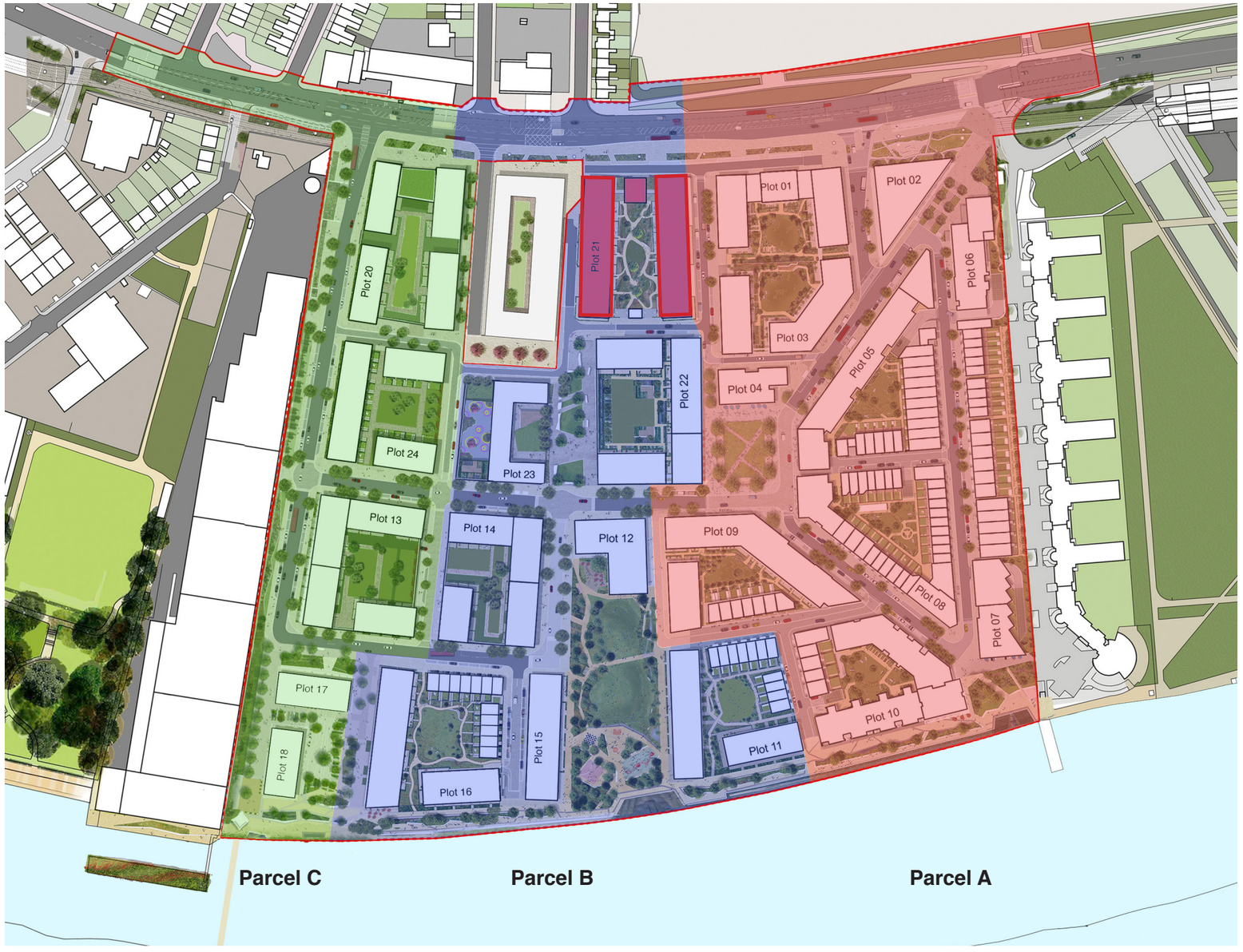
Masterplan Layout as Sought under the
S73 Planning Application Ref: 15/00577/VAR

Royal Wharf Development Schedule

The comprehensive redevelopment of the 17 Ha Royal Wharf site

(as sought under the S73 Planning Application Ref: 15/00577/VAR) to include:

- up to 337,900 m2 of residential (C3) floorspace in a mix of dwelling sizes, types and tenures
- up to 7,000 m2 of employment uses (B1)
- up to 3,250 m2 of retail floorspace (A1)
- up to 750 m2 of financial and professional floorspace (A2)
- up to 750 m2 of hot food / take away floorspace (A3 and A5)
- up to 750 m2 of pub and restaurant floorspace (A4)
- up to 9,600 m2 of “non residential institutional” floorspace to include a new primary school, creches / nursery schools and community facility (D1)
- up to 3,000 m2 of assembly and leisure floorspace to include gym and fitness centres (D2)
- new public realm including a hierarchy of open spaces including a riverside park
- creation of areas of private open space
- riverside walkway, including a link to the proposed Silvertown Pier
- two accesses on to North Woolwich Road
- internal access roads, footpaths and cycleways
- basement and undercroft car, motorcycle and cycle parking, plant, machinery and storage
- other supporting infrastructure.



Planning Parcel

The consented outline masterplan permission divides the overall masterplan site into 3no. Planning parcels for the purpose of establishing the affordable housing provision, illustrated adjacent as Parcels A, B and C.

As illustrated adjacent Plot 21 sits within parcel B. The plot design team have designed to a clearly set target brief concerning tenure, mix and quantum of units across each plot, set by the outline planning S106. It is within this framework the plot design mix has been developed.

Details concerning specific plots are contained later in this document and a summary of the plot proposals within their planning parcel context has been provided within the planning statement supporting this application.

Strategic Planning Policies and Material Considerations

Relevant planning policies and material considerations for the Royal Wharf application are noted below:

Economic development	**London Plan*; The Mayor's Economic Development Strategy For London (2010);**	Transport	**London Plan*; the Mayor's Transport Strategy; NPPF**	Ambient Noise	**London Plan*; the Mayor's Ambient Noise Strategy; NPPF**
Housing	**London Plan*; NPPF; Housing SPG; Providing for Children and Young People's Play and Informal Recreation SPG; Housing Strategy; revised interim Housing SPG**	Cross Rail	**London Plan* Alteration; revised draft Cross Rail SPG (March 2010)**	Context	**Planning for the Historic Environment; NPPF**
Affordable Housing	**London Plan*; NPPF; Housing SPG, Housing Strategy; revised interim Housing SPG**	Parking	**London Plan*; the Mayor's Transport Strategy; NPPF**	Environment	**Development and Flood Risk**
Density	**London Plan*; NPPF; Housing SPG; revised interim Housing SPG**	Employment	**London Plan*; NPPF; Industrial Capacity SPG**		
Urban Design	**London Plan*; NPPF**	Access	**London Plan*; NPPF; the Mayor's Energy Strategy; Mayor's draft Climate Change Mitigation and Adaptations Strategies; Mayor's draft Water Strategy; Sustainable Design and Construction SPG**		
Mix of Uses	**London Plan***	Tall Buildings / Views	**London Plan*; RPG3A, View Management Framework SPG, draft Revised View Management Framework SPG**		
Regeneration	**London Plan*; The Mayor's Economic Development Strategy For London (2010);**				

The London Plan 2011 (amended in 2013 and 2015) for consultation and London Borough of Newham Core Strategy draft are also a material considerations.

Additionally the Newham UDP comments on economic development, housing, affordable housing, density, mix of uses, regeneration, transport and employment.

***London Plan 2011 (as amended in 2013 + 2015)**

DESIGN CODE + MASTERPLAN OBJECTIVES

Purpose of Design Guidelines

As part of the Royal Wharf framework a detailed design code was prepared to support and supplement the urban design strategies of the Royal Wharf masterplan allowing architects, landscape architects and designers to maintain and engage in a design approach consistent and appropriate for this unique site. The code was written with the aim of enriching the development as a whole, through the development of a common and identifiable design language for the masterplan site.

The masterplan framework defines a clear hierarchy of built and open spaces providing a series of settings and themes to be articulated and reinforced through architectural and landscape proposals.

The purpose of this design code was to provide the following:

- Live design guidance to form the brief for architects and landscape architects
- An assessment aid for client, local authority and stakeholder design review.
- Document the aspirations of the Royal Wharf masterplan

Parameter Plans

Parameter Plans linked to the Environmental Statement established the high level spatial masterplan at Royal Wharf and identified an individual vision for each of the main places within the scheme. These parameter plans have been referenced alongside the Royal Wharf design code in the preparation of the Plot designs and used in support of the architectural, townscape and landscape proposals enclosed.

Parameter plans submitted as part of the outline application are listed below:

Parameter Plan 01	Outline Site Boundary
Parameter Plan 02	Existing Site Levels
Parameter Plan 03	Formation Level Plan
Parameter Plan 04	Flood Defence Level Plan
Parameter Plan 05	Proposed Upper Level Plan
Parameter Plan 06	Proposed Building Footprints
Parameter Plan 07	Proposed Minimum AOD Levels
Parameter Plan 08	Proposed Maximum AOD Levels
Parameter Plan 09	Public and Private Realm
Parameter Plan 10	Proposed Movement Plan

Status of Guidelines

Design code guidelines published as part of the Royal Wharf masterplan Outline Planning Application (May 2011) along with the Section 73 application which is currently being assessed by LB Newham (15/00577/VAR) have been used to form a suitable platform for the foundation of the enclosed design briefs and detailed architectural and landscape design proposals.

The design code was not written to be prescriptive to designers, but sought to inform a series of principles upon which designs may be viewed, critiqued and measured against as the masterplan aspirations are realised. It has therefore been used as a principal base for the plot design proposals which have also been prepared with reference to the following associated documents:

- Masterplan Development Specification (May 2011)
- Masterplan Design and Access Statement (May 2011)
- Masterplan Environmental Impact Assessment (May 2011)
- Section 73: Phase 3 Design and Access Statement (Addendum to Minoco Design and Access Statement and Design Code) February 2015.
- Section 73: Environmental Statement Review (February 2015)
- Masterplan Parameter Plans (March 2015)
- Transport Statement and Servicing Management Plan (March 2015)

Guidance Organisation + Hierarchy

The Royal Wharf design code is organised under the following headings:

Objectives

Objectives of the design guidance.

Framework

Site wide conditions to which buildings and landscape proposals should respond. It sets the context in terms of movement, open space structure and built form.

Settings

Identifies places within the masterplan that form specific conditions, and to which design guidance must operate at a local scale.

Interaction

The design guidance for settings across the masterplan indicated the implications for architectural expression of buildings in various locations. This included the concept of ‘marker’ and ‘background’ buildings, in which the former are intended to be visually more important in the identification of routes, defining views or containing spaces. Background buildings and adjacent landscape designs form the principle means of achieving the masterplan vision by allowing the masterplan to be a landmark development and not a competing set of landmark buildings.

To achieve this relationship, it is essential that the process of design development within individual blocks demonstrates recognition of the specific conditions established by the design guidance.

To this regard the plot designs have been developed alongside the code to respond positively to the formal spatial relationships and frameworks established within the masterplan, as set out or implied by the design guidance.

Context

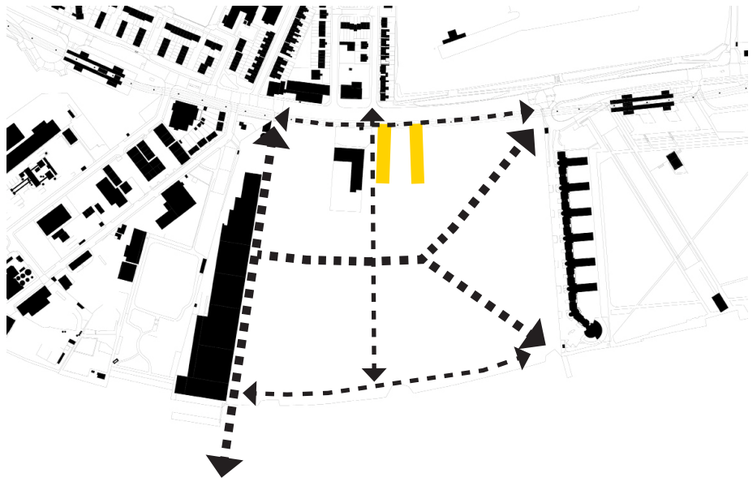
Generating a new site context is a key component of the masterplan framework. Specific criteria have been set by the masterplan to ensure plot design proposals respond to the Royal Wharf design code.

These framework items are as below, and each has been considered fully as part of the enclosed plot design. Where illustrated the proposed plot layouts have been annotated in yellow.

- Connection
- Major Spaces
- Build Form
- Urban Grain
- Sunlight + Daylight
- Drop Off
- Servicing
- Vehicular Movement
- Pedestrian Movement
- Public + Private Space
- Visual Links + Viewing Corridors

Connection

A number of strategic connections exist within the scheme. While the masterplan promotes a rich and varied tapestry of minor lanes and mews type environments the diagram below illustrates the principal strategic connections as defined by the masterplan framework which are responded to by the plot proposals. Legibility and ease of movement along these desire lines has be reinforced and protected.



Major Spaces

The clear and logical definition of the masterplans urban spaces is essential to the success of the scheme.

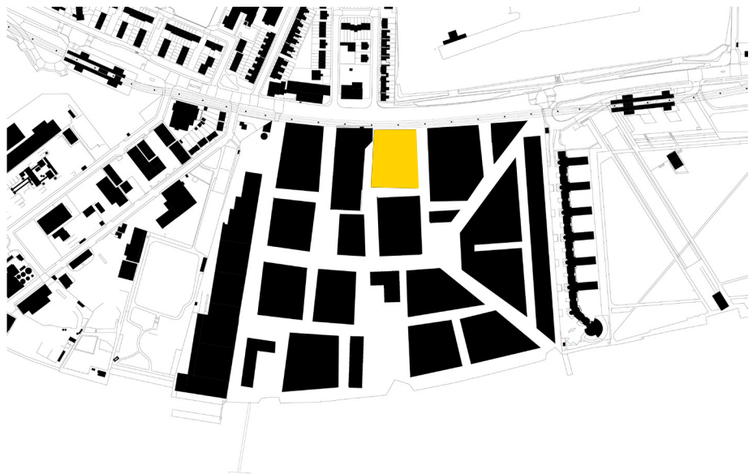
The diagram below illustrates how edges of major spaces have be defined with clarity in order to realise the urban framework for Royal Wharf. The hierarchy of these environments within the masterplan has been protected.

Built Form

The masterplan block plan and built form strategy is illustrated below.

The diagram illustrates the areas of the scheme that have been clearly established as urban built forms in order to define and fully articulate the streets and public spaces within the framework.

The proposed plot layouts respond to the principles of the built form strategy as illustrated below, seeking to maintain and enhance the streets and urban spaces generated by their buildings and landscapes.



Urban Grain

Within the context of the block diagram the masterplan regonises the need to break down the urban blocks and edges to promote permeability and allow visually accessible residential buildings to be delivered.

The diagram below illustrates how the masterplan and plot framework as proposed produces a fine urban grain in plan which avoids the plot being read as a large impenetrable urban block.

Sunlight + Daylight

The Proposed Development is primarily made up of residential accommodation and for this reason has been considered for adequate levels of daylight and sunlight.

The supporting Royal Wharf EIA addendum for Plot 21 includes an internal daylight assessment alongside the sunlight assessment as well as a sun-path shadow study, examining the transient as well as permanent shadow on any existing surrounding amenity space and internal proposed amenity space.

Drop-Off

Drop-off access to all buildings and front doors is a key principle of the masterplan. It is the aspiration of the Royal Wharf scheme that each front door is accessible from a drop off zone or area of visitor parking allowing deliveries and residents to easily access their homes without the need to enter a basement or undercroft parking area.

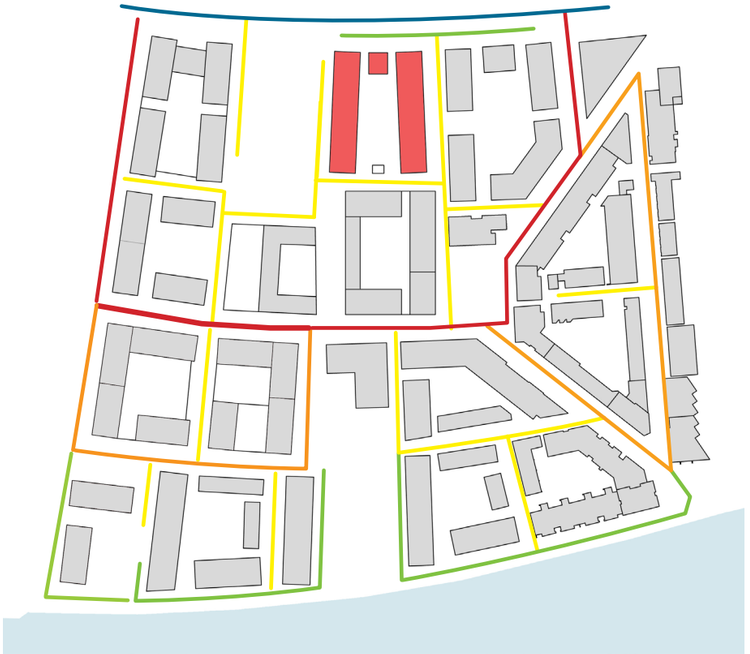
The diagram below illustrates how each plot entrance is easily assessible from local drop-off points within the scheme at ground level.

Servicing + Vehicular Access

Servicing for the residential apartments and commercial units is undertaken either from the on-street road network via front doors + residential cores. Frequencies of use are low per unit, the size of vehicles small and the length of stay for each vehicle short. The non-residential units will be managed to allow access from the principal streets at times which do not conflict with the main pedestrian movements.

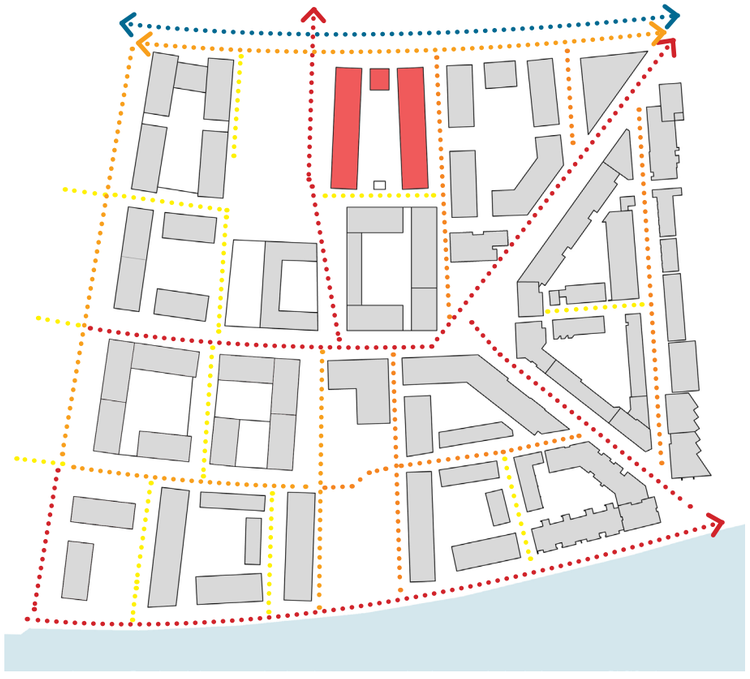
The aspiration is to allow the main streets to operate in exactly the same way as a typical high street within London. Access for emergency vehicles and servicing of the residential, commercial and employment spaces is achieved across the site.

Vehicular Movement



Principles of vehicular movement established in the strategy above are reinforced by the plot design proposals.

Pedestrian Movement



Primary

Secondary

Tertiary

Principles of pedestrian movement established in the strategy above are reinforced by the plot design proposals.

Public + Private Space

Main Public Spaces

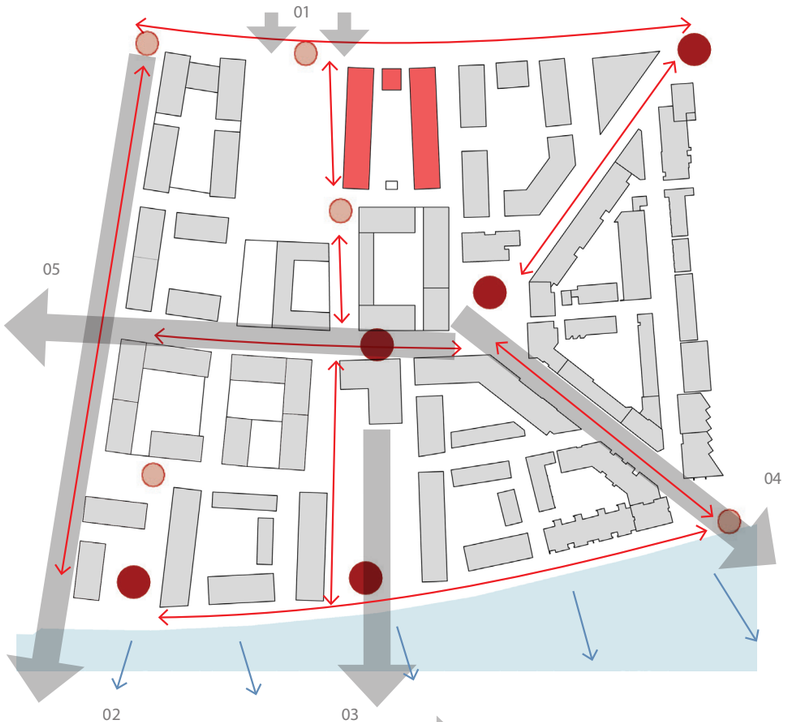
Gateways

Pocket Spaces

Semi-private Spaces

Principles of public and private space established in the strategy above are reinforced by the plot design proposals.

Visual Links + Viewing Corridors



Main focal points

Visual nodes

Visual links

Views across the river

Protected Viewing Corridor

01 Views in from Britiannia Village
02 View to the Pier
03 View to the River
04 View to the Thames Barrier
05 View to Canary Wharf

Principles of the masterplan viewing corridors established in the strategy above are reinforced by the plot design proposals.

Synthesis of Urban Design, Architecture and Landscape

The Royal Wharf masterplan seeks to create a cohesive, diverse and varied townscape that synthesises the strategic masterplan principles with the urban, architectural and landscape design approaches.

To achieve this goal a dialogue has been established and maintained by the plot design team and the master planning team to ensure that plot designs were explored and tested at all scales applicable to achieving the townscape vision of the masterplan.

Additionally, the plot designs respond to the site's heritage and context as a unique riverside location in the London Borough of Newham, exploiting the finest grain of movement through the masterplan's urban spaces and high levels of tactility and articulation in its architecture and public realm.

The narrative device which unites these concepts is the idea of creating a series of legible experiences + journeys, comprising clarity of routes through the masterplan for visitors and residents of the scheme. The plot proposals seek to reinforce this goal in order to complement and reinforce the overall character of the development.

Hierarchy of Setting

The masterplan has a clear hierarchy of setting to order and provide visual clarity and subtle design divergence to the spaces formed by the overall zonal design framework.

Measuring against this spatial hierarchy, the plot designers have tested ideas against the location of place within the masterplan, in order to establish the legibility of overall scheme.

These place settings provide a backdrop of urban conditions throughout the Royal Wharf site to which the plot designs respond with expression and articulation specific to their location within the immediate and wider context.

Frontage

Building frontages will be key to the success of the plots. Strategically the masterplan aspires to create spaces defined by a range of differing building frontages to provide variety and character to each street and the development as a whole.

Buildings within the masterplan were desired to meet the ground with long lengths of facade broken down into master and subordinate orders with a clear hierarchy to the elevation. This principle has been reinforced by the plot design proposals illustrated within this document.

While plot land use is defined by the masterplan strategic parameters it is expected that the use of each plot may be read from its frontage which will articulate the facade and define the building character onto the street.

The principles set by the masterplan are illustrated adjacent in context of the new plot design proposals:

- Corner
- Strong Edge
- Publicly Permeable
- Semi Private
- Principal

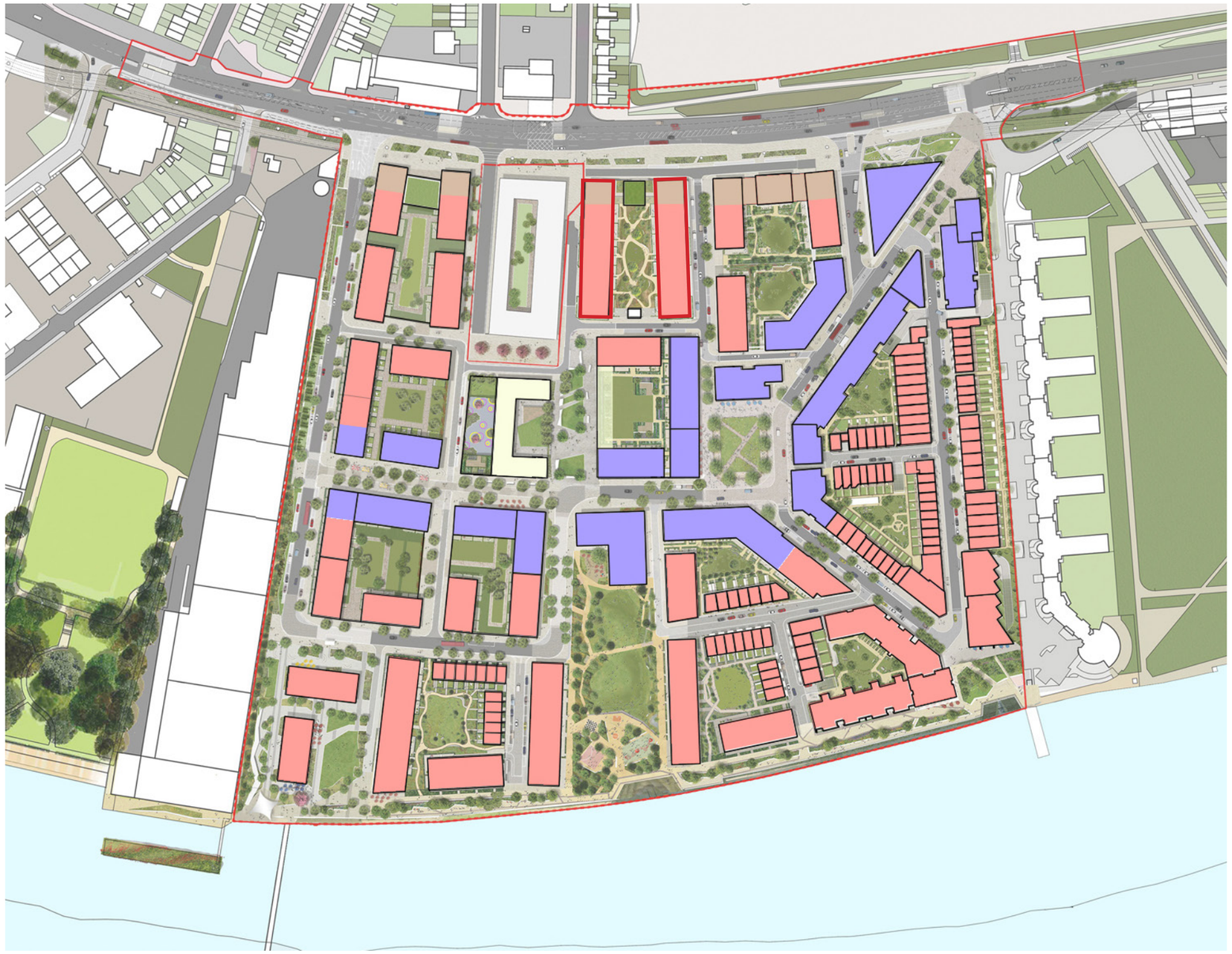
Flood Level and Formarion Level Land Use Plan

Flood Level and Formation Level Class Use

A ground floor land use plan for the Royal Wharf masterplan is illustrated left. The diagram illustrates the strategic principle of wrapping the northern edge of the site in a predominant run of B1 employment uses, allowing these functions to deal with a number of the technical challenges of the changing topography and proximity of the buildings to the DLR viaduct.

The proposed design of plot 21 complies with the use parameters for the flood and formation levels.

- Mixed Class Use A1 to A5, B1, C3, D1 and D2
- Predominantly B1 Class Use
- Predominantly B1 / C3 Class Use
- Predominantly C3 Class Use
- Predominantly D1 Class Use



Upper Level Land Use Plan

Upper Level Class Use

An upper floor level land use plan for the masterplan has been illustrated left. In this context the upper level residential use is defined as the predominant use over all the upper floors.

The diagram builds on the principles set out by the ground level uses plan but recognises that a number of the buildings need to be adaptable to residential uses at the upper levels.

This flexibility has allowed the detailed design of plots 21 to respond to certain site constraints with richness and sensitivity.

The design of plot 21 complies with the use parameters as illustrated.

Proposed Site Levels Plan

Proposed Site Levels

The EA flood levels of for the site has been set at +5.05m A.O.D. The proposed site levels strategy is principally defined by the aim to achieve a level of +5.05m A.O.D. grading up from the existing North Woolwich Road pavement levels; as soon as is feasible within a responsible and appropriate access strategy.

Rising above +5.05m A.O.D. allows the masterplan the flexibility to introduce terraced housing as well as a wider range of residential activities at the new masterplan ground level.

Illustrated by the adjacent diagram the thin red lines highlight the position on site where the contours achieve the flood defence level from the existing levels along North Woolwich Road. Continuing southwards the site levels continue to gently rise to a natural peak of +6.50m A.O.D. along the central east / west route, whereby the site levels gently fall to the rivers edge in a very natural and appropriate way for the site.

The proposed design of plot 21 complies with the designated criteria for the Proposed Site Levels parameters for the flood and formation levels.

Housing + Apartment Location Plan

The above plan illustrates uses at street level.

Housing / Apartment Mix

A housing / apartment plan for the masterplan has been illustrated in the diagram adjacent.

The diagram illustrates how housing within the masterplan framework may be developed to integrate with apartments as well as the mixed use buildings proposed for the site.

Where placed the housing has been grouped around mews / home zone streets protected within an massing of apartment buildings.
Designing the masterplan in this way allows for a rich mix of housing typologies and tenures to be developed within each character area.

The masterplan application documentation establishes a clear residential unit mix for the comprehensive masterplan site incorporating a range of tenures, unit sizes and typologies - this has been detailed in the development specification and design code.

The proposed design of plot 21 complies with the designated criteria for the Housing / Apartment Mix parameters.

Minimum Heights Plan

Minimum Heights AOD

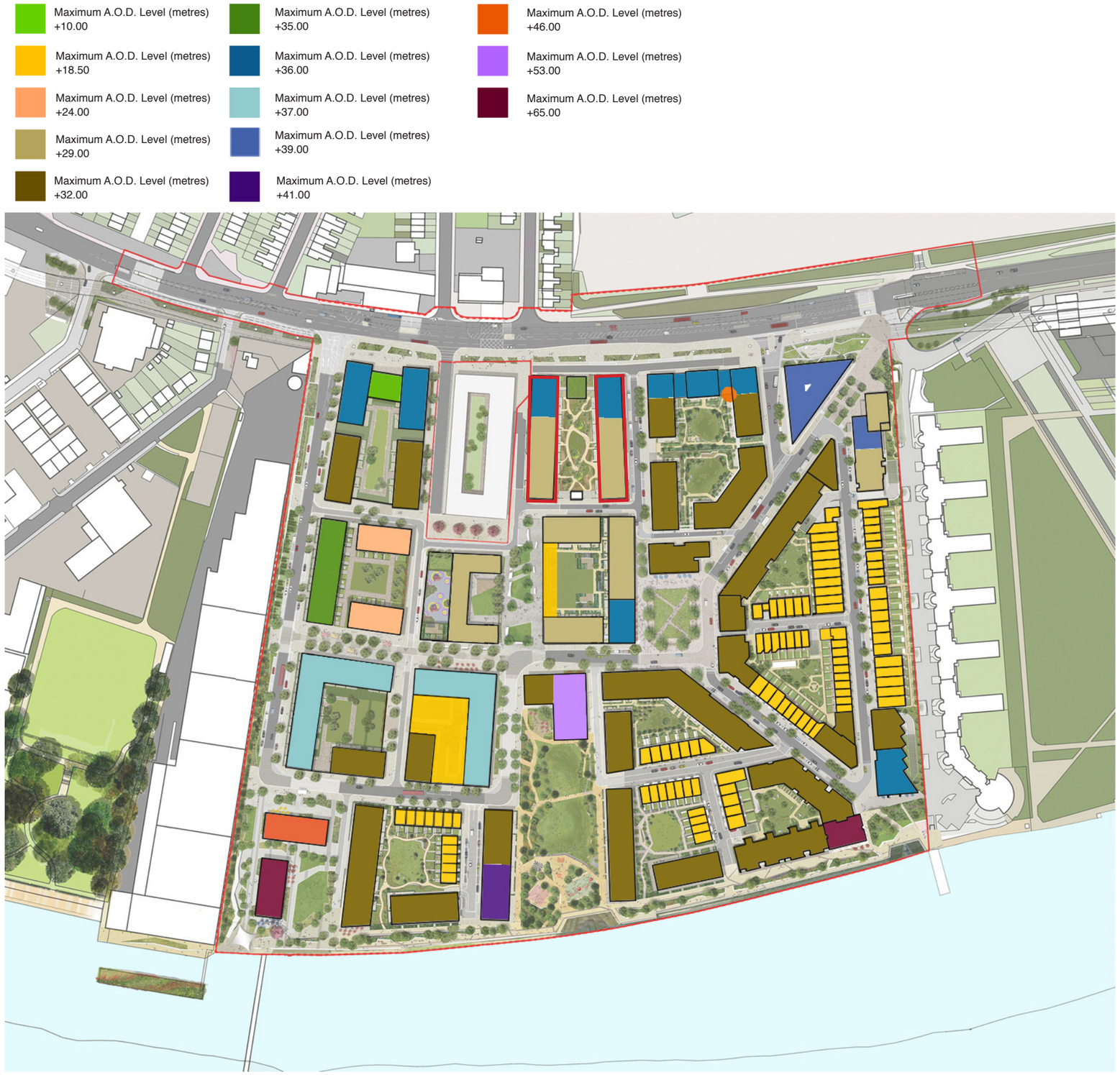
In order for the masterplan to be a success a minimum level of built form needs to be achieved, to ensure enough people live in the area to animate the scheme but also to ensure streets and spaces receive an appropriate level of enclosure to form their edges.

The minimum heights strategy seeks to balance the need for occupancy density with an appropriate level of urban realm and built form density. The heights strategy must allow for a wide range of building forms and architecture to be developed within its framework while also providing certainty in the deliverability of the masterplan aspirations.

It is within this context that the minimum heights for Royal Wharf have been set.

The proposed design of plot 21 complies with the designated criteria for the Minimum Heights A.O.D parameters.

- Minimum A.O.D. Level (metres) +11.00
- Minimum A.O.D. Level (metres) +14.00
- Minimum A.O.D. Level (metres) +22.00
- Minimum A.O.D. Level (metres) +25.00
- Minimum A.O.D. Level (metres) +32.00
- Minimum A.O.D. Level (metres) +39.00



Maximum Heights Plan

Maximum Heights AOD

The maximum heights strategy needs to define where landmarks should be formed and those streets and areas of urban realm within the masterplan that need to be further defined and enclosed, to heighten the quality of the scheme. The diagram for maximum development sets taller buildings adjacent to existing infrastructure along North Woolwich Road, along the principal streets, riverside and main urban spaces, but limits height adjacent to the townhouses.

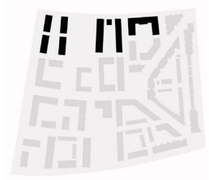
In some cases the maximum building heights vary within a plot to reflect the role of the building in the overall master plan framework. The tallest buildings will be located at:

- The eastern element of Plot 12, this building sits at the northern end of the new park and marks the centre of the site
- Plot 18 is located adjacent to the pier and will act as a ‘marker’ for this facility
- The south eastern part of Plot 10 which is the termination of the diagonal route from the central square and anounces the development across the riverfront

The proposed design of plot 21 complies with the designated criteria for the Maximum Heights A.O.D parameters.

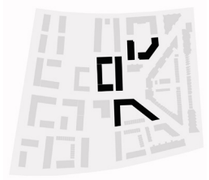
LOCATION

TYPOLOGY



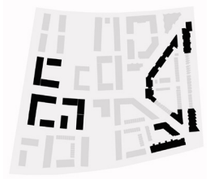
Warehouse

Robust edge
Predominantly brick



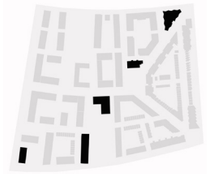
Civic

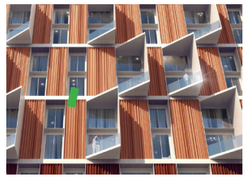
Strong Modelled
Stone



Mansion

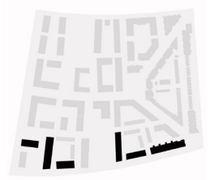
Fine Elegance
Brick with Stone dressing





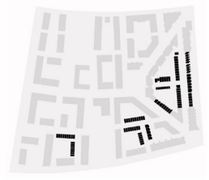
Marker

Special Contrast
Various Materials



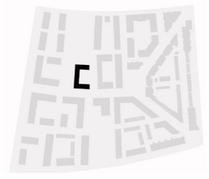
Riverside

Relationship to Water
Stone Metal



Townhouse

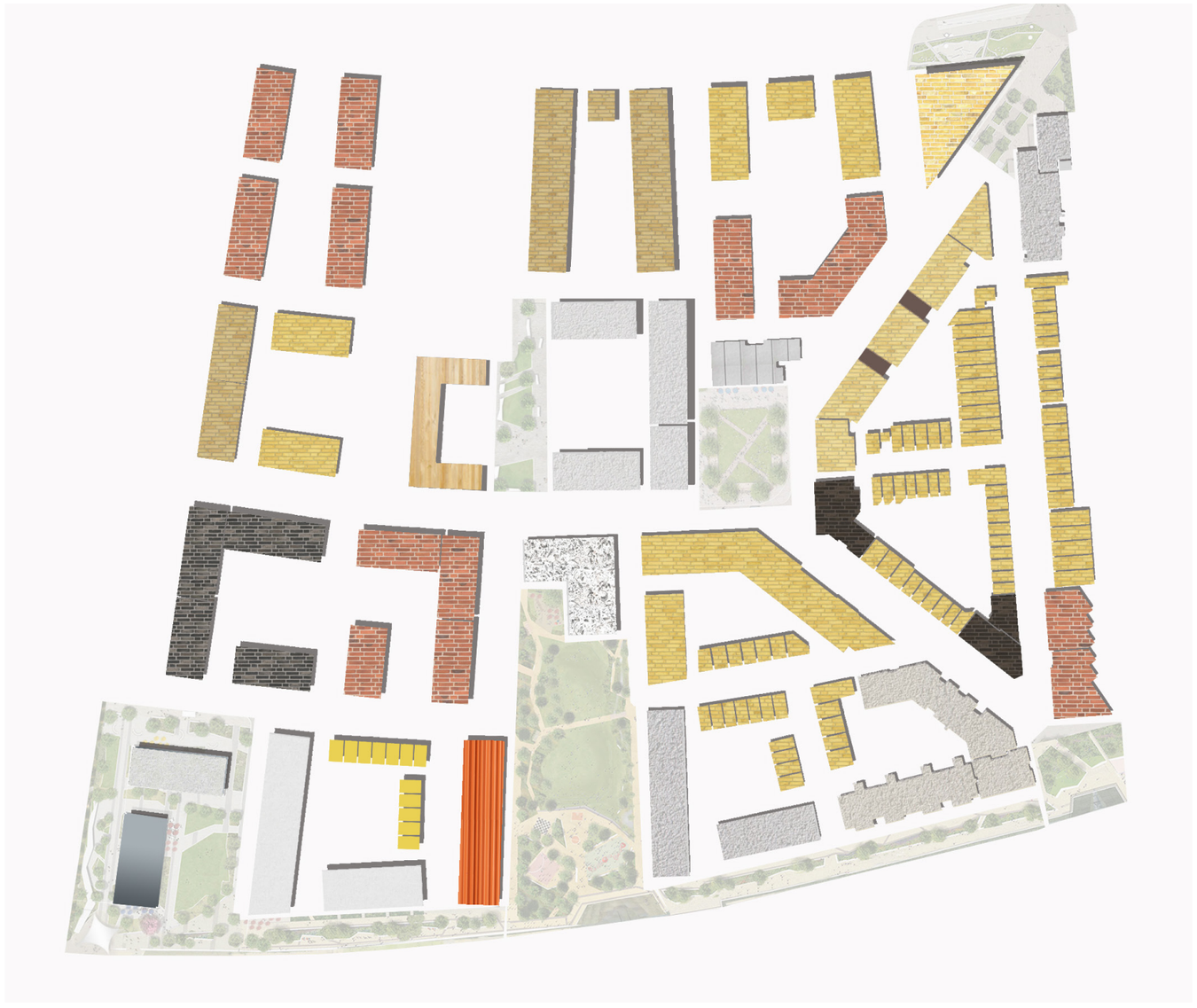
Mews
Brick and Stone



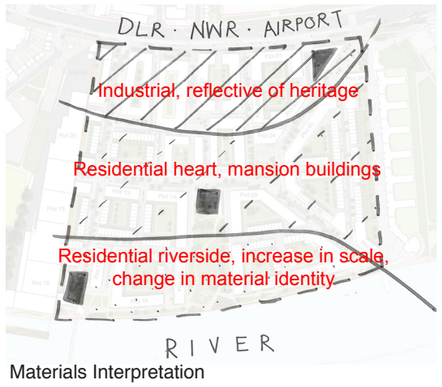
School

Individual
Natural Materials

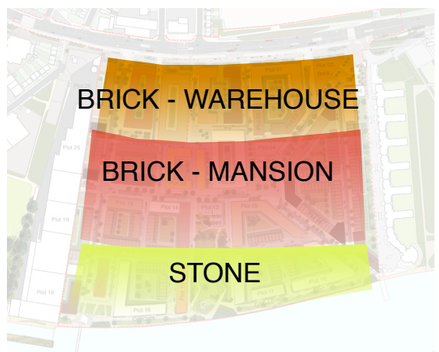
Materiality Masterplan



Initial Principles



Materials Interpretation



Building Type Concept

Masterplan Building Materiality and Typology Plan

The Royal Wharf masterplan is underpinned by an overarching materiality and set of typologies that relate to location and key site conditions. The diagrams *left* illustrate conceptually the broad principles of character and location that were set out at the beginning of the masterplan design to represent the starting point for plot design. Through the design of the first 2 phases, the diagram *far left* has been developed and refined as a more sophisticated and deeper understanding of the masterplan and its individual plots has emerged and evolved.

The buildings along the northern edge of the masterplan that sit adjacent to the DLR and North Woolwich Road are based on Warehouse typology, taking reference from their industrial neighbours such as Millenium Mills, and form a robust edge to the site. The Warehouse typology buildings are predominantly brick, with a repetitive window arrangement.

Moving south in to the heart of the masterplan, forming the edges of the market square, Civic typology buildings can be found. These buildings have a deliberately strong architectural language that responds to their public setting.

Mansion buildings are richly detailed brick and stone buildings that have a strong presense in special locations and form a quieter background in other areas. Mansion typology buildings are highly modelled and elegant.

Riverside buildings are located along the river front and are principally stone with large scale details and elements that respond to the open river elevation that they occupy.

Marker buildings have a distinctive, sometimes contrasting or striking architectural identity and are situated at key prominent locations within the site.

Townhouses in a unifying scale throughout are mostly expressed in a buff coloured brick with stione detailing.

The school will be designed in a standalone style which will complement the surrounding context.

Plot 21 is categorised as a Warehouse typology building; predominantly vrick in material with a repitious architectural language.

Summary Schedule

GEA Residential	23,737 sq. m
GEA Storage	916 sq. m
GEA Commercial	842 sq. m
GEA Common Areas	1,925 sq. m

Affordable Rented Housing Mix:

1 Bed apartments	34
2 Bed Apartments	48
3 Bed Apartments	46
4 Bed Apartments	1
3 Bed Duplex Apts	2
4 Bed Duplex Apts	2
5 Bed Duplex apts	2
TOTAL	**135**

Intermediate Housing Mix:

1 bed apartments	40
2 bed apartments	50
3 Bed Apartments	16
TOTAL	**106**
TOTAL	**241**

Introduction

Plot 21 completes the North Woolwich Road Frontage for this phase of the development. It comprises two linear apartment blocks seperated by a generous shared garden, sitting above a semi basement car park. The massing and topography generate heights varying between eight and eleven storeys. The aspect to North Woolwich Road is challengbing, due to orientation and the proximity of both the DLR and the road itself. However, there are goof medium and long distance views as far as the olympic Park. There are residential streets to the east and west of the plot, whilst the south west corner terminates the linear public space between the new school and community facilities. The accomodation in this plot comprises commercial premises together with both affordable and market value residential apartments.

Compliance with Parameter Plans

Parameter plans as part of the outline application are listed below and the following items are noted with regard to Plot 21

1782-OPA-001-P2 Outline Site Boundary

The proposal sits within the outline site application boundary and complies with the parameter.

1782-OPA-002-P2 Existing Site Levels

The proposal sits within the outline site application boundary and complies with the parameter.

1782-OPA-003-P3 Formation Level Plan

The proposal provides car parking and mixed class use at this level. The north western corner of B1 class will contain mixed class use. Plot 21 complies with the formation level parameters.

1782-OPA-004-P2 Flood Defense Level Plan

The proposal contains mixed class and residential use at this level.

1782-OPA-005-P2 Proposed Upper Level Plan

The proposal complies with the designated criteria.

1782-OPA-006-P2 Proposed Building Footprints

The proposal complies with the footprint parameters.

1782-OPA-007-P2 Proposed minimum A.O.D. Levels

The proposal complies with the designated criteria.

1782-OPA-008-P2 Proposed maximum A.O.D. Levels

The proposal complies with the designated criteria.

1782-OPA-009-P3 Proposed Public and Private Realm

The proposal complies with the designated criteria.

1782-OPA-010-P2 Proposed Movement Plan

The proposal complies with the designated criteria.

Massing

The scale and massing strategy for Plot 21 broadly follow the parameters set out in the original consented Masterplan, which is then refined to respond to the detailed design of the blocks.

The diagrams opposite illustrate a number of strategic developments from the consented masterplan.

- The enclosing limbs of the blocks at both the north and south ends have been removed in order to allow more light into the central gardens, and to the southern street, and also better views into the site from North Woolwich Road and the DLR.

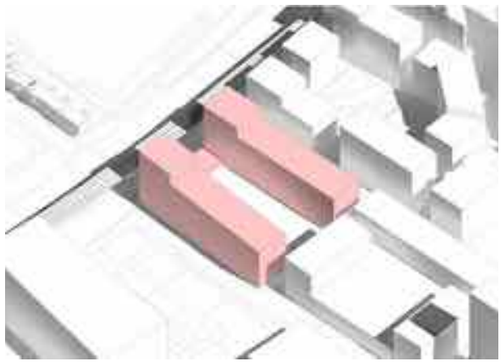
- The orientation of the taller elements along North Woolwich Road is rotated to align with the blocks below and maintain the open relationship between street and gardens.

- A garden scale building is added to the south to provide access to the car park and animate the southern street frontage.

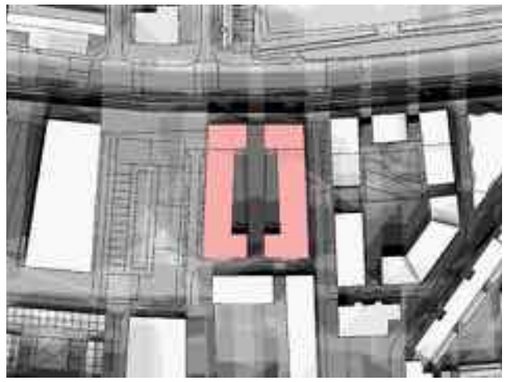
The compound shadow diagrams combine shadows cast at different times on the four equinox/solstice days. This gives a good indication of the average shadows cast by the two options. The difference in light levels within the shared garden space is particularly noticeable.

Masterplan massing

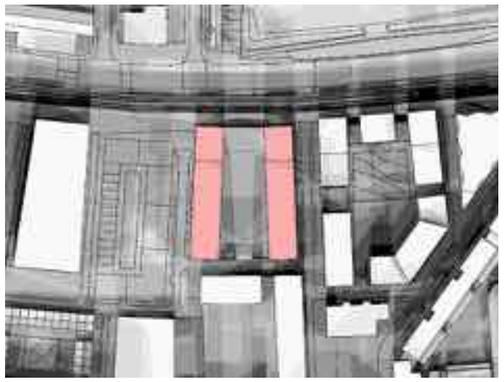
New adjacent block massing



Break northern end to reduce DLR/ north facing frontage, south end to allow light and reduce overlooking



Shadow study masterplan



Shadow study proposed

Elevation precedents

Appearance

The Masterplan identifies Plot 21, along with other plots in this part of the site, as following a warehouse typology, reflecting the historic industrial nature of the area.

The material palette is kept simple, with all masonry elements comprising a grey/brown brick, articulated with galvanised steel projecting balconies. Projecting brick piers form the dominant elements of the elevation and give a rythm which is clearly visible in oblique views. The windows and floor slab edges form a secondary order and the balconies add another level of depth to the elevations.

Whilst the architecture reflects industrial typologies, the central space echoes the traditional London housing model of shared gardens with large trees.

Typical elevation bay study

Aerial View from North Woolwich Road

Bay Studies

East Elevation

North Elevation

Street Elevations

The east, south and west elevations all face on to residential streets, which offer only oblique views of the elevations. Whilst the varying rhythm of brick piers forms the structure of the elevational composition, it is the cantilevered balconies which are the most significant feature in most circumstances. The external terraces of the ground floor apartments are generally raised above pavement level to provide a degree of separation between public and private realms.

The open nature of the north elevation allows a rare view deep into the Royal Wharf development and it is characterised by the generous landscaped gardens at the heart of the plot. The lower portion of the North Woolwich Road elevation comprises three commercial units, separated by the entrances to the northern residential cores, thus ensuring that there is activity along the whole of the street frontage.

West Elevation (Courtyard)

South Elevation

Courtyard Elevations

The courtyard elevations follow a very similar pattern to the street elevations.

The primary apartment entrances all address the gardens which are characterised by the large mature tree planting, made possible by the dedicated tree pits within the undergoing car park.

Lower Ground floor plan

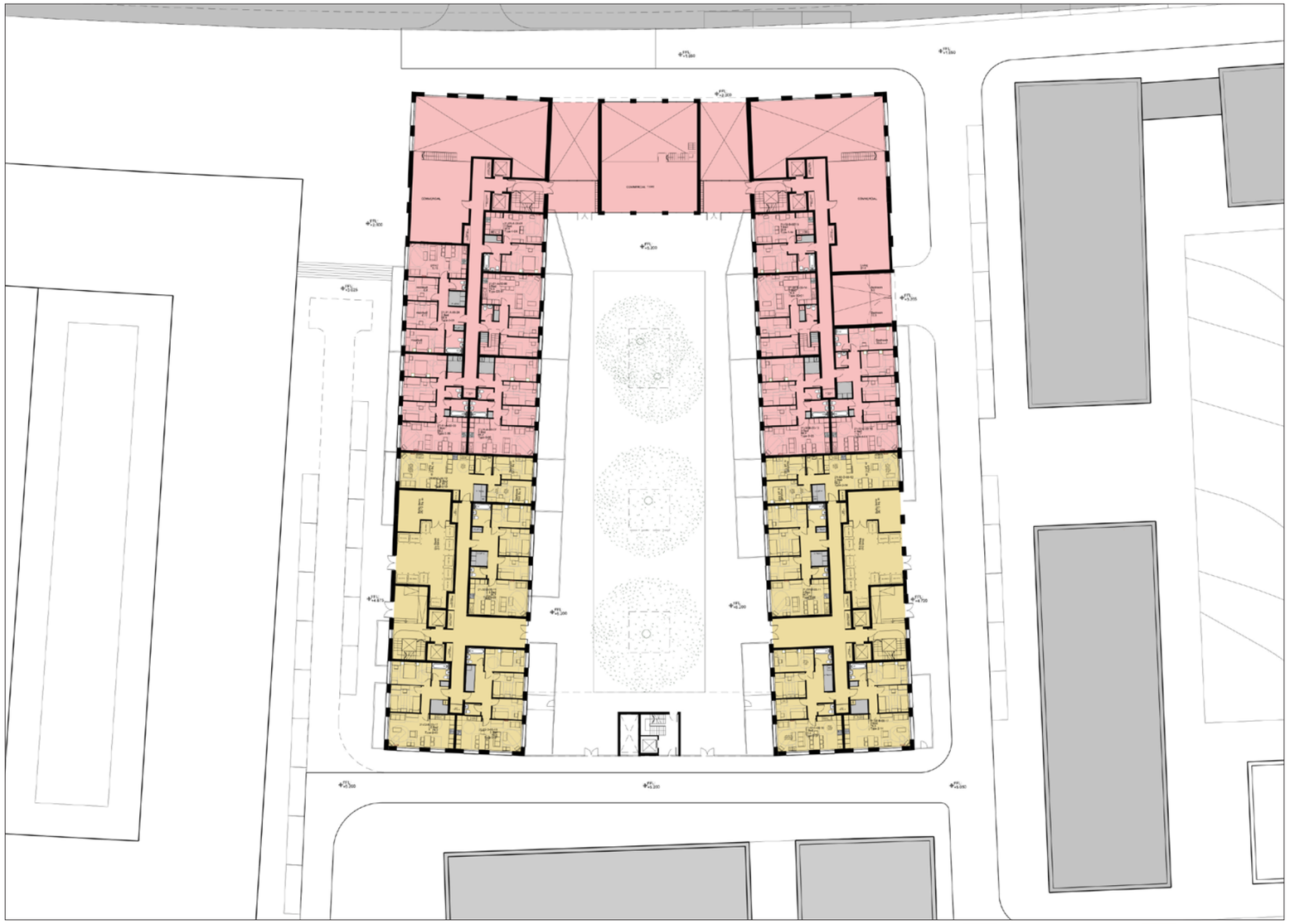
Rented housing

Affordable housing

Lower Ground Floor Plan

The lower ground floor covers the north side of the plot in response to the changing site levels. All accommodation is accessed from North Woolwich Road. This includes the three commercial units as well as the lower entrances to the apartments above.

Service entrances are located on the east and west elevations, and the vehicle entrance to the car park is also located on the east elevation.



Ground floor plan

Rented housing

Affordable housing

Ground Floor Plan

The upper ground floor level is the principal level for entering the residential accommodation, and it is focused around the central gardens. All cores have entrances from the gardens together with secondary entrances from the street.

The main pedestrian entrance to the car park is also located at this level and is entered directly from the street.

Ground floor apartments have private terraces to give a degree of defensible space, between the buildings and the pavement.

First floor plan

Rented housing

Affordable housing

Cores

Cores are designed to provide efficient access to apartments. As well as two lifts, each core has a generous daylit stairwell to provide opportunities for interaction between neighbours en route to and from their homes. Each core serves six to eight apartments, with the exception of the south west core which serves nine.

There is a mix of different sized apartments within each core. This is to encourage a broad mix of residents within each core and therefore increase the range of use patterns. Generous ground floor lobbies contain shared facilities such as post boxes and provide access to cycle stores and the shared gardens.

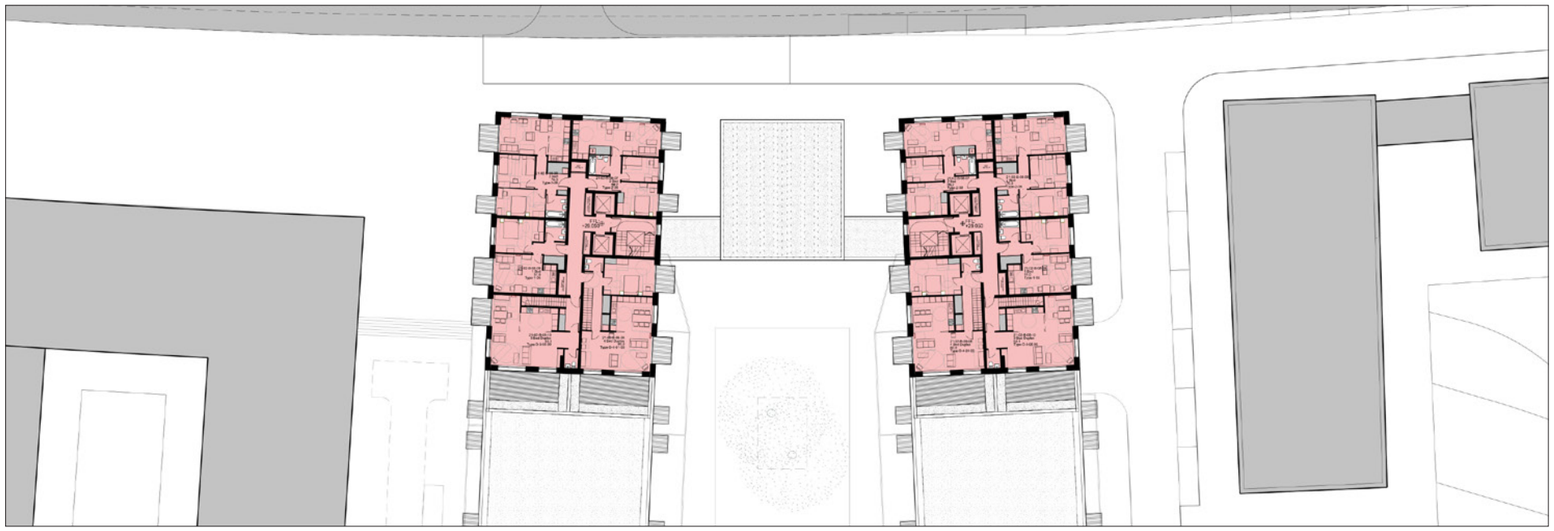
Typical floor plan

Rented housing

Affordable housing

Typical Upper Floor Plan

The typical upper level plans repeat over seven storeys and comprise apartments of various sizes arranged around cores.



Level 08 floor plan

Level 09 floor plan

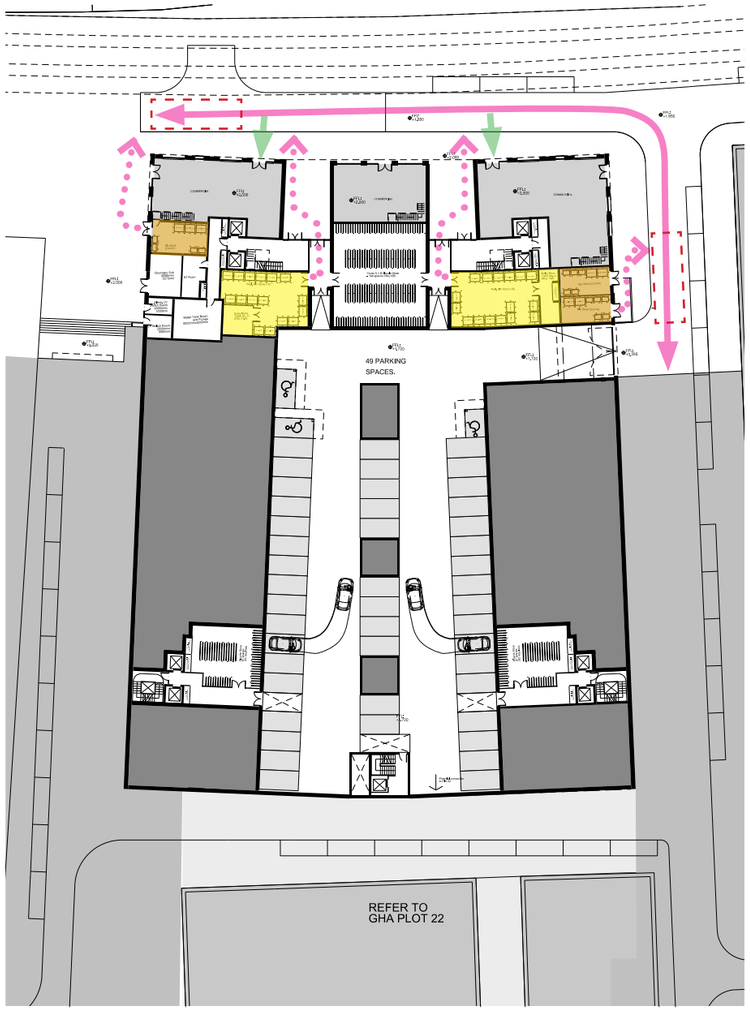
Rented housing

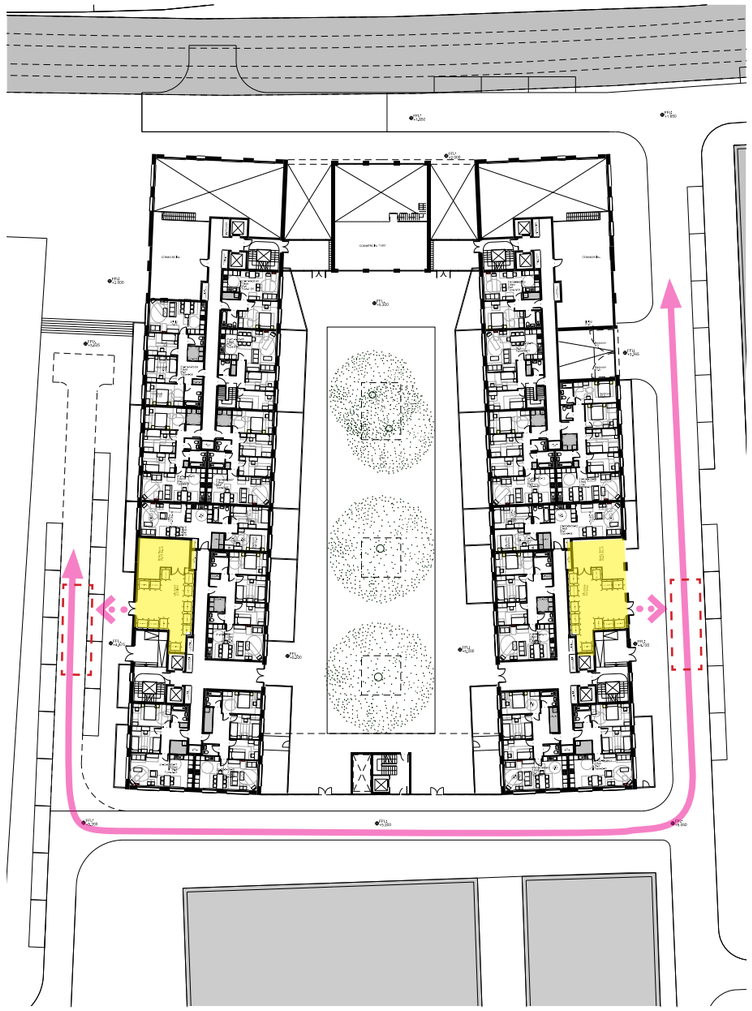
Affordable housing

Level 08 and 09 Floor Plan

On the northern end towards the DLR, the building rises two storeys above the main massing. These levels contain more typical units as well as larger duplexes with generous roof terraces.

View of courtyard





Residential Refuse Store
Commercial Refuse Store
Path of refuse vehicle
Path of bins from collection point
Servicing of commercial units

Refuse and servicing strategy

Servicing waste and refuse strategy

Servicing of Commercial Units

Vehicles servicing the commercial units along the DLR stop at a designated drop-off zone along the northern street.

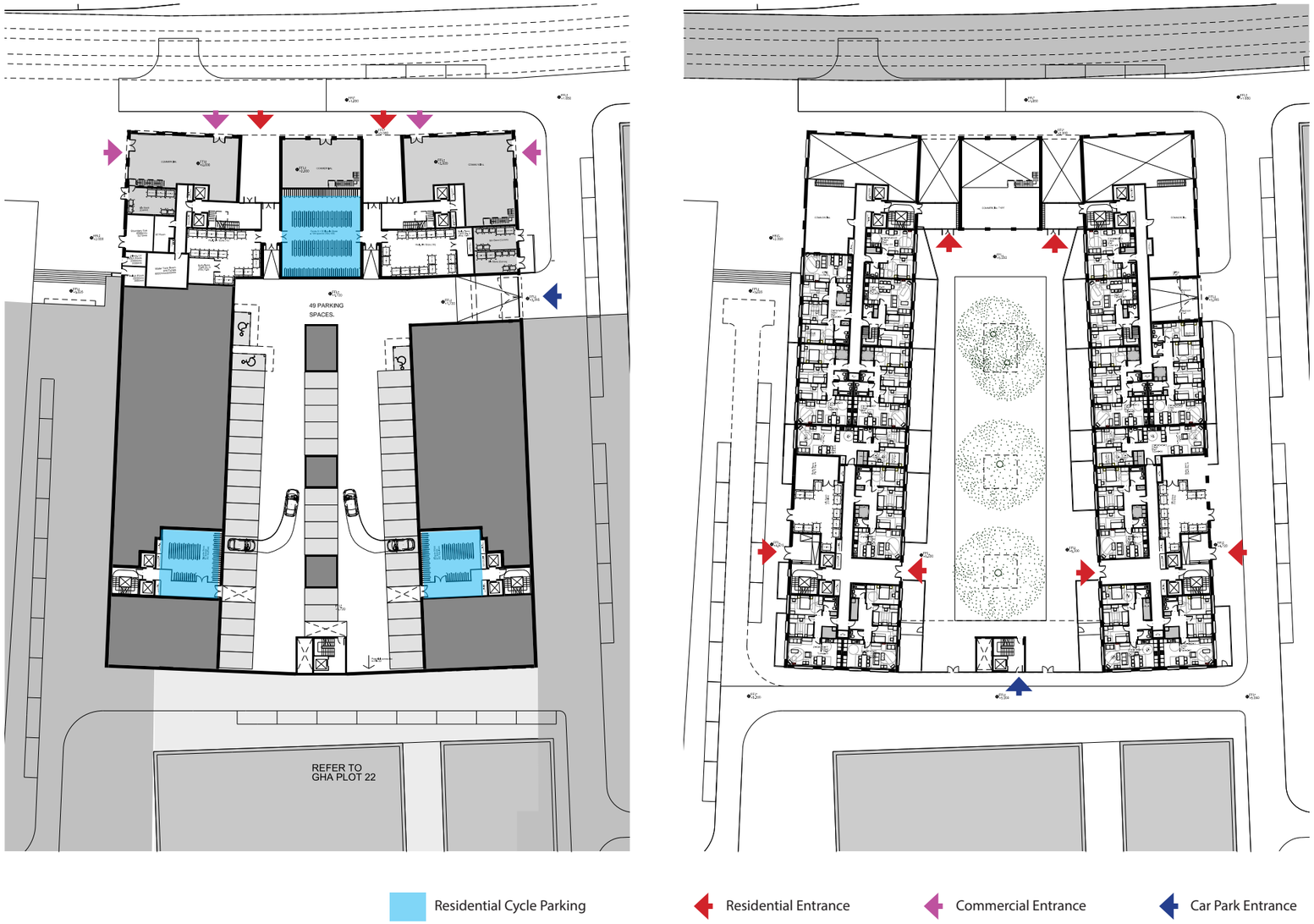
Waste and Refuse

All refuse stores are compliant with Part H of the Building Regulations and a have been designed in accordance with Newham's Waste Management Guidelines.

The commercial refuse stores are located adjacent to the commercial units and accessed from the units as well as from the street.

There are four designated residential waste and refuse stores. Each of these stores is in proximity of a respective residential entrance and has direct external level access.

All waste and refuse storage has been sizes to accommodate a weekly collection. The waste collection vehicles will park adjacent to the refuse store or at the closest point along the street. Operatives will then wheel the containers from the store to the vehicle and back.



Parking and street access strategy

Cycle and vehicle parking, pedestrian entrances

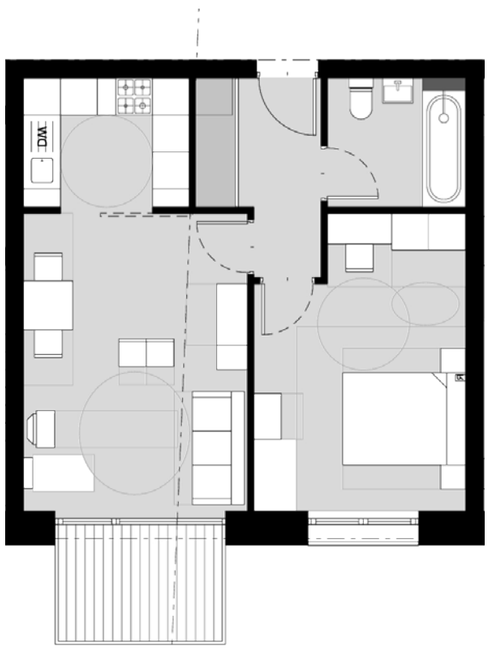
Plot 21 is extremely well connected by public transport, with DLR stations and bus stops close by. A designated cycle route into central London also runs along North Woolwich Road.

Car parking provision in Plot 21 form part of the overall masterplan parking strategy and is described in the Transport Statement. Access for cars is via a ramp on the eastern elevation. Residents of the private apartment block can access the car park directly from the south-western core. A further pop-up core along the southern street provides dedicated access from other residential plots.

All residential cores are provided with a main entrance and a secondary entrance with direct access to the courtyard.

Residents' cycle parking for the two northern buildings is provided at lower ground level in a secured cycle store. Further cycle stores for the private units are located next to its core at lower ground level, and for the south-eastern building at ground level adjacent to the core. The total number of provided spaces (301) allows for 1 space for each 1 or 2 bed unit and 2 spaces for each 3 or 4 bed unit, complying with London Design Housing Guide recommendations and Code for Sustainable Homes Level 4.

Sheffield cycle racks for public cycle parking are also provided along the pavements.



Typical 1 bed unit - rented

Typical 2 bed unit - rented

Typical 3 bed unit - rented

Apartments

The apartments have been designed using the following criteria:

- to exceed the LDHA guidelines where possible
- maximise the amount of natural light
- respond to orientation and aspect

In line with the Masterplan, there is a broad mix of apartment types and sizes, ranging from suites to five bedroom units, with a mixture of private, shared ownership (intermediate), and social rented tenures. There is a mix of different sized apartments within each core. This is to encourage a broad mix of residents within each core and therefore increase the range of use patterns. Generous ground floor lobbies contain shared facilities such as post boxes and provide access to cycle stores and the shared gardens.

Layout of apartments has sought to maximize daylight and views, and minimise overlooking. The internal layouts of the apartments have been carefully considered to create generous and practical spaces within the space standards.

All apartments have access to their own private balcony or external terrace, and all windows are full height.

Four and five bedroom units are generally designed as duplexes to avoid long bedroom corridors and to create opportunities more varied use patterns.

Landscape Vision

This chapter has been prepared to describe the design for the Courtyard Garden of Plot 21 and surrounding streetscape. The courtyard design is explained in detail with the surrounding streetscape of the plot supporting this.

The landscape design for Plot 21 will bring forward two key elements in the shared residents courtyard of plot 21 and the surrounding streetscape which inegrates into the wider masterplan.

The courtyard gardens within the individual Plots have been designed to be places which will afford the Plot Residents an amenity space which is attractive to look out over and is appealing for residents of all ages to use.

The streetscapes have been designed in line with the master plan objective to deliver streets which establish a hierarchy through the use of a familiar language of materials and elements for carriageways, kerbs, and footpaths, that will enable the development to feel like a recognisable part of the wider city.

The Role of Landscape For Royal Wharf

Landscape and public realm forms a key component of the Royal Wharf development. The aim of the master plan is to create an attractive, vibrant new neighbourhood in London which will support a new population with a focus on family housing. This will be reinforced by the design of the public realm.

The structure of the public realm has been arranged around establishing a clear hierachy of streetscapes and individual spaces located across the master plan, including the Market Square and Royal Wharf Park.

The courtyards contribute to the amenity of the site, providing local spaces for the residents in the buildings around each garden court.

Phase 1 of Royal Wharf received a detailed planning consent alongside the outline master plan consent. This brought forward a number of streets, the entrance space, the Market Square, the first section of North Woolwich Road and the Riverside Park. As well as these areas of public realm, residential courtyard gardens are being delivered in Plots 02, 05, 08, and 10 as well as a residents kitchen garden along the eastern boundary of the site.

Royal Wharf Master Plan

Design Review Panel Presentations and Feedback

The landscape design has been presented to the Design Review Panel (DRP) alongside the Architecture. The following comments were received and have been addressed as follows:

We questioned whether the soil depth in the courtyard will be sufficient for tree planting – particularly in the locations shown.

The landscape within Plot 21 will be located above slab construction. The designs of the courtyard have been developed to include areas of mounding to increase depths to facilitate tree planting. The depths and volumes of planting medium reflect those which we have specified on existing schemes to successfully establish landscapes on slabs.

Further detail requested for the opportunities for landscape to contribute to quality of life biodiversity, outdoor play and individual character

Quality of life: Each garden has been designed as a visual delight for the surrounding homes. The individuality of the layouts and planting will create a particular sense of surprise and individuality within each garden. Courtyard level apartments and houses around the perimeter will have private amenity spaces providing direct access into the garden. Within the gardens a variety of features and elements will be included including doorstep play, picnic benches, lawn space which will be complemented by the use of a variety of seasonal palettes of plants.

Biodiversity: The planting palette will balanced to create a visually delightful landscape. As the gardens are in close proximity to London City Airport, birds should not be encouraged.

Outdoor Play: Play within the courtyard gardens is focussed on doorstep play to complement the play provision within the public realm. This is described in more detail further in this chapter.

Individual Character: The designs have been developed to create a family of gardens which have individual identities and characters. The design of each courtyard is strongly influenced by the containment and form of the surrounding buildings. The variation in architecture and access arrangements has led to varied perimeter arrangements within each garden, which are generally formed around a central lawn. Planting characters and palettes within each garden have been developed to reinforce the individuality of each garden.

- Family of gardens
- Community kitchen gardens
- Linear gardens along the site boundary
- Gardens with a more varied character to respond to the particulars of the plot shape/ size
- Public spaces each with different characters, identitites and functions

Gordon Square

Argyle Square

Brunswick Square

Mecklenburgh Square

The Courtyard Gardens at Royal Wharf

The gardens at Royal Wharf have been conceived as a family of private spaces only accessible to the residents of the surrounding buildings. The site wide concept for the development is as a modern interpretation of the traditional residential areas in London, creating a neighbourhood which responds to housing types, streets and spaces that have a familiar palette, hierachy and function.

The designs have referenced the garden squares of London where there is a tradition of creating open spaces both public, and private ‘key holder’ gardens, for example, as Mecklenburgh Square Garden. These squares, although slightly different in layout and content have a familiar, simple style which people recognise and feel comfortable with. They often utilise similar elements; tree planting, shrub and herbaceous planting, lawns, seating, and focal points, generally fountains or statues or sometimes floral displays. The aspiration is that a ‘family’ of gardens is created, each one individually designed but with an overarching identity that will help to reinforce Royal Wharf as a distinctive neighbourhood.

There are some opportunitites for an alternative approach where the function is significantly different, such as the communal kitchen gardens, or where the size or shape is different, such as the linear gardens along the eastern boundary, which are also being developed as part of phase 1 (consented).

Plot 21 Courtyard Garden

Plot 21 is a linear garden space characterised by swathes of planting. Plot 21 will provide 1702m2 of communal garden space, of which 340m2 will be play space.

Terraces:

The terraces along the eastern and western facades will provide private amenity space for the garden level residents.

Access:

There are 4 principal entrances to the cores from the garden as well as individual garden entrances into the apartments around the garden perimeter. The garden can be accessed from the street to the south of the plot.

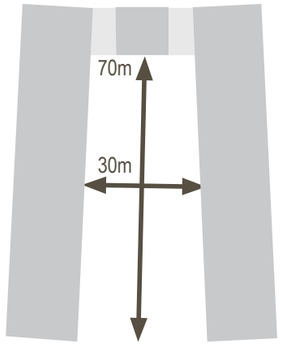
Circulation:

A meandering path will weave its way through the planting. The garden has avoided setting up any significant axis and views to bring the focus of the space onto the planting.

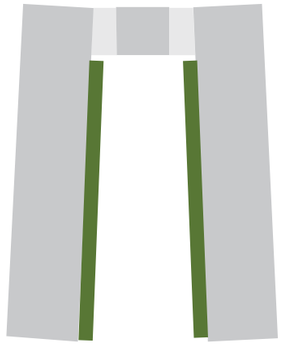
Spaces:

Subspaces have been created within the garden where the path gets wider and where the path splits around an island of planting. These spaces identify places for people to dwell.

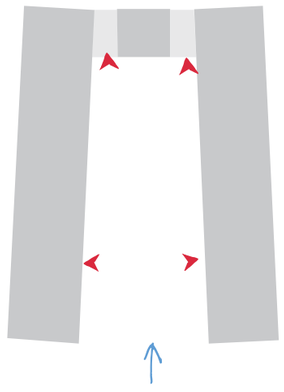
Dimensions



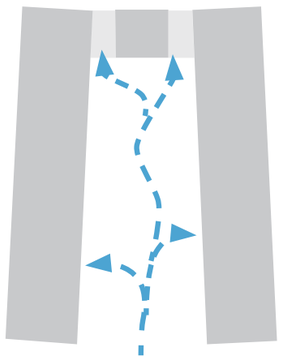
Terraces



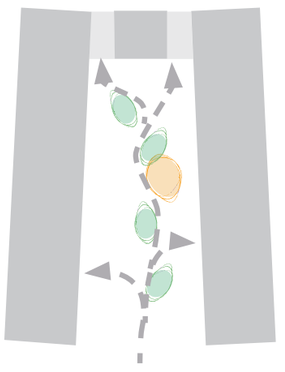
Access

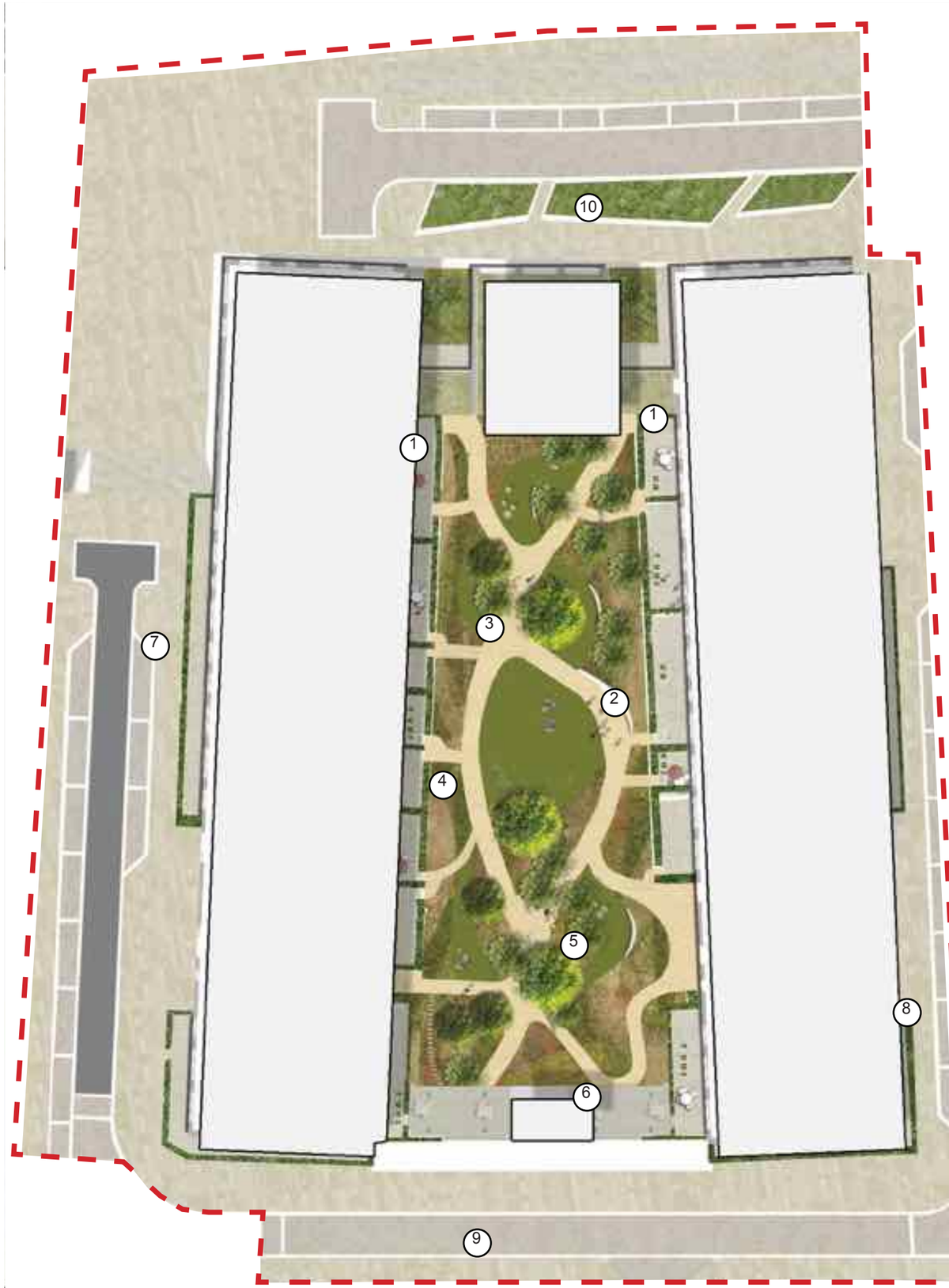


Circulation



Spaces





Extent of planning application boundary

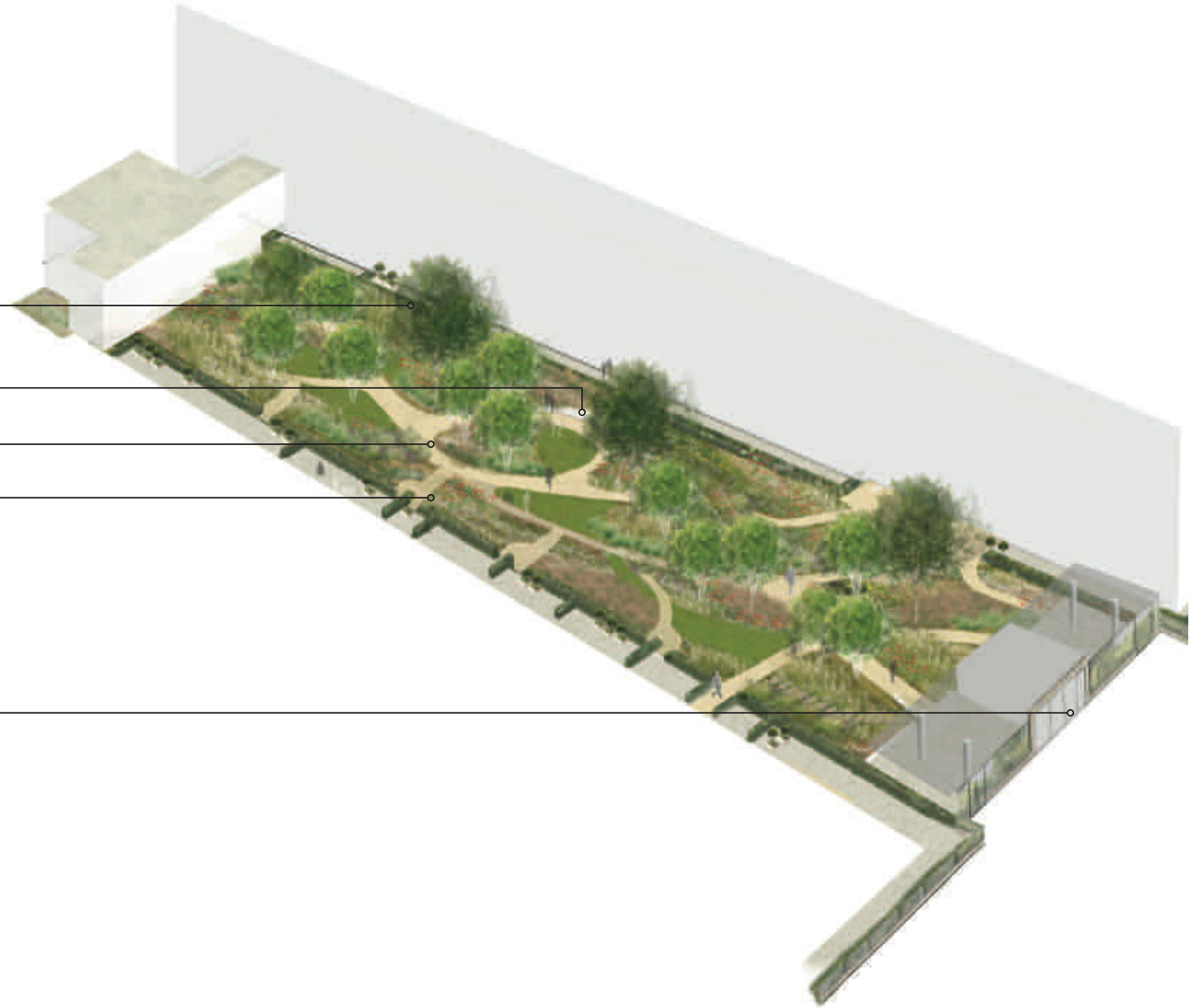
Plot 21 Courtyard Garden & Streetscape Master Plan

Key

1. Private gardens around the perimeter of the garden
2. Seating
3. Weaving pathways flowing through the garden
4. Generous areas of planting
5. Tree planting
6. Access for residents to the street
7. Parking Bays
8. Hedge planting
9. Shared surface
10. Buffer planting

Sinuous pathway through planting as proposed in courtyard.

Axonometric of Plot 21 Courtyard Garden



Tree Palette

Betula pendula

Betula albosinensis

Betula jacquemontii

Corylus avellana
'Contorta'

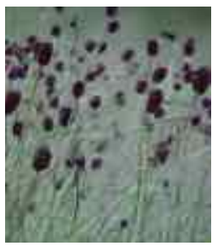
Planting Palette

Rudbeckia maxima and
Stipa gigantea

Stipa tenuissima

Kniphofia

Miscanthus



Sanguisorba officinalis

Panicum virgatum
'Heiliger Hain'

Knautia macedonica

Echinacea 'Sunrise'

Plot 21 Courtyard Garden Planting Palette

The design of Plot 21 is largely characterised by the use of large areas of planting flowing in swathes across the garden. The design is conceived as a unified area of planting through which the path ways weave.

Tree planting will have light canopies and the palette has sought to identifiy species with varied trunk colours and textures.

Green and Brown Roofs

The green and brown roof strategy is an important part of the environmental mitigation for the development. As such, there are opportunities to incorporate a range of living roofs such as extensive and intensive green roofs, balconies and private roof terraces across the site. These locations were summarised on Parameter Plan 09 for the site wide master plan. The existing site has a strong, post industrial, brownfield character which has informed the recommendation in the Environmental Impact Assessment carried out as part of the outline application, for there to be a split between green and brown roofs of 20% and 80% respectively.

Plots within Phase 2 will have brown roofs which will offer a number of environmental benefits:

- Reduced rainwater runoff
- Enhanced roof insulation properties
- Reduction in urban heat island effect
- Enhances roof lifespan by protecting underlying waterproofing system

These brown roofs will seek to utilise recycled material and spoil. If practicable this material will come from site, however the contaminated nature of the site means that this will be unlikely. Local wildlife will be allowed to colonise the roof over a period of time with minimal human intervention.

Biodiversity and Sustainability

Measures to address issues of sustainability are embedded within the principle concept for the design of the landscape master plan and have been carried through to the design of Phase 2.

These principles include:

- Considering from the outset of the design process how the landscape will be managed and maintained in the long term.
- Creating places that are inherently flexible taking account of the future impacts of climate change, and adaptation measures that may need to be retrofitted.
- Considering the implementation of water management and recycling schemes.

At a detail level this will include:

Materials specification

- Seek to select materials from sustainable sources where fit for their purpose.
- Aim to use locally sourced materials where practicable.
- Examine the potential for retaining and reusing site materials, particularly on the brown roofs across the site.
- Seek to maximise the design life of projects by optimizing the use of durable materials that last longer, reducing the volume of water produced over the developments' life time.
- Consider the use of prefabrication and standardization techniques to minimise waste.
- Examine the use of recycled materials.
- Specify Forest Stewardship Council (FSC) certified timber or timber certified under the Pan European Forest Certification Scheme.
- Seek to install energy efficient components including lighting.

Water Conservation

- Seek to install efficient irrigation.
- Seek to install water efficient products/ features.

Biodiversity

The proximity of the site to London City Airport has given rise to a planning condition associated to the scheme which requests that nesting birds are discouraged and that planting doesn't encourage food sources for birds.

- Contribute to a site wide network of green spaces which connect to existing green spaces in the surrounding areas, forming a connection of potential wildlife habitats and green corridors.
- Promote an environment where quality of life and quality of environment are integral to the development.
- Use planting which is attractive, and responsive to the changing seasons.

Play

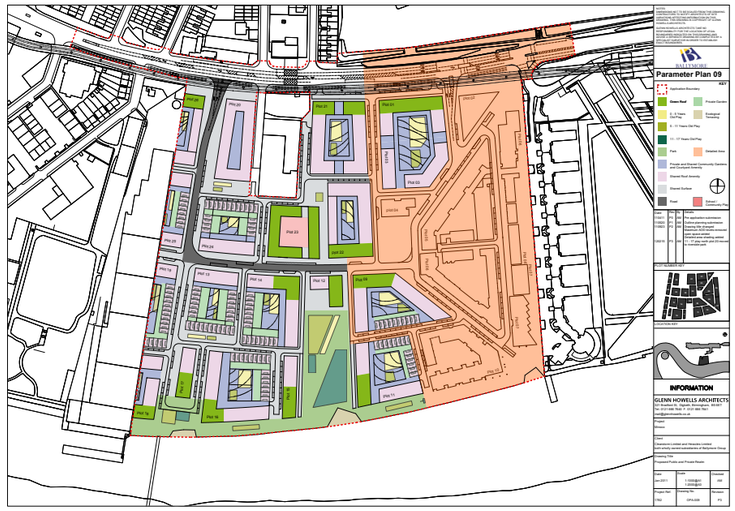
Locations for play were indicated on the Parameter Plan 09 as part of the outline submission. This parameter plan identified areas that would be provided based on the benchmark scheme and the provision of private, affordable and social rented properties. These numbers were used to calculate the areas that would be required based on 10m2 per child in accordance with the GLA's supplementary planning guidance on play.

As part of the master plan, the principal was established that doorstep play (for 0-5 year olds) would be provided within the courtyard gardens, play for 5-11 year olds would be provided in courtyards and in the public realm, and 11+ play provision would be within the public realm and in the parks in particular.

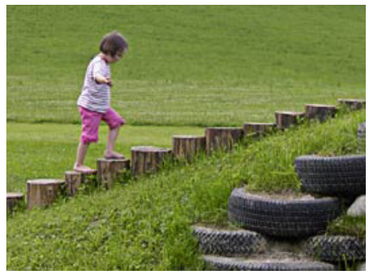
The schedule of accommodation for the plots within Phase 2 have been used to recalculate the areas of play required to ensure that there is sufficient provision across the site, and that it is located in the appropriate locations.

Provision of play within the courtyards is based on the idea of play trails, providing children with the opportunity to link together landscape and play elements. These play areas will include a combination of some of the following: stepping stones, balancing beams, undulating landform, and playable edges and walls as well as more formal pieces such as mini roundabouts and play houses.

Play provision for 11+ will be in the park. The gardens will not prohibit use by older children- there will be places which they can sit and meet friends, the

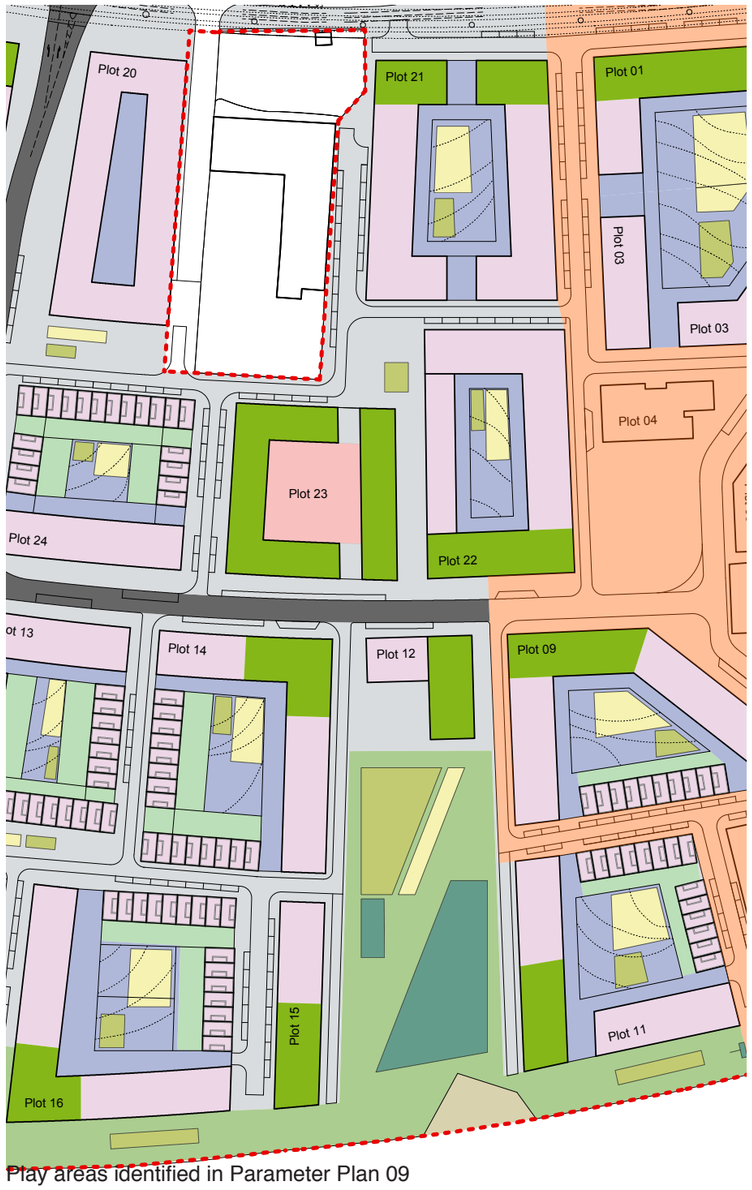


Play areas identified in Parameter Plan 09



Play elements using the landform creating a trail which could be followed

Location of Play



Play areas identified in Parameter Plan 09

Plot 21

	No of Children	Area (m2)
Under 5	35	357m2
5-11 year olds	07	73m2
12+ year olds	13	128m2 (off site)
Total	56	558m2

Area of 12+ Play Provision in the public realm (off site)

Area of 5-11 Play Provision in the courtyard

Area of 0-5 Play Provision in the courtyard

ACCESS + ENVIRONMENT + COMMUNITY

Accessibility

The government circular 01/2006 states that local councils should require applicants to submit an Access Statement showing how the principles of inclusive design have been incorporated into the development and how inclusion will be maintained and managed.

The purpose of this statement is to outline the overall approach to inclusive design within the scheme in accordance with the relevant local and national planning guidance, along with how the different access principles will be implemented into the scheme and managed.

The Royal Wharf plot proposals aim to achieve the following with regard to accessible design:

- Maximise access to all parts of the development, its facilities and services for people who are residents, visitors and members of staff regardless of disability;
- To ensure that wherever possible appropriate standards for accessibility can be met at the outset as part of mainstream inclusive design;
- To meet requirements of The Building Regulations Approved Document M – Access to and Use of Buildings, 2004;
- LBN Unitary Development Plan, SPG Access for All;
- Greater London Authority's The London Plan;
- Wheelchair Accessible Housing Design Guide;
- Lifetime Homes Standards, July 2010;
- British Standard BS 8300:2009;
- Requirements and implications of the Equality Act 2010;

While frequently used documents such as Approved Document Part M and BS8300 - Design of Buildings and their Approaches to Meet the Needs of Disabled People provide general advice, other guidance may be more specific. Access standards are in a continuing state of development with no single authoritative document as a source of reference. Instead several separately authored documents have to be referred to.

Additionally planning and legislative policy and access regulations and standards govern the emerging plot design as follows:

Equality Act 2010 [Formerly Disability Discrimination Act 1995]

The developers or others may have ongoing obligations under the Act as landlords and may also have obligations as service providers where they are also providing services to the public. In the main, the Act will apply more to issues of services and information rather than to building design.

Building Regulations Part M (2004) and Part B (2002)

The Building Regulations Approved Document B - Fire Safety, and Approved Document M – Access to and Use of Buildings, 2004 are the only standards directly relevant to access. It is essential to understand that these standards require Building Control approval. The Regulations make clear that designs other than those shown in the document can be approved if they are justified as being equally or more effective. Approval confers acceptance that the building meets all reasonable standards in respect of physical access for disabled people with regard to the Equality Act.

British Standard 8300:2009 - Design of Buildings and their Approaches to Meet the Needs of Disabled People.

Where practical and reasonable it is recommended that BS 8300:2009 standards are applied to new buildings. The revised BS 8300: 2009 has been in effect since February 2009.

British Standard 9999:2008

This standard, published 2008, provides guidance for the safe evacuation of disabled people from buildings in an emergency.

Lifetime Homes Standards

The CfSH seeks to ensure that all new housing is built to ‘Lifetime Homes’ standards”

Wheelchair Housing Standards Adapted dwellings

Wheelchair Housing standards set out in the Wheelchair Housing Design Guide (2006) will be met as appropriate.

Adaptable dwellings

Best practice guidance on wheelchair accessible housing represents the standards of the Wheelchair Housing Design Guide (2006) that should be incorporated into dwelling designs from the outset to ensure that they are easily adaptable to meet the full wheelchair housing standards if required. Where appropriate the inclusive nature and improved accessibly standards of these dwelling is discussed later in this access statement.

Parking

The required provision of accessible car parking spaces to be provided is set by local planning policies as well as the Royal Wharf outline masterplan planning conditions at 10% and will be adhered to.

Inclusive design

Inclusive design is a fundamental aspiration of the plot designs means designing beyond the minimum standards set by regulations.

The design team’s aim is to achieve a high standard of inclusive design and respond to the GLA’s and LBN’s requirements to achieve a socially, as well as a commercially successful development. An access review as part of the submission of the planning application have assisted this aspiration.

There are six overriding approaches to the design of the accommodation for all occupants and any visitors relating to the retail, community and residential buildings:

1 - To ensure that inclusive access is available at each level for occupants and visitors, as well as general public access, and that they can circulate and exit each type of accommodation with ease so that the built design does not present barriers to people with disabilities.

2 - To ensure that there are step free routes to all parts of each building and that passenger lift access is provided between all storeys.

3 - The shell and core will allow for future tenant fit out proposals to include accessible facilities for employees to access and use the back of house ancillary facilities within the retail and community spaces.

4 - To adopt as far as possible a repetitive plan form to facilitate navigation and way finding to essential facilities, for the public and occupants at all levels.

5 - To provide within the development shell and core the opportunity for the individual retail tenants to provide an inclusive environment for their staff and customers as part of their own fit out proposals.

6 - To anticipate emerging standards and public expectation.

If the design deviates from published access guidance and regulations as it progresses then approval will be sought for appropriate alternative arrangements. Such arrangements will be recorded as part of the development process.

Access Audit Approach, Landscaping and External Areas

A plot access audit has been undertaken for the design proposals under the following headings:

- Pedestrian Arrival
- Public Transport Links
- Accessible Parking
- Vehicle Pick-up / Set-down Areas
- Pedestrian Routes Through The Reserved Matters Area
- Landscape Zones

Pedestrian Arrival

The Royal Wharf site is bounded by the River Thames to the south and North Woolwich Road to the north. The principal pedestrian approach is off the North Woolwich Road to the north. The outline and reserved matters areas indicate new streets through the site serving all buildings and providing links through the site between the two nearby DLR stations (Pontoon Dock and West Silverton).

The approach route to the detailed area of the development is principally from North Woolwich Road with a bus route and DLR stations nearby. The proposed site concept is to define a clear route through the detailed area of the scheme to link Pontoon Dock DLR Station with the new riverside park as well as allowing a potential connection to Thames Barrier Park creating a high street within the scheme off the North Woolwich Road.

Routes from the bus stops and DLR stations to and through the site will be accessible for people unable to use steps including the use of dropped kerbs, tactile paving surfaces where appropriate, adequate lighting and evenly laid surfaces.

New crossings and a landscape scheme are proposed across North Woolwich Road and the design of this area will follow accessible design guidance to ensure easy access for all.

As part of the landscape proposals throughout the detailed area , suitable seating with and without arm and backrests is proposed at suitable intervals to allow resting and accessible play areas are proposed along the routes. The new paved surfaces will be even, firm, slip resistant and provide some visual contrast to assist in wayfinding.

It is proposed that a distinctive building massing, architectural and landscaping features will create distinctive focal points and landmarks that can be used in wayfinding through the scheme. Suitable signage designed to meet good practice guidance including the “Sign Design Guide” will also be provided to supplement landmark features, though this has not been detailed at this early stage.

Public Transport Links

For the detailed area the principal public transport link is the Pontoon Dock DLR station which has lift access from street to platform level. North Woolwich Road is also served by the 24 hour accessible bus route 474 which links Canning Town through to City Airport or through to Manor House.

While not confirmed at this early stage, consideration is being given to extending the bus route to travel through the scheme with designated stops en route. This potential new route through the site is in addition to the new bus stops being generated along North Woolwich Road.

Accessible Parking

Vehicles may enter the site from North Woolwich road to the north at a number of locations. The general concept for parking at Royal Wharf is to provide all accessible residential parking adjacent to the house or residential core, which assists disabled people requiring parking close to their residence or block entrance.

Parking is provided at a maximum of 50% for apartments and at 1:1 for houses. Some parking bays will be designed so that they can be easily allocated or converted to accessible parking bays for disabled people as need arises and capable of enlargement to meet the Lifetime Homes Standard.

Most of the car parking is located in basement and undercroft areas in order to free up landscape areas at ground level. However some parking bays are provided at ground level also.

On-street parking is seen as an essential feature of the site above ground in order to create a lively animation to the newly created streets. This also serves to provide useful accessible parking and drop off facility for residential, commercial and retail facilities on the scheme without the need to overcome level changes from basement level parking in some areas. On-street, designated parking is located off the main thoroughfares and where provided basement and undercroft level parking is provided for the apartments with direct access into the communal residential areas above provided by lift and stairs.

Vehicle Pick-up / Set-down Areas

Marked pick-up and drop-off areas are provided at a variety of locations around the scheme to serve each building, though the streetscape will be such that short-term drop-off and pick-up will be possible in many more areas without obstructing traffic flow or pedestrian routes. The marked areas will be recessed off the main vehicle routes and where there is a kerb level difference on approach to buildings, suitable dropped kerbs will be provided to gain access to and from the drop-off area.

This facility will be carefully managed and controlled. The client team will be managing the site and the parking strategy, including pick-up and set down, will be an integral and important part of the site wide strategy as will be the management of all external spaces.

Pedestrian Routes Through The Reserved Matters Area

The scheme is largely level or has a shallow gradient throughout with the intention that there is step free accessible access between all buildings and landscaped recreational areas. Generally gradients across the site are shallower than 1:60, though where gradients are steeper they are the shallowest possible gradient and typically have a level resting area for every 500mm vertical level change following good practice guidance.

Due to the existing topography of the site, the need to achieve the EA flood level as soon as possible within the scheme and the desire to maintain level routes along the facades of the buildings for accessible entry, the pedestrian priority area in the northern approach to the scheme from North Woolwich Road has unavoidable gradients of 1:25. This is set into the landscape and as stated above there are substantial level areas for resting.

A hierarchy of streets is proposed ranging from larger scale high street environments through streets and lanes to residential only mews streets. The high street and street will have a 100mm kerb level change between vehicle area and the pedestrian areas. This will have suitable dropped kerbs where appropriate at crossing points and access points to on-street parking areas. Where pavements are created adjacent to the buildings, these are as wide as possible, aiming for a clear width of no less than 1800mm to allow two wheelchair users to pass. This may be reduced in some isolated areas but for short distances only, and in no circumstances will the width fall below 1200mm.

The quieter Lanes and mews will be kerb-free areas with the intention that they are shared between pedestrians, cycles and vehicles, though will be designed to be principally pedestrian. Traffic will be minimal in these areas though various features are proposed to maintain a safe environment for pedestrians.

The need for a “safe zone” forms part of the current thinking for shared surfaces and aims to provide a zone within which pedestrians can feel safer while having the benefit of step free access to any area of the mews or lane.

The safe zone at the outer edges of the lanes and mews will be defined using street furniture, tree planting and lighting posts aligned to create differentiation and a sense to the pedestrian they are in a “safe area”.

The outer zones will also be a contrasting tone, have a differing grade of paving and possible contrasting feature band of paving to help create some definition between the vehicle and pedestrian areas while assisting drivers in remaining within the central zone. Consideration may also be given to a low chamfered kerb which will give some indication to people with visual impairments while not impeding wheelchair users or causing a rip hazard.

In some locations, contrasting textures and colours of paving may be specified to help indicate a suggested crossing point. This will assist in wayfinding but also alert drivers to the likely presence of pedestrians crossing at certain points.

Paving surfaces will be smooth, even and well laid to avoid tripping. Uneven cobbles are not proposed. Street furniture will be grouped or aligned wherever possible to avoid obstructing routes.

Seating will be provided along routes and within landscaped areas at suitable intervals to allow people to rest regularly if required. Wherever there is a grouping of external seats, some will be specified with arm and back rests.

The use of tree grilles will be avoided and slots for drainage will have heel guards incorporated which will prevent the trapping of heels, wheels or walking aids.

Bollards will be avoided wherever possible, though where used, these will be a minimum 1000 – 1200mm high and clearly visible by contrasting the background or having a visible contrasting band so that it is visible in a variety of weather and lighting conditions. No bollards will be linked by chains or ropes.

Landscape Zones

Throughout the whole site, there will be several identified landscaped areas to include grass and hard surface recreational space including play, nature, seating, culture, formal landscape and outdoor eating opportunities.

Among other advantages, this approach provides clear features to assist in wayfinding and orientation to and around the site. Distinctive areas around the plots include the high street, riverside walk and urban squares. These comprise hard landscaped piazza, small grassed areas and tree planting to be used flexibly for a range of retail, arts and community events, plus a variety of informal grass recreational areas between the buildings for residents use. The urban squares will be level or have suitably shallow gradients with resting spaces and have firm, evenly laid surfacing suitable for wheelchair users. Junctions with other paving and grass surfaces will be flush to allow access throughout.

Children's "doorstep" play areas are proposed throughout the scheme. It is proposed that the surfacing will be firm safety surfacing with flush junctions where this joins the paving surfaces to ensure it is accessible for everyone and does not present a trip hazard. At detailed development stages it will be ensured that play equipment is inclusive.

Informal grass recreational areas will have level or shallow gradient paths though them which will be at least 1800mm side to allow two wheelchair users to pass.

Access Audit Buildings

Plot buildings are principally residential, though at ground floor level there are some mixed use units which may be retail, restaurant, arts, community or other uses as required.

Residential Buildings

The residential accommodation includes a variety of types from houses, to apartments of a range of sizes. The two principal types are apartments and terraced houses. The apartments are generally on one level and houses are a range of bedrooms located on ground up to 4th floor.

Residential Standards

Apartments are generally located at upper floors above multi-use accommodation, though some are located at a raised ground level. All units are accessed by stairs and lift. Terraced houses are accessed at ground level with flush thresholds. Basement and undercroft car parking for the residences is accessed via a dedicated core. Surface parking is provided throughout the site should level access be required.

Dwellings are designed to meet the requirements of the Building Regulations Part M (section for dwellings) as a minimum standard. In addition, in keeping with London Borough of Newham Planning requirements and the London Plan, all dwellings will also be designed to the Lifetime Homes Standards.

Within the detailed area, the scheme has been designed so that at least 10% of the units in each plot are fully wheelchair accessible, or have the space standards to allow easy adaptation to be fully wheelchair accessible, following guidance in the GLA Wheelchair Housing Design Guide. The provision of wheelchair accessible units includes a range of unit sizes, and as far as possible, a range of aspects.

It should be noted that all residential units are generously sized beyond minimum Lifetime Homes Standard in many cases so that the possibility of adapting more units to be more accessible is possible.

Residential Entrances and Common Parts

All upper floor apartments are accessed via the shared residential entrance lobbies which are accessible at grade directly from ground level. Raised ground floor units will also use the shared entrance areas and a lift and stair will overcome the internal level change within the lobby.

All common areas and dwelling units have been designed to meet AD M guidance for dwellings and the Lifetime Homes Standards. Level access, adequate clear opening door widths and suitable circulation space is provided for wheelchair users and other disabled people to refuse areas though it is recognised that management policies and procedures may still be required for some disabled residents.

Vertical Circulation

There are staircase and accessible lift access provisions to all residential levels. The stairs have risers of no greater than 170mm and goings no less than 250mm with continuous handrails to both sides which extend at least 300mm top and bottom of flights. The rail profile will be approximately 45mm with fixings that allow a continuous flow of the hand. Each step will be clearly visible by having suitable contrasting integral nosings and stairs will be well lit.

All lifts, serving residential floors will be specified to exceed Lifetime Homes Standard guidance as most lift cars are 1100mm wide and 2100mm deep and all meet or exceed the minimum 1100mm by 1400mm requirement. All features of the lift will be specified to meet Lifetime Homes and other good practice access guidance, including tactile and contrasting controls at 900 – 1200mm, visual and voice announcement, support rail to available walls, contrast between floor and wall surfaces, non-reflective materials and an alarm intercom system suitable for people with hearing impairments.

At each floor level, there will be a suitable sign on the landing visible when using the stair or the lift to indicate the floor reached.

Lifetime Homes Standard & Building Regulations Part M

All dwellings will be designed to meet minimum AD M requirements and Lifetime Homes Standard (LTH). Features will include:

- Suitable circulation widths which generally exceed LTH guidance;
- Suitable internal door opening clear widths of 750 - 800mm relating to corridor width;
- Suitable dwelling entrance opening width of 800mm clear;
- Level entry and flush thresholds to gardens and roof terraces;
- All units will have a suitable living area at entry level (in terrace houses this may be a dining area which can be converted to a living area if required);
- Suitable WC facilities at entry level with floor shower drain facility;
- Adequate manoeuvre space in habitable rooms including 1500mm turning circles, 1200mm clear space in front of kitchen units and generous clearance round all beds in all bedrooms which exceeds LTH guidance.

There will be the ability for adaptation including reinforced walls for grab rails, accessible detailed elements such as lever ironmongery and adequate positioning of switches and controls.

Wheelchair Accessible Units

Wheelchair accessibility has been achieved in 10% of the detailed area units in each plot across the unit mix by providing units that have adequate spatial and structural provision so that easy adaptation by through fixtures and fittings can be achieved to suit the resident's preference.

These units have been designed following the Greater London Authority "Wheelchair Accessible Housing - Best Practice Guidance" document (2008).

Features incorporated include:

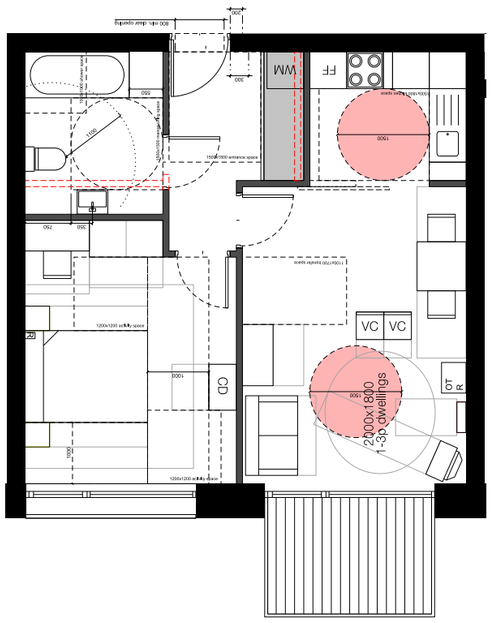
- Level circulation;
- Adequate clear opening widths of 800mm to all doors and circulation areas;
- Consideration given to wheelchair charging and storage;
- Adequate manoeuvre space in all rooms including bedrooms;
- Suitable sanitary facilities with a full 1500mm wheelchair turning space.

Multi-Use Units

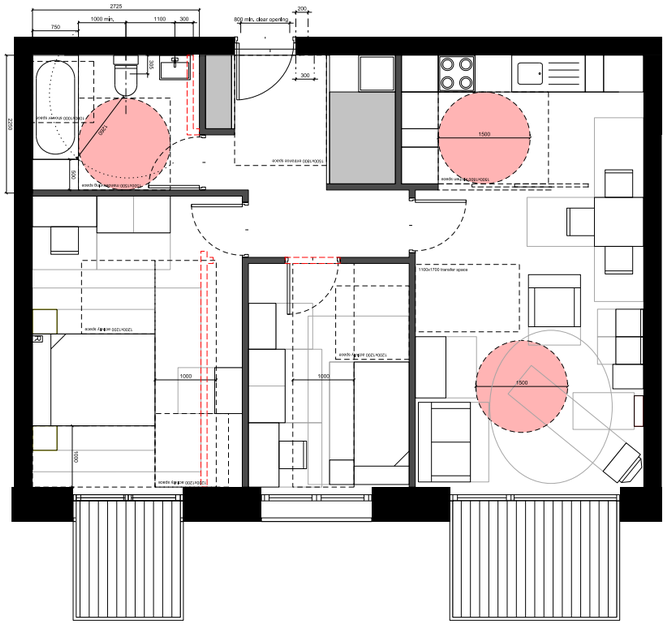
There are several units proposed for the detailed area which are multi-use and may include café, retail unit, community, culture and the arts uses. These are located at ground floor level at grade.

The internal fit-out of these units does not fall under the scope of this report as the units will be occupied by service providers who are likely to have duties under the Equality Act 2010 relating to provision of goods and services and relating to employment.

Wheelchair Accessible Units



Typical 1 Bed Wheelchair Unit



Typical 2 Bed Wheelchair Unit

The unit shells will be designed to enable the tenants to meet their duties under the Equality Act for their customers and employees by maximising access as far as is practicably possible.

The detailed design has not been carried out at this early stage though features to be incorporated include:

- Level entrances with suitable flush entry mat provision;
- Suitable entrance door opening widths;
- Clear markings to glazed screens and doors;
- Provision of services to facilitate the addition of accessible toilet facilities;
- Accessible internal circulation;
- Cabling to accommodate entry controls set at appropriate heights.

Adaptability / Livability

A key aspiration of each plot design is to provide high quality family accommodation through designing for the needs of families when they move into this exciting new area of London and to allow families to grow in the area and their new homes without having to move out. Therefore buildings and spaces must be fit for current purpose and adaptable to change to accommodate future occupancy needs and technologies.

Adaptability and livability are two key characteristics fundamental to the design philosophy of the scheme. The design of the each of the new buildings, with particular emphasis on the family dwellings will accommodate where possible the following criteria to ensure the buildings remain suitable for use for years to come:

- Secure private gardens
- Access to secure toddlers play area
- Natural daylight lighting each room
- Compliance to Lifetime homes standards
- Wheelchair accessibility standards built in from day one
- National Housing Federation space standards
- Secure bike storage
- Home office space
- Internet delivery spaces
- Passive surveillance

Community

The creation of a strong and coherent community identity is central to the success of the new development and will rely on careful consideration of the following criteria:

- Hierarchy of clearly identifiable community spaces – private/semi-private through to public areas
- Secure by design principles organically integrated into the design
- Local retail facilities
- Coherent design and material use
- Range of house types and apartment sizes
- Community consultation processes informing key design decisions

Community involvement needs to be encouraged to ensure that initiatives are maintained and built-upon, and to assist in spreading positive influences into the wider community beyond. To achieve a safe and secure development, key factors need to be considered as an integral part of the overall design concept.

Examples of these principles are as follows:

- Natural Surveillance- Street Ownership
- Community facilities
- Quality of Design and Materials
- Coherent Well Lit Public Realm
- Safe Secure Well Lit Car Parking

The development responds to the need of a varied community by providing a range of housing types and tenures as well as being located near existing and proposed schools and other community facilities.

Security

To achieve a safe and secure development, key factors need to be considered as an integral part of the overall design concept. Examples of these principles are as follows:

- Natural Surveillance- Street Ownership
- Community
- Quality of Design and Materials
- Coherent Well Lit Public Realm
- Safe Secure Well Lit Car Parking

Movement and surveillance across the site is vital in promoting activity and life within the development. Careful street design and lighting to the approach of the building and the avoidance of concealed areas will promote a thriving community that feels free to enjoy the public and private domain safely.

Secure by design principles have been observed and development of the scheme with the police liaison officer is proposed at the next stage of detailed design to ensure a safe and secure environment is created.

Residential Design Standards

Plot designs have been developed in line with the following design guidance documents. The list below represents a proportion of residential design standards and does not preclude compliance to specific standards in relation to tenure or land use class. Specific compliance to individual standards has been listed in bold below.

Design standards referenced:

- Homes and Communities Agency Design and Quality Standards
- Homes and Communities Agency Housing Quality Indicators
- Code for Sustainable Homes (CfSH)
- Lifetime Homes (July 2010)
- BRE Wheelchair Housing Design Guide (2006)
- Secure By Design
- Manual for Streets Department for Transport
- Standards and Quality in Development – National Housing Federation
- Building for Life
- Interim London Housing Design Guide

Sustainability

Environmental sustainability should be at the heart of good design and should be maximised by taking a holistic view of sustainability in terms of energy consumption, carbon emissions and running costs throughout the life of the development. Planning development to reduce demand on energy use in terms of heating and power, transportation and food and waste is the primary route to environmental sustainability.

Our approach to creating sustainable communities develops from gaining an understanding of local context and the character of neighbouring existing communities. At the Royal Docks it is important that we not only create a balanced and long term new community but also that it reinforces and strengthens the communities that it is located within. To achieve this it is important that we take a wider view of the site, reaching beyond partners ownerships to make sure we provide the facilities that provide local retail, housing and work requirements for this new part of the city.

A development must be capable of meeting the social, environmental and economic needs of the community it serves both in the present and for future generations.

We recognise the future needs for developments to be sustainable, responsible and integrated together with an increasing need for the implementation of Low or Zero Carbon Technologies that require active rather than transient communities. The opportunities available with Royal Wharf are unique as the project allows the potential to develop crucial issues and provide housing in close proximity to the city and due to its location is able to integrate with existing facilities and transport networks. As city living identifies measures such as prioritising the pedestrian and cycle usage over the car it allows the promotion of active streets, neighbouring squares and city parks.

Careful site analysis has been undertaken and all the opportunities and options available to produce an environmentally sustainable development have been considered. An understanding is required of the inter-relatedness of all these factors to develop a set of solutions which work on all levels.

There are a number of significant key environmental benefits which will be included in the design. The site has a variety of excellent public transport connections to offer alternatives to private car use for business and recreational purposes. Specification of recycled / recyclable materials where possible will reduce embodied energy. Specification of locally sourced construction materials where possible will reduce transport related carbon emissions. South facing living accommodation allows maximum beneficial ingress of natural light.

Energy efficiency in the buildings is controlled through a combination of the architecture, technical systems, construction and the behavior of the occupier. We believe that simple solutions which do not rely on complex technology control systems are likely to be most effective in residential design. Our team recognise that the energy use in the buildings is only a small part of the total sustainability equation and that a significant factor will be how the development responds to and influences the lifestyle choices of the community who live and work in it.

Residential units within the Royal Wharf masterplan will achieve Code for Sustainable Homes Level 4.

Site Management Strategy

To ensure Royal Wharf achieves and retains the quality aspirations set as the vision for this unique site, the site wide strategic management strategy is an essential part of the detailed design.

The site will be managed by a dedicated on site management company, allowing a very high level of facilities to be maintained both for Royal Wharf residents as well as visitors. The site Estates and Management team start work early in the life of the project to ensure all management issues are adequately addressed in the development of the design.

The site Estates and Management team (EMT) will be responsible for the set-up and operation of all matters relating to the development and will pro-actively co-ordinate the servicing of the estate, the buildings and individual households as required. They will maintain the public realm, provide a level of security for the residents of the development, assist residents with deliveries and generally guarantee the upkeep of Royal Wharf.

The extent of the services will be considerable and a brief summary of services have been listed below. Although not exhaustive, this list is indicative of the array of facilities that the team at Royal Wharf be able to offer. Further considerations would include long term maintenance, such as redecoration and resurfacing of accessways.

Proposed Services:

- Handyman & Yardman
- Residential Parking Management Service
- Maintenance of Landscaping (Shared and Public)
- Maintenance of Vehicle Gates
- Maintenance of playground facilities
- Health & Safety
- Internal Common Area Cleaning
- Refuse Store Cleaning
- Communal Window Cleaning
- Maintenance of Fire Protection Equipment
- Maintenance of Door Entry Systems
- Maintenance of Communal TV System
- Maintenance of Water Booster Pumps

Estate Management

To manage a scheme of this size effectively and to ensure the need and expectations of residents are met, it will require a permanent site based management team.

This will mean the appointment of an Estates and Management (EMT) team specific for Royal Wharf. The role of the EMT would be the first point of contact for all issues arising on site from lessees, tenants, RSL, Commercial premises, staff, visitors and developer. The EMT would be overall responsible for the provision of all services, the supervision of all contractors on site, ensuring minor repairs are dealt with, ensuring the plant and facilities on site are maintained appropriately; and needs to be flexible enough to deal with any issues relating to the site, no matter where the source is.

In addition, the scheme will have a 24 hour front of house concierge from which all day-to-day operations will be managed from this base and for example the concierge can take delivery of parcels and dry cleaning on behalf of the residents.

Building Maintenance

The EMT will be responsible for organising the maintenance to the block(s) as follows:

- Arrange for each block to have cleaners appointed to ensure that the overall appearance of the internal communal areas is kept to a high standard.
- To assist with all repairs of a minor nature, the development would have a dedicated handyman to carry out these small works. Larger repairs would require the use of specially appointed contractors who would be sourced by the EMT. There will be an element of routine maintenance such as fire alarm testing etc., which would be the responsibility of the handyman under the supervision of the EMT.

- The window cleaning regime for the communal / apartment windows will be arranged via the on site EMT. They would utilise in built systems to ensure access is achieved and that windows are cleaned safely.

Landscape Maintenance

The EMT will also be responsible for maintaining the landscaping around each of the buildings and would apply equally to the green / brown roof areas that are open to resident access.

Play Area Maintenance

The EMT will also ensure the play areas available for residents and the wider community will be safe and secure areas for children to interact and play. This will include it being fully inspected by ROSPA on an annual basis and supported by a written report. Any remedial works noted as being required to the playground facilities will be organised by the EMT.

Facade Management Strategy - Medium Rise Mansion Blocks

Cleaning of communal windows is to be carried out routinely by the site wide management company by means of an approved cleaning system. Cleaning of the glazing and facade sections will normally be achieved using a proprietary water fed pole system and maintained using mobile access equipment. Access to upper floors can be achieved by use of a cherry picker or similar lifting device. This strategy will be further detailed during the construction phase of the plot design process.

Service Deliveries

The requirements for servicing both the residential and commercial uses within each Royal Wharf detailed plot have been carefully considered to ensure that the building functions efficiently with minimum impact on the public realm.

Service vehicles will be able to use designated drop-off areas accessed of all principal vehicular routes as well as having access to the site concierge and EMT offices.

Waste Management Strategy

The site wide refuse collection strategy is applicable to every residential unit and subject to detailed agreement with the local authority, is as follows:

- Residents take domestic waste from the apartment to allocated refuse stores located in the basement
- Each building has its own allocated refuse store, in close proximity to the residential core
- Each refuse store has a calculated refuse capacity based on the predicted occupancy level of each apartment this will include provision for household garbage and recyclables
- Each courtyard block has an allocated waste presentation area at ground level accessed from one of the internal streets
- Periodically refuse bins are decanted from the basement stores (where present in the plot design) and placed in the waste presentation areas at ground level. The site management company in coordination with the local authority scheduled waste collections manages this process
- Local authority waste collection services remove refuse from waste presentation areas upon scheduled collection days
- The EMT removes all empty bins and transports them back to the basement refuse stores

Commercial waste will be dealt with by the tenant of each commercial unit and in accordance with BREEAM and the local authorities requirements.

Commercial waste stores are anticipated and have indicatively been designed with direct access from the retail / commercial unit, as well (where appropriate) with rear access onto side streets.

Landscape Management

Appropriate public realm management and maintenance is vital to the success of the public realm. Even the best-designed spaces need to be cared for and inappropriate behaviour needs an effective response. The designs should foster perceptions of safety and a degree of self-regulation of behaviour through encouraging active, positive uses by a diverse mix of users, while offering specific places for young people to meet.

The management of the public realm will be undertaken by a private management company for all areas within the site boundary excluding private amenity space such as terraces and balconies. The planting strip forming the boundary between the private and public realm will be maintained by the management company.

The following key factors will need to be addressed in order to sustain a high quality public realm:

- Cleanliness
- Safety and Security
- Repair and Replacement
- Horticultural Health

Cleanliness

Cleanliness is the principle indication of the quality of management of the public realm. As such, the perceived success of the development will be significantly affected by the effectiveness of the procedures established for regular pavement cleaning, litter picking, and the removal of graffiti, bill posters and chewing gum. The strategy will be applied to all elements of the scheme from roads, pedestrian paving, street furniture, drains and planting beds.

Safety and Security

A safe environment is one that is accessible to all. As well as adopting 'Secured by Design' principles in the design of the streets and spaces, long term management and maintenance of the development will be required. Well looked after places are less likely to suffer from crime as they are more likely to be visited or used, with the premise that more 'eyes on the street' will deter anti-social behaviour. Landscaping will enable clear visibility along routes with trees being clear stemmed to approximately 2.5-3 metres.

Repair and Replacement

The need for repair and replacement of finishes will be mitigated by the use of appropriate and durable materials. Nevertheless, in the long term a degree of maintenance and replacement is unavoidable. In order to ensure that the public realm remains safe and in good condition, all worn-out, damaged and broken elements will be promptly repaired or replaced. In the short term this will be carried out within the clearly defined defects liability periods of the various contractors who installed the work. The longer term solution will form part of the management plan. Vigilant and regular monitoring of every aspect of the scheme will ensure that all remedial work is carried out in a timely and thorough fashion.

Horticultural Health

The health and general condition of planted areas including trees, shrubs, perennial plants and lawns is clearly indicative of the level of care and attention a place receives. Planting, including any replacements to dead or dying material, will be maintained in accordance with a Landscape Maintenance Specification, the submission and approval of which could be controlled by the imposition of a suitably worded planning condition.

CONCLUSION

Royal Wharf aspires to be the best solution for Newham. The masterplan and plot proposals presented in this document are a product of a long, in depth and considered design process undertaken with consultation and co-operation with the London Borough of Newham, the Greater London Authority and the London Thames Gateway Development Corporation. This process has informed and matured the framework for development proposed within the scheme and has resulted in a design authored by many hands.

The success of the plot 21 scheme will be measured by the quality of the built environment it produces. It is hoped that the enclosed designs and their supporting technical drawings contribute to the transformation of this key site into a unique and exceptional place where many people enjoy living, working and playing for generations to come.

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