

West Kentish Town Estate

London Borough of Camden
AAB architects, 2019 - 2024

The possibility of humanity living within planetary boundaries rests on the actions we take in the next seven years¹. Global ecosystems are threatened by impacts of climate change, pollution and resource extraction, which continue to escalate. There is growing understanding of the need to stop wasting existing buildings where they are fit for re-use, to reduce the high levels of carbon emissions and ecological damage caused by new construction.

AAB architects' research examines an alternative model of housing estate regeneration which reconciles the need to improve existing council-owned social housing, provide additional homes and to mitigate climate change.

60 years after it was built, Camden Council believes West Kentish Town Estate is at the 'end of its life' and are preparing for its total demolition.

A structural survey carried out in preparation for redevelopment concluded that the existing blocks are structurally sound and suitable for refurbishment (subject to further investigations). Without the benefit of intrusive testing to confirm this, and without looking at an option to retrofit the buildings, Camden Council condemned all buildings on the estate.

AAB architects ask whether a new form of estate regeneration is possible to meet the challenges of the climate and ecological crisis, and the residents' needs. By closer examination of the existing building fabric and the way existing estates work as social entities, can we find a way of working with the existing resources to minimise environmental harm and improve outcomes for residents?

¹ United Nations Intergovernmental Committee on Climate Change, AR6 Synthesis Report: Climate Change 2023



Durston, West Kentish
Town Estate. 2022

This research has been carried out with the benefit of a grant by the Royal Institute of British Architecture (RIBA) Research Fund awarded in 2019

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Construction of West Kentish Town Estate

West Kentish Town estate was built over a 3-year period beginning in 1961. It was an early stage of the government-funded slum clearance programme that entailed demolition and rebuilding of the whole west Kentish Town and Gospel Oak area. The mid-nineteenth century terraced houses were dilapidated and overcrowded, and considered to be obsolete.

The new estate was built using a large panel system fabricated by Reema

Construction Ltd. The Reema Hollow Panel system was a basic form of precast reinforced concrete panel construction, one of many developed throughout the 1960s and 70s.

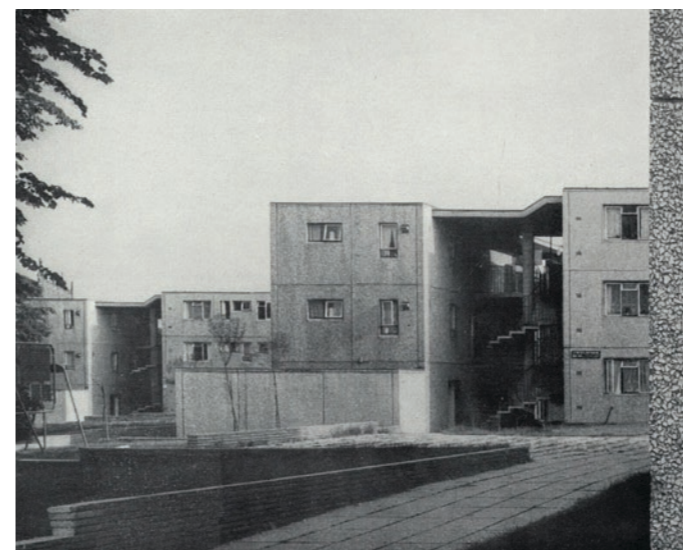
A reviewer of the built project in 1964 wrote:

“West Kentish Town as a result is one of the first, if not the first, fully considered “industrialised” environments in this country”.

Official Architecture and Planning, Vol. 27, no.11, Nov 1964



West Kentish Town Estate overlaid upon the previous street pattern, 1964



An 'industrialised building system'

Large panel systems (LPS) could be constructed very quickly compared to traditional methods, and for this reason were used in mass-housing construction programmes across the UK in the post-war period.



A three storey block and the central tower under construction, both using the Reema Hollow Panel System

Clearing the slums

The terraced houses which stood on the site of the estate were built very closely together, with little space between them at the back. The new estate aimed to provide ample external space, light and air to each new flat.



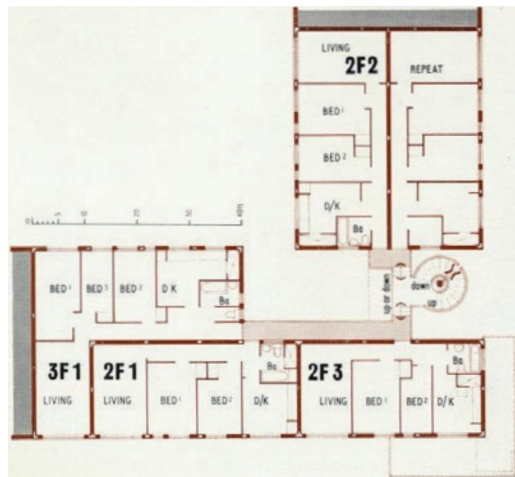
Conditions within the housing cleared for West Kentish Town Estate (images courtesy of London Borough of Camden)

Existing site plan

The original brief to the architects was to redevelop a 11.3 acre (4.57 hectares) site to a density of 135 persons per acre.

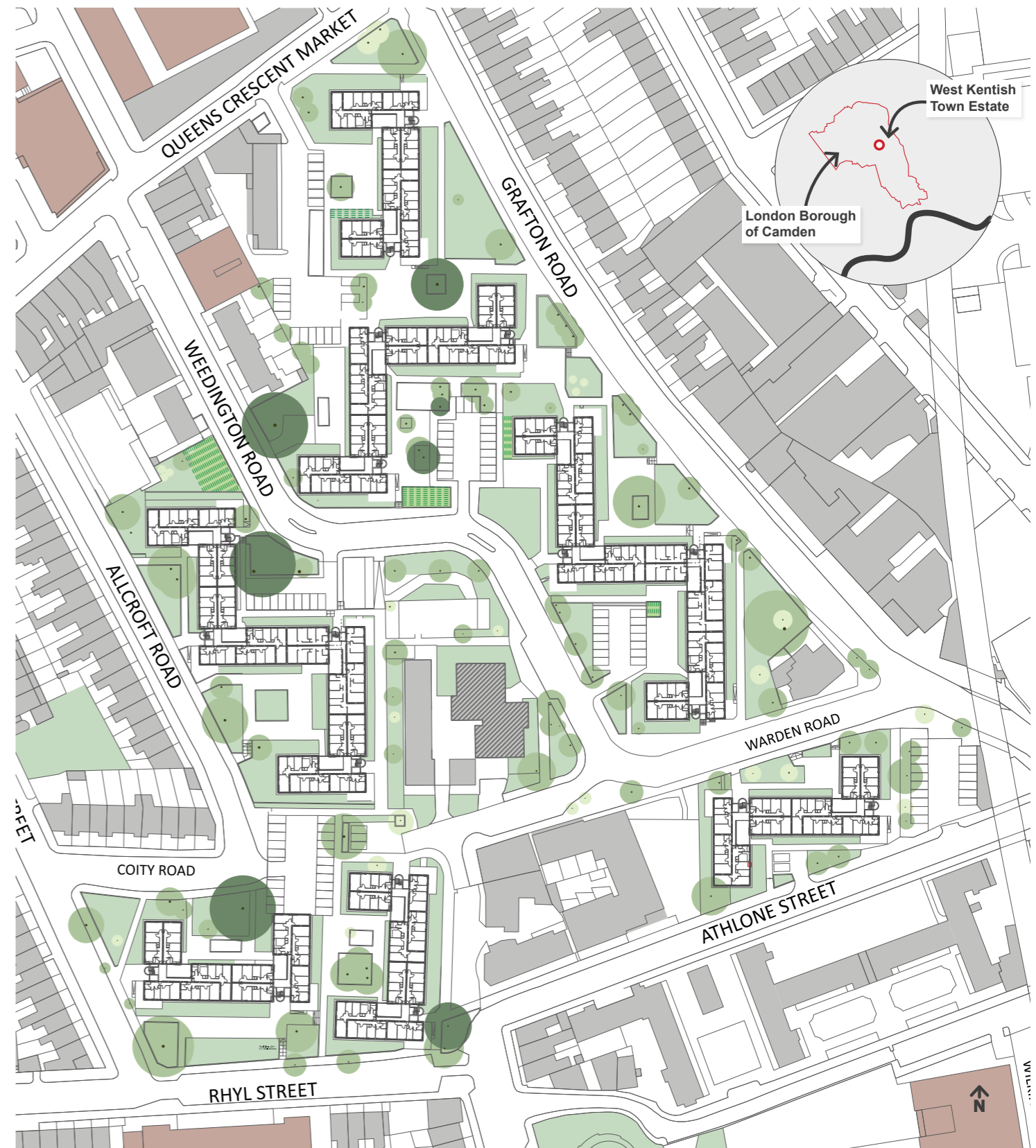
The estate was designed as a 'mixed high and low development', comprising two high blocks of 10 and 15 storeys containing 71 flats, forming a tower, surrounded by 3 and

4 storey blocks with 316 flats set in open green space. It was planted with trees with the help of the Civic Trust and seen as a 'successful integration of landscaping and architecture'. In 1988 the central tower (shown hatched) was sold to avoid the cost of undertaking structural strengthening work, leaving the low-rise blocks which make up the estate today.



The original 5-flat module, repeated 62 times providing:

- 229no. 2-bedroom flats
- 62no. 3-bedroom flats
- with 19no. studio flats on the ground floor



Repeated modules and south-facing living rooms

The layout of the 3 and 4 storey blocks uses a repetition of a module of 5 flats accessed from an entrance courtyard (19 courtyards in total). The module is reflected, rotated and joined together to achieve a variety of configurations and end conditions. The blocks have been organised to enable living rooms to face south (yellow) or east (pink), minimising north-facing living rooms (blue).

Past refurbishment and proposed demolition

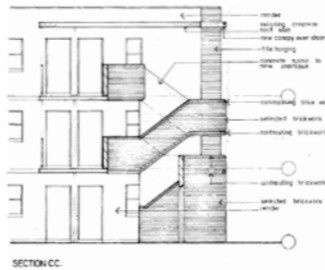
The Reema system- although structurally sound- had minimal insulation. This resulted in condensation problems which would require major works to be rectified. In 1982, residents campaigned for improvements to the blocks. Demolition-and-rebuild was initially considered by Camden Council but residents insisted on refurbishment, which was carried out in 1986.

Consultants were appointed to carry out an options appraisal, including a 'low intervention' scheme for refurbishment with infill development. However, options that retained the buildings did not aim to resolve issues such as lack of access to external space, problems with the internal layout or the need to upgrade services, and the environmental implications of demolition-and- rebuild options were ignored.

By 2016 the backlog of maintenance and repairs on the estate was again a problem, with damp and mould occurring. In addition, there was overcrowding due to families being housed in flats that are too small for them. Camden Council began to discuss the possibility for redevelopment with residents.

In 2020, tenants were offered a choice: keep the existing estate with no possibility of refurbishment of any kind for another 7-12 years or demolish the estate to provide new housing. Tenants voted for demolition- 93% voted in favour for this binary choice via a ballot.

1986 improvements and repairs:



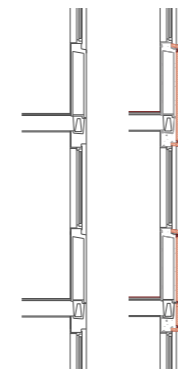
Stairs

The original spiral staircases were replaced with straight-flight brick staircases to improve accessibility, with a secure entrance door to each block.



Roof repairs

The original asphalt roof suffered cracks and damage from sustained exposure. It was repaired and protection added. The protection has since been stripped back and the roof is now unprotected, uninsulated and prone to leaks.



Tile cladding

The hollow concrete panels which make up the external wall of each block were clad in clay hanging tiles and render, with 50mm of mineral wool insulation behind. Although providing some improved thermal performance, it is far below current standards.



WHAT WOULD A YES VOTE MEAN?

Camden Council will continue to develop the current design and proposals for West Kentish Town Estate to move ahead with the regeneration of the estate.

There will be ongoing consultation and engagement with residents to ensure they are involved in developing the designs.

WHAT WOULD A NO VOTE MEAN?

Camden Council will not continue to develop the current proposals for regenerating the estate. They may develop further proposals alongside residents.

West Kentish Town Estate is not on the current major works programme for 2019 – 2024. This means that there will not be kitchen, bathroom or window replacement works in this period.

Any major refurbishment to West Kentish Town will need to be submitted for the next major works programme for 2025 – 2029.

The question upon the ballot paper given to residents in March 2020.

Residents push for refurbishment, 1982

Strong campaigning by residents of the estate in the 1980's secured structural testing and refurbishment works to be carried out by the local authority.



Newspaper clippings courtesy of the Heath and Hampstead Society.

Camden tests estate — at last

The West Kentish Town Estate was strengthened post-Roman Point, but now the council has carried out a structural survey to test the concrete blocks. The survey was carried out by the Heath and Hampstead Society.



Tower blocks safety survey

A structural survey is to be carried out on the tower blocks of the West Kentish Town Estate. The survey is to be carried out by the Heath and Hampstead Society.



The 5-flat module post-1986 improvements

The Residents' Brief, 2019

Discussion with residents led to the formulation of a list of requirements to be delivered through redevelopment of West Kentish Town Estate:

- Good quality, well insulated and ventilated homes
- Access to external private and shared space
- A mix of different size homes to suit larger families (in accordance with Camden council's policy)
- Level access to homes on all floors
- Improved acoustics between homes
- Improved layout with larger bedrooms and increased storage
- Retention of trees and open space
- Improved security and way-finding

Source: West Kentish Town Engagement Summary, makegood/Camden council, July 2019

Existing social spaces and networks

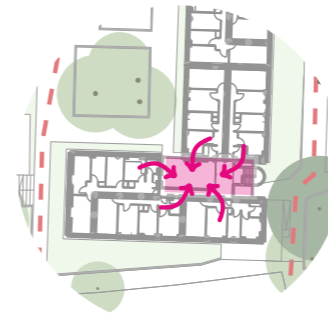
Residents who have lived on the estate for many years know their neighbours. Each block has its own identity, which is often allied with the streets they are accessed from.

Blocks vary in size from 30 to 60 homes but break down into smaller communities around each of the 19 entrance courtyards. These are shared between 15 or 20 flats and are used as private, secure space. Some are well looked after, enjoyable spaces.

Most of the blocks wrap around an external garden which residents have taken possession of despite the connectedness to surrounding public space. 53 flats have been bought by tenants, many of whom still live in their homes. Some have been sold on and have been bought as affordable homes by families. New families are now embedded in the area and attending local schools.



Residents tending to the communal growing beds set up across the estate



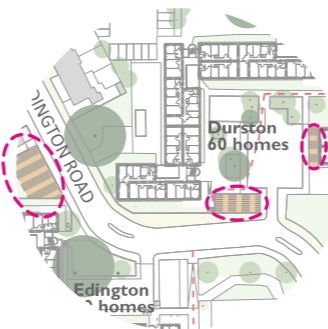
Shared entrance courtyards

Each flat is accessed via communal walkways around a small open-air courtyard. The entrance courtyards are used for activities such as drying laundry and plant-pot gardening.



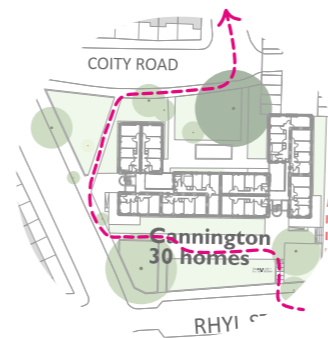
Semi-enclosed social spaces

The blocks across the estate form informal courtyard spaces which are open to the neighbouring streets. Residents use these spaces in a variety of ways, particularly in summer. The only access is from the communal rear exit.



Allotments and growing space

Residents have taken over small parcels of land around the estate and set up communal allotments. These are the only growing spaces.



Public squares and streetscape

Paths through green space with mature trees provide pleasant passage across and around the estate.



Relationship to surrounding streets

Neighbouring streets are mostly formed by two and three storey 19th century terraced housing, which have a similar scale to the three and four storey blocks on the estate. The West Kentish Town Conservation Area Management Plan states that the green spaces provided by the estate make a positive contribution to the conservation area.

Strategy for retrofitting

AAB architects' proposals show possible alterations to the buildings to bring homes up to current standards. The accommodation provided would have most of the benefits of new-build social housing. The care and attention required by PAS 2035, the British Standard for retrofitting dwellings, would result in fewer defects than occur in many new build developments.

Most of the retrofitted homes retain their existing footprint. However, because of the need to reconfigure the flats, they are essentially new homes created within the existing concrete structure: internal partitions are replaced to provide better layouts with larger bedrooms, more generous circulation and improved acoustic separation.

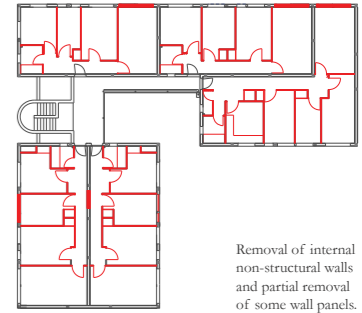
Residents would move out when the work is being done. Complete replacement of each flat's services is feasible. Some 2-bedroom flats are joined to create 4- or 5- bed homes. Inadequate one-bedroom studio flats at ground floor are replaced with shared facilities, e.g.. cycle storage. The floor-to-ceiling height would be slightly less than that of a new-build, but as there are no deep-plan configurations the internal daylight is good.

New homes meeting the requirement for larger homes on the estate are proposed on the residents' garage sites and the roofs of the three storey blocks. A prefabricated system would be employed to minimise disruption and local pollution during construction.



Internal reconfiguration

Internal partitions are removed to enable new layouts compliant with current Housing Standards. The concrete panels are cut down to floor level to provide access to new balconies and connect adjacent flats.



Removal of internal non-structural walls and partial removal of some wall panels.

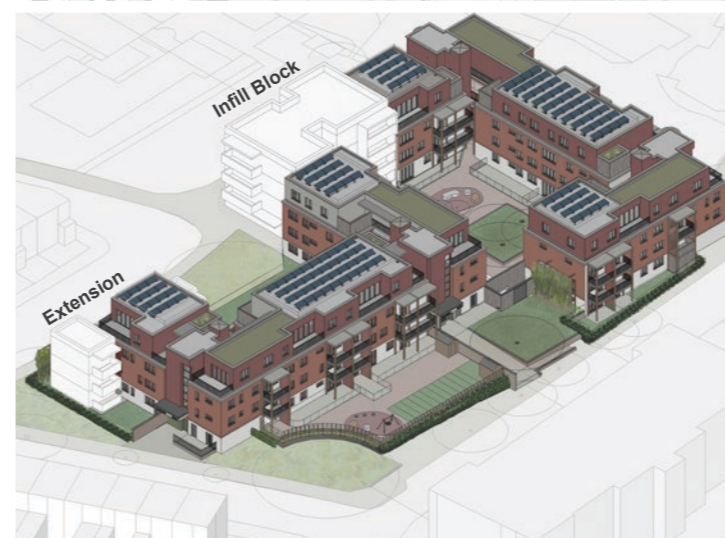


New rooftop and retrofit of flats

External walls are insulated to a high standards, renewable heating systems are installed and new balconies added to give each flat external space. Lifts are installed in every courtyard, and an additional floor of new homes added upon the roof of the 3 storey blocks.



Typical 5-flat module externally insulated, with new balconies and lift installed



Communal spaces and infill blocks

New buildings are built on the old garage sites to add 3 and 4- bedroom homes suitable for families. Secure central gardens and play spaces are created for each block, easily accessible from each flat.



An infill block between Cannington and Langridge encloses a central garden

Retrofit interventions proposed for every block:

Window openings are made bigger to enable access to new balconies and private gardens

Deeper window reveals and balconies will minimise overheating by shading windows from direct sunlight

An additional storey is proposed on the 3- storey blocks creating new homes (these are larger homes to make up the deficit)

Some flats are to be combined into flats for large families

Lifts are proposed to provide access to every flat

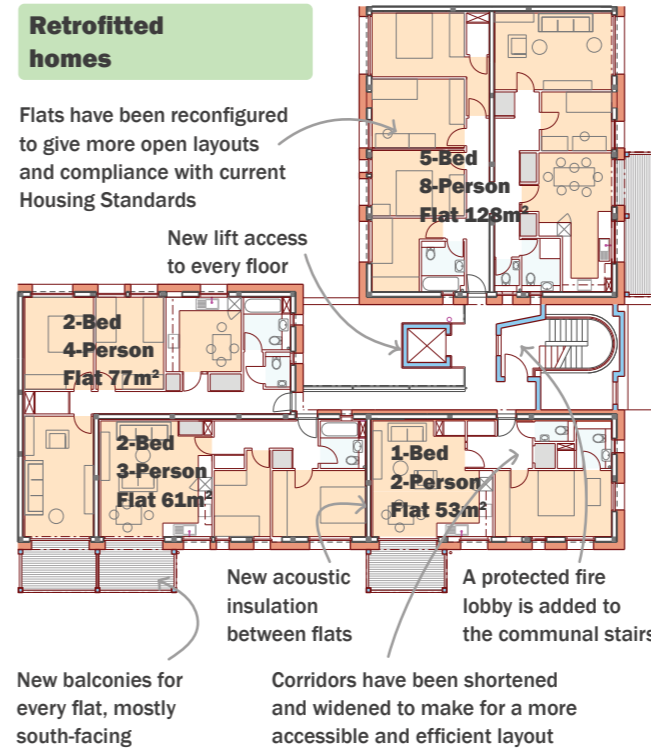
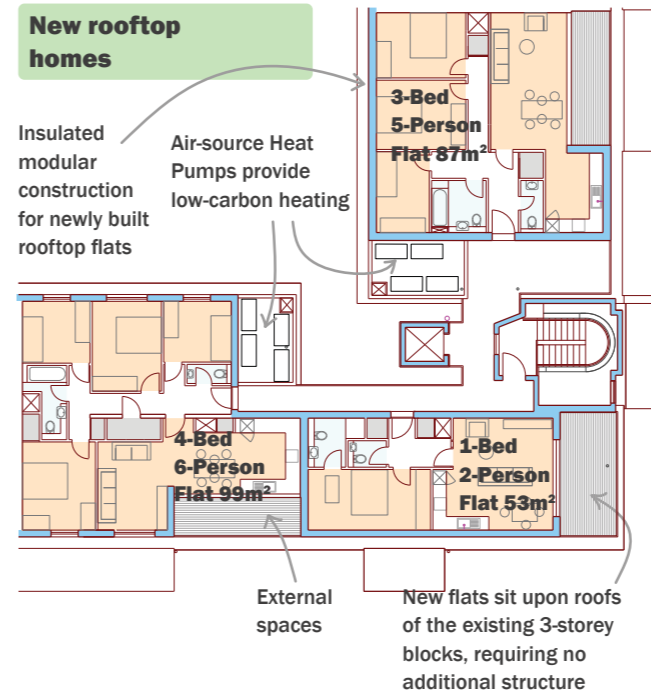
Each block is wrapped in a insulating external cladding. This reduces the energy needed for heating, reducing bills, and make flats more comfortable to live in

Solar PV panels and air-source heat pumps are installed on the roofs of each block, further reducing energy use and bills

Reducing carbon emissions through retrofit

The existing blocks are externally wrapped with new insulation to minimise heat loss during the winter and reduce energy use for heating. The work will enable swapping existing gas boilers for air source heat pumps, part of the national transition to clean, affordable and low carbon energy.

The 'embodied carbon' of the alteration work itself is reduced by using natural, low-carbon construction materials and re-using existing materials from the site. The hanging tiles which clad the blocks are reused, retaining the familiarity of the existing buildings, as well as the existing brick and concrete paving.



Low carbon interventions

The retrofit measures are designed to reduce the embodied carbon of the alteration work. During the design process, the embodied carbon of the proposed materials for the external envelope upgrade were calculated and minimised.

Embodied carbon breakdown for retrofit and infill scheme

Carbon emissions modules A1- A3

	tonnes CO ₂ e
Upgrading external envelope and rooftop extensions (240kg/m ²)	5,850
Internal fit out of flats and new services (150kg/m ²)	3,700
New build infill (530kg/m ²)	5,250

Upgrading the external envelope

OSB board and acoustic underlay is added to party floors to reduce sound transmission, with an acoustic lining to ceilings and party walls

Cellulose insulation is blown into the cavities of the external Reema panels, adding an additional layer of insulation to each flat

Deeper window reveals from thicker external envelope provide shading from direct sunlight to minimise overheating

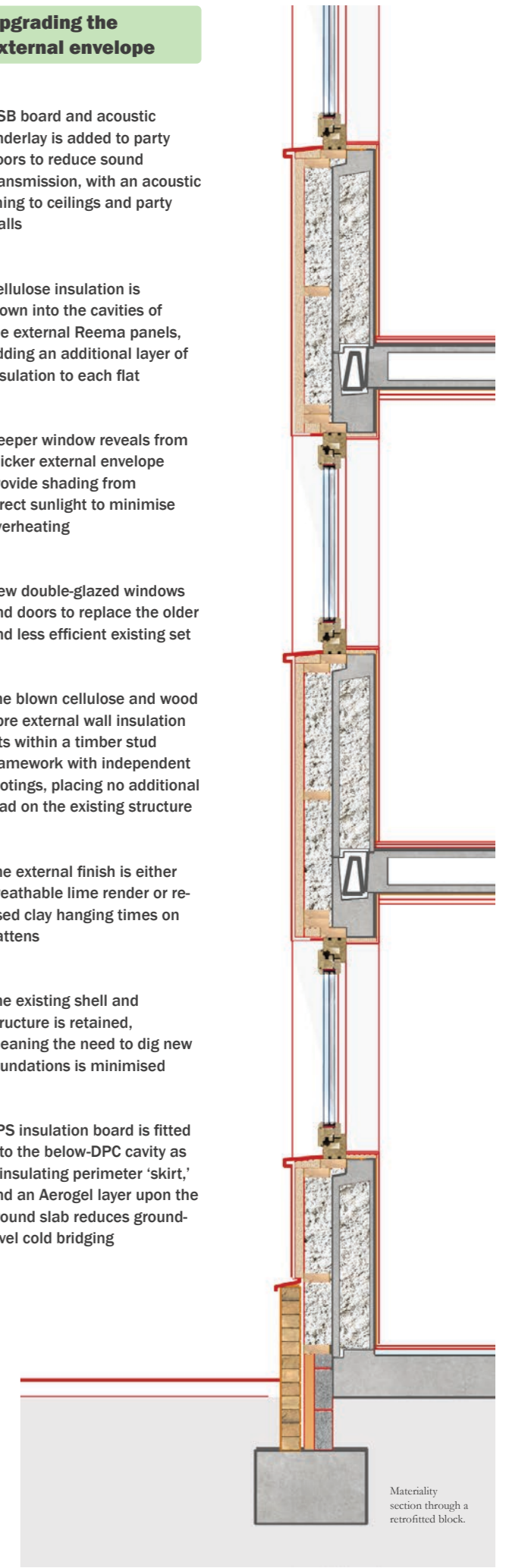
New double-glazed windows and doors to replace the older and less efficient existing set

The blown cellulose and wood fibre external wall insulation sits within a timber stud framework with independent footings, placing no additional load on the existing structure

The external finish is either breathable lime render or re-used clay hanging times on battens

The existing shell and structure is retained, meaning the need to dig new foundations is minimised

XPS insulation board is fitted into the below-DPC cavity as a insulating perimeter 'skirt,' and an Aerogel layer upon the ground slab reduces ground-level cold bridging



Housing design: public and private space

The configuration of the existing blocks enables the creation of private shared spaces that are overlooked by homes and private gardens on 2, 3 or 4 sides. Spaces that are open-sided and south facing are good for vegetable gardening. Larger, fully enclosed blocks would be suitable for children's play and some communal activities. The ground floors of the existing blocks are altered to create direct access from the secure entrance courtyards to the shared private spaces.

The retrofit proposal also provides 1,475m² of community facilities and workspace in the new blocks at ground floor level, as well as shared external work areas and storage.



A proposed ground floor plan for Cannington and Langridge, two blocks to the south of the site, showing enclosed communal external areas



Shared entrances around public 'squares'

Providing enclosure of external space across the estate enables entrances into each block to be clearly framed in relation to public 'squares.' The squares are shared spaces which contain seating, play equipment, and relate to sports facilities, e.g.

the MUGA in the centre of the estate, community facilities and workspace (shown in pink). Routes through the estate would be better defined. The main road through the estate could be closed to through traffic, to make a central square.



Communal private spaces

The yellow tone indicates shared private spaces, accessed directly from the secure entrance courtyards. These spaces are formed by the positioning of new infill blocks and the planting of hedgerows, which help provide enclosure and privacy to these resident-only external spaces.



Existing public/private spaces



Proposed public/private spaces

Re-introducing closed blocks and reducing permeability

The original site plan for the West Kentish Town Estate followed modernist urban design principles. Each block was positioned in an open and fully public landscape, without private communal space, in opposition to the enclosed urban

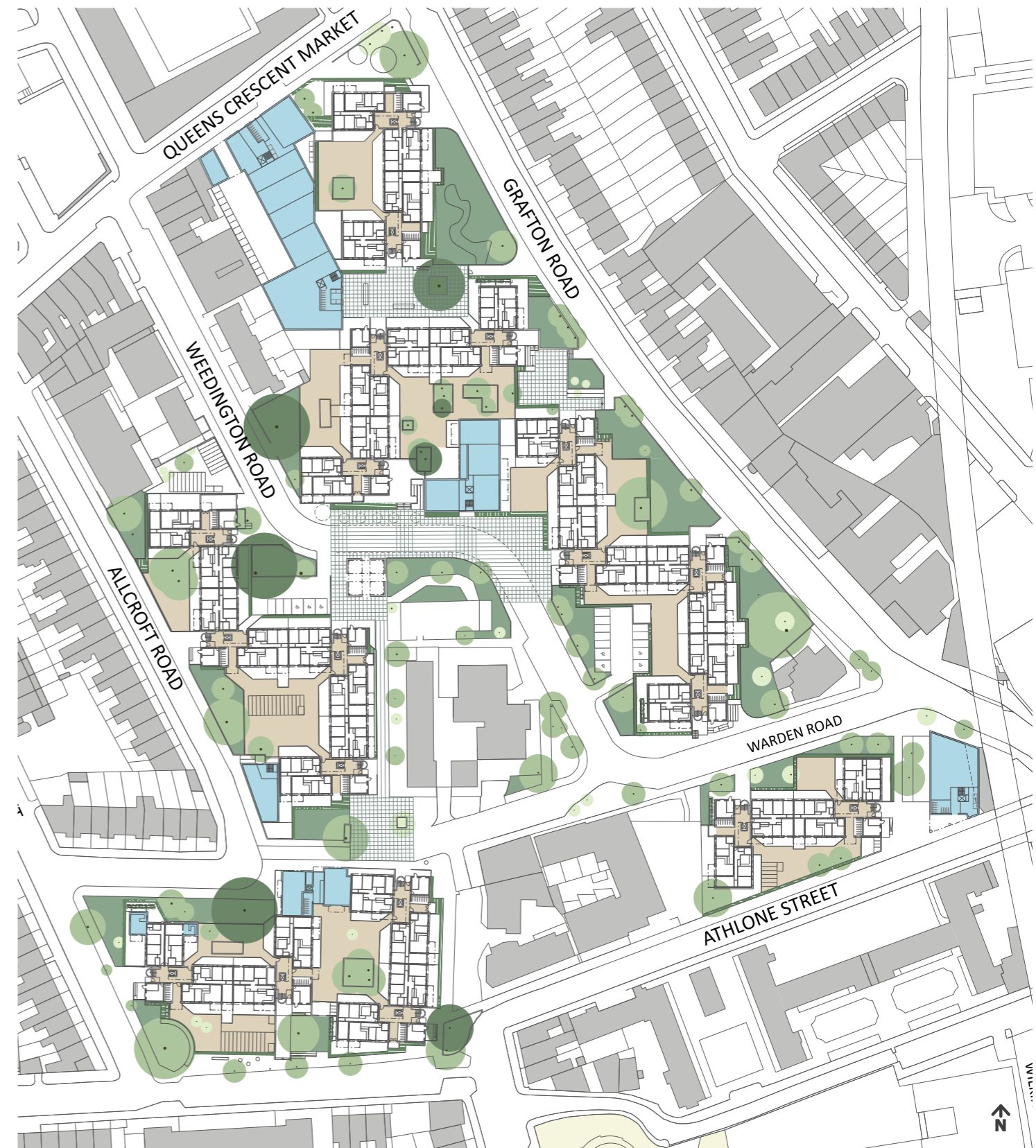
blocks of 19th century terraced houses. By introducing communal private spaces and enclosure across the estate, it is possible to create an urban structure which fits better with the surrounding streets.

Proposed site plan

The West Kentish Town Estate retrofit and infill proposal shows that a good mix of homes can be provided. The site plan responds to the needs of existing residents who include:

- Older people who have lived on the estate for decades, whose children have left home and now need to downsize
- Families with school age children, who are often living in over-crowded conditions
- Families within the borough who are on the housing register and in need of social rent homes
- Leaseholders who want to stay living on the estate

The existing buildings can be altered to meet modern standards, and the public realm improved, without causing the rupture that comes with demolition. Although the overall floor area is significantly increased, the overall massing and height of the proposals is not dissimilar to the existing, and the many aspects that residents appreciate about the estate are retained- easy access to outdoors, green surroundings and sense of community.



Accommodation:

Total number of homes in a retrofit scheme:

354 homes

(316 on estate as existing)

The proposed scheme would include:

232 retrofitted homes
42 new rooftop homes
80 new three-bedroom homes in new buildings

The numbers of different flat sizes would be:

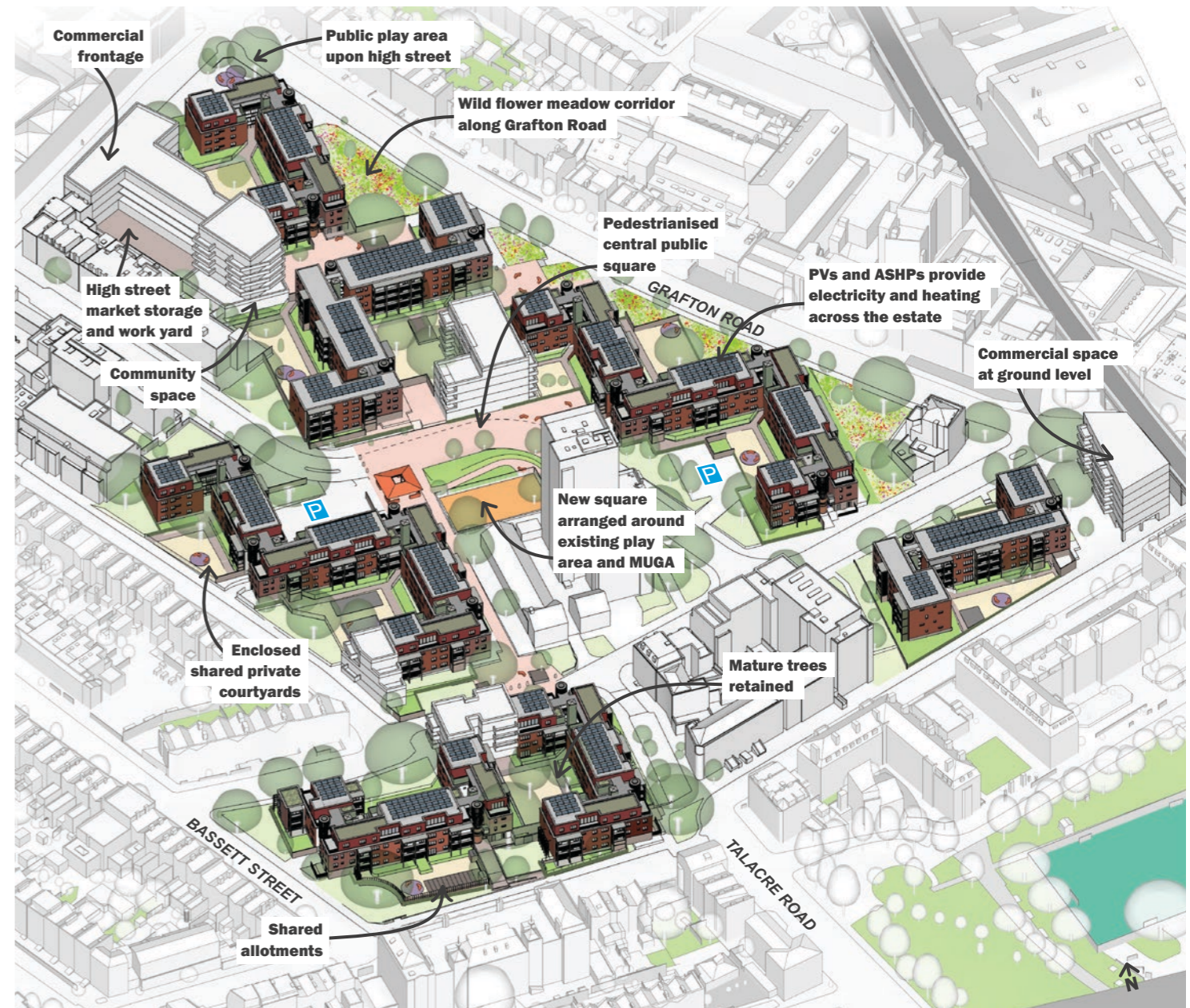
57 one-bedroom flats
127 two-bedroom flats
97 three-bedroom flats
70 four-bedroom flats
3 five-bedroom flats

Number of flats increased by **12%**.
 Overall floor space increased by **63%**.

Integrated landscape and architecture

With a retrofit scheme the mature trees across the estate can remain in place as an integral part of the public realm. Retaining the existing buildings avoids the replacement of infrastructure such as sewers and foundations, which is disruptive and carbon intensive.

The new infill blocks are proposed to be built on the sites of garages and car parks, minimising the loss of grassy areas and planted green space wherever possible. The biodiversity on the site is enhanced by additional elements such as wildflower meadow and hedgerow planting, as well as purpose-built structures to encourage wildlife.



The resident's experience of retrofit

In the retrofit proposal a higher overall number of social homes is proposed, leaseholders retain their homes, and the benefits of the existing estate are retained.

The demolition and rebuild scheme developed by Camden Council provides many more homes, 60% of which are flats for sale, marketed to maximise value to

fund the scheme rather than targeted at housing need. There is likely to be high proportion of short-term residents, and the identity of the estate will be lost. The total built floorspace will be quadrupled, which will transform a tranquil area- sighted by residents as something they like about the estate- to a high- density environment with a very different character.

	Residential floor space m ² (GIA)		Number of homes	
Existing estate				
Social rented homes	17,223	83%	263	83%
Leaseholder homes	3,514	17%	53	17%
Total	20,737		316	
Retrofit and infill				
Social rented homes	31,783		301	85%
Leaseholder homes			53	15%
Total	31,783		354	
Demolition and rebuild				
Social rented homes	33,580	42%	275	31%
Affordable* rent homes			80	9%
Market homes	47,159	58%	531	60%
Total	80,739		886	

Additional floorspace required versus percentage of tenure mix achieved; a conventional demolition and rebuild scheme requires vast amounts of additional floorspace to achieve a similar level of socially rented homes upon the site



Render of a kitchen within the retrofitted flats: A newly fitted kitchen and balcony open out onto the retained courtyards

Mix of dwelling sizes	1-bed	2-bed	3-bed	4-bed	
Existing estate	19	234	62	1	316
Camden Council's recommended	63	95	95	63	316
Retrofit and infill scheme	57	127	97	73	354
Camden Council's recommended	71	106	106	71	354

Camden Council's Housing Commission and Partnerships Team suggested a percentage mix of 20/30/30/20 for 1/2/3/4-bed dwellings for any new development upon the West Kentish Town Estate site (Dec 2022)

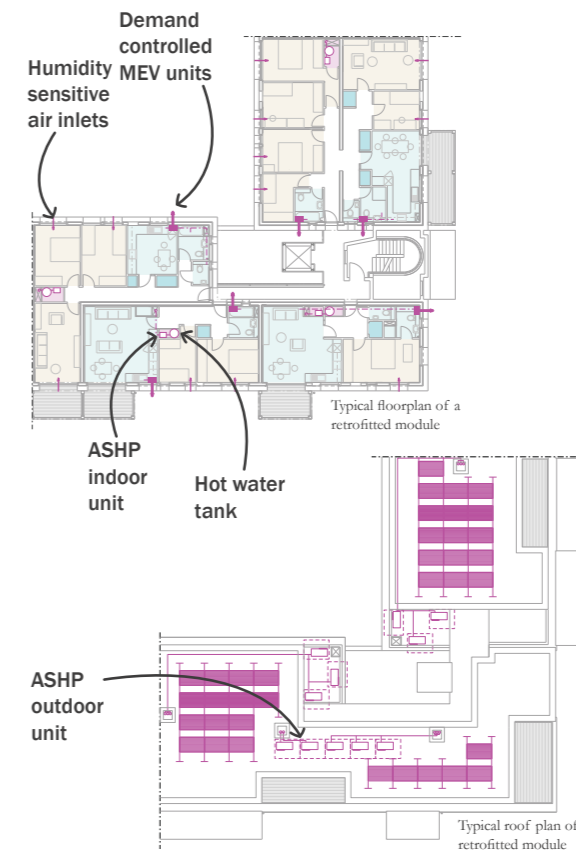
Addressing overcrowding: rebalancing unit size mix

74% of the existing flats have two bedrooms. In the retrofit proposal flats are reconfigured to meet housing standards: the smaller 2-bedroom flats become 1 bedroom flats, and others become 3 person flats or are joined together to create larger flats. AAB architects' proposal shows that by combining retrofit of existing homes with infill new-build, the required mix of unit sizes can be provided.

Mould and Damp

Overcrowding and lack of suitable ventilation systems mean that some residents suffer from condensation and mould in their homes, exacerbated by leaking roofs. The existing estate is portrayed as not able to be improved. Some local councillors have described the buildings as 'made out of cardboard' and 'rotting'.

Retrofit works with new ventilation systems providing continuous background ventilation to the whole home (with or without heat recovery) will eliminate the harmful effects of condensation and growth of mould spores.



Renewable Energy

Retrofit offers a more comfortable internal environment, better air quality and lower energy bills. The options for low carbon heating, by either ASHPs (air source heat pumps) or GSHPs (ground source heat pumps) has not been explored in detail, but would be part of the scheme, along with roof-mounted solar panels to supply residents directly with locally generated electricity.

Construction cost and duration of retrofit

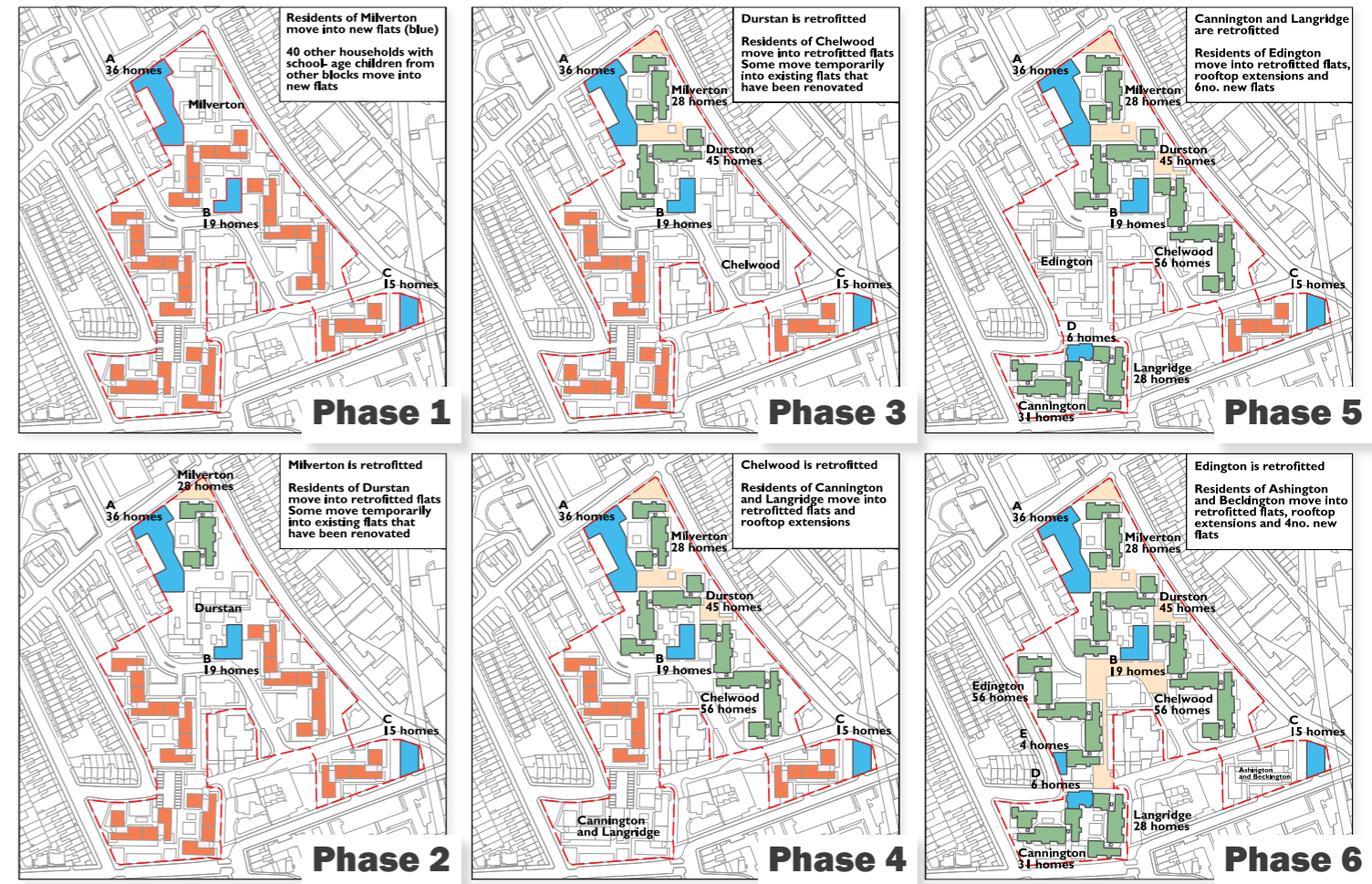
The estimated time required for construction of the retrofit and infill proposal is around 10 years, half the time Camden Council have estimated the demolition and rebuild scheme will take to complete (19 years).

The retrofit scheme will lessen disturbance for residents of the estate and surrounding area and reduce health impacts of pollution.

The construction of the retrofit scheme will use less material and construction resources at a time when both are in short supply for retrofitting the UK's existing building stock, required for mitigating climate change.

The estimated development cost of the retrofit proposal is around 1/4 that of the demolition and rebuild scheme, due to:

- Less overall floor space
- Simpler form of construction
- Leasholders do not need to be bought out (they could move into a new-build flat temporarily, before returning to their retrofitted flat)
- Existing sewers and road infrastructure do not need to be replaced



Phasing for a retrofit redevelopment

A phased retrofit plan can capitalise on the existing estate's replicated block design. Once the scheme for an initial block has been designed and built, the detailing can be copied from one block to another, repeating fabrication patterns and reducing material wastage. Construction processes can be repeated reducing the duration of each phase compared to those of a new-build development where each block may be different.

The construction programme starts with 70 new flats, enabling families in most urgent need to move in first, plus those moving out of the first block to be retrofitted. This small block would enable the testing of the retrofit design and construction, before rolling out the retrofit at a greater speed and scale. Residents would move out of their existing home and straight into a newly retrofitted home.

Phasing diagram for a retrofitted West Kentish Town Estate:

- Phase 1: 2024-2026
- Phase 2: 2026-2027
- Phase 3: 2027-2029
- Phase 4: 2029-2031
- Phase 5: 2031-2033
- Phase 6: 2033-2035

For comparison, Camden Council have approximated that phasing for a demolition-and-rebuild proposal will conclude in 2043

Cost Summary: Retrofit and infill new-build RIBA Stage 1 cost estimate	No.	Area m2	Cost per m2	Cost	Total cost
Preparatory works					
Demolition cost, general site clearance and contamination					£675,000
Accommodation					
Retrofit residential units	232	20,584	£2,143	£44,111,512	
Extensions to retrofit units		132	£2,500	£330,000	
New-build residential units	80	7,679	£2,700	£20,733,300	
New-build extension (roof-top units)	42	3,520	£2,501	£8,803,520	
Community space		200	£2,000	£400,000	
Commercial shell and core		1,938	£1,500	£2,907,000	
					£77,285,332
Allowances					
Wheelchair adaptable units	8		£10,000	£80,000	
Enhanced for leasehold reversion	53		£15,000	£795,000	
					£875,000
External works, SUDS and statutory services					£5,763,000
Infrastructure costs					£1,050,000
Unmeasured allowance					£4,265,410
Preliminaries					£17,914,722
Overheads and Profit					£10,748,833
Fees, relocation and contingency (allow 30%)					£35,471,150
Totals	354	34,053	£4,524		£154,048,447
					Cost per home £435,165
Cost Summary: demolition and new-build					
Totals	886				£565,920,000
					Cost per home £638,736

Estimate assumes: commencement date 2022

Cost comparison

The total development cost of the retrofit and infill scheme is £154m.

The proposed demolition and rebuild scheme by comparison is estimated by Camden Council to be £565m at 2022 prices, ie. approximately £608m at today's prices.

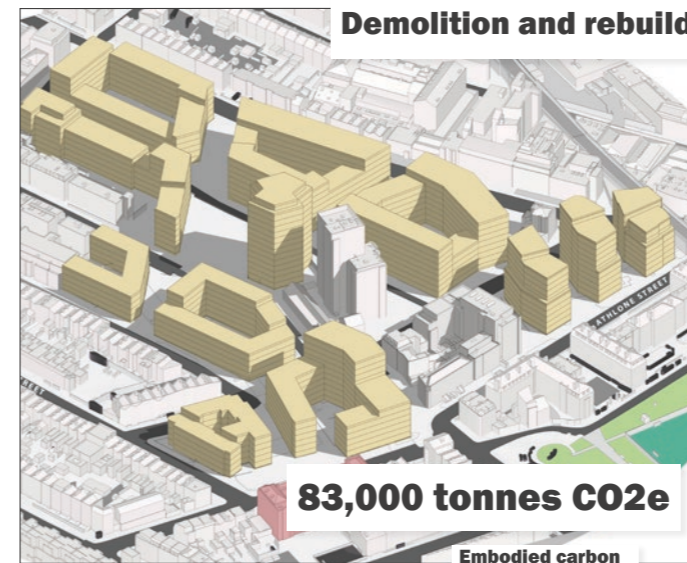
Carbon emissions: embodied carbon

The construction of retrofit scheme produces 1/5 of the GHG emissions of that which a typical new-build redevelopment would produce:

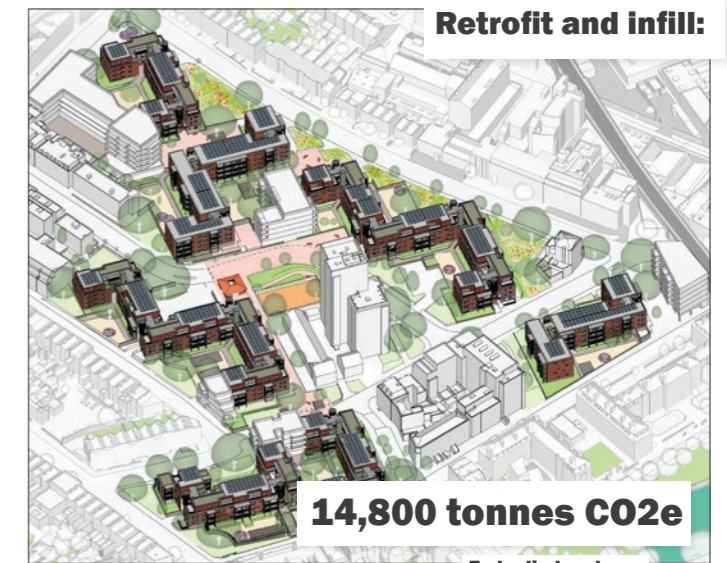
A new-build redevelopment's carbon emissions has been approximated using benchmark values for different types of residential buildings (550-970 kg CO2e/m²) from Atkins' Carbon Critical Masterplanning tool (Module A1-3 'cradle-to-gate'). The total area of the scheme is around 90,000m², with storey heights ranging from 4-13 levels for each block. This value does not factor in the external works, which will be much less for the retrofit scheme compared to the demolition and rebuild which will require levelling of the site and construction of basements.

The carbon emissions for a retrofit proposal (Module A1-3) have been calculated as follows:

The embodied carbon of the retrofitted external envelope and new rooftop extensions will total 5,850 tonnes CO2e. Added to this is the embodied carbon for all new internal partitions, doors, finishes, fittings and MEP services across each flat- totalling approximately 3,700 tonnes CO2e. The new infill development adds a further 5,250 tonnes of CO2e, approximated at a rate of 550 kg CO2e/m² (Atkins). This total is only 18.5% of the embodied carbon of the demolition and new-build development.



Axonometric view of the proposed demolition and rebuild scheme (pre-planning stage)



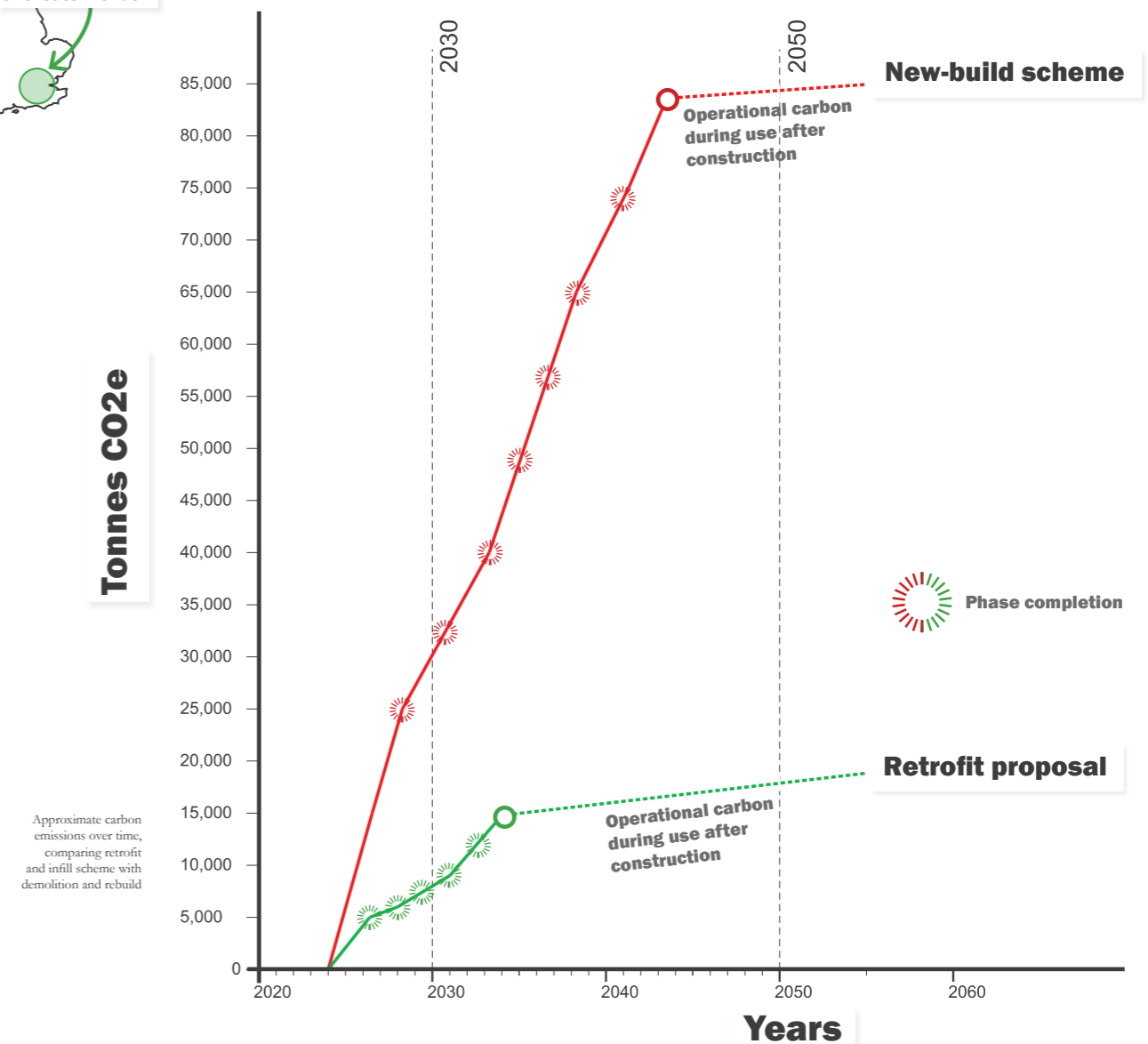
Embodied carbon (A1-A3) approximation



Carbon footprint of retrofit

Overall carbon emissions resulting from the retrofit and infill scheme are estimated to be around 1/5 that of demolition and rebuild, resulting in a saving of around 70,000 tonnes CO2e.

This amount of carbon is the equivalent to that taken up by a 13,600 square-kilometre area of trees across a 10 year period.



The value of mature trees

The 40 different species of trees growing on the estate provide an established landscape and sustain an ecosystem for local wildlife. They draw pollutants from the air and sequester carbon at a greater rate than younger trees and saplings. The canopies of mature trees provide a large area of shading and cooling across the estate, and the developed root structures

assist in water retention to minimise ground saturation and water run off.

A tree survey carried out by an arboriculturalist in 2019 found that, of the 124 trees upon the estate, 20% had a future life expectancy of over 40 years, including oak, lime and beech trees, and 90% had a future life expectancy of over 20 years.



Existing tree plan

Natural focal points

Mature trees sit in many of the existing open courtyards. These trees would form the centrepieces of each newly-formed communal space, providing shading and sustaining biodiversity for each resident to enjoy.



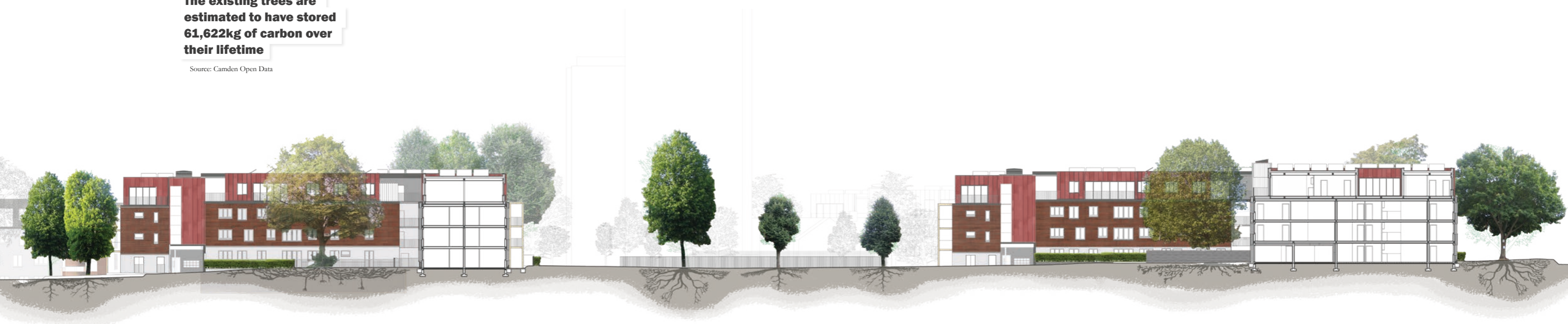


The existing trees upon the estate are estimated to remove 27kg of pollution per year

The existing trees are estimated to sequester 1,275kg of carbon per year

The existing trees are estimated to have stored 61,622kg of carbon over their lifetime

Source: Camden Open Data



A green estate

The open spaces across the West Kentish Town Estate create vistas that open up to the surrounding 19th century streets and have become part of the collective shared understanding of the area.

Access to green spaces and urban green infrastructures have been recognised as a vital part of development by the Mayor of London. In the London Plan 2021, a policy to promote urban greening within new development was introduced. Applications for new developments are required to demonstrate the quantity and quality of green spaces they will provide using a tool called the Urban Greening Factor (UGF), which takes into account natural features

such as planting, tree cover and green roofs, collectively referred to as urban greening. It enables developments to demonstrate how they have included urban greening as a fundamental element of site and building design.

A UGF factor falls between 0 and 1, with major residential developments generally needing to achieve a UGF factor of 0.4 to adhere the London Plan's Urban Greening policy. A measurement of the existing estate's natural features produces a UFG factor of 0.29. Improvements will need to be made to the existing landscaping, however it provides a solid baseline to add high quality urban greening across the estate.

Maximising biodiversity net gain

Quality and variety matter as much as the amount of natural features when attempting to increase biodiversity. The trees upon the site are made up of a variety of species at varying levels of maturity, and provide a good habitat for birds and insects to feed and nest in.

Most grassy areas are mown so frequently that local wildflowers are suppressed. Groundcover planting is not dense enough to create shelter and movement corridors for wildlife. Interventions can be introduced into the existing landscaping to increase biodiversity across the estate.



MAYOR OF LONDON

Urban Greening Factor guidance

Table 3.1 Surface-cover types and factor scores

Surface-cover type	Factor
semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site	1
land or open water (semi-natural, not chlorinated) maintained or established on site	1
extensive green roof or vegetation over structure; substrate minimum filled depth of 100mm – see Living Parks for descriptions ¹	0.8
standard trees planted in connected tree pits with a minimum soil volume equivalent to at least two-thirds of the projected canopy area of the mature tree – see 'Trees in Hard Landscapes for overview' ²	0.8
diverse green roof with substrate of minimum settled depth of 80mm ± 50mm (depth: vegetation blank) – meets the requirements of GRD site 2014 ³	0.7
species-rich perennial planting – see the Royal Horticultural Society (RHS) guide to perennial plants ⁴	0.7
rain gardens and other vegetated sustainable drainage elements – see RFA case studies ⁵	0.7
edges (line of mature shrubs one or two shrubs wide) – see the RHS site to hedges ⁶	0.6
standard trees planted in pits with soil volumes less than two-thirds of projected canopy area of the mature tree	0.6
green wall – modular system or climbing rooted in soil ⁷ – see the NBS site to Facades Greening for overview ⁸	0.6

February 2023

London Plan Guidance

Urban Greening Factor

Urban Greening Factor supplementary planning document for the London Plan. Source: Mayor of London, 2023.



Nature across the existing estate

Pockets of biodiversity already exist across the estate, and are indicators to what could be achieved if the landscape is retained and further interventions introduced.

Retained trees will continue to host birds, insects, fungi and other plant life. Beds can hold perennial species of grasses and flowering plants. And grassy areas, when left un-mown and sown with native wild flower seeds, can provide seasonal flowers attracting pollinators and ground-dwelling wildlife.

Biodiversity and green corridors

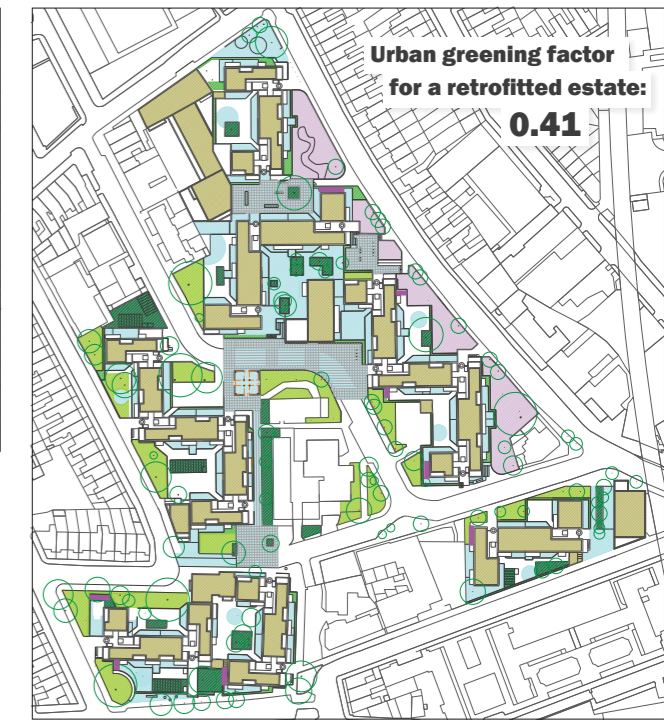
The West Kentish Town Estate can play an important role in increasing biodiversity within the wider area of Kentish Town, along with other nearby developments. Starting at the foot of Hampstead Heath, several SINCs (Sites of Importance for Nature Conservation) fall within a 'green corridor' which allows the movement of wildlife down into the borough of Camden.

The West Kentish Town Estate and other neighbouring development sites sit within this pathway. Each provides an opportunity to weave additional natural features into the green corridor, drawing wildlife and biodiversity upon each site and into the surrounding area.



Green corridors which connect Kentish Town with Hampstead Heath, to the north. Source: Heath & Hampstead Society and Prof. Jeff Waage, 2023.

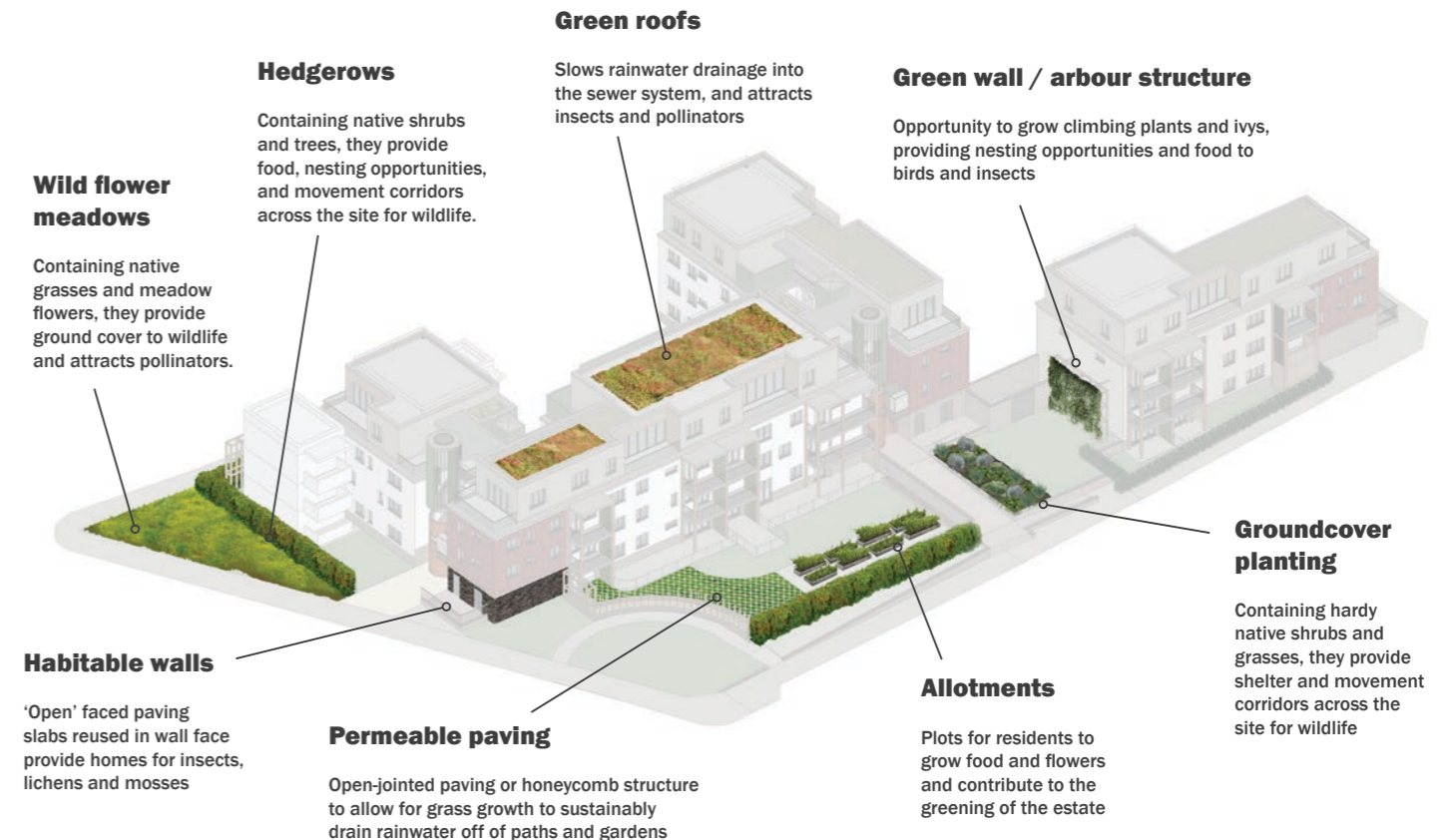
- Wild flower meadows
- Extensive green roofs
- Hedges
- Green walls
- Ground cover planting
- Amenity grass
- Permeable paving
- Trees



Biodiversity comparison

Reviewing the initial layout of Camden Council's proposed scheme for demolition and rebuild (above) it is seen that there is a significant reduction in planted areas and grass. The existing estate has approximately 10,000m², whilst the new build proposal has around 4000m². The London Plan requires an urban greening factor of 0.4. An initial assessment of what is proposed indicates that it will not be possible to achieve this.

The landscape plan compares poorly with the retrofit proposal, where a much higher urban greening factor can be achieved as the existing green infrastructure is retained. It will take many years before newly planted trees provide the same level of ecological services (cooling, filtering of air pollution, carbon sequestration, homes for wildlife) as the existing green canopy.



Interventions to deliver biodiversity net gain

Introducing a range of interventions through retrofit measures and enhancements to the landscape will increase biodiversity across the estate's existing green space. Such interventions can provide additional practical site-wide benefits, too. Tree canopies provide shading, green roofs and permeable paving increase

water attenuation (slow-release of rainwater), and hedgerows and arbour structures provide privacy to gardens and ground floor flats. On paper, these interventions will increase the UGF across the site and, in practice, will establish a greener and more diverse urban environment for residents and wildlife.

Purpose of the research

Work to clear the site at West Kentish Town Estate has commenced and a planning application is expected to be submitted in autumn 2024.

The research carried out by AAB architects is intended to examine alternatives to a typical 'demolition and rebuild scheme' by considering an alternative retrofit-based

proposal to understand what the benefits would be. The purpose is to encourage social housing landlords to consider retrofit fully at the start of the feasibility options appraisal process and to engage with residents about the benefits of retrofit. It is not the intention of the research to seek to alter the proposed course of action decided by residents through a ballot.

Demolition has started on the existing garages across the West Kentish Town Estate



Conclusions

Benefits of the retrofit option determined through the research:

Lower carbon emissions

Fewer resources used

Reduced impact of construction on residents

Residents' needs met more quickly

Development relates better to its surroundings

Existing social structures are maintained

The existing nature and biodiversity is protected