

November 2020



9.0 Building typologies

9.1 Townscape composition

Townscape settings = Landscape + Typologies

As described earlier in **Chapter 5** of this report, the masterplan townscape is composed of **landscape Character Areas** and **building Typologies**. Together, these form a **Setting**, and the combination of settings forms the **townscape**.

The previous **Chapter 8** described the nature of the different landscape Character Areas and their contribution towards the establishment of settings and neighbourhoods.

This chapter will describe the different building typologies and give precedent examples of the kind of buildings which might be brought forwards in the later stages of the masterplan.

Hybrid application

This planning submission is a hybrid Outline Masterplan application with reserved matters, and three Building Plots, B, C & E, which have been designed and will be submitted in detail.

In planning, **Reserved Matters** refer to the aspects of design which are expected to be addressed in a Detailed Application for an individual plot. These would typically include the massing and detailed architectural expression, but not the overall amount or scale of the development, or the configuration within the masterplan.

Illustrative proposals

As the specific design of the Outline plots is not at this time being submitted in detail, the proposals over the following pages explain the design intent which has been developed to consider the future appearance and feel of Cambridge Road.

Masterplan Design Guidelines

For these Outline plots, a set of Mandatory and Advisory guidelines have been prepared to control aspects of the design to ensure that the spirit and intent of the building typologies and landscape Character Areas will be developed.

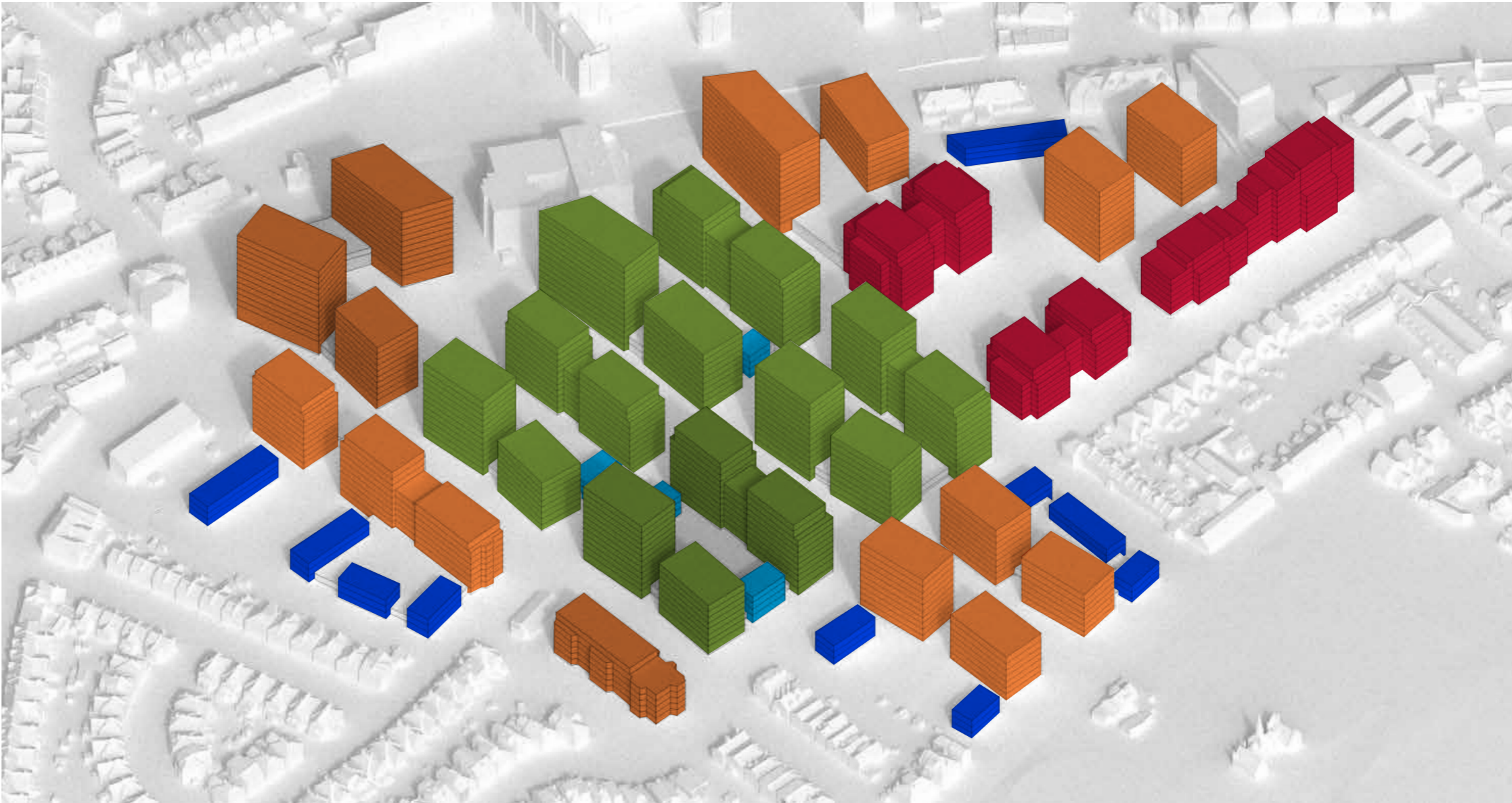


Figure 1: Axonometric diagram showing different building typologies and massing.

- Linear typology
- Courtyard typology
- Mansion typology
- Townhouse typology
- Terrace typology



- Cambridge Road Estate (CRE) planning application boundary
- Detailed component of the Hybrid Planning Application. Plots B, C & E
- Building Line

- Linear typology
- Courtyard typology
- Mansion typology
- Townhouse typology
- Terrace typology

9.2 Key typologies

There are five key building typologies which are used within the masterplan. Variations on each typology, based upon the location and landscape setting, create a rich architectural palette across the site.

Linear typology

A building seen from public space on all four sides, the Linear typology can be free-standing or engaged with a podium, and is typically sited towards the outer edges of the masterplan and north onto Cambridge Road.

Courtyard typology

Combining four broadly parallel north:south linear buildings across a raised landscaped podium, the Courtyard Typology addresses both the public realm and a more private shared courtyard garden. The typology defines the heart of the site around the NESW central crossroads.

Mansion typology

Paired blocks running east:west, the typology is heavily articulated in plan and in height, creating a strong edge to Grove Gardens and lining the north side of Vincent Road. Stepping back from the streets and spaces, the Mansion creates pockets of landscaping folding in and out.

Townhouse typology

Pairs of 4-storey Townhouses sit on the north and south sides of the Courtyard blocks, keeping heights low and placing front doors and gardens on the neighbourhood streets.

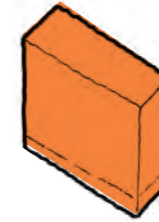
Terrace typology

Longer linear terraces of townhouses are arranged at the margins of the site where scale steps down to meet the existing residential streets. Terraces can be free-standing, with grade-level back gardens, or engaged onto a shared podium garden.



Linear typology

Plots
A / B / C
F / J / K
M / P



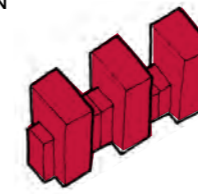
Courtyard typology

Plots
D / E
G / H



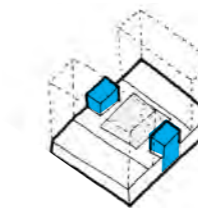
Mansion typology

Plots
K / L / N



Townhouse typology

Plots
D / E
G / H



Terrace typology

Plots
A / F
J / Q

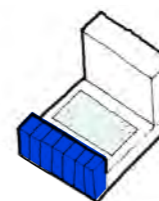


Figure 2: Principal building typologies

9.0 Building typologies

9.3 Linear typology

Making up the majority of built form within the masterplan, the Linear and Courtyard typologies are the backbone of the proposals.

Orientation and arrangement

Oriented north:south, the Linear buildings line the significant public routes in the masterplan. Typically longer in plan than they are tall, the horizontal nature of the blocks reinforces the perspective and direction of the movement spaces.

A consistent, aligned building line on one side of the routes is typically offset by movement and twisting on the east side of routes to create wider street sections and open up informal spaces in the public realm.

Street level

At street level, common core entrances and non-residential uses are allowed to meet the public realm directly, while maisonettes are buffered by walls and planting creating a clearly defined public and private realm.

Built form and facade character

The buildings themselves follow a simple and efficient rectilinear plan form allowing for a variety of different external treatments.

The lower floors are expressed with a plinth to define a human-scale public frontage and entrances to the residential lobbies.

Upper level façades are common on all sides of the block, reflecting the visibility from all aspects, with no front or back expressed.

Balcony positions alternate between gable and flanking walls to clearly define the ends of blocks and mark junctions in the townscape.

Set back storeys to key buildings provide variety in the skyline and mark moments in the townscape.

Palette and expression

Linear typology blocks are to be predominantly faced in clay or masonry (brick, terracotta, stone, precast concrete) with articulation in natural metal tones such as grey, brass or bronze.



Figure 7: Typology keyplan

Key building archetype

Block C1 is a taller element in the masterplan, marking the key junction between Washington Avenue and Cambridge Road, and locating the Community Centre at the heart of the masterplan.



Figure 3: Linear typology sketch view - Plot C and Madingley Gardens.



Figure 4: Primary brick palette with textural variations.



Figure 5: Front doors to Maisonettes and ground level Apartments.



Figure 6: Expressed plinth defines a non-residential ground floor with spill-out.

9.0 Building typologies



Figure 8: Courtyard typology sketch view - Looking north along Plot H and G.



Figure 9: Recessed and expressed common building entrances .



Figure 10: Slots between blocks allow permeability and views through.



Figure 12: Typology keyplan

Key building archetype

In the first phase, Plot E sets the standard for the typology, with Buildings E1 / E2 / E3 / E4 defining the two different configurations and colour palettes consistent across the four plots.

9.4 Courtyard typology

A variation on the Linear typology, the Courtyard buildings are arranged in pairs across a common, shared podium garden.

Orientation and arrangement

The Courtyard buildings are in a cluster of four plots centred on the Crossroads at the centre of the masterplan site. Each plot features four individually expressed buildings which are oriented north:south.

On the west side of the Courtyard plots, the buildings are shorter in plan with a more pavilion character, rotating away from true north:south alignment to open up different views, and larger landscaped spaces at ground level public realm.

Street level

The Courtyard buildings are typically within a residential part of the site, and meet the ground with 2-storey maisonettes and ground level Apartments, which are buffered from the public routes by planting and garden walls.

A consistent podium element containing parking and plant areas joins the four individual buildings in each plot, along with the Townhouses on the north and south.

The north side of plot Plot G faces onto a key connection between Madingley Gardens and lines the south side of Grove Place, with potential for workspace and shopfronts opening directly onto the public realm.

Built form and facade character

As with the Linear typology, the buildings themselves follow a very simple and efficient rectilinear plan form allowing for a variety of different external treatments.

The single storey plinth to the west steps up to define maisonettes, while upper level façades change between internal and street-facing frontages to express the more private shared garden spaces and enhance lighting.

Balcony positions alternate between gable and flanking walls to clearly define the ends of blocks and mark junctions in the townscape.

Set-back storeys to key buildings provide variety in the skyline and mark moments in the townscape.

Palette and expression

Courtyard typology blocks are to be predominantly faced in clay or masonry (brick, terracotta, stone, precast concrete) with articulation in natural metal tones such as grey, brass or bronze.



Figure 11: Private terraces line the perimeter, with central shared gardens.

9.0 Building typologies

9.5 Mansion typology

By contrast with the Linear and Courtyard blocks, the Mansion typology is highly articulated, with steps both in plan and in height to create a dynamic frontage to the streets and a strong urban edge to the Park.

Orientation and arrangement

Arranged in linear clusters of 2 blocks and oriented both east:west, the Mansion buildings have a 100% dual aspect plan form, avoiding any north-facing homes.

There are two variations on the typology: A long horizontal form lining Vincent Road (Plot N) and a deep plan vertical form lining Grove Gardens (Plots K and L).

Street level

At street level, maisonettes with private garden terraces alternate with pockets of public green allowing for larger street trees to grow.

Shared entrance lobbies sitting in the middle of the two blocks run through the buildings, giving access and views through from streets and gardens.

Built form and facade character

Inspired by traditional London Victorian and Edwardian block forms, the stepping facade line creates a strong verticality. Each block has a cross-shaped plan with the core at the centre.

The lower floors are expressed with a plinth to define a human-scale public frontage and entrances to the residential lobbies.

Upper level façades are common on all sides of the block, reflecting the visibility from all aspects, with no front or back expressed.

The primary central elements are expressed more prominently than connecting 'wings' which link and terminate the clusters.

Palette and expression

Mansion typology blocks are to be predominantly faced in a vibrant palette of clay or masonry with articulation in lighter masonry with additional elements in natural metal tones such as grey, brass or bronze.

Key building archetype

Buildings K3 and K4 face south onto Grove Gardens and will be the first, and tallest Mansion Blocks within the development.



Figure 13: Typology keyplan



Figure 14: Mansion typology sketch view - Looking south east across Cambridge Grove Gardens.



Figure 15: 'Shoulders' step down to create roof terraces between blocks.



Figure 16: Stepping plan form creates dual aspect and pockets of landscape.



Figure 17: Variable height creates a strong and articulated skyline to the park.

9.0 Building typologies

9.6 Townhouse typology

Bridging between the neighbourhood streets and landscaped podiums, and flanked by Courtyard typology blocks, the Townhouses create relief along the east:west streets, allowing daylight into the gardens and giving views to the sky.

Orientation and arrangement

The Townhouses are designed to be read as a block of houses in a cluster of 2 or 3. Each house will be individually identifiable, but the whole block is treated as a single expression in contrast to the variation within the Terrace typology.

The houses are north:south dual aspect, with blind gables to the flanking façades. Entered at the ground floor, a kitchen/dining room faces the street, with living spaces onto the rear podium and bedrooms facing both ways at second and third floor. A set-back, south facing roof terrace provides additional amenity space on the top floor.

Street level

At street level, the Townhouses step back to create private gardens lined with brick, fencing and planting on both sides of the ownership demise line, evoking a traditional suburban quality which references the street grain elsewhere in the local area, and allowing individual expression while ensuring a green edge.

Built form and facade character

Inspired by Georgian and Edwardian townhouses, the Typology is simple and rectilinear, with a vertical proportion to windows, and brick detailing.

Palette and expression

The Townhouses should respond to the red and buff bricks of the Courtyard blocks either side, with a complimentary brick palette mediating the colour changes. Banding, brick bond and pattern can provide variety between blocks of townhouses across the masterplan.

Additional facade elements such as window frames and brise-soleil canopies are in natural metal tones such as grey, brass or bronze.

Key building archetype

4-storey Townhouses in clusters of 3 will line the courtyard plot E within the Detailed component.



Figure 18: Townhouse typology sketch view - Looking along a neighbourhood street.



Figure 22: Typology keyplan



Figure 19: Townhouses set between taller blocks open up the north and south of the podiums.



Figure 20: Townhouses read together as a consistent cluster block.



Figure 21: Buffer planting, walls, fences and paved 'doormat' over threshold.

9.0 Building typologies

9.7 Terrace typology

The Terrace typology is a variation on the Townhouse, with greater concentration of houses, and more individuality and expression for each unique home.

Orientation and arrangement

The Terrace houses are typically arranged over three storeys, with front:back dual aspect mid-terrace houses and triple-aspect end-terrace houses which can be aligned in any orientation.

The houses are located on the edges of the site, 'Stitching' settings which bridge between the new development and the existing low-scale streets.

Entered at the ground floor, a kitchen/dining room faces the street, with living spaces onto the rear at ground or podium level, with bedrooms facing both ways on the upper levels.

Street level

At street level, private gardens and off-street parking evoke a traditional suburban quality which references the street grain elsewhere in the local area.

Built form and facade character

Inspired by Victorian terraced houses, the typology has a vertical proportion to windows and brick detailing, and pitched roofs presenting gables to the street. Varying heights and articulation are possible to create a rich collection of individual homes.

Palette and expression

Variation in brick colour, texture and articulation is encouraged, with all details and palettes prescribed elsewhere in the masterplan permitted in the Terrace.

Additional facade elements such as window frames and canopies are in natural metal tones such as grey, brass or bronze.

Key building archetype

The first plots to build with the Terrace Typology will be located in the north west of the site, in Plots A and P.



Figure 27: Typology keyplan



Figure 23: Terrace typology sketch view - Looking north east across Fordham Gardens.



Figure 24: Flexible height, roof profiles and colour.



Figure 25: Green setting with playable landscape trail.



Figure 26: Contemporary neighbouring character connection (Piper Road).

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10.0 Access

Inclusive public realm

10.1 Topography and site levels

A key factor in universal access is the provision of even ground with relatively shallow slopes to address changes in site levels.

The existing site

As explored in **Chapter 5.0**, the site sits on the side of a eroded ridge falling down towards the River Thames in the north west and the Hogsmill River in the south west.

Historically, the grain of residential streets (see **Chapter 2.0**) followed the topography of the natural landscape. The construction of long, linear blocks in the 1970s sought to level out undulations, creating artificial flat 'plateaux' and 'cliff edges' with 4:5m level changes.

These abrupt level changes interrupt movement across the site, creating barriers to inclusive access for pedestrians, wheelchairs, buggies, bikes and cars alike.



Figure 2: Existing level change.



Figure 3: Existing level change.



Figure 4: Existing level change.



Figure 1: Existing masterplan - Prevailing topography, site levels and significant level steps.



Figure 5: Existing level change.

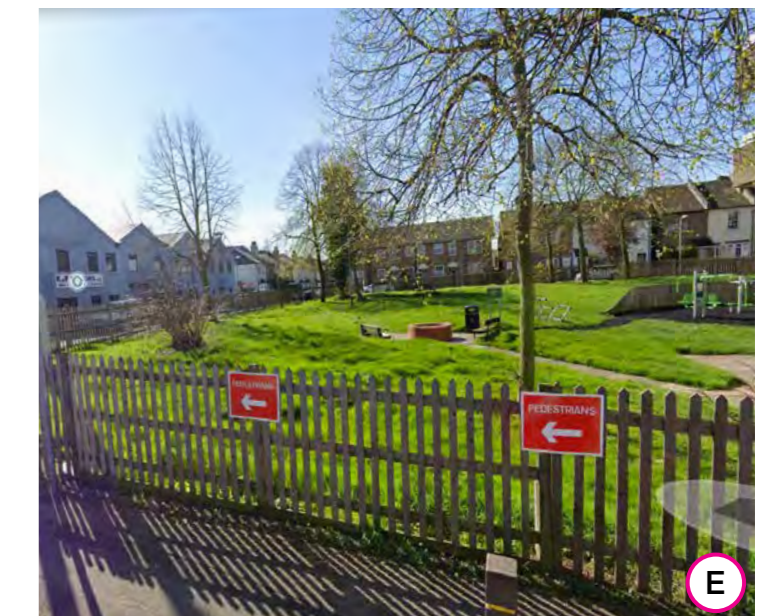


Figure 6: Existing level change.

10.0 Access

Inclusive public realm

Proposed step-free access

Inclusive design of the public realm means designing for a broad range of users. Design for wheelchairs inherently benefits other users, with kerb cuts, flush pavement thresholds, smooth textured surfacing and wide pathways bringing benefits to others, such as:

- Ambulant disabled / elderly people walking;
- Shopping trolley bags and wheeled suitcases;
- Pushchairs, buggies and prams;
- Vehicle-free delivery;
- Mobility scooters;
- Personal transport scooters;
- Leisure cyclists; and
- Children on bikes, trikes and scooters.

Working with an existing site with retained boundary conditions, phased delivery and significant retained trees, we have developed proposed site levels which aim to even out significant step changes within the body of the site to deliver step-free access and, where possible, sloping level changes with a gradient shallower than 1:21 to avoid the need for handrails.

Refer also to the accompanying Accessibility Audit submitted as a component of this Application.

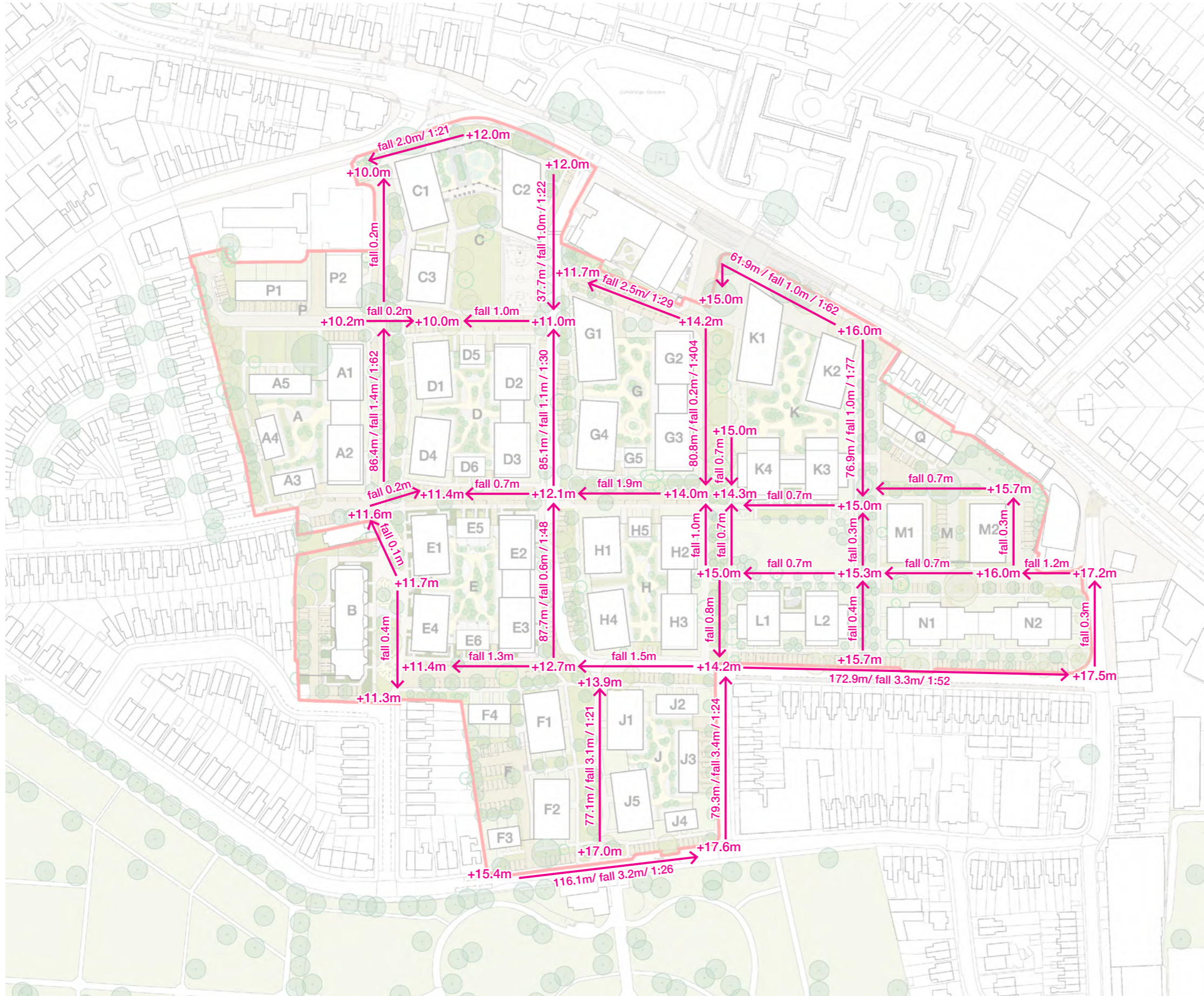


Figure 7: Proposed external ground levels at key development zone locations.



Figure 8: Additional wheeled users of the public realm.

10.0 Access

Personal access

10.2 Pedestrian access and movement

While the whole site is designed to be accessible on foot or in a wheelchair or mobility scooter, there are key circulation routes indicated on the adjacent diagram which benefit from moves in line with TfL's 10 **Healthy Streets** Indicators.

The **Transport Assessment** ("TA") submitted in support of this application audits the existing Healthy Streets Indicators, noting a >30% improvement on existing streets within the existing Estate, and scores of more than 80/100 for proposed new routes in the development.

The **TA** also identifies potential improvements beyond the site boundary that the Borough may consider to create further improvements to movement and connectivity to Public Transport.



Figure 10: TfL Healthy Streets diagram (TfL February 2017)

Pedestrians from all walks of life

The site levels strategy outlined earlier in this chapter creates a highly accessible site for ambulant and mobility impaired pedestrians. Tactile paving will be provided to aid movement for the visually impaired.

Easy to cross

The road surface will be brought level to the pavement at all junctions between secondary and primary streets, and level access Zebra crossings with Belisha beacons will be located in higher traffic crossing points.

Shade and shelter

Extensive street tree planting will provide shade through summer months, with shelter from rain provided at bus stops and in the entrances to buildings.

Places to stop and rest

Seating will be provided at regular intervals along the principal circulation routes, within public open spaces and gardens, and near to collection points for mobility bus services.

Not too noisy

Low traffic speeds and the provision for electric vehicles will limit traffic noise through the streets. Soft planting will interrupt and attenuate noise to limit echoing and 'canyoning'.

People choose to walk, cycle and use public transport

An integrated approach to mixed-mode public transport allows walking short distances to bus stops, or walking and cycling to stations. Bus stops on Cambridge Road are proposed to be relocated and expanded as part of works to the cycle lane, the new public square and expanded pedestrian crossing.

People feel safe

Traffic speeds will be controlled through signage and speed control measures such as road narrowing and tables. Front doors and active non-residential uses place 'eyes on the street' passive observation so there are no unseen corners to foster criminal behaviour. Street lighting will ensure a year-round safe environment on principal circulation routes.

Things to see and do

The main north:south Avenue is the primary distribution road, with all community and commercial uses clustered along this route to avoid unnecessary journeys and to maximise footfall for retail property. Extensive tree planting, local gardens and play spaces make the rest of the streetscape an attractive place to explore on foot.

People feel relaxed

Wide pavements to the principal routes, one-way side streets and pedestrian-only zones will help to lower the impact of vehicle movement in the public realm.

Clean air

Extensive tree planting and electric vehicles will help to improve the local air quality.

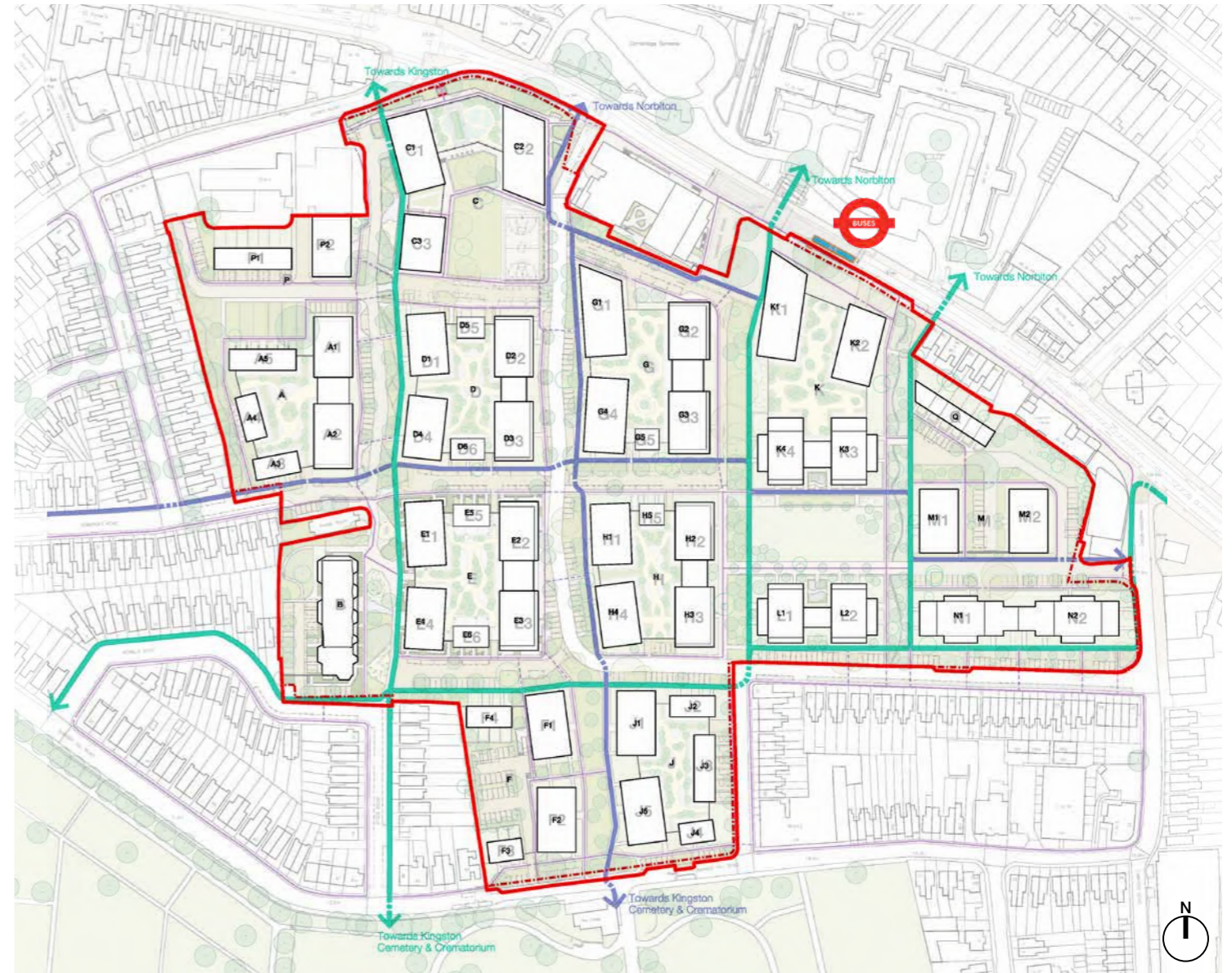


Figure 9: Pedestrian access plan.

Legend

- ↔ Primary pedestrian route
- ↔ Secondary pedestrian routes
- ||||| Crossing point
- ↔ Tertiary local pedestrian routes used mainly for residents' access

Criteria	Vincent Road		Washington Road		New Central Road
	Existing Layout	Proposed Layout	Existing Layout	Proposed Layout	Proposed Layout
Pedestrians from all walks of life	64	85	65	87	87
Easy to cross	83	90	90	97	97
Shade and shelter	50	83	50	100	100
Places to stop and rest	47	73	40	80	80
Not too noisy	67	80	80	100	100
People choose to walk, cycle and use public	64	85	65	87	87
People feel safe	62	83	63	86	86
Things to see and do	42	83	42	92	92
People feel relaxed	61	83	63	86	86
Clean Air	58	75	75	100	100
Overall Healthy Streets Check score	63	83	65	88	88
Number of 'zero' scores	0	0	0	0	0

Figure 11: Healthy Streets evaluation.

(Extract from Transport Assessment)

10.0 Access

Personal access

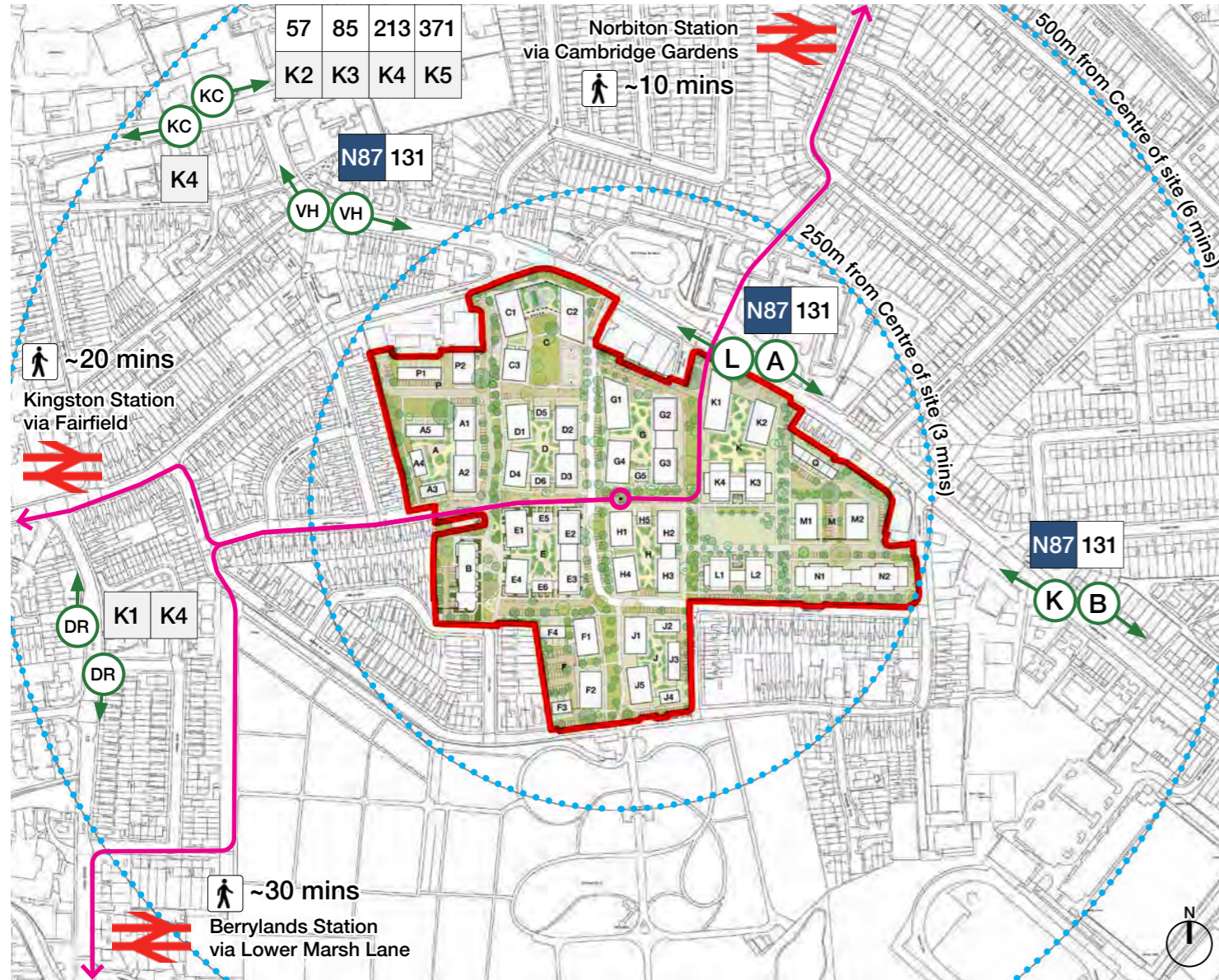


Figure 13: Public transport connections plan.

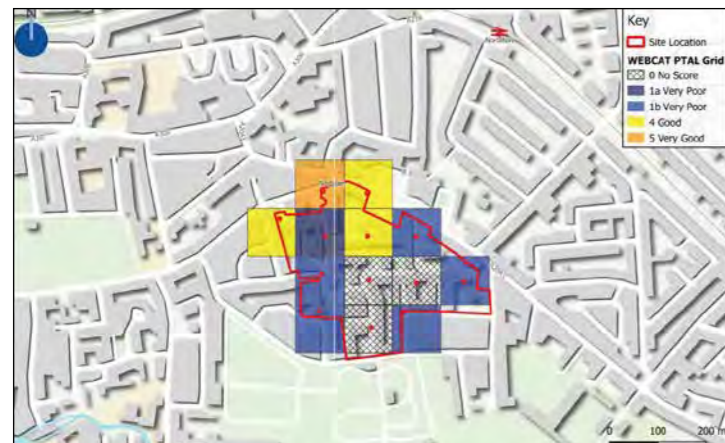


Figure 15: Existing Estate PTAL. (Extract from Transport Assessment)

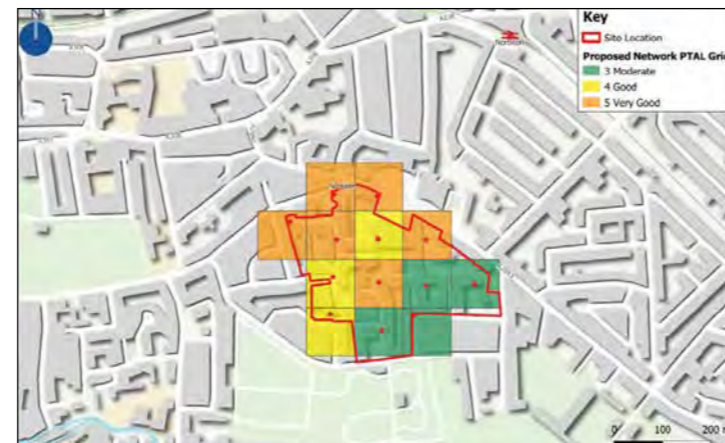


Figure 16: Proposed PTAL. (Extract from Transport Assessment)



Figure 12: Route 131: Fairfield Bus Station to Tooting Broadway Station.

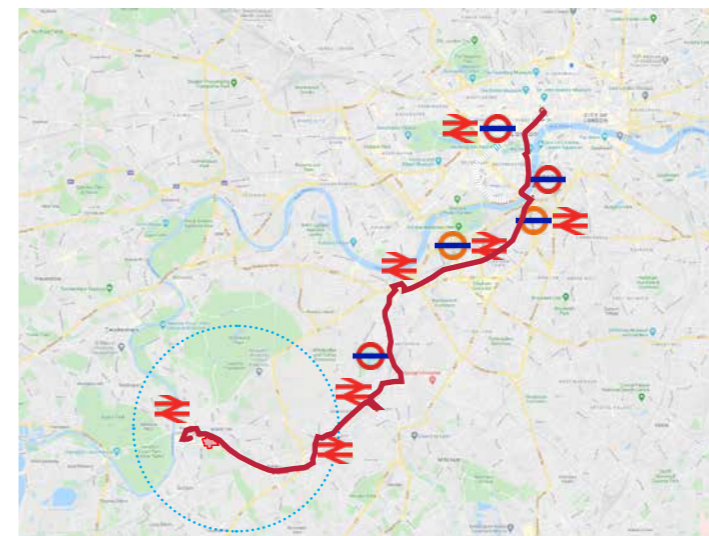
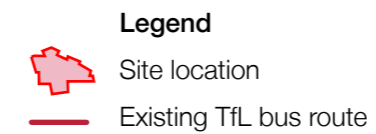


Figure 14: Route N87: Fairfield Bus Station to Aldwych/Drury Lane.



10.3 Access by public transport

In line with GLA guidance on 'Healthy Streets' the development has been designed to help provide safe, pleasant and accessible walking routes to public transport connections.

Trains

The site is located within 10 minutes' walking distance of Norbiton Station, 20 minutes' of Kingston Station and within 30 minutes' of Berrylands Station. The Hogsmill River and sewage treatment plant serve as a natural barrier between the site and Berrylands.

Norbiton Station is on the main line into Central London, with trains operated by South Western Railway into Waterloo via Clapham Junction typically taking under 30 minutes.

Buses

The site is principally served by the 131 daytime bus which runs between Kingston Fairfield and Tooting Broadway, calling via New Malden, Raynes Park Wimbledon and Colliers Wood.

Kingston Fairfield bus interchange is 5 stops from Cambridge Grove stop L, with a journey time of under 20 minutes. The interchange is well served with connections to the wider bus network within surrounding areas.

The night bus N87 runs along Cambridge Road, linking between Fairfield Bus Station and Aldwych/Drury Lane.

The **Transport Assessment** ("TA") has assessed the potential impact on bus services through increased site population and concluded that the peak uplift of approx. 3 people per bus would not be significant.

PTAL

The **TA** identifies significant improvements in PTAL across the site due to pedestrian connectivity and access to buses on Cambridge Road and through to Norbiton Station.

10.0 Access

Personal access

10.4 Cycle access and movement

Cycling as a means of transportation and cycling as a leisure pursuit often have competing needs and can result in conflict between different groups of cyclists along with pedestrians and other road users.

DfT Local Transport Note 1/12 (2012) “Shared Use Routes for Pedestrians and Cyclists” and the independent study “Sharing the Space” (2012) have been consulted in the preparation of a strategy which:

- Prioritises safe road use for vehicles and cyclists;
- Provides convenient, segregated short-cuts for cyclists where pedestrians are discouraged and vehicles are not permitted; and
- Allows for leisure cycling to share vehicle-free pedestrian routes where alternative commuting cycle routes and segregated pedestrian routes are available.

In so doing, the strategy aims to strike a balance between cyclists and pedestrians in the public realm.

Commuting

A key commuting route has been identified between across the site moving east:west where it is anticipated that many residents and school pupils may cycle to avoid the busy Cambridge Road.

Cycling will be permitted in all roads through the site and be signposted for vehicles to be more aware of the additional road users.

Leisure cycling

Along with the roads, cycles will be permitted throughout pedestrian areas the site, with natural segregation encouraged through alternative routes and surface textures.

Cycle parking

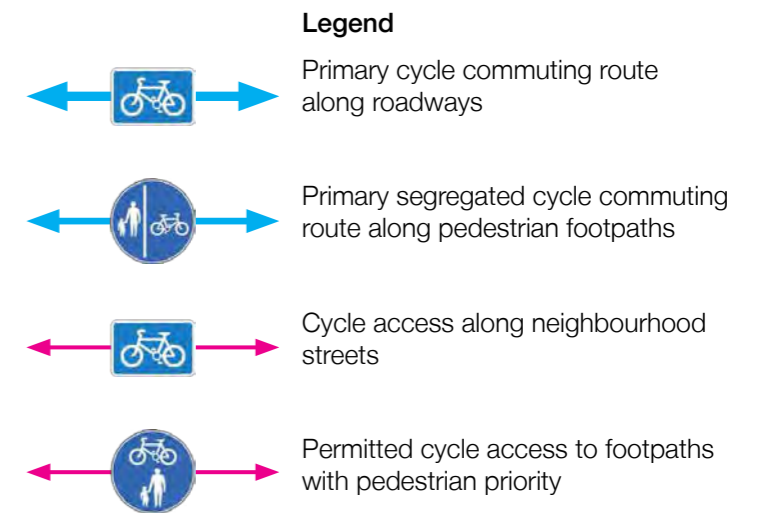
Visitor cycle parking stands will be provided in the public realm, located along principal routes in areas with higher footfall and passive observation to minimise the risk of theft.



Figure 17: Guidance documents on pedestrian and cycle movements.



Figure 18: Cycle access plan.



10.0 Access

Personal access

10.5 Cycle parking and storage

As part of the cycling strategy for the site, and in line with Mayoral priorities for Healthy Streets, secure cycle parking will be provided for residential and non-residential uses to meet or exceed standards in both current (**LP Policy 6.9**) and draft (**DNLP Policy T5**) London Plans.

This will be provided for both long and short-term storage, in secure parking areas as well as in the public realm.

Internal storage will be a combination of semi-vertical racks, hydraulic stacking racks and some standard hoop racks for less physically able cyclists. Stores will be in visually permeable secure 'cages' subdivided to limit the number of residents accessing each enclosure. External racks will be cross-barred "Sheffield" stands.

In line with guidance, 5% of spaces will make provision for larger cycles such as cargo bikes, 'family' bikes for child transport, and accessible bikes such as hand-cycles for wheelchair users.

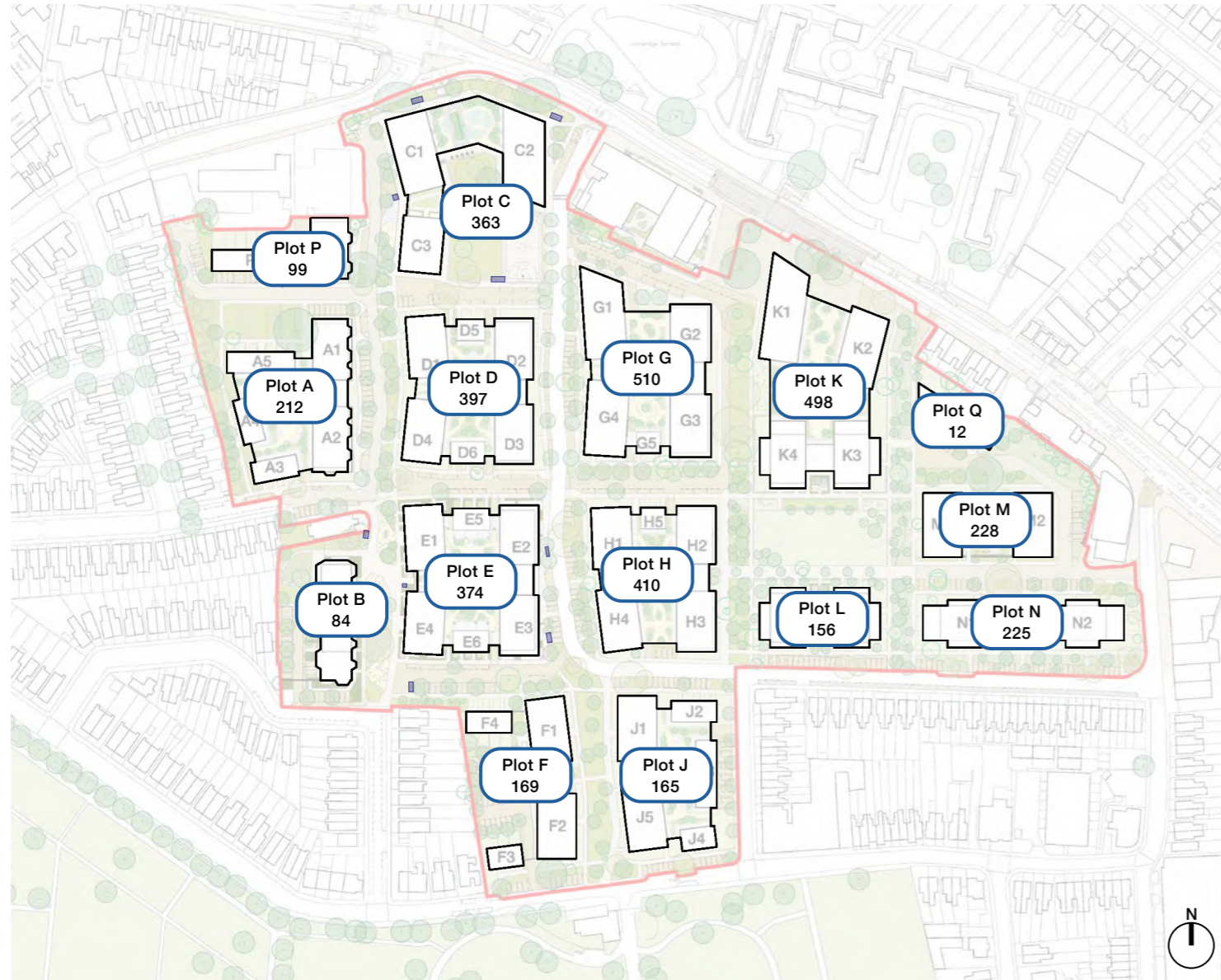


Figure 19: Illustrative masterplan showing numbers of long stay cycle parking for residents

Legend

- Short stay and non residential cycle parking locations
- Long stay residential secure cycle parking numbers

Illustrative residential cycle parking provision

Plot	Homes	Long stay	Visitor	Total
Plot A	118	212	3	215
Plot B	44	84	2	80
Plot C	202	363	6	368
Plot D	222	397	6	400
Plot E	206	374	6	373
Plot F	94	169	2	171
Plot G	285	510	7	524
Plot H	228	410	6	414
Plot J	92	165	2	174
Plot K	279	498	7	493
Plot L	87	156	2	148
Plot M	127	228	3	213
Plot N	125	225	3	223
Plot P	55	99	1	98
Plot Q	6	12	0	12
Total	2,170	3902	56	3958

Illustrative non-residential cycle parking provision

Use class	Long stay	Visitor	Total
E	8	33	41
F2		13	13
E/Sui Generis	4	10	14
Total	12	56	68



Figure 20: Hydraulic stacking cycle racks within secure internal areas.



Figure 21: Barred hoop cycle parking for visitors and non-residential uses.



Figure 22: Staple parking hoops for transport / accessible cycles.

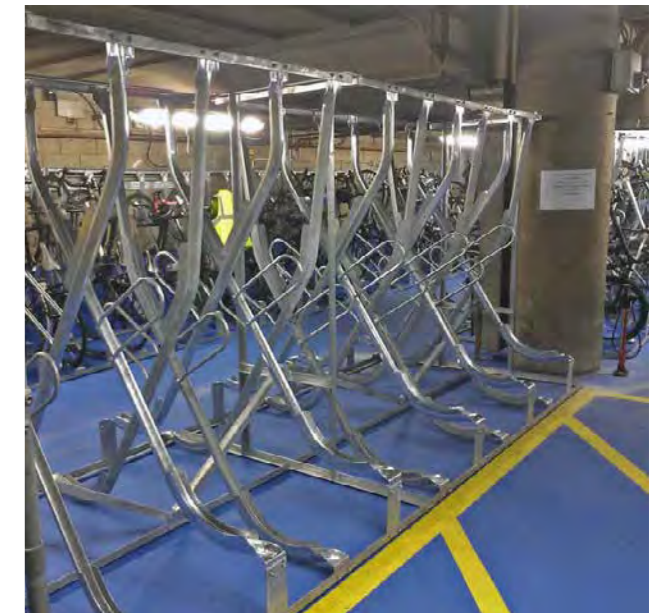


Figure 23: Semi-vertical cycle parking within secure internal areas.

10.0 Access

Vehicle access and servicing

10.6 Vehicular access

A key challenge in the masterplan is to reduce the dominance of private vehicles, while increasing connectivity for cyclists and pedestrians and ensuring inclusive access for all.

In contrast to both the existing Estate which is dominated by generous vehicle access and narrow alleyways, the proposals will permit vehicles into a shared public realm with a recognisable street hierarchy, but restrict through access and speed to control vehicle movements.

Classification and hierarchy

Routes within the red-line site boundary are named according to a hierarchy as below:

Avenue

Broad north:south trafficked thoroughfares, typified by significant tree planting lining the route.

Street

East:west routes running perpendicular to the Avenues. Vehicle trafficked with modal filters for cyclists and pedestrians. Lined with front doors to houses and maisonettes at ground level.

Road

Connecting routes designed primarily for vehicle access, lined by buildings or high walls.

Close

No-through-road vehicle routes typically providing access for parking and houses.

Way

Primarily vehicle-free routes typified by extensive soft landscaping for biodiversity, amenity and play.

Road and space naming strategy

For the purposes of the application, indicative road and space names have been proposed for ease of description and cross-referencing. The formal naming of roads will be subject to further consultation with RBK and residents.

The existing roads and buildings were named originally for villages and country Estates in and near Cambridge.

Some existing names have been retained, and new routes are named for some of the existing buildings they are replacing, or for an historic place name that belonged to the site before the Estate was developed in the late 20th Century.

Avenue

- **Madingley Avenue** (New, on the site of St Peter's Road);
- **Washington Avenue** (New, on the site of Washington Road); and
- **Croxton Avenue** (New).

Street

- **Chesterton Street** (new, on the site of Chesterton Terrace);
- **Graveley Street** (new);
- **Impington Street** (new);
- **Oakington Street** (new); and
- **Westwick Street** (new, on the site of Eureka Close).

Road

- **Burritt Road** (realigned); and
- **Vincent Road** (extended).

Close

- **Brinkley Close** (new); and
- **Wimpole Close** (retained).

Way

- **Excelsior Way** (new, on the site of Excelsior Close);
- **Piper Way** (new, connecting to Piper Road);
- **Stapleford Way** (new, extending Stapleford Close); and
- **Willingham Way** (Retained).

Spaces

- **Cambridge Square** (new);
- **Fordham Gardens** (retained and reconfigured);
- **Madingley Gardens** (retained and reconfigured); and
- **Cambridge Grove Gardens** (new).

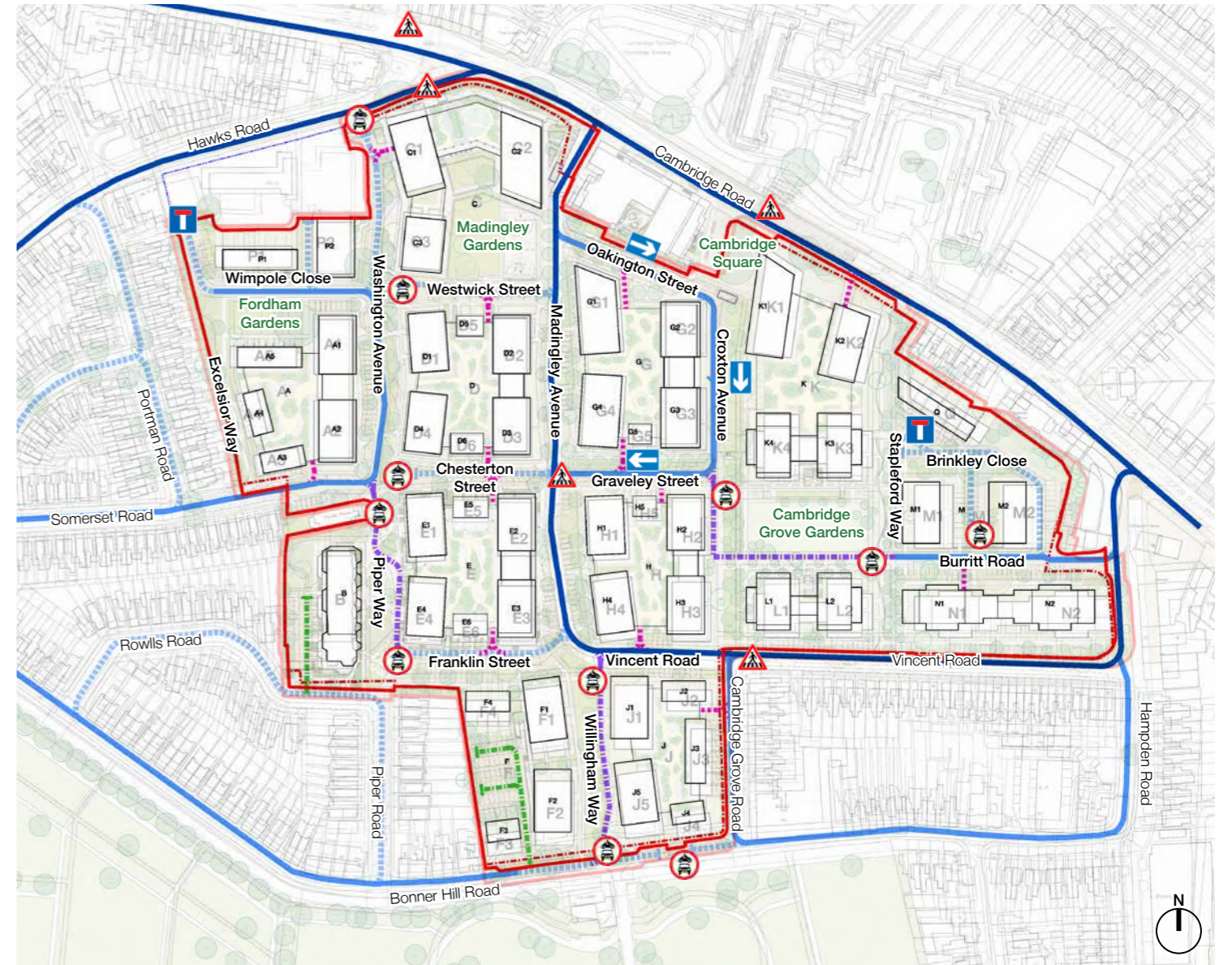


Figure 24: Illustrative masterplan showing general vehicle access.



Figure 25: Existing Estate key roads.

Primary Vehicle Route

Secondary Route

Residential Neighbourhood

Undercroft parking access

Gated access

Service access only



Restricted access:
Refuse servicing and emergency access only.



No through route for vehicles:
Dead end for all vehicles with no permitted through access.



Toucan pedestrian crossing:
Controlled crossing point over main vehicle access route



Zebra pedestrian crossing:
Uncontrolled crossing point over main vehicle access route

10.0 Access

Vehicle access and servicing



Figure 26: Illustrative masterplan showing refuse servicing strategy.

Refuse Vehicle Route	Private External Bin Store
Refuse Store Entrance	Doorstep Collection
Core Entrance	Refuse Vehicle Collection Point
Walk for residents from building entrance to bin store (max 30m)	Refuse Truck and turning head
Communal External Bin Store	Refuse Collection Manual Handling Distance (max 15m). Distance shown via radius.

10.7 Vehicle restrictions

Through routes

A single vehicle through route exists on the site, linking Cambridge Road to Hampden Road via the new Madingley Avenue and existing Vincent Road. All other routes are limited to vehicle circulation within the site, while allowing access for refuse servicing, emergency vehicles, cyclists and pedestrians. More detail on traffic control can be found in **Chapter 8** of this report.

Speed

To control traffic movements through the site in keeping with a safe, residential environment, it is anticipated that all vehicle movements through the development will be restricted to a 20mph limit.

Crossings

Car-free routes exist across the site, with interconnected footpaths and landscaped spaces.

Where it is necessary to cross a street Zebra crossings and a large raised table will be installed at the junction of Madingley Avenue, Chesterton Street and Graveley Street, and additional zebra crossing will be introduced to Vincent Road on the north:south route.

The controlled Toucan Crossings over Hawks Road and Cambridge Road will be retained and expanded.

Parking

A mixture of demised off-street, CPZ permit controlled on-street, secure external, and secure covered parking areas will be provided across the Development. Parking is described in more detail later in this chapter.

10.8 Residential refuse servicing

Each home will be provided with adequate space to accommodate general waste and separate recycling bins. Residents in apartment blocks will be able to deposit waste and recycling in a refuse room at the bottom of each core that will provide Euro bins specific to each designated waste stream.

Refuse rooms will be accessible from the roadway for local council adoptable standard pickup. Homes with front doors onto streets served by the refuse routes will have kerbside collection.

Quantities of residential waste have been calculated using the following guidance documents:

- British Standards 5906:2005 Waste Management in Buildings Code of Practice (BS5906:2005).

10.0 Access

Vehicle access and servicing

10.9 Non-residential servicing

Non-residential uses in the masterplan have been concentrated towards Cambridge Road in the north of the site to provide for increased footfall and minimise the impact of vehicle servicing on residential streets.

Servicing of non-residential uses covers vehicle access for delivery / collection and waste refuse.

Quantities of non-residential waste have been calculated using the following guidance documents:

- British Standards 5906:2005 Waste Management in Buildings Code of Practice (BS5906:2005).



Figure 27: Illustrative masterplan showing non-residential servicing vehicle access.



10.0 Access Safety and Security

10.10 Emergency access

Emergency access considers the need for a police vehicle, ambulance or fire tender to come within a reasonable distance of the front door or building entrance of every home and non-residential area within the Development.

Fire strategy

The strategy for residential fire-fighting within the Development will be residential sprinklers within flatted dwellings, and fire-engineered solutions for the easily accessible non-residential units at ground level.

For buildings below 50m tall dry-riser vertical pipes will be provided to each core, with a dry-riser inlet point clearly marked and located externally adjacent to the core entrances. Any buildings >50m tall will be served by a wet riser in compliance with regulations.

Townhouses and maisonettes not served by the main fire-fighting cores will have access to all parts of the dwelling within 45m of a fire appliance on the street.

The requirements

Approved Document B and **BS 5588-5(2004)** describe the statutory requirements for vehicle access, and state that the minimum width of road between kerbs is 3.7m, and 3.1m at any pinch point or gateway.

Dry riser inlets must be located within 18m of a fire appliance in the street.

Fire hydrants should be provided in the public realm at a suitable frequency and locations to serve the development.

Turning facilities should be provided in any dead-end access route that is more than 20m long.

Masterplan provision

The network of vehicle-accessible streets provides for compliant access for Police vehicle, ambulances and fire tenders.

Dry riser inlets will be located onto public streets, typically between 7-10m of the carriageway with unobstructed route for hose connections to the fire tender.

Dead-end streets within the development are provided with drop-bollard access out to avoid the need for turning in the street after attending an emergency call. Bollards will be locked in position using Fire Brigade suited keys.

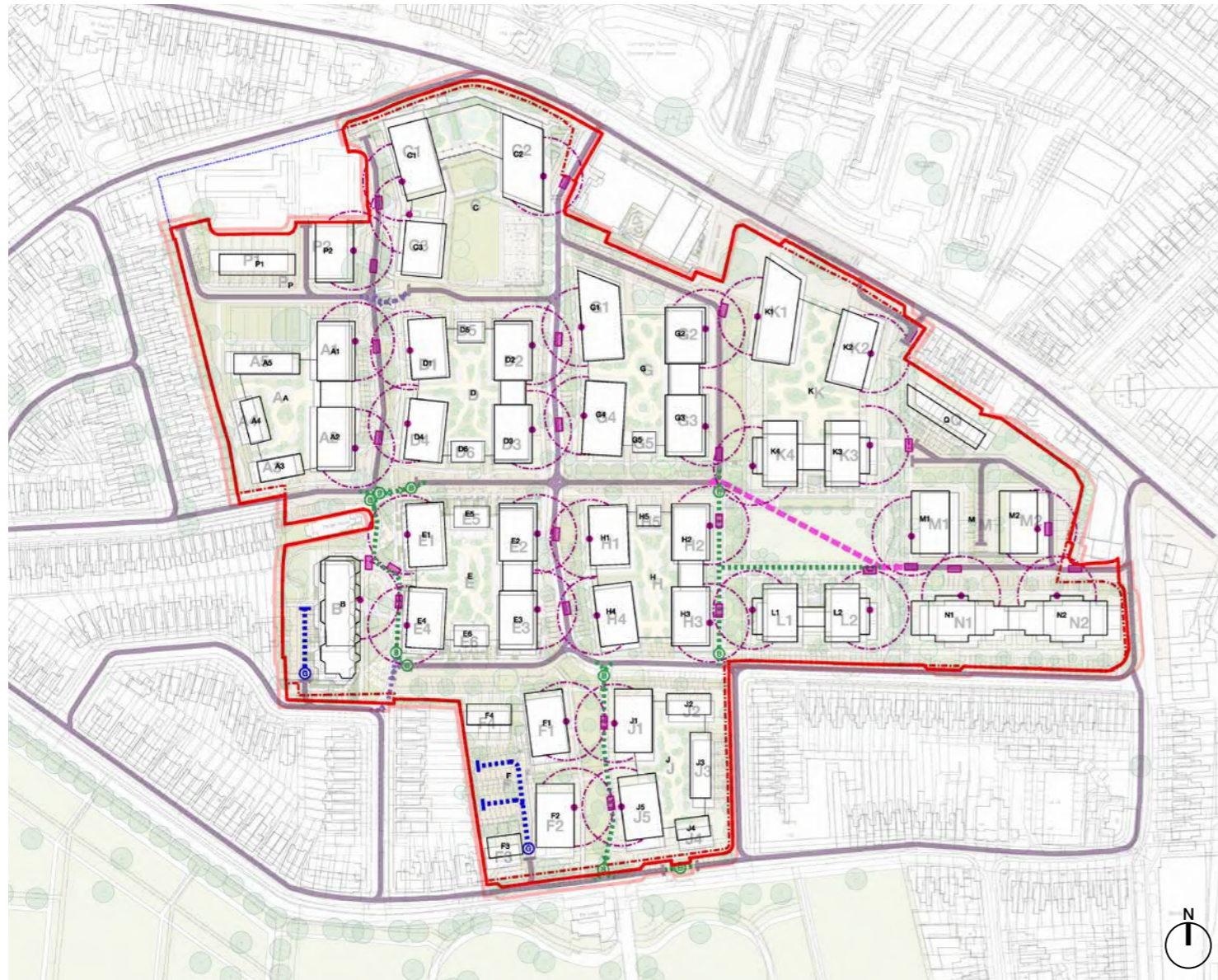


Figure 29: Illustrative masterplan showing emergency vehicle access.

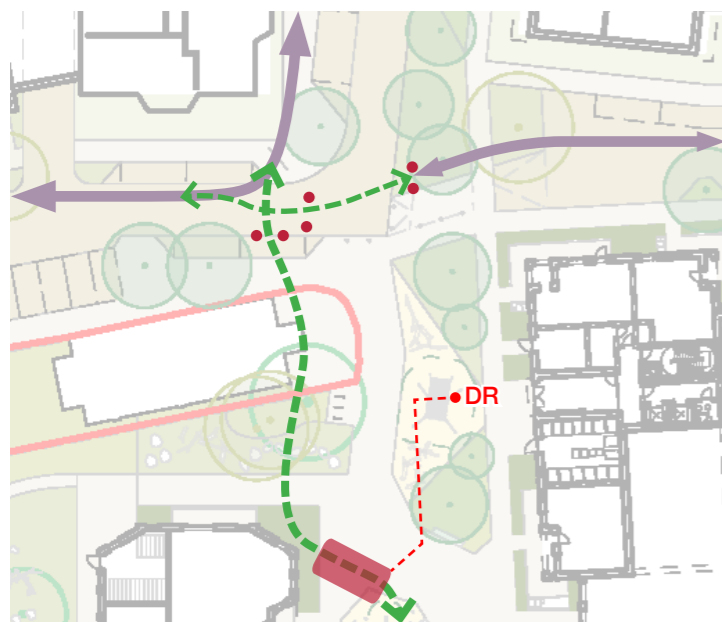


Figure 30: Play street condition with emergency vehicle access route.

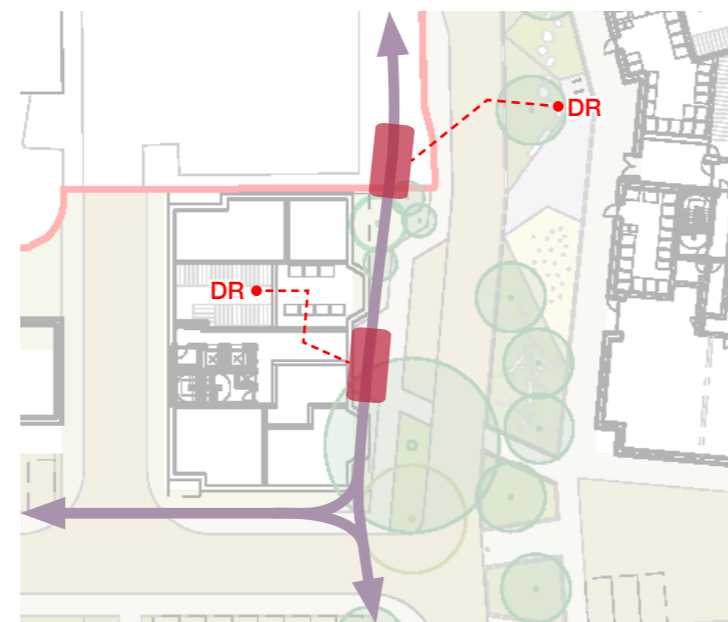


Figure 31: Typical street conditions with <45m fire fighting to non resi / houses.

- Emergency Vehicle Route (On General Access Roads)
- Police Pursuit Route (Across Soft Landscape)
- Emergency Vehicle Route - Surface Treatment Barrier
- Emergency Vehicle Route - Dropped Bollard
- Emergency Vehicle Route - Gated
- Dry Riser Inlet Point (18m Radius to Street)
- Fire Appliance Bay



Figure 32: Textured pavement vehicle access barrier.



Figure 33: Drop-bollard vehicle access barrier.

10.0 Access

Safety and Security

10.11 Secured by Design

The masterplan has been developed with due consideration to the principles of **Secured by Design**.

For masterplanning, **Secured by Design - Safer Places** describes seven attributes of sustainable communities which are relevant to crime prevention:

1. **Access and movement**
Places with well-defined routes, spaces and entrances that provide for convenient movement without compromising security;
2. **Structure**
Places that are structured so that different uses do not cause conflict;
3. **Surveillance**
Places where all publicly accessible spaces are overlooked;
4. **Ownership**
Places that promote a sense of ownership, respect, territorial responsibility and community;
5. **Physical protection**
Places that include necessary, well-designed security features;
6. **Activity**
Places where the level of human activity is appropriate to the location and creates a reduced risk of crime and a sense of safety at all times; and
7. **Management and maintenance**
Places that are designed with management and maintenance in mind, to discourage crime in the present and the future.

Secured by Design consultation

The Designing Out Crime Officer (DOCO) and representatives of the local Police Safer Neighbourhoods team met with the design team on a number of occasions during the preparation of the application, and offered comments on the proposals.

Principal crime considerations associated with the Cambridge Road Estate:

- History of gang association including possession of contraband and anti-social behaviour (ASB);
- Congregation in unobserved / inactive places;
- Poor visibility and line of sight through building arrangement;
- Public and private realm ill-defined with lack of respect or responsibility for property;
- Permeable public realm with multiple concealed entry / exit points; and
- Pursuit routes inaccessible to vehicles aiding evasion and groups of fleeing individuals dispersing in all directions.

Alleyway gating

The DOCO noted issues with permeability within the site and would be supportive of measures taken by local residents or the Borough to close off some unobserved publicly accessible alleyways (under The Countryside Rights of Way Act 2000) during the phased delivery of the regeneration, ahead of long-term regeneration of these areas of the site.

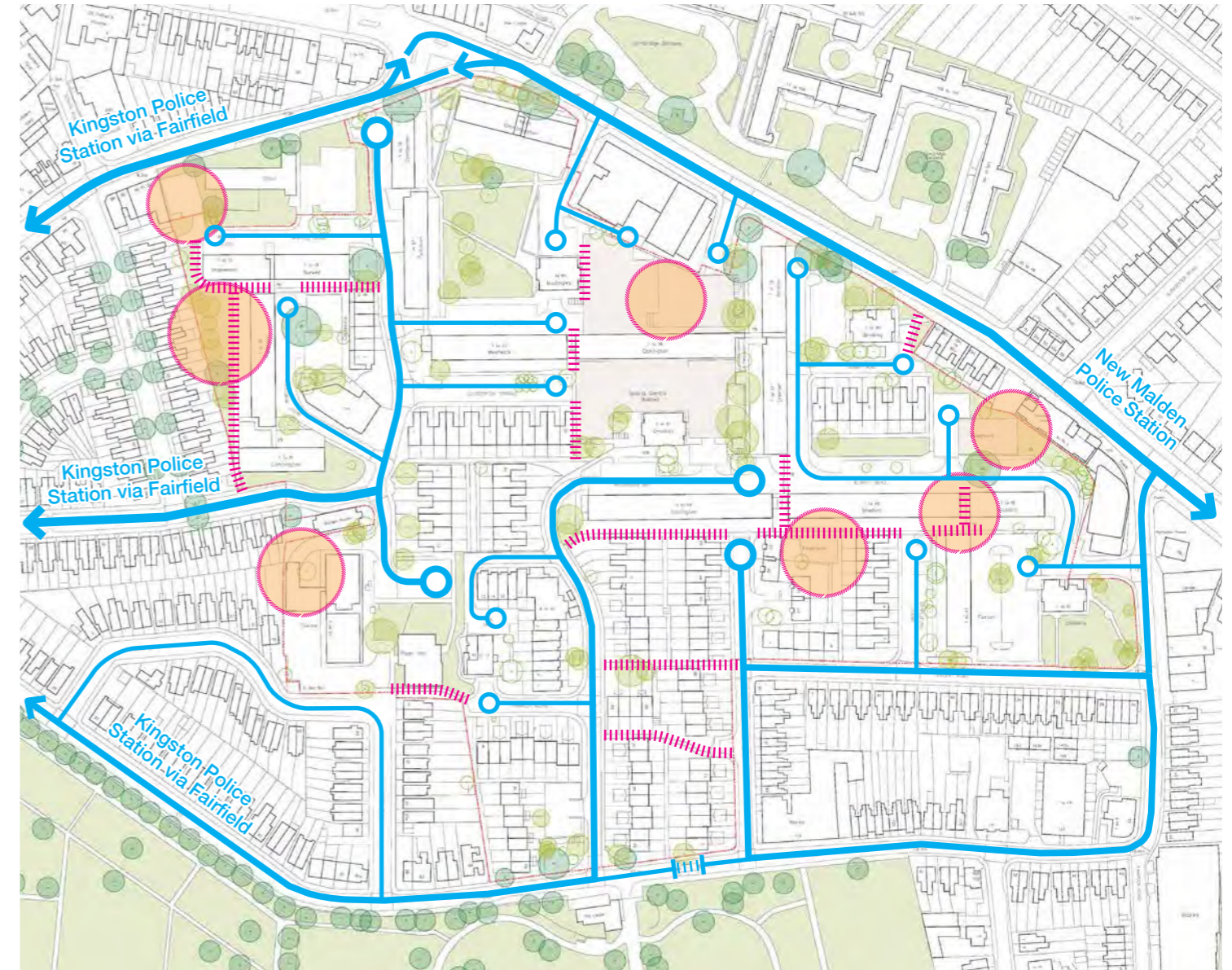


Figure 35: Existing Estate plan showing vehicle access, pedestrian-only links and areas of concern for prevention of crime.

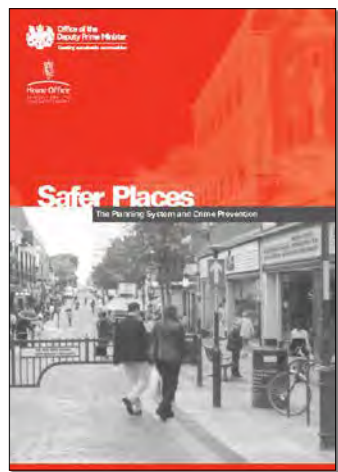


Figure 34: Safety and Security guidance documents.

Legend

- Existing trafficable access for Police vehicles.
- Existing modal barrier on highway.
- Existing pedestrian alleyways creating challenges for pursuit of suspects.
- Focal point for ASB.

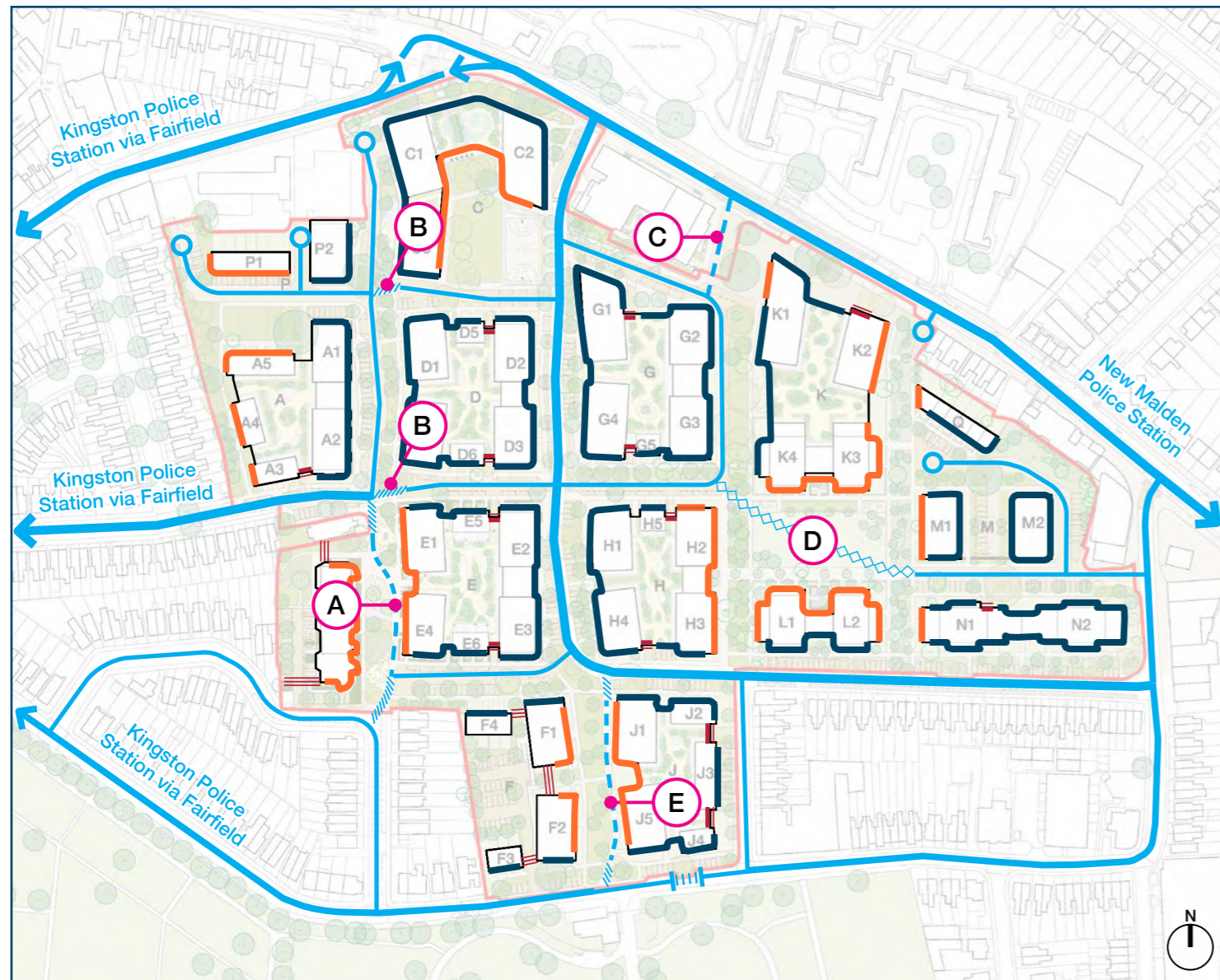


Figure 36: Proposed masterplan showing Police vehicle access, secure gatelines and active frontages for passive surveillance of pedestrianised spaces.

- Legend**
- Police vehicles on general access roads.
 - Police vehicles on emergency access hard landscape.
 - Police vehicles over textured modal filter.
 - Police vehicles over level access grassed lawns.
 - Existing modal barrier on highway.
 - Active frontage / front doors to vehicular routes.
 - Active frontage / front doors to pedestrian spaces.
 - Secure / controlled access to open air parking.
 - Secure / controlled access to covered parking.

Police pursuit vehicle access

- A. **Piper Way**
Textured modal filter bypass connecting Somerset Road and Piper Road.
- B. **Washington Avenue**
Textured modal filter bypass connecting side streets.
- C. **Cambridge Square**
Access across pedestrianised square.
- D. **Cambridge Grove Gardens**
Level access over grassed lawns.
- E. **Willingham Way**
Textured modal filter bypass connecting Vincent Road and Bonner Hill Road.

Application of SbD principles

1. Access and movement

A key principle of the masterplan has been the establishment of clear wayfinding, with direct pedestrian and cycling routes running parallel to vehicle movements to activate the public realm. Movement through the site is based on a hierarchy of well-lit primary routes leading to secondary streets and front doors. The strategy for pedestrian, cycle and vehicle movement is described in this chapter.

2. Structure

Through the elevation of shared amenity space to podium level and the inclusion of landscaped and enclosed buffer zones around ground floor homes, the masterplan minimises the amount of building frontage directly addressing the public realm. Non-residential active uses line key public spaces in the north of the site inactive frontages and routes are minimised through regular spacing of entrances and windows.

3. Surveillance

Passive surveillance of the public realm is delivered through active residential or non-residential frontages overlooking public realm front ground and upper storeys of the buildings, with no blank gables to the public realm or unobserved space in insecure areas. Parking is located in secured car parks or, where in the public realm, in well observed areas with footfall at the front of properties.

4. Ownership

Critical to delivering a public realm in which all people can feel safe and secure, is the avoidance of uncertainty over the ownership of spaces: Whether or not people have the right to be within a space can be easily understood through definition of boundaries. The proposals use planting and permanent enclosure to clearly define boundaries between public and private spaces. This clarity effectively communicates the extent of ownership and simplifies the interface of management and responsibilities.

5. Physical protection

Buildings and parking areas with controlled access will be designed to comply with Building Regulations Approved Document Q which required security testing to ensure a safe and robust barrier against crime.

6. Activity

As a primarily residential environment, levels of activity across the site are in keeping with the movement of residents in and around their homes. Where non-residential uses, such as community or commercial functions, are provided, these are located on well-trafficked and well-lit streets, interspersed with residential core entrances, and overlooked by residential frontages at first floor and above.

Areas of daytime activity within open spaces which may be a focus for night-time ASB (such as the MUGA in Madingley Gardens, or fitness equipment in Cambridge Grove Gardens) will be designed to allow for secure closure to minimise opportunities for unobserved congregation.

7. Management and maintenance

A robust building and landscape management strategy will be developed in partnership between the Applicant and Residents' Community Board to ensure continued security.

Additional considerations

Through consultation with the Police DOCO and Safer Neighbourhoods Team, the following areas of the masterplan have been considered to improve safety and security:

Controlled access to boundary landscaping

Where landscaping adjoins the site boundaries with limited footfall and passive surveillance at plots B and F, fences have been introduced to restrict access only to residents of the associated plots, removing opportunities for 'fence hopping' into neighbouring gardens and clearly designating ownership.

Controlled access to shared podium gardens

All residents within a plot will have access from their own building to the shared gardens above podium parking areas. Fob-controlled doors at podium level will permit only residents, and accompanied guests, access back into the same core, and not provide free access into other buildings surrounding the garden.

Vehicle pursuit routes

General restrictions to vehicle movements across the site (signage, defensible paving, soft landscaping) will not restrict emergency pursuit vehicle movements. The NW and SE corners of Cambridge Grove Gardens will be level and free of planting and street furniture to permit emergency access across the lawns.

Refuse stores and cycle stores

Refuse stores will be accessed from the public realm with no through route into the buildings. A single, wide door will be used to avoid issues with twin door closure. Cycle stores will be accessed from within the secure line of the building to avoid tailgating. Metal perforated screens will be used for ventilation, with hit and miss brickwork at high level only due to risk of climbing and contraband concealment.

Meanwhile activation

During phased development, re-use of garages and spaces within the existing Estate should focus 24/h activities in areas at highest risk of ASB and crime. Community gyms etc. are encouraged to provide alternatives for at-risk groups.

10.12 Car parking

Strategic Development Brief

RBK's vision for the redevelopment of the Estate aimed for a low car parking ratio, and a comprehensive package of measures to discourage private car ownership and usage.

Mayoral priorities

Homes, businesses and community facilities within the Development will be served by car parking at a level which has been developed in dialogue with RBK and the Mayor of London.

For this site, the maximum provision has been set at a level of two parking spaces for every five dwellings, expressed as a ratio as 0.4 spaces / dwelling.

The GLA encourages car clubs and trip sharing, along with walking / cycling and public transport as alternatives to private vehicle ownership. Electric Vehicles (EV) are encouraged as an alternative to fossil fuels, with active EV charging points to be provided to 20% of all parking spaces, and infrastructure provided for later installation of charging points to the remaining 80% of spaces.

Proposed provision

Averaged out across the Development, residential overnight parking will not exceed 0.4 spaces / dwelling.

The Transport Assessment ("TA") describes flexible parking to accommodate demand associated with the community uses, visitor parking, commercial parking and loading bays.

The TA study of local vehicle ownership levels and projections based on the anticipated population suggests that the level of vehicle ownership within the site will reduce due to demographic and dwelling type changes.

Existing and new residents will be able to apply for a 'permit to park' within the site, which will allow permit holders the right to park in any on-street space. Residents will not be permitted to apply for permits to park in neighbouring streets outside of the site.

Long stay accessible parking

A BS 8300 compliant wheelchair accessible parking space can be provided for every wheelchair user's home which requires a space, with a minimum 30% of the total potential spaces being provided on completion of each phase of development regardless of requirements.

Illustrative residential long-stay parking provision

Plot	Homes	Internal	External	Total	Active EVCP
Plot A	118	29	20	49	10
Plot B	44	-	18	18	4
Plot C	202	27	13	40	8
Plot D	222	38	20	58	12
Plot E	206	24	44	68	14
Plot F	94	-	46	46	9
Plot G	285	78	20	98	20
Plot H	228	68	27	95	19
Plot J	92	26	18	44	9
Plot K	279	180	-	180	36
Plot L	87	-	27	27	5
Plot M	127	-	40	40	8
Plot N	125	72	7	79	16
Plot P	55	-	20	20	4
Plot Q	6	-	6	6	2
Total	2,170	542	326	868	176
	0.4 spaces / dwelling				20%

Car rental / Car club

There are two car rental locations immediately adjacent to the site on Cambridge Road, with vehicles provided by Enterprise and Europcar.

In addition, RBK partner with Zipcar to provide car clubs in the Borough. The TA identifies several existing Zipcar locations in the area, including one very close to the site on Bonner Hill Road. An additional 2 Zipcar spaces will be provided to the south of Madingley Gardens in Phase 1.

Electric vehicle charging

Electric vehicle charging will be provided across the masterplan with a combination of dedicated trickle-charge bays allocated to demised parking spaces, as well as short-stay rapid charging bays in the public realm.

Infrastructure will be designed to allow for 100% of parking spaces to be connected to EV charging. On first occupation, 20% of parking spaces provided will be connected to an active charging source.

Charging facilities will be managed by a specialist operator, with residents needing to create a billing account to activate the charging station and charge their vehicles.

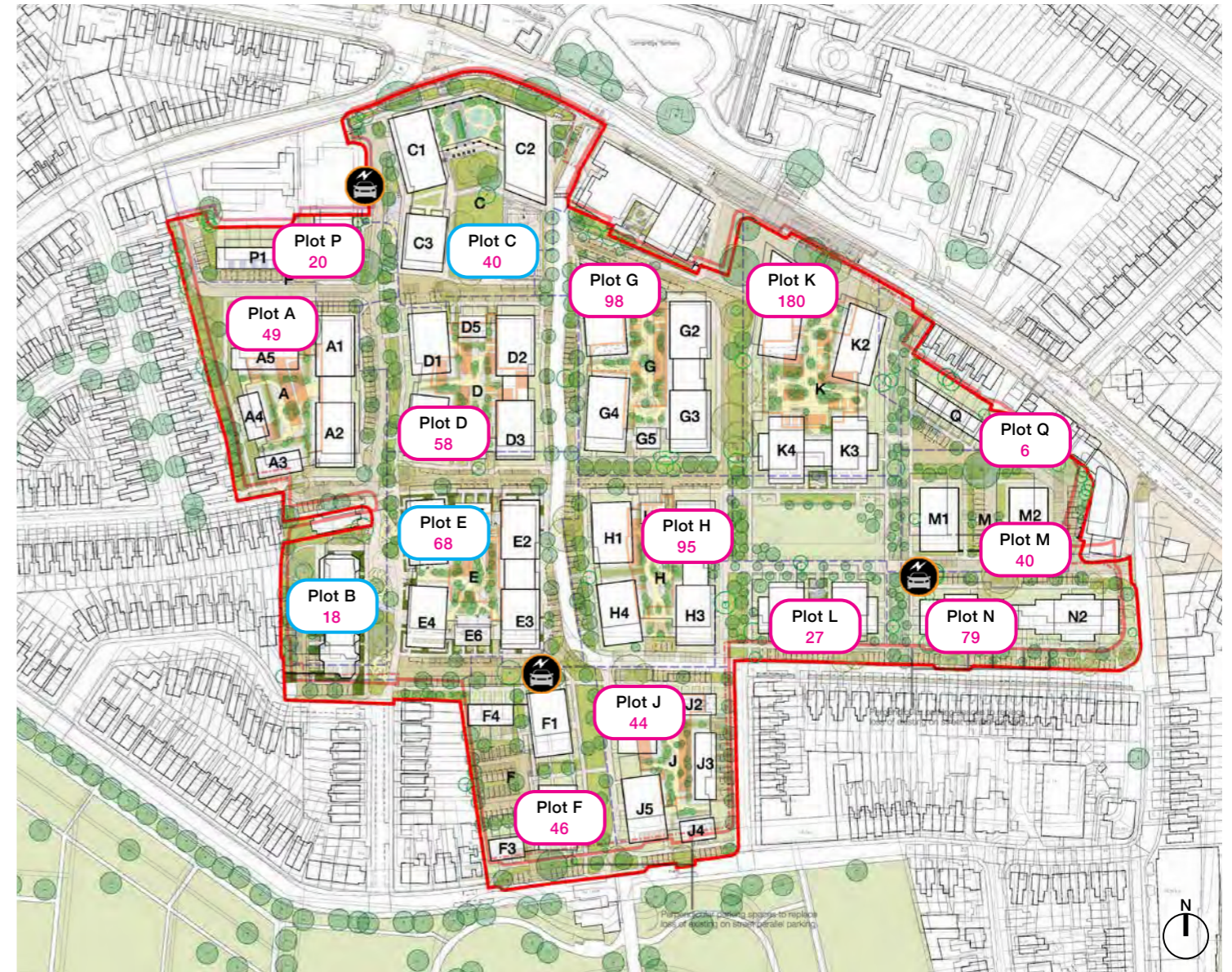


Figure 37: Masterplan showing parking space allocation to individual plots, on-street and secure off-street parking, Zipcar locations and EV fast charging points.



Figure 38: Electric vehicle charging.

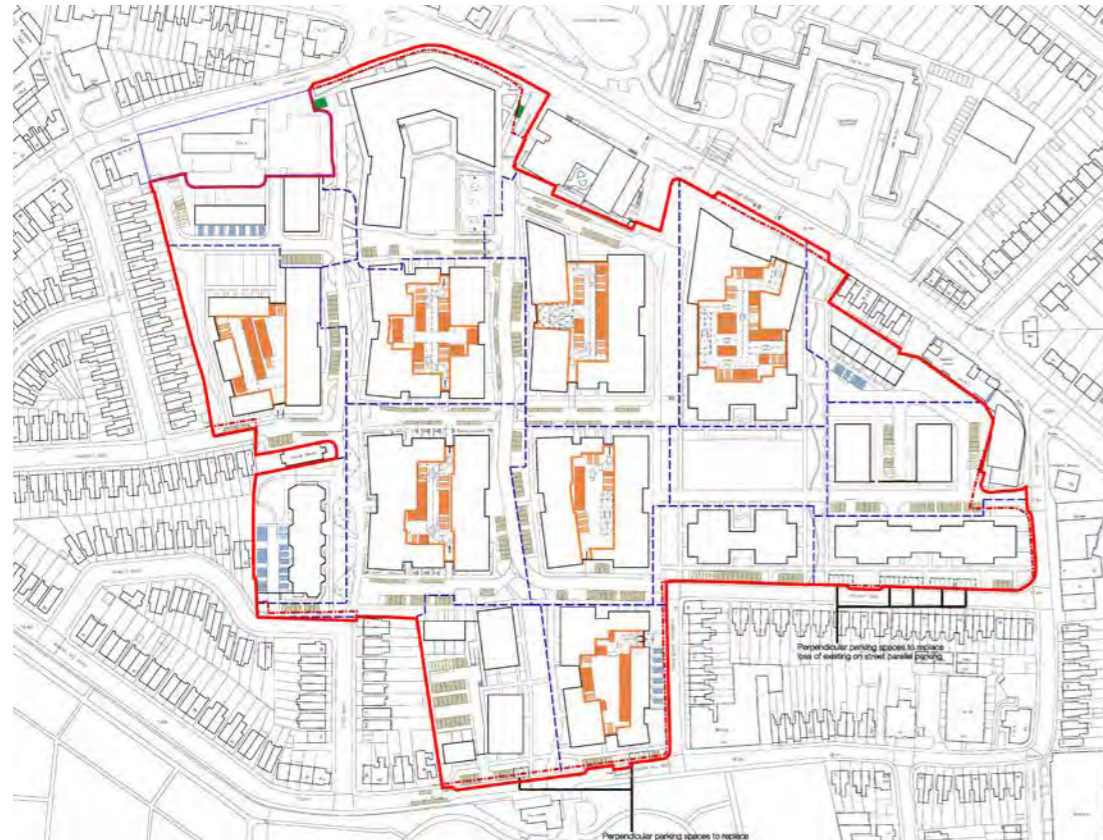


Figure 39: Illustrative masterplan showing parking spaces at grade level in podiums and in open air.



Figure 40: Illustrative masterplan showing parking spaces at below ground level.

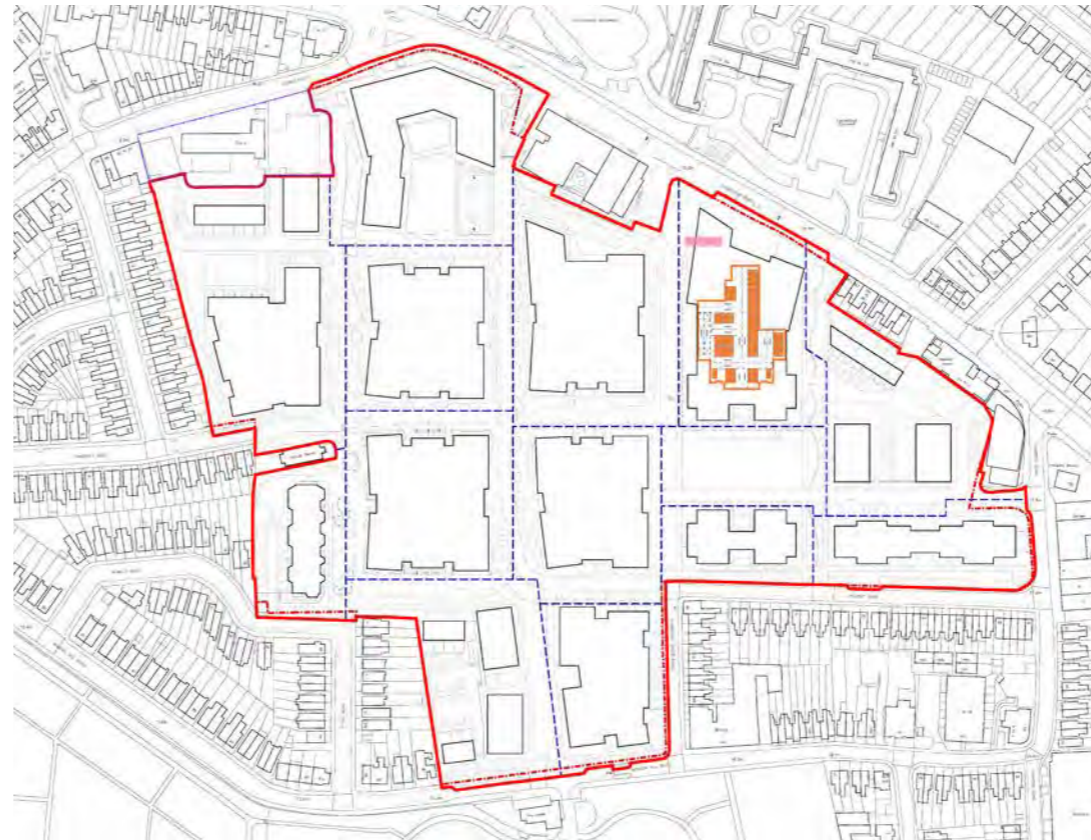


Figure 41: Illustrative masterplan showing parking spaces at Mezzanine level.



Figure 42: Typical parking arrangements.

Legend

1. On-street perpendicular parking to primary streets.
2. Accessible short-stay and drop-off on-street parallel parking to primary streets.
3. On-street parallel parking to neighbourhood streets.
4. On-street perpendicular parking to neighbourhood streets.
5. Allocated parking to building block within an area of controlled access.
6. Allocated parking within secure enclosed garage.
7. Allocated accessible parking within secure enclosed garage.

Distribution of parking spaces

Secure off-street covered parking

In order to free up as much of the public realm as possible for car-free uses and soft landscaping, a strategy has been developed to maximise the use of podium parking.

Typically, podium parking operates on one-way access through the centre of the plot, with remote-controlled gates restricting access to authorised drivers.

To maintain a viable economic solution, the excavation of basements for below ground parking must be kept to a minimum. Basement parking is provided only to Plots C and N.

Level changes across the site allow for the excavation of semi-basements in Plots G and H, and the use of mezzanine level parking in Plot K.

Secure off-street open air parking

In Plot B and Plot F, a landscaped podium would sit directly against the boundary line with existing neighbouring dwellings, and has not been provided. In these two plots, rear-court parking areas will be provided, secured by fences and remote-controlled gates restricting access to authorised drivers.

Demised off-street open air parking

Free-standing terraced townhouses in Plots P and Q will be provided with a private driveway for off-street demised parking. All such spaces will be fitted with a domestic EV charging point connected to the individual dwelling's power supply.

Parking in the public realm

Where parking spaces are provided on streets in the public realm, permits will provide a 'right to park' anywhere in the Controlled Parking Zone (CPZ) and spaces will not be allocated to an individual driver or vehicle.

10.13 Future-proof accessible parking

The accessible car parking proposal for the masterplan is in accordance with Good Homes for All Londoners SPG and the Draft New London Plan, where schemes must ensure that at least one designated disabled parking space is provided per dwelling for 3% of dwellings from the outset. Also, it should be demonstrated how an additional 7% of dwellings could be provided with a disabled person parking bay upon request, as soon as existing provision is insufficient.

As a baseline, the masterplan has been designed to ensure that accessible parking is provided at 3%. A single accessible parking bay takes up twice as much space as a standard parking space. It would be inefficient and wasteful to develop 'empty space' to allow the future 'top up' to 10% provision, or overly burdensome on the public realm to provide extensive hard landscaping for future conversion into parking.

Conversion strategy

The strategy proposed enables standard car-parking spaces to be combined and converted to accessible (M4(3)) spaces upon demand (i.e. over the 3% baseline requirement).

To efficiently enable this conversion, standard parking spaces are grouped into 'blocks' which can be transposed into accessible spaces, sharing access zones between parking spaces.

The adjacent diagram illustrates how this conversion manifests. In the most efficient configuration eight standard spaces can be converted into 5 accessible spaces. Other permutations are also shown.

The conversion of spaces should principally occur within the secured parking areas - i.e. within the podium of courtyard typology buildings.

Standard parking spaces 'lost' during this conversion could then be reassigned outside the buildings. The public realm has been designed to provide some capacity for increased car-parking provided that a management strategy for vehicle access is implemented.

The adjacent diagrams take Westwick Street (between Development Plots C and D) as an example of the capacity to accommodate limited additional parking within the public realm. In this instance the turning head is removed and replaced with parking.

Restrictions for access and delivery will need to be introduced and a controlled servicing strategy for the offices and commercial uses within Building C3 implemented.

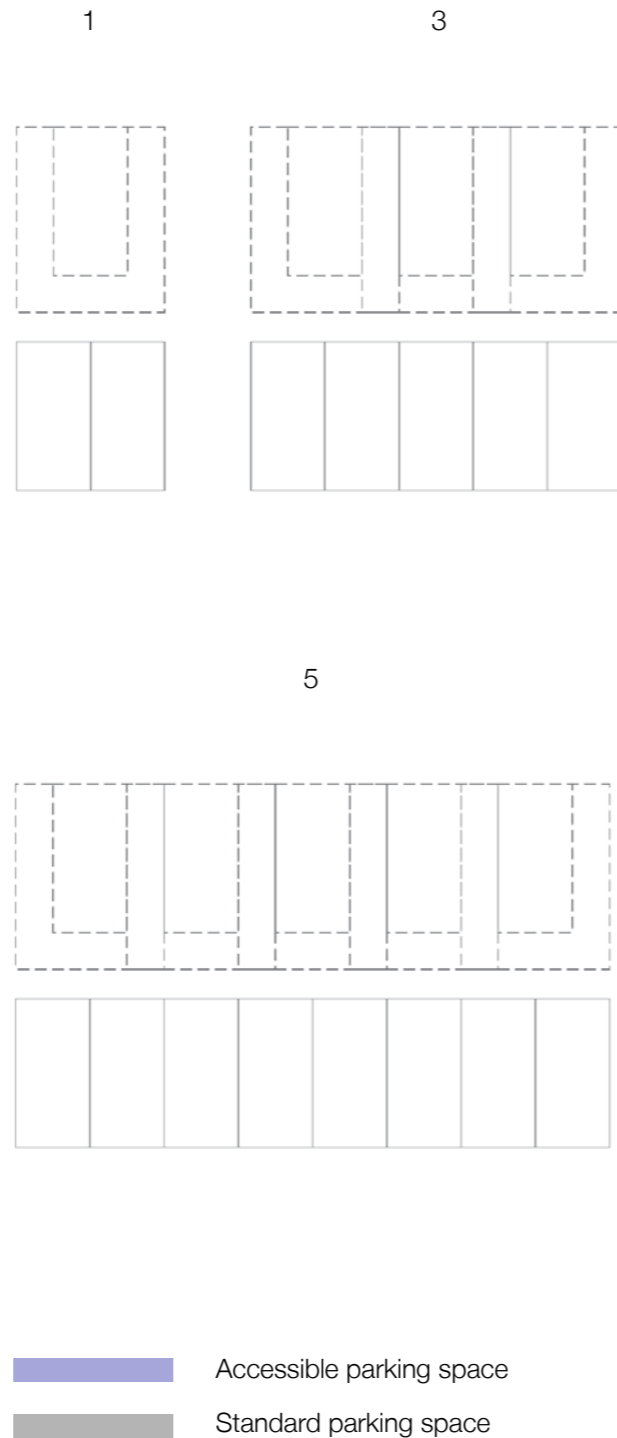


Figure 43: Diagram showing 'blocks' of parking for conversion into wheelchair spaces.

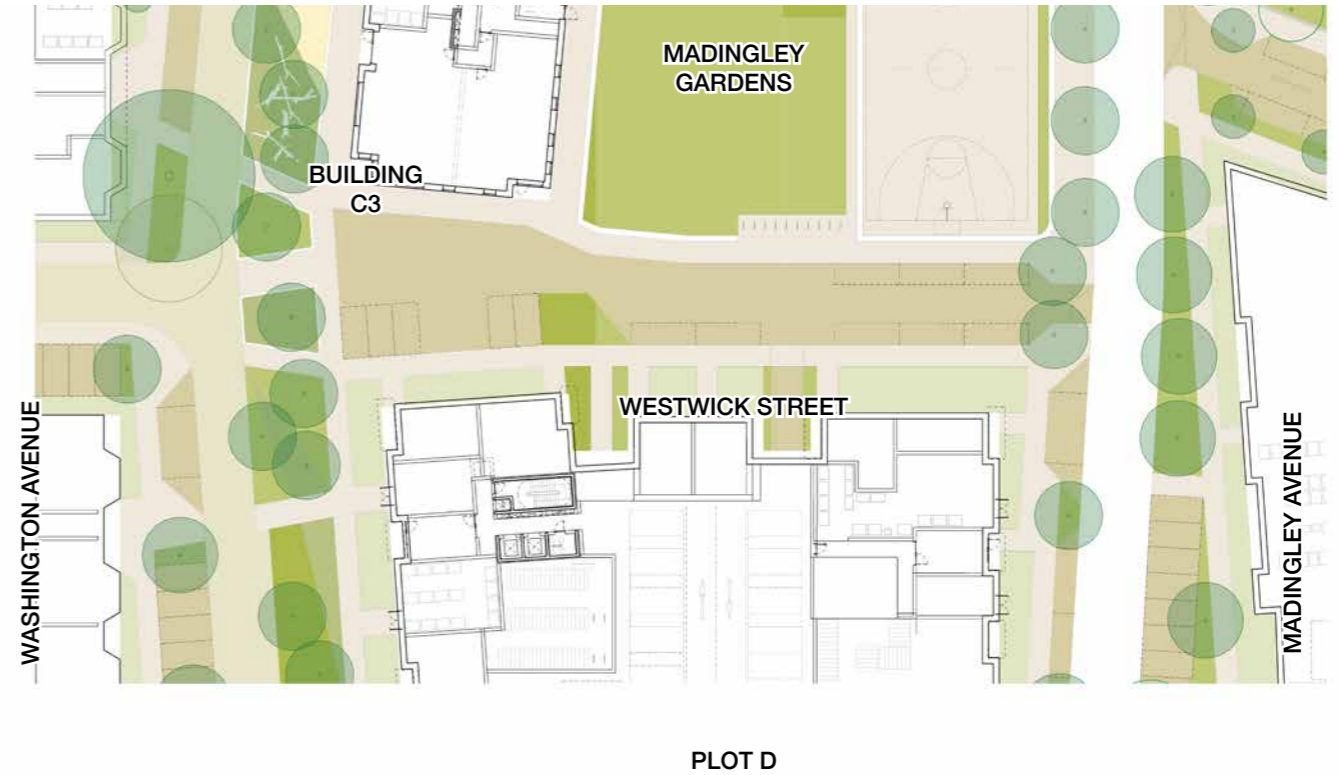


Figure 44: Typical parking arrangements within the public realm.

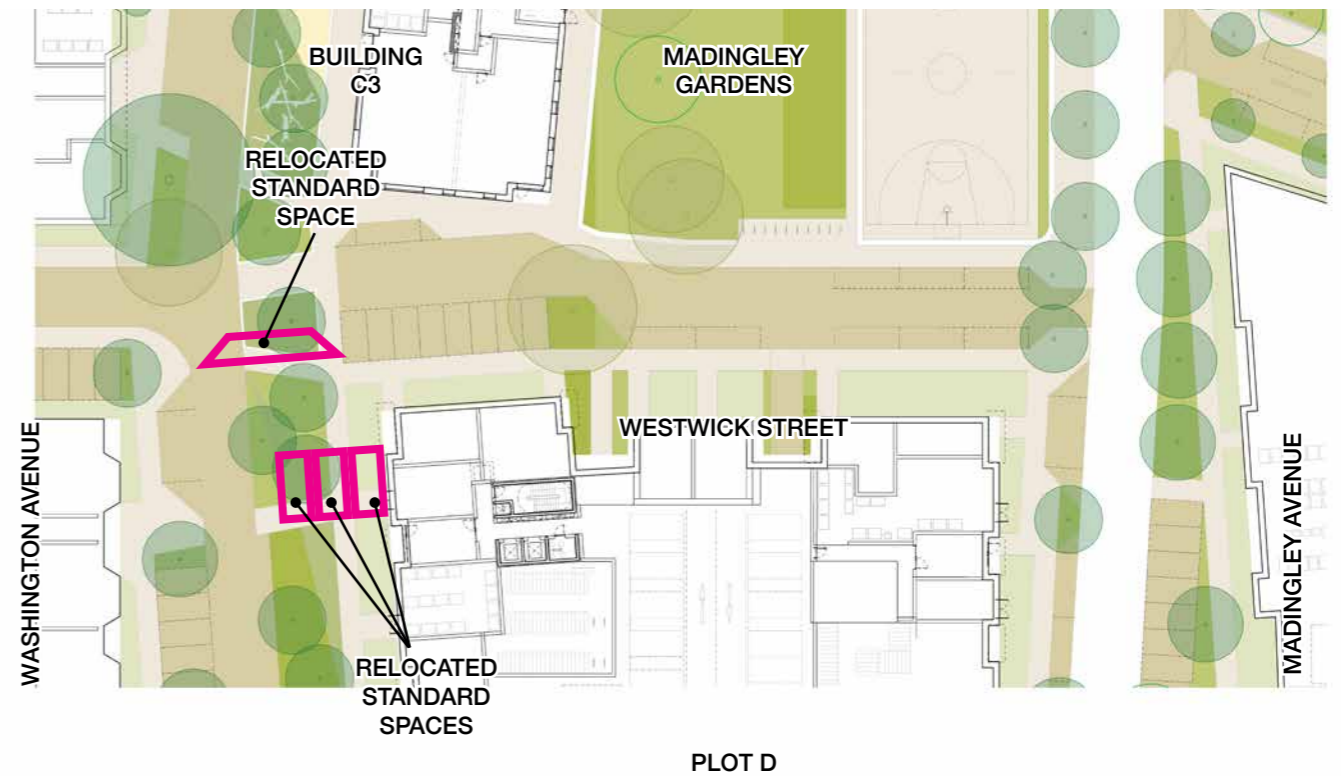


Figure 45: Potential parking increase within the public realm - an increase of +4 spaces (relocated from within the internalised car-park).



Figure 46: Illustrative masterplan showing parking spaces at below ground level.

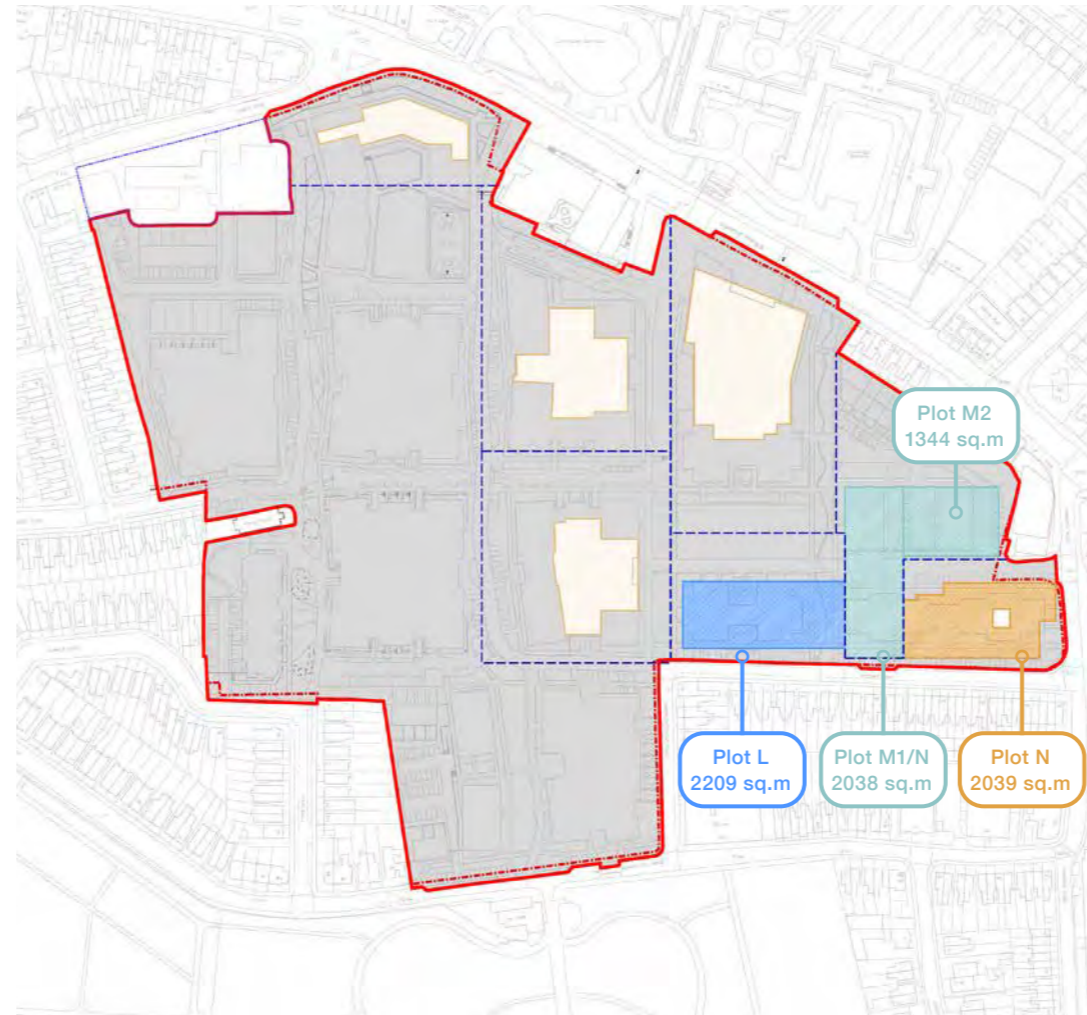


Figure 47: Illustrative masterplan showing potential parking spaces increase at below ground level.

Dependence on private vehicle use

By converting standard spaces to wheelchair accessible, providing every wheelchair user home with an accessible parking space would reduce the overall provision of site parking below 0.4.

The GLA and Local Authority intent is to reduce dependence on private vehicle use in the future. It is projected that the demand for standard car-parking spaces will be reduced.

Uplift compensation

If, however, the general needs parking demand remains high in later phases, there is an uplift strategy for additional parking below ground in the final stage of development.

The adjacent diagram illustrates one option to incorporate the full component of parking should the full 10% of accessible parking be required to suit residents' needs.

As submitted, there is no basement parking below Plots L or M, and only part of Plot N. Basements totalling in excess of 5500sqm could potentially be constructed to provide additional parking areas to compensate for the loss of standard spaces through conversion.

10.0 Access

10.14 Servicing and maintenance

The development will be served by vehicles for a number of different purposes, including:

- Regular commercial deliveries;
- Ad-hoc residential deliveries;
- Residential and non-residential refuse collection;
- Regular building maintenance; and
- Regular landscape maintenance.

Maintenance contractors will be encouraged to utilise zero emission electric vehicles, taking advantage of the Active Electric Vehicle Charging Points (EVCP) distributed around the masterplan.

Vehicles serving the site are expected to be rigid wheelbase Light Goods Vehicles (LGV) ranging from vans to 13m long trucks delivering to the commercial uses lining Cambridge Road.

An Outline Delivery and Servicing Management Plan (DSMP) has been prepared in support of this application.

Building maintenance

Buildings will typically be maintained from within, including regular window cleaning to inward opening panes. Access to plant areas at ground level is possible for maintenance vehicles, and rooftop plant where present can be accessed by lift and stair.

Abnormal facade maintenance and repair can be undertaken by rope access from roofs, or from Mobile Elevated Work Platforms (MEWP) in the public realm.

Large plant in the Energy Centres such as replacement Air Source Heat Pumps can be replaced via mobile crane from the public realm.

Landscape and horticultural maintenance

Ground-level landscape spaces can be accessed by small vehicles moving over pedestrian areas.

Podium-level landscape spaces can be accessed on foot through the common areas of building cores, with maintenance equipment able to be stored within cleaners' cupboards.

The regime for landscape maintenance is described in Section 8.0 of this document.

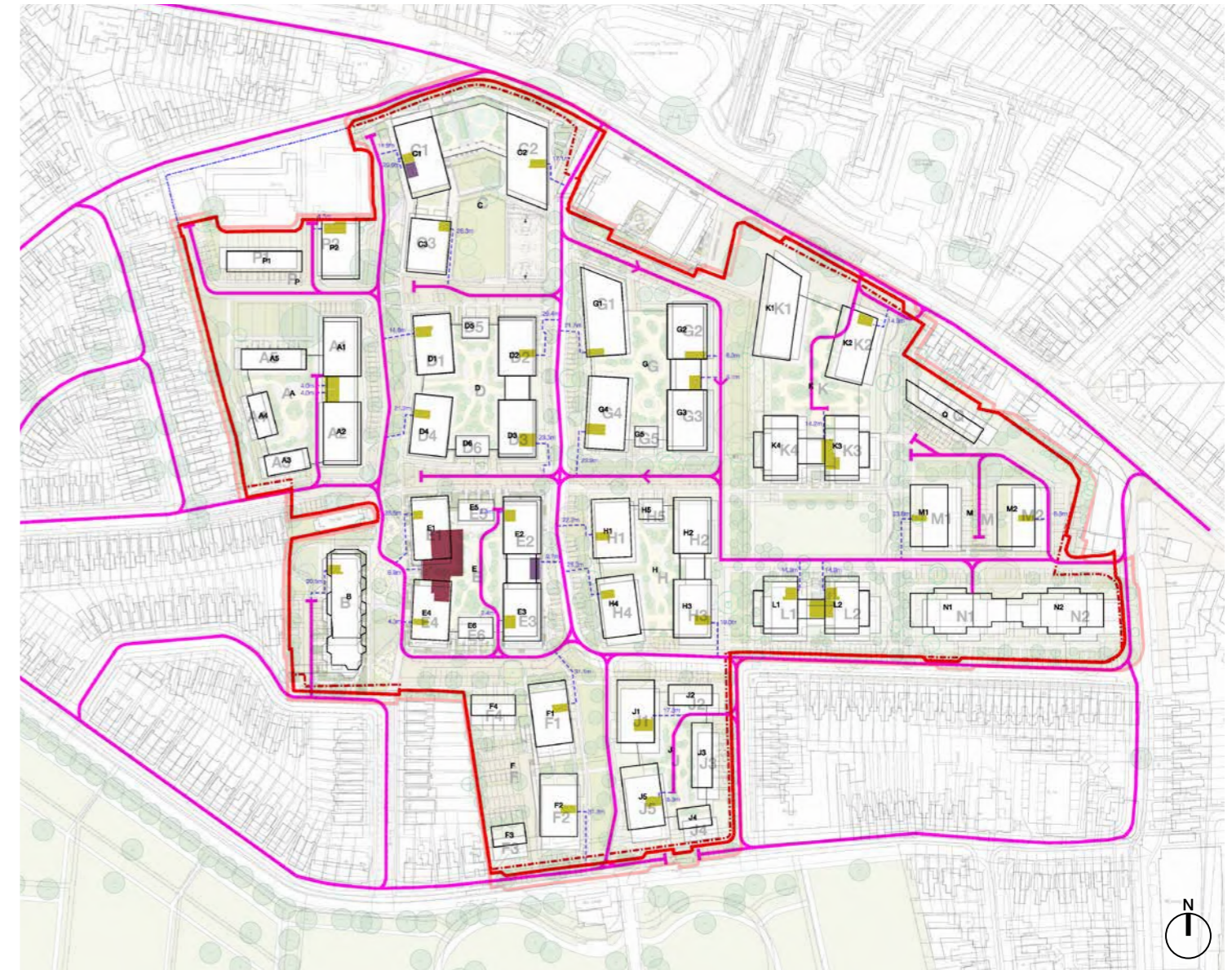


Figure 48: Illustrative masterplan showing building servicing access.



Figure 49: EV landscape maintenance vehicle.



Figure 50: EV delivery vehicle.



Figure 51: Facade access by MEWP.



Figure 52: Facade access by abseil.