

5. Movement

5.1. Movement Strategy

'A well-designed place is accessible and easy to move around. A connected network for all modes of transport; Active travel and well-considered parking, servicing, and utilities infrastructure for all modes and users...A connected street network is one that provides a variety and choice of streets for moving around a place.' NMDC

Active and sustainable modes of movement, such as walking and cycling, are to be encouraged and supported within the plan. Street layouts that facilitate convenient access for deliveries and services, without encouraging anti-social behaviour, can help to reduce vehicle trips, and traffic on streets.

The masterplan has been remodelled to improve the street network, permeability and connectivity. This is described below and opposite.

In the Yare Edge and The Views sites, the lines of terraces have been replaced by an informal street pattern, allowing greater opportunities for active travel (walking and cycling), and parking closer to peoples homes.

In the Wensum Edge a new secondary street is introduced to improve connectivity, security and access for emergency services and utility vehicles. Potential new pedestrian and cycle connections through the underpass to the Colman site and east to Whitlingham are indicated.

WENSUM EDGE

Hierarchical street network. Mix of dedicated and on street cycle paths and wide pavements to encourage active travel. Parking both on-street and within courtyards.



THE VIEWS

Secondary and tertiary streets to distinguish between public and private. Shared surfaces to encourage active travel. Parking on-street, garages and mews.



YARE EDGE

Hierarchical street network, with emphasis on active travel and an interconnected network of local and tertiary streets.



Indicative movement strategy

Key	
	Main access roads
	Local roads
	Pedestrian + cycle routes
	Future Connections

5.2. Connected Places

Street Network

The three character areas are connected through the main arterial spine road.

The spine road is defined as a secondary road. The character of the spine road changes depending on the context. A network of streets is formed around this spine road to create a clear hierarchy of streets. This helps to facilitate movement and orientation throughout the site as well as improve legibility.

The character of each area is as follows:

Wensum Edge

- Urban character
- Spine road flows into network of local roads
- On-street parking
- Distinct river front
- Public spaces

The Views

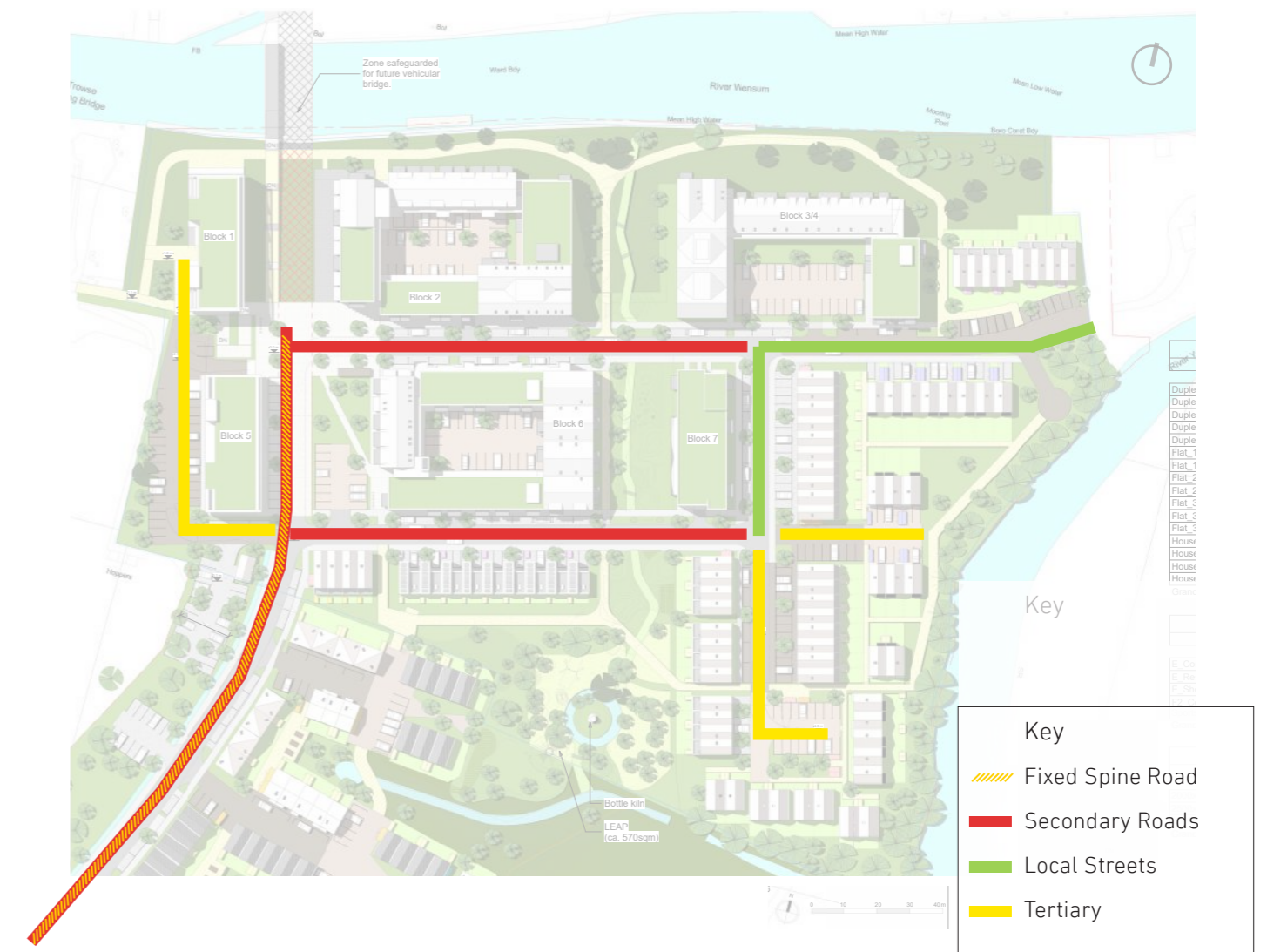
- A series of tertiary 'mews' streets off the spine road.
- Avenue with houses on east side only
- Wide cycle/footpath through swales and meadows

Yare Edge

- Spine road integrated into road network
- Village network of streets
- Shared surfaces
- Traffic calming



Street Precedents



5.3. Public Transport + Connectivity.

Public Transport & Connectivity

Bus

The site is served by the 40, 41 and X41 buses which run between Bungay and Poringland to Norwich City Centre. These route along 'The Street' and are accessible from bus stops to the south of the site.

The spine road through the site, terminates at the Deal Square. In the indicative masterplan this was intended to serve a bus turning and waiting location for visitors to a biomass power station on the utilities site. This is no longer required. The function of the square is therefore changed to be public amenity space.

During pre-application discussions the LA Highways officer indicated that they would want to preserve the opportunity for a bus to access the site, even if an operator was not interested at this time.

A loop road was provided in the north to allow a future bus service to service the north of the site and all residents, without the need to turn in the road.

Rail

A pedestrian and cycle bridge over the River Wensum will provide access to the north bank and from this to Norwich Train Station via public footpaths, often along the river's edge.

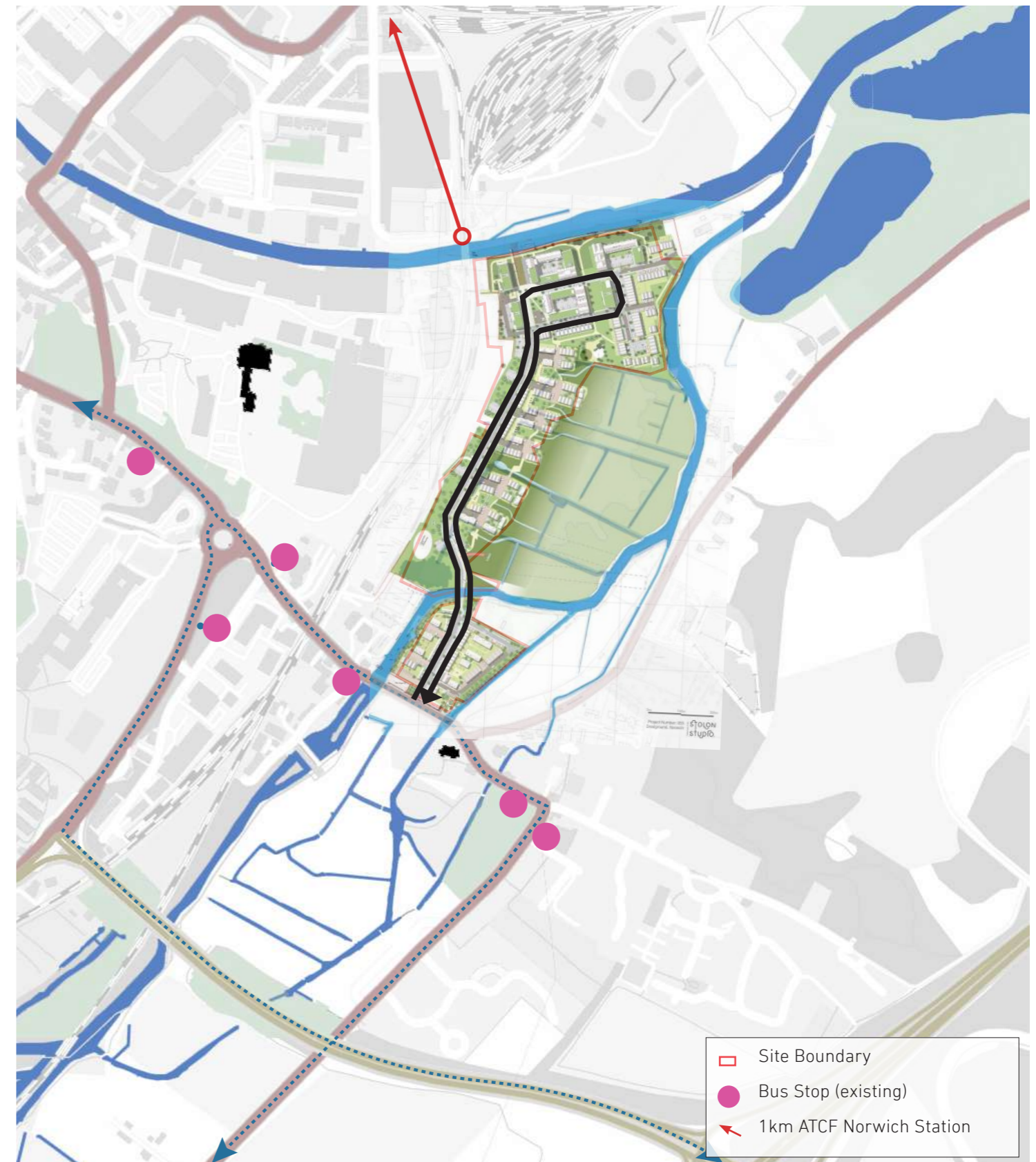
There is an incentive from local residents to reinstate the disused Trowse Railway Station, as more people move into the area. This is unlikely to occur in the near future.

Bridges

Land will be safeguarded for a vehicular bridge in future, to be delivered by the utilities site as required. Provision for an underpass for pedestrians and cyclists below the railway line towards the Carrow Works site is also considered.

A future pedestrian and cycle bridge over the River Yare to the east, as well as access for an 8 wheeled crane to the Carrow Yacht Club is also considered.

There is approximately 5m level difference between the crossing over the Wensum c. 5.9m AOD and the underpass c. 0.9m AOD. This therefore will require long ramp lengths.



5.4. Active Travel

Walking and Cycling

'Prioritising active travel is about making walking and cycling easy, comfortable and attractive for all users, so they are seen as genuine choices for travel on local journeys' NMDC

Walking and cycling routes are located on desire lines to encourage ease of access and use. They are designed to be generous and attractive with views over nature. A main (arterial) cycle route runs north to south connecting each of the character areas.

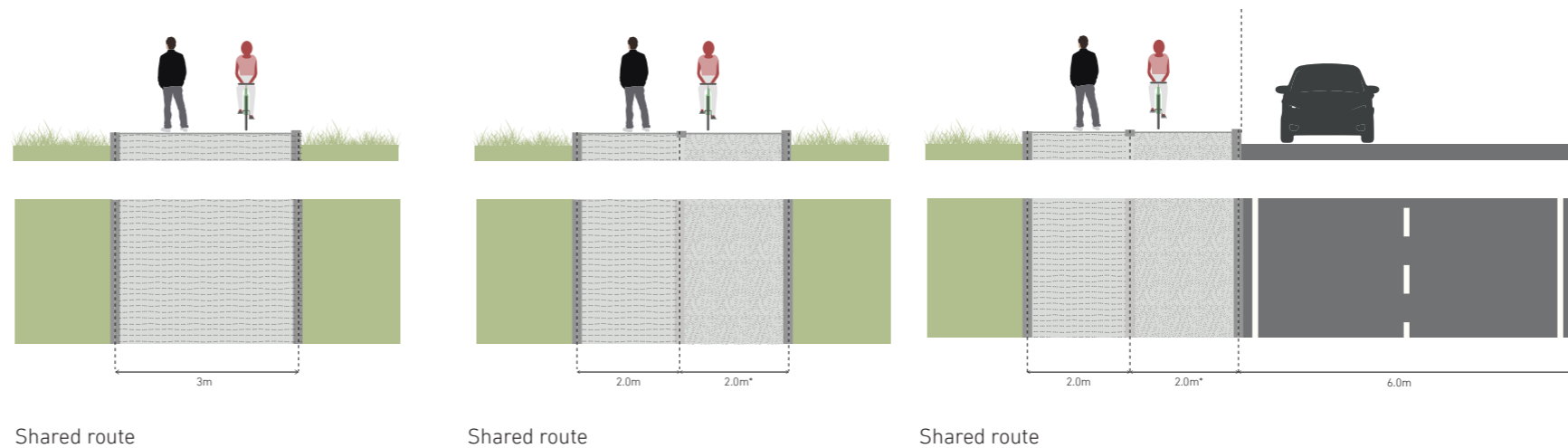
A series of shared Foot and Cycleways are provided throughout the northern part of the site. These make access for any resident to a cycleway very convenient. Arrows showing access are indicated in the plans opposite. Footways are also provided along all secondary and local streets with waling areas provided on tertiary streets.

Cycleways sit alongside footways where possible, creating dedicated routes where they are wanted.

Opportunity to connect into the wider network of foot and cycle paths has informed the layout, including the River Wensum Bridge (north), and future bridge crossings over the River Yare (east), and the underpass (west).

Local journeys to the city centre, the railway station, and to areas of employment will generally be quicker and more convenient by foot or cycle, than by other travel modes.

All footways along roads are a minimum of 2.0m wide. All cycle paths are 2.0m wide and finished in a contrasting surface pattern to the footpaths for identification. Shared foot and cycleways are a minimum of 3.0m wide.



Cycleways



Cycleways - Wensum Edge

Key

- Blue line: Spine road
- Red arrow: Connections off-site
- Purple line: Shared Foot and Cycleway
- Red double line: Footway and Cycleway

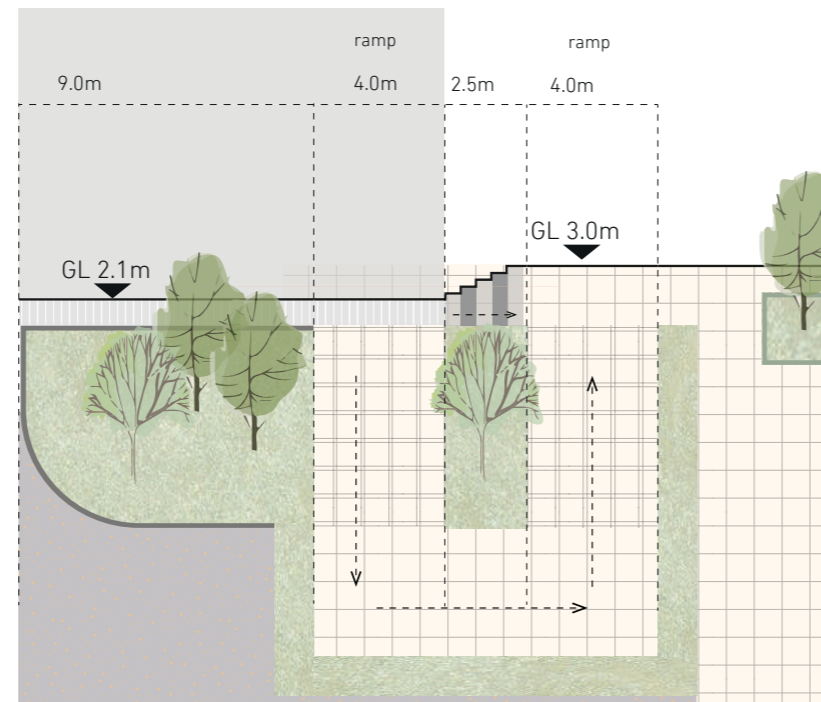
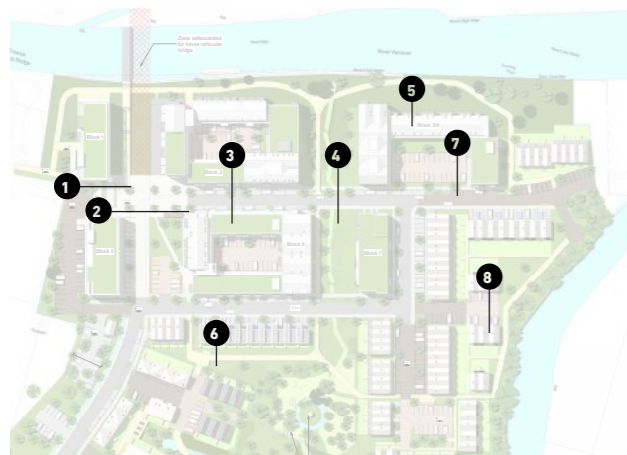
nb. All adopted roads to include 2m footway on either side

Boundaries

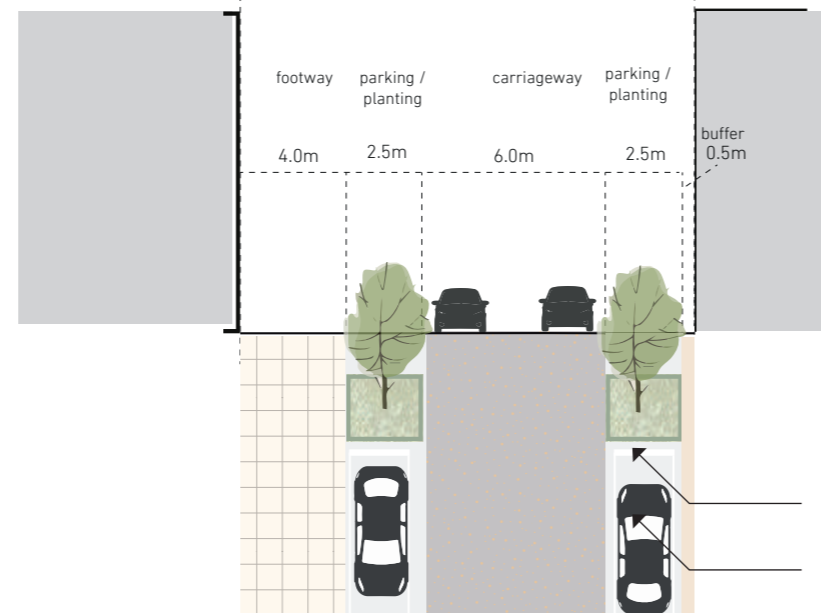
Movement boundary treatments are given special consideration and to consider natural corridors for wildlife along the edges of the site. These boundaries are particularly key within the Wensum Edge. The plan below identifies the boundary conditions listed below. These are illustrated conceptually on the next pages and should be read in conjunction with the application drawings:

1. Footpath-Cycle-Ramp
2. Road-Public Square
3. Road-Residential Block
4. Footpath-Cycle-Park
5. River-Footpath-Building
6. Road-Park-Cycle
7. Local Street
8. Tertiary Street

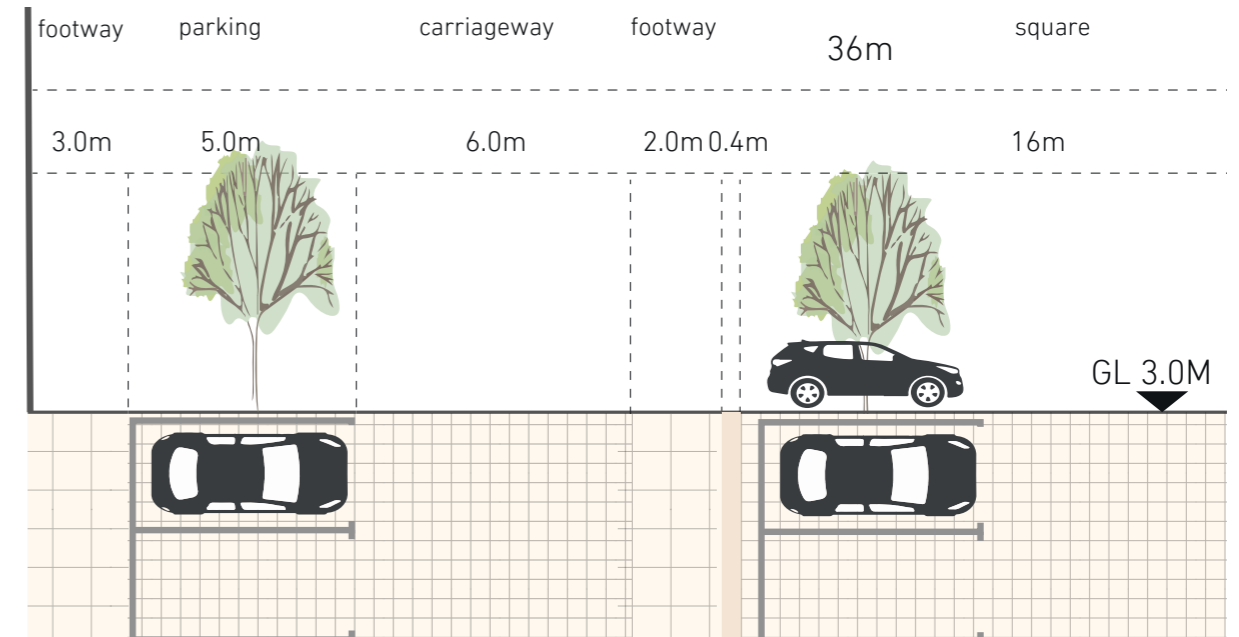
Built form boundaries for the whole site are considered in the 'Built Form' chapter.



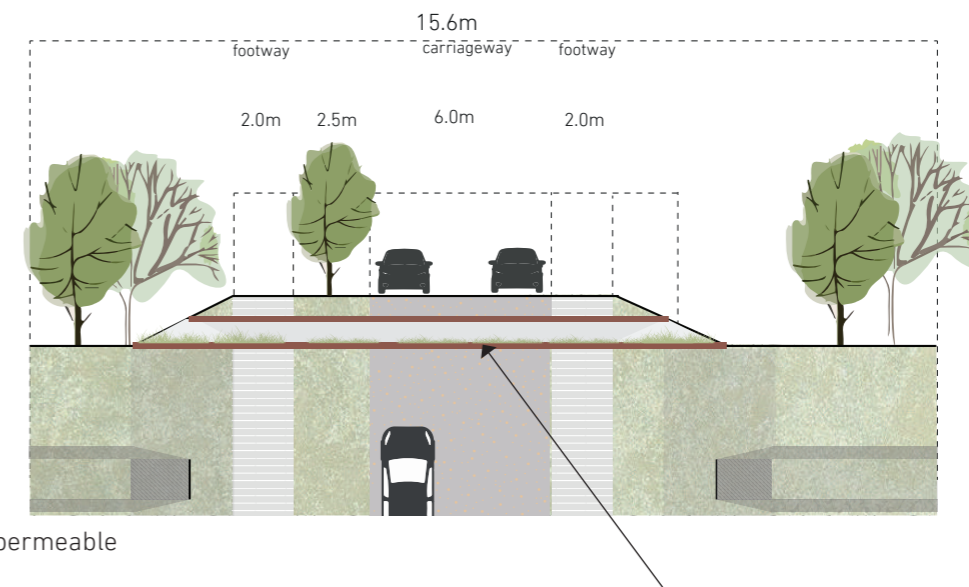
Boundary 1 - Footpath-Cycle-Ramp



Boundary 3 - Road-Residential Block



Boundary 2 - Road-Public Square

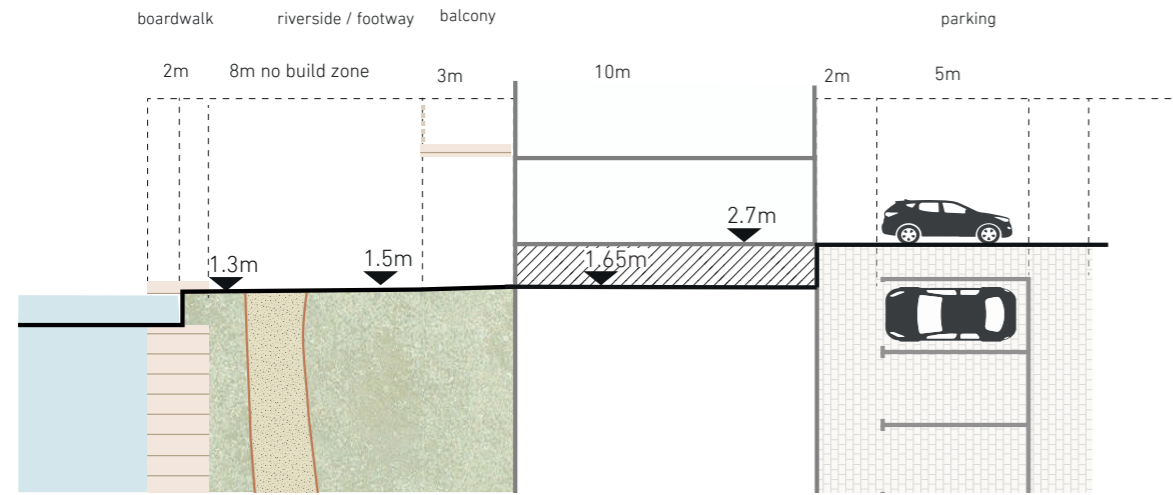


Boundary 4 - Footpath-Cycle-Park

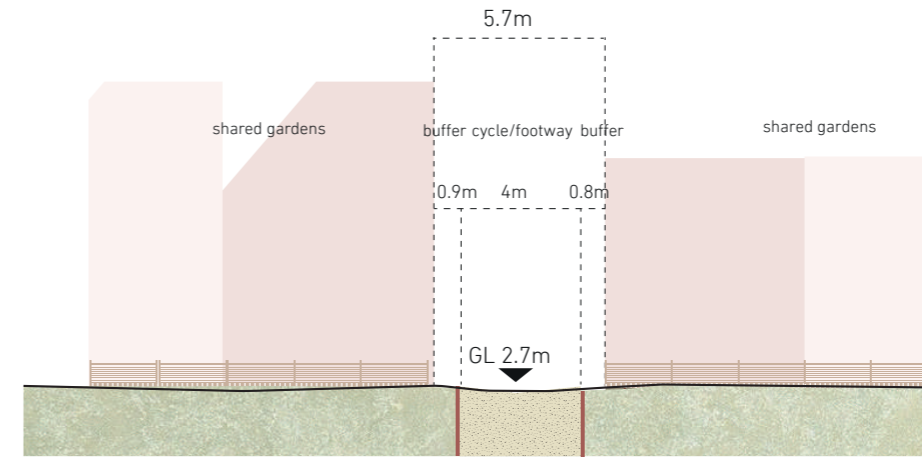
Materials

- Full fill asphalt + chippings
- Stone / Block paving
- Block edging
- Road Surface

Boundaries

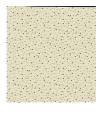





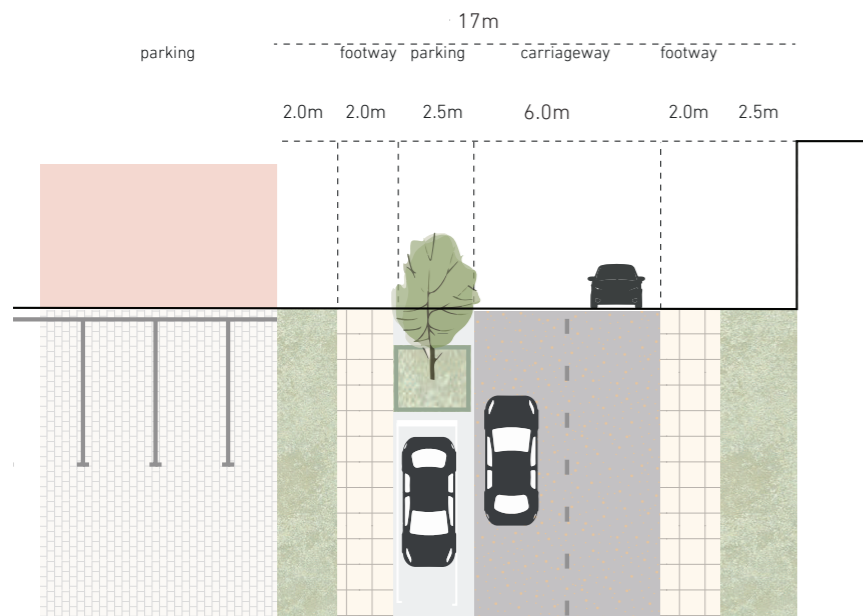
Boundary 5 - River-Footpath-Building



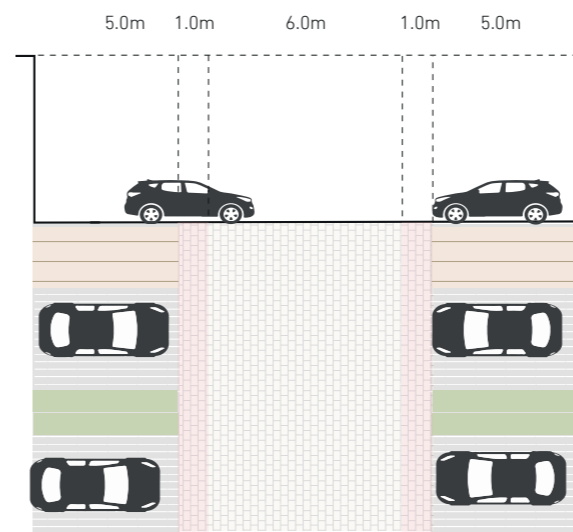
Boundary 6 - Road-Park-Cycle

Materials

-  Full fill asphalt + chippings
-  Stone / Block paving
-  Block edging
-  Road Surface



Boundary 7 - Local Street



Boundary 8 - Tertiary Street

Boundaries

The streets approaching the public square are demarcated by a change in materials and tactile paving to identify the potential risk to people with impaired vision. These are indicated below.

In addition timber bollards are to be used to define the boundary between the public realm and the roadway.



Adopted Asphalt

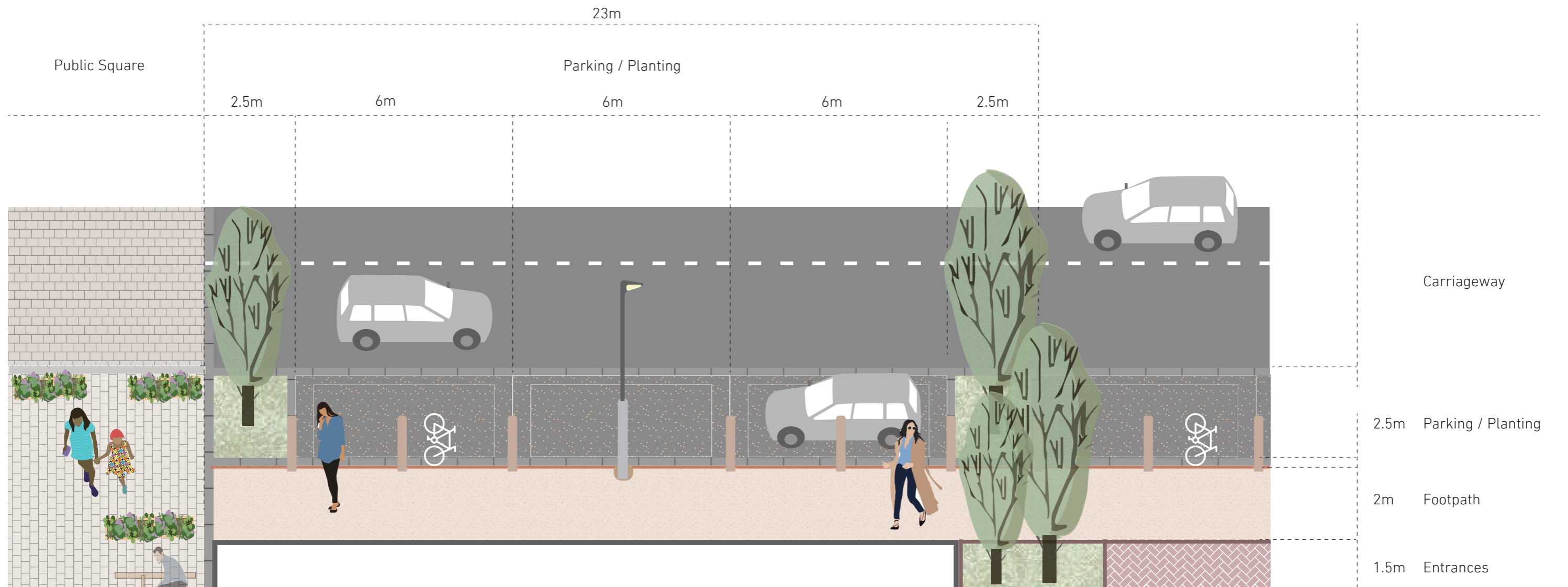
Carriageways: Parking bays: Asphalt with scattered coloured chippings

Planting as road separator

Cycleway: Asphalt with full fill coloured chippings

Public square: Block or stone paving

Tertiary Streets: block paving



Boundary materials on the approach to the public square

5.6. Cycle Parking

Cycle Access and Parking

Cycle parking spaces should be conveniently located to encourage regular use. Covered and secure cycle storage space should be provided.

Where premises have accessible private amenity space capable of housing an appropriately sized shed, these requirements will be deemed to have been met.

An indication of how cycle parking is provided within the Wensum edge is indicated opposite.

Cycle Parking for Houses

Cycle parking provision (NCC Local Plan 2014)

- 1 bed units: 1 space
- 2/3 bed units: 2 spaces
- 4+ bed units: 3 spaces

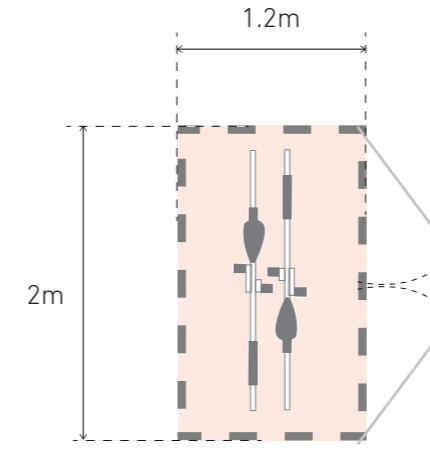
Where cycle parking is provided as part of individual bike stores, a 2m x 1.2m footprint would satisfy the requirements of the 2010 Cambridge Cycle Guide for Residential Developments providing that the store is made of a timber envelope. For bike stores made of alternative materials such as brick, the internal dimensions should provide minimum 1800mm length x 1100mm clear height x 900mm width, although Cambridge standard would be preferable.



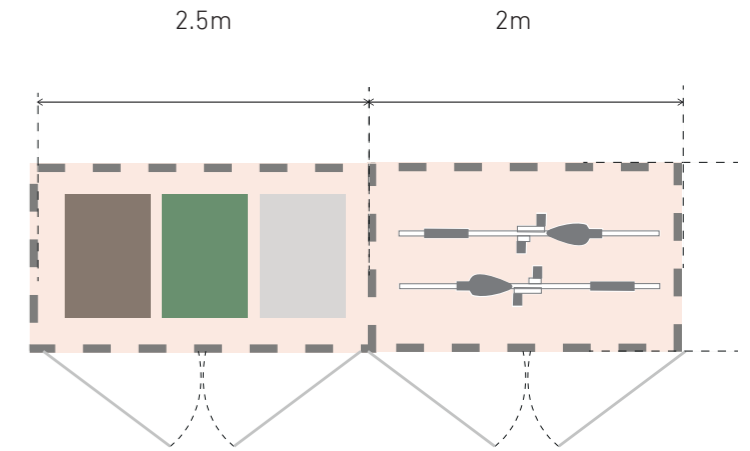
Example of bike storage locations in The Views



Example of bike storage locations in Yare Edge



Bike Storage Indicative Layout



Bin and Bike store to individual house



Example of bike storage locations in Wensum Edge

Cycle Parking Key

- Individual secure bike storage locations
- Communal secure bike storage

5.7. Cycle Parking

Cycle Parking for Apartments

Dedicated and secure cycle parking areas are designed for all apartment buildings.

Ideally these should be located within the building block, near to entrances to encourage ease of use, social interaction and natural surveillance.

A mix of upright stands as well as Sheffield stands is provided to cater for different residents needs.

Cycle stores within apartments have been designed to provide:

- Natural surveillance
- Natural ventilation
- Artificial lighting
- Secure entrance
- Secure locking positions
- Min 1.8m circulation
- Space for buggies, mobility scooters, and/or cargo bikes in some places

Cycle Parking for Commercial Uses

NCC DMP states that cycle parking for the commercial land uses should provide

- 1 covered and secure space per 100sqm for staff +
- 1 space per 50sqm for customers.

This equates to 3 spaces in the Yare Edge and 54 spaces in the Wensum Edge, of which 2 and 36 would be in the public realm, respectively.

SN use the Norfolk CC guidelines, which require

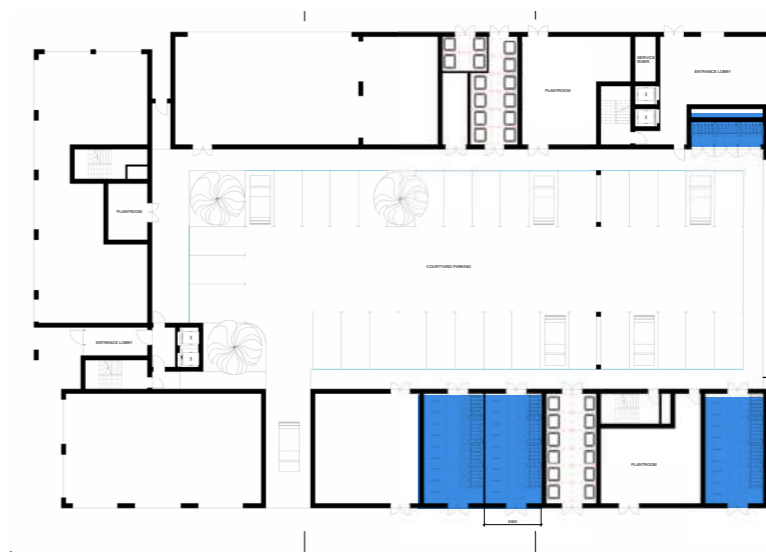
- 1 space / 200m² for visitors
- 1 space / 100m² for staff

Visitor cycle spaces are conveniently located near to entrances to apartments, shops and commercial buildings, see plan.

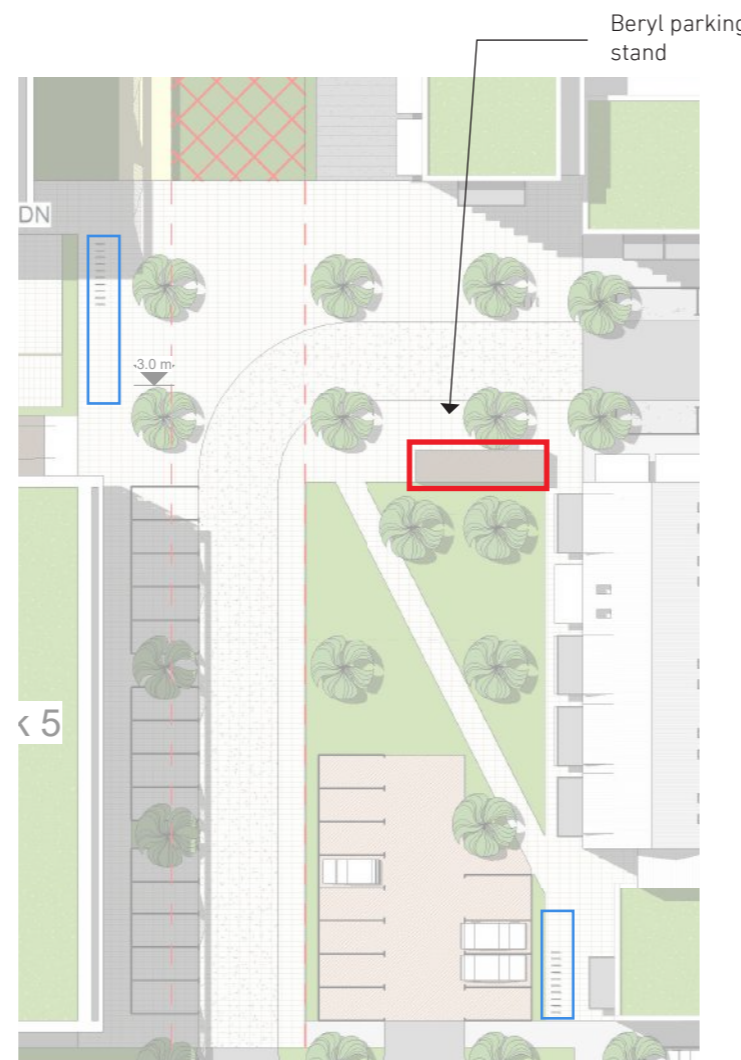
A Beryl parking stand is also provided in the Public Square as indicated opposite.



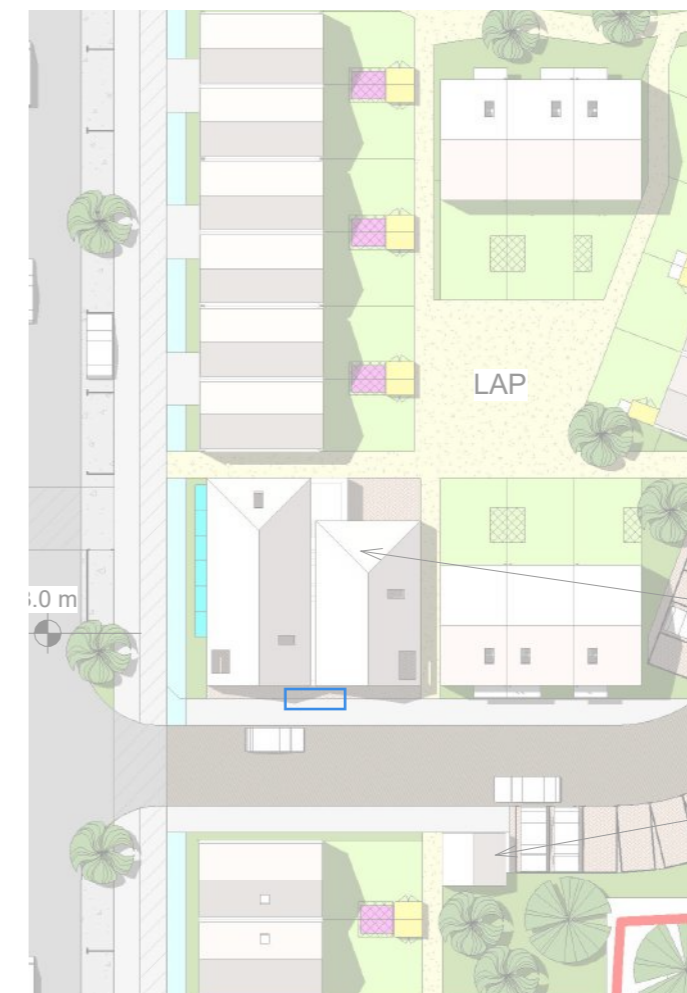
Beryl parking stands



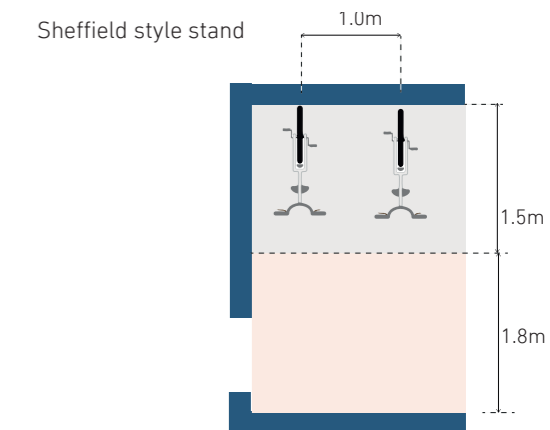
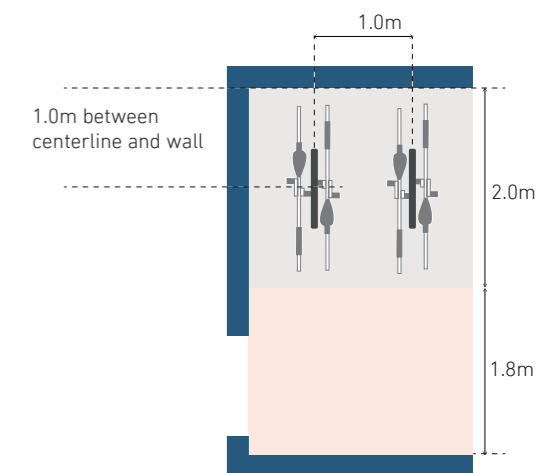
Example Location of cycle store within block 6



Cycle parking in the Wensum Edge



Cycle parking in the Yare Edge



Upright style stand

Bike racks within a communal bike store

5.8. Parking Standards, Yare Edge

South Norfolk

'The appropriate parking provision for a development will be determined using the parking standards adopted by the Council as a 'starting point' which may be varied to reflect local conditions such as the availability of public parking, sustainable travel modes, Travel Plan provisions, and design and conservation objectives.'

'The Councils vehicle parking standards are currently Parking Standards for Norfolk 2007' South Norfolk Local Plan Development Management Policies Document 2015

'Car parking may be accommodated in a variety of way...Where fewer spaces per dwelling are allocated spaces, then less parking is required...' South Norfolk Place-Making Guide SPD 2012

Communal car parking areas provide 5-12 parking spaces.

Dwellings

'General Requirement'

- 1 space for a 1 bed unit
- 2 spaces for a 2 or 3 bed unit
- 3 spaces for a 4+ bed unit

Based on 72 units this would equate to a need for 152 parking spaces. There is no additional requirement for visitors spaces.

Proposed parking

Due to the support for active modes of travel a reduced provision has been assumed as follows:

- 1 space for a 1 bed unit
- 1-2 spaces for a 2 or 3 bed unit
- 2 spaces for a 4+ bed unit

This would equate to apx 100 spaces. An additional 10 spaces would be provided for visitors.

Shops

Car Parking required

- 1 space / 20m² gfa

This would equate to 8-9 spaces. As this is envisaged as a local shop it is expected that a reduced provision of 2-3 spaces would be suitable. These are available within a short distance of the shop.

The total number of spaces available is 118 therefore meeting the targets set out above.



5.9. Parking Standards, The Views

Norwich City Council DMP 2014

Use Class A1, A2, A3, A4 and A5 Shops, High Street Offices, Restaurants, Drinking Establishments and Takeaways.

Based on 'Elsewhere in the urban area' the requirements are:

- Min: One parking space per 500m² GFA
- Max: One parking space per 20m² GFA

5% of total Parent and Child spaces:

5% of total motor cycle parking

Commercial Buildings

The travel plan should support active modes of transport and public transport in preference to car use, to reduce parking requirements. Ideally staff parking should be located to the rear of commercial buildings.

Deal Ground, Residential, Use: C3

Based on 'Elsewhere in the urban area' the requirements are:

Min: 1 space per dwelling.

Max:

- 1.5 space per 1-2 bed dwelling
- 2 spaces per 3+ bed dwelling.

For developments of over 10 units a minimum of 30% of all car parking spaces provided will be 'on-street' or in communal areas and not allocated to particular households

A reduction in this provision was consented in 2013 which equates to less than 1pspd. Therefore a different mix is proposed.

Proposed residential parking.

- 1 space per 2no. 1-2 bed flat
- 1 space per 3+ bed flat
- 1 space per 1-2 bed house
- 1.5 spaces per 3 bed house
- 2 spaces per 4+ bed house

The provision for flats is significantly lower than the 2014 DMP requirement, however, it is inline with the aspirations of ENSRA for minimal to zero parking. The majority of these would be in shared car parks or on-street therefore without allocation.

A number of approaches are used in the views:

- on street parking within the mews and along the spine road
- Surface parking towards the centre of the mews
- Surface parking within the landscape buffer area.

A level platform provides safe and level access from the car park to the mews, supporting Part M4(2).



5.10. Parking Standards, Wensum Edge

Norwich City Council DMP 2014

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A number of approaches are used in the Wensum Edge:

- on street parking
- Surface parking within courtyards and to the rear of Block 5
- Surface parking within the landscape buffer area.

Other Requirements

'Provision of a car club parking space and car club vehicle will be expected for developments of over 100 units. Access to a car club for any development is desirable

EV – one parking space should be provided with an electric charging point in all communal and unallocated parking areas and in all garages.'

Visitor parking should be convenient, allowing level and obvious access to dwellings in accordance with Part M4(2).



Indicative parking arrangement to be confirmed at the Reserved Matters stage

5.11. Parking access

Parking for Houses

Parking for the houses is predominantly on the street in unallocated spaces.

Where in-front of the house parking spaces include a footway to the front door.

Parking is arranged to avoid projecting over the paving or street line.

Parking which requires vehicles to reverse onto the street has only been used on Local or Tertiary streets.

Visitor parking is distributed across the development.

Should incorporate:

- Natural surveillance
- Space for disabled parking / Part M4(2)
- Street trees and planting
- EV charging
- Secure entrance

Apartment Buildings

Parking should not dominate its surroundings and is preferable to be set to the rear of the building or within a courtyard setting.

Planting and amenity can be achieved through space provided:

- a) at grade, peripheral to the parking.
- b) in a deck over the parking
- c) at roof level.

Should incorporate:

- Natural surveillance
- Convenient disabled parking
- Street trees and planting
- EV charging
- Secure entrance

Podium or below ground parking

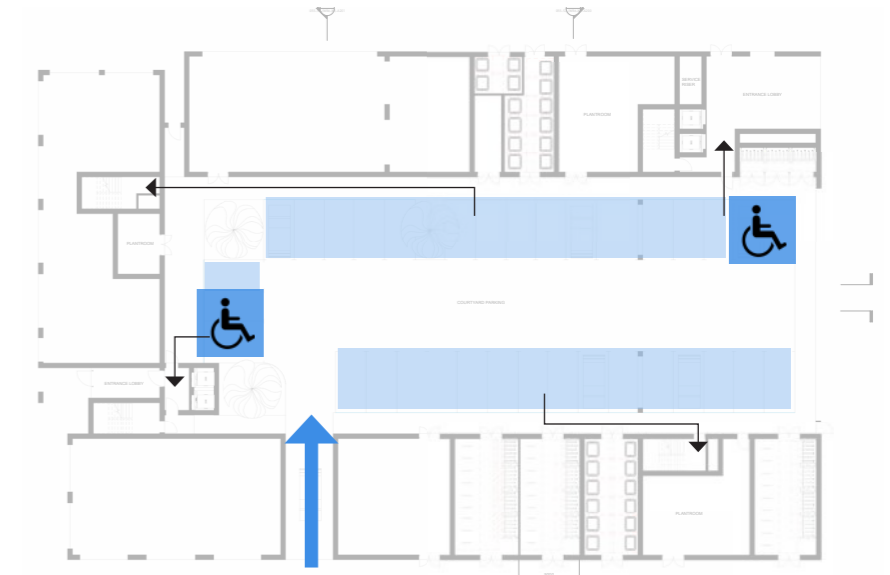
- Should support active frontage onto street
- Parking entrance should not detract from street



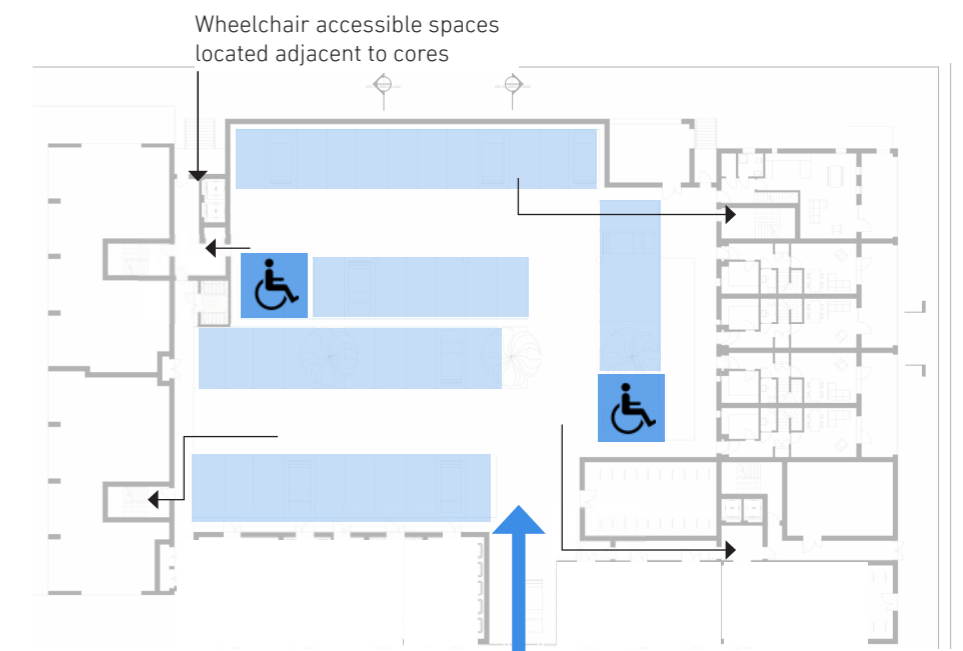
Parking arrangement for houses in Yare Edge



Parking arrangement for houses in The Views



Indicative Block 6 parking and access arrangement



Indicative Block 2 parking and access arrangement

5.12. Access

Access

Identifiable service routes are provided to all properties. Design of these routes should enable vehicles to progress in a forward gear with limited need for reversing and ensure turning occurs only in dedicated areas.

Eurobin collection points are within 10m of the highway and within 30m from the bin storage area of the property. Wheelie bin collection points are typically within 25m of the highway*.

Communal bin stores need to be located near to the highway. These should be located away from corners to preserve active frontages. Preferable locations are alongside vehicular access ways and adjacent to communal parking areas.

*Manual for Streets, Department for transport



Indicative servicing plan, The Views



Indicative servicing plan, Wensum Edge

5.13. Emergency Access

Emergency Service Access

'All developments need to be accessible to emergency vehicles. Sites with limited vehicle access points need to ensure that ambulances and fire tenders can gain access if one of the roads is blocked.' NMDC

The plan opposite indicates the main access route for emergency vehicles from the main roads in the site. It also provides indicative locations for fire truck access, rising mains and above ground fire fighting access routes.

Fire tender access routes will be at least 3.7m wide and fire tenders would not be required to reverse more than 20m.

The furthest point of all properties should be accessible from within 45m of the highway by a fire tender, unless specific provision to extend this (such as a dry riser) is incorporated where access would be within 18m. There is only 1 situation where the distance from the main road is in excess of 45m. In that situation the fire tender would access the parking area thus reducing the distance by upto 20m.

Further details are provided in the Highways Report and Fire Safety Report.



Indicative emergency services access strategy

5.14. Waste and Recycling

Waste and Recycling

Norwich City Council

Norfolk DMP Adopted Plan, 2014 policy indicates a preference for communal bin storage even for houses.

This policy indicates a requirement for 3 separate bins for recycling to an equivalent volume to waste. It is assumed that recycling is segregated for collection.

There is no requirement for garden waste or food bins. However, where houses have individual gardens (without access to a shared garden).

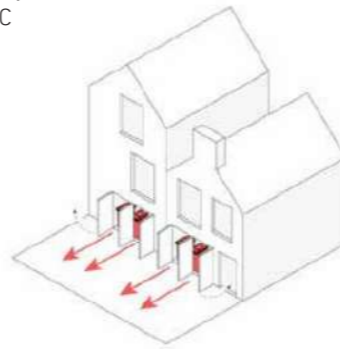
South Norfolk

South Norfolk waste and recycling collection Policy, 2021 indicates that all houses should be provided with individual bins but *'some properties may share communal 1100 litre bins where appropriate.'*

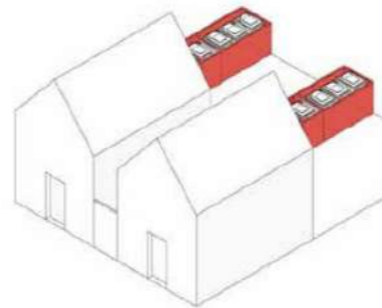
It is assumed that recycling is mixed for collection in South Norfolk.

The diagrams opposite indicate the bin storage approaches adopted in each area. The following pages indicate how the bin storage strategy is applied in each area. Scale drawings are also provided.

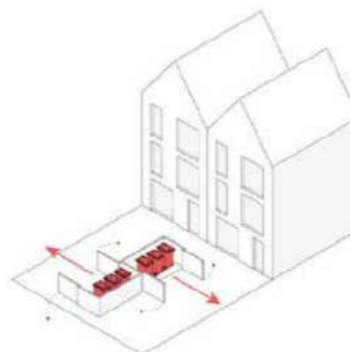
Bin storage layouts:
Source NHBC



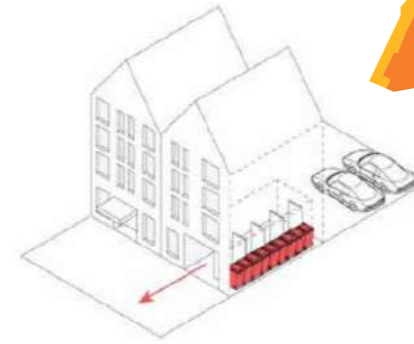
Storage behind garage-type doors



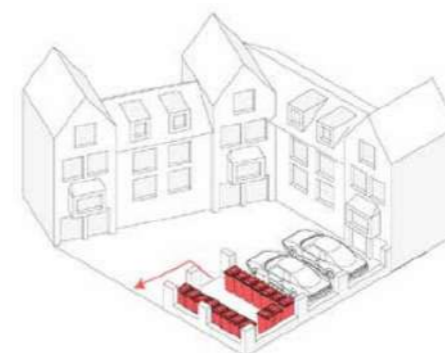
Storage in rear gardens



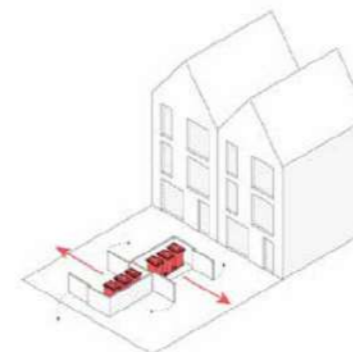
Storage in front of houses



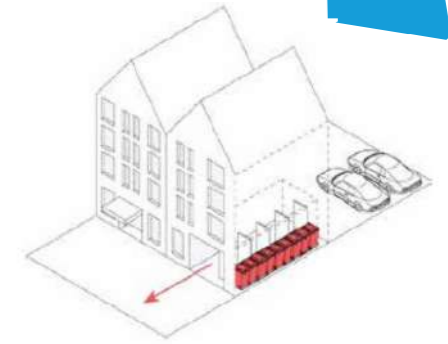
Communal storage in apartments



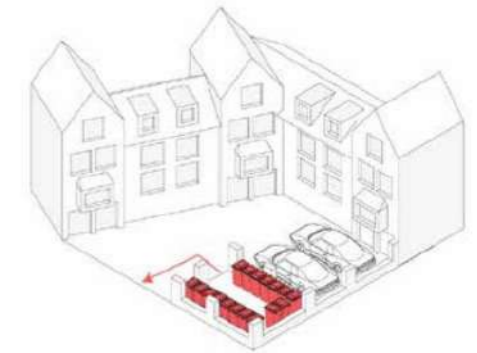
Communal storage site



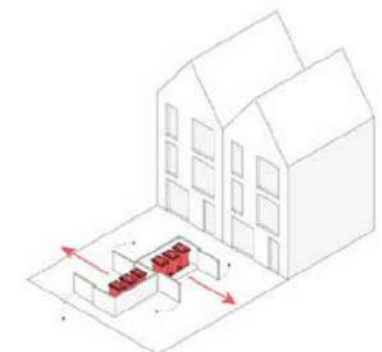
Storage in front of houses



Communal storage in apartments



Communal storage site



Storage in front of houses

Yare Edge

The Views

Wensum Edge

South Norfolk waste and recycling collection Policy, 2021

Design considerations:

- Easy and safe access for collectors, and residents including older persons or persons with disabilities
- Noise and sound, Lighting and Ventilation
- Ease of maintenance + robust construction
- Fire risk and smoke

Houses with individual bins:

- External storage point for at least 3 x 240 litre wheeled bins plus a 23 litre food caddy (2 x 240 where there is no garden)
- A means to bring waste out for collection that does not involve bringing containers through the interior of the property or for long distances around other properties
- Storage provided at the rear of the property with bins brought to the collection point on the appropriate day(s)
- Where storage is at the front, should have an enclosure designed to section 12 of Building for Life.

External storage point should:

- Where possible be located within 30 metres of the main external door to the property
- Have a hard, smooth, free draining surface to allow safe access and cleansing
- Not obstruct sight lines - pedestrians, cyclists and drivers
- Never require waste containers to be left on the footway/ highway as this reduces the width of the footway/ highway and causes a hazard to users

Communal

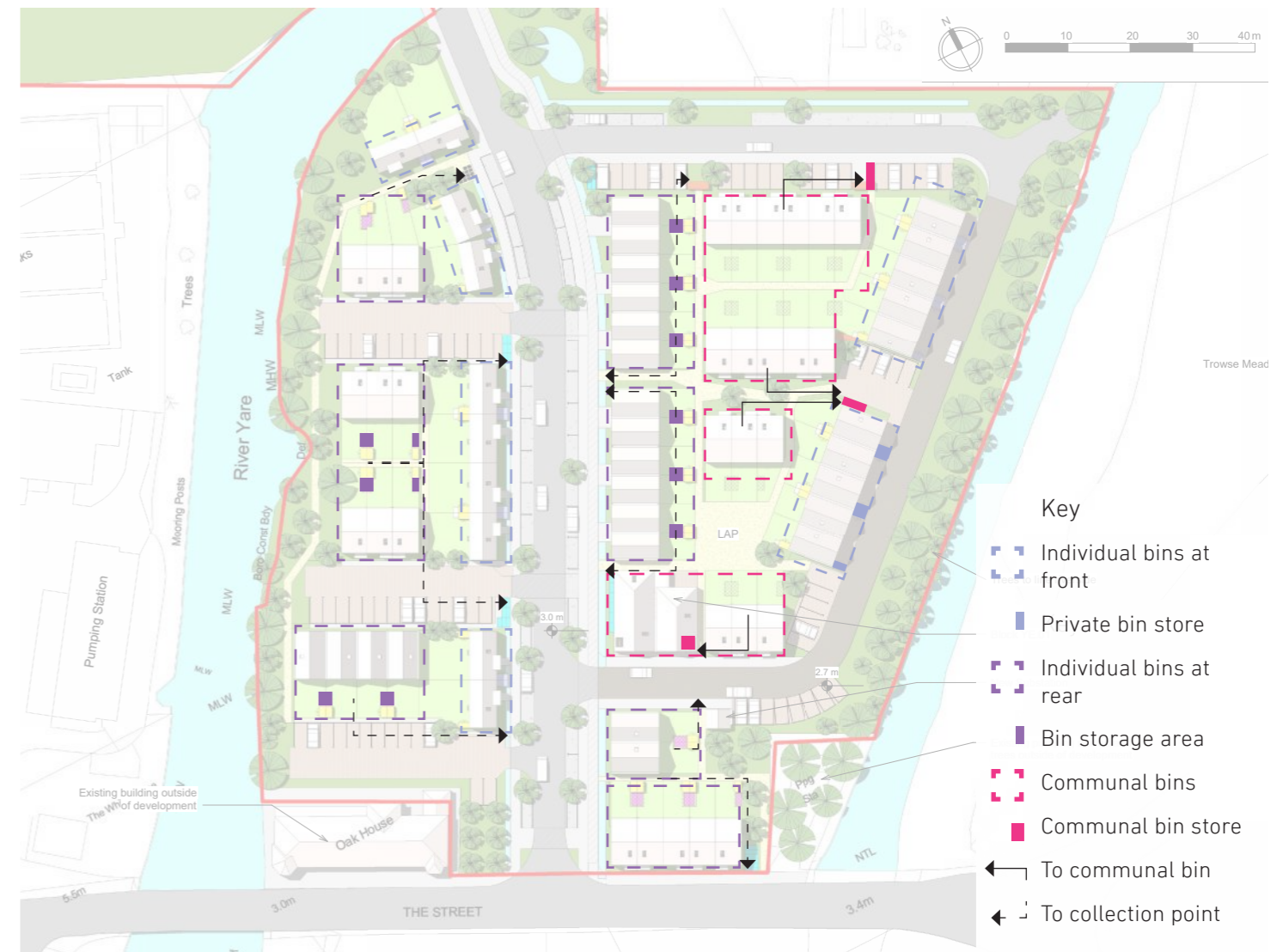
Some properties may share communal 1100 litre bins where appropriate and as a last resort, but these are to be avoided where at all possible...

The storage/collection area for communal bins must be no more than 5 metres from where the refuse vehicle will park to empty the bin.

Commercial

- Shops - 5000L waste per 1000sqm GIA
- Restaurants - 10000L waste per 1000sqm GIA

The strategy is indicated opposite and provided in drawings.



Norwich City Council waste and recycling collection Policy, 2014

Residential

Normally (in both housing and flatted developments) centralised and communal facilities will be provided:...

- 1x 1100 litre bin for every six households (some leeway allowed for smaller or larger units) for non-recyclable waste (i.e. about 200 litres per household);
- Three separate bins providing an equivalent volume (approximately) of storage for recyclable materials (e.g. if one 1100 litre bin would be required for general waste, then three 360 litre bins will be needed for recyclables).
- A development requiring three 1100 litre bins for non-recyclables would require the same again for recyclables.

Where wheelie bin collection is envisaged, provision for 3x 240L wheelie bins per house.

Refuse collection points (esp for 1100 litre bins) should be sited within five metres of the public highway.

Communal bins for houses

Typical store:

- Waste: 1x1100L bin per 6x2 bed houses, 5x3 bed houses and 4x4 bed houses
- Recycling: 3x360L bin per 6x2 bed houses, 5x3 bed houses and 4x4 bed houses

Communal bins for Flats & Duplex

To determine a sensible provision for the flats and duplexes the following has been assumed each for refuse and recycling:

- 1 Bed Flat: 100L
- 2 Bed Flat: 150L
- 3 Bed Flat: 200L
- 4 Bed Flat+: 250L

No garden waste bins or food bins for flats and duplexes. However, additional space within bin stores is provided for future food waste where feasible.

Commercial

The NCC DPD does not specify a minimum waste provision for commercial properties, therefore the SN standard has been used. To allow flexibility for all uses adequate storage has been provided for all units to be potentially used as restaurants.

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