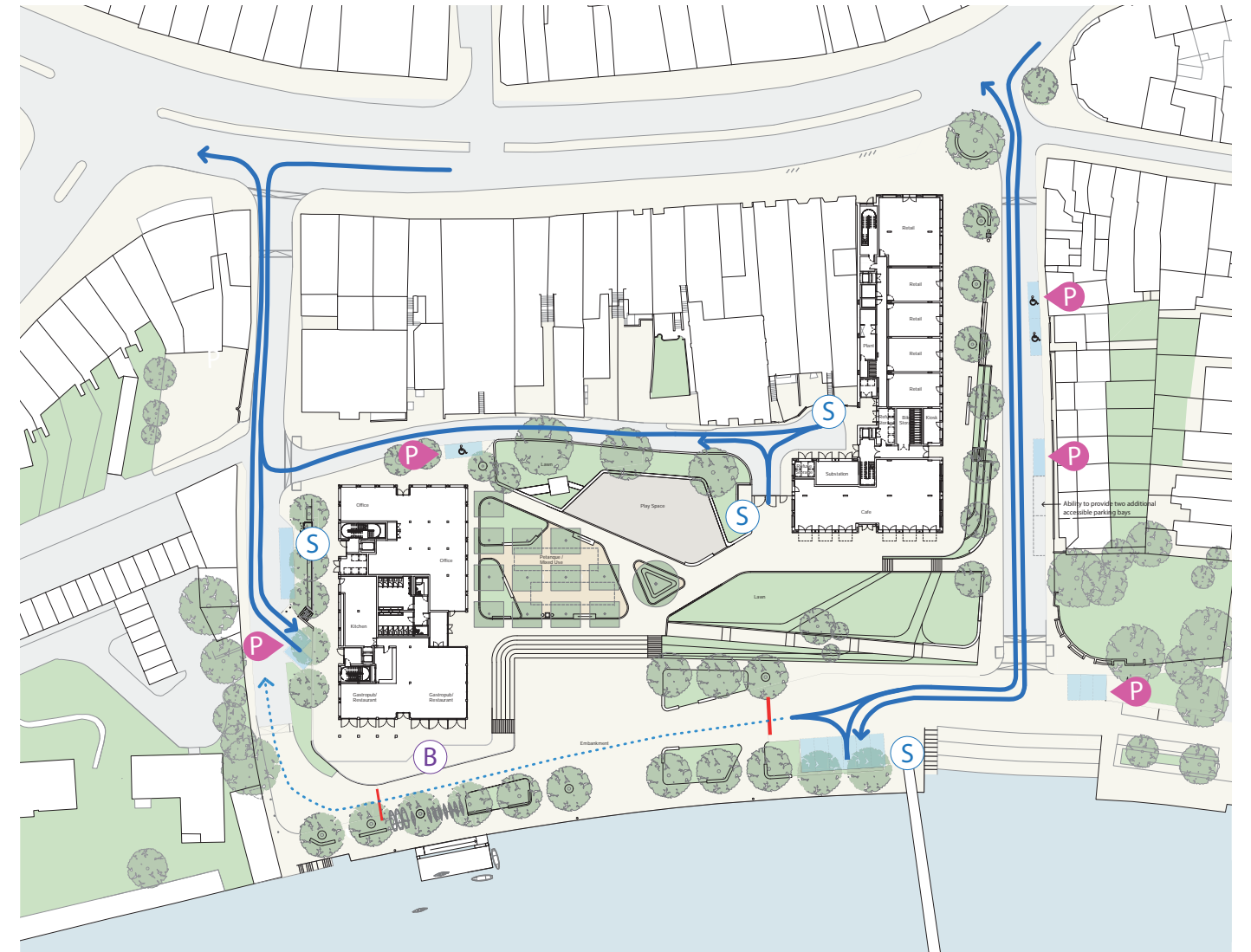


## **15 | Transport**

## Transport Overview

The following pages provide a summary of the movements around the site, with consideration of vehicular, pedestrian and cycle users. We have also shown details of how the buildings will be serviced for refuse collection, fire tender access and deliveries. Please refer to WSP's Travel Plan, Transport Assessment and Delivery and Servicing Plan for further detail.









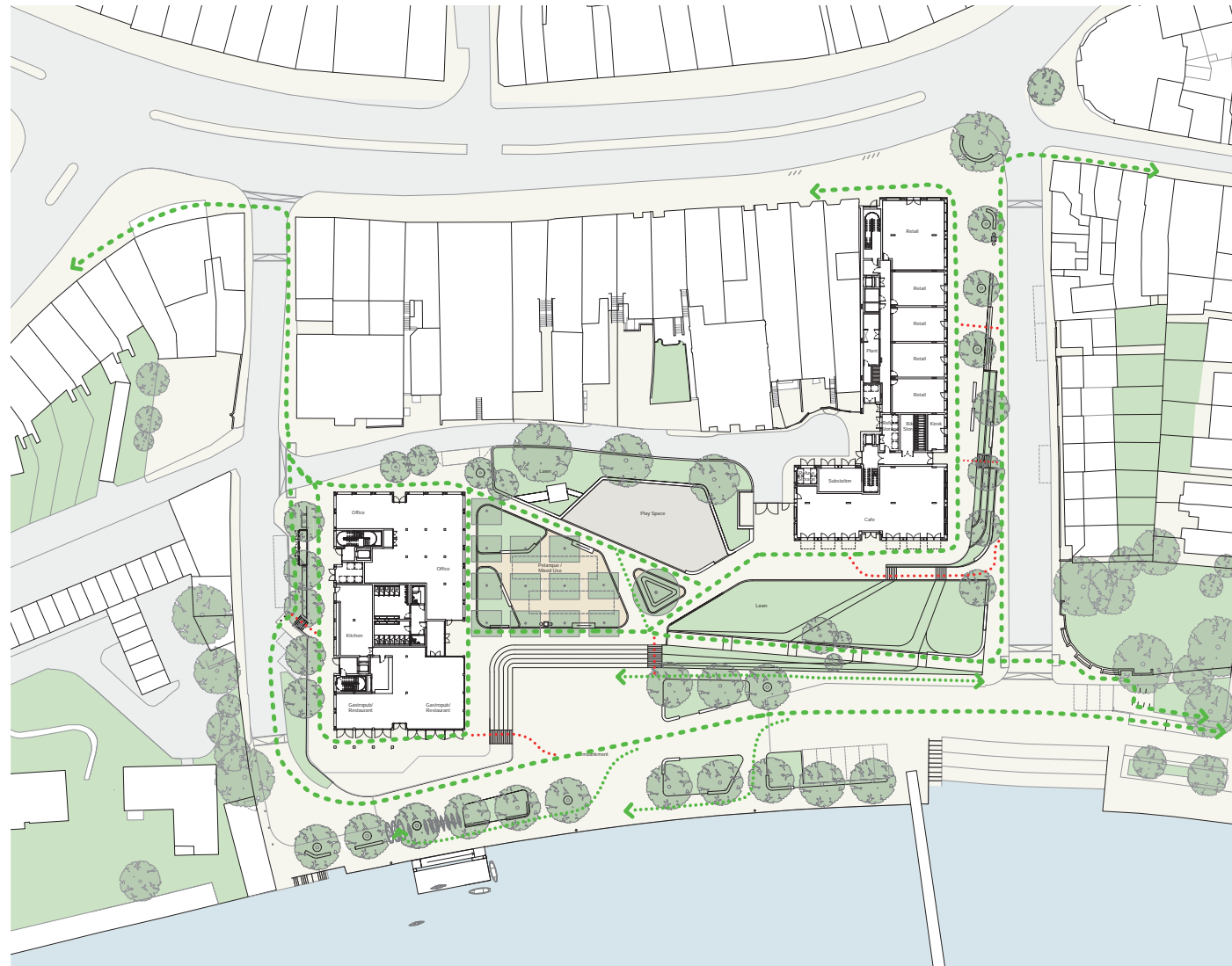
Vehicular movement around the site

### Vehicular Movements

All two-way vehicle movements will take place north-south along Water Lane or Wharf Lane, with sufficient turning space provided to the south of both junctions. Through swept-path analysis, it has also been demonstrated that there will be space for two servicing vehicles to pass along either Wharf Lane or Water Lane. The Embankment will be a pedestrian only zone, with occasional access for emergency vehicles and HGV's linked to events on the embankment.

### Key:

-  2 way vehicular access
-  Occasional vehicular access for emergency and other oversized vehicles
-  Controlled access to Embankment
-  Parking bays
-  Main servicing points
-  Boathouse





Pedestrian movement around the site

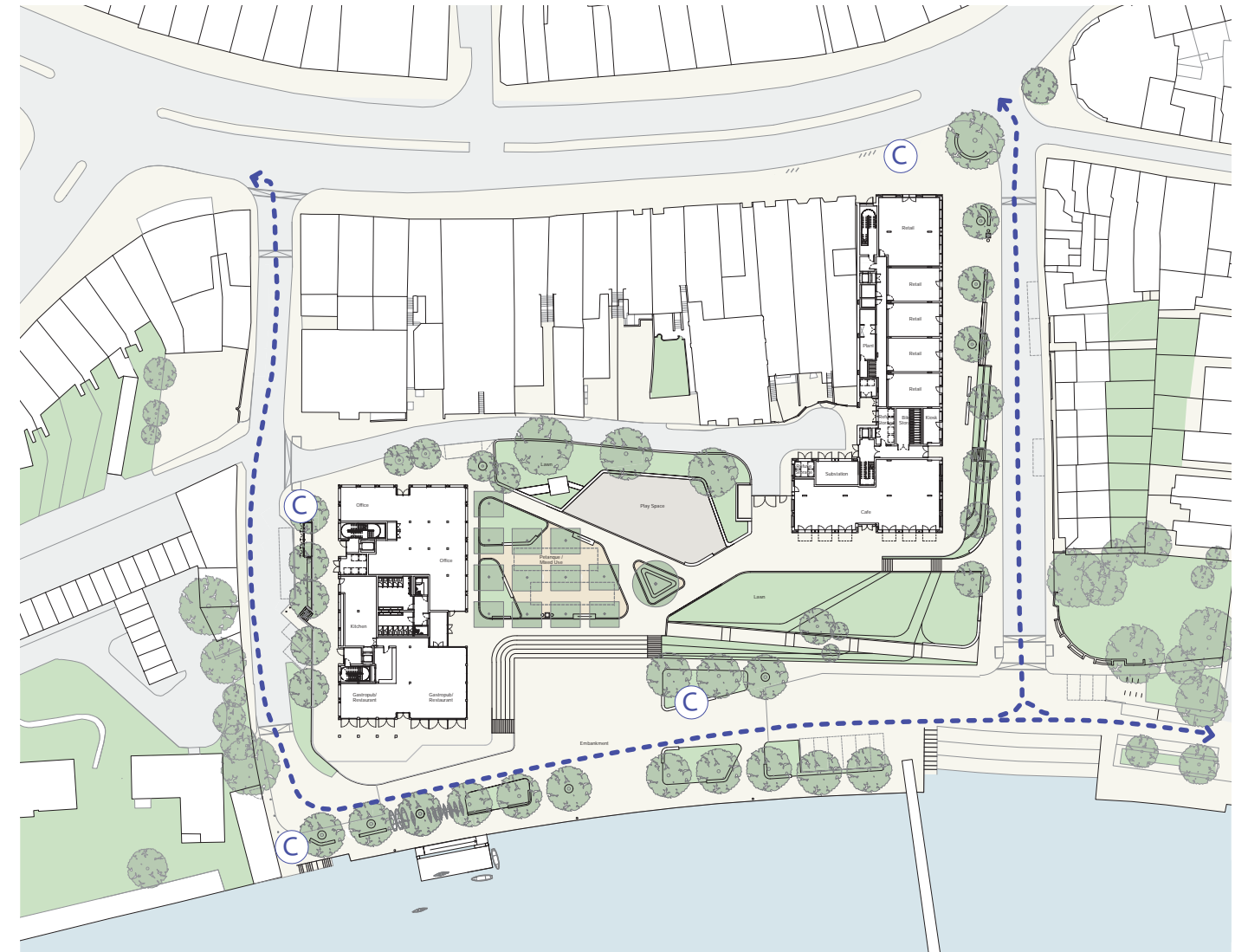
**Pedestrian Movements**

Proposed pedestrian access to the site will continue to be from Water Lane and Wharf Lane via King Street and the Embankment. The pedestrian route along the Embankment will be enhanced to provide pedestrian only access, while the site will provide pedestrian routes throughout to enable a more natural pedestrian flow following key desire lines across the site.

A formal footway will be provided at the northern end of the Embankment leading into the pedestrian priority area to ensure that deliveries facilities for the Eel Pie Island do not affect the vulnerable road user's safety. The crossing's will be formally delineated and sit alongside the raised tables along Water Lane, Wharf Lane and the service road, further emphasising the pedestrian hierarchy within the masterplan site, and ensuring visibility and encouraging low traffic speeds on the approach to and from the central realm of the masterplan.

**Key:**

-  Step free pedestrian access
-  Steps



Cycle movement around the site

**Cycle Movements**

The Embankment and Wharf Lane form part of a signed advisory cycle route. The intention is to retain the same route, which will be suitable for cycling. In consideration of the LBRUT proposed removal of the large public car park in the area, cycling should become significantly safer as well. A preliminary Road Safety Audit was carried out on the proposed design to convert the Water Lane and Wharf Lane links to two-way traffic (including cycling). The projected low traffic flows are key to ensure cycle safety along the new Water Lane and Wharf Lane arrangement.

**Key:**

-  Cycle routes
-  Cycle parking

## Transport

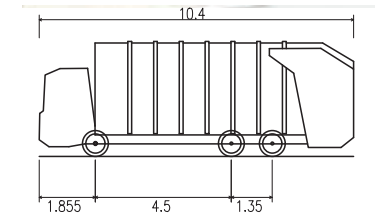
### Refuse: Wharf Lane

In Wharf Lane refuse collection will be made using the service bay midway down the road. We are proposing that the residential waste is stored internally and the commercial waste is stored in a shelter externally.

As per LBRuT's Refuse and Recycling Storage Requirements SPD, 5 no. 1100L Euro bins are provided for the residential waste. As food and drink establishments have much more onerous waste requirements, we have used BS 5906:2005 for calculating the number of Euro bins required for the commercial waste. This was the approach suggested by Richmond and Wandsworth's Waste Strategy Manager Michael Singham when he was consulted. We are proposing 4 no. commercial bins, which as you can see below is far greater than the SPD guidance suggests.

#### Key:

- 5 Number of 1100L Euro bins for residential
- 4 Number of 1100L Euro bins for commercial



Richmond Refuse Vehicle  
 Overall Length 10.400m  
 Overall Width 2.500m  
 Overall Body Height 3.800m  
 Min Body Ground Clearance 0.295m  
 Track Width 2.450m  
 Lock to lock time 4.00s  
 Kerb to Kerb Turning Radius 9.350m

#### London Borough of Richmond upon Thames: Refuse and Recycling Storage Requirements SPD

Types of waste	Typology / Unit Type	Flats	Bedrooms	Occupants	1100L Euro bins guidance per wk	Collections per week	1100L Euro bins guidance	1100L Euro bins provided
	Studio (1-person)	5	5	5				
	1 bed (2-persons)	9	9	18				
	2 bed (3-persons)	3	6	9				
	2 bed (4-persons)	7	14	28				
	3 bed (4-persons)	0	0	0				
	<b>TOTAL RESIDENTIAL</b>	<b>24</b>	<b>34</b>	<b>60</b>				
<b>Dry recycling</b>	2 no. for 18-25 households 4 no. for 26-45 households				<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>
<b>Food waste recycling</b>	No requirement for properties with more than 6 units				<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>
<b>Refuse</b>	70l per bedroom		2380		<b>2.2</b>	<b>1</b>	<b>2.2</b>	<b>3</b>
<b>TOTAL EURO BINS</b>					<b>4.2</b>			<b>5</b>

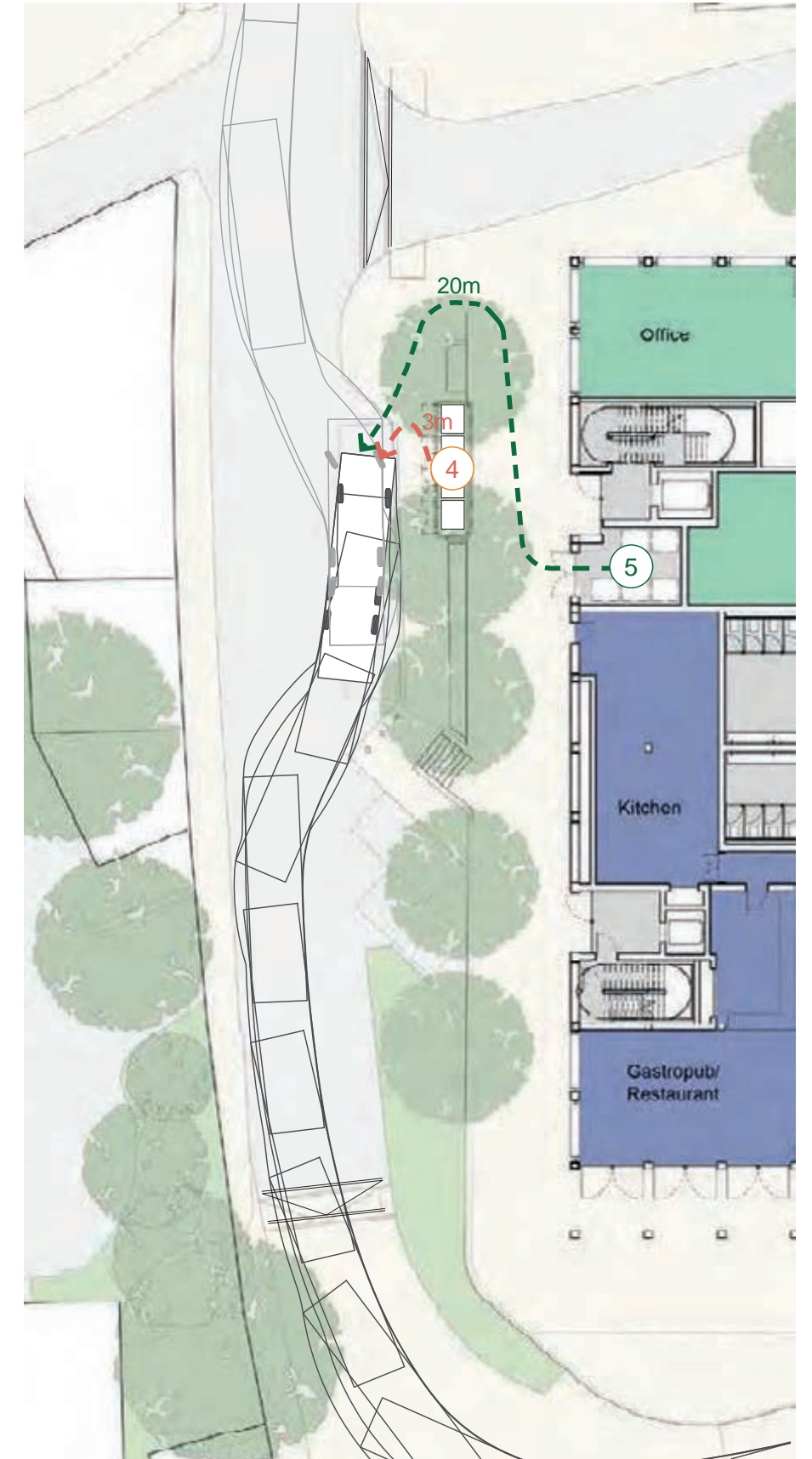
#### London Borough of Richmond upon Thames: Refuse and Recycling Storage Requirements SPD (assumes weekly collection)

Types of waste	Typology / Unit Type	Gross Internal Area	1100L Euro bins guidance per wk	Collections per week	1100L Euro bins guidance	1100L Euro bins provided
	<b>Office</b>	320				
<b>Recycling</b>	1.3 m3 per 1000sq.m GIA (1300l)	416	<b>0.4</b>	<b>2</b>	<b>0.2</b>	Combined with below
<b>Refuse</b>	1.3 m3 per 1000sq.m GIA (1300l)	416	<b>0.4</b>	<b>2</b>	<b>0.2</b>	Combined with below
	<b>Gastro pub / restaurant</b>	444				
<b>Recycling</b>	1.3 m3 per 1000sq.m GIA (1300l)	577	<b>0.5</b>	<b>2</b>	<b>0.3</b>	<b>2*</b>
<b>Refuse</b>	1.3 m3 per 1000sq.m GIA (1300l)	577	<b>0.5</b>	<b>2</b>	<b>0.3</b>	<b>2*</b>
<b>TOTAL EURO BINS</b>						<b>4*</b>

#### BS 5906:2005 - Waste management in buildings — Code of practice (Table 1)

	<b>Office</b>	27				
<b>Recycling</b>	0.5 * (50l per employee)	675	<b>0.6</b>	<b>2</b>	<b>0.3</b>	Combined with below
<b>Refuse</b>	0.5 * (50l per cover)	675	<b>0.6</b>	<b>2</b>	<b>0.3</b>	Combined with below
	<b>Gastro pub / restaurant</b>	95				
<b>Recycling</b>	0.5 * (75l per cover)	3563	<b>3.2</b>	<b>2</b>	<b>1.6</b>	<b>2*</b>
<b>Refuse</b>	0.5 * (75l per cover)	3563	<b>3.2</b>	<b>2</b>	<b>1.6</b>	<b>2*</b>
<b>TOTAL EURO BINS</b>						<b>4*</b>

\* For the pub/restaurant waste we have used the British Standard over the SPD requirement as it is much more onerous for food & drink establishments. The BS calculation has also been used for the office, with it using the same bins as the pub/restaurant.



Refuse collection for Wharf Lane

## Transport

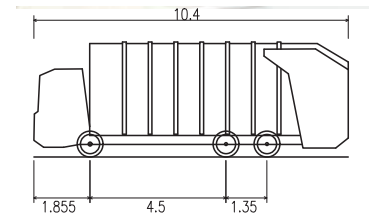
### Refuse: Water Lane

Refuse for the Water Lane building will be collected via the service road. Vehicles will be able to turn using a turning head at the end of the road, where larger vehicles will require the gates to the gardens to be opened.

As per LBRuT's Refuse and Recycling Storage Requirements SPD, 4 no. 1100L Euro bins are provided for the residential waste and 2 no. bins are provided for the retail waste. As with the pub/restaurant in the Wharf Lane building, the cafe waste uses BS 5906:2005 to calculate the number of Euro bins required (4 no. bins).

Key:

- 4 Number of 1100L Euro bins for residential
- 6 Number of 1100L Euro bins for commercial



Richmond Refuse Vehicle  
 Overall Length 10.400m  
 Overall Width 2.500m  
 Overall Body Height 3.800m  
 Min Body Ground Clearance 0.295m  
 Track Width 2.450m  
 Lock to lock time 4.00s  
 Kerb to Kerb Turning Radius 9.350m

London Borough of Richmond upon Thames: Refuse and Recycling Storage Requirements SPD

Types of waste	Typology / Unit Type	Flats	Bedrooms	Occupants	1100L Euro bins guidance per wk	Collections per week	1100L Euro bins guidance	1100L Euro bins provided
	Studio (1-person)	0	0	0				
	1 bed (2-persons)	11	11	22				
	2 bed (3-persons)	3	6	9				
	2 bed (4-persons)	6	12	24				
	3 bed (4-persons)	1	3	4				
	<b>TOTAL RESIDENTIAL</b>	<b>21</b>	<b>32</b>	<b>59</b>				
<b>Dry recycling</b>								
	2 no. for 18-25 households				2	1	2	2
	4 no. for 26-45 households							
<b>Food waste recycling</b>								
	No requirement for properties with more than 6 units				0	1	0	0
<b>Refuse</b>								
	70l per bedroom		2240		2.0	1	2.0	2
<b>TOTAL EURO BINS</b>								<b>4</b>

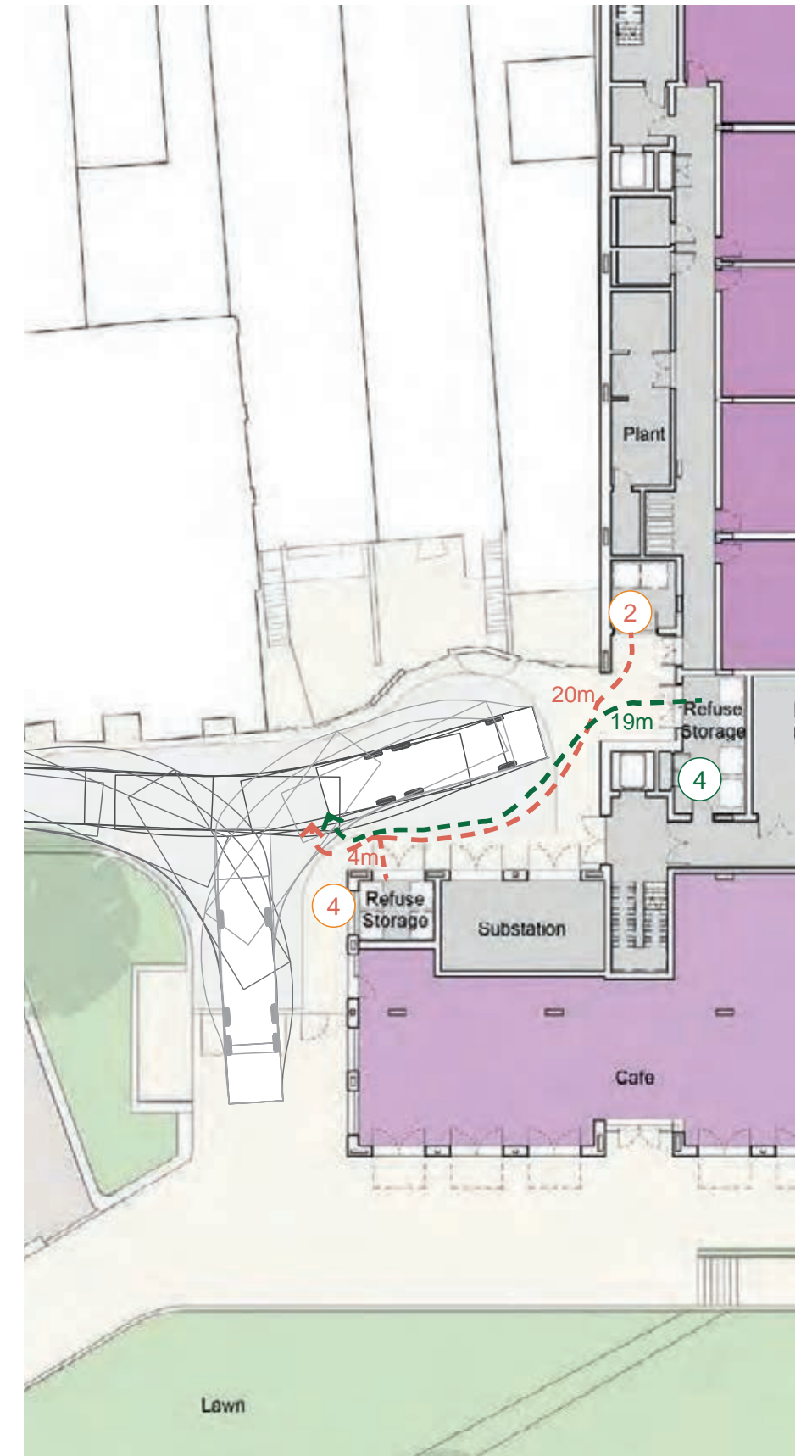
London Borough of Richmond upon Thames: Refuse and Recycling Storage Requirements SPD

Types of waste	Typology / Unit Type	Gross Internal Area	1100L Euro bins guidance per wk	Collections per week	1100L Euro bins guidance	1100L Euro bins provided
	<b>Retail units</b>	368				
<b>Recycling</b>	1.3 m3 per 1000sq.m GIA (1300l)	478	0.4	1	0.4	1
<b>Refuse</b>	1.3 m3 per 1000sq.m GIA (1300l)	478	0.4	1	0.4	1
<b>TOTAL EURO BINS</b>						<b>2</b>
	<b>Café</b>	255				
<b>Recycling</b>	1.3 m3 per 1000sq.m GIA (1300l)	332	0.3	2	0.2	2*
<b>Refuse</b>	1.3 m3 per 1000sq.m GIA (1300l)	332	0.3	2	0.2	2*
<b>TOTAL EURO BINS</b>						<b>4*</b>

BS 5906:2005 - Waste management in buildings — Code of practice (Table 1)

	<b>Retail units</b>					
<b>Recycling</b>	See SPD calculations					
<b>Refuse</b>	See SPD calculations					
<b>TOTAL EURO BINS</b>						
	<b>Café</b>	85				
<b>Recycling</b>	0.5 * (75l per cover)	3188	2.9	2	1.4	2*
<b>Refuse</b>	0.5 * (75l per cover)	3188	2.9	2	1.4	2*
<b>TOTAL EURO BINS</b>						<b>4*</b>

\* For the café waste we have used the British Standard over the SPD requirement as it is much more onerous for food & drink establishments



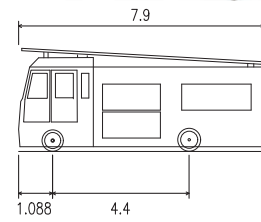
Refuse collection for Water Lane

## Transport

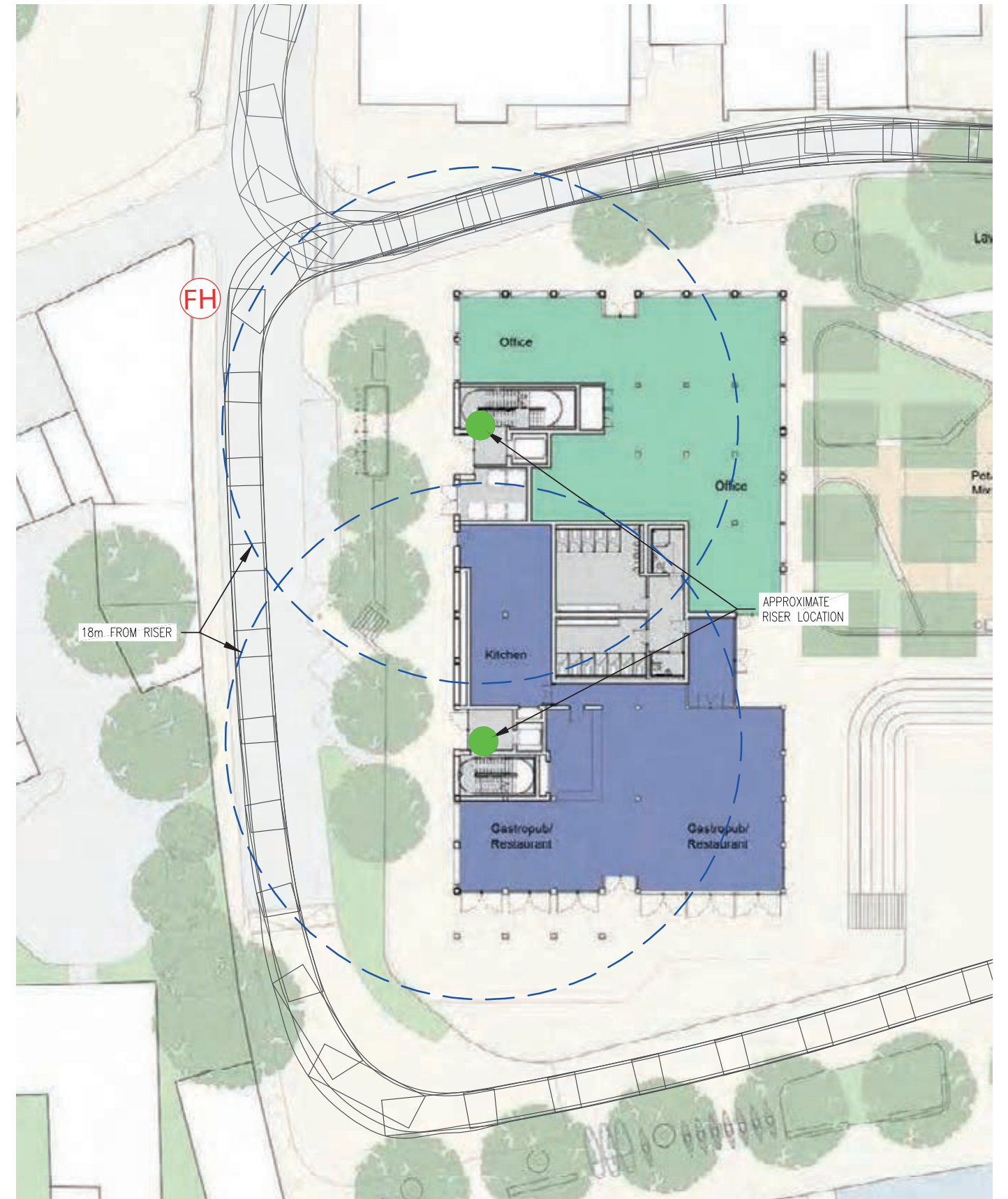
### Fire Tender Access: Wharf Lane

In accordance with Approved Document B of the Building Regulations, provision of the necessary access for the fire service has been provided. For the Wharf Lane building, access to the dry risers and fire hydrant can be made via Wharf Lane itself. As there is insufficient space for turning a fire tender vehicle at the end of Wharf lane and for quickness of exit, such vehicles will then be able to use the embankment to depart via Water Lane.

As stipulated in the guidance, dry riser inlets are located in both the escape stairs. In each case, there is parking for the fire vehicle less than 18m from the dry riser inlet location at the base of the stair cores.



LFB Fire Appliance	7.900m
Overall Length	2.500m
Overall Width	3.314m
Overall Body Height	0.154m
Min Body Ground Clearance	2.121m
Max Track Width	6.00s
Lock to Lock Time	8.400m
Kerb to Kerb Turning Radius	



**Key:**

Fire Hydrant

Dry riser inlet

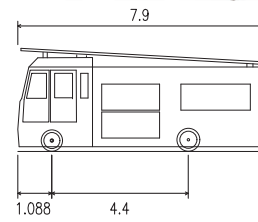
18m radius from dry riser inlet

Fire tender access for Wharf Lane

**Transport**  
**Fire Tender Access: Water Lane**



Dry riser inlets are located at both stair cores of the Water Lane building, and a fire hydrant is located at the north of the building on King Street. The dry riser inlet for the northern-most core can be accessed by the fire services from King Street, whilst the southern core inlet is accessed from the service road.

Emergency vehicles using the service road are able to turn at the turning head. Opening the vehicular gates into the gardens increases the space to be able to perform this manoeuvre.

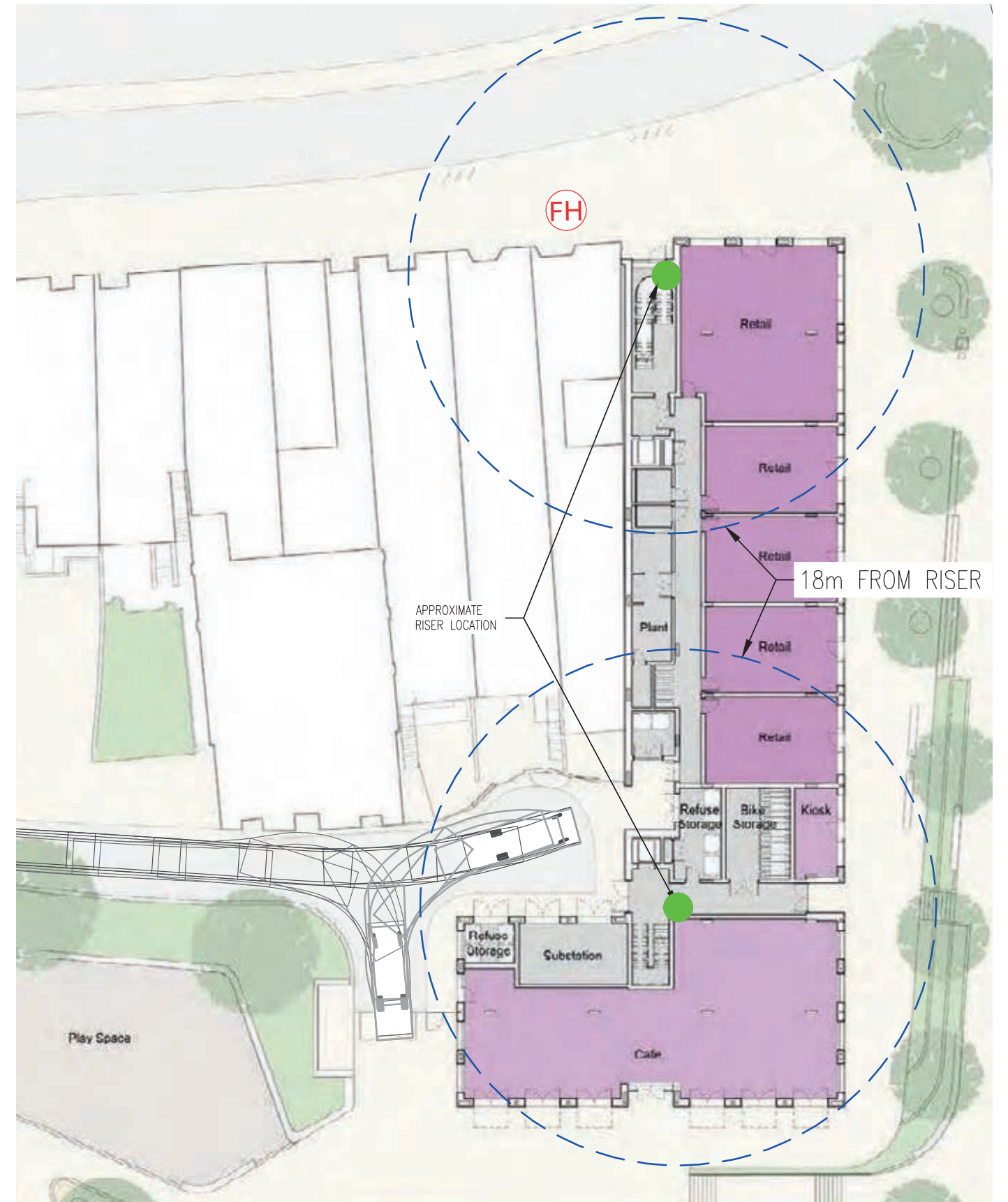


LFB Fire Appliance	7.900m
Overall Length	2.500m
Overall Width	3.314m
Overall Body Height	0.154m
Min Body Ground Clearance	2.121m
Max Track Width	6.00s
Lock to Lock Time	8.400m
Kerb to Kerb Turning Radius	

**Key:**

-  Fire Hydrant
-  Dry riser inlet

 18m radius from dry riser inlet

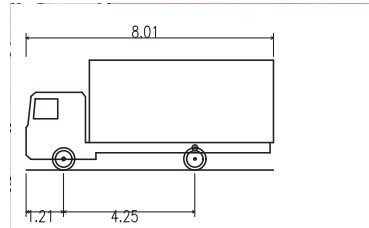


Fire tender access for Water Lane

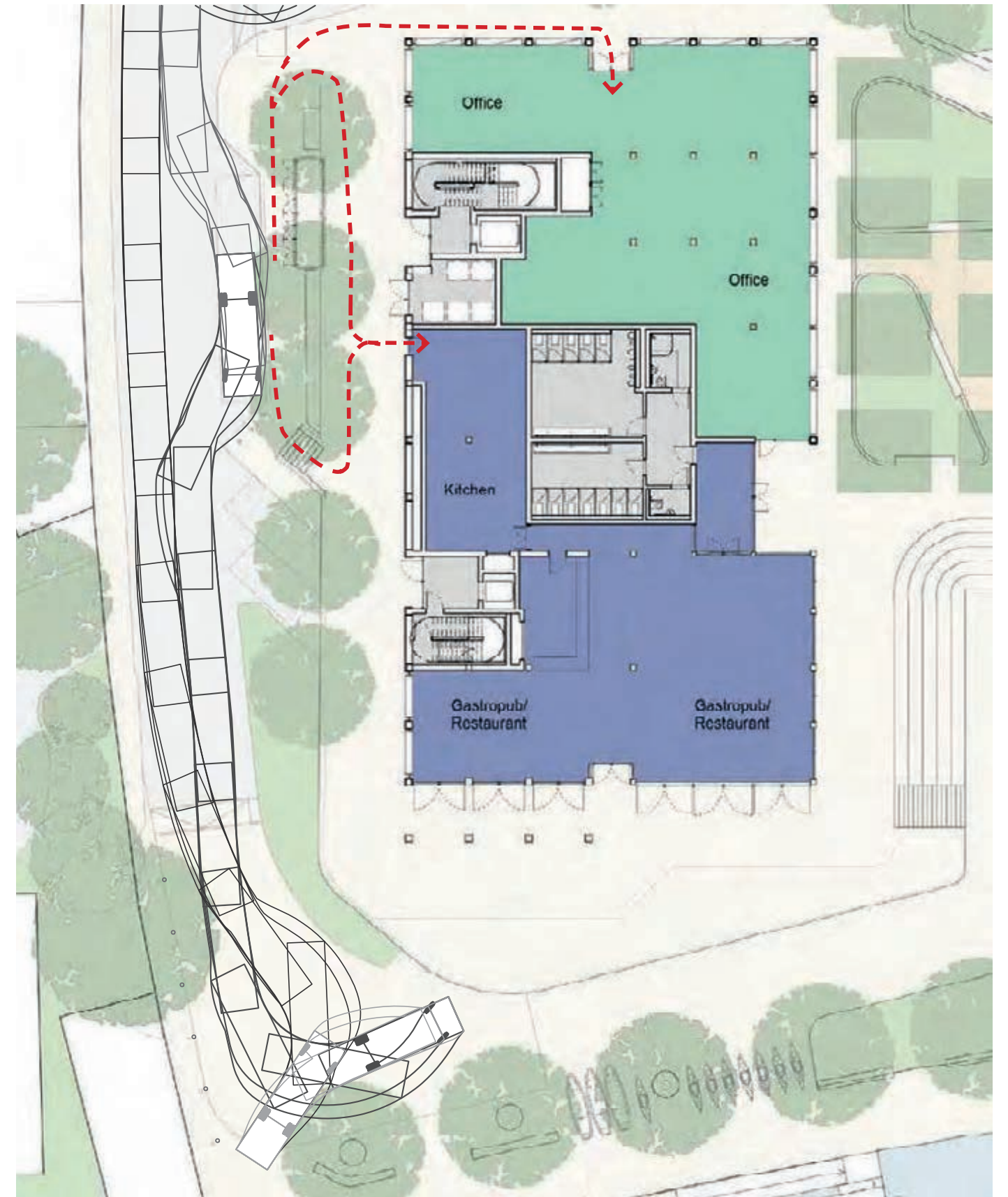
## Transport

### Deliveries: Wharf Lane

Servicing for the scheme will be contained within the masterplan, using a variety of different servicing areas, as identified on page 232. The Wharf Lane building will be serviced from a delivery bay along Wharf Lane itself, and vehicles will then be able to turn at the turning head at the end of road. Very occasionally vehicles that are too large to use the turning area will be able to use the embankment between certain hours of the morning.



7.5t Box Van	
Overall Length	8.010m
Overall Width	2.100m
Overall Body Height	3.556m
Min Body Ground Clearance	0.351m
Track Width	2.064m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.400m



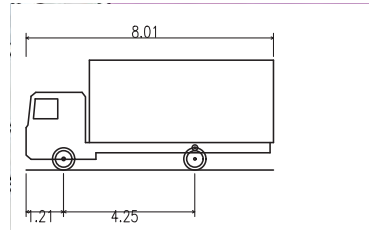
Deliveries access for Wharf Lane



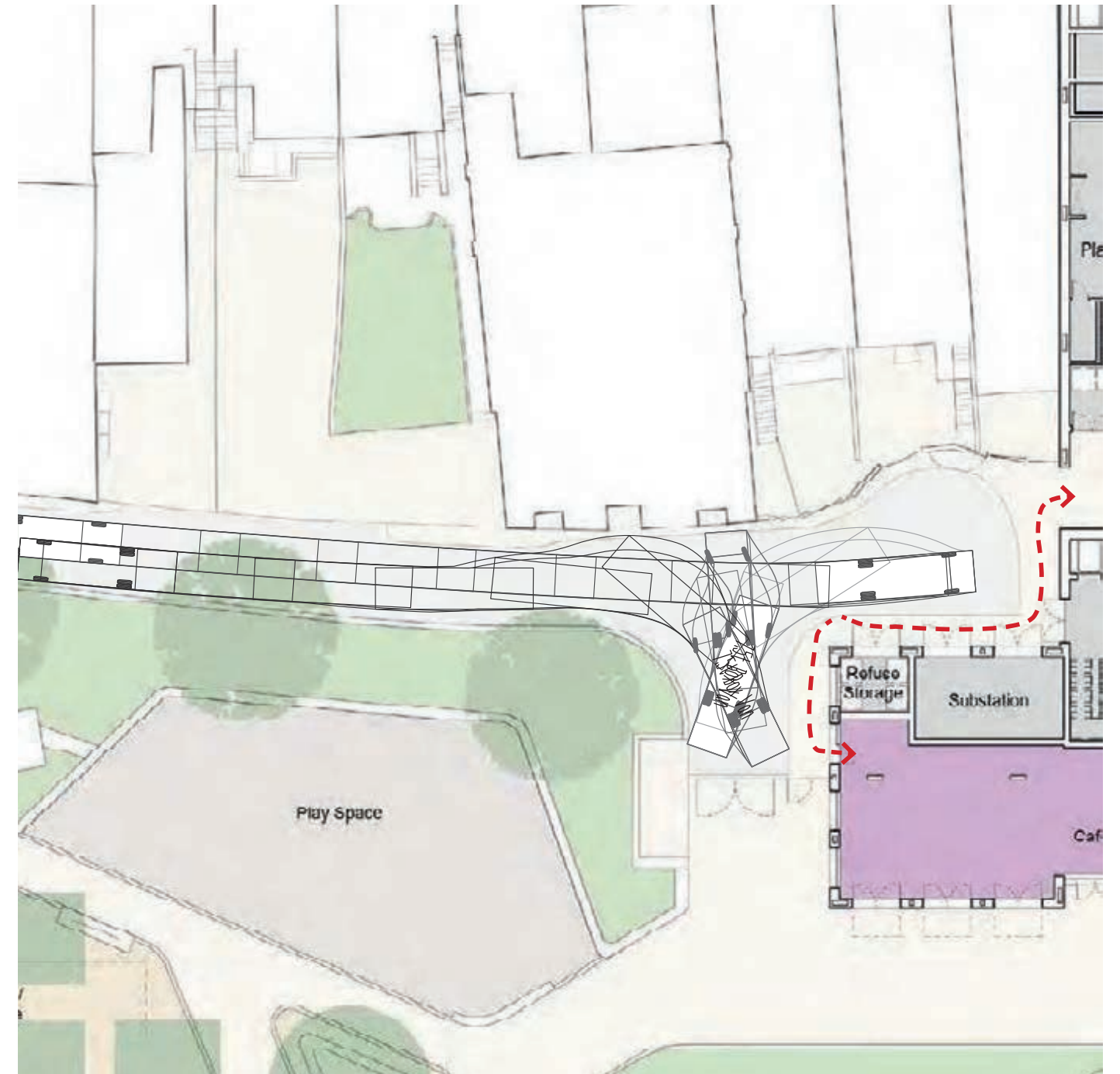
## Transport

### Deliveries: Water Lane

The café and retail units in the Water Lane building will be serviced from their rear, using the service road. A gate to the west of the café will provide access to the gardens for servicing and maintenance and will be opened to allow vehicles larger than a 7.5t box van to reverse. A small-medium delivery van (up to 7.5t box van) can perform a turning manoeuvre whilst the gates are closed. The service road and turning head will also be used for servicing the rears of the King Street units, as required.



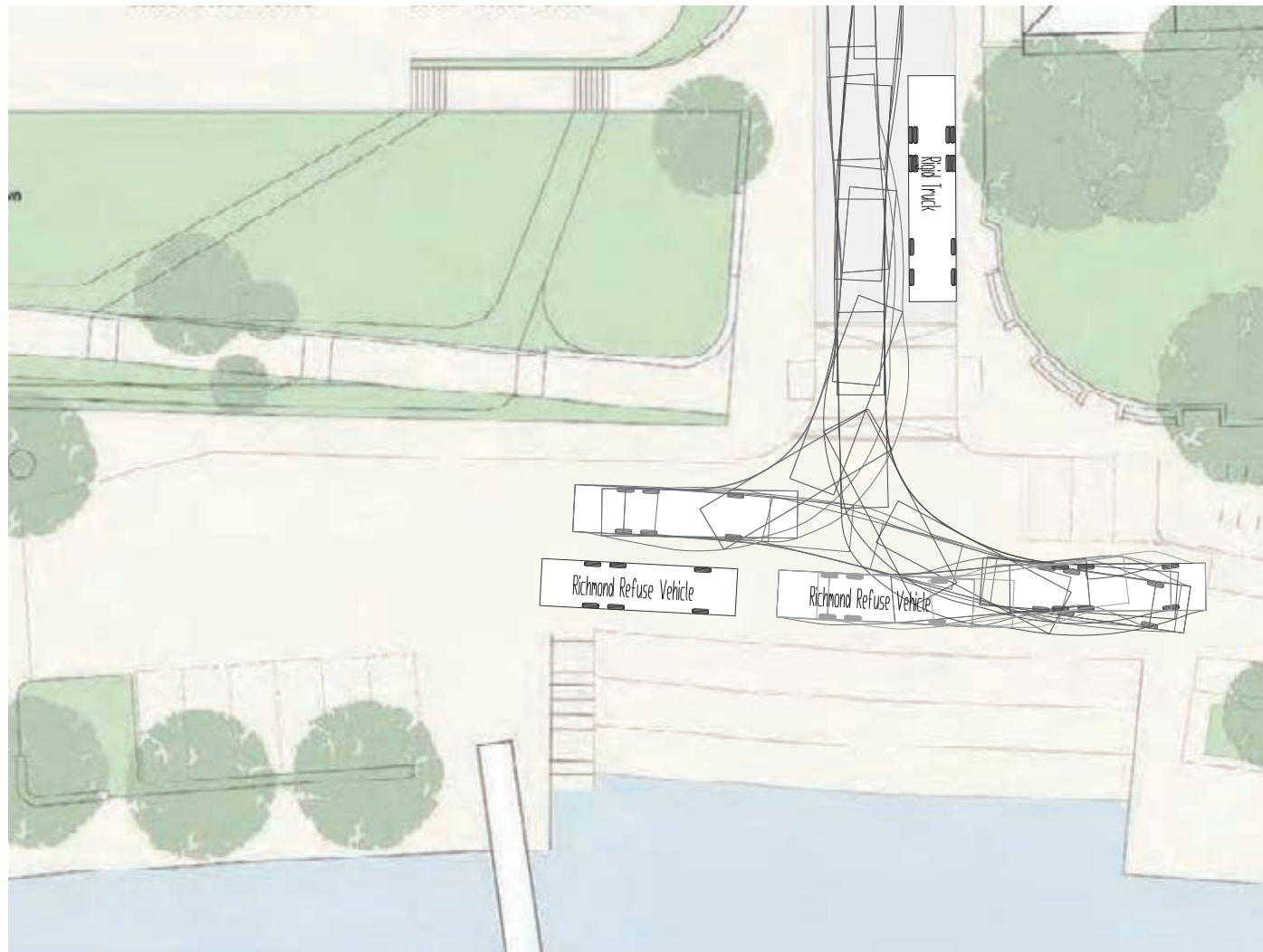
7.5t Box Van	
Overall Length	8.010m
Overall Width	2.100m
Overall Body Height	3.556m
Min Body Ground Clearance	0.351m
Track Width	2.064m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.400m



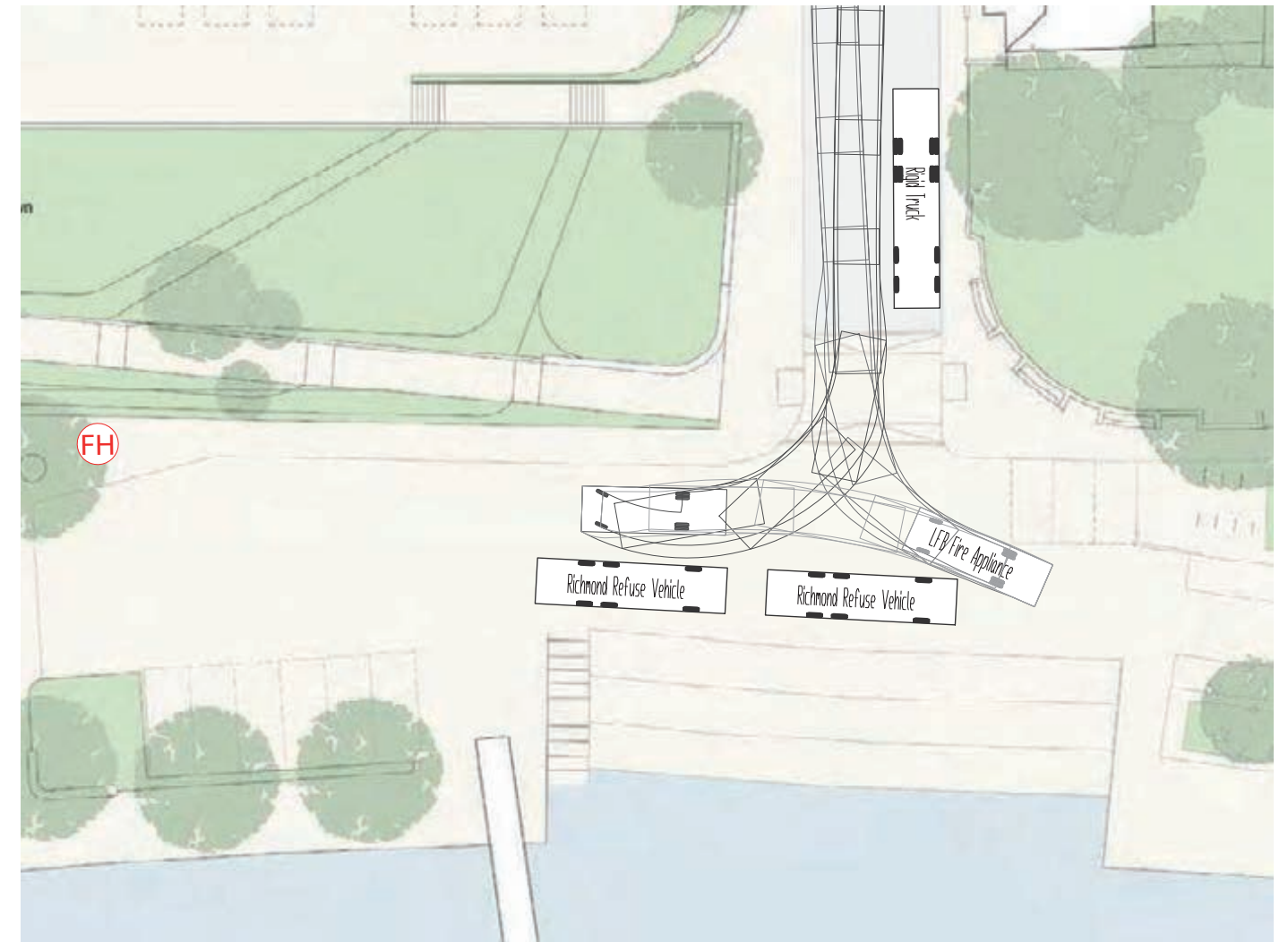
Deliveries access for the Water Lane building

## Transport

### Servicing Eel Pie Island



Refuse collection for Eel Pie Island

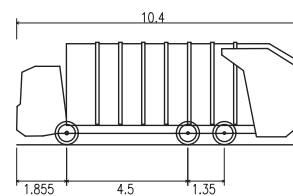


Fire Tender Access for Eel Pie Island

#### Refuse

Eel Pie Island is accessed via a single pedestrian bridge adjacent the slipway at the base of Water Lane. To address the servicing requirements of the island a generous servicing zone has been provided which can accommodate a number of vehicles at any one time. Traffic numbers using Water Lane will be vastly reduced and a shared surface given to the servicing area. Nevertheless a footway to the north of the area and the riverside promenade to the south further improve the safety for pedestrians.

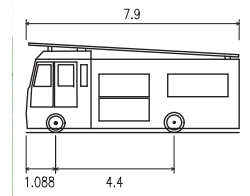
Refuse vehicles are able to park up close to the top of the slipway as wheelie bins are brought across the bridge for emptying. There is sufficient space for the vehicles to manoeuvre before returning up the two-way Water Lane.



Richmond Refuse Vehicle	
Overall Length	10.400m
Overall Width	2.500m
Overall Body Height	3.800m
Min Body Ground Clearance	0.295m
Track Width	2.450m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.350m

#### Fire Tender Access

Emergency vehicles are able to manoeuvre and use the servicing area in a similar manner to the refuse vehicles. A fire hydrant is located within the landscaping to the north of the servicing area.

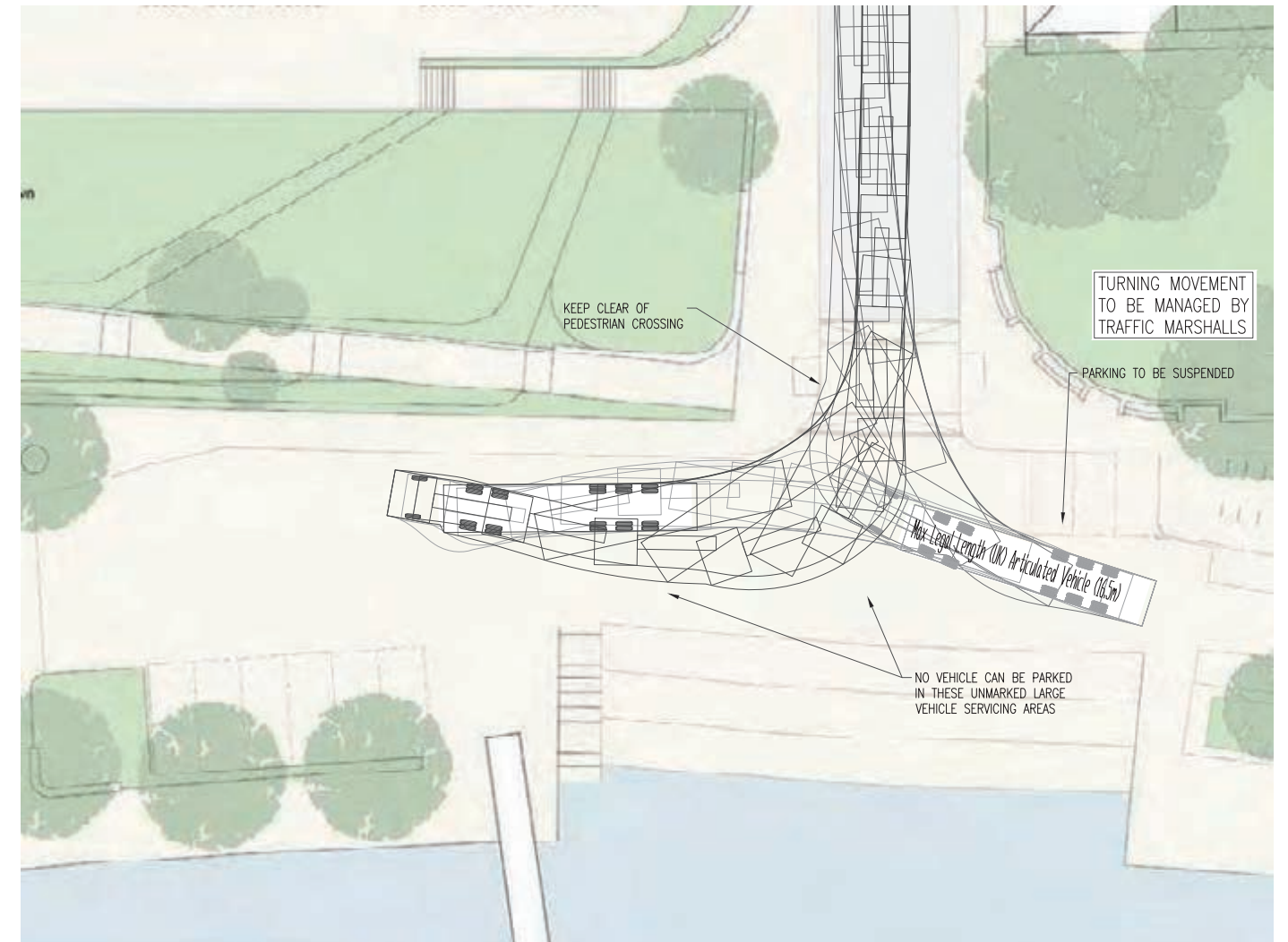


LFB Fire Appliance	
Overall Length	7.900m
Overall Width	2.500m
Overall Body Height	3.314m
Min Body Ground Clearance	0.154m
Max Track Width	2.121m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	8.400m

**Transport**  
 Servicing Eel Pie Island: Deliveries



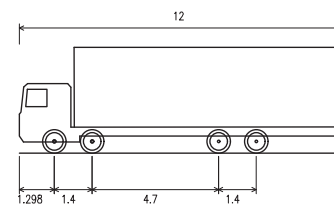
Deliveries: rigid truck for Eel Pie Island



Deliveries: articulated vehicle for Eel Pie Island

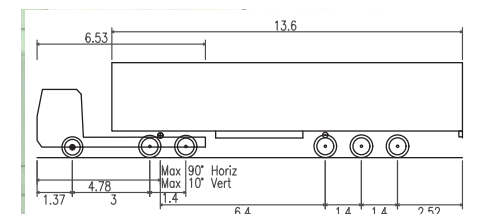
**Deliveries**

The Eel Pie Island servicing area can also accommodate delivery vehicles of a variety of sizes. Larger vehicles can park up and manoeuvre in the servicing areas identified on page 232, and smaller vehicles are able to use the 6 no. more formal servicing bays to the west of the bridge.



Rigid Truck	
Overall Length	12.000m
Overall Width	2.500m
Overall Body Height	3.928m
Min Body Ground Clearance	0.412m
Track Width	2.471m
Lock to Lock Time	6.00 sec
Kerb to Kerb Turning Radius	11.900m

Articulated vehicles are able to use the informal kerbside servicing areas identified. The above swept path diagram shows that an articulated vehicle is able to turn at the base of Water Lane, providing there are not any vehicles parked at the top of the slipway and the manoeuvre is managed by traffic marshals.



Max Legal Length Articulated Vehicle (16.5m)	
Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	6.530m

## Transport Car Parking

The scheme is a car-free development as far as is practicable. With the exception of a few spaces, including blue badge bays and parking dedicated to Eel Pie Island, all other parking has been removed from the masterplan. A motorcycle bay providing parking for up to 6 no. bikes has also been reprovided on Water Lane and a further 3 no. pay and display bays have been located in their current position to the south of the existing grassy knoll.

As described in the inclusive design section of the report, a single blue badge bay has been positioned to the north west of the Diamond Jubilee Gardens, and a 2 no. located at the northern end of Water Lane where the gradient is shallowest. There is the potential to add a further 2 no. blue badge bays further down Water Lane should this be required at a later date.

The diagram to the right provides an overview of the proposed parking spaces. Further detail can be found in the Transport Assessment and Travel Plan accompanying the application.

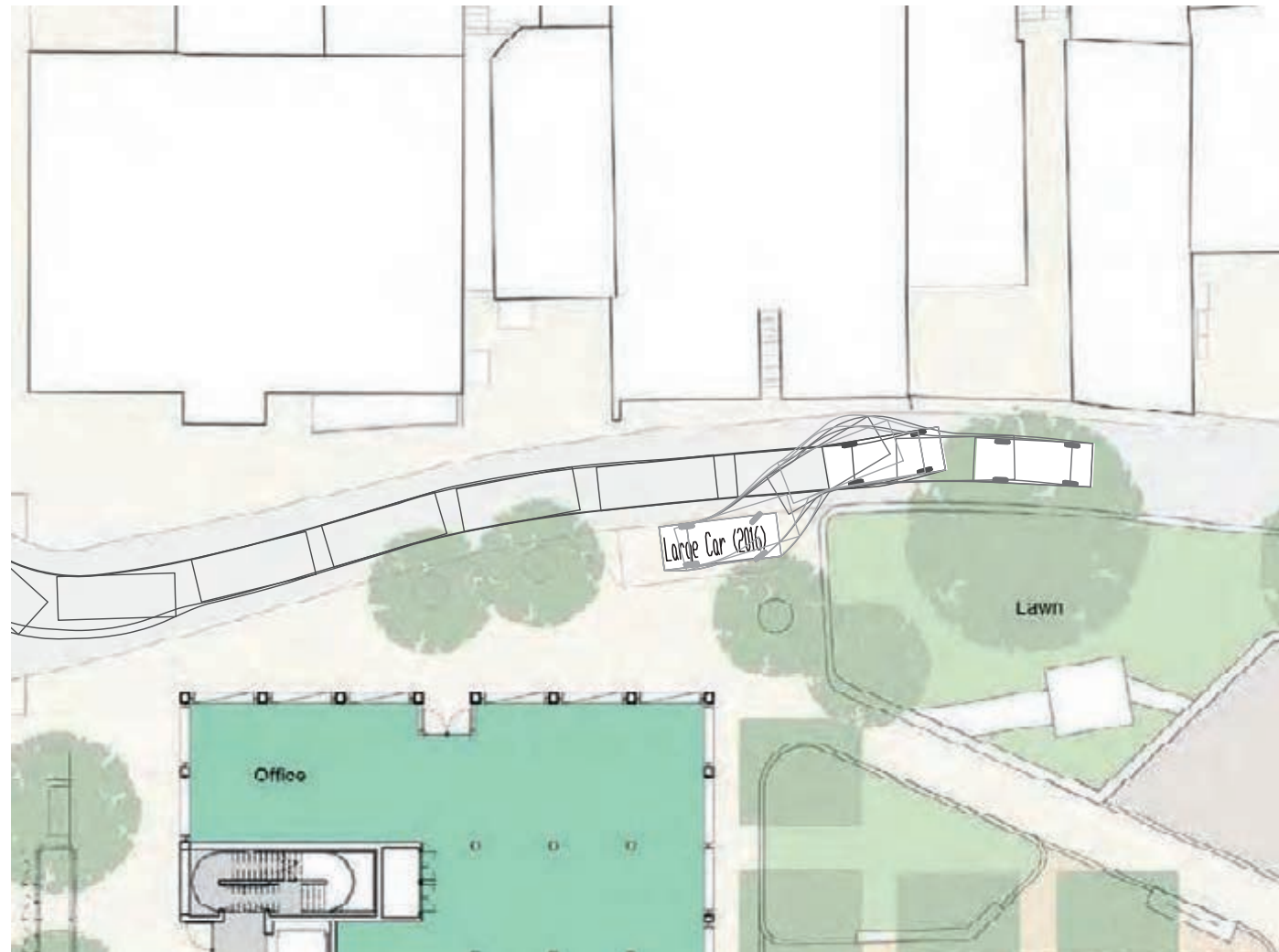
### Key:

- 3 Blue badge bays
- 2 Potential to add a further 2 blue badge bays
- 3 Pay & Display bays
- 1 Motorcycle bay (capacity for 6 motorcycles)
- 2 Eel Pie Island parking bays
- 6 Eel Pie Island service bays
- S Service areas



Parking around the site

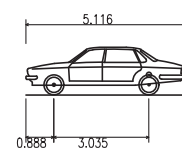
**Transport**  
Car Parking



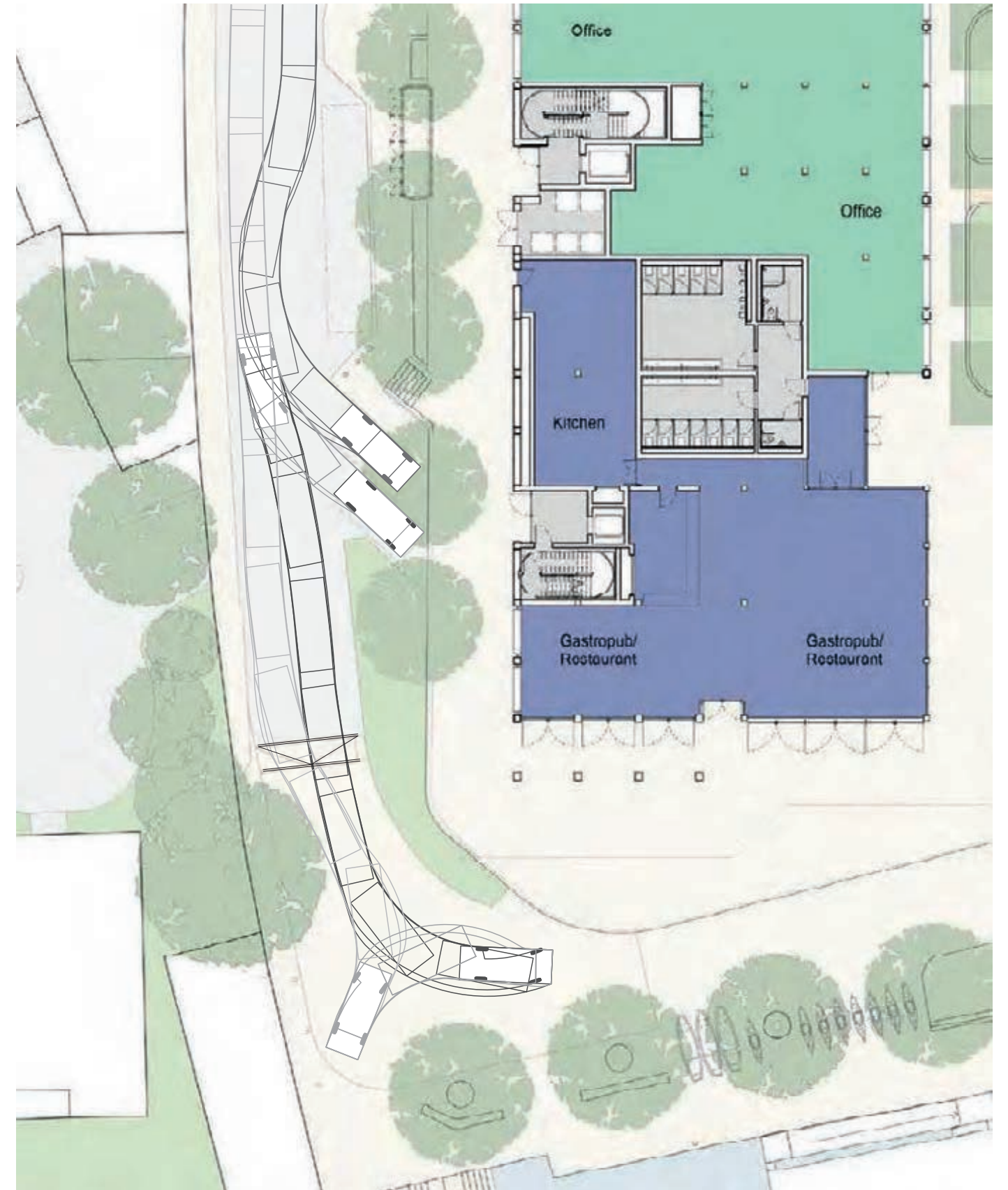
Using the blue badge bay on the service road

As can be seen on the diagram above, one of the blue badge bays is located off the service road and allows a car to drive in and drive out with ease. The car can then perform a 3-point turn at the turning head at the end of the service road without having to open the gate to the gardens. The bay is in close proximity to the north west entrance of the gardens and the office accommodation of the Wharf Lane building.

The diagram to the right shows the 2 no. parking bays located part way down Wharf Lane, for Eel Pie Island residents, The bays are angled at 45 degrees and when leaving vehicles are able to perform a 3-point turn at the bottom of the road.



Large Car (2016)	
Overall Length	5.116m
Overall Width	1.899m
Overall Body Height	1.526m
Min Body Ground Clearance	0.311m
Track Width	1.834m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	6.150m



Using the 2 no. parking bays for Eel Pie Island on Wharf Lane and turning at the end of the road

## Transport Cycle Parking

There will be a mixture of short-stay and long-stay cycle parking for visitors, residents and workers. The short-stay parking is located externally, whilst the long-stay parking is located both within the buildings and in the public realm, with the latter providing more space and flexibility for storing oversized and adapted cycles. Cycle parking will be in a location that people feel safe using at all times of the day and in areas that are visible, accessible, well-overlooked and well lit. 4 no. cycles located externally to be covered to meet the BREEAM requirements.

The diagram to the right provides an overview of the proposed cycle parking spaces. The 46 no. spaces shown within the Wharf Lane building are located at lower ground floor level which can be accessed via a 13 person lift, adequately sized for most cycles.

**Key:**

- 48 External cycle parking spaces
- 4 Covered external cycle parking spaces
- 81 Internal cycle parking spaces



Cycle parking around the site

## Transport Cycle Parking

### Internal provision of cycle racks for residential units

	Typology / Unit Type	Flats	Long stay cycle spaces guidance	Long stay cycle spaces provided	Short stay cycle spaces guidance	Short stay cycle spaces provided
Wharf Lane	Studio (1-person)	5	5			
	1 bed (2-persons)	9	13.5			
	2 bed (3-persons)	3	6			
	2 bed (4-persons)	7	14			
	3 bed (4-persons)	0	0			
	<b>TOTAL RESIDENTIAL</b>	<b>24</b>	<b>38.5</b>	<b>39</b>	<b>2</b>	See external provision
Water Lane	Studio (1-person)	0	0			
	1 bed (2-persons)	11	16.5			
	2 bed (3-persons)	3	6			
	2 bed (4-persons)	6	12			
	3 bed (4-persons)	1	2			
	<b>TOTAL RESIDENTIAL</b>	<b>21</b>	<b>36.5</b>	<b>28*</b>	<b>2</b>	See external provision

\* for further spaces, see external provision for ability to store oversized and adapted cycles

### Internal provision of cycle racks for commercial units

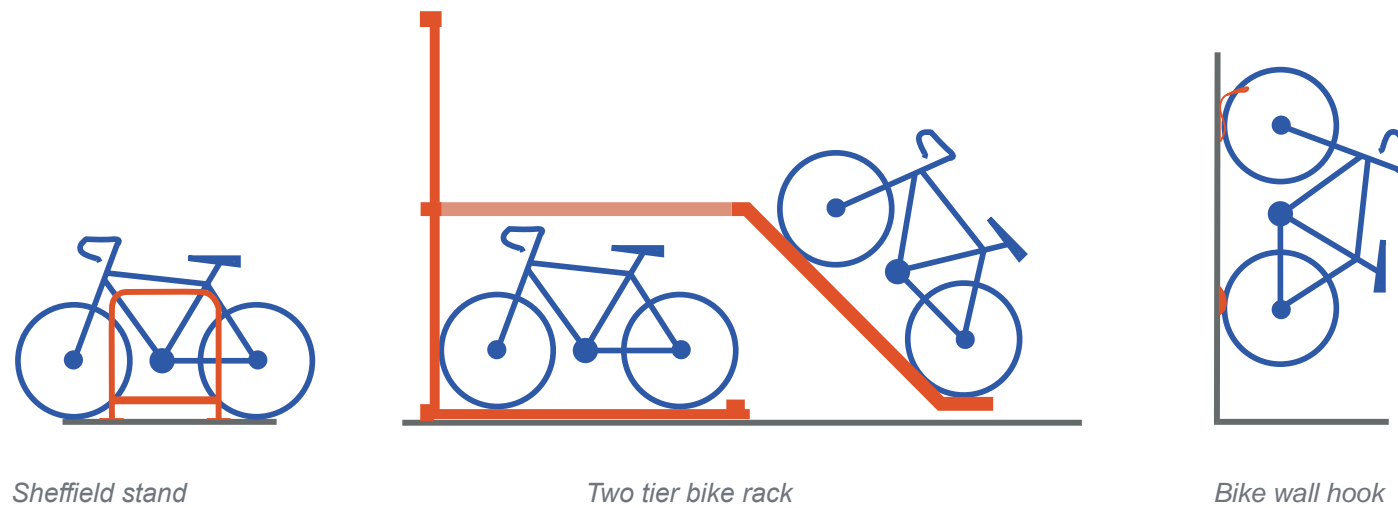
	Typology / Unit Type	Gross Internal Area	Long stay cycle spaces guidance	Long stay cycle spaces provided	Long stay cycle spaces guidance	Short stay cycle spaces provided
Wharf Lane	Office	320	4.3		0.6	
	Gastro pub / restaurant	444	2.5		22.2	
			<b>6.8</b>	<b>7*</b>		
Water Lane	Retail units	368	1.5		6.1	
	Café	255	1.5		12.8	
			<b>2.9</b>	<b>7</b>	<b>41.7</b>	See external provision

\*located with residential storage at lower ground floor level

In the Wharf Lane building, the cycle store on the lower ground floor level is adequately sized to house the long stay spaces for the residential and commercial units, with an allowance of Sheffield stands provided for oversized and adapted cycles.

The long stay cycle spaces for the Water Lane building's commercial units are located in a niche off the service corridor at the rear of the retail units. Cycles would be stored vertically on wall hooks.

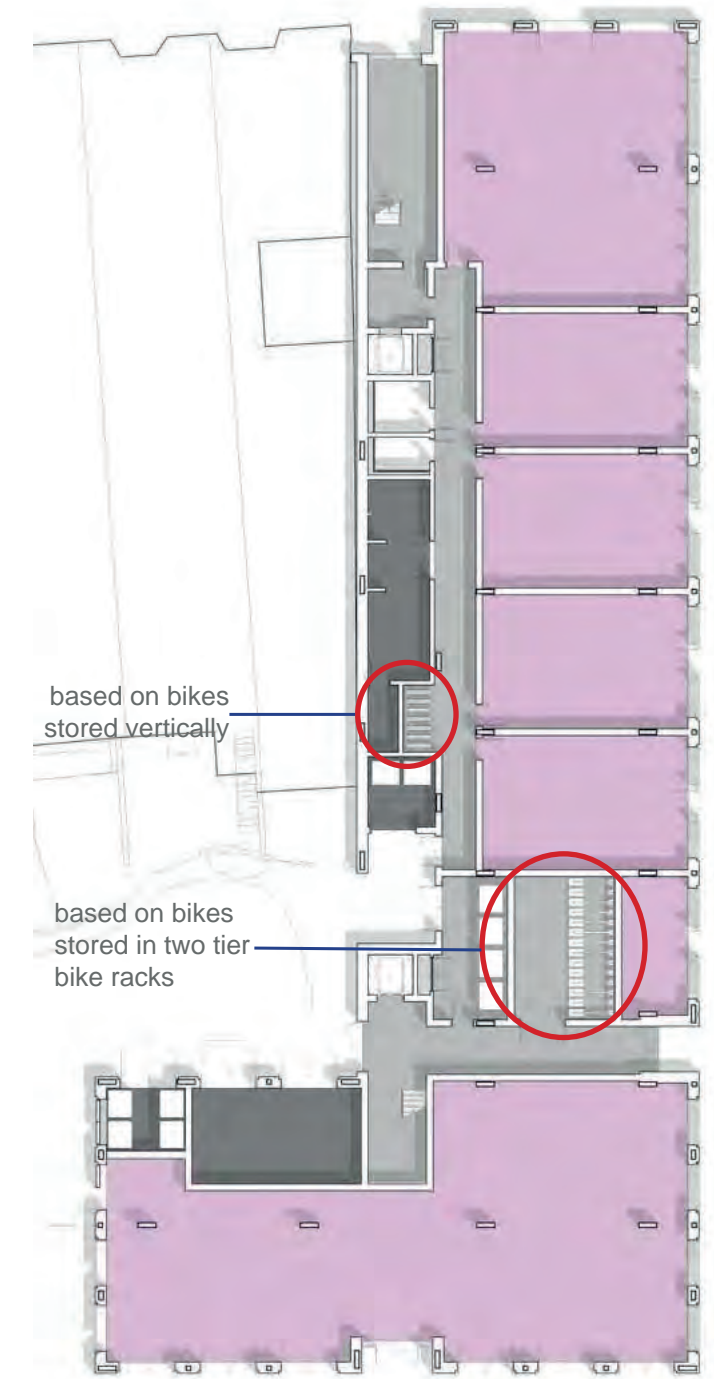
The majority of the long stay spaces for the Water Lane building's residential units are located on two tier racks in a room adjacent to the residential entrance lobby (28 no.). A remaining allowance for oversized and adapted cycles (9 no.) would use Sheffield stands in the public realm. Four of these spaces are sheltered, and all would be overlooked to provide natural surveillance.



Sheffield stand

Two tier bike rack

Bike wall hook



Cycle parking in the Water Lane Building

