

Section 3:

Baseline Conditions

Twickenham Riverside

Baseline Conditions

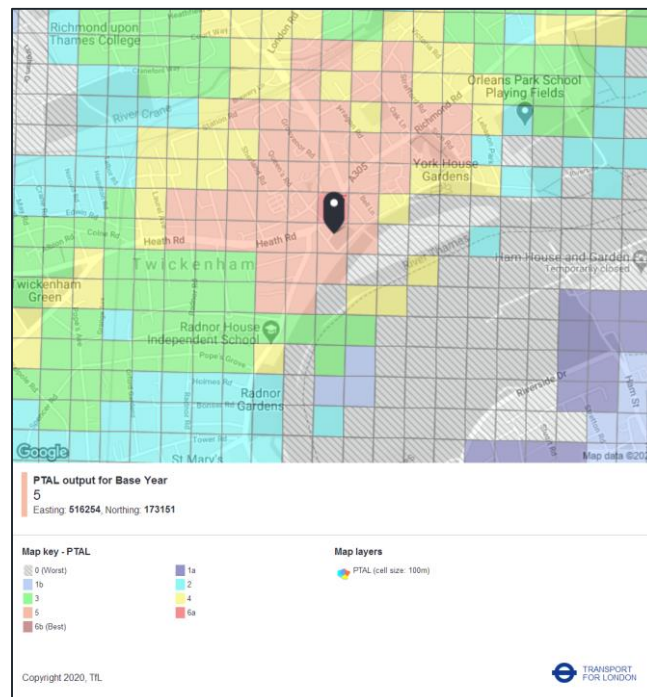


Overview

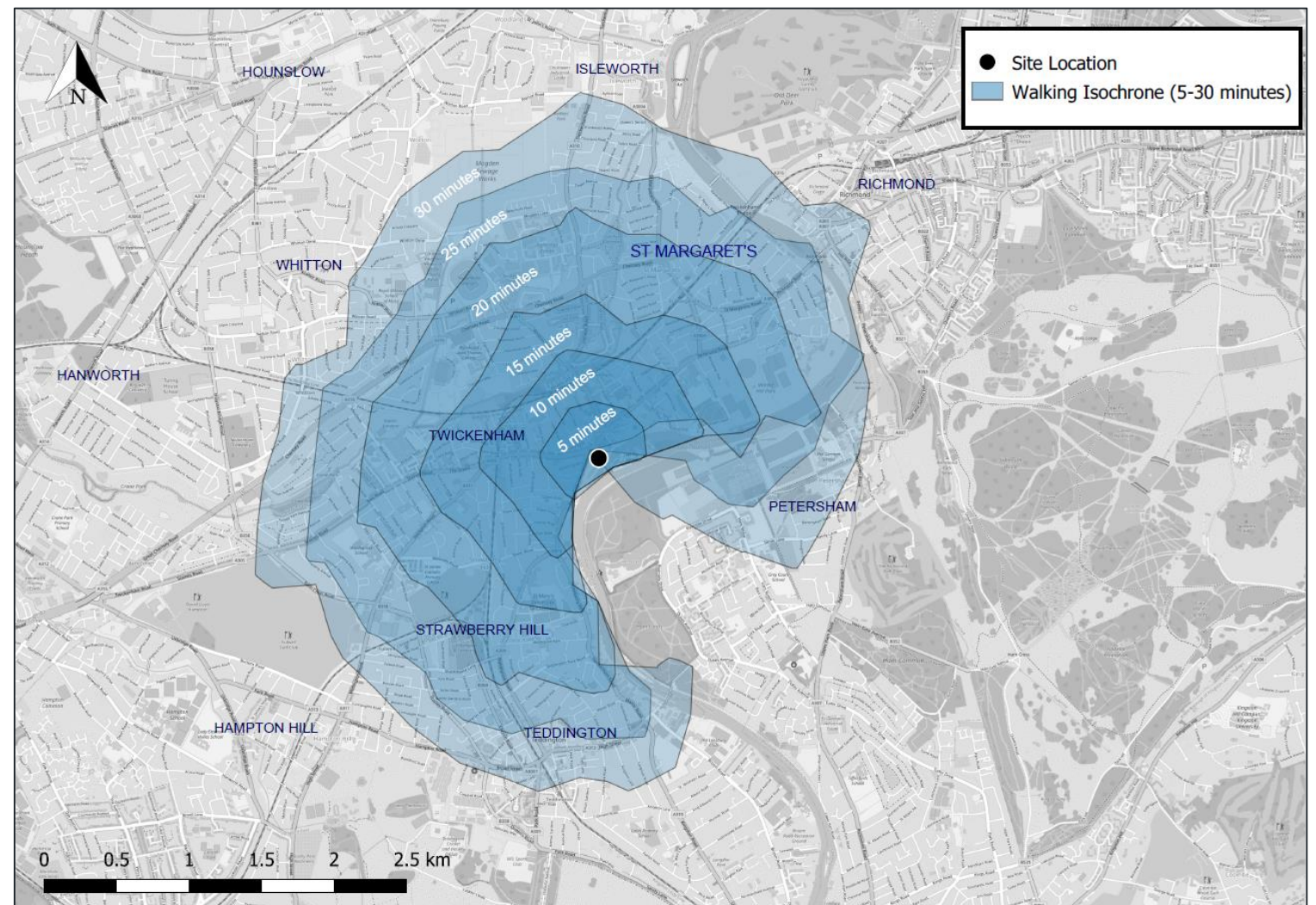
The site is located in a local town centre (Twickenham) being moments away from a high street and forming active part of the leisure destinations in the local area.

The train station is located some 10 minutes walking distance to the north of the site offering fast and reliable service to Central London and the other nearest local centres such as Richmond and Kingston are connected via buses.

The site is currently occupied by Diamond Jubilee Gardens, a private car park and a public car park, management and capacity of the latter is currently under review by the Council.



Walking Isochrone



Twickenham Riverside



Baseline Conditions

Public Transport Accessibility

The railway station offers access to services to/from:

- London Waterloo (15 tph AM peak)
- Reading (2 tph AM peak)
- Chiswick (4 tph AM peak)
- Wimbledon (2 tph AM peak)
- Kingston (2 tph AM peak)
- Windsor (2 tph AM peak)

Bus services are available in the vicinity of the site from King's Street, a summary of the services and destinations here presented demonstrates that the site is well connect to local destinations.



Summary of bus services

Route	Stop name	Route Summary	Peak Frequency (per hour)
33 (N33 - 24 hour service)	York Road Twickenham Stop G / Stop H Poulett Gardens Stop P / Stop R	Fullwell Station - Lonsdale Road	4
290	York Road Twickenham Stop G / Stop H Heath Road Twickenham Stop T / Stop L / Stop K	Staines Bus Station - Arragon Road	3
490	York Road Twickenham Stop G / Stop H Heath Road Twickenham Stop T / Stop L / Stop K	Pools on The Park - Heathrow Terminal 5	6
H22 (N22 - 24 hour service)	York Road Twickenham Stop G / Stop H Heath Road Twickenham Stop T / Stop L / Stop K	The Bell - Manor Road	5
R68	York Road Twickenham Stop G / Stop H Poulett Gardens Stop P / Stop R	Kew Retail Park - Hampton Court Station	4
R70	York Road Twickenham Stop G / Stop H Heath Road Twickenham Stop T / Stop L / Stop K	Nurserylands Shopping Centre - Richmond / Manor Road	6
110	Heath Road Twickenham Stop T / Stop L / Stop K	School Road - West Middlesex Hospital	2
267	Heath Road Twickenham Stop T / Stop L / Stop K	Hammersmith Bus Station - South Road / Fullwell	5
281	Heath Road Twickenham Stop T / Stop L / Stop K	Hounslow Bus Station - Tolworth Tower	5

Twickenham Riverside

Baseline Conditions



Walking and cycling connections

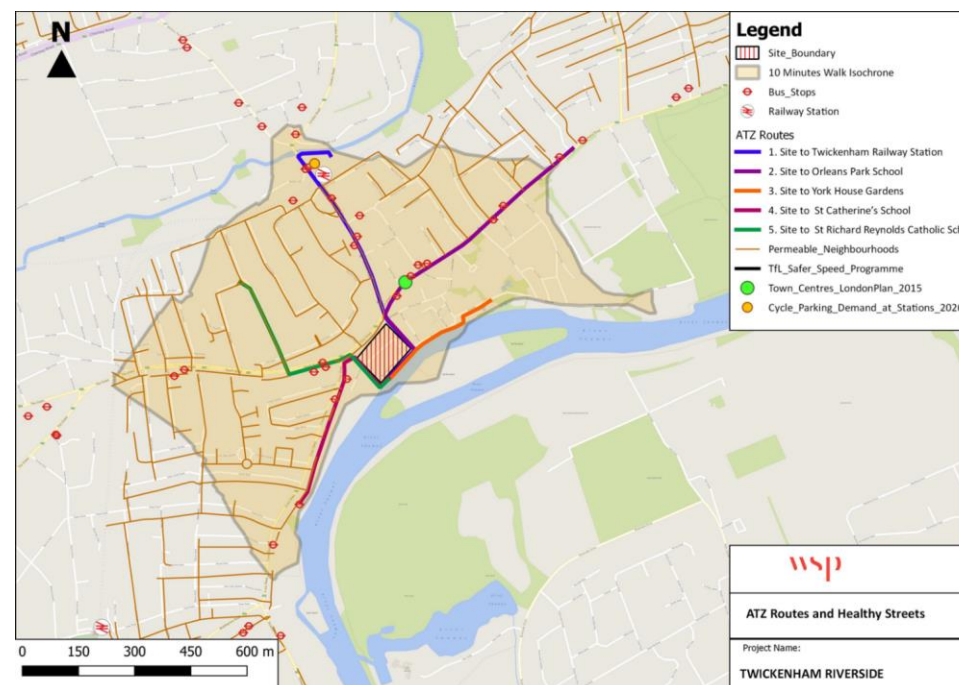
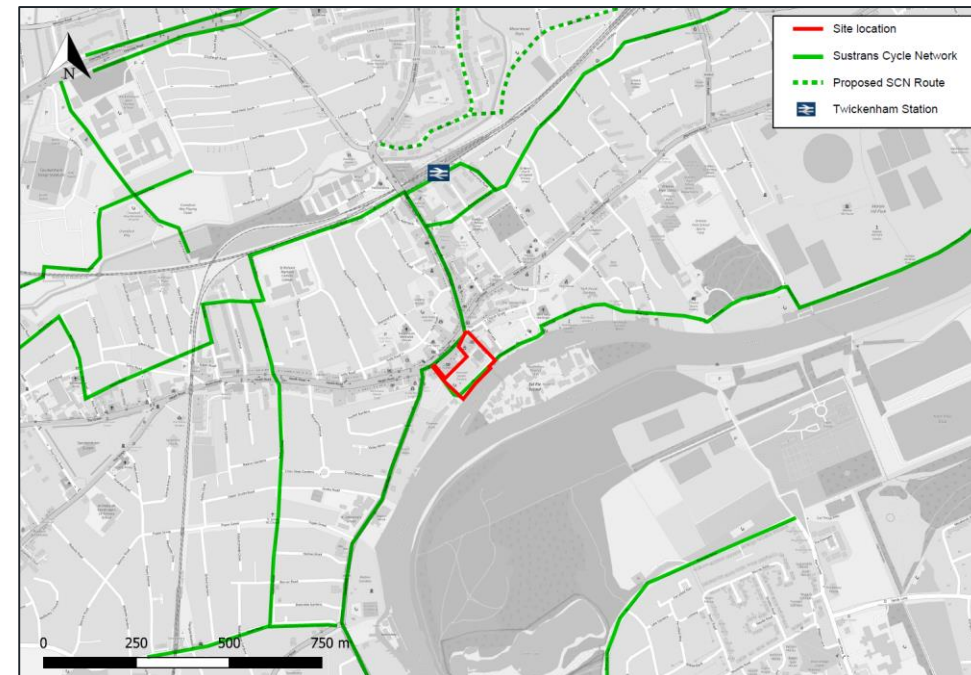
The site is located in proximity to a number of public transport services, as well as a variety of a local facilities such as a King Street retail stores, tennis courts, local parks, and other shops, schools, medical practices and amenities within Twickenham's high street centres.

A Healthy Streets Assessment will be conducted as part of the Transport Assessment, comparing the existing and proposed pedestrian and cycle conditions to/from the site.

The scope of the ATZ refers to the routes that will be undertaken for assessment. The proposed routes are listed below and feedback is sought on these destinations:

- Route 1 – To Twickenham Railway station
- Route 2 – To Orleans Park School
- Route 3 – To York House Gardens
- Route 4 – To St Catherine's School
- Route 5 – To St Richard Reynold's Catholic School

Local cycle network



Active Travel Zone Assessment Routes

Section 4:

Development Proposals

Introduction

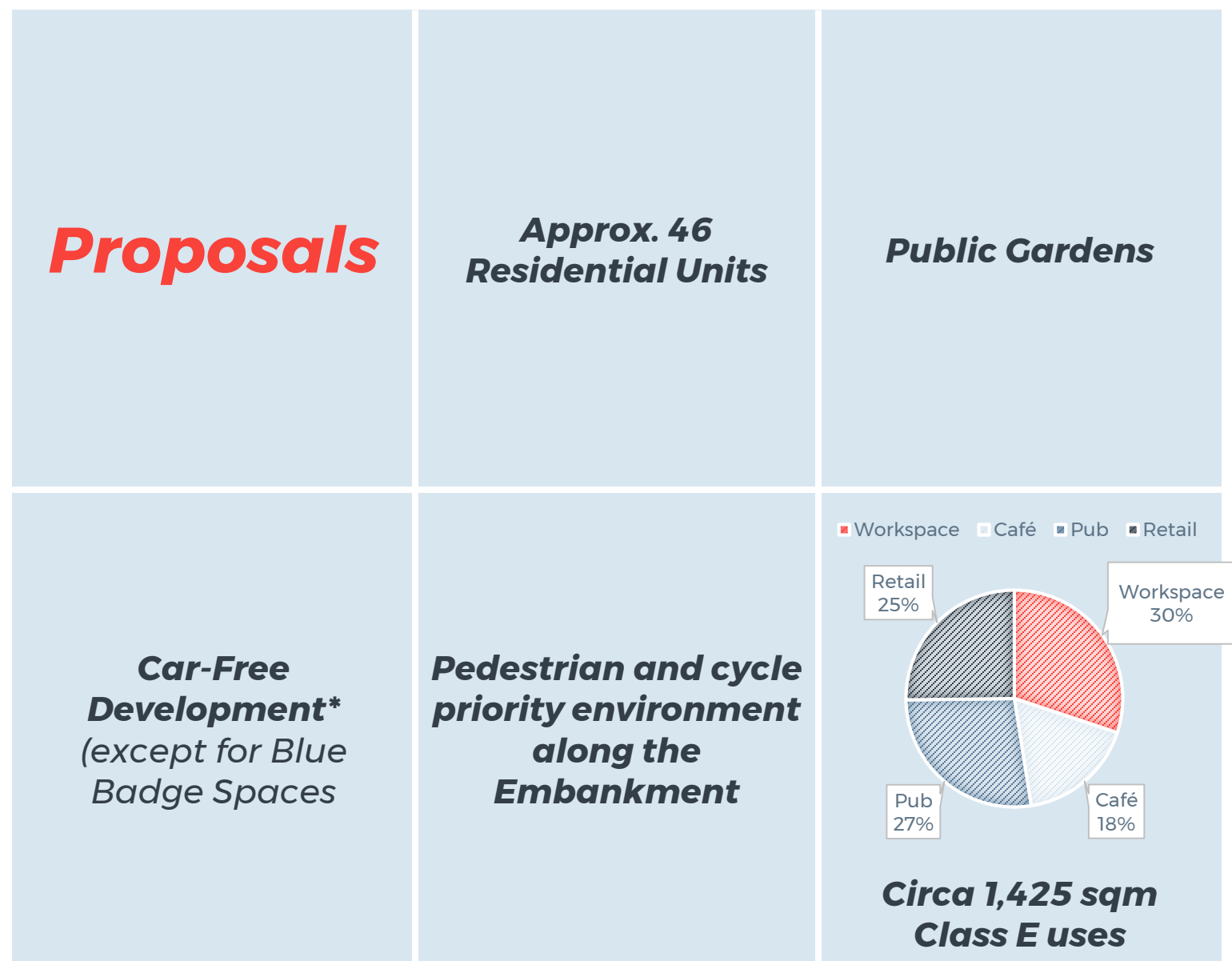
Figure 4-2 and **4-3** (overleaf) presents an overview of the proposals which is discussed further in the subsequent pages, with a more detailed breakdown of the accommodation schedule provided in **Table 4-1**.

Table 4-1: Indicative Accommodation Schedule

Land Use	Unit Size / Numbers
Residential	46 units
Class E Uses	1,425 sqm (GIA)
Gardens	Re-provided – refer to Landscape report for all details

It should be noted that alongside this development proposal the Council is undertaking a review of the Car Parking Zone, including removal and relocation of parking spaces within the proposed development site and in the immediate vicinity.

Figure 4-1: Overview of the proposals

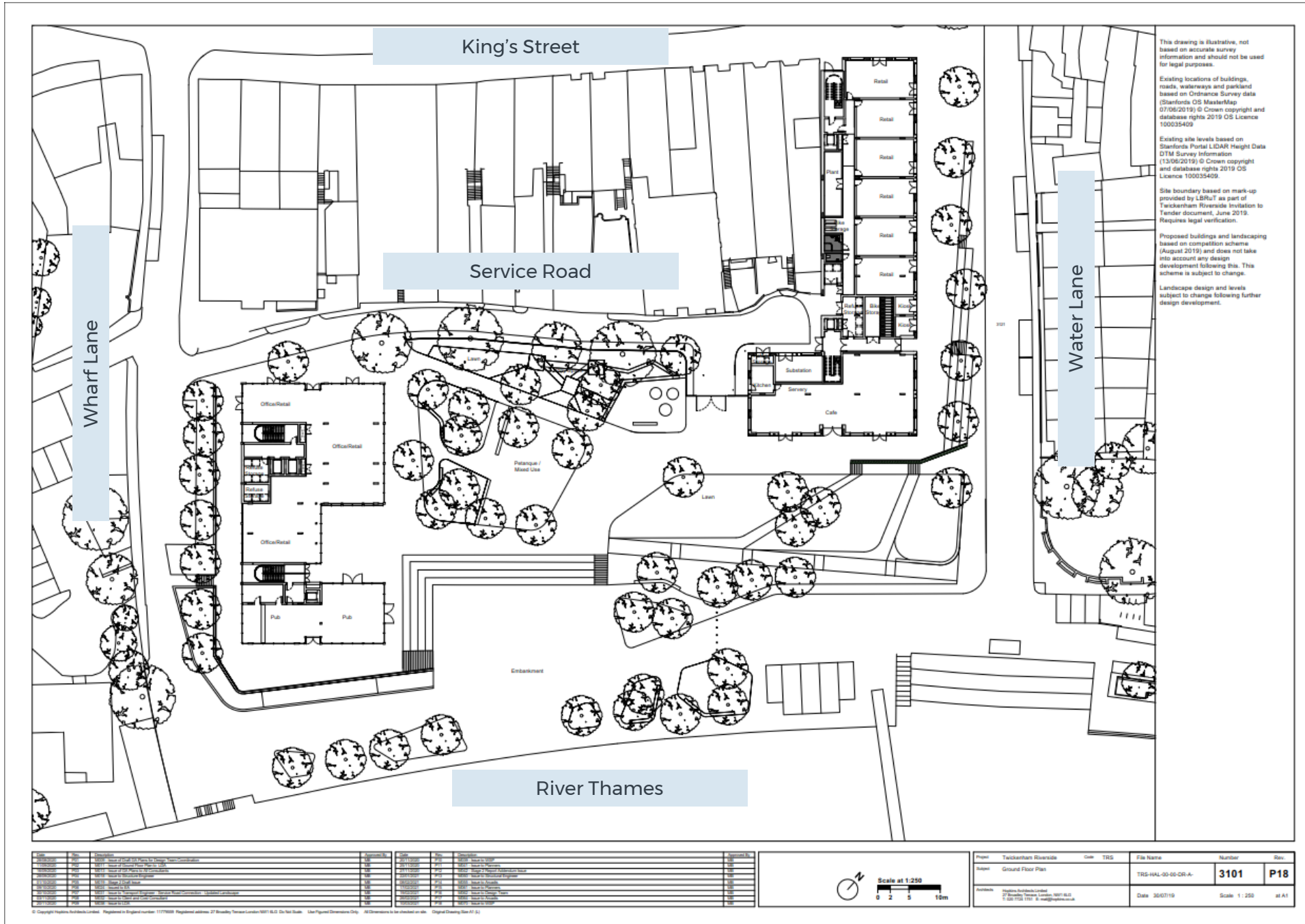


Twickenham Riverside

Proposed Development



Figure 4-2 : Overview of Proposed Development (Credits: Hopkins Architects)

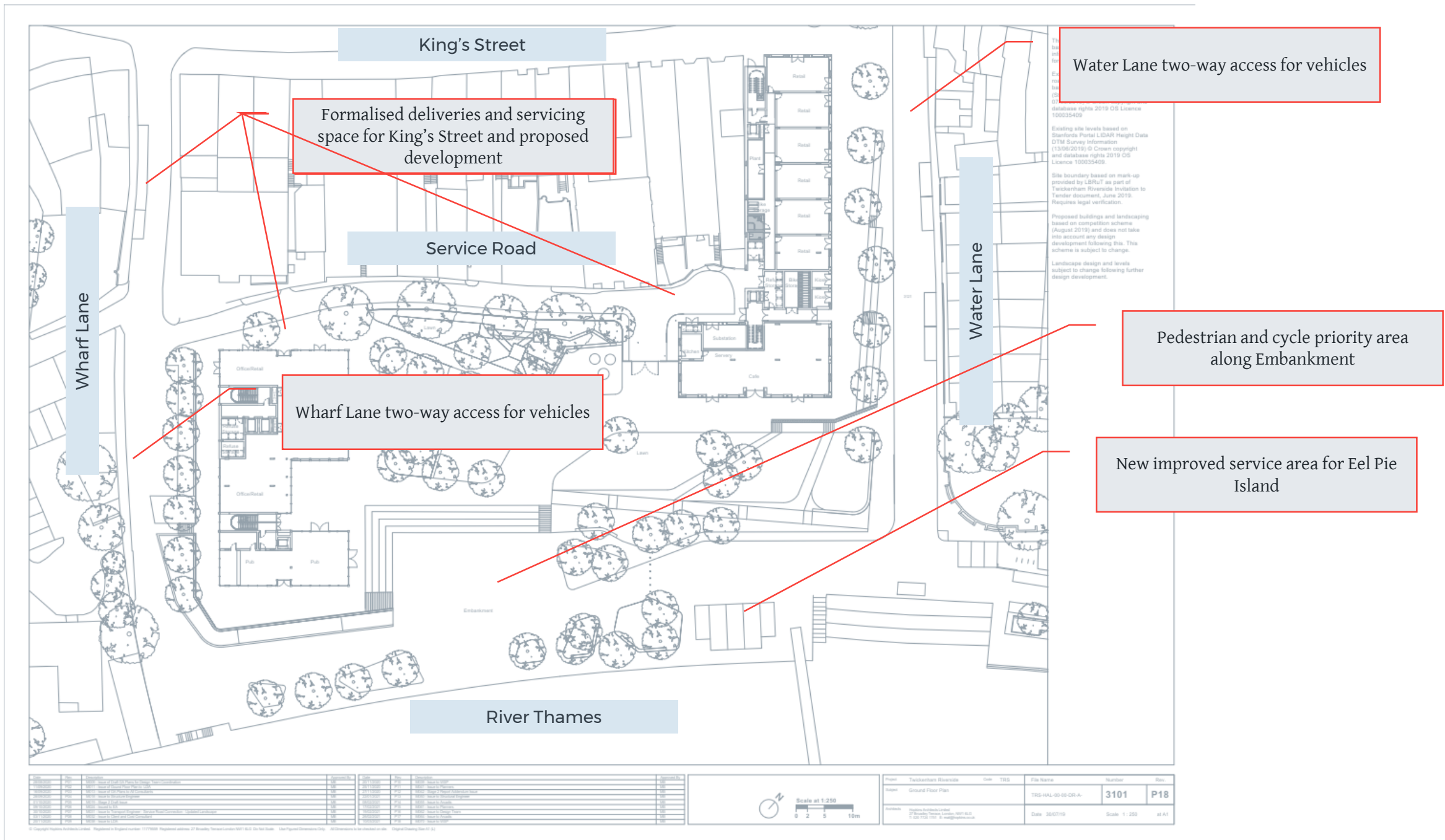


Twickenham Riverside

Proposed Development



Figure 4-2 : Overview of Proposed Development (Credits: Hopkins Architects)



Twickenham Riverside

Proposed Development



Figure 4-3 : Overview of Proposed Development (Credits: Hopkins Architects)

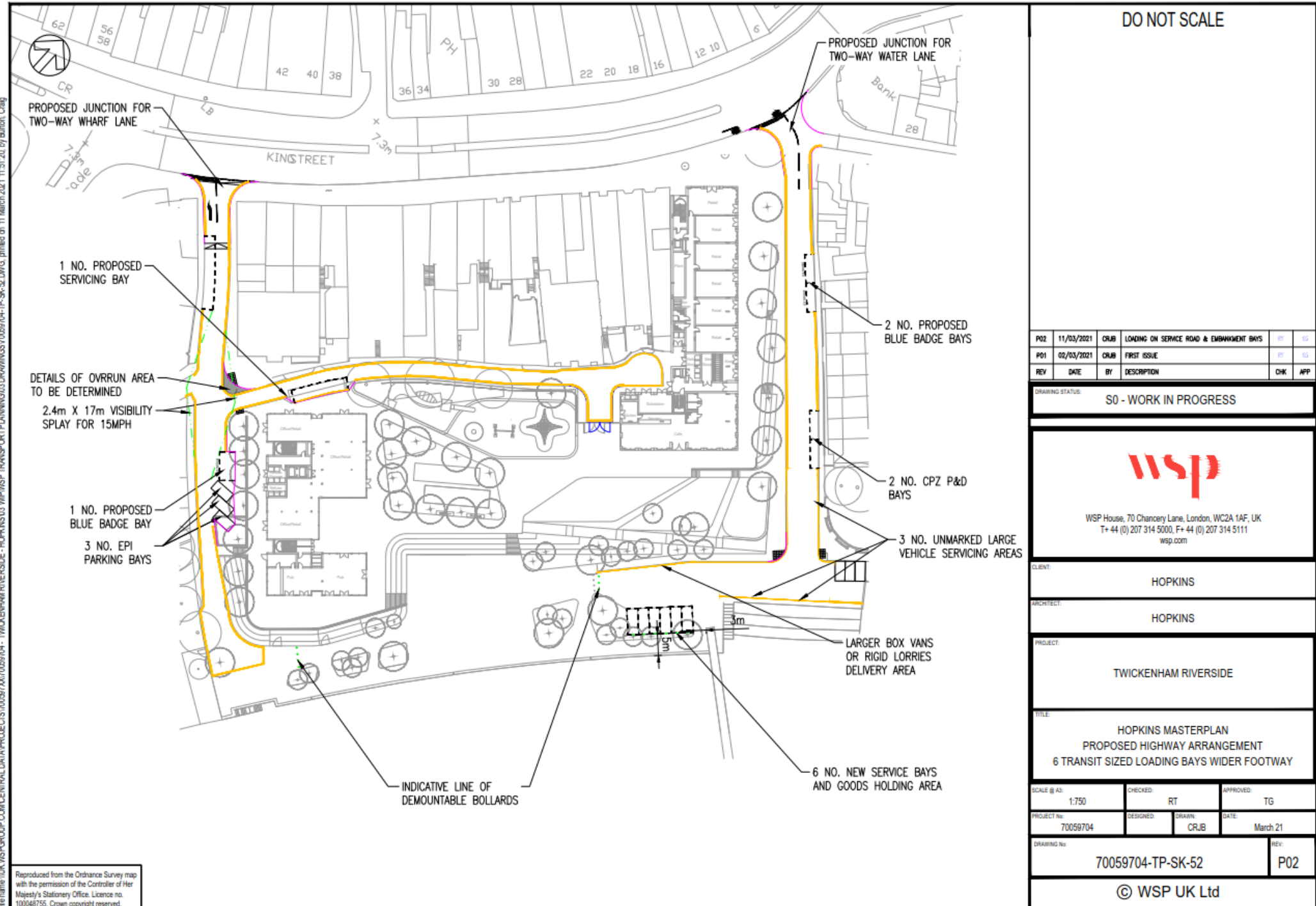


Twickenham Riverside

Proposed Development



Design Matters



Design Matters

- Wharf Lane and Water Lane conversion to two-way vehicle access has been subject to preliminary Road Safety Audit
 - A Designer's Response was provided and amendments to design have been included as necessary
 - A further independent Road Safety Audit update should be carried out on the finalised proposal prior to submission
 - Stakeholder engagement has taken place both via public consultation and via focused stakeholder groups consultation on the proposals
 - The Eel Pie Island association has been engaged on several occasions and the proposals as shown meet the expectations and requirements of the residents and businesses
 - The Embankment will be accessible for vehicles Monday to Friday early morning for loading only with a view to manage access via physical restrictions (barrier or bollard) and emergency vehicles will be able to access at any time
 - The Council will be the custodian of the barrier/bollard management and will be able to arrange for vehicles access for special circumstances such as
 - Special deliveries (extra long vehicles)
 - Unscheduled waste collections or maintenance
 - Market or events set up
 - The development will meet London Plan 2021 car parking policy providing
 - Car free development
 - 'Car-free development should be the starting point for all development proposals in places that are (or are planned to be) well-connected by public transport [..]'*
 - Car parking for disabled residents for at least 3% of the units from the outset and demonstrating how to achieve 10% in future
 - Disabled persons parking should be provided for new residential developments. Residential development proposals delivering ten or more units must, as a minimum:*
 - 1) *ensure that for **three per cent** of dwellings, at least one designated disabled persons parking bay per dwelling is available from the outset*
 - 2) *demonstrate as part of the Parking Design and Management Plan, how an additional **seven per cent** of dwellings could be provided with one designated disabled persons parking space per dwelling in future upon request as soon as existing provision is insufficient. This should be secured at the planning stage.*

All disabled persons parking bays associated with residential development must:

 - 1) *be for residents' use only (whether M4(2) or M4(3) dwellings)*
 - 2) *not be allocated to specific dwellings, unless provided within the curtilage of the dwelling*
 - 3) *be funded by the payment of a commuted sum by the applicant, if provided on-street (this includes a requirement to fund provision of electric vehicle charging infrastructure)*
 - 4) *count towards the maximum parking provision for the development*
 - 5) *be designed in accordance with the design guidance in BS8300vol.1*
 - 6) *be located to minimise the distance between disabled persons parking bays and the dwelling or the relevant block entrance or lift core, and the route should be preferably level or where this is not possible, should be gently sloping (1:60-1:20) on a suitable firm ground surface.*
- The development will meet London Plan 2021 cycle parking policy providing
 - Short stay cycle parking for visitors
 - Long stay cycle parking for staff and visitors

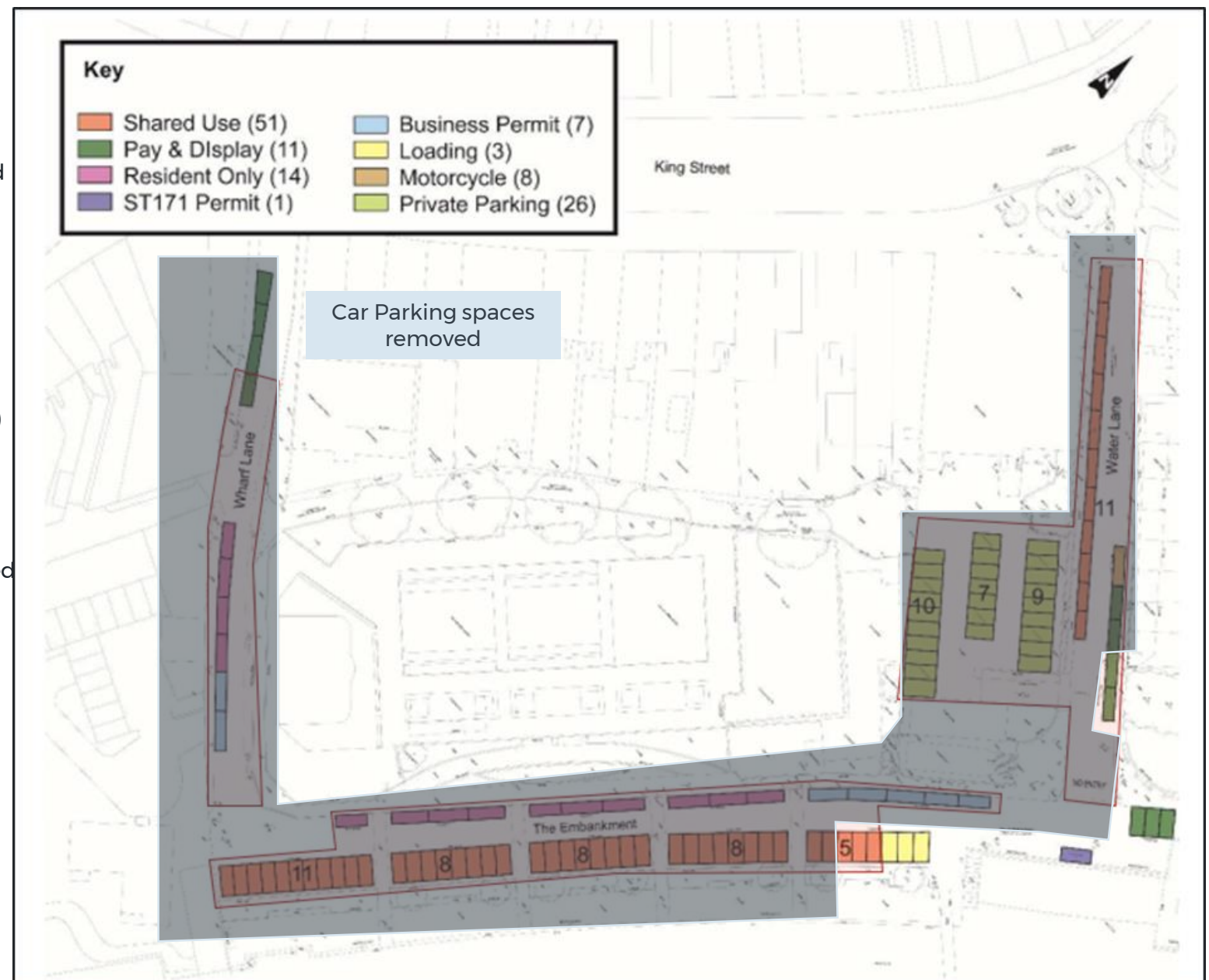
Twickenham Riverside



Proposed Development

Design Matters

- A wider coordination exercise is taking place to ensure consistency as the Council CPZ revision is taking place at the same time as the proposed development design is developing.
- The proposed development and King's Street properties fronting the service road will be provided with two formalised spaces for deliveries and servicing
- One larger delivery spaces has been identified for the Iceland articulated vehicles effectively formalising the existing deliveries methodology for the shop
- A total of 3 parking spaces have been identified for the proposed development (from the outset - 6.5%) one along Wharf Lane and two along Water Lane
- Additional two spaces have been identified for the use of visitors of the area (Water Lane)
- A signage and wayfinding strategy will be developed in discussion with the Landscape architect for the site
- Visitor cycle space opportunities have been identified in the vicinity of Wharf Lane (please refer to the Landscape design package for reference)



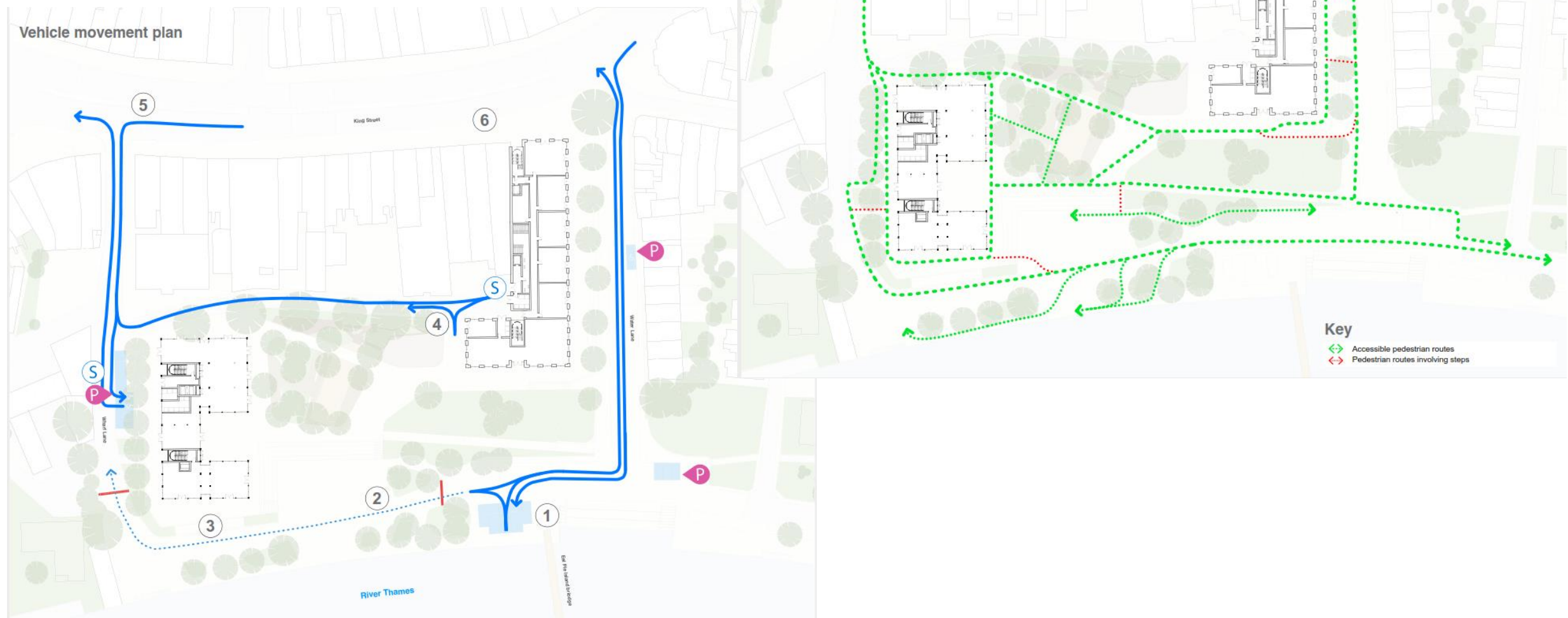
Twickenham Riverside



Proposed Development

Design Matters

- Vehicle circulation
- Walking circulation



Section 5:

Trip Generation

Twickenham Riverside



Trip Generation

Net Trip Generation

An exercise was carried out to ascertain the potential impacts of the proposed development on the transport network.

This included the preliminary trip generation of the proposed development benchmarking the potential trip generation against known databased or via first principles approach.

The extant permitted uses potential trip generation on site have been discounted to derive the net trip generation contribution from the proposed development.

Thanks in part to the removal of parking spaces within the site or in the vicinity of the site a net reduction in trips by car is expected as a result of the proposed development.

An additional 20 trip a day are expected for the purposes of deliveries and servicing associated with the proposed development.

Table 5-2 : Proposed Development Servicing and Deliveries Trip Generation

Time Period	Daily (0700-1900)
Light Goods Vehicle	17
Heavy Goods Vehicle	3
Total	20

Table 5-1 : Proposed Development NET Trip Generation

Transport Mode	AM Peak Hour (0800-0900)			PM Peak Hour (1700-1800)		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Rail	11	8	19	30	15	45
Bus	7	0	7	11	4	14
Taxi	0	0	0	0	0	0
Motorcycle	0	0	0	0	0	0
Car Driver	-6	-6	-12	-7	0	-6
Car Passenger	0	0	0	2	2	4
Bicycle	6	2	7	9	6	15
On Foot	19	8	27	87	72	159
Total	36	11	47	133	98	231

Section 6

Proposed Scope of Assessment

Twickenham Riverside



Proposed Scope of Assessment & Next Steps

Active Transport Modes

It is proposed that an Active Travel Zone Assessment is carried out for the most important walking and cycle routes to/from the proposed development. The ATZ will include:

- Benchmark of each route against Healthy Streets indicators and suggested improvements where necessary
- Review of potential safety issues and mitigations in line with London's Vision Zero aspirations
- Cycle Route Quality Audit for the cycle proposals within the site

Road safety

It is proposed that a new/refresh Road Safety Audit Stage 1 is carried out independently and responses are prepared prior to the scheme planning submission.

Public Transport

Impacts will be quantified as additional trips on the rail and buses networks however no further work is proposed in addition to the trip generation.

Highway Network

Impacts will be quantified as additional trips on the highway network however no further work is proposed in addition to the trip generation.

Car Parking

The car parking coordination with the Council's CPZ review will be further progressed, it is proposed to reference the work carried out by Systra as part of this.

No additional surveys will be collected and no additional assessment will be carried out in relation to the proposed development.

Next Steps

Feedback is sought on the Transport Scoping Document in particular on the approach to the assessment and the proposed content of the Transport Assessment.

Comments on the proposed design arrangements is also encouraged at this stage.



WSP House
70 Chancery Lane
London
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MEMO

TO	Iyabo Johnson	FROM	Rea Turohan
DATE	24 March 2021	CONFIDENTIALITY	Internal
SUBJECT	Planning Pre-application (16/03/2021) Follow Up		

Twickenham Riverside – Planning Pre-Application Meeting Follow up

A meeting was held with London Borough Richmond upon Thames (LBRuT) on Tuesday 16/03/2021 to discuss the Twickenham Riverside landscape and transport proposals.

A Transport Scoping Note was prepared for the meeting (issued 11/03/2021) and a presentation was also prepared to assist with the discussion (issued 15/03/2021).

Following discussion with the planning agent, Savills (Iyabo Johnson) WSP understanding of key matters is reported below, in anticipation of receipt of formal comments from LBRuT on the documents submitted.

Surveys

LBRuT Traffic and Transport Officer (David Tidley) asked that the Residential Servicing and Deliveries trip generation surveys (paragraph 5.8.1 of the Transport Scoping Note) be updated to include more recent surveys.

The originally proposed surveys for benchmark were:

- Imperial Wharf (1,745 Dwellings) – 2014 survey.
- Bow Quarter (773 Dwellings) – 2016 survey.

WSP will update the Servicing and Deliveries trip generation to include the following TRICS sites, unless LBRuT wishes to provide local up-to-date surveys:

- Kew, Block of flats, 170 dwellings, survey 2019
- Barking, Block of flats, 40 dwellings, 2020 survey (COVID)
- Barnet, mixed private/affordable housing, 271 dwellings, 2019
- Richmond, mixed private/affordable housing, 76 dwellings, 2016

Copy of the surveys is provided to the rear of this note for information.

Cycle routes

LBRuT Traffic and Transport Officer (David Tidley) pointed out that further consideration is needed on the naming of the proposed cycle movement framework. Since the publication of the LTN 1/20 a 'cycle route' has specific characteristics which may not be deliverables therefore the naming convention should read 'routes that cyclists should take'.

Red line

Various planning officers notes that the red-line shown in the Transport Scoping Report differs from the LBRuT (applicant) land holdings, WSP will obtain a red line to use from the design team if not possible due to formatting the reports will label the red line as 'indicative only'.

LBRuT Traffic and Transport Officer (David Tidley) sought clarification on the extent of the red line and the 'off-site work' and sought to clarify if highway works will be delivered via agreement with the Council S278 or will be delivered as part of the main works.

It is noted that delivering the highway works as 'off-site' might be preferable to the Council as it gives more flexibility to amend the proposals in future, prior to their delivery, if necessary.

Arcadis/Savills will discuss further.

Car Parking

WSP presented the car parking proposals which include:

- **Three** loading bays (total to be confirmed) along the Embankment, which will remain dedicated to Eel Pie Island servicing activity;
- **Three** parking bays (total to be confirmed) along the Embankment, which will be for use by tradespeople and visitors associated with Eel Pie Island;
- **Three** parking bays provided on Wharf Lane, also for the use of Eel Pie Island tradespeople and visitors;
- **One** bay for disabled badge holders along Wharf Lane;
- **Two** disabled badge holders along Water Lane (exact locations to be confirmed);
- **Two** on-street parking spaces which can be allocated by LBRuT in any way they see fit, we anticipate the bays may be retained as P&D for general visitors of the Embankment.

The planning policy referenced for the car parking proposal is the London Plan (March 2021) which states:

Car-free development should be the starting point for all development proposals in places that are (or are planned to be) well-connected by public transport, with developments elsewhere designed to provide the minimum necessary parking ('car-lite'). Car-free development has no general parking but should still provide appropriate disabled persons parking for Blue Badge holders as set out in Policy T6 .1 Residential parking to Policy T6 .5 Non-residential disabled persons parking.

The proposed Twickenham Riverside Development has a Very Good public transport accessibility level (rating 5 on a scale of 1 to 6 where 6 is excellent).

The Policy T6.1 and T6.5 also states that car parking for disabled residents should be provided for at least 3% of the units from the outset and demonstrating how to achieve 10% in future:

- 46 dwelling proposed
- 3% is 1.4, or 2 parking spaces
- 10% is 4.6, or 5 parking spaces

The policy also states:

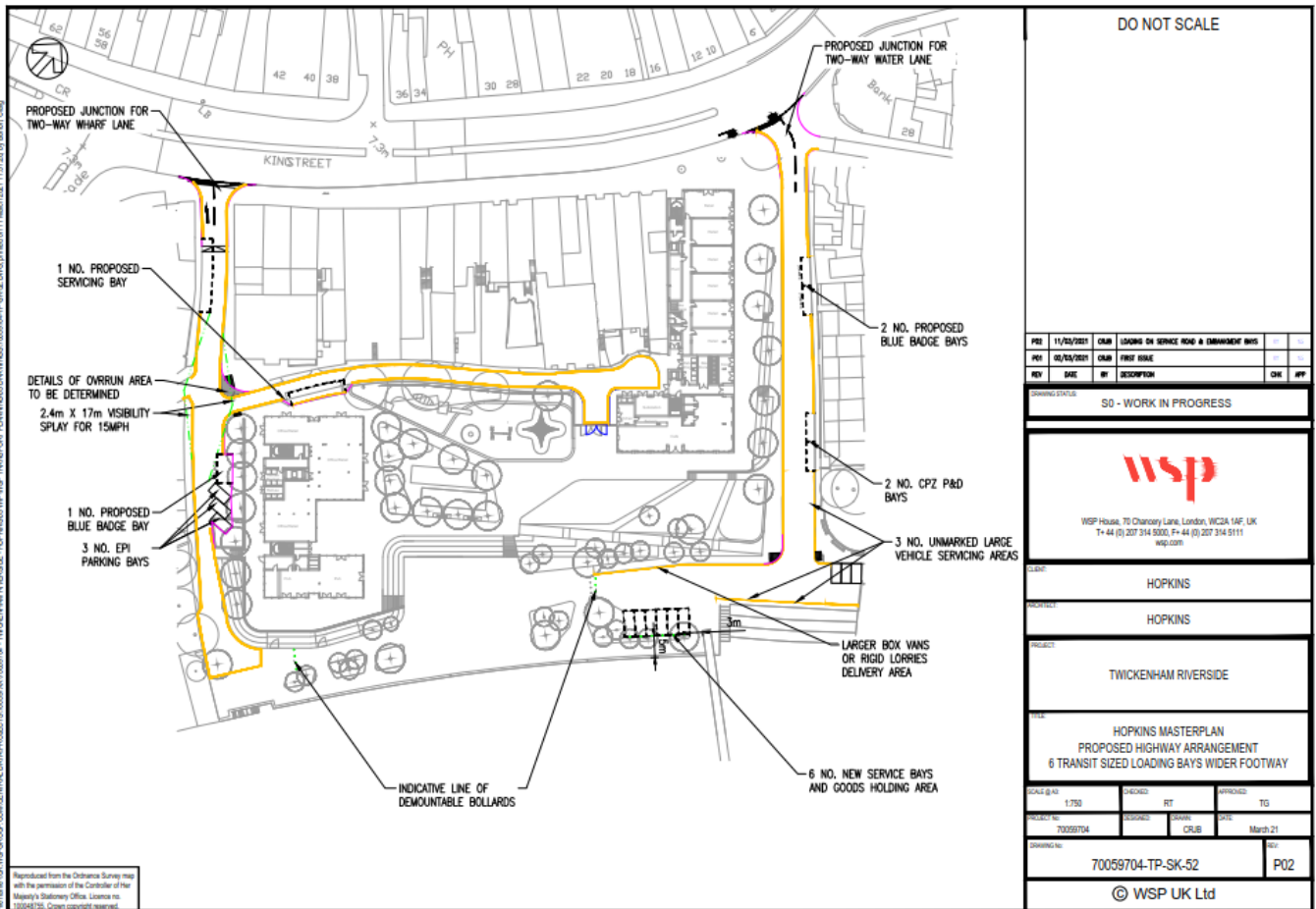
Disabled persons parking should be provided for new residential developments. Residential development proposals delivering ten or more units must, as a minimum:

- 1) ensure that for **three per cent** of dwellings, at least one designated disabled persons parking bay per dwelling is available from the outset

2) demonstrate as part of the Parking Design and Management Plan, how an additional **seven per cent** of dwellings could be provided with one designated disabled persons parking space per dwelling in future upon request as soon as existing provision is insufficient. This should be secured at the planning stage.

All disabled persons parking bays associated with residential development must:

- 1) be for residents' use only (whether M4(2) or M4(3) dwellings)
- 2) not be allocated to specific dwellings, unless provided within the curtilage of the dwelling
- 3) be funded by the payment of a commuted sum by the applicant, if provided on-street (this includes a requirement to fund provision of electric vehicle charging infrastructure)
- 4) count towards the maximum parking provision for the development
- 5) be designed in accordance with the design guidance in BS8300vol.1
- 6) be located to minimise the distance between disabled persons parking bays and the dwelling or the relevant block entrance or lift core, and the route should be preferably level or where this is not possible, should be gently sloping (1:60-1:20) on a suitable firm ground surface.



LBRuT Traffic and Transport Officer (David Tidley) pointed out that the Town Centre location would benefit from blue badge parking on-street not being allocated to a specific permit so that any blue badge spaces can be used by either people living in the proposed development or visitors (of the development or the area in general).

This approach is in line with policy and the planning documents and drawings will be updated as necessary to adopt this approach. The number and position of the spaces are constrained by the physical site

conditions as well as by the introduction of two-way circulation, the position of the proposed car parking may vary however it is unlikely that the final position will be significantly different.

Electrical Charging Points

LBRuT Traffic and Transport Officer (David Tidley) pointed out the Council is carrying forward an area wide EV charging strategy and any EV charging points will be considered at later stage by Council.

In order to carry out this work it was recommended that the lighting strategy and parking strategy may be coordinated.

The planning documents and drawings will be updated to reflect this position.

Arcadis/Applicant should consider if a lighting designer appointment is required for the scheme.

Paving Materials

LBRuT Traffic and Transport Officer (David Tidley) sought clarification on the proposed paving materials. This is outside WSP remit, however it is understood that LDA landscape will indicate a material palette in their studies.

Feedback

Feedback is sought on the Transport Scoping Document in particular on the approach to the assessment and the proposed content of the Transport Assessment.

Comments on the proposed design arrangements is also encouraged at this stage.

> Active Travel Modes

It is proposed that an Active Travel Zone Assessment is carried out for the most important walking and cycle routes to/from the proposed development. The ATZ will include:

- Benchmark of each route against Healthy Streets indicators and suggested improvements where necessary
- Review of potential safety issues and mitigations in line with London's Vision Zero aspirations
- Cycle Route Quality Audit for the cycle proposals within the site

> Road Safety

It is proposed that a new/refresh Road Safety Audit Stage 1 is carried out independently and responses are prepared prior to the scheme planning submission.

> Public Transport

Impacts will be quantified as additional trips on the rail and buses networks however no further work is proposed in addition to the trip generation.



> **Highway Network**

Impacts will be quantified as additional trips on the highway network however no further work is proposed in addition to the trip generation

> **Car Parking**

The car parking coordination with the Council's CPZ review will be further progressed, it is proposed to reference the work carried out by Systra as part of this.

No additional surveys will be collected and no additional assessment will be carried out in relation to the proposed development.

Rea Turohan
Associate | Transport Planning

Site reference: BK-03-C-01 Survey date: 10/09/20 Day of week: Thursday

Vehicles surveyed: OGV

Data proportions in % OGV (1) 100 OGV (2) 0

1 occupant per OGV is assumed, and included in the vehicle occupants count

Time	Arr 1	Dep 1	Totals 2	Accumulation
00:00-01:00				
01:00-02:00				
02:00-03:00				
03:00-04:00				
04:00-05:00				
05:00-06:00				
06:00-07:00				
07:00-08:00	0	0	0	(0)
08:00-09:00	0	0	0	(0)
09:00-10:00	0	0	0	(0)
10:00-11:00	0	0	0	(0)
11:00-12:00	1	0	1	(1)
12:00-13:00	0	1	1	(0)
13:00-14:00	0	0	0	(0)
14:00-15:00	0	0	0	(0)
15:00-16:00	0	0	0	(0)
16:00-17:00	0	0	0	(0)
17:00-18:00	0	0	0	(0)
18:00-19:00	0	0	0	(0)
19:00-20:00	0	0	0	(0)
20:00-21:00	0	0	0	(0)
21:00-22:00				
22:00-23:00				
23:00-24:00				

Site reference: BK-03-C-01

Survey date: 10/09/20

Day of week: Thursday

Vehicles surveyed: LGV

Time	Arr 5	Dep 5	Totals 10	Accumulation
00:00-01:00				
01:00-02:00				
02:00-03:00				
03:00-04:00				
04:00-05:00				
05:00-06:00				
06:00-07:00				
07:00-08:00	0	1	1	(-1)
08:00-09:00	0	0	0	(-1)
09:00-10:00	0	0	0	(-1)
10:00-11:00	1	1	2	(-1)
11:00-12:00	0	0	0	(-1)
12:00-13:00	0	0	0	(-1)
13:00-14:00	1	1	2	(-1)
14:00-15:00	1	2	3	(-2)
15:00-16:00	1	0	1	(-1)
16:00-17:00	0	0	0	(-1)
17:00-18:00	0	0	0	(-1)
18:00-19:00	0	0	0	(-1)
19:00-20:00	1	0	1	(0)
20:00-21:00	0	0	0	(0)
21:00-22:00				
22:00-23:00				
23:00-24:00				

Appendix B

CYCLE QUALITY AUDIT



Proposed Design

Quality Criteria Assessment v1

		Link 1	Link 2	Link 3	Link 4	Link 5
Route information	Route	Water Lane	Wharf Lane	The Embankment	Service Road	
	Borough	LBRuT	LBRuT	LBRuT	LBRuT	
	Project Number					
	Location					
	Length of link (metres)	104	106	46	101	
	Number of buses per hour (for reference)					

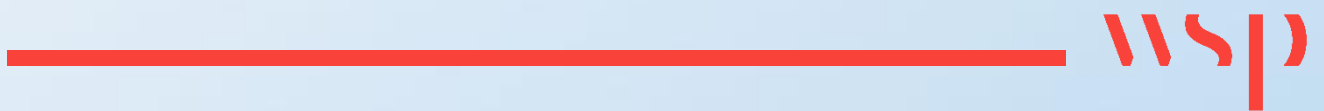
Proposed Design Data inputs (Part 1a)	Is this a one-way or two-way street?	Two-way	Two-way	Two-way	Two-way	
	What is the expected peak hour motor vehicle flow?	2	0	1	2	
	What is the expected 85th %ile speed? (mph)	20	20	20	20	
	Are measures proposed to reduce speeds at this location? (requires existing speeds to be filled out)	Yes	Yes	Yes	Yes	
	What is the proposed width of the nearside running lane for general traffic? (metres - include the width of kerbside bays)	7.5	5.7	12.9	3.9	
	What is the proposed width of the kerbside parking / loading? (metres)	2	2	2.5	N/A	
	Turning risk - does the proposed arrangement fulfil the criteria? (see Guidance Notes tab)	Yes	Yes	Yes	Yes	
	What is the expected peak hour HGV flow?	0	0	0	0	
	What is the peak hour HGV flow as a % of the total motor vehicle flow for that hour?	0.0%	0.0%	0.0%	0.0%	
User comments on data inputs (including proposed design features that are anticipated to impact on the criteria)						
Output 1a	Are proposed conditions expected to be suitable for people cycling to be mixed with motor traffic?	Yes	Yes	Yes		

Proposed dedicated space for cycling (Part 1b)	Is a light segregated cycle lane or full separation proposed?	No	No	No	No	
	Output 1b	Recommended action	Expected to be suitable for cyclists to be mixed with general traffic	Expected to be suitable for cyclists to be mixed with general traffic	Expected to be suitable for cyclists to be mixed with general traffic	

Data inputs for when dedicated space for cycling is proposed (Part 2)	Layout of light segregated cycle lane, track or shared use facility, if proposed	N/A	Shared use	N/A	N/A	
	Proposed width of cycle lane, track or shared use facility (metres)					
	Proposed buffer zone width adjacent to kerbside activity where a cycle lane is provided (metres)					
	Does the design provide a cycle early release signal at signal controlled junctions, where needed?	N/A		N/A	N/A	
	Are conflicting movements between cycle traffic and motor traffic separated with dedicated signals for cycles, where needed?	N/A		N/A	N/A	
Output 2	Additional design considerations					
User comments on proposed approach						

Appendix C

LBRUT CPZ REVIEW



LONDON BOROUGH OF RICHMOND UPON THAMES

TRANSPORT AND AIR QUALITY COMMITTEE

DATE: 15 June 2021

REPORT OF: Director of Environment & Community Services

TITLE OF DECISION Twickenham Riverside Development – Parking and Servicing proposals

WARDS: Twickenham Riverside

KEY DECISION?: YES

IF YES, IN FORWARD PLAN?: YES

For general release

1. MATTER FOR CONSIDERATION

1.1 To advise the Committee on updated parking proposals in relation to the Twickenham Riverside development project along with proposals for access and servicing in the area as set out in this report.

2. RECOMMENDATIONS

That the Committee:

2.1 Notes updates to the parking proposals along with access and servicing proposals for this area in relation to the Twickenham Riverside development project as set out in this report.

2.2 Agrees the recommendations in Section 8 of this report.

3. DETAIL

3.1 In November 2020, the Committee approved the progression of new parking proposals in relation to the Twickenham Riverside Development project. These proposals primarily comprised the installation of new parking spaces and changes to the designation of existing parking spaces in the area. The Committee was also advised of the ongoing discussions with locally affected groups on the provision for servicing and access in the area.

3.2 This report provides updated parking proposals following a further review and describes proposals developed to date for facilitating servicing and access in the area. The finalisation of these proposals will take into account the outcome of the forthcoming planning application for the Twickenham

Riverside Development and once the development is fully constructed and operational.

- 3.3 Paragraphs 8.1 and 8.2 of the report to the Transport and Air Quality Committee in November 2020 detailed a number of parking proposals in the Central Twickenham area. These proposals were aimed at addressing the displacement of parking demand from the 82 parking spaces that would be removed from The Embankment/Water Lane/Wharf Lane area as part of the Twickenham Riverside development.
- 3.4 In summary, the approved parking proposals as described in paragraph 3.3 comprised the creation of 29 new parking spaces and the change in designation of 81 parking spaces in the Central Twickenham Controlled Parking Zone (CPZ, Zone D). As of March 2021 this has since been amended to create 28 new parking spaces and the change in designation of 80 spaces. These amendments comprised the realignment of existing parking spaces in the Holly Road Service Yard to make these more accessible and the need to facilitate existing refuse collections/storage in the St Georges Place Loading Area. Alongside this, the approved parking proposals are to allow business permit holders of this CPZ to park in the Holly Road car park and the implementation of new lengths of double yellow lines in the CPZ on road safety grounds. The approved proposals also included a review of the town centre car parks with a view to improving their accessibility and overall operation.

Review of the CPZ parking proposals & town centre car parks

- 3.5 In December 2020, the Council commissioned its parking consultant for this scheme, Systra, to carry out the review of the town centre car parks. The primary aim of this review was to ascertain if any improvements could be made to their operation with considerable focus placed on safety and accessibility to/from these sites for all. Systra was also asked to investigate the feasibility into the creation of a sub-zone in the CPZ as suggested by the Eel Pie Association. The aim of the sub-zone is to provide parking priority to properties adjacent to the site in light of the removal of parking spaces in The Embankment/Water Lane/Wharf Lane area. This work involved an overall review of the parking stress across the whole of the CPZ. The findings of these reviews and investigation are contained within the following paragraphs.
- 3.6 As part of the review of the CPZ, an audit of all parking spaces was undertaken. It has been established that within this zone there are an approximate total of 1748 parking spaces, the breakdown of which is as follows:
- 1115 Resident Permit Holder spaces
 - 285 Shared-use Resident and Visitor (Pay and Display and/or Pay by Phone) spaces;
 - 190 Shared-use Resident/Business Permit Holder and Visitor (Pay and Display and/or Pay by Phone) spaces;
 - 79 Visitor (Pay and Display and/or Pay by Phone) spaces;
 - 44 Shared-use Resident and Business Permit Holder spaces; and
 - 35 Business Permit Holder spaces.

Additionally, the following spaces are provided within the CPZ which will not have an impact on the parking for permit holders or visitors due to their designation.

22 Loading spaces;
12 Disabled spaces;
6 car club spaces;
2 motorcycle spaces (space for 6 and 3 motorcycles to park); and
1 ambulance space

The above designation of spaces has been determined by on-street capacity audits undertaken by Systra on 25/03/21 and 08/04/21. A 5m length has been used to define the number of parking spaces where the bays are unmarked.

- 3.7 In the zone, there are 1951 parking permits on issue (as at 10 April 2021). Of this number, 1890 are resident parking permits, 51 are business permits and 10 are operational permits.
- 3.8 Across the zone, there are 553 more residents permits issued than spaces provided and 69 fewer business permits than spaces provided. This calculation assumes an even split between uses for Shared-use spaces for robustness. For example, 190 Shared-use Resident and Visitor (Pay and Display and/or Pay by Phone) spaces is split evenly with a third counted for Residents, a third for Business and a third for Visitors. The actual proportion for each use will vary during the day or night and given the high permit demand it is likely that a greater proportion of residents are using these bays. Added to this is the existing provision for resident permit holders to park in the Holly Road car park (160 spaces) for free and without time limit.
- 3.9 Whilst there are more resident permits on issue in the zone than spaces provided, overnight parking beat surveys carried out in the area in March 2021 shows that there is some spare capacity across the CPZ. This applies to both the existing CPZ layout and if/when the planned removal of the spaces around the development site is implemented. Based on the parking beat surveys undertaken alone, the total average parking stress across all parking space permit designation types was 76%, proving that the whole of Zone D is just over three quarters occupied during the hours of 1am to 5am. This figure rises to 79% with removal of the 82 spaces in the Twickenham Riverside area. This calculation does not include the additional 28 CPZ new spaces as described in paragraph 3.4.
- 3.10 **Appendix A** shows the analysis of parking stress comparisons (spaces v demand) by parking space designation based on the parking beat/usage figures.

As shown in **Appendix A**, of all the parking space designations the Resident only parking spaces were observed to have the greatest parking stress, with 91% of all spaces occupied during the survey. Spare capacity was however observed within the Shared Use parking spaces, with the following occupancy % figures recorded;

- 60% of Shared Business and Resident spaces occupied;
- 33% of Shared-use Resident/Business Permit Holder and Visitor (Pay and Display and/or Pay by Phone) occupied;

- 76% Shared-use Resident and Visitor (Pay and Display and/or Pay by Phone) spaces occupied;
- Therefore, on average a total of 161 Shared-use spaces were unoccupied during the overnight surveys. These results suggest that residents prefer to park in locations where the designation is solely for residents and not shared with other uses, with a preference for parking near their homes.
- In addition, it was noted that Holly Road car park offers 160 spaces which are available to Resident Permit Holders for free, without time limit. During the surveys an average of 73 vehicles were parked, equating to a parking stress of 46%

- 3.11 The analysis as described in paragraphs 3.6 to 3.10 has also been used to consider the feasibility of implementing a sub-zone in roads adjacent to the Riverside development site and adjacent to Twickenham Railway Station.
- 3.12 The sub-zone analysis reviewed the number of permits issued within a defined inner zone, comprising The Embankment, Eel Pie Island, Water Lane, Wharf Lane, Church Street, Bell Lane and Riverside. The overnight parking survey reported a parking stress of 57% on average across the defined inner zone, therefore whilst creation of a sub-zone would be feasible in the existing scenario, the removal of 82 parking spaces (of which 81 are within the inner zone) would result in the parking demand exceeding supply. It had been suggested that properties within the sub-zone should be permitted to park elsewhere in the CPZ if no spaces were available in the sub-zone, however, this is likely to have implications for roads immediately outside the area and this would need to be taken into account.
- 3.13 Similar findings were found from the analysis of a sub-zone adjacent to the railway station in order to discourage intra-zonal commuting. Any proposals for a sub-zone would require careful consideration and a full consultation with all properties within the existing zone.
- 3.14 Possible sub-zone boundaries are shown along with the parking stress analysis in **Appendix A**. Maps showing the updated parking proposals are shown in **Appendix B**.

Review of Car Parks

- 3.15 It is noted that free parking for business permit holders is proposed within the Holly Road car park, to help mitigate the loss of on-street business permit holder parking in the Twickenham Riverside area. During the July 2020 consultation, comments were raised relating to the need for car park improvements for factors such as lighting, safety, parking bay size and pedestrian access. In response to this, Systra has undertaken an audit of Arragon Road, Holly Road, Church Lane and York Road car parks in February 2021.
- 3.16 The recommended changes for each of the car parks focused on improvements to lighting, wayfinding signage, re-lining of bays, pedestrian walkways and dropped kerbs and is summarised for each car park in turn below:

Arragon Road Multi-Storey car park

- Re-paint all walls and columns within the car park to brighten its appearance and allow the reflection of more light;
- Consider increasing the intensity of lighting within the car park;
- Review the existing provision of CCTV cameras;
- Introduce marked pedestrian aisles on all levels to link to existing pedestrian routes on up and down ramps;
- Provide dropped kerbs and tactile paving in the footway either side of the car park vehicular access and egress;
- Introduce a marked / coloured pedestrian route across the entrance and exit to alert drivers to the possibility of pedestrians crossing in front of them;
- Provide signage for pedestrian routes to / from the town centre;
- Provide cycle parking stands within the existing cycle parking area;
- Provide an additional payment machine on Level 8 of the car park.

It should be noted that a review of the parking bay sizes, found that the parking spaces in this car park are marked at 2.35m wide, however, the structure's supporting columns reduce the width to 2.15m, making it more difficult for larger vehicles to access these spaces.

Whilst it is recognised that the July consultation raised a number of concerns regarding the size of bays, if this were to be rectified and the car park re-lined to ensure all bays were 2.4m wide, the number of spaces per level would be reduced from 46 to 29, realising an approximate reduction in capacity of over 35%. Given that capacity constraints and availability of spaces were also raised as concerns during the consultation, such a significant reduction in capacity is expected to be detrimental and smaller vehicles can use the more constrained parking bays. Therefore no changes to the bay sizes is recommended. One option to consider for the future is the provision of wider bays at the higher levels of this car park for those with wider vehicles, along with considering a shorter maximum stay on the lower levels to provide dedicated space for the turnover of vehicles for the local shops.

Holly Road Car Park

- Review the intensity of lighting levels within the car park and make improvements where appropriate;
- Consider the installation of CCTV cameras;
- Introduce direction signage for pedestrians to / from the town centre;
- Consider relocation of the recycling facilities to an alternative location to provide additional parking spaces

Church Lane Car Park

- Review the intensity of lighting levels within the car park and make improvements where appropriate;
- Consider the installation of CCTV cameras;
- Re-mark parking bays to a consistent and standard size as much as possible;
- Provide signage to the town centre and riverside attractions at the Church Lane / Flood Lane junction;

- Improve signage to the car park at the Church Lane / Flood Lane junction;
- Examine options to provide a pedestrian footway along the lower section of Flood Lane.

It is noted that Church Lane does not provide a disabled parking space and whilst this could be possible to introduce, the gradients and lack of footways in the shared space environment may mean that disabled drivers or passengers could find parking in this car park more difficult to access when leaving or returning to their vehicles, compared to other town centre car parks.

York House car park

- Review the intensity of lighting levels within the car park and make improvements where appropriate;
- Redress the car park's surfacing and re-paint the bay markings;
- Consider the installation of CCTV cameras;
- Re-mark parking bays to a consistent and standard size as much as possible, including all disabled bays;
- Provide directions to payment machines from the southern end of the car park;
- Provide signage for pedestrian routes to the town centre, particularly via the Church Street pedestrianised area.

All car parks

- Introduce car parks Advance Directional Signage (ADS) for all car parks as reported to the Committee in November 2020. Where funding will so allow, such signage to be electronic to provide updated information on availability of parking spaces to drivers.
- Implementation of the above recommendations for each of the car parks will aim to improve the parking environment for all and help to promote use of the town centre car parks.

- 3.17 Officers will look to commence the progression of a number of these improvements in discussion with the Committee Chair and ward councillors during this financial year.

Parking Proposals - Officer conclusions and way forward

- 3.18 The on-street parking stress analysis shows that there are more parking permits on issue than spaces provided but the overnight parking surveys suggest that there is spare parking capacity in the CPZ. The higher take up of permits could be due to some residents with off-street parking purchasing a permit to allow them to park in the CPZ. This would allow visitors to any such residents to park on their driveway. It is also possible that not all residents that park in the CPZ are at home at the same time. Furthermore, a number of resident permit holders have been observed to park in the Holly Road car park where up to 160 spaces are available to them for free and without time limit.
- 3.19 Across the borough, demand for parking permits can exceed the supply either in a part of a CPZ or across the whole CPZ. Where possible, the Council has

made changes to ease these pressures by removing unnecessary lengths of yellow lines and adding new spaces and/or providing more shared-use spaces. The additional 28 spaces contained within the parking proposals contained within this report have been developed using this approach.

- 3.20 The results of the CPZ / Holly Road car park overnight parking surveys have found that whilst the Resident-only parking spaces have the highest parking stress on average at 91%, there is available capacity within the CPZ to accommodate the additional demand as a result of the proposed removal of 82 parking spaces on The Embankment/Water Lane/Wharf Lane area. Encouraging the use of shared-use spaces and the car parks will also help to alleviate future potential increases in parking demand along with the introduction of the new parking spaces in the CPZ. The parking stress analysis does not include the 28 new spaces that are proposed which can only help the CPZ in adapting to the removal of the spaces.
- 3.21 Introducing a CPZ sub-zone can create parking difficulties for residents that would be situated immediately outside its boundary in the CPZ. It is felt appropriate to implement the parking proposals allowing these to settle into operation and not to consider a sub-zone at this time in both the Riverside area and Station areas. Any further consideration of a sub-zone or sub-zones would involve further reassessment of the parking demand across the CPZ and consultation with all properties in the CPZ.
- 3.22 In summary, the parking proposals developed to date seek to address the displacement of the removal of 82 parking spaces around The Embankment area. The true impact of the removal of the spaces is not known at this time as the Council works towards a resolution in this matter. The finalised proposals will be implemented by way of Experimental Traffic Orders which provide a period of operational experience and a statutory consultation period of six months along with an option to make early modifications if required. It may be necessary through future reviews over time to make further changes as the CPZ and car parks fully adapt to the removal of the spaces on The Embankment.

Access and Servicing Proposals

- 3.23 With the closure of The Embankment to all vehicular traffic as part of the Riverside project, various options have been explored to look at how vehicles can access and exit the area safely, including vehicles used for servicing. The possibility of providing a vehicular link between Water Lane and Wharf Lane via the extension of the existing service road has been explored but, due to the differing land levels, this has not been considered viable.

A series of delivery and servicing surveys were undertaken in early March 2020, with the survey area including the following streets;

- Bell Lane;
- Church Street (between Water Lane and Church Lane);
- King Street (between Wharf Lane and Water Lane);
- The Embankment (between Wharf Lane and Bell Lane);
- Water Lane;
- Wharf Lane; and
- The service road behind Nos 3 – 33 King Street.

Light Goods Vehicles (LGVs) were the most common vehicle type recorded during the weekday survey, making up 50% (131 vehicles), of the total number of servicing vehicles recorded over an average daily period. In contrast to this, motorcycles were the most common vehicles recorded undertaking servicing activity for the weekend survey, with 40% (106 vehicles) of all deliveries being undertaken by this mode. A small number of larger vehicles (HGVs/Refuse vehicles) were observed in the area during the surveys. In addition, discussions have been held with the Eel Pie Association concerning their access and servicing needs.

- 3.24 It is noted that with fewer spaces being available on the Embankment, there will be fewer vehicles entering/exiting the area. During the March 2020 surveys approximately 30% of all deliveries occurred during the early-mid morning period. During both weekday and weekend survey days, the greatest frequency of deliveries was recorded on King Street and Water Lane.
- 3.25 In considering on how servicing and access to the area can be provided, the following measures have been developed to date:
- The provision of six loading bays adjacent to Eel Pie Island. Provision for the larger servicing vehicles, including articulated lorries would be accommodated by parking on the single yellow line immediately east of the Eel Pie footbridge where this currently takes place
 - The possible occasional provision for access along The Embankment for larger servicing vehicles such as those servicing the Eel Pie Island
 - Changing the current one way working in Water Lane to two-way working to allow vehicles to access/exit the area at all times. Most parking spaces would be removed to maintain the two-way traffic flows. An area for servicing would be maintained at the northern end of Water Lane to provide for nearby properties including those in Church Street as the pedestrian zone now in operation. At the southern end of Water Lane, an area will be set aside for servicing vehicles to wait during busy servicing times and/or when the area is subject to flooding
 - Changing the current one way working in Wharf Lane to two-way working to allow vehicles to access/exit the service roads at the rear of King Street and King Street Parade at all times. As with Water Lane, most parking spaces would be removed to maintain the two-way traffic flows and to aid vehicle turning movements. A restriction on the size of vehicles entering Wharf Lane will be imposed to reduce the risk of head to head vehicle confrontation and, in turn, to reduce the impact on traffic flows at this junction
 - The provision of a new loading bay in King Street west of the junction with Water Lane will be progressed, to be constructed by way of a shared surface. Its purpose will be to provide a servicing area for all nearby businesses including those that may be using the service road at the rear of Nos 3 – 33 King Street
 - The provision of a new loading bay in Wharf Lane near its junction with King Street. Its purpose will be to provide a servicing area for all nearby businesses
 - The provision of parking for bona fide tradesmen to Eel Pie Island, its final form to be agreed but it is understood that this will be by way of the issue of chargeable dispensations

- 3.26 As described above, allowing an area at the southern end of Water Lane for vehicles, especially servicing vehicles, to load/unload will also provide an area for vehicles to wait during periods of high tides. A review of the existing flood warning signage is currently being undertaken.
- 3.27 The plans showing the servicing and access proposals developed to date are shown in **Appendix C** and include the possible retention of two pay and display/pay by phone spaces, relocation of the existing motorcycle bay and the creation of two new disabled spaces. There is also the provision of a loading bay in Wharf Lane included in these proposals. If implemented, the two pay and display/pay by phone parking bays created will accordingly increase the number of new parking spaces in the zone (currently estimated at 28) to 30.
- 3.28 In summary, the access and servicing proposals developed to date seek to accommodate the needs of the area once the development is in place with the section of The Embankment, between Water Lane and Wharf Lane, closed to all vehicular traffic. The proposals have taken into account various comments and suggestions made in meetings with stakeholders and the consultation undertaken last year. As with the parking proposals, it is not known at this stage as to how effective these measures will be. The finalised proposals will be implemented by way of Experimental Traffic Orders which provide a period of operational experience and a statutory consultation period of six months along with an option to make early modifications. There will be a need to monitor them once implemented and to consider further changes where appropriate in the future.
- 3.29 The finalised access and servicing proposals will be included in the Transport and Access Statement for the planning application for the development. In respect of these measures, a road safety audit will be undertaken to assess the implications to include consideration of any road safety concerns that have been raised to date.

4. DIRECTOR OF RESOURCES COMMENT ON THE FINANCIAL IMPLICATIONS

- 4.1 The Director of Resources comments that the estimated costs of introducing the parking proposals in the CPZ is £50,000 with further expenditure to be incurred to introduce changes to the car parks (including the installation of new directional signage), estimated to be £100,000. These costs will be met from within approved revenue budgets and are expected to be incurred over the next 2 to 3 financial years. Where possible, external funding sources will be sought to partly or fully meet these costs.
- 4.2 The impact on parking from the removal of the 82 parking spaces is anticipated to be fully offset by vehicles parking elsewhere within the CPZ and/or in the town centre car parks and is therefore expected to have no financial impact.

5. PROCUREMENT IMPLICATIONS

- 5.1 All work relating to the CPZ, car parks and access/servicing measures as described in this report will be carried out by officers directly employed by the

Council or, where required, by the Council's term contractors / consultants.

6. LEGAL IMPLICATIONS

- 6.1 The making of any Traffic Order is authorised by the Road Traffic Regulation Act 1984 as amended by the Local Government Act 1985 and the Road Traffic Act 1991.
- 6.2 The considerations that a local authority must include in the implementation of controlled parking zones are set out in sections 45 and 122 of the Road Traffic Regulation Act 1984. This includes a general power to take into account anything that a local authority might consider relevant and specifically:
- free movement of traffic;
 - access to premises;
 - availability of off-street parking;
 - impact on amenity; and
 - National air quality strategy (section 80 of the Environment Act 1995).
 - the extent to which off-street parking accommodation, whether in the open or under cover is available in a neighbourhood or the provision of such parking accommodation is likely to be encouraged there by the designation of parking places
- 6.3 In considering the need for a CPZ or the review of a CPZ, the Council will take into account the above factors and consider the results of any consultations with the community, the effects that a scheme could have on various stakeholders and will wherever possible make provision for such groups to mitigate or minimise the impact of any schemes. This would be in line with the provisions of the Equality Act 2010.

7. CONSULTATION AND ENGAGEMENT

- 7.1 The final proposals contained within this report will be implemented by way of Experimental Traffic Orders. This will involve the delivery of a letter and consultation drawing(s) to all properties in the CPZ and provides a statutory consultation period of six months of operation of the measures in which representations can be made.
- 7.2 During the first six months of operation, the scheme will be monitored. This will involve noting the initial feedback received, the consideration of further parking beat surveys being carried out along with site visits by officers. Any operational difficulties identified with any changes will be investigated and further changes ('fine tuning') measures implemented where this is considered appropriate.
- 7.3 In addition to the distribution of consultation letters, feedback on the implemented changes will be invited from outside the CPZ with use of social media.
- 7.4 Further reviews to the measures will be considered in the future as necessary.

8. RECOMMENDATIONS

That the Committee:

- Note and support the updates to the parking proposals in relation to the Twickenham Riverside development project along with the access and servicing proposals in this area as set out in this report.
- Delegates authority to the Director of Environment and Community Services to finalise the parking, access and servicing proposals in discussion with the Committee Chair.
- Agree that the implemented proposals be monitored during the first six months of their operation and then reviewed to see if further changes are warranted.
- Agree that further reviews of the implemented proposals be considered as necessary in future years.

9. WIDER CORPORATE IMPLICATIONS

9.1 POLICY IMPLICATIONS / CONSIDERATIONS

The Council will consider carrying out a CPZ consultation, CPZ Review or other parking-related change in line within the approved policy. Where there is approval to proceed with implementing a new scheme or changes to an existing scheme, formal advertisement of traffic orders will be carried out as required which invite representations within 21 days.

Alternatively, approval may be sought to implement a new scheme or changes to an existing scheme on a trial basis through the making of Experimental Traffic Orders. These orders invite representations to be made during the first six months of operation.

The changes to the traffic system in the roads around the redevelopment site are to ensure that provision for servicing and access are maintained in the area and with the safety of all roads users in mind.

9.2 RISK CONSIDERATIONS

There may be a risk of vehicle displacement to other locations following the implementation of any new CPZ, changes to an existing CPZ or any other parking-related changes. Wherever possible, the Council will seek to offset any loss of parking space by reviewing/maximising the parking capacity in an area.

A safety audit will be undertaken on the access and servicing arrangements to identify any issues for consideration and for any modifications to the proposals to be considered.

9.3 EQUALITY IMPACT CONSIDERATIONS

The Council's Strategy seeks to regulate on-street parking. It will consider the

needs of residents and their visitors. It will also accommodate the needs of the business community and local amenities so far as practically possible. As part of the strategy it is important to review the parking controls and other arrangements from time to time.

The regulation of traffic and parking can alleviate safety problems created by inconsiderate parking in areas of heavy demand, thereby reducing the risk to people with disabilities, the elderly and children.

The parking and access proposals as described in this report are aimed at addressing the impact on parking demand resultant from the removal of parking spaces as in the roads around the site. These proposals are a key part in the redevelopment plans for the Twickenham Riverside which in itself are expected to have a positive impact on the diversity of the community we serve and the people we employ.

The Council is committed to providing services to its many different communities, by a workforce that reflects the diversity of society.

This commitment is in line with the London Borough of Richmond upon Thames Local Implementation Plan (LIP3) Report. This document can be viewed via this link:

[LIP3 Equality Impact Assessment.pdf](#)

A separate Equality Impact Needs Assessment (EINA) will be carried out on the parking, servicing and access proposals should these be progressed to implementation.

9.4 ENVIRONMENTAL AND SUSTAINABILITY CONSIDERATIONS

The Council is committed to addressing localised parking problems by way of the implementation and review of CPZs and other parking measures. CPZs and parking charges can discourage non-essential car journeys making the Richmond Borough a cleaner, greener borough.

The Council will review the traffic systems on its network from time to time to see if modifications are warranted to ensure the safe and free movement of traffic. As part of this work, the Council will look to facilitate the servicing of properties where it is safe and practical to do so.

The Council will erect signage for its CPZs/parking schemes using existing street furniture where possible to keep street clutter to a minimum. Existing schemes will be reviewed from time to time to improve their efficiency and this includes the replacement of old signage.

10. BACKGROUND INFORMATION

None.

11. BACKGROUND PAPERS

Report to Transport and Air Quality Committee 5 November 2020
'Twickenham Riverside Development – Parking and Servicing proposals'

12. APPENDICES

Appendix A - March 2021 Overnight Parking Survey Results
Appendix B - Drawings showing the amended parking proposals
Appendix C - Drawing showing the servicing and access proposals

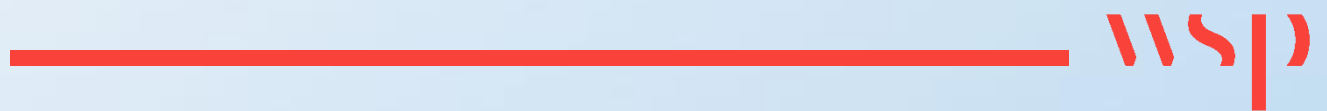
13. CONTACTS

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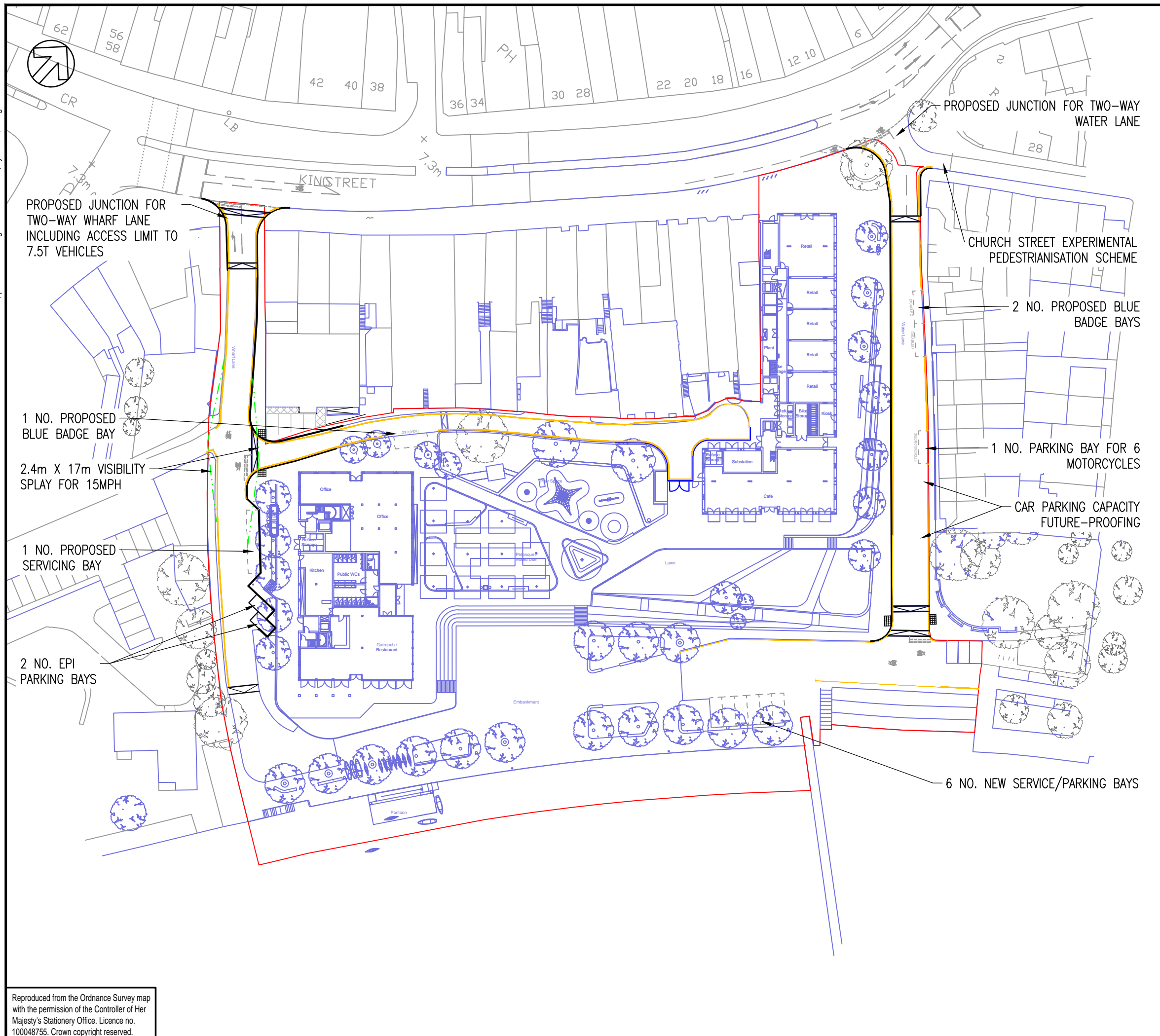
Michael Gilroy
Head of Engineering, Traffic and Parking Policy
Traffic and Engineering
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Appendix D

VEHICLE SWEEP PATHS



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DO NOT SCALE

REV	DATE	BY	DESCRIPTION	CHK	APP
P13	02/08/2021	CRJB	RED LINE UPDATED	RT	TG
P12	23/07/2021	CRJB	UPDATED ARCHITECT AND LANDSCAPE LAYOUTS	RT	TG
P11	15/07/2021	CRJB	RED LINE BOUNDARY ADDED	RT	TG
P10	14/07/2021	CRJB	UPDATED LANDSCAPE LAYOUT	RT	TG
P09	22/06/2021	CRJB	UPDATED LANDSCAPE LAYOUT	RT	TG
P08	01/06/2021	CRJB	UPDATED ARCHITECT AND LANDSCAPE LAYOUTS	RT	TG
P07	19/05/2021	CRJB	PARKING UPDATED AND KINGS STREET BAY ADDED	RT	TG
P06	13/05/2021	CRJB	WEIGHT RESTRICTION FOR WHARF LANE ENTRY	RT	TG
P05	07/05/2021	CRJB	UPDATED WHARF LN PARKING / SERVICING BAYS	RT	TG
P04	01/04/2021	CRJB	UPDATED LOCATION OF WATER LANE P&D BAYS	RT	TG
P03	25/03/2021	CRJB	SERVICE ROAD TURNING AREA UPDATED	RT	TG
P02	11/03/2021	CRJB	LOADING ON SERVICE ROAD & EMBANKMENT BAYS	RT	TG
P01	02/03/2021	CRJB	FIRST ISSUE	RT	TG

DRAWING STATUS: S0 - WORK IN PROGRESS



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CLIENT: HOPKINS

ARCHITECT: HOPKINS

PROJECT: TWICKENHAM RIVERSIDE

TITLE: HOPKINS MASTERPLAN
PROPOSED HIGHWAY ARRANGEMENT

SCALE @ A3: 1:750 CHECKED: RT APPROVED: TG

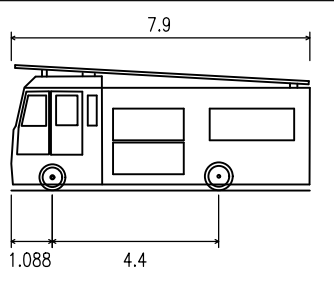
PROJECT No: 70059704 DESIGNED: DRAWN: CRJB DATE: August 21

DRAWING No: 70059704-TP-SK-52 REV: P13

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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

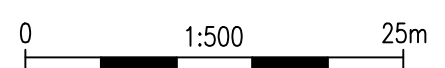
APPROXIMATE RISER LOCATION

18m FROM RISER

APPROXIMATE RISER LOCATION

18m FROM RISER

NOTE:
THIS DRAWING IS PROVIDED FOR SWEEP
PATH ANALYSIS ONLY AND IS SUBJECT
TO REVIEW BY THE FIRE CONSULTANT

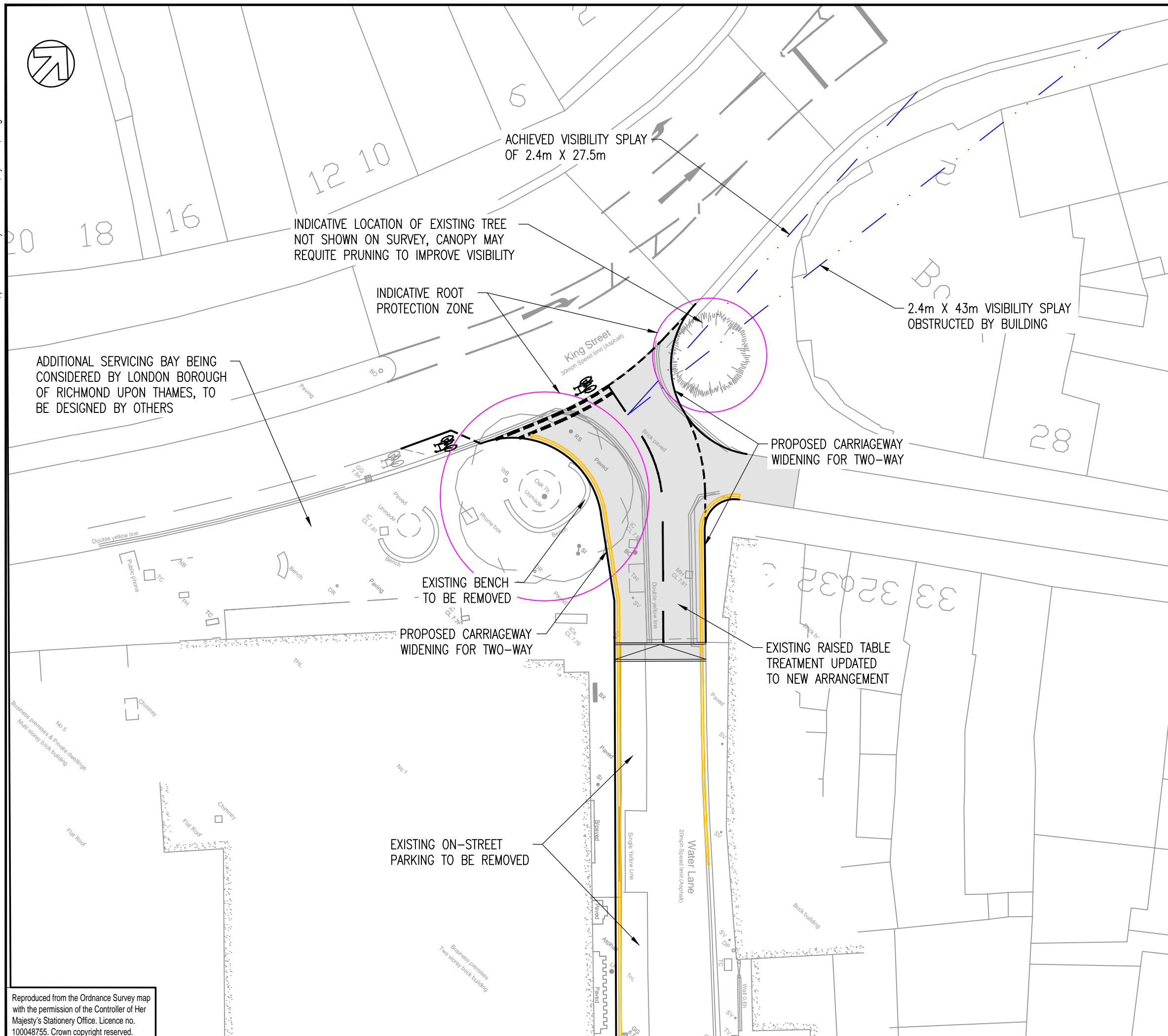


TITLE:
HOPKINS MASTERPLAN
PROPOSED HIGHWAY ARRANGEMENT
FIRE ACCESS SWEEP PATH ANALYSIS

FIGURE No:
70059704-TP-SK-52-TR18

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DO NOT SCALE

NOTES
EXISTING ROAD MARKINGS ARE INDICATIVE ONLY

REV	DATE	BY	DESCRIPTION	CHK	APP
P04	15/07/2021	CRJB	RAMP ADDED	RT	TG
P03	17/09/2020	CRJB	ANNOTATIONS ADDED	RT	TG
P02	08/09/2020	CRJB	INDICATIVE TREE AND ROOT ZONES ADDED	RT	RT
P01	03/09/2020	CRJB	FIRST ISSUE	RT	TG

DRAWING STATUS: S0 - WORK IN PROGRESS



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CLIENT:

ARCHITECT: HOPKINS

PROJECT: TWICKENHAM RIVERSIDE

TITLE: PROPOSED JUNCTION OF KING STREET AND WATER LANE WITH EXIT LANE TAPER

SCALE @ A3: 1:250 CHECKED: RT APPROVED: TG

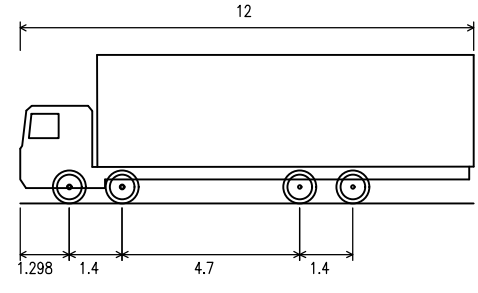
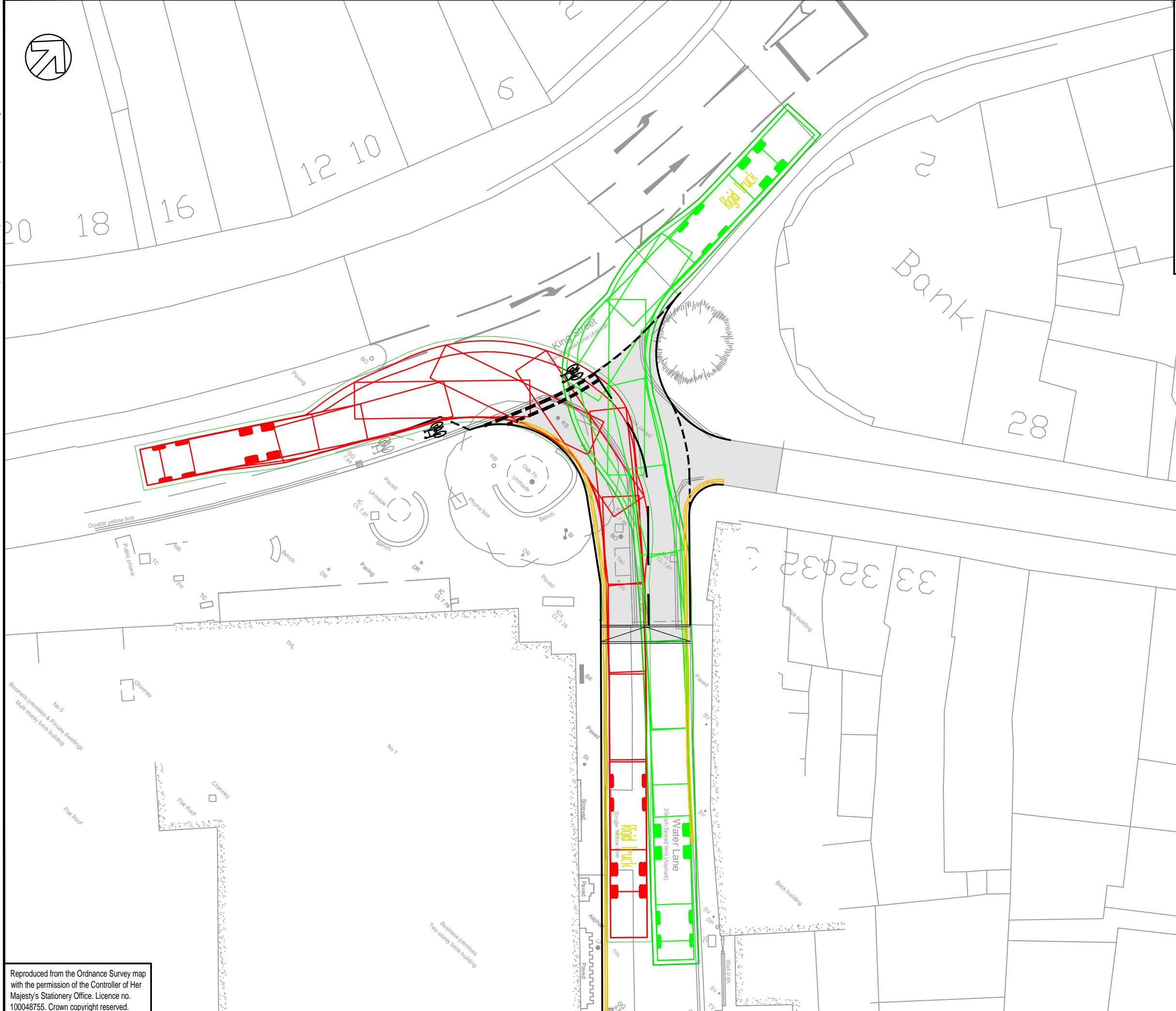
PROJECT No: 70059704 DESIGNED: DRAWN: CRJB DATE: July 21

DRAWING No: 70059704-TP-SK-35 REV: P04

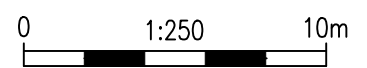
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Rigid Truck	
Overall Length	12.000m
Overall Width	2.500m
Overall Body Height	3.928m
Min Body Ground Clearance	0.412m
Track Width	2.471m
Lock to Lock Time	6.00 sec
Kerb to Kerb Turning Radius	11.900m

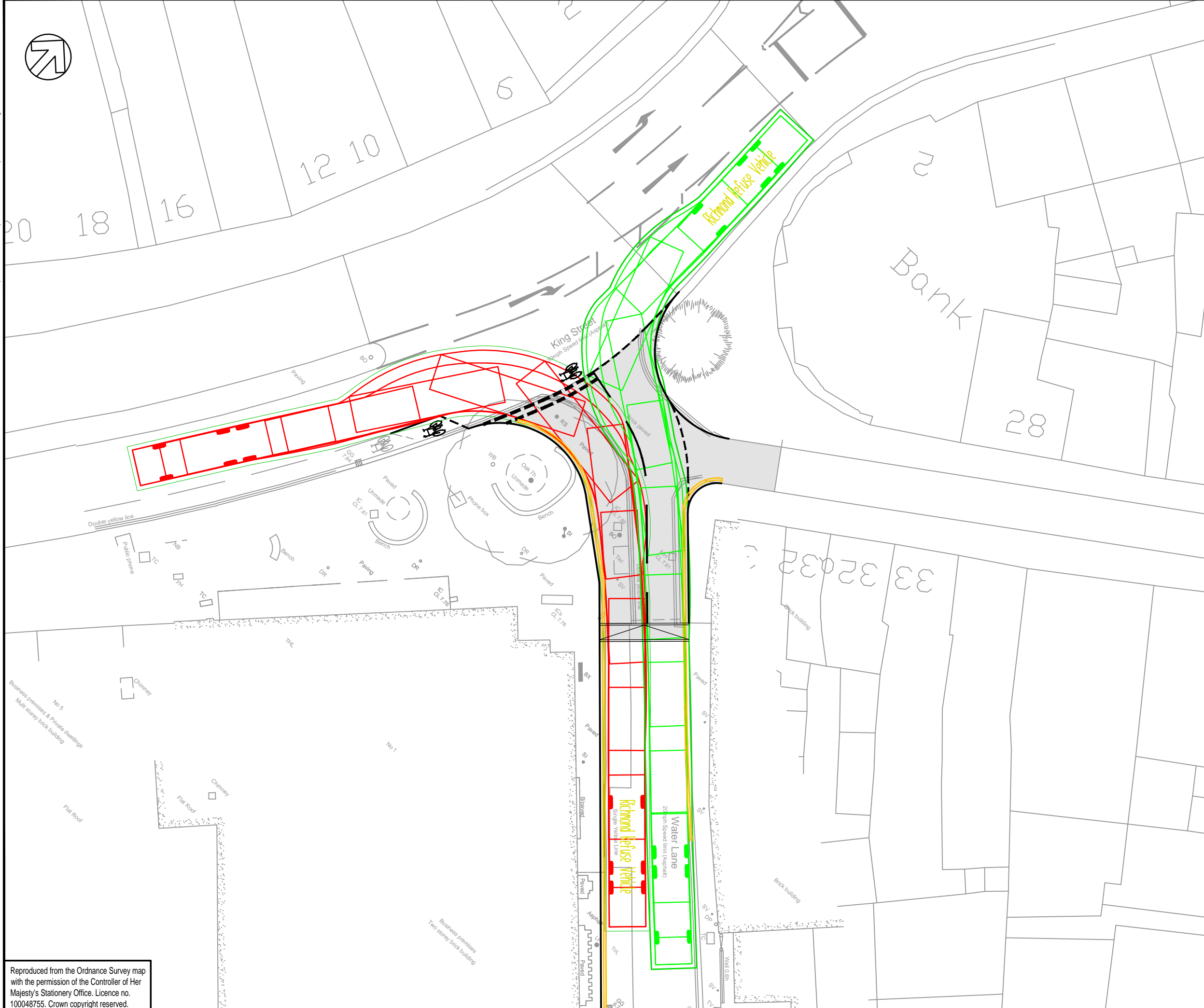


TITLE: PROPOSED JUNCTION OF
KING STREET AND WATER LANE
WITH EXIT LANE TAPER
12m RIGID SWEEP PATH ANALYSIS

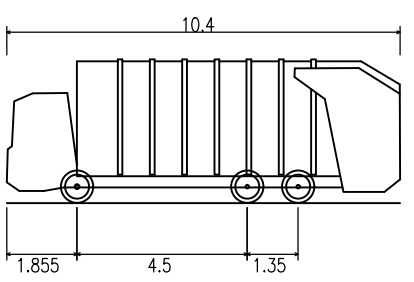
FIGURE No: 70059704-TP-SK-35-TR1

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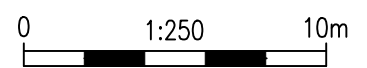
File name \\UK.WSPGROUP.COM\CENTRAL DATA\PROJECTS\00659704 - TWICKENHAM RIVERSIDE - HOPKINS\03 WIPWSP TRANSPORT PLANNING\03 DRAWINGS\70059704-TP-SK-35.DWG, printed on 15 July 2021 11:46:58, by Burton, Craig



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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

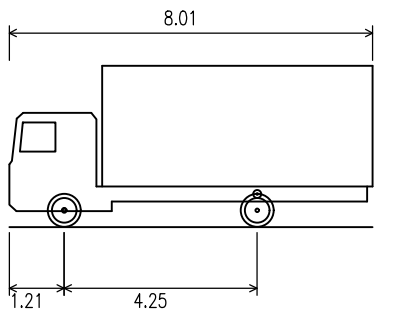
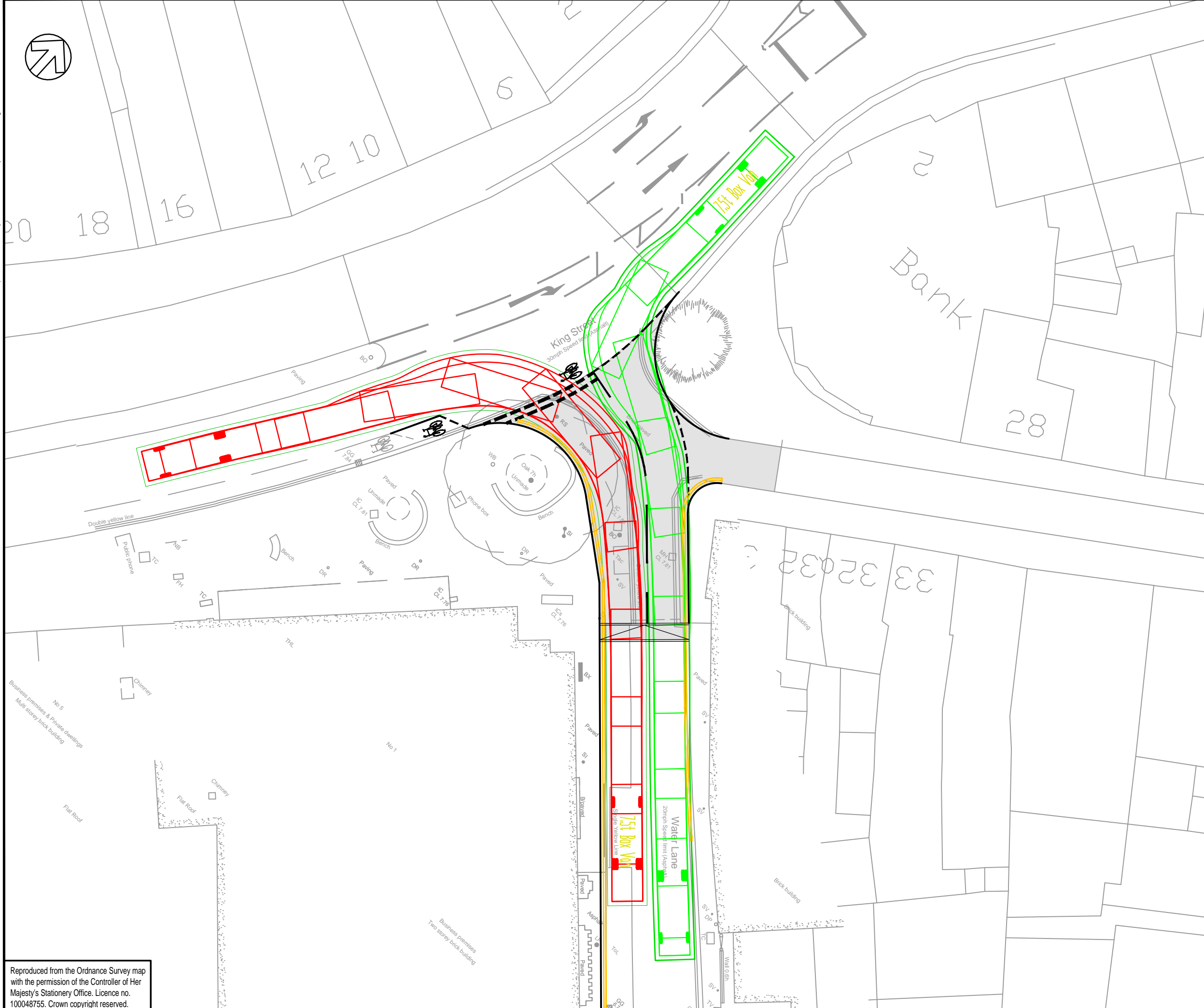


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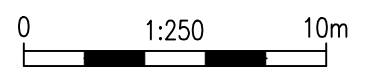
TITLE: PROPOSED JUNCTION OF KING STREET AND WATER LANE WITH EXIT LANE TAPER REFUSE SWEEP PATH ANALYSIS

FIGURE No: 70059704-TP-SK-35-TR2

File name \\UK.WSPGROUP.COM\CENTRAL DATA\PROJECTS\0069704 - TWICKENHAM RIVERSIDE - HOPKINS\03 WIPWSP TRANSPORT PLANNING\03 DRAWINGS\70059704-TP-SK-35.DWG, printed on 15 July 2021 11:47:00, by Burton, Craig



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 4.00 sec
Kerb to Kerb Turning Radius 7.400m

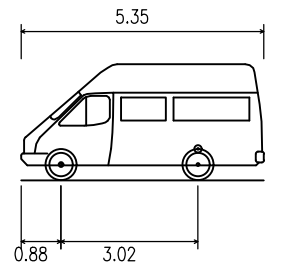
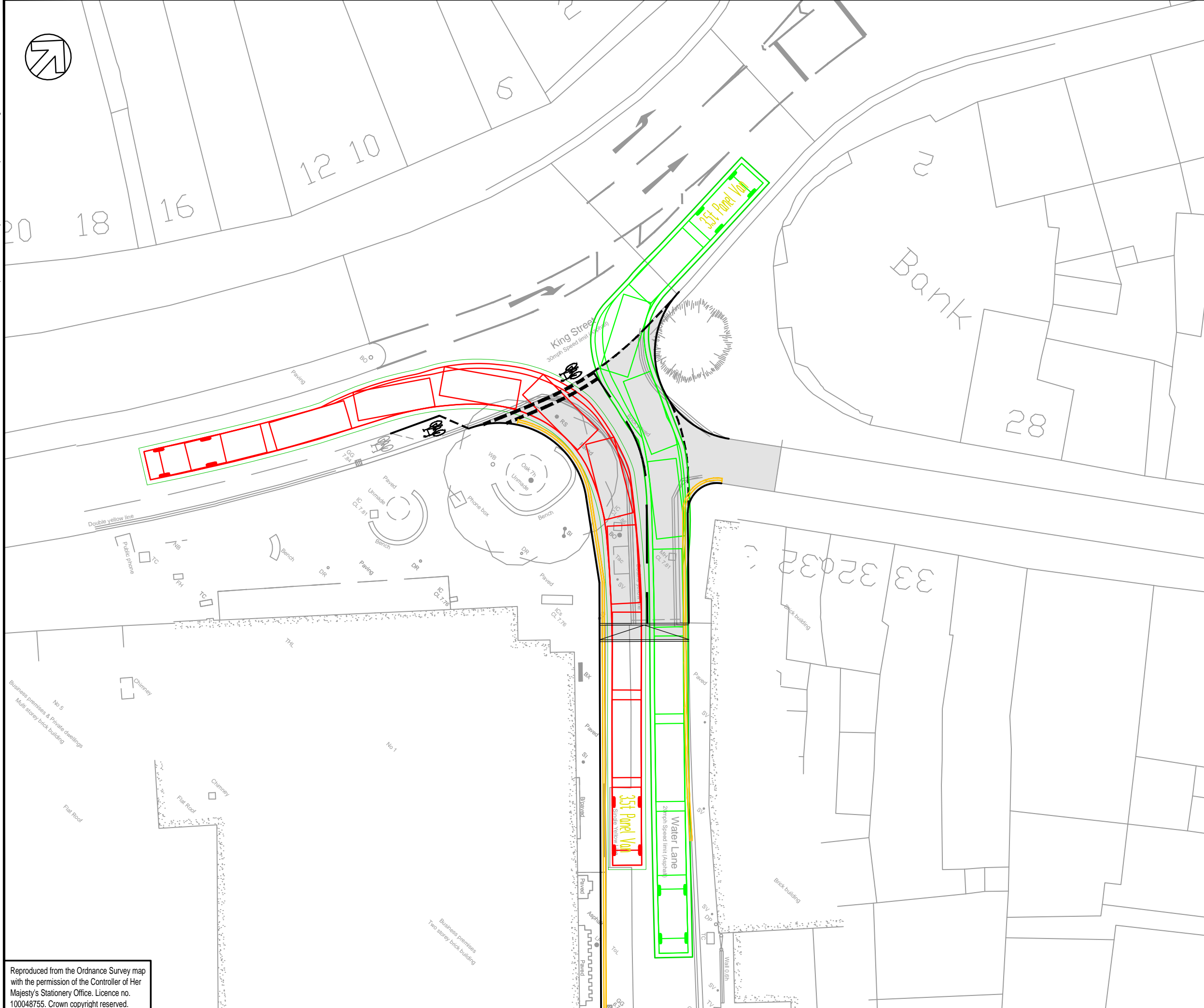


TITLE: PROPOSED JUNCTION OF
KING STREET AND WATER LANE
WITH EXIT LANE TAPER
7.5T BOX VAN SWEEP PATH ANALYSIS

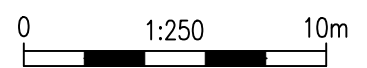
FIGURE No: 70059704-TP-SK-35-TR3

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3.5t Panel Van	
Overall Length	5.350m
Overall Width	1.970m
Overall Body Height	2.562m
Min Body Ground Clearance	0.335m
Track Width	1.970m
Lock to Lock Time	4.00 sec
Kerb to Kerb Turning Radius	5.850m

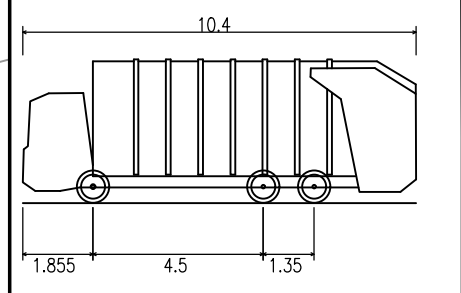
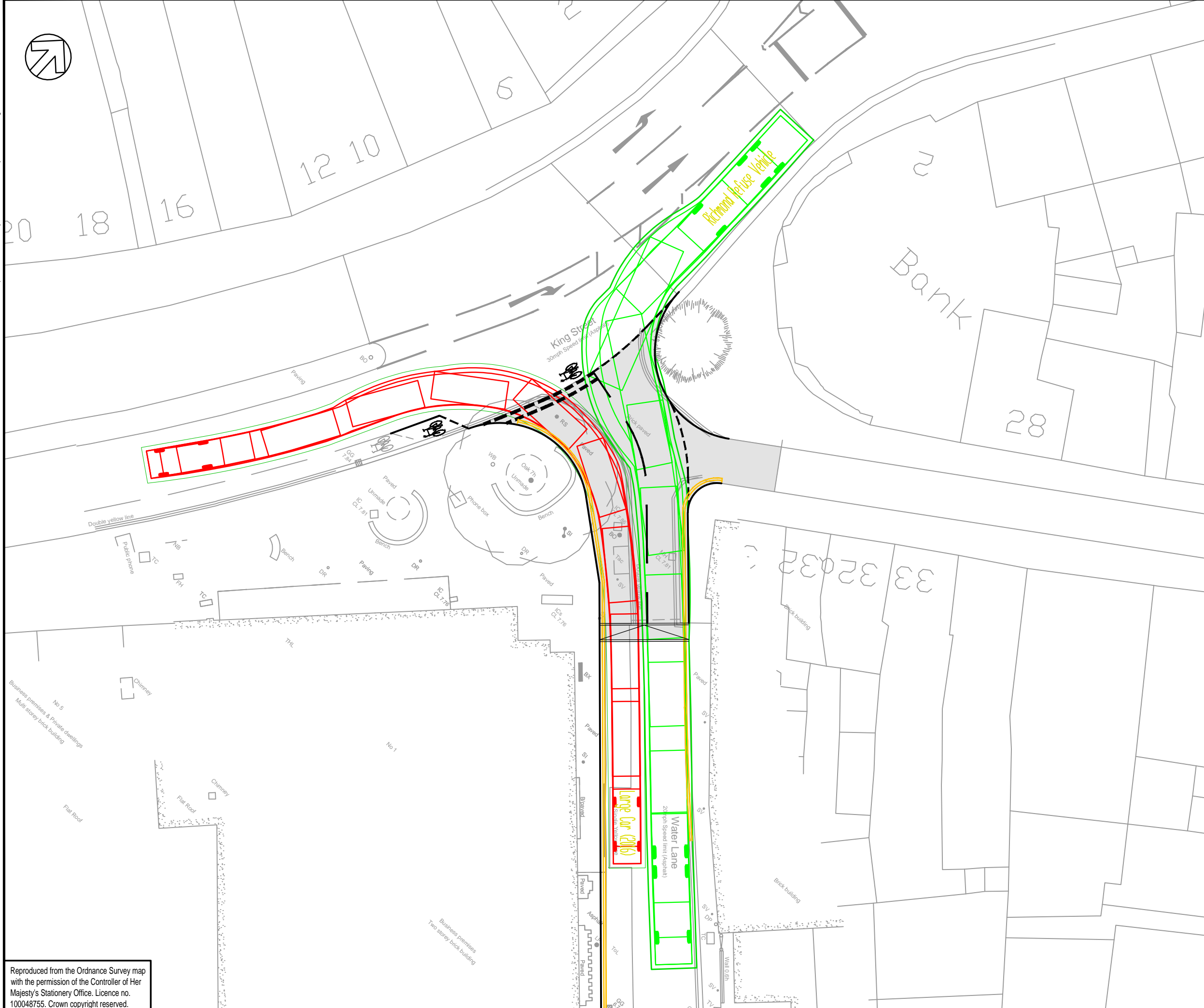


TITLE: PROPOSED JUNCTION OF
KING STREET AND WATER LANE
WITH EXIT LANE TAPER
3.5T PANEL VAN SWEEP PATH ANALYSIS

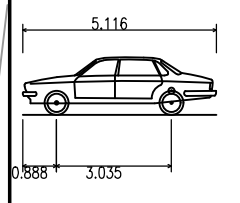
FIGURE No: 70059704-TP-SK-35-TR4

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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



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



TITLE: PROPOSED JUNCTION OF
 KING STREET & WATER LANE WITH EXIT
 LANE TAPER - REFUSE PASSING CAR
 SWEEP PATH ANALYSIS

FIGURE No: 70059704-TP-SK-35-TR6

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