



B R I G H T P L A N

WATERLOO SQUARE, BOGNOR REGIS

MIXED-USE DEVELOPMENT

Transport Statement

Prepared on Behalf of

B5 Ltd

BROK/20/6153

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1 INTRODUCTION

- 1.1.1 This Transport Statement (TS) has been prepared by Bright Plan on behalf of B5 Ltd to support a planning application for a mixed residential/commercial development at Waterloo Square, Bognor Regis. The application site is situated on the eastern side of Waterloo Square as shown in **Figure 1.1**.

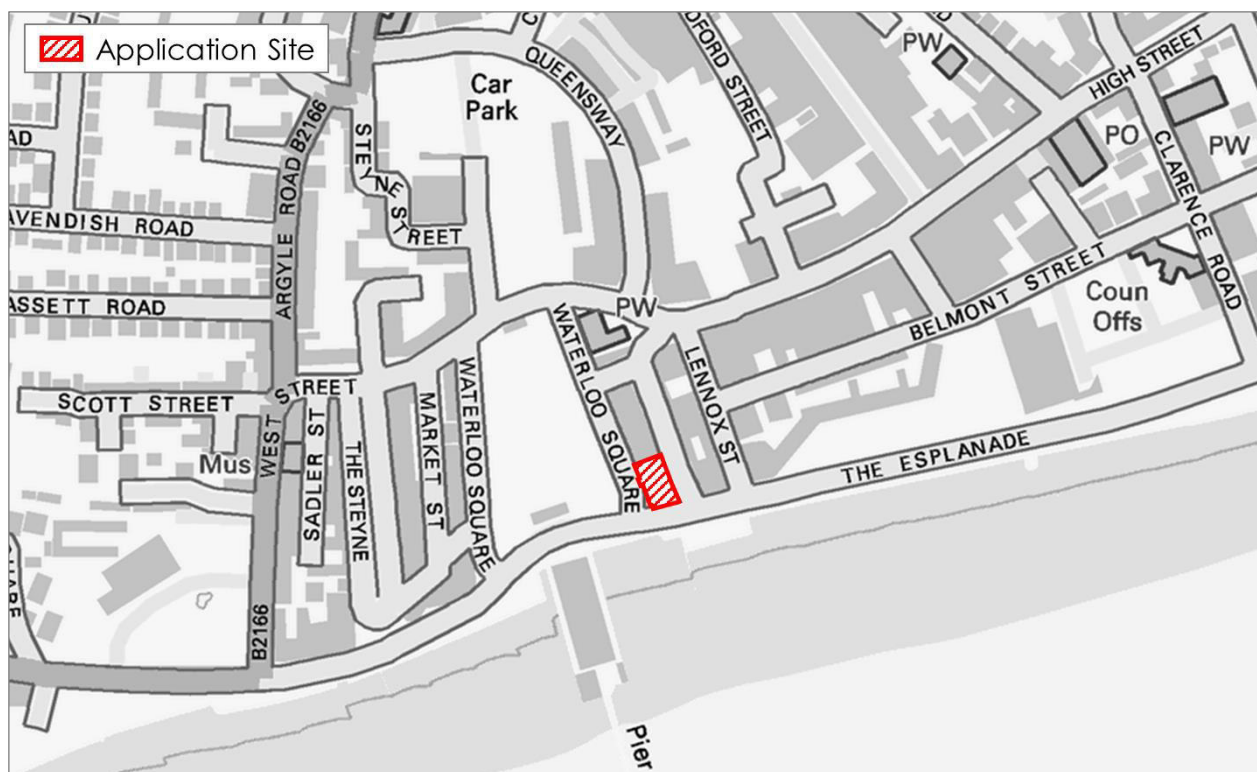


Figure 1.1: Application Site Location

- 1.1.2 The proposed development would involve the construction of 49 apartments, and 2 restaurant/café units, with a basement car park.

1.2 Planning History

- 1.2.1 The application received comments from West Sussex County Council (WSCC) on 3rd December 2019 (see **Appendix A**). The consultation response requested additional information, identifying the following requirements:

- i. *"Clarify proposed access alterations including demonstration of extent of dropped kerb to be reinstated and proposed kerbed radii and tactile paving works. Also provide full extent of vehicular visibility splays.*
- ii. *Provide Stage One RSA and Designers Response in accordance with GG119*
- iii. *Provide full swept path tracking plans to demonstrate workability of proposed access arrangements, showing a car entering and exiting from Waterloo Square, including parking corridor on western side of carriageway.*
- iv. *Reconfigure proposed waiting spaces so these are correct side of access and do not overhang public footway. Demonstrate workability of this and clarify how traffic light system will operate.*



- v. *Demonstrate full workability of parking layout including removal of spaces 1-2 and motorcycle parking and amended disabled parking bays. Also clarify whether electric vehicle charging points will be provided.*
- vi. *Provide additional information on trip generation and accessibility of site - this could be provided in form of Transport Statement.*
- vii. *Demonstrate that loading/delivery bay accessed via Norfolk Street is workable with largest vehicle anticipated being used for swept path tracking plans.*
- viii. *Confirm that ground floor use will be A3 cafe/restaurant only and no other commercial use."*

1.3 Scope of Transport Statement

- 1.3.1 This TS outlines the key transport planning matters in accordance with national, regional and local guidance, reviewing the site's accessibility, relevant planning history, the proposed development layout, car and cycle parking requirements, access arrangements, servicing arrangements, and the proposed trip impact on the local road network.
- 1.3.2 The remainder of this report comprises the following sections:
 - i. **Section 2** sets out the transport conditions in the local area and highway network, and provides a review of highway safety;
 - ii. **Section 3** provides an assessment of the proposed access and internal layout design, parking provision, the site's servicing arrangements, and the anticipated traffic impact on the local highway network;
 - iii. **Section 4** provides an assessment of the anticipated traffic impact resulting from the development supported by a trip generation assessment;
 - iv. **Section 5** provides a summary of the TS conclusions.

2 BASELINE CONDITIONS

2.1 Site Location and Description

- 2.1.1 The site previously accommodated a range of site uses including 5 residential flats, restaurant/cafés, retail units, an amusement arcade, and nightclub, which were demolished following a serious fire in 2016. The site is bordered by adjacent commercial/residential properties to the north, Norfolk Street to the east, The Esplanade to the south, and Waterloo Square to the west. The existing site context is demonstrated in **Figure 2.1**.

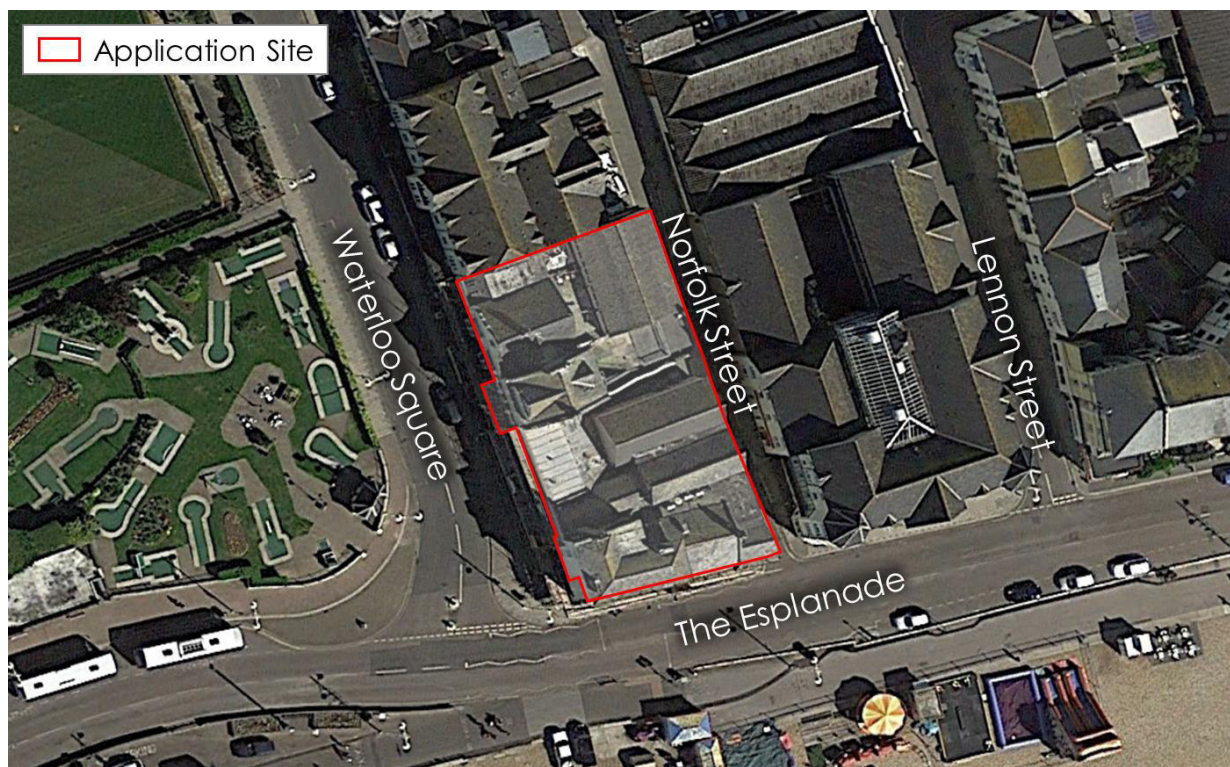


Figure 2.1: Aerial View of Site Location

2.2 Local Road Network

- 2.2.1 Waterloo Square runs along the site's western boundary and comprises a c.8m wide two-way carriageway flanked by footways on either side. Waterloo Square provides a series of marked pay and display/permit holder parking bays on both sides of the carriageway, interspersed with double and single yellow lines. Waterloo Square's highway features are shown in **Figure 2.2**.



Figure 2.2: Waterloo Square Heading North

- 2.2.2 Norfolk Street runs along the site's eastern boundary, providing access to the rear of the site. The road is one-way (north to south) and has a varying carriageway/footway width (c.3m wide carriageway adjacent to the site). Parking is restricted on Norfolk Street, enforced by double yellow lines. Norfolk Street's highway features are shown in **Figure 2.3**.



Figure 2.3: Norfolk Street Heading South

2.3 Wider Highway Network

- 2.3.1 The A29 is situated c.1.2km to the north of the site and can be access via the B2166. The A29 runs north from Bognor Regis providing a connection to both the A259 and A27. The A259 facilitates access locally to Chichester to the west and Littlehampton to the east. The A27 runs east to west facilitating access locally to Worthing and Brighton. The site's location in the context of the wider highway network is shown in **Figure 2.4**.



Figure 2.4: Wider Highway Network

2.4 Accessibility Credentials

Pedestrian Accessibility

- 2.4.1 Waterloo Square and The Esplanade are both flanked by pedestrian footways on either side of their carriageways and are supported by a range of crossing facilities including signalised crossings, dropped kerbs and pedestrian refuge islands. The footways connect with the wider footway network facilitating pedestrian access throughout Bognor Regis. The existing pedestrian infrastructure in the vicinity of the site is shown in **Figure 2.5**.



Footway Flanking Waterloo Square



Signalised Crossing on The Esplanade

Figure 2.5: Pedestrian Infrastructure in the Vicinity of the Site

- 2.4.2 The Chartered Institute of Highways and Transportation's (CIHT) publication 'Providing for Journeys on Foot' (2000) states that the average length of a journey on foot is 1km. It further recommends a preferred maximum walking distance of 2km for commuting journeys. As shown on **Plan 01**, a wide range of local services and amenities, including local bus stops, are situated within 1km of the application site and are therefore accessible on foot.



Cycle Accessibility

- 2.4.3 The National Cycle Route (NCR) no.2 runs along Bognor Regis promenade facilitating cycle access along the coast to Felpham and Flansham and on to Littlehampton. The NCR no.2 connects with the South Coast Cycle Route (SCCR) c.1km to the west of the site, facilitating cycle journeys to the western area of Bognor Regis. In addition, there is a local cycle route flanking the A259 between Bognor Regis and Chichester, facilitating journeys between Bognor Regis town centre and Chichester city centre. The local cycle route network is shown on **Plan 01**.
- 2.4.4 The CIHT's publication 'Cycle Friendly Infrastructure' (1996), suggests that reasonably fit individuals can comfortably cycle a distance of 8km to workplace destinations. The full extent of Bognor Regis is therefore accessible from the site by cycle.

Accessibility by Bus

- 2.4.5 The 'West Street' bus stops are situated on Waterloo Square c.160m to the north of the site, and the High Street bus stops (stops A – D) are situated within Bognor Regis town centre c.180m to the northeast of the site. The stops provide services to a range of local destinations including Chichester and Littlehampton, as well as a National Express service to London. Details of the services available from local stops are provided in **Figure 2.6**.

Service No.	Route Summary	Typical Frequency	Operating Hours
026	Bognor Regis – London	Mon-Sun: 1 per day	Mon-Fri: 07:35 Sat-Sun: 09:10
61	North Bersted - South Bersted - Bognor Regis - Aldwick (Circular)	Mon-Sat: 3 per day	Mon-Sat: 09:53 – 13:53
62	North Bersted - South Bersted - Bognor Regis - Aldwick - Nyetimber (Circular)	Mon-Sat: 2 per day	Mon-Sat: 10:53 – 12:53
66A / 66C	Bognor Regis - Yapton - Bognor Regis	Mon-Sat: 1 every 2 hours	Mon-Sat: 08:15 – 17:40
67	Bognor Regis - North Felpham - Glenwood Estate - Bognor Regis	Mon-Sat: 1 every 2 hours	Mon-Sat: 09:50 – 16:10
69	Wick - Littlehampton - Bognor Regis - Barfoots of Botley	Mon-Sat: 2 per day	Mon-Sun: 05:00 – 16:00
600	Elmer - Bognor Regis - Chichester	Mon-Sat: 1 every 5 – 20min Sun: 1 every hour	Mon-Sat: 06:05 – 21:25 Sun: 08:05 – 18:05
700 Coastliner	Littlehampton - Bognor Regis - Chichester	Mon-Sat: 1 every 20min Sun: 1 every 30min	Mon-Fri: 05:44 – 00:12 Sat: 06:26 – 00:12 Sun: 07:44 – 00:12
Star	Bognor Regis - South and North Bersted - Bognor Regis	Mon-Sat: 1 every 30min	Mon-Fri: 07:41 – 17:41 Sat: 07:56 – 17:56
U7	Bognor Regis Hotham Park - Chichester University - Chichester	Mon-Fri: 1 every 1hr 30min	Mon-Fri: 07:09 – 23:43

Figure 2.6: Services Available from Local Bus Stops

Accessibility by Train

- 2.4.6 Bognor Regis railway station is situated c.500m to the north of the site and is accessible on foot or by cycle. The station provides regular services to a range of locations including Barnham, Littlehampton, Chichester, Horsham and London Victoria. A summary of services available is provided in **Figure 2.7**.



Destination	Route Summary	Typical Journey Time	Typical Frequency
Barnham	Bognor Regis – Barnham	6 – 7 minutes	4 every hour
Littlehampton	Bognor Regis – Barnham – Littlehampton	18 – 24 minutes	2 every hour
Chichester (change at Barnham)	Bognor Regis – Barnham – Chichester	17 – 31 minutes	4 every hour
Horsham	Bognor Regis – Barnham – Billingshurst – Horsham	40 – 45 minutes	4 every hour
London Victoria	Bognor Regis – Barnham – Billingshurst – Horsham – Crawley – Clapham Junction – London Victoria	1hr 35min – 1hr 45 min	3 every hour

Figure 2.7: Services Available from Bognor Regis Railway Station

2.5 Accident Data

- 2.5.1 WSCC reviewed the local accident record in preparation of their consultation response concluding: "There is no evidence to suggest that the nearby road layout is operating unsafely".



3 PROPOSED DEVELOPMENT

3.1 Overview

- 3.1.1 The proposed development would comprise 49 apartments and 2 restaurant/café units, including a basement car park. The proposed layout is attached at **Appendix B** and the proposed accommodation schedule is provided in **Figure 3.1**.

Land Use	Unit Type	No. of Units / GFA
Residential	1 Bedroom Apartment	24
	2 Bedroom Apartment	25
	Total	49
Commercial	Commercial Unit 1	210 sqm
	Commercial Unit 2	260 sqm
	Total	470 sqm

Figure 3.1: Accommodation Schedule

3.2 Vehicle Access

- 3.2.1 Vehicle access to the site's basement car park would be served from a new access adjoining the eastern side of Waterloo Square. The access would be 5.8m wide supported by 4.0m corner radii, and would include a pedestrian crossing facility in the form of dropped kerbs and tactile paving. 'KEEP CLEAR' markings would be provided as per the recommendation within the Stage 1 Road Safety Audit. The proposed access is shown in **Drawing 2020/6153/001**.
- 3.2.2 As per the recommendations within the Stage 1 RSA, the parking bay to the north of the site would be relocated 6.0m to the north, and the two-space parking bay to the south of the site would be removed. The loss of 2 spaces is not anticipated to have a material impact on the local road network given that the proposed development would provide off-street parking whereas the previous site did not.
- 3.2.3 The access ramp would be 4.7m wide however the tight bend would not accommodate 2-way vehicle movements. To address this, a traffic light system would be provided to ensure conflicts between vehicle entering/exiting do not occur. To reduce the likelihood of vehicles blocking back onto Waterloo Square, the lights would by default be green for vehicles entering the site, changing only when a vehicle is registered leaving the car park.
- 3.2.4 In the event of that a vehicle is required to wait at a red signal, sufficient space has been provided to enable an egressing vehicle to pass the waiting vehicle as demonstrated in **Drawing 2020/6153/002**.

Visibility

- 3.2.5 Visibility requirements at the site access have been based on a design speed of 30mph in accordance with the posted speed limit on Waterloo Square. Visibility splays measuring 2.4m x 43.0m to the north, and 2.4m to the Waterloo Square/The Esplanade junction, are demonstrated as achievable in **Drawing 2020/6153/001**.



3.3 Stage 1 Road Safety Audit

- 3.3.1 The primary site access has been subject to a Stage 1 Road Safety Audit (RSA) undertaken by Road Safety Answers on 2nd March 2020. The audit identified 2 problems with the proposed access arrangement. Both problems were accepted, and the recommendations incorporated into the proposed design. A copy of the Stage 1 RSA including the design team response is attached at **Appendix C**.

3.4 Pedestrian Access

- 3.4.1 Pedestrian access to the site would be served from a series of direct access points on Waterloo Square/Norfolk Street.

3.5 Emergency Access

- 3.5.1 In accordance with Building Regulation Part B, fire tenders would be able to access the site without requiring reversing manoeuvres greater than 20m.

3.6 Servicing Arrangements

- 3.6.1 Deliveries to the site would be undertaken within a service area adjoining Norfolk Road to the rear of the site. A vehicle swept path analysis has been undertaken demonstrating a delivery vehicle utilising the service area in **Drawing 2020/6153/002**.
- 3.6.2 Refuse collection would be undertaken from Norfolk Road's carriageway to the rear of the site as per the previous arrangement for the site and the existing arrangement for neighbouring properties.

3.7 Car Parking Provision

Residential Units

- 3.7.1 Car parking requirements for developments within Arun are determined using WSCC's Residential Car Parking Provision Tool – attached at **Appendix D**. A summary of the required and proposed provision is shown in **Figure 3.2**.

	WSCC Residential Car Parking Provision Tool	Proposed Provision
Allocated	0	0
Unallocated	50	19
Total	50	19

Figure 3.2: Car Parking Provision

- 3.7.2 Whilst the development proposes a significant shortfall in parking compared with WSCC's calculated provision, the provision is considered appropriate given the site's highly accessible location, allowing future residents to use sustainable travel modes such as walking, cycling, bus or rail when travelling to local services, amenities and employment opportunities. The accessibility of the site is recognised by WSCC in their consultation response which states the following:

"Whilst there would be a shortfall according to the PDC, the LHA acknowledge the accessibility of the site and opportunities for sustainable transport such as walking, cycling and public transport, meaning that a reliance wholly on the private car would not be anticipated."



Restaurant/Café Units

- 3.7.3 The development would not provide car parking for the proposed restaurant/café units however there are numerous opportunities for visitors to park in the vicinity of the site including Hothampton car park and pay and display bays on Waterloo Square. The zero provision for restaurant/café units has been accepted by WSCC within its consultation response which states the following:

"In light of the accessible location and precedent for other commercial units nearby without dedicated parking, the LHA consider this arrangement is acceptable in planning terms."

3.8 Cycle Parking Provision

- 3.8.1 Cycle parking would be providing in accordance with Arun District Council's cycle parking standards as set out in the council's 'Parking Standards Supplementary Planning Document' (January 2020). A summary of the standards and proposed provision is provided in **Figure 3.2**.

Land Use	No. of Units / GFA	Cycle Parking Standard	Spaces Required	Spaces Proposed
Flats	49	1 per unit (communal)	49	50
Restaurant / Café Units	470sqm	1 space per 4 staff and 1 space per 25sqm for customers	4 staff spaces and 19 visitor spaces	4 staff spaces and 20 visitor spaces

Figure 3.2: Cycle Parking Provision

- 3.8.2 Cycle parking for residents of the apartments and staff of the restaurant/café units would be provided within a communal cycle store situated to the rear of the site. Visitor parking would take place on Sheffield stands located to the front of the building.



4 TRIP GENERATION AND TRAFFIC IMPACT

4.1.1 To assess the traffic impact of the proposals, the TRICS database (version 7.6.4) has been interrogated to anticipate the likely traffic volumes generated by the permitted site uses and the proposed development. The trip rates have then been compared to establish the net vehicle trip generation resulting from the development.

4.2 Previous Site

4.2.1 The previous site has recently accommodated restaurant/takeaways, retail units, a nightclub, and residential units. To establish the overall traffic generation associated with the site, each land use has been assessed separately before being summed to provide an overall traffic generation. The nightclub use is expected to generate movements outside of peak traffic hours and as such is not included within this assessment.

Flats

4.2.2 The previous site included 5 flats on the first floor of 2-4 Waterloo Square. To determine the number of vehicle movements associated with these flats, the parameters identified in **Figure 4.1** have been used to filter the TRICS database.

TRICS Version 7.6.4	
Filtering Parameter:	Criteria Selected:
i. Land use	Residential – Flats (Privately Owned)
ii. Regions	England (excluding Greater London)
iii. Number of Units	6 to 100
iv. Date Range	01/01/11 to 13/11/18
v. Count Type	Manual
vi. Selected Days	Weekdays
vii. Selected Locations	- Edge of Town Centre - Suburban Area

Figure 4.1: TRICS Filtering Parameters – Flats

4.2.3 The TRICS output is provided at **Appendix E**, whilst a summary of the weekday peak hour and daily trip rates, along with the subsequent vehicle movements associated with the flats is provided in **Figure 4.2**.

TRICS Trip Rate per Flat			
	Arrivals	Departures	Two-Way
AM Peak Hour	0.063	0.222	0.285
PM Peak Hour	0.218	0.098	0.316
Daily	1.414	1.431	2.845
TRICS Vehicle Trip Generation – 5 Flats			
AM Peak Hour	0	1	1
PM Peak Hour	1	1	2
Daily	7	7	14

Figure 4.2: Previous Trip Generation – Flats



Restaurants

- 4.2.4 The previous site included a c.138sqm restaurant on the ground floor of the former Beach Hotel site, as well as 2 restaurants with floor areas of 155sqm and 327sqm on the ground floor of 2-4 Waterloo Square. The site therefore accommodated a total of 620sqm. To determine the number of vehicle movements associated with these restaurants, the parameters identified in **Figure 4.3** have been used to filter the TRICS database.

TRICS Version 7.6.4	
Filtering Parameter:	Criteria Selected:
i. Land use	Hotel, Food & Drink – Restaurant
ii. Regions	England (excluding Greater London)
iii. Gross Floor Area	200 to 1000 sqm
iv. Date Range	01/01/11 to 12/07/18
v. Count Type	Manual
vi. Selected Days	Weekdays
vii. Selected Locations	• Edge of Town Centre • Suburban Area

Figure 4.3: TRICS Filtering Parameters – Restaurants

- 4.2.5 The TRICS output is provided at **Appendix F**, whilst a summary of the weekday peak hour and daily trip rates, along with the subsequent vehicle movements associated with the restaurants is provided in **Figure 4.4**.

TRICS Trip Rate per 100sqm			
	Arrivals	Departures	Two-Way
AM Peak Hour	0.000	0.000	0.000
PM Peak Hour	1.684	0.912	2.596
Daily	21.901	22.800	44.701
TRICS Vehicle Trip Generation – 620sqm			
AM Peak Hour	0	0	0
PM Peak Hour	10	6	16
Daily	136	141	277

Figure 4.4: Previous Trip Generation – Restaurants

Retail

- 4.2.6 The previous site included 2 retail units on the ground floor of the former Beach Hotel site with a total floor area of c.90sqm. To determine the number of vehicle movements associated with these units, the parameters identified in **Figure 4.5** have been used to filter the TRICS database.



TRICS Version 7.6.4	
Filtering Parameter:	Criteria Selected:
i. Land use	Shopping Centre – Local Shops
ii. Regions	England (excluding Greater London)
iii. Gross Floor Area	210 to 500 sqm
iv. Date Range	01/01/11 to 08/07/16
v. Count Type	Manual
vi. Selected Days	Weekdays
vii. Selected Locations	• Suburban Area • Edge of Town

Figure 4.5: TRICS Filtering Parameters – Retail Units

4.2.7 The TRICS output is provided at **Appendix G**, whilst a summary of the weekday peak hour and daily trip rates, along with the subsequent vehicle movements associated with the retail units is provided in **Figure 4.6**.

TRICS Trip Rate per 100sqm			
	Arrivals	Departures	Two-Way
AM Peak Hour	5.922	5.753	11.675
PM Peak Hour	10.491	11.337	21.828
Daily	111.027	111.223	222.250
TRICS Vehicle Trip Generation – 90sqm			
AM Peak Hour	5	5	11
PM Peak Hour	9	10	20
Daily	100	100	200

Figure 4.6: Previous Trip Generation – Retail units

Combined Trip Generation – Previous Site

4.2.8 The vehicle trip generation associated with each of the previous site uses have been summed to provide an overall existing trip generation. The overall trips associated with the existing site are shown in **Figure 4.7**.

TRICS Vehicle Trip Generation – Existing Site			
	Arrivals	Departures	Two-Way
AM Peak Hour	6	6	12
PM Peak Hour	21	16	37
Daily	243	249	492

Figure 4.7: Overall Trip Generation – Existing Site

4.2.9 The TRICS assessment revealed that the existing site would generate 492 daily 2-way vehicle movements of which 12 would occur during the network's AM peak traffic hour, and 37 would occur in the network's PM peak traffic hour.



4.3 Proposed Development

Flats

- 4.3.1 To establish the number of anticipated vehicle trips associated with the proposed flats, the same trip rates obtained for the previous flats have been applied. The TRICS output is provided at **Appendix E**, whilst a summary of the weekday peak hour and daily trip rates, along with the subsequent vehicle movements associated with the proposed flats is provided in **Figure 4.8**.

TRICS Trip Rate per Flat			
	Arrivals	Departures	Two-Way
AM Peak Hour	0.063	0.222	0.285
PM Peak Hour	0.218	0.098	0.316
Daily	1.414	1.431	2.845
TRICS Vehicle Trip Generation – 49 Flats			
AM Peak Hour	3	11	14
PM Peak Hour	11	5	15
Daily	69	70	139

Figure 4.8: Proposed Trip Generation – Flats

Restaurant

- 4.3.2 To establish the number of anticipated vehicle trips associated with the proposed restaurant/cafés, the same trip rates obtained for the previous restaurants have been applied. The TRICS output is provided at **Appendix F**, whilst a summary of the weekday peak hour and daily trip rates, along with the subsequent vehicle movements associated with the proposed restaurant/cafés is provided in **Figure 4.9**.

TRICS Trip Rate per 100sqm			
	Arrivals	Departures	Two-Way
AM Peak Hour	0.000	0.000	0.000
PM Peak Hour	1.684	0.912	2.596
Daily	21.901	22.800	44.701
TRICS Vehicle Trip Generation – 470sqm			
AM Peak Hour	0	0	0
PM Peak Hour	8	4	12
Daily	103	107	210

Figure 4.9: Proposed Trip Generation – Restaurant

Combined Trip Generation – Proposed Development

- 4.3.3 The vehicle trip generation associated with each of the existing site uses have been summed to provide an overall existing trip generation. The overall trips associated with the existing site are shown in **Figure 4.10**.



TRICS Vehicle Trip Generation – Proposed Development			
	Arrivals	Departures	Two-Way
AM Peak Hour	3	11	14
PM Peak Hour	19	9	28
Daily	172	177	349

Figure 4.10: Overall Trip Generation – Proposed Development

- 4.3.4 The TRICS assessment revealed that the proposed development would generate 352 daily 2-way vehicle movements of which 14 would occur during the network's AM peak traffic hour, and 28 would occur in the network's PM peak traffic hour.

4.4 Net Traffic Impact

- 4.4.1 The traffic generations associated with the previous site and the proposed development have been compared to establish the net traffic generation associated with the development. A summary of the weekday peak hour and daily trip rates is provided in **Figure 4.11**.

TRICS Vehicle Trip Generation			
	Arrivals	Departures	Two-Way
AM Peak Hour	-3	5	2
PM Peak Hour	-2	-7	-10
Daily	-71	-71	-142

Figure 4.11: Net Trip Generation *discrepancies due to rounding

- 4.4.2 The TRICS assessment suggests that the overall site would result in a net reduction of 142 daily 2-way vehicle movements including a reduction of 10 trips in the network's PM peak hour. The development would result in a slight increase of 2 vehicle trips in the network's AM peak traffic hour.



5 SUMMARY AND CONCLUSION

- 5.1.1 This TS has been prepared by Bright Plan Ltd on behalf of B5 Ltd to support a planning application for a mixed-use development at the Waterloo Square, Bognor Regis. The conclusions from this report are as follows:
- i. The proposed development would comprise 49 apartments and 2 restaurant/café units, with a basement car park.
 - ii. The application site is situated in a highly accessible location providing convenient access on foot, by cycle and by public transport. There is a range of services and amenities available with walking and cycling distance of the site.
 - iii. The PIA record does not reveal any concern to highway safety in relation to the development as acknowledged by WSCC.
 - iv. Vehicular access to the proposed development would be served from a 5.8m wide access, supported by 4.0m corner radii, and would include a pedestrian crossing facility in the form of dropped kerbs and tactile paving.
 - v. Access would use a traffic light system to avoid conflicts between vehicles on the narrow access ramp. A waiting area would be provided on entry to the site, clear of the public highway.
 - vi. The access achieves the necessary visibility splays in both the primary and secondary directions based on 30mph design speed in accordance with the posted speed limit on Waterloo Square.
 - vii. The proposed access arrangement has been subject to a Stage 1 Road Safety Audit which identified to problems with the proposed design. Both problems were accepted, and the recommended measures incorporated into the design.
 - viii. Refuse collection would be undertaken from Norfolk Street to the rear of the site as per the previous arrangement for the site and the existing arrangement for neighbouring properties.
 - ix. Deliveries to the restaurant/café units would be undertaken within a servicing bay adjoining Norfolk Street to the rear of the site.
 - x. Residential car parking would be provided within a basement car park. Whilst the provision falls short of the provision calculated by WSCC's Residential Parking Provision Tool, the provision reflects the site's highly accessible location meaning future residents would not be reliant on private cars.
 - xi. The site would not provide parking for the proposed restaurant/café units which is appropriate given the site's accessible location and the available opportunities to park at local car parks and on street. This arrangement is acknowledged as acceptable by WSCC.
 - xii. Cycle parking for residents, staff and visitors would be provided in accordance with ADC's parking standards.
 - xiii. A vehicle trip generation assessment suggests that the development will result in a net reduction of 142 daily vehicle trips.



PLANS

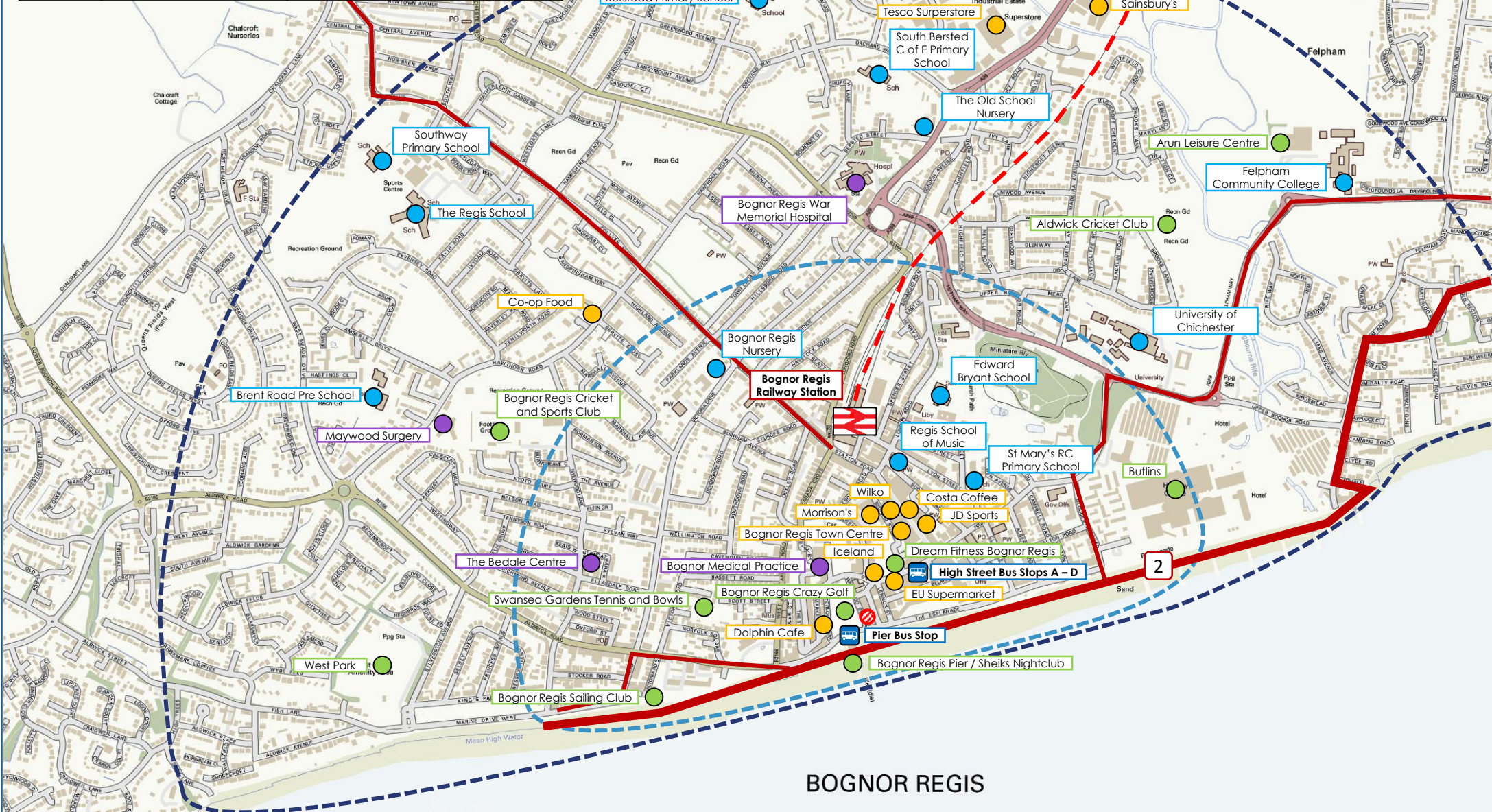
Plan 01 Accessibility Plan

BUS SERVICES (Local Bus Stops)			
Service	Route Summary	Typical Frequency	Operating Hours
026	Bognor Regis – London	Mon-Sun: 1 per day	Mon-Fri: 07:35 Sat-Sun: 09:10
61	North Bersted - South Bersted - Bognor Regis - Aldwick (Circular)	Mon-Sat: 3 per day	Mon-Sat: 09:53 – 13:53
62	North Bersted - South Bersted - Bognor Regis - Aldwick - Nyetimber (Circular)	Mon-Sat: 2 per day	Mon-Sat: 10:53 – 12:53
66A / 66C	Bognor Regis - Yapton - Bognor Regis	Mon-Sat: 1 every 2 hours	Mon-Sat: 08:15 – 17:40
67	Bognor Regis - North Felpham - Glenwood Estate - Bognor Regis	Mon-Sat: 1 every 2 hours	Mon-Sat: 09:50 – 16:10
69	Wick - Littlehampton - Bognor Regis - Barfoots of Botley	Mon-Sat: 2 per day	Mon-Sun: 05:00 – 16:00
600	Elmer - Bognor Regis - Chichester	Mon-Sat: 1 every 5 – 20min Sun: 1 every hour	Mon-Sat: 06:05 – 21:25 Sun: 08:05 – 18:05
700 Coastliner	Littlehampton - Bognor Regis - Chichester	Mon-Sat: 1 every 20min Sun: 1 every 30min	Mon-Fri: 05:44 – 00:12 Sat: 06:26 – 00:12 Sun: 07:44 – 00:12
Star	Bognor Regis - South and North Bersted - Bognor Regis	Mon-Sat: 1 every 30min	Mon-Fri: 07:41 – 17:41 Sat: 07:56 – 17:56
U7	Bognor Regis Hotham Park - Chichester University - Chichester	Mon-Fri: 1 every 1hr 30min	Mon-Fri: 07:09 – 23:43

RAIL TIMETABLE (Bognor Regis)			
Destination	Route Summary	Typical Journey Time	Typical Frequency
Barnham	Bognor Regis – Barnham	6 – 7 minutes	4 every hour
Littlehampton	Bognor Regis – Barnham – Littlehampton	18 – 24 minutes	2 every hour
Chichester (change at Barnham)	Bognor Regis – Barnham – Chichester	17 – 31 minutes	4 every hour
Horsham	Bognor Regis – Barnham – Billingshurst – Horsham	40 – 45 minutes	4 every hour
London Victoria	Bognor Regis – Barnham – Billingshurst – Horsham – Crawley – Clapham Junction – London Victoria	1hr 35min – 1hr 45 min	3 every hour

LEGEND

-  SITE LOCATION
-  RAIL STATION
-  RAILWAY
-  BUS STOPS
-  NATIONAL CYCLE ROUTES
-  LOCAL CYCLE ROUTES
-  1KM ISOCHROME
-  2KM ISOCHROME
-  RETAIL
-  EDUCATION
-  LEISURE
-  HEALTH CARE
-  EMPLOYMENT



BRIGHT PLAN

Transport Planning and Civil Engineering Consultants
Unit 2, West Barn, Norton Lane, Chichester,
West Sussex, PO20 3AF
Tel: 01243 210418 Fax: 01483 861682
www.bpcivils.co.uk

Client: B5 Ltd

Project: Waterloo Square, Bognor Regis

Title: Accessibility Plan

Scale: NTS	Date: Feb 2020	Drawn By: SMO	Checked By: EJD
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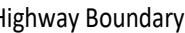
Plan No: Plan 01	Job No: 6153	Rev: -
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DRAWINGS

- 001** Access Overview and Visibility Splays
- 002** Vehicle Swept Path Analysis
- 101** Basement Level Overview

- ### LEGEND-



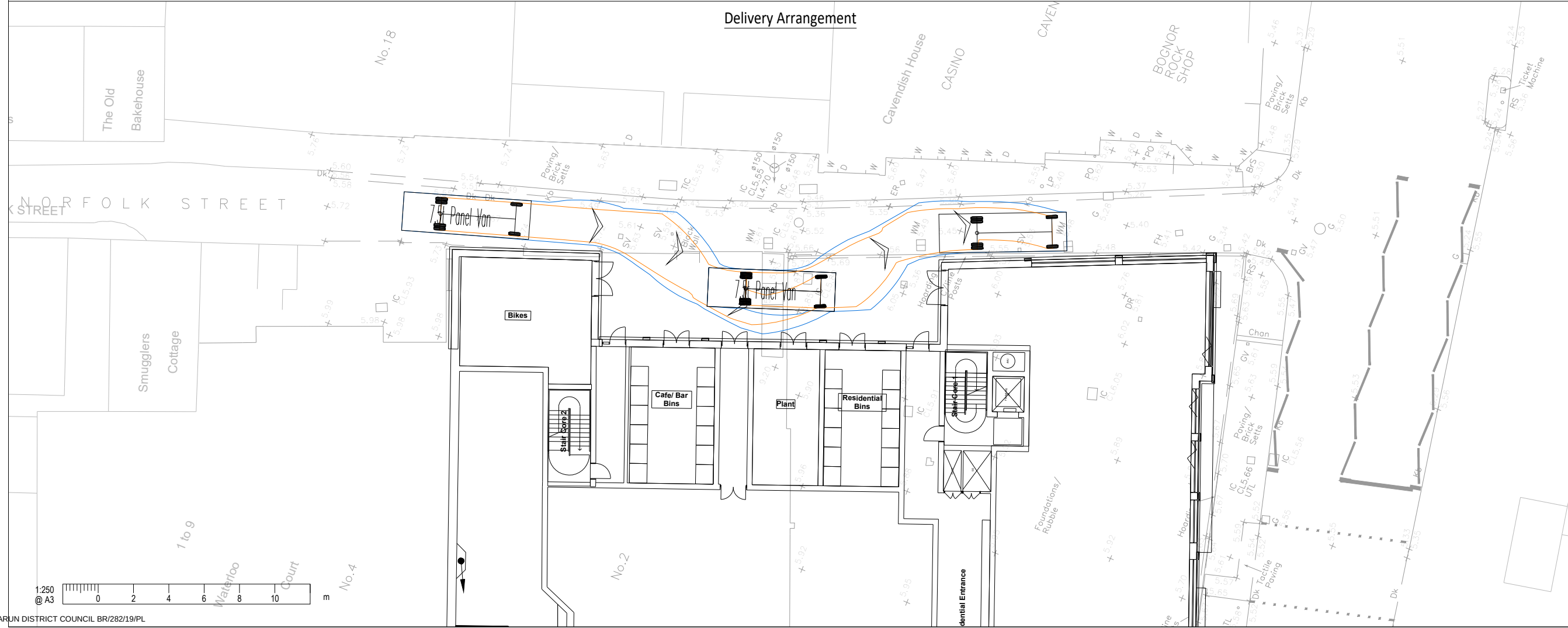
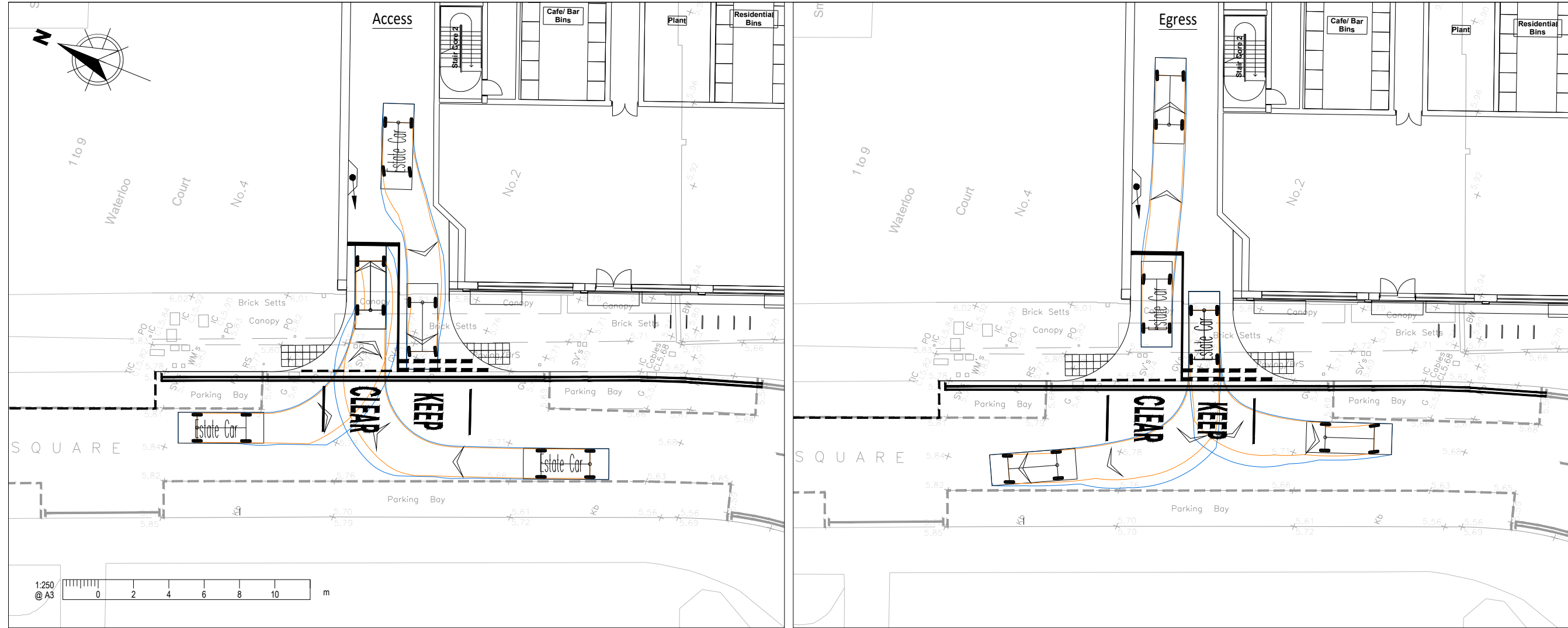
BRIGHT PLAN
Transport Planning and Civil Engineering Consultants
 2 West Barn, Norton Lane, Chichester, West Sussex PO20 3AF
 Tel: 01243 210418 Email: enquiries@bpcivils.co.uk
www.bpcivils.co.uk

Client

B5 Ltd

Access Overview and Visibility Splays

Drawing No.	Rev.
2020-6153-001	A



NOTES

A3

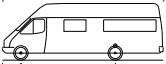
1. This drawing is to be read in conjunction with all other Bright Plan drawings, and with all relevant Architect's and Engineer's drawings and specification. Any discrepancies found are to be reported immediately to the Engineer.
2. Bright Plan accepts no responsibility for inaccuracies in data provided by third parties such as topographic surveys or Ordnance Survey mapping.
3. Do not scale, work to figured dimensions only. All dimensions are in millimeters unless noted otherwise and all levels are in metres from the topographic survey datum.
4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain.

-LEGEND-

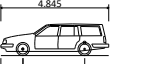
- Site Boundary
- Existing Road
- Markings
- Signal Head

-Swept Path-

- Wheel Track
- Over Swing



7.5t Panel Van
Overall Length 7.210m
Overall Width 2.192m
Overall Body Height 2.544m
Min Body Ground Clearance 0.316m
Track Width 1.865m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 7.400m



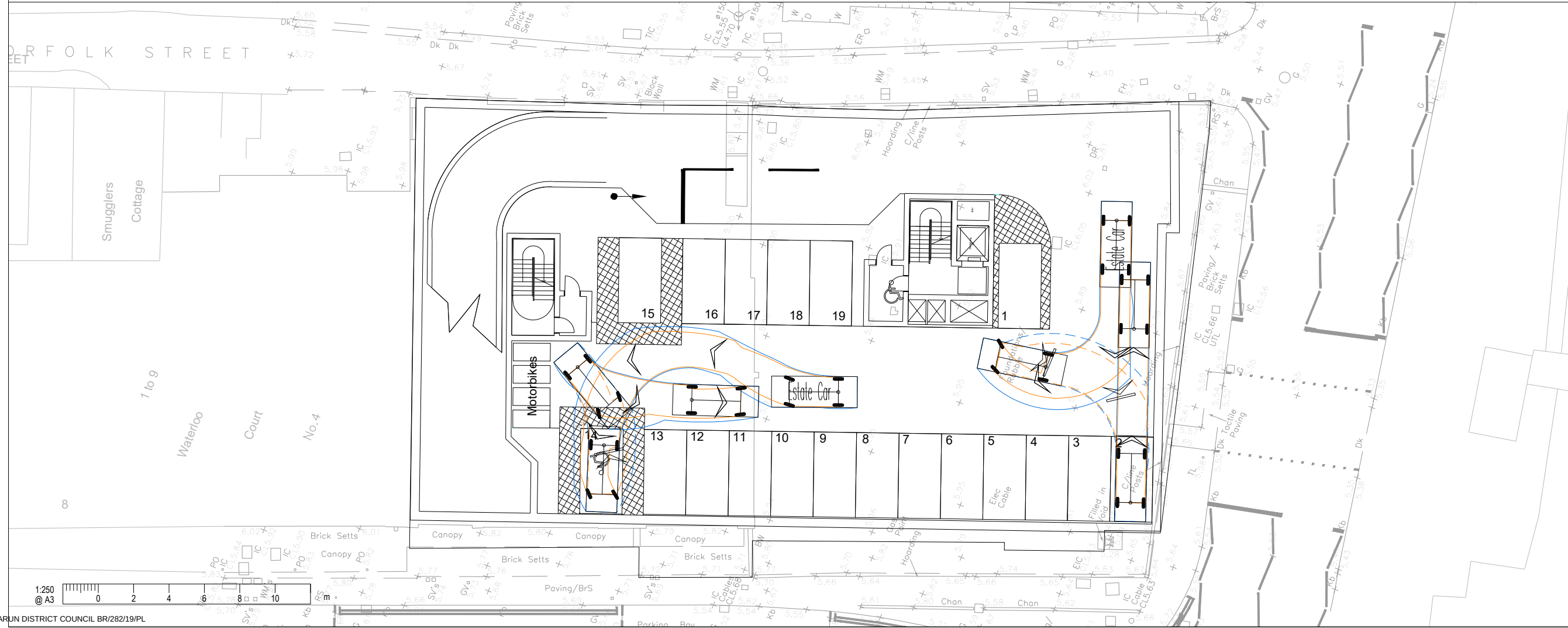
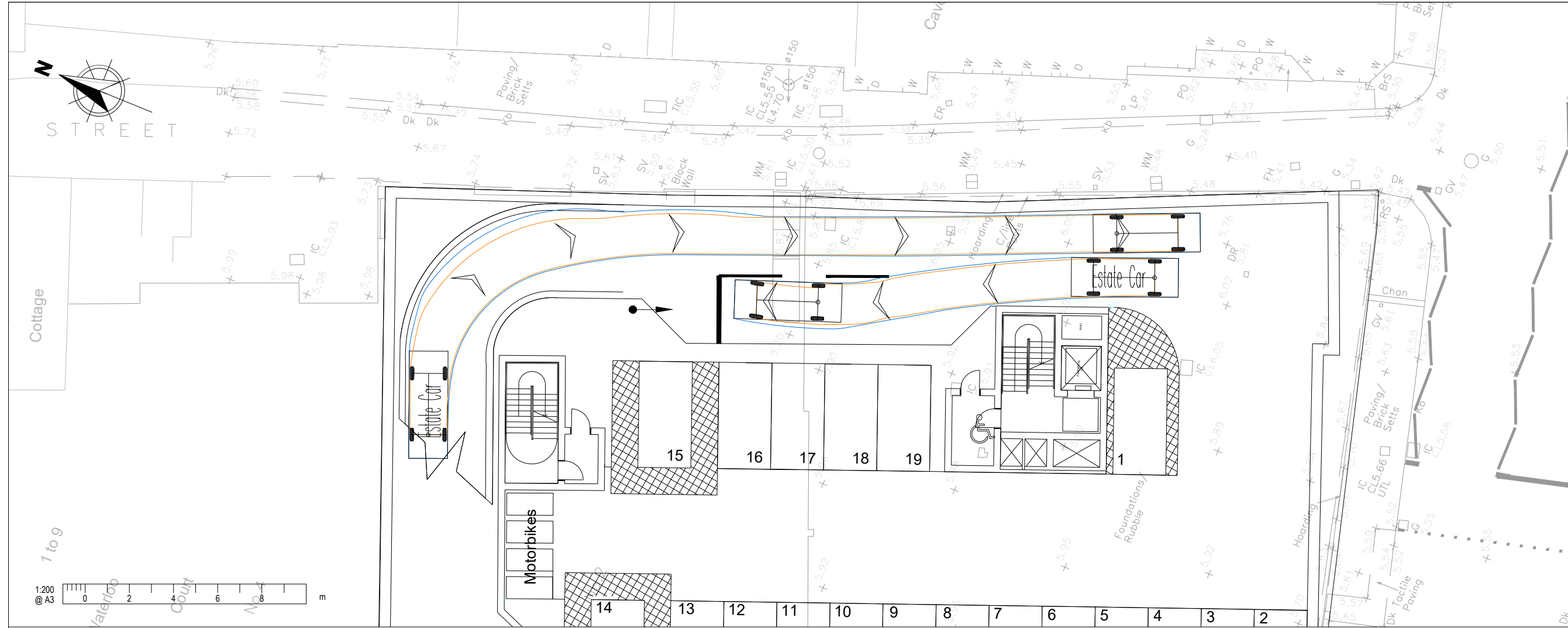
Estate Car
Overall Length 4.845m
Overall Width 1.750m
Overall Body Height 1.424m
Min Body Ground Clearance 0.189m
Max Track Width 1.655m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 4.950m

A	Final Issue	06/03/2020
-	Original Issue	26/02/2020
Rev.	Amendments	Date



BRIGHT PLAN
Transport Planning and Civil Engineering Consultants
2 West Barn, Norton Lane, Chichester, West Sussex PO20 3AF
Tel: 01243 210418 Email: enquiries@bpcivils.co.uk
www.bpcivils.co.uk

Drawing Status	FINAL		
Client	B5 Ltd		
Project	Waterloo Square, Bognor Regis		
Drawing Title	Vehicle Swept Path Analysis		
Scale	As Shown	Date	Mar 2020
Drawn By	SMO	Checked By	ALB
Drawing No.	2020-6153-002		Rev.
		A	



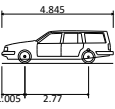
NOTES

A3

1. This drawing is to be read in conjunction with all other Bright Plan drawings, and with all relevant Architect's and Engineer's drawings and specification. Any discrepancies found are to be reported immediately to the Engineer.
2. Bright Plan accepts no responsibility for inaccuracies in data provided by third parties such as topographic surveys or Ordnance Survey mapping.
3. Do not scale, work to figured dimensions only. All dimensions are in millimeters unless noted otherwise and all levels are in metres from the topographic survey datum.
4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain.

-LEGEND-

- Existing Road Markings
- Signal Head
- Swept Path-
 - Wheel Track
 - Over Swing



Estate Car
Overall Length 4.845m
Overall Width 1.750m
Overall Body Height 1.424m
Min Body Ground Clearance 0.189m
Max Track Width 1.655m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 4.950m

A	Final Issue	06/03/2020
-	Original Issue	26/02/2020
Rev.	Amendments	Date



BRIGHT PLAN
Transport Planning and Civil Engineering Consultants
2 West Barn, Norton Lane, Chichester, West Sussex PO20 3AF
Tel: 01243 210418 Email: enquiries@bpcivils.co.uk
www.bpcivils.co.uk

Drawing Status	FINAL		
Client	B5 Ltd		
Project	Waterloo Square, Bognor Regis		
Drawing Title	Basement Level Overview		
Scale	As Shown	Date	Mar 2020
Drawn By	SMO	Checked By	ALB
Drawing No.	2020-6153-101		Rev.
		A	



APPENDICES



Appendix A WSCC Highways Consultation Response 03/12/19

SUSSEX COUNTY COUNCIL CONSULTATION

TO:	Arun District Council FAO: D <u>Johnson</u>
FROM:	WSSC - Highways Authority
DATE:	03 December 2019
LOCATION:	The Beach Hotel, former Mud Club & 2-4 Waterloo Square Bognor Regis <u>PO21 1SU</u>
SUBJECT:	BR/282/19 Redevelopment into 49 No apartments consisting of 24 No 1 & 25 No 2 bed apartments & 2 No commercial units (A3 Restaurant & Cafe). This application affects the character & appearance of The <u>Steyne</u> , Bognor Regis Conservation Area & may affect the setting of a listed building.
RECOMMENDATION:	More Information
S106 CONTRIBUTION TOTAL:	£ provided separately

Introduction

West Sussex County Council, in its capacity as the Local Highway Authority (LHA), have been consulted on proposals for redevelopment of Beach Hotel site to create new six storey building with 49 x apartments and creation of 2 x commercial units (A3 Restaurant/Cafe) on ground floor. The proposals include new vehicle access to car parking area at basement level.

The site is situated at corner of Waterloo Square (unclassified highway) and The Esplanade ('C' classified), both subject to 30mph speed restriction. The LHA has reviewed data supplied to WSSC by Sussex Police over a period of the last five years. There have been no recorded injury accidents at the junction or along Waterloo Square. There is no evidence to suggest that the nearby road layout is operating unsafely.

The application is supported by drawings and Design & Access Statement (DaS). As the amount of residential units is under 50, a Transport Statement has not been provided. Nevertheless the applicant is advised to provide some further information, especially in respect to the anticipated trip generation and accessibility of the site. This could be provided in the form of a Transport Statement. A Travel Plan Statement should also be provided in light of the location of the site and possibilities to encourage sustainable transport, however details of this can be secured via condition.

The LHA require further information before a full assessment of the highway safety merits of the scheme can be made, as per the following comments.

Access Arrangements

A new vehicular access from Waterloo Square is proposed to serve the basement level car park. An inspection of local mapping shows the kerb is dropped in this location and double yellow lines present so no impact to existing controlled on-street parking areas is anticipated. The access should be kerbed with radii and tactile paving across this to aid pedestrian movement on the existing footway. Some of the existing dropped kerb will need to be removed and the kerb line reinstated. The works will require a minor works licence and technical approval however the applicant should first provide a Stage One Road Safety Audit (RSA) on the proposed access works/ alterations to public highway.

The access is not wide enough for two cars to pass however a waiting space just inside the site and internal car park traffic light system is proposed. The waiting spaces at the access would appear to result in a car overhanging the footway and waiting space just within the access has been provided on the right hand side where this should be on the left hand side. The applicant should clarify how the traffic light system will work and where possible priority should be given for vehicles entering the site. Full swept path tracking diagrams should be provided showing that a car can access from Waterloo

Square, including the parking corridor opposite, and manoeuvre within the basement parking level.

Vehicular visibility splays of 2.4m by 43m have been demonstrated from the site access on to Waterloo Square. This is in accordance with Manual for Streets (MfS) guidance for vehicle speeds of 30mph. The splays are achievable within the private access and publicly maintained highway and extend past the junction with The Esplanade to the south. The full extent of the splay to the north has not been shown. From an inspection of WSCC mapping this does appear achievable, however the applicant should show the full extent of the splays. Due to the presence of adjacent building, wide pedestrian visibility splays to the adjacent footway are not achievable. Nevertheless, paragraph 10.6.1 of MfS 2 states that vehicle exits at the back edge of the footway mean that emerging drivers will have to take account of people on the footway. The absence of wide visibility splays at minor accesses will encourage drivers to emerge more cautiously - similarly to how vehicles pull out when visibility along the carriageway is restricted. Considering the proximity to junction and on-street parking it is anticipated that vehicle speeds would not be exceeding the posted limit and that due to similar neighbouring accesses, drivers and pedestrians would react to the environment accordingly.

Servicing

A loading bay is indicated to the rear of the site, accessed from Norfolk Street. It is acknowledged that Norfolk Street is subject to one way traffic only. However, considering the limited width of the carriageway, the applicant should demonstrate through swept path tracking plans that the loading bay would be operable.

Capacity

TRICs (Trip Rate Information Computer Systems) data for anticipated increase in vehicular trips to and from the site have not been provided. However, the existing permitted uses as hotel and nightclub are acknowledged and there appears to have been some other arcade leisure and A3 uses in previous years. It does not appear that any dedicated car parking for the site has previously been in place and thus some increase in vehicle trips to and from the site is anticipated. Considering existing levels of traffic in vicinity and limited parking being provided the LHA does not consider that a detrimental impact to capacity of nearby road network will result. Nevertheless, the applicant should provide information on anticipated increase in vehicular trip generation as a result of the development. This should be provided in the form of a Transport Statement (TS).

Accessibility

The TS should also provide additional information on the accessibility of the site for pedestrians, cycling and public transport. Distances to key amenities, services and public transport facilities should be outlined and demonstrated that this meets with CIHT guidance (Providing for Journeys on Foot).

WSCC Parking Guidance states that for 1-2 bedroom flats, 0.5 bicycle parking spaces per flat should be provided, in a communal facility. 64 x bicycle parking spaces will be provided which equates to more than 1 x space per flat. The applicant is advised to clarify whether any of this cycle parking would be available for staff of the ground floor commercial units. If the commercial units are to be of A3 use then WSCC guidance advises that 1 space be provided per 4 staff and 1 space per 25sqm for customers. Considering location of proposed bicycle store it is anticipated that this would be for residents and possibly staff only, not customers.

Car Parking

The proposed car parking arrangements have been assessed under WSCC latest car parking standards. On the basis of 25 x 2-bedroom flats, 20 x 1-bedroom flats and 4 x bedsits being provided, the WSCC Car Parking Demand Calculator (PDC) envisions a total demand for 45 spaces (on basis that parking would be unallocated). The proposed parking plan shows that 22 x spaces on a basement parking level are to be provided. Whilst there would be a shortfall according to the PDC, the LHA acknowledge the accessibility of the site and opportunities for sustainable transport such as walking, cycling and public transport, meaning that a reliance wholly on the private car would not

be anticipated. Considering the proximity to local amenities, services and train station, the applicant should provide a Travel Plan Statement (TPS). This could provide, but not be limited to, taster tickets for public transport, personalised travel planning for first residents, public transport information, cycling routes etc. Details of this could be secured via condition.

The plans show floor area ground floor commercial units as 470sqm. The Application Form states these will be A3 Restaurant/Cafe although the DaS refers to the commercial units as being retail. The applicant should clarify this point. No dedicated car parking for commercial use is proposed. In light of the accessible location and precedent for other commercial units nearby without dedicated parking, the LHA consider this arrangement is acceptable in planning terms. Customers are anticipated to travel by foot where part of their journey is also by car (using controlled on-street parking areas or public car parks) or by bus/ train/ cycle.

The layout of the basement car parking has been demonstrated with 2 x spaces being for disabled use. These bays should include an additional width of 1.2m on *each* side. If the bays were positioned side by side then the same 1.2m width of hatching for access could be used. The applicant should amend the parking layout accordingly.

Consideration should also be given to the proposed access widths within the basement level and ability for two cars to pass. Whilst it is appreciated that vehicle speeds will be low, the positioning of the motorcycle spaces and spaces 1-2 could result in conflict between cars travelling in opposing directions. The applicant should remove these spaces and provide full swept path tracking plans to demonstrate the layout is operational, including use of internally marked 'waiting space'. The applicant should also consider providing some electric vehicle charging points. As per access comments the applicant should also clarify how traffic light system will work.

Conclusion

In summary additional information is required:

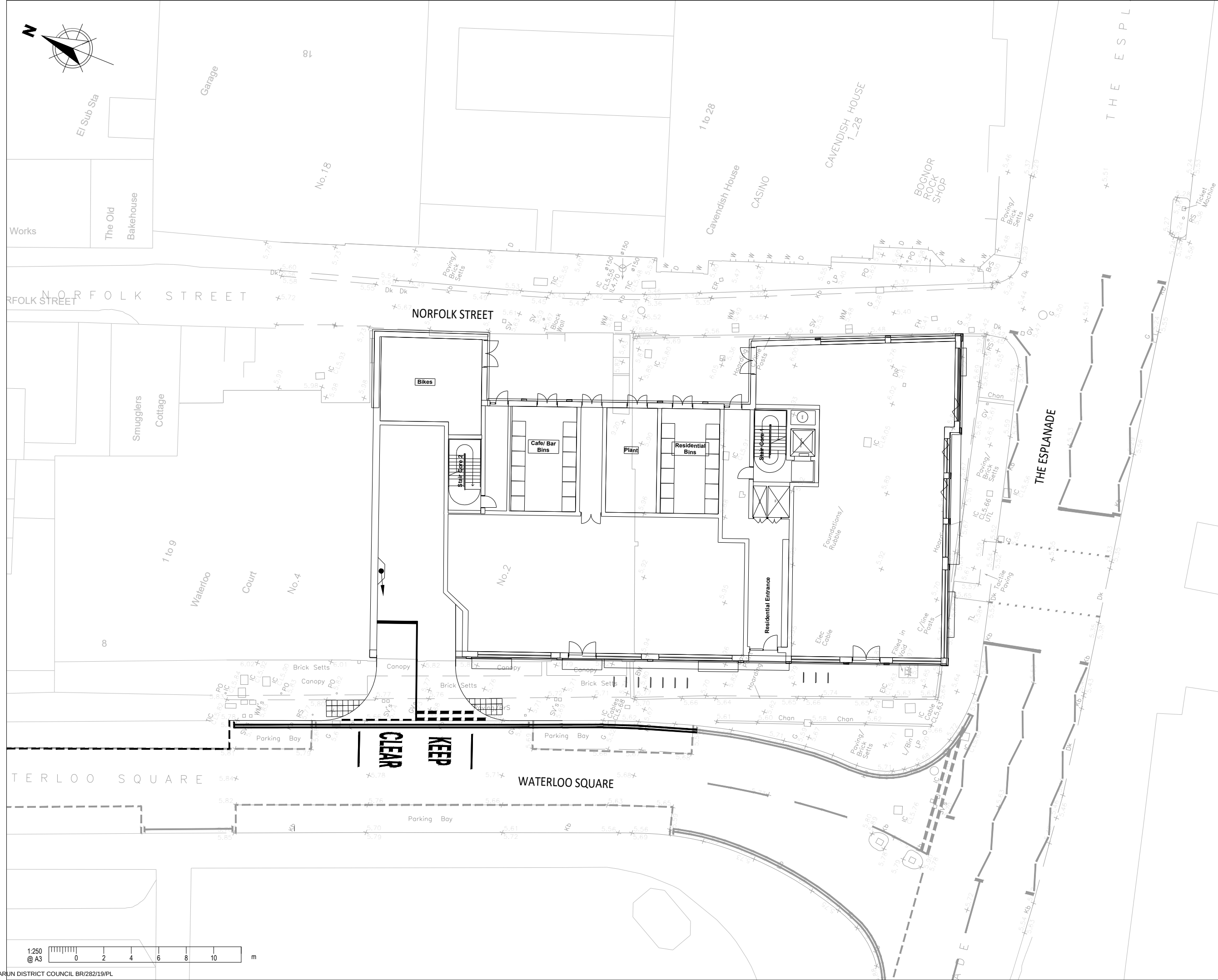
- Clarify proposed access alterations including demonstration of extent of dropped kerb to be reinstated and proposed kerbed radii and tactile paving works. Also provide full extent of vehicular visibility splays.
- Provide Stage One RSA and Designers Response in accordance with GG119
- Provide full swept path tracking plans to demonstrate workability of proposed access arrangements, showing a car entering and exiting from Waterloo Square, including parking corridor on western side of carriageway.
- Reconfigure proposed waiting spaces so these are correct side of access and do not overhang public footway. Demonstrate workability of this and clarify how traffic light system will operate.
- Demonstrate full workability of parking layout including removal of spaces 1-2 and motorcycle parking and amended disabled parking bays. Also clarify whether electric vehicle charging points will be provided.
- Provide additional information on trip generation and accessibility of site - this could be provided in form of Transport Statement.
- Demonstrate that loading/delivery bay accessed via Norfolk Street is workable with largest vehicle anticipated being used for swept path tracking plans.
- Confirm that ground floor use will be A3 cafe/restaurant only and no other commercial use.

Please ask the applicant for this additional information and re-consult.

Katie Kurek
West Sussex County Council – Planning Services



Appendix B Site Layout



1. This drawing is to be read in conjunction with all other Bright Plan drawings, and with all relevant Architect's and Engineer's drawings and specification. Any discrepancies found are to be reported immediately to the Engineer.
2. Bright Plan accepts no responsibility for inaccuracies in data provided by third parties such as topographic surveys or Ordnance Survey mapping.
3. Do not scale, work to figured dimensions only. All dimensions are in millimeters unless noted otherwise and all levels are in metres from the topographic survey datum.
4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain.

-LEGEND-



Existing Road Markings

Original Issue	06/03/2020
Rev.	Amendments
	Date



BRIGHT PLAN
Transport Planning and Civil Engineering Consultants
2 West Barn, Norton Lane, Chichester, West Sussex PO20 3AF
Tel: 01243 210418 Email: enquiries@bpcivils.co.uk
www.bpcivils.co.uk

Drawing Status	FINAL		
Client	B5 Ltd		
Project	Waterloo Square, Bognor Regis		
Drawing Title	Site Overview		
Scale	Date	Drawn By	Checked By
As Shown	Mar 2020	SMO	ALB
Drawing No.	2020-6153-003		Rev.
			-



Appendix C Stage 1 Road Safety Audit



Road Safety Audit Stage 1

Waterloo Square, Bognor Regis

Client: Bright Plan

Road Safety Answers reference no: RSA221

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Registered address: 17 McDermott Road, Borough Green, Sevenoaks, Kent, TN15 8SA
www.roadsafetyanswers.co.uk paulmartin@roadsafetyanswers.co.uk
VAT registration number: 258 9498 33

Control Sheet

	Name	Date	Signature
Author	Paul Martin	02/03/2020	
Checker	David Dodd	02/03/2020	
Authoriser	Paul Martin	03/03/2020	

Report Version

RSA Report Ref.	Version	Date of Issue
RSA221	Final	03/03/2020

1. Introduction

1.1 This report describes a Stage 1 Road Safety Audit carried out on the preliminary design for Section 278 Works associated the redevelopment of land accessing onto Waterloo Square, Bognor Regis, for Bright Plan at the request of West Sussex County Council. The audit was carried out in the office of Road Safety Answers Ltd during March 2020.

1.2 The audit team members were as follows:

Team Leader

Paul Martin - BSc (Hons), CEng, FCIHT, FSoRSA, IEng, MICE
HE Approved RSA Certificate of Competency (2013)
Director, Road Safety Answers Ltd

Team Member

David Dodd – BSc(Hons), DipNEBOSH, FIHE, IEng. MCIHT, MSoRSA
Independent Highway and Road Safety Consultant

1.3 The audit comprised an examination of the documents listed in **Appendix A**, and included the drawings supplied by Ed Dodd of Bright Plan. The site was visited by the Audit Team, together, on 2nd March 2020 between 12.10 and 12.30 hours. The weather was fine and the road surface was dry. Traffic flows were light. Pedestrian and cycle flows were also light.

1.4 The terms of reference of the audit are as described in the UK's national standard for road safety audit, GG 119. The team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the design to any other criteria.

1.5 All the problems described in this report are considered by the audit team to require action to improve the safety of the scheme and minimise accident occurrence.

1.6 The purpose of the scheme is to provide access onto Waterloo Square for a residential development of 49 flats and 2 restaurant/café units, upgrading an existing dropped crossing that formerly served two off-street parking spaces in front of the previous building (now demolished).

1.7 The scheme consists the following elements:

- A vehicular-only access, 5.5m wide for its first 8m, then 4.6m wide into an underground car park,
- 4m radius kerbs in the access bellmouth, with tactile paving and dropped kerbs for pedestrians crossing the bellmouth,

- traffic signal control, set on green for cars entering until an exiting vehicle creates a demand,
- a holding area of 7m in length, between the stopline and the edge of the carriageway of Waterloo Square, for entering vehicles held on a red signal (5.4m between the stopline and the back of the footway).

2. Items resulting from this Stage 1 Audit

2.1 PROBLEM

Location: A – Waterloo Square at the development access.

Summary: Risk of vehicle/vehicle collisions and pedestrian/vehicle collisions, due to congestion as vehicles wait to enter the site and passing traffic attempts to pass the vehicles waiting on Waterloo Square.

At the development access Waterloo Square has a carriageway width of 8m, but there is a 30m long, pay-and-display parking bay opposite the access (south-west side of Waterloo Square) that narrows the effective carriageway width to 6m. On the north-east side of the carriageway, a few metres away from the development access on each side, are permit holder parking bays, narrowing the effective carriageway width to 4m where they overlap the parking bay opposite. This is insufficient for opposing cars to pass one another when the parking bays are occupied, and the auditors observed drivers giving way to opposing cars rather than attempting to squeeze past the opposing vehicle in the 4m wide sections between parking bays.

During the evening peak period, when the demand for vehicles to enter the development will be high, a vehicle leaving the development will cause a vehicle to wait at the stopline. A second vehicle attempting to enter at the same time, approaching from the south-east, will have to wait on Waterloo Square, potentially blocking the right turn from the development or, if waiting slightly further away, blocking the passage of south-eastbound passing traffic. This congestion would put the driver waiting to enter under pressure, and would frustrate through traffic, increasing the risk of damage-only vehicle/vehicle collisions, and collisions with pedestrians crossing the development access.

RECOMMENDATION

The two-space parking bay, to the south-east of the development access, should be removed altogether, and a 'keep clear' road marking should be installed adjacent to the development exit give way markings.

Design Team Response:

Accepted – the two-space parking bay would be removed and a 'KEEP CLEAR' marking would be provided at the access

Client Officer Response:



Scheme: Waterloo Square, Bognor Regis

Client: **Bright Plan** (Highway Authority: **West Sussex County Council**)

2.2 PROBLEM

Location: B – Left turn into the development access.

Summary: Risk of side impact and rear shunt collisions.

The permit holder bay to the north-west of the development access is well used, and vehicles in it restrict visibility to the north-west for a vehicle leaving the development (photo 1), increasing the risk of side impact collisions.



Photo 1: Looking right from the location of the development access bellmouth

This obstruction to visibility will also affect vehicles entering the site; a left turner into the site may have to brake suddenly when the driver realises that there is already a vehicle at the stopline, waiting to enter the site. This increases the risk of them being rear shunted by through traffic.

RECOMMENDATION

The permit holder bay to the north-west of the development access should be relocated 6m further to the north-west, creating improved forward

visibility to the back of a vehicle waiting at the stopline to enter the development.

Design Team Response:

Accepted – the parking bay would be relocated 6.0m to the north

Client Officer Response:

3. Audit Team Statement

We certify that this road safety audit has been carried out in accordance with GG 119.

Audit Team Leader

Paul Martin - BSc (Hons), CEng, FCIHT, FSoRSA, IEng, MICE
HE Approved RSA Certificate of Competency
Director, Road Safety Answers Ltd

Signed 

Date 03/03/2020

Audit Team Member

David Dodd – BSc(Hons), DipNEBOSH, FIHE, IEng. MCIHT, MSoRSA
Independent Highway and Road Safety Consultant

Signed 

Date 03/03/2020

Road Safety Answers Ltd
17, McDermott Road
Borough Green
Sevenoaks
Kent, TN15 8SA

☐ + 44 (0) 7710 980 141
☐ paulmartin@roadsafetyanswers.co.uk
☐ www.roadsafetyanswers.co.uk

4. Design Team and Client Organisation Statements

Design Team Leader

I certify that I have reviewed the items raised in this Stage 1 Safety Audit report. I have given due consideration to each issue raised and have stated my proposed course of action for each in this report. I seek the Client Organisation's endorsement of my proposals.

Name: **Ed Dodd**

Organisation: **Bright Plan Ltd**

Signed: 

Date: **06/03/2020**

Client Organisation Project Manager

I certify that I have reviewed the comments and actions proposed by the Design Team Leader and, in this report, I have stated my agreement, or alternative proposal, or acceptance of the risk associated with the problem.

Name:

Organisation:

Signed:

Date:

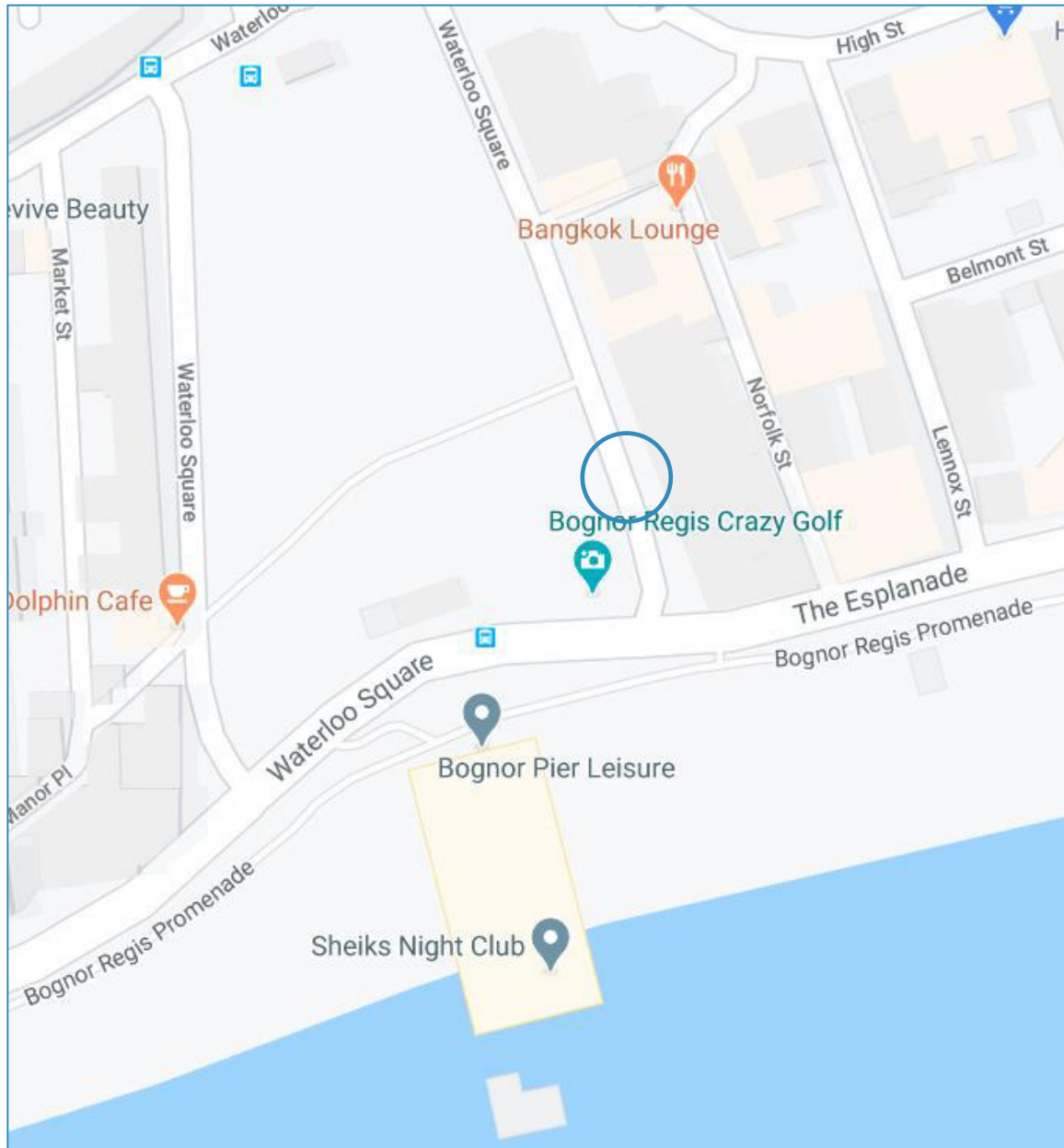
Appendix A

Drawings and Documents Examined:

Drawing No. 2020-6153-001 Access overview and visibility splays

Appendix B

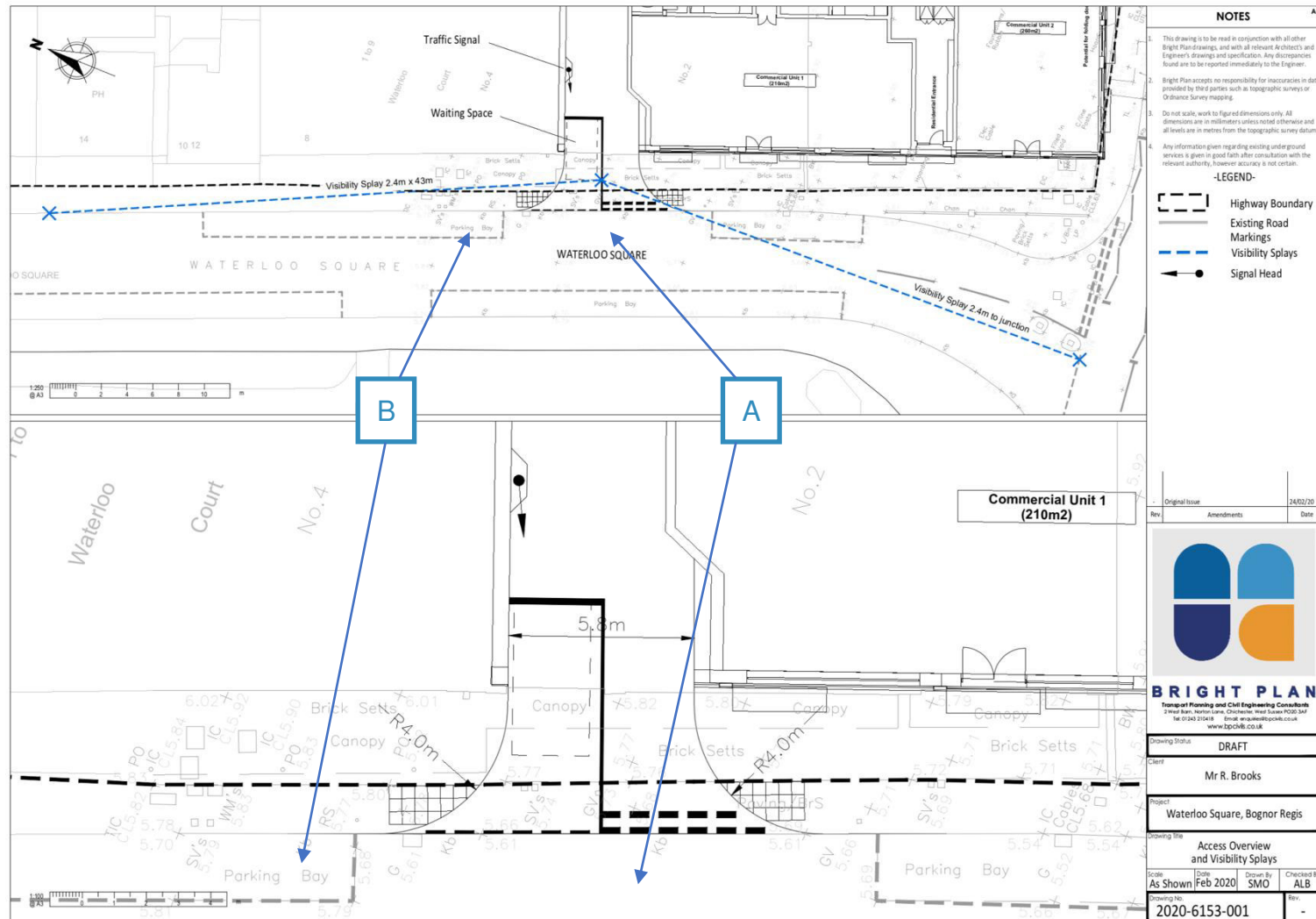
The following plan shows the location of the scheme



Scheme: Waterloo Square, Bognor Regis

Client: Bright Plan (Highway Authority: West Sussex County Council)

Problems Location Plan





Appendix D WSCC Residential Car Parking Provision Tool

WEST SUSSEX COUNTY COUNCIL RESIDENTIAL CAR PARKING PROVISION TOOL

This parking demand tool has been compiled by West Sussex County Council. If you have queries relating to the information provided or require additional information please contact planninghighways@westsussex.gov.uk.

GUIDANCE ON USE

This parking demand calculator has been designed to comply with the West Sussex County Council Revised Guidance for Parking Provision (2018). This calculator supersedes the West Sussex Car Ownership Parking Demand Tool.

This tool has been designed for use by developers as an initial assessment of car parking provision required in residential developments. This tool provides an indication as to the potential overall parking demand that could be associated with specific development quantum. In addition to the information presented within this calculator it is for the developer to justify the appropriateness of the parking levels proposed with other appropriate data and in discussion with the Local Planning Authority and West Sussex County Council as Highway Authority.

The following is a step by step process for the calculation of development parking demand, all GREY cells require no user input:

1. Select the Ward in which the development is located;

a. If known select from the drop down in the BLUE box marked "Ward"

b. If unknown use the Ward finder tool by entering the development post code (including the standard space separation e.g. RH6 0AQ, BN11 1DR), then complete a. above.
2. Enter the number of units of each size in the GREEN boxes marked "Number of Units of this Type", with respect to the number of bedrooms or number of habitable rooms in the dwelling type.
3. Your total "Parking Demand if 100% Unallocated" (all parking on site is shared) is shown in the adjacent cells.
4. If known, enter the total number of spaces allocated to each dwelling type across the development in the PINK boxes marked "Enter Total Number of Allocated Spaces".
5. Your development parking demand using your existing allocation design is then displayed in the ORANGE boxes marked "Total Parking Required if Design Allocated Used"
6. The Unallocated Parking Demand is the additional number of unallocated spaces over the design allocated required to meet the total parking demand, and includes visitors parking demand.
7. If your Total Number of Allocated Spaces is greater than the "Parking Demand if 100% Unallocated" then the existing parking design should be reviewed in line with the West Sussex County Council Revised Guidance for Parking Provision (2018).



Ward	District	Parking Behaviour Zone
Marine (Arun)	Arun	4

Ward Finder			
Postcode		Ward	Please Enter Postcode

Number of Bedrooms	Number of Habitable Rooms	Number Of Units Of this Type	Parking Demand if 100% Unallocated
1	1 to 3	24	22
2	4	25	28
3	5 to 6		0
4+	7 or more		0
Total		49	50

PARKING DEMAND INCLUDING ALLOCATED PARKING				
Number of Bedrooms	Number of Habitable Rooms	Enter Total Number of Allocated Spaces	Unallocated Parking Demand	Total Parking Required if Design Allocated Used
1	1 to 3	0	22	22
2	4	0	28	28
3	5 to 6			
4+	7 or more			
Total			50	



Appendix E TRICS Output - Flats

Calculation Reference: AUDIT-305901-200227-0234

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : C - FLATS PRIVATELY OWNED

VEHICLESSelected regions and areas:

02 SOUTH EAST		
BD	BEDFORDSHIRE	1 days
EX	ESSEX	2 days
03 SOUTH WEST		
DC	DORSET	1 days
DV	DEVON	1 days
04 EAST ANGLIA		
CA	CAMBRIDGESHIRE	2 days
NF	NORFOLK	1 days
SF	SUFFOLK	2 days
09 NORTH		
CB	CUMBRIA	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
 Actual Range: 6 to 94 (units:)
 Range Selected by User: 6 to 100 (units:)

Parking Spaces Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/11 to 13/11/18

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	3 days
Tuesday	4 days
Wednesday	1 days
Thursday	2 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	11 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town Centre	6
Suburban Area (PPS6 Out of Centre)	5

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	7
Built-Up Zone	2
No Sub Category	2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:Use Class:

C3

11 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

10,001 to 15,000

3 days

15,001 to 20,000

1 days

20,001 to 25,000

2 days

25,001 to 50,000

5 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

25,001 to 50,000

1 days

50,001 to 75,000

5 days

125,001 to 250,000

5 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0

1 days

1.1 to 1.5

10 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No

11 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present

11 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	BD-03-C-02	BLOCKS OF FLATS	BEDFORDSHIRE
	STANBRIDGE ROAD LEIGHTON BUZZARD		
	Edge of Town Centre Residential Zone Total Number of dwellings:	62	
	Survey date: TUESDAY	15/05/18	Survey Type: MANUAL
2	CA-03-C-02	BLOCK OF FLATS	CAMBRIDGESHIRE
	WESTFIELD ROAD PETERBOROUGH NETHERTON Suburban Area (PPS6 Out of Centre) No Sub Category Total Number of dwellings:	44	
	Survey date: TUESDAY	18/10/11	Survey Type: MANUAL
3	CA-03-C-03	BLOCKS OF FLATS	CAMBRIDGESHIRE
	CROMWELL ROAD CAMBRIDGE		
	Suburban Area (PPS6 Out of Centre) No Sub Category Total Number of dwellings:	82	
	Survey date: MONDAY	18/09/17	Survey Type: MANUAL
4	CB-03-C-03	FLATS & BUNGALOWS	CUMBRIA
	LOUND STREET KENDAL		
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings:	33	
	Survey date: MONDAY	09/06/14	Survey Type: MANUAL
5	DC-03-C-02	FLATS IN BLOCKS	DORSET
	PALM COURT WEYMOUTH SPA ROAD Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings:	14	
	Survey date: FRIDAY	28/03/14	Survey Type: MANUAL
6	DV-03-C-01	BLOCK OF FLATS	DEVON
	BONHAY ROAD EXETER		
	Edge of Town Centre Residential Zone Total Number of dwellings:	27	
	Survey date: MONDAY	10/07/17	Survey Type: MANUAL
7	EX-03-C-01	FLATS	ESSEX
	WESTCLIFF PARADE SOUTHEND-ON-SEA WESTCLIFF Edge of Town Centre Residential Zone Total Number of dwellings:	6	
	Survey date: TUESDAY	22/10/13	Survey Type: MANUAL
8	EX-03-C-02	BLOCK OF FLATS	ESSEX
	WESTCLIFF PARADE SOUTHEND-ON-SEA WESTCLIFF Edge of Town Centre Residential Zone Total Number of dwellings:	94	
	Survey date: TUESDAY	22/10/13	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	NF-03-C-01	BLOCKS OF FLATS	NORFOLK
	PAGE STAIR LANE		
	KING'S LYNN		
	Edge of Town Centre		
	Built-Up Zone		
	Total Number of dwellings:	51	
	Survey date: THURSDAY	11/12/14	Survey Type: MANUAL
10	SF-03-C-01	BLOCKS OF FLATS	SUFFOLK
	STATION HILL		
	BURY ST EDMUNDS		
	Edge of Town Centre		
	Built-Up Zone		
	Total Number of dwellings:	85	
	Survey date: THURSDAY	18/12/14	Survey Type: MANUAL
11	SF-03-C-03	BLOCKS OF FLATS	SUFFOLK
	TOLLGATE LANE		
	BURY ST EDMUNDS		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	30	
	Survey date: WEDNESDAY	03/12/14	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

VEHICLES**Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
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	11	48	0.045	11	48	0.133	11	48	0.178
08:00 - 09:00	11	48	0.063	11	48	0.222	11	48	0.284
09:00 - 10:00	11	48	0.091	11	48	0.133	11	48	0.224
10:00 - 11:00	11	48	0.110	11	48	0.133	11	48	0.243
11:00 - 12:00	11	48	0.098	11	48	0.091	11	48	0.189
12:00 - 13:00	11	48	0.133	11	48	0.098	11	48	0.231
13:00 - 14:00	11	48	0.102	11	48	0.125	11	48	0.227
14:00 - 15:00	11	48	0.116	11	48	0.133	11	48	0.249
15:00 - 16:00	11	48	0.127	11	48	0.087	11	48	0.214
16:00 - 17:00	11	48	0.134	11	48	0.087	11	48	0.221
17:00 - 18:00	11	48	0.218	11	48	0.098	11	48	0.316
18:00 - 19:00	11	48	0.178	11	48	0.091	11	48	0.269
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.414			1.431			2.845

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected:	6 - 94 (units:)
Survey date range:	01/01/11 - 13/11/18
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.



Appendix F TRICS Output - Restaurant

Calculation Reference: AUDIT-305901-200207-0248

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK

Category : B - RESTAURANTS

VEHICLESSelected regions and areas:

02	SOUTH EAST	
	HC HAMPSHIRE	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
08	NORTH WEST	
	CH CHESHIRE	1 days

*This section displays the number of survey days per TRICS® sub-region in the selected set***Secondary Filtering selection:***This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.*

Parameter: Gross floor area
 Actual Range: 325 to 600 (units: sqm)
 Range Selected by User: 200 to 1000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/11 to 12/07/18

*This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.*Selected survey days:

Monday	1 days
Tuesday	1 days
Thursday	1 days

*This data displays the number of selected surveys by day of the week.*Selected survey types:

Manual count	3 days
Directional ATC Count	0 days

*This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.*Selected Locations:

Edge of Town Centre	2
Suburban Area (PPS6 Out of Centre)	1

*This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.*Selected Location Sub Categories:

Development Zone	1
Built-Up Zone	2

*This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.***Secondary Filtering selection:**Use Class:

A3 3 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Secondary Filtering selection (Cont.):Population within 1 mile:

15,001 to 20,000	1 days
20,001 to 25,000	1 days
25,001 to 50,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

100,001 to 125,000	1 days
250,001 to 500,000	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	3 days
----	--------

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	3 days
-----------------	--------

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	CH-06-B-01	BBQ RESTAURANT	CESHIRE
	SOUTERS LANE CHESTER		
	Edge of Town Centre Built-Up Zone		
	Total Gross floor area:	500 sqm	
	Survey date: TUESDAY	11/11/14	Survey Type: MANUAL
2	HC-06-B-01	PIZZA HUT	HAMPSHIRE
	BINNACLE WAY PORTSMOUTH COSHAM		
	Suburban Area (PPS6 Out of Centre) Development Zone		
	Total Gross floor area:	325 sqm	
	Survey date: MONDAY	23/11/15	Survey Type: MANUAL
3	WM-06-B-05	AKBARS	WEST MIDLANDS
	THE BUTTS COVENTRY		
	Edge of Town Centre Built-Up Zone		
	Total Gross floor area:	600 sqm	
	Survey date: THURSDAY	17/11/16	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/B - RESTAURANTS

VEHICLES**Calculation factor: 100 sqm****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
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									
08:00 - 09:00									
09:00 - 10:00									
10:00 - 11:00	2	413	1.697	2	413	1.455	2	413	3.152
11:00 - 12:00	2	413	2.424	2	413	1.697	2	413	4.121
12:00 - 13:00	2	413	3.030	2	413	1.333	2	413	4.363
13:00 - 14:00	2	413	2.303	2	413	3.636	2	413	5.939
14:00 - 15:00	2	413	1.091	2	413	1.818	2	413	2.909
15:00 - 16:00	2	413	0.970	2	413	1.212	2	413	2.182
16:00 - 17:00	3	475	1.544	3	475	0.912	3	475	2.456
17:00 - 18:00	3	475	1.684	3	475	0.912	3	475	2.596
18:00 - 19:00	3	475	1.825	3	475	1.754	3	475	3.579
19:00 - 20:00	3	475	2.526	3	475	1.684	3	475	4.210
20:00 - 21:00	3	475	1.825	3	475	3.088	3	475	4.913
21:00 - 22:00	3	475	0.421	3	475	1.614	3	475	2.035
22:00 - 23:00	3	475	0.421	3	475	1.053	3	475	1.474
23:00 - 24:00	3	475	0.140	3	475	0.632	3	475	0.772
Total Rates:			21.901			22.800			44.701

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected:	325 - 600 (units: sqm)
Survey date range:	01/01/11 - 12/07/18
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.



Appendix G TRICS Output - Retail

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
 Category : I - SHOPPING CENTRE - LOCAL SHOPS

VEHICLESSelected regions and areas:

02 SOUTH EAST	
EX ESSEX	1 days
03 SOUTH WEST	
DV DEVON	1 days
04 EAST ANGLIA	
CA CAMBRIDGESHIRE	1 days
06 WEST MIDLANDS	
WM WEST MIDLANDS	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
 Actual Range: 375 to 478 (units: sqm)
 Range Selected by User: 210 to 500 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/11 to 08/07/16

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	1 days
Tuesday	2 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	3
Edge of Town	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	3
Retail Zone	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:Use Class:

A1	1 days
----	--------

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Secondary Filtering selection (Cont.):Population within 1 mile:

5,001 to 10,000	1 days
20,001 to 25,000	1 days
25,001 to 50,000	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

75,001 to 100,000	1 days
125,001 to 250,000	1 days
250,001 to 500,000	1 days
500,001 or More	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	3 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	4 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

No	4 days
----	--------

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	4 days
-----------------	--------

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	CA-01-I-01	LOCAL SHOPS	CAMBRIDGESHIRE
	WARWICK ROAD		
	PETERBOROUGH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	478 sqm	
	Survey date: MONDAY	17/10/11	Survey Type: MANUAL
2	DV-01-I-01	LOCAL SHOPS	DEVON
	TORRIDGE WAY		
	PLYMOUTH		
	EFFORD		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	470 sqm	
	Survey date: TUESDAY	17/07/12	Survey Type: MANUAL
3	EX-01-I-02	LOCAL SHOPS	ESSEX
	QUEENS ROAD		
	BRAINTREE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	375 sqm	
	Survey date: FRIDAY	08/07/16	Survey Type: MANUAL
4	WM-01-I-03	LOCAL SHOPS	WEST MIDLANDS
	BRISTOL ROAD SOUTH		
	BIRMINGHAM		
	Edge of Town		
	Retail Zone		
	Total Gross floor area:	450 sqm	
	Survey date: TUESDAY	10/11/15	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

VEHICLES**Calculation factor: 100 sqm****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
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	4	443	6.261	4	443	6.430	4	443	12.691
08:00 - 09:00	4	443	5.922	4	443	5.753	4	443	11.675
09:00 - 10:00	4	443	7.107	4	443	6.430	4	443	13.537
10:00 - 11:00	4	443	7.107	4	443	7.050	4	443	14.157
11:00 - 12:00	4	443	6.768	4	443	7.050	4	443	13.818
12:00 - 13:00	4	443	7.840	4	443	7.445	4	443	15.285
13:00 - 14:00	4	443	7.445	4	443	7.558	4	443	15.003
14:00 - 15:00	4	443	6.994	4	443	6.881	4	443	13.875
15:00 - 16:00	4	443	7.219	4	443	7.276	4	443	14.495
16:00 - 17:00	4	443	10.547	4	443	9.757	4	443	20.304
17:00 - 18:00	4	443	10.491	4	443	11.337	4	443	21.828
18:00 - 19:00	4	443	10.096	4	443	10.039	4	443	20.135
19:00 - 20:00	4	443	8.911	4	443	8.968	4	443	17.879
20:00 - 21:00	4	443	5.076	4	443	5.697	4	443	10.773
21:00 - 22:00	3	432	3.243	3	432	3.552	3	432	6.795
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			111.027			111.223			222.250

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected:	375 - 478 (units: sqm)
Survey date range:	01/01/11 - 08/07/16
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.