

Proposed Residential Development
1A Orwell Road, Harwich

Transport Statement

For

Architorium

Document Control Sheet

Proposed Residential Development

1A Orwell Road, Harwich

Architorium

This document has been issued and amended as follows:

Date	Issue	Prepared by	Approved by
12/08/2021	1 st Draft	CH	JNR
28/09/2021	2 nd Draft	CH	JNR



Contents

1.0	Introduction	1
2.0	Transport Policy	3
3.0	Baseline Conditions	6
4.0	Proposed Development	11
5.0	Trip Analysis	12
6.0	Summary and Conclusion	15

Appendices

- A CrashMap Search
- B Walk and Cycle Catchments
- C 2011 Census Data – Method of Travel to Work
- D Proposed Development Layout
- E Refuse Collection Vehicle Swept Path
- F TRICS Data
- G On-street Car Parking Survey

1.0 Introduction

- 1.1 Motion is instructed by Architorium to prepare a Transport Statement in relation to a planning application for a proposed residential development at 1A Orwell Road, Harwich, CO12 3LD ("the Application Site"). The Application Site is located within the administrative boundaries of Essex County Council (ECC) and Tendring District Council (TDC). The location of the Application Site is illustrated on the figure below.



Figure 1.1: Site Location

- 1.2 The planning application seeks permission to construct a 5-storey building providing 5no. 2-bed residential flats, new refuse storage and cycle parking ("The Proposed Development").
- 1.3 This Transport Statement has been prepared in accordance with current best practice guidelines and demonstrates that:
- ✦ The Proposed Development accords with national and local policies relevant to transport;
 - ✦ Safe and suitable access for all modes can be achieved;
 - ✦ The Proposed Development is design led having regard to the local, historic context rather than seeking to impose a formulaic design on to the Site and,
 - ✦ The change in travel demand associated with the Proposed Development will not lead to severe harm to the operation of the existing highway network.
- 1.4 Following this introduction, this Transport Statement is split into five sections as follows:
- ✦ Section 2 outlines the transport planning policies that are considered to be relevant to this application;

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- § Section 3 sets out the existing use of the Application Site and description of the surrounding area and highway network;
 - § Section 4 provides an overview of the Proposed Development and details of the proposed access, parking and servicing arrangements;
 - § Section 5 assesses the trip generating potential of the Proposed Development and provides an overview of the impacts these are likely to have; and
 - § Section 6 summarises the key findings and conclusions of this report.

2.0 Transport Policy

National Planning Policy Framework

2.1 The National Planning Policy Framework (NPPF) sets out a presumption in favour of sustainable development. It recognises the importance of transport policies in facilitating sustainable development, and that planning decisions should have regard to local circumstances.

2.2 Paragraph 2 of the NPPF states that:

“The National Planning Policy Framework must be taken into account in preparing the development plan, and is a material consideration in planning decisions. Planning policies and decisions must also reflect relevant international obligations and statutory requirements.”

2.3 The NPPF presumes in favour of sustainable development and is a material consideration in planning decisions.

2.4 Section 9 of the NPPF deals with ‘Promoting Sustainable Transport’. Paragraph 105 states that:

“Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.”

2.5 Paragraphs 107 and 108 detail the responsibilities of councils to set parking standards in accordance with the infrastructure of the local area as follows:

“If setting local parking standards for residential and non-residential development, policies should take into account:

- a) the accessibility of the development;*
- b) the type, mix and use of development;*
- c) the availability of and opportunities for public transport;*
- d) local car ownership levels; and*
- e) the need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles.*

Maximum parking standards for residential and non-residential development should only be set where there is a clear and compelling justification that they are necessary for managing the local road network, or for optimising the density of development in city and town centres and other locations that are well served by public transport (in accordance with chapter 11 of this Framework). In town centres, local authorities should seek to improve the quality of parking so that it is convenient, safe and secure, alongside measures to promote accessibility for pedestrians and cyclists.”

2.6 Paragraph 110 addresses the relationship between development and sustainable transport as follows:

“In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*
- b) safe and suitable access to the site can be achieved for all users;*

c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and

d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."

- 2.7 The footnote for paragraph 110 (c) emphasises that policies and decisions should not make use of, or reflect the former Design Bulletin 32, which was withdrawn in 2007, reinforcing the government's desire for new development, inter alia, to be context and design led rather than formulaic.
- 2.8 Paragraph 111 sets out the test that a determining authority should apply when determining the suitability of a planning application in terms of transport and highways stating that:
- "Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."*
- 2.9 Paragraph 119 requires planning authorities to establish policies for accommodating the need for new housing, in a way that makes as much use as possible of previously-developed or 'brownfield' land. Paragraph 125 requires that policies and decisions should avoid homes being built at low densities, and ensure that developments make optimal use of the potential of each site.
- 2.10 Section 12 considers the need to achieve well designed places, referring to the need for design to be consistent with the principles of the National Design Guide and National Model Design Code.
- 2.11 The above policy sets the overarching framework within which the suitability of all planning applications should be considered and forms the basis for designing and assessing the Proposed Development. In particular it highlights the balance that needs to be made between achieving appropriate densities and well-designed places and the functional requirements for access and connectivity, in order to deliver the most effective use of land, especially redevelopment of previously-developed land.

Tending Local Plan

- 2.12 Tendring District's Local Plan was adopted in 2007 and whilst parts of it are considered to be out of date and not in accordance with national planning policy, TDC has yet to formally adopt a new local plan and so it remains the currently adopted development plan.
- 2.13 Paragraph 2.13 of the local plan identifies the need to vary off-street car parking requirements in some areas depending on accessibility by a choice of means of transport. This is in the context of opportunities to bring vacant, derelict or under-utilised land or buildings back into beneficial use.
- 2.14 This is supported by Policy QL2 which states:
- All new development proposals should be located and designed to avoid reliance on the use of the private car and promote travel choice other than in exceptional circumstances. Permission will not be granted for development if it is not accessible by a choice of means of transport. Where necessary, measures to improve the accessibility of development will be required (from the developer), particularly access by walking, cycling and public transport.*
- 2.15 The Local Plan also sets out TDC's desire to retain the appearance or character of streets and will resist development in which off-street car parking adversely impacts on this.

Summary

- 2.16 On the basis of the above review, it is evident that the location of a site in relation to sustainable modes of transport is a key consideration when assessing the acceptability of a proposal. Appropriate

provision should be made for parking and facilitating access by more sustainable forms of travel by providing connections to existing networks.

- 2.17 The policies are very clear that a site should be designed to respond to its characteristics and to integrate with its environs, which will be unique to each site, rather than seeking to contrive a design around generalised and undiscerning design parameters.

3.0 Baseline Conditions

Site Location

- 3.1 The Application Site is located on Orwell Road, at its junction with Marine Parade. Orwell Road connects to the B1352 through Dovercourt.



Figure 3.1: Site Location

- 3.2 The Application Site forms the southern end of Orwell Terrace, which is a Victorian terrace erected by John Bagshaw and is located in the Dovercourt Conservation Area. The Application Site is currently derelict and the Proposed Development seeks to sympathetically reinstate this southern end of the Terrace.

Local Highway Network

- 3.3 The local highway network is centred around the B1352 which forms the principal east west route through the area. The B1352 provides links to the A120 to the east and the A137 to the west. The A120 provides connections to the A133, and the A12 in Colchester.
- 3.4 The Application Site is immediately accessed from Orwell Road, a two-way residential street approximately 6.3 metres wide in the vicinity of the Application Site. On the north-most 45 metres of Orwell Road there is a one way section with traffic only permitted from the B1352 High Street onto Orwell Road. Between the junctions of Orwell Road / Milton Road and Orwell Road / Marine Parade traffic flow is permitted in both directions. Orwell Road has footways on both sides of the road and street lighting at regular intervals.

Road Safety

- 3.5 ID42-015 of the NPPG recommends that:

"an analysis of the injury accident records on the public highway in the vicinity of the site access for the most recent three-year period, or five-year period in the proposed site has been identified as within a high accident area."

- 3.6 Personal Injury Accident (PIA) data recorded within the immediate vicinity of the Application Site has been obtained from CrashMap for the last available three-year period covering 2018 to 2020 (see **Appendix A**). No PIAs were identified within the vicinity of the Application Site. As such, it is not considered that the highway network adjacent to the Application Site suffers from an abnormally high accident rate.

Walking and Cycling

- 3.7 The Site access fronts Orwell Road, a residential street which gives access from the B1352 High Street to several other residential roads. The Site is located approximately 135 metres from the priority junction with the B1352 High Street which, in turn, connects to the A120 and A137, which gives further connections to the A133 and the A12.
- 3.8 Footways are present along the entirety of Orwell Road, Marine Parade, Milton Road and the B1352 High Street. Multiple dropped kerbs with tactile paving are present on the B1352 High Street, including on the route to Dovercourt Railway Station.
- 3.9 The Institute for Highways and Transportation (IHT) provides guidance on distances considered suitable for a journey on foot. A journey of up to 2 kilometres is considered acceptable by most people. Based on an average walking speed of 80 metres per minute, this equates to a 25-minute journey. These isochrones can be found at **Appendix B**.
- 3.10 The B1352 High Street hosts a plethora of local services and amenities such as a supermarket, a pharmacy, multiple restaurants and cafes, several banks, and several other retail services. From the junction with Orwell Road, the B1352 runs east for approximately 1.3 kilometres until a roundabout junction with the A120. The B1352 runs west from the junction with Orwell Road for 18.8 kilometres until a roundabout junction with the A137 in Lawford.
- 3.11 It is generally accepted that a distance of up to 5 kilometres is acceptable to most cyclists. As stated above, a large number of amenities, services and leisure uses are located within 2 kilometres and thus the provision expands considerably over a 5-kilometre distance. Cycling isochrones have been set out at **Appendix B**.
- 3.12 A National Cycle Network Link Route runs along Marine Parade approximately 20 metres from the Site. Additionally, National Cycle Network Route 51 runs through Cliff Park, approximately 50 metres from the Site. National Cycle Network Route 51 runs for circa 304.6 kilometres across the South of England through Oxford, Milton Keynes, Bury St Edmunds, Ipswich and Harwich.

Public Transport

- 3.13 Figure 3.2 below shows that the Application Site is in a highly accessible location in close proximity to Dovercourt Railway Station and several bus stops.

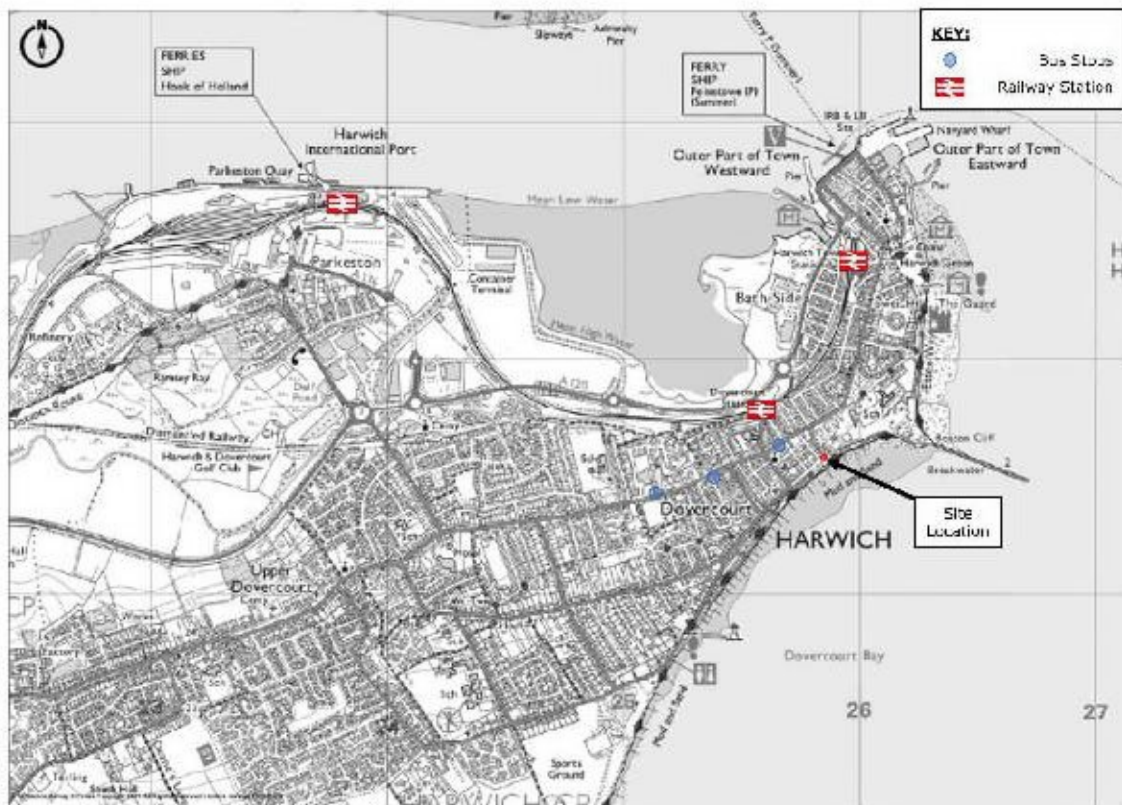


Figure 3.2: Existing Transport Links

Travel by Bus

3.14 Table 3.2 below sets out the bus services which can be accessed within approximately 10 minutes' walk from the Application Site.

Service Number	Distance to bus stop (metres)	Route	Average Frequency (minutes)		
			Mon-Fri	Sat	Sun
2	245	Harwich Bus Station – Dovercourt High Street – Upper Dovercourt – Parkeston – Harwich International Port – Parkeston – Upper Dovercourt – Dovercourt High Street – Harwich Bus Station	every 2 hours	every 2 hours	N/a
3	245	Clacton Pier – Little Clacton – Thorpe-le-Soken – Great Oakley – Upper Dovercourt – Harwich Bus Station	every hour	every hour	every 2 hours
103	245	Harwich Bus Station – Dovercourt High Street – Upper Dovercourt – Ramsey Castle – Wrabness – Bradfield – Mistley – Manningtree – Lawford Place – Ardleigh – Colchester	every 2 hours	every 2 hours	N/a

104	245	Colchester – Ardleigh – Lawford Place – Manningtree – Mistley – Bradfield – Wrabness – Ramsey Castle – Upper Dovercourt – Dovercourt High Street – Harwich Bus Station	every 2 hours	every 2 hours	N/a
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Table 3.2: Local Bus Services Within a 10 Minute Walk of the Application Site

- 3.15 Bus stops servicing the eastbound and westbound routes listed above are located on the B1352 High Street. These stops benefit from shelter, street lighting and timetable information available at the stop. These features increase the ease with which passengers can use the bus services, especially in adverse weather conditions.

Travel by Rail

- 3.16 The Site is an approximately 370-metre walk from Dovercourt Railway Station which links to multiple stations as shown in Table 3.3 below.

Destination	Operator	Route	Average Service Headway (minutes)
Harwich Town	Greater Anglia	Dovercourt – Harwich Town	60
Manningtree	Greater Anglia	Dovercourt – Harwich International – Wrabness – Mistley – Manningtree	60

Table 3.3: Local Rail Services

- 3.17 Additionally, further services operate from these stations, providing access to a multitude of location within the South East of England.

Current Travel Patterns

- 3.18 2011 Census Data associated with residents living in Middle Super Output Area (MSOA) Tendring 001, which incorporates the application site and nearby residential properties has been interrogated, with full results within **Appendix C**. Details of the data extracted from the 2011 Census are summarised in Table 3.4.

Mode	MSOA Tendring 001
Underground, metro, light rail, tram	0.5%
Train	7.2%
Bus, minibus or coach	3.7%
Taxi	0.4%
Motorcycle, scooter or moped	0.9%
Driving a car or van	55.9%
Passenger in a car or van	5.9%
Bicycle	4.5%
On foot	19.8%
Other method of travel to work	1.1%
Total	100%

Table 3.4 – Travel to Work Data (2011 Census)

- 3.19 Table 3.4 indicates that the approximately only 61.8% of people living in the local area travel to work by car with approximately 35.7% travelling by sustainable modes (i.e. public transport, walking and cycling).

Car Ownership Levels

- 3.20 Table 3.5 details the car ownership within Middle Super Output Area (MSOA) Tendring 001, and this shows that 36.6% of households within the vicinity of the site do not own a private motor vehicle.

Cars	Number	%
All categories: Car or van availability	2,873	100.0%
No cars or vans in household	1,052	36.6%
1 car or van in household	1,254	43.6%
2 cars or vans in household	450	15.7%
3 cars or vans in household	96	3.3%
4 or more cars or vans in household	21	0.7%

Table 3.5 – Car Ownership Data (2011 Census)

Summary

- 3.21 It has been demonstrated that the Application Site is located in a sustainable location, in close proximity to public transport nodes and local services and amenities. It is therefore reasonable to assume that residents of the Proposed Development may choose not to own a car and indeed this is the case with almost 37% of existing local residents. It is also apparent that the adjoining highway network is not subject to an abnormally high rate of accidents.

4.0 Proposed Development

4.1 The Proposed Development comprises the construction of a 5-storey building providing 5no. 2-bed residential flats, new refuse storage and cycle parking. The architect's site layout plans are included at **Appendix D**.

4.2 It is noted that the Proposed Development is located within the Dover Court Conservation Area and the design of the Proposed Development and associated site layout are reflective of this.

Access

4.3 Pedestrian access to the Application Site will be provided by a new access onto the footway of Orwell Road.

4.4 A separate access for cycles will be provided to the side of the Proposed Development leading to a secure cycle parking area to the rear of the Application Site.

Parking

Car Parking

4.5 As established above, a high proportion (37%) of existing households do not have access to a car reflecting in part the excellent non-car connectivity presented. As a consequence of this high level of transport accessibility combined with the need to design the scheme to integrate with the surrounding, historic environs, it is proposed that the Proposed Development will be car-free.

4.6 It is noted that people choosing to live in the conservation area would do so in the knowledge that car parking is limited and as such, the Proposed Development is likely to attract residents that place greater weight on the location and historic environs of a dwelling rather than car ownership.

4.7 Nonetheless, as demonstrated above, there is some spare capacity on street for car parking.

Cycle Parking

4.8 It is proposed that 10 new secure, covered cycle parking spaces will be provided at the rear of the property.

Servicing

4.9 It is proposed that servicing of the Proposed Development and refuse collection would be undertaken from the kerb-side as it is currently done for the remainder of Orwell Terrace.

4.10 A bin store is provided to the rear of the Application Site with a direct access to the kerb-side of Orwell Road. An access to the bin store is provided directly onto Marine Parade. The swept path analysis provided at **Appendix E** demonstrates that this can be accessed by a refuse collection vehicle within the maximum manoeuvring parameters set out in BS5906.

5.0 Trip Analysis

Overview

- 5.1 When assessing the impacts of residential development, it is generally considered that the peak traffic times are weekday mornings (08:00-09:00) and weekday evenings (17:00-18:00). It is during these periods that traffic flows associated with the development and those on the adjacent highway network are likely to be at their greatest. The information provided within this section considers these peak hours as well as daily movements (07:00-19:00).

Proposed Trip Generation

- 5.2 To calculate the trip attraction potential of a net increase of five residential units, reference has been made to the TRICS database. Sites within the TRICS category '03 – Residential: C – Flats Privately Owned' have been identified.
- 5.3 The analysis set out below considers the net change in vehicle trips i.e. the trips arising from a net increase of five residential units. A summary of the peak hour trip rates is provided in Table 5.1 below and the full TRICS output for reference included in [Appendix F](#).

Time Period	Vehicle Trip Rates (Per unit)			Vehicle Trips Generated (5 units)		
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
AM Peak (08:00-09:00)	0.034	0.164	0.198	0.17	0.82	1
PM Peak (17:00-18:00)	0.176	0.092	0.268	0.88	0.46	1
Daily (07:00-19:00)	1.007	1.065	2.072	5.035	5.325	10

Table 5.1: Total Vehicle Trip Generation

- 5.4 The table above shows that the Proposed Development is expected to result in one additional vehicle movement during the AM peak period and one additional vehicle movement during the PM peak period. Over the course of a day an additional 10 two-way vehicle trips are expected.
- 5.5 As mentioned in Section 4 of this report, the Proposed Development will be car free. People choosing to live at the Proposed Development will be made aware that there is no car parking provided within the development.

On-Street Parking Implications

Existing On-Street Parking Occupancy

- 5.6 The existing on-street parking occupancy on the streets surrounding the Site has been assessed by means of a manual survey in accordance with the 'Lambeth Council Parking Survey Guidance Note' (Lambeth Council, 2009).
- 5.7 Lambeth Council's parking survey methodology involves overnight parking observation beat(s) between the hours of 00:30 and 05:30 hours, across two separate weeknights. This is intended to capture the maximum residential parking demand within a 200-metre radius of the identified site.
- 5.8 In accordance with the above guidance, parking surveys were undertaken on Wednesday 8th September 2021 and Thursday 9th September 2021. The survey area has been designed to extend 200 metres from the Site, with the 200 metre radius comprising the following roads:

- Bay Road;
- Crown Lane;

- High Street;
- Kingsway;
- Marine Parade;
- Milton Road;
- Victoria Street; and,
- Orwell Road

- 5.9 The number of existing parking spaces in the survey area was identified as part of the analysis. For the purposes of calculating parking occupancy as defined by the guidance document, it is assumed that each vehicle takes up an average kerb distance of 5.0 metres. Therefore, where parking bays are not physically marked out, lengths of kerb space were measured and split into increments of 5.0 metres. Physical bays have been divided into 5.0 metre intervals and rounded down to the nearest whole number to calculate the capacity of each space. Any locations with a length of kerb shorter than 5.0 metres or along vehicle crossovers, have been eliminated from the available kerb space, in accordance with the guidance.

The survey results are included for reference at **Appendix G**. Across the assessment area there are an equivalent of 163 parking opportunities, 2 of which are allocated to disabled parking spaces and 91 of which are located along unrestricted kerb lines. The results of the parking survey are summarised in Table 3.1 below.

Survey Date	On-Street Parking Demand					
	Unrestricted Spaces	Used	% Occupancy	Restricted Spaces	Used	% Occupancy
Wednesday 8 th September	97	43	44.3%	66	3	4.5%
Thursday 9 th September	97	42	43.3%	66	2	3.0%

Table 3.1: Summary of Parking Stress Survey – Wednesday 8th and Thursday 9th September 2021

- 5.10 The results of the parking survey demonstrates that the unrestricted parking spaces in the vicinity of the Site were at 44.3% parking occupancy on the Wednesday night and 43.3% occupancy on the Thursday night with 54 and 55 unoccupied unrestricted parking opportunities in the local area, respectively.
- 5.11 In addition to this, there were 63 and 64 unoccupied restricted parking spaces available for use overnight on each of the survey days, respectively.

Impact on On-Street Parking

- 5.12 Based on aforementioned car ownership levels in the vicinity of the Site, the expected car ownership for the Proposed Development is approximately 4 vehicles across the five residential units. Based on the parking stress survey, it is evident that the road network in the vicinity of the Site has sufficient capacity to accommodate this volume of vehicles without creating a severe impact on the parking stress levels in the area.
- 5.13 The worse-case scenario here, assuming four additional vehicles is the car ownership level of the Proposed Development, would be an increase in occupancy to 48.5% and 47.4% based on the data from the Wednesday and Thursday surveys, respectively. In both cases, this leaves as many as 50 unrestricted spaces within a 200m area around the Site unoccupied.

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- 5.14 This is deemed an acceptable level of parking overspill from the Proposed Development as there will be no severe long-term impacts on the highway network in the vicinity of the Site.

Summary

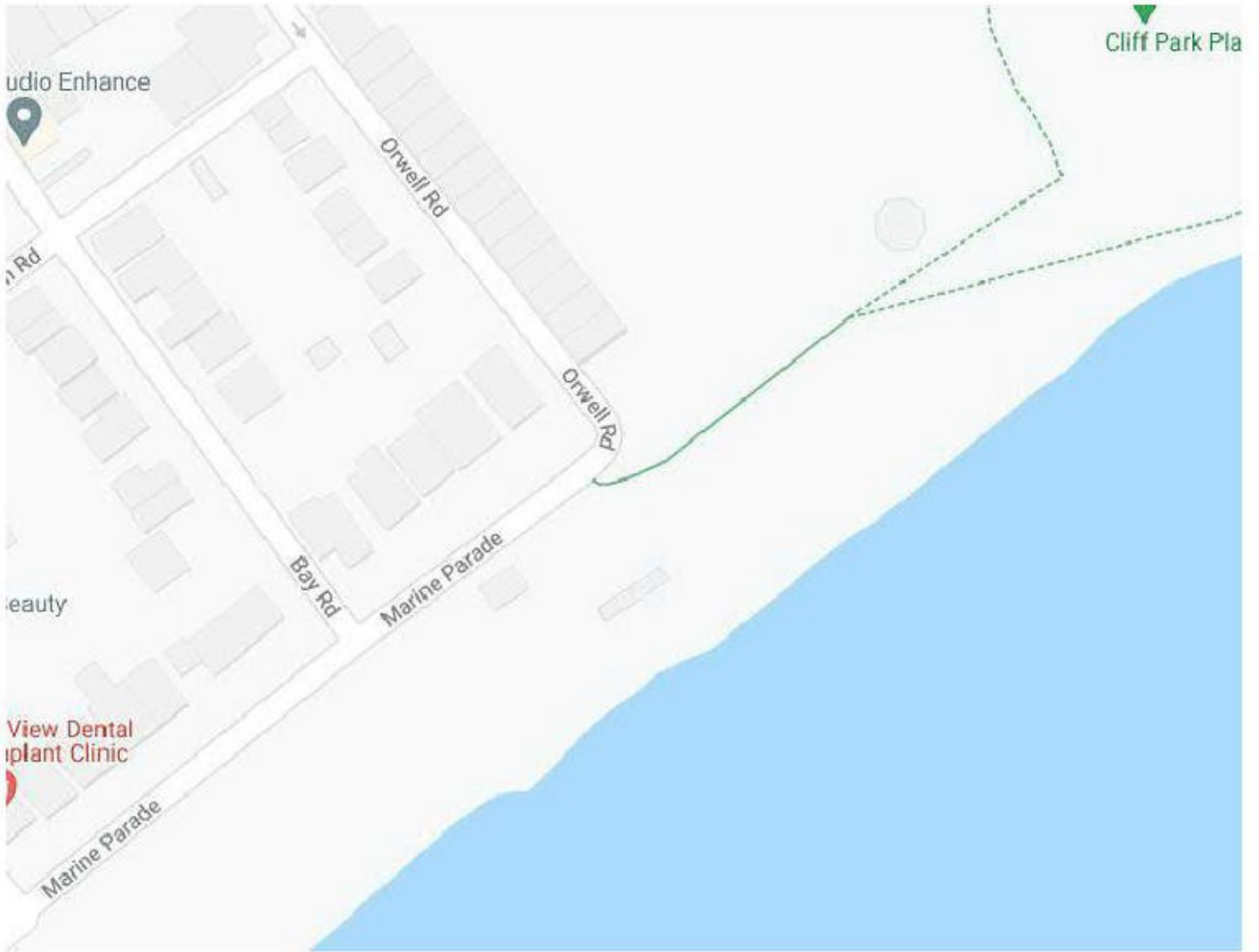
- 5.15 The Proposed Development has the potential to result in a small increase in vehicle trips. However, increases in trips of this magnitude would have an imperceptible impact on the operation of local transport networks. Severe, residual impacts on the operation of the highway network are therefore not expected to arise as a consequence of the Proposed Development.

6.0 Summary and Conclusion

- 6.1 Motion is instructed by Architorium to prepare a Transport Statement in relation to a planning application for a proposed residential development at 1A Orwell Road, Harwich, CO12 3LD ("the Site"). The Site is located within the administrative boundaries of Essex County Council (ECC) and Tendring District Council (TDC).
- 6.2 The planning application seeks permission to construct a 5-storey building providing 5no. 2-bed residential flats, new refuse storage, cycle parking ("The Proposed Development").
- 6.3 The Application Site forms the southern end of Orwell Terrace, which is a Victorian terrace erected by John Bagshaw and is located in the Dovercourt Conservation Area. The Application Site is currently derelict and the Proposed Development seeks to sympathetically reinstate this southern end of the Terrace.
- 6.4 Government policy at all levels advocates that the location of a site in relation to sustainable modes of transport is a key consideration when assessing the acceptability of a proposal. Furthermore, it impresses on developers and local authorities the importance of striking the optimal balance between achieving appropriate densities and well-designed places and the functional requirements for access and connectivity, in order to deliver the most effective use of land, especially redevelopment of previously-developed land. In order to do so, the policies are very clear that a site should be designed to respond to its characteristics and to integrate with its environs, which will be unique to each site, rather seeking to contrive a design around generalised and undiscerning design parameters.
- 6.5 The level of accessibility to and from the Site by all non-car modes of travel has been assessed. The location of the Site enables future site users to gain access to a variety of local services and amenities on foot, within a 2-kilometre walk, or by bike, within a 5-kilometre cycle ride. This meets the requirements of paragraph 105 of the NPPF with regards to sustainable travel.
- 6.6 The Proposed Development is forecast to result in small increases in trips generation during the AM and PM peak periods and across the course of a typical weekday which are expected to have an imperceptible impact on the operation of local transport networks. Severe, residual impacts on the operation of the highway network are therefore not expected to arise as a consequence of the Proposed Development.
- 6.7 Appropriate cycle parking provision has been made in line with Government guidance having regard to the accessibility of the Application Site and type of development proposed.
- 6.8 Based on the analysis set out above, it is concluded that the Proposed Development would:
- ❶ accord with national and local policies relevant to transport;
 - ❷ achieve safe and suitable access for all modes;
 - ❸ be design led having regard to the local, historic context rather than seeking to impose a formulaic design on to the Site; and ,
 - ❹ not result in a change in travel demand that could lead to severe harm to the operation of the existing highway network or unacceptable road safety impacts.
- 6.9 In accordance with paragraph 111 of the NPPF, there are therefore no transport or highway reasons why planning permission should be withheld or refused.

Appendix A

CrashMap Search

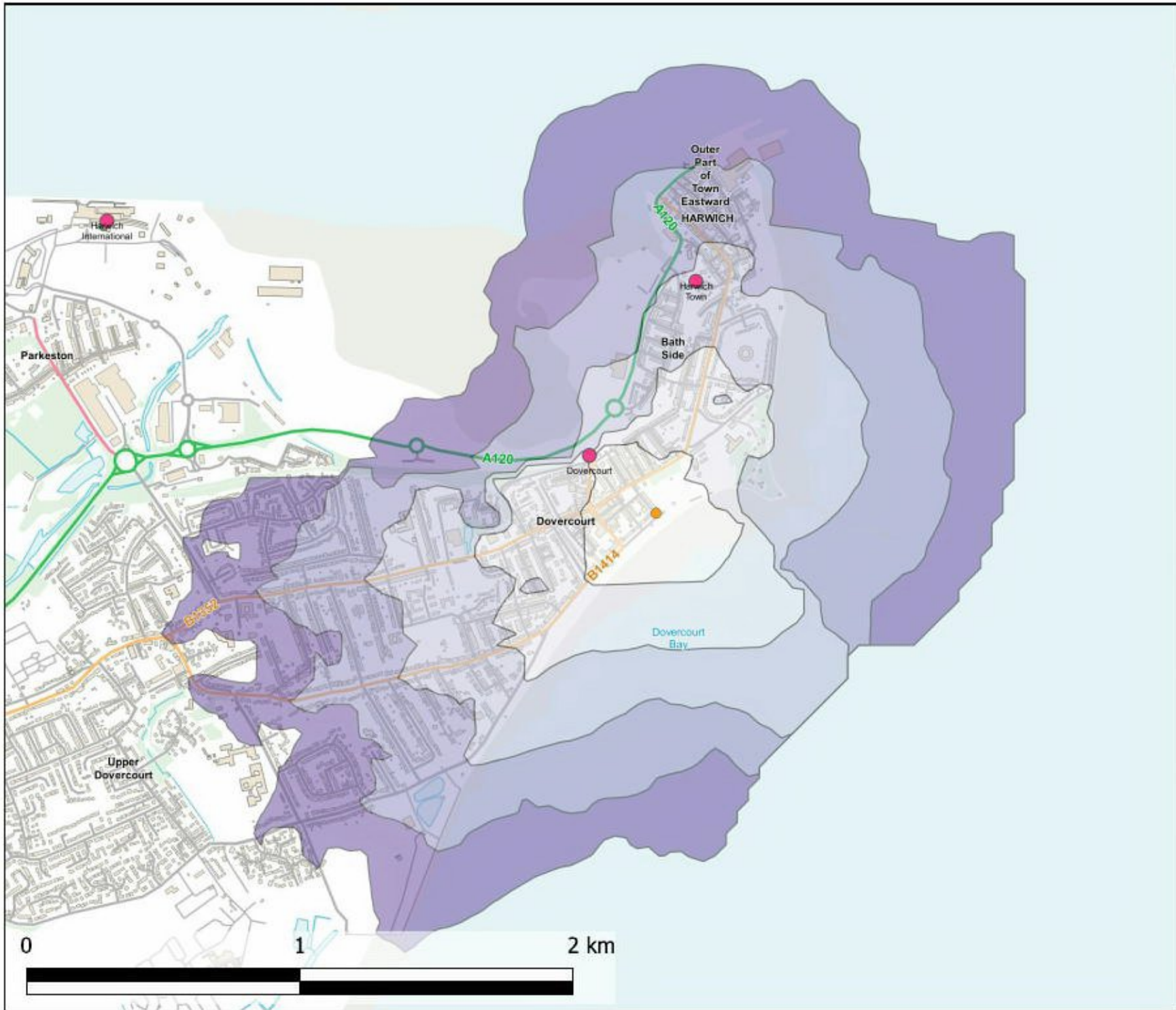


Appendix B

Walk and Cycle Catchments



Key:



Assumed Walk Speed: 4.8 km/h

Project
1A Orwell Road,
Harwich

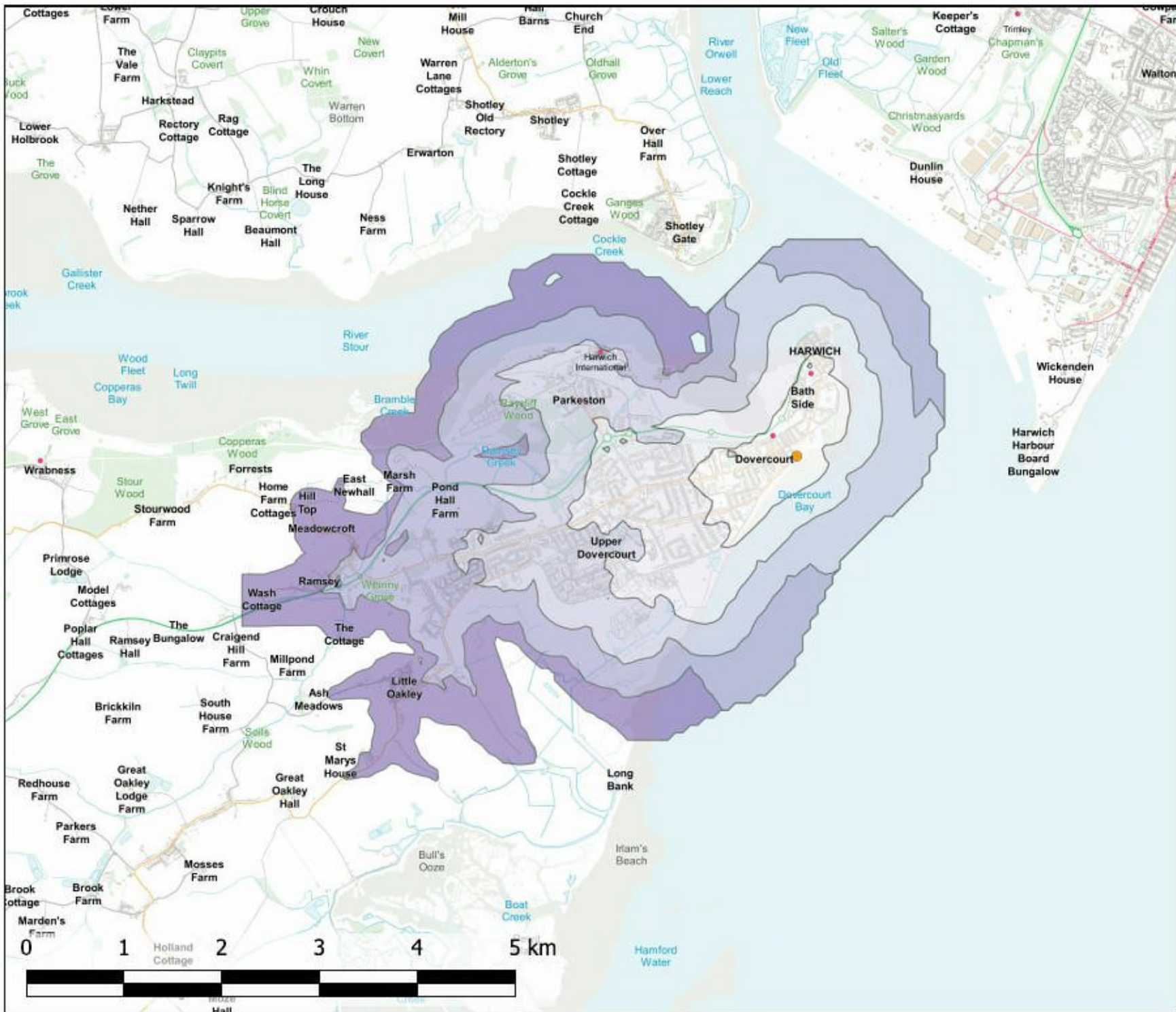
Title
Accessibility by Foot



9 Greyfriars Road, Reading, RG1 1NU

scale	drawn by	date
stated	CH	27/09/2021

drawing number	rev
Appendix B	



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Key:



Project

1A Orwell Road,
Harwich

Title

Accessibility by Cycle



9 Greyfriars Road, Reading, RG1 1NU

scale	drawn by	date
stated	CH	27/09/2021

drawing number	rev
Appendix B	

Appendix C

2011 Census Data – Method of Travel to Work

QS701EW - Method of travel to work

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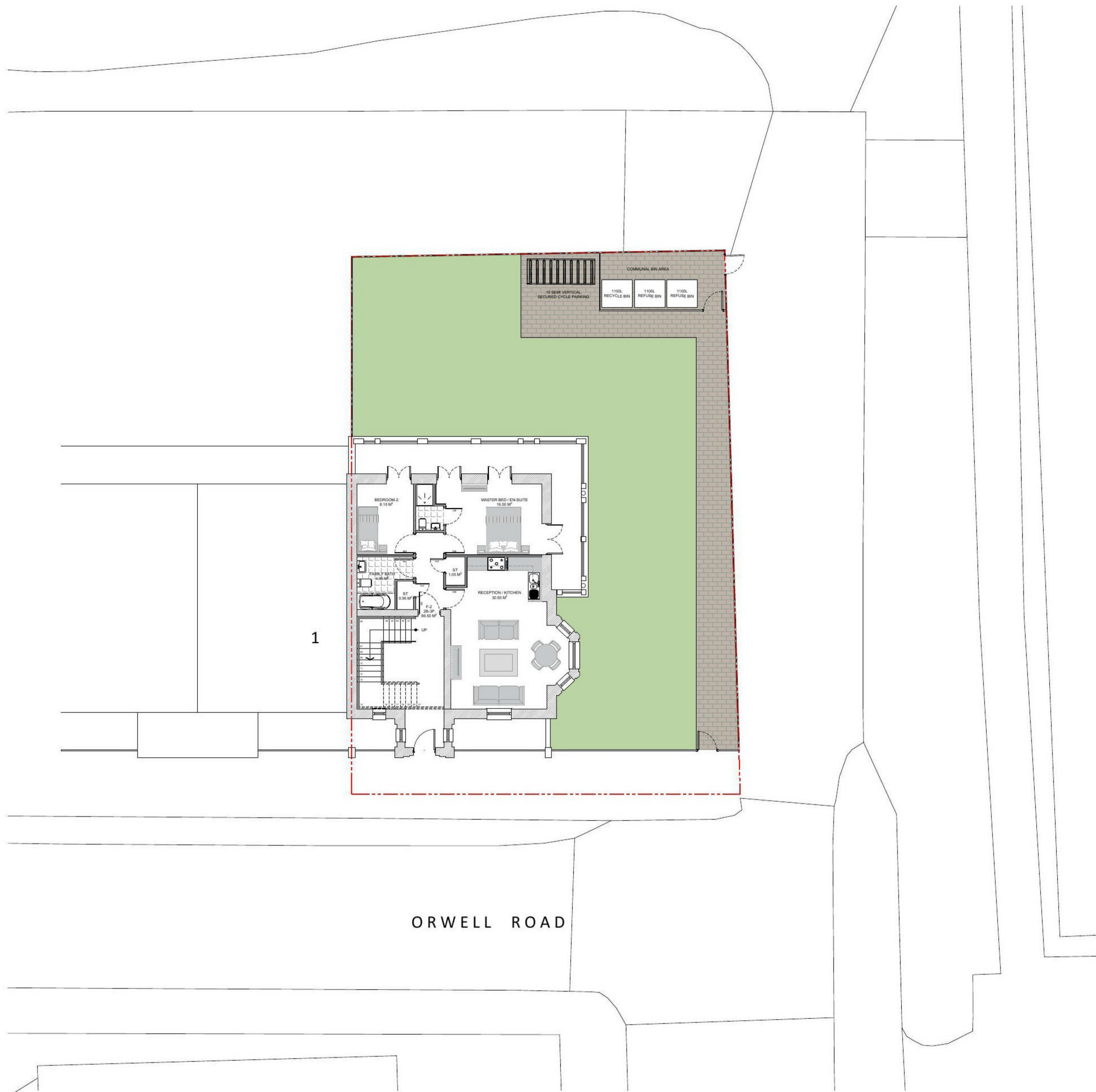
population	All usual residents aged 16 to 74
units	Persons
area type	2011 super output areas - middle layer
area name	E02004573 : Tendring 001
rural urban	Total

Method of Travel to Work

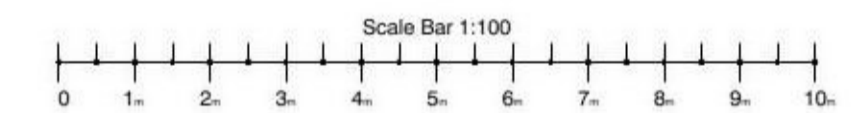
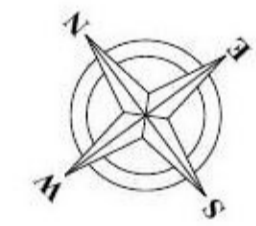
	2011	
All categories: Method of t	2,413	
Underground, metro, light	13	0.5%
Train	173	7.2%
Bus, minibus or coach	89	3.7%
Taxi	10	0.4%
Motorcycle, scooter or mc	21	0.9%
Driving a car or van	1,350	55.9%
Passenger in a car or van	143	5.9%
Bicycle	109	4.5%
On foot	478	19.8%
Other method of travel to v	27	1.1%

Appendix D

Proposed Development Layout



- GENERAL NOTES
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL GENERAL ARRANGEMENT DRAWINGS, PROJECT DETAILS AND SPECIFICATIONS.
 2. ALL DIMENSIONS TO BE CHECKED ON SITE PRIOR TO THE FABRICATION OF ANY WORK AND/OR ORDERING ANY MATERIAL. UNLESS NOTED OTHERWISE, ALL DIMENSIONS ARE TO STRUCTURAL FACES AND/OR PARTITION STUDS.
 3. ABBREVIATIONS USED:-
 - MJ MOVEMENT JOINT
 - HL AT HIGH LEVEL
 - AAV AIR ADMITTANCE VALVE
 - SVP SOIL AND VENT PIPE
 - DP DRAINAGE POINT
 - RWP RAIN WATER PIPE
 4. — SB — DENOTES STRUCTURAL BEAM OVER. FOR ALL STRUCTURAL STEELWORK, PADSTONES, AND MOVEMENT JOINT DETAILS REFER TO THE STRUCTURAL ENGINEER'S DRAWINGS.
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ORWELL ROAD

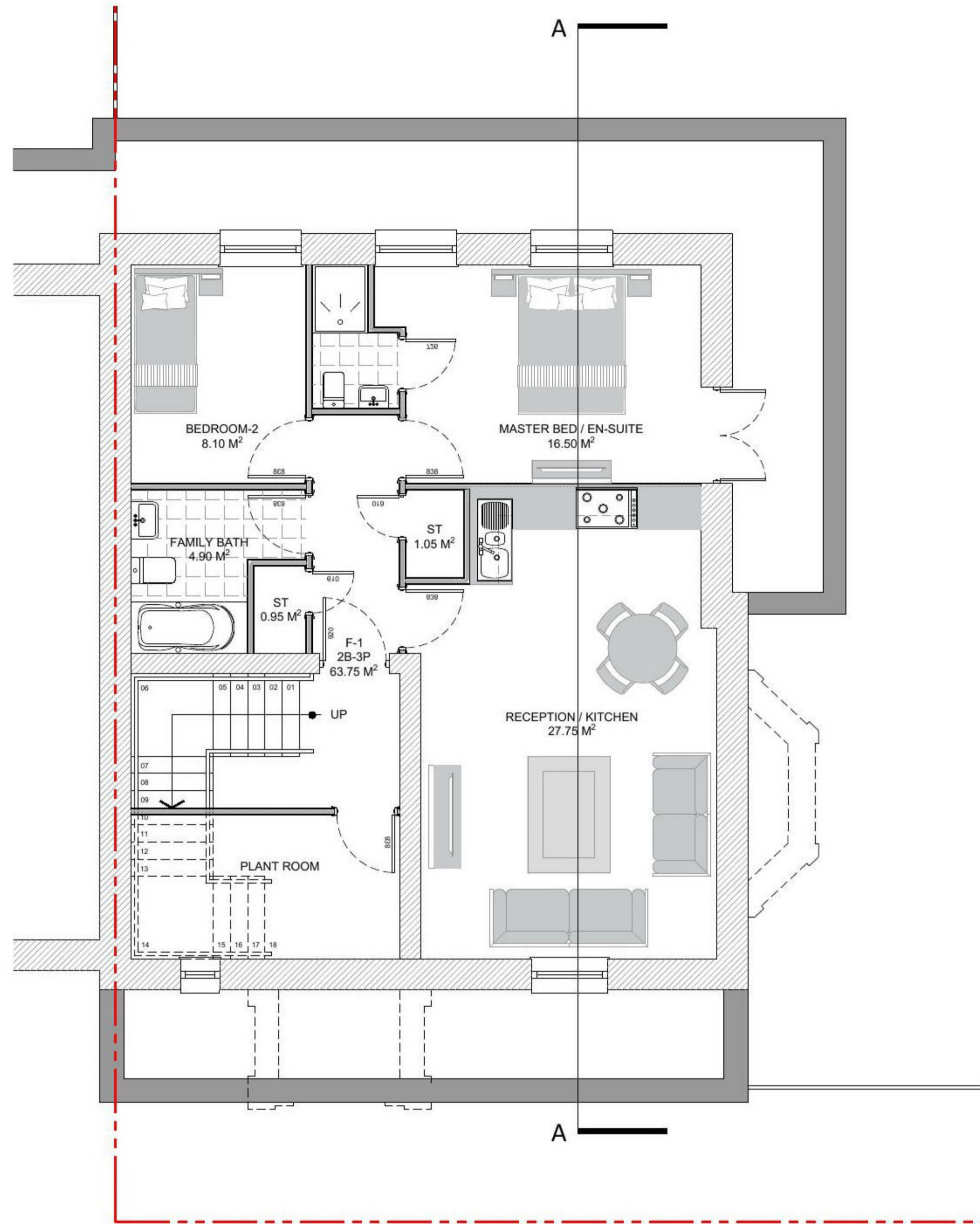
PROPOSED SITE LAYOUT PLAN
 ALL NEIGHBORING PROPERTIES & LANDSCAPE IS INDICATIVE ONLY

STATUS		
PRE PLANNING		
Project		
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Drawing Title		
PROPOSED SITE LAYOUT PLAN		
Date	Scale	Drawn by
MAY. 2021	1:100@A1	IHM
Project No	Drawing No	Revision
632	20-632-P11	-

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 MANAGEMENT & CONSTRUCTION
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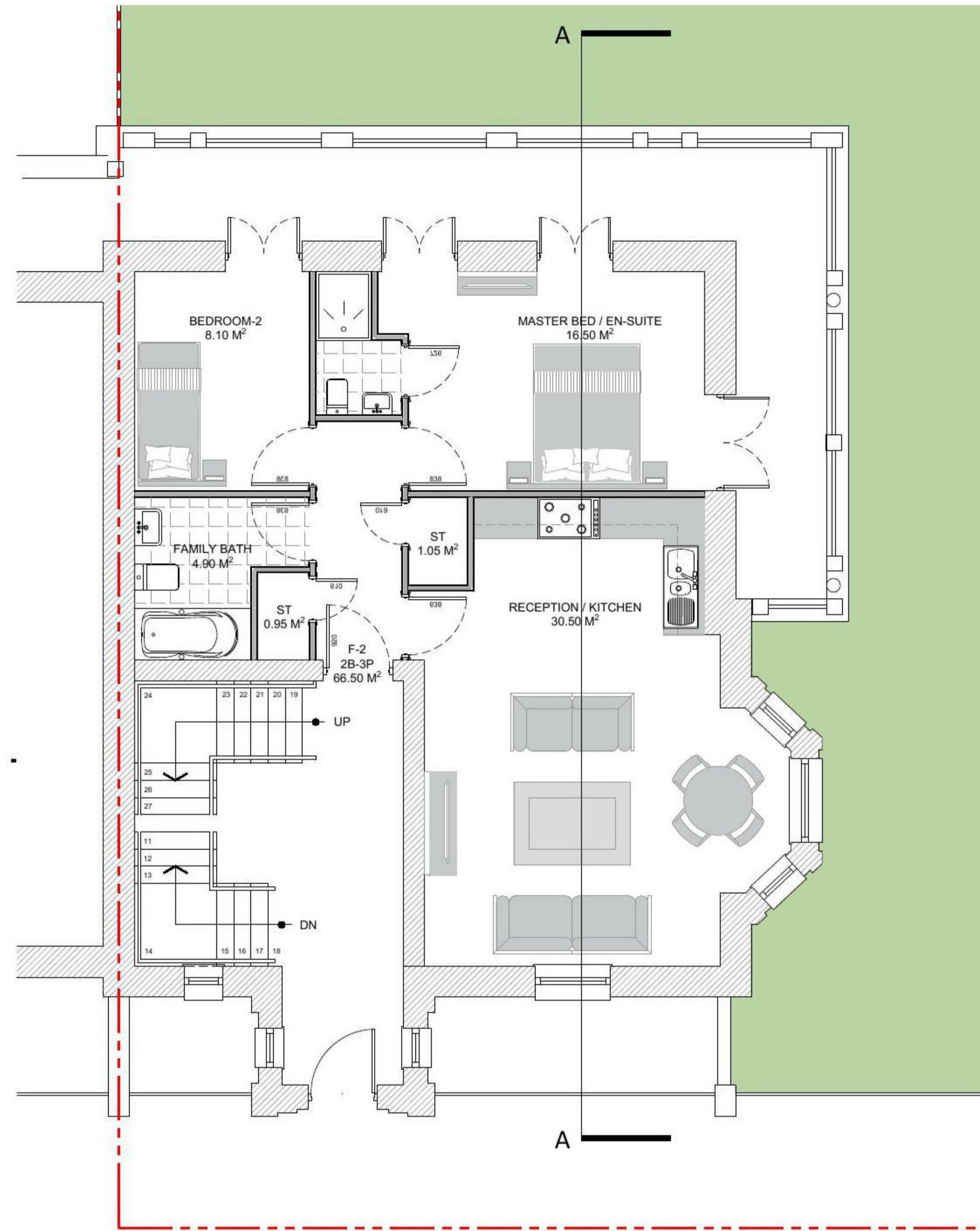
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 Ilford, Essex. IG1 4PU



PROPOSED BASEMENT PLAN
ALL NEIGHBORING PROPERTIES & LANDSCAPE IS INDICATIVE ONLY

RESIDENTIAL SPACE MATRIX (BASEMENT FLOOR)

DESCRIPTION	FLAT - 1 2 BED - 3 PERSON
HOUSING DESIGN GUIDE	61.00 M ²
GROSS INTERNAL AREA (GIA)	63.75 M ²
LIVING / DINING / KITCHEN	27.75 M ²
MASTER BED / EN-SUITE	16.50 M ²
BEDROOM - 2	8.10 M ²
FAMILY BATH	4.90 M ²
STORAGE	2.00 M ²
DUAL ASPECT	YES
AMENITY SPACE	PRIVATE & COMMUNAL
CYCLE PARKING	2
WASTE / RECYCLE BINS	COMMUNAL

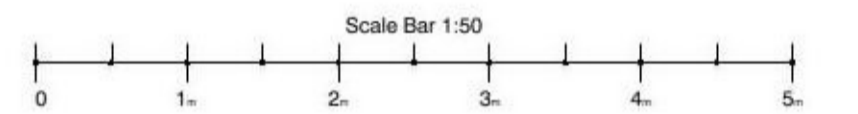
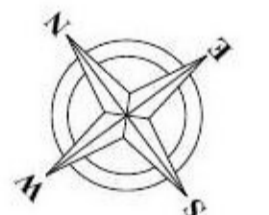


PROPOSED GROUND FLOOR PLAN
ALL NEIGHBORING PROPERTIES & LANDSCAPE IS INDICATIVE ONLY

RESIDENTIAL SPACE MATRIX (GROUND FLOOR)

DESCRIPTION	FLAT - 1 2 BED - 3 PERSON
HOUSING DESIGN GUIDE	61.00 M ²
GROSS INTERNAL AREA (GIA)	66.90 M ²
LIVING / DINING / KITCHEN	30.50 M ²
MASTER BED / EN-SUITE	16.50 M ²
BEDROOM - 2	8.10 M ²
FAMILY BATH	4.90 M ²
STORAGE	2.00 M ²
DUAL ASPECT	YES
AMENITY SPACE	PRIVATE & COMMUNAL
CYCLE PARKING	2
WASTE / RECYCLE BINS	COMMUNAL

- GENERAL NOTES
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 - ABBREVIATIONS USED:-
MJ MOVEMENT JOINT
HL AT HIGH LEVEL
AAV AIR ADMITTANCE VALVE
SVP SOIL AND VENT PIPE
DP DRAINAGE POINT
RWP RAIN WATER PIPE
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STATUS
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Project
1A ORWELL ROAD HARWICH. CO12 3LD

Drawing Title
PROPOSED BASEMENT & GROUND FLOOR PLAN

Date
MAY. 2021

Scale
1:50@A1

Drawn by
IHM

Project No
632

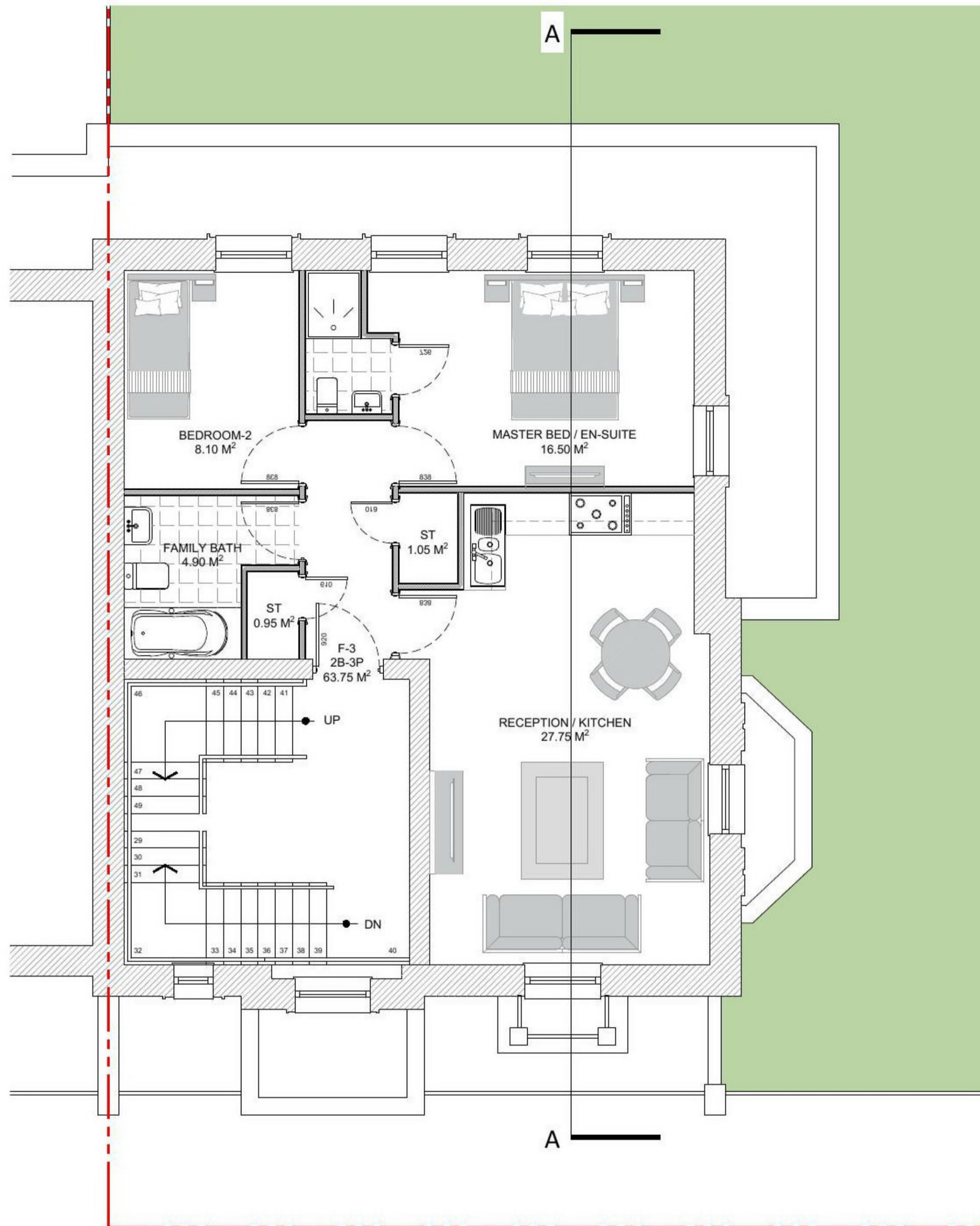
Drawing No
20-632-P12

Revision
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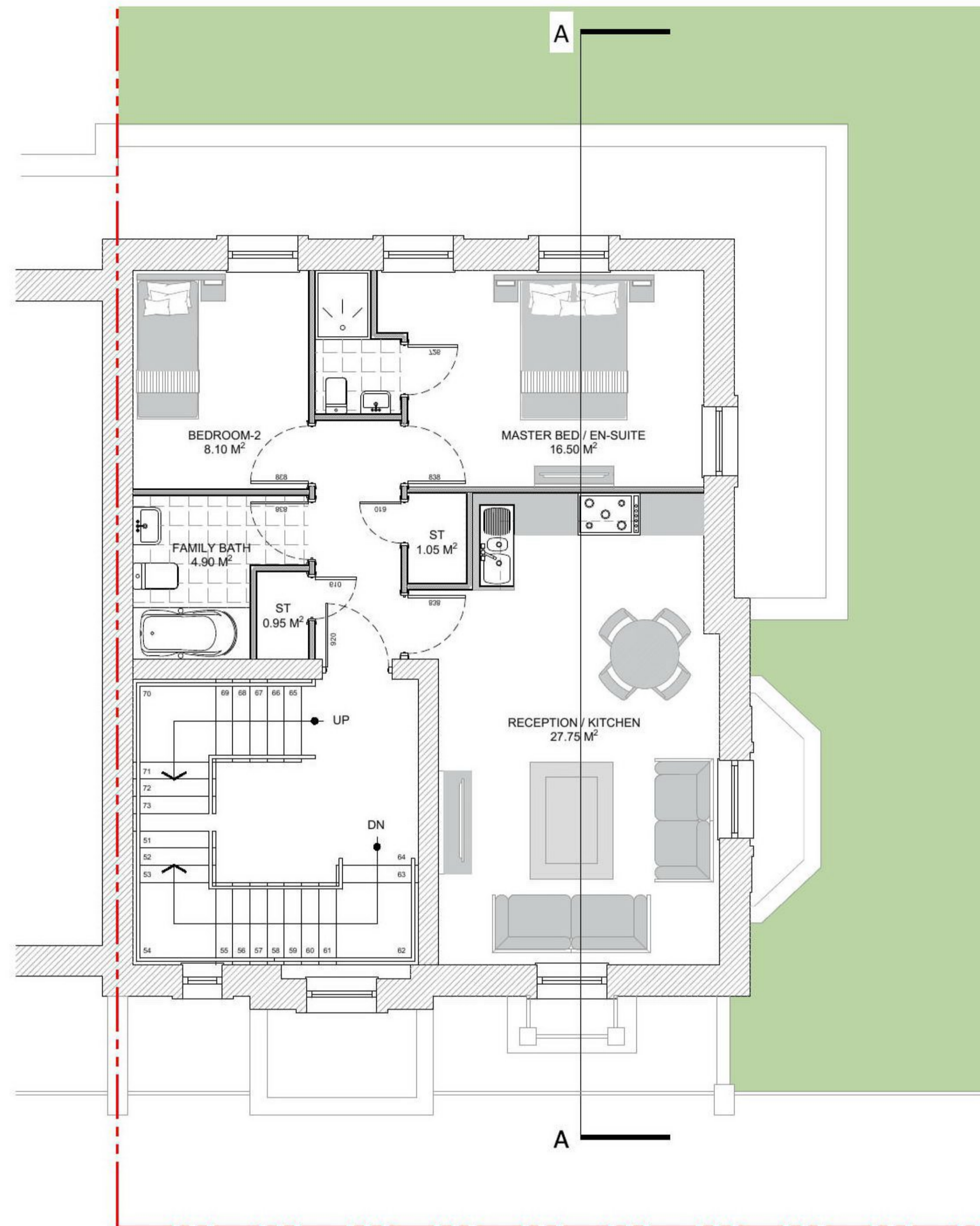
Ferguson House, 113 Cranbrook Road, Ilford, Essex. IG1 4PU



PROPOSED FIRST FLOOR PLAN
ALL NEIGHBORING PROPERTIES & LANDSCAPE IS INDICATIVE ONLY

RESIDENTIAL SPACE MATRIX (FIRST FLOOR)

DESCRIPTION	FLAT - 1 2 BED - 3 PERSON
HOUSING DESIGN GUIDE	81.05 M²
GROSS INTERNAL AREA (GIA)	63.75 M²
LIVING / DINING / KITCHEN	27.75 M²
MASTER BED / EN-SUITE	16.50 M²
BEDROOM - 2	8.10 M²
FAMILY BATH	4.90 M²
STORAGE	2.05 M²
DUAL ASPECT	YES
AMENITY SPACE	COMMUNAL
CYCLE PARKING	2
WASTE / RECYCLE BINS	COMMUNAL

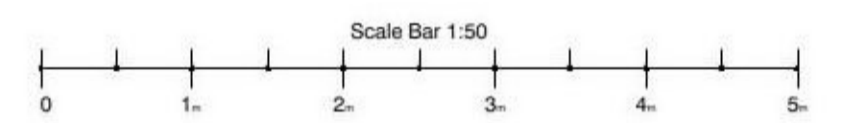
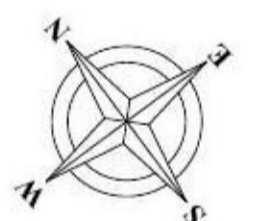


PROPOSED SECOND FLOOR PLAN
ALL NEIGHBORING PROPERTIES & LANDSCAPE IS INDICATIVE ONLY

RESIDENTIAL SPACE MATRIX (SECOND FLOOR)

DESCRIPTION	FLAT - 1 2 BED - 3 PERSON
HOUSING DESIGN GUIDE	81.05 M²
GROSS INTERNAL AREA (GIA)	63.75 M²
LIVING / DINING / KITCHEN	27.75 M²
MASTER BED / EN-SUITE	16.50 M²
BEDROOM - 2	8.10 M²
FAMILY BATH	4.90 M²
STORAGE	2.05 M²
DUAL ASPECT	YES
AMENITY SPACE	COMMUNAL
CYCLE PARKING	2
WASTE / RECYCLE BINS	COMMUNAL

- GENERAL NOTES
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STATUS
PRE PLANNING

Project
1A ORWELL ROAD HARWICH. CO12 3LD

Drawing Title
PROPOSED FIRST & SECOND FLOOR PLAN

Date
MAY, 2021

Scale
1:50@A1

Drawn by
IHM

Project No
632

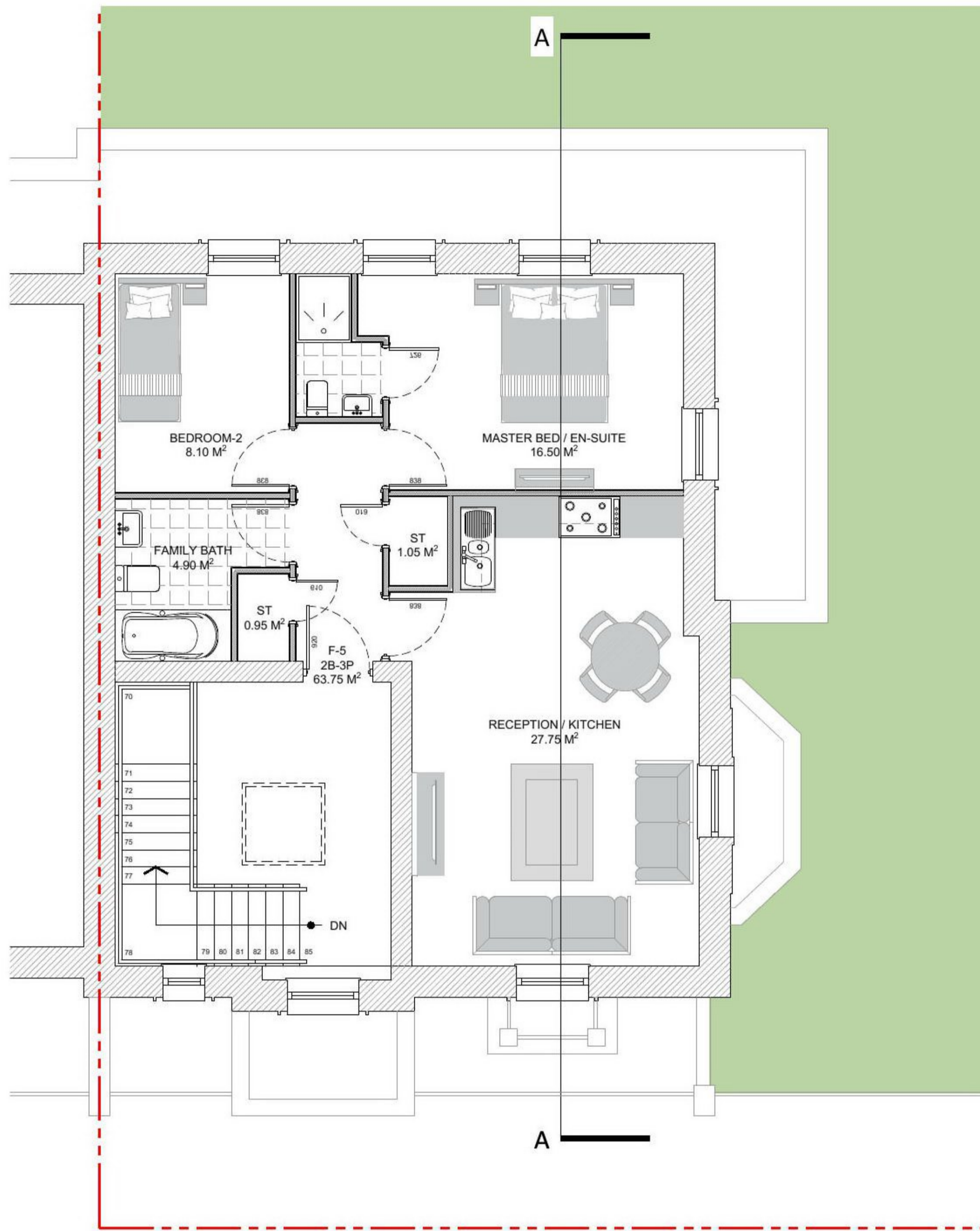
Drawing No
20-632-P13

Revision
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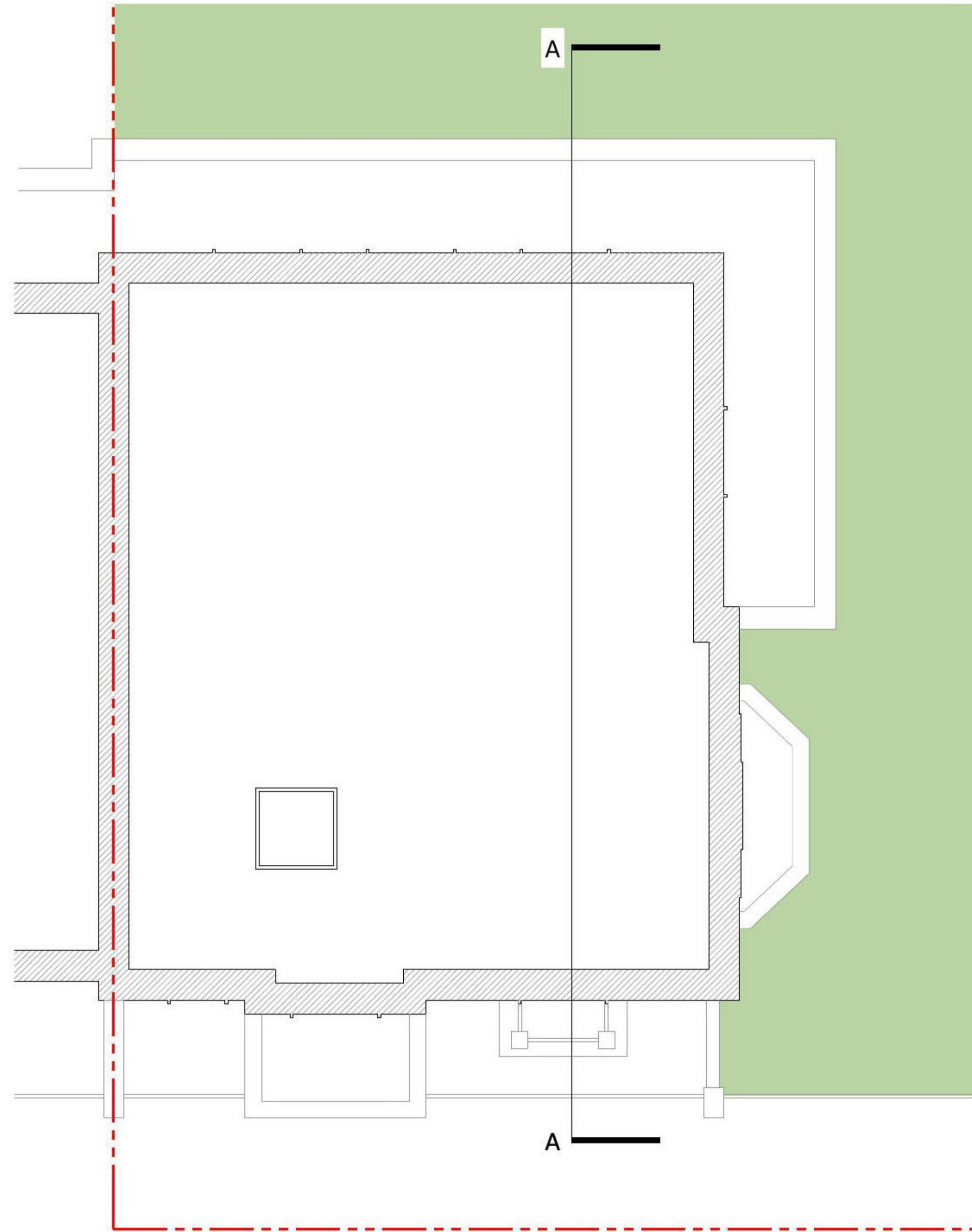


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PROPOSED THIRD FLOOR PLAN
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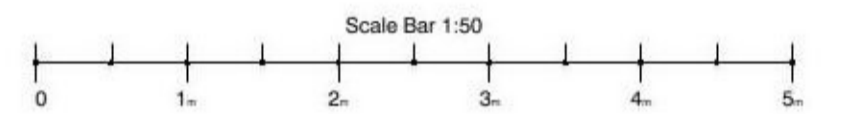
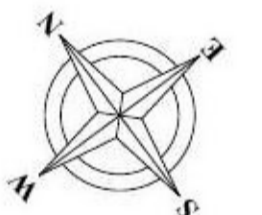


PROPOSED ROOF PLAN
ALL NEIGHBORING PROPERTIES & LANDSCAPE IS INDICATIVE ONLY

**RESIDENTIAL SPACE MATRIX
(THIRD FLOOR)**

DESCRIPTION	FLAT -1 2 BED - 3 PERSON
HOUSING DESIGN GUIDE	61.00 M²
GROSS INTERNAL AREA (GIA)	63.75 M²
LIVING / DINING / KITCHEN	27.75 M²
MASTER BED / EN-SUITE	16.50 M²
BEDROOM - 2	8.10 M²
FAMILY BATH	4.90 M²
STORAGE	2.00 M²
DUAL ASPECT	YES
AMENITY SPACE	COMMUNAL
CYCLE PARKING	2
WASTE / RECYCLE BINS	COMMUNAL

- GENERAL NOTES
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STATUS
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Project
1A ORWELL ROAD HARWICH. CO12 3LD

Drawing Title
PROPOSED THIRD FLOOR & ROOF PLAN

Date MAY. 2021	Scale 1:50@A1	Drawn by IHM
Project No 632	Drawing No 20-632-P14	Revision -



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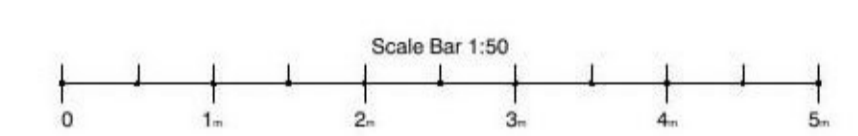
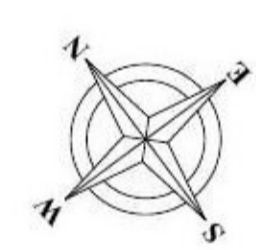
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 - AAV AIR ADMITTANCE VALVE
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 - DP DRAINAGE POINT
 - RWP RAIN WATER PIPE
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**PROPOSED FRONT ELEVATION
(SOUTH ELEVATION)**
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**PROPOSED REAR ELEVATION
(NORTH ELEVATION)**
ALL NEIGHBORING PROPERTIES & LANDSCAPE IS INDICATIVE ONLY

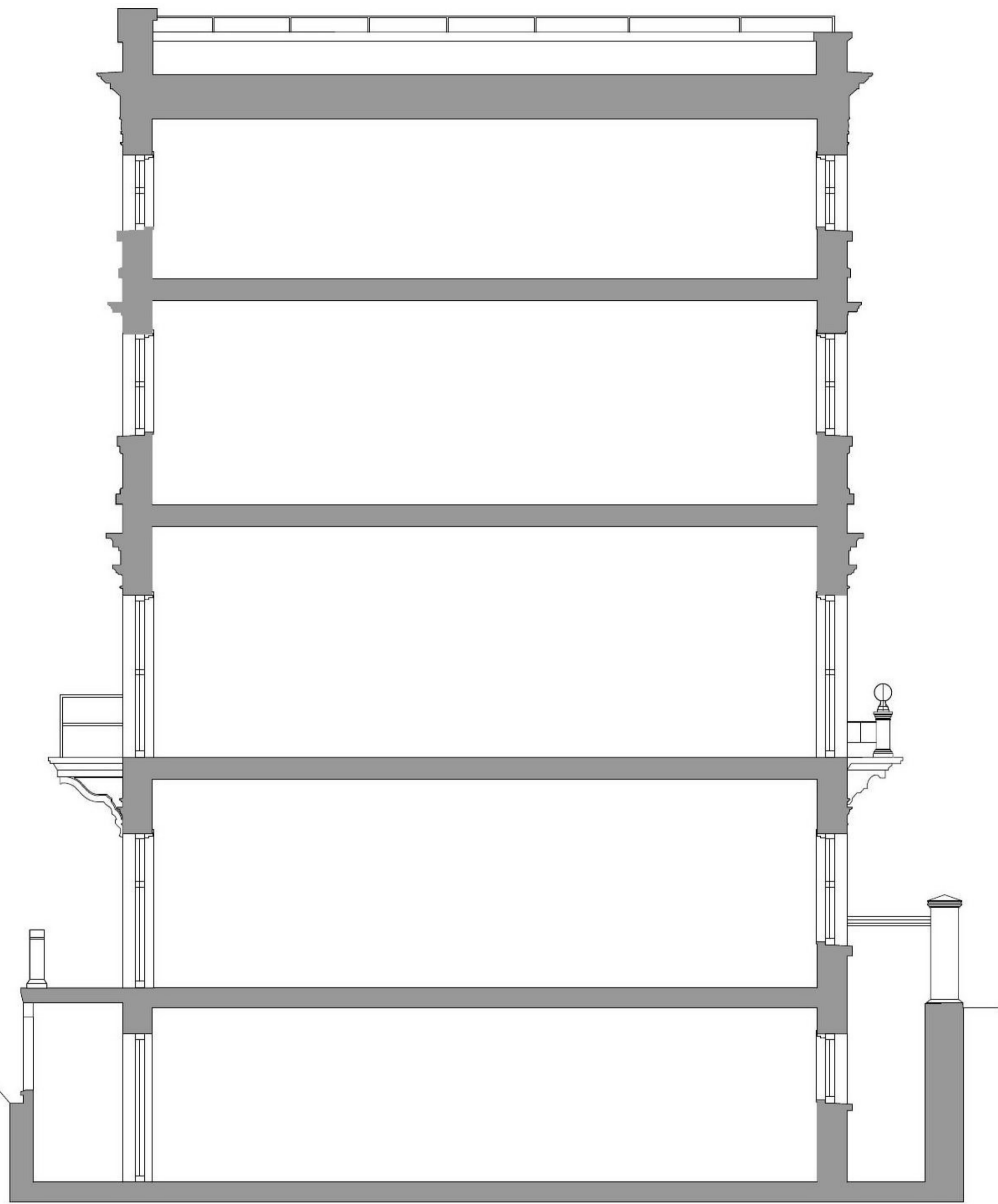


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PRE PLANNING		
Project		
1A ORWELL ROAD HARWICH. CO12 3LD		
Drawing Title		
PROPOSED FRONT & REAR ELEVATION		
Date	Scale	Drawn by
MAY. 2021	1:50@A1	IHM
Project No	Drawing No	Revision
632	20-632-P15	-


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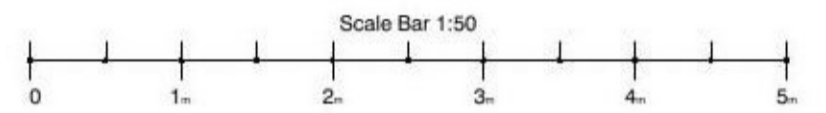
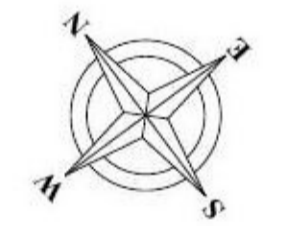


**PROPOSED SIDE ELEVATION
(EAST ELEVATION)**
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PROPOSED SECTION AA
ALL NEIGHBORING PROPERTIES & LANDSCAPE IS INDICATIVE ONLY

- GENERAL NOTES
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STATUS		
PRE PLANNING		
Project		
1A ORWELL ROAD HARWICH. CO12 3LD		
Drawing Title		
PROPOSED SIDE ELEVATION & SECTION AA		
Date	Scale	Drawn by
MAY. 2021	1:50@A1	IHM
Project No	Drawing No	Revision
632	20-632-P16	-



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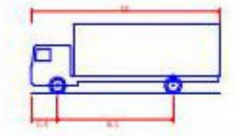
Appendix E

Refuse Collection Vehicle Swept Path

C:\Users\chad\Documents\2108002-TK03.dwg



Rev: Description: Date: Rev By: CHK's



FTA Design HG Rigid Vehicle (1998)

Overall Length	10.000m
Overall Width	2.500m
Overall Body Height	3.645m
Min. Body Ground Clearance	0.440m
Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	11.000m

- Hoarding
- Proposed Building
- Gate



9 Greyfriars, Reading, Berkshire, RG1 1NU
 [Redacted]
 Guildford - London - Reading
 [Redacted]

Project:
1A Orwell Road

Title:
**Swept Path Analysis
 Construction Access**

Client:
Architorium

Drawing Status:
 Scale: 1:200 (@ A3) Date: 14/09/2021

Drawn: CH Checked: JNR Approved: JNR

Drawing: **2108002-TK03** Revision:

Appendix F

TRICS Data

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 03 - RESIDENTIAL
 Category 04 - FLATS PRIVATELY OWNED

TOTAL VEHICLESSelected regions and areas:

02	SOUTH EAST	
	EX ESSEX	1 days
	FC HAMPSHIRE	1 days
	HF HERTFORDSHIRE	1 days
03	SOUTH WEST	
	DV DEVON	1 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
	SF SUFFOLK	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
11	SCOTLAND	
	SA SOUTH AYSRSHIRE	1 days
	SR STIRLING	2 days

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

Primary 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: No of Dwellings
 Actual Range: 6 to 31 (units:)
 Range Selected by User: 6 to 31 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision

Selection of: Include all surveys

Date Range: 01/01/03 to 14/11/15

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	3 days
Wednesday	3 days
Thursday	3 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	1 days

This data displays the number of manually 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	11
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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	11
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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:

03 10 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 500m Radius:

All Surveys Included

Population Within 2 miles:

10,001 to 15,000 3 days
15,001 to 20,000 3 days
20,001 to 50,000 3 days

This data displays the number of selected surveys within stated 2-mile radii of population.

Population Within 5 miles:

50,001 to 75,000 3 days
75,001 to 100,000 3 days
125,001 to 250,000 3 days
250,001 to 500,000 3 days

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

Car ownership Within 5 miles:

0.5 to 1.0 4 days
1.0 to 1.5 6 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 Plans:

Yes 3 days
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.

FTAL Range:

No FTAL Present 10 days

This data displays the number of selected surveys with FTAL Ranges.

LIST OF SITES relevant to selection parameters

The browse and select feature in TRICS was used to choose the sites to be included in this selected set. The TRICS user browsed the full list of sites for this land use category and selected directly from this list.

1	DV-03-C-01 BOKFAY ROAD EXETER	BLOCK OF FLATS		DEVON
	Edge of Town Centre Residential Zone Total No of Dwellings: Survey date: MONDAY		27 19/09/17	Survey Type: MANUAL
2	EX-03-C-01 WESTCLIFF PARADE SOUTHEND-ON-SEA WESTCLIFF	FLATS		ESSEX
	Edge of Town Centre Residential Zone Total No of Dwellings: Survey date: TUESDAY		6 22/10/19	Survey Type: MANUAL
3	HC-03-C-01 CROSS STREET PORTSMOUTH	BLOCKS OF FLATS		HAMPSHIRE
	Edge of Town Centre Elite-Jc Zone Total No of Dwellings: Survey date: TUESDAY		31 05/06/19	Survey Type: MANUAL
4	HF-03-C-03 SHELLEY ROAD BOREHAMMOOD	BLOCK OF FLATS		HERTFORD SHIRE
	Edge of Town Centre Elite-Jc Zone Total No of Dwellings: Survey date: THURSDAY		31 14/11/19	Survey Type: MANUAL
5	NF-03-C-01 PAGE STAIR LANE KING'S LINN	BLOCKS OF FLATS		NORFOLK
	Edge of Town Centre Elite-Jc Zone Total No of Dwellings: Survey date: THURSDAY		31 11/12/14	Survey Type: MANUAL
6	SA-03-C-01 RACE COURSE ROAD A/R	BLOCK OF FLATS		SOUTH AYRSHIRE
	Edge of Town Centre Residential Zone Total No of Dwellings: Survey date: TUESDAY		31 15/09/14	Survey Type: MANUAL
7	SF-03-C-01 STATION HILL BURN ST EDMLINDS	BLOCKS OF FLATS		SUFFOLK
	Edge of Town Centre Elite-Jc Zone Total No of Dwellings: Survey date: THURSDAY		33 19/12/14	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	SR-03-C-01 FORTHSIDE WAY STIRLING	FLATS	STIRLING
	Edge of Town Centre Residential Zone		
	Total No of Dwellings:	50	
	Survey date: WEDNESDAY	19/06/14	Survey Type: MANUAL
9	SR-03-C-02 ROSEBERRY TERRACE STIRLING	FLATS	STIRLING
	Edge of Town Centre Residential Zone		
	Total No of Dwellings:	43	
	Survey date: WEDNESDAY	19/06/14	Survey Type: MANUAL
10	WM-03-C-04 GOLLICREST WAY CONVENTRY PARKSIDE	BLOCKS OF FLATS	WEST MIDLANDS
	Edge of Town Centre Residential Zone		
	Total No of Dwellings:	55	
	Survey date: FRIDAY	11/01/15	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 03 - RESIDENTIAL - FLATS PRIVATELY OWNED

TOTAL 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
10:00 - 01:00									
11:00 - 02:00									
12:00 - 03:00									
13:00 - 04:00									
14:00 - 05:00									
15:00 - 06:00									
16:00 - 07:00									
17:00 - 08:00	10	58	0.041	10	58	0.120	10	58	0.161
18:00 - 09:00	10	58	0.034	10	58	0.164	10	58	0.158
19:00 - 10:00	10	58	0.051	10	58	0.079	10	58	0.130
20:00 - 11:00	10	58	0.050	10	58	0.065	10	58	0.125
21:00 - 12:00	10	58	0.070	10	58	0.032	10	58	0.102
22:00 - 13:00	10	58	0.110	10	58	0.077	10	58	0.187
23:00 - 14:00	10	58	0.057	10	58	0.057	10	58	0.144
24:00 - 15:00	10	58	0.077	10	58	0.050	10	58	0.157
25:00 - 16:00	10	58	0.079	10	58	0.043	10	58	0.122
26:00 - 17:00	10	58	0.118	10	58	0.072	10	58	0.190
27:00 - 18:00	10	58	0.176	10	58	0.052	10	58	0.268
28:00 - 19:00	10	58	0.144	10	58	0.054	10	58	0.238
29:00 - 20:00									
30:00 - 21:00									
31:00 - 22:00									
32:00 - 23:00									
33:00 - 24:00									
Total Rates:			1.007			1.045			2.072

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 columns) 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 - 31 (units)
Survey date date range	01/01/13 - 14/11/13
Number of weekdays (Monday-Friday)	10
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

On-street Car Parking Survey



