

Clonburris Strategic Development Zone Phase 1

Traffic and Transport Assessment

South Dublin County Council

25 April 2022

Quality information

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1. Introduction

1.1 Background

This report has been prepared by AECOM on behalf of South Dublin County Council (SDCC) to review the potential traffic impact of a proposed residential development forming a part of the overall Clonburris Strategic Development Zone located off the R136, Kishoge, Co. Dublin.

This proposed development forms Phase 1 of the Clonburris Strategic Development Zone (SDZ). The SDZ lands total approximately 280 hectares and are deemed to be of economic and social importance to the State.

It should be noted, the full development of the Clonburris SDZ lands (i.e. including the proposed Phase 1 development) has been previously assessed through the Clonburris Transportation Assessment and Transport Strategy (2017) and subsequent Clonburris Planning Scheme (2019), undertaken on behalf of South Dublin County Council (SDCC) and the National Transport Authority (NTA).

1.2 Development Details

The subject development includes for a total of 263No. residential units with a mix of Social, Affordable Rental and Affordable Purchase apartments and houses with associated parking provision and Green Space in the form of Linear Parks and Community Green Space.

The detailed breakdown of the proposed development is as follows:

- 90 Social Units (40 Apartment/Duplex, 50 Houses);
- 83 Affordable Rental (74 Apartment/duplex, 9 Houses); and
- 90 Affordable Purchase units (20 Apartment/Duplex, 70 Houses).

In total 253No. car parking spaces are proposed, of which 231No. are provided on-street and 22No. provided in-curtilage; the site's car parking provision is comprised of 198No. general residential parking spaces on-street, 22No. in-curtilage spaces, 13No. accessible spaces, 5No. car club spaces and 15No. included along the development frontage on Clonburris South Link Street which residents may avail of. There are additionally 6No. Electric Vehicle Rapid Charging spaces, however these are not for long term parking and are proposed to be used by residents for up to 30 minutes at a time as required for the purposes of charging vehicles.

Figure 1 shows the site location relative to existing transport and building infrastructure and Figure 2 shows the site location relative to the overall Clonburris SDZ site boundary. The proposed site layout is shown in **Appendix A**.



Figure 1 – Site Location

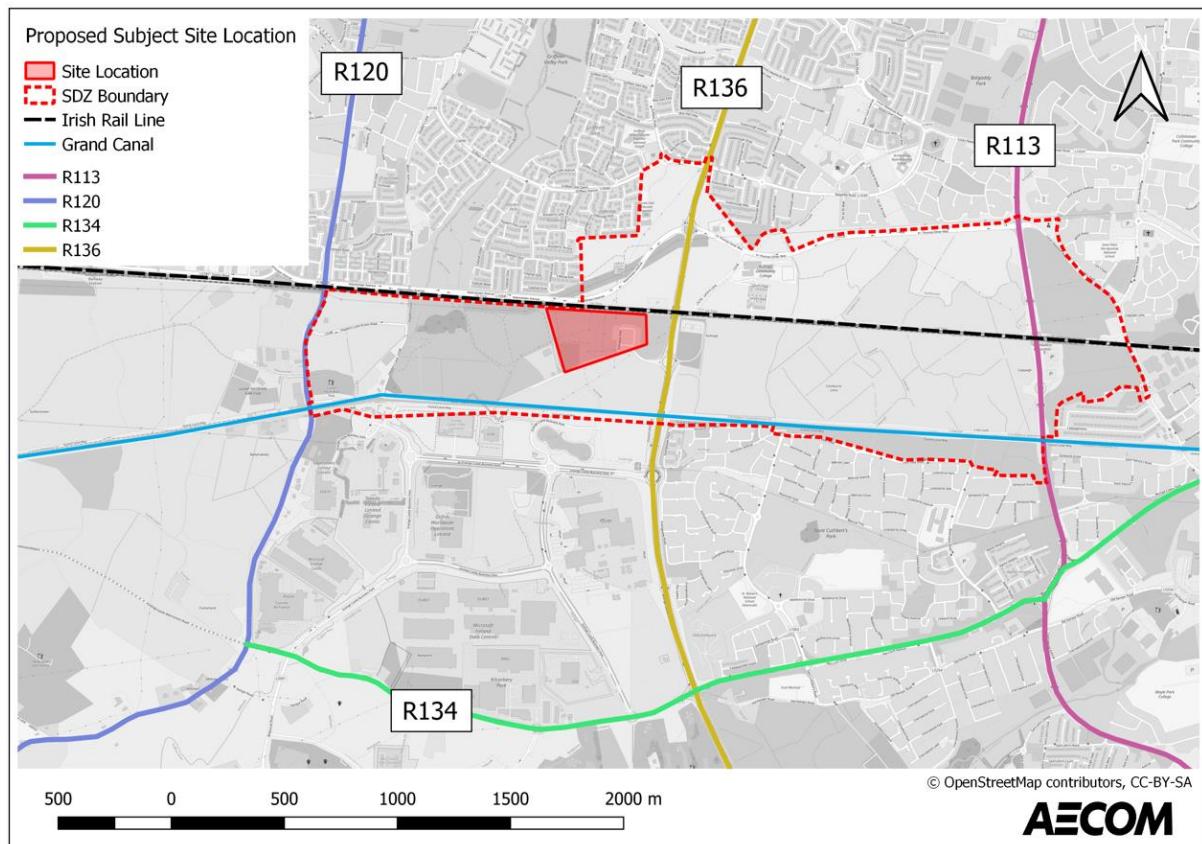


Figure 2 – Site Location and Overall SDZ Boundary

1.2.1 Report Structure

This appraisal will consider the following items:

- Previous Planning History;

- Receiving Environment;
- Land Use;
- Land Use Zoning Objectives;
- Existing Transportation Infrastructure;
- Proposed Development;
- Traffic Impact; and
- Indicative Construction Traffic Management Plan.

2. Previous Planning History

2.1 Introduction

A search of the South Dublin County Council (SDCC) planning archives details that there have been no applications made on the lands of the subject site. There has however been a granted permission for the development of the Clonburris South Link Street, which is proposed to run through the subject site and provide connectivity towards Adamstown and Cappagh and servicing the overall Clonburris SDZ Lands.

The overall SDZ lands have also been subject to Transport Assessment and Transport Strategy (2017) and the Clonburris Planning Scheme (2017), both of which were undertaken by SDCC to assess the overall SDZ lands and the capacity of the proposed network.

2.2 Permitted Clonburris South Link Street, SDCC Reg Ref: SDZ20A/0021

The Clonburris South Link Street runs along the length of the SDZ Lands connecting between Adamstown and Cappagh. The Link Street has been outlined within the Clonburris Planning Scheme (2019) and is assessed under the Clonburris Transportation Assessment and Transport Strategy (2017). The application description is detailed below:

- The proposed development consists of:
 - Roads and drainage infrastructure works as approved under the Clonburris Strategic Development Zone Planning Scheme (2019) to form part of the public roads and drainage networks providing access and services for the future development of the southern half of the overall Strategic Development Zone (SDZ) lands;
 - The roads infrastructure works are for:
 - The construction of c. 4.0km of a new road, known as Clonburris Southern Link Street, generally consisting of 7m wide single carriageway, plus on either side of the carriageway landscaped verges, 1.75m wide off-road cycle tracks and 2m wide footpath including public lighting, trees, 288 on-street car parking spaces (including 26 disabled parking spaces), *pedestrian crossings, bus stops and number of vehicular access spurs to facilitate future development of adjoining lands.*
 - A total of 8 new junctions (including 3 junctions to facilitate future road developments within the SDZ; 2 junctions with proposed local access roads and 3 new junctions with Hayden's Lane, Lynch's Lane, and Ninth Lock Road).
 - Alterations to 4 existing junctions on Newcastle Road (R120), Grange Castle Road (R136), Fonthill Road (R113) and to the existing access road to Park and Ride facilities at both Kishogue Station and at Fonthill Station.
 - Alterations to the existing public roads Newcastle Road (R120), Hayden's Lane Access Road, Hayden's Lane, Lynch's Lane, Grange Castle Road (R136), Fonthill Road (R113) and Ninth Lock Road arising from new junctions with the Clonburris Southern Link Street consisting of reconfiguration of a c.165m long section of Newcastle Road (R120) including road widening and revisions to layout of junction with Hayden's Lane Access Road.
 - North/South Link Street (c. 240m in length) extending north from southern Link Street to the Kildare-Cork railway line and generally consisting of a 7m wide single carriageway plus on either side of the carriageway 1.3m wide landscaped verge, 1.75m wide off-road cycle lane, 2m wide footpath including public lighting and 2 vehicular access spurs to facilitate future development of adjoining lands.

Following a Further Information Request and significant additional information, the scheme was granted permission in accordance with 23No. planning conditions, 4No. of which were related to traffic and transportation and all of which relating to ensuring the scheme was compliant with the Clonburris Planning Scheme 2019.

3. Receiving Environment

3.1 Land Use Zoning Objectives

The lands on which the proposed development is to be located are greenfield. The subject development lands are located within the administrative area of South Dublin County Council and are zoned 'Objective SDZ'. The zoning objective of 'SDZ' is to '*provide for strategic development in accordance with approved planning schemes*'.

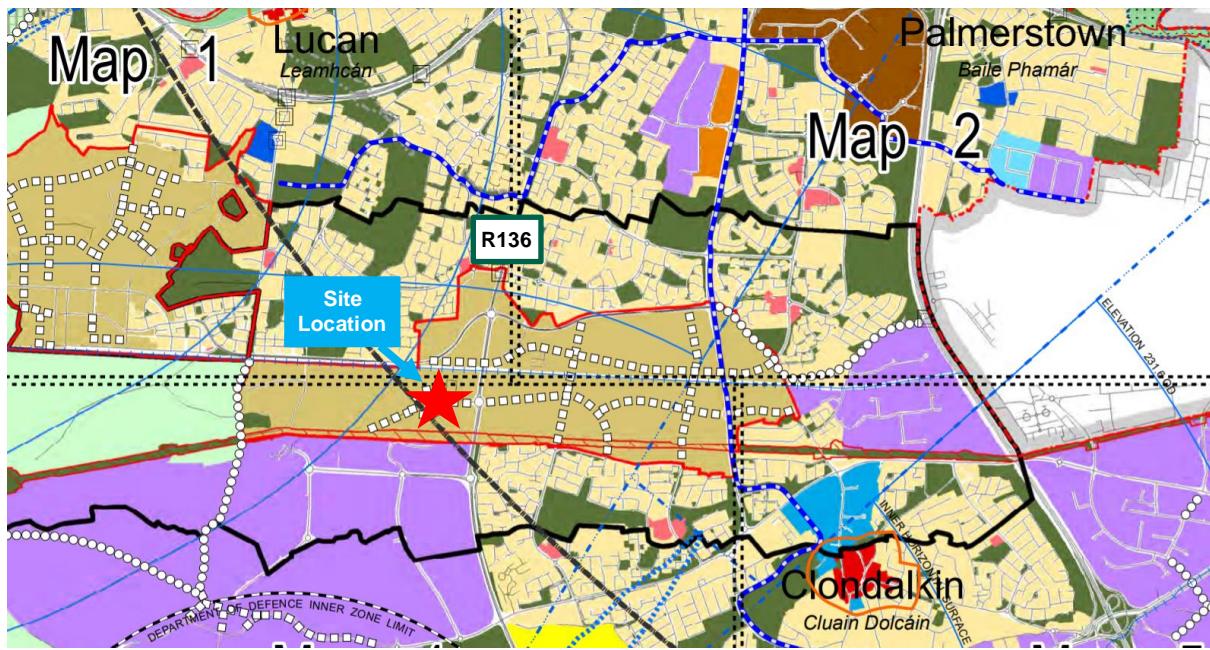


Figure 3 – Land Use Zoning (Source: South Dublin County Development Plan 2016 - 2022)

3.2 Existing Transportation Infrastructure

3.2.1 R136

The R136 is a two-way single carriageway subject to a speed limit of 80km/hr, with footpaths and street lighting provided along the route (see Figure 2). The road surface of the R136 in the vicinity of the proposed development provides two lanes and a bus lane for vehicular traffic in both directions, with cyclists able to avail of the bus lanes.

The existing road layout connects towards Lynch's lane via a roundabout junction, but the proposed development will connect to the R136 via the Clonburris South Link Street which was granted permission under the Application SDZ20A/0021 as part of the Strategic Development Zone's initiative and Planning Scheme.

3.2.2 Active Travel – Walking

Grange Castle Road provides good quality pedestrian facilities, as shown in Figure 4 below. These facilities are part of a pedestrian footpath and cycle track that are separated from the road by a grass verge. Pedestrian crossings are provided in the form of signal-controlled crossings with tactile paving and with a centralised island provided where required.

Lynch's Lane is a local road which provides pedestrian footpath facilities along the northern side of the road only in the vicinity of the existing traveller accommodation, linking the existing accommodation to the R136 and its pedestrian facilities to the east. Lynch's Lane would be replaced by the Clonburris South Link Street and would further be tied into the site at a modal filter junction.



Figure 4 – Active Travel Facilities along R136

3.2.3 Active Travel – Cycling

In vicinity of the subject site, dedicated cycle tracks are provided on the R136 to the east of the development. These facilities further link to cycle lanes at road level and bus lanes which provide cycle connectivity to Clondalkin, Lucan and Tallaght. The existing cycling facilities are illustrated in Figure 5.

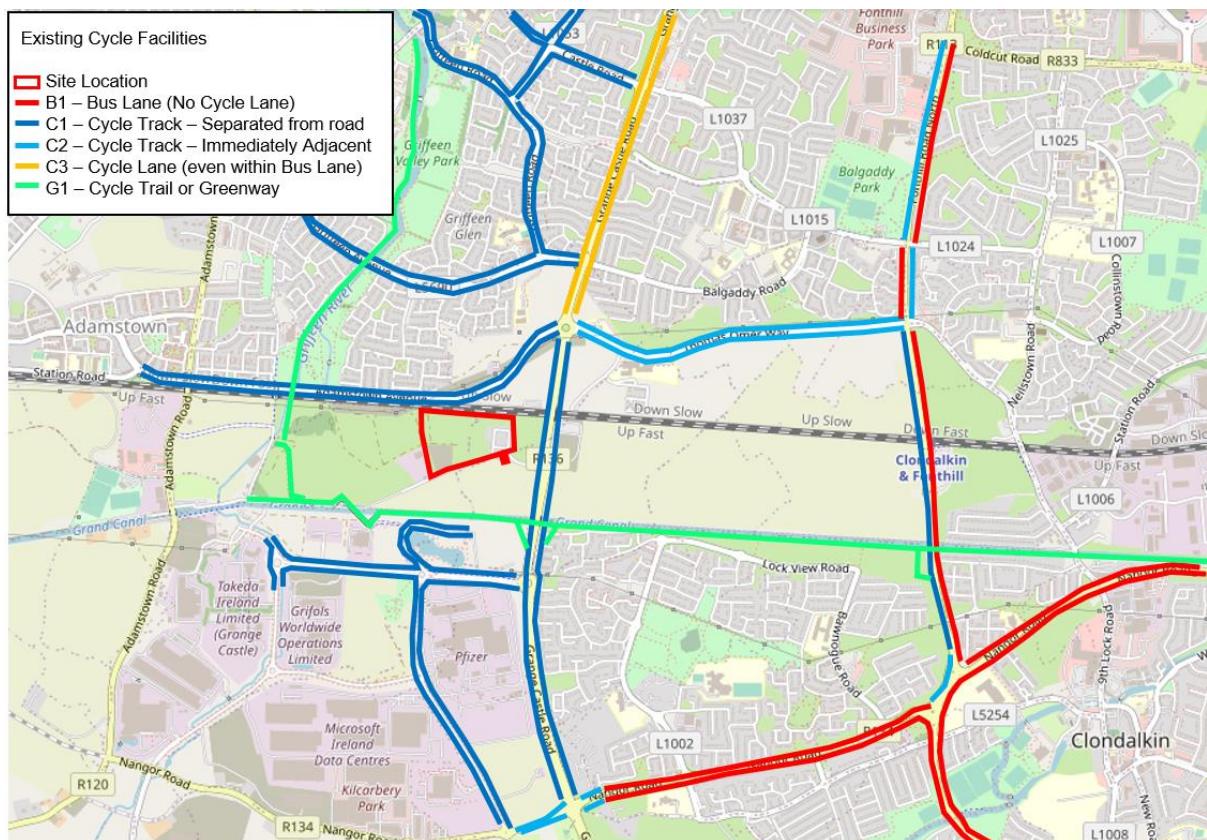


Figure 5 – Existing Cycle Facilities

Source: Existing Cycle Facility Type Dublin City Centre Sheet E1, National Transport Authority

3.2.4 Sustainable Transport – Bus

As graphically illustrated in Figure 6 overleaf, the site is situated to benefit from bus transport connections along the R136, which has bus lanes in both directions. The nearest bus stop to the site is 400m to the east on the R136, which provides services operated by Dublin Bus. Clonburris South Link Street has been designed to cater for buses and two new bus stops are proposed within 150m of the subject site.

The R136 Grange Castle Road is an existing bus route with the Dublin Bus service 151 running along it and stopping to service the existing area. The 151 Operates between Ballyowen and East Wall Via City Centre offering a frequent service, with buses operating every 15 minutes on weekdays. Table 1 summarises the existing bus services serving the development site.

Table 1 – Existing Bus Timetable for Dublin Bus Service 151

| No. | Service | Route | Mon-Friday Frequency | Saturday Frequency | Sunday Frequency |
|-----|------------|-------------------------------------|------------------------------|------------------------------|------------------------------|
| 151 | Dublin Bus | Ballyowen – City Centre – East Wall | Every 15 Minutes (0600-2330) | Every 20 Minutes (0630-2330) | Every 30 Minutes (0730-2330) |

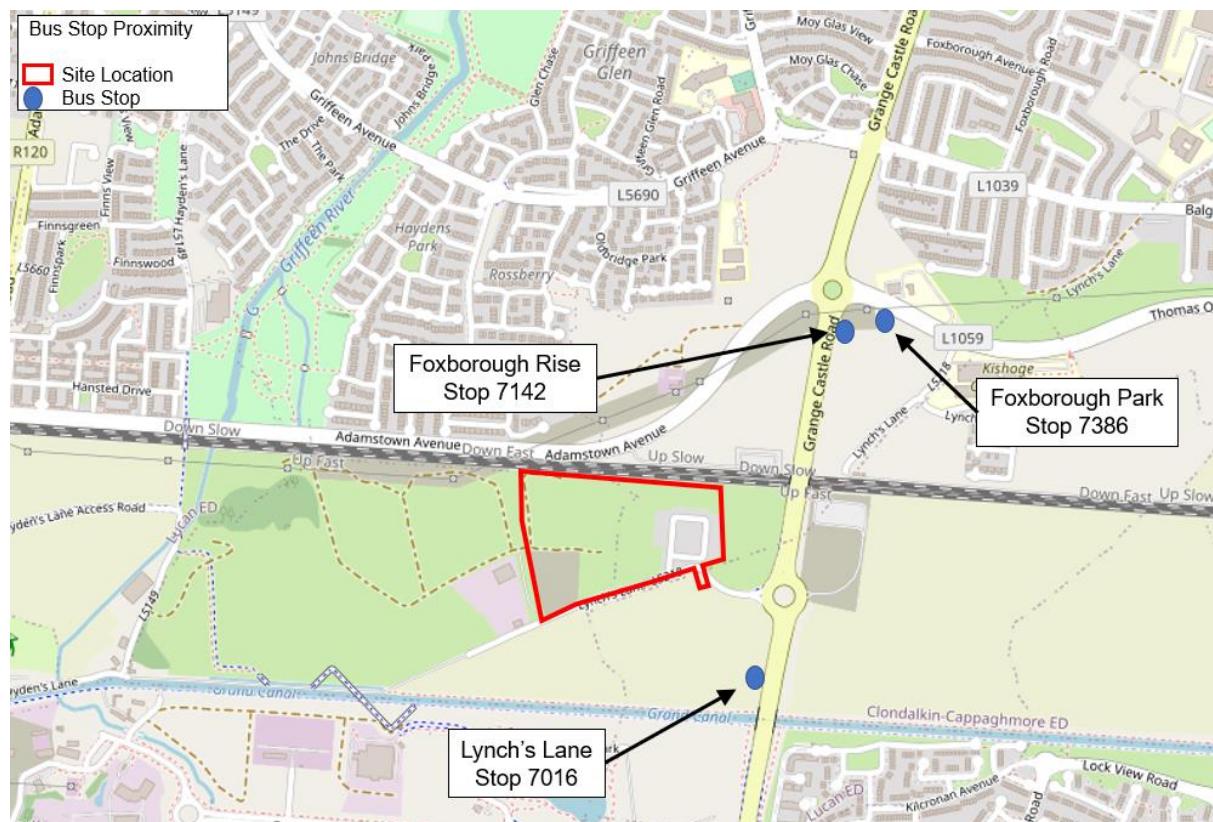


Figure 6 – Bus Stop Proximity

3.2.5 Sustainable Transport - Heavy Rail

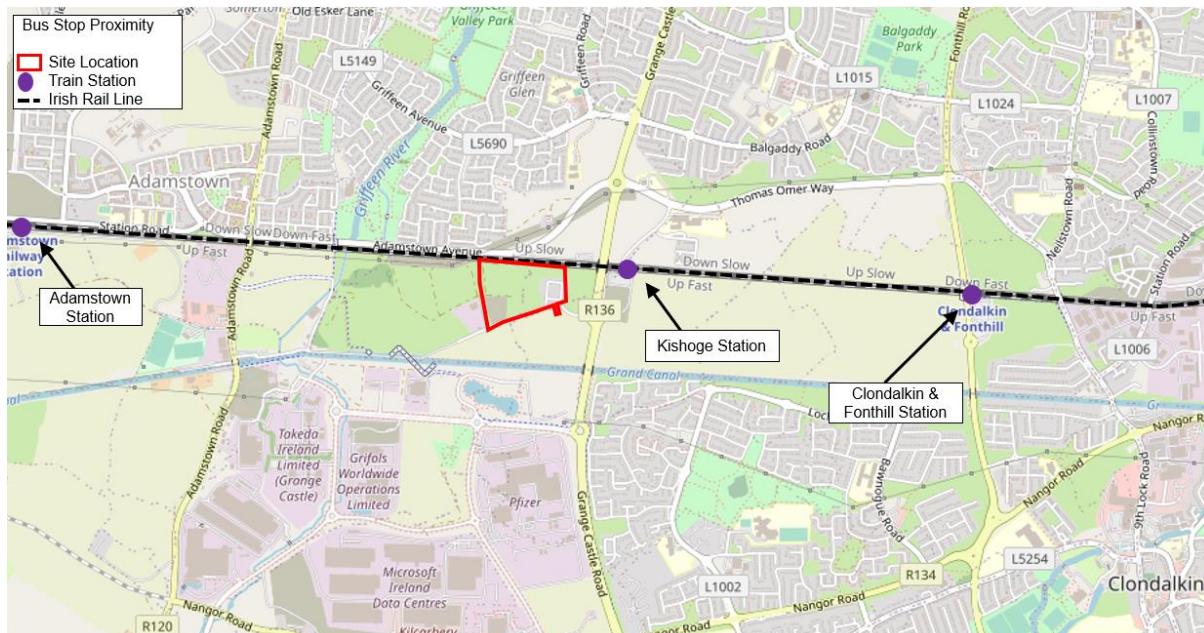
The closest operational railway station to the site is Clondalkin-Fonthill located 2.7km (34 min walk) to the east of the subject site. Clondalkin-Fonthill Station currently avails of the Phoenix Park Tunnel Service, providing connectivity to Dublin City.

The site is located within 400m of Kishoge Railway Station; however, this station is not currently operational. Kishoge Railway Station is not proposed to be opened under Phase 2 of the Clonburris SDZ Planning Scheme, which is assumed to be the completion and occupation of 2,000+ SDZ units. It is assumed that the Kishoge Railway Station will avail of the same services and stops as the Adamstown and Clondalkin Fonthill Railway Stations.

Table 2 summarises the existing rail services serving the development site and the location of railway stations in proximity of the site are shown in Figure 7.

Table 2 – Existing Rail Services

| Service | Route | Mon-Friday Frequency | Saturday Frequency | Sunday Frequency |
|------------|--|------------------------------|----------------------------|---------------------------|
| Irish Rail | Dublin Heuston - Cork | Every 30 Minutes (0600-2330) | Hourly Service (0630-2330) | 5 Services |
| Irish Rail | Grand Canal Dock and Dublin Heuston - Portlaoise | Every 30 Minutes (0645-2356) | Every Hour (0735-2321) | Every 2 Hours (1026-1906) |

**Figure 7 - Train Stations in Proximity of Proposed Development**

3.2.6 RSA Collision Statistics

A review of the data provided by the Road Safety Authority (RSA) traffic collision statistics has been carried out in relation to the surrounding road network in proximity to the proposed development. This review will help identify any potential collision trends and implement safety measures in relation to the existing road network.

Traffic collision data was collated using the five most recent years available within the RSA website. Collision statistics from 2012 – 2016 were available on the RSA website however it is important to note that information relating to 2017 – present date is not yet available. The collisions are categorised as minor, serious, and major.

The collision locations are shown in Figure 8 and include 10 minor accidents, 1 serious accident and 0 fatal accidents along the existing road network.

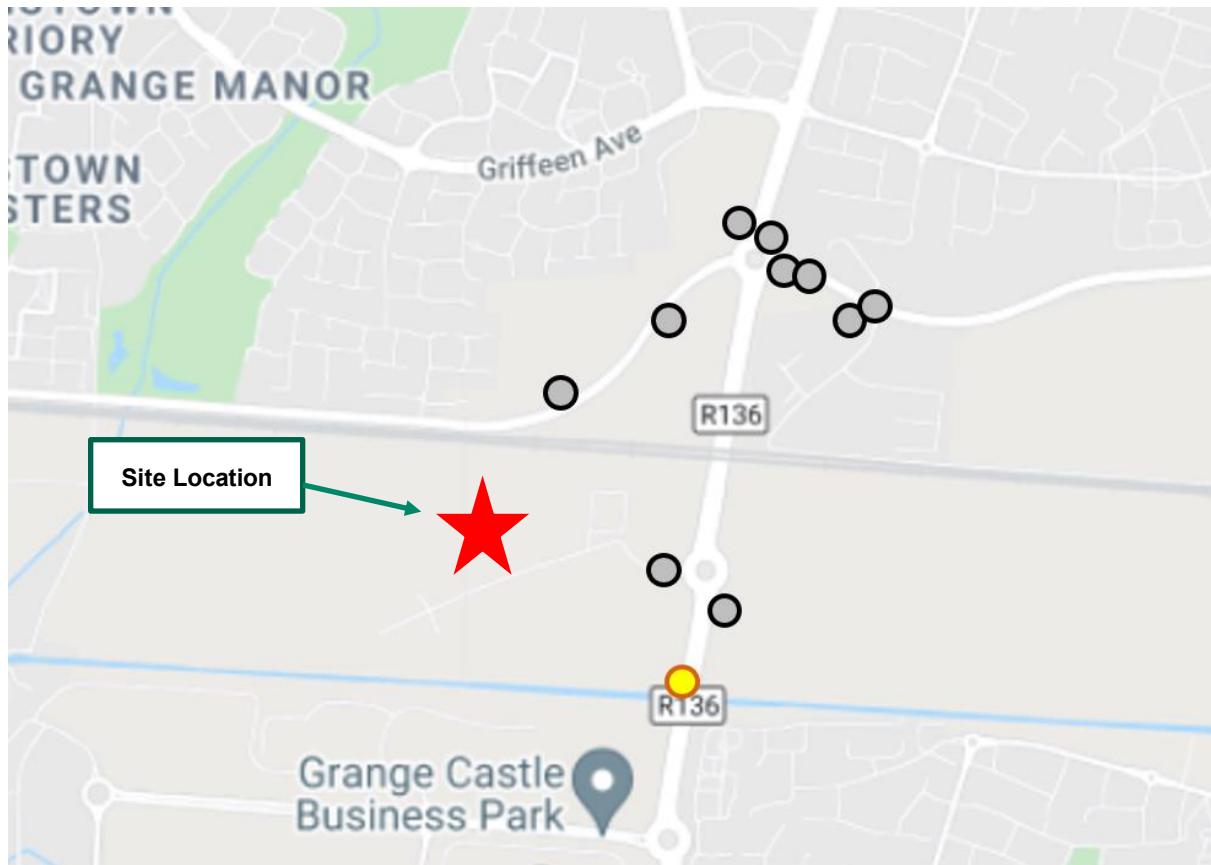


Figure 8 – RSA Collision Data (Source: RSA.ie)

A collision trend could be categorised as a location with multiple accidents in close vicinity, such as at the roundabout between Grange Castle Road and Adamstown Way to the North. There are approximately 4 collisions occurring in the vicinity of the roundabout junction, however, these collisions are vehicle rear ending and single vehicle accidents, which would be indicative of driver error more than poor junction design. In summary there is not a significant design issue with the roundabout junction and there is not a traffic collision problem within the vicinity of the proposed development site.

3.2.7 Existing Conditions Summary

The subject site is positioned within the urban environment and benefits from excellent accessibility to sustainable forms of travel including walking, cycling and public transport.

Walking and cycling facilities on Grange Castle Road are particularly well placed and convenient for active travel users travelling to and from the site.

The site's proximity to the existing bus stops, which are within a 1km walking catchment, give prospective residents access to the existing bus network. The existing bus services on R136 Grange Castle Road provide connectivity between Ballyowen and East Wall via Dublin City.

The site is currently accessible to Clondalkin Fonthill Rail Station and will further avail of the Kishoge Railway Station when opened in the future as part of the SDZ overall development. The Clondalkin Fonthill station is served by Irish Rail services which further enhances the sustainability characteristics of the site.

3.3 Proposed Transportation Infrastructure

3.3.1 Active Network

As previously noted, the SDZ Planning Scheme sets out a Movement Strategy for pedestrians and cyclists. At a regional level there are other active travel proposals.

In the vicinity of the subject site, the existing cycle facilities along the R136 are proposed to form part of the Southern Orbital Route SO6. Further improvements are being proposed via the Grand Canal Greenway to the south of the subject site which will be accessible via the SO6 route and an alternative route is envisioned to be provided when the Clonburris SDZ lands to the south are further developed. Figure 9 illustrates the proposed cycle network upgrades as part of the Cycle Network Plan for the Greater Dublin Area.

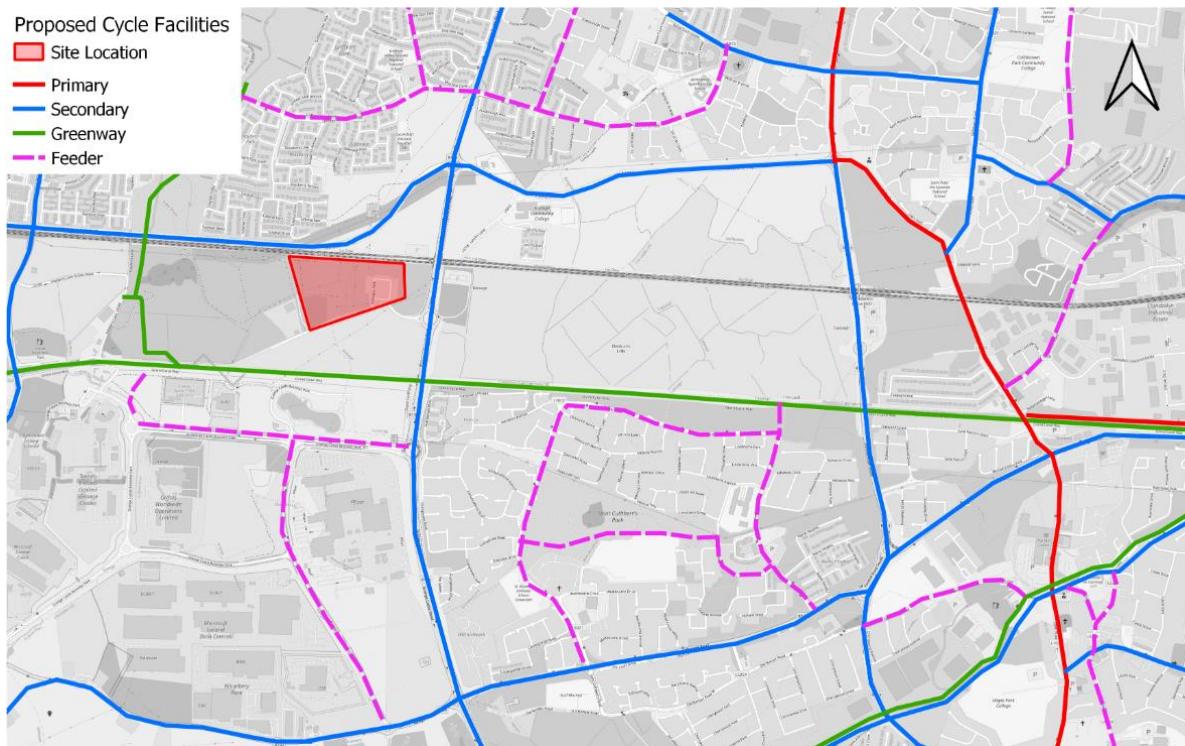


Figure 9 – Proposed Cycle Facilities

Source: *Proposed Cycle Network Dublin City Centre Sheet N5, National Transport Authority*

3.3.2 Bus Network

The NTA has put forward proposals to upgrade several core bus corridors within the Dublin environs under the title 'BusConnects'. The objectives of the project are to:

- 'Make bus journeys faster, predictable and reliable;
- New bus stops and better facilities;
- More efficient network, connecting more places and carrying more passengers;
- Updated ticketing systems and implementing a cashless payment system with a simpler fare structure; and
- Improving the cycling network and making it safer.'

As part of the BusConnects scheme the current bus network is to be revised and more frequent and efficient services are to be provided across the Dublin environs. The subject site is within 200m of the W4 Orbital Route

and the D1 Route (Clongriffin – Grange Castle, forming part of the D-Spine (Malahide Road – City Centre – Crumlin) under the current BusConnects proposals. These proposals have been illustrated in Figure 10 below.

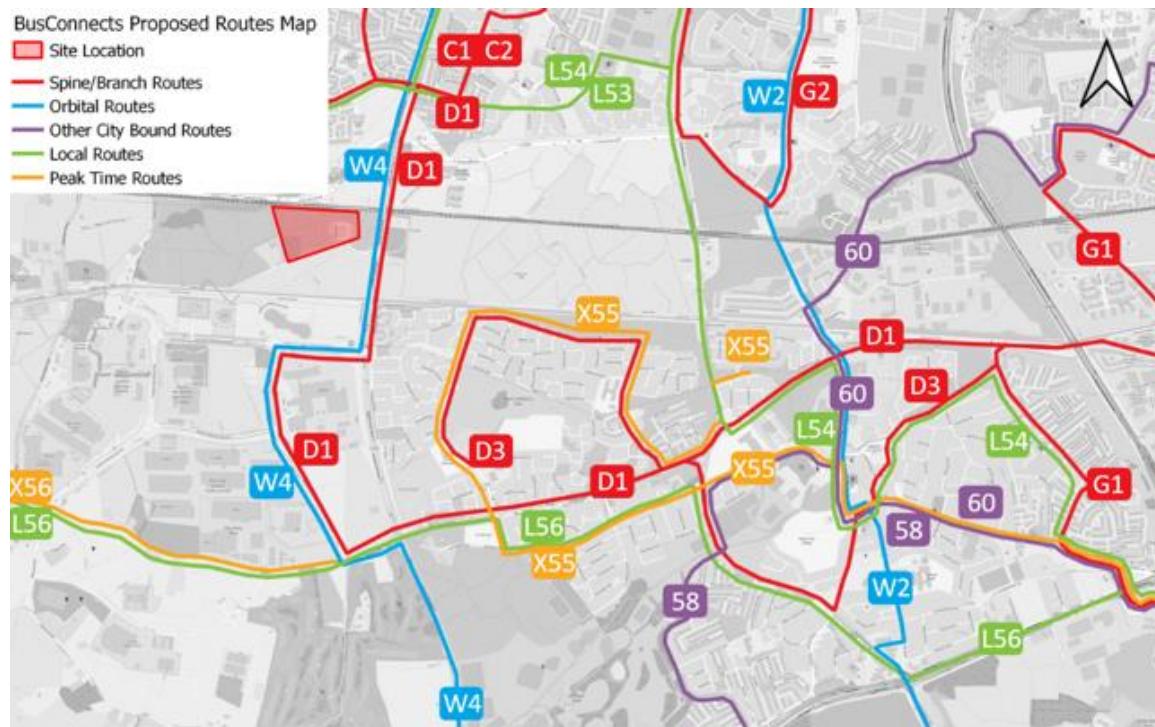


Figure 10 – BusConnects Proposed Routes Map – Clondalkin

(Source: <https://busconnects.ie/media/2011/clondalkin-area-map.pdf>)

3.3.3 Rail Network

The NTA has put forward proposals to extend the DART programme, through the delivery of DART+. DART+ is a transformative programme of projects that aims to modernise and improve existing rail services in the Greater Dublin Area. It will provide a sustainable, electrified, reliable and more frequent rail service, improving capacity on rail corridors serving Dublin.

Irish Rail outlines that the Dart+ programme will extend the existing DART network, which is 50km long to increase the length of the DART Network to 150km of railway corridor through electrification and upgrade of existing lines of commuter train travel in the Greater Dublin area.

The DART+ Programme will deliver frequent, modern, electrified services to/from Dublin City Centre (Connolly and Spencer Dock) to:

- Maynooth and M3 Parkway;
- Hazelhatch and Celbridge;
- Drogheda; and
- Greystones.

The subject site is due to benefit from the upgrades and electrification of the Hazelhatch and Celbridge Line, providing an improved service connecting the subject site to Dublin City. The DART expansion Programme and the Opening of Kishoge Railway station are also consistent themes for the future Rail Network measures of the Clonburris Planning Scheme (2019) and the Clonburris Transportation Assessment and Transport Strategy (2017) assessments carried out by SDCC and the NTA.

3.3.4 Accessibility

The subject site lies within 400m of Kishoge Railway Station and within 300m of the W4 proposed Orbital Route to be delivered under the BusConnects scheme, which will provide excellent accessibility to public transport links for the site. Kishoge Railway Station is to be opened in line with Clonburris SDZ's Phase 2 and will then act to service the subject site and the overall SDZ lands. The Clonburris South Link Street is also designed for a bus route to run along it with bus stops proposed at strategic locations. Upon construction of this route, a bus route may be delivered along the Clonburris South Link Street which would further serve the subject development.

The subject site's accessibility within 400m and 800m has been plotted for residential units within Plot A, Plot D and Plot F of the subject site, showing there is appropriate public transport options for residents and that they are within the appropriate distances. Kishoge Railway Station, and the bus services which operate along the R136 are within appropriate walking distances as shown in Figures 11-13.

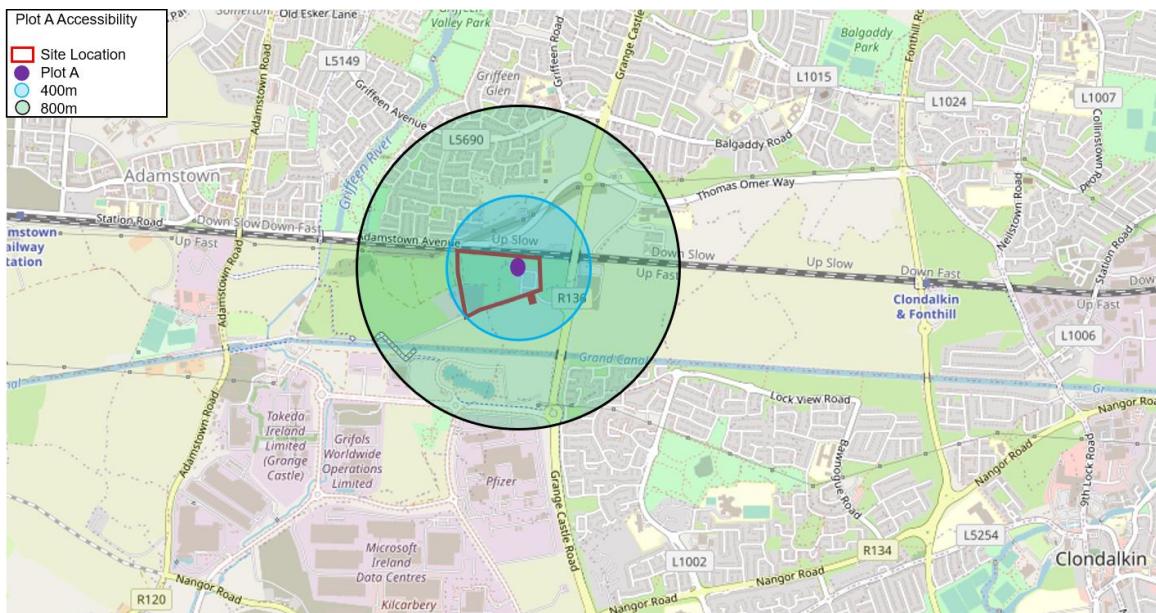


Figure 11 – Plot A Accessibility Map

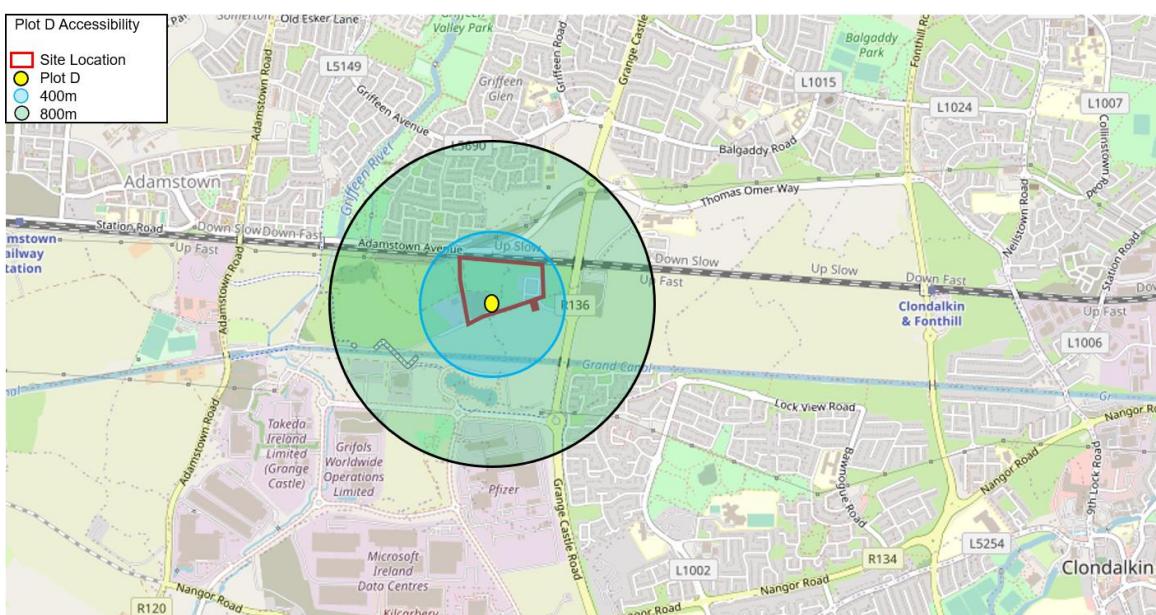


Figure 12 – Plot D Accessibility Map

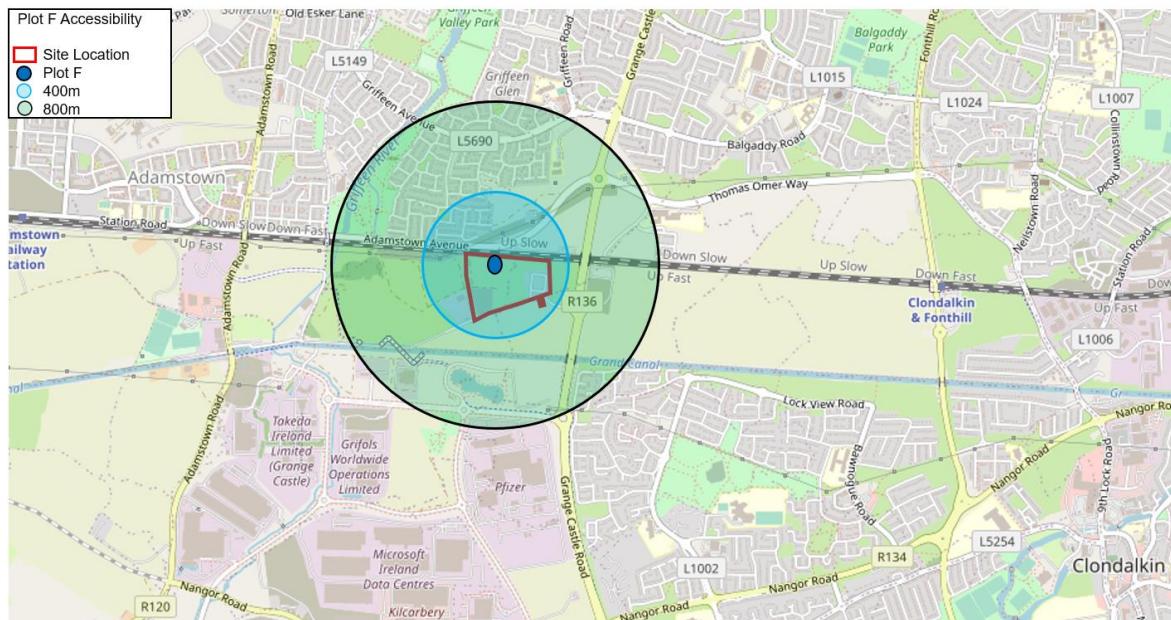


Figure 13 – Plot F Accessibility Map

4. Proposed Development

4.1 Schedule of Accommodation

The subject development includes for a total of 263No. residential units with a mix of Social, Affordable Rental and Affordable Purchase apartments and houses with associated parking provision and Green Space in the form of Linear Parks and Community Green Space. The site has an existing traveller accommodation within the lands; this is to remain within the site and has been accommodated for within the proposed development's design.

The proposed schedule of accommodation is shown in Table 3 and the site layout is shown in Figure 14.

The road and parking network within the subject site are proposed to be Taken in Charge (except for parking which may be allocated for example the EV spaces and in-curtilage parking).

Table 3 –Schedule of Accommodation

| Tenure | Land Use | Type | Quantum |
|---------------------|--------------|------------------|-----------|
| Social | Apartments | Standard – 1 Bed | 20 |
| | | Standard – 2 Bed | 18 |
| | | 3 Bedroom Duplex | 2 |
| | Houses | 2 Bedroom | 1 |
| | | 3 Bedroom | 48 |
| | | 4 Bedroom | 1 |
| Total | | | 90 |
| Affordable Rental | Apartments | Standard – 1 Bed | 38 |
| | | Standard – 2 Bed | 26 |
| | | 3 Bedroom Duplex | 10 |
| | Houses | 3 Bedroom | 9 |
| | | 4 Bedroom | - |
| | Total | | |
| Affordable Purchase | Apartments | Standard – 1 Bed | 7 |
| | | Standard – 2 Bed | 9 |
| | | 3 Bedroom Duplex | 4 |
| | Houses | 3 Bedroom | 49 |
| | | 4 Bedroom | 21 |
| | Total | | |



Figure 14 – Proposed Site Layout

4.2 Car Parking

To determine the required vehicle parking provision for the proposed development, the current South Dublin County Development Plan (2016-2022) was consulted. Table 4 outlines the required vehicle parking for the proposed development in accordance with Development Plan standards.

Table 4 – South Dublin County Development Plan 2016-2022 Car Parking Standards

| SDCC Development Plan Land Use | Car Parking Zone | Car Parking Maximum Standard | Car Parking Requirement | Car Parking Provision |
|--------------------------------|------------------|--------------------------------|-------------------------|----------------------------------|
| Apartments | 2 | 1 Bed - 0.75 spaces per unit | 49 | |
| | | 2 Bed – 1 space per unit | 53 | 253 Total |
| | | 3+ Beds – 1.25 spaces per unit | 20 | 231 On-Street 22 In-Curtilage |
| Houses | 2 | 3+ Beds – 1.5 spaces per unit | 194 | |
| TOTAL | - | - | 316 | 253 |

As shown in Table 4, a total maximum of 316 spaces may be provided based on the development proposed. Through consultations with SDCC, it was confirmed that the number of parking spaces provided for any development should not exceed the maximum provision. The maximum provision should not be viewed as a target and a lower rate of parking may be acceptable.

Accordingly, as part of the agreed Phase 1 Parking Strategy, a total of 253No. car parking spaces are proposed, of which 231No. are provided on-street and 22No. provided in-curtilage; the site's car parking provision is comprised of 198No. general residential parking spaces on-street, 22No. in-curtilage spaces, 13No. accessible spaces, 5No. car club spaces and 15No. included along the development frontage on Clonburris South Link Street which residents may avail of. This amounts to an approximate residential parking ratio of 0.96, which represents a reduction to that of the SDCC maximum car parking standards.

Table 5 – Proposed Development Car Parking Provision by Plot

| Plot | No. of Units | No. of Spaces | Parking Ratio |
|--------------|--------------|---------------|---------------|
| A | 46 | 60 | 1.3 |
| B | 9 | 11 | 1.22 |
| C | 44 | 37 | 0.84 |
| D | 38 | 41 | 1.08 |
| E | 83 | 52 | 0.63 |
| F | 43 | 52 | 1.21 |
| Total | 263 | 253 | 0.96 |

Electric Vehicle Parking is to be provided as 6No. Electric Vehicle rapid charging points, located to the south of Plot C, not directly in front of any residential units and therefore not located in an optimal place for long term vehicle parking, whilst being located centrally enough to encourage usage and awareness of these facilities. As per SDZ Requirements, all remaining on-street car parking spaces have the provision of facilities for future upgrades to provide electric vehicle parking.

4.3 Cycle Parking

To determine the required cycle parking provision for the proposed development, consultation with South Dublin County Council's Roads Department was undertaken to determine the appropriate level of provision. Consultations determined that both the current South Dublin County Development Plan (2016-2022) and Sustainable Urban Housing: New Apartment Guidelines were to be used to calculate the requirement for the proposed development, where it was stated that a provision which falls between the two standards would be deemed acceptable for the proposed development.

Table 6 below outlines the required cycle parking for the proposed development in accordance with the SDCC Development Plan standards and the DHPLG New Apartment Guidelines.

Table 6 – Calculation of Cycle Parking Requirement for the Proposed Development

| Standards | Land Use | SDCC Parking Requirement (Zone 2) | | Required Provision | |
|-----------|------------|-----------------------------------|---------------------|--------------------|------------|
| | | Short Stay | Long Stay | Short Stay | Long Stay |
| SDCC | Apartments | 0.1 spaces per unit | 0.2 spaces per unit | 14 spaces | 27 spaces |
| DHPLG | Apartments | 1 space per 2 units | 1 per Bedspace | 67 spaces | 219 spaces |
| Proposed | Apartments | 0.25 spaces per unit | 1 per unit | 34 spaces | 134 spaces |

As shown in Table 6, a minimum of 41No. cycle spaces should be provided based on the SDCC Standards, whilst the New Apartment Guidelines (DHPLG) outlines a requirement for 286 cycle parking spaces. Following Consultation with SDCC it has been stated that the number of spaces provided for the development should be greater than the outlined SDCC standards, whilst achieving something between the SDCC standards and the Apartment Guidelines standards.

Accordingly, as part of the agreed Phase 1 Parking Strategy, a total of 169No. cycle parking spaces for the residential development are proposed to serve the apartment and duplex units, of which 134No. spaces are proposed secured sheltered spaces for residents and 35No. spaces provided for visitors. There is an additional 21No. cycle parking spaces proposed within the Linear Park which visitors may avail of without encroaching upon the residential cycle parking provisions. This represents a balance between the SDCC standards and the New Apartment Guidelines. Parking is proposed to be provided as secured bicycle parking for apartment blocks, with Sheffield stands available for short stay/visitor cycle parking, and a provision of 10% of the bicycle parking to be provided as electric bicycle charging points. Greater detail on the location of cycle parking spaces is available within Appendix B. Sheffield stands will also be made available within the Linear Park, as 21No. spaces are to be provided for cycle parking available to the public.

5. Traffic Impact

5.1 Approach to the Traffic and Transport Assessment

In Accordance with the Clonburris Planning Scheme (2019) which forms the basis for the SDZ's planning and implementation, the methodology for Traffic and Transport Assessments is addressed, stating:

"TTAs will largely be required to address wider public transport, walking, and cycling network issues, rather than singularly focusing on impacts on the immediate street network. Such assessments should demonstrate that there is sufficient public transport, pedestrian, cyclist and road capacity to serve the development and should also provide a clear rationale for the proposed level of car parking having regard to existing and planned public and active transport facilities."

The Clonburris Transportation Assessment and Transport Strategy (2017) assesses the SDZ and its impacts on the surrounding road network using the NTA's Eastern Regional Model (ERM), assessing the impacts on the network in the AM peak, Lunch Time, during School Runs and in the PM peak using two types of testing, Supply Testing and Demand testing, across three different scenarios which include for the full development of the SDZ lands with a high density mixed use development, in order to ensure robust assessment of the network.

Further to the ERM modelling, the Clonburris Transportation Assessment and Transport Strategy (2017) also undertook detailed junction modelling for key junctions likely to be heavily impacted by the development of the SDZ lands to ensure there were no issues with Practical Reserve Capacity or Level of Service within the surrounding network and measures to ensure a significant deterioration of the road network will not occur as a result of the full development of the SDZ land. which this development makes up only a small portion of the total SDZ provision of units.

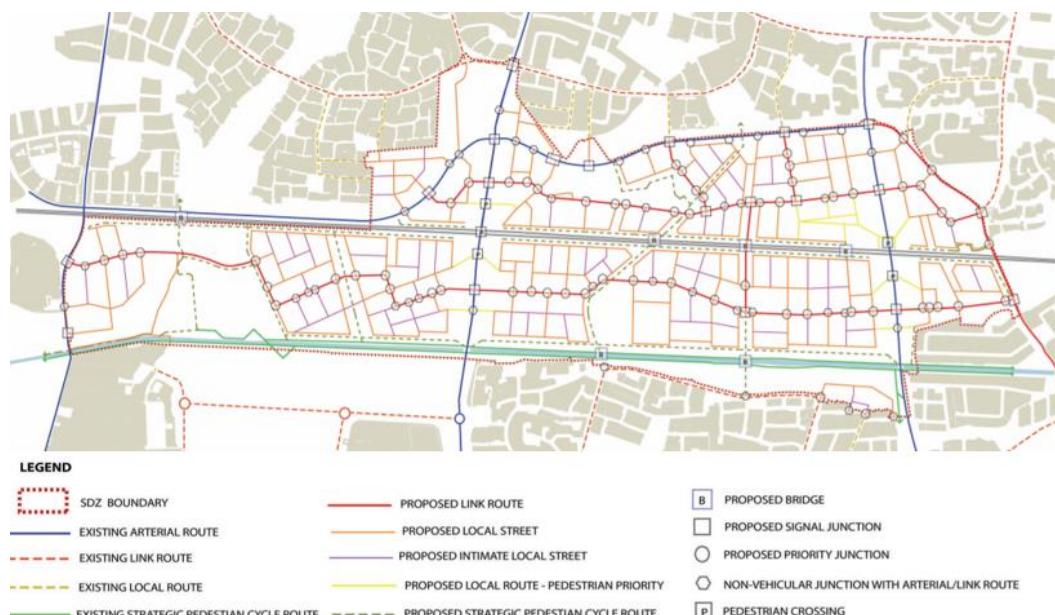
The proposed development forms Phase 1 of the overall Clonburris SDZ and makes up only a small portion of the total SDZ provision of units. The site's proposed layout is consistent with that outlined within the SDZ planning scheme, and therefore it is concluded that there is road capacity to serve the development proposed.

The following sections outline the compliance of the scheme with the Clonburris SDZ planning scheme.

5.2 Clonburris SDZ Movement Hierarchy

Figure 15 shows the Clonburris SDZ Movement Hierarchy outlined in the Clonburris Planning Scheme (2019), illustrating that the subject site will be accessed via a new Link Street (Clonburris South Link Street). The planning application was submitted for this Link Street by Clonburris Infrastructure Ltd (Planning Reference SDZ20A/0021) and was granted permission by SDCC on 12th August 2021.

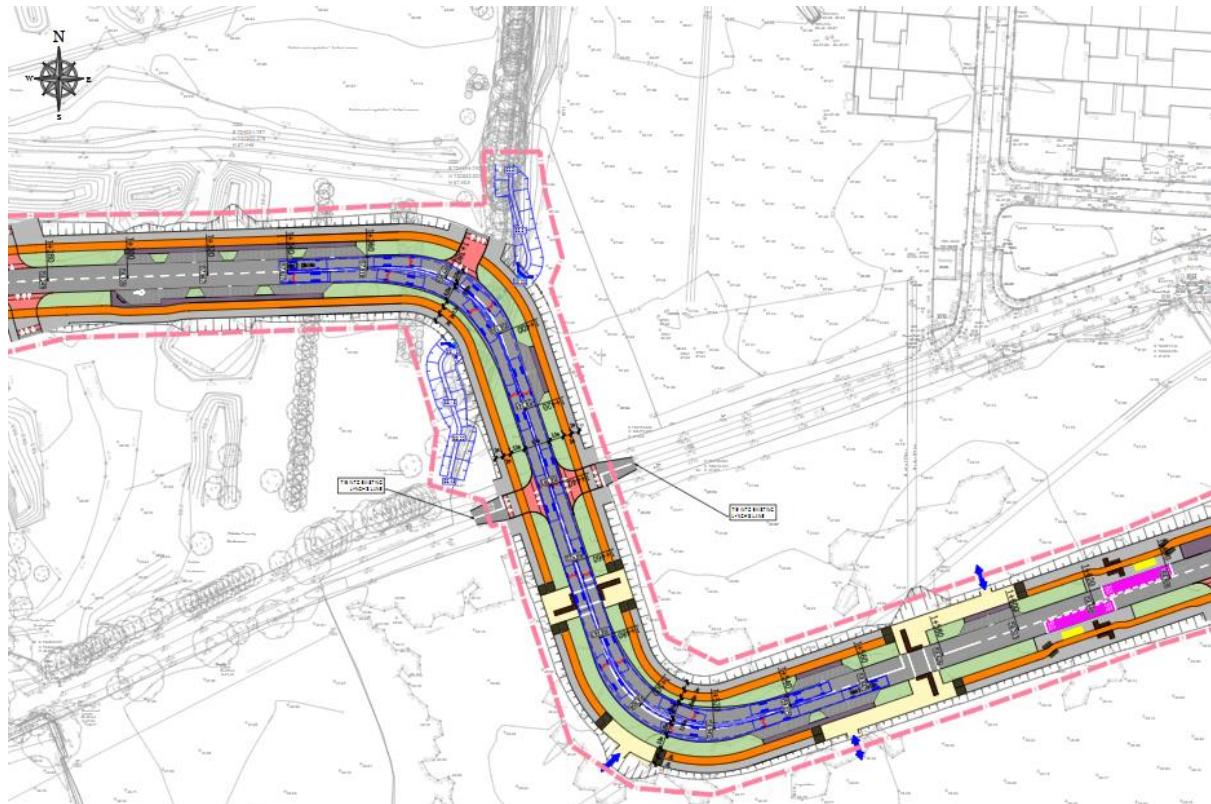
Figure 15 – Clonburris SDZ Movement Hierarchy



The Clonburris South Link Street is a proposed single carriageway totalling 7m in width running 4km through the SDZ and is designed to accommodate buses. The Link Street will form a new signalised junction with the R132 at the location of the existing roundabout access to existing accommodation at the subject site. There are parallel parking spaces running alongside the road, of width 2.4m. Dedicated active travel provision is proposed in each direction. The forecast peak hour traffic flow along the Link Street is approximately 400 two-way vehicle trips.

A cross section of the Link Street and general arrangement is shown in Figure 16. It is anticipated the speed limit of the Link Street will be between 30 kmph and 50 kmph, with sections of the Home Zones in urban areas anticipated to be subject to speed limits of 20kmph, with further traffic calming measures implemented to ensure that speeds are reduced in the vicinity of residential areas and home zones.

Figure 16 – Clonburris South Link Street Cross Section and General Arrangement



5.3 Proposed Development

5.3.1 Movement Hierarchy

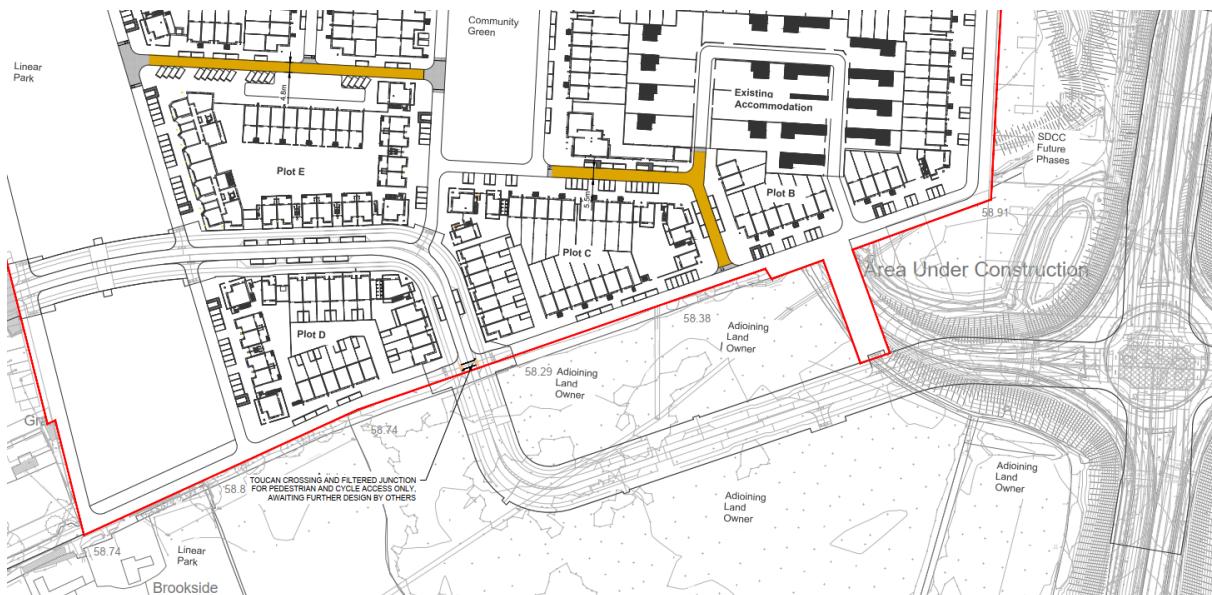
The proposed development site complies with the Clonburris SDZ Full Street Hierarchy outlined in the Clonburris Planning Scheme (2019). The proposed movement hierarchy highlights the road types throughout the development site, which are then provided at road widths that are consistent with DMURS's standards for each road link type. The site's local streets are of 5.5m width, with intimate streets provided at 4.8m, which is in line with DMURS guidance and will provide a traffic calming effect via reduced road widths. The development proposes echelon (angled) parking and Raised Tables to highlight residential areas and act as a traffic calming measure to reduce speeds and increase driver awareness in areas where residential pedestrian movements are expected to occur more frequently. A summary the development's road and street hierarchy is shown in Figure 17 below, which may be viewed with drawing CLON-ACM-XX-DR-C-10-0001 which shows a summary of the associated road widths on local streets and Intimate Streets, and drawing CLON-ACM-XX-DR-C-10-0101 which shows sight lines achieved throughout the site; both referenced drawings have been submitted as part of this proposal's planning package.

Figure 17 – Clonburris Phase 1 Proposed Movement Strategy



The proposed development outlines a total of 4No. junctions with the Clonburris South Link Street, one of which is a proposed modal filter junction and three which are proposed for vehicular traffic. The Modal filter junction will be located at Lynch's Lane and will also provide a toucan crossing allowing for pedestrian and cyclists movements along key desire lines throughout the site. There is also a Toucan Crossing proposed at the modal filter junction of Lynch's Lane, as shown in Figure 18 below. The Toucan Crossing is to be provided as a 4m wide crossing and designed in line with National Cycle Manual design standards.

Figure 18 – Clonburris South Link Street Cross Section and General Arrangement



Where this proposed development deviates from the Planning Scheme (2019) is at the junction between Lynch's Lane and the Clonburris South Link Street, where a proposed modal filter junction and Toucan crossing has been proposed. This came about as a result of planning and consultation with Clonburris Infrastructure Limited and South Dublin County Council, the team responsible for the planning and delivery of the Clonburris South Link Street. This modal filter junction and crossing would provide residents with a crossing along the key desire line of

Kishoge Railway Station and the R136 pedestrian and cycle facilities, which will be relied upon for both active travel and public transport linkages to and from the site. This also has the added benefit of less vehicular access junctions between the proposed development and the Link Street, and fewer vehicular movements around Lynch's lane, creating a quieter environment for residents.

The Proposed Vehicular Junctions with Clonburris South Link Street are proposed to the west of the residential developments, on either side of the Linear Park servicing blocks D, E and F, and between Blocks C, D and E, which service Blocks A, B, C, E, F, and the existing Traveller accommodation. These junctions provide adequate accessibility for residents whilst not providing any through route or rat running options, as agreed with SDCC, and falls in line with the Planning Scheme (2019) proposals. All junctions achieve the relevant sight lines in accordance with DMURS design standards for their designed speeds. Local and intimate streets within the site are designed to have a speed of 20km/h given the residential nature of the local streets and the traffic calming measures in place throughout these streets.

5.3.2 Servicing

The site has been tracked to ensure the servicing of residential blocks can be carried out by standard refuse vehicles. Servicing Vehicles can access key collection areas and track through the site to provide waste collection and fire tender services.

5.3.3 Pedestrian and Cycle Links

The roads and streets throughout the development also provide cycle connectivity towards existing cycle infrastructure at Adamstown and along Grange Castle Road R136 where existing cycle tracks and pedestrian footpaths are provided, offering key links to Clondalkin, Ronanstown and Adamstown Town Centre. The site provides modal filter junctions, which facilitate pedestrian and cycle movements only allowing for greater connectivity throughout the site, along key desire lines for pedestrian and cyclist movements. Cycle tracks and pedestrian footpaths have been designed in accordance with National Cycle Manual design standards, providing 2m wide footpaths throughout the site and cycle tracks 2m in width along the Clonburris South Link Street running through the site. Several the site's internal roads operate as low speed roads which may be shared with cyclists and vehicular traffic, particularly in Home Zones and Intimate Streets areas.

Cycle parking has been provided for apartment units, for visitors to apartments and for the public in the linear park. Further detail on cycle parking provisions and locations is provided in Section 4.3 above.

5.3.4 Parking Provision

Parking Bays have been designed in accordance with Design Manual for Urban Roads and Streets (DMURS) and Traffic Signs Manual Chapter 7, and all parking provisions were checked against the Planning Scheme (2019) to ensure consistency with the Strategic Development Zone's vision and plan. Angled parking bays are proposed along the intimate street where traffic speeds are expected to be lower, as streets are narrower than the rest of the development. These proposed angled parking bays were checked against Traffic Signs: Manual Chapter 7 Road Markings (2019), where guidance is offered on dimensions and angles to be used in parking space design.

The overall provision of parking spaces is less than the maximum outlined in the South Dublin County Development Plan (2016-2022) and the Clonburris Planning Scheme (2019). As detailed in Section 4.2, a total of 316No. parking spaces may be provided for residents, in line with planning scheme standards, however, a total of 253No. parking spaces have been provided within this proposed development, showing a reduced but workable provision of parking spaces has been provided. To account for the reduced parking provision, a total of 5No. Car Club spaces have been provided, providing residents with access to a car when required without the car ownership and associated costs of vehicle ownership.

5.3.5 Summary

In summary, the proposed development complies with the Clonburris SDZ Masterplan / Planning Scheme 2019, in terms of street hierarchy and junction connectivity with the new Clonburris South Link Street and wider highway network. The street layouts have been designed to comply with DMURS's standards, and both car and cycle parking provision comply with SDCC guidelines. Pedestrian and cyclist movements have been considered carefully in the scheme development and crossing facilities provided at appropriate locations on desire lines.

The site's proposed layout is consistent with that outlined within the SDZ planning scheme, and therefore it is concluded that there is road capacity to serve the development proposed.

6. Outline Mobility Management Plan

6.1 Introduction

This section will present an overview of the Mobility Management Measures for the proposed development. A review of the key measures and policies outlined in the existing South Dublin County Development Plan (2016 – 2022) has been undertaken.

Upon completion of the development, when the scheme is occupied it is recommended that an updated Mobility Management Plan is undertaken in unison with travel surveys for residents, which will inform travel targets for site users.

6.2 Objectives

The objectives of this section are as follows:

- To discourage private car as a means of travel to and from the development.
- To increase and facilitate the number of people choosing to walk, cycle or travel by public transport to the development.
- To work with South Dublin County Council, the National Transport Authority and public transport providers to support and encourage resident and staff up take.
- To liaise and co-operate with adjacent developments in relation to a coordinated approach to Mobility Management between the various employment areas.
- To achieve the above targets, measures have been proposed for the specific modes of transport. These are based on existing infrastructure and public transport systems. These objectives are preliminary and will be further developed in the light of ongoing monitoring as the proposed development is occupied and information becomes available on future travel behaviour of residents and staff.

It is recommended that an Action Plan Coordinator is appointed, as someone who will take ownership of implementing the measures. Table 7 overleaf presents a list of recommended measures and actions.

6.3 Monitoring

A critical part of any MMP is on-going monitoring. It is proposed that an initial evaluation of the operation of the plan will take place one year into the operation.

On occupation of the development, it would be proposed to undertake travel attitude surveys to establish baseline modal split of residents. This would assist considerably in the setting of appropriate trip rate and modal share targets for the development.

An after study should then be undertaken following the operation of the MMP for a reasonable period. The two datasets could then be compared to review what changes are necessary after implementation of the various infrastructural measures and initiatives.

Campaigns and promotions would be run throughout the year to maintain public awareness of modes of travel other than the car and the benefits accrued to both the individual and the environment.

The occupiers of the proposed development will be encouraged to continually monitor the MMP initiatives to maximise on their success. Monitoring results could be included in the annual report or a separate environmental report. The results will also be forwarded to South Dublin County Council at intervals to be determined by agreement.

Table 7 – Recommended Mobility Management Measures and Actions

| Walking | | |
|--|-----------------------------------|-------------------------------------|
| Initiatives | Responsibility / Ownership | Timescale |
| Provision of details on how to access the site on foot. Details would include safe walking routes and location of the nearest bus stops/rail station for perspective residents. | | |
| Promote walking events / lunchtime walks for perspective residents. | | |
| Provide quarterly 'How to Travel' newsletter via email to residents. | | |
| Distribute travel maps, leaflets, and timetables, ensuring consistent accessible formats, health information for walking routes, signposting to website / apps. | The Action Plan Co-ordinator | To be commenced prior to occupation |
| Provide umbrella for residents of development (in the apartment blocks) on wet days. | | |
| As previously stated, the proposed design includes for several pedestrian facilities. A new pedestrian and cycling access will be provided at the Lynch's Lane as a Modal Filter Junction, linking the development to the cycle facilities along the Clonburris South link Street. | | |
| Cycling | | |
| Initiatives | Responsibility / Ownership | Timescale |
| Establish a Resident Bicycle User Group. | | |
| Encourage establishment of a cycling club / society. | | |
| Provision for cyclist equipment i.e. pump, allen keys, lights, puncture repairs. | | |
| Display maps of local cycle network on resident notice boards. | The Action Plan Co-ordinator | To be commenced prior to occupation |
| Participate in National Cycle Week. | | |
| Survey and monitor cycle parking occupancy. | | |
| Install good quality cycle parking provision on site. | | |

| Public Transport | | |
|---|-----------------------------------|-------------------------------------|
| Initiatives | Responsibility / Ownership | Timescale |
| Provision of public transport maps and timetables in prominent locations on site. Information should be kept up to date. This information could also be available online. | | |
| Provision of information to residents on savings that can be made by using Leap Card and details on where Leap Cards can be purchased. | | |
| Display a local area map with public transport stops / route numbers marked. | | |
| Publicise real time passenger information apps and websites where relevant. | The Action Plan Co-ordinator | To be commenced prior to occupation |
| Publicise door-to-door multi modal journey planner website. | | |
| Liaise with public transport operators regarding service frequencies to the residential development. | | |
| Provide attractive, good quality walking routes to the existing public transport infrastructure. | | |

| Car Sharing | | |
|--|-----------------------------------|-------------------------------------|
| Initiatives | Responsibility / Ownership | Timescale |
| Encouragement of residents and visitors of the development to use other modes of travel other than private car. | The Action Plan Co-ordinator | To be commenced prior to occupation |
| Where it is necessary for car use to travel to and from work, residents should be made aware of other people who will share their route to work. | | |
| Hold a coffee morning / launch event for potential car sharers. | | |

| Construction Phase | | |
|---|---|-------------------------------------|
| Initiatives | Responsibility / Ownership | Timescale |
| Provide a preliminary Construction Traffic Management Plan to provide detailed mitigation of construction traffic associated with the proposed development. | The Contractor / South Dublin County Council Roads & Traffic Department | To be commenced prior to occupation |

7. Outline Construction Traffic Management Plan

7.1 Introduction

This section deals directly with the impacts of construction of the subject development. As with any construction project, the contractor will be required to prepare a comprehensive traffic management plan for the construction phase. The purpose of such a plan is to outline measures to manage the expected construction traffic activity during the construction period.

This chapter will provide an overview of the likely routing of construction vehicles, based on a most likely scenario of construction. It should be noted that the impacts of the construction will be temporary, and it will be the contractor's responsibility to prepare a Traffic Management Plan for the approval of South Dublin County Council in advance of any works.

7.2 Policy Guidance

Guidance for the temporary control of traffic at road works to facilitate the safety of the public during the works is provided below:

- Traffic Signs Manual Chapter 8 Temporary Traffic Measures and Sign Roadworks (2019);
- Traffic Management Guidelines, Department of Transport (2003); and
- Requirements of South Dublin County Council.

7.3 Indicative Construction Programme & Phasing

The construction programme is expected to require 18 - 24 months (approximately) to complete from occupation of the site. The development will be constructed in one phase.

7.4 Construction Route

To minimise construction impacts upon the surrounding road network, it is recommended that all construction traffic accesses and exits the site from the N4 by travelling along the R113 Regional Road and turning into the development along the Clonburris South Link Street. This route is approximately 5.8 km and is illustrated in Figure 19.



Figure 19 - Proposed Construction Traffic Route (Source: Google Maps)

7.5 Parking

All contractors' vehicles will park within the development site area, it is recommended that as part of the construction management plan the contractor designates an area within the confines of the site dedicated to operative car parking. There will be no parking permitted on the surrounding road network or estate roads by the contractor or site operatives.

7.6 Mitigation Measures

A construction management plan will be developed by the contractor prior to the commencement of work on site and will be prepared in consultation with South Dublin County Council.

Construction debris particularly site clearance, spoil removal and dirty water run off can have a significant impact on footpaths and roads adjoining a construction site, if not adequately dealt with.

7.6.1 Hours of Operation

Site development and building works shall be carried out between the hours of operation recommended by SDCC to safeguard the residential amenities of properties in the vicinity. The typical hours of operation are as follows:

- Monday to Friday, 8am – 7pm, Saturdays 8am – 2pm and no works on Sundays or Public holidays.

7.6.2 Traffic Management Measures

Below is a list of the proposed traffic management measures to be adopted during the construction works. Please note that this is not an exhaustive list, and that it will be the appointed contractor's responsibility to prepare a detailed construction management plan.

- Warning signs / Advanced warning signs will be installed at appropriate locations in advance of the construction access locations;
- Construction and delivery vehicles will be instructed to use only the approved and agreed means of access; and movement of construction vehicles will be restricted to these designated routes;

- Appropriate vehicles will be used to minimise environmental impacts from transporting construction material, for example the use of dust covers on trucks carrying dust producing material;
- Speed limits of construction vehicles to be managed by appropriate signage, to promote low vehicular speeds within the site;
- Parking of site vehicles will be managed and will not be permitted on public road, unless proposed within a designated area that is subject to traffic management measures and agreed with SDCC;
- A road sweeper will be employed to clean the public roads adjacent to the site of any residual debris that may be deposited on the public roads leading away from the construction works;
- On site wheel washing will be undertaken for construction trucks and vehicles to remove any debris prior to leaving the site, to remove any potential debris on the local roads;
- All vehicles will be suitably serviced and maintained to avoid any leaks or spillage of oil, petrol, or diesel. Spill kits will be available on site. All scheduled maintenance carried out off-site will not be carried out on the public highway; and
- Safe and secure pedestrian facilities are to be provided where construction works obscure any existing pedestrian footways. Alternative pedestrian facilities will be provided in these instances, supported by physical barriers to segregate traffic and pedestrian movements, and to be identified by appropriate signage. Pedestrian facilities will cater for vulnerable users including mobility impaired persons.

The mitigation measures will therefore ensure that the presence of construction traffic will not lead to any significant environmental degradation or safety concerns in the vicinity of the proposed works. Furthermore, it is in the interests of the construction programme that deliveries, particularly concrete deliveries are not unduly hampered by traffic congestion, and as a result continuous review of haulage routes, delivery timings and access arrangements will be undertaken as construction progresses to ensure smooth operation.

8. Conclusions

In summary, the proposed development is in line with the development outlined within the Clonburris Planning Scheme and the Clonburris Transportation Assessment and Transport Strategy (2017) and therefore the impact has already been assessed under the implementation of the entire Strategic Development Zone which concluded that there is sufficient road capacity available for the scheme.

The proposed development is to be accessed via the permitted Clonburris South Link Street, SDCC Reg Ref: SDZ20A/0021, which runs along the length of the SDZ lands, connecting between Adamstown and Cappagh, as outlined in the Clonburris Planning Scheme and assessed under the Clonburris Transportation Assessment and Transport Strategy (2017).

The proposed development's car parking provisions are in line with the standards outlined by South Dublin County Council under both the South Dublin County Development Plan (2016-2022) and the Clonburris Planning Scheme (2019). Further Consultation with South Dublin County Council was undertaken to ensure that car parking provisions and rationale adopted was in line with their vision for the SDZ lands. Following this consultation, the accepted rationale for electric vehicle provisions and car club provisions was agreed and implemented going forward. Car Parking Provisions are proposed to provide a reduction from the standards and a serviceable provision, which promotes sustainable modes of transport and a liveable development.

The proposed development's internal layout has been analysed using AutoTracking software to ensure that the development is appropriate for its purpose. The site has been tracked to show that a large car can access parking bays and that a 10.2m refuse collection vehicle can access the key servicing locations for refuse collection and then continue to egress the site. Further details on the Autotracking analysis carried out for the proposed development may be found in Appendix C

Appendix A - Site Layout Plan

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECTURAL AND ENGINEERING DRAWINGS, ANY DISCREPANCIES, ERRORS OR OMISSIONS TO BE BROUGHT TO THE ATTENTION OF THE DESIGNER.
2. ALL DIMENSIONS TO BE CHECKED BY THE CONTRACTOR ON SITE PRIOR TO COMMENCEMENT OF WORKS.
3. AECOM LIMITED TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO THE COMMENCEMENT OF WORKS ON SITE.
4. DIMENSIONS OF ALL BOUNDARIES AND ADJOINING ROADS TO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORKS.
5. DO NOT SCALE. ALL MEASUREMENTS AND COORDINATES TO BE CHECKED ON SITE.

LEGEND:

PROPOSED RED LINE BOUNDARY PHASE 1.....

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PLANNING

ISSUE/REVISION

| 0 | 07.04.2022 | PART 8 SUBMISSION |
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| I/R | DATE | DESCRIPTION |

PROJECT NUMBER

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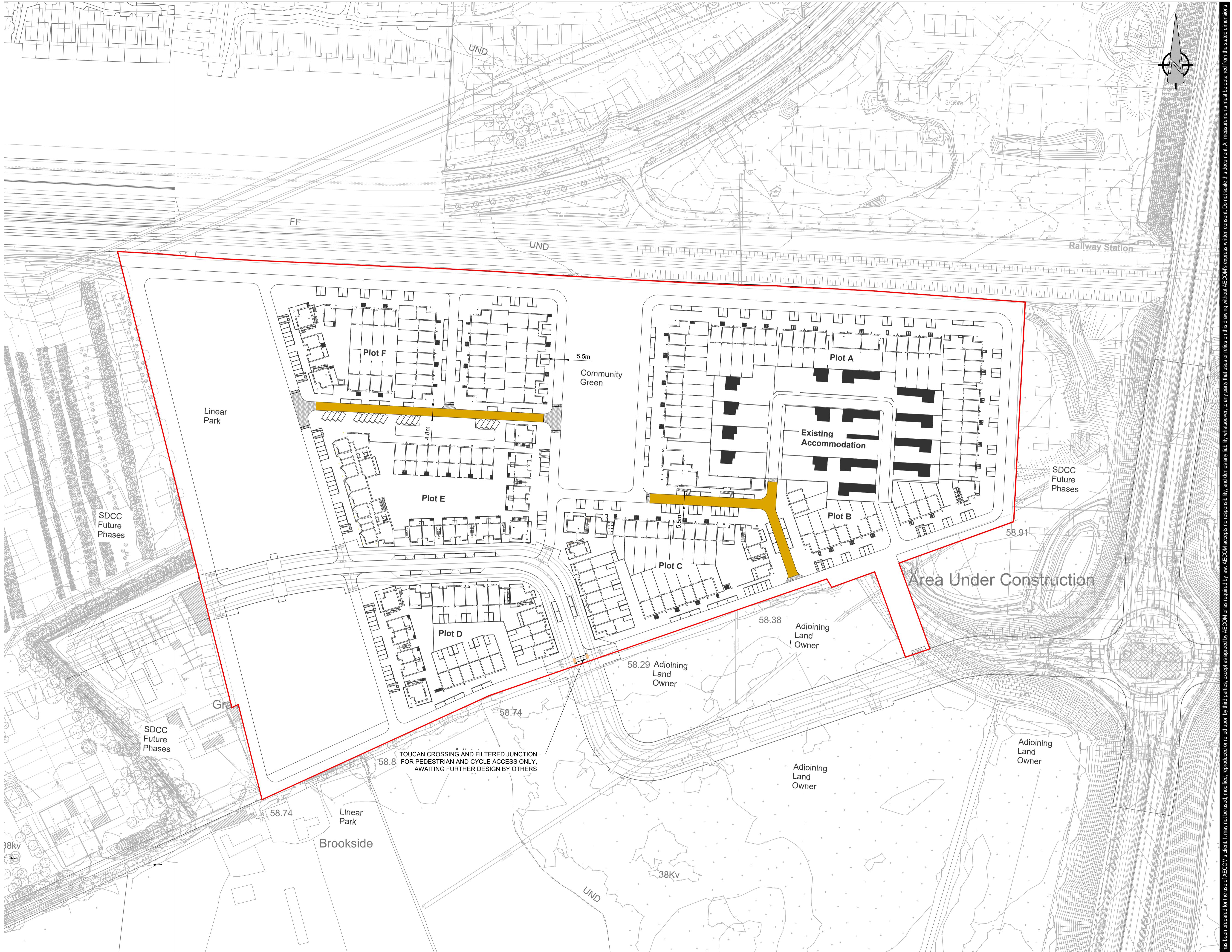
SHEET TITLE

PROPOSED GENERAL ARRANGEMENT PHASE 1

SHEET NUMBER

CLON-ACM-00-XX-DR-C-10-0001

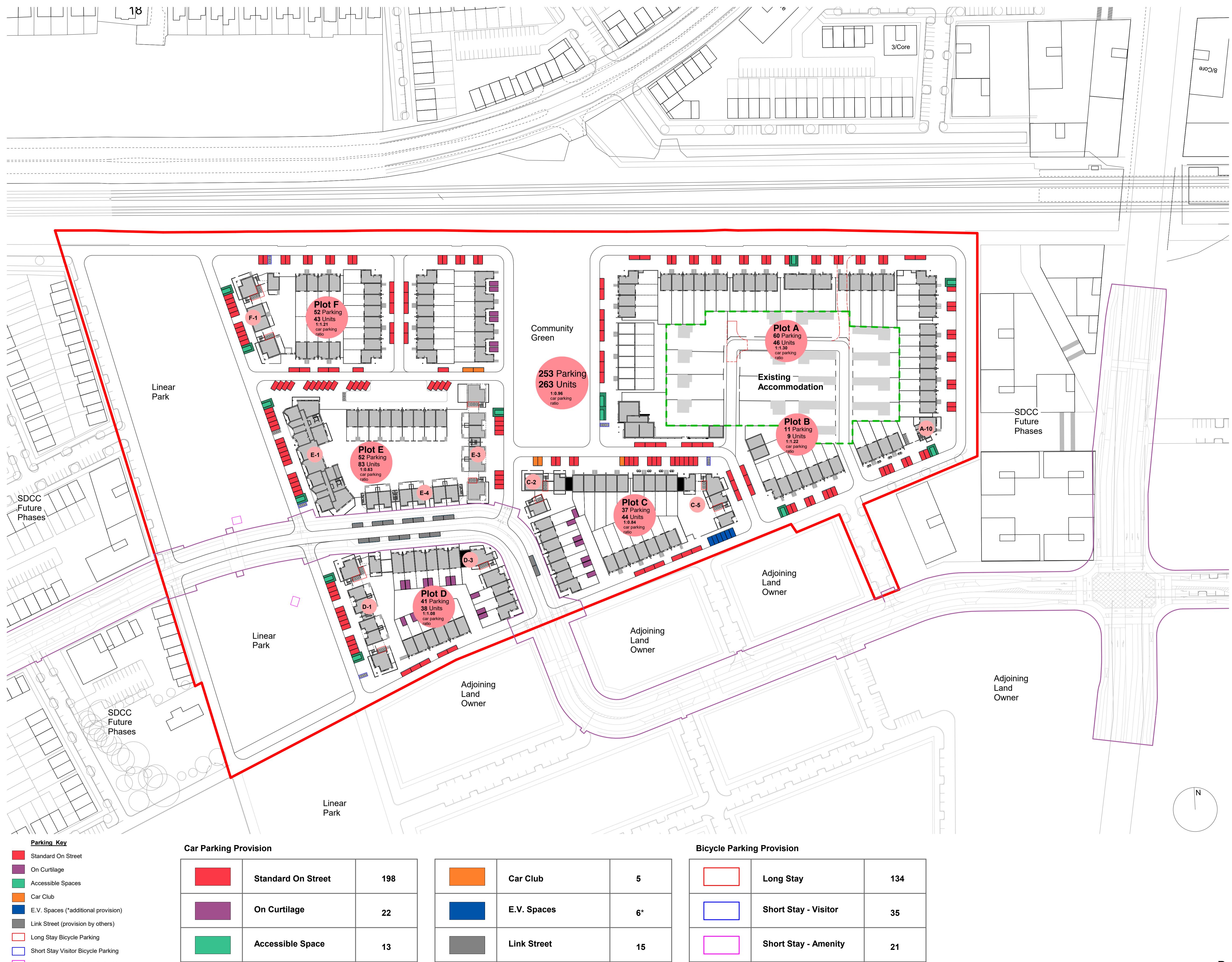
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A PROPOSED GENERAL ARRANGEMENT PHASE 1

Scale: 1:1000

Appendix B – Car and Cycle Parking Plot Strategy



Appendix C - Autotracking Analysis

Appendix D – Visibility Splays

