Statement on Traffic, Transport and DMURS Compliance

Proposed Residential Development, Horgan's Quay, Railway Street, Cork

HQ Developments Limited

August 2019

Connecting people.
Connecting places.

Contents

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Introduction

Purpose of the Document

This statement is being submitted in support of a Strategic Housing Development application being submitted to An Bord Pleanála.

This application represents an alteration to the residential component of a mixed use scheme permitted at this location in 2018 by TP 17/37563. The office and hotel elements of the overall development are under construction and the traffic, transportation and mobility issues associated with the overall development were assessed in the Environmental Impact Assessment Report (EIAR) prepared for the development.

As highlighted below, the EIAR contained a detailed transportation assessment and while the proposed development will result in an increase of 86 no. units to 302 no. total, it proposes a reduction in the number of car parking spaces from 77 no. to 50 no. It also proposes a significant increase in bicycle parking provision. Given the reduced number of parking spaces, the site's City Centre location and excellent connections to public transport, we do not consider that a revised Traffic and Transportation Assessment will be required.

The statement demonstrates how the proposed development addresses this Section under the following headings:

- Road Infrastructure;
- Traffic Generation;
- Pedestrian Linkages and Safety;
- Cyclist Linkages and Safety:
- Public Transport Availability and Capacity;
- Mobility Management;
- Traffic/Transportation Impact Assessment; and
- Consistency with the Design Manual for Urban Roads and Streets (Department of Transport, Tourism and Sport & Department of Environment, Community and Local Government, 2013 (DMURS).

Site Location and Description

The site is located in the North Docklands on lands owned by CIE adjacent to Cork's Kent Rail station and approximately 10 minutes' walk from the commercial core of Cork City. The lands are within the North City Docklands and are currently brownfield and

derelict in nature. Nearby land uses include commercial and office development within Penrose Wharf to the west, port related activities along Horgan's Quay on the southern boundary of the site, and long established residential development to the north along Lower Glanmire Road.

The Area is well served by public transport linkages including:

- The full Cork City Bus Network with routes either directly serving the site or within 10 - 15 minutes walking distance (see accompanying connectivity map);
- Intercity Rail services from Kent Station;
- Commuter rail services to Mallow, Cobh, Carrigtwohill and Midleton;
- Suburban, Regional and National Bus Eireann Services from Parnell Place Bus Station, approximately 5 minutes' walk from the site.
- A number of private bus route operate from nearby St. Patrick's Quay.

Based on the above, the site can be defined as a Central Accessible Location in accordance with the categorisations included in the 2018 Apartment Guidelines

The lands are located between the eastbound one way stretch of the N8 (Lower Glanmire Road) and the Westbound stretch of the N8 along Horgan's Quay. The area has been earmarked for re-development for some time as part of the wider Cork docklands regeneration plans, with the now expired North Docklands LAP dating back to 2005.

Infrastructure

Having regard to the central and accessible location of the Horgan's Quay site and the extensive infrastructural benefits of being located adjacent to the City Centre, the proposed development has been considered primarily based on the principles of The Design Manual for Urban Roads and Streets (DMURS). Accordingly, the connectivity for future residents of the scheme is considered according to a hierarchy with pedestrian connectivity being the principle consideration followed by cycling, public transport and finally vehicular.

Pedestrian access will also be provided onto Horgan's Quay itself, which is a one-way road westbound with two traffic lanes, widening to two traffic lanes and a bus lane in front of the proposed development. This forms part of the N8 national road. There is currently a footpath on the northern side of Horgan's Quay in this area, and an open wharf on the southern side. Future residents of the scheme will benefit from additional public realm improvements, conditioned as part of the permitted parent scheme on the site (as outlined in further detail below)

Continuing north on Railway St leads to the Lower Glanmire Road, which also forms part of the N8. This is a one-way road eastbound, with two traffic lanes, footpaths on both sides and a two-way cycle track on the southern side of the road between the entrance to Kent Station and the junction of the Lower Glanmire Road and McCurtain Street. The area is ideally placed to capitalise on a range of public transport options.

Pedestrian Linkages

The proposed development, and indeed the permitted wider development, occupy a key strategic location in terms of the re-development of the docklands area, positioned at the interface between the City Centre and Kent Rail station. Pedestrian desire lines

through the scheme are therefore critical to the urban design rationale for this area. The permitted layout was chosen to create an attractive and direct link between the City Centre through a disused brownfield site which has to date been largely inaccessible to the public, while creating a series of plazas and pedestrian priority open spaces.

The Cork City Centre Movement Strategy 2013 identifies all 3 of the main approaches to the subject site, Penrose Quay (as far as Horgan's Quay), Alfred Street and Lower Glanmire Road as key pedestrian connections. The strategy outlines the objective to provide high quality footpath and crossing facilities along these linkages.

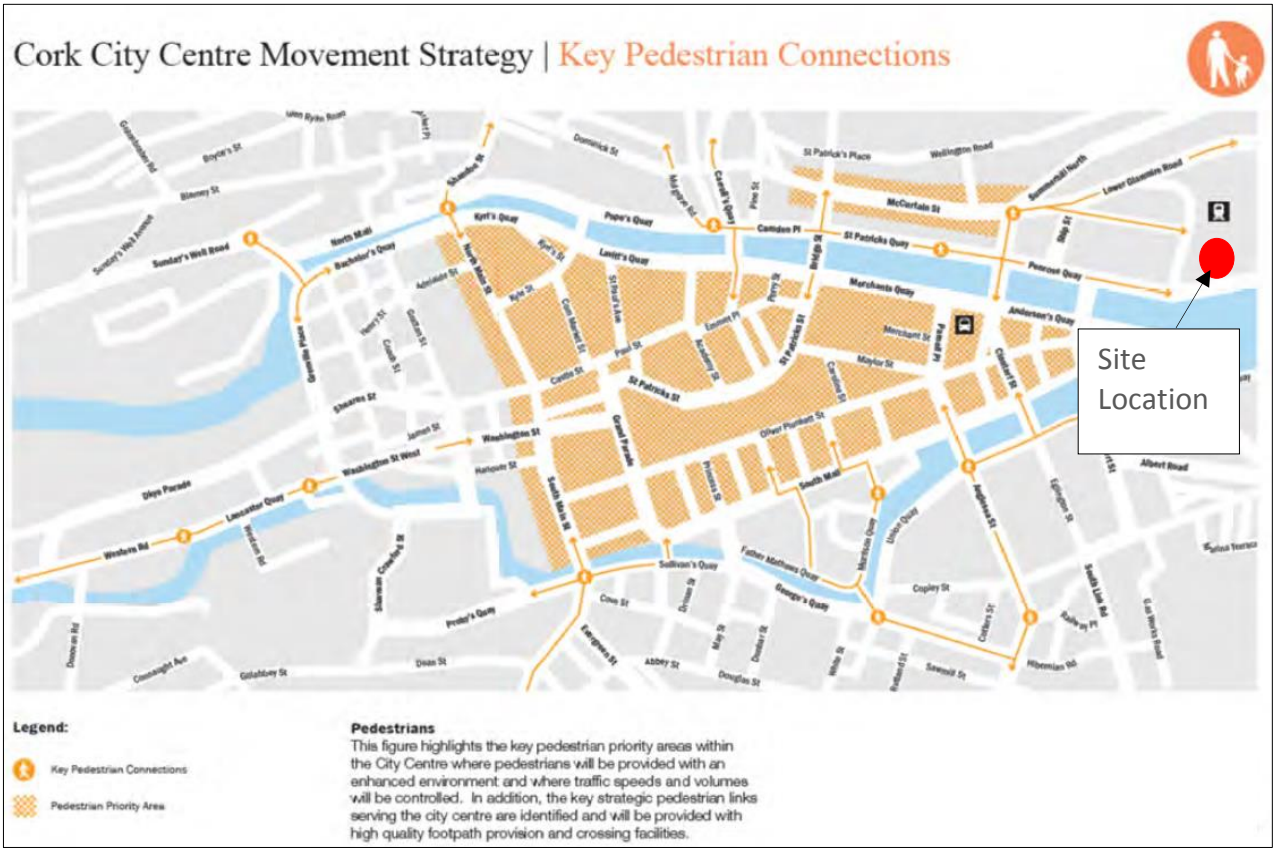


Figure 1 - Key pedestrian linkages - Cork City Centre Movement Strategy

This minimal level of parking provision combined with proximity to the City Centre and public transport linkages is expected to make pedestrian movements the preferred method of entry and egress from the site.

Moreover, a number of improvements will be carried out to pedestrian facilities in the area in accordance with the conditions of permitted development 17/37563 including:

- Raised pedestrian platforms on Railway Street near the junction with Horgan's Quay;
- A dedicated pedestrian crossing on the N8 Lower Glanmire Road; and
- A pedestrian crossing at the junction of Kent Station Link Road and Horgan's Quay.

Proposed improvements to pedestrian facilities are outlined in drawings T0111-01 and T0113-01 prepared by Arup and submitted at RFI stage of application 17/37563 (enclosed in Appendix B of this statement).

Cycling Linkages

The site is well placed to capitalise on existing and planned cycling infrastructure in the area. The Cork Cycle Network Plan identifies both Lower Glanmire Road and Horgan's Quay as primary cycleway routes. Recent City Council upgrades have introduced dedicated cycle lanes to Alfred Street, and along Lower Glanmire Road, linking Kent Station with the City Centre. There are also 2 bike share stations within close proximity, at Kent Station and Ship Street. It should be noted that the recent success of the public bike share scheme has surpassed all expectations in Cork, and plans are afoot to expand the scheme further in the short to medium term. The proposed development aims to encourage cycling as a sustainable travel mode and provides for 311 secure covered bicycle parking spaces at ground floor level of the scheme.

The City Centre Movement Strategy identifies a number of key cycle routes in the area as outlined in figure 2 below.

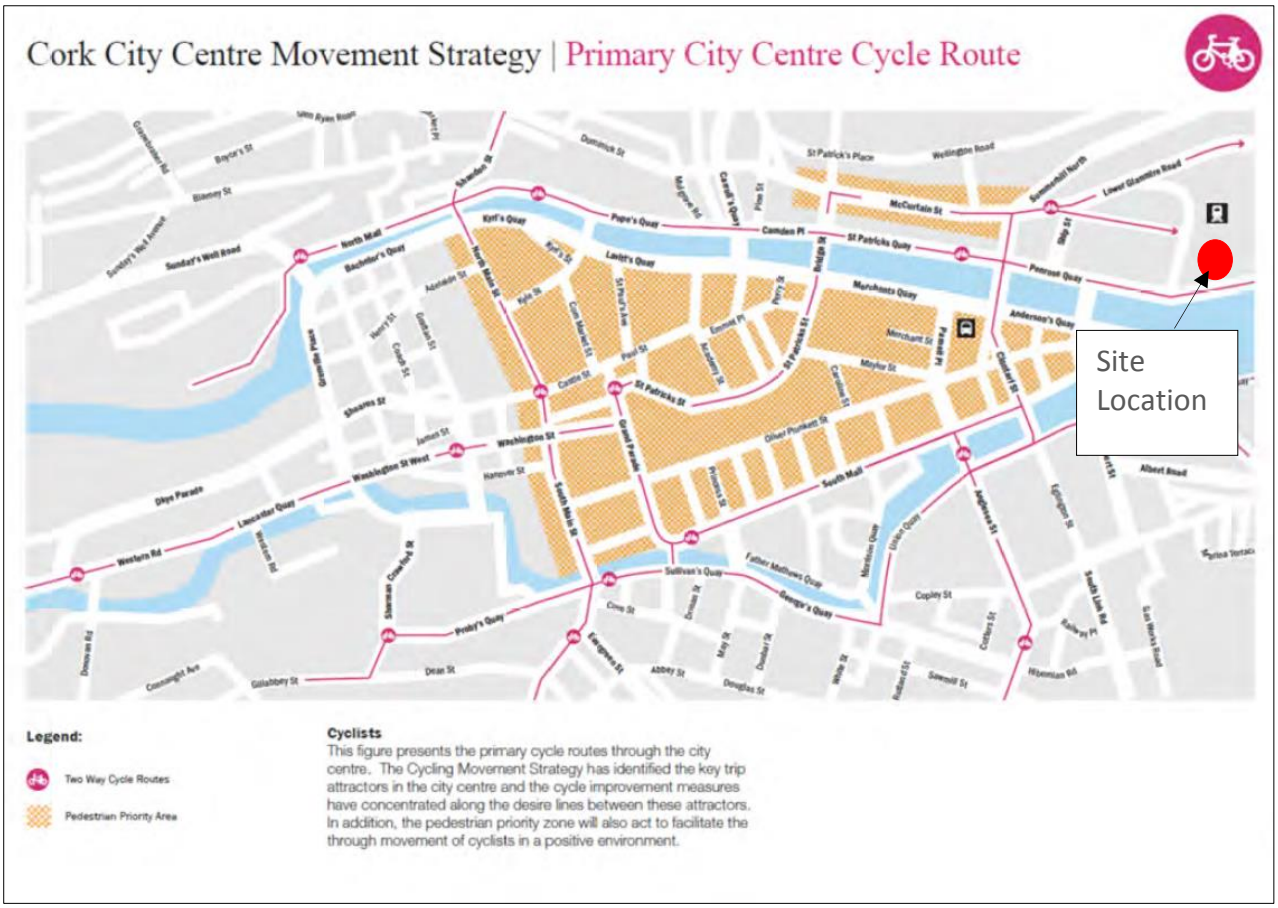


Figure 2 - Key cycling routes - Cork City Centre Movement Strategy

Public Transport

The proposed development site is ideally placed to capitalise on a wide array of public transport linkages. The accompanying connectivity map (enclosed in Appendix A of this statement) provides an outline of the available transport options in the area. The most significant benefit to future residents of the scheme will be access to the city's bus network. The site itself will be served by the existing 205 route which operates from a newly constructed bus terminus near the recently introduced southern entrance to Kent Rail station and departs at high frequency through the City Centre and on to Bishopstown and CIT west of the city. This stop is also served by the 226 services which connects the site to the Airport and Kinsale. The Board will note condition 37 of the permitted scheme onsite which requires the provision of a Bus Gate facility on the Kent Station Link Road at the junction with Horgan's Quay. The Bus Gate is intended to prioritise the movement of buses over the movement of private vehicles and will further enhance public transport provision in the area.

As evident in Figure 3 above, the site is adjacent to some of the key city centre bus

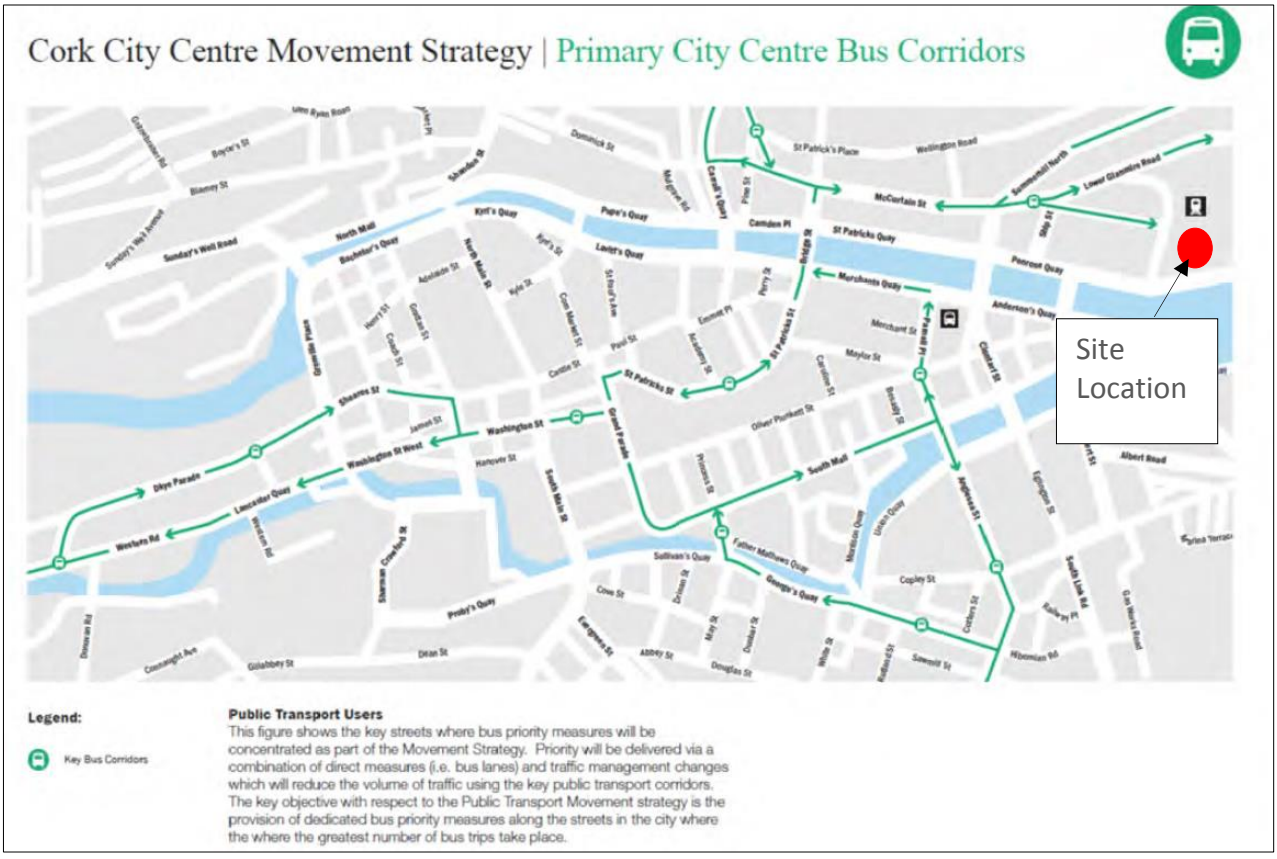


Figure 3 - Primary Bus Corridors - Cork City Centre Movement Strategy.

corridors as outlined in the City Centre Movement Strategy.

In addition, the site is within 10 minutes walking distance (or 400m) of the Parnell Place Bus station and the City centre where all other key city, suburban ad regional bus routes can be easily accessed, as well a number of privately operated services along Patrick's Quay. The Black Ash Park and Ride service operated by the City Council was recently updated to coincide with the partial ban on private cars on St. Patrick's Street. The service now stops at Merchant's Quay, adjacent to the Parnell Place bus station.

The proximity of the site to Kent Railway station provides ready access to frequent commuter rail services to Mallow, Carrigtwohill, Midleton and Cobh a well as an hourly

service to Dublin. Commuter rail services generally operate at 30 minute frequency at peak times. Taxi services are also readily available in front of Kent Rail station.

The Mobility Management Plan prepared by Arup as part of the parent permitted development conducted an analysis of the accessibility of the site and concluded that the majority of Cork City centre, including large residential areas such as Wilton, Ballyphehane, Ballinlough, Blackrock, Mahon, Douglas, Mayfield, Sunday's Well, Knocknaheeny, Blackpool and parts of Midleton are within a 45-minute commute by Public Transport (including walking). Indeed, some of the major suburban settlements in Cork, including Bishopstown and Carrigaline are within a 60-minute commute by Public Transport, including walking.

There is also a designated space for the Go-Car car sharing service within the car park of the Railway Station.

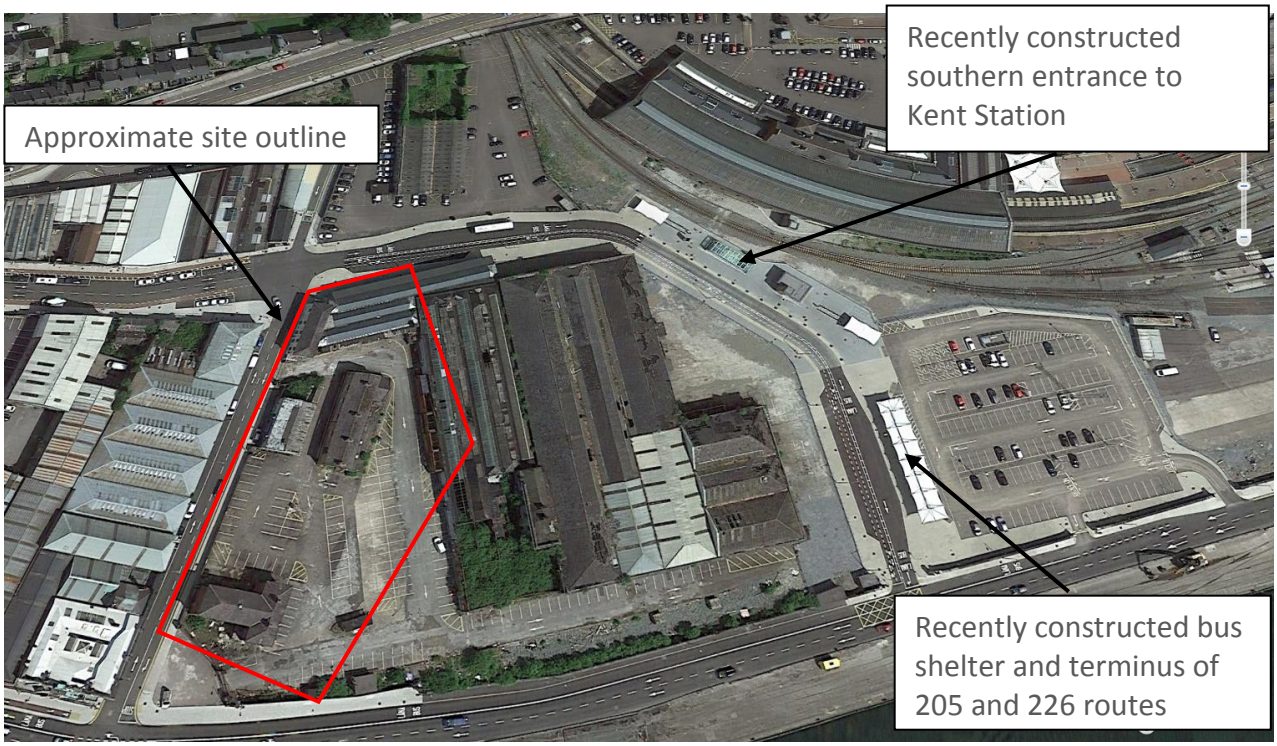


Figure 4 - Google Earth imagery from June 2018 showing recent public transport upgrades in the vicinity.

Figure 5 - Main Streets in the vicinity.

Traffic Generation

The proposed development includes provision for 50 no. parking spaces which represents a ratio of 0.16 parking spaces per residential unit. The permitted Horgan's Quay mixed use scheme includes for 277 parking spaces of which 77 were allocated to the residential / retail block. This is well below Development Plan maximum standards. The proposed SHD scheme further reduces the car parking associated with the residential and retail block of the scheme to 50 spaces. The minimal provision of parking is considered appropriate given the sustainable location of the site, is in accordance with recent National Guidance and will effectively limit future occupancy of the development to non-car users. The 2018 Apartment Guidelines provide default policies on parking provision based on location type. For Central and accessible locations such as Horgan's Quay, the guidelines state that car parking should be minimised, substantially reduced or wholly eliminated in certain circumstances. This policy is particularly relevant to:

> *highly accessible areas such as in or adjoining city cores or at a confluence of public transport systems such rail and bus stations located in close proximity*

The expected profile of future residents of the residential scheme will comprise non-car owners who are working in the City Centre or in surrounding employment locations that are accessible via the public transport network. The proposed residential / retail development will not therefore contribute any significant level of additional car based trip generation during AM or PM peak hours.

Vehicular Access to the proposed development is to be provided from Railway Street, along the western boundary of the site, and from the recently-constructed Kent Station Link road which continues east from Alfred Street along the boundary of CIÉ lands at

Kent Station, and connects to Horgan's Quay to the east of the site. Both Railway Street and the new station link road are single carriageway roads, with footpaths present on both sides. The Kent Link Road and the junctions with the existing road network will also be subject to improvements as part of the permitted scheme onsite.

Mobility Management

The application for the permitted development onsite (17/37563) was accompanied by a full Mobility Management Plan (MMP) prepared by Arup. The plan was devised taking account of the development's sustainable location and among its objectives were to:

- Reduce car dependency and demand;
- Promote sustainable modes of transport and high accessibility to the site;
- Create awareness of alternative modes of transportation available;
- Reduce the environmental effects associated with increased car use such as congestion, parking impacts, longer journey times and increased pollution; and
- Set and work towards achievable modal split targets based on strategies to improve alternative modes of transport.

As a demonstration of their commitment to sustainable travel modes, HQ Developments developed an implementation strategy to be adopted by the eventual operator of the office element of the scheme. While the MMP was focused on the office element of the scheme, we consider it pertinent to the management of the residential and retail element of the development also. The Mobility management plan stipulated that the operator would be required to engage with all tenants within the overall development and would commit to various initiatives such as:

- A dedicated intranet travel website for employees within the scheme with information on bus timetables, ticketing, bike promotions, carpooling etc.
- Preferential parking spaces within the scheme for car poolers
- Promotion of tax saver bus commuter tickets among employers within the scheme.
- Promotion of Bike to work and Bike share scheme
- 19 car spaces with EV ready infrastructure.

Traffic Impact Assessment

A Traffic Impact Assessment (TIA) was carried out as part of the EIAR for the permitted scheme onsite (17/37563) based on a total parking allocation across the office and residential portions of the scheme of 277 no. spaces. The Board will note that the residential quarter proposed car parking accounted for 77 spaces or 28% of the parking for the entire development. The current revised proposals aim to reduce further this parking provision by 27 spaces, leaving a total of 50 spaces.

The TIA accompanying the parent permission included traffic counts and modelling at morning and evening peak periods at a number of nearby junctions as outlined in figure 6 below.

Analysed Junction	Junction Description
MacCurtain Street / Summerhill North / Lower Glanmire Road / Brian Ború Street	Signalised four-arm junction
St. Patrick's Quay / Brian Ború Street / Penrose Quay / Brian Ború Bridge	Signalised four-arm junction
Penrose Quay / Michael Collins Bridge	Signalised three-arm junction
Lower Glanmire Road / Ship Street	Signalised three-arm junction
Alfred Street / Ship Street	Signalised three-arm junction
Alfred Street / Railway Street / future Station Access Road junction	Priority controlled four-arm junction
Penrose Quay / Railway Street	Priority controlled three-arm junction
Lower Glanmire Road / Railway Street	Priority controlled three-arm junction

Figure 6 - List of junctions analysed as part of Traffic Impact Assessment for 17/37563

The results at each of the junctions analyzed can be summarised as follows:

- The MacCurtain Street / Summerhill North / Lower Glanmire Road / Brian Ború Street junction was shown to operate within capacity during both the morning and evening peak period in all scenarios. As this junction is the primary access route to the site for traffic coming from the north and west, the 'with development' scenarios indicate a slight impact on the capacity of the junction relative to the 'without development' scenarios. However, the impact is slight with the development increasing the RFC by a maximum of 2%.
- The St. Patrick's Quay / Brian Ború Street / Penrose Quay / Brian Ború Bridge junction is shown to operate within capacity during both the morning and evening peak period in all scenarios. As this junction is the primary departure route from the site for traffic going to the north and west, the 'with development' scenarios indicate a slight impact on the capacity of the junction relative to the 'without development' scenarios. However, the impact is slight with the development increasing the RFC by a maximum of 3%.
- The Penrose Quay / Michael Collins Bridge junction carries the most traffic volumes on the local road network. It is shown to operate just under capacity during the 2037 PM peak period "With Development" scenario. However, the development would have only a moderate impact on the capacities of the approach arms (4% and 7% for Penrose Quay (East) and Michael Collins Bridge respectively). In all other scenarios the junction is shown to operate within capacity.
- The Alfred Street / Railway Street / Future Station Access Road junction is shown to operate well within capacity during both the morning and evening peak period in all scenarios. The highest RFC values are observed on Railway Street (North) during the PM peak period. However, the development would have a moderate impact on the capacity of the junction, with the highest projected RFC value shown to be 39% in 2037 in the 'With Development' scenario. Therefore, the junction is considered to be

capable of accommodating the additional traffic expected to be generated by the proposed development.

- The Penrose Quay / Railway Street junction is shown to operate well within capacity during both the morning and evening peak period in all scenarios. The highest RFCs are observed on Railway Street during the evening peak. However, the development would have a moderate impact on the capacity of the junction, with the highest projected RFC value shown to be 59% in 2037 in the 'With Development' scenario. Therefore, the junction is considered to be capable of accommodating the additional traffic expected to be generated by the proposed development.
- The Lower Glanmire Road / Railway Street junction is shown to operate well within capacity during both the morning and evening peak period in all scenarios. The highest RFC values are shown on the Lower Glanmire Road junction during the evening peak. However, the development would have a moderate impact on the capacity of the junction, with the highest projected RFC value shown to be 23% in 2037 in the 'With Development' scenario. Therefore, the junction is considered to be capable of accommodating the additional traffic expected to be generated by the proposed development.
- The Horgan's Quay / Station Access Road junction is shown to operate well within capacity during both the morning and evening peak period in all scenarios. The highest RFC values are shown on the Station Access Road during the PM peak period as office staff leave the development. However, the development would have a moderate impact on the capacity of the junction, with the highest projected RFC observed to be 28% in 2037 in the 'With Development' scenario. Therefore, the junction is considered to be capable of accommodating the additional traffic expected to be generated by the proposed development.

The analysis has determined that all of the junctions have capacity to accommodate the additional traffic associated with the proposed development.

The Board will note the permitted Progressive Commercial office development (Ref: 18/37909) which is located adjacent to Horgan's Quay and is currently under construction. This development includes160 no. parking spaces and included a Traffic and Transport Assessment (TTA). We note that the TTA accounts for the cumulative impact of the permitted development at Horgan's Quay. The report concludes that the surrounding road network has sufficient capacity to accommodate both developments.

Consistency with DMURS

In accordance with the requirements of the SHD pre-consultation process, the scheme has been measured in terms of its consistency with the Design Manual for Urban Roads and Streets (DMURS) and the findings are outlined below.

The proposed development, as part of the wider permitted HQ Developments scheme, will be focused around pedestrian prioritisation given the advantageous location close to the City Centre and public transport hubs. It is worth noting that the permitted scheme includes condition 40 requiring that

> *"all proposed vehicular and pedestrian access points shall be designed in accordance with the Design Manual for Urban Roads and Streets (DMURS). Exact details shall be agreed with the Planning Authority prior to commencement of development. "*

The proposed residential component of the scheme will provide a clear separation between vehicular and pedestrian/cyclist access to the buildings with vehicular access to parking areas restricted to Railway Street while pedestrian access will be focused along the retail frontages facing onto the proposed public plazas. All parking will be located within the curtilage of the residential block at ground floor level and will be contained within a podium which will provide for communal open space for future residents at first floor level. There is no provision for on street parking associated with the scheme.

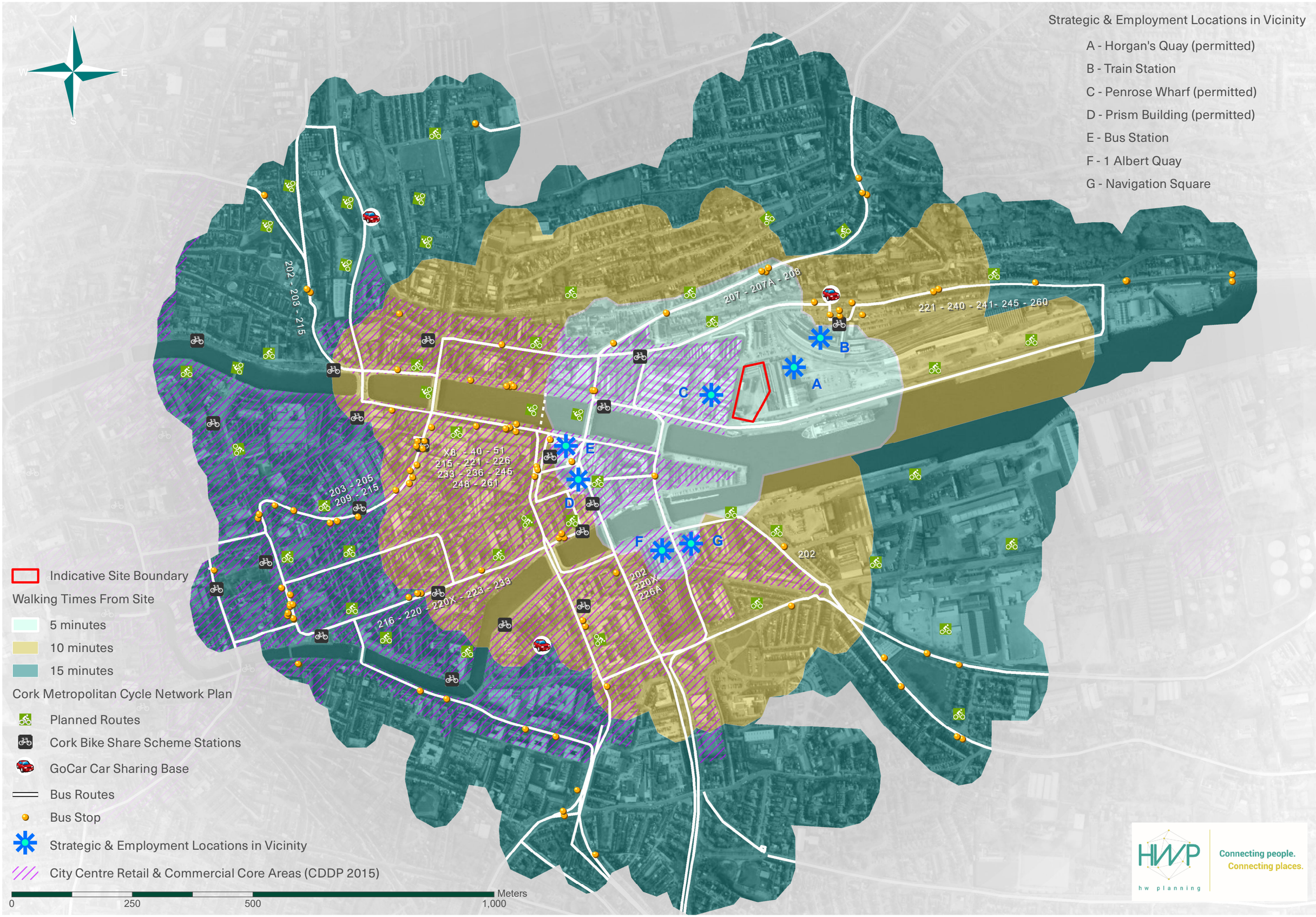
In relation to the Kent Station link road the wider scheme will include a number of measures which will enhance DMURS compatibility as outlined in the conditions associated with 17/37563. Among the improvements will be the following:

- Traffic signals and related infrastructure at the junction of Horgan's Quay and Kent Station Link Road.
- Toucan crossing facility on the Kent Station Link Road at the junction with Horgan's Quay. This will include the widening of the crossing, adjustments to kerbs, paving etc.
- A Bus Gate facility on the Kent Station Link Road at the junction with Horgan's Quay. The Bus Gate must prioritise the movement of buses over the movement of private vehicles.
- The kerbline on the western side of the Kent Station link Road shall be moved further west to facilitate the provision of a 3m wide bus bay, 3m wide bus lane and two by 3m wide traffic lanes.
- It is also intended to provide raised pedestrian platforms at various entrance points to the scheme where there is an interaction of vehicular and pedestrian / cyclist movements. Details of all of the above are currently being agreed with Cork City Council as part of the pre-commencement compliance for the permitted scheme.

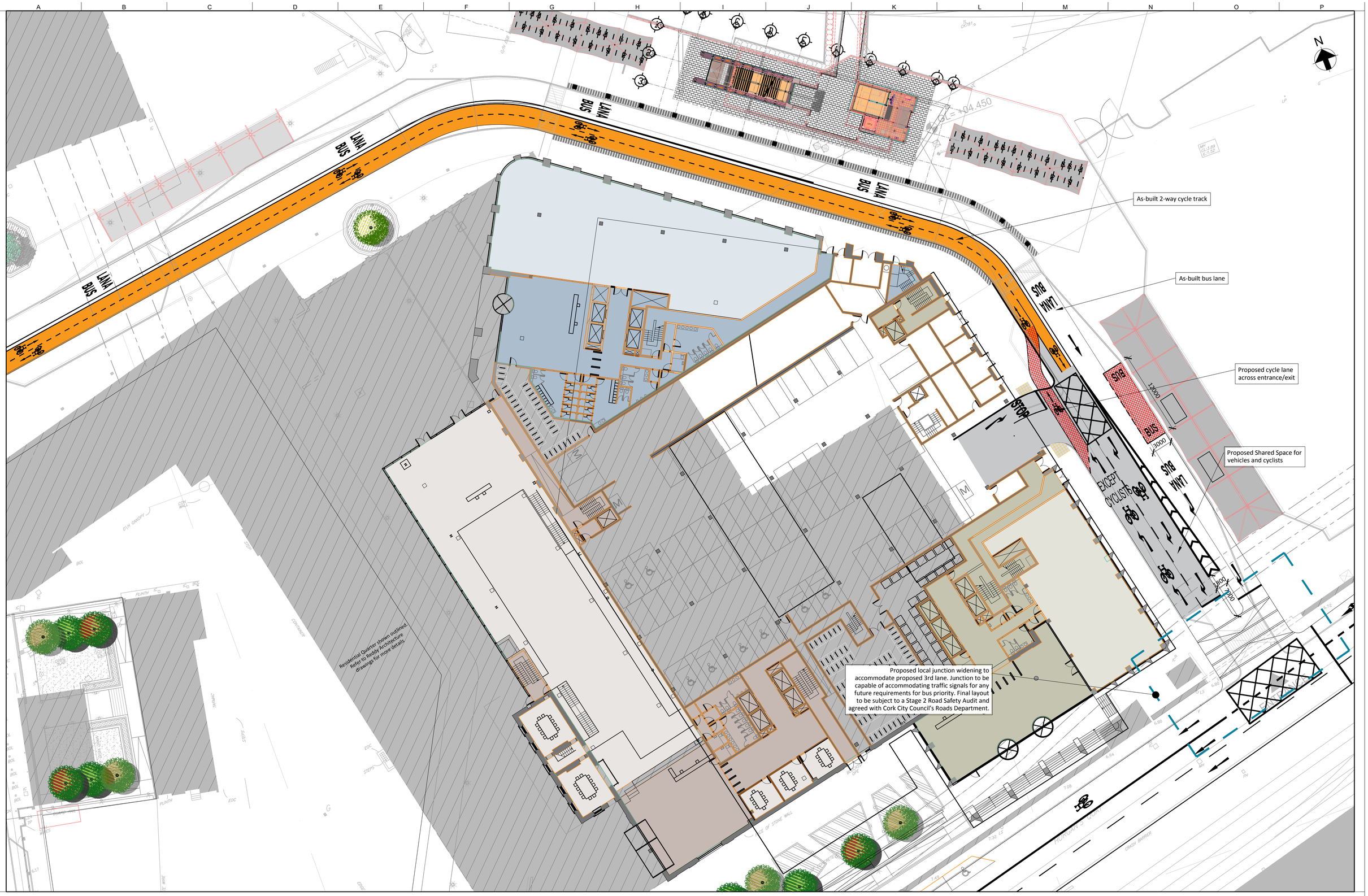
As outlined above, the scheme will enhance pedestrian connectivity in the area and provides ready access to the City Centre and beyond. The central location near bus and rail stations will ensure optimal public transport connectivity while cycling will be encouraged through the provision of over 311 bicycle parking spaces, as well as proximity to the City bike share scheme stations. The area has already undergone significant investment from Cork City Council in terms of provision of dedicated bicycle lanes and additional investment in this area is planned into the future.

The proposed development will also benefit from a pedestrian wayfinding system associated with the permitted parent development.

Appendix A – Connectivity Map


N
W
E
S
Strategic & Employment Locations in Vicinity
A - Horgan's Quay (permitted)
B - Train Station
C - Penrose Wharf (permitted)
D - Prism Building (permitted)
E - Bus Station
F - 1 Albert Quay
G - Navigation Square
202 - 203 - 215
207 - 207A - 208
221 - 240 - 241- 245 - 260
X8 - 40 - 51
215 - 221 - 226
233 - 236 - 245
248 - 261
203 - 205
209 - 215
216 - 220 - 220X - 223 - 233
202
202
220X
226A
A
B
C
D
E
F
G
Indicative Site Boundary
Walking Times From Site
5 minutes
10 minutes
15 minutes
Cork Metropolitan Cycle Network Plan
Planned Routes
Cork Bike Share Scheme Stations
GoCar Car Sharing Base
Bus Routes
Bus Stop
Strategic & Employment Locations in Vicinity
City Centre Retail & Commercial Core Areas (CDDP 2015)
Meters
0
250
500
1,000
HWP
hw planning
Connecting people.
Connecting places.

Appendix B – Road /Pedestrian Improvements



T1	19/12/17	SF	NH	TL
Issued for Information				
Issue	Date	By	Chkd	Appd

Client
Clarendon BAM

Job Title
Horgan's Quay Development

Scale at A1 1:250 @ A1 (1:500 @ A3)

Discipline Consulting

ARUP
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Tel +353(0)1 233 4455 Fax +353(0)1 668 3169
www.arup.ie

Drawing Title
Proposed Junction of Horgan's Quay and Station Access Road, including Northbound Cycle Lane

Drawing Status
Transportation

Job No	Drawing No	Issue
252901-00	**T0111-01**	**T1**

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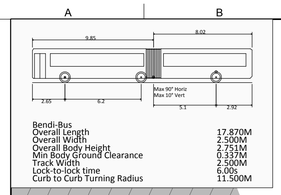
A1



Bendi-Bus	
Overall Length	17.870M
Overall Width	2.500M
Overall Body Height	2.751M
Min Body Ground Clearance	0.337M
Track Width	2.500M
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	11.500M

As-built kerbline to remain unaffected

Proposed Swept Path of opposing Bendi-bus Vehicles

Required Adjustment to as-built kerbline to facilitate future BRT

Set-back to proposed office block from southern kerb line of 3.5m and above. Localised pinch point a minimum of 3.1m

Proposed future line for BRT

Potential future northbound bus lane

As-built southbound bus lane

Proposed southbound cycle lane

Proposed Shared Space for vehicles and cyclists

Proposed local junction widening to accommodate proposed 3rd lane. Junction to be capable of accommodating traffic signals for any future requirements for bus priority. Final layout to be subject to a Stage 2 Road Safety Audit and agreed with Cork City Council's Roads Department.

VIEW 1

N

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T1	19/12/17	SF	NH	TL
Issued for Information				
Issue	Date	By	Chkd	Appd

Client
Clarendon BAM

Job Title
Horgan's Quay Development

Scale at A1 1:250 @ A1 (1:500 @ A3)

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Drawing Title
Proposed Junction of Horgan's Quay and Station Access Road, Northbound Bus Lane and BRT

Drawing Status
Transportation

Job No	Drawing No	Issue
252901-00	**T0112-01**	**T1**

Do not scale

A1

Proposed dropped kerb at access to Northern Quarter residential block

Swept path of large coach

Proposed Loading Bay / Set-down

As-built bus lane

As-built 2-way cycle track

Proposed east-west priority across junction

15m RHS Luxury Coach

BUILDING

STOP

ENTRANCE

EXCEPT BUSES & CYCLISTS

LANA BUS

OFFICE 04
GIA 1155m²
NIA 650m²
56.3% EFFICIENCY
+4.800

OFFICE 01B
WORKSPACE
GIA 1598m²
NIA 1082m²
+4.800

BLOCK 4
LOBBY
+4.800

MALE LOCKERS
BLOCK 4 WELFARE
FEMALE LOCKERS
MALE TOILETS
FEMALE TOILETS
CYCLE PARKING 170 NO. SPACES
RAMP UP TO LEVEL 01 PARKING
WATER TANK ROOM

T1	19/12/17	SF	NH	TL
Issue	Date	By	Chkd	Appd

Issued for Information

Client
Clarendon BAM

Job Title
Horgan's Quay Development

Scale at A1 1:250 @ A1 (1:500 @ A3)

Discipline
Consulting

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Drawing Title
Proposed Junction of Railway Street and Station Access Road

Drawing Status
Transportation

Job No	Drawing No	Issue
252901-00	T0113-01	T1

J:\252000\252901-00\4_Internal\4-02 Drawings\4-02-16 Transportation\T0113-01 T1.dwg

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