

Data Centre 3

Transport Statement

Next Generation Data (NGD)

October 2020



Notice

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Introduction

1. Introduction

1.1. Overview

Atkins has been commissioned by NGD to provide traffic and transport consultancy services in relation to a full planning application for the development of a two-storey data centre building at Plot 4, Imperial Park, Marshfield, Newport, NP10 8BE.

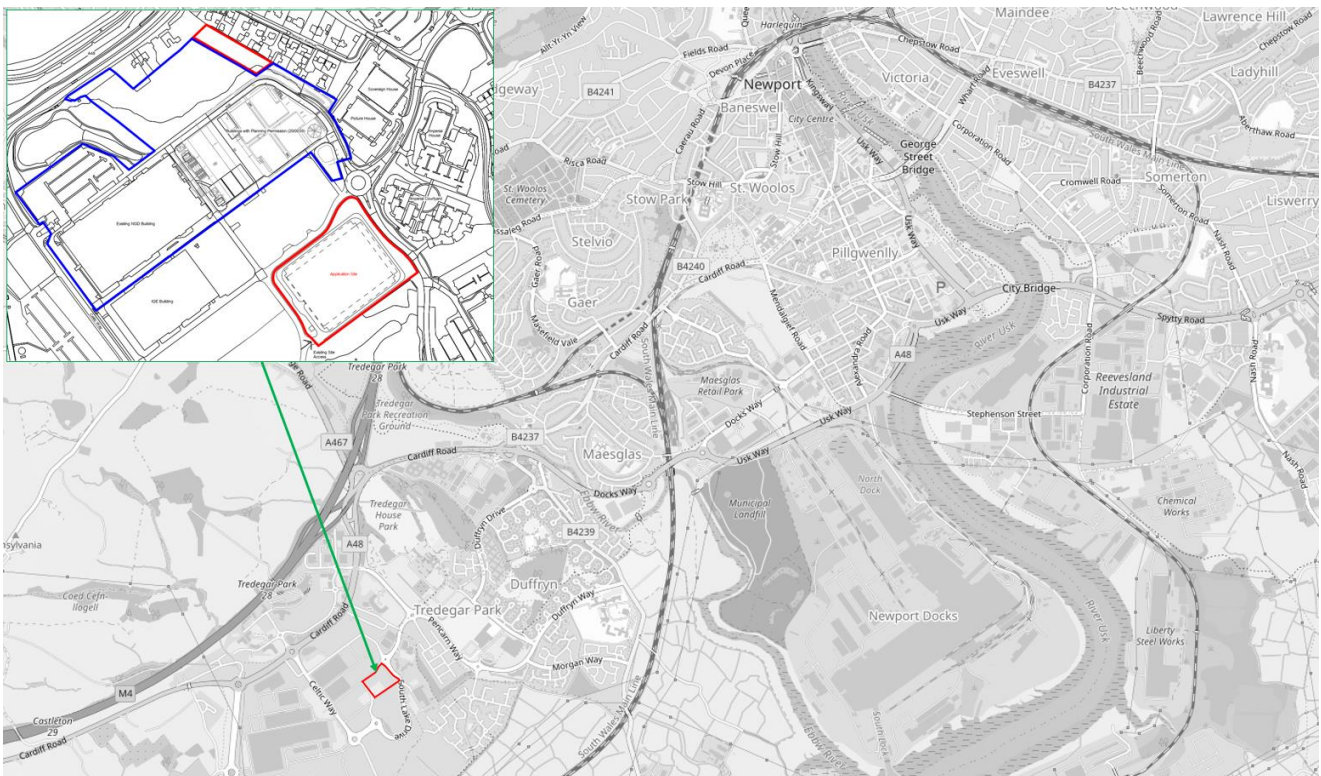
1.2. Existing Site

The existing site is located in the south-east corner of Imperial Park, it was previously developed and largely comprises hardstanding area approximately 2.5 hectares in size. Imperial Park is located approximately three miles south-west of Newport City Centre and it accommodates a number of industrial, distribution and office based businesses.

The site is bound to the north, east and west by adopted highway. Although to the east the highway is offset by an area of roadside grass verge with some well-established trees. To the south, the site is bordered by a 30m – 40m strip of cleared hardstanding associated with a laydown area for the recent construction of the link road. Beyond this area, a dense corridor of mature trees and hedgerows runs east to west.

Figure 1-1 shows the site from a local perspective and the site's location within Imperial Park (application site is highlighted by red line boundary and area under applicants' control is shown by blue line boundary). A detailed drawing of the site redline boundary is provided at **Appendix A**.

Figure 1-1 - Development Site's Location



1.3. Description of Development Proposals

The proposed development comprises a two-storey data centre building containing 10 data halls for the storage of data servers, support rooms and ancillary office space. The building will have a Gross Floor Area (GFA) of 25,500m². The building will be 19.6m in height, 142m in length and 100m wide. The proposals include 60 standby generators for use during a national grid failure, with 30 located along the north elevation of the building and 30 along the south. 10 flues will extend 1m above the top of the building to 20.6m. Provision is made for 40 parking spaces, sustainable drainage, onsite landscape proposals and off-site ecological compensation. A 4m security fence with CCTV cameras will be installed to the site's perimeters. The highways access at the south-west corner will include a security kiosk and security gates.

1.4. Scoping Background

As part of the pre-application advice process, Atkins issued initial correspondence to Newport Council in relation to this proposed redevelopment (PS 20 0130) on the 24th September 2020. Atkins issued further correspondence to Newport's Local Highway Officer (LHO) which was received on the 30th September 2020 and it set out an overview of the proposals and Atkins approach to preparing a Transport Statement (TS) in support of this application. It was proposed that the TS would include:

- Review of National and Local Transport Policy
- Existing Site Conditions, including:
 - Site Accessibility by active travel and public transport: and
 - Road Safety (Accident Data).
- Description of Proposed Development, including:
 - Access and servicing arrangements
 - Staffing numbers, shift patterns and hours of operation;
 - Parking provisions; and
 - Anticipated trip generations.
- Framework Travel Plan Chapter setting out key components.
- Framework Construction Traffic Management Plan Chapter setting out the overarching themes that the contractor should include/ develop further within their Construction Traffic Management Plan.

A response from the LHO was issued on 8th October 2020 and some of the key points noted are as follows:

- Further details and additional detailed drawings which should include operational requirements for servicing purposes and sufficient space to allow servicing vehicles to both enter and leave the curtilage of the premises' servicing area in a forward gear will be required;
- Recent planning application adjacent to this site 20/0039 for the erection of 4no three-storey data centre buildings comprising B8 use and ancillary B1 use was approved with a lower level of parking provision to reflect the unique organisational procedures and staffing levels required at the site...If this application were to be submitted as a full application, the applicant would be required to provide a detailed parking layout plan and further information in regard to the maximum levels of employment at this site to justify the reduction in parking provision;
- To support the planning application, the applicant proposes to submit a Planning Statement, Design and Access Statement, Pre-application Consultation Report and Transport Statement; including Construction Traffic Management Plan and Travel Plan. Generally, a Transport Assessment would be required for a site of this size, however, as the use is not a common B8 use, generating low levels of operational vehicle movements, a Transport Statement will be acceptable; and
- Additional information on access and parking are required.

A full set of correspondence between Atkins and the LHO is provided at **Appendix B**.

1.5. Report Structure

This report forms the Transport Assessment document for the Section 54 application and is structured as follows:

- **Chapter 2** provides a review of the relevant local, regional and national policy guidance;
- **Chapter 3** describes the baseline situation in terms of the local highway network including, road traffic accident history, accessibility to the development site by active travel (walk/ cycle) and public transport;
- **Chapter 4** provides details of the proposed development, site access arrangements, servicing arrangements, estimation of vehicle trip numbers as well as parking requirement/ provision;
- **Chapter 5** sets out the types of measures and initiatives that could be included in a Travel Plan for the development proposals;
- **Chapter 6** outlines the overarching themes that the Contractor (once appointed) should include within their Construction Traffic Management Plan; and
- Finally, **Chapter 7** provides a summary and our conclusions this assessment.

Transport Planning Policy and Review



2. Transport Planning Policy and Review

2.1. Introduction

This TS has been developed in accordance with national, regional and local policy and guidance. A summary of the relevant policy and guidance documents which the TS supports and, has been developed in accordance with, is provided within this section.

The policy documents are as follows:

- **National Policy:**
 - Planning Policy Wales (PPW) – Edition 10 (2018);
 - TAN18: Transport (2007)
 - Wales Transport Strategy (2008);
 - National Transport Plan (2015).
 - Active Travel (Wales) Act (2013); and
- **Regional Policy:**
 - Cardiff Capital Region – Powering the Welsh Economy (2015).
- **Local Policy:**
 - Newport Local Development Plan (2015);
 - Newport City Council Local Transport Plan (2015);
 - A City Wide Transport Strategy for Newport Strategy Refresh (2011); and
 - Newport City Council Parking Standards (2015).

2.2. National Policy

2.2.1. Planning Policy Wales (PPW) (Edition 1, November 2018)

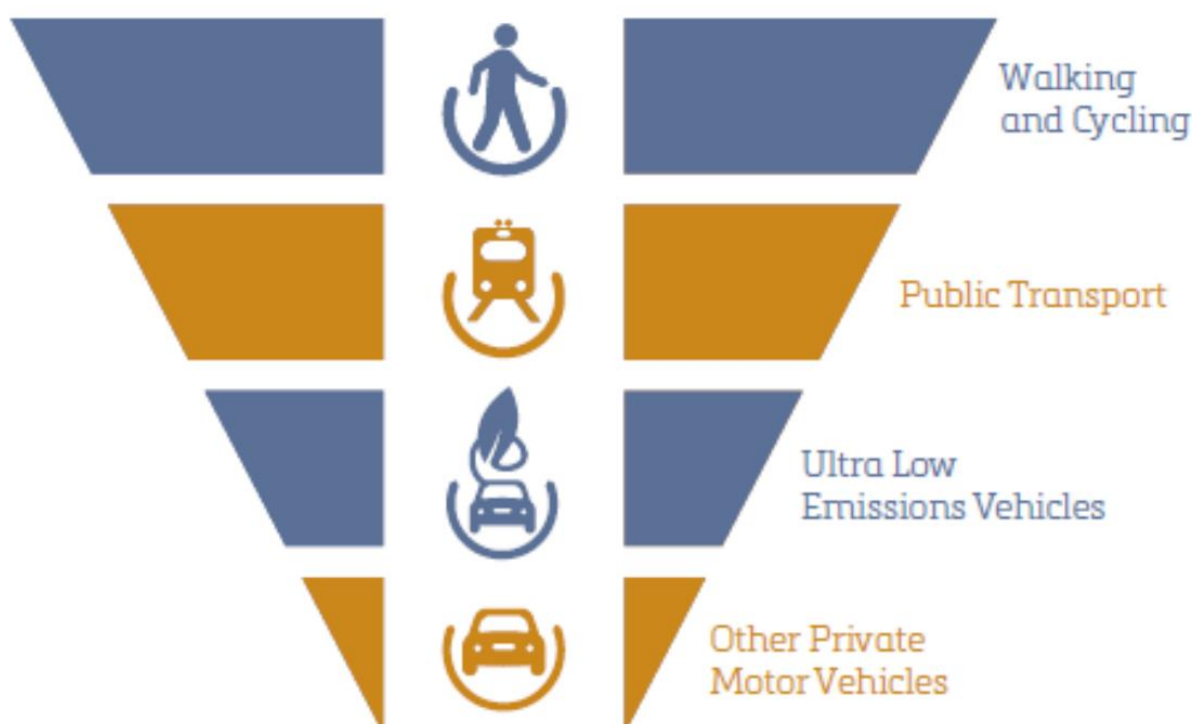
Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government (WG). It outlines how the WG's commitments to sustainable development can be integrated into the planning system. The document is supplemented by topic based Technical Advice Notes (TANs), with TAN 18: Transport of particular note.

Edition 10 of PPW is a completely revised version that specifically considers the vision of Wales in which the WG seeks to obtain according to the Well-being of Future Generations Act. This act sets out the following seven key overall objectives that will improve the well-being of people in Wales: a more prosperous Wales, a resilient Wales, a healthier Wales, a more equal Wales, a Wales of more cohesive communities, a Wales of vibrant culture and a globally responsible Wales.

The revised document references the aim to extend the choice in transport and secure accessibility in a way which supports sustainable development and helps to tackle the causes of climate change and improve well-being. This is achievable through promoting the use of more sustainable (public transport) and healthy forms of travel (cycling and walking), of which Travel Planning can assist.

Figure 8 (as replicated in **Figure 2-1**) of PPW provides a sustainable transport hierarchy for consideration within the planning system, which identifies active modes as the most important mode of travel.

Figure 2-1 - The Sustainable Transport Hierarchy for Planning (PPW Edition 10)



2.2.2. TAN: 18 Transport

TAN 18: Transport describes how an efficient and sustainable transport system is a requirement for a modern, prosperous and inclusive society. The Welsh Government has a statutory duty towards sustainable development. TAN 18 describes how the Welsh Government intends to integrate land use and transport planning in order to achieve their outcomes with regard to climate change. The integration of land use planning can help achieve positive sustainable development outcomes by ensuring new development is located where it is accessible by public transport, walking and cycling.

The development will be supported by a Transport Statement (TS). A TS is considered to be a simplified version of a Transport Assessment (TA), which is used where it is considered that a full TA is not required.

2.2.3. Wales Transport Strategy

The Wales Transport Strategy (WTS) was published in 2010 and is a statutory strategy required by the Transport (Wales) Act. The WTS sets out how it is intended to achieve the social, economic and environmental outcomes of the Welsh Government, including improving links and access between key settlements and sites across Wales.

Planning Policy Wales and the WTS both aim to secure the provision of transport infrastructure and services, which improve accessibility, build a stronger economy, improve road safety and foster more sustainable communities. This includes:

- Integration of transport and land use planning;
- Integration between different types of transport; and
- Integration of transport policy with policies for the environment, education, social justice, health, economic development and wealth creation.

2.2.4. The National Transport Plan (NTP) (2015)

The NTP focuses on delivering five key priorities;

- Economic Growth;
- Access to Employment;
- Tackling Poverty;
- Sustainable travel and safety; and
- Access to services.

The NTP looks to encourage safer, healthier and more sustainable travel. It sets out specifically how the Welsh Government will deliver in those areas of transport for which it is responsible, to achieve the outcomes set out in the Wales Transport Strategy from 2015 and beyond.

2.2.5. Active Travel (Wales) Act 2013

This world first Act makes it a legal requirement for Welsh Local Authorities to build and improve walking and cycling infrastructure every year. It creates new duties for highway authorities to make special considerations for walking and cycling as modes of travel and to provide a safer and more effective network. The Act also requires the Welsh Government and the Local Authorities in Wales to promote walking and cycling as modes of travel.

Through connecting residential developments, with other areas such as workplaces, via active travel routes, the Act encourages people to travel by modes other than single-occupancy cars.

Newport City Council has established a network of existing route maps (ERM) and has to submit a set of integrated network maps (INM) to Welsh Government by September 2017. The ERMs are:

- Bettws ERM;
- Caerleon ERM;
- Castleton and Marshfield ERM;
- Newport Central and North ERM;
- Newport South East ERM;
- Newport South West ERM; and
- Rogerstone ERM.

Of particular note, the Newport South West ERM incorporates the area to the east of the proposed development. The availability of non-motorised infrastructure is discussed further in Section 3.3.

2.3. Regional Policy

2.3.1. Cardiff Capital Region – Powering the Welsh Economy 2015

This document sets out the future strategy for the Cardiff Capital Region which incorporates the ten Local Authorities in south east Wales. The strategy is centred on the three key principles of increasing connectivity, skills, and innovation / growth.

In terms of transport, the strategy document sets out the need for the Cardiff Capital Region to have an effective integrated transport system that allows for the seamless flow of people and goods. This vision is centred on the creation of a South Wales Metro (an integrated multimodal public transport network) which will contribute to provide regular sub 45-minute journeys to the urban centres of Cardiff and Newport from the Valleys.

As part of the plan, there is set to be a Metro line linking to Celtic Springs from Llanwern (via Newport).

2.4. Local Policy

2.4.1. Newport Local Development Plan: January 2015

The Newport City Council LDP was adopted in January 2015 and seeks to set Newport at the centre of regeneration, being a focus for economic growth, strengthening the surrounding region. Of particular note, the LDP seeks to target the number of redundant sites within the Authority; including the location of the proposed development.

Objective 3 of the LDP sets out Newport City Council's aspirations to enable a diverse economy that meets the needs of the people of Newport and those of the wider South East Wales region. This objective is supported by the provision of employment land to be developed in order to increase job numbers within the Authority by 7,400 during the Plan period.

Policy T5 within the LDP highlights a number of safe walking and cycling routes that will continue to be developed and protected. Of particular note, both the National Cycle Route 4 and National Coastal Route 88 (both within the vicinity of the proposed development) have been highlighted as important active routes to sustain.

The LDP also sets out the requirements for all developments to provide appropriate levels of parking (Policy T4), in line with the adopted parking standards (discussed in Section 2.4.4).

2.4.2. Newport City Council Local Transport Plan: January 2015

The Transport Act 2000 (amended by the Transport Wales Act 2006) requires Newport City Council to produce a Local Transport Plan (LTP) every five years and keep it under review. The document sets out the local transport issues that Newport City Council seeks to address in line with the Cardiff Capital Region vision. This plan sets out the short term improvements up until 2020 and the longer term aspirations up until 2023.

Although Sewta has now been disbanded, the LTP has adopted much of the objectives set out in the RTP. In addition, the LTP sets out its support for the South Wales Metro scheme and sets out the Glan Llyn development as a beneficial and advantageous regeneration site.

In particular, the LTP highlights the priority areas defined by the Welsh Government. These are:

- Support economic growth and safeguard jobs across Wales, but with a particular focus on the City Regions, Enterprise Zones and local growth areas;
- Reduce economic inactivity by delivering safe and affordable access to employment sites across Wales;
- Maximise the contribution that effective and affordable transport services can make to tackling poverty and target investment to support improvements in accessibility for the most disadvantaged communities; and
- Encourage safer, healthier and sustainable travel.

2.4.3. City Wide Transport Strategy for Newport: Strategy Refresh 2011

The 2004 Newport City Wide Transport Strategy outlined a 15 year plan to provide transport infrastructure to support the regeneration of Newport City Centre in response to a decline in the manufacturing sector, which had previously underpinned Newport's development.

The vision set out in the Transport Strategy is 'to support the development of Newport as a destination of choice for employment, education, retail and leisure through the provision of a transport network that provides opportunities to travel by the most appropriate mode'.

Newport City Council includes the following as key to achieving their vision:

- To introduce sustainable forms of transport with an image consistent with a major new urban regeneration initiative;
- To develop a safe, convenient, efficient and attractive environment for walking and cycling;
- To establish an attractive, safe and convenient public transport network; and
- To use new information and communication technologies to support changes in travel behaviour.

2.4.4. Newport City Council Parking Standards: August 2015

The SPG document 'Parking Standards' was adopted in August 2015 and applies to all categories of development that require planning permission. It provides supporting information to policies set out in the LDP in order to provide sufficient parking to avoid the need for vehicles to park on-street and thereby cause congestion, danger and visual intrusion.

The SPG provides parking guidelines on the basis of Parking Zones and land use classifications. The proposed development lies within Zone 5 – Countryside, which is described areas with few local facilities within walking distance with transport services less than hourly to one district centre and although there is no shortage of land within the site for parking, adjacent highway system offers limited opportunities to park.

B8 Storage and Distribution falls within the Wholesale warehousing land use of the parking standards that apply are as follows:

- Operational provision is 1 space per 500m²
- Non-operational provision Nil;
- 5% of the non-operational parking provision should be for disabled blue badge holders;
- 5% of non-operational provision should be provided for motor-cycle users;
- Minimum operational vehicle area equating to 10% of the GFA of the development.

2.4.5. Sustainable Travel Supplementary Planning Guidance: July 2020

Cycle parking requirements for new developments and associated land uses are set out within the SPG document 'Sustainable Travel' adopted in July 2020. For the 'industry' land use, the following minimum cycle provision should be provided:

- Long Stay – 1 stand per 4 staff; and
- Short Stay – 1 stand per 20 staff.

The number of staff to be employed on-site at any given time and the required number of cycle parking spaces in line with these standards are set out within Chapter 4.

Baseline Conditions

3. Baseline Conditions

3.1. Introduction

This Chapter provides an overview of the existing conditions including a description of the existing site, as well as consideration of the transport infrastructure and conditions in the vicinity of the site. It also reviews personal injury accident data in the locality.

3.2. Existing Site and Location

The proposed development site is situated within Imperial Park, which is a large business park / industrial estate comprising of a variety of uses, such as offices (including a Research and Development Centre), production units, manufacturing and warehousing operations and a large data centre¹. The park is located approximately three miles south-west of Newport City Centre, in the Marshfield electoral ward which is under authority of Newport City Council. Imperial Park is considered to be an appropriate location for the type of development proposed.

Figure 3-1 provides an aerial overview of the proposed development site, as well as an indicative boundary for the Imperial Park.

Figure 3-1 - Site Location



¹ <http://www.newport.gov.uk/en/Business/Property-and-sites/Imperial-Park.aspx>

3.3. Surrounding Road Network

In the vicinity of the site, there are a combination of local, principal and strategic roads. The proposed site is bound to the west and north by North Lake Drive and to the east by South Lake Drive. To the west, North Lake Drive connects to the A48 via Dyffryn Lane and Celtic Way. To the east, North Lake Drive connects to the A48 via Imperial Way and Pencarn Way. The A48 is a principal route that provides connections to the strategic highway network at Junction 28 of the M4, approximately 1km to the north and the St Mellons junction of the A48 5km to the south west.

Figure 3-2 – Surrounding Road Network



Base Map: Image courtesy of Ordnance Survey, © 2020 TomTom © HERE

Photo C: Image Capture: May 2016 © 2020 Google, **Photo D:** Image Capture: May 2019 © 2020 Google, **Photo E:** Image Capture: May 2016 © 2020 Google, **Photo F:** Image Capture: May 2018 © 2020 Google, **Photo G:** Image Capture: May 2016 © 2020 Google, **Photo H:** Image Capture: Jul 2019 © 2020 Google, **Photo I:** Image Capture: May 2019 © 2020 Google, **Photo J:** Image Capture: May 2019 © 2020 Google, **Photo K:** Image Capture: Mar 2017 © 2020 Google

3.3.1. North Lake Drive/Site Access Road

The new North Lake Drive link is approximately 450m in length and provides a new connection between the Imperial Way and Dyffryn Lane. From the South Lake Drive/ Celtic Way/ North Lake Drive roundabout, North Lake Drive runs north/ south along the western boundary of the application site. At the site's north western corner, North Lake Drive runs east/west to the Imperial Way/ South Lake Drive/ North Lake Drive roundabout. It is an unadopted single lane carriageway road within footway on both sides of the carriageway and uncontrolled crossing points in the form of dropped kerbs and tactile paving at strategic points along its length. The majority of the road has double yellow lined parking restriction, it is street lit and it is also subject to a 30mph speed limit. North Lake Drive and the Site Access are shown in Figure 3-2 as **Photographs A and B**.

3.3.2. Celtic Way

Celtic Way runs north-south to the west of the proposed development. It is a purpose-built single-carriageway business park / industrial estate road that provides access to the existing NDG facility (located to the northwest of the proposed development). It links via roundabouts with the A48 in the north and Dyffryn Lane in the south.

The majority of the road has double yellow lined parking restrictions, however there are sections that do not have any restrictions. Celtic Way is street lit and is subject to a 40mph speed limit. Celtic Way is shown in Figure 3-2 as **Photographs C and D**.

3.3.3. Dyffryn Lane

Dyffryn Lane is a short dual carriageway road that links the south-western end of South Lake Drive with the southern end of Celtic Way. It is subject to a 30mph speed limit and is approximately 125m in length. Dyffryn Lane is shown in Figure 3-2 as **Photograph E**.

3.3.4. South Lake Drive

South Lake Drive runs from the east of the proposed development to the south-west of the site. It is approximately 700m in length and links the Imperial Way roundabout in the north-east with the Dyffryn Lane roundabout in the south-west. It provides access to a number of existing facilities and un-developed plots of land. The road is single carriageway in its entirety and has double yellow lined parking restrictions for approximately 220m south of the Imperial Way roundabout. It is subject to a 30mph speed limit. South Lake Drive is shown in Figure 3-2 as **Photograph F**.

3.3.5. Imperial Way

Approximately 300m in length, the single carriageway Imperial Way links South Lake Drive to Pencarn Way and the wider highway network. The road is subject to a 30mph speed limit and is street lit along its entirety. There are parts of the road where double yellow lines are present; however, much of the road is used as parking by employees at employment facilities in the eastern part of Imperial Park. Imperial is shown in Figure 3-2 as **Photograph G**.

3.3.6. Pencarn Way

Pencarn Way is a single carriageway distributor road that connects the A48 with the Dyffryn area of Newport. Approximately 450m south-east of the A48 a four-arm roundabout is formed between Pencarn Way and Imperial Way. The road is subject to a 30mph restriction and is street lit.

On the northern side of the road, there is a shared use foot and cycle way. This infrastructure is supplemented by tactile paving and dedicated crossings at appropriate locations. There are also two bus stops on the road in both directions. Pencarn Way is shown in Figure 3-2 as **Photographs H and I**.

3.3.7. A48

Linking to the wider strategic highway network, the A48 is a key route linking Newport with the wider region. The road links to junction 28 (J28) of the M4 approximately 1.5km to the north of the proposed development and provides access from the motorway to Imperial Park. Between Imperial Park and the M4 J28, the A48 is dual carriageway, primarily subject to a 40mph speed limit and street lit. On this stretch of the A48, there are junctions with both Pencarn Way (signalised crossroad) and Celtic Way (roundabout), both of which can be utilised to access the proposed development. The A48 is shown in Figure 3-2 as **Photographs J and K**.

3.4. Site Accessibility by Active Travel and Public Transport

Figure 3-3 presents a review of the accessibility to the development by non-car modes i.e. walking, cycling and public transport.

Figure 3-3 – Site Accessibility by Active Travel (Walk/ Cycle) and Public Transport



3.4.1. Existing Pedestrian Facilities

Figure 3-3 illustrates:

- The pedestrian catchment areas of 500m, 1km and 2km in each direction from the proposed site access;
- The 1km catchment encompasses existing residential and retail areas;
- The main walking route (South Lake Drive) has a good-quality footway on either one or both sides of the carriageway; and
- Dropped kerbs are available, however, crossing points are only present at junctions.

3.4.2. Existing Cycling Facilities

Figure 3-2 also shows:

- National Cycle Route 88 provides a connection between Pencarn Way and the St Mellons area of Cardiff in the west, using a combination of on and off-road cycle paths; and
- National Cycle Route 4 runs along Pencarn Way and is part of a long-distance route running between Fishguard and London, through the centre of Newport.

3.4.3. Existing Public Transport Facilities

There are a number of public transport facilities also highlighted in Figure 3-3:

- There are eight bus stops located within a 500m walking catchment of the proposed development;
- The closest bus stops to the development are located on Pencarn Way, on the main road outside the business park. These are shelters;
- There is no bus or rail station in close proximity to the site, as the site is on the outskirts of Newport. However, bus connections are available.
- A summary of the local bus routes in the vicinity of the application site are shown below:

Service X15 (Stagecoach) - Brynmawr - Newport

- Mon – Fri: Approx. 1 service per hour
- Saturday: Approx. 1 service per hour
- Sunday: Approx. 1 service per hour

35/36 (Newport Bus) - Newport – Duffryn Circular via Docks Way, Cardiff Road

- Mon – Fri: Approx. 1 service every 2 hours
- Saturday: 1 service every 2 hours
- Sunday: 2 services per day

3.5. Accident History

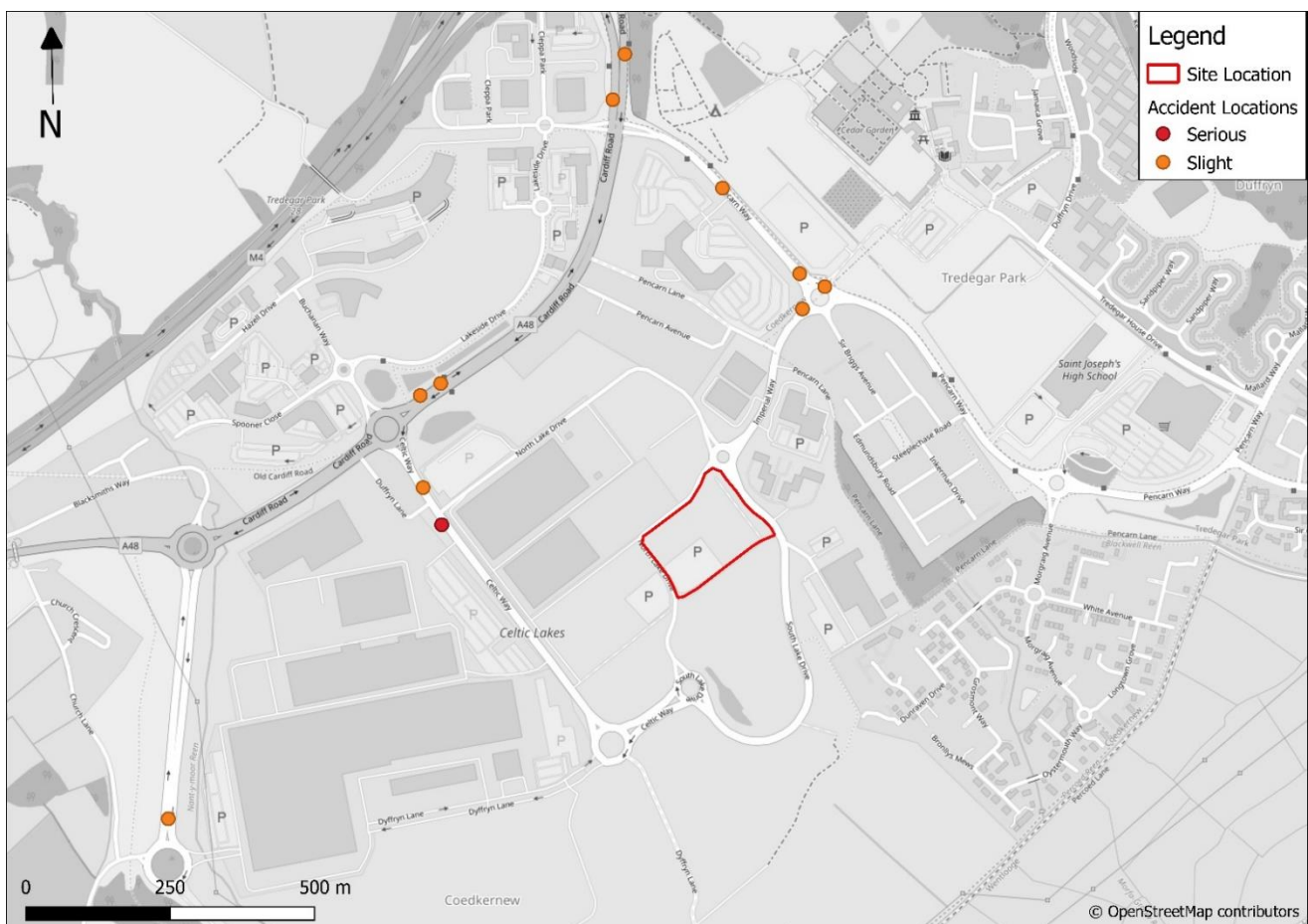
Atkins has undertaken a review of Crash Map Information to ascertain the number and type of road traffic collisions in the vicinity of the proposed development. Collisions which have occurred on the local highway network in the vicinity of the development (excluding M4) over the most recent five year period (2014-2018) are summarised in **Table 3-1**.

Table 3-1 - Accident History Summary

Location	Accident Severity				No. of Injuries
	Fatal	Serious	Slight	Total	
Local Road West (north of Church Lane)	0	0	1	1	1
A48 (northwest of Celtic Way)	0	0	0	0	0
A48 (northeast of Celtic Way)	0	0	2	2	2
A48 (northeast of Pencarn Way)	0	0	2	2	2
Celtic Way	0	1	1	2	2
Pencarn Way	0	0	4	4	5
Total	0	0	10	11	12

Figure 3-4 provides a general indication of the location of the collisions outlined in Table 3-1.

Figure 3-4 - Local Accident Locations



The results presented in Table 3-1 and Figure 3-4 show that no fatal accidents have occurred in the vicinity of the proposed site, although there was a serious accident recorded on Celtic Way and the remaining accidents being slight in severity.

Development Proposals

4. Development Proposals

4.1. Introduction

This Chapter of the report will provide details of the proposed development. It includes a brief description of the proposed facility, the means of access, the number of staff and the shift patterns they will work, as well as the proposed parking provision. The Chapter will also set out the anticipated trip generation associated with the development proposal.

4.2. Development Description

The site was previously developed and comprises areas of hardstanding and scrubland, it is approximately 2.5 hectares in size.

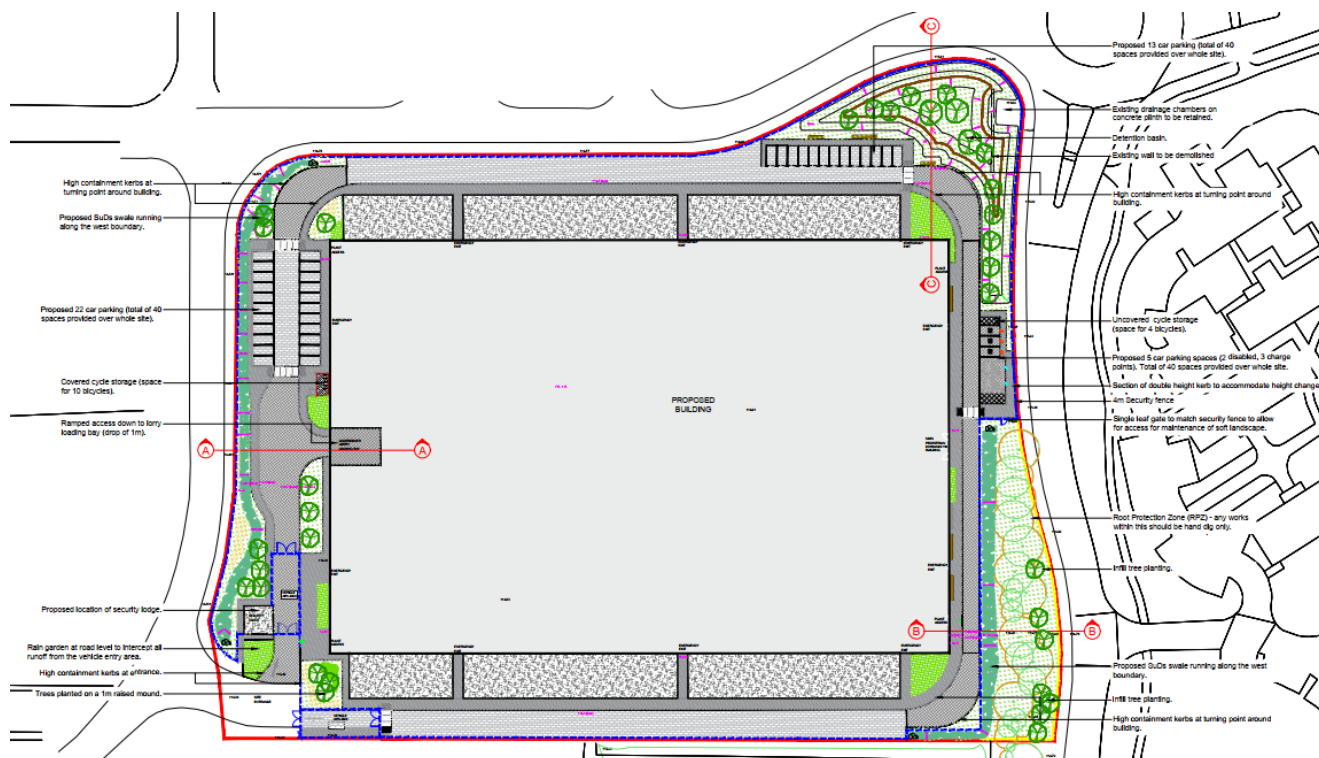
The proposed development comprises a two-storey data centre building containing 10 data halls for the storage of data servers, support rooms and ancillary office space. The data halls will be used to house server racks for the storage of customer data.

The building will have a GFA of 25,500m² which would be split between B8 storage and warehousing use class for data halls and plant space (24,000m²), and B1c use class for ancillary office space (1500m²). The ancillary office space would be in occasional use by a small number of staff and customer operatives.

The building will be 19.6m in height, 142m in length and 100m wide. The proposals include 60 standby generators for use during a national grid failure, with 30 located along the north elevation of the building and 30 along the south. 10 flues will extend 1m above the top of the building to 20.6m.

The building will be operational 24 hours a day seven days a week, although the majority of staff will be on-site during core / standard working hours (between 8am and 6pm, Monday – Friday). The proposed site layout is illustrated in **Figure 4-1** with a detailed plan provided at **Appendix C**.

Figure 4-1 - Proposed Site Layout



4.3. Access

Access/egress to the facility will be achieved via a priority junction with North Lake Drive that has already been constructed. Both the priority junction access and North Lake Drive were recently constructed by the Welsh Government. The design standards applied to the road included both Design Manual for Roads & Bridges (DMRB) and Manual for Streets (MfS), although the MfS standards were used for the proposed geometry and visibility. The speed limit of North Lake Drive is 30mph. The visibility splay at the access junction accords with MfS and is therefore in-line with Annexe B Table B of Technical Advice Note 18 (TAN 18).

To the south of the site, North Lake Drive connects with Celtic Way and South Lake Drive via a 3-arm priority-controlled roundabout and to the north, it connects to Imperial Way and South Lake Drive via a 4-arm priority-controlled roundabout.

The site will operate a one-way system with both entrance and exit points being controlled via the security gatehouse which will be manned 24/7. Both entry and exit points will connect to the access stub leading from the priority junction with North Lake Drive. Vehicles will be admitted to the site via a two-stage gated 'airlock' and this is designed to ensure that sufficient space is accommodated for a 6-axle articulated lorry to wait off of the highway and site access, avoiding obstructions to traffic and visibility on the site access. . Internal crossing points and footways are provided along key desire lines with formal marked crossing points beside each of the car/ cycle parking areas.

The recently constructed site access onto the new section of North Lake Drive is shown in **Figure 4-2**.

Figure 4-2 - Recently Constructed Site Access (left) and Proposed One-way System (right)



4.4. Waste and Servicing Arrangements

It is proposed that all servicing or delivery vehicles will access/ egress the site in forward gear via the proposed site accesses.

Delivery and service vehicles will be scheduled within normal hours of operation at the proposed site.

4.4.1. Waste and Servicing Type and Frequency

It is expected that deliveries to the sites will be facilitated by a range of vehicles including a 40-tonne articulated vehicle, rigid HGV and smaller box van delivery vehicles.

Waste collections will be undertaken by a medium sized refuse vehicle (10m length) and the frequency of the refuse collection will be agreed with the local authority.

Additional specialist waste collection services will be required infrequently to facilitate the proposed data centre to operate. A timeframe for specialist waste collection will be agreed with the site occupier and private contractors prior to site occupation.

Where possible vehicles accessing the site will be managed and allocated time slots to limit any potential impact upon the local highway network.

Table 4-1 shows the anticipated delivery schedule associated with both sites.

Table 4-1 - Anticipated Service Vehicle Schedule

Service Vehicle Type	Vehicle Type	Service Schedule
Waste Collection (General Waste)	10m Rigid	Weekdays Only
Deliveries	15.5m Articulated Lorry	Infrequent
	Rigid HGV	Monthly
	Box Van, Small Van	Weekly

4.4.2. Waste and Service Vehicle Access and Routing

It is proposed that the servicing for the data centres will be within the site and access from the local highway network will be via the proposed access off North Lake Drive. All waste and servicing vehicles will access and egress the site in forward gear. Delivery and service vehicles can approach North Lake Drive from either the west via the A48/ Celtic Way/ Dyffryn Lane or the east via A48/ Pencarn Way/ Imperial Way.

4.5. Removals

Any major transport event e.g. removals/ refurbishment will be managed/ scheduled to avoid inconvenience to the general public. The occupier will liaise with the local highway authority in the event of any prolonged activity at the development.

4.6. Refuse Disposal

Refuse bins will be located within internal storage areas of the site. Refuse collection will be undertaken within the internal service area and collected weekly.

4.7. Development Trip Attraction

4.7.1. Comparable Type Sites

Given the unique nature of this development as a data centre, there are no direct comparison sites within the TRICS database.

In absence of the typical TRICS methodology, Atkins has applied a first principles approach based on employee numbers and similar types of developments within the UK and Ireland to determine the likely trip generations associated with the development proposals. A summary of these applications is provided in **Table 4-2**.

Table 4-2 - Data Centre Developments Summary

Development Location	Location	Development Size	Total No. of Staff	AM Peak Hour		PM Peak Hour	
				Arr	Dep	Arr	Dep
NGD DC2	UK	21,747 m ²	30	50 Arrivals (Daily) 50 Departures (Daily)			
Crawley	UK	25,000m ²	90	90	20	20	90
Maydown, Derry (Site 1)	UK	33,060m ²	25	19	6	6	19
Maydown, Derry (Site 2)	UK	43,102m ²	25	19	6	6	19
Ballykelly	UK	25,000m ²	50	38	9	14	24
Microsoft – Dublin	Ireland	51,000m ²	50	75		60	
Interxion – Dublin	Ireland	5,500m ²	20	20	5	5	20
CyrusOne – Dublin	Ireland	35,500m ²	128	102	46	40	96
EdgeConnex – Dublin	Ireland	1,500m ²	23	17	5	5	17

Development Location	Location	Development Size	Total No. of Staff	AM Peak Hour		PM Peak Hour	
				Arr	Dep	Arr	Dep
Google - Dublin	Ireland	30,000m ²	95	55 Arrivals (Daily) 55 Departures (Daily)			

This type of development typically generates low levels of visitor numbers, particularly during peak periods and as demonstrated in Table 4-2, trip generations for this type of development are typically based on the number of staff likely to be on-site at any given time. The relevant extracts from similar data centre applications is provided at **Appendix D**.

4.7.2. Trip Generation Methodology

The building will have a maximum occupancy of approximately 40 staff, although it is anticipated that there will be a core team made up technical support team and the customer's operatives, who will be present on site during the standard working hours. Based on the applicant's current staff working arrangements, approximately 50% of the core staff will be employed at the site, whilst 50% will work part-time or full-time with occasional trips to the site.

A small team of maintenance staff and site security staff will work shifts throughout the day and night.

Therefore, the total anticipated number of staff for the on-site at any given time for the development proposals are as follows:

- Core Team Staff (Technical support and customer operatives): approx. 20
- Daily Maintenance Staff/ Security Staff: approx. 5; therefore
- **Total Daily Staff:** **approx. 25.**

Based on a review of similar types of developments within the UK and Ireland which have derived trip generations on the basis of staff, it is assumed that 75% of staff arrive and 25% depart during the AM peak hour and during the PM hour; 25% of staff arrive and 75% depart.

In order to provide a robust assessment of the trip generations associated with the development proposals, no allowance has been made for car sharing, it has been assumed that each staff member/ visitor will travel to/from the site in their own car. It should also be noted that the development will operate on a 24hr basis.

4.7.3. Total Staff Vehicle Trip Generation

Based on the trip generation assumption set out above, the total anticipated vehicular trips associated with the proposed development (**25 staff**) during a Weekday AM and PM Peak hour are summarised in **Table 4-3**.

Table 4-3 - Total Staff Vehicle Trips

Peak Period	Trip Generation		
	Arrivals	Departures	Total
AM Peak Hour	19	6	25
PM Peak Hour	6	19	25

Table 4-3 has demonstrated that in total the proposed development could potentially generate **25** two-way vehicle trips during the AM and PM peaks.

4.7.4. Operational Trip Generation

It is anticipated that HGV trips to the site will be infrequent and are likely to be associated with refuse collection as noted in Table 4-1. As previously mentioned, servicing and delivery trips where possible, will be managed to arrive/ depart outside of peak times. However, for robustness, an allowance of 3 box van type deliveries during peak periods (3 arrivals and 3 departures) has been assumed.

4.7.5. Total Vehicle Trips

Table 4-4 sets out the anticipated total vehicle trips to the site during AM and PM peak hours based on staff and operation trips.

Table 4-4 - Total Development Two-Way Vehicle Trips

Peak Period	Weekday AM Peak Hour			Weekday PM Peak Hour		
	Arrival	Departures	Total	Arrival	Departures	Total
Staff Vehicle Trips	19	6	25	19	6	25
Operational Vehicle Trips	3	3	6	3	3	6
Total Vehicle Trips	22	9	31	22	9	31

The total of 31 two-way vehicle movements could be generated by the proposed development during the AM and PM peak hours.

4.8. Parking Requirement and Proposed Provision

As previously noted the development proposals will provide a GFA of 25,500m² which would be split between B8 storage and warehousing use class for data halls and plant space (24,000m²), and B1c use class for ancillary office space (1500m²). Given that the ancillary office space would be in occasional use by a small number of staff and customer operatives, the total parking requirement as per Newport City Council parking guidelines will be based on a GFA of 25,500 Class B8 storage and warehousing (Storage Warehouses)

Furthermore, the development proposals are located within 'Zone 5' (Countryside) as defined within the parking standards. Therefore, the in accordance with local parking standards, the maximum parking levels permitted by the development are set below:

Parking Requirements

- Operational: 51 spaces (1 space per 500m²)
- Non-operational: 0 spaces (Nil)

Due to the nature of the development proposals as a data centre, the parking standards which the land Class Use B8 fall under are not appropriate given how the site will operate.

Within the parking standards, non-operational spaces are defined as:

"Sufficient space to allow the maximum number and size of vehicles likely to serve the development at any one time and to manoeuvre with ease and stand for loading and unloading without inconvenience to vehicles and pedestrians on the public highway or to other users of the site. Space for staff cars which, by the nature of the business, is required for day to day operation, may also be included."

As noted, the development will have limited deliveries/ services on a daily basis and even fewer HGV trips to the site and therefore the requirement to provide 51 operational spaces for this type of operational use is considered excessive. Similarly, there is no requirement to provide non-operational spaces for staff/ visitors if explicitly applying the parking standards, although under the definition of non-operational spaces it does note that "space for staff cars which, by the nature of the business, is required for day to day operation, may also be included".

Therefore, based on local standards, the following parking is proposed on-site:

- 1 operational space for loading/ unloading;
- 40 non-operational spaces for staff car parking (35 standard spaces, 3 electric charge points and 2 disabled spaces); and therefore
- A total of 41 parking spaces will be provided on-site.

Given that the development proposals will have a maximum of 25 staff on-site at any given time, low level of levels of visitor trips and manageable numbers of delivery/ service vehicle to the site, the proposed parking provision of 41 spaces is considered appropriate and in line with the maximum parking standards.

To encourage travel to the site by active travel and public transport modes, a travel plan will be in operation on site (see Chapter 6) and approximately 14 cycle parking spaces will be provided. Furthermore, on-site changing/ shower facilities will be provided, flexible and remote working will be made available to staff, and the company takes part in the cycle to work scheme.

Framework Travel Plan

5. Interim Travel Plan

5.1. Introduction

A Travel Plan (TP) is a long-term management strategy for a development site which aims to minimise travel to and from the site by single-occupancy car trips. Principally, the TP aims to increase modal choice through the implementation of a package of measures and initiatives which are relevant to the proposed development.

This chapter sets out the types of measures and initiatives that could be included in a Travel Plan for the development proposals. However, it should be noted that for a number of staff it will be difficult to travel by public transport to the site as a result of the shift nature of the work, whilst there are limited residential properties within walking distance. Consequently, cycling and car sharing should be targeted as ways to reduce single-occupancy car trips.

5.2. Aims and Objectives

The key aims of this TP are to:

- Encourage sustainable travel to and within the site, whilst reducing single occupancy car use;
- Reduce the traffic generated by the development, compared to that which would be generated without the implementation of the TP; and
- Ensure deliveries / pick-ups are arranged away from the AM and PM weekday peak periods wherever possible.

In order to achieve these key aims, the specific objectives of the TP are:

- Provide flexible working arrangements to reduce the number of staff required to travel to the site;
- Maximise the proportion of staff travelling to the facility by sustainable modes of travel;
- Minimise the number of staff travelling to work by single-occupancy car; and
- Ensure operational movements are undertaken away from the AM and PM weekday peak periods.

5.3. Targets

Targets will be set in order to monitor whether the TP is meeting the above objectives. These targets should be 'SMART' in nature:

- **S**pecific, to say precisely what is being achieved;
- **M**easurable over the duration of the target;
- **A**ppropriate and linked the overall objectives of the local authority accessibility strategy;
- **R**ealistic in terms of the potential for being achieved; and
- **T**ime bound - the target.

A baseline travel survey will be undertaken within 3 months of site occupation in order to determine the mode share of staff at the development. This survey will ensure mode share targets can be set and will be used to assess the success of the TP during the annual monitoring surveys (outlined in Section 5.5).

5.4. Measures

In order to achieve the aims and objectives of the TP, a series of measures could be introduced. There are a wide range of measures that could be adopted at the proposed development to promote sustainable modes of travel. However, as the shift patterns at the facility restrict take up of bus travel and the lack of residential dwellings surrounding the development limit the number that could walk to the facility; increasing the number of staff cycling to work and car sharing will be key to the TP.

While measures could be introduced to encourage the use of all sustainable modes of travel, and to reduce single-occupancy car travel, the following measures have been identified to encourage cycling and car sharing:

- Flexible and remote working arrangements:
- Cycling:
 - Implementation of physical cycle measures, including cycle parking;
 - Promotion of showers, lockers and changing facilities for use by cyclists;
 - Development and provision of cycle maps and information;

- Cycle purchase incentives negotiated with cycling retailers; and
- The company takes part in the cycle to work scheme.
- Provision of electric vehicle charging points.

5.5. Action Plan

The measures for the TP should be detailed in an Action Plan. The Action Plan will show target dates and responsibility of delivery of the TP measures. It will also define the method of monitoring and the method of publicity for each method. The Action Plan will be made following occupation of the site.

5.6. Monitoring and Review

The TP will be updated each year and continually promoted to staff in order to discourage single-occupancy car use as far as practicably possible.

Following occupation of the site, NGD will appoint a Travel Plan Coordinator (TPC) development. Overall, it is anticipated that the position of the TPC will be undertaken in conjunction with other roles and responsibilities. It should be noted that this Travel Coordinator role can be undertaken by an individual or team within NGD and the decision on who undertakes the role of the TPC will be influenced by the anticipated workload and the availability of resources within the NGD.

The TPC will have the following responsibilities:

- Promoting and encouraging the use of modes other than the car, including publicity;
- Ensuring relevant information is provided to all staff and that information is clearly displayed and kept up to date; and
- Undertaking annual monitoring of the achievements of the TP against the agreed targets and objectives.

Annual employees' monitoring travel surveys will be undertaken to demonstrate progress in promoting sustainable transport measures. The first monitoring survey will be undertaken on the anniversary of the baseline travel survey. These surveys will be the responsibility of the appointed TPC.

Framework Construction Traffic Management Plan

6. Framework Construction Traffic Management Plan

6.1. Introduction

Until a Construction Contractor is appointed, information in relation to how the proposed construction phase of the development will be undertaken is limited. Nevertheless, this section provides some further information:

- Estimated length of construction Programme;
- Estimated typical daily construction staff numbers;
- Estimated typical daily construction vehicle numbers;
- Potential construction traffic routes and access points;
- Other local consideration; and
- Typical components of a Construction Traffic Management Plan.

6.2. Overview of the Construction Stage

It is anticipated that the construction will be undertaken in phases and last for approximately 2 years (likely to commence in June 2021 and be completed in late 2022).

Subject to further confirmation from the contractor (once appointed), it is estimated that in a worst-case scenario, there will be approximately 30 HGV deliveries to the site during peak construction period including 100 construction staff vehicles on-site. Given that construction staff generally work in crews and will arrive at site in vans mostly, this would equate to approximately 250 construction staff being on-site during the peak construction period.

It is anticipated that peak construction will occur during the Site Clearance phase and the concrete pouring phase, both are expected to last 6 weeks at a time and will not run concurrently. Therefore, during the 2-year (104 weeks) construction programme, only 12 weeks are likely to be considered peak.

Construction traffic levels during typical operations are expected to be notably lower than the peak construction traffic levels.

When preparing the Construction Traffic Management Plan, they will identify the on-site compound, staff parking areas and key access points and routes. However, it is expected that all HGVs will approach via the A48 and access/ egress the site via Celtic Way and no HGV access/ egress will be permitted via Pencarn Way or Imperial Way.

Cognisance has also been given to the client planning approval 20/0039 for an adjacent site for which construction will be underway during the construction of this site/ application. During peak periods, construction traffic associated with planning approval 20/0039 will equate to 20HGVs and 50 cars/vans per day during similar working hours (08:00-18:00).

The construction works for both sites will be scheduled to ensure that peak construction periods for both sites do not overlap and for the majority of the time.

It is therefore expected that construction traffic will not be a severe impact on the local highway network and any impacts associated with the construction phase will be temporary in nature.

6.3. Typical Components of Construction Traffic Management Plan

Once appointed, the contractor will take responsibility of the Construction Traffic management Plan (CTMP) and provide detailed/ specific information on the site and proposed operation during construction, this will include:

1. **Contractor Details:** This will identify the contractor responsible for undertaking and managing the construction works. Contact details for the Contractor will be clearly set out in this section.
2. **Introduction:** This will set out the overall objectives of the CTMP, the existing site and local context, development proposals and the structure of the report.
3. **Context, Consideration and Challenges:** This section will describe the local context and issues identified that need to be considered and addressed during construction. i.e. Policy, maps showing existing road

network (regional, local and site boundary). Considerations will also consist of local access including highway, public transport, cycling and walking.

4. **Construction Programme:** This will detail the phases of construction, length of phases and likely start and end dates. Information on the works involved in each construction phases along with an overview of how these will be managed/ controlled as well as potential vehicle types will be set out in this section.
5. **Vehicle Routing and Access:** This will map out the route's construction vehicles will follow to/ from the site (including regional, local and site boundary perspectives).
6. **Strategies to Reduce Construction Impacts:** This section will detail planned measures identified to help the contractor achieve the goals of the CTMP and better manage the challenges identified in the 'Context, Consideration and Challenges' section.
7. **Estimated Vehicle Movements:** This section will provide information on the number of vehicles that will access the site during each of the construction phases/ stages and identify peak periods and volumes.
8. **Implementing, Monitoring:** This will detail how the CTMP will be implemented, monitored and updated. For instance, it is likely to set out the role of the person who might collect data on number of vehicle movements to the site, potential breaches and complaints and safety statistics throughout the construction period of the site.

Summary and Conclusions

7. Summary and Conclusions

7.1. Summary

Atkins has been commissioned by NGD to provide traffic and transport consultancy services in relation to a full planning application for the development of a two-storey data centre building at Plot 4, Imperial Park, Marshfield, Newport.

The existing site is located in the south-east corner of Imperial Park, it was previously developed and largely comprises hardstanding area approximately 2.5 hectares in size. Imperial Park is located approximately three miles south east of Newport City Centre and it accommodates a number of industrial, distribution and office businesses.

In the vicinity of the site, there are a combination of local, principal and strategic roads. The proposed site is bound to the west and north by North Lake Drive and to the east by South Lake Drive. To the west, North Lake Drive connects to the A48 via Dyffryn Lane and Celtic Way. To the east, North Lake Drive connects to the A48 via Imperial Way and Pencarn Way. The A48 is a principal route that provides connections to the strategic highway network at Junction 28 of the M4, approximately 1km to the north and the St Mellons junction of the A48 5km to the south west.

The site has good accessibility by active travel and public transport modes:

- Along the site boundary, the newly constructed section of North Lake Drive there are pedestrian crossing points in the form of dropped kerbs and tactile paving along key pedestrian design lines;
- All local street surrounding the site and providing connection to the A48 have excellent footway provision and street lighting. Uncontrolled crossing points are provided at strategic locations throughout and there is controlled pedestrian crossing points on the A48 and Pencarn Way;
- Within a 1km walking distance of the site, there are schools, residential and retail areas;
- Within recommend National cycle route 4 and 88 as well as a number of active travel routes and on-road cycle routes within close proximity to the site;
- Within 400m there are a number of bus stops that provide hourly services to the local and wider areas;
- Within a 500m and 800m walking distance of the site, there are an additional 6 bust stops that further regular bus services.

Within the most recent 5-year period, road traffic accident data shows that no fatal accidents have occurred in the vicinity of the proposed site, although there was one serious accident recorded on Celtic Way and the remaining accidents being slight in severity.

Cognisance has been given to National, Regional and Local planning policy in the location and design of the development proposals.

The proposals will comprise a two-storey data centre building containing 10 data halls, plant rooms, support space, staff welfare facilities, meeting rooms and ancillary office space. The anticipated Gross Floor Area is circa 25,500m² which would be split between B8 storage and warehousing use class for data halls and plant space (24,000m²), and B1c use class for ancillary office space (1,500m²). The ancillary office space would be in occasional use by a small number of staff and customer operatives.

Access/egress to the facility will be achieved via a priority junction with North Lake Drive that has already been constructed. Both the priority junction access and North Lake Drive were recently constructed by the Welsh Government. The design standards applied to the road included both Design Manual for Roads & Bridges (DMRB) and Manual for Streets (MfS), although the MfS standards were used for the proposed geometry and visibility.

The site will operate a one-way system with both entrance and exit points being controlled via the security gatehouse which will be manned 24/7. Both entry and exit points will connect to the access stub leading from the priority junction with North Lake Drive. Vehicles will be admitted to the site via a two-stage gated 'airlock' and this is designed to ensure that sufficient space is accommodated for a 6-axle articulated lorry to wait off of the highway and site access, avoiding obstructions to traffic and visibility on the site access

HGV movements to the site are likely to be infrequent and daily vehicle movement to the site associated within servicing/ deliveries is expected to be minimal (approximately 3 arrivals per day). All HGVs and delivery/ servicing movements to the site will be managed to ensure these type of vehicle trips to/ from the site occur outside of peak operational and local highway peaks.

Although the building will have a maximum occupancy of approximately 40 staff, it is anticipated that a team of approximately 20 staff, made up technical support team and the customer's operatives, will be present on site

during standard working hours (between 8am and 6pm, Monday – Friday). A small team of maintenance staff and site security staff will work shifts throughout the day and night (circa 5 on site at any given time). Therefore, a total of 25 staff on-site at any given time.

The predicted vehicular trip generation associated with the proposal accounts for the number of staff based at the site and that the low number of visitors anticipated. Using supporting trip generation data from similar type sites throughout the UK and Ireland, it is anticipated the proposals will generate approximately 25 two-way staff vehicle trips during the AM and PM peak periods. Including service/ delivery vehicle trips, the overall two-way vehicle trips generated by the site during these peak periods is predicted to be 31.

Local maximum parking standards highlighted that the development could provide up-to 51 spaces on-site. In accordance with local minimum cycle parking standards, the proposal required to provide 10 secured and covered cycle spaces (long stay) and 2 easily accessible spaces (short stay).

Based on staff numbers and local guidance, the proposal will provide the following parking on-site:

- 1 operational space for loading/ unloading;
- 40 non-operational spaces for staff car parking (35 standard spaces, 3 electric charge points and 2 disabled spaces)
- 10 long stay cycle parking spaces; and
- 4 short stay cycle parking spaces.

A Travel Plan will be implemented on-site to encourage active travel and travel by public transport to the site. However, given the low number of staff to be on-site and the needs of the business, it is anticipated that travel plan measures should focus on flexible working arrangements and cycling.

NGD will appoint one of their staff to undertake the role of Travel Plan Coordinator development and it is expected that this will be undertaken in conjunction with other roles and responsibilities.

The TPC will have the following responsibilities:

- Promoting and encouraging the use of modes other than the car, including publicity;
- Ensuring relevant information is provided to all staff and that information is clearly displayed and kept up to date; and
- Undertaking annual monitoring of the achievements of the TP against the agreed targets and objectives.

Once a construction contractor is appointed, will take ownership of the Framework Construction Traffic Management Plan set out within this report and development it further to provide specific detail on the construction operation/ phase of development. It is anticipated that the construction will be undertaken in phases over a period of approximately 2 years (likely to commence in June 2021 and be completed in 2022).

It is anticipated that peak construction will occur during the Site Clearance phase and the concrete pouring phase, both are expected to last 6 weeks at a time and will not run concurrently. Therefore, during the 2-year (104 weeks) construction programme, only 12 weeks are likely to be considered peak.

During the peak construction periods, it is estimated that in a worst-case scenario, there will be approximately 30 HGV deliveries to the site during peak construction period with 100 construction staff vehicles on-site.

Cognisance has also been given to the construction of planning approval 20/0039 and therefore peak construction periods will be programmed so there is no overlap. The cumulative impact of both schemes are expected, for the majority of the works, be similar to typical construction periods. Construction impacts will be temporary in nature and will not have a severe impact on the local highway network.

7.2. Conclusions

The TS has shown that the proposed scheme will redevelop an existing brownfield site located on a business park / industrial estate. The development site provides good access to the local, principal and strategic highway network and will be accessed via an existing junction within a purpose-built industrial estate road. The development will be supported by a Travel Plan which will target flexible/ remote working and cycling as realistic alternatives to single occupancy car trips.

The assessments undertaken demonstrate that the development proposal will not have any significant adverse impacts and should be considered acceptable in terms of highway planning policy.

Appendices

Appendix A. Redline Boundary

100
0 10
Millimetres

GENERAL ARRANGEMENT KEY

- Red Line Boundary - Client ownership
- Proposed Contours for Drainage Features
- Permeable paving - vehicular permeable paving sub base to engineer's specification
- Permeable paving - vehicular permeable paving sub base to engineer's specification
- Vehicular Tarmac Sub-base to engineer's specification
- Concrete pad foundations to security lodge & generators to engineer's specification
- Blister Warning Paving to Road Crossings

- Bollards - PAS 68 to parking bays Stainless steel
- Bollards - Static Stainless steel
- Bollards - Removable Stainless steel
- Fixed benches Timber and stainless steel
- Stainless steel Sheffield cycle stands building entrance
- Boulders for SuDS inlet erosion control - rough sizes to be cut and detailed at later design stage but approximately 300-500mm diameter.
- Thermoplastic Road Markings

- Double leaf gate to main site entrance, exit & maintenance access - 4m high, stainless steel, Colour - Black.
- Proposed 4m high Secure Fence Colour - black
- Proposed 1.8m high Fence to eastern Site Boundary Colour - black
- Proposed 1.2m high post and rail fence
- Existing Trees Retained*
- Proposed Trees
- Root Protection Areas

- Proposed Native Shrub Planting
- Proposed Rain Garden Planting
- Proposed Swale Planting
- Proposed Species Rich Grassland
- Proposed Bulb Planting
- Existing Levels
- Proposed Levels

*Locations based on Arboricultural Survey Drawing number: 5197838-ATK-BHM-ARB001

DO NOT SCALE

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:

CONSTRUCTION

MAINTENANCE/CLEANING

DECOMMISSIONING/DEMOLITION

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement

To be read in conjunction with drawings:
DC3-ATK-XX-XX-DR-L-9300 - Softworks
DC3-ATK-XX-XX-DR-L-9450 - Site Sections
DC3-ATK-XX-XX-DR-L-9500 - Fencing Detail

High containment kerbs at turning point around building.
Proposed SuDS swale running along the west boundary.

Proposed 22 car parking (total of 40 spaces provided over whole site).

Covered cycle storage (space for 10 bicycles).

Ramped access down to lorry loading bay (drop of 1m).

Proposed location of security lodge.

Rain garden at road level to intercept all runoff from the vehicle entry area.

High containment kerbs at entrance.

Trees planted on a 1m raised mound.

Proposed 13 car parking (total of 40 spaces provided over whole site).

Existing drainage chambers on concrete plinth to be retained.

Detention basin.

Existing wall to be demolished

High containment kerbs at turning point around building.

Uncovered cycle storage (space for 4 bicycles).

Proposed 5 car parking spaces (2 disabled, 3 charge points). Total of 40 spaces provided over whole site.

Section of double height kerb to accommodate height change

4m Security fence

Single leaf gate to match security fence to allow for access for maintenance of soft landscape.

Root Protection Zone (RPZ) - any works within this should be hand dig only.

Infill tree planting.

Proposed SuDS swale running along the west boundary.

Infill tree planting.

High containment kerbs at turning point around building.

P01	23/10/20	Stage 2 For Planning	CMS	EW	WR
Rev.	Date	Description	By	Chk'd	App'd

Drawing Status	FOR INFORMATION	Suitability	SO
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Client	

NEXT GENERATION DATA

Project Title	Data Centre Three
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Drawing Title	LANDSCAPE GENERAL ARRANEMENT PLAN
---------------	--------------------------------------

Scale	1:500	Designed	AB	Drawn	CMS	Checked	EW	Authorised	WR
Original Size	A1	Date	23/10/2020	Date	23/10/2020	Date	23/10/2020	Date	23/10/2020

Drawing Number	DC3-ATK-XX-XX-DR-L-9100	Revision	P01
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Appendix B. Scoping Correspondence with Local Highway Authority

Murtagh, Rory

From: Murtagh, Rory
Sent: 29 September 2020 15:48
To: Anna.Griffiths@newport.gov.uk
Cc: Carl.Jones@newport.gov.uk; Matthew.McEwan@newport.gov.uk; Noutch, Benjamin; Larkins, Sam
Subject: Proposals for a Data Centre at Imperial Park, Newport - Transport Statement Scoping
Attachments: DC3-ATK-01-SI-DR-AR-021001 Proposed Site Plan WIP.pdf

Hi Anna,
We're supporting Vantage (formerly NGD) with a forthcoming planning application for a New Data Centre at Imperial Park, Celtic Way, Marshfield, Duffryn, Newport (site location map attached)

Atkins issued a pre-application advice request to Morgan Howell on the 24th September 2020 and through further discussions with Morgan, your contact details were provided.

I'm therefore sending you through our proposed methodology (see below) for the Transport Statement that we are preparing in support of this application.

Hopefully you're available to discuss/ agree the scope of this report and I've also cc'd in Carl and Matthew who my colleague Sam has liaised with in the past on other schemes.

Development Proposals

The site is previously developed and comprises areas of hardstanding and scrubland, it is approximately 2.5 hectares in size.

The proposals will comprise a two-storey data centre building containing 10 data halls, plant rooms, support space, staff welfare facilities, meeting rooms and ancillary office space.

The anticipated GFA is circa 25,500m² which would be split between B8 storage and warehousing use class for data halls and plant space (24,000m²), and B1c use class for ancillary office space (1500m²).

The data halls will be used to house server racks for the storage of customer data.

The ancillary office space would be in occasional use by a small number of staff and customer operatives.

Although the building will have a maximum occupancy of approximately 40 staff, it is anticipated that a team of approximately 20 staff, made up technical support team and the customer's operatives, will be present on site during standard working hours (between 8am and 6pm).

A small team of maintenance staff and site security staff will work shifts throughout the day and night (circa 5 on site at any given time).

Approximately 40 onsite car parking spaces will be provided.

Proposed Transport Statement Methodology

Given the type of development and its proposed location within an established industrial park, we proposed to undertake an Transport Statement in accordance with national, regional and local policy guidance

A summary of the methodology is outlined below:

1. Introduction

- Provide details on project background, site location and report structure

2. Policy

- We will review current National and Local transport policies and the current guidance notes applicable to the development.

3. Existing Site Conditions

- Overview of the existing conditions including
 - A description of the existing site;
 - Review of surrounding:
 - highway network;
 - Public Transport; and
 - Active Travel (Walking and cycling).
 - Injury accident data (from 'Crashmap') in the locality

4. Proposed Development

- Provide details of the proposed development including:
 - Brief description of development proposals;
 - Access arrangements;
 - the number of staff and the shift patterns they will work,
 - Proposed parking provision;
 - Servicing arrangements;
- Set out the anticipated trip generation associated with the development proposal

5. Framework Travel Plan

- In line with local and national policy we propose to prepare a Chapter setting out a Framework Travel Plan to support the development proposals.
- The FTP will include;
 - Travel Plan Aims, Objectives and Targets;
 - Travel Plan Measures and Action Plan;
 - Monitoring, Evaluation and Review.

6. Framework Construction Traffic Management Plan

- This Chapter will set out the overarching themes that the Contractor (once appointed) should include within their Construction Traffic Management Plan, such as:

- Contact Details and Responsibilities (Client, Consultant, Staff, Contractor etc);
- Construction Programme;
- Routing and access;
- Strategies to reduce construction Impacts;
- Estimated Vehicle Movements; and
- Implementation and monitoring.
- Where possible, this chapter will provide information on construction programme, routing and construction vehicle numbers. However, this Construction Traffic Framework Plan will need to be taken forward and developed further by the Contractor (once appointed). They will take ownership of and add specific detail of the site and proposed operation.

7. Summary and Conclusions

Please could you advise if the above is acceptable.

Happy to discuss and if you require additional information please let me know.

Best Regards,

Rory

Rory Murtagh *MSc CMILT*
 Senior Transport Planner, Transportation
 UK & Europe
 Engineering, Design and Project Management

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PS 20 0130

Land South of Unit 3 The Courtyard, Imperial Park, Coedkernew, Newport
Pre application planning enquiry for proposed two storey data hall building
for a mix of B8 and B1 office and storage use, including access roads, roof
top AHU's and emergency generators

Date Out: 08 October 2020

Highway Officer: Anna Griffiths

I refer to the above planning application ref PS 20 0130 which was received on 30 September 2020.

The site is located off the roundabout junction at Salt Lake Drive and Imperial Way, with industrial and commercial (offices) developments surrounding the site to the east and north-west. The Proposed Site Plan ref C3-ATK-01-SI-DR-AR-021001 Rev P1 shows the red line boundary of the site adjoining the roundabout but does not provide details of access to the site, which should be submitted for approval with any full application. The applicant will be required to apply for a S278/111 agreement in order to carry out any works within the adopted highway. The proposal does not give rise to capacity issues associated with the local highway network.

The Proposed Site Plan ref C3-ATK-01-SI-DR-AR-021001 Rev P1 shows an internal access road providing circulation around the building which appears to be acceptable. Further details and additional detailed drawings which should include operational requirements for servicing purposes and sufficient space to allow servicing vehicles to both enter and leave the curtilage of the premises' servicing area in a forward gear will be required.

The application proposes a data storage building with 24 000m² B8 storage and warehousing use class for the data halls and plant space and 1 500 m² B1c use class for ancillary office space and is located in Parking Zone 5 Newport City Council SPG Parking Standards (August 2015). The B8 use requires 10% of the GFA operational area and 1 non-operational space per 80m² for the distribution element of the business. There is zero requirement for non-operational parking for the storage element of the proposal. The B1c office use requires 1 parking space per 40m².

The applicant would generally be required to provide a parking layout for the development showing an acceptable level of parking to comply with the parking standards. However, recent planning application adjacent to this site 20/0039 for the erection of 4no three-storey data centre buildings comprising B8 use and ancillary B1 use was approved with a lower level of parking provision to reflect the unique organisational procedures and staffing levels required at the site. The Pre App Letter provides a table comparing the current proposals with the recently approved data centre.

The building will accommodate a maximum occupancy of 40 staff with approximately 40 non-operational parking spaces including accessible bays, electric car charging bays, motorcycle and cycle parking facilities which is likely to be acceptable when compared to the parking provision of 29 non-operational spaces for 30 staff approved on application 20/0039 for which supporting information was provided to mitigate the reduction. If this application were to be submitted as a full application, the applicant would be required to provide a detailed parking layout plan and further information in regard to the maximum levels of employment at this site to justify the reduction in parking provision.

There are significant parking issues in this area and it is essential that the parking provision proposed for the development must not result in any overspill. Application 20/0039 made reference to the NGD site and the availability of a 175 space car park for use as overflow and a similar facility should be provided for this proposal. A parking survey, which provides evidence to demonstrate that available/overspill parking can be accommodated will be required.

Any reduction in the parking provision reduction due to the specialist use of the site should be conditioned to the use of the site specifically for data storage and not to be used for general office space, storage and distribution.

To support the planning application, the applicant proposes to submit a Planning Statement, Design and Access Statement, Pre-application Consultation Report and Transport Statement; including Construction Traffic Management Plan and Travel Plan. Generally, a Transport Assessment would be required for a site of this size, however, as the use is not a common B8 use, generating low levels of operational vehicle movements, a Transport Statement will be acceptable.

I would therefore offer an objection to this pre-application on highway grounds as there is currently a failure to provide suitable information regarding the level and layout of parking and details of access to the site to make an assessment. However, I would be prepared to revise this decision if additional information regarding access and parking were submitted.

Appendix C. Proposed Site Layout

100
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Millimetres

GENERAL ARRANGEMENT KEY

- Red Line Boundary - Client ownership
- Proposed Contours for Drainage Features
- Permeable paving - vehicular permeable paving sub base to engineer's specification
- Permeable paving - vehicular permeable paving sub base to engineer's specification
- Vehicular Tarmac Sub-base to engineer's specification
- Concrete pad foundations to security lodge & generators to engineer's specification
- Blister Warning Paving to Road Crossings

- Bollards - PAS 68 to parking bays Stainless steel
- Bollards - Static Stainless steel
- Bollards - Removable Stainless steel
- Fixed benches Timber and stainless steel
- Stainless steel Sheffield cycle stands building entrance
- Boulders for SuDS inlet erosion control - rough sizes to be cut and detailed at later design stage but approximately 300-500mm diameter.
- Thermoplastic Road Markings

- Double leaf gate to main site entrance, exit & maintenance access - 4m high, stainless steel, Colour - Black.
- Proposed 4m high Secure Fence Colour - black
- Proposed 1.8m high Fence to eastern Site Boundary Colour - black
- Proposed 1.2m high post and rail fence
- Existing Trees Retained*
- Proposed Trees
- Root Protection Areas

- Proposed Native Shrub Planting
- Proposed Rain Garden Planting
- Proposed Swale Planting
- Proposed Species Rich Grassland
- Proposed Bulb Planting
- Existing Levels
- Proposed Levels

*Locations based on Arboricultural Survey Drawing number: 5197838-ATK-BHM-ARB001

DO NOT SCALE

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:

CONSTRUCTION

MAINTENANCE/CLEANING

DECOMMISSIONING/DEMOLITION

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement

To be read in conjunction with drawings:
DC3-ATK-XX-XX-DR-L-9300 - Softworks
DC3-ATK-XX-XX-DR-L-9450 - Site Sections
DC3-ATK-XX-XX-DR-L-9500 - Fencing Detail

High containment kerbs at turning point around building.
Proposed SuDS swale running along the west boundary.

Proposed 22 car parking (total of 40 spaces provided over whole site).

Covered cycle storage (space for 10 bicycles).

Ramped access down to lorry loading bay (drop of 1m).

Proposed location of security lodge.

Rain garden at road level to intercept all runoff from the vehicle entry area.

High containment kerbs at entrance.

Trees planted on a 1m raised mound.

Proposed 13 car parking (total of 40 spaces provided over whole site).

Existing drainage chambers on concrete plinth to be retained.

Detention basin.

Existing wall to be demolished

High containment kerbs at turning point around building.

Uncovered cycle storage (space for 4 bicycles).

Proposed 5 car parking spaces (2 disabled, 3 charge points). Total of 40 spaces provided over whole site.

Section of double height kerb to accommodate height change

4m Security fence

Single leaf gate to match security fence to allow for access for maintenance of soft landscape.

Root Protection Zone (RPZ) - any works within this should be hand dig only.

Infill tree planting.

Proposed SuDS swale running along the west boundary.

Infill tree planting.

High containment kerbs at turning point around building.

P01	23/10/20	Stage 2 For Planning	CMS	EW	WR
Rev.	Date	Description	By	Chk'd	App'd

Drawing Status	FOR INFORMATION	Suitability	SO
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Client	
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Project Title	Data Centre Three
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Drawing Title	LANDSCAPE GENERAL ARRANEMENT PLAN
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Scale	1:500	Designed	AB	Drawn	CMS	Checked	EW	Authorised	WR
Original Size	A1	Date	23/10/2020	Date	23/10/2020	Date	23/10/2020	Date	23/10/2020

Drawing Number	DC3-ATK-XX-XX-DR-L-9100	Revision	P01
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In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement

[illegible]

P3	23/10/20	Issued for Planning	JS/ SFM	LB	NS
P2	06/10/20	Stage 2 Architectural Design Freeze	JS/ SFM	LB	NS
P1	21/09/20	Issue for Pre-Application Meeting	JS	LB	JP
Rev.	Date	Description	By	Chk'd	App'd

FOR PLANNING

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Next Generation Data (DC3)

THE DATA CENTRE SUPER POWER

Data Centre Three

PROPOSED SITE PLAN (ROOF PLAN)

Scale 1 : 500	Designed LB	Drawn JS	Checked LB	Authorised NS
Original Size A1	Date 18/19/20	Date 18/19/20	Date 21/09/20	Date 21/09/20
Drawing Number DC3-ATK-01-Z0-DR-AR-021003				Revision P3

Atkins Project Number: 5197938

Appendix D. Previous Data Centre Planning Applications

3. Operation

3.1. Employment and anticipated trip generation

The B8 use would comprise data halls which would store data on IT equipment and would not generate the quantity of employees per m² as a typical B8 warehouse/storage development. The proposed office floorspace (B1c) would generate employment quantities typical of B1c office development. Once operational, the proposed data centre will support approximately 30 full-time equivalent jobs. This encompasses technical, administrative, maintenance, estates and security employees. Some shift working will be required to maintain operations and provide 24-hour security; however, the majority of staff will work a standard 8-hour day.

Visitors to the site will be infrequent due to the strict security requirements in place for accessing the site. Due to the nature of customers and the service provided, customer visits to the site would be infrequent. No large scale meeting rooms are proposed as part of the development, as the existing NGD data centre at the adjacent site has a conference centre and meeting rooms which would be shared by the proposed development.

HGV movements will be significantly lower than a typical B8 warehouse use. Once operational HGV movements would be required for infrequent replacements of large plant or equipment. The number of HGV movements is anticipated to be negligible, with less than 1 HGV delivery per day predicted on average.

The majority of vehicle movements generated will be predominantly comprised of employees accessing the site at the start and end of shifts. 29 parking spaces are proposed. As a worst-case 100 vehicle movements per day are anticipated. Trip analysis has not been undertaken due to the low numbers of vehicle movements anticipated to arise from the proposed data centres.

It is considered that the local road network has sufficient capacity to accommodate the anticipated vehicle movements during operation, as confirmed by NCC Highways in their consultation dated 30/06/2020.

Proposed Data Centre - Crawley

Proposed Traffic Generation

- 5.12 Based on our discussions with the operator it is anticipated that a maximum of 45 staff would be anticipated at each of the data centres at any one time. This would be between the hours of 9am and 5pm.

- 5.13 In order to ensure a robust assessment it has been assumed that 45 employees will arrive and 10 employees will depart each of the data centres during the Weekday AM peak hour of 08:00 – 09:00. Conversely, during the Weekday PM peak hour of 17:00 – 18:00, it has been assumed that 10 employees will arrive and 45 employees will depart each of the data centres.

Project Merin, Transport Statement
X:\Projects\1300000\131001 - Project Merin\WORK\02- MM Transport Statement Report Final 130523.docx
May 2019



- 5.14 For the purpose of the comparison it is assumed that all of the employees will arrive and depart the data centres by single occupancy car journey. However, the use of sustainable modes of travel to the site will be encouraged through the implementation of the Travel Plan.

- 5.15 The proposed traffic generation is summarised in Table 5.3.

Table 5.3: Proposed Traffic Generation – Both Data Centres

	Weekday AM Peak (08:00-09:00)			Weekday PM Peak (17:00-18:00)		
Proposed Trips	90	20	110	20	90	110

Proposed Data Centre -Maydown, Derry (LA11/2019/0431/O)

Proposed Staff/Visitors

The proposed development is likely to operate 24 hours a day. Security, control room and admin staff will be required to be on-site throughout the 24-hour period, other maintenance staff and visitors will be on-site infrequently throughout the day.

The anticipated number of staff and visitors at the whole development will be:

- Daily Security/ Admin staff - approx. 30;
- Daily Maintenance Staff/Visitors - approx. 20; therefore
- Total Daily Staff/Visitors - approx. 50.

6.3. Total Trip Generation

The total anticipated trips associated with the proposed development are summarised in Table 6-2:

Table 6-2 - Total Development Two-Way Vehicle Trips

Peak Period	Time	Trip Generation		
		Arrivals	Departures	Total
Eastern Site				
AM Peak	07:30-08:30	10	8	25
PM Peak	16:30-17:30	6	19	25
Western Site				
AM Peak	07:30-08:30	10	6	25
PM Peak	16:30-17:30	6	19	25
Total Development				
AM Peak	07:30-08:30	38	12	50

Table 6-2 has demonstrated that in total the proposed development could potentially generate 50 two-way vehicle trips during the AM Peak and 50 two-way vehicle trips during the PM Peak.

In order to provide a robust assessment of the trip generations associated with the development proposals, no allowance has been made for car sharing. It has been assumed that each staff member/visitor will travel to/from the site in their own car. It should also be noted that the development will operate on a 24hr basis and staff will work shift patterns and therefore not all staff will be on-site at any one time and shift will be staggered to ensure that shift change overs do not occur at peak times.

Proposed Data Centre - Ballykelly (LA01/2018/1190/O)

Table 4.5 – Proposed Trip Rates and Number of Trips

Peak	TRICS	Arrivals Trip Rate	Departures Trip Rate	Arrivals Trips	Departures Trips
AM	Mean	0.355	0.106	18	5
	85th Percentile	0.369	0.139	38	9
PM	Mean	0.075	0.334	4	17
	85th Percentile	0.280	0.480	14	24

Proposed Data Centre - Microsoft Dublin (SD07A/0632)

Operational Phase

6.5.4 General

Operational staff at the proposed facility will follow a shift system with approximately 50 members of staff present during weekday shifts and 20-25 present during weekend shifts.

Along with the permanent members of staff, it is anticipated that approximately 10 visitors will arrive to the site daily, with between 10-15 deliveries taking place daily during weekdays and slightly less during weekends.

Based on a Gross Floor Area (GFA) of approximately 51,000m², the site could be provided with up to 1,275 parking spaces under the B1 use class. It is proposed to provide a total of 80 parking spaces. This level of parking represents a large reduction from the maximum parking ratio to a level of 1 space/637.5 m². This level of parking will be sufficient to cater for all arrivals to the site.

6.5.5 Operational Traffic Volumes

Traffic Flows Generated by Proposed Data Centre

Based on employee numbers and work shift patterns, Tables 6.1 and 6.2 outline the weekday and weekend traffic that will be generated by the site as follows:

Table 6.1: Traffic generation of proposed site - Weekdays

Shift	Staff	Visitors	Deliveries	Total
Day: 07:30-15:30	50	10	10-15	75
Evening: 15:30-23:30	50	5	5	60
Night: 23:30-07:30	50	0	0	50

Table 6.2: Traffic generation of proposed site - Weekends

Shift	Staff	Visitors	Deliveries	Total
Day: 07:30-15:30	20-25	10	10-15	50
Evening: 15:30-23:30	20-25	5	5	35
Night: 23:30-07:30	20-25	0	0	20-25

For the purpose of traffic impact assessment, it is assumed that all employees will travel to the facility by car, with no car sharing taking place and each car having an occupancy of 1. Whilst this is unlikely, it represents a worst case scenario. The existing public transport network and the proposed improvements would serve to encourage modal shift to non-car modes. It is also assumed that the peak AM and PM traffic times occur between 07.30 – 09.30 and 16.30-18.30

Proposed Data Centre - EdgeConnex Dublin (SD17A/0141)

4.2.3 Trip Generation

In order to understand the expected trip generation of the data centre suitable assumptions have been made on the level of staff associated with the proposed development, based on information provided by EdgeConnex. Appropriate estimates have been made, where necessary, in order to provide a robust analysis of the impact of traffic associated with the proposed development on the local road network.

The predicted level of staffing requirements at the facilities previously permitted under SD16A/G214, SD16A/G345 and SD17A/G027 are shown in Table 5 below.

Pinnacle Consulting Engineers Limited
P170101 - Grange Castle Data Centre (EDCCUB03) - Transport Assessment
Version No. 0



Weekday Trip Generation	Normal Working Hours (08:00 – 18:00)	Outside of Normal Working Hours (18:00 – 08:00)
Operations Staff	7	3
Customer Service Staff	8	0
Security Staff	2	2
Total	17	5

Table 2 Predicted staffing requirements of EdgeConnex Data Centre including extension

The newly proposed data hall will require a maximum of three operational staff per day, and one security guard. 2 deliveries a week are expected. The predicted level of staffing requirements for the proposed development is shown in Table 6 below.

Weekday Trip Generation	Normal Working Hours (08:00 – 18:00)	Outside of Normal Working Hours (18:00 – 08:00)
Operations Staff	2	1
Customer Service Staff	0	0
Security Staff	1	1
Total	3	2

In terms of traffic, the most significant adverse effect of the development would be if all daytime staff arrived at the site during the AM peak hour and leave the site in the PM peak hour, whilst those working outside of normal working hours do the opposite. Whilst this is unlikely to happen in reality, this is the scenario which will be used to determine the traffic impact of the proposed development, in order to ensure a robust assessment.

Additionally, it is assumed that all staff will travel by car, with an occupancy rate of 1 per vehicle. Again this is unlikely in reality, but will provide a robust assessment.

A small number of deliveries such as post, couriers, IT equipment and general office supplies will be required during the operational phase of the proposed development. Although these are likely to be made at various times throughout the day, a small number of deliveries have been assumed in each of the peak hours, as a worst case scenario.

Whilst provision would be made for customer service staff at the proposed data centre, this service will be undertaken via telephone / remote IT support, without the need for regular visitors to the site. It is therefore assumed that no visitors will require access to the site in the AM or PM peak hours.

Table 8 below indicates that the previously permitted EdgeConnex Data Centre including extension is forecast to generate 42 two-way vehicular trips in the AM peak hour and 30 in the PM peak hour.

	AM Peak Hour (08:00 - 09:00)			PM Peak Hour (17:00 - 18:00)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
Operations Staff	7	3	10	3	7	10
Customer Service Staff	8	0	8	0	8	8
Security Staff	2	2	4	2	2	4
Deliveries	10	10	20	4	4	8
Total	27	15	42	9	21	30

Table 8 Predicted net traffic generation for EdgeConnex Data Centre including extension

Proposed Data Centre - Google Dublin (SD14A/0023)

6.4.3 Operational Phase

Subject to planning permission, it is envisaged that the proposed development will be operational in 2015.

Following consultation with SDCC, operational access for the proposed development is proposed via the Baldonnell Road improvement scheme and access road to their proposed Milltown Business and Technology Park. The proposed development site is located at the eastern end of the proposed Milltown Business and Technology Park access road.

The proposed development will have a total of 95 staff, with a maximum number of 60 staff on-site at any one time. Approx. 45 staff will have an 8.00 a.m. to 5.00 p.m., Monday to Friday, working week. The remaining 50 staff will work a 12-hour rotating shift, operated on a 24-hours a day, seven days a week basis. Each day, 12 staff will work a 12-hour shift from 7.00 a.m. to 7.00 p.m., and 12 staff will work a 7.00 p.m. to 7.00 a.m. 12-hour shift.

Accordingly, a maximum of 69 day and 12-hour shift staff will be working during each 24-hour period.

It is envisaged that staff travel modes will generate a trip generation rate of 0.8 car trips per person, on the conservative assessment assumption that a small proportion of staff will travel to and from work by non-car modes (i.e. walking, cycling and public transport) and that a small proportion of staff will car pool.

On this basis, staff will generate a total of 55 inbound and 55 outbound car and other light vehicle trips, during each 24-hour daily period.

It is envisaged that the majority of staff trips will be generated to and from the east, via Nangor Road and Baldonnell Road. It is envisaged that a small proportion will travel via the R120.

No staff trips will be generated during the morning peak hour, from 8.00 to 9.00 a.m., recorded on the local road network. Day staff will arrive prior to 8.00 a.m., and generate 36 car and other light vehicle trips. During 2015, this will result in an approximate 1.7% increase in junction traffic volumes at the Nangor Road/Baldonnell Road junction, assuming 60% of staff travel via the junction. It is envisaged that the junction will continue to operate within practical capacity, during the period immediately prior to the morning peak hour, with the proposed development in place, as the foregoing analysis of the existing junction without the proposed development, indicates a highest RFC of 0.765 during the morning peak hour.

Day staff will depart after 5.00 p.m., during the evening peak hour, and generate 36 car and other light vehicle trips. During 2015, this will result in an approximate 1.8% increase in junction traffic volumes at the Nangor Road/Baldonnell Road junction, assuming 60% of staff travel via the junction. It is envisaged that the majority of these outbound departures will be right-turn traffic. Baldonnell Road to Nangor Road, which will increase the highest junction RFC on a pro-rata basis, by less than 1.8%.

Both the total inbound and total outbound day-staff vehicle trips equate, respectively, to approx. 1.1% of the link capacity of the R136 Outer Ring Road in any one direction. Accordingly, the R136 Outer Ring Road will continue to operate well within its link capacity with the proposed development in place. The proposed peak staff trips will increase the link volume/capacity ratio from 41.1%, to approx. 42.2%, in 2015, assuming a robust 100% of peak trips in one direction.

During 2015, day-staff peak trips will increase peak hour junction traffic volumes at the R136 Outer Ring Road/Baldonnell Road Link junction by approx. 1.2%, assuming a robust 80% of staff travel via the junction. This will increase the highest RFC at the junction, from 0.502 to approx. 0.514, in 2015, and 0.622 to approx. 0.634, in 2030. Accordingly, the junction will continue to operate well within capacity, with the proposed development in place.

Proposed Data Centre - CyrusOne Dublin (SD18A/0134)

Trip generation

13.37 In order to understand the expected trip generation of the data centre suitable assumptions have been made on the level of staff associated with the proposed development, based on information provided by CyrusOne. Appropriate estimates have been made, where necessary, in order to provide a robust analysis of the impact of traffic associated with the proposed development on the local road network. The predicted level of staffing requirements at the facility is shown in Table 13.7 below.

Table 13.7 Predicted staffing requirements of CyrusOne Data Centre – Operation Phase

Staff	Normal Working Hours (08:00 – 17:30)	Outside of Normal Working Hours (17:30 – 08:30)
Data Centre	32	18
Offices	30	20
Total	62	38

Traffic generation – Operation phase

13.38 In terms of traffic, the most significant adverse effect of the proposed development would be if all daytime staff arrived at the site during the AM peak hour and leave the site in the PM peak hour, whilst those working outside of normal working hours do the opposite. Whilst this is unlikely to happen in reality, this is the scenario which will be used to determine the traffic impact of the proposed development, in order to ensure a robust assessment.

13.39 Additionally, it is assumed that all staff will travel by car, with an occupancy rate of 1 per vehicle. Again, this is unlikely in reality, but will provide a robust assessment.

13.40 A small number of deliveries such as post, couriers, IT equipment and general office supplies will be required during the operational phase of the proposed development. Although these are likely to be made at various times throughout the day, a small number of deliveries have been assumed in each of the peak hours, as a worst-case scenario.

13.41 Similarly, visitors to the Data Centre and Offices will be spread throughout the day, a small number of these have been assumed in the peak hours, as a worst-case scenario.

Merion Planning Consultancy
April 2019

13.42 Table 13.8 below indicates that the proposed development is forecast to generate 148 two-way vehicular trips in the AM peak hour and 136 in the PM peak hour.

Table 13.8 Predicted traffic generation CyrusOne Data Centre – Operation Phase

	AM Peak Hour (08:00 - 09:00pm)			PM Peak Hour (08:00 - 09:00pm)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
Data Centre	60	20	80	20	60	80
Offices	3	3	6	2	2	4
Deliveries	5	5	10	2	2	4
Visitors	5	5	10	2	2	4
Total	102	46	148	40	66	136

Proposed Data Centre - Interxion Dublin (SD15A/0034)

provided by Interxion. Appropriate estimates have been made, where necessary, in order to provide a robust analysis of the impact of traffic associated with the proposed development on the local road network. The predicted level of staffing requirements at the facility is shown in Table 12.4 below.

Table 12.4 Predicted staffing requirements of Interxion Data Centre

Weekday Trip Generation	Normal Working Hours (08:00 – 18:00)	Outside of Normal Working Hours (18:00 – 08:00)
Operations Staff	8	3
Customer Service Staff	10	0
Security Staff	2	2
Total	20	5

Traffic generation

In terms of traffic, the most significant adverse effect of the proposed development would be if all daytime staff arrived at the site during the AM peak hour and leave the site in the PM peak hour, whilst those working outside of normal working hours do the opposite. Whilst this is unlikely to

Planning Consultancy
February 2016

happen in reality, this is the scenario which will be used to determine the traffic impact of the proposed development, in order to ensure a robust assessment.

Additionally, it is assumed that all staff will travel by car, with an occupancy rate of 1 per vehicle. Again this is unlikely in reality, but will provide a robust assessment.

A small number of deliveries such as post, couriers, IT equipment and general office supplies will be required during the operational phase of the proposed development. Although these are likely to be made at various times throughout the day, a small number of deliveries have been assumed in each of the peak hours, as a worst case scenario.

Whilst provision would be made for customer service staff at the proposed data centre, this service will be undertaken via telephone / remote IT support, without the need for regular visitors to the site. It is therefore assumed that no visitors will require access to the site in the AM or PM peak hours.

Table 12.5 below indicates that the proposed development is forecast to generate 35 two-way vehicular trips in the AM peak hour and 29 in the PM peak hour. This is not a significant level of traffic and equates to a vehicle movement approximately every 2 minutes in each of the peak hours.

Table 12.5 Predicted traffic generation Interxion Data Centre

	AM Peak Hour (08:00 – 09:00)			PM Peak Hour (17:00 – 18:00)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
Operations Staff	8	3	11	3	8	11
Customer Service Staff	10	0	10	0	10	10
Security Staff	2	2	4	2	2	4
Deliveries	5	5	10	2	2	4
Total	25	10	35	7	22	29

Traffic distribution

It is expected that the origins and destinations of traffic to/from the proposed development will be similar to the distribution of traffic currently accessing Grange Castle Business Park. The assumed distribution is summarised as follows:

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