

The Duke A38, Burton-upon-Trent,  
Staffordshire, DE14

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**Standard Life**  
Investments

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This report has been produced by Harold Whitehead and Partners, a management consultancy firm established for over 80 years with specific relevant expertise in a wide range of supply chain management areas.

The findings, analysis and conclusions contained within this report represent an objective and independent view of the property.

Further information is available at [www.hwp.co.uk](http://www.hwp.co.uk)

# 1 Property Summary

The building totals 28,120sq.m and briefly comprises warehouse, two storey offices, additional warehouse staff facilities (hub offices) and secure service yard on a site of approximately 14.9 acres.

The property was constructed during 2007/8 and has remained unoccupied since completion. The premises have planning consent for B1, B2 & B8 uses (Light industrial, general industrial and warehouse & distribution).

## 1.1. Warehouse

The main warehouse totals 26,638sq.m, with a minimum clear height of 12m at the haunch. Construction is 3 bay steel portal frame, with two rows of supporting columns (on a 'hit and miss' basis) within the warehouse. The floor is designed to accommodate a UDL of 50kNm<sup>2</sup> and point loads of at least 10t. The floor benefits from a power floated finish and is in excellent condition throughout.

The building lends itself to a variety of storage layouts including both wide and narrow aisle applications. The floor specification (Concrete Society Technical Report 34, FM2) currently satisfies wide aisle operations and could accommodate a very narrow aisle (VNA) arrangement, subject to a satisfactory profilograph survey.

The warehouse benefits from 10% roof-lights and curtain walling to gable end elevations which introduce significant amounts of natural light to the building.

Access to the warehouse is via the service yard to the South East elevation of the building by a combination of 4 level access doors (4m wide by 5m high) and 24 dock doors (2.4m wide by 3m high). Dock height is set at 1,200mm and each door is electrically operated and provided with an integral shelter, traffic lights, vehicle wheel guides and internal & external operations lighting.

## 1.2. Service Yard & Car Parking

The building has a secure service yard to the rear, with a single point of control provided by gates at the Northern corner of the site. The yard has an operational depth of 50m enabling comfortable manoeuvring and parking of articulated goods vehicles with 13.6m trailers. The yard is provided with a good standard of lighting (50 lux) to enable safe operation during hours of darkness.

Parking for 56 trailers is available in the main service yard, with an additional 28 spaces available in front of the loading doors, giving 84 spaces in total. A further 90 car parking spaces are also available within the service yard.

Additional secure car parking is provided to the front of the building for office based staff, comprising 194 car parking spaces plus 11 spaces for disabled users. This provision should be adequate for the majority of occupiers. Peaks in car parking requirements (for example at shift changeovers) may be overcome by staggering shift start times, if required.

### **1.3. Main Offices**

A two story office block is located to the front of the building, constructed outside of the main warehouse envelope. The office and welfare facilities total 1,400sq.m. split equally between ground floor and first floor levels.

Ground floor accommodation consists of visitor's reception, open plan offices with accompanying male, female & disabled WC, kitchenette, cleaners' cupboard and sink. Access to the first floor is provided by both a lift and staircase.

First floor accommodation mirrors that of the ground floor.

The offices are provided with outlet boxes and risers to enable the occupier to install IT and telephony cabling to their own specific requirements. Lighting is to LG3 specification with Cat 2 louvres for the safe use of computer screens.

### **1.4. Hub Offices**

Additional two storey accommodation is provided for warehouse staff in the North West corner of the warehouse totalling 81sq.m with views across the service yard.

The ground floor comprises open plan offices with male, female & disabled WC plus shower facilities. The office area is fitted with perimeter trunking for installation of data and telephony cabling. The first floor is fitted out as a mess-room with fitted kitchen units and vinyl flooring.

## 2 Travel Time Isochrones

The building is very well located from a transport network perspective, being located on the A38 close to its intersection with the A50, which provide access to the M1, M6 and M6 Toll. The following pages show travel time isochrones for primary and secondary distribution fleets from the property.

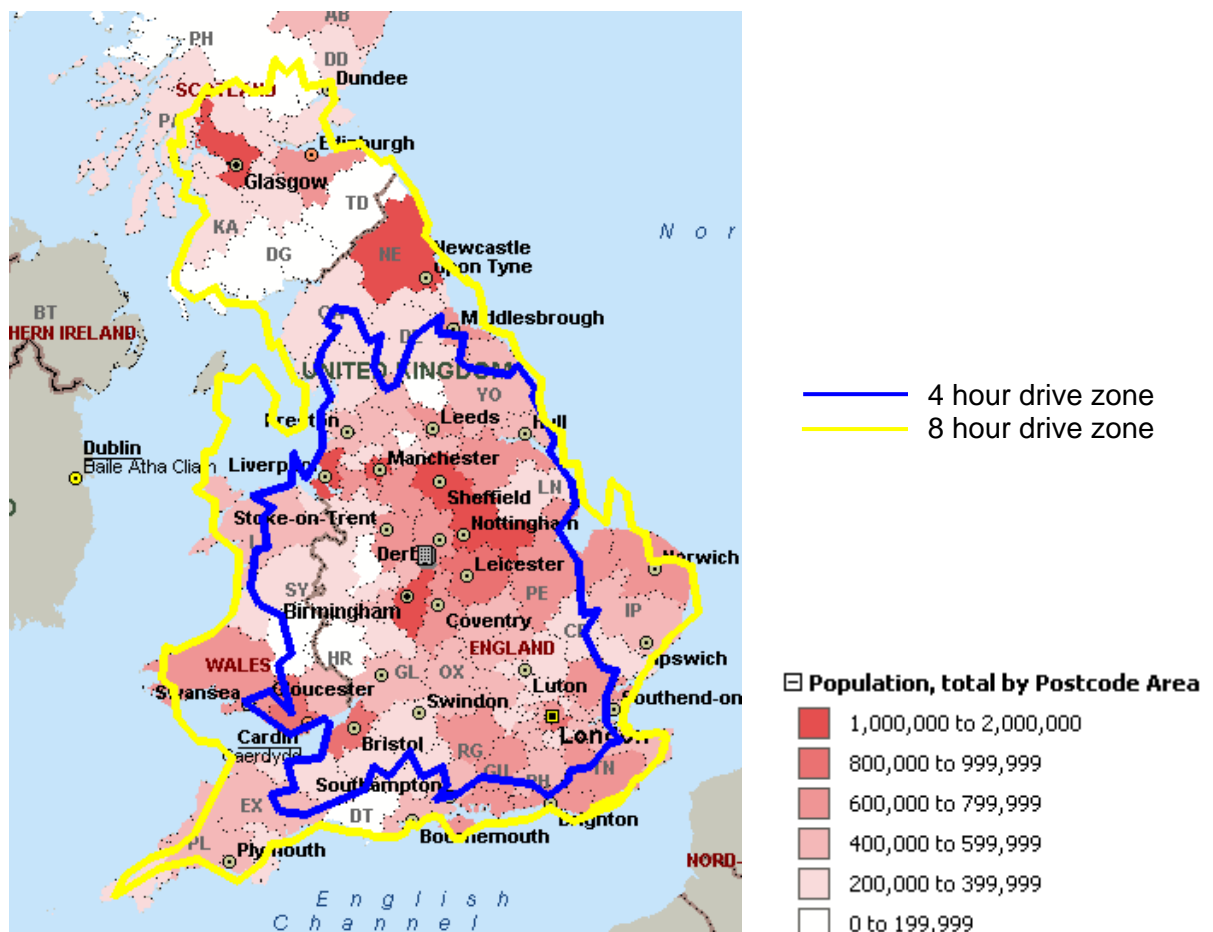
Population density by postcode area is shown in red gradient.

### 2.1. Primary Fleet

Primary fleet calculations are based on a 44t trailer and tractor unit travelling at approximately the following speeds by road type:

Road Type	Speed
Motorway	56mph
Other limited access main roads	45mph
Major roads	30mph
Minor roads	20mph
Streets	10mph

The isochrones show 4-hour and 8-hour drive times (including statutory rest requirements).



The 4-hour zone covers approximately 71% of the UK population, including the following cities.

- Gloucester
- Cardiff
- Bristol
- Birmingham
- Swindon
- London
- Southampton
- Coventry
- Liverpool
- Hull
- Leeds
- Derby
- Nottingham
- Leicester
- Sheffield
- Manchester
- Stoke-on-Trent
- York

The 8-hour zone includes the following cities, totalling 97% of the population.

- Norwich
- Portsmouth
- Ipswich
- Dover
- Dundee
- Newcastle
- Sunderland
- Middlesbrough
- Glasgow
- Edinburgh

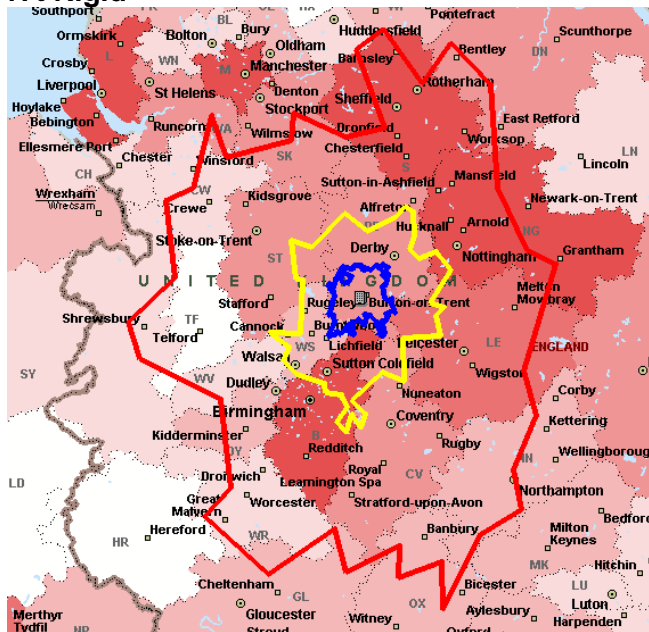
## 2.2. Secondary Fleet

Secondary Fleet calculations are based on a 17t rigid vehicle and a Transit sized vehicle travelling at approximately the following speeds by road type:

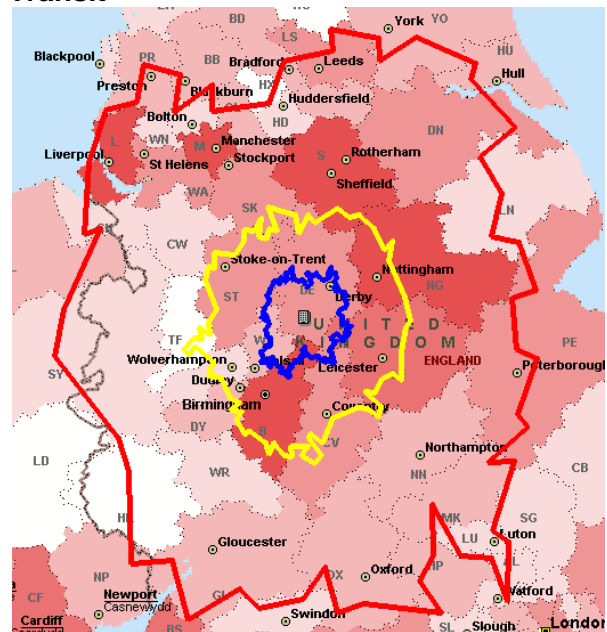
Road Type	Speed (17t)	Speed (Transit)
Motorway	56mph	65mph
Other limited access main roads	45mph	55mph
Major roads	30mph	45mph
Minor roads	20mph	35mph
Streets	10mph	20mph

The isochrones show 30-minute, 1-hour and 2-hour drive times.

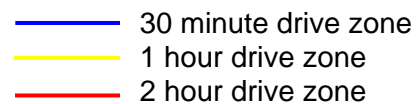
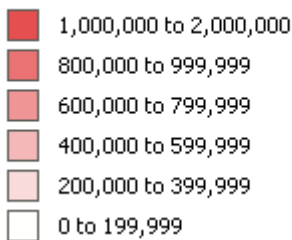
17t Rigid



Transit



Population, total by Postcode Area



The 30 minute zone serves Burton-upon-Trent and the surrounding area for both vehicle types plus Derby to the North and Lichfield and Tamworth to the South for the Transit.

The 1-hour zone encompasses those areas plus:

**17t Rigid**

- Derby
- Lichfield
- Tamworth
- Walsall
- Sutton Coalfield
- Cannock
- Solihull

**Transit**

- Birmingham
- Coventry
- Nottingham
- Wolverhampton
- Stoke-on-Trent
- Leicester
- Dudley

The 2-hour zone includes:

**17t Rigid**

- Birmingham
- Coventry
- Nottingham
- Leicester
- Stratford-upon-Avon
- Warwick
- Sheffield
- Stoke-on-Trent
- Telford
- Worcester
- Rotherham
- Crewe

**Transit**

- Northampton
- Sheffield
- Manchester
- Leeds
- Peterborough
- Oxford
- Gloucester
- Liverpool
- Luton
- Bradford
- Preston
- Milton Keynes
- Wrexham

## 2.3. Potential Users

The property has been designed to accommodate a range of manufacturing, warehouse and distribution operations. The premises would also work well for in-house or 3<sup>rd</sup> party logistics providers (3PLs) as a National Distribution Centre, given the population coverage (71% within 4 hours and 97% within 8 hours) that would be achieved with primary vehicles.

The isochrones for secondary distribution fleets show comprehensive coverage, especially when running the longer stem mileages (1 hour plus) as shown on page 7. However, the lack of population at shorter stem mileages (less than one hour) would make secondary distribution operations inefficient and we feel that the building would probably be too large for most secondary distribution operations and may benefit from sub-division into two or possibly three parts for this intended use.

## 3 Racking

The following pages show a number of possible racking layouts and associated pallet capacities for a range of occupiers and uses.

Three designs are considered; block stack, wide aisle and very narrow aisle (VNA). All designs are based upon storage of goods on standard GKN Chep pallets, 1,200mm x 1,000mm and weights up to 1,500kg.

In all cases a realistic allowance has been made for a goods-in & goods-out marshalling area to enable efficient checking, loading and throughput of goods.

The block stack option demonstrates the capacity of the building without installation of any storage equipment. This arrangement gives the most flexibility, lowest capital costs and would suit users with limited numbers of stock keeping units (SKUs) that lend themselves to stacking and where strict stock rotation is not essential. For the purposes of this model we have assumed that pallets will stack 2 high. Mechanical handling equipment (MHE) is normally limited to counterbalance (CB) fork lift trucks which are cheap to operate and can achieve fast put-away and retrieval times.

The wide aisle option uses a 3,100mm rack to rack aisle. This type of arrangement is suitable for occupiers that require higher storage utilisation, single pallet access, rapid throughput and the option to pick from ground floor locations. The first beam is set at 2,300mm enabling efficient picking from the ground floor locations by pedestrian operated pallet trucks (POPT). The aisle width will necessitate the use of reach trucks (RT) for access to the higher rack levels. The layout shows 5 levels of beam within the racking structure meaning pallets are stored 6 high for this option, giving a total of approximately 31,464 pallet spaces.

The VNA option uses a 2,100mm rack to rack aisle. This type of arrangement gives very high storage densities, whilst still enabling single pallet access. Throughput is slower than any of the options above because two types of MHE are required (normally a RT takes goods to the end of the aisle and the final put-away or retrieval is undertaken by a specialist narrow aisle truck). Capital costs are high and floor tolerances are critical. The minimum clear height of 12m enables 6 levels of storage (if average pallet height is assumed to be 1,850mm) giving a total capacity of 40,752 pallet spaces. A profilograph survey of the floor would be required prior to a VNA installation in order to establish aisle grinding requirements (if any).

Lighting will be required for the warehouse and costs will be contingent upon both specification and layout (which itself is contingent upon racking configuration). A budget for a high specification fluorescent installation with energy efficient controls and lux levels of around 250-300 lux (suitable for general warehouse and picking operations) would be in the region of £200,000, subject to exact specification and layout. If a sprinkler system was required for either the wide aisle or the VNA option, we would consider the use of an in rack installation in addition to roof level sprinklers.

Detailed design would be subject to engineer's validation and insurer's requirements, but we would allow £1.6m as a budget figure.

<b>OPTION</b>	<b>Pallet Capacity</b>	<b>Estimated Racking Cost (£'000s)</b>	<b>Annual cost* per pallet space (£)</b>
Block	16,445	-	128
Wide Aisle	31,464	787	67
Narrow Aisle	40,752	1,019	52

\*based upon rent £1,498,330 and rates payable £610,530. (Equating to rent £4.95psf & rates £2.02psf.)  
 Excludes any allowance for capital expenditure or depreciation.

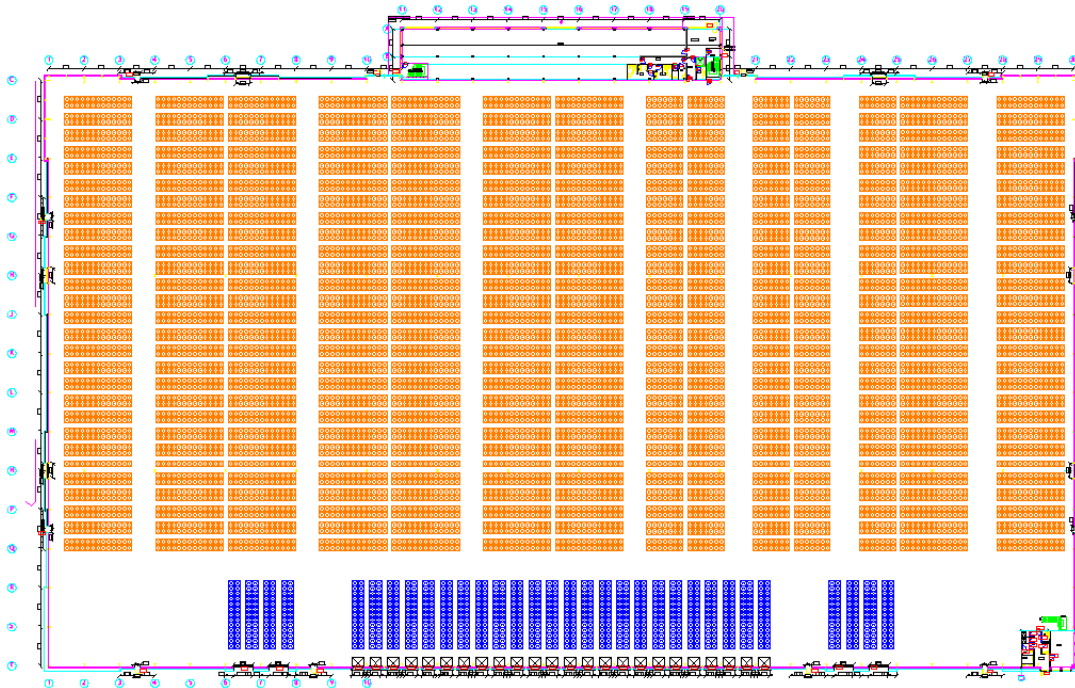
## 1. Block Stack

Assuming 2 pallet high stacking

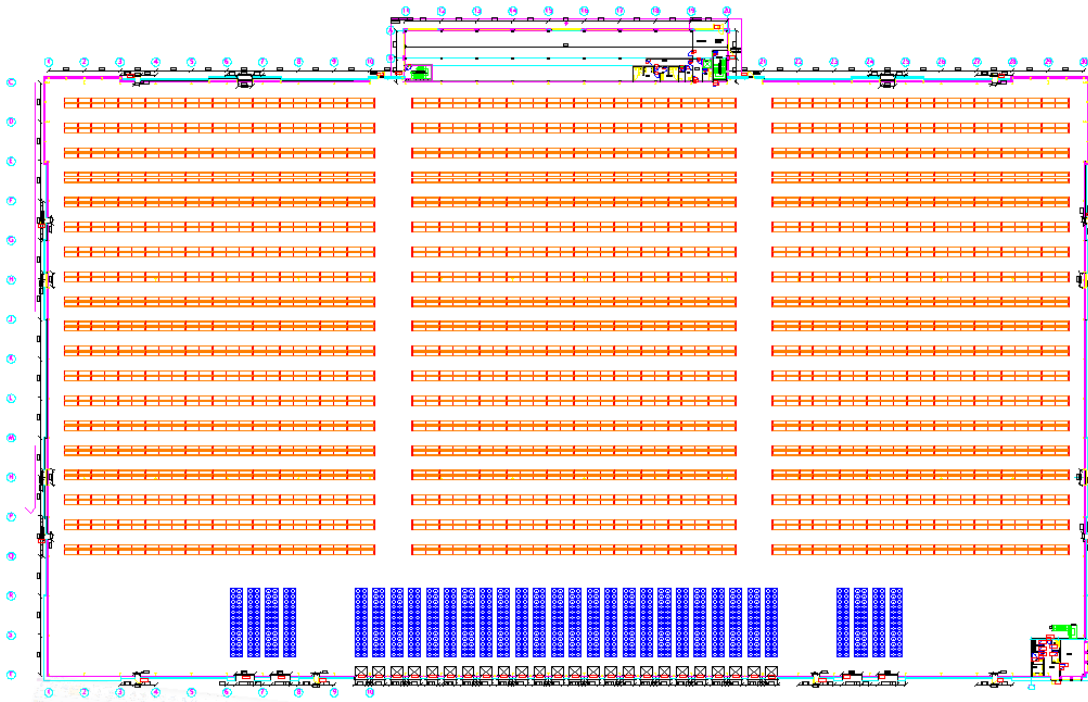
55 Rows \* 9 Large (26 pallets) = 12,870

55 rows \* 5 Small (13 pallets) = 3,575

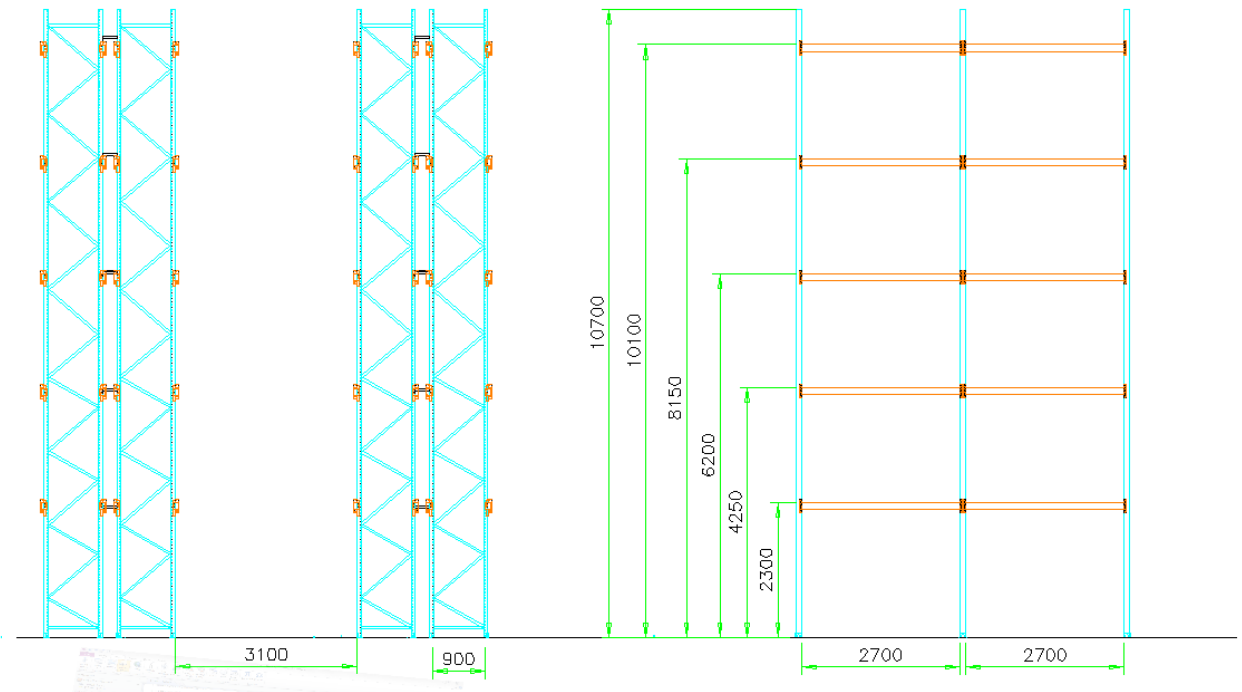
Total = **16,445 pallets**



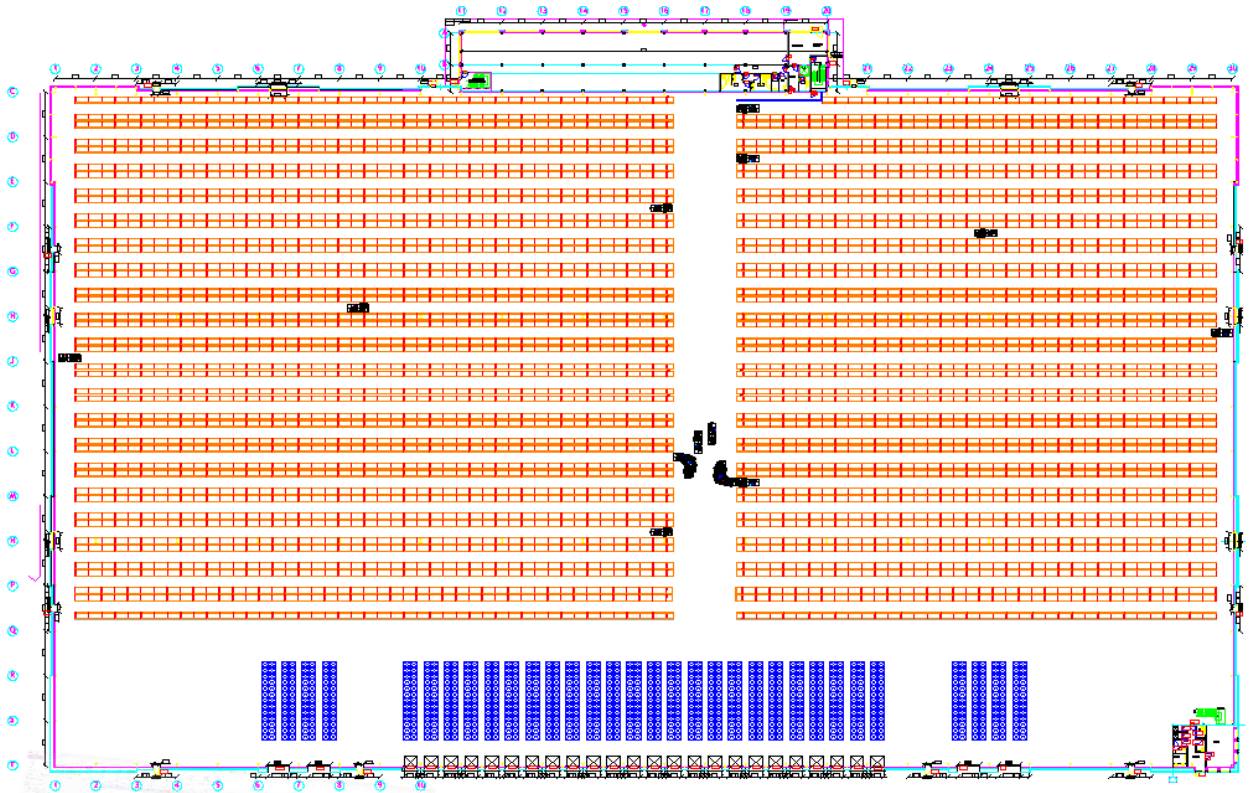
## 2. Wide Aisle



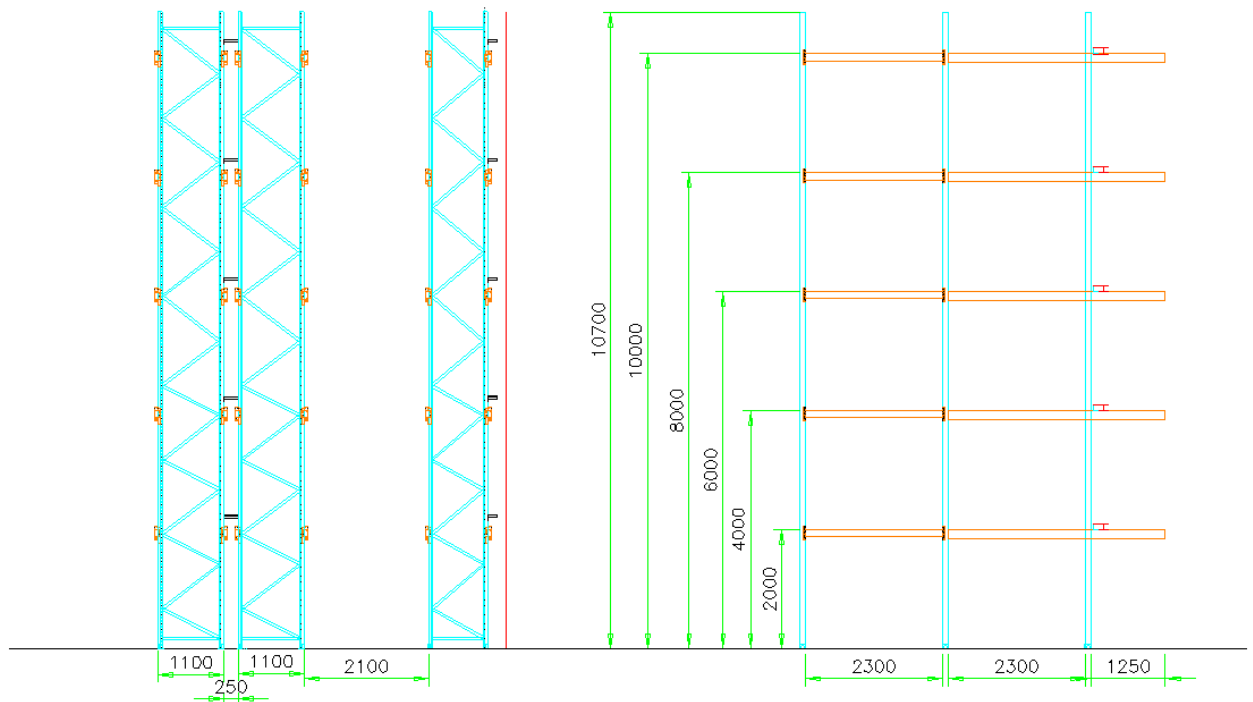
23 bays (64.5m) + 24 bays (67.3m) + 22 bays (61.6m) \* 38 racks \* 12 pallets  
**Total = 31,464 pallets**



### 3. Narrow Aisle



45 bays (108m) + 36 bays (86.4m) \* 42 racks (-6 bays) \* 12 pallets  
**Total = 40,752 pallets**



## 4 Conclusions

The building has been constructed to a good specification and would be suitable for occupiers whose activities are generally primary warehousing and distribution operations or 3PLs. Secondary distributors could also operate from the site, although the premises are possibly too large for a single operator and the stem mileages to the major population centres would adversely impact upon secondary distribution costs.

From a primary distribution perspective the premises are well located, covering 97% of the UK population within an eight hour drive time and 71% within a four hour drive time.

The premises provide good office accommodation with extensive parking. The warehouse allows occupiers a range of fit-out options to meet their specific requirements with potential to achieve efficient storage of up to 40,752 pallet spaces.