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WALKER ENGINEERING
Consultants in Highways, Railways
Bridges and Underwater Engineering

Goodman Developments Ltd.

Redevelopment of the Former Jaguar Factory

Browns Lane

Coventry

Transport Statement
(Plot 1)

September 2016

Lawrence Walker Limited Registered Office as above
Registered in England No. 3001314

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1.0 INTRODUCTION

1.01 Lawrence Walker Limited (LWL) has been appointed by Goodman Developments Limited (the Developer) to provide traffic and transportation advice in relation to a proposed employment development on the Former Jaguar Browns Lane site, in Coventry. The site is located towards the west of the City and is shown in outline on **Figure 1**.

1.02 The Report, in the form of a Transport Statement (TS), is structured as follows:-

i) Planning background is described;

ii) The proposed development is described;

iii) The traffic generations for the consented use and the proposed development are estimated;

iv) A comparison of the traffic generation for the consented use and the proposed development is presented, demonstrating no material change;

v) A formal conclusion is reached.

1.03 The Authority responsible for Planning and Transportation issues within the area adjacent to the site is Coventry City Council (CCC). The Report seeks solely to demonstrate to CCC that the traffic generation of the proposed development at the site will not exceed that of the consented use.

1.04 On this basis (and in accordance with Page 20 of the current DfT *Guidelines on Traffic Impact Assessment*) the proposed development can then be said to be satisfactorily accommodated on the adjacent transport network by inspection. No highway improvements need then be provided and none can be sought.

1.05 In so doing, it must be remembered that the proposal fundamentally involves the part replacement of an extant planning permission of some considerable stature with a homogenised development of an intrinsically less demanding traffic generation type. It is thus a matter of simple common sense that the final situation is unlikely to be any worse than that which could lawfully exist today.

2.0 EXISTING PLANNING CONSENTS

Existing Outline Planning Consent

2.01 The site was granted an umbrella *Outline Planning Consent* (OPC) on 7th June 2011 for employment and residential uses, with subsequent consents being granted for various amendments to the development mix. The latest of these was for a bespoke facility on Plot 6 which was issued on 3rd June 2016.

2.02 The site forms one of the key employment sites for the City and remains one of CCC's core areas for creating regeneration. It was also formally used as a manufacturing facility by Jaguar Cars Ltd. and is thus considered a "Brownfield" location. The presumption will therefore always be in favour of its re-use in any reasonable employment capacity. The OPC covers the following uses:-

- B2 Industrial Units 75,519 m^2
- B1 Office 6,986 m^2
- Residential 172 dwellings

Maintained Land Use

2.03 Jaguar Cars Ltd. continues to maintain a number of buildings at the Browns Lane side of the site, including its car interior wood veneer manufacturing centre. The manufacturing buildings will continue to be maintained for use by Jaguar Cars Ltd. adjacent to the proposed development for the immediate future.

2.04 The *Outline Planning Consent* remains in force and has partly been enacted. The TA for the scheme (**Appendix E**) was prepared by LWL and was based on the approved Masterplan (**Appendix B**). The *Outline Planning Consent* - Reference **573/2010/1699** - is included as **Appendix A**.

2.05 In addition to the consent, the Developers also entered into a Section 106 Agreement with CCC and that document is also included in **Appendix A**. The Agreement remains extant and would be honoured as part of any subsequent consent on the site.

Guidance for Transport Assessment

2.06 In March 2007 the 'Department for Transport' (DfT) produced the 'Guidance on Transport Assessment' (GTA) superseding previous guidance produced by the Institution of Highways and Transportation (IHT). The purpose of the GTA is to provide assistance in relation to determining whether a proposed development requires the production of either a Transport Assessment or Transport Statement. The GTA also assists with determining the level and scope of the required assessment and the content of the required report.

2.07 The site enjoys various valid planning consents and was previously used for manufacturing. In this context page 20 of the GTA is quite specific in that it requires such consents to be regarded as committed development when assessing the baseline position. Since the current application will be entirely covered by the existing consent in terms of its land area, traffic impact need only be measured against that of the consented OPC scheme. For this reason, only a TS is being provided and not a full TA.

Committed Developments

2.08 It is understood that CCC is currently considering a Planning Application on Plot 7 at Browns Lane. If approved, the proposal would see around 7,000 m^2 of B2 Uses replace consented B1 Units W & X of similar floor-space (see **Appendix B**). Since the proposal would see a reduction in traffic overall when compared to the approved layout as a result of the switch to B2 from B1, it has not been considered further in this Report.

3.0 PROPOSED DEVELOPMENT

3.01 The proposals for the development covered by this TS comprise the construction of a single new "Cross-Docked" distribution facility. The unit would replace B2 Units A to L as identified as part of the original planning submission on Plots 1 to 4 and would be a B8 facility in terms of its Use-Class.

3.02 A breakdown of the proposed facility is shown on the current Masterplan presented in **Appendix C** and is listed below. For reference, the scheme would inherently lead to a lower traffic density than the approved layout and this can easily be seen by reference to the approved Masterplan provided at **Appendix B**. A comparison with an "Industry Standard" Non-Cross-Docked B8 unit of the same size is also provided below for reference purposes, assuming a conventional three-shift pattern as noted. The main figures are rounded.

Table 1: Summary of Development Characteristics (Appendices C & D)

Development Component	Plot 1 (Cross-Docked)	Typical B8 (Standard)
Total Floor-Space (Net of Welfare)	57,000 m^2	57,000 m^2
Office Content	5,226 (9%) #	2,900 m^2 (5%)
Car Parking Spaces	700	580 (1%)
HGV Loading Bays	89 Accesses	58 Docks (0.1%)
HGV Trailer Bays	112	87 (0.15%)
Employees (Warehouse – Shift 1)	2 x 400 ~	300
Employees (Warehouse – Shift 2)	2 x 400 ~	300
Employees (Warehouse – Shift 3)	~	200
Employees (Offices)	100	100
Warehouse Shift Hours (Shift 1)	07:00 to 19:00	06:00 to 14:00
Warehouse Shift Hours (Shift 2)	19:00 to 07:00	14:00 to 22:00
HGV's Deliveries per Day Two-Way	500 *	350 *

* Per 24 Hour Day @ 6 Per Dock
~ See Also Section 3.06 Below
# Includes Staff Welfare

Operational Characteristics

3.03 Conventional large B8 units generally operate on a 24 hour basis over three shifts, with each shift performing a different task. Typically this would see the morning shift taking deliveries and re-stocking the building, with the afternoon shift preparing the incoming delivery vehicles and accepting returns. The night shift would generally then be responsible for loading, with the HGV's usually leaving the building from 3am onwards to allow deliveries to serviced retail outlets to be made before the roads get busy. This pattern typically involves few HGV movements at peak times and staff changeovers that fall well outside of the normal peak periods, for obvious reasons.

3.04 With a "Cross-Docked" unit (i.e. one that has HGV loading facilities on both sides of what is generally a rectangular shaped building as opposed to a square one) the pattern is quite different. The building's purpose is different too, since its main function is to dispatch goods to other distribution facilities and it would therefore not usually serve retail outlets directly. Instead, bulk goods arrive on one side of the building and are dispatched as mixed loads from the other, having been picked, mixed and re-packed by the operating staff in the meantime. For this reason "Cross-Docked" units tend to have only limited facilities for loading LGV's or vans and have less capacity to hold goods for any period of time. Both features can be seen to hold true for the proposed unit, since level loading bays are minimal in number and the aspect ratio of the building itself would suggest limited areas available within it for long-term storage.

3.05 In terms of staffing, "Cross-Docked" units hold less long-term stock and this usually means a quicker turn-around of goods. Daily staffing numbers are thus similar overall, but often split over two shifts as opposed to three since there are basically only two operations that need to be undertaken (unloading/stocking and picking/re-loading). This then means that to keep the building in full operation over each 24 hour period, each shift must work for twelve hours.

3.06 Now extended periods of 12 hour working would present welfare issues for staff and would be difficult to sustain over time. To solve this, what usually happens is that each shift is "mirrored", with each then working four days on and four days off in turn to give staff a proper break and limit the working week overall. Therefore for each shift *twice* the number of staff would actually be employed when compared to a conventional unit, but only *half* would be present on-site at any one time. This can be seen in **Table 1** above, where Shift 1 would comprise around 800 permanent members of staff, but with only half being present on-site at any one time. Thus whilst the total number employed in a "Cross-Docked" unit when compared to a conventional one may well be significantly higher, the number actually on site at any one time is generally likely to be similar. This is really a matter of logic at the end of the day, since each worker will always require about the same amount of space within a building to do his job, no matter how long his shift. It is then only about the length of time he works each day and the number of times he is replaced by a colleague.

Car Parking Provisions

3.07 For a conventional B8 unit Coventry City Council's *Car Parking Standards* would suggest a provision of around 550 spaces, based on the net size of the building. This number however would cause issues at shift change-over times where only two extended shifts are involved and **700 Spaces** are therefore proposed.

3.08 To justify this higher number, two appraisals have been undertaken and these are presented at **Appendices E & F**. A brief narrative is provided below to describe the points made. In both cases a total permanent staffing level of up to 900 employees per 24 hour period has been assumed as per **Table 1**, together with a *Single Occupancy Car Driver* ratio of 70% in accordance with the *Framework Travel Plan* for Lyon's Park.

3.09 As can be seen from **Appendix E**, for a conventional three-shift system a B8 unit of the size and type proposed at Lyons Park would require around 550 car parking spaces. This is exactly in line with the City Council's standard allocation and suggests that at full levels of employment, no issues would arise.

3.10 For a building operating a two shift system, **Appendix F** shows that 550 spaces would no longer suffice. This is basically because at shift change-over times more staff would be present on site and thus a greater number of spaces is need to allow them to swap with the incoming shift satisfactorily. A few changes in visitor patterns might also be expected, but overall the issue comes down to the shift change. An allocation of 700 spaces is therefore proposed.

3.11 Finally in looking at the car parking allocation, it can be noted from the two appraisals that the volume of peak hour traffic generated by the site is not significantly affected by the shift patterns. This is because it is generally only the office workers that leave and depart at these times. Additionally the total volumes of traffic are similar, although clearly at shift change-overs more staff will arrive and leave under a two shift system than would under a three (238 compared to 131). Neither movement is large however and would be taking place when there is otherwise little or no traffic on the surrounding roads. A movement of 238 cars would represent just 10% of the peak-hour traffic currently on Coundon Wedge Drive.

4.0 TRAFFIC ASSESSMENT

4.01 This section of the Report summarises the traffic generation of the consented land use and the proposed development at the Browns Lane site.

4.02 As previously stated, this Report seeks to demonstrate that the traffic generation of the proposed development does not exceed that of the consented use. In order to determine the additional impact, if any, caused by the new development proposals compared with the extant permission, it is necessary to adopt a consistent approach to determining the traffic generation. Therefore, the same methodology has been used to estimate the traffic generation of both schemes.

Consented Land Uses

4.03 The extant *Outline Planning Consent* envisaged the construction of multiple B2 Units on the plots now earmarked for the distribution facility. From **Appendix B**, the total floor-space proposed (that will now be displaced) was 45,958 m^2 and this was the floor-space used in the original TA.

Trip Rate Summary

4.04 Further to the above, trip generation rates have been obtained from the original TA for the site produced by LWL (**Appendix G**). Since Units A to L were earmarked for B2 uses in that document, the TA adopted B2 rates throughout. These are intrinsically higher than their B8 counterparts.

Table 2: Summary of B2 Trip Rates (Approved TA)

Trip Rates (Vehicles per Hour/100 m^2)		
Period	**Arrivals**	**Departures**
AM (08:00 – 09:00)	0.48	0.11
PM (17:00 – 18:00)	0.07	0.29

Table 3: Consented Uses Traffic Generation (45,958 m² B2)

Vehicle Trip Type	Traffic Generation			
	AM		PM	
	Arrivals	Departures	Arrivals	Departures
Cars & LGV's	220	51	32	133
HGV's (10%)	22	5	3	13
Total PCU's per Hour	250	60	40	150

Proposed Development

4.05 Traffic generation for the proposed development has also been based on the approved trip rates from the TA for the consented scheme. For B8 uses, **Table 4** below provides the individual rates that were used in the TA, which are included here for reference:-

Table 4: Summary of B8 Trip Rates (Approved TA)

Trip Rates (Vehicles per Hour/100 m²)		
Period	**Arrivals**	**Departures**
AM (08:00 – 09:00)	0.18	0.11
PM (17:00 – 18:00)	0.07	0.19

Table 5: Proposed Use Traffic Generation (57,000 m² B8)

Vehicle Trip Type	Traffic Generation			
	AM		PM	
	Arrivals	Departures	Arrivals	Departures
Cars & LGV's	100	62	39	107
HGV's (30%)	30	18	11	32
Total PCU's per Hour	130	80	50	140

Net Traffic Generation Summary

4.06 The traffic generation of both the consented scheme and the proposed facility has been estimated. In order to present a meaningful overall site traffic generation for both the consented and proposed schemes, a comparison of the resultant peak hour traffic movements is shown below in **Table 6** in terms of PCU's, since this is the most relevant comparison to adopt when dealing with B2 and B8 uses. For ease of calculation, 1 HGV has been taken as 2 PCU's on average throughout as per the original TA. It should be noted in this respect that the consented figures from the TA have been used directly as although several variations to the development mix have been approved since (including most recently to Plot 6) and Plot 7 is pending, none lead to a greater traffic generation overall as can be seen at **Appendix D**.

Table 6: Traffic Generation Comparison

Site Use	Traffic Generation (PCU's per Hour)					
	AM			PM		
	In	Out	2-way	In	Out	2-way
Consented Uses	250	60	310	40	150	190
Proposed Use	130	80	210	50	140	190
NET Traffic Generation	**-120**	**20**	**-100**	**10**	**-10**	**0**

The above **Table 7** demonstrates that in both the peak hours, the proposed development will generate a very similar (or lower) 2-way traffic flow to the consented scheme. Even after allowing for the greater HGV activity, it can clearly be seen that the proposed development would have no materially greater impact than would that represented by the OPC. It must therefore be concluded that the revised development would have no net impact on the surrounding highway network.

HGV Impacts

4.07 The site will operate over a full 24 hours, receiving and dispatching goods evenly throughout each 24 hour period. To do this, typically around 250 HGV's would be involved in the process. In total therefore, around 500 two-way HGV movements would occur during each 24 hour period (see **Table 1**).

4.08 In terms of a comparison, the best guide to help with this would be the Swan Valley development in Northampton at M1 Junction 15A, which was surveyed in December 2007 prior to the ensuing down-turn in economic activity. The survey details from that site were used for the 24 hour appraisal of the consented scheme, so are relevant.

4.09 The Swan Valley site showed a typical HGV generation rate of about 6 movements per dock per day for B2 and B8 uses, suggesting that the consented scheme would have generated around 27 x 6 = 160 HGV trips two-way per 24 hours for the docks identified at that time (0.05% of floor-space). If this rate were then applied to the 89 HGV accesses now proposed (ignoring the fact that some are level accesses, which cannot be used to load HGV's at the same rate as a dock) a daily HGV two-way flow of around 500 trips would result. The variance with the consented allowance would then equate to 14 extra HGV movements per hour on average, which is not large. Overall therefore, HGV movements to and from the site per day are unlikely to materially change, should the variation to allow B8 as opposed to B2 uses across Plots 1 to 4 be permitted.

4.10 Finally in terms of Peak Hour HGV movements, the original TA used a figure of **27** as per **Table 3** against a proposed average of 500 / 24 = **21**. The TS assumes **48** as per **Table 5** and thus provides a very robust approach.

5.0 SUMMARY AND CONCLUSIONS

5.01 This Report has been prepared primarily to demonstrate to Coventry City Council (CCC) within whose jurisdiction it falls that the future traffic generation of the proposed development will not exceed that of the consented use.

5.02 In this respect, the Report concludes with respect to Units A to L as follows:-

i) The proposed development site will be located on land currently consented for a combination of B2 uses. It is also entirely a "Brownfield" scheme.

ii) The total two-way traffic generation of the proposed development will be very similar to the PCU total estimated in relation to approved buildings that could otherwise lawfully occupy the site. As a result, no further traffic analysis is required and no off-site improvements would be necessary to accommodate the scheme beyond those covered by the extant Section 106 Agreement.

5.03 On the basis of the above, the Report concludes that the transport-related requirements of the proposed development would fit wholly within those of the extant umbrella *Outline Planning Consent*, and can thus be satisfactorily accommodated without adverse impact on the safe and satisfactory operation of the local transport infrastructure. As a result, no new works or financial contributions are proposed and the Report is commended to CCC for their approval on this basis.