

Upton McGougan

**Windroos Nursery
Worthing Road
Littlehampton**

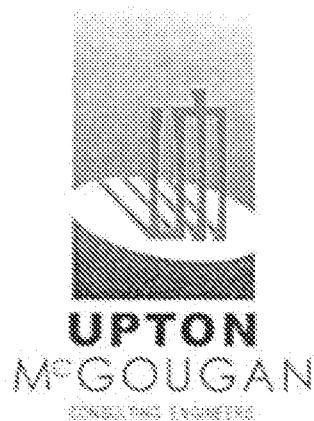
**TRANSPORT AND ACCESS
FEASIBILITY REPORT**

for

Stuart Lyons (Haulage) Ltd

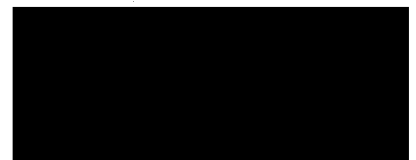
July 2010

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Windroos Nursery
Worthing Road, Littlehampton

UPTON McGOUGAN

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1.0 INTRODUCTION

Overview

- 1.1 Upton McGougan Ltd (UML) have been retained by Stuart Lyons (Haulage) Ltd to consider the transport and access issues relating to the redevelopment of the current Lyons Haulage Depot site, located at Windroos Nursery, Littlehampton. Stuart Lyons (Haulage) Ltd are presently looking for new premises for expansion of their business and are seeking permission to redevelop the existing premises for residential use. The site is currently allocated for housing development within the Arun District Council (ADC) Local Plan, and is located on the A259 Worthing Road, within the built-up area, on the northern edge of Littlehampton, as shown in Figure 1.

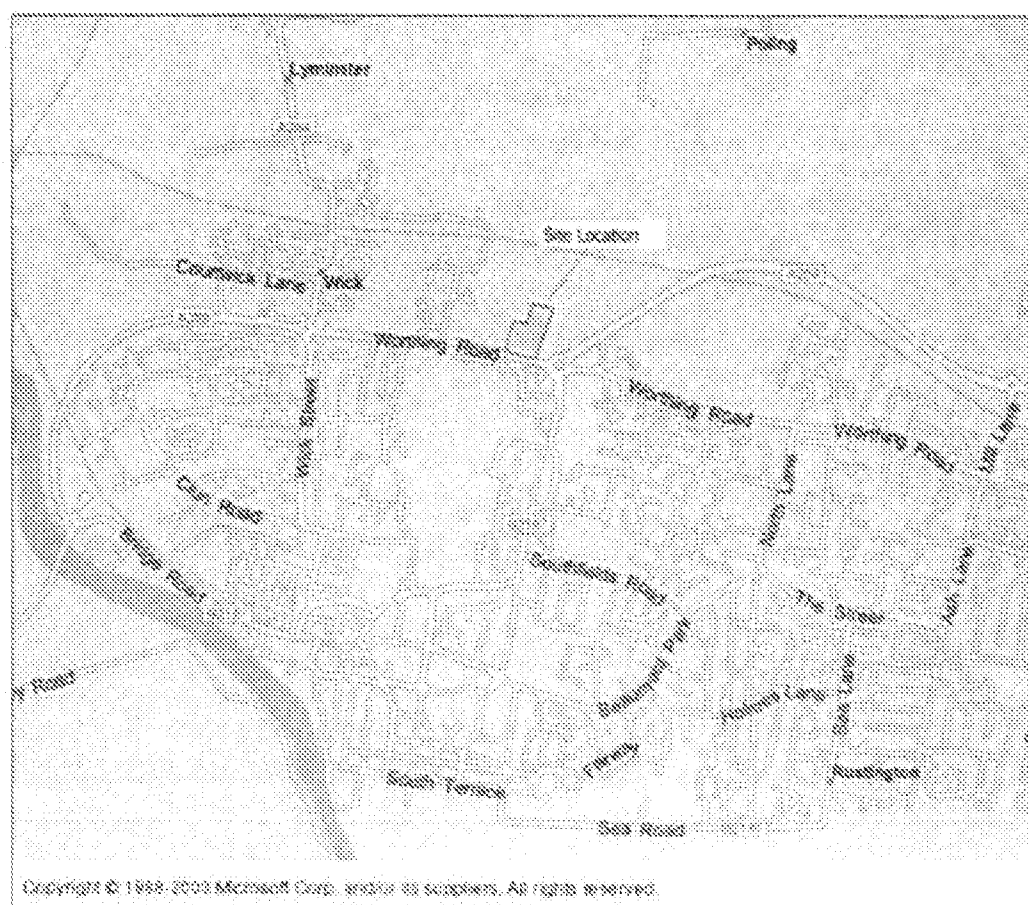


Figure 1: Site Location

- 1.2 This document has been prepared, at the suggestion of West Sussex County Council (WSCC), to support an outline planning application for the site and should be read in conjunction with the supporting plans and documentation produced by Savills. It is based on extensive pre-application discussions with WSCC to establish the traffic and transportation principles, including means of access and pulls together a number of

previously submitted documents into this single report, in an attempt to set out, in a cohesive manner, how this point has been reached.

- 1.3 As well as the previous UML documentation provided to WSCC, this report also utilises the Development Brief for Land at Toddington (2003), Supplementary Planning Guidance, which was adopted by ADC in October 2003. Reference has also been made to the Transport Assessment (TA) and proposed development related infrastructure associated with the neighbouring Toddington Land, Littlehampton development (formerly known as 'Eden Park'), part of the same Development Brief allocation. This Toddington Land site is currently under development as Kings Acres and Elysian Fields by David Wilson Homes and Taylor Wimpey respectively.
- 1.4 The previous UML technical reports issued to WSCC during the pre-application negotiation phase, and referred to again here, include:
 - an Access Feasibility Assessment, June 2009 (Document reference: 022.1832/PB/89982a);
 - a Trip Rate Impact Assessment, August 2009 (Document reference: 022.1832/PB/89871b); and
 - a Right Turn Lane Access Design Check Report, September 2009 (Document reference: 022.1832/PB/90619a).
- 1.5 The Access Feasibility Assessment identified and assessed a number of potential access options onto the A259. Details of the preferred option were then presented in the Right Turn Lane Access Design Check Report. That document included a Trip Rate Impact Assessment, which provided a comparative assessment of the likely acceptable level of generation from the site, based on information relating to the current extant use.
- 1.6 The remainder of this document considers: the background to the development of the land at Toddington; the characteristics of Worthing Road adjacent to the site; the pre application discussions with WSCC; the previous access arrangement options considered and discounted; the preferred junction option; an indicative internal layout; and a conclusion section.

2.0 BACKGROUND TO THE DEVELOPMENT OF LAND AT TODDINGTON

- 2.1 A draft Development Brief was prepared by Arun District Council in early 2000 and was the subject of consultation in two stages with statutory agencies, including the highway authority; the local community; and landowners.
- 2.2 The District Council, published a revised Brief in October 2000, at the same time as the Arun District Council Local Plan 2nd Review was emerging as part of the Development Plan for the area in its Deposit Draft form.
- 2.3 Subsequently, following a Local Plan Inquiry, which led to the adoption of the reviewed Local Plan, the final version of the Development Brief was produced which superseded all of its predecessors.

Adopted Development Brief

- 2.4 The 'Development Brief for Land at Toddington', adopted in October 2003, was prepared to guide the development of the site identified as, north of the A259 Worthing Road and east of Toddington Lane. The southern part of the Development Brief site, which includes the Lyons Haulage Depot, is recognised as part of SITE 7 in ADC's adopted Local Plan and allocated for housing within that document. Any development on that portion of the larger site would therefore be expected to accommodate the design principles, as outlined in the Brief.
- 2.5 In respect of the Lyons Haulage Depot, Section 2.6 of the Brief recognises the established and lawful use of the site by a haulage contractor and its direct access from the A259 Worthing Road.
- 2.6 In reference specifically to transport matters, the Brief recognises the whole of the Development Brief site as being *"located within the built-up area and lies within easy walking and cycling distance of a range of educational, employment and other services"* (para 4.28).
- 2.7 Paragraph 4.35 also set out a number of key points which should be considered in a transport context for development of the site:
- Providing a new, safe and convenient vehicular access to Worthing Road to serve development traffic and that using the present Toddington Lane junction;
 - Ensuring that congestion on the road network adjacent to the site is not exacerbated;
 - Discouraging additional traffic from using Toddington Lane as a through route;
 - Provide safe and convenient crossing facilities on Worthing Road for pedestrians and cyclists;
 - Enhance pedestrian and cycle connections from the site to local destinations including schools and the town centre;
 - Considering options for the enhancement of accessibility to the site by buses;

- Ensuring that the access arrangements and location of the development on the site do not preclude improvements to the A259 (in accordance with the approved Worthing Road Improvement Scheme) if these are brought forward by the County Council in future.
- 2.8 Whilst many of these elements have been catered for by the neighbouring development, these principles would be considered with any future application on the Lyons Haulage Depot site.
- 2.9 In terms of implementation of the development, the Brief anticipates a phased approach and makes specific reference to access to the Stuart Lyons (Haulage) Ltd section of the site in paragraph 7.19, which states:
- "Land in the south eastern part of the Development Brief area, at Windroos Nursery, has existing access direct from Worthing Road which serves the business currently operating there. Any intensification of use of that access to serve new development would not be acceptable to the Highway Authority, but a limited amount of new housing may be able to be served in this way, for a temporary period, pending connection to the permanent access road to the west."*
- 2.10 This clearly makes sense in highway terms, as the Development Brief anticipated the whole of SITE 7 would be a single development site gaining access to the A259 Worthing Road via the improved, and relocated, Toddington Lane junction. The key driver in respect of the closure of the direct access at Windroos Nursery was to prevent rat running to and from Toddington Lane through the wider, joined-up site.
- 2.11 The Brief assumed deliverability. It could not have foreseen the specific strategic third party land issues that have subsequently come to light. This has meant that the entire site could not have been brought forward in the way the Brief envisaged. However, in respect of the Lyons Haulage Depot site, because no linkage exists to the rest of the site and, more importantly, the through traffic on Toddington Lane, rat running is not possible. The key issue therefore relates to the intensification of the use of the existing access. Section 6 of this report includes a comparative impact analysis, which has been agreed with the highway authority during the pre-application discussion, that considers how much new housing constitutes intensification of use of the access.
- 2.12 With regard to the issue that *"new housing may be able to be served in this way, for a temporary period"*, ultimately, is still within the control of the Local Planning Authorities. The final bullet point, relating to transport, is about ensuring that the access arrangements and location of the development on the site do not preclude improvements to the A259 (in accordance with the approved Worthing Road Improvement Scheme). An indicative layout has been produced in conjunction with Savilis' Urban Design team, which, whilst focusing on the Lyons Haulage Depot site, also considers possible strategic connections to the wider site. To allow the Worthing Road Improvement Scheme to be progressed, the Highway Authority could exercise its powers under Highways Act 1980 to make a Compulsory Purchase Order for the acquisition the land required for improvements to the A259. This is considered more in Section 7.
- 2.13 The current proposal for the redevelopment of the Lyons Haulage Depot site is therefore entirely consistent with the 'Development Brief for Land at Toddington'.

3.0 CHARACTERISTICS OF WORTHING ROAD ADJACENT TO THE SITE

3.1 This chapter considers the highway characteristics for the section of A259 Worthing Road adjacent to the site, between the A259 Worthing Road/A284 Wick Street Roundabout and the Watersmead Roundabout. This section of A259 Worthing Road is single carriageway and subject to a 40mph speed limit.

3.2 There are a number of priority accesses along this section. Proceeding east along the A259 from the Worthing Road/Wick Street Roundabout, the first junction encountered is with Globe Place, a cul-de-sac. This is a normal priority junction with no specific carriageway markings for right turning vehicles from the main road. A series of priority junctions then follow, linked by an extended hatched ghost-island, which provides marked areas for right turning vehicles from the main road. These include: Gladonian Road (cul-de-sac), Lansdowne Road, Allotments Access and Highdown Drive.

3.3 The next junction encountered is Toddington Lane, which was the subject of a planning permission granted at appeal in January 2007 (Appeal Ref: APP/C3810/A/06/2022588) for an application made by George Wimpey Southern Ltd and Laing Homes South West Thames Ltd (Application Ref: LU/61/06). The Transport Assessment proposed development related infrastructure in the form of improvements to the local road network (now implemented) to facilitate the development. These are summarised below:

- A section of single-lane dualling of the A259 Worthing Road;
- Provision of a new access from A259 Worthing Road to allow left and right turns into the site and left turn only out of the site;
- Closure of the existing Toddington Lane junction with A259 Worthing Road, and provision of a link between Toddington Lane and the new access road;
- Provision of a new Toucan crossing facility across A259 Worthing Road and pedestrian/cycle links between the crossing and the main site area and between the crossing and Highdown Drive;
- Provision of a 3.0m wide shared foot/cycleway facility along the northern side of Worthing Road between the proposed Toucan Crossing and the existing Toucan Crossing at Watersmead Roundabout;
- Provision of a 3.0m wide shared foot/cycleway facility along the northern side of Worthing Road between the proposed Toucan Crossing and the existing Toucan Crossing at Watersmead Roundabout;
- Widening of the A259 Worthing Road approach to the Watersmead Roundabout and provision of spiral road markings at this roundabout; and
- Provision of a secondary access into the site from the northern end of Toddington Lane, approximately 100 metres south of the railway level crossing.

(Extract from Toddington Land, Littlehampton - Transport Assessment, February 2006, BGP - paragraph 1.1.15)

- 3.4 The next junction east, Cornfield Close (cul-de-sac), has been incorporated into the eastern end of the improved section of single lane dualling. This junction was specifically designed to permit full turning movements to and from Cornfield Close, but to force right-turners from Toddington Lane to u-turn at the Watersmead Roundabout, rather than attempt that manoeuvre at this location.
- 3.5 The last junction with the A259 Worthing Road, prior to the Watersmead Roundabout, is the Windroos Nursery Access (Lyons Haulage Depot). This junction is actually in the form of two existing accesses divided by some informal landscaping. There are no formal junction road markings provided, either in the form of stop-lines or give way lines from the side road. As is the case for the rest of the section, the A259 is a single carriageway, in this location with centreline marking only. No marked right turning facility of any kind currently exists. From a recent site visit, it is clear that all turning movements are available and are executed to and from the highway at the existing junction.
- 3.6 The TA produced previously for the Toddington Land, Littlehampton development and from which the highway improvements, identified above, were taken, would have been required to include all known committed development in the impact assessment. At that time, this would include the Lyons Haulage Depot site, as part of the Development Brief allocation. The above off-site works were designed assuming the Development Brief would provide 546 dwellings in total. The permitted development, currently under construction, is for 393 dwellings. This suggests that, up to, an additional 153 dwellings associated with the Lyons Haulage Depot redevelopment, based on the same tenure mix and trip generation, could be accommodated by the infrastructure improvements already implemented on the A259 and at the Watersmead Roundabout.
- 3.7 As stated in the Right Turn Lane Access Design Check report, a full accident data review has not been completed at this stage. The reason for this is simply that significant improvement works have been implemented on the A259 in the vicinity of the proposed site access within the last 12 months, which were subject to a full Section 278 design check and safety audit process. Only limited accident data would be available since the implementation of these works, and accidents caused by highway design concerns that were recorded prior to these highway improvements may have now been resolved. Any other accident issues, resulting from the improvement, should be picked up in the maintenance period.
- 3.8 UML have, however, obtained the most recent five years accident records (01/02/2005-31/01/2010) in order to consider any highway safety issues relating directly to the Lyon's Haulage Depot access. Analysis of this information shows that, with the current layout and the proliferation of heavy goods vehicle movements emanating from the site, there have been no reported personal injury accidents during that period at this location.

4.0 PRE APPLICATION DISCUSSIONS WITH WSCC HIGHWAYS

- 4.1 Following UML's appointment by Stuart Lyons (Haulage) Ltd, in April 2009, WSCC were contacted to clarify the way forward for this project within the County Council's framework for providing pre-application advice. Pre-application discussions can help to minimise costs, avoid abortive applications and result in better quality applications which stand a better chance of a successful outcome and help speed up the decision making process after submission.
- 4.2 Initial discussions established that the proposed development at around 100 units would fall into Category 4. Whilst the Brief states that the 'existing access' could be used 'for a temporary period', both parties agreed due to the proposed change of use there was merit in exploring improvements to the existing access arrangement. It was also suggested that no internal plans/architect schemes would be considered until a preferred option for final testing was agreed.
- 4.3 The level of information to be supplied was discussed. This indicated that the requirement would be for a site layout, details of the existing land use, a broad description of proposals (i.e. in order of 100 units and links to Development Brief), an access feasibility assessment (considering design audit aspects, departures from standard, etc), a traffic impact assessment for the development and consideration of the accessibility of the site. It was also agreed a Stage 1 Safety Audit would be premature at this stage, as a number of access options would be considered.
- 4.4 A request for pre-application discussions with attached checklist was submitted on 29th June 2009. An Access Feasibility Report, produced by UML in June 2009, which included the access options to be discussed, accompanied this request. On 15th July 2009, WSCC contacted UML with the name of the lead officer who would deal with this project.
- 4.5 Following WSCC's review of the submission, a meeting was held on 31st July 2009 with the lead officer. A summary of the discussion relating to the junction options considered is included in Section 5. A key concern from WSCC was in respect of possible queued right turning vehicles, although this happens at present. The lead officer requested that consideration be given to the potential to implement a right turn lane on the Worthing Road to alleviate these concerns. A preferred option, for the provision a right turn lane subsequently emerged, which is discussed in Section 6.
- 4.6 The lead officer confirmed that the trip rates associated with the existing land use seemed reasonable, but requested some evidence to validate these figures. UML agreed to obtain further information. He also suggested that the residential trip rates used for the adjacent development were not used, despite the fact these had been tested at appeal. This was because they resulted from detailed negotiations regarding tenure, accommodation type, parking provision, etc. which had not yet taken place for this site. The approach adopted for the Lyons Haulage Depot site, following the pre-application discussions, was that specific search criteria for the TRICS 2009(b) assessment were used to include:

- Suburban and Edge of Town locations

- South of England Regions (excluding London and Midlands)
- Weekday surveys only
- Sites between 20 and 550 units

This would ensure a robust assessment from the Local Planning Authorities perspective.

- 4.7 The lead officer also confirmed that, given the long-standing established use for the current access and the nature of the vehicle classes that presently operated from the site, a managed improvement of the side road visibility splays to 4.5m x 120m (primary direction) and 4.5m x 99m (secondary direction to splitter island of roundabout) would be acceptable.
- 4.8 In order to progress to determination of the access arrangements, the lead officer suggested the following course of action. A Design Check Report should be provided for the preferred option, which incorporates details of each element, to ensure design compliance with appropriate standards. An Independent Road Safety Audit, carried out by an auditor from WSCC's approved list, would need to be undertaken to identify any highway safety concerns with the proposals. A designer's response would be prepared and the two submitted to WSCC. Should the designer's response accept all of the Auditors recommendations, WSCC would be satisfied. However, if any recommendations were not incorporated WSCC would need to complete an audit check.
- 4.9 Given that there is already a well-established junction at this location, however, the lead officer confirmed that WSCC Highways would have difficulty in objecting to an improved, design-checked and safety-audited access, but that their preference remained ultimately to provide a link through the neighbouring site, as set out in the Development Brief.
- 4.10 The decision to permit an access directly via Worthing Road to serve any potential development at Stuart Lyons (Haulage) Ltd site would ultimately be in the hands of the local planning authority, Arun District Council. Once WSCC Highways had completed their checks from a highway design and safety perspective, the lead officer suggested that preparation of a Feasibility Report for the benefit of the Arun DC Planning Officer and Members would be a prudent approach.
- 4.11 In relation to the point on highway land raised in paragraph 4.6 above, it was suggested that Highway boundary information should be obtained to confirm any improvement ultimately agreed fell within land controlled either by the applicant or the Highway Authority. This was requested in a letter of 6th August 2009 and duly received on 13th August 2009.
- 4.12 On learning of the imminent departure of the lead officer, appointed only eleven weeks previously, UML wrote, on 29th September 2009, to WSCC set out the current position in respect of the negotiations, as well as acting as a cover for the submission of the Design Check Report and Trip Rate Impact Assessment.
- 4.13 On 1st December 2009, a response was received from the new lead officer at WSCC, who confirmed the principle of an improved single point of access. It also, however, set out some preliminary questions in respect of the submitted preferred design.

- 4.14 A revised layout was issued by UML on 9th December 2009, with further comments received from WSCC on 10th December 2009. Another response was received from WSCC on 29th January 2010, which included a Design Check for the preferred scheme, with further comments and a request that a revised design is produced, checked against standards, safety audited and submitted with all supporting documentation, including the Feasibility Report.

5.0 PREVIOUS ACCESS ARRANGEMENT OPTIONS CONSIDERED

- 5.1 An Access Feasibility Assessment, June 2009 (Doc. Ref. 022.1832/PB/89982a) was prepared by UML and submitted to WSCC to inform the pre-application discussions.
- 5.2 Three potential access arrangements were identified and presented in drawings reference 022.1832.200.P1 and 022.1832.201.P2, attached as appendices to that document.

Option 1

- 5.3 The first option proposed a left in/left out arrangement, located approximately 20m west of the existing site access, which would be closed as part of the redevelopment. The new access would provide 9m junction radii, with 4m wide entry/exit lanes split by a tapered pedestrian island, proceeding into a 5.5m carriageway into the site with 2m footways (linking to the existing footway/cycleway on Worthing Road) on each side of the proposed junction.
- 5.4 The primary benefit of Option 1 is the restriction of right turning manoeuvres, therefore limiting opportunities for conflict with eastbound traffic on Worthing Road. Such an arrangement would also remove any potential for westbound traffic to be restricted by vehicles waiting to turn right, thus maintaining a free flow of traffic on Worthing Road.
- 5.5 The limitation of such an arrangement is inevitably the inability of westbound vehicles to exit/enter the site, and the impact this would have on convenience for future residents. As a result of the restriction of right-turn manoeuvres, it would be necessary for vehicles exiting the site to use the roundabout approximately 100m east of the site in order to travel west, similar to the situation promoted from the revised Toddington Lane junction. It would also be necessary for westbound vehicles to turn beyond the site access and approach the site from the west; the nearest roundabout in this direction is approximately 900m west of the new site access.

Option 2

- 5.6 The second option proposed a one-way access arrangement, with a separated entry and exit. Both junctions would provide radii of 7.5m, with a carriageway width of 3.5m and 2m footways on the leading side of each lane.
- 5.7 Such an arrangement would necessitate vehicles to circulate the within the development before exiting, unless a convenient cut through were provided as part of the internal road layout.
- 5.8 Option 2 maintains two accesses on Worthing Road, whereas options 1 and 3 propose a single access point. Reducing the number of accesses onto Worthing Road is likely to be seen positively by the local highway authority and would represent an improvement in terms of highway safety, both in terms of vehicle movements and for pedestrians/cyclists utilising the shared footway/cycleway recently installed along Worthing Road, as part of the adjacent development.

Option 3

- 5.9 The third option proposed a single priority junction with 9m radii, a 5.5m wide carriageway and 2m footways on each side of the access road. The access would be located approximately 20m west of the existing arrangement.
- 5.10 Option 3 represents the simplest access arrangement and, as stated previously, reduces the number of accesses onto Worthing Road. This is likely to be seen positively by local highways officers, as the number of locations for potential conflict would subsequently reduce as a result of development of the site.

Pre-application Discussions

- 5.11 These options were discussed with the lead officer at the meeting held on 31st July 2009. In respect of the Left In/Left Out design (Option 1), concerns were raised that, whilst it may work having a left out due to the proximity of the Watersmead Roundabout to the east, the requirement for right turning traffic from the east to approach via the western roundabout was unrealistic. This would actually result in drivers attempting u-turns or making other inappropriate turning manoeuvres within side streets.
- 5.12 With regard to Options 2 and 3, the key concern related to what effect a badly positioned right turning vehicle from the east would have on 'stacking back' to the pedestrian crossing and the Watersmead Roundabout. UML were asked whether they had considered the potential to implement a right turn lane on the Worthing Road to alleviate 'stacking back' concerns.

Options 5 and 6

- 5.13 UML tabled two further drawing, which presented a right turn lane facility (Options 5 and 6). Option 5 involved the highway deflection to the south of Worthing Road to accommodate the additional width for the right turn lane, whilst Option 6 considered deflection to the north into the site.
- 5.14 The lead officer expressed a preference for Option 5 providing the widening was being delivered within highway land. Highway boundary information was subsequently obtained from WSCC, which confirmed this to be the case. Option 5 (deflection south) was then taken forward as the preferred solution for further justification. This is discussed in Section 5.

Additional WSCC Comments

- 5.15 The lead officer requested that the signalised pedestrian crossing to the east of the proposed access location be made clear within any future drawings.
- 5.16 It was accepted that the overall issue of access needed to be considered primarily from a safety perspective, rather than capacity perspective, as the impact of the additional units has already been considered within the assessment of the neighbouring site.
- 5.17 The lead officer advised that parking would need to be in keeping with WSCC parking policy (car parking maximum levels/cycle parking minimum levels), but that this could be dealt with at detailed design stage.

6.0 PREFERRED JUNCTION OPTION DESIGN CHECK AND SAFETY AUDIT

6.1 A Transport Assessment and Travel Plan have been submitted in parallel with this report. The Transport Assessment includes a series of appendices that take on board all previous design comments in connection with this proposal. These include:

- Lyons Haulage Site, Worthing Road, Littlehampton - Right Turn Lane Access Design Check Report, December 2009, Upton McGougan Ltd., (Document reference: 022.1832/PB/90619c);
- Road Safety Audit – Stage 1, Lyons Haulage Site, Worthing Road, Littlehampton, Junction Access Option 5, February 2010, Crashnot Solutions LLP;
- Lyons Haulage Site, Worthing Road, Littlehampton - Road Safety Audit Designer's Response, April 2010, Upton McGougan Ltd., (Document reference: 022.1832/PB/92001);and
- Speed Survey – A259 Worthing Road, Littlehampton (approaches to Lyons Haulage Access), 8 February 2010, Crashnot Solutions LLP (Document reference: 2010/20).

6.2 The Trip Rate Impact Assessment, August 2009 (Doc. Ref. 022.1832/PB/89871b) is, once again, included as an appendix. A key aspect of this document relates to the comparative assessment of the likely acceptable level of generation from the site, based on information relating to the current use, is reported in that document. That analysis confirms there is no intensification of use of the access.

Comparative Impact Assessment

6.3 Five businesses are currently operating from the Lyons Haulage Depot site. The largest is Stuart Lyons (Haulage) Ltd, which holds operating licences for 31 Heavy Goods Vehicles (HGVs) and 26 trailers. Stuart Lyons (Haulage) Ltd employs 50 staff including office staff, mechanics and drivers. The vehicle operator licences held are included in Appendix A of the Trip Rate Impact Assessment report.

6.4 Other businesses on site include M.J. Tardy Haulage Ltd (2 HGVs and 2 trailers), Grip & Tip waste disposal services (2 HGVs), Ralph Removals (2 HGVs) and Fowler Welch (a food distribution firm – 4 HGVs).

6.5 The site also contains two residential dwellings, both occupied by the Lyons family.

Existing Trip Generation

6.6 The information above, combined with site-specific operational data and further conversation with the business owners for the site, has been used to compile daily trip rate information for the whole site. This is shown below in Table 1.

6.7 Two operational levels for existing development are identified in Table 1. The first scenario relates to the mean average weekday trips. The second scenario considers the potential maximum weekday trips. Both the mean average and potential maximum daily trips have been included as it reflects the daily variability in HGV trips generated

by Stuart Lyons (Haulage) Ltd across the week. It also reflects the expanding nature of the business as demonstrated by recent trends in obtaining additional licenses.

Table 1: Existing Trips (Car/LGV Movements, HGV Movements)

Trip Generator		Mean Average		Potential Maximum	
		Arrivals	Departures	Arrivals	Departures
Stuart Lyons (Haulage) Ltd	48 Staff	48	48	48	48
	Large Deliveries Contract 1	23	23	50	30
	Market Deliveries Contract	3	3	4	4
	Large Deliveries Contract 2	16	16	27	27
	Smaller Individual Clients	30	30	30	30
HGV Traffic sub-total		74	74	91	91
Other Businesses	HGV Traffic (2 deliveries/vehicle/day)	20	20	20	20
Services, Deliveries, etc.	Refrigeration Units - Fuel Delivery				
	MOT/Vehicle Inspectors	10	10	10	10
	Postal/Parts Deliveries	10	10	10	10
	Waste Services				
Residential Units	Visitors/Clients				
	Two Lyons' private dwellings	5	5	5	5
All Movements	Car/LGV sub-total	63	63	63	63
	HGV sub-total	104	104	121	121
	Total Vehicles	167	167	184	184
	Two-way Total	334		368	
	PCU Equivalent	542		610	

- 6.8 Based on this detailed breakdown of vehicle movements associated with the existing permitted land use, an average of 334 daily trips currently utilise the site access in total, including 208 HGV trips. On some days during the working week, this level rises to 368 daily trips including 242 HGV trips.

Proposed Trip Generation

- 6.9 Predicted trip rates associated with the neighbouring development were identified within the Transport Assessment based on industry standard data. As mentioned in previously in paragraph 4.6, the lead officer for WSCC Highways requested that the residential trip rates used for the adjacent development were not used, despite the fact these had been tested at appeal. This was because they resulted from detailed negotiations regarding tenure, accommodation type, parking provision, etc. which had not yet taken place for this site. The approach adopted for the Lyons Haulage Depot site, following the pre-application discussions, was that specific search criteria for the TRICS 2009(b) assessment were used to include:

- Suburban and Edge of Town locations
- South of England Regions (excluding London and Midlands)
- Weekday surveys only
- Sites between 20 and 550 units

- 6.10 As a full detailed scheme is yet to be designed that identifies tenure types and dwelling sizes, a worst-case scenario (in trip rate terms) of private housing has been considered. Table 2 shows the trip rate summary, which offers a robust basis for comparison from a local Planning Authority perspective. The TRICS 2009(b) outputs are attached as Appendix B of the Trip Rate Impact Assessment report.

Table 2: TRICS 2009(b) Summary

Privately Owned Housing	09:00-09:00 AM Peak		18:00-19:00 PM Peak		Daily Trips		Daily Total
	IN	OUT	IN	OUT	IN	OUT	TOTAL
Trip Rates (per dwelling)	0.141	0.417	0.324	0.211	2.497	2.599	5.096

- 6.11 It was previously calculated within Table 1 that the existing site use generates an average of 334 daily trips, with 208 (62%) of these being undertaken by HGVs to a peak of 368 trips on some days during the week, with 242 (66%) of these being undertaken by HGVs. In order to consider the effect of large heavy goods vehicle movements it is normal to convert them to a passenger car unit (PCU) equivalent. This conversion gives an equivalent value of 542 PCUs per average day, rising to 610 PCUs per peak day.

Table 3: Trip Comparison

	09:00-09:00 AM Peak		17:00-18:00 PM Peak		Daily Trips		Daily Total
	IN	OUT	IN	OUT	IN	OUT	TOTAL
Existing (Mean Average) Trips (PCUs)	/	/	/	/	271	271	542
Proposed Trips (106 Private Households)	15	44	34	22	265	275	540
Existing (Potential Maximum) Trips (PCUs)	/	/	/	/	305	305	610
Proposed Trips (120 Private Households)	17	50	39	25	265	312	612

6.12 In comparison, a wholly residential development on this site would generate include a much smaller number of HGV trips. Based on the trip rates set out in Table 2, a trip rate analysis has been completed to identify the potential number of private houses that could be implemented on site that are comparable to the PCU flows generated by both the average and potential maximum trip scenario for the existing site. The results of this comparison are shown in Table 3.

6.13 This assessment suggests that the average number of daily trips generated by the existing site is equivalent to the number of daily trips that would be generated by a 106 household development. The peak level of daily trips generated by the existing site is equivalent to the level of trips generated by a 120 household development.

Junction Modelling

6.14 The proposed junction design, established through pre-application discussions with WSCC Highways, is considered in greater detail in the accompanying Right Turn Lane Access Design Check Report.

6.15 Industry standard software has, once again, been used to test the performance of the proposed junction in capacity terms for both the AM and PM peak periods. This testing is based on the geometries established within the design, utilising 2015 traffic flows on the A259 (established within the application for the neighbouring site) and the traffic flows associated with a 120 private house development. This therefore represents a worst-case scenario in terms of possible impact.

6.16 The results are reported in full within Right Turn Lane Access Design Check Report. In summary, however, they show that the design copes well with the single vehicle, which occasionally queues to turn right, and is easily accommodated within the proposed layout. The proposed junction therefore operates well within capacity.

Safety

6.17 As explained above in paragraph 3.7, it was agreed with WSCC highways that a full accident data review should not be completed at this stage. UML have, however, obtained the most recent five years accident records (01/02/2005-31/01/2010) in order to consider any highway safety issues relating directly to the Lyon's Haulage Depot access. Analysis of this information shows that, even with the current layout and the proliferation of heavy goods vehicle movements emanating from the site, there have been no reported personal injury accidents during that period at this location.

7.0 INDICATIVE INTERNAL LAYOUT

- 7.1 The Savills' Urban Design team has developed an indicative internal layout for the Lyons Haulage Depot site. This layout, produced in conjunction with UML, considers the Development Brief and, in fact, moves it forward in respect of Manual for Streets principles. The indicative layout is shown in Savills Drawing No. 181283/03.
- 7.2 As mentioned previously, the other areas of land included in the Development Brief for Land at Toddington are currently under development as Kings Acres and Elysian Fields by David Wilson Homes and Taylor Wimpey respectively. The holistic approach taken in promoting these sites means that the layout was developed from a single masterplan, which also considered the possible future delivery of the whole Development Brief area.
- 7.3 When considering the internal layout for the Lyons Haulage Depot site, the Savills' team were conscious of potential links to the Kings Acres/Elysian Fields development, which is why the indicative layout for the Lyons Haulage Depot site mirrors the adjacent development layout at Faulkner Gardens and Oliver Acre. The Savills' layout also, subject to third party land issues being overcome, provides a loop to link these two roads, thereby pulling the whole Development Brief site together in the way originally envisaged.
- 7.4 Savills Drawing No. 181283/03 also takes account of the area safeguarded for future improvements to the A259, as shown by the large area of frontage landscaping (in accordance with the County Council's approved Worthing Road Improvement Scheme). As discussed previously in paragraphs 2.2 and 2.3, ultimately the delivery of the Brief still lies within the control of the Local Planning Authorities. The Highway Authority could exercise of its powers under Highways Act 1980, in progressing the Worthing Road Improvement Scheme, to make a Compulsory Purchase Order for the acquisition the land required for improvements to the A259.
- 7.5 As part of those proposals, the Highway Authority might decide that they wish to modify the Lyons Haulage Depot site access. Based on the indicative layout, this modification may only require the acquisition of two small strips of land in order to facilitate the connection to the wider Development Brief site. At that point it would leave the way open for the local planning authorities to consider and promote various access modifications, including total closure, maintaining a non-motorised vehicle link, or, possibly, a controlled bus gate to allow public transport vehicles to service the site and regain access to the A259 close to the Watersmead Roundabout.
- 7.6 A key feature of the Savills' design, however, is that it has been developed to ensure that it also works as a stand-alone layout. The Lyons Haulage Depot site design promotes place-making principles in giving the depot site a particular character, whilst being sympathetic to the adjacent development. For example, the smaller internal loop around public open space gives a 'village green' feel and also minimises the length of cul-de-sac within the site.
- 7.7 In terms of sustainable movement, significant improvements to local walking and cycling facilities associated with the neighbouring development (as identified previously) have been implemented on the A259 Worthing Road, including a 3.0m

shared footway/cycleway and additional toucan crossings at strategic locations. The layout currently seeks to provide opportunities to link into this sustainable transport network and it is likely these opportunities would be developed further through the design process.

Parking

- 7.8 The indicative site layout includes parking, but this has not been discussed in any detail to date, as the final accommodation mix has not been established. Once again, it is likely this issue will be discussed in detail as the design process progresses.
- 7.9 Separate WSCC and ADC Parking Standards exist which differ slightly in terms of maximum parking permitted per residential unit. From the TA associated with the neighbouring site, a parking provision of 580 parking spaces for 396 units was proposed and approved, therefore averaging 1.46 spaces per unit. This is approximately in line with the PPG13-recommended average of 1.5 spaces per unit.

8.0 CONCLUSION

- 8.1 Upton McGougan Ltd (UML) have been retained by Stuart Lyons (Haulage) Ltd to consider the transport and access issues relating to the redevelopment of the current Lyons Haulage Depot site, located at Windroos Nursery, Littlehampton. The site is currently allocated for housing development within the Arun District Council (ADC) Local Plan, and is located on the A259 Worthing Road, within the built-up area, on the northern edge of Littlehampton.
- 8.2 This document has been prepared, at the suggestion of West Sussex County Council (WSCC), to support an outline planning application for the site and should be read in conjunction with the supporting plans and documentation produced by Savills. It is based on extensive pre-application discussions with WSCC to establish the traffic and transportation principles, including means of access. It pulls together a number of previously submitted documents, including an Access Feasibility Assessment, a Right Turn Lane Access Design Check Report and a Trip Rate Impact Assessment in an attempt to set out, in a cohesive manner, how this point has been reached.
- 8.3 The 'Development Brief for Land at Toddington', adopted in October 2003, was prepared to guide the development of the site identified as, north of the A259 Worthing Road and east of Toddington Lane. The southern part of the Development Brief site, which includes the Lyons Haulage Depot, is recognised as part of SITE 7 in ADC's adopted Local Plan and allocated for housing within that document. In respect of the Lyons Haulage Depot, the Brief recognises the established and lawful use of the site by a haulage contractor and its direct access from the A259 Worthing Road.
- 8.4 In terms of implementation of the wider development, the Brief anticipates a phased approach and makes specific reference to access to the Stuart Lyons (Haulage) Ltd section of the site in paragraph 7.19, which states:
- "Land in the south eastern part of the Development Brief area, at Windroos Nursery, has existing access direct from Worthing Road which serves the business currently operating there. Any intensification of use of that access to serve new development would not be acceptable to the Highway Authority, but a limited amount of new housing may be able to be served in this way, for a temporary period, pending connection to the permanent access road to the west."*
- 8.5 This clearly makes sense in highway terms, as the Development Brief anticipated the whole of SITE 7 would be a single development site gaining access to the A259 Worthing Road via the improved, and relocated, Toddington Lane junction. The key driver in respect of the closure of the direct access at Windroos Nursery was to prevent rat running to and from Toddington Lane through the wider, joined-up site.
- 8.6 However, in respect of the Lyons Haulage Depot site, because no linkage exists to the rest of the site and, more importantly, the through traffic on Toddington Lane, rat running is not possible. The issue of what constitutes intensification of the use of the existing access was raised with the highway authority during the pre-application discussion, and agreement reached on how much new housing might be considered as intensification of use of the access.

- 8.7 The current proposal for the redevelopment of the Lyons Haulage Depot site is therefore entirely consistent with the 'Development Brief for Land at Toddington'.
- 8.8 In order to establish the appropriateness of any potential access improvement proposal, we have also considered the highway characteristics for the section of A259 Worthing Road adjacent to the site, between the A259 Worthing Road/A284 Wick Street Roundabout and the Watersmead Roundabout. This length of A259 Worthing Road is single carriageway and subject to a 40mph speed limit.
- 8.9 There are a number of priority accesses along this section. Moving from the western end, there is one normal priority junction with no specific carriageway markings for right turning vehicles from the main road. This is followed by a series of priority junctions, linked by an extended hatched ghost-island, which provides marked areas for right turning vehicles from the main road. The recently relocated and improved Toddington Lane, which allows left and right turns into the side road and left turn only out of the side road, is linked with Cornfield Close via a section of single-lane dualling.
- 8.10 The final junction, prior to the Watersmead Roundabout, is the Windroos Nursery Access (Lyons Haulage Depot). This junction is actually in the form of two existing accesses divided by some informal landscaping. There are no formal junction road markings provided, either in the form of stop-lines or give way lines from the side road. The A259 at this point is a single carriageway with centreline marking only. No marked right turning facility of any kind currently exists. It is also apparent from a recent site visit that all turning movements are available and are executed to and from the existing access.
- 8.11 Extensive pre-application discussions have taken place with WSCC. Initial discussions established that the proposed development at around 100 units and the Brief's requirement that the 'existing access' could be used 'for a temporary period', both parties agreed due to the proposed change of use there was merit in exploring improvements to the existing access arrangement.
- 8.12 A number of options were considered, which were subsequently ruled out, based on the existing layout. These included a Left In/Left Out configuration (Option 1), a separate in and out layout using both existing accesses (Option 2) and an standard side road layout utilising the furthest existing access from the Watersmead Roundabout (Option 3).
- 8.13 In respect of Option 1 concerns were raised that, whilst it may work having a left out due to the proximity of the Watersmead Roundabout to the east, the requirement for right turning traffic from the east to approach via the western roundabout was unrealistic. This would actually result in drivers attempting u-turns or making other inappropriate turning manoeuvres within side streets.
- 8.14 With regard to Options 2 and 3, the key concern related to what effect a badly positioned right turning vehicle from the east would have on 'stacking back' to the pedestrian crossing and the Watersmead Roundabout.
- 8.15 UML were asked whether they had considered the potential to implement a right turn lane on the Worthing Road to alleviate 'stacking back' concerns. Two further layouts were then presented. Option 5 involved the highway deflection to the south of Worthing Road to accommodate the additional width for the right turn lane, whilst Option 6 considered deflection to the north into the site to provide the right turn lane.

- 8.16 The lead officer expressed a preference for Option 5 providing the widening was being delivered within highway land. Highway boundary information was subsequently obtained from WSCC, which confirmed this to be the case. Option 5 (deflection south) was then taken forward as the preferred solution for further justification.
- 8.17 The level of information to be supplied was discussed. This indicated that the requirement would be for details of the existing land use, a broad description of proposals, an access feasibility assessment, a traffic impact assessment for the development to establish equivalent vehicle trips and consideration of the accessibility of the site.
- 8.18 Site-specific operational data, obtained for the site, was used to compile daily traffic flow information. In analysing this data, it became apparent that there were two well-defined operational levels for the existing development. The first related to the mean average weekday trips, whilst the second related to the potential maximum weekday trips. Both the mean average and potential maximum daily trips have been included as it reflects the daily variability in HGV trips generated by Stuart Lyons (Haulage) Ltd across the week. It also reflects the expanding nature of the business as demonstrated by recent trends in obtaining additional licenses.
- 8.19 Based on this detailed breakdown of vehicle movements associated with the existing permitted land use, an average of 334 daily trips currently utilise the site access in total, including 208 HGV trips. On some days during the working week, this level rises to 368 daily trips, including 242 HGV trips. The existing access arrangement also permits all manoeuvres via the site access.
- 8.20 In order to establish the equivalent traffic impact, based on a wholly private residential scheme, industry standard software (TRICS 2009(b)) was used. A direct comparison of the information indicates that between approximately 106-120 private houses could be developed on site without any intensification of the access use. The wider transport network has already been subjected to improvements associated with the neighbouring residential development, incorporating requirements outlined within the Development Brief, and designed to accommodate an additional 153 mixed-tenure units coming forward on the Lyons Haulage Depot land. Therefore the wider network should also continue to operate within capacity as a result of any future residential redevelopment of this site.
- 8.21 A junction capacity check has been carried based on the 120 private house scenario. The results are reported in full within Right Turn Lane Access Design Check Report. In summary, however, they show that the design copes well, with the predicted, occasional right turning vehicle easily accommodated within the proposed layout. The proposed junction therefore operates well within capacity.
- 8.22 As stated in paragraph 3.7, it was agreed with WSCC highways that a full accident data review should not be completed at this stage. UML have, however, obtained the most recent five years accident records (01/02/2005-31/01/2010) in order to consider any highway safety issues relating directly to the Lyons Haulage Depot access. Analysis of this information shows that, even with the current layout and the proliferation of heavy goods vehicle movements emanating from the site, there have been no reported personal injury accidents during that period at this location.
- 8.23 As requested by WSCC, the Savills' Urban Design team has developed an indicative internal layout for the Lyons Haulage Depot site.

- 8.24 As mentioned previously, the other areas of land included in the Development Brief for Land at Toddington are currently under development as Kings Acres and Elysian Fields. The holistic approach taken in promoting these sites means that the layout was developed from a single masterplan, which also considered the possible future delivery of the whole Development Brief area, including the Lyons Haulage Depot site.
- 8.25 When considering the internal layout for the Lyons Haulage Depot site, the Savills' team were conscious of potential links to the Kings Acres/Elysian Fields development, which is why the indicative layout for the Lyons Haulage Depot site mirrors the adjacent development layout at Faulkner Gardens and Oliver Acre. The Savills' layout also, subject to third party land issues being overcome, provides a loop to link these two roads, thereby pulling the whole Development Brief site together in the way originally envisaged.
- 8.26 A key feature of the Savills' design, however, is that it has been developed to ensure that it also works as a stand-alone layout. The Lyons Haulage Depot site design promotes place-making principles in giving the depot site a particular character, whilst being sympathetic to the adjacent development. For example, the smaller internal loop around public open space gives a 'village green' feel and also minimises the length of cul-de-sac within the site.
- 8.27 With regard to the issue that *"new housing may be able to be served in this way, for a temporary period"*, ultimately, is still within the control of the Local Planning Authorities. Savills Drawing No. 181253/03 also shows the area safeguarded for future improvements to the A259 (in accordance with the County Council's approved Worthing Road Improvement Scheme). The Highway Authority could exercise of its powers under Highways Act 1980, in progressing the Worthing Road Improvement Scheme, to make a Compulsory Purchase Order for the acquisition the land required for improvements to the A259.
- 8.28 As part of those proposals, the Highway Authority might decide that they wish to modify the Lyons Haulage Depot site access. Based on the indicative layout, this modification may only require the acquisition of two small strips of land in order to facilitate the connection to the wider Development Brief site. At that point it would leave the way open for the local planning authorities to consider and promote various access modifications, including total closure, maintaining a non-motorised vehicle link, or, possibly, a controlled bus gate to allow public transport vehicles to service the site and regain access to the A259 close to the Watersmead Roundabout.
- 8.29 In terms of sustainable movement, significant improvements to local walking and cycling facilities associated with the neighbouring development (as identified previously) have been implemented on the A259 Worthing Road, including a 3.0m shared footway/cycleway and additional toucan crossings at strategic locations. The layout currently seeks to provide opportunities to link into this sustainable transport network and it is likely these opportunities would be developed further through the design process.
- 8.30 The indicative site layout includes parking, but this has not been discussed in any detail to date, as the final accommodation mix has not been established. Once again, it is likely this issue will be discussed in detail as the design process progresses.

APPENDIX A
INDICATIVE SITE LAYOUT

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