

BOKLOK

LAND TO THE SOUTH OF LITTLEHAMPTON ACADEMY

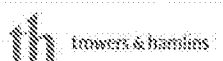
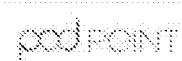
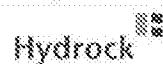
Transport Assessment

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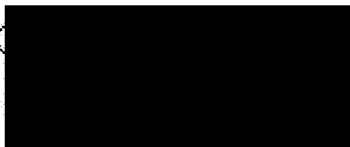
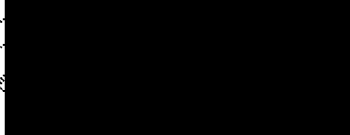
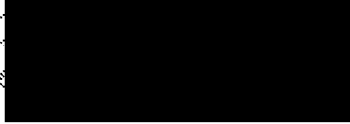
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Proposed Residential Development

Document: Transport Assessment

Client: BoKlok

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1 INTRODUCTION

1.1 Background

- 1.1.1 RGP is commissioned by BoKlok to provide highway and transport planning advice with respect to the proposed residential development of undeveloped land south of Littlehampton Academy, located on Fitzalan Road in Littlehampton (‘the site’).

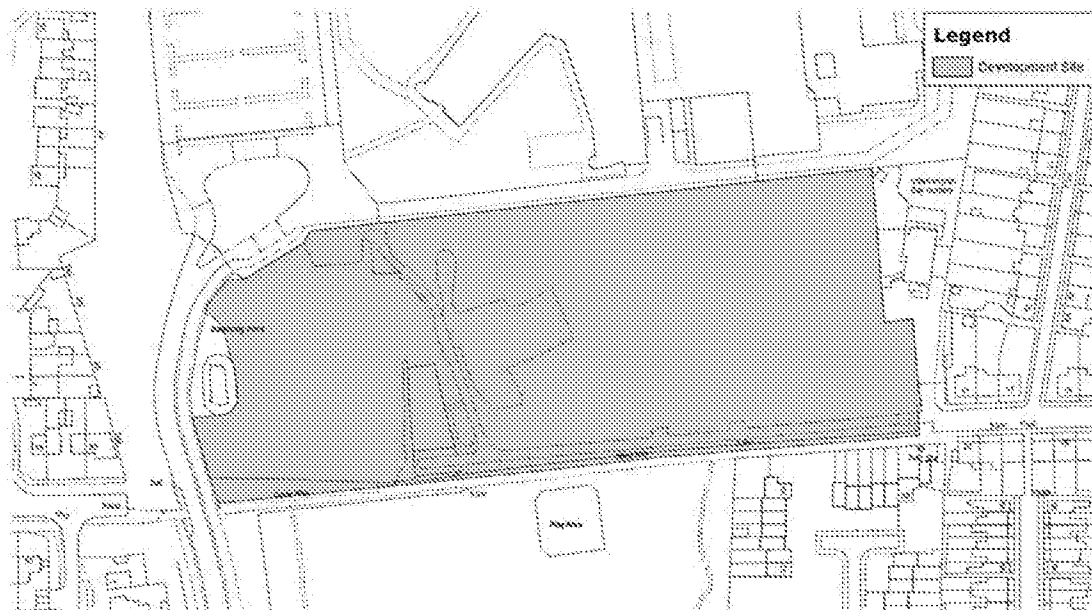


Figure 1.1 Site Location & Extents

- 1.1.2 This Transport Assessment (TA) has been prepared in support of the proposed development of the site to provide a residential scheme of 112 dwellings, including a mix of houses and flats/apartments. A copy of the Masterplan layout is attached at Appendix A.
- 1.1.3 The site is formed of surplus land following the part demolition and redevelopment of the Littlehampton Academy in 2010, constructed on land immediately to the north. The application for Littlehampton Academy (including a new 1900 pupil facility) was granted in 2010 and opened in 2012.
- 1.1.4 The site, when forming part of the Academy, was historically accessed via a network of residential streets to the east, including Elm Grove Road. The redeveloped Littlehampton Academy is now served primarily by a new access on its western side, connecting to the recently constructed section of the wider Fitzalan Link Road. The development site would also provide access via Fitzalan Road, with the closure of access via Elm Grove Road to all traffic other than emergency vehicles.

- 1.1.5 The site is referenced within the Arun District Council (ADC) Local Plan 2011-2031 as a 'Housing Site' within reference to the Made Neighbourhood Plan. The 'Littlehampton Neighbourhood Development Plan' (2014-2029) refers to the site as an allocated site with a viable scheme of up to 70 dwellings considered viable.

1.2 Development Overview

- 1.2.1 A copy of the proposed site plan is attached at Appendix A. As detailed above, the development proposals comprise 112 residential dwellings including 80 houses and 32 apartments. The proposed mix of dwellings is confirmed in Figure 1.2 below.

Dwelling Type	
1-bedroom apartments	23
2-bedroom apartments	9
2-bedroom houses	26
3-bedroom houses	54
Total	112

Figure 1.2 Proposed Development Mix

- 1.2.2 The proposals would include a new single point of access via Fitzalan Road to serve all vehicle traffic, formed as a simple priority junction. The proposed access route has been designed to provide a suitable geometry, with adequate visibility splays provided in accordance with appropriate design guidance.
- 1.2.3 Furthermore, the proposed access has been considered in line with the future alignment of the Fitzalan Link Road and can be constructed to tie in with the future arrangement if implemented by that time (or easily altered to tie in at a future date).
- 1.2.4 In addition, the proposed site layout would provide connectivity for pedestrians and cyclists in all directions, including dedicated routes segregated from traffic. These routes would in turn link with the good existing pedestrian cycle connections and public open space to the south of the site.
- 1.2.5 The proposals would include the formation of new internal roads through the site to serve the proposed dwellings. These internal routes have been designed with consideration of relevant design guidance such as 'Manual for Streets' and 'Inclusive Design' to ensure speeds of vehicles within the site would be minimised. The main internal roads have been designed to comply with design standards for adopted roads.
- 1.2.6 The proposals would include suitable provision for vehicular and cycle parking on-site, in accordance with relevant local and national standards, and would provide suitable turning and manoeuvring space to accommodate the largest vehicles that would typically be anticipated.

- 1.2.7 The proposals include measures to maximise opportunities for all users of the site to travel by non-car modes. This includes the submission of a residential Travel Plan. The Travel Plan (Ref: 20/4928/TP03) has been prepared as a separate document that should be read fully in conjunction with this TA.

1.3 Assessment Methodology & Scope

- 1.3.1 Since the Fitzalan Link Road is still being constructed, and with the recognised limitations of conducting traffic surveys with the current COVID-19 restrictions in place, the assessments within this TA have been conducted based on historic traffic data, in agreement with West Sussex County Council.

- 1.3.2 The baseline conditions for the local highway network and markedly Fitzalan Road have been extracted from the previous assessments undertaken for the Littlehampton Academy (constructed in 2012), the North Littlehampton Strategic Development Site (NLSDS) and the notable planning consents for the implementation of the 'Fitzalan Link Road', which will be formed as an extension/alteration to the current alignment of Fitzalan Road.

- 1.3.3 The NLSDS comprises a mixed use development of up to 1,260 residential dwellings (out of a potential 1,460 dwelling Master Plan), up to 13,000 sqm of B1 employment floor space, up to 3,500 sqm of Class A local facilities, a 100 bed hotel, 60 bed care home, a new 2 Form Entry primary school, community centre, youth and leisure facilities, combined heat & power plant, extension to existing household recycling centre, landscaping, additional allotments, multi-functional green infrastructure including sports pitches (& associated changing facilities), informal open space and children's play areas. The NLSDS is continuing to be constructed with large portions of the scheme already complete.

- 1.3.4 The wider North Littlehampton Scheme is supported by the construction of the Fitzalan Link Road between Worthing Road (A259) and the East Street/Fitzalan Road roundabout, which ties in with the access road to the North Littlehampton Scheme. The Fitzalan Link Road was granted permission by Arun District Council in 2012 (Ref: LU/63/11) and includes the re-alignment of Fitzalan Road outside the site to tie in with a new roundabout junction for Littlehampton Academy.

- 1.3.5 The Fitzalan Link Road has since been subject to approval through a Reserved Matters planning application (LU/234/16/RES) to confirm the detailed design aspects for its construction. The Fitzalan Link Road is currently under construction and was due to be completed in February 2021, although this is subject to delay due to COVID-19 restrictions.

- 1.3.6 The traffic implications of the proposed residential development have been assessed in relation to these future development flows on the Fitzalan Link Road. It is also noteworthy that the site has been subject to a previous outline planning approval for a residential scheme of 68 dwellings (in 2014); the impacts of the proposed development have been assessed in comparison with this previous approval.

- 1.3.7 Moreover, this TA also provides a review of the suitability of the proposed access arrangements to serve all development-related traffic, including a review of the appropriate design criteria and the undertaking of a formal junction capacity assessment using the future traffic flows identified.
- 1.4 Pre-application Consultation
- 1.4.1 As a precursor to the preparation of this Transport Assessment, formal pre-planning discussions have been held with Arun District Council (ADC), as Local Planning Authority, and West Sussex County Council (WSCC), as Highway Authority.
- 1.4.2 Initial pre-application discussions were held with WSCC to discuss the key transport related aspects of the scheme including the proposals for access and car parking and confirm a scope of assessment through this Transport Assessment.
- 1.4.3 In advance of the pre-application consultation RGP prepared a pre-application Transport Note for submission to inform discussions. A copy of the Pre-application Transport Note (BOKL/20/5433/TN01) is attached at Appendix B.
- 1.4.4 A copy of the pre-application feedback from WSCC dated 30th July 2020 is also attached at Appendix C, which confirms the following key comments:
- (i) WSCC acknowledges that the gathering of new survey data is difficult due to the current pandemic. Also, in light of the link road having not yet been completed, the use of the forecast data is considered acceptable to WSCC;
 - (ii) WSCC confirmed that the traffic impacts of the previous planning application are recognised, although the permission has now lapsed. It is noted that the traffic conditions immediately surrounding the site have not changed since this time;
 - (iii) WSCC has requested further consideration of the TRICS assessments, which have been refined in this Transport Assessment. The TEMPro growth figures in the traffic assessments are also to be confirmed;
 - (iv) WSCC has confirmed that there are no overarching concerns with the principle of the access arrangement as proposed. In line with its request, further consideration has been given to links between the site and the existing shared pedestrian/cycle track to the south;
 - (v) Due to the 30mph speed limit of Fitzalan Road, Manual for streets (MfS) design guidance should be considered;

- (vi) Parking provisions should be based on Arun District Council's (ADC) adopted parking standards. A reduction in car parking will need to be supported by a robust Travel Plan.

1.4.5 With respect to the baseline assessments, the current situation continues to restrict the gathering of representative survey data and this is unlikely to occur for some time. Notwithstanding, the future flows on the local highway network, specifically the Fitzalan Link Road could not be recorded as the works to the link road and the wider strategic development sites have not been complete. The use of the approved baseline data from these consents is therefore considered to be the most suitable information for assessing the future impacts of the development.

1.4.6 With respect to the sustainable travel modes, a Framework Travel Plan has been prepared as a separate document, outlining the key sustainability measures to be introduced by the scheme to assist residents in reducing the need to travel by car. The Framework Travel Plan (Ref: 20/4928/TP03) should be read in conjunction with this TA.

1.4.7 Following the feedback from WSCC, further discussions have been held with Arun District Council (ADC) with respect to the requirements for car parking on the site.

1.4.8 As detailed later in this TA, the parking standards of ADC are set out in its Parking Standards SPD. As set out in the Pre-application Transport Note, the site is situated with 'Zone 2', representing a higher level of car parking (including all areas to the north), but borders 'Zone 4' which represents a lower levels of car parking provision, reflective of the site's good proximity to sustainable connections.

1.4.9 Through discussions with ADC, the LPA confirmed that Zone 4 is the appropriate zone to use when considering the parking requirements of the site.

1.5 Structure of This Transport Assessment

1.5.1 Based on the published WSCC Transport Assessment Methodology it is accepted that a development of this scale in this location would be adequately supported by the preparation of a Transport Assessment. The main highways and transportation issues relating to the proposals are considered within the following sections of this report:

- (i) Section 2 outlines the relevant transport planning policy upon which the assessments within this TA have been considered;
- (ii) Section 3 describes the existing site, its local surroundings and considers the accessibility credentials of the site by non-car modes of transport in relation to key local destinations;
- (iii) Section 4 confirms the baseline traffic conditions on the local highway network, including the most recent Personal Injury Accident data;

- (iv) Section 5 highlights the traffic generation potential of the proposed development and its impact on the local highway network in both its current form and subject to the consented North Littlehampton Scheme, together with Travel Planning opportunities;
- (v) Section 6 highlights the access, layout and servicing arrangements and reviews the supporting Stage 1 Road Safety Audit.
- (vi) Section 7 discusses the car and cycle parking proposals with reference to current West Sussex County Council residential parking standards;
- (vii) Section 8 contains a summary of the report and conclusions together with RGP's recommendations.

2 TRANSPORT PLANNING POLICY REVIEW

2.1 National Planning Policy Framework (NPPF)

2.1.1 The NPPF sets out a presumption in favour of sustainable development that recognises the importance of transport policies in achieving sustainable development.

2.1.2 The July 2018 revision to the National Planning Policy Framework (NPPF) by Government, the first since 2012, introduced a number of reforms which will have implications for those with land and development interests in more 'rural' areas. This is retained in the current February 2019 revision.

2.1.3 One key change is that there is now a requirement for local planning authorities to identify opportunities for local centres to grow and thrive, particularly where this would help to support local service provision. This represents stronger support for development at local centres than has been seen previously, which should result in an increase in the number of housing sites and perhaps overall a more supportive policy context for village development.

2.1.4 Paragraph 84 confirms that:

“... planning policies and decisions should recognise that sites to meet local business and community needs in rural areas may have to be found adjacent to or beyond existing settlements, and in locations that are not well served by public transport. In these circumstances it will be important to ensure that development is sensitive to its surroundings, does not have an unacceptable impact on local roads and exploits any opportunities to make a location more sustainable (for example by improving the scope for access on foot, by cycling or by public transport). The use of previously developed land, and sites that are physically well-related to existing settlements, should be encouraged where suitable opportunities exist;”

2.1.5 Paragraph 84 does not suggest that developments should be refused because they are in a remote location, as long as all opportunities to maximise the sustainability of the site have been explored. Whilst the site does not benefit from the highest levels of public transport availability in the immediate vicinity, it is positioned within a convenient travel distance on foot or by bicycle to a good level of local amenities and public transport nodes. The proposals include a package of measures to maximise opportunities to travel by these modes and further encourage access on foot, by cycling or by public transport for both the site and the surrounding residential settlement.

2.1.6 In addition, The NPPF confirms that planning decisions should have regard to local circumstances regarding the comparative accessibility of given areas. In this regard, paragraph 103 of the NPPF states that:

“... Opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making;”

2.1.7 All measures to 'maximise' the sustainability of the site should be considered realistic and in the context of the setting of the development.

2.1.8 Finally, when considering development proposals paragraphs 108 and 109 of the NPPF confirm that:

“ In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

(i) appropriate opportunities to promote sustainable transport modes can be ' or have been ' taken up, given the type of development and its location;

(ii) safe and suitable access to the site can be achieved for all users; and

(iii) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.; ”

Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.; ”

2.1.9 As set out in this TA, the location of the site affords access to a range of non-car modes of travel and local amenities, while the impact of the proposals in traffic terms would not be 'severe'.

2.2 Arun District Council Draft Local Plan (2011 - 2031).

2.2.1 The ADC Local Plan sets out the transport related policies for the District, with reference to the West Sussex Transport Plan (2011-2026).

2.2.2 Policy TSP1 of the Local Plan ensures that the growth of the District includes measures to ensure that new development provides safe access to the highway network, contributes to highway improvements and promotes sustainable travel.

2.2.3 The Local Plan states that the Council would support development which may reduce the need to travel by car, improve access to public transport, provide safe access (for all users) to the highway network, provides priority to pedestrians and cyclists and incorporates appropriate levels of parking.

2.2.4 In this instance, the site is identified in the Local Plan as a preferred 'Housing Site' with reference to the Littlehampton Neighbourhood Development Plan. The site is identified in the Neighbourhood Plan as a preferred location along the 'Fitzalan Corridor', the core of the spatial plan as a major thoroughfare connection all of the strategic development locations in the town.

2.3 West Sussex County Council Local Transport Plan 2011 - 2026

- 2.3.1 The West Sussex County Council Local Transport Plan is an overarching document setting out the County Council's strategic objectives in relation to the operation and improvement of the local transport network and the objectives of sustainable development.
- 2.3.2 The Plan covers the period 2011-2026 providing strategic direction for transport within West Sussex. The objectives of this document are to promote economic growth; tackle climate change; provide access to services, employment and housing; and improve safety, security and health. Encouraging and promoting the use of sustainable transport are considered key to meeting these objectives.
- 2.3.3 While these are over-arching objectives, it is demonstrated that the site provides sustainable access to a range of relevant services and provide safe highway access and would, by virtue, meet the other wide objectives.

2.4 North Littlehampton Strategic Development Proposals

- 2.4.1 Historically the former Littlehampton Academy took vehicular access via both Elm Grove Road and Hill Road to the east of the site with all traffic arriving and departing via the B2187 Horsham Road with associated school setting down and picking up local traffic issues.
- 2.4.2 The former Academy accommodated approximately 1700 students and 280 staff resulting in significant associated traffic. The current Academy accommodates approximately 1900 students and up to 300 staff and also makes its facilities (sports pitches etc.) available for public use outside of teaching hours.
- 2.4.3 As part of the permitted Academy the access strategy for the site was changed to close off any access to the site via Elm Grove Road and retain only limited access to some 6th form facilities and public facilities via the Hill Road access, with this access being served by only 18 car parking spaces. The construction of the current Academy has therefore resulted in a significant decrease in associated traffic on the residential streets to the eastern side of the site.
- 2.4.4 The current Academy's access strategy provides for the majority of staff, student, parent and coach / bus access via a new access to the west of the site via the newly constructed southern section of the Fitzalan Link Road.
- 2.4.5 The Link Road currently extends from the B2187 East Street / Fitzalan Road roundabout north to the current internal access road and car park of the Academy and therefore currently only serves the Academy.

- 2.4.6 However, the Fitzalan Link Road is part of a wider strategic highway improvement scheme within Littlehampton associated with the recently permitted North Littlehampton Strategic Development Site on the extensive horticultural nursery land to the north of the settlement.
- 2.4.7 The North Littlehampton Strategic Development Site comprises a Master Plan (with access approved) for an outline application for a mixed use development comprising up to 1,260 residential dwellings (out of a potential 1,460 dwelling Master Plan), up to 13,000 sqm of B1 employment floor space (including 3,000 sqm Enterprise Centre), up to 3,500 sqm of Class A local facilities, a 100 bed hotel, 60 bed care home, a new 2 Form Entry primary school, community centre, youth and leisure facilities, combined heat & power plant, extension to existing household recycling centre, landscaping, additional allotments, multi-functional green infrastructure including sports pitches (& associated changing facilities), informal open space, children's play areas with primary vehicular access from a new access from the A259 bridging over the railway line with additional access from Mill Lane & Toddington Lane under Arun District Council Planning Reference LU/47/11.
- 2.4.8 The wider North Littlehampton Scheme is supported by the recent planning consent for the construction of the "Fitzalan Link Road" between the A259 Worthing Road and the B2187 East Street / Fitzalan Road roundabout which ties in with the access road to the North Littlehampton Scheme, which was granted permission by Arun District Council in 2012 under Arun District Council Planning Reference LU/63/11.
- 2.4.9 Local highway improvements related to the consented schemes include improvements at the A27 / A284 Ford Road and the A27 / A284 Crossbush junctions securing improvements to junctions with the Trunk Road network.
- 2.4.10 The wider Fitzalan Link Road has been granted planning consent and would see the modification of the existing Littlehampton Academy access arrangement in the form of the internal access road being re-aligned to tie in with a roundabout junction in the approximate location of the current Academy access to the Link Road.

Impending Changes Local to the Site

- 2.4.11 As part of the North Littlehampton site, plans are consented for a north-south link road between North Littlehampton and Littlehampton town centre in the form of the Littlehampton Link Road. Details of this can be found through Arun District Council's Planning Portal under reference number LU/47/11.
- 2.4.12 Part of the southern section of this link road has already been completed and extends from the East Street / Fitzalan Roundabout as far as the Littlehampton Academy. This link has consent to continue north past the A259 Worthing Road where it will form a new four arm roundabout immediately east of the existing Highdown Drive / Worthing Road junction.

- 2.4.13 This will in turn create a new junction close to the existing Littlehampton Academy access, which will take the form of a three-arm roundabout. In addition, the northern extent of Highdown road, which currently has direct access onto Worthing Road, will be rerouted east onto the southern section of the Fitzalan Link Road.

- 2.4.14 It is the long term aim of local authorities that in the future a northern section is added to the Fitzalan link. This would eventually become the main route from the north into Littlehampton, bypassing Lyminster village and removing much of the traffic from Lyminster Road.

- 2.4.15 This route, from south of The Littlehampton Academy to the north of Lyminster village, is protected from development as part of Policy DEV15 Safeguarding the Main Road Network of the Arun District Local Plan 2003.

- 2.4.16 With the impending alterations to the highway here there will also be various improvements to pedestrian infrastructure and cycle provision. It is important to fully understand how the application site would operate upon completion how the existing infrastructure will be altered as a consequence of other noteworthy consented development.

- 2.4.17 From discussion with WSCC Highways Officer and WSCC Property Services and the Authorities liaison with the North Littlehampton Members Steering Group, no Policy has been identified which precludes a new access onto the Fitzalan Link Road and it is understood that WSCC have satisfied themselves internally regarding the suitability of the proposed access in capacity terms, notwithstanding the additional supporting detail set out in this report.

3 SITE LOCATION AND ACCESSIBILITY CREDENTIALS

3.1 Development Site and Local Context

- 3.1.1 Plan 01, attached, illustrates the site's location in relation to the local highway network and the public amenities which are considered to be of particular importance to the residential proposals.
- 3.1.2 The development site is located within Littlehampton with the Littlehampton Academy forming its northern boundary. The development area is on land that was formerly the Elm Grove County Infants School and part of the Littlehampton Community School / former Littlehampton Academy.
- 3.1.3 Along the site's western edge is the southern section of the Fitzalan Link Road. This is a moderately trafficked single carriageway road subject to a 30mph speed limit. At its northern extent it forms the access to The Littlehampton Academy and to the south extends to the B2187 East Street as the northern arm of the East Street / Fitzalan Road roundabout. At present this is a no-through road, however a consented scheme is in place for this to be extended northwards beyond the A259 Worthing Road as part of the North Littlehampton site. The photographs below illustrate the current conditions on Fitzalan Road.





Existing Highway Conditions on Fitzalan Road

- 3.1.4 Running the length of the southern boundary of the site is a shared use foot/cycle way which runs between Elm Grove Road to the east, and Cornwall Road to the west, where it joins the wider cycle network around Littlehampton. This route is served by a Toucan Crossing facility outside the site.



Existing Toucan Crossing on Fitzalan Road

3.2 Accessibility Credentials

- 3.2.1 In accordance with relevant national, regional and local transport planning policy objectives, a review of the existing transport infrastructure and services within the vicinity of the site has been undertaken.
- 3.2.2 Plan 01 attached, illustrates the amenities within a short distance of the site in addition to the current public transport facilities and designated cycle routes which act to encourage travel by non-car modes.
- 3.2.3 Approximately 200 metres (a 2-minute walk) to the east of the site on Horsham Road there are two convenience stores and a petrol station with its associated shop. These would provide residents with many of their likely daily necessities such as basic food shopping, toiletries or a newspaper.
- 3.2.4 Moreover, Littlehampton town centre is approximately 600 metres (an 8-minute walk) to the south-west and provides an extensive range of services, including:
- ┆ Retail outlets;
 - ┆ convenience stores;
 - ┆ supermarkets;
 - ┆ post offices;
 - ┆ pharmacy;
 - ┆ restaurants;
 - ┆ banks;
 - ┆ and council offices.
- 3.2.5 In addition, the local area has numerous schools, ranging from primary through to sixth form, including Littlehampton Academy immediately to the north of the site. As well as these, there are many health establishments, leisure facilities and employment opportunities, which would benefit future residents, as highlighted in Plan 01.
- 3.2.6 The proposed development is therefore well-placed in the context of Central Government's objective to seek more sustainable travel patterns by reducing the level of car-borne trips.
- 3.2.7 As indicated above, pedestrian and cycle facilities in the vicinity are of a very good standard, with wide and well-lit shared foot/cycleways in all directions.
- 3.2.8 At the East Street/Fitzalan Road roundabout there are dropped kerbs with tactile paving across each arm of the junction, with the inclusion of pedestrian islands. These high-quality pedestrian facilities extend into the town centre, with various signalised pedestrian and zebra crossings along this route. The main high street area is pedestrianised. This provision acts to assist pedestrians accompanied by young children as well as those with varying degrees of disability / visual impairment.

- 3.2.9 Over short distances, cycling is often quicker and cheaper than using a car and more flexible than using public transport.
- 3.2.10 Cycling infrastructure in the local area is good with an off-road route passing immediately south of the site stretching from North Ham Road to the west onto Worthing Road to the north and providing links to the wider cycle network. Sheffield cycle parking is also located at various points within Littlehampton town centre.
- 3.2.11 Additionally, the local topography is flat and therefore considered conducive to journeys on foot and by cycle.
- 3.2.12 The nearest bus stops to the site are located on Horsham Road, close to its junction with Elmgrove Road, as shown on Plan 01. These are approximately 250 metres (a 3-minute walk) east of the site. Further to these, stops can be reached 350 metres (a 4-minute walk) to the south of the site on East Street.
- 3.2.13 These stops are served by Stagecoach's Coastliner 700 route between Portsmouth and Brighton. This service runs every 10 minutes with stops in Littlehampton town centre as well as other local towns such as Chichester, Bognor Regis, Worthing and Shoreham. Regular services are also available to the Littlehampton Tesco store.
- 3.2.14 Other services operate from Littlehampton town centre, including National Express service 26 between London Victoria and Bognor Regis. Table 3.1 provides a summary of the local bus services.

Bus	Route Summary	Typical Frequency	Hours of Operation
9	Littlehampton, Rustington, Angmering, Worthing, Shoreham	Mon-Sat: Hourly Sun: No service	Mon-Fri: 06:10-19:40 Sat: 07:00-07:40
12	Littlehampton (Tesco), Rustington, Angmering	Mon-Sat: Hourly Sun: No service	Mon-Sat: 08:40-18:00
700	Portsmouth, Chichester, Bognor Regis, Arundel, Littlehampton, Worthing, Brighton	Mon-Sat: 10 mins Sun: 30 mins	Mon-Sat: 05:45-00:00 Sun: 07:00-21:15
26	NATIONAL EXPRESS: London Victoria, Brighton, Littlehampton, Bognor Regis	1 per day in each direction	To London: 07:20 To Bognor: 20:00

Table 3.1 Summary of Local Bus Services

- 3.2.15 Littlehampton railway station is located 800 metres to the south-west of the site (a 10-minute walk approximately) on Terminus Road. Facilities at the station are good and include secure, sheltered cycle parking with bus stops in close proximity.

- 3.2.16 Littlehampton is a terminus at the end of a short branch off the West Coastway Line, which operates between Southampton and Brighton. From here, linked services depart to Bognor Regis at a frequency of 1 train per hour and to London Victoria and Portsmouth at a frequency of 2 per hour.

Route (Final Station)	Destinations	Typical Frequency
Portsmouth & Southsea	Portsmouth & Southsea, Fratton, Hilsea, Bedhampton, Havant, Warblington, Emsworth, Southbourne, Nutbourne, Bosham, Fishbourne, Chichester, Barmham, Ford, Littlehampton	Hourly
Bognor Regis	Bognor Regis, Barmham, Ford, Littlehampton	Hourly
London Victoria via Worthing & Hove	London Victoria, Clapham Junction, East Croydon, Gatwick Airport, Haywards Heath, Burgess Hill, Hassocks, Preston Park, Hove, Portslade, Shoreham-by-Sea, Worthing, West Worthing, Durrington-on-Sea, Goring-by-Sea, Angmering, Littlehampton	30 mins
Brighton via Worthing	Brighton, Hove, Aldrington, Portslade, Fishergate, Southwick, Shoreham-by-Sea, Lancing, East Worthing, Worthing, West Worthing, Durrington-on-Sea, Goring-by-Sea, Angmering, Littlehampton	30 mins

Table 3.2 Summary of Local Rail Services

- 3.2.17 The journey to London Victoria typically takes around 1 hour 45 minutes calling at various key destinations, most notably Worthing, Hove, Gatwick Airport and Clapham Junction. Trains to Portsmouth are generally stopping services with a typical duration of 1 hour. Trains to Bognor Regis are typically shuttle services which take 22 minutes, calling at just Ford and Barmham.

3.3 Summary of Baseline Conditions

- 3.3.1 The above review demonstrates that the site is highly accessible by a variety of modes of transport that have the potential to reduce reliance upon the private car.
- 3.3.2 The site is well located to allow convenient walking, cycling and public transport trips to a number of likely destinations. The town centre is well within an acceptable distance for walking trips; with several schools, shops and employers also within close proximity. Frequent and fast train services connect Littlehampton to many local towns and cities, with the station easily accessible by foot or bicycle. Pedestrian / cycle and public transport links are good at present and are anticipated to be further improved upon completion of the Fitzalan Link Road. It is therefore proposed that sustainable modes of transport would be the modal form of travel for many residents of the site.

4 BASELINE TRAFFIC CONDITIONS

4.1 Littlehampton Academy

4.1.1 As detailed above, Fitzalan Road currently serves Littlehampton Academy only, with the connecting sections of the link road targeted for completion in early 2021.

4.1.2 The traffic movements associated with the past redevelopment of Littlehampton Academy have been extracted from the Transport Assessment that supported its planning approval 083/10/LU (prepared by Gifford in July 2010). Littlehampton Academy was opened in 2012 and has not been subject to further alteration/expansion since that date.

4.1.3 The traffic movements for Littlehampton Academy were derived using the TRICS database, extracting data from other comparable school/academy developments. A further assessment of modal split was undertaken based on a travel questionnaire survey carried out in 2009 to determine the key methods of travel.

4.1.4 The table below summarises the derived traffic movements for Littlehampton Academy, by all modes, from the 083/10/LU planning approval for 1900 pupils/300 staff.

Time Period	Total Person Trips	Vehicle Occupants	Park and Walk	Public Transport	Walk	Cycle
AM Peak Hour (08:00-09:00)	202	48	4	135	14	1
Inter Peak (14:00-15:00)	16	3	1	11	1	0
Inter Peak (15:00-16:00)	173	41	2	114	10	1
PM Peak Hour (17:00-18:00)	24	4	1	15	2	0
Daily Total	717	171	14	478	50	4

Table 4.1 Baseline Multi-Modal Flows (Littlehampton Academy Transport Assessment)

4.1.5 The further table below confirms the directional traffic flows predicted on the current alignment of Fitzalan Road (currently serving Littlehampton Academy only).

Time Period	Northbound	Southbound	Two-way
AM Peak (08:00-09:00)	274	150	424
PM Peak (17:00-18:00)	30	53	83
Daily Total	768	777	1,545

Table 4.2 Baseline Traffic Flows (Littlehampton Academy Transport Assessment)

4.1.6 As confirmed above, Littlehampton Academy has not been subject to any additional expansion since its construction and therefore these flows are still considered to be representative of typical conditions.

4.1.7 It is noteworthy however that the above predicted vehicle trips were derived prior to the implementation of a Travel Plan, which the Academy introduced as part of the approval. This Travel Plan would have been operating for some time and given the nature and location of the Academy (as well as the significant proportion of non-car trips without it) it is likely that a significant proportion of these vehicle trips would have been diverted to sustainable modes over time. The above assessments are therefore considered to be robust.

4.2 Fitzalan Link Road

4.2.1 The future predicted traffic profile of the Fitzalan Link Road, once opened, has historically been assessed in considerable detail through previous approvals for the Link Road and the North Littlehampton Site through planning application LU/47/11. Subsequently, a Reserved Matters application LU/234/16/RES was approved in 2016 and included the detailed design aspects of the Link Road, on the basis of the approved future traffic flows.

4.2.2 Table 4.3 below summarises the forecast peak hour 2016 (with development) traffic flows along the Fitzalan Link Road to the north of the site, extracted from the Transport Assessment (prepared by Mayer Brown). It is noteworthy that these figures include allowance for the Littlehampton Academy development. The figures in brackets indicate the numbers of HGV movements.

Time Period	Northbound	Southbound	Two-way
AM Peak (08:00-09:00)	282 (44)	352 (51)	634 (95)
PM Peak (17:00-18:00)	340 (48)	292 (44)	632 (92)

Table 4.3 2016 Fitzalan Link Road Flows (North Littlehampton Development TA)

- 4.2.3 The above figures show that the proposed link road would generate reasonable levels of traffic throughout the weekday peak hours. However, as shown in Table 2 a large proportion of this activity would be from/to Littlehampton Academy. It is assumed that the above assessments include the redistribution of traffic from and to Littlehampton Academy, some of which would utilise the new link road to/from the north once complete.
- 4.2.4 To determine the Annual Average Daily Traffic Flows (AADT) for the Fitzalan Link Road, DfT conversion factors have been used. Using the DfT Conversion spreadsheet, the Fitzalan Link Road would experience circa 8,050 two-way AADT flows based on the 2016 flows.
- 4.2.5 The link capacity of the road can be calculated using the Design Manual for Roads and Bridges standard TA 79/99 entitled 'Traffic Capacity of Urban Roads'. This standard classifies this section of highway as an 'Urban All-purpose Road (UAP)' a single carriageway road of 40mph or less.
- 4.2.6 Table 1 of TA 79/99 confirms that the road falls within the 'UAP3', as a 'variable standard road carrying mixed traffic with frontage access, side roads, bus stops and at-grade pedestrian crossings'. Table 2 subsequently confirms that the average one-way hourly flow for this type of road is 1530 vehicles (3,060 two-way). This indicates that the new Link Road would only be utilising circa 21% of its theoretical capacity when first opened.
- 4.3 Previous Planning Consent
- 4.3.1 The previous Outline planning consent on the site (LU/55/15/OUT) included a residential scheme of 68 dwellings including 52 houses and 16 flats.
- 4.3.2 The total traffic generation for the site has been extracted from the Transport Planning Statement, prepared by RGP. The table below summarises the total traffic flows based on the approved trip rates for mixed private and affordable housing. It is noteworthy that all affordable units were to be accessed via Elm Grove Road to the east, with all open market dwellings accessed via the Fitzalan Link Road to the west.

Time Period	Arrivals	Departures	Two-way
Open Market Housing (accessed via Fitzalan Road)			
AM Peak Hour(08:00-09:00)	4	19	23
PM Peak Hour(17:00-18:00)	17	8	25
Daily Total	111	114	225
Affordable Housing (accessed via Elm Grove Road)			
AM Peak Hour(08:00-09:00)	2	5	7
PM Peak Hour(17:00-18:00)	4	3	7
Daily Total	29	27	56
TOTAL TRAFFIC GENERATION (68 Residential Dwellings)			
AM Peak Hour(08:00-09:00)	6	24	30
PM Peak Hour(17:00-18:00)	21	11	32
Daily Total	140	141	281

Table 4.4 Consented Traffic Generation (68 Residential Dwellings)

4.3.3 As confirmed above, the previously approved proposals were predicted to generate around 30 two-way vehicle movements during the peak hours, with around 281 two-way vehicle movements during a typical weekday.

4.3.4 As detailed above, the previous proposals included access off Elm Grove Road for the affordable dwellings, generating around 56 daily two-way vehicle movements on this minor road during a typical weekday.

4.4 Road Traffic Accidents

4.4.1 A review of recent personal injury accident (PIA) data for the highway in the vicinity of the site has been undertaken in respect of the proposed development. Road Traffic Accident Data for the preceding 5-year period (to 31/12/2020) was requested from Sussex Police. A copy of the data is contained within Appendix D together with a breakdown of the recorded incidents. The study area covers the extent of Fitzalan Road between the site and B2187 East Street.

4.4.2 The attached data confirms that no Personal Injury Accidents (PIA) have occurred along Fitzalan Road associated with the operations of the Littlehampton Academy, including at the existing crossing adjacent to the site.

4.4.3 A total of 3 PIAs have occurred at the Fitzalan Road/East Street roundabout junction during the last 5 years. The first accident was caused by temporary traffic lights at the roundabout. A further accident was a vehicle collision that was not recorded.

- 4.4.4 The final accident involved a cyclist entering the roundabout carriageway from Fitzalan Road and being struck by a westbound vehicle and resulting in slight injury. The cyclist failed to dismount and utilise the available uncontrolled crossing along the shared pedestrian/cycle route.
- 4.4.5 It is concluded based on the attached data confirms that the local highway network does not suffer from any underlying road safety problems that would be further exacerbated by the proposed development.

5 FORECAST TRIP GENERATION & IMPACT

5.1 Vehicle Trip Generation

5.1.1 The current updated proposals include a scheme of 112 residential dwellings including 80 houses and 32 flats/apartments. The current Masterplan layout is attached at Appendix A.

5.1.2 To provide an updated assessment of traffic flows the TRICS database has been interrogated further using more recent survey data to derive trip rates for flats and houses in similar locations (with similar local populations). For robustness, the TRICS assessment assumes that all units would be open market (private ownership).

5.1.3 The table below summarises the results of the assessment, with the full TRICS outputs at Appendix E.

Time Period	Arrivals	Departures	Two-way
Proposed 80 Houses			
AM Peak Hour (08:00-09:00)	12	32	44
PM Peak Hour (17:00-18:00)	28	13	41
Daily Total	180	187	367
Proposed 32 Flats/Apartments			
AM Peak Hour (08:00-09:00)	2	7	9
PM Peak Hour (17:00-18:00)	7	3	10
Daily Total	42	44	86
TOTAL TRAFFIC GENERATION (112 Residential Dwellings)			
AM Peak Hour (08:00-09:00)	14	39	53
PM Peak Hour (17:00-18:00)	35	16	51
Daily Total	222	231	453

Table 5.1 Forecast Traffic Flows - 112 Residential Dwellings

5.1.4 The above table confirms that the proposed development would generate a total of 53 two-way vehicle movements during each of the peak hours as a maximum, with an increase of 19-23 two-way vehicle movements (1 movement every 2-3 minutes) from the previous planning consent (Table 4.4). During a typical weekday, the proposed development would generate around 453 two-way vehicle movements.

- 5.1.5 The proposed development would result in an increase in the use of the Fitzalan Link Road, with all traffic associated with this development proposal to be accessed via this route. This would amount to a daily increase of 172 two-way vehicle movements from the previously approved scheme.
- 5.1.6 The predicted increase in traffic from the previous consent is therefore considered to be modest in relation to the anticipated future AM and PM peak hour flows on the Fitzalan Link Road, whilst offering a significant betterment to the operations of Elmgrove Road which historically served as one of the main vehicular entrances to the former Elm Grove School and former Academy but has since been downgraded to a minor residential access road.
- 5.1.7 With reference to the Fitzalan Link Road junction, again it is considered that the additional traffic would not have a material impact on the operational capacity or safety of the local highway network in the vicinity of the site. The proposals would result in an average of one additional movement at the access approximately every 2-3 minutes in the peak hours and would represent approximately 3% of the total Fitzalan Link Road flows (Table 4.3).
- 5.1.8 The West Sussex County Council Transport Assessment Methodology states that for the purposes of requiring detailed junction capacity assessment, generally the study area will include all junctions where there is a predicted increase in total entry flows of 30 or more vehicles in any hour - or if the junction already experiences peak period congestion an increase of 10 or more vehicles - as a result of the development proposals. Therefore, notwithstanding the modest increase from the consented scheme, the current proposals would generate 53 two-way peak hour vehicle movements and would be subject to further capacity assessment, outlined in Section 6 of this Transport Assessment.
- 5.1.9 It is noted that WSCC, as part of their liaison with the North Littlehampton Steering Group previously undertook an independent junction capacity assessment in the form of a PICADY model. The outputs of this model demonstrate there was to be significant capacity at the junction and there would be no issues of material highway capacity or delay. However, given the predicted increase in vehicle trips and to ensure that the proposed access arrangements would be appropriate, a further capacity assessment of the proposed access arrangements has been undertaken.
- 5.1.10 It is also important to note that the traffic generation characteristics of the application site would be positively influenced by the construction and implementation of the measures secured through the North Littlehampton proposals including the implementation of significant improvement to pedestrian, cycle and public transport provision locally would encourage a significant shift toward sustainable travel modes.
- 5.1.11 The potential for the site to exhibit a significant proportion of journeys undertaken by sustainable modes of transport and further reduce the site's impact on the local highway network will be investigated through the development of a Residential Travel Plan.

5.2 Traffic Mitigation

- 5.2.1 As detailed throughout this Transport Assessment, the proposals include a series of measures to encourage sustainable travel and minimise the traffic impacts of the proposals from the outset. This includes a series of 'hard' infrastructure measures to be put in place prior to occupation of the units, and 'soft' measures to be implemented to users of the site over a period of time.
- 5.2.2 The proposed development would include the following 'hard' infrastructure measures to be put in place:
- (i) Provision of cycle parking/storage to be provided for all users in accordance with ADC and WSCC parking standards;
 - (ii) Electric vehicle charging infrastructure in accordance with ADC policy;
 - (iii) Provision of car club spaces on site, available to the public, with memberships provided to all prospective residents of the development.
- 5.2.3 The implementation of electric vehicle charging on site would support and encourage the purchase and use of electric vehicles, which is ever increasing. The use of electric vehicles and plug-in hybrids across the site would further mitigate the impacts of the scheme in terms of AADT flows by petrol and diesel cars/vans. In line with WSCC requirements, the uptake electric vehicles would be closely monitored with additional 'passive' infrastructure in place to increase provisions for EV charging if necessary. Further information is provided in Section 7 of this Transport Assessment.
- 5.2.4 The 'soft' infrastructure would principally include informative measures and incentives for staff to encourage non-car use, implemented through a Travel Plan. A framework Travel Plan document (20/5433/TS03) has been developed in line with this Transport Assessment and will be detailed and agreed through subsequent Conditions. The Framework Travel Plan has been developed in line with current DfT and WSCC Guidance on Travel Plans.
- 5.2.5 The Travel Plan aims to reduce the dependence upon the private car for occupiers of the proposed development. This therefore includes a number of initiatives and infrastructure measures, which would increase the attractiveness of alternative modes of transport to the private car.
- 5.2.6 The Travel Plan represents a package of measures tailored to the needs of an individual site and aimed at promoting greener, cleaner travel choices by reducing reliance on the use of the private car. The development of such measures can enable individuals to reduce the impact of travel and transport on the environment whilst also bringing a range of benefits to the individual, by way of financial savings, and benefits to the local community.

- 5.2.7 Travel Plans are introduced predominantly for journeys to or from work, and in respect to residential developments, plans target individuals at the commencement of their journeys. In some instances, it is not practical for all to alter their mode of travel to a more sustainable mode, however, by providing a range of alternatives through bespoke initiatives, there are opportunities for individuals to contribute to improving the local environment and their own personal health and well-being.
- 5.2.8 There are a number of benefits of travel plans, which for this site include:
- (i) Improve access to essential services and jobs;
 - (ii) assist in providing less stressful options for travel;
 - (iii) provide opportunities to build healthy exercise into daily life;
 - (iv) reduce journey-times to local destinations;
 - (v) reduce the cost of travel to work;
 - (vi) make local streets less dangerous, less noisy and less polluted;
 - (vii) enhance public transport; and
 - (viii) help create a place which is better to live in, work in and visit and which attracts investment.
- 5.2.9 A Travel Plan is never complete but is an evolving document and process which needs continuous input and monitoring from those that maintain it, as well as the commitment from all users of the site.
- 5.2.10 The most important and cost-effective measure to be introduced as part of this Travel Plan is the provision of a travel information board/ travel information packs which would be made available to all occupiers of the site.
- 5.2.11 The information would be prepared immediately prior to initial occupation of the site and would be updated on an annual basis as part of the annual review process. This would be undertaken by the Travel Plan Coordinator (TPC), who will be detailed once the site is occupied. The annual review process would also be undertaken in conjunction with WSCC's Travel Plan Officer.
- 5.2.12 This TPS details the accessibility credentials of the site and these will be addressed further and built upon in respect of resident travel through the Travel Plan.
- 5.2.13 It is anticipated that over the course of five years the Travel Plan could reduce the level of vehicular traffic associated with the development site, based on the TRICS assessments by 10%, which is in line with WSCC's draft Travel Plan Guidance for rural areas.

- 5.2.14 As identified within the DfT and WSCC guidance, targets are important since they give the Travel Plan direction from its inception and should provide a measurable goal. It is considered that many Travel Plans are complicated by introduction of a raft of targets which are not linked to one another and can result in no clear direction for the plan. This makes the target difficult to measure in a transparent and accurate way.
- 5.2.15 When setting the site-specific targets, it is important that they are „SMART“ in order to measure the outcomes of what the Travel Plan has or will achieve.
- 5.2.16 Since the aim is to reduce reliance upon the private car, it seems most appropriate to set a target which is clear and concise and relates well to the overall aim of the Travel Plan.
- 5.2.17 General guidance for travel planning states that targets should be “demanding but achievable” the aim of these targets will be:
- (i) Relate to the development, and be site specific with reference to the Transport Assessment;
 - (ii) Are easy to monitor, through annual surveys and trip counters;
 - (iii) Cover a small range of relevant issues.
- 5.2.18 Specific short-term targets will be put forward by the Travel Plan Coordinator and agreed with Officers at WSCC throughout the period of the plan. Targets will be established to ensure that they are appropriate in the context of local objectives, yet realistic and achievable.
- 5.2.19 These initial targets will be set against the baseline data obtained from year 1 surveys which will be undertaken subsequent to occupation of the site.
- 5.2.20 The specific targets shall be co-ordinated in the context of the site’s operations and agreed with Officers at WSCC following occupation and formal adoption of the plan.
- 5.3 Multi-Modal Trip Generation
- 5.3.1 In addition to traffic movements, the proposed development is anticipated to generate additional trips by non-car modes, particularly with the implementation of a residential Travel Plan.
- 5.3.2 The further table below provides a summary of the proposed trips by all people and all modes of travel.

Mode	Proposed 80 Houses			Proposed 32 Apartments		
	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily
Private Car	43	41	359	9	10	82
Taxi	1	0	4	0	0	3
OGV	0	0	4	0	0	1
All Vehicles	44	41	367	9	10	86
Car Passenger	17	17	142	3	2	22
Pedestrian	12	7	77	4	4	40
Cyclist	2	1	11	1	0	3
Bus Passenger	2	1	16	2	2	14
Rail Passenger	1	1	3	1	1	5
Non-car modes	34	27	249	11	9	84
TOTAL	78	68	616	20	19	170

Table 5.2 Summary of Total Multi-modal Trip Generation

- 5.3.3 As detailed above, the development proposals are likely to generate significant activity from non-car modes of travel, linking with existing trips in the locality, amounting to 42% of all movement in and out of the site.

6 PROPOSED ACCESS ARRANGEMENT

6.1 Overview

6.1.1 As illustrated on the attached drawing at Appendix the proposals include the provision of a new access off the Fitzalan Link Road to serve all development traffic. The proposed access would be positioned in the same location to the previous approved access arrangement through planning application LU/55/15/OUT. No access would be provided to Elm Grove Road to the east of the site. RGP Drawing 6801 illustrates the proposed access arrangement off Fitzalan Road.

6.1.2 The proposed access arrangements have been considered in line with relevant design criteria. It is noted that whilst the Fitzalan Link Road would not form part of the Strategic Road Network (SRN) and therefore its strict application is not appropriate, the Design Manual for Roads and Bridges (DMRB) provides appropriate guidance when determining the form/type of junction. With respect to the geometry and visibility requirements of the junction, the Fitzalan Link Road would be formed with a 30mph speed limit in this location and therefore Manual for Streets is the overarching guidance document in this respect.

6.1.3 The remainder of this section sets out a design check/review of relevant design standards required to develop suitable access arrangements.

6.2 Junction Form/Type

6.2.1 As indicated above, whilst the Link Road does not form part of the SRN, the DMRB guidance is only a starting point for assessment, rather than a strictly applied set of guidance. Therefore, DMRB has been reviewed in relation to the junction type used.

6.2.2 CD123 entitled ‘Geometric design of at-grade priority and signal-controlled junctions’ confirms that for proposals that generate more than 50 vehicles per week a priority junction would be appropriate. Section 2 of CD123 confirms the criteria for the selection of a priority junction and whether a central treatment is required. Paragraph 2.12 confirms:

‘Priority junctions shall include a major road central treatment when the minor road flow exceeds 300 vehicles 2-way annual average daily traffic (AADT), or the major road flow exceeds 13,000 vehicles 2-way AADT.’

6.2.3 As detailed in Table 5, the proposed development would generate around 425 two-way vehicle movements during a typical weekday, amounting to AADT flows of 399 movements. However, the proposed Link Road would operate well below the threshold of 13,000 AADT at around 8,000 AADT.

6.2.4 As detailed above, Fitzalan Road is not part of the Strategic Road Network and is not subject to strict application of standards. Therefore, it is not considered that any formal central treatment is required, and the provision of a simple priority junction would remain appropriate subject to confirmation that it would operate within capacity. Therefore, a capacity assessment has been undertaken and is summarised later in this note.

6.3 Junction Geometry

6.3.1 Section 5 of CD123 sets out the geometric requirements for priority junctions. The proposed widths of the points of access to the site have been considered in line with the requirements of both DMRB and MfS. DMRB confirms that:

“ Allowance shall be made for the swept turning paths of the worst-case design vehicle which is expected to use the priority junction, unless: 1) the design vehicle is expected to form only a very small percentage of the total number of vehicles that will use the junction; and 2) any swept path conflicts as a result of the design vehicle encroaching into other lanes will not occur on bends.”

6.3.2 In this instance, the main access to the site would predominantly be for car traffic, but would be required to provide access for deliveries, refuse collection and emergency vehicles on an occasional basis. Therefore, the access has been designed to ensure that two-way access for cars is provided at all times, but access by less frequent larger vehicles is provided through the use of the full access road width. This approach is compliant with Manual for Streets (MfS) design guidance.

6.3.3 Drawing 6801 illustrates the proposed arrangement linking with Fitzalan Road in its current form, providing a 6-metre access road width in line with MfS requirements, with 6 metre junction radii in line with DMRB. Drawing 6801 includes a vehicle swept path assessment confirming that a refuse vehicle, representing the worst-case vehicle, can access and egress the site safely. Drawing 6802 illustrates the same arrangement tying into the new/future Fitzalan Link Road alignment.

6.3.4 Turning areas would be provided at the rear of the site to ensure all vehicles can turn and leave in a forward gear. RGP drawing 6803 illustrates the swept path assessment of a refuse vehicle turning on site, representing the largest vehicle that would require access on a regular basis.

6.3.5 The above parameters are therefore considered to be appropriate for the use of the improved accesses and in line with guidance from DMRB and MfS.

6.4 Junction Visibility Splays

- 6.4.1 The requirements for MfS would recommend visibility splays of 2.4 x 43 metres to be provided in relation to the posted 30mph speed limit/design speed. This level of visibility was approved previously and would remain appropriate for the new alignment, given the site's proximity to future junctions locally.
- 6.4.2 As shown on drawings 6801 and 6802 suitable visibility splays are provided for the proposed access for both the current and future alignments of Fitzalan Road. However, it is noteworthy that actual achievable visibility is well in excess of this requirement in both directions.
- 6.4.3 Visibility to the south would be clear well beyond the pedestrian crossing and would provide visibility well beyond the required minimum as set out in Manual for Streets and separation to the crossing point. There would also be clear visibility to any pedestrians and cyclists using the adjacent facility for any drivers approaching the junction.

6.5 Junction Capacity Assessment

- 6.5.1 As detailed in Section 4, WSCC's Transport Assessment Methodology states that for the purposes of requiring detailed junction capacity assessment that generally the study area will include all junctions where there is a predicted increase in total entry flows of 30 or more vehicles in any hour. Therefore, a capacity assessment would be required in this instance.
- 6.5.2 The 2014 submission included consideration of the access junction with the Fitzalan Link Road, undertaken by WSCC through the Highway Authority's involvement in the North Littlehampton Steering Group. An assessment using PICADY software was carried out to determine the junction capacity for the weekday peak hours following completion of the Fitzalan Link Road.
- 6.5.3 A new capacity assessment has been undertaken using 'Junctions 8' software programme which has since replaced PICADY as the industry standard tool to assess the theoretical operations of priority junctions and roundabouts.
- 6.5.4 Table 4.3 summarises the forecast traffic flows along the link road to the north of the Littlehampton Academy in 2016. Figure 1 at Appendix F confirms these Baseline traffic flows including the turning movements at Littlehampton Academy.
- 6.5.5 It is noteworthy that the Base 2016 scenarios assume that the Fitzalan Link Road is fully open and therefore some traffic from the Littlehampton Academy will be redistributed to/from the north (currently all traffic travels from/to the south). The levels of redirected traffic have also been assumed to be equivalent to the forecast directional traffic flows on the link road.

- 6.5.6 To provide an indication of the likely traffic flows on the Fitzalan Link Road at the time of the planning application (2021) and to account for any traffic growth and additional development taking place locally since 2016, the '2021 base' traffic scenario has been derived using traffic growth calculations. The TEMPro database has been interrogated to establish growth rates that can be applied to the baseline traffic flows so that the effects of additional background vehicular trips on the highway network can be identified. The growth rates have been applied from 2016 to 2021. The NTM growth factors have been derived for the local Ward.
- 6.5.7 A copy of the TEMPRO outputs is included as Appendix G, while the morning and evening peak hour traffic flows for the future years of 2016 and 2021 are shown on Figure 2 at Appendix D along with the 2021 'base' traffic flows. TEMPRO growth factors of 1.0645 and 1.0634 for morning and evening peak hours respectively have therefore been applied to the 2016 observed traffic flows to forecast future traffic flows.
- 6.5.8 Figure 3 subsequently demonstrates the '2021 With Development' scenarios, which forms the basis for the capacity assessment. The full results of the capacity assessment are attached at Appendix H and are summarised in the table below.

Arm	AM Peak		PM Peak	
	Max RFC	Max. Q	Max. RFC	Max. Q
Fitzalan Link Road (Arm A/C)	0.01	0.01	0.05	0.05
Site Access (Arm B)	0.05	0.05	0.03	0.03

Table 6.1 Junctions 8 Capacity Assessment - Fitzalan Link Road/Site Access

- 6.5.9 The junction modelling programme expresses the relationship between traffic flow and the capacity of a junction as a ratio, referred to as the Ratio of Flow to Capacity (RFC). Based upon these results it also predicts the anticipated queue lengths (Q) and delay to drivers. For priority junctions, the Ratio of Flow to Capacity (RFC) values of 0.85 and above suggest that a junction is operating towards its capacity with a risk of queuing and delay.
- 6.5.10 Table 6.1 confirms that the proposed priority junction would operate well within capacity during the peak hours, with a maximum RFC of 0.05 and a maximum queue length of less than 1 vehicle (0.05) on any arm.
- 6.5.11 The proposed access arrangement is therefore considered to suitable in capacity terms and would not lead to any material delays to the operation of the Fitzalan Link Road. As part of the full TA, the above assessments would be supplemented by future year scenarios to demonstrate longevity in the capacity of the junction.

6.6 Road Safety Audit

- 6.6.1 In line with WSCC policy, an independent Stage 1 Road Safety Audit (RSA) has been commissioned on the proposed access arrangement and off-site works.
- 6.6.2 The RSA was undertaken by The Safety Forum Limited (TSF) in December 2020. A copy of the RSA is attached at Appendix I. The Audit Team raised two points in relation to the proposed access layout and designs.
- 6.6.3 The issue raised by the Auditors is summarised below together with RGP's Response. A formal copy of the Designer's Response is appended to the Stage 1 Road Safety Audit.
- 6.6.4 The Audit team raised concern that the proposed visibility splays looking to the north (linking to both the current and future alignments of the Fitzalan Link Road) would cross over private land. However, as confirmed by drawings 6801 and 6802 and the records at Appendix J, the proposed visibility splays would cross land that is entirely public highway, with no requirement for the use of third-party land.
- 6.6.5 The second item related to an observed level of queuing along the link road from the Academy. It is considered likely that this is a temporary byproduct of the current functionality of the Fitzalan Road (effectively forming a cul-de-sac just for the Academy) whilst the link road is being constructed. It is considered that, following the completion of the Fitzalan Link Road and its opening to through-traffic that these queues would dissipate. A further review of this aspect is therefore suggested at Stage 2 (detailed design stage).
- 6.6.6 However, notwithstanding the existing situation, the proposed development would principally generate traffic leaving the site during the morning period with little arrivals that would result in the overtaking manoeuvres suggested. During the PM peak hour when residents of the development are principally arriving home, the Academy activity is likely to be reduced and queuing less likely to occur. Therefore, in practice this arrangement is not likely to warrant a significant risk to safety.

6.7 Internal Street Design/Layout

- 6.7.1 The internal layout of the site has been designed with consideration of Manual for Streets guidance as well as WSCC's 'Local Design Guide: Supplementary Guidance for Residential Development Proposals'. The design of the proposed layout has also been subject to separate pre-application discussions held with WSCC, including a meeting held on the 16th December 2020.
- 6.7.2 The proposed layout has been designed to encourage low vehicle speeds whilst accommodating the necessary vehicle movements. The various sections of carriageway accord with the minimum carriageway widths based on the number of dwellings served, as set out in the WSCC Design Guide.

- 6.7.3 As detailed on the Site Plan at Appendix A, the proposed layout would be served by a primary road through the site, typically providing a 6-metre carriageway width to allowing for two-way traffic along its length. The primary access route would also serve on-street parking in the form of perpendicular bays. The proposed route would terminate at the south-east corner of the site with a suitable turning head provided to ensure all traffic can turn and leave in a forward gear. No access would be provided through the site onto Elm Grove Road.
- 6.7.4 The proposed access road has been designed to ensure that all necessary vehicles can access and egress safely. Drawing 6803 attached hereto illustrates a large refuse vehicle (the largest vehicle anticipated) travelling through the site safely. The proposed locations of bin stores and collection points are included on the plans at Appendix A.
- 6.7.5 It is noteworthy that the refuse vehicle exceeds the size and turning requirements of a fire tender, and as such it is apparent that a fire tender would also be able to access and egress appropriately.
- 6.7.6 The initial section of the primary road would provide a 1.8 metre wide footway on at least one side of the carriageway, ensuring that safe connections to/from Fitzalan Road are provided. These footways would continue into the site to link with a number of segregated footpaths, including those along the southern boundary of the site, which provide routes off the mainline carriageway to both travel through the site and access individual dwellings.
- 6.7.7 As a result, approximately 120 metres into the site the primary route would become a shared surface, with suitable service margins and carriageway widths to suit the needs for car parking and servicing.
- 6.7.8 In addition, to the primary route, a number of secondary streets would provide access to a small number of dwellings and/or parking courts. These would generally be formed as culs-de-sac and would operate as shared surface environments, in accordance with Manual for Streets and the WSCC Design Guide for encouraging priority to pedestrians over vehicles, whilst still allowing for access by cars and necessary servicing activity.
- 6.7.9 The proposed layout ensures that vehicle access for a fire appliance within 45 metres of every dwelling is provided, in accordance with The Building Regulations (Approved Document B (Fire Safety)).

7 CAR PARKING PROVISION

7.1 Overview

7.1.1 The proposals include the provision of 178 car parking spaces across the site. The proposed levels of car parking have been established through detailed discussions with Arun District Council (ADC) in relation to its parking standards and the requirements based on the accessibility of the site.

7.1.2 The proposals have been developed to strike a careful balance between providing suitable levels of car parking on site for residents, whilst ensuring that residents are not car-reliant and are encouraged to utilise other modes of travel. Given the good accessibility of the site to the town centre and rail station, the aspiration is to promote a 'car-lite' scheme and encourage reduced car ownership as much as possible.

7.1.3 The proposed arrangement has therefore been developed to minimise car ownership through reduced levels of car parking, with appropriate mitigation measures to maximise opportunities to use alternative modes of travel. Ensure that sustainable measures, such as car clubs for example, are effective.

7.2 Arun District Council Parking Standards

7.2.1 Arun District Council's (ADC) Parking Standards SPD was published in January 2020, providing the overarching guidance for the District. The ADC parking standards draws upon guidance published by WSCC within its 2019 parking standards.

7.2.2 The parking standards derive the levels of car parking based on a 'Parking Behaviour Zone' system. It is noted that the zoning system is defined by generic Ward boundaries, rather than by accessibility. For example, the site lies in the 'Brookfield' Ward which falls within the less accessible 'Zone 2', but the southern boundary of the site defines the boundary of the 'River' Ward which is classified as 'Zone 4'.

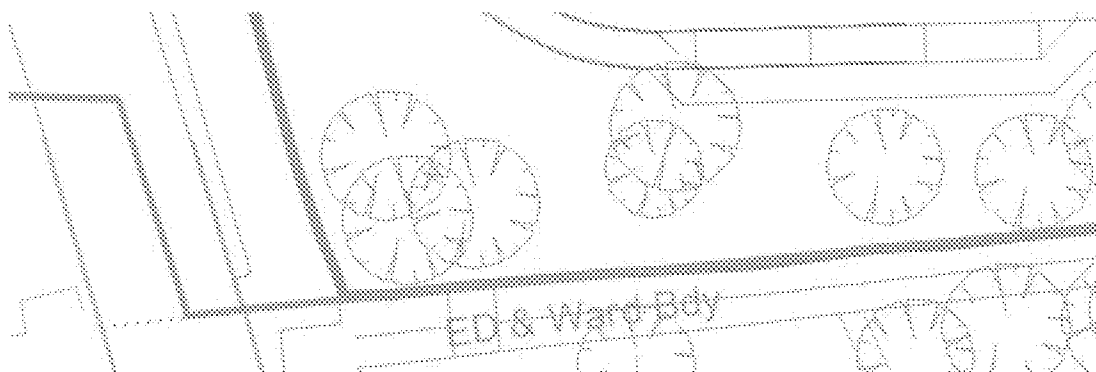


Figure 7.1 Site boundary (red) position in relation to Ward boundary (purple)

7.2.3 ADC's parking standards seek to provide further clarification on the zoning system to be applied to sites and simplify the parking ratios. Based on ADC's zoning system, the site would actually fall within Zone 4 as 'urban (within towns but not in a central location)'. Given the site's good accessibility to key services, and the future improvements to public transport infrastructure locally, it is therefore considered that there should be some flexibility in the levels of parking proposed.

7.2.4 This approach has been confirmed by ADC through pre-application discussions. A copy of correspondence confirming that the site should be considered as Zone 4 are attached at Appendix C.

7.2.5 Based on the requirements of Zone 4, the following parking requirements would be appropriate, based on Table 3.1 of ADC's standards.

No. Bedrooms	Recommended Parking ratio (per unit)	No. Units proposed	No. Spaces Recommended
1 bedroom	1.0	23	23
2 bedrooms	1.0	35	35
3 bedrooms	2.0	54	108
Total	-	112	166

Table 7.2 Recommended Car Parking Provision (ADC Parking Standards - Zone 4)

7.2.6 It is noteworthy that the above figures do not allow for visitor parking. In addition to the above, visitor parking is required at a ratio of 20% of the total number of residential units. Based on this requirement a further 22 spaces would be required, amounting to a total of 188 car parking spaces.

7.2.7 However, as also confirmed by WSCC, ADC also consider that a 10% reduction should be implemented to ensure the successful promotion of sustainable travel options. ADC's parking standards confirm that:

“to satisfy the promotion of sustainable travel modes and choices it is considered that a 10% variation below the target parking demand value be allowed where appropriate travel option provision is provided including travel plans, public transport contributions (e.g. through Section 106 contributions involving Strategic Allocations and Community Infrastructure Levy once adopted, for other non-strategic sized developments for offsite infrastructure of a strategic nature) and other sustainable travel initiatives. This is also as a result of increasing affordability issues resulting in young people staying with parents for longer.”

- 7.2.8 The detailed in Section 6, the proposals include a comprehensive package of measures to encourage sustainable travel from the outset. Therefore, it has been deemed appropriate to apply up to a 10% reduction in parking numbers from the recommended levels, amounting to a total reduction to 169 spaces across the site.
- 7.2.9 The proposals would include a total of 178 spaces across the site amounting to a reduction of 5% from the recommended standards. This would provide a robust level of car parking in line with ADC's parking standards and would support the promotion of sustainable travel initiatives.
- 7.3 Review of Local Car Ownership
- 7.3.1 It is noteworthy that both ADC and WSCC parking guidance do not provide separate parking ratios for houses and flats, with flats tending to have much lower levels of car ownership. ADC's parking standards do however outline in 'Principle 2' that:
- ...expected levels of vehicle ownership should be determined taking account of dwelling size (rooms); unit type (houses or flats); unit tenure (private/affordable), parking provision (allocated or unallocated), control/enforcement (charges etc.); ü
- ü calculation of expected levels of vehicle ownership should normally be based on local comparable data which may include Census data and local Household Surveys of new development carried out by the Local Authority where these exist, taking account of forecast changes in demand for the Local Plan period. Where electric vehicle charging points are provided, these will be included in the total demand: as a percentage of the allocated spaces: ü
- 7.3.2 Therefore, to provide an indication of the existing parking requirements of the local area, the proposed provision has been considered against Census 2011 car ownership statistics.
- 7.3.3 A copy of the Census 2011 statistics is attached at Appendix K, with car ownership figures provided for both the 'River' Ward. The table below summarises the car ownership statistics for flats and houses. The figures in brackets indicate the number of spaces required based on the proportions of car ownership and the numbers of units proposed.

No. Habitable Rooms	No. Units Proposed	No car/van	One car/van	Two cars/vans	Three or more Cars/Van
Flats/Apartments (32 units)					
1-3 rooms	32	53% (0)	39% (13)	8% (3)	1% (0)
Houses (80 units)					
1-3 rooms (2-bed)	26	32% (0)	43% (1)	22% (12)	3% (3)
4 rooms (3-bed)	54	18% (0)	55% (30)	25% (27)	2% (3)
TOTAL SPACES	112	0	44	42	6

Table 7.2 Census 2011 Data - Car Ownership (River Ward)

7.3.4 The table confirms that for the proposed flats, the Census data shows that 53% of the flats would not own a private car, with 39% owning 1 car and 8% owning 2 cars. Overall, a total of 16 car parking spaces (0.5 spaces per unit on average) would be required to cater for residents parking demands, exclusive of visitors. The proposed allocation of 1 space per unit would therefore be particularly robust.

7.3.5 For the proposed houses, the proposed 80 units would only require a total of 76 spaces based on the car ownership levels. A total of 73% of all houses would not own more than 1 car, with 25% owning two cars. The provision of at least 1 allocated space per unit would therefore be acceptable, with additional unallocated parking provided for flexibility.

7.3.6 Based on these figures, the proposals could reasonably justify the levels of car parking on the site. The proposed levels of parking are considered to provide an appropriate balance between encouraging reduced provision and ensuring that an appropriate level of spaces is provided.

7.4 Car Parking Allocation & Management

7.4.1 As detailed above, to ensure some flexibility in car ownership, with a small proportion of properties owning more than 1 vehicle, a large proportion of the proposed car parking spaces would be unallocated. This also allows flexibility in the use of any wheelchair accessible spaces and the Electric Vehicle Charging Points (EVCP) across the site and ensures that these spaces are not allocated to a resident that doesn't need them.

7.4.2 The likely allocation of car parking would be as follows:

- (i) 15 dwellings to have private drives with 2 spaces (30 spaces);
- (ii) Remaining 97 units to have 1 allocated space each (97 spaces);

- (iii) Remaining 39 spaces unallocated for residents (to include EVCPs);
- (iv) 10 spaces for visitor parking;
- (v) 2 car club spaces.

7.4.3 The use of spaces would be monitored by an Estate Management Company, who would also review the demands for electric vehicle charging and implement further spaces as deemed necessary.

7.5 Electric Vehicle Charging Provision

7.5.1 ADC's Parking Standards confirm the requirements for Electric Vehicle Charging Points (EVCP) based on an earlier infrastructure study carried out in 2017.

7.5.2 The standards confirm in Table 2.2 that developments implemented by 2023, 100% of all houses with a driveway should have an active EVCP, with 20% of all other units to have an active EVCP. All remaining dwellings/spaces should be provided 'passive' infrastructure to ensure future provision, with ADC's target to that all dwellings/spaces are provided with an EVCP by 2033.

7.5.3 To facilitate the provision of EVCPs across the site, the Applicant has entered into initial discussions with supplier Pod Point to prepare a technical specification and EV Charging concept design for the development. A copy of the proposal from Pod Point is attached at Appendix L.

7.5.4 The proposal confirms that 15 proposed dwellings (30 spaces) would have driveway parking and each would have a charging point. The remaining 148 on-street spaces will therefore require 30 charging points (20%) which have been shown across the site. The allocated spaces have been shown provided pairs since most on-street charging stations allow two vehicle/spaces to charge at once (therefore requiring 15 charging stations). The proposals would include 4 spaces for the flats with all other distributed across the site ensuring that some of the visitor spaces are also included. An indicative plan illustrating the locations of the charging points is also attached at Appendix L.

7.5.5 The proposed development would ensure that the current requirements for EVCPs are met and suitable infrastructure is in place for future requirements. Full details of the type of electric vehicle charging point would be secured by planning condition.

7.6 Car Club Provision

7.6.1 The proposals include the allocation of two car club spaces with vehicles on the site. These spaces would be located close to the site entrance and made available to the general public in addition to prospective residents of the development.

- 7.6.2 It is widely recognised that car clubs are an effective means of mitigation for reduced car ownership, providing a realistic alternative for people constrained to the use of a car for a particular journey purpose.
- 7.6.3 A copy of the proposal from Enterprise Car Club is attached at Appendix M. The proposal confirms that Enterprise would initially provide 1 car club vehicle on the site to be reviewed in the first two-years of occupation to determine the viability of a further space after that time.
- 7.6.4 The proposal would include 2 years free membership and 150 drive time for residents funded by the Applicant to encourage the use of the car club spaces from the outset.
- 7.7 Cycle Parking Provision
- 7.7.1 All residential dwellings will be provided with secure and sheltered cycle parking. Table 2.3 of ADC's parking standards confirm a requirement for 1 space per unit for 1 & 2 bed dwellings and 2 spaces per unit for all larger dwellings.
- 7.7.2 Therefore, a provision of 1 cycle space per unit is proposed for all 1 and 2 bedroom units and 2 spaces for the larger 3 bedroom units in line with these requirements.

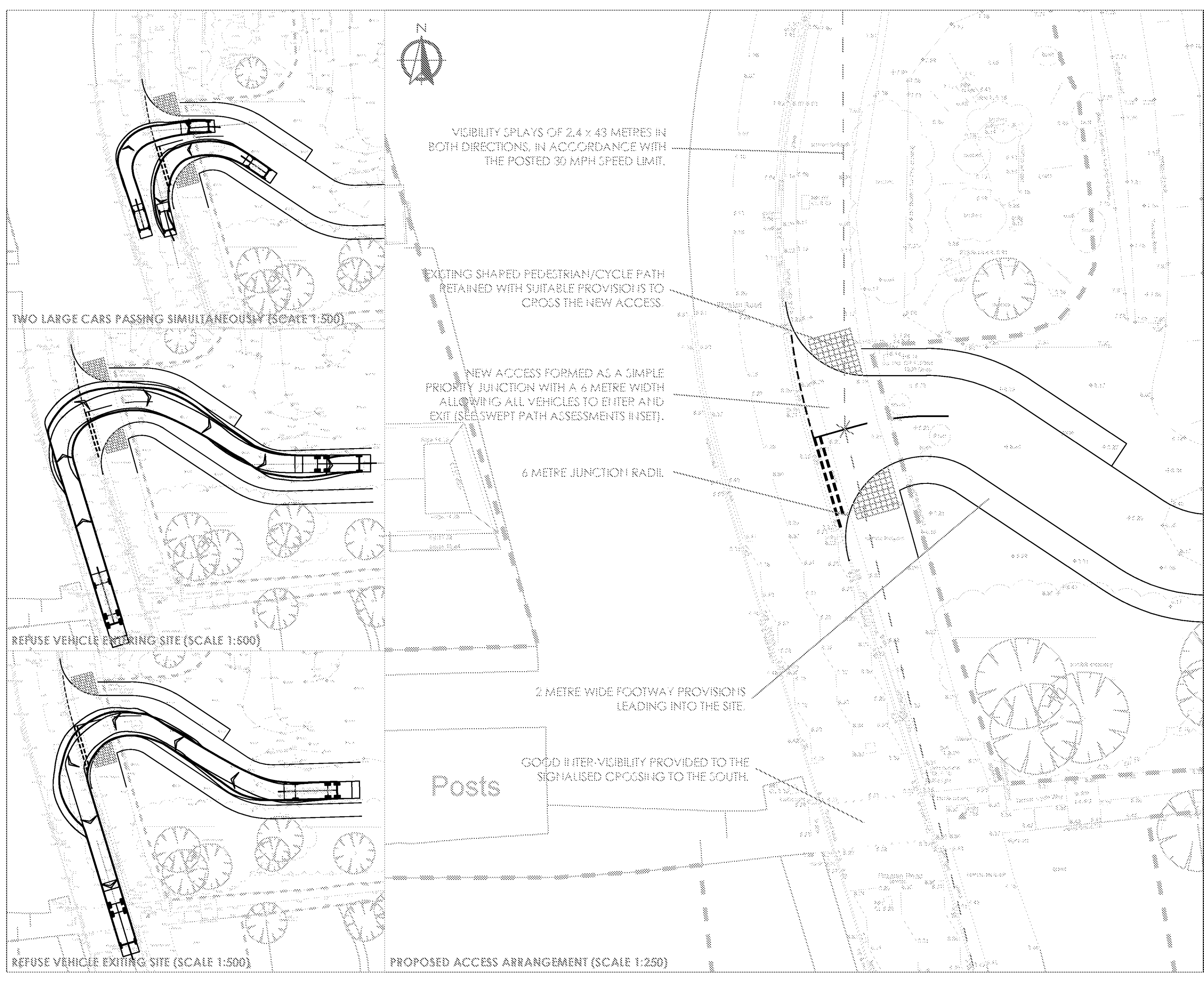
8 SUMMARY AND CONCLUSIONS

- 8.1.1 RGP has investigated the transport planning considerations relating to the proposed development of land to the south of the Littlehampton Academy, Littlehampton to provide a residential scheme of 112 dwellings with associated access and parking.
- 8.1.2 The development proposals have been considered through this Transport Assessment on their own merits and also, importantly, in light of the consented North Littlehampton Strategic Development and associated strategic highway improvements to the Fitzalan Link Road. The proposals have also considered in light of the previous planning consent for the site for 68 residential dwellings and seek to follow the same principles of design that were agreed with West Sussex County Council (WSCC), as County Highway Authority at that time, including the provisions for site access.
- 8.1.3 The proposals have been subject to further discussions with WSCC through the pre-application consultation process to ensure that the principle of development and the key aspects to be considered within this TA were established and agreed.
- 8.1.4 The proposals have been assessed in relation to the site's accessibility in sustainable travel terms as well as the site's potential net highway impact on the existing highway network in addition to the future accessibility credentials and likely highway impact being taken into consideration.
- 8.1.5 The site layout and access proposals are detailed in relation to the current design guidance as contained within Manual for Streets and have been designed to integrate with the existing and future alignments of the Fitzalan Link Road.
- 8.1.6 The proposed development is also considered in respect to the site's likely overall parking demand to ensure the site is able to safely accommodate the anticipated number of resident and visitor vehicles.
- 8.1.7 The conclusions of this report are as follows:
- (i) The site is accessible to a wide range of local education, healthcare, employment, retail and leisure opportunities, including a range of facilities within Littlehampton, within walking and cycling distance in its current form and the extent of sustainable travel facilities will be significantly improved locally in light of the North Littlehampton strategic development, to the benefit of the site;
 - (ii) The proposals are supported by a Framework Travel Plan to promote and facilitate the uptake of sustainable travel patterns now and in the future;

- (iii) Local public transport provision is good with bus stops within walking distance serving a range of destinations locally and further afield with a wide range of facilities and amenities including Rail Stations;
 - (iv) The site layout is designed to maintain low traffic speeds and provides for good levels of pedestrian access through the site demonstrating safe and convenient access can be provided via Fitzalan Road;
 - (v) The development would not generate a significant increase in traffic on the local highway network and would not result in a material impact in the operation of local junctions or severe residual impacts either now or in the future;
 - (vi) The proposals provide sufficient car parking to cater for all anticipated vehicles on site in accordance with current guidance and in line with discussions with both WSCC and ADC through the pre-app process.
- 8.1.8 It is therefore concluded that the proposals would provide real choice to prospective residents in terms of how they travel and access services with high quality sustainable travel options relative to the site's location providing real choice in how occupiers of the site may choose to travel with a range of key services within walking and cycling distance.
- 8.1.9 It is also demonstrated that safe and secure access can be provided for all users and furthermore, the proposals would not introduce significant additional traffic movements onto the local highway network.
- 8.1.10 It is made clear in Paragraph 32 of NPPF that Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are 'severe' and it is demonstrated that the highway related impacts of the proposed development are not severe.
- 8.1.11 In light of this report, West Sussex County Council Highways Officers are respectfully asked to confirm that the proposals are acceptable from a highway and transportation point of view and no objections are raised.

PLANS

DRAWINGS

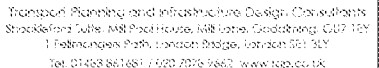


This drawing has been prepared for the purpose of pinning discussions and does not constitute a detailed design drawing, or construction drawing. A Design Hazard inventory has been prepared by RGP setting out the hazards which have been designed out. This is available upon request.

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

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Client: **Borlok**

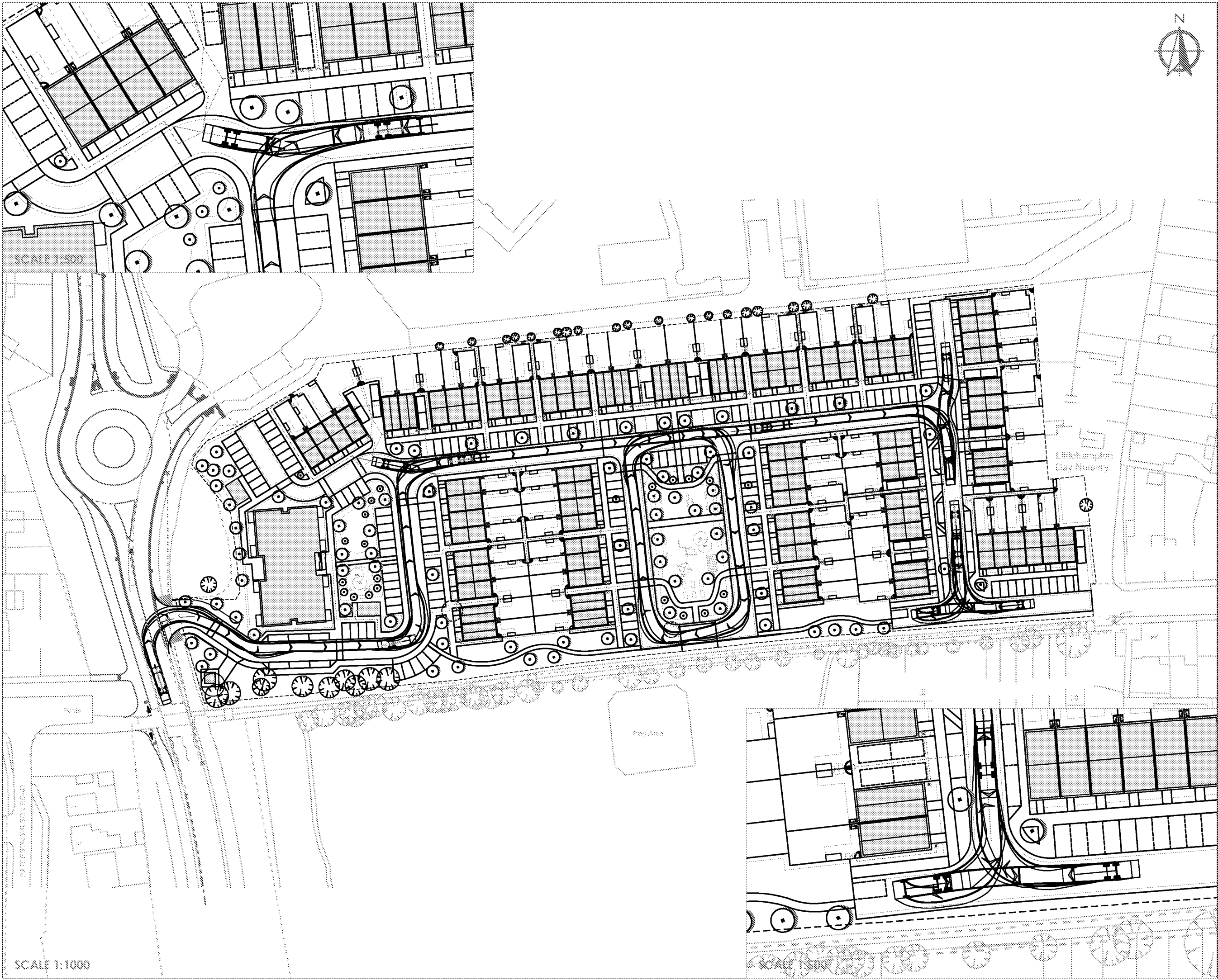
Project Land to the south of
Littlehampton Academy

Drawing title

Proposed Access Arrangements	Current Link Road Alignment

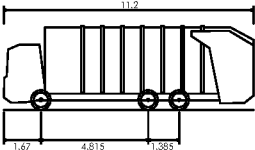
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NOTES

This drawing has been prepared for the purpose of planning discussions and does not constitute a detailed design drawing, or construction drawing. A Design Hazard Inventory has been prepared by RGP setting out the hazards which have been designed out. This is available upon request.



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)
Overall Length 11.200m
Overall Width 2.530m
Overall Body Height 3.751m
Min Body Ground Clearance 0.304m
Max Width 2.500m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 9.500m

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RESIDUAL HAZARDS

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

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

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Client	Borlók		
Project	Land to the south of Ullingham Academy		
Drawing title	Vehicle Sweep Path Assessment Refuse Vehicle		
Drawing No.	4803	Rev.	PG1
Scale	As Shown	Drawn by	SJ
		Checked by	CB
		Approved by	A3