

TECHNICAL NOTE

Job Name: Chetwynd Barracks
Job No: 37782
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Subject: Access & Movement: Facilitation of a possible connection to the north

1.1 Introduction

- 1.1.1 Chetwynd Barracks (the site) is allocated in the Broxtowe Borough Council Part 2 Local Plan 2017-2028 (Policy 3.1) for the delivery of 500 homes in the Plan period as part of a larger overall allocation for the comprehensive redevelopment of the whole site.
- 1.1.2 This Technical Note considers how it is intended to access the site during the Local Plan period (i.e. up to 2028) and, specifically, the provision to be made in respect of a connection from the northern boundary of the site towards the A52 and existing Nottingham Express Transit (NET) tram stop at Toton Lane.
- 1.1.3 This Technical Note also considers the potential options for increasing access to the site, and the connectivity of the site to the surrounding settlement, beyond the Local Plan period, i.e. post 2028, as the potential development capacity of the site (circa a further 1,000 residential dwellings) increases.
- 1.1.4 This Technical Note does not seek to provide detailed technical solutions, as this level of detail would ultimately be covered in a planning application, but rather identifies the opportunities that exist for providing a well-connected development.

1.2 Local Plan period (2021-2028)

- 1.2.1 The infrastructure required to achieve the delivery of 500 dwellings during the Plan period is considered to be predominantly local in scale.
- 1.2.2 The existing access to the site off Swiney Way, for pedestrians, cycles and vehicles, is already established and would form the basis for the main access to the site. The existing Main Gate and holding areas would not be needed in the redevelopment scheme and so the current scale of the junction with Swiney Way, and the security gate, could be reduced to be more in keeping with the surrounding highway network. Nevertheless, this would be the preferred location for the main access to the site.

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- 1.2.3 There would be other locations on Swiney Way where access could be provided. The section to the west of the current Main Gate, opposite the Tesco store, would be suitable for the provision of a secondary access, and this is provided for on the indicative masterplan for the site.
- 1.2.4 It is envisaged that an additional access to the site could be provided via a new junction arrangement off the B6003 Stapleford Lane, in the vicinity of Woodstock Road, where a gated access to the Barracks site already existed (although it has rarely been used). This would provide a connection through the western edge of the site boundary via the existing emergency access gate.
- 1.2.5 It is envisaged that this new access arrangement could take the form of a signalised crossroads, with access to the site forming one arm of a junction with the B6003 Stapleford Lane and Woodstock Road. This new arrangement would also supersede the measures proposed in the Stapleford Lane Improvement Strategy that is approved as part of the consent for development on Land to the West of Toton Lane.
- 1.2.6 The Stapleford Lane Improvement Strategy included for a Puffin crossing and some localised lining and footway improvements to benefit pedestrians. The introduction of a traffic signal junction here is considered to be a significant additional safety and operational benefit as it would:
- Make provision for controlled crossing of Stapleford Lane and the side roads for both pedestrians and cyclists.
 - Provide for better management of traffic on Stapleford Lane, with a signal control strategy that could be linked to the Banks Road/Swiney Way/Stapleford Lane junction to the south.
 - Improve safety for pedestrians and cyclists and make it easier for drivers emerging from Woodstock Road onto Stapleford Lane.
 - Make provision for bus priority measures from the site and along Stapleford Lane.
- 1.2.7 One of the key benefits of an additional access to the site at this location is that it would facilitate greater permeability of the highway network, with additional capacity and different routes made available for public transport routes (and traffic routes) in the area. Development traffic travelling north would be able to bypass the Banks Road/Swiney Way/Stapleford Lane junction to the south, thereby reducing pressure on that junction. A more permeable road network is created as a result, providing greater opportunities to positively manage the busy traffic flows in the area.
- 1.2.8 Providing a new junction arrangement at this location would also provide safe and secure crossing provision for pedestrians and cyclists, improve the local area through the creation of improved pedestrian links along key routes adjacent to schools and for future connectivity with the proposed East Midlands HS2 Hub at Toton.
- 1.2.9 A new junction arrangement could also facilitate improved access to bus route 510 that operates along the B6003 Stapleford Lane. The provision of a route through the site – from Stapleford Lane to Swiney Way – would be available during the Plan period if both access locations were provided. It is not envisaged that the route would need to be diverted with the scale of development proposed during the Plan period, but this would be an early delivery option that could be considered at that time.
- 1.2.10 More detailed work would need to be undertaken in respect of the junction design, but an indicative proposal is included on drawing number 37782/5501/002 appended to this note.

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- 1.2.11 The site is well located to take advantage of existing sustainable transport provision. Bus stops on Swiney Way and the B6003 Stapleford Lane provide access to service 510. Service 510 also provides a connection to Attenborough Rail Station.
- 1.2.12 Lit footways are present along the roads surrounding the site and pedestrians are catered for via:
- the pelican crossing at the Stapleford Lane/Swiney Way/Banks Road junction;
 - central pedestrian refuges with dropped kerbs and tactile paving on Swiney Way next to both accesses of Tesco Extra;
 - a central pedestrian refuge with staggered entry and exit points, dropped kerbs and tactile paving on Swiney Way, next to Calverton Close; and
 - a toucan crossing on Swiney Way, between Shaw Road and Wynwood Road.
- 1.2.13 As the site becomes established, the feasibility of providing additional routes through the site and to other points of access around the site boundary would be investigated; further maximising the options for connectivity and enhancing the sustainability credentials of the site.

1.3 Connection to the north through Northfield Crescent

- 1.3.1 The proposals do not propose a connection to the north, via Northfield Crescent (located within land north of the site) during the Plan period. However, the indicative masterplan makes provision within the site for such a connection to be made in the future if others are able to secure the necessary land to achieve it outside of the DIO ownership. For clarity, the houses at Northfield Crescent are held on a 999 year lease by Annington Homes and, in a legal context, are not within the control of the DIO/MOD. The land beyond this, to the north, is understood to be owned by other third parties.
- 1.3.2 Such a connection would not be required to make the scheme work, within the Plan period, because the site can be connected to its surroundings via Swiney Way and the B6003 Stapleford Lane, as discussed.
- 1.3.3 It should be noted that the weekday peak period surveys that were undertaken at the Chetwynd Barracks Main Gate off Swiney Way covered all arrivals and departures. This type of survey does not differentiate between the different parts of the site that could generate movements, so will have included any movements generated by the 174 Annington Homes dwellings that are located within the Barracks secure fenceline.
- 1.3.4 The evidence base prepared by the DIO in respect of the Plan period effectively makes some further allowance for the trips from the Annington Homes, as the assumptions made at an early stage were that circa 600 residential dwellings may be provided during the Plan period. Given that only 500 residential dwellings have been included in the draft Plan, there is an over-allowance of the potential trip generation of the site by 100 dwellings.
- 1.3.5 It should also be noted that the vehicle trips generated by development of the site would also be offset by the elimination of the current vehicle trip generation of Chetwynd Barracks that was related to the military activity, rather than the Annington Homes. This “netting off” of vehicle trips against those that pre-exist will provide a net level of change that represents a more realistic indication of the vehicle trips that will arise as a result of development.
- 1.3.6 The provision of the north-south link road would need more careful analysis to fully understand its contribution to the wider network. The Local Plan suggests that the link would comprise a new connection to the tram stop area, and presumably would then route traffic back on to Stapleford Lane using the signal junction at the tram stop, a short distance to the south of the

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- Bardills Roundabout. This may provide some relief to Stapleford Lane to the south, as it passes through Toton, but it is not certain that this would be the case. The traffic signals at the tram stop access would need to be re-timed to give considerably more green time to the new link road, and so the queues on Stapleford Lane may well not be ameliorated.
- 1.3.7 It is also unclear how it is intended that this link would connect back into the network at the southern end. On the basis that it passed through the Barracks site, then it would need to connect back in at Swiney Way. This may increase the loading at the Swiney Way / Stapleford Lane / Banks Road traffic signals. This junction is already under some pressure, and has little space for any improvement.
 - 1.3.8 The addition of a new connection onto Stapleford Lane at Woodstock Road, as proposed by the Chetwynd site, could provide an alternative solution, as it relieve the pressure at the Swiney Way junction, and could allow for linking of the traffic signals through Toton in a way that would manage the Stapleford Lane demand and queues more efficiently.
 - 1.3.9 All of these options would need to be tested and assessed at the relevant time once there was greater certainty about the HS2 delivery and the circumstances that the schemes were being delivered into.
- ### 1.4 Beyond 2028
- 1.4.1 As the development capacity of the site increases, post 2028, additional north/south and east/west routes through the site could be provided to other points of access around the site boundary, e.g. via Airedale Court (to the north), Chetwynd Road (to the east) and via a new access off Swiney Way (to the south); thereby further maximising the options for connectivity and enhancing the sustainability credentials of the site.
 - 1.4.2 During discussions with the highway authority the options for Chetwynd Road (East) were discussed. The transport strategy prepared for the site suggests that a bus gate could be located in the eastern part of the site for vehicles accessing via Chetwynd Road. This route has the potential to be utilised by redirected 510, Indigo, Orange, Skylink and Y5 bus routes, as well as by walking and cycling routes, of course. Highway officers suggested that they may consider the provision of an all-vehicle connection here to increase the overall permeability of the area. Either option could be considered and this is expected to be an issue that would be addressed as part of a detailed Transport Assessment in due course.
 - 1.4.3 As set out above, the concept masterplan is designed to accommodate a north/south route through the site, if others are able to deliver the connection through the Annington Homes land, and third party land to the north, at some time in the future. Hence, such a connection is not prejudiced or precluded if it can be delivered by others at some point in the future, as the site includes a route between its northern and southern boundaries which this route would connect to.
 - 1.4.4 There will be internal linkage of the principal accesses (for all modes) to provide through routing and permeability as the site becomes established. The site is intended to be stitched into the fabric of the existing settlement with a number of east/west and north/south bus, pedestrian and cycle connections being made that would enable access, for example, to the Inham tram stop and to bus stops on Field Lane that serve the Orange 36/N36 bus service.
 - 1.4.5 Significant trip internalisation is also likely to occur as the demand for many day-to-day services and amenities is met on the site, or within the local area. This will also likely result in a shift towards travel by more sustainable modes as the need to travel outside of the site (or significantly further afield) is reduced, particularly given the proposed high emphasis on improved and well-connected public transport, pedestrian and cycle provision. Therefore, it would be counterproductive to over provide on highways infrastructure.

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- 1.4.6 As the scheme progresses post 2028, and the number of access options and opportunities for travel by alternative modes increases, a reduction in the rate of vehicle trips generated per dwelling could be anticipated in this case, based on the scale of development and infrastructure provided to support it.
- 1.4.7 As with the Plan period assessment, the same over-allowance of potential trip generation of the site was incorporated, as the assessment was based on circa 1,600 residential dwellings being provided in total, post 2028.
- 1.4.8 Furthermore, transport patterns and usage are predicted to significantly change over the next 15 years. Trends are already emerging for lower levels of car ownership and usage, especially amongst younger generations, and research indicates that people are likely to have a different relationship with cars in the future. The introduction of on-demand services would significantly affect car usage. The development of MaaS (Mobility as a Service) and the success of a series of demand responsive bus services, which have been piloted across the country, point to these changes. The “Arriva Click” scheme in Sittingbourne, Kent, highlighted that these types of services could realistically push public transport services into areas that were hitherto uneconomic to service, and that they would be adopted by ABC1 demographic users who were previously not travelling by bus.
- 1.4.9 Although the site should be substantially, or completely, constructed by the time the HS2 station at Toton opens in 2032, it is important to note that the East Midlands HS2 Growth Hub DIF Study includes Chetwynd Barracks in its projections for future growth and development in the area. Therefore, there is a real opportunity for the site to tie-in with the wider development of Toton ensuring a holistic approach is taken to deliver a well-connected area.

1.5 Summary

- 1.5.1 The delivery of a north-south link road from the tram stop towards the Barracks site, to the east of Stapleford Lane may, on the face of it, be a good idea. However, there is the risk that this could lead to additional stress on the network elsewhere, as this has not been tested yet. DIO is able to facilitate the provision of such a link through the section of route that passes through the land it controls, and this has been accommodated in the masterplan process. However, more work would need to be undertaken to ascertain that this additional connection was beneficial compared to other alternatives that may be available as the Barracks site becomes open to the provision of through routes.