

# Officers Meadow Sustainable Transport Strategy

N15/152080

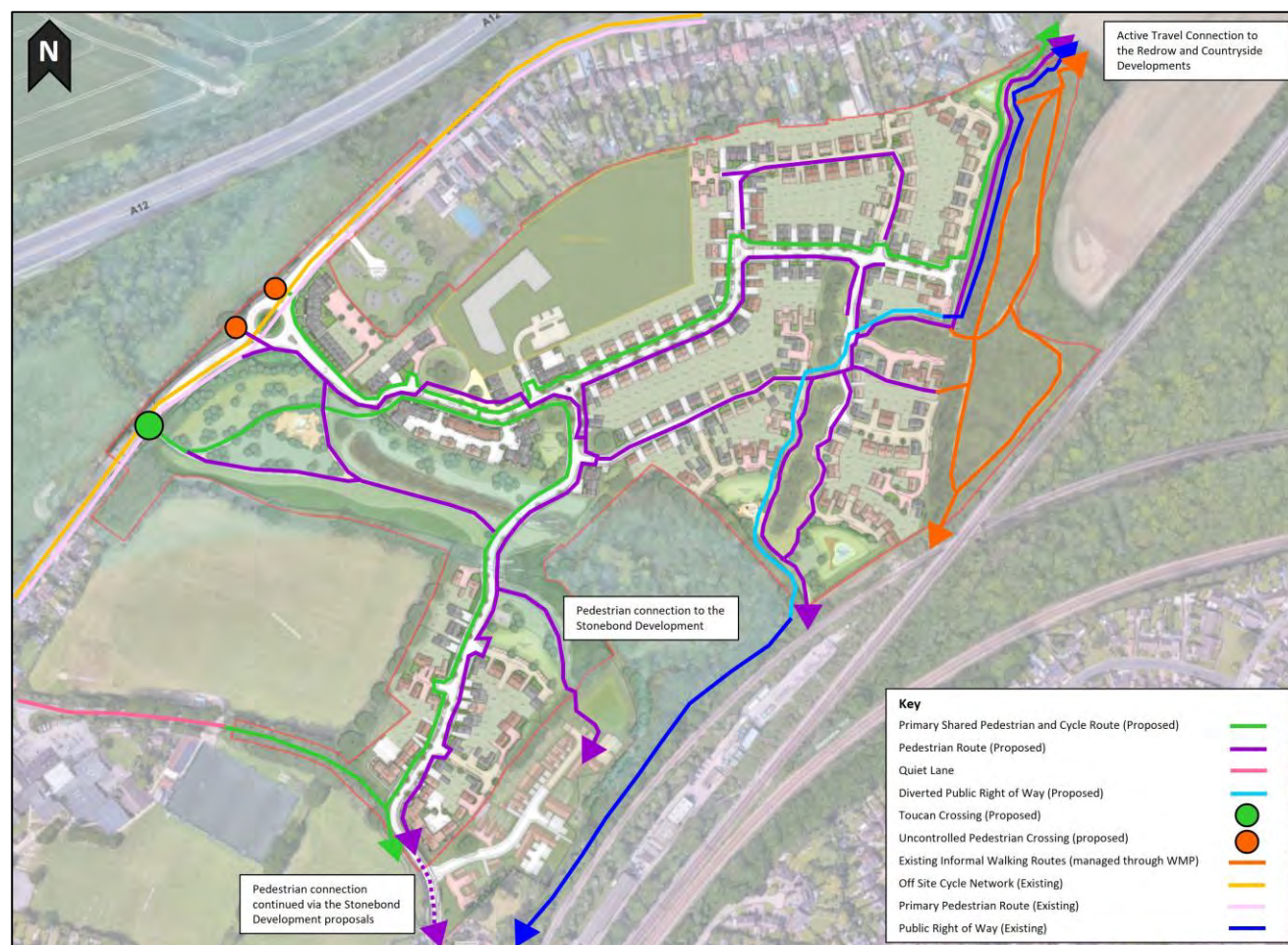
## Introduction

1. Vectos has been appointed by Croudace Homes Ltd, to provide transport and highways advice in relation to the development at Officers Meadows, which forms part of the Land North of Shenfield allocated site within Brentwood Local Plan (2016-2033) as part of Policy R03.
2. The development proposals for the Officers' Meadow site include the provision of 344 new homes and a safeguarded site for a primary school and early years nursery
3. The site is located to the north of Shenfield town centre and is proposed to have vehicle access from both the A12 Chelmsford Road and Alexander Lane. Pedestrian and cycle access are also provided via these access points. Further pedestrian and cycling accesses are provided via dedicated connections to these two roads and connections to the wider site allocation through the land owned by Stonebond Properties and Redrow Homes.
4. A planning application was submitted setting out the proposals in September 2023 with planning reference 23/01164/FULLPA and 23/01159/OUT.
5. This note has been prepared in response to several comments made by Essex County Council (ECC) with regard to connectivity outside of the application boundary in the form of pedestrian/cycle routes and public transport accessibility to satisfy Policy R03 2. E.

## Pedestrian & Cycle Improvements

6. As set out within the submitted Transport Assessment, the development has been designed such that active travel can form the first choice for all residents and users of the site. As such, the site is designed to link with the existing, excellent quality public transport provision located at Shenfield, whilst also providing a range of enhancements and infrastructure improvements to nearby bus stops.
7. The central location of the site in relation to the wider allocation results in a number of through-routes, and once the whole allocation has been brought forward the development will be at the heart of a new community where active travel has been prioritised from conception. The overall active travel connections within and links to external routes to the site can be seen in **Figure 1** below.

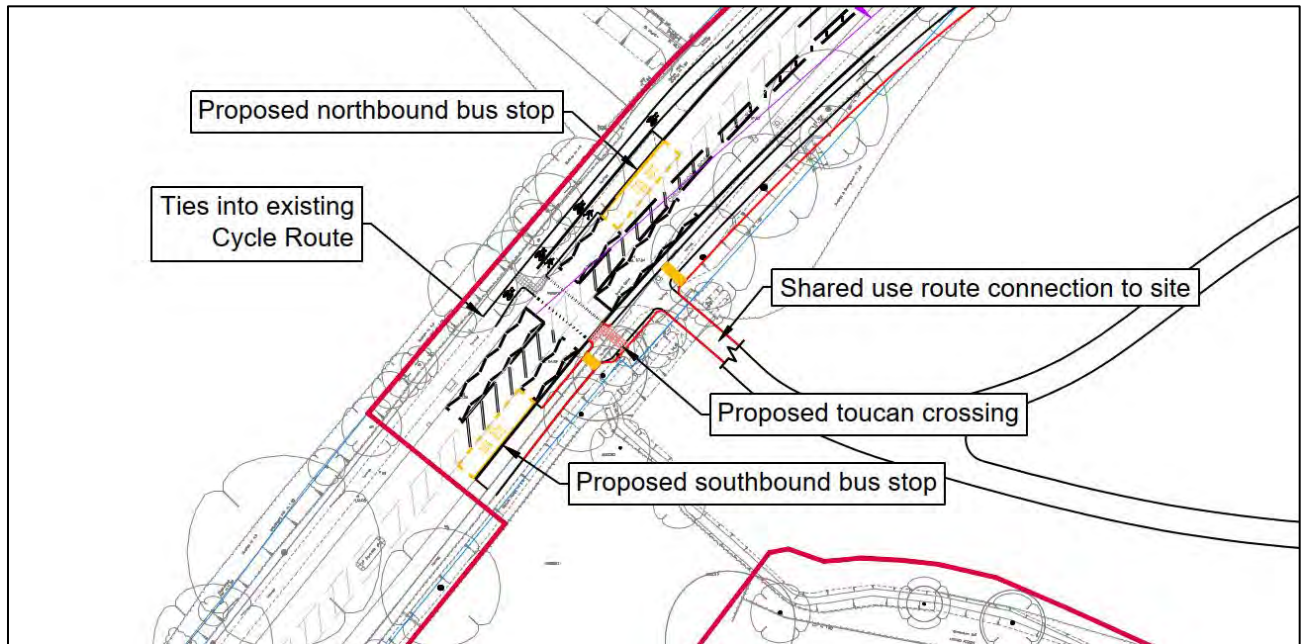
**Figure 1: Proposed Active Travel Links**



8. As part of the site access design on Chelmsford Road a toucan crossing is proposed to the south of the access. This will link the shared footway/cycleways throughout the site to the existing route on the western side of Chelmsford Road. The toucan crossing is shown in Figure 2 below.



**Figure 2 – Toucan Crossing Proposal**

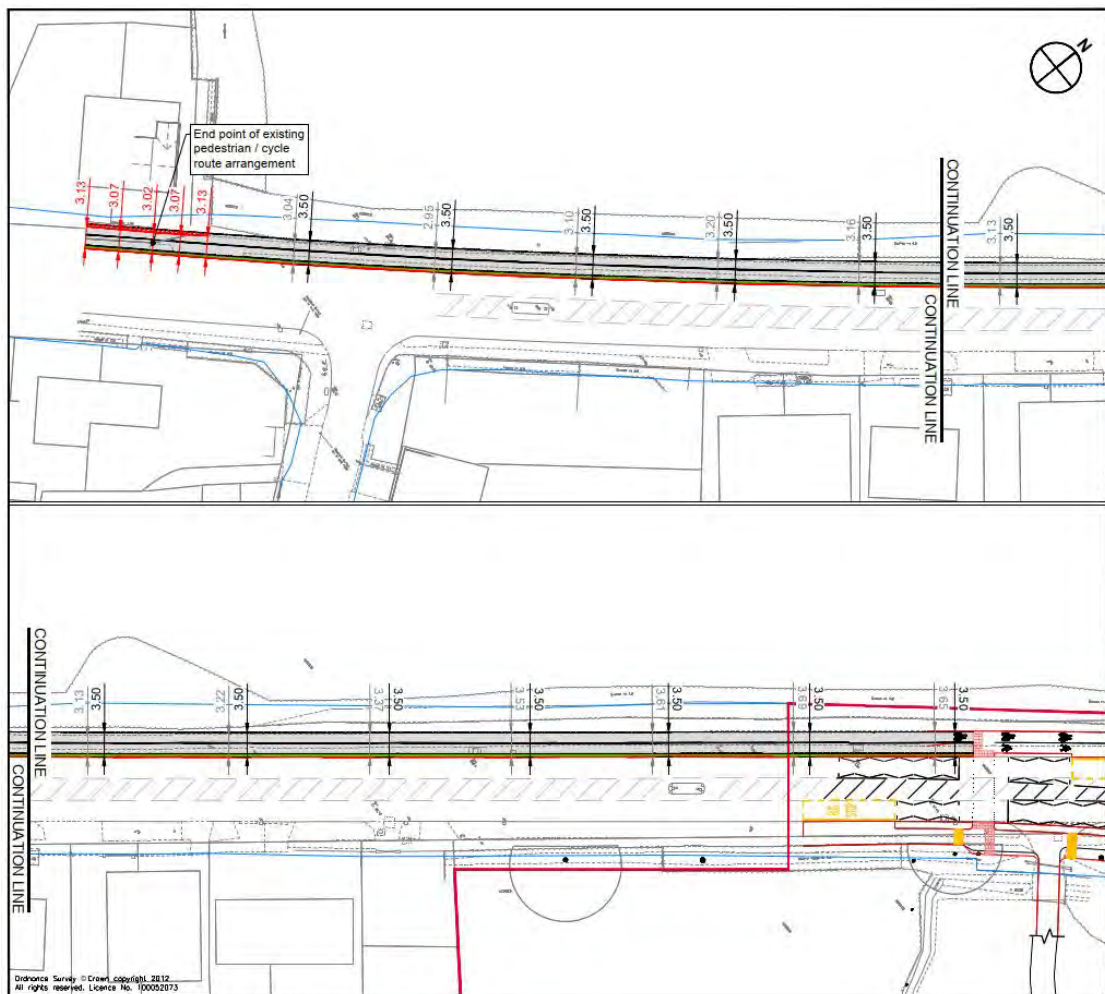


9. There is an existing shared footway/cycleway on the western side of Chelmsford Road, which links the site with Shenfield and Brentwood. A new toucan crossing is proposed, which will provide a safe and direct route to the existing cycle route. As shown at **Photograph 1** below, whilst the cycle route is provided on Chelmsford Road along the site's frontage, the segregation between cycles and pedestrians finishes immediately to the south of the junction with Alexander Lane.

**Photograph 1: Existing Shared Cycle/Pedestrian Route on Chelmsford Road**



- Figure 3: Proposed Shared Footway/Cycleway Extension.**



12. The proposals will enhance the environment for both pedestrians and cyclists using this section of Chelmsford Road.
13. A plan of the proposed cycle improvements on Chelmsford Road can be viewed at **Appendix A**.
14. The second access to the proposed development is from Alexander Lane. As noted within the submitted Transport Assessment, it is proposed to block up Alexander Lane to through traffic allowing the creation of a Quiet Lane, providing a new, safe, and attractive link running from east to west.



15. The proposed Alexander Lane access will link the site to the residential area immediately to the south of the application site. The Brentwood Cycle Action Plan identifies Hunter Avenue as a potential Quietway for cycling. As shown at **Figure 4** below, Hunter Avenue provides a direct and convenient route from the application site via Alexander Lane to Shenfield town centre and train station. The provision of directional signage will enhance the legibility of the route and encourage people to travel by bicycle.

**Figure 4: Proposed off-site Cycle Improvements**



16. The applicant is willing to make a financial contribution towards the delivery of this route to encourage residents of the proposed site and the surrounding residential area to cycle.

## Public Transport

17. ECC have raised several queries with regard to providing a bus service through the proposed development at Officers Meadow.
18. The comments from ECC read as follows:

*Comment made April 26<sup>th</sup> 2022: "Bus strategy; there is currently only an hourly service during the day and nothing in the evening on Chelmsford Road. Improvement to existing services, including links to Shenfield, and new infrastructure will be required. All dwellings should be within 400m of a bus stop. As above, ECC envisage a route through the site from the northern section."*

*Comment made 9<sup>th</sup> November 2023: “It was agreed in a Statement of Common Ground between Croudace, Stonebond, Countryside, Redrow, and ECC prior to the Examination that masterplanning will aim to achieve a bus stop accessible within 400m walking distance of every dwelling. This must be provided to achieve a sustainable development. It also needs to be remembered that the site will have a new school and it needs to be served by buses too.”*

19. This note addresses these comments setting out the new infrastructure proposals and provides evidence as to why new bus services and a connection through the site is not appropriate. This note goes on to consider:
  - Feasibility of a New Route
  - Existing Accessibility
  - Do-Minimum Scenario
  - Do-Something Scenario
20. The note concludes the following:
  - A route through the ancient woodland is not feasible;
  - Alexander Lane is narrow and does not have suitable highway boundary to provide a sufficient width for a bus route;
  - The site is accessible from the bus stops on Chelmsford Road;
  - Provide a new pair of bus stops enabling the majority of the site to be within walking distance of bus services; and,
  - An appropriate and achievable sustainable transport solution for the site is to provide contributions towards bus services on Chelmsford Road to improve frequency of the services to local facilities and amenities.

## **Feasibility of a New Route**

### Ancient Woodland

21. As noted at Paragraph 6 “ECC envisage a route through the site from the northern section”. Routing a bus service through the north of the site would enable the route to travel through both the Redrow Homes site and the proposed development at Officers Meadow.
22. However, this route would travel through an ancient woodland situated to the north of the allocation. The location of the ancient woodland is shown in **Figure 5**.

**Figure 5: Location of the Ancient Woodland**



23. It is evident from **Figure 5** that routing a bus route through the north of the site would be problematic as it would involve removing a large section of ancient woodland which is protected.
24. Arnold's Wood is designated as Ancient Woodland in Brentwood Borough Councils (BBC's) Adopted Local Plan (2022). This designation ensures that the woodland received special protection in line with the adopted local policy plan NE03, paragraph 180 of the NPPF and Natural England's Standing Guidance.
25. With reference to the Local Plan, policy NE03 reads:  
  
*"Development proposals that would result in the deterioration or loss of irreplaceable ancient woodland and ancient and veteran trees will not be permitted other than in wholly exceptional circumstances... proposals should, so far as possible and practicable, seek to retain existing trees, woodlands and hedgerows where they make a positive contribution to the local landscape and/or biodiversity or which have significant amenity value. Wherever possible and appropriate, landscaping schemes should take account of and incorporate these existing features in the scheme and where any loss is unavoidable, incorporate measures to compensate for their loss".*
26. Furthermore, foot note 63 of the NPPF states that the removal of ancient woodland is only achievable when the development comprises a nationally significant infrastructure project or includes orders under the Transport and Works Act and hybrid bills where the public benefit would clearly outweigh the loss or deterioration of habitat.
27. Furthermore, Natural England's Standing Advice outlines that a minimum 15 metre buffer zone should be in place between new development and ancient woodland to help mitigate direct and

indirect impact upon the irreplaceable habitat and its soils, ground flora or fungi. This would not be possible on site R03 at the north-western point of Arnold's Wood.

28. Accordingly, the introduction of a route through the north of the site, and this woodland would not be deemed policy compliant.

### Alexander Lane

29. Given the constraints of the ancient woodland, an alternative option to serve the site by bus would be to route a service through the site with the bus entering from the proposed Chelmsford Road site access and exiting the site via the realigned Alexander Lane.
30. When considering the route of the bus service once it has left the development site, there are several constraints out of the highway authority and applicant's control that prevent this route being a feasible option.
31. **Figure 6** demonstrates that Alexander Lane is 5.5m wide by the exit of the development site. Travelling further along Alexander Lane away from the site towards Rayleigh Road, the carriageway narrows further to as little as 4.5 to 5m in width. When considering the possibility of widening the carriageway there is very limited highway boundary available to widen the carriageway to make it a suitable route for bus services.

**Figure 6: Alexander Lane Width and Highway Boundary**



32. Photograph 2-3 below highlight the constrained width of Alexander Lane, which increases the potential for a vehicle and bus colliding. As shown at Photograph 2 below, there are existing warning signs to make drivers aware of corners in the road, which will limit forward visibility to oncoming traffic. Given the constrained width of Alexander Road, which make it difficult for vehicles to pass one-another, the introduction of a bus would exacerbate existing highway safety concerns.



**Photograph 2: Alexander Lane**



**Photograph 3: Alexander Lane**



33. In addition, to the issues highlighted with the width of the carriageway, there is also a height restriction of 15'-6" (4.7m) where the Alexander Lane meets the railway line. The average height of a double decker bus is approximately 4.5m and a single deck bus 2.99m. The height restriction leaves little clearance for double deckers and limited clearance for single deck buses. This could lead to several highways' safety issues such as:
- Increase chance of collisions if buses are slowing near the height restriction;
  - Increase chance of delays along the route if the bus needs to use the centre of the carriageway to clear the height restriction;
  - Reduced viability of the bus service if only single decker buses can operate the route.
34. It is considered that Alexander Lane is too narrow with no possibility of widening to allow two buses to pass each other. Given the above, it would appear re-routing a bus service through the site is not a viable option and could raise potential safety issues along the Alexander Lane carriageway.

### **Service Viability**

35. It is generally accepted that 400+ homes are required to make a bus service viable. Therefore, the Officers Meadow development alone is on the lower side of the threshold to support a bus service. Although patronage would be supported from the Redrow Homes and Stonebond Properties sites, these are likely to have access to fast, more direct and frequent services on Chelmsford Road reducing their need for a re-routed service.
36. Furthermore, re-routing a service would potentially lead to an increase in journey time on an existing route putting at risk the existing patronage. Adding a diversion to an existing route i.e., an A service may lead to commercial viability issues by splitting the patronage which long term could cause these routes to be shut.
37. As noted above, it is not considered feasible to route a service through the site exiting onto Alexander Lane. As such, the only viable option for a service to enter the site would be for it to undertake a U-turn and exit back onto Chelmsford Road. It is believed that a bus company is likely to consider this type of service/routing unattractive and financially unviable, especially given the number of dwellings proposed.

### **Accessibility**

38. As set out within the submitted Transport Assessment and noted above, the development proposals will feature comprehensive external active travel infrastructure that will ensure that walking and cycling is the natural choice of movement for residents both internally and externally.
39. As summarised above, the site will benefit from a number of connections externally to ensure that those wishing to access facilities external from the site are able to do so. Additionally, the central location of the site in relation to the wider allocation results in a number of through-routes, and once the whole allocation has been brought forward the development will be at the heart of a new community where active travel has been prioritised from conception.

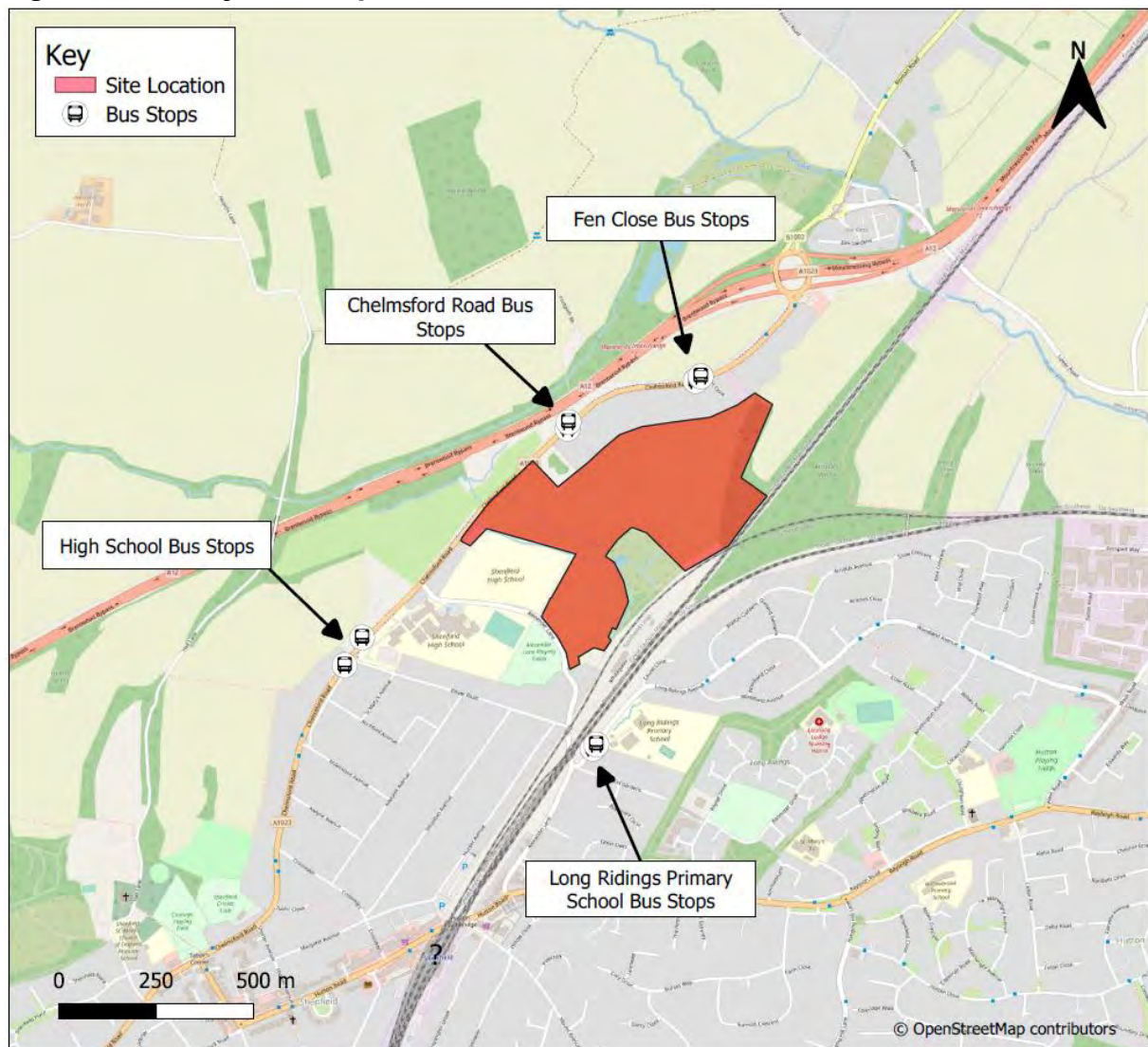


40. In light of the proposals, new residents wishing to travel to Shenfield High School, the proposed primary school or nearby everyday facilities with the centre of Shenfield can do so by active modes without the reliance on being within 400m of a bus stop.

### Existing Bus Stops and Services

41. There are a number of existing bus stops and services that would be accessible from the proposed site. The existing bus stops are highlighted within **Figure 7**.

**Figure 7: Nearby Bus Stop Locations**



42. As can be seen from **Figure 7** several bus stops are located in close proximity to the proposed site access junction on Chelmsford Road.
43. These bus stops provide a regular and reliable service to Warely, Brentwood, Shenfield and Chelmsford City Centre. The bus stops are served by the following routes: 351, 48, 431, 434, 436 and 608 with the 351 having the most frequent service at least once an hour.



44. Furthermore, to the south of the site there are bus stops located on Long Ridings Avenue. These are served by the 80A/80C and 81, with the 81 running at a frequency of every half an hour.
45. The services, routes and frequencies for these bus stops are summarised at **Table 1**.

**Table 1: Frequency of Bus Services**

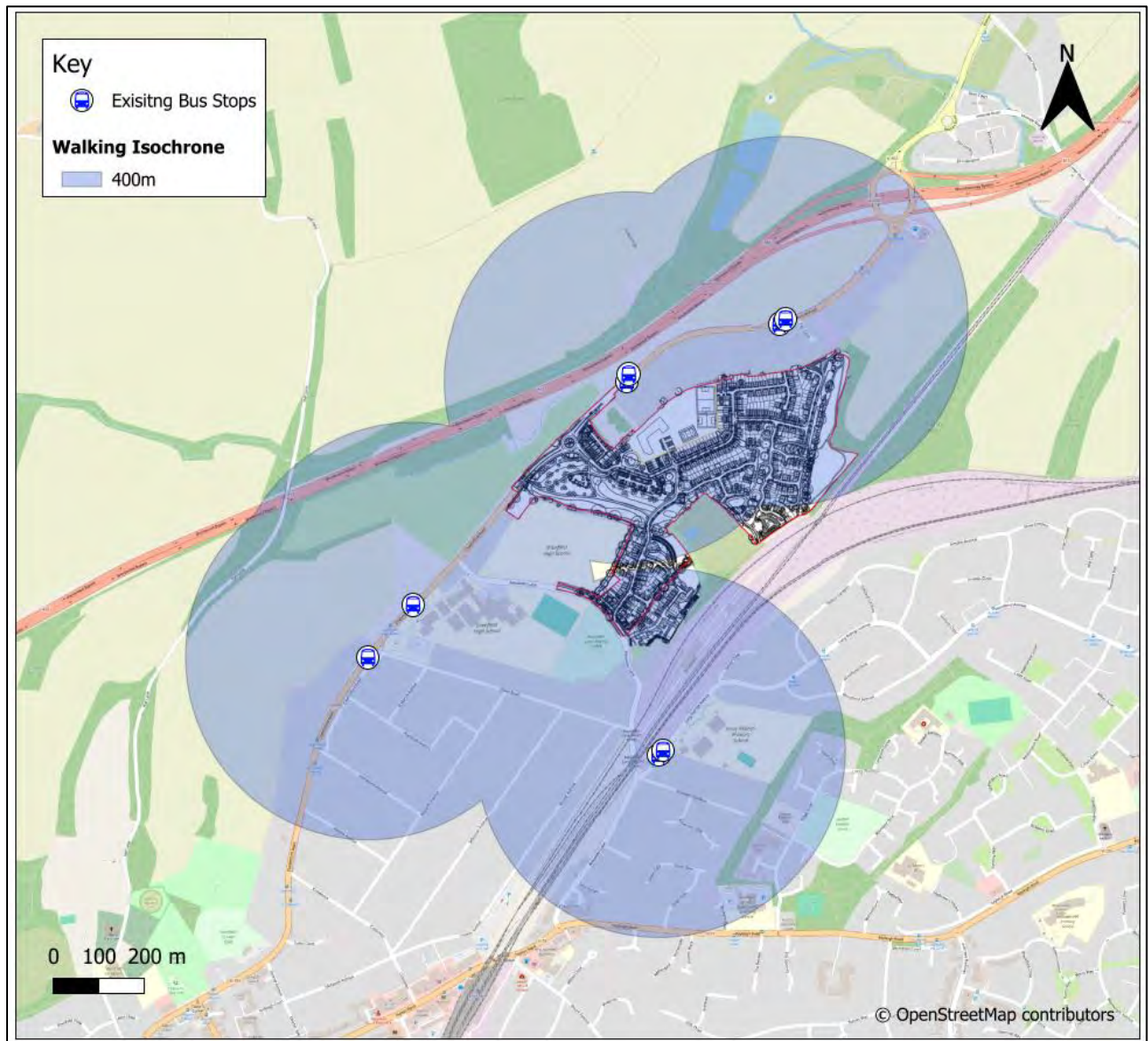
Bus Service	Bus Stop	Route	Weekday Frequency	Weekend Frequency
351	Fen Close/Chelmsford Road/High School	Chelmsford Bus Station-Waverly, Eagle Way	1 per hour	1 per hour
48	High School	Laindon-Shenfield High School	2 per day	N/A (School Bus)
431	Fen Close/Chelmsford Road/High School	Ongar-Shenfield	2 per day	N/A (School Bus)
608	High School	Gallows Corner-Shenfield High School	6 per day	N/A (School bus)
436	Fen Close/Chelmsford Road/High School	Ongar-Shenfield	2 per day	N/A (School Bus)
434	High School	High Ongar C P School – Shenfield High School	2 per day	N/A (School bus)
80A/80C	Long Ridings School	Brentwood - Hutton	N/A	6 per day
81	Long Ridings School	Brentwood - Hutton	2 per hour	1 per hour

46. The above demonstrates several services serve the site with regular frequencies. These bus stops are within an acceptable walking distance of the proposed development which is set out below.

### Do-Minimum Scenario

47. In the existing scenario, there are four bus stops located within walking distance of the site, these are the Chelmsford Road bus stop, High School bus stop, Fen Close bus stop and Long Ridings Primary School bus stop. **Figure 8** presents the 400m isochrones for all of the existing bus stops at the site.

**Figure 8: 400m Isochrones of Existing Bus Stops**



48. As illustrated by **Figure 8**, with the exception of 3 dwellings, all of the development can be accessed within a 400m walk from the existing bus stops.

### Do-Something Scenario

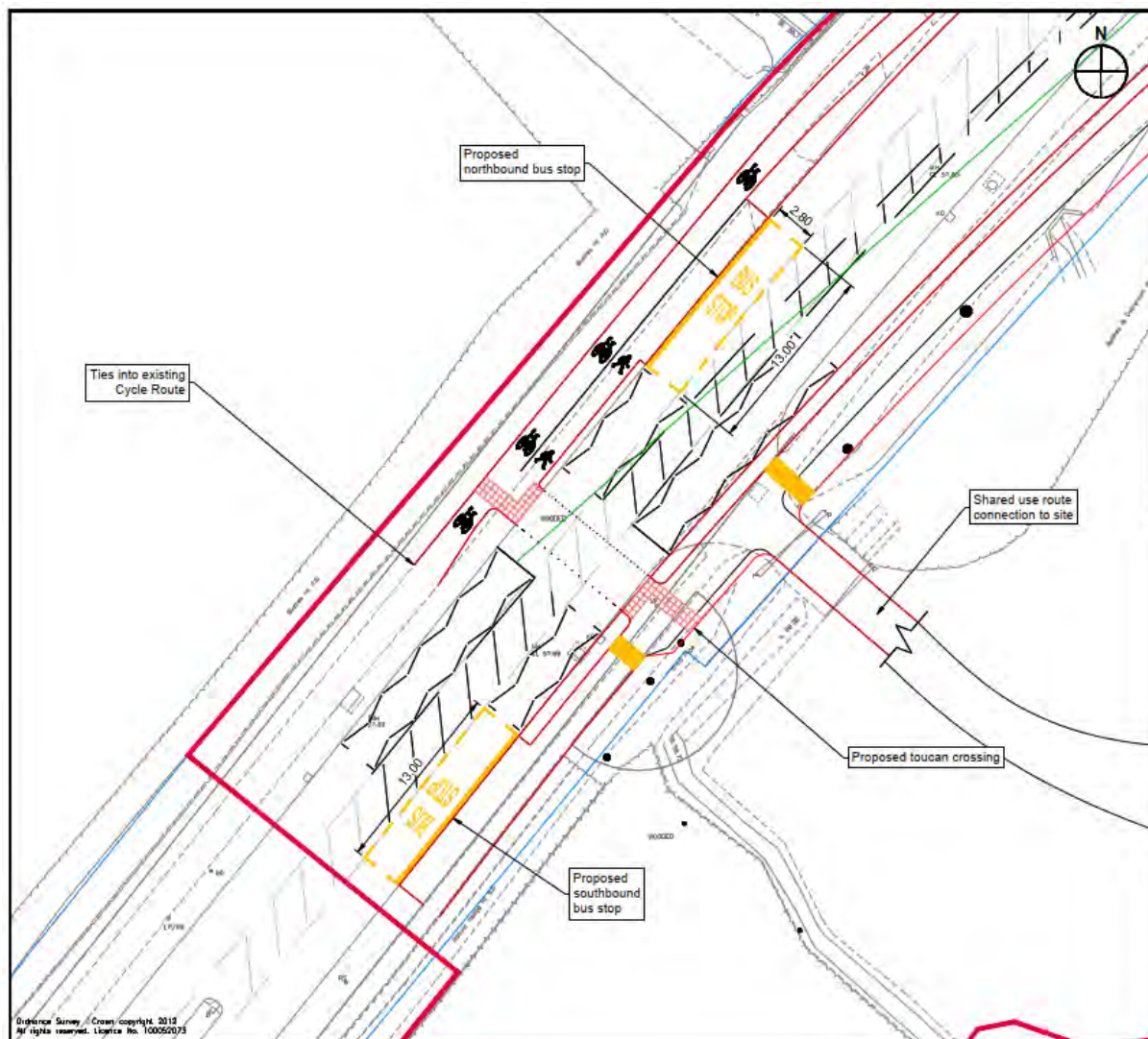
49. Whilst the existing situation is deemed acceptable, there is scope to improve the pedestrian accessibility to the site from local bus stops through the provision of new bus stops as shown in **Figure 9**.

### Proposed New Bus Stops

50. As part of the development proposal a new pair of bus stops are proposed to the south of the site access roundabout on Chelmsford Road. These are shown at **Figure 9**. These will further enhance the accessibility of the site via bus.

51. As shown in **Figure 9**, the new bus stops will be located next to a proposed toucan crossing and shared pedestrian/cycle route into the site. This will provide direct access to the development parcels within the site and will be well lit, overlooked and landscaped to provide a safe and pleasant route for pedestrians and cyclist to access the site.

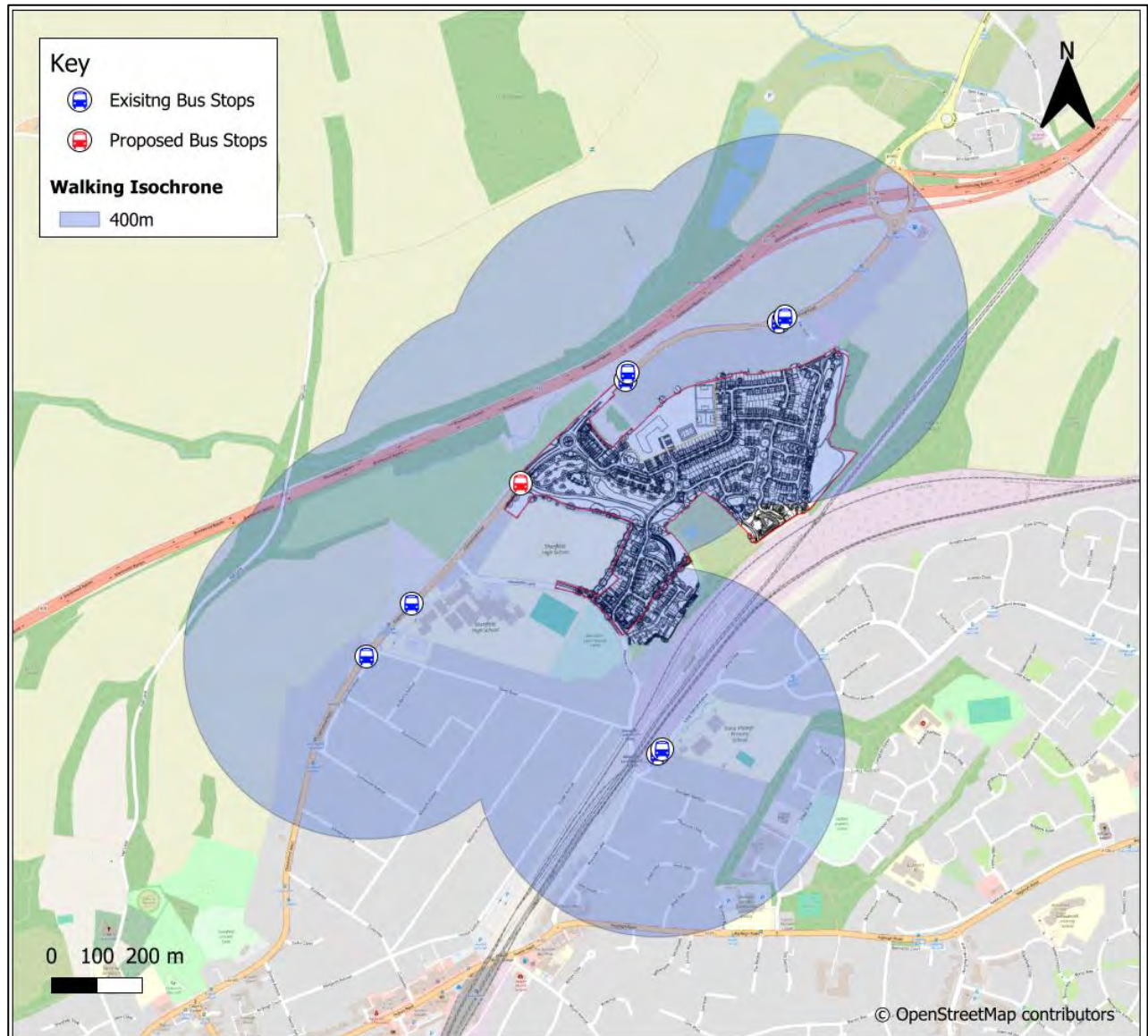
### Figure 9: Location of the Proposed Bus Stops



52. To demonstrate the accessibility of the site with the additional bus stops, an updated 400m isochrones have been produced to illustrate the number of dwellings which would be within an acceptable walking distance. These isochrones are presented within **Figure 10** below.



**Figure 10: 400m Isochrones of Existing and Proposed Bus Stops**

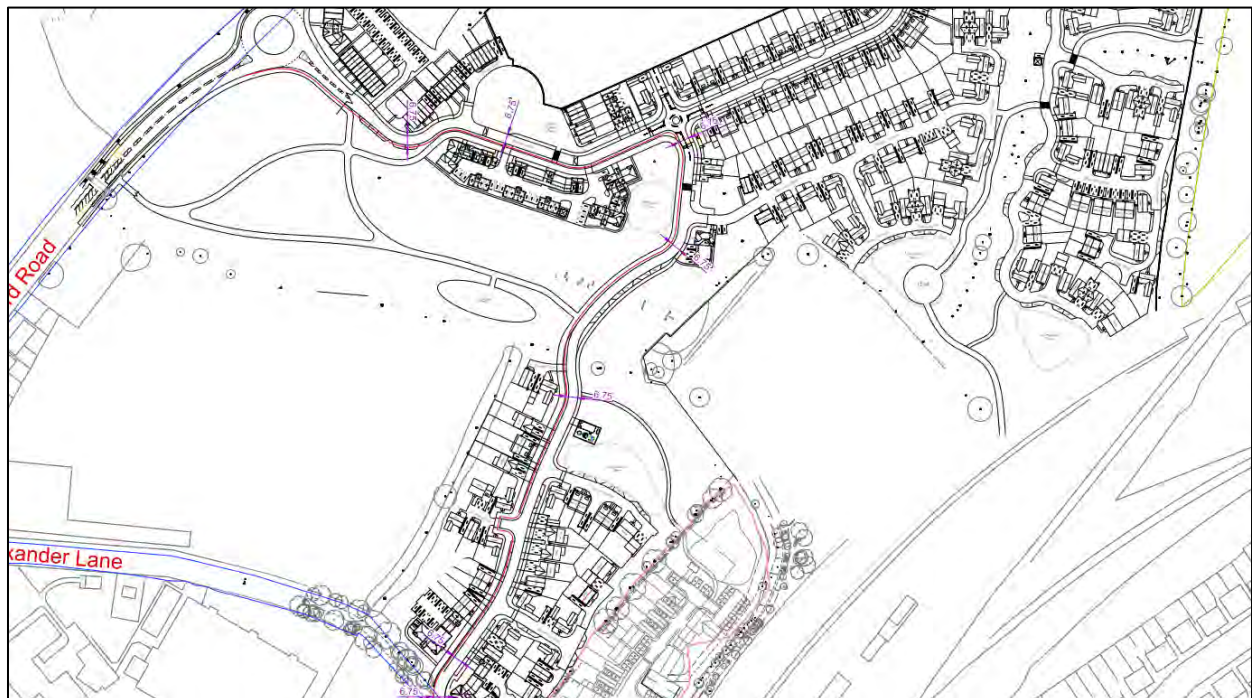


53. It can be seen from **Figure 10**, all of the proposed dwellings are within a 400m walking distance with the proposed and relocated bus stops.
54. As highlighted above, the quality of the pedestrian footways throughout the site would be safe, well lit, flush, overlooked and with visually interesting landscaping.
55. Implementing the above proposals and contributing to additional services along the existing routes would appear to be a more suitable solution than widening roads and stretching existing route lengths to go around the houses potentially leading to them being commercially unviable.

## Proposed Masterplan

56. The masterplan for Officers Meadow has not been designed to allow for bus services to travel through the length of the site. The primary route is designed to allow two HGVs to pass at 5.5m wide and supported by Manual for Streets. To allow for a bus service through the site Essex Highways require the primary route to be increased from 5.5m to 6.75m.
57. National guidance suggests between 6.1m to 6.5m is sufficient for two buses to pass on a bus route. *“Buses in Urban Development, January 2018” suggests that “the carriageway width should be sufficient to ensure that buses are not obliged to wait to pass oncoming vehicles. To accommodate this, an unobstructed carriageway width 6.5metres will avoid buses having to slow to pass one another or other large vehicles. Where a 20mph (or lower) speed limit is applied, an unobstructed width of 6.2metres is generally sufficient. Bus services and New Residential Development (Stagecoach, 2017) endorses the minimum carriageway width recommendation and advises that ‘localised widening should be assumed on bends, in line with results of a realistic tracking exercises.’*
58. The impact of widening the primary route through the site will be vast. The impact of the residential parcels is shown in **Figure 11** and **Appendix B**. It can be seen that a significant number of houses would be lost to increase the road width making the development economically unviable.

**Figure 11: Impact of Widening the Primary Route**



59. Therefore, in light of the evidence presented above, it does not seem appropriate to widen the primary route through the site, with the route then running onto a narrow and height restricted Alexander Lane which could cause potential highway safety issues.

## Conclusion

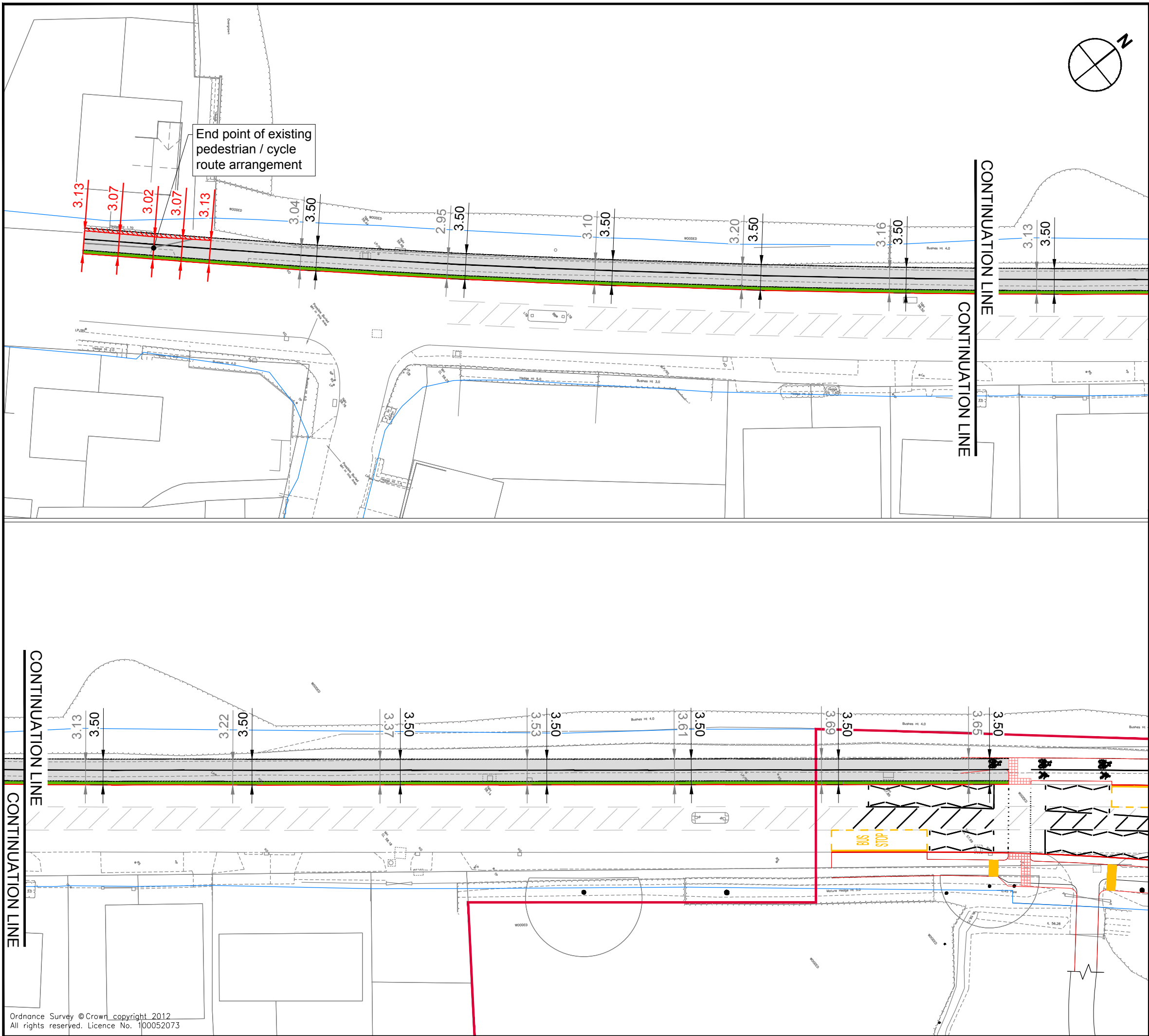
60. This note has been produced to respond to several comments made by Essex Highways regarding sustainable accessibility from the site.
61. With regard to pedestrian and cycle accessibility, the development has been designed such that active travel can form the first choice for all residents and users of the site.
62. As part of the site access design on Chelmsford Road a toucan crossing is proposed to the south of the access. This will link the shared footway/cycleways throughout the site to the existing route on the western side of Chelmsford Road.
63. The application proposes improvements to existing cycle provision on Chelmsford Road by extending the segregated provision up to the proposed access. The proposals will provide an improved environment for both pedestrians and cyclists using Chelmsford Road travelling south into Shenfield.
64. The application will also propose a new cycle quietway from the site to Shenfield town centre/station via Hunter Avenue. The proposals will provide improved legibility for cyclists travelling from not only the proposed site but the existing residential areas.
65. In terms of bus accessibility, the note has considered several options including:
  - Feasibility of the route through the ancient woodland;
  - Feasibility of re-routing a service through the site and onto Alexander Lane;
  - Existing bus accessibility;
  - Provision of new bus stops.
66. The note concludes the provision of a new service either through the northern section of the site or re-routing the bus through the site and onto Alexander Lane is not appropriate because:
  - Presence of ancient woodland which is protected by the Adopted Local Plan, NPPF and Natural England's Standing Guidance;
  - Existing bus stops are already located within walking distance of the site;
  - Existing services are already present along Chelmsford Road and Long Ridings Road;
  - The quantum of development is not enough to be able to support a bus diversion into the site;
  - Alexander Lane narrow with limited highway boundary to widen the carriageway to accommodate a bus route; and,



- Alexander Lane has an existing height restriction with limited clearance for double decker buses.

67. We therefore believe the most suitable option is to relocate a pair of bus stops and provide two new bus stops with contributions made to increase the frequency of services along Chelmsford Road.
68. The provision of new bus stops ensure residents are within an acceptable walking distance from existing services and then funding these to increase their frequency and patronage would be a more sustainable offering than widening existing roads and removing houses and landscaping from the proposed development site.

## **APPENDIX A**



- Notes:
1. This is not a construction drawing and is intended for illustrative purposes only.
  2. White lining is indicative only.

Key

- Highway Boundary (Based on Ordnance Survey so minor inconsistencies on Topographical Survey)
- Red Line Boundary
- Sufficient width for 3.5m route
- Insufficient width for 3.5m route
- Existing width

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

Croudace Homes Ltd

PROJECT:

Officers Meadow, Shenfield

DRAWING TITLE:

Potential Segregated Footway / Cycle Way Route Chelmsford Road

SCALES:

1:250 at A3

DRAWN: JB CHECKED: AW DATE: 17.01.2024

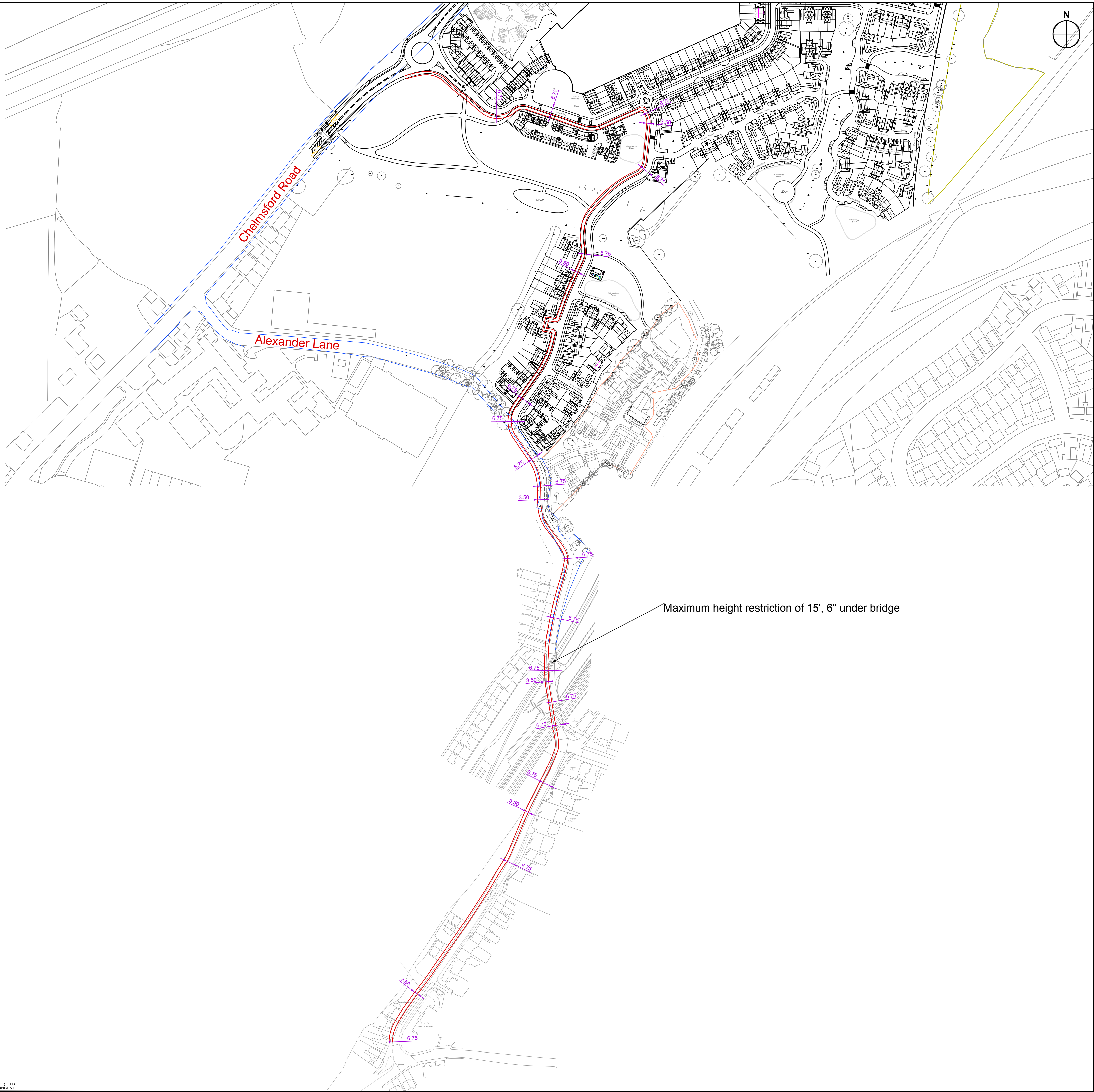
**vectos.** | PART OF **SLR**

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DRAWING NUMBER: 152080/SK03 REVISION: -



**APPENDIX B**



- Notes:
- 1. This is not a construction drawing and is intended for illustrative purposes only.
  - 2. White lining is indicative only.

Key

Proposed kerline amendments

Highway Boundary

REV	DETAILS	DRAWN	CHECKED	DATE
STATUS:				
INFORMATION ONLY				
CLIENT:				
Croudace Homes Ltd				
PROJECT:				
Officers Meadow, Shenfield				
DRAWING TITLE:				
Proposed Bus Route				
SCALES:				
1:2000 at A1				
DRAWN:	LJ	CHECKED:	HA	DATE: 29.11.2023
DRAWING NUMBER:				REVISION:
152080/PD17				.