



Town Farm and Kexbrough Hall Farm, Kexbrough Technical Note

November 2020

1732A

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Quality Management

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1.0 Introduction

- 1.1.1 Paragon Highway Consultants have been requested to prepare this Technical Note to provide further information to the Local Highway Authority on the highway aspects of the proposals to provide a residential development at Town Farm and Kexbrough Hall Farm, Kexbrough.
- 1.1.2 This Technical Note should be read in conjunction with the submitted Highway Statement (document ref 1732 dated June 2020) and provides confirmation of compliance with the design parameters contained within the South Yorkshire Residential Design Guide.
- 1.1.3 The report provides information on the proposed junctions, internal road layout, and vehicle tracking.
- 1.1.4 This Technical Note confirms that the proposed development is considered acceptable in terms of access geometry and visibility.

2.0 Proposed Junctions

Junction Separation

- 2.1.1 The development proposes 3 junctions, with the Kexbrough Hall Farm access located on Churchfield Lane opposite the Ballfield Lane junction, and an existing access located some 50m further west serving the proposed 3 dwellings, which is around 27m east of the Cawthorne Lane junction. For the Town Farm development there is a single access located off Churchfield Lane located around 44m west of the Churchfield Close junction, and it is proposed to improve this access to serve the Town Farm development.
- 2.1.2 It is acknowledged that the Council require a separation distance of 40m on the same side (similar to stopping sight distance for 30mph speeds) and 20m separation from the opposite side. From the above it can be seen that the existing Kexbrough Hall Farm access falls short of this requirement due to the location of the Ballfield Lane junction opposite and the existing access location serving the proposed 3 dwellings in relation to Cawthorne Lane.
- 2.1.3 However, these are existing access points for working farms generating traffic movements including large vehicles such as tractors towing machinery on a regular basis, especially during the busiest months typically between April to October. Accident records demonstrate that despite the junction spacing the access points operate safely.
- 2.1.4 Current national guidance contained within Manual for Street 2 paragraph 9.2.1 states: ***'However, in any event there appears to be little evidence that spacing criteria based on SSD are justified on safety or other grounds'***. Based on current guidance and the safety record identified within the supporting highway statement the proposed access locations are considered to be suitable.

Junction Visibility

- 2.1.5 Churchfield Lane is subject to a 30mph speed limit, using the SSD requirements contained within Manual for Streets a visibility splay provision of 2.4m x 43m is required. The proposed main site access at Kexbrough Hall Farm can meet these visibility requirements, albeit the end of the splay is located at the wheel tracks (assumed to be around 500mm offset from the kerb face). The 'Y' distance to wheel track follows the guidance contained within Manual for Streets.

- 2.1.6 In terms of the junction for Town Farm the access also proposes visibility splays of 2.4m x 43m in both directions. The end of the west side splay is at the assumed vehicle track, with the east side splay meeting the southern kerbline of Churchfield Lane. This junction also complies with the visibility standards provided within Manual for Streets for 30mph speed limit roads.
- 2.1.7 The access that serves the proposed 3 dwellings at Kexbrough Hall Farm contains a visibility splay of 2.4m x 43m to the west and 2.4m x 19.8m to the east, the latter splay is reduced due to the existing building located on the far north side of Kexbrough Hall Farm adjacent to Churchfield Lane. Both of these visibility splays have an end point located to the wheel track as per the current national guidance contained within Manual for Streets (assumed to be 500mm offset from the kerbline). Whilst the west side splay complies with the SSD requirements within Manual for Streets for 30mph speeds the east side splay fall short of this. It should be acknowledged that this is an existing access that has operated safely for years (as demonstrated in the accident search within the supporting highway statement). It should also be considered that paragraph 10.4.2 states: -

'It has often been assumed that a failure to provide visibility at priority junctions in accordance with the values recommended in MfS1 or DMRB will result in an increased risk of injury collisions. Research carried out by TMS Consultancy for MfS2 has found no evidence of this.'

- 2.1.8 From the above it is considered that the access serving the 3 proposed dwellings would continue to be suitable for its day to day use serving up to 3 dwellings.

Swept Path Analysis

- 2.1.9 The plan at Appendix A demonstrates how a Barnsley Council specification refuse collection vehicle can access the proposed junction for Kexbrough Hall Farm and Town Farm safely. The plan identifies that these vehicles can turn left into the site and left out of the site in accordance with the South Yorkshire Residential Design Guide.

3.0 Proposed Road Layout

Kexbrough Hall Farm

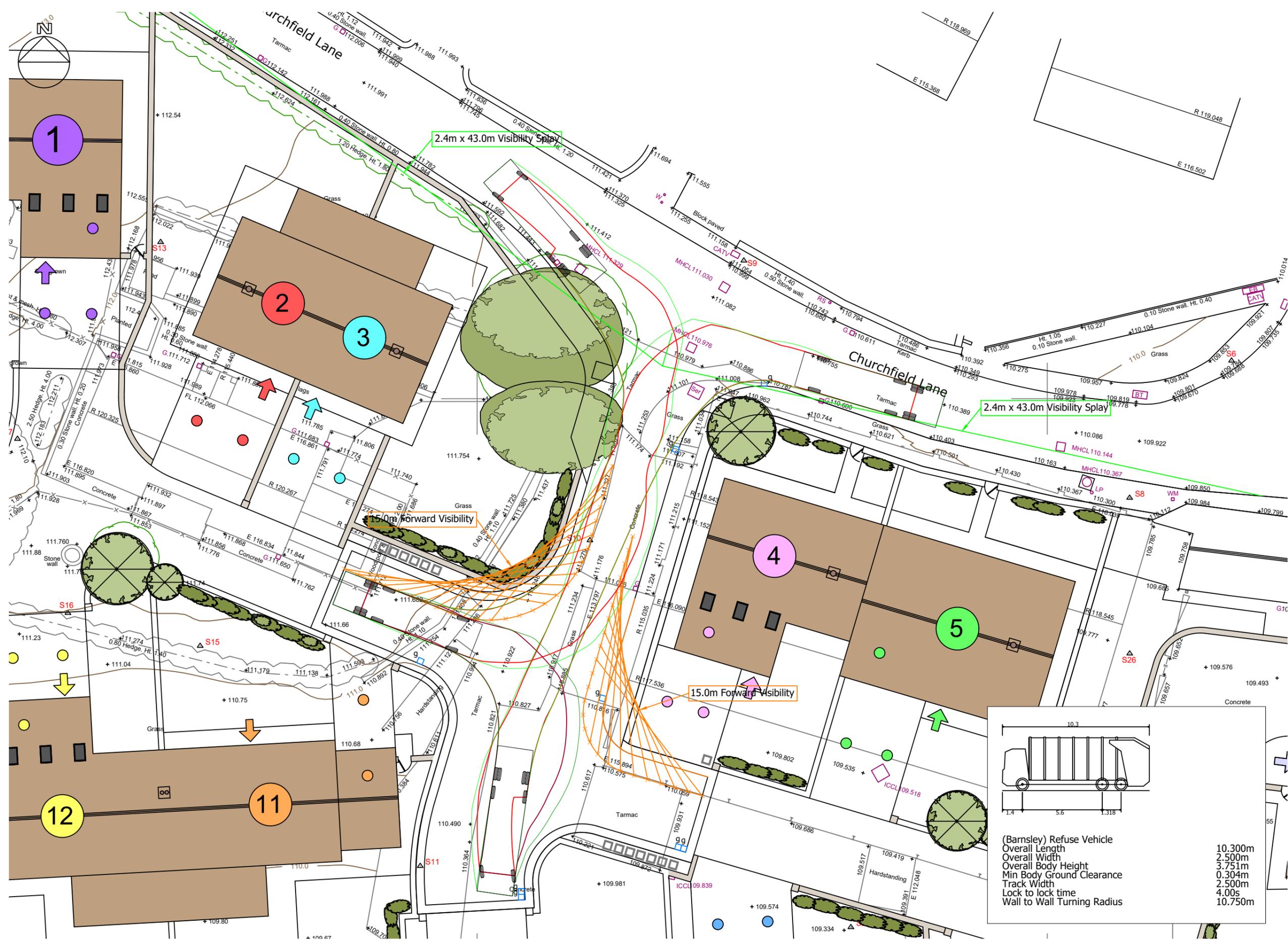
- 3.1.1 The proposals at Kexbrough Hall Farm include 3 dwellings served from an existing access and private drive and a new adoptable road serving 10 dwellings. The adoptable road will take the form of a shared space street with level surface as it would be subject to less than 40 vehicle movements per hour. The design speed is 10mph and it is envisaged that due to the layout of the road (including changes in horizontal alignment that provides a speed reducing feature) that traffic speeds should not exceed 15mph, as the distance between the bend in the road and the proposed turning head is less than 40m. The layout follows the relevant parameters contained within the South Yorkshire Residential Design guide.
- 3.1.2 Forward visibility has been identified on the plan at Appendix A and demonstrates the minimum required in accordance with the design guide of 15m, which exceeds the SSD requirements for 10mph in accordance with Manual for Streets. Within these forward visibility envelopes there will be no obstructions above 600mm of the adjacent carriageway in accordance with the South Yorkshire Design Guide.
- 3.1.3 The layout of the adoptable road includes a carriageway that ranges between 4.8m and 5.5m in width, which will allow for a car to pass an HGV and allows for unobstructed access for refuse collection and emergency vehicles. The layout includes a turning head to accommodate a Barnsley Council specification refuse vehicle and large fire appliance. The plans at Appendix A also provide track test information demonstrating how two large cars can simultaneously pass through the proposed double bend. The Kexbrough Hall Farm development therefore provides a layout that generally complies with the tracking and width requirements contained within the South Yorkshire Design Guide.
- 3.1.4 The proposals also include a shared driveway serving plots 1 to 6. This will also meet the Council's requirements to allow for simultaneous two way travel by opposing cars. Refuse collections areas will also be provided adjacent to the proposed adoptable road, and Churchfield Lane.
- 3.1.5 From the above the Kexbrough Hall Farm access geometry and visibility generally complies with the requirements contained within the South Yorkshire Residential Design guide.

Town Farm

- 3.1.6 The proposals at Town Farm include a new adoptable road serving 12 dwellings, with 2 shared driveways branching off from the adoptable road. The adoptable road will take the form of a shared space street with pedestrian provision to one side, and footways returning into the site on both sides from Churchfield Lane. Despite the low traffic volumes associated with the proposals (less than 40 vehicle movements per hour) pedestrian provision has been provided. The design speed is 10mph and it is envisaged that due to the layout of the road (due to short length) that traffic speeds should not exceed 15mph. The layout follows the relevant parameters for shared space streets contained within the South Yorkshire Residential Design guide.
- 3.1.7 Forward visibility has been identified on the plans at Appendix A and demonstrates the minimum required in accordance with the design guide of 15m, which exceeds the SSD requirements for the design speed. Within these forward visibility envelopes there will be no obstructions above 600mm of the adjacent carriageway.
- 3.1.8 The layout of the adoptable road includes a carriageway width that ranges between 5.5m and 7m which exceeds the minimum carriageway width requirements of 4.8m as identified within the Council's design guide. These widths would easily allow for simultaneous 2 way traffic flow along the road and also provides sufficient internal turning to accommodate a Barnsley specification refuse vehicle and fire appliance. Track tests are provided on the plans at Appendix A. The road also includes a 2m footway returning into the site on both sides and continues south along the east side of the road. The footway dimensions meet current standards.
- 3.1.9 The shared drive serving plots 6 and 7 is of sufficient width to enable simultaneous two way travel by opposing cars. Similarly, the shared driveway serving plots 1, 2, 3, 11 and 12 would also provide suitable geometry to allow simultaneous two way flow by opposing vehicles. Bin collection areas are also proposed adjacent to the adoptable roads to allow for convenient waste collection by Council operatives.
- 3.1.10 From the above the Town Farm access geometry and visibility generally complies with the South Yorkshire Residential Design guide.

Appendix A

Visibility & Vehicle Tracking



GENERAL NOTES
 This drawing shows the provisional design only and is subject to Local Authority approval. This drawing should not be scaled for setting out purposes unless specified.

This drawing is based on a topographical/ordnance survey provided by others.

REV	DATE	DESCRIPTION
PROJECT		
KEXBOROUGH FARMS, CHURCHFIELD LANE, BARNSELY		
TITLE		
VEHICLE TRACKING AND VISIBILITY - ROAD 1		
SCALE		
1:250 @ A3		
DRAWING		
1732-201		
DATE		
16.11.2020		

(Barnsley) Refuse Vehicle
 Overall Length
 Overall Width
 Overall Body Height
 Min Body Ground Clearance
 Track Width
 Lock to lock time
 Wall to Wall Turning Radius

10.300m
 2.500m
 3.751m
 0.304m
 2.500m
 4.00s
 10.750m

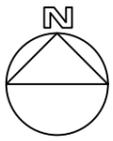


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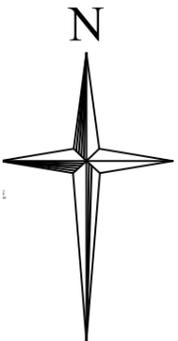
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PROJECT		
KEXBOROUGH FARMS, CHURCHFIELD LANE, BARNSELY		
TITLE		
VEHICLE TRACKING AND VISIBILITY - ROAD 1		
SCALE		
1:250 @ A3		
DRAWING		
1732-202		
DATE		
16.11.2020		

(South Yorkshire) Fire Appliance
 Overall Length 9.500m
 Overall Width 2.500m
 Overall Body Height 3.515m
 Min Body Ground Clearance 0.400m
 Track Width 2.400m
 Lock to lock time 6.00s
 Kerb to Kerb Turning Radius 7.910m

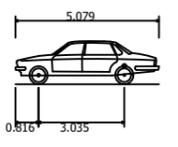


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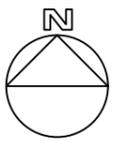


REV	DATE	DESCRIPTION
PROJECT		
KEXBOROUGH FARMS, CHURCHFIELD LANE, BARNSELY		
TITLE		
VEHICLE TRACKING AND VISIBILITY - ROAD 1		
SCALE		
1:500 @ A3		
DRAWING		
1732-203		
DATE		
16.11.2020		



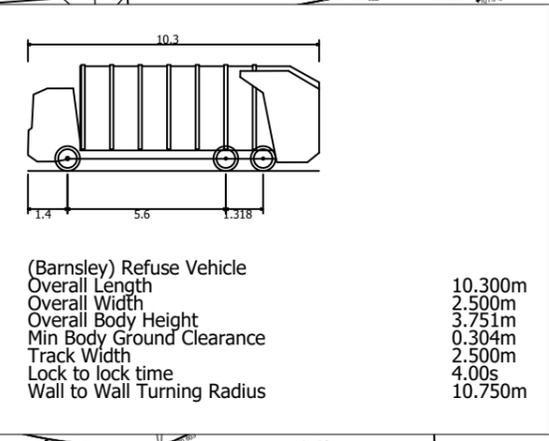
Large Car (2006)
 Overall Length 5.079m
 Overall Width 1.872m
 Overall Body Height 1.525m
 Min Body Ground Clearance 0.310m
 Max Track Width 1.831m
 Lock to lock time 4.00s
 Kerb to kerb Turning Radius 5.900m

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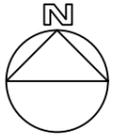
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(Barnsley) Refuse Vehicle
 Overall Length 10.300m
 Overall Width 2.500m
 Overall Body Height 3.751m
 Min Body Ground Clearance 0.304m
 Track Width 2.500m
 Lock to lock time 4.00s
 Wall to Wall Turning Radius 10.750m

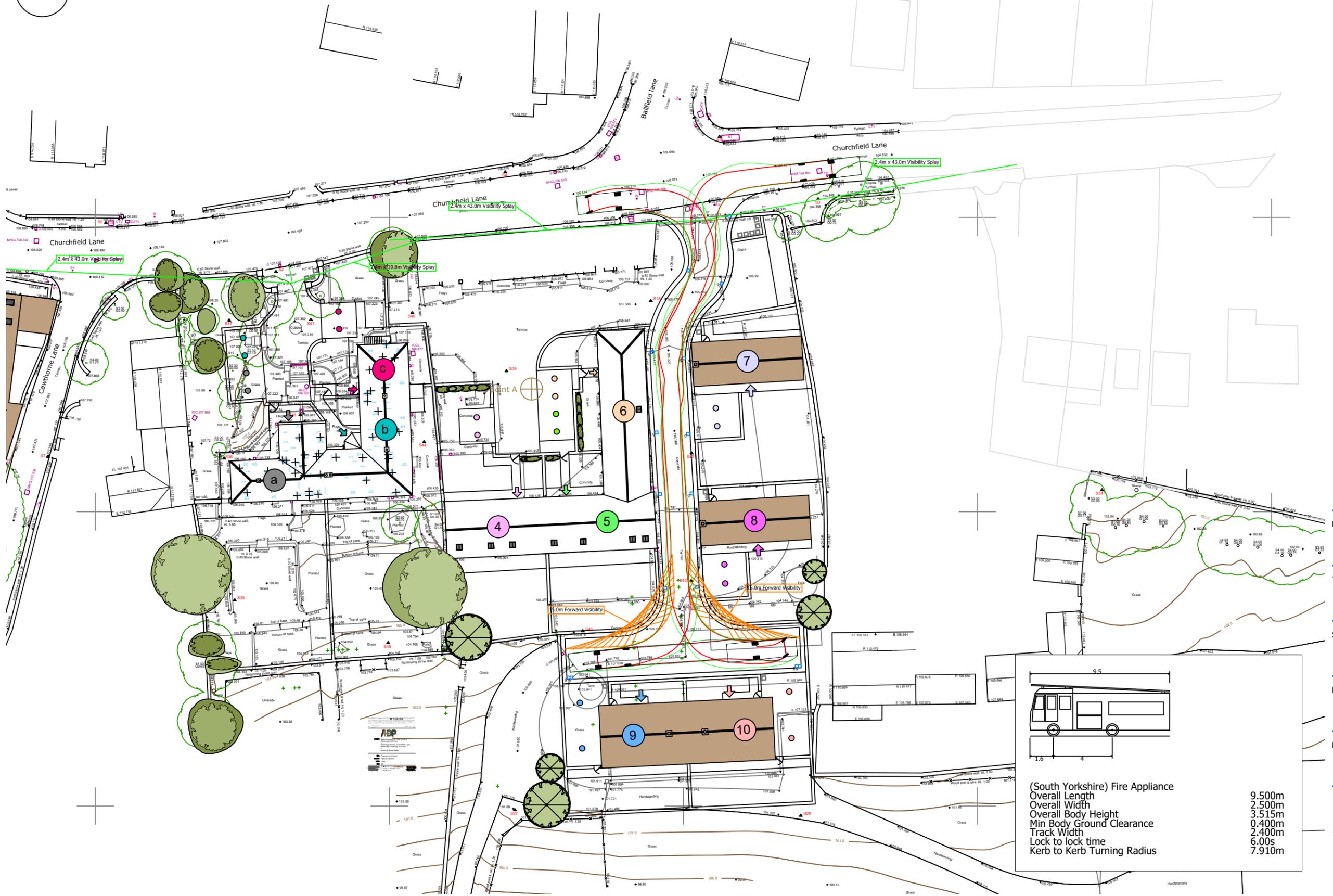
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KEXBOROUGH FARMS, CHURCHFIELD LANE, BARNSELY		
TITLE		
VEHICLE TRACKING AND VISIBILITY - ROAD 2		
SCALE		
1:500 @ A3		
DRAWING		
1732-204		
DATE		
16.11.2020		

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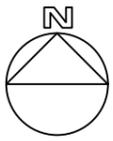
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