



Somerset County Council

LANGPORT & SOMERTON AREA

Initial Station Assessment



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APPENDIX A – PROPOSED STATION LAYOUTS / GENERAL ARRANGEMENT DRAWINGS

1. INTRODUCTION

In response to recent growth and planned further expansion, a proposal for reinstatement of a new railway station to serve the towns of Langport and Somerton has been put forward by the Langport Transport group. The group includes representation from the local County Council, District and Town Councils, the Local Enterprise Partnership.

The group seeks a qualified opinion that a new station can be physically accommodated between Langport and Somerton. The objective of the study assessment will be to provide high level station footprint options for each possible location that comply with Network Rail Standards and guidelines and meet the RSSB Safety requirements and are easily accessible by the travelling public.

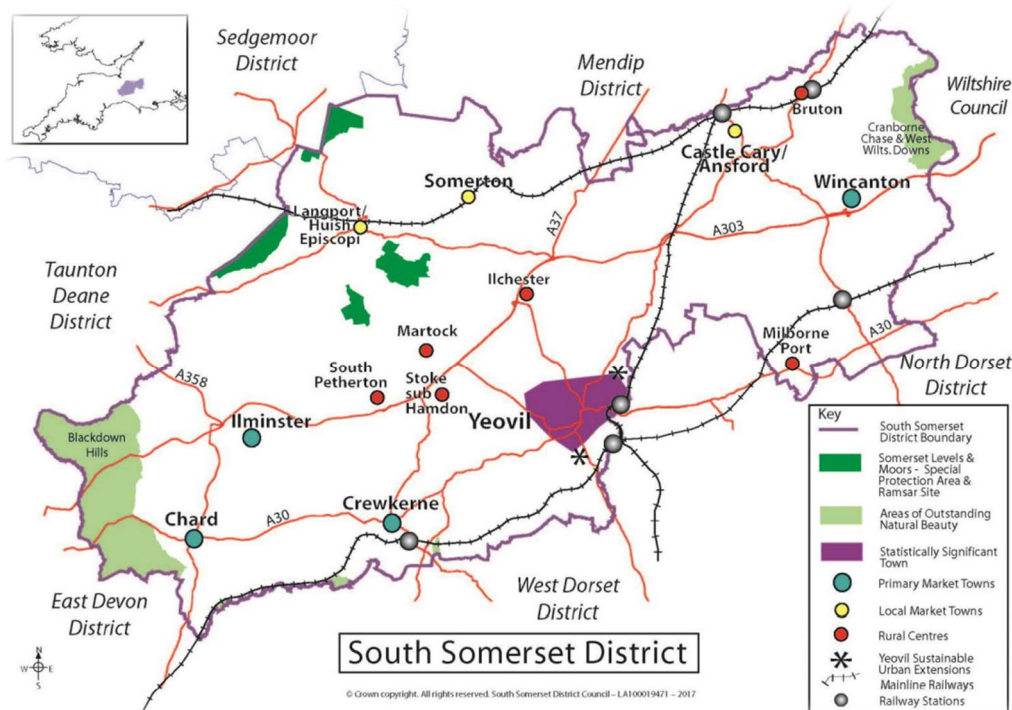


Fig 1.0 - Source: Local Plan Review Issues and Options Consultation, 2018

1. STATION LOCATION OPTIONS

Four possible locations for a new station have been considered during this initial station assessment -

Langport Option 1 - This station location option is located adjacent Eastover close with the main vehicle access being from the A372. The station car park would be sited adjacent to the existing Huish Episcopi & Langport Cricket Club. An existing footpath from the car park location would provide access to the station location.

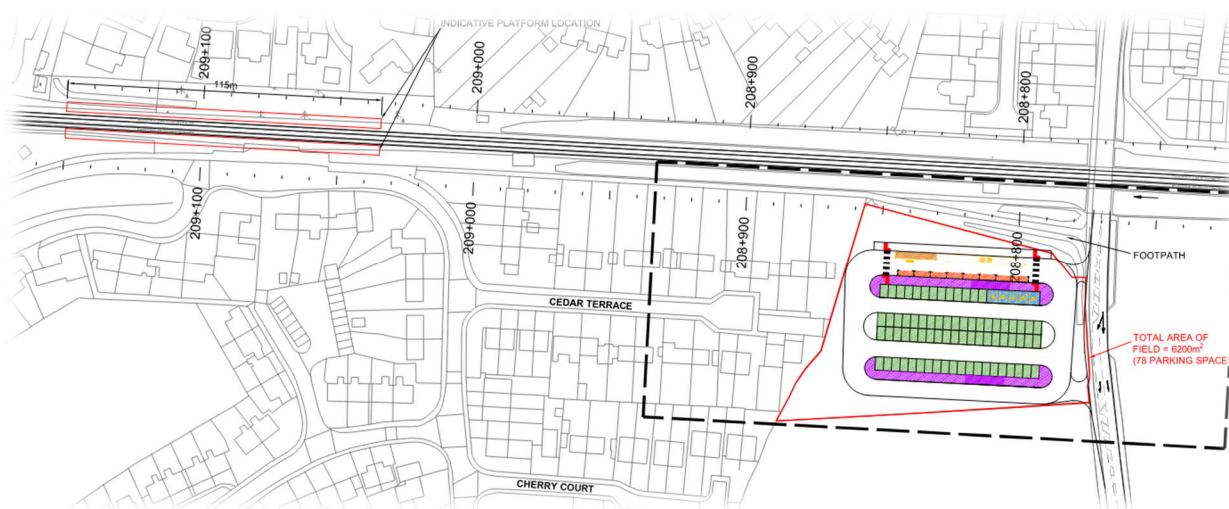


Fig 2.0 Option 1.0 Langport 1 Overview

Langport Option 2 – This station location option is located on an opposing portion of land from Barrymore Close between the A372 and Union Drive. The station car park would be sited adjacent to the platforms on the south side of the railway line. The station would be accessible via a new road connection to the A372 running along the Huish Episcopi Academy playing fields spanning the Mill Brook watercourse.

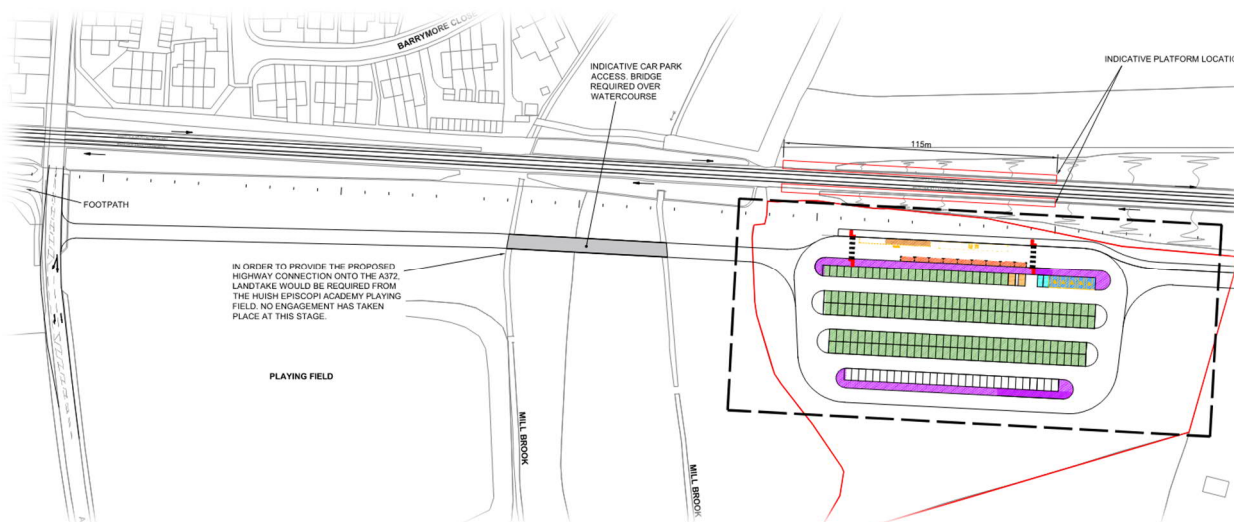


Fig 3.0 Langport Option 2 Overview

Tengore Lane Option 3 – This station location option is located on the north east side of Tengore Lane on a portion of land adjacent Downslade Farm. The station car park would be sited adjacent to the platforms on the south side of the railway line. The station would be accessible via new road connection to the north side of Tengore Lane.

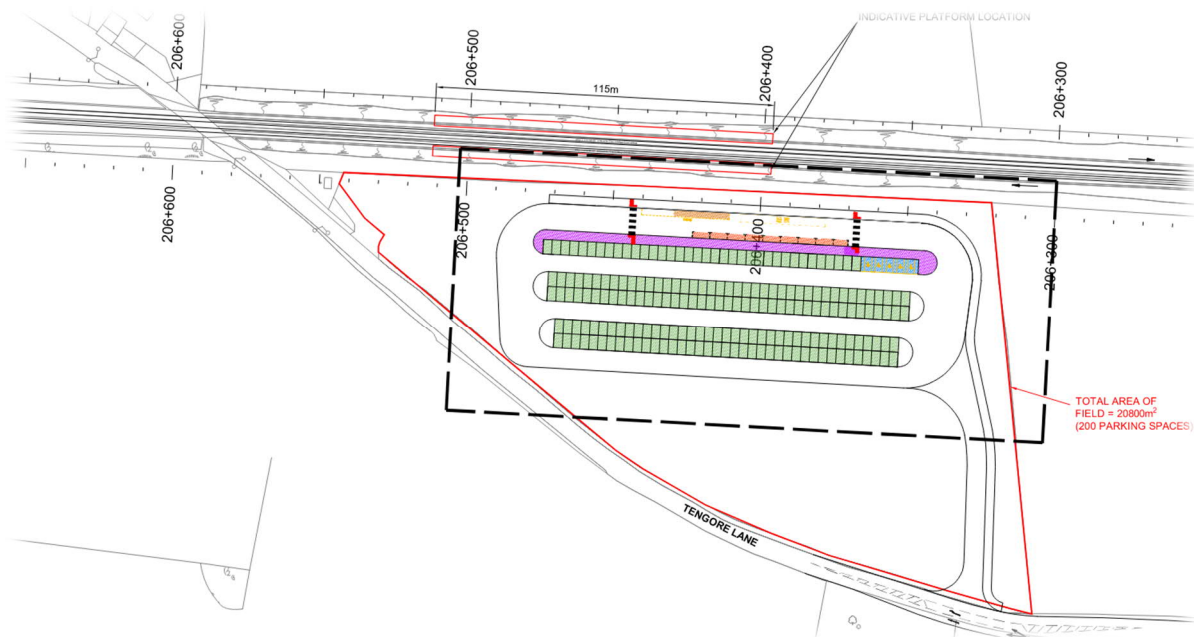


Fig 4.0 Tengore Lane Option 3 Overview

Somerton Option 4 – This station location option is located on the north side of the B3165 Sutton Road and Ricksey Lane adjacent an existing Network Rail siding. The station car park would be sited adjacent to the platforms on the south side of the railway line. The station would be accessible via an upgraded field access link to the B3165 Sutton Road.

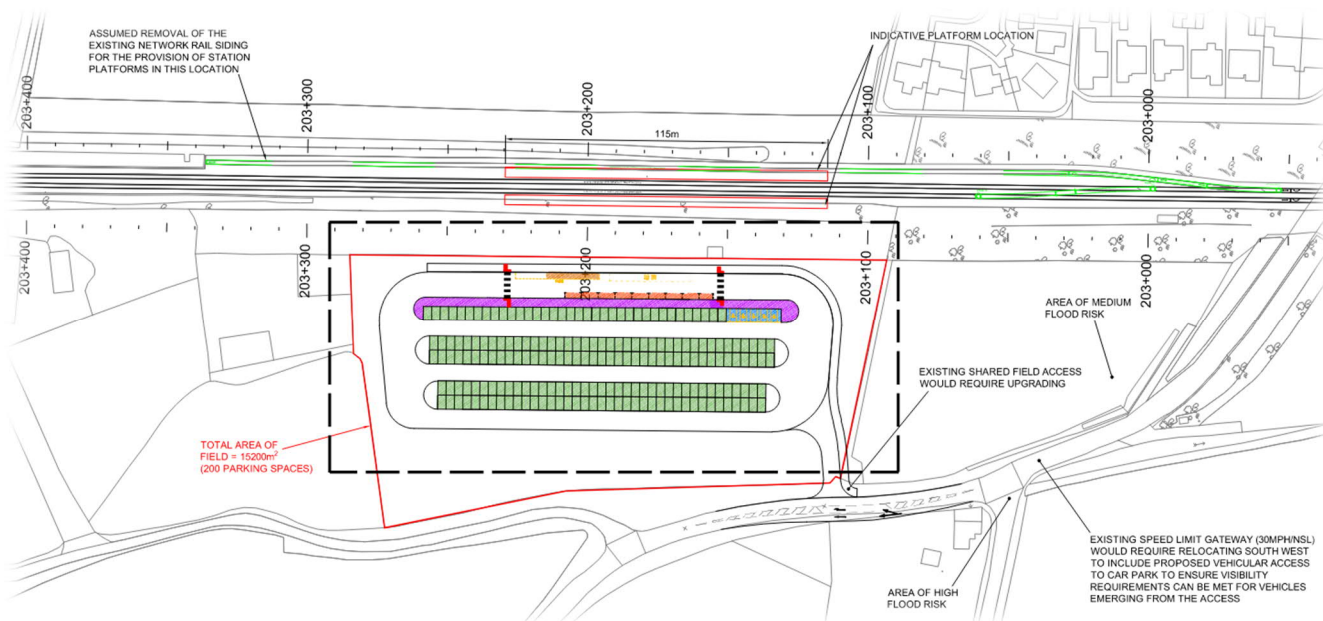


Fig 5.0 Somerton Option 4 Overview

2. TRACK ASSESSMENT

2.1 Legislation and Standards Requirements (Track)

The legislative requirements relating to the construction of new station platforms are set out in the Railway Group Standards (RGSs) published by the Rail Safety and Standards Board (RSSB). RGSs are national safety rules with national technical rules applicable to the mainline railway system. These are designed to help the industry work with standards and regulations at UK, European and international level, and clarifies how they help rail companies in addressing their legal and other obligations.

The RGSs covering the location of new station platforms and the relationship between the platforms and the track are contained in:

- Rail Industry Standard RIS-7016-INS (Interface between Station Platforms, Track, Trains and Buffer Stop)
- Railway Group Standard GCRT5021 (Track System Requirement) and
- Railway Group Standard GIRT7020 (GB Requirements for Platform Height, Platform Offset and Platform Width)

For the purposes of this assessment, the following requirements have been considered when assessed against Ordnance Survey mapping:

- a. Requirements for locations of platforms (RIS-7016-INS Part 2.1)
- b. Normal limiting design values for cant (GCRT5021 Part 2.5.3)
- c. Requirements for width of platforms (GIRT7020 Part 2.3)

2.2 CRITERIA ASSESSED

2.2.1 Of the four sites, the aforementioned criteria were all achieved. The following criteria was also adopted and assessed during the desktop study;

- Provision for 115m minimum standage platforms as per Network Rail requirements reference information.
- The preferred track geometry for the station platforms to be sited on is straight track with no change in geometry to be situated within the platform extents.
- Proximity to existing structures along the railway to be considered, ensuring adequate spacing and clearance has been provided away from the platforms and structures.
- The civil infrastructure and ground profile present in the suggested locations is to be considered where RouteView imagery demonstrates a constraint. Commentary can then be made on additional works that may be required where appropriate.

2.2.2 For this stage of works, the assessments made have been predominantly based on horizontal survey data, using Ordnance Survey mapping provided and online sources (RouteView, Sectional Appendix) where available. From the online sources available, high level identification of the status of the tracks has been undertaken showing areas of track in a cutting or on an embankment based on Google Maps and RouteView. Further assessment such as the vertical track profiles and the

extents of the cuttings for each proposed site will need to be assessed at a later design stage upon receipt of detailed 3D survey and an accompanying civils design.

2.2.3 All of the aforementioned criteria have been assessed, with details on the outcome of the assessment in the section below.

2.3 ASSESSMENT OUTCOME

2.3.1 Upon initial assessment of suitable locations for which the provision of a new station providing a service to both the community of Langport and Somerton, four potential site options have been identified. The existing railway between Langport and Somerton is on ELR: CCL the geometry of the railway on this route is predominantly on straight track with one identified curve in the alignment at the approximate mileage of 127 miles 40 chains. There are numerous structures along the route, with the most notable being Somerton Tunnel, located centrally around the 127 milepost. This assessment of the existing track alignment is based on Ordinance Survey mapping received. Upon the initial assessment, four locations for the proposed station and platform have been identified based on the track alignment in those areas;

- Langport Option 1
- Langport Option 2
- Tengore Lane
- Somerton

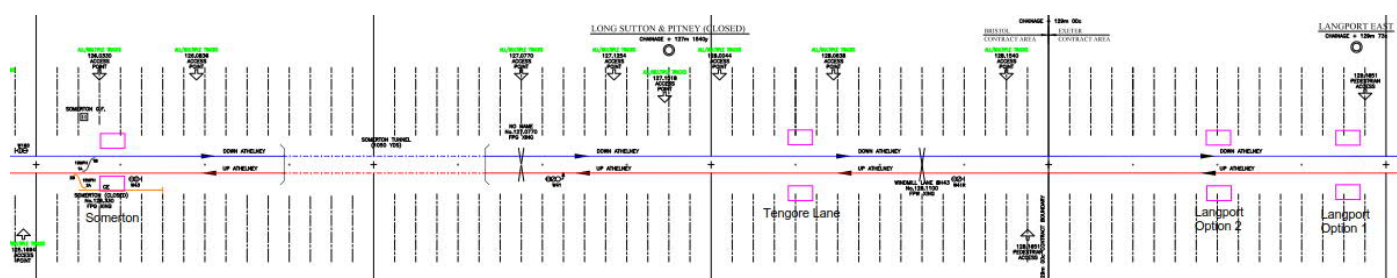


Fig 6.0 Track Overview

2.3.2 Langport (Option 1)

This option formed part of the previous assessments for the provision of a station service in the Langport area. The proposed station platforms are located at circa 130 miles 6 chains along the ELR CCL, located to the east of the A378 Somerton Road Underbridge. The existing linespeed of both the Up and Down Athelney is 100mph in this area. This proposed site is within Langport Town.

The limitations for this station option relate to:

- The restriction of the space available for the north platform due to the housing estate adjacent to the north cess. Due to this being a desktop study and only having Ordinance Survey (OS mapping) available at this stage, there is no accurate knowledge of what space is available for this option. This is a risk that needs to be considered if this option is to be taken forward as this may be a significant factor when trying to construct the platforms and station as well as maintain the facility.
- This section of track is within a cutting, this is likely to increase costs when considering the construction and maintenance of a proposed station alongside the existing track drainage which may need to be replaced.

For details of the proposed site location, refer to APPENDIX A

2.3.3 Langport (Option 2)

This option is located at circa 129 miles 40 chains, to the west of the A372 road overbridge. The existing linespeed in this area is currently 100mph on both the Down and Up Athelney. This site option and section of track is situated within a deep cutting. There is existing drainage located in the Up cess within this area. With this considered, this site option may require rework of the existing track and redesign of the earthworks and the drainage facilities in this area to provide an adequate solution for the proposed station. There is an existing foot crossing located 50m away from the indicative positioning of the platforms edge. Due to the proximity from the proposed station platforms, this footpath would have to be closed. From engagement from the client, clarification has been made regarding the active use of this footpath. A more secure overbridge may be required and provided if this option was to be selected, overall adding additional costs to the option.

A new road would have to be developed for this site option as no existing road is situated/ has access to this proposed option. The proposal of positioning an access road connecting to Huish Episcopi road. The field which the access road is suggested to be positioned is an existing school playing field. Which would mean requiring the proposal of landtake from the academy nearby which poses a large downside to the scheme, as reduction in school facilities are likely to be met with strong opposition. For details of the proposed site location, refer to APPENDIX A

2.3.4 Tengore Lane

This option is situated at circa 128 miles 20 chains along the CCL line. In this area, the existing linespeed is 100mph. This site option is approximately equidistant from Langport and Somerton. This section of track is within a very deep cutting, as visible on RouteView imagery. There is drainage situated in the Up Athelney cess. If this option was selected, the drainage will be severely impacted with the proposition of the station and the platforms. Predicted requirement of full renewals of track in this area as well as new drainage and earthworks required to accommodate the proposed station within the deep cutting. Further details of the depth of the cutting and existing utilities in this area would need to be assessed upon receipt of detailed survey if this option was to be selected to go further. For details of the proposed site location, refer to APPENDIX A

2.3.5 Somerton

The proposed option is located on the twin-track non-electrified CCL line at circa 126 miles 20 chains, with an existing linespeed of 100mph.

The proposed station location is positioned adjacent to a closed Network Rail Siding, therefore complete removal of the existing sidings will need to be carried out.

From the desktop study undertaken, some instances of flooding have been identified in the area that the station platforms are proposed.

From the desktop study, existing drainage is present in this area where the proposed platforms have been suggested to be positioned. It is likely that full renewal of the drainage systems may be required as well as full track renewals throughout the extents of the proposed station to accommodate for the new platforms and to remove the risk of flooding occurring throughout the station. Details surrounding the proposed drainage will be developed as the station design is progressed. For details of the proposed site location, refer to APPENDIX A.

3. SIGNALLING ASSESSMENT

New station at either Langport or Somerton are proposed on the Athenley lines between Taunton and Westbury.

This assessment briefly summaries the likely impact of the station locations on the existing signalling arrangements. It is a high-level summary and merely provides an indication of necessary signalling interventions.

The following sources have been used for information:

- S727-02-0 Version BD1 Exeter Cogload Junction Locking Sketch
- S747-2 Version AB-1 Westbury Somerton Interlocking Locking Sketch

OPTION 1 LANGPORT 1

At the end of Langport viaduct, there are no signals within the vicinity, to which the end of the site would require significant signalling alterations, to ensure there are sufficient braking distances either side of the proposed site. However as the up direction is across the viaduct, the distant signal would likely fall within the footprint of the bridge over the River Parret, in addition to this there would be inadequate spacing beyond the station making the signal spacing along the route irregular. This will require movement of W41R & W41 to be moved some 1 ¼ mile closer to Taunton to align with the proposed station. Similar issues with irregular spacing is also found on the Down direction in order to provide a station starter.

OPTION 2 LANGPORT 2

This option leads to the station positioned closer to W41R, after reviewing google earth it appears that good sighting already exists for the approach, such that the existing distant signal will likely be visible from the proposed station. In the down direction a station starter would provide less than optimal regularity to signal spacing, but still an improvement on option 1.

OPTION 3 TENGORE LANE

This option leads to the station being within the braking distance of W41 such that both W41 & W41R would need to be relocated, either towards or away from the station, such that W41R or W41 acts as a station starter. However, regularity of signal spacing is improved further to option 2 in the down direction

OPTION 4 SOMERTON (AT THE LOCATION OF EXISTING O.O.U. SIDINGS)

Assuming network change is approved for the recovery of these, deemed “out of use” sidings, the signals protecting the ground frame would need to be relocated to provide station starters. Whilst the relocation of W160 & W160R a mere 1/4mile to align with the platform would not cause significant irregularity to signal spacing, the issue with this site is on the down direction. Where W43 would need moving to the end of the platform, W43R cannot be moved closer to Taunton due to Somerton tunnel. Leading to excessive braking for all trains. This increases the risk of a SPAD on W43 as the driver will be trying to judge from route knowledge when he should begin applying brakes in a tunnel with no visual cues.



PREFERRED OPTION IN TERMS OF SIGNALLING

Based on the minimum interventions required in terms of signalling, Option 2 is the preferred option. Option 2 requires minimal signalling alterations, minimal provision of assets, and a lower risk to the maintainer.

Standards

GK/RT0075 – Issue 4: Lineside Signal Spacing and Speed Signage

Assumptions and Actions

Assumed W41R is visible from the proposed Langport 2 End of platform.

Sufficient capacity exists within the interlocking to provide additional signals.

We are not required to risk assess level crossings along the line due to the likely increase in traffic.

4. STATION FOOTPRINT ASSESSMENT

This assessment forms part of a pre-GRIP desk top study intended to confirm whether there is a reasonable prospect of constructing a new rail station at the four proposed station locations or otherwise report that there is clear evidence that this would not be possible.

The principal requirements have been advised as:

1. *Each station to consist of two platforms of a minimum of 115 m in length*

Assessment – All four station locations are able to accommodate platform lengths of 115 meter lengths of greater. However, at Langport option 1 the location of domestic dwellings located to the east of the platforms prevents further extension in this direction.

2. *The platforms must meet the relevant Network Rail standards (and current legislation), with a minimum platform width of 3 m, clear of all structures, i.e. Lamp columns, structures and equipment.*

Assessment - Subject to detailed topographic survey, both sites appear to able accommodate minimum platform widths of 3m. The exact location of passenger seating, waiting shelters, stairs and other platform furniture must respect the minimum access width requirements and compliance may be challenging at Langport option 1 due to adjacent domestic dwellings and Eastover Close. Both Langport option 2 and Tengore Lane option 3. Although these two sites are located at greenfield sites with no adjacent developments the track at these locations passes through cuttings. Extensive excavation would be required to accommodate the require platform widths and maintaining level access to the platforms would provide further difficulties.

3. *Access between platforms is to be provided either by existing crossing points, i.e. Highway footbridges, or if this is not possible then stand-alone structures of either ramps or lifts with stairs.*

Assessment – At Langport option 1 the A372 underbridge with suitable footpaths to the station platforms could be used to provide access between platforms. However, this would be subject to accommodating these footpaths parallel to the rail corridor. Langport option 2 and Tengore Lane option 3 would require new pedestrian footbridges with lifts to provide access between platforms. Despite Somerton option 4 being located near the B3165 overbridge the existing bridge does not provide sufficient clearance for the introduction of pavements therefore this option would also require a new pedestrian footbridge with lifts.

4. *Facilities on the stations to consist of sufficient waiting shelters, lighting, CIS, CCTV and ticket machines.*

Assessment - See item 2 above.

5. *Accessible platforms to-from all exits and entrances.*

Assessment – At all station location options accessible ramps are proposed from all exits and entrances to each platform.

6. *Car parking provision of a minimum of 30 spaces (ideally more if possible), cycle shelters and bus pick up.*

Assessment – Langport option 1 – Potential space available for proposed car park not sufficient to provide 200 car parking space plus bus loop. Current sketch showing 76 parking spaces, which could probably increase slightly but will definitely fall far short of the desired 200 spaces. Access to car park relatively easy to achieve off the A372, subject to further Transport Assessment and potential need for introduction of speed limit to achieve visibility splays.

Langport option 2 – Sufficient space available for at least 200 car parking spaces (subject to 3rd party land ownership agreement) but unknown status of Union Drove, which currently looks like it might only be a farm access track and might require substantial upgrading to accommodate proposed traffic flows. Alternative access option off the A372 would require new bridge structure across the watercourse and flood plain, as well as access road across land currently used as playing fields.

Tengore Lane option 3 – Sufficient space available for at least 200 car parking spaces (subject to 3rd party land ownership agreement). Access to car park relatively easy to achieve off Tengore Lane, subject to further Transport Assessment and potential need for introduction of speed limit to achieve visibility splays.

Somerton option 4 - Sufficient space available for at least 200 car parking spaces (subject to 3rd party land ownership agreement). Access to car park relatively easy to achieve off the B3165 Lane, subject to further Transport Assessment and potential need for introduction of speed limit to achieve visibility splays.

7. *Consideration for access roads to/from the station and Highway needs and requirements*

Assessment - At all station location options, suitable access to/from the public highway could be provided through upgrades to the paving, kerbing, drainage & fencing of the existing access roads/tracks and priority junctions.

5. CONCLUSION

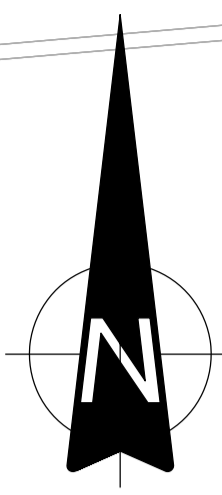
The assessments have confirmed that, subject to topographical, structural and ground investigation surveys, new stations can in principle be accommodated at the 4 options considered.

However, options 1, 2 Langport and option 3 Tengore Lane due to adjacent developments, road access and steep cuttings present construction and operational difficulties. Therefore, based on these constraints and the result of SIFT scoring across multiply disciplines Somerton option 4 would be the preferred station location.

It is recommended that discussions with Network Rail and adjacent land owners are progressed to establish the amount of land purchases and easements required are also evaluated.



APPENDIX A – PROPOSED STATION LAYOUTS



Stairs and PRM accessible ramp to street level. Two PRM access / escape ramps required from the station. Ramps requiring linking to road or footpath. Due to surrounding developments these routes are constrained on this site selection and additional land may be required.

Required platform width = 3500mm.

Bench seating provided at 25 meter intervals along platforms.

Emergency access ramp.

Indicative Platform Location.

Stairs and PRM accessible ramp to street level.

Network Rail Standard AFA Beacon Bridge type or similar. Final bridge location to be confirmed at a later design stage and coordinated with train class and passenger movements.

Covered waiting areas provided adjacent platform access locations.

PRM accessible ramp to street level linked to car park access.

Stairs to street level linked to car park access.

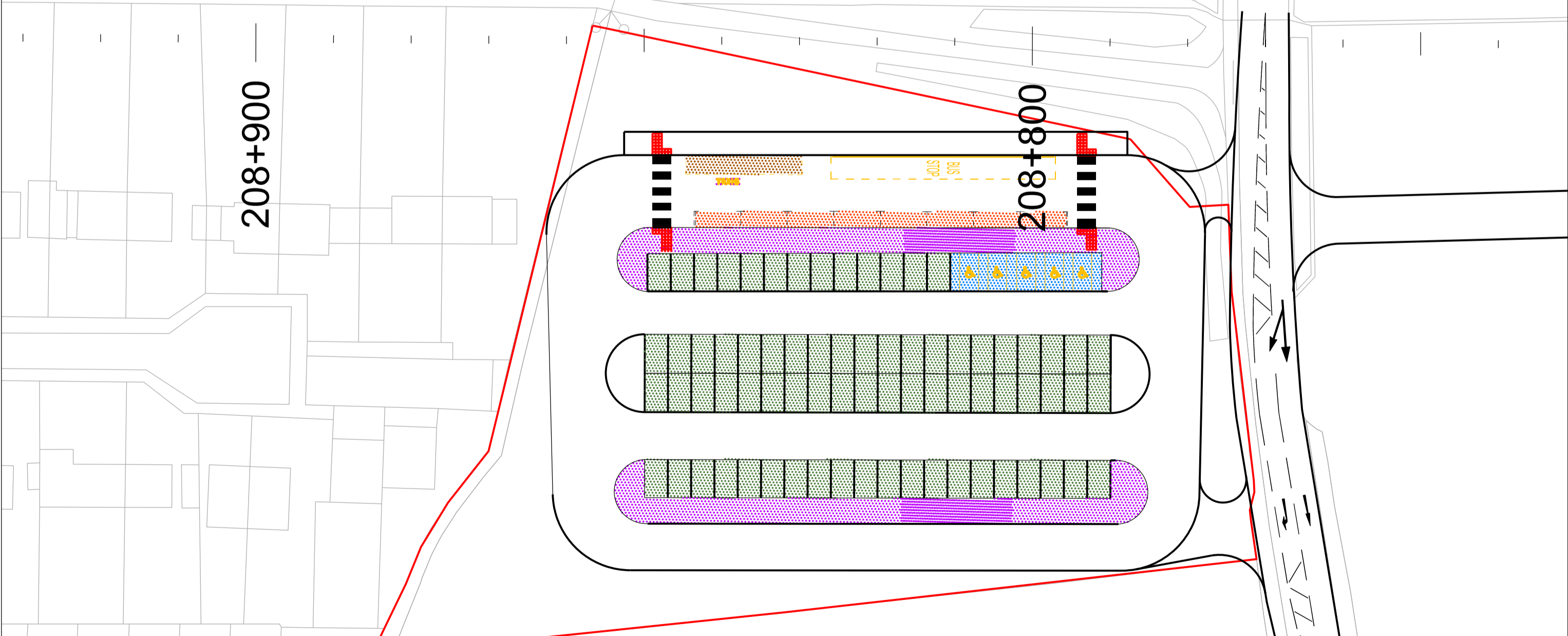
FOOTPATH

TOTAL AREA OF FIELD = 6200m²
(78 PARKING SPACES)

PLAYING FIELD

PLAYING FIELD

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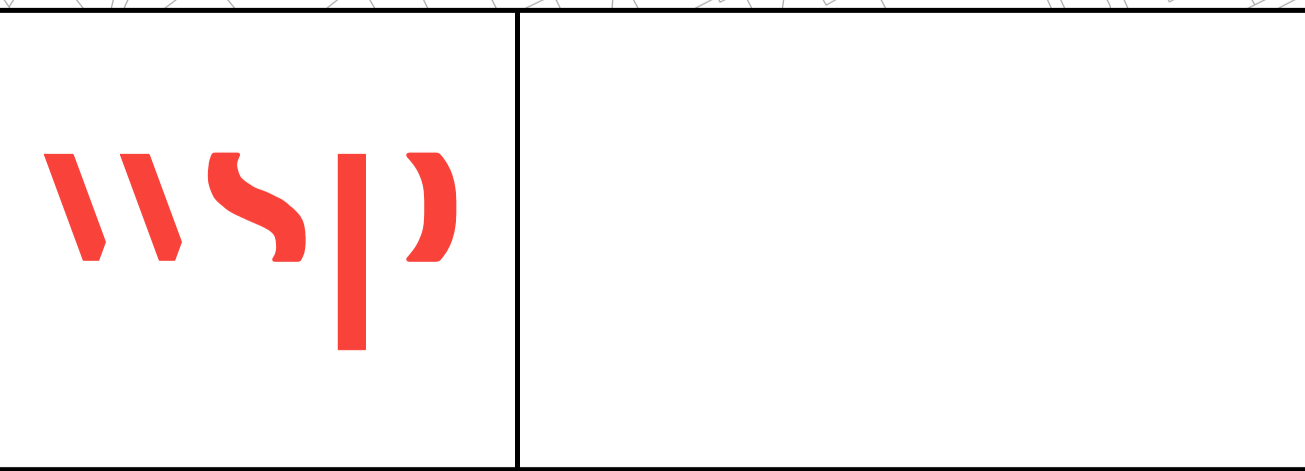


LEGEND

- Station shelters located adjacent platform access
- Station bench seating provided at 25 meter intervals along platform
- Emergency or PRM access ramp
- Station access stairs
- Network Rail standard AFA beacon bridge type or similar c/w built in lifts
- Station platforms 115 meters length 3.5 meters width

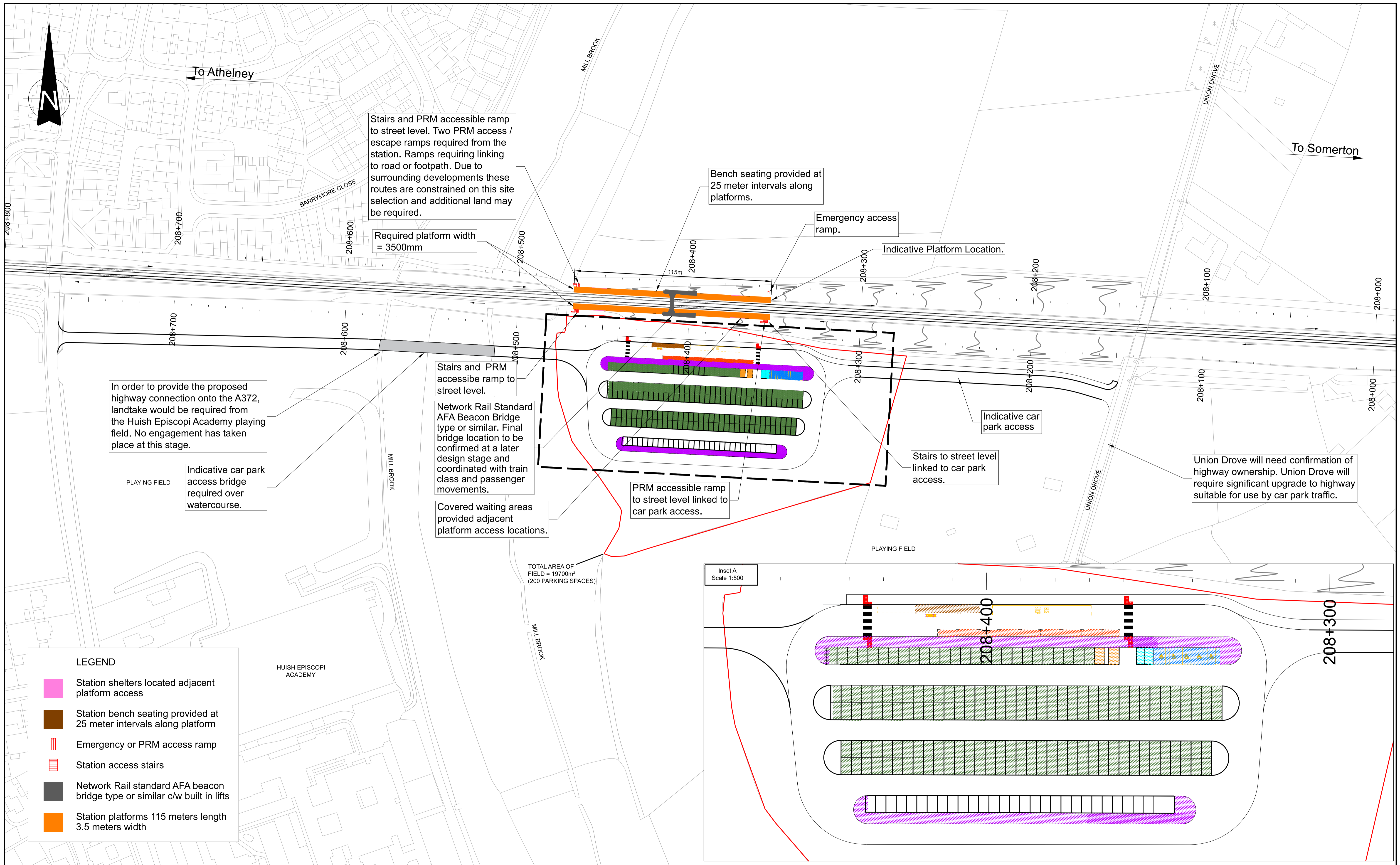
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Project	LANGPORT RNR SOBC

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Stairs and PRM accessible ramp to street level. Two PRM access / escape ramps required from the station. Ramps requiring linking to road or footpath. Due to surrounding developments these routes are constrained on this site selection and additional land may be required.

Required platform width = 3500mm

Bench seating provided at 25 meter intervals along platforms.

Emergency access ramp.

Indicative Platform Location.

In order to provide the proposed highway connection onto the A372, landtake would be required from the Huish Episcopi Academy playing field. No engagement has taken place at this stage.

Indicative car park access bridge required over watercourse.

Stairs and PRM accessible ramp to street level.

Network Rail Standard AFA Beacon Bridge type or similar. Final bridge location to be confirmed at a later design stage and coordinated with train class and passenger movements.

Covered waiting areas provided adjacent platform access locations.

PRM accessible ramp to street level linked to car park access.

Stairs to street level linked to car park access.

Union Drive will need confirmation of highway ownership. Union Drive will require significant upgrade to highway suitable for use by car park traffic.

TOTAL AREA OF FIELD = 19700m²
(200 PARKING SPACES)

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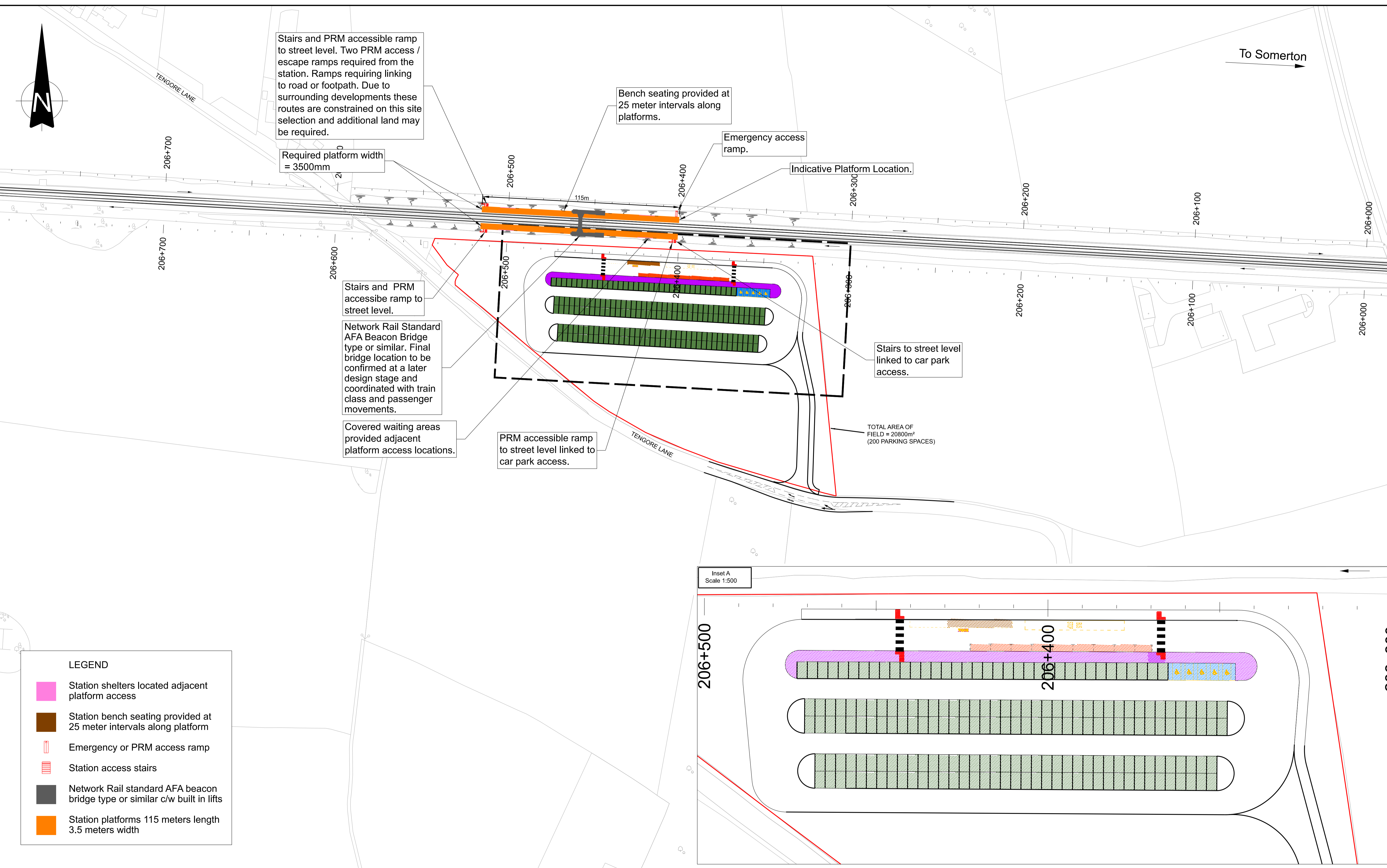
LEGEND

- Station shelters located adjacent platform access
- Station bench seating provided at 25 meter intervals along platform
- Emergency or PRM access ramp
- Station access stairs
- Network Rail standard AFA beacon bridge type or similar c/w built in lifts
- Station platforms 115 meters length 3.5 meters width

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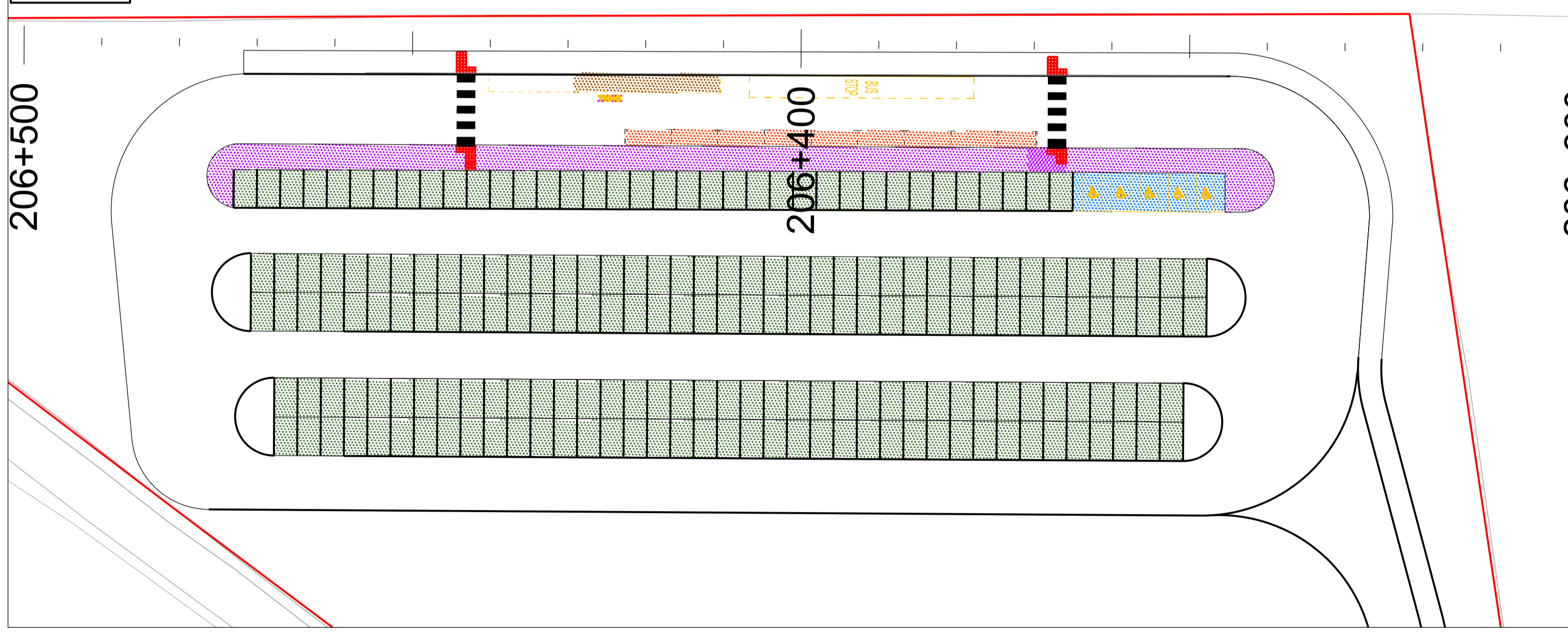
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LEGEND

- Station shelters located adjacent platform access
- Station bench seating provided at 25 meter intervals along platform
- Emergency or PRM access ramp
- Station access stairs
- Network Rail standard AFA beacon bridge type or similar c/w built in lifts
- Station platforms 115 meters length 3.5 meters width

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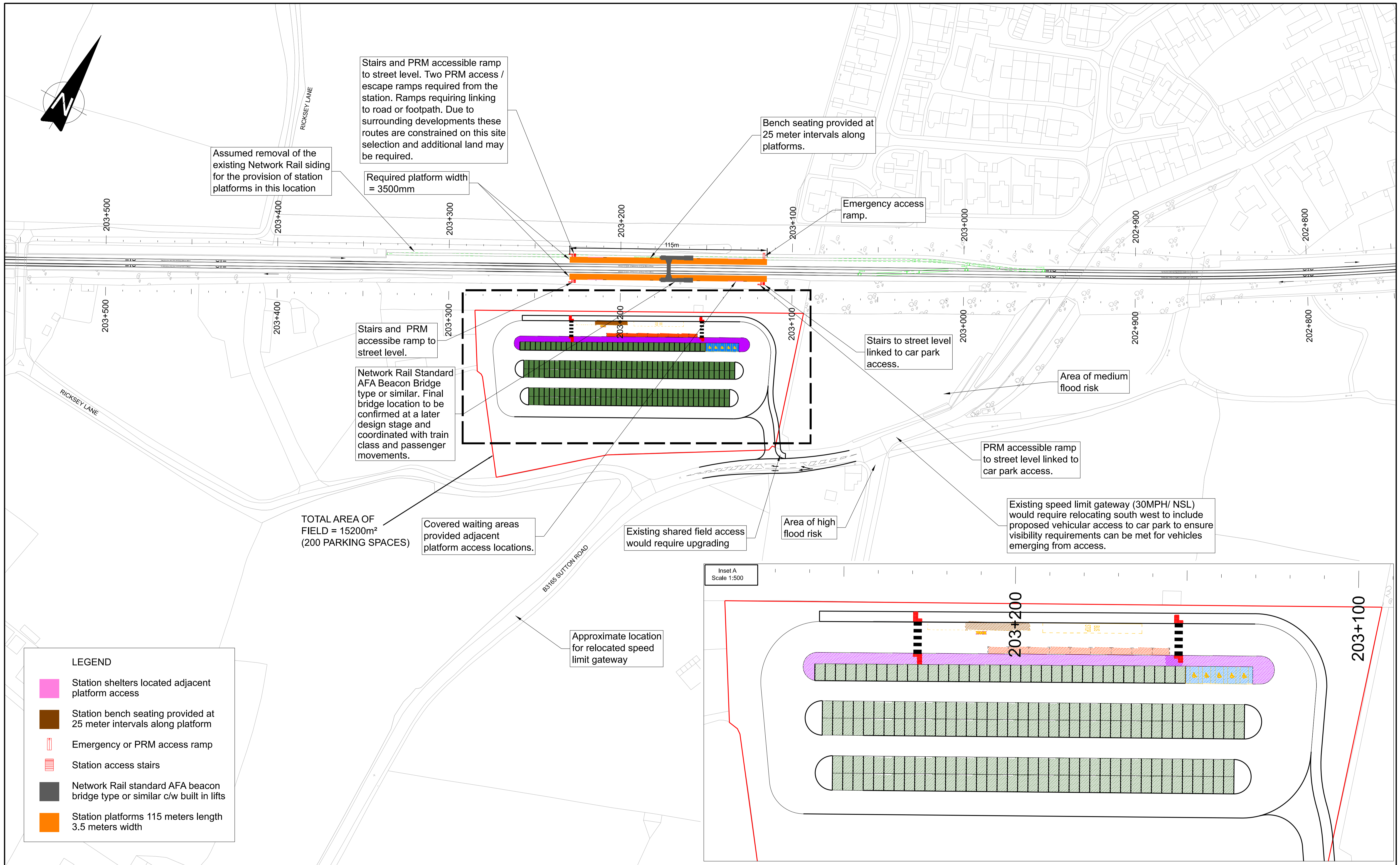
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Project	LANGPORT RNR SOBC

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Assumed removal of the existing Network Rail siding for the provision of station platforms in this location

Stairs and PRM accessible ramp to street level. Two PRM access / escape ramps required from the station. Ramps requiring linking to road or footpath. Due to surrounding developments these routes are constrained on this site selection and additional land may be required.

Required platform width = 3500mm

Bench seating provided at 25 meter intervals along platforms.

Emergency access ramp.

Stairs to street level linked to car park access.

Area of medium flood risk

PRM accessible ramp to street level linked to car park access.

Existing speed limit gateway (30MPH/ NSL) would require relocating south west to include proposed vehicular access to car park to ensure visibility requirements can be met for vehicles emerging from access.

TOTAL AREA OF FIELD = 15200m² (200 PARKING SPACES)

Covered waiting areas provided adjacent platform access locations.

Existing shared field access would require upgrading

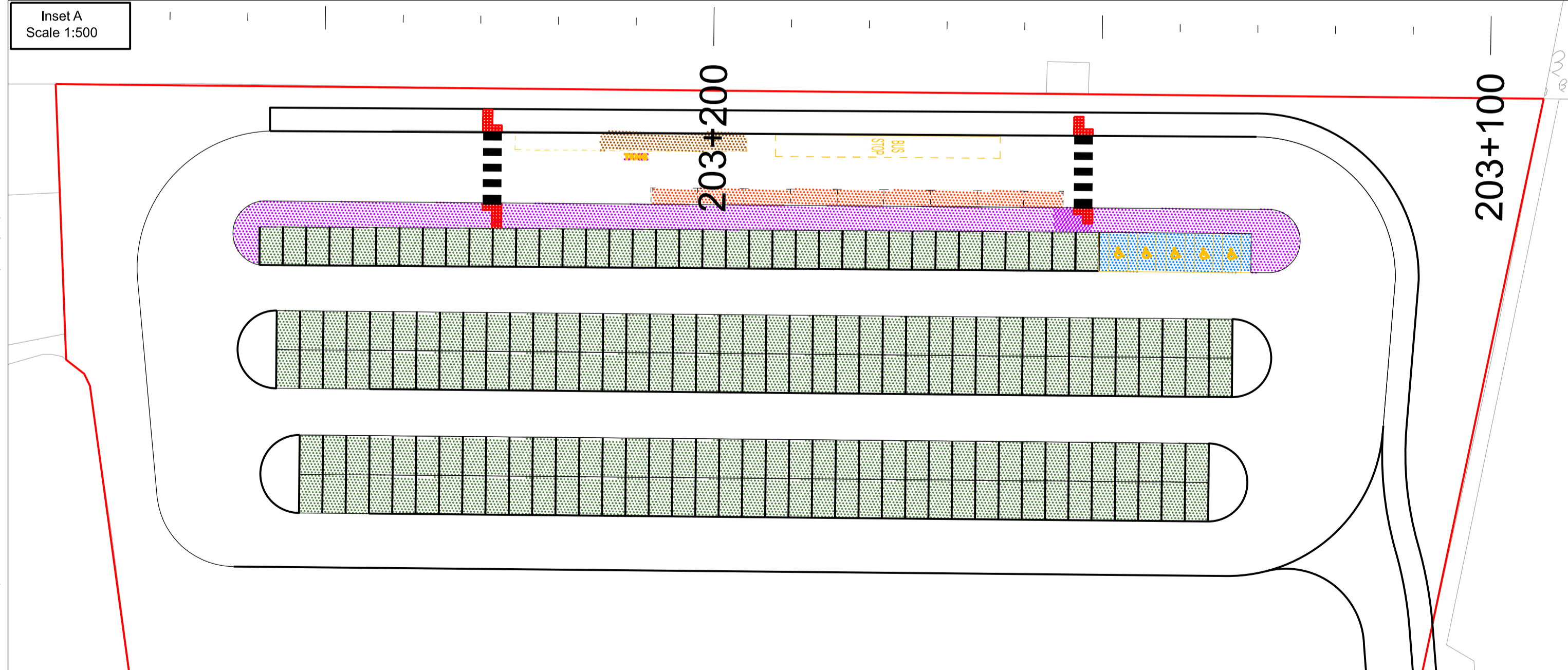
Area of high flood risk

Approximate location for relocated speed limit gateway

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LEGEND

- Station shelters located adjacent platform access
- Station bench seating provided at 25 meter intervals along platform
- Emergency or PRM access ramp
- Station access stairs
- Network Rail standard AFA beacon bridge type or similar c/w built in lifts
- Station platforms 115 meters length 3.5 meters width



		Client SOMERSET COUNTY COUNCIL	Title SOMERTON OPTION 4																		
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