

# Appendix F – RTS Section B - Option 2 - East Gates Level Crossing - B355363A-RTS-HGN-SB-RP-002



# RTS Section B - Option 2

East Gates Level Crossing

July 2019

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# 1 Introduction

Jacobs have been commissioned by Essex County Council (ECC) to investigate the feasibility of providing a new Rapid Transit System (RTS) between the proposed Tendering Colchester Border Garden Community (TCBGC)(part of North Essex Garden Community), Colchester Town Centre, and the existing Colchester Park and Ride site north of the A12 Junction 27.

The RTS is part of a Housing Infrastructure Funding (HIF) bid that also included A120/ A133 Link Road. The bid was submitted by ECC in March 2019.

The RTS route comprises 4 Sections (Section A, B, C & D).

Section A runs between Colchester Park and Ride terminal north A12 Junction 27 and North Hill, whilst Section B runs between North Hill and University of Essex through Colchester Town Centre. Section C covers the area between Greenstead Roundabout and the proposed North Essex Garden Community.

This note considers the feasibility of Section B Option 2. It looks at the infrastructure along the route and the existing constraints. Based on the RTS requirements and objectives, it assesses the practicality of this option.

An overview of all 5 options for Section B have been provided in Appendix A – Stage 1 Section B Options Drawing – B355363A-RTS-HGN-SB-SK-001.

# 2 Overview

## 2.1 Route description

The route option is predominantly urban single carriageway, with street-lighting and a 30mph speed limit throughout.

A typical cross section for this option has been provided in Appendix B – Section B Option 2 East Hill Cross Section Drawing – B355363A-RTS-HGN-SB-SK-003.

The proposed route for Option 2 is 4.0 km long and requires the construction of new carriageway to provide an uninterrupted route.

The route runs from Colchester Town Centre to Essex University via the Hythe. The route crosses the River Colne at East Street, and requires specific additional infrastructure:

- A revised crossing point at Elmstead Road/Colne Causeway/Tesco pedestrian crossing to allow RTS vehicles to access Elmstead Road directly from Greenstead Road.
- A means of connecting to Section C, by a new junction or access to suit the proposed movements.

The North Hill and High Street elements of this route are already subject to dedicated bus facilities, these will be optimised for RTS if required.

The route follows the High Street, East Hill and East Street, passing the Eastgates level crossing. This is a busy crossing, carrying both the Colchester Town rail spur and the Colchester-Walton branch line.

The route then heads east along Greenstead Road for its entire length. This is where Option 2 passes closest to the Hythe rail station – it is envisaged that new/upgraded bus facilities will be required here to pick up/set down passengers for the station.

A proposed crossing point at the existing controlled crossing from Elmstead Road to Greenstead Road will need to be constructed.

The route then connects to Section C (exact route and tie-in location to be determined).

## 2.2 Constraints

The following are constraints that need to be considered and overcome when assessing the feasibility of the option.

There are few constraints to North Hill and the High Street. North Hill is an existing bus lane enforced with cameras. All buses currently entering the High Street have at least one stop before Queen Street, therefore are deemed necessary movements. Consideration shall be given to a part-time peak hour Rapid Transit System gate at the western end of the High St to restrict eastbound High St traffic to RTS Vehicles (and authorised vehicles) only. All town centre routes have been assumed to have heavy pedestrian use.

Access to the George Hotel (accessed solely from the High Street) would need to be maintained, possibly by means of a short (25-30m) 2-way section of High Street being created between St Nicholas Street and Maidenburgh Street. It is envisaged that the removal of redundant parking spaces from the High Street will create sufficient space for 2-way running in this location. There is the potential for this route to be used by vehicles not accessing the George Hotel that wish to access the High Street. Parking and loading bans are envisaged to be required.

The option then runs east down East Hill and straight over the signalised junction at Brook Street, heading towards East Road. Traffic flows here are expected to reduce in the future, the creation of RTS-only facilities on the High Street, and other traffic restrictions will limit the amount of through traffic.

Westbound RTS vehicles will travel up East Hill and then turn on to the Queen Street/Osbourne Street/Head Street loop, heading back towards North Hill (northbound) and onward to the Colchester Park and Ride facility.

The route then crosses a level crossing at East Street, this level crossing serves both the Colchester Town spur and the Colchester to Walton branch line. The crossing serves approximately 145 trains per day, which would lead to a high chance of the Rapid Transit System being delayed.

The route then turns right on to travel the full length of Greenstead Road towards the Greenstead Roundabout. Greenstead Road has a mix of residential and industrial properties, with the residential properties located predominantly at the western end. The road here is also subject to on-street parking and there is little scope for re-locating the parking areas due to the proximity of the East Street/Harwich Road/Greenstead Road junction, residential accesses, nearby bus stops, level crossings and other restrictive infrastructure.

Immediately before the roundabout, the route proposals continue east, directly connecting with the parking/turning head in Elmstead Road. (This follows the historic route of the road, prior to the diversion to accommodate the construction of the Greenstead Roundabout.) This presents a number of associated constraints and health and safety risks:

- The existing Toucan crossing would need to be removed and replaced with a signalised junction to allow RTS vehicles to cross the Colne Causeway.
- A pedestrian phase would need to be included within the signal timings.
- Pedestrian facilities would need sufficient clearance to be feasible, attractive and safe.
- There are significant utilities in the vicinity which would need diverting and/or protecting.

- There are retaining features surrounding Tesco, which is built in a natural bowl. These would need to be protected from vibration and impact during construction, and would need careful design to ensure there are no conflicts.
- Amendments would be required to Greenstead Roundabout to ensure there is suitable visibility to the signals and sufficient stacking space for queuing traffic.
- Careful consideration would need to be given to the arrangement of the proposed roads with regard to the remaining existing roads.
- The existing turning/parking head at the western end of Elmstead Road shall be removed, therefore a replacement parking area and turning head will be required.
- It is anticipated that residents on Elmstead Road will resist the RTS/pedestrian crossing amendments.

Once east of Elmstead Road, it is unknown at this stage whether the route will re-join the A133 or whether it will follow Capon Road and then Boundary Road, around the south of the University, before either re-joining or crossing the A133 to the north-east of the University.

It is not anticipated that there will be any significant statutory undertakers' diversions, except to the proposed link between Greenstead Road and Elmstead Road. Substantial utility protection works are expected in this vicinity. Diversion does not appear to be a suitable solution due to adjacent land use in each location.

Significant local resistance is anticipated for the amendments to the crossing at Elmstead Road. Residents will see an increase in traffic as well as their parking areas and frontages being affected. Queuing traffic may have a negative impact on the already-congested roundabout at Tesco. Given the existing topography, any amendments here are not feasible.

### 3 Conclusion

The route uses residential roads which cannot easily be dedicated to RTS vehicles. There is considerable on-street parking that cannot easily be relocated, and the residential nature of the road is not ideal for a RTS. The RTS does not pass directly by the Hythe Railway Station, which would leave potential users with a less attractive option.

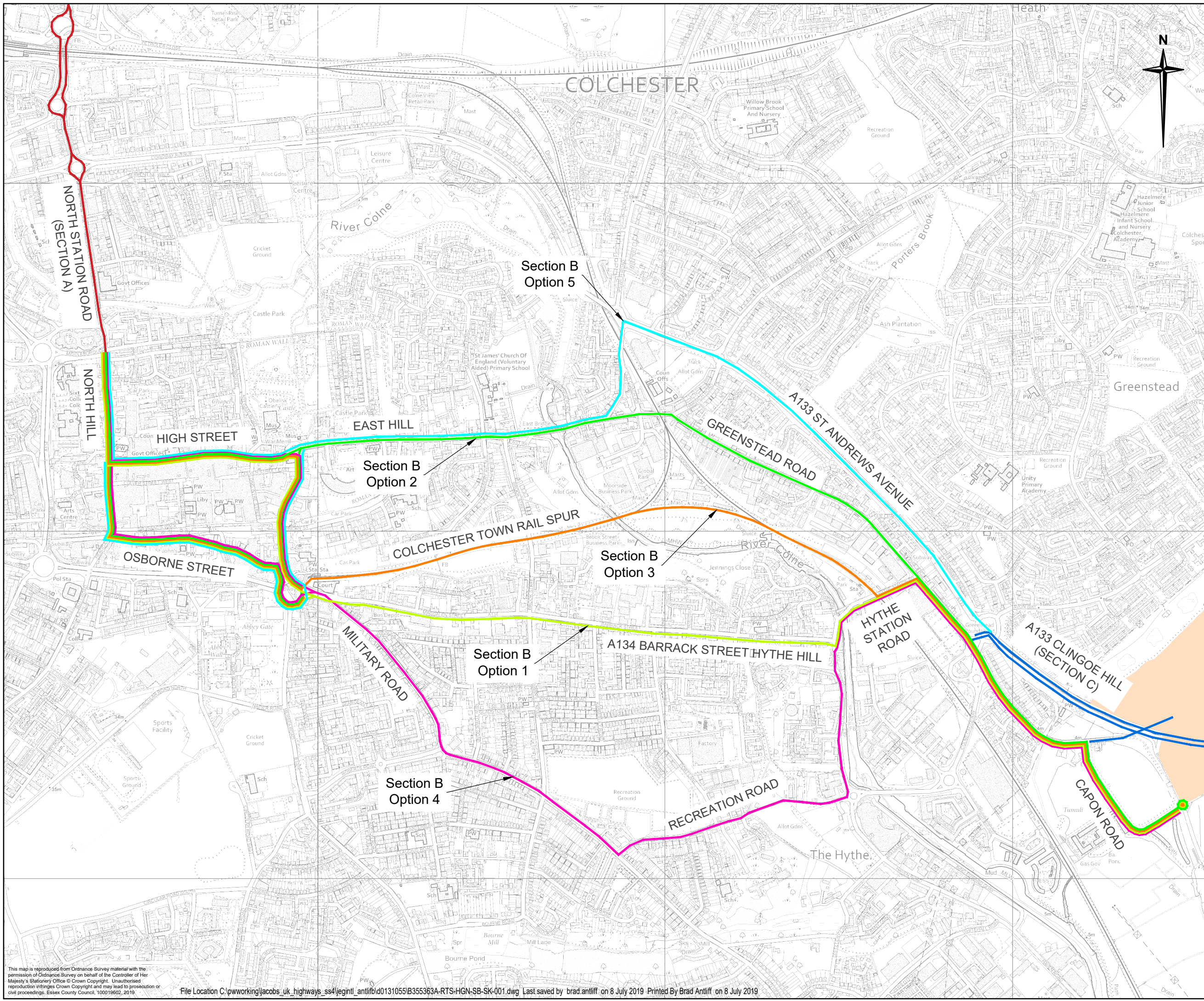
The existing rail crossing at East Street takes approximately 145 trains per day, which means a significant risk to delay for anyone using the Rapid Transit System.

Provision of a new crossing point from Greenstead Road to Elmstead Road will generate considerable congestion and objection. Careful design will be needed to keep any knock-on congestion to Greenstead Roundabout to a minimum. Routeing across Colne Causeway will have to be carefully designed. Tesco is built at a much lower level than Greenstead Road/Roundabout, and there are retaining features that will need to be protected (or potentially refurbished/improved) during construction. This link section may require the removal of the southern-most entry to Greenstead Roundabout from Greenstead Road. This would have a knock-on effect of sending all traffic wishing to use Greenstead Roundabout west along Greenstead Road and then north to the A133 St Andrews Avenue, increasing the current congestion at this junction.

Despite these issues the route is viable with regards to implementation, however, the limited opportunity for key infrastructure that will improve the RTS journey time and reliability will likely discount this option. It is recommended that this route is taken forward to the next design stage to explore whether it can meet the objectives of the RTS.

## Appendix A – Stage 1 Section B Options Drawing – B355363A-RTS-HGN-SB-SK-001





**Notes**

1. Do not scale.
2. Indicative layouts based on Ordnance Survey data only. Topographical surveys to be undertaken at a later design stage.
3. Routes and options shown are an overview only, with no certainty as to feasibility of implementation. Therefore this plan is not for public distribution.

**Key**


- Section A
- Section B Option 1
- Section B Option 2
- Section B Option 3
- Section B Option 4
- Section B Option 5
- Section C



Rev	Date	Description of revision	Drawn	Checked	Reviewed	Approved

DRAWING STATUS

**FOR INFORMATION**



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**NORTH ESSEX RAPID TRANSIT SYSTEM**

**STAGE 1 SECTION B OPTIONS**

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
PFW	PFW	PJN	PJN	MM
DATE	DATE	DATE	DATE	DATE
JUL 19	JUL 19	JUL 19	JUL 19	JUL 19

DRAWING UNITS U.N.O. SCALE AT A3 (420x297mm)  
DIMENSIONS IN MILLIMETRES 1:10,000  
LEVELS IN METRES

DRAWING No. **B355363A-RTS-HGN-SB-SK-001** REV. -



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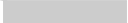

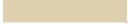





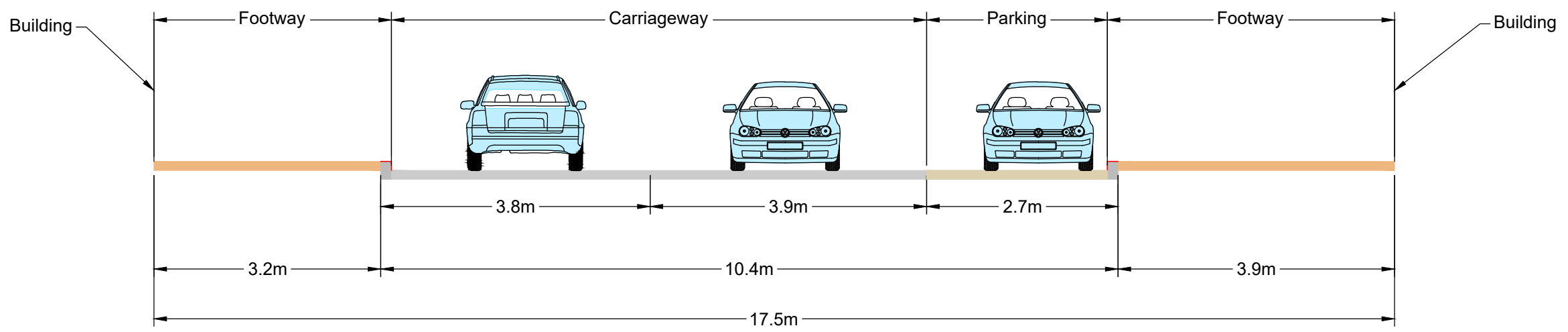
## **Appendix B – Section B Option 2 East Hill Cross Section Drawing – B355363A-RTS-HGN-SB-SK-003**

**Notes**

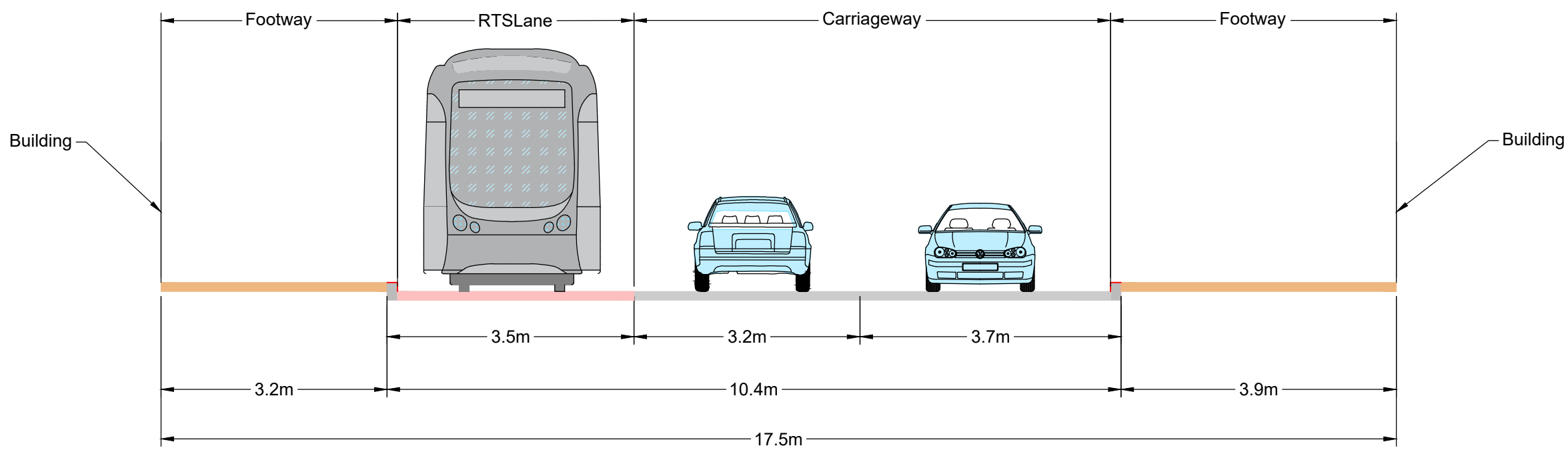
1. Do not scale.

**Key**

-  Carriageway
-  Footway
-  Parking
-  RTS lane
-  Road Markings
-  Kerb



**Existing**



**Proposed**

Rev.	Date	Description of revision	Drawn	Checked	Reviewed	Approved

DRAWING STATUS: **FOR INFORMATION**



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SCHEME TITLE: **NORTH ESSEX RAPID TRANSIT SYSTEM**

DRAWING TITLE: **SECTION B OPTION 2 EAST HILL CROSS SECTIONS**

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
MC	MC	BA	PN	PN
DATE	DATE	DATE	DATE	DATE
JUN 19	JUN 19	JUN 19	JUN 19	JUN 19

DRAWING UNITS U.N.O. DIMENSIONS IN MILLIMETRES LEVELS IN METRES

SCALE AT A3 (420x297mm) **N.T.S**

DRAWING No. **B355363A-RTS-HGN-SB-SK-003** REV. **-**



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