

DfT Strategic Studies Budget Dover

Dover Park & Ride and Bus Rapid Transit Routing Study

July 2010

DfT Strategic Studies Budget - Dover

Dover Park & Ride and Bus Rapid Transit Routing Study

30 June 2010

Notice

This document and its contents have been prepared and are intended solely for Dover District Council information and use in relation to *DfT Strategic Studies Budget 2009/10*.

Atkins Transport Planning & Management assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

Document History

| | | | | | | |
|-------------------------|---------------------|------------|--|----------|------------|-----------|
| JOB NUMBER: 5085627.120 | | | DOCUMENT REF: Park and Ride_BRT Bus Routing final issue.docx | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 1 | Final Report | KH | PE | CC | HN | 30/6/2010 |
| 0 | Draft for Issue | KH | PE | CC | HN | 5/5/2010 |
| Revision | Purpose Description | Originated | Checked | Reviewed | Authorised | Date |

Contents

| Section | Page |
|--|-----------|
| 1. Introduction | 4 |
| 2. Project Aim | 4 |
| 3. Background | 5 |
| 3.1 Bus Rapid Transit | 5 |
| 3.2 Housing Development | 5 |
| 3.3 Dover Bus Rapid Transit Route | 6 |
| 4. Task 1: BRT Corridor Form and Route | 8 |
| 4.1 Key Objective | 8 |
| 4.2 White Cliffs Business Park | 8 |
| 4.3 Proposed Alignment | 9 |
| 4.4 Proposed Link Design | 10 |
| 4.5 Junctions | 10 |
| 4.6 Possible Connection to Connaught Barracks Site | 11 |
| 4.7 Next Steps | 15 |
| 5. Task 5: Dover Park and Ride Bus Lane Provision | 17 |
| 5.1 Park and Ride Entrance | 17 |
| 5.2 Little Farthingloe Farm access to Approach Road | 18 |
| 5.3 Lascelles Road to Shakespeare Road | 18 |
| 5.4 Elms Vale Road to Winchelsea Road | 19 |
| 5.5 Malvern Road to Folkestone Road Roundabout | 19 |
| 5.6 Overall Scheme | 19 |
| 5.7 Next Steps | 20 |

List of Figures

| | |
|--|----|
| Figure 3.1 – Key Destinations and onward connections | 6 |
| Figure 3.2 – Dover BRT: Indicative Route | 7 |
| Figure 4.1 – Proposed route of BRT across open land | 8 |
| Figure 4.2 – A258 Castle Hill Road / Dover Road Junction | 12 |
| Figure 5.1 – Example of a bus gate | 18 |

Appendices

| | |
|------------------------------|-----------|
| Appendix A - Drawings | 21 |
|------------------------------|-----------|

List of Tables

List of Figures

| | |
|--|----|
| Figure A.1 – Drawing No 5085627/TP/PR&D/001 – B2011 Proposed Bus Lane Implementation General Arrangement: Site Access to Little Farthingloe Farm | 22 |
|--|----|

| | |
|---|----|
| Figure A.2 - Drawing No 5085627/TP/PR&D/002 – B2011 Proposed Bus Lane Implementation General Arrangement: Little Farthingloe Farm to Approach Road | 23 |
| Figure A.3 - Drawing No 5085627/TP/PR&D/003 – B2011 Proposed Bus Lane Implementation General Arrangement: Approach Road to Winchelsea Road | 24 |
| Figure A.4 - Drawing No 5085627/TP/PR&D/004 – B2011 Proposed Bus Lane Implementation General Arrangement: Winchelsea Road to Folkestone Road Roundabout | 25 |
| Figure A.5 - Drawing No 5085627/TP/PR&D/005: Honeywood Parkway to Dover Road Bus Rapid Transit Corridor Option 1 | 26 |
| Figure A.6 - Drawing No 5085627/TP/PR&D/006: Honeywood Parkway to Dover Road Bus Rapid Transit Corridor Option 2 | 27 |
| Figure A.7 – Drawing No 5085627/TP/PR&D/007 - Connection to Connaught Barracks Development Site: Option 1 | 28 |
| Figure A.8 - Drawing No 5085627/TP/PR&D/008 - Connection to Connaught Barracks Development Site: Option 2 | 29 |
| Figure A.9 - Drawing No 5085627/TP/PR&D/009 - Connection to Connaught Barracks Development Site: Option 3 | 30 |
| Figure A.10 - Drawing No 5085627/TP/PR&D/010 - Connection to Connaught Barracks Development Site: Option 4 | 31 |
| Figure A.11 - Drawing No 5085627/TP/PR&D/011 - Connection to Connaught Barracks Development Site: Option 5 | 32 |
| Figure A.12 - Drawing No 5085627/TP/PR&D/012 - Connection to Connaught Barracks Development Site: Option 6 | 33 |

1. Introduction

Atkins Transport Planning and Management (Atkins) has been commissioned by the Department for Transport Housing (DfT) Housing Growth Team to undertake a study to provide transport planning support to selected local planning authorities who are seeking to deliver significant quantities of new housing in areas within their jurisdiction.

Each of the areas has been granted growth point status and face numerous and varied challenges to deliver development which is as sustainable as possible.. Dover District Council (DDC) was successfully selected to receive funding and assistance, and a Project Inception meeting was held in December 2009, which was also attended by representatives from Kent County Council (KCC). At the inception meeting DDC specifically requested assistance from Atkins with regard to delivery and integration of a Bus Rapid Transit service.

Five tasks were highlighted through discussion with DDC and KCC. These tasks were to consider:

- The corridor and form of the BRT connection across open land between White Cliffs Business Park and Dover Road;
- The most appropriate location for a Park and Ride site at Whitfield, also to be served by the BRT
- A strategy for incorporating and delivering the BRT service within the proposed development at Whitfield;
- The potential location for a new bus hub on York Street to serve the BRT, but also to consider relocation of the existing interchange on Pencester Road; and
- A strategic assessment of the route corridor for the Park and Ride / BRT service from a potential site at Farthingloe.

This report provides a review of the work Atkins has undertaken for the first and fifth tasks considering the form of the BRT across open land between White Cliffs Business Park and Dover Road and an assessment of the route corridor for a Park and Ride service from a proposed site at Farthingloe. Separate reports have been prepared for tasks 3 and 4.

The structure of this report is as follows:

- Section 2 – Overall aim of the document;
- Section 3 – Background to Dover BRT, proposed development at Whitfield and the potential Park and Ride at Farthingloe;
- Section 4 – Task 1 considers the alignment of the corridor between Honeywood Parkway and Dover Road, plus connection to the Connaught Barracks development site; and
- Section 5 – Task 5 looks at the potential for bus lanes and priority measures along the B2011 Folkestone Road for the BRT / Park and Ride services.

2. Project Aim

The overall aim of this report is to assist Dover District Council and Kent County Council with the successful integration of the Dover BRT with key developments.

3. Background

3.1 Bus Rapid Transit

The idea of an express bus service for Dover has been proposed in many planning policy documents for the town. The *Dover Transport Strategy* (WSP, March 2008) listed the Park and Ride at Whitfield, and an express bus service as two of the key elements of the future transport strategy. A third element was improved public transport access to Dover Priory Station which can be achieved with the BRT service. The Transport Strategy mentions that with the current services and bus routes, for many cross town public transport trips passengers are required to change buses at Pencester Road.

Journey to work data suggests that around 67 percent of journeys are internal to the town with the key attractors being the docks, especially from Whitfield (*Transport Strategy*, 2008). Three of the objectives of the Transport Strategy are as follows:

- To facilitate the delivery of LDF sites including development of an integrated urban expansion at Whitfield;
- To maximise the attractiveness of travel by public transport; and
- To deliver infrastructure necessary to support development.

The LDF Core Strategy (adopted February 2010) highlights the private car as the dominant means of transport at present, and that walking, cycling and public transport need to be made more viable and effective means of movement. A fast bus service between the new urban areas at Whitfield and the town centre is seen as a key deliverable within the Core Strategy. The topography of the town, and the distance from the town centre to Whitfield makes public transport the only viable alternative to private car use for Whitfield residents.

Bus Rapid Transit is not a new idea, but has been employed in many towns and cities across the world. The extent of the BRT networks in some cities can be extensive, catering for hundreds of thousands of passengers. With a huge variety of different designs, from on-street bus lanes to segregated bus-ways, to bus tunnels and underpasses, all utilise priority measures to allow buses to pass without delay through urban areas. Where successful, BRT can realise significant time savings for passengers and is generally cheaper to implement than rail based systems, as long as complex infrastructure is not required.

BRT has been successfully delivered in North Kent, where the FastTrack service links the towns of Gravesend and Dartford to retail facilities including Bluewater and employment sites such as the Bridge, plus transport interchanges such as Ebbsfleet International Station.

3.2 Housing Development

Within the Dover District Council LDF Core Strategy (adopted February 2010) the forecast housing growth is focussed on the town of Dover, with a target of 14,000 new homes.

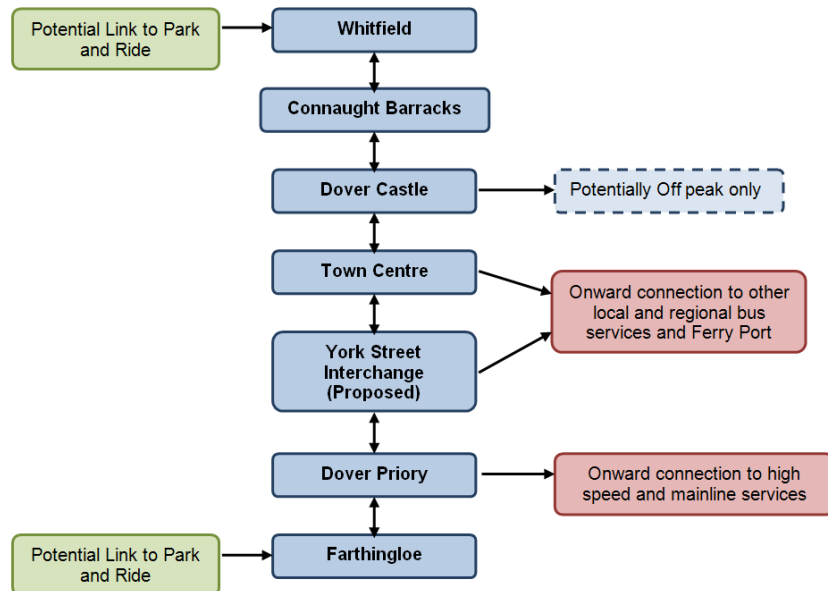
Within Dover itself, four strategic sites have been allocated within the Core Strategy document, the principal residential site being at Whitfield. It has been proposed that a total of 5,750 homes could be built on a site totalling 309 hectares. The current access arrangements are noted as being unsuitable to accommodate such significant development, especially the A2 Whitfield Roundabout which currently experiences capacity issues. To be acceptable in transport terms the development must include successful measures to maximise walking and cycling, and the use of public transport, with better bus links provided to the town which the BRT will provide. Maximising connections to the town centre is vital to encourage residents to use Dover for employment, shopping and leisure rather than competing centres such as Canterbury.

A second strategic site is the Connaught Barracks site, which is located to the north of the town and is a former military site. The site which sits between the A258 and Dover Road is now surplus to military requirements and was acquired by the Homes and Communities Agency (formerly English Partnerships) in 2007. The site has been earmarked for a minimum of 500 homes. With the views to the Castle and the English Channel the site provides a clear opportunity to construct mid to upper market homes which will widen the current housing offer in the town. The former training ground to the west of Dover Road has been designated a Local Wildlife Site. As with the Whitfield development site, the Core Strategy states that the access strategy for the site should maximise walking, cycling and public transport modes. The route of the BRT will pass the Connaught Barracks site, but could be designed to travel through the site if necessary.

3.3 Dover Bus Rapid Transit Route

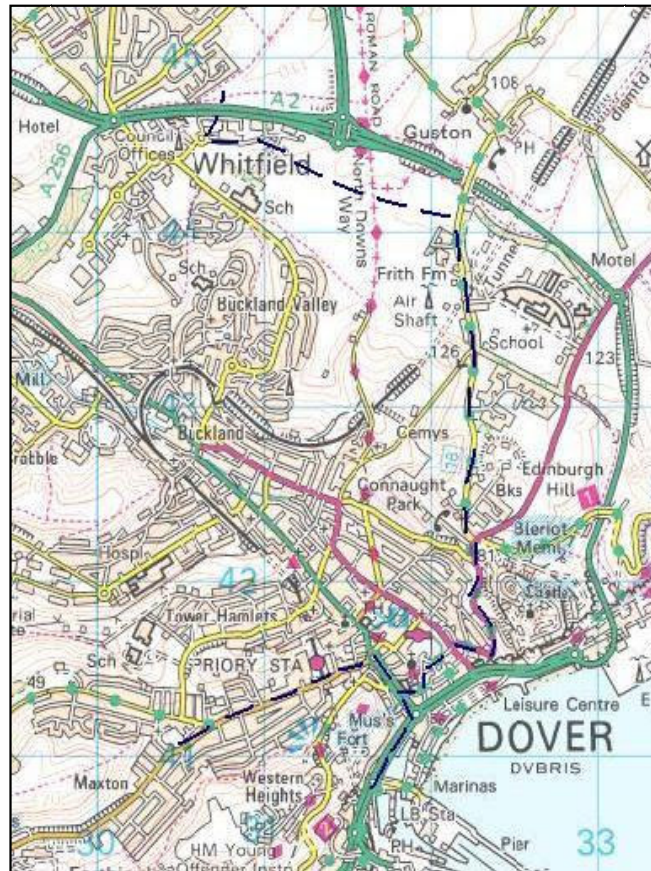
The proposed Dover Bus Rapid Transit (BRT) is intended to be a bus-based public transport system that will connect Whitfield with key destinations in Dover, anticipated at this stage to be as shown in Figure 3.1.

Figure 3.1 – Key Destinations and onward connections



The system is planned to be a high quality express service similar to the existing FasTrack in North Kent and the Thames Gateway and Cambridgeshire Guided Bus (CGB). However, unlike FasTrack or the CGB, the Dover BRT will run on a mix of dedicated infrastructure and the existing streets and roads of Dover itself, which will require installation of bus priority measures to ensure minimal delays. Possible routing of the BRT is indicated on Figure 3.2.

Figure 3.2 – Dover BRT: Indicative Route



The Dover BRT will have a high frequency of approximately every 7 / 8 minutes during the day and 15 minutes during the evening and will operate between 0600 and 2400. The service will operate seven days per week.

4. Task 1: BRT Corridor Form and Route

This section of the report will assess the form and route of the BRT corridor between the White Cliffs Business Park and Dover Road, across open land to the north of the town.

4.1 Key Objective

The aim of the Bus Rapid Transit service is to provide a fast and frequent bus connection from Whitfield to key locations within Dover. There is potential that the BRT could both double as a Park and Ride service, or that a dedicated Park and Ride service could utilise the infrastructure provided for the BRT.

It is important that this section of the route (White Cliffs Business Park to Dover Road) is direct and that the junctions at either end of this section do not cause significant delay to buses and to a lesser extent general traffic. This section of the route will cross open farmland to the north of the town centre. The topography of the site means that at some points the route would be visible to the wider area. The form of the connection therefore should be as minimal as possible.

Figure 4.1 – Proposed route of BRT across open land



4.2 White Cliffs Business Park

The White Cliffs Business Park is the flagship commercial development in Dover covering 272 acres of land to the south of the A2. The site has planning permission for B1, B2 and B8 uses and has been divided into a Port Zone offering accommodation for logistics companies, an Industrial and Superstore Zone for major retail and commercial companies, and an Enterprise Zone for start up and small companies.

Phase 1 of the development is almost completely occupied and developments for Phase 2 are beginning to come forward. Phase 2 sits to the south and south-west of the existing B&Q superstore. Phase 3 extends the business park to the east towards Dover Road.

4.3 Proposed Alignment

Providing a new connection for the BRT is preferable to a route using the existing A2 and the A258, as congestion often occurs at the junction of the A2 and A258 during peak periods. This would both delay the service and also extend the length of the route, increasing journey times even without congestion. Two possible alignments have been considered for the BRT and are shown on Drawings 5085627/TP/PR&D/005 and 006. The alignments have taken into account the existing physical constraints of the site but will need to be considered in more detail to reflect the developing masterplan for the Business Park.

The White Cliffs Business Park is identified for major expansion with Phases 2 and 3 of the park in the pipeline. Proposals are already in place for the layout of Phase 2, which is also shown indicatively on the drawings. It is understood that proposals have been agreed for a new school development adjacent to the existing school on Melbourne Avenue. Careful consideration is required as to whether the BRT should serve either of these developments, bearing in mind that additional stops will increase the journey time, therefore reducing the rapidity of the service. The Business Park could result in the proposed development backing onto the BRT, which if not considered appropriately could result in anti-social areas.

The two routes that have been indicated on the drawings take either a southerly course across the open land or a more northerly route. Each route has advantages and disadvantages. A number of these have been summarised in Table 4.1.

Table 4.1 – Summary of route options

| Northerly Route | | Southerly Route | |
|---|---|---|--|
| Advantages | Disadvantages | Advantages | Disadvantages |
| Most direct, shortest and quickest route | Establishing a connection to Dover Road would require loss of trees and character of existing Dover Road lane | Would potentially serve more of the business park and new school | Longer route, potentially meaning a longer journey time |
| Shorter length may save construction cost | | Easier connection to Dover Road without the loss of existing mature trees | Longer length may increase construction cost |
| Route kept behind a hedgerow therefore less visible intrusion, noting that proposed Business Park will result in a greater visible intrusion. | Visible from the A2 which may cause distraction to drivers | | Potentially more visible from the surrounding area, depending on built form and potential development of Business Park |

4.3.1 Southerly Alignment

This alignment should require minimal earthworks, and therefore minimising the visual impact with the open space. The tie in to Dover Road would occur to the north of the current access to Duke of York's Military School, thus minimising visual impact to the rear of eight properties to the south of the proposed tie in. These properties would however note a small increase in vehicle movement to each of their frontages along Dover Road. Please note all preliminary sketches are outline proposals only, based on OS data information and are therefore subject to detailed design.

4.3.2 Northerly Alignment

An alternate route for the BRT across this stretch of open land has also been indicated. This route, albeit a little shorter will still need to be considered within the proposals for the Business Park development and thus will require further assessment. Any northern route will potentially require a large number of mature trees to be removed from a significant length of Dover Road, thus having a detrimental effect on the character of Dover Road. This alone could prevent any further consideration of a northern alignment. Clearly there are major development aspirations for this area and how the BRT route is accommodated within the proposed Business Park layout and also the desire for any linkages to the development would need to be carefully considered as part of an initial optioneering study.

4.4 Proposed Link Design

This section of the route will provide a connection from Honeywood Parkway in the northeast to Dover Road to the South West. The BRT route would then continue along Dover Road, connecting to any residential development at Connaught Barracks, before traversing the Castle and continuing into the town centre via Castle Street. The routing of the BRT through the town is considered in more detail in the York Street Bus Interchange Report.

The proposed link will be a dedicated bus only route with a carriageway width of approximately 7m and bus gates to control entry at either end. Potentially a 3m wide cycleway / footway could be provided, but this would increase the width of the corridor and therefore increase the impact. There would also potentially be a need to illuminate any cycle/pedestrian facilities, drawing attention to the route during hours of darkness. However the intended development of White Cliffs Business Park will potentially remove this concern. To accommodate two-way bus flows on Dover Road there will be a need to give consideration to some potential widening, to a minimum width of 7m, to the south of the junction with the new link.

4.5 Junctions

4.5.1 Honeywood Parkway Roundabout

Access to the new link to the northwest will be via an additional arm on the existing 3 arm roundabout linking to Honeywood Parkway and the recently constructed B&Q superstore. Traffic flows at this roundabout are currently low and the service is unlikely to encounter delays on this section of the route. Similarly the addition of bus movements to the roundabout is unlikely to cause significant delay to other vehicles. However, further consideration will be needed to assess the operation of the roundabout, to identify and minimise any potential capacity issues now and in the future. There are plans in place for Phases 2 and 3 of the White Cliffs Business Park, which would take access from this roundabout. If in the future, buses begin to suffer delay there will be a need to provide bus priority measures to hold back general traffic to allow buses to enter the roundabout and continue their route.

A four arm roundabout could be achieved at this location and a potential design is shown in drawing no 5085627/TP/PR&D/005. This would be subject to land ownership adjacent to the carriageway and would potentially have a greater visual impact.

The roundabout would be designed in accordance with the Design Manual for Roads and Bridges and provide suitable measures for pedestrians and cyclists, if deemed appropriate. The roundabout would be lit as necessary, and access controls be provided to ensure that only bus services utilise the new route. This could be either rising bollards or lifting barriers which would have to use vehicle detection to ensure the barrier is removed as the bus approaches so the bus does not have to stop. Alternatively camera enforcement with penalty use fines could be considered. In the longer term, with the development of subsequent phases of the business park the bus only link may have to start further into the development than at the roundabout itself.

At the detailed design stage it will be necessary to take full account of the Phase 2 proposals for the business park and consider where the bus link departs from the general highway. Wherever this may be it will be necessary to provide an area for vehicles to turn around should they enter the bus link by mistake. Sufficient space would be required prior to the access control to allow vehicles to manoeuvre to re-enter the roundabout in a forward gear. Further consideration of the access and its integration into the proposed Business Park would need to be considered in further detail as part of a separate study.

4.5.2 Dover Road Junction

The form of the junction between the new link road and Dover Road is less prescribed, as there is not an existing junction to tie in to. Two initial options have been considered for this junction; a roundabout or a priority junction, each of which could be further enhanced by dedicated lanes and changes in priority. The indicative layout for a basic roundabout is shown on 5085627/TP/PR&D/005 and a priority junction on 5085627/TP/PR&D/006.

A roundabout would require additional space, potentially from outside the highway boundary and could affect the flow of general traffic even if a bus not present. It would however have the benefit of acting as a calming influence on the Dover Road vehicle movement. Buses would be required to give way to one stream of traffic, which would be northbound traffic on Dover Road. Therefore the roundabout could potentially be more operationally efficient than a priority junction.

A standard priority junction would be more space efficient and require only a left in and right out turn meaning that the junction footprint would be more compact compared to the roundabout. Buses would be required to give way to two streams of traffic (both directions on Dover Road) which, depending on the traffic flows could cause delay to services. Bus priority using detectors on the bus link and signals to stop traffic on Dover Road is an easy solution if traffic flows on Dover Road are high and buses are being delayed, alternatively a change of priorities could be considered beneficial. At this stage it is considered that the provision of a priority junction is more appropriate, however, both options should be appraised further as part of a follow on study.

A compact junction could be provided by construction of a simple T junction, with a potential design shown in drawing no 5085627/TP/PR&D/006. The junction would again be designed in accordance with recognised guidance, providing appropriate facilities for pedestrians and cyclists, if deemed appropriate. Access control measures would also be installed to prevent inappropriate use of the new route.

Please note all preliminary sketches are based on OS data information and are therefore subject to further design as part of a study commission.

4.6 Possible Connection to Connaught Barracks Site

Dover District Council has identified the Connaught Barracks site as a potential site for residential development, accommodating a minimum of 500 mid to upper market homes. The access

strategy for the site would have to maximise public transport use and connectivity. At present the site is served only by the Route 15 / 15A which operate between Deal, Dover and Canterbury with two buses per hour. Connecting the BRT to the Connaught Barracks site would significantly improve the public transport connectivity to the site, in particular to the station and the high speed rail services.

Additionally the highway network around the junction of the A258 Castle Hill Road and Dover Road (Figure 4.2) is understood to have a number of vehicle collisions, however no review of STATS19 accident reports have been undertaken as part of this report.

Figure 4.2 – A258 Castle Hill Road / Dover Road Junction



Steep gradients on the approaches to the junction and the high pedestrian movements from the castle coach park on the northern corner of the junction and the castle are likely to contribute to the accident rates. Depending on the level of flow on the A258 Castle Hill Road improvements to the junction may be required to minimise delay to the BRT service. Improvements to the junction brought about by the BRT could reduce the number of accidents in this location, and such reductions should be actively sought at a subsequent design stage.

There are two potential choices for the BRT route at the Connaught Barracks site: either the route travels past the site on Dover Road or the route travels through the site. If the BRT remains on Dover Road it maintains the most direct and therefore quickest route, but this does not maximise public transport connectivity for the development. Conversely a route through the site would increase connectivity but increase journey times. In addition the space required for the BRT infrastructure through the development, which could potentially be a dedicated bus-way, could reduce the amount of land available for development and could ultimately sever the development site. Masterplan proposals for the site are being developed by Arup and at this stage consideration should be given as to whether the BRT should or should not travel through the site.

Atkins have prepared six options illustrating how the BRT could link with the proposed Connaught Barracks development site, together with possible improvement measures to the existing junction layout between Dover Road and Castle Hill Road. A number of these individual junction proposals could be interchanged between different access options. These drawings show the BRT travelling into and through the site on an indicative alignment, which may not meet with the masterplan being developed. These are indicative routes only.

Please note that for each of the options the existing bus stops and castle coach parking near to the A258 Castle Hill / Dover Road Junction would require relocation. With the development site abutting the A258 Castle Hill Road there should be sufficient scope to relocate the existing facilities. All preliminary sketches are based on OS data information and are therefore subject to detailed design, at which time the topography and gradients of the site would require consideration.

4.6.1 Option 1

This option, illustrated on Drawing no. 5085627/TP/PR&D/007, considers providing a dedicated bus link through the development site, with priority junction provision for buses into and out of the site from Dover Road. The junction to the north of the site (Inset C), which would be access controlled to prevent unauthorised use by general traffic, links with a dedicated 7m wide two-way bus link road through the middle of the development site. Access to the development site would be from a junction to the south (Inset B), near to the A258 Castle Hill Junction. At the southern end of the dedicated bus link a second access control gate would enable buses to rejoin the development site access road before rejoining Dover Road.

Alterations are proposed at the Dover Road/Castle Hill Road junction to try and make the approaching junction more visible from all directions. This could be achieved by changes to the alignment and further improved with increased signage and road markings. The junction would remain a priority junction, but the alignment altered so Dover Road meets the A258 Castle Hill Road to the north of the current junction (Inset A).

The benefits of this option are as follows:

- Bus priority junction to north of site (southbound buses); dedicated access route through development site;
- Good connectivity for the development with the BRT due to a dedicated link through the site; and
- Additional junctions on Dover Road may reduce approach speeds to the A258 junction.

There are however some disadvantages:

- Route through the middle of development site thus reducing land available for development;
- No bus priority measures at southern end of development site where buses would rejoin Dover Road;
- No priority for northbound buses leaving development site; and
- Bus link through the site would increase the route length and therefore the journey time.

4.6.2 Option 2

This option, illustrated on Drawing no. 5085627/TP/PR&D/008, provides a slightly different access controlled priority give way provision at the northern end of the development site (Inset C). A southbound off slip from Dover Road means that the dedicated bus route through the development site is less intrusive minimising the potential severance between the western and eastern sides of the development site. A bus gate can be provided on the southbound off slip to prevent unauthorised use, but there is also possibility to provide a bus gate on the northbound bus link to give buses priority through the junction.

At the southern end of the site (Inset B) the bottom section of Dover Road has been realigned to join the bus link, with bus gates provided to prevent unauthorised access. The northern section of Dover Road would be realigned, and combined with the development access would form a priority crossroads. This junction design gives southbound buses priority over general traffic.

Again alterations are also proposed at the Dover Road / A258Castle Hill Road junction (Inset A) to try and make the junction more visible in all directions which could be achieved by changes to the alignment and further improved with increased signage and road markings

The benefits of this option are as follows:

- A bus priority junction at both ends of development site;
- Dedicated access route through development site closer to Dover Road which minimises severance between western and eastern parts of development site.
- Junction to the south will reduce southbound speeds for general traffic approaching the A258 Castle Hill junction.

There are however disadvantages:

- Possible delays for northbound traffic on Dover Road
- Priority for northbound buses leaving the site is dependent on signals.

4.6.3 Option 3

Option 3, illustrated on Drawing no. 5085627/TP/PR&D/009, utilises the same junction layout at the southern end (Inset B) of the development site as that shown in Option 2. This gives priority to bus movements.

At the northern end of the development site a standard 28m Inscribed Circle Diameter (ICD) roundabout (Inset C) is proposed which will help northbound buses egress from the development site, while also acting as a traffic calming measure for southbound traffic in particular. However, this still does not provide full priority to northbound buses, but operationally is better for buses than a priority junction.

Again alterations are also proposed at the Dover Road/Castle Hill Road junction to try and make the junction more visible in all directions which could be achieved by changes to the alignment and further improved with increased signage and road markings (Inset A).

There are some benefits to Option 3:

- Bus priority at the southern end of the site;
- Improved priority for buses at the northern end of the site;
- New roundabout and new crossroads junction would reduce southbound vehicle speeds;
- Dedicated access through the centre of the site, therefore maximising connectivity.

There are however some disadvantages:

- Possible delays for northbound traffic on Dover Road;
- Dedicated access route through middle of development site, although any potential severance could possibly be designed out by introducing shared surfacing or the like;
- Gradients on the northbound Dover Road may affect alignment of junctions.

4.6.4 Option 4

This option, illustrated on Drawing No. 5085627/TP/PR&D/010, provides the same junction layout proposals as Option 3 for access to the development site. The proposals at the Dover Road / A258Castle Hill Road junction is for a 28m ICD roundabout, which would improve movements between Dover Road and Castle Hill Road down in to the town centre. This junction proposal would need to be complemented with additional signage, road markings and coloured surfacing to ensure speeds are appropriate as you enter the new junction layout.

Providing a roundabout rather than a priority at A258 Castle Hill Road junction is preferable to a priority junction; however the gradients on the approaches may present a problem for the alignment of the junction and would especially affect northbound traffic on Castle Hill Road.

4.6.5 Option 5

This option, shown on Drawing No. 5085627/TP/PR&D/011, utilises the base principles of Option 1 in order to illustrate possible new access points from/to the development site off Castle Hill Road and Dover Road. No possible routes for the internal roads are shown giving scope for alternative alignments to be considered. Bus gates, or similar measures would be needed within the internal site layout to prevent any internal road network becoming an alternative route than Dover Road for general traffic.

The location for the all of the access junctions would be subject to agreement probably requiring topographical survey information and speed surveys as appropriate to determine the optimum location in terms of safety. However, introduction of a new junction could assist in reducing speeds on the A258 on the approach to the castle. Changes would be made to the junction of Dover Road and A258 Castle Hill Road as with previous options. For all junctions layouts need to be complemented with appropriate road markings, signs and surfacing.

4.6.6 Option 6

This option, shown on Drawing No. 5085627/TP/PR&D/012 is similar to Option 5, but with a 28m ICD roundabout on A258 Castle Hill Road rather than the priority junction shown in Option 5. The roundabout provision would enable easier movement for buses to enter and exit the development site. The location for the junction would be subject to agreement probably requiring topographical survey information and speed surveys as appropriate to determine the optimum location in terms of safety.

4.6.7 Summary

Clearly these options depend on the internal layouts of the development site, and whether it is agreed that routing the BRT through the site, as opposed to along Dover Road, would provide additional benefit. It is likely that the BRT will be delivered in advance of the Connaught Barracks site, therefore in the short term the bus would follow Dover Road. Once plans are in place for the Barracks site consideration should be given to the integration of the BRT, but bearing in mind that additional mileage and stops will increase journey times, detracting from the express nature of the service.

From this study it is apparent that to accommodate the BRT and to address accident issues at the A258 Castle Hill Road / Dover Road junction there are improvements required to the layout. Options 1 to 6 provide some options for the junction, which will require additional traffic survey, topographic survey and modelling to agree the preferred layout.

4.7 Next Steps

Further consideration of the connection for the BRT across existing open land between White Cliffs Business Park and Dover Road and its integration into Phases 2 and 3 of the Business Park development is necessary to facilitate the route. Ultimately this section would need to be delivered as the first stage of the scheme. It is anticipated that the BRT will be operational before this link is completed and will operate along existing roads between Whitfield and the town centre.

To properly assess and design the bus link the following studies will be required:

- Full topographic survey of the site, Honeywood Parkway roundabout and Dover Road;

- Review of development proposals for White Cliffs Business Park, with review of trip generation to determine operation of roundabout with Honeywood Parkway;
- Outline design of options that integrate with the proposed development and determination of a preferred route, taking into account all of the findings of the above;
- Ecological, landscape and potentially archaeological surveys;
- Traffic surveys on Dover Road to determine most appropriate form for junction of bus link and Dover Road;
- Stage 1 Road Safety Audit; and
- Assessment of different route options with regard to the operating costs for the BRT.

It may be that an Environmental Impact Assessment is required for the scheme.

5. Task 5: Dover Park and Ride Bus Lane Provision

The fifth task was to review the route of the BRT, which could double as a Park and Ride service between the town centre and a possible Farthingloe Park and Ride site, off the B2011 Folkestone Road approximately 3km to the west of the town. Easy access to the park and ride site would be available from the A20.

At this stage the provision of a park and ride at Farthingloe is an aspiration. Its delivery in the future would be significant for the sustainable operation of Dover's historical core. The site is designated as employment land and the council has a policy against the loss of allocated employment land, which would occur should the park and ride come forward. For the purpose of this report it has been assumed that the site is deliverable.

The route from the site would follow B2011 Folkestone Road into the town centre, passing Dover Priory Station. The route of the BRT / Park and Ride through the town centre and to Whitfield is covered in accompanying reports (reference), and in previous sections of this report.

To maximise the benefits of the service and to reduce journey times consideration has been given to the extent of existing available road space that can include for dedicated bus lanes and accompanying priority measures. The reliability and speed of the service is important as this will affect the attractiveness of the service to passengers who currently drive into the town.

A review of the corridor indicates it is possible to provide a total of 1.5km of bus lane in the eastbound direction and a further 320m in the westbound direction. This will assist the movement of buses towards the town centre in particular. The location of the bus lanes are indicatively shown on Drawings 5085627/TP/PR&D/001 to 004, and are described below. (Please note all preliminary sketches are based on OS data information and thus will need to be considered in more detail as part of a following on detailed study.

5.1 Park and Ride Entrance

The access to the park and ride site would potentially use the existing access for the Great Farthingloe Farm between the villages of Farthingloe and Church Hougham. The park and ride would be to the south of the B2011 and is currently farmland.

At this location the B2011 is a single lane in each direction but with a wide central reserve. The existing junction is a wide priority T junction with a single lane entry and a flared two-lane exit. A gap in the central reserve allows access to and from the eastbound carriageway. Some improvement to the junction would be required to accommodate the Park and Ride site; in particular consideration should be given to signalling the junction to allow for the anticipated high right turn into the site for vehicles from the A20 to the west. Signalisation would also assist the egress of buses from the site, which could utilise bus priority measures if full signalisation is not implemented. A survey of traffic flows and a vehicle generation for the park and ride site will need to be undertaken to determine the most appropriate form for the access junction.

This section of the route from the proposed Park and Ride access eastwards, as shown on Drawing no 5085627/TP/PR&D/001, is wide enough to provide approximately 320m of 3.2m wide bus lanes along both the eastbound and westbound carriageways. In order to provide these lengths of bus lanes the width of general traffic lanes would need to be reduced from 3.9m wide to 3.4m together with slight amendments to the existing kerbline. However, reduction in lane widths although slightly reducing the saturation flows of the lanes, may help reduce traffic speeds. Immediately east of this stretch of carriageway the road widths are constrained due to the

presence of a number of properties, and therefore the bus lane provision is terminated. If traffic volumes on the B2011 are high there is potential to provide a bus gate which would hold back general traffic to allow the bus to exit the bus lane unimpeded, similar to the facility shown in Figure 5.1.

Figure 5.1 – Example of a bus gate



5.2 Little Farthingloe Farm access to Approach Road

Approximately 500m to the east of the termination point of the bus lane adjacent to the site access. The bus lane would start approximately 100m east of the access to East Farthingloe Farm, with the termination at Approach Road.

Along this section the existing carriageway widths are again wide enough to provide a further length (600m) of bus lane, but for east bound vehicles only. In order to introduce this length of bus lane, modifications would need to be made to the existing road markings, although the existing cycle route could be incorporated into the bus lane, and a number of central splitter islands and build out footway areas would need to be removed. Drawing no 5085627/TP/PR&D/002 shows an indicative layout for the bus lane. Again a bus gate could be provided at the termination of the bus lane to allow buses to exit the bus lane unimpeded.

This new length of bus lane would reduce delays caused by high volumes of traffic during morning peak periods. However, the removal of splitter islands and build outs may impact upon pedestrian crossing facilities, while the ghost island right turn into Rugby Road would need to be removed, however, alternative access points to dwellings are available.

The existing designated or informal parking areas would need to be time restricted or removed and the existing 30mph gateway approaching Dover may require relocating. However, consideration could be given to lengths of new bus lane being used for on-street parking outside peak period.

5.3 Lascelles Road to Shakespeare Road

Further east lengths of 3m wide bus lanes are proposed for east bound vehicles, as shown on Drawing no 5085627/TP/PR&D/003. This approximate 250m length of bus lane crosses a number of side roads and also through an existing signalised pedestrian crossing facility which is to remain. Modifications would be necessary to the existing road markings and a central splitter

island would need to be removed in addition to possible footway narrowing in certain locations to maintain required lane widths.

The existing on-street parking restrictions would need to be reviewed to determine whether these parking bays would need to be removed or restrictions amended. Again consideration could be given to a bus gate at the termination point of the bus lane, which may assist the route of the bus through the B2011 Folkestone Road / Elms Vale Road roundabout.

5.4 Elms Vale Road to Winchelsea Road

To the east of the Elms Vale Road and Folkestone Road junction another stretch of bus lane is proposed for east bound traffic, as shown on Drawing no 5085627/TP/PR&D/003. This 220m length of bus lane would require existing parking restrictions to be removed or possibly modified to enable parking outside of the peak hours.

Delays may occur at Belgrave Road due to right turning traffic; however, a Bus Lane will allow buses to avoid this. A reduction in lane widths to between approximately 3.0m and 3.4m wide, would also benefit outside of peak periods in helping to reduce speeds in an existing residential area.

5.5 Malvern Road to Folkestone Road Roundabout

This is the final section of the route as it reaches the town centre and one-way system. The final sections of east bound bus lane start in the vicinity of Priory Court and continue intermittently up to the Folkestone Road/York Street/Priory Road roundabout. A total length of approximately 200m is achieved by removing or time restricting existing designated parking bays, in addition to removing existing splitter islands and footway build outs.

It is intended that the BRT travels via York Street where passengers board and alight, then through the St James's Development Site to the A258 Castle Hill Road, rather than travelling through the one-way system and using Pencester Road. Travelling via York Street would reduce the route length and therefore the overall journey time for the route. Proposals have been outlined in a separate report (reference) with regard to relocation of the existing bus interchange to York Street.

Because the BRT / Park and Ride is intended to route via York Street the vehicle will need to turn right at the Folkestone Road roundabout, rather than left into the one-way system meaning that the bus lane on the approach to the roundabout may not be required.

5.6 Overall Scheme

In general the proposed bus lane provision will provide a total of over 1.5km of Bus Lane in an east bound direction, covering at least half of the route between the site and the town centre. This will help to reduce delays caused to buses in the peak periods due to existing traffic conditions along the B2011 Folkestone Road. Approximately 320m of Bus Lane have been provided in a west bound direction. It should be noted that drawings are based on OS map data and would require topographic survey during detailed design.

In general the Bus Lanes proposed are between 3.0m and 3.2m in width. Where space is limited traffic lanes have been reduced to 3m in width over short sections. This would reduce the saturation flow of the carriageway, however, it would help reduce traffic speeds in what is a predominantly residential area.

At some locations amendments to the kerb alignment may be required which would slightly reduce the footway widths to a minimum width of 2m. Existing designated parking areas may be required to be removed or be subjected to time restriction (i.e. parking bans during peak periods).

The loss of parking is likely to be a contentious issue with residents and the timed restrictions are likely to be unpopular as residents may not wish to have to keep moving their vehicle before restrictions come into effect. The road width, however, means that without the removal of parking there is not sufficient width to provide a dedicated bus lane. As a result of this the service may suffer delays which would reduce the attractiveness of the service.

5.7 Next Steps

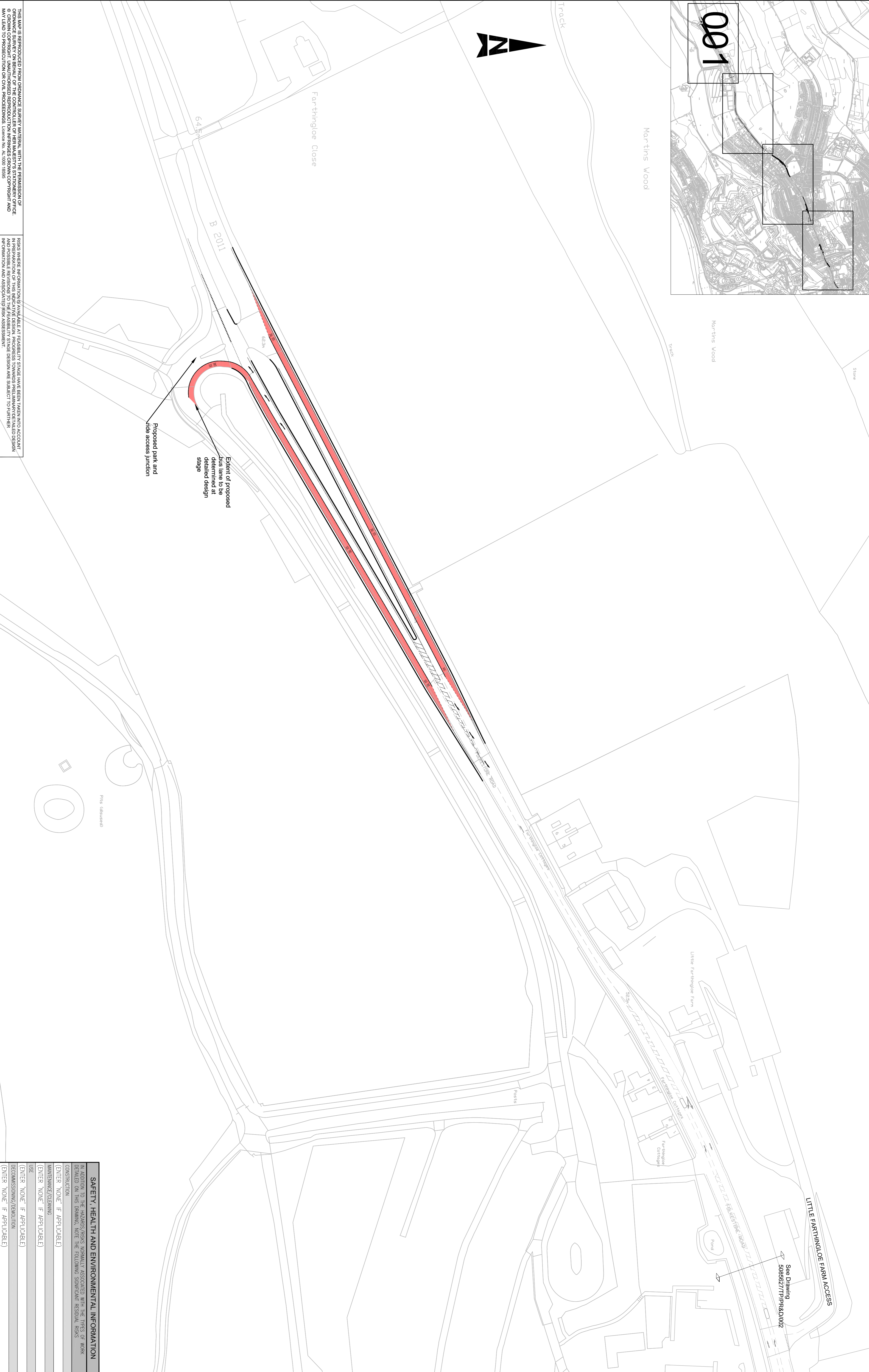
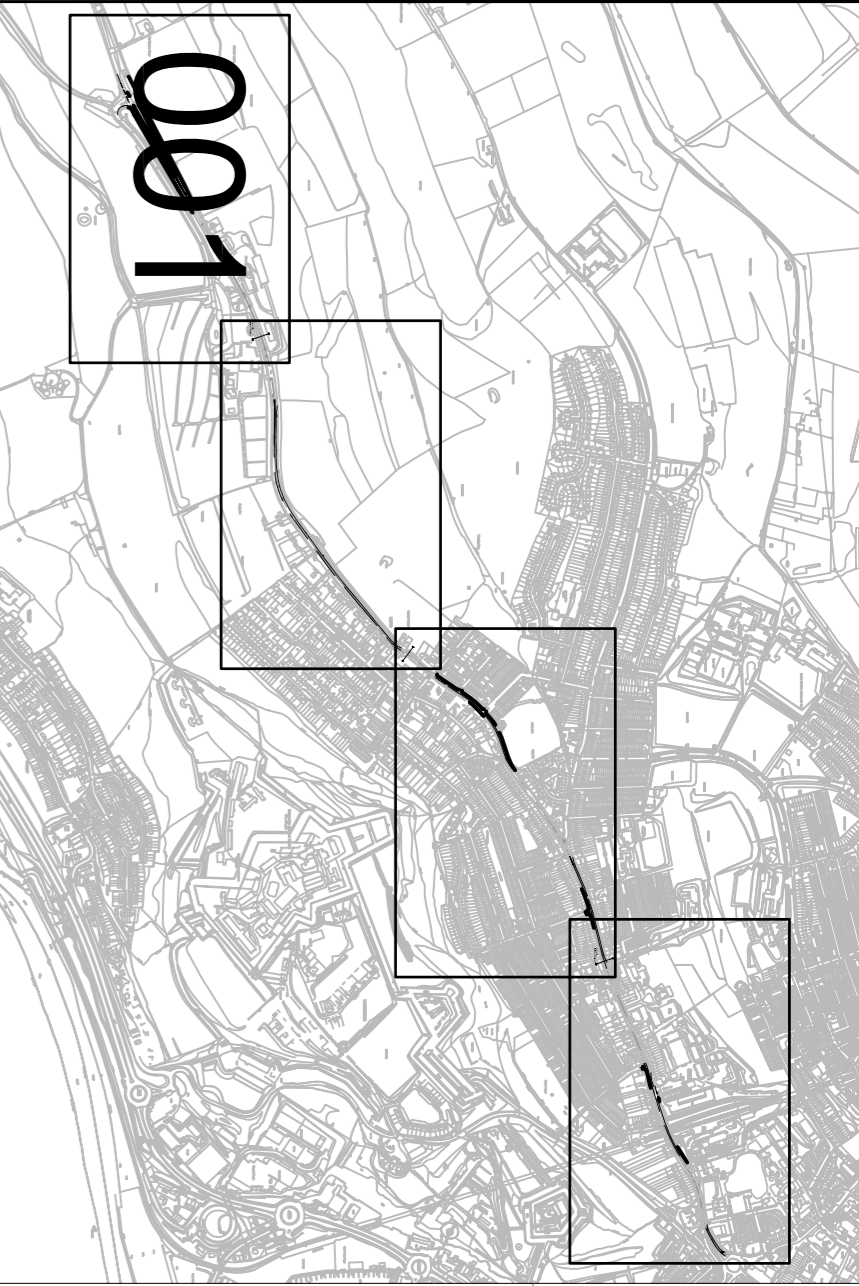
The delivery of a park and ride at Farthingloe is an aspiration for DDC at this stage. This report has provided a high level assessment of the park and ride, indicating where bus priority can be achieved and what would potentially need to be done to facilitate bus lanes on the B2011. The park and ride and BRT connection along the B2011 is likely to be the last phase of BRT delivery.

If the park and ride site were to come forward the following studies would be required:

- Topographical survey of the route;
- Utilities survey;
- Review of accesses onto the highway, including side roads and driveways;
- Parking survey to ascertain whether there is spare capacity in side streets to accommodate loss of spaces on the B2011 Folkestone Road;
- Detailed design of bus lanes and side road junctions;
- Assessment to determine appropriate form of a site access junction;
- Determine construction costs; and
- Traffic modelling to determine impact of bus lanes on general traffic conditions.

Dover District Council has a VISSIM micro-simulation model of the town which could be used for this study. The loss of parking is likely to be the greatest issue and regular consultation with local residents would be required. If parking cannot be relocated elsewhere then consideration of timed restrictions would be required with assessment to determine the times during which restrictions should be in place.

DO NOT SCALE



THIS MAP IS REPRODUCED FROM ORNANCE SURVEY MATERIAL, WITH THE PERMISSION OF ORNANCE SURVEY ON BEHALF OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. IN PREPARATION OF THIS INDICATIVE DESIGN, PROGRESS TOWARDS PRELIMINARY/DETAILED DESIGN MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS. LICENSE NO. AL1001 16999

RISKS WHERE INFORMATION IS AVAILABLE AT FEASIBILITY STAGE HAVE BEEN TAKEN INTO ACCOUNT IN PREPARATION OF THIS INDICATIVE DESIGN. PROGRESS TOWARDS PRELIMINARY/DETAILED DESIGN INFORMATION AND ASSOCIATED RISK ASSESSMENT.

- Notes**
- Proposed layout based on OS base only. Design subject to change once topographical survey is available.
 - The need for amendments to kerb lines and footway narrowing to be determined at detailed design stage and avoided if possible.

| Staff | Purpose of Issue | Date | Auth | Rev | Description | By | Date | Chkd | Auth |
|-------|------------------|------|------|-----|-------------|----|------|------|------|
| | | | | | | | | | |

ATKINS
 Consulting Engineers,
 The Axis
 10 Holliday Street
 Birmingham
 West Midlands B1 1TF

Tel: 0121 483 5000
 Fax: 0121 483 6161
 www.atkinsglobal.com

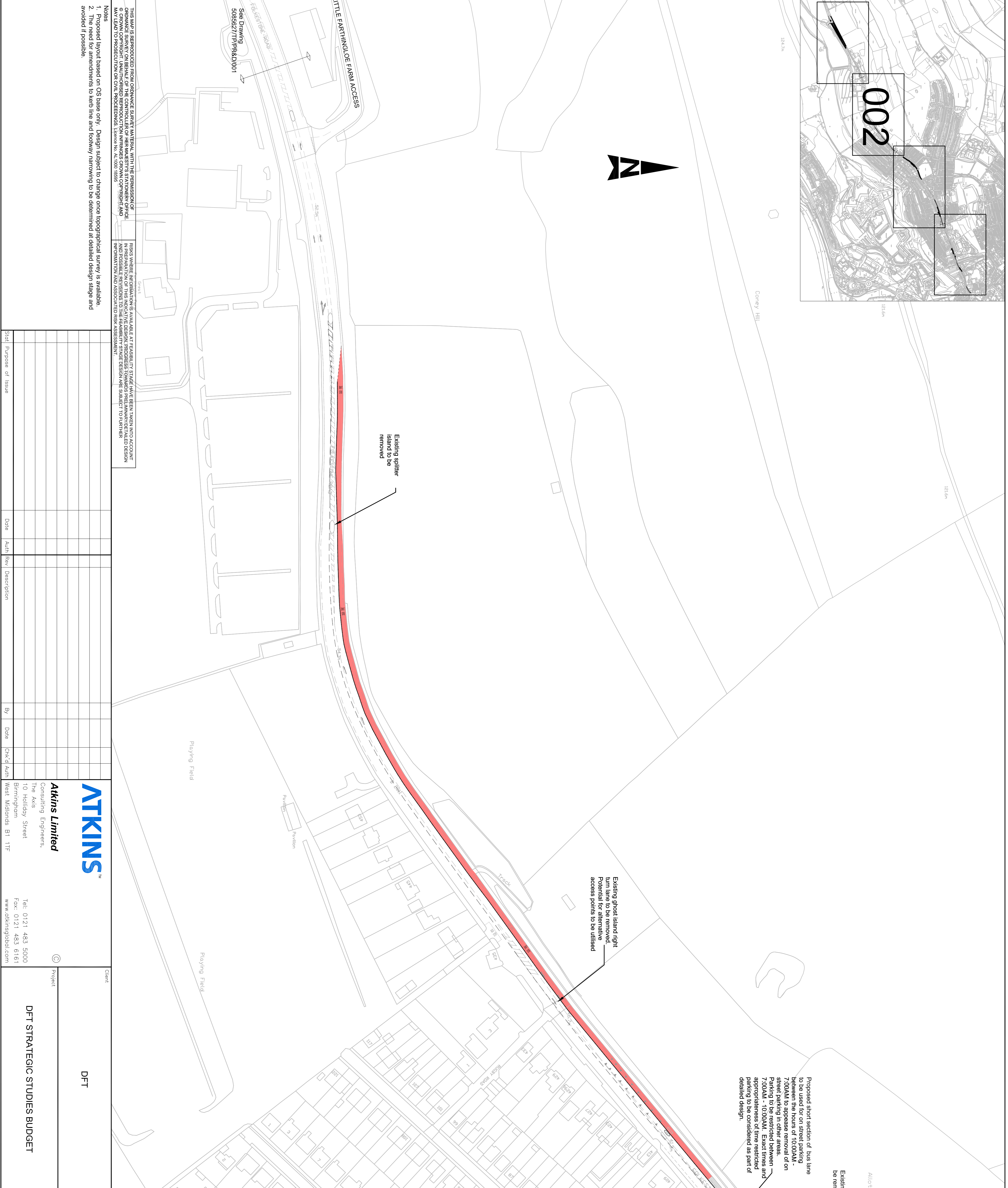
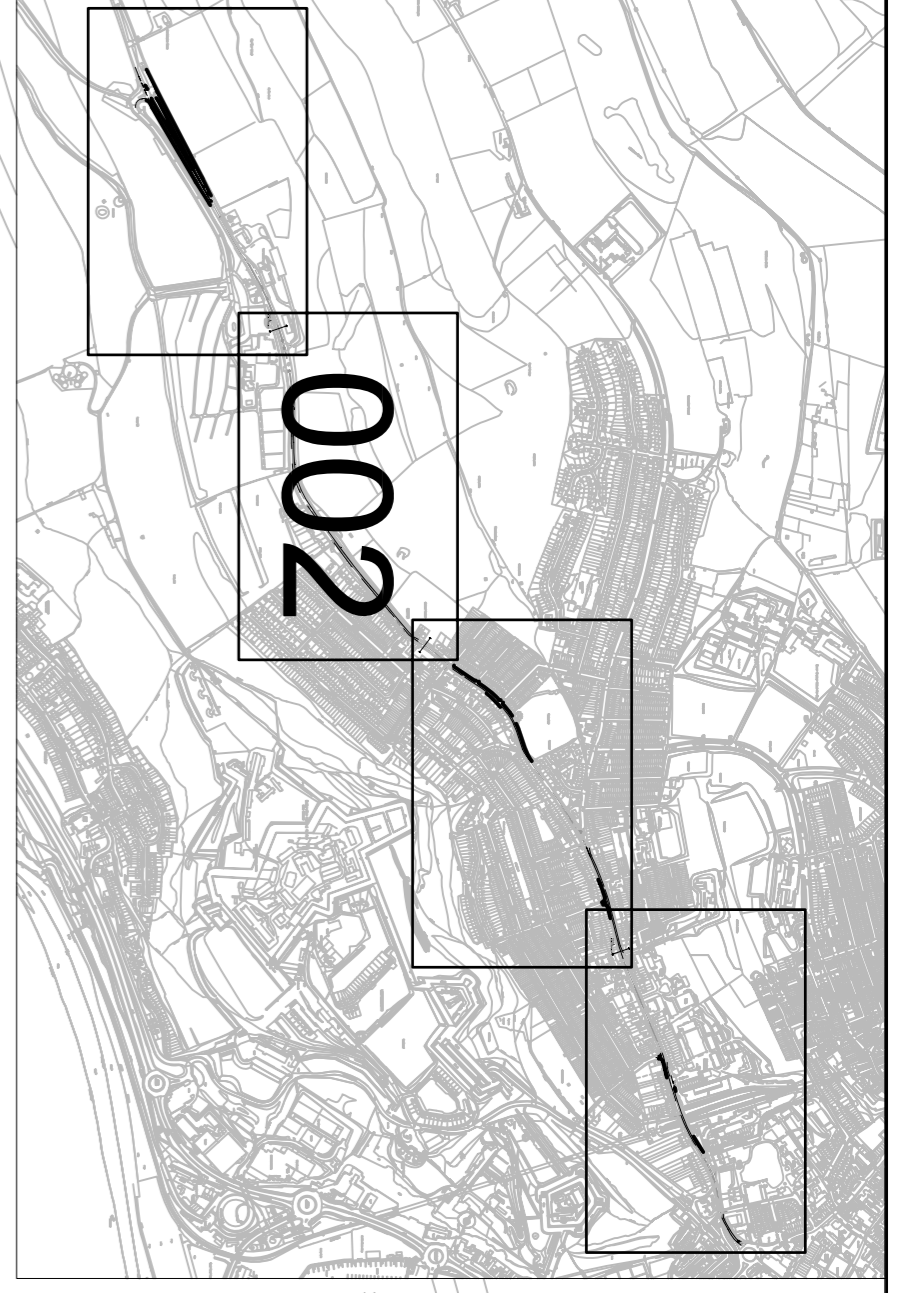
| | |
|---------|------------------------------|
| Client | DFT |
| Project | DFT STRATEGIC STUDIES BUDGET |

| | | | | |
|------------|---|----------------|----------|------------|
| Title | B2011 PROPOSED BUS LANE IMPLEMENTATION GENERAL ARRANGEMENTS | | | |
| Sheet Size | Original Scale | Designed/Drawn | Checked | Authorised |
| A1 | 1:1000@A1 | JC | JC | JC |
| Status | Drawing Number | Date | Date | Date |
| P | 5085627/TP/PR&D/001 | 08/04/10 | 00/00/00 | 00/00/00 |

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARD/RISK NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILLED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS

CONSTRUCTION
 (ENTER NONE IF APPLICABLE)
 (ENTER NONE IF APPLICABLE)
 MAINTENANCE/LEASING
 (ENTER NONE IF APPLICABLE)
 (ENTER NONE IF APPLICABLE)
 USE
 (ENTER NONE IF APPLICABLE)
 DECOMMISSIONING/DEMOLITION
 (ENTER NONE IF APPLICABLE)



1. Proposed layout based on OS base only. Design subject to change once topographical survey is available.
2. The need for amendments to kerb line and footway narrowing to be determined at detailed design stage and avoided if possible.

THIS DRAWING IS REPRODUCED FROM ORIGINAL SURVEY MATERIAL WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. ANY REPRODUCTION OF THIS DOCUMENT WITHOUT THE WRITTEN PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE MAY BE A BREACH OF THE COPYRIGHT ACTS 1956 AND 1988.

THE INFORMATION IS AVAILABLE AT FEASIBILITY STAGE HAS BEEN TAKEN INTO ACCOUNT IN PREPARATION OF THIS DOCUMENT. DESIGN DEVELOPMENT AND ASSOCIATED RISK ASSESSMENT INFORMATION AND ASSOCIATED RISK ASSESSMENT.

| Staff | Purpose of Issue | Date | Auth | Rev | Description | By | Date | Chkd | Auth |
|-------|------------------|------|------|-----|-------------|----|------|------|------|
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |



Atkins Limited
Consulting Engineers,
The Axis
10, Holliday Street
Birmingham
West Midlands B1 1TF

Tel: 0121 483 5000
Fax: 0121 483 6161
www.atkinsglobal.com

Client: DFT

Project: DFT STRATEGIC STUDIES BUDGET

Drawn: JC
Checked: JC
Date: 08/04/10
Date: 00/00/00

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
IN ADDITION TO THE HAZARD/RISK NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS:
CONSTRUCTION
(ENTER NONE IF APPLICABLE)
OPERATION
(ENTER NONE IF APPLICABLE)
MAINTENANCE/CLEANING
(ENTER NONE IF APPLICABLE)
USE
(ENTER NONE IF APPLICABLE)
DECOMMISSIONING/DEMOLITION
(ENTER NONE IF APPLICABLE)

B2011 PROPOSED BUS LANE IMPLEMENTATION GENERAL ARRANGEMENTS
Sheet Size: Original Scale
Drawing Number: A1
Drawing Number: 5085627/TP/PR&D/002
Status: P

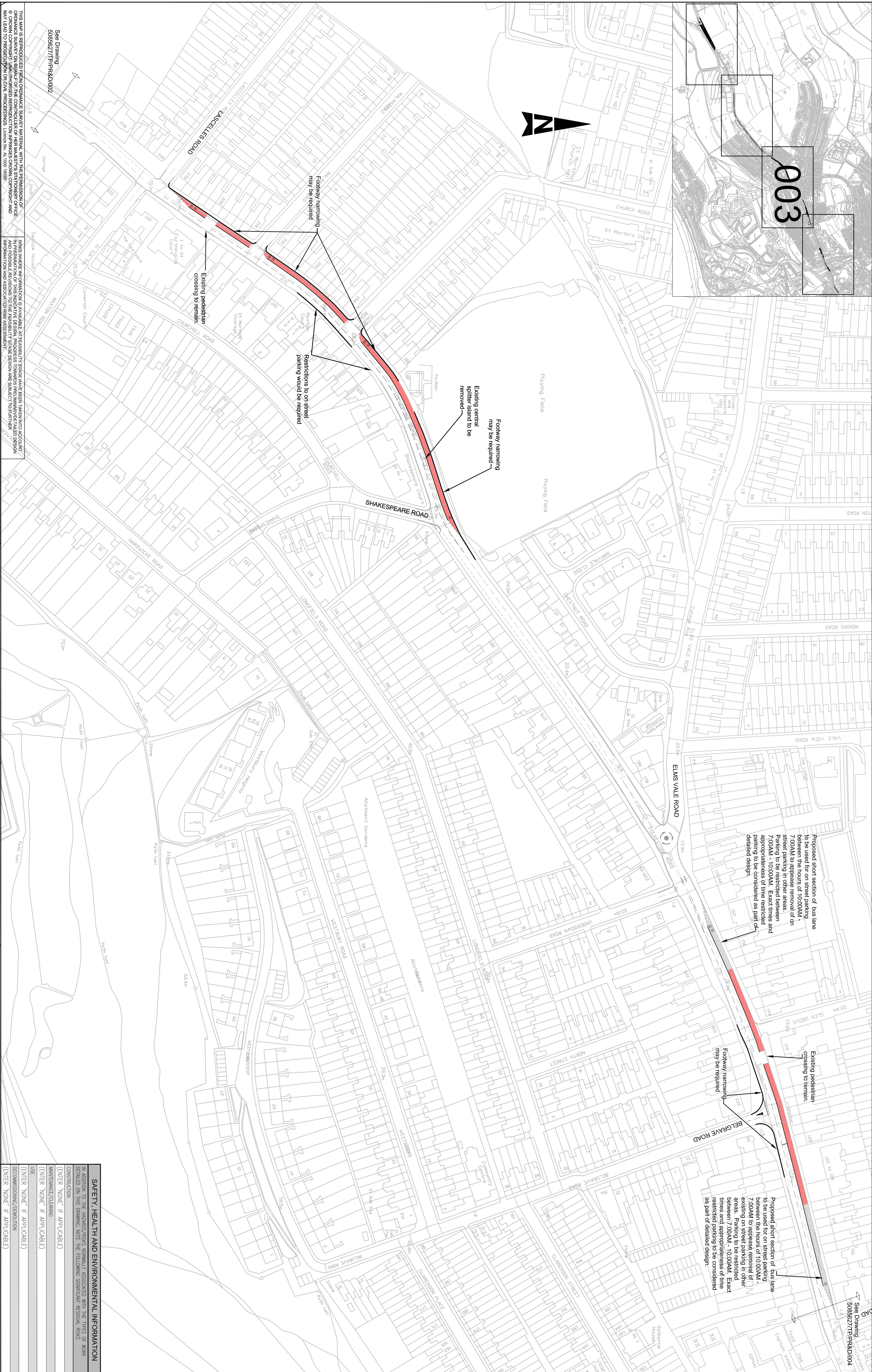
| Sheet No | Original Scale | Design/Drawn | Checked | Authorised |
|----------|----------------|----------------|----------------|----------------|
| A1 | 1:1000@A1 | JC | JC | JC |
| | | Date: 08/04/10 | Date: 00/00/00 | Date: 00/00/00 |

Proposed short section of bus lane to be used for on street parking 7:00AM to 10:00AM. Exact times and appropriateness of time restricted parking to be considered as part of detailed design.

Existing ghost island right turn lane to be removed. Potential for alternative access points to be utilised.

Existing splitter island to be removed.

Existing buildout to be removed.



Notes

1. Proposed layout based on OS base only. Design subject to change once topographical survey is available.
2. The need for amendments to kerb line and footway narrowing to be determined at detailed design stage and avoided if possible.

THIS DRAWING IS REPRODUCED FROM ORIGINATOR SURVEY MATERIAL WITH THE PERMISSION OF THE ORIGINATOR. THE ORIGINATOR IS NOT RESPONSIBLE FOR THE ACCURACY OF THIS DRAWING. THE ORIGINATOR'S LIABILITY IS LIMITED TO THE INFORMATION AND ASSOCIATED RISK ASSESSMENT PROVIDED TO THE CLIENT. THE CLIENT IS RESPONSIBLE FOR THE ACCURACY OF THIS DRAWING. THE CLIENT'S LIABILITY IS LIMITED TO THE INFORMATION AND ASSOCIATED RISK ASSESSMENT PROVIDED TO THE CLIENT. THE CLIENT IS RESPONSIBLE FOR THE ACCURACY OF THIS DRAWING. THE CLIENT'S LIABILITY IS LIMITED TO THE INFORMATION AND ASSOCIATED RISK ASSESSMENT PROVIDED TO THE CLIENT.



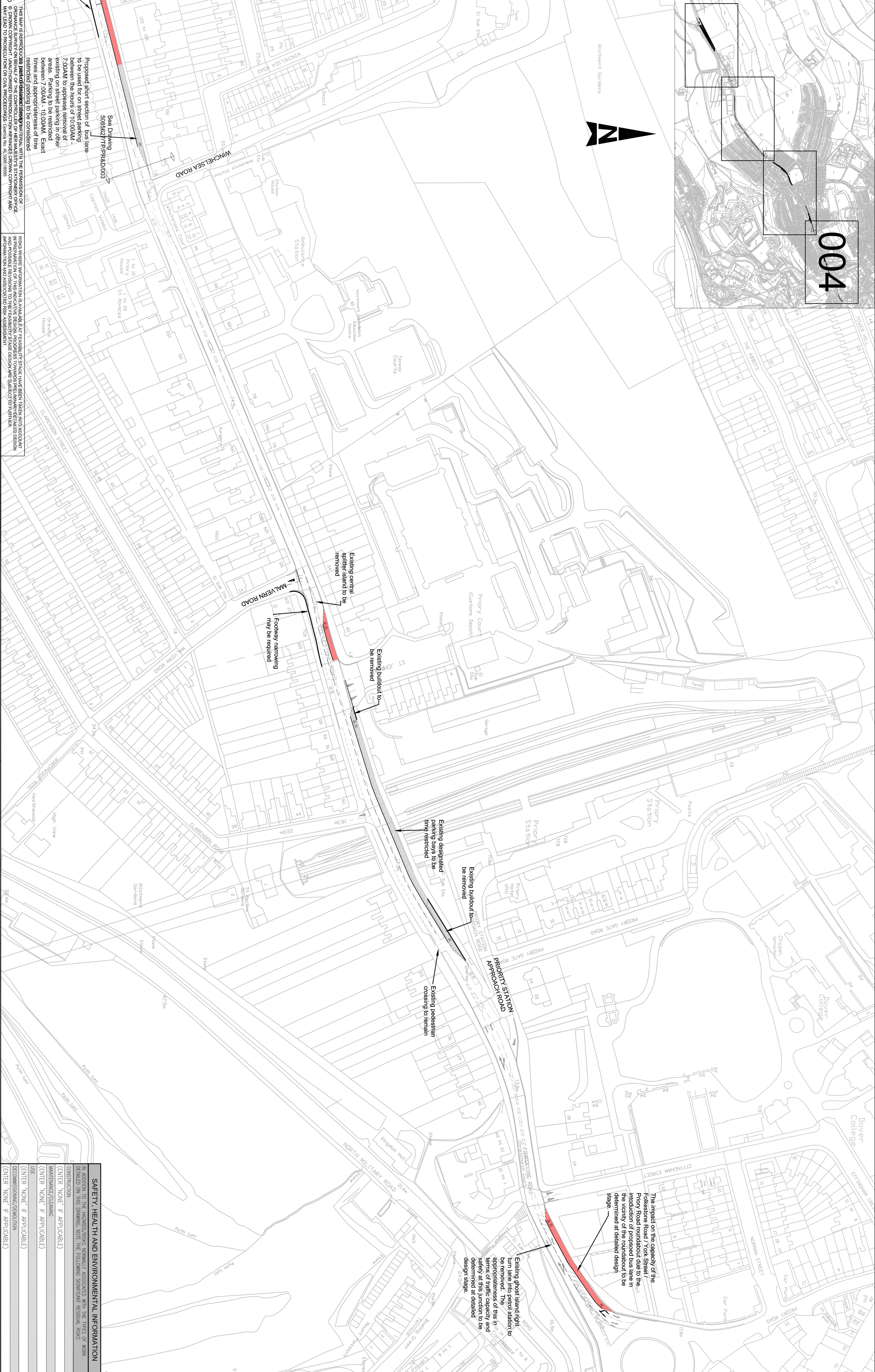
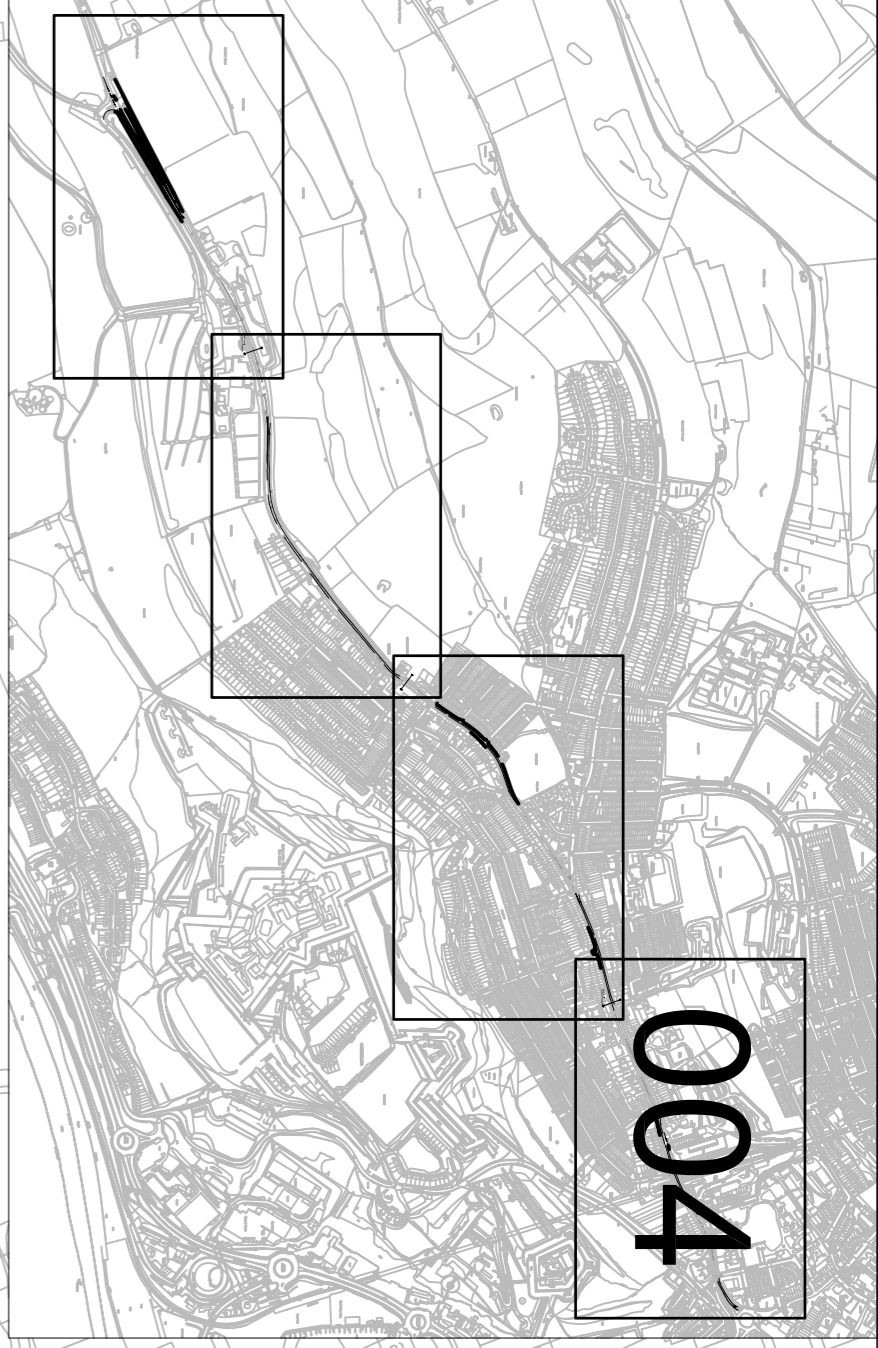
Atkins Limited
Consulting Engineers,
The Axis
10 Holliday Street
Birmingham
West Midlands B1 1TF

Client: **DFT**
Project: **DFT STRATEGIC STUDIES BUDGET**

Title: **B2011 PROPOSED BUS LANE IMPLEMENTATION GENERAL ARRANGEMENTS**

| SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION | | | |
|---|----------------------------|--|--|
| IN ADDITION TO THE HAZARD/RISK NORMALLY ASSOCIATED WITH THE TYPES OF WORK DEFINED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS: | | | |
| CONSTRUCTION | (ENTER NONE IF APPLICABLE) | | |
| MAINTENANCE/OPERATION | (ENTER NONE IF APPLICABLE) | | |
| USE | (ENTER NONE IF APPLICABLE) | | |
| DECOMMISSIONING/DEMOLITION | (ENTER NONE IF APPLICABLE) | | |

| | | | | |
|------------|---------------------|--------------|----------|------------|
| Sheet Size | Original Scale | Design/Drawn | Checked | Authorised |
| A1 | 1:1000@A1 | JC | | |
| Status | Drawing Number | Date | Date | Date |
| P | 5085627/TP/PR&D/003 | 08/04/10 | 00/00/00 | 00/00/00 |



Notes

1. Proposed layout based on OS base only. Design subject to change once topographical survey is available.
2. The need for amendments to kerb line and roadway narrowing to be determined at detailed design stage and avoided if possible.

THIS DRAWING IS A PRELIMINARY DESIGN AND IS SUBJECT TO CHANGE WITHOUT NOTICE. THE CLIENT ACCEPTS RESPONSIBILITY FOR THE ACCURACY OF THE INFORMATION PROVIDED AND ASSOCIATED RISK ASSESSMENT. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OR FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN PERMISSION OF ATKINS LIMITED. THE CLIENT ACCEPTS RESPONSIBILITY FOR THE ACCURACY OF THE INFORMATION PROVIDED AND ASSOCIATED RISK ASSESSMENT.

INFORMATION IS AVAILABLE BY FEASIBILITY STAGE HAVE BEEN TAKEN INTO ACCOUNT IN PREPARATION OF THIS DOCUMENT. DESIGN PROCESS TOWARDS PRELIMINARY DETAILED DESIGN INFORMATION AND ASSOCIATED RISK ASSESSMENT.

| Issue | Date | Author | Reviewed | Description |
|-------|------|--------|----------|-------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

ATKINS
 Consulting Engineers,
 The Axis
 10 Holliday Street
 Birmingham
 West Midlands B1 1TF
 Tel: 0121 483 5000
 Fax: 0121 483 6161
 www.atkinsglobal.com

| | |
|---------|------------------------------|
| Client | DFT |
| Project | DFT STRATEGIC STUDIES BUDGET |

| | | | | |
|------------|---------------------|--------------|----------|------------|
| Sheet Size | Original Scale | Design/Drawn | Checked | Authorised |
| A1 | 1:1000@A1 | JC | | |
| Status | Drawing Number | Date | Date | Date |
| P | 5085627/TP/PR&D/004 | 08/04/10 | 00/00/00 | 00/00/00 |

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS

CONSTRUCTION
 (ENTER 'NONE' IF APPLICABLE)

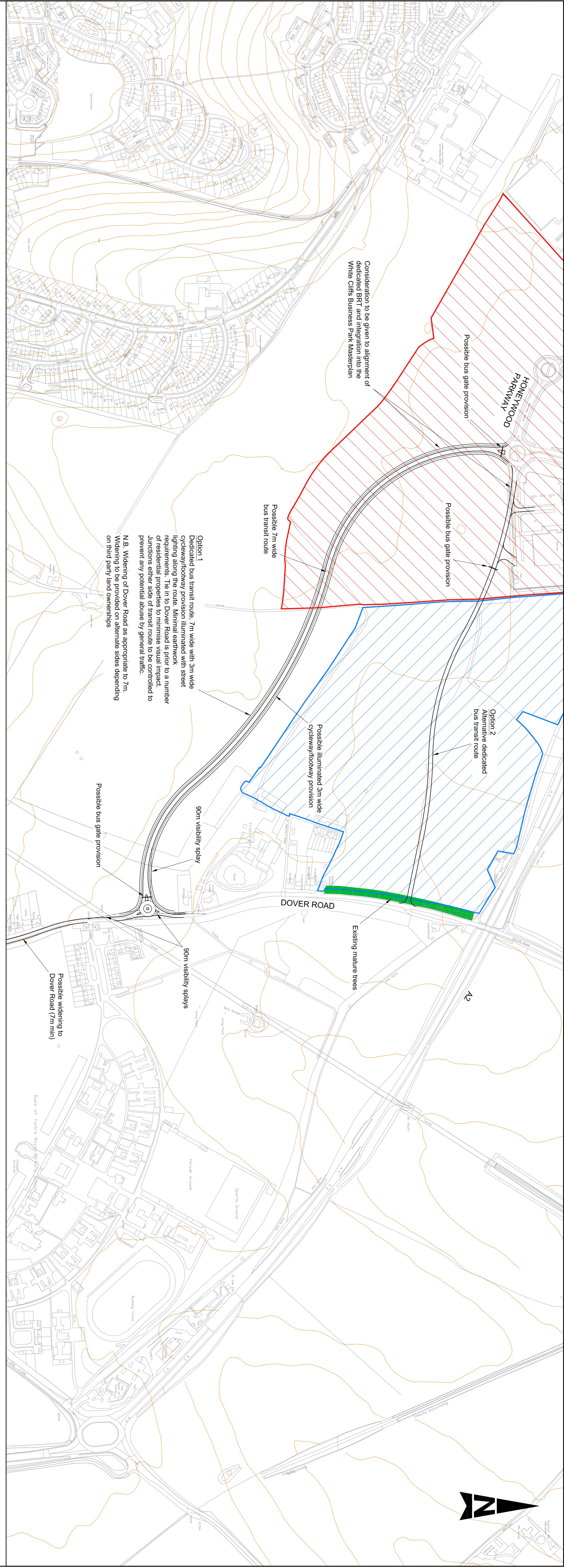
MAINTENANCE/CLEANING
 (ENTER 'NONE' IF APPLICABLE)

USE
 (ENTER 'NONE' IF APPLICABLE)

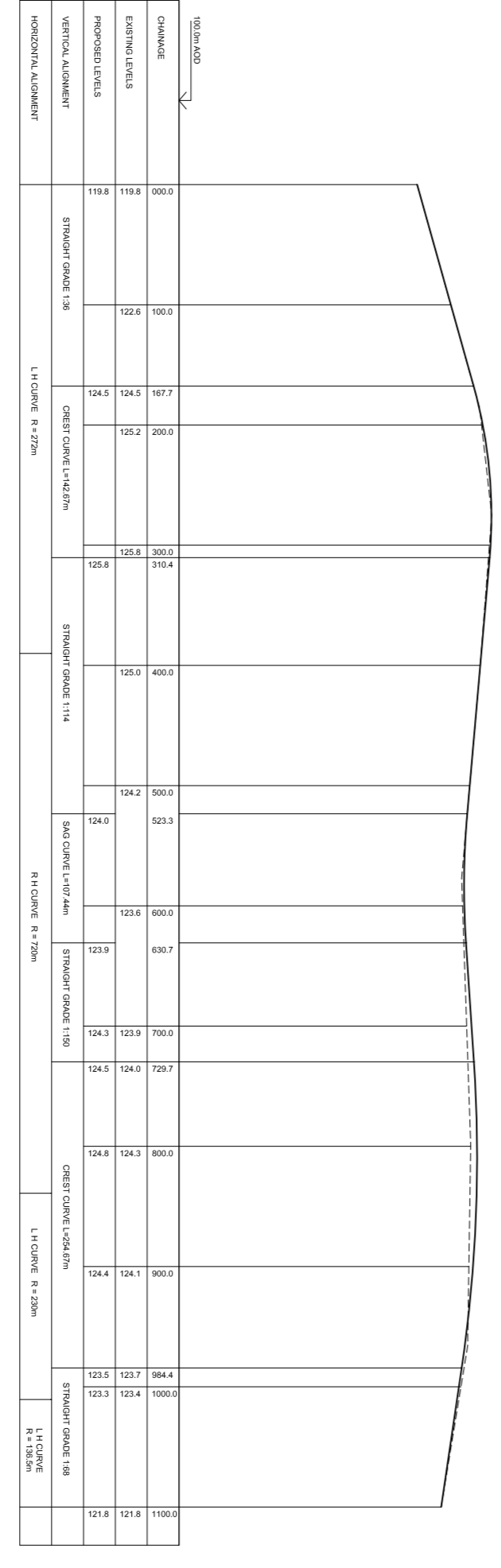
DECOMMISSIONING/DEMOLITION
 (ENTER 'NONE' IF APPLICABLE)

B2011 PROPOSED BUS LANE IMPLEMENTATION GENERAL ARRANGEMENTS

DO NOT SCALE

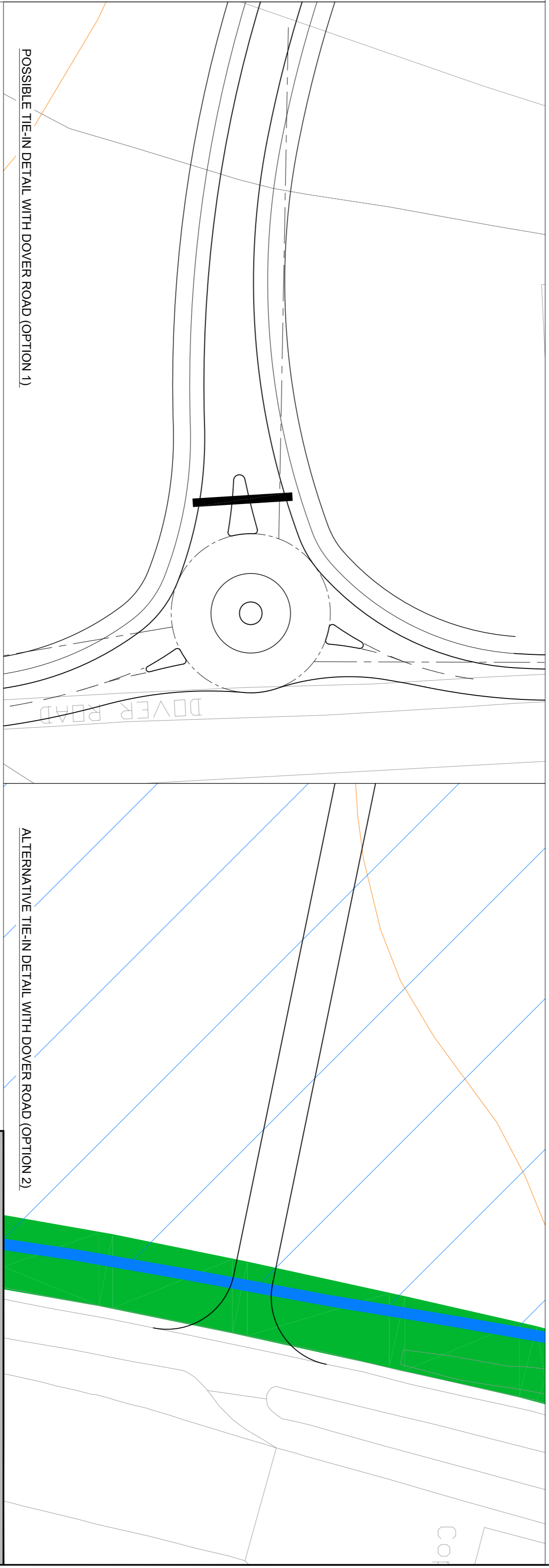


LONGITUDINAL SECTION (OPTION 1)
HORIZONTAL SCALE 1:5000
VERTICAL SCALE 1:500



POSSIBLE TIE-IN DETAIL WITH DOVER ROAD (OPTION 1)

ALTERNATIVE TIE-IN DETAIL WITH DOVER ROAD (OPTION 2)



THIS MAP IS REPRODUCED FROM ORIGINAL SURVEY MATERIAL WITH THE PERMISSION OF THE CROWN COPYRIGHT. UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS. Licence No. AL1000 18395

RISKS WHERE INFORMATION IS AVAILABLE AT FEASIBILITY STAGE HAVE BEEN TAKEN INTO ACCOUNT AND POSSIBLE REVISIONS TO THE FEASIBILITY STAGE DESIGN ARE SUBJECT TO FURTHER INFORMATION AND ASSOCIATED RISK ASSESSMENT.

- Notes
1. Proposed layout based on OS base only. Design subject to change once topographical survey is available.
 2. The need for amendments to kerb line and footway narrowing to be determined at detailed design stage and avoided if possible.

- Key
- White Cliffs Business Park, Phase II
 - White Cliffs Business Park, Phase III
 - Existing Mature Trees

| Issue No. | Date | Author | Revised By | Description |
|-----------|-------|--------|------------|------------------------------------|
| 1 | 06/10 | CRC | B | OPTION 2 - BUS TRANSIT ROUTE ADDED |
| 2 | 04/10 | CRC | A | INITIAL ISSUE |

ATKINS
Consulting Engineers,
The Axis
10 Holliday Street
Birmingham
West Midlands B1 1TF

| | |
|---------|------------------------------|
| Project | DFT STRATEGIC STUDIES BUDGET |
| Client | DFT |

| | | | | | | | | | |
|------------|----|----------------|---------------------|--------------|----------|---------|----------|------------|----------|
| Sheet Size | A1 | Original Scale | NTS | Design/Drawn | DR | Checked | FE | Authorised | CRC |
| Status | P | Drawing Number | 5085627/TP/PR&D/005 | Date | 08/04/10 | Date | 08/04/10 | Date | 08/04/10 |

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILLED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS

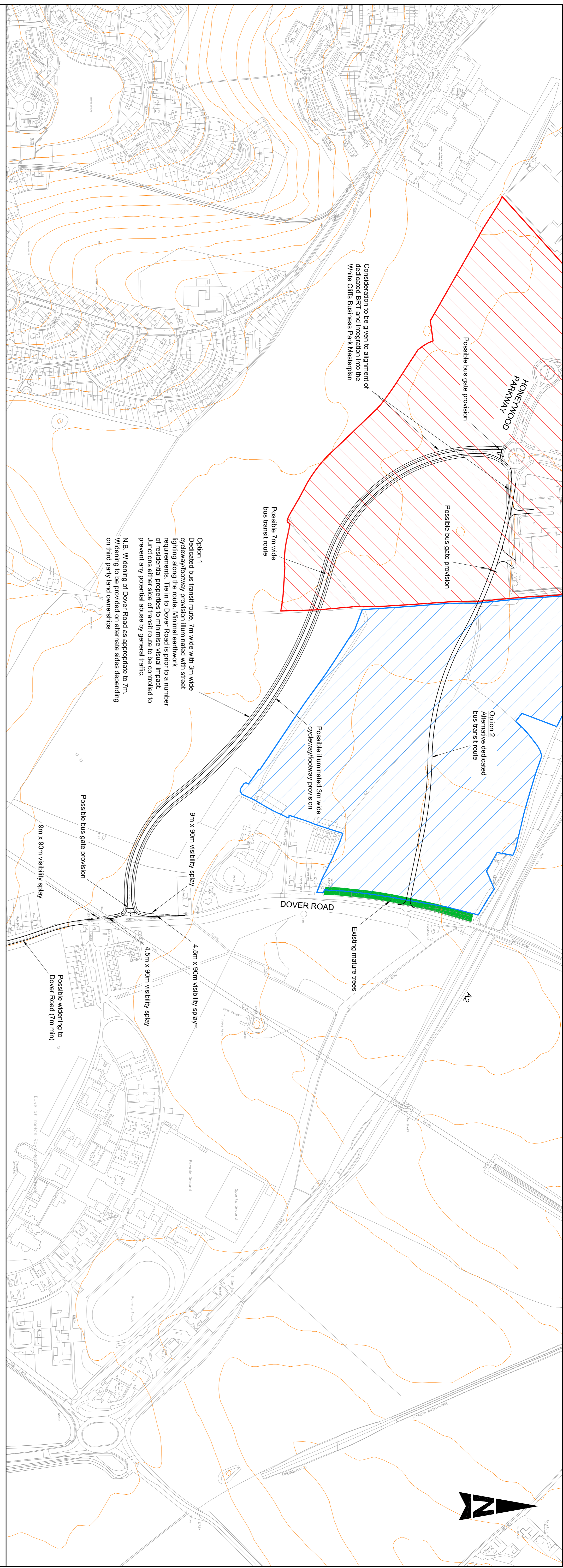
CONSTRUCTION
(ENTER NONE IF APPLICABLE)

MAINTENANCE/CLEANING
(ENTER NONE IF APPLICABLE)

USE
(ENTER NONE IF APPLICABLE)

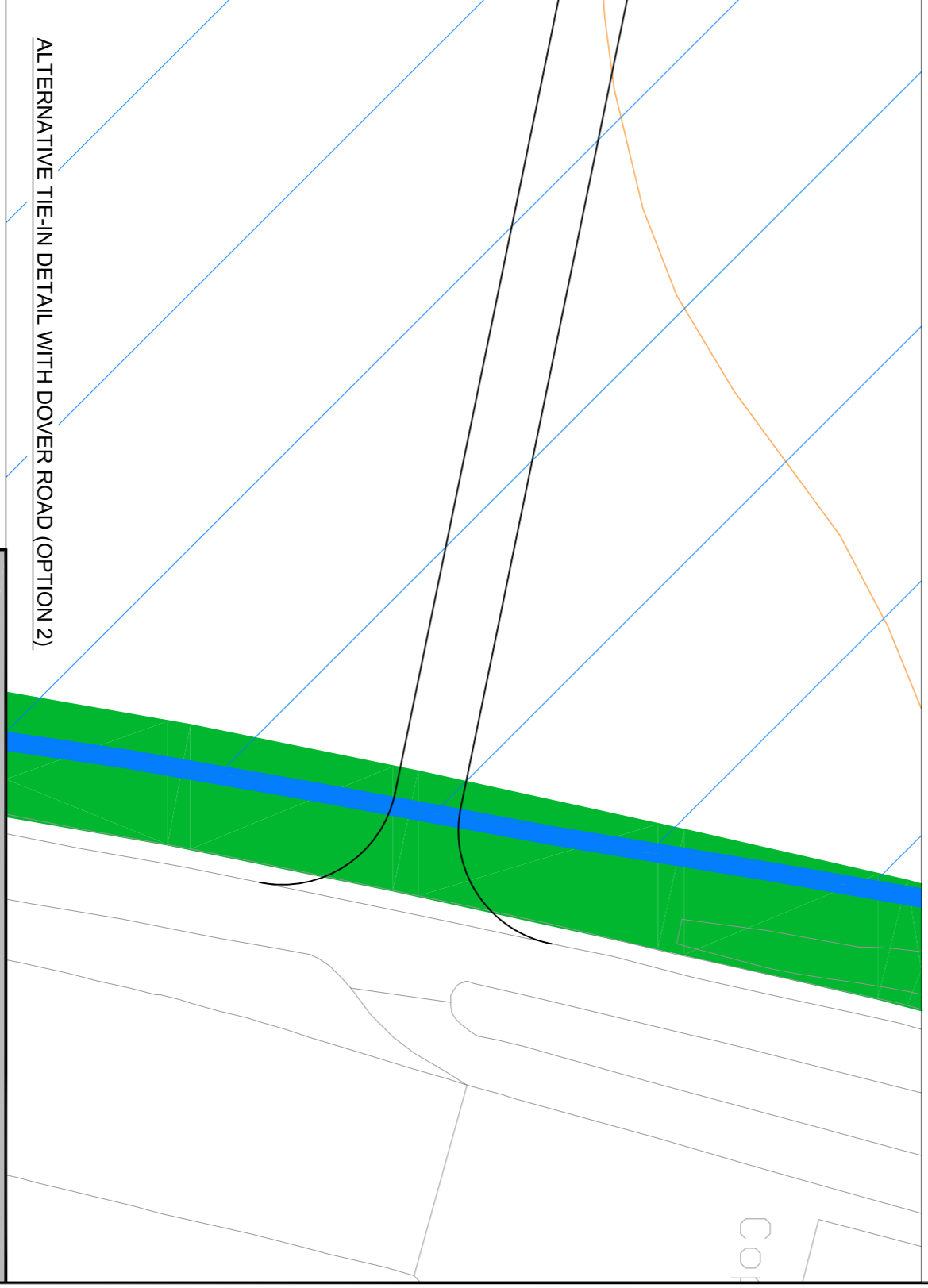
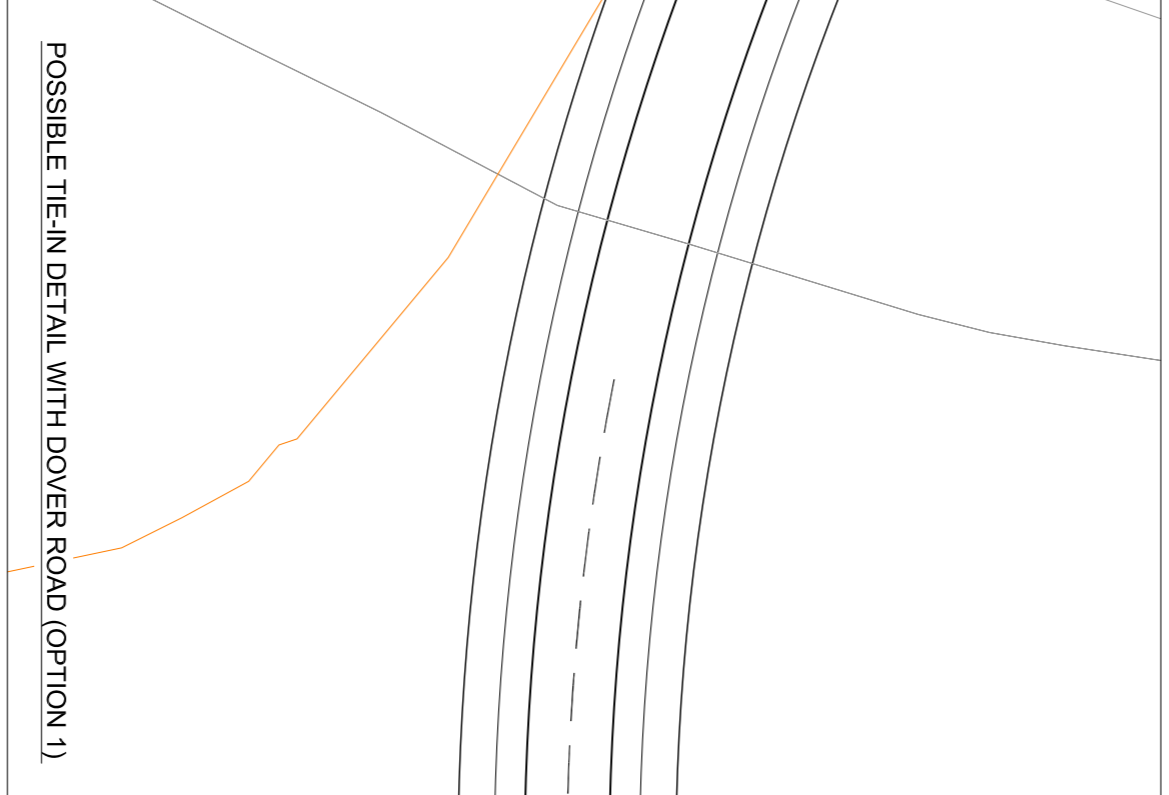
DECOMMISSIONING/DEMOLITION
(ENTER NONE IF APPLICABLE)

DO NOT SCALE



LONGITUDINAL SECTION
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:500

| VERTICAL AXIS | OPTION 1 | OPTION 2 | OPTION 1 | OPTION 2 |
|---------------|----------|----------|----------|----------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| 0.40 | 0.40 | 0.40 | 0.40 | 0.40 |
| 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| 0.60 | 0.60 | 0.60 | 0.60 | 0.60 |
| 0.70 | 0.70 | 0.70 | 0.70 | 0.70 |
| 0.80 | 0.80 | 0.80 | 0.80 | 0.80 |
| 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |



NOTES

- Proposed layout based on OS base only. Design subject to change once topographical survey is available.
- The need for amendments to kerb line and footway narrowing to be determined at detailed design stage and avoided if possible.

Key

- White Cliffs Business Park, Phase II
- White Cliffs Business Park, Phase III
- Existing Mature Trees

RISKS WHERE INFORMATION IS AVAILABLE AT FEASIBILITY STAGE HAVE BEEN TAKEN INTO ACCOUNT AND POSSIBLE REVISIONS TO THE FEASIBILITY STAGE DESIGN ARE SUBJECT TO FURTHER INFORMATION AND ASSOCIATED RISK ASSESSMENT.

| Issue No. | Date | Author | Revised | Description |
|-----------|-------|--------|---------|------------------------------------|
| 1 | 07/10 | CRC | B | OPTION 2 - BUS TRANSIT ROUTE ADDED |
| 2 | 04/10 | CRC | A | INITIAL ISSUE |



ATKINS Limited
Consulting Engineers,
The Axis
10 Holiday Street
Birmingham
West Midlands B1 1TF

Client: DFT

Project: DFT STRATEGIC STUDIES BUDGET

Sheet Size: A1
Original Scale: NTS
Design Number: 5085627/TP/PR&D/006

Author: DR
Checked: DR
Date: 08/04/10
Date: 00/00/00
Date: 00/00/00

Revision: B

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

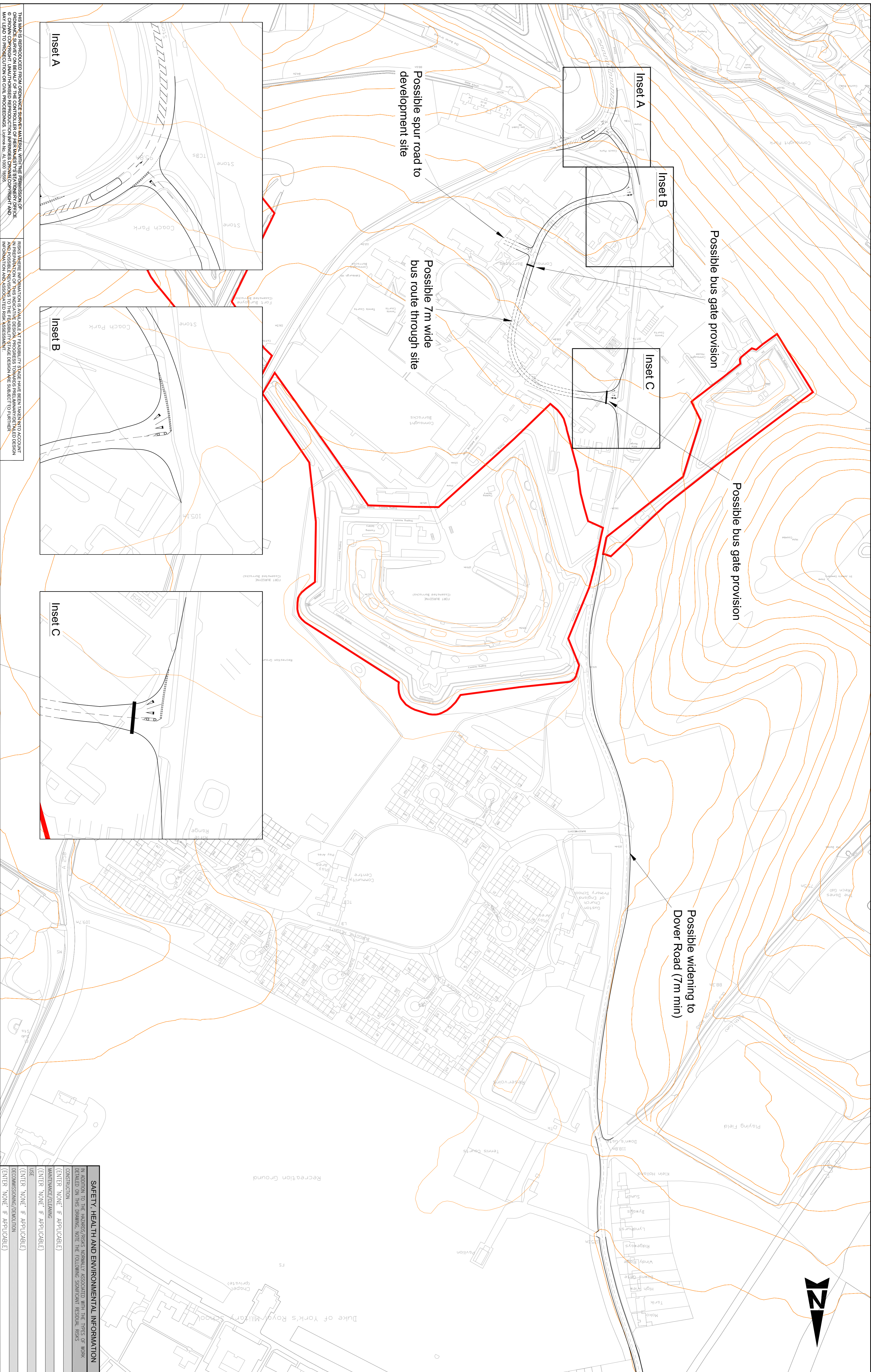
IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS

CONSTRUCTION
(ENTER NONE IF APPLICABLE)

MAINTENANCE/CLEANING
(ENTER NONE IF APPLICABLE)

USE
(ENTER NONE IF APPLICABLE)

DECOMMISSIONING/DEMOLITION
(ENTER NONE IF APPLICABLE)



Notes

1. Proposed layout based on OS base only. Design subject to change once topographical survey is available.
2. The need for amendments to term line and footway narrowing to be determined at detailed design stage and avoided if possible.

Key

- Fort Burgoyne (Scheduled Ancient Monument (SAM))

THIS MAP IS REPRODUCED FROM ORDNANCE SURVEY MATERIAL WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. ALL RIGHTS RESERVED. REPRODUCTION IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE IS PROHIBITED. Ordnance Survey Licence No. AL1000 1998.

RISKS WHERE INFORMATION IS AVAILABLE AT FEASIBILITY STAGE HAVE BEEN TAKEN INTO ACCOUNT AND POSSIBLE REVISIONS TO THE FEASIBILITY STAGE DESIGN ARE SUBJECT TO FURTHER INFORMATION AND ASSOCIATED RISK ASSESSMENT.

| Issue | Date | Author | Revised | Description |
|-------|-------|--------|---------|---|
| A | 04/10 | CRC | A | INITIAL ISSUE |
| B | 06/10 | CRC | B | EXTENT OF SAM INCLUDED, ALIGNMENT AMENDED |

| Issue | Date | Author | Revised | Description |
|-------|-------|--------|---------|---|
| A | 04/10 | CRC | A | INITIAL ISSUE |
| B | 06/10 | CRC | B | EXTENT OF SAM INCLUDED, ALIGNMENT AMENDED |

ATKINS
 Consulting Engineers,
 The Axis
 10 Holiday Street
 Birmingham
 West Midlands B1 1TF

Tel: 0121 483 5000
 Fax: 0121 483 6161
 www.atkinsglobal.com

| | |
|---------|------------------------------|
| Project | DFT STRATEGIC STUDIES BUDGET |
| Client | DFT |

| | | | | |
|------------|---------------------|--------------|----------|------------|
| Sheet Size | Original Scale | Design/Drawn | Checked | Authorised |
| A1 | NTS | DR | FE | CRC |
| Status | Drawing Number | Date | Date | Date |
| P | 5085627/TP/PR&D/007 | 08/04/10 | 08/04/10 | 08/04/10 |

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DEFINED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS

CONSTRUCTION
 (ENTER NONE IF APPLICABLE)

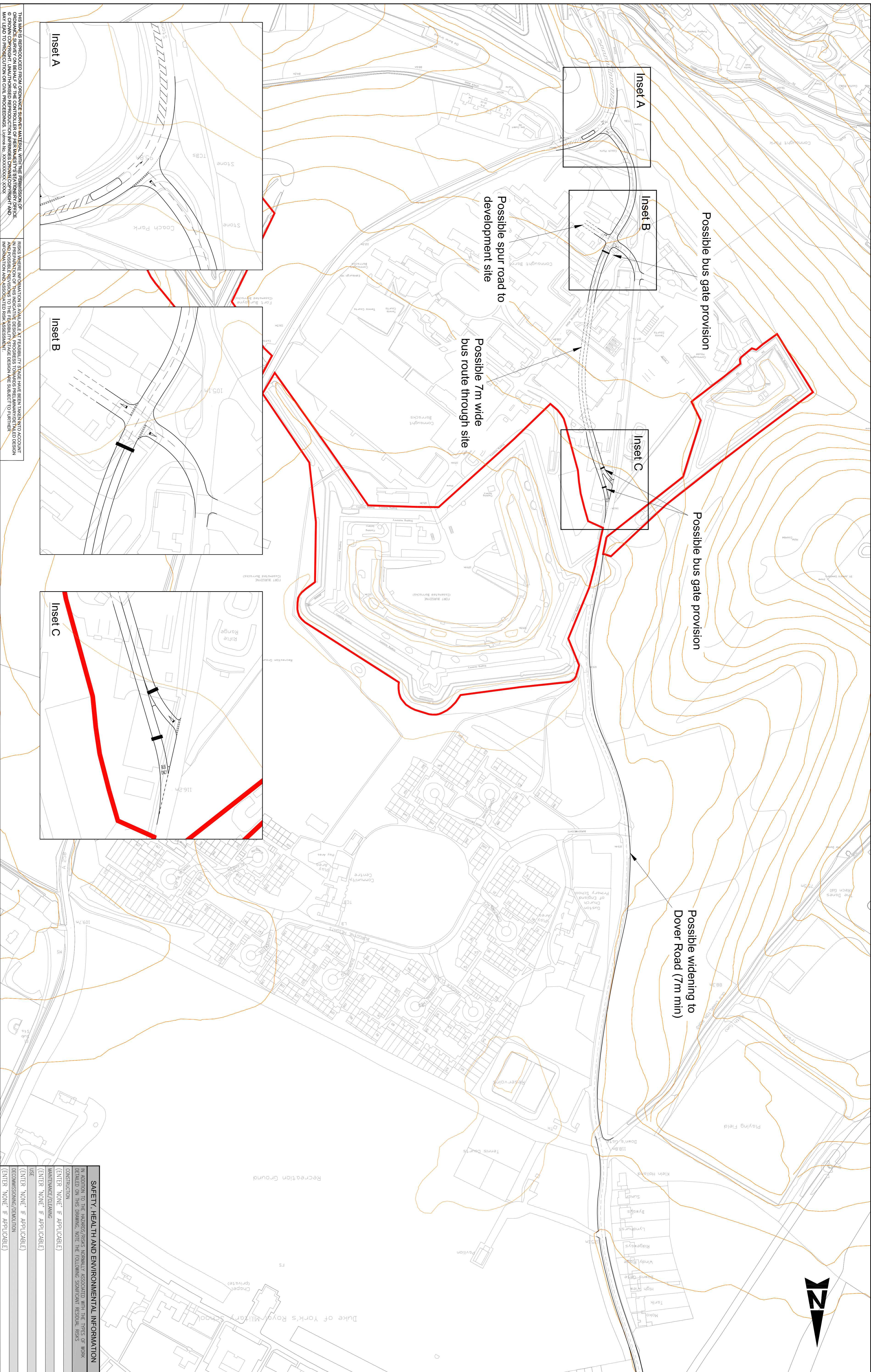
MAINTENANCE/CLEANING
 (ENTER NONE IF APPLICABLE)

USE
 (ENTER NONE IF APPLICABLE)

DECOMMISSIONING/DEMOLITION
 (ENTER NONE IF APPLICABLE)

CONNECTION TO CONNAUGHT BARRACKS DEVELOPMENT SITE: OPTION 1

P:\085627\TP\HB\Projects\PUBLIC_REALM_Dover_CAD\Current Working Drawings\5085627.TP.PR&D.008revB.dwg



Notes

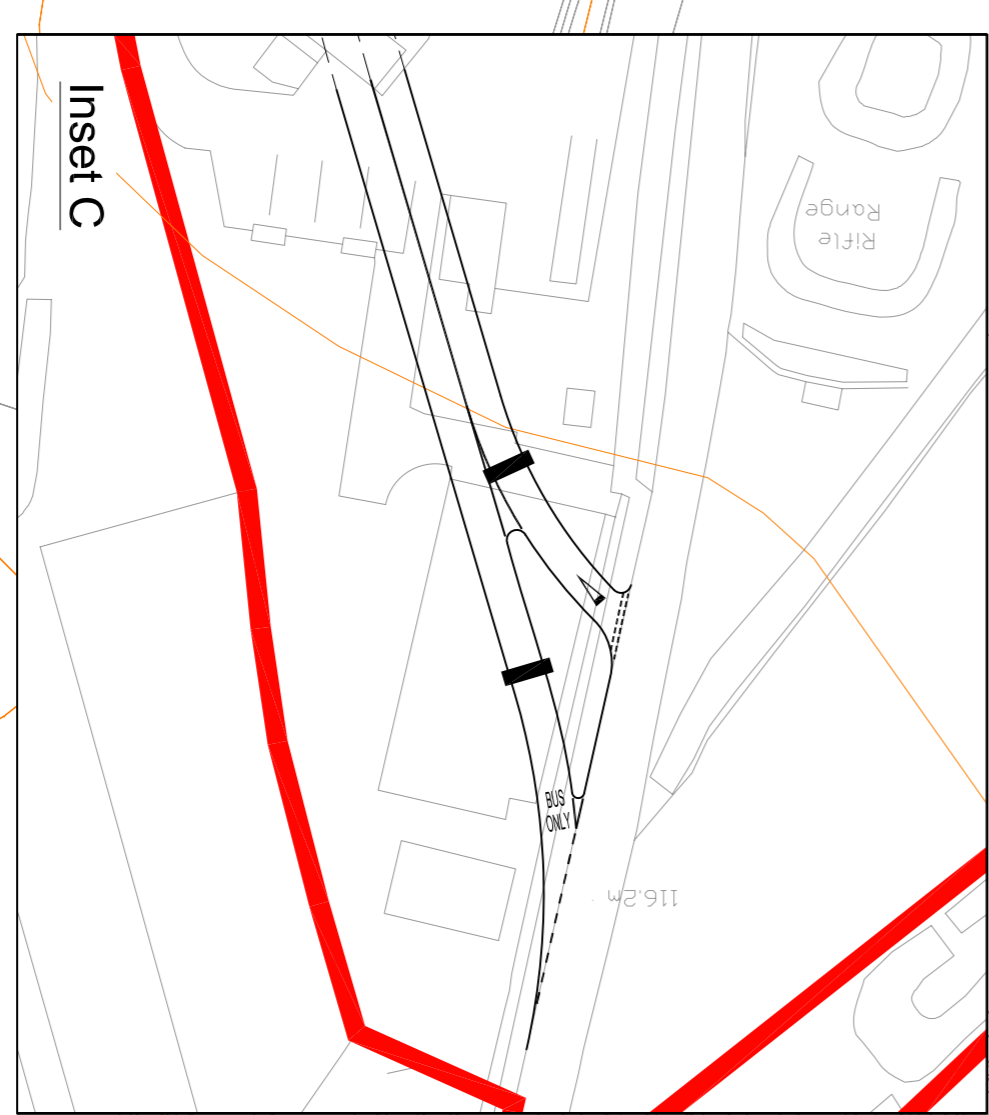
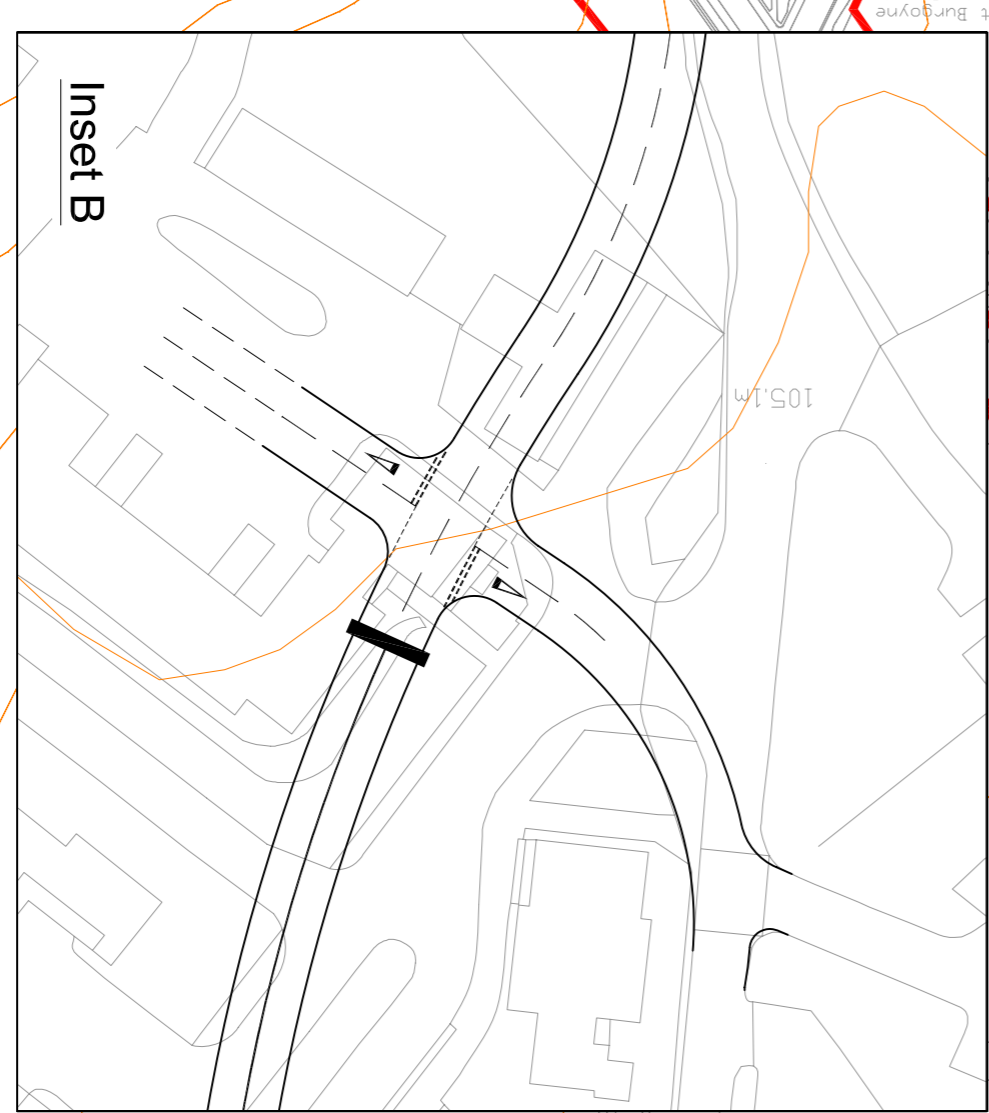
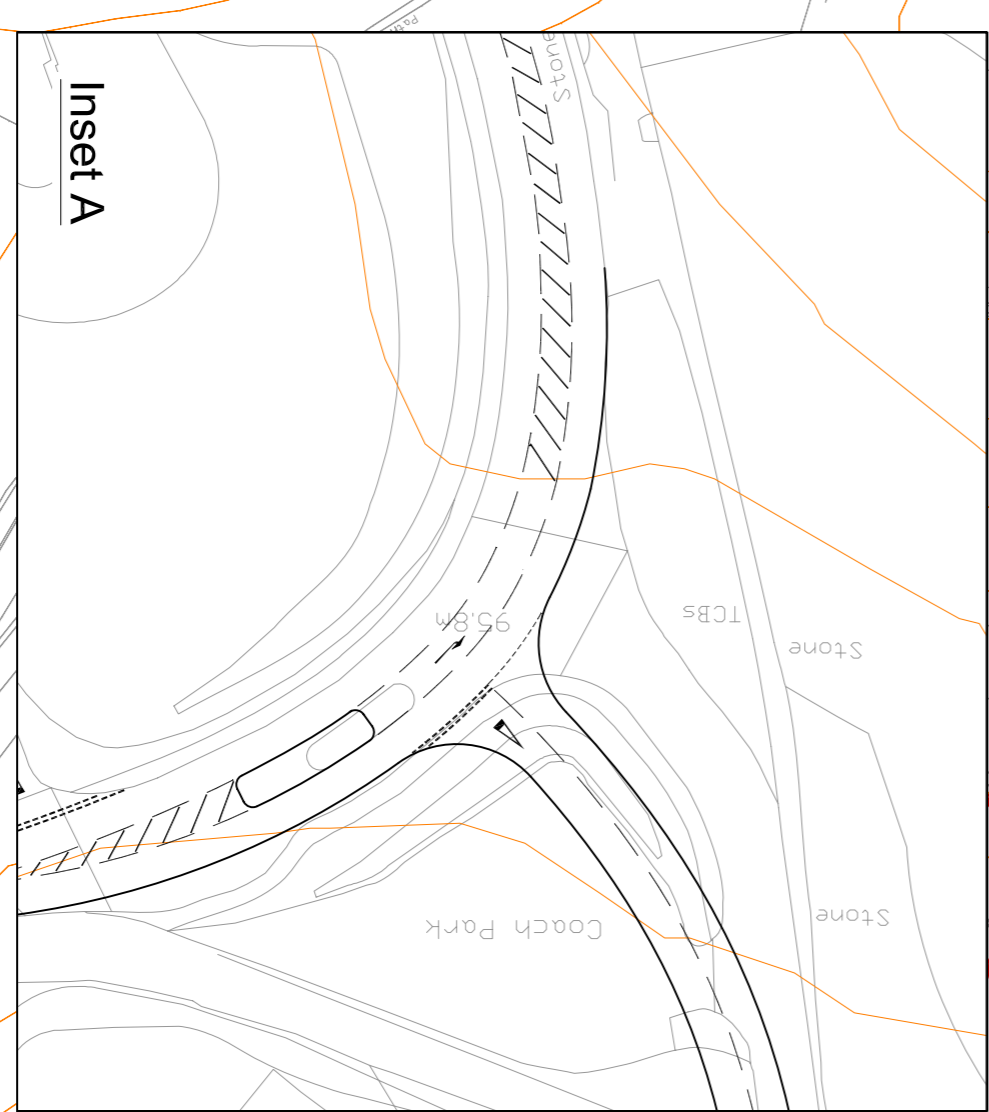
1. Proposed layout based on OS base only. Design subject to change once topographical survey is available.
2. The need for amendments to term line and footway narrowing to be determined at detailed design stage and avoided if possible.

Key

- Fort Burgoyne (Scheduled Ancient Monument (SAM))

THIS MAP IS REPRODUCED FROM ORDNANCE SURVEY MATERIAL WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. ALL RIGHTS RESERVED. REPRODUCTION IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE IS PROHIBITED. LITHO. XXXXXXXX, XXXX.

RISKS WHERE INFORMATION IS AVAILABLE AT FEASIBILITY STAGE HAVE BEEN TAKEN INTO ACCOUNT AND POSSIBLE REFERENCES TO THE FEASIBILITY STAGE DESIGN ARE SUBJECT TO FURTHER INFORMATION AND ASSOCIATED RISK ASSESSMENT.



| Issue | Date | Auth | Rev | Description |
|-------------------|-------|------|-----|---|
| B FOR INFORMATION | 06/10 | CRC | B | EXTENT OF SAM INCLUDED, ALIGNMENT AMENDED |
| A FOR INFORMATION | 04/10 | CRC | A | INITIAL ISSUE |

ATKINS
 Consulting Engineers,
 The Axis
 10 Holiday Street
 Birmingham
 West Midlands B1 1TF

Tel: 0121 483 5000
 Fax: 0121 483 6161
 www.atkinsglobal.com

| | |
|---------|------------------------------|
| Project | DFT STRATEGIC STUDIES BUDGET |
| Client | DFT |

| | | | | |
|------------|---------------------|--------------|----------|------------|
| Sheet Size | Original Scale | Design/Drawn | Checked | Authorised |
| A1 | NTS | DR | FE | CRC |
| Status | Drawing Number | Date | Date | Date |
| P | 5085627/TP/PR&D/008 | 08/04/10 | 08/04/10 | 08/04/10 |

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILLED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS

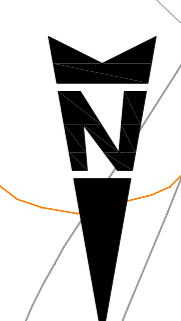
CONSTRUCTION
 (ENTER NONE IF APPLICABLE)

MAINTENANCE/CLEANING
 (ENTER NONE IF APPLICABLE)

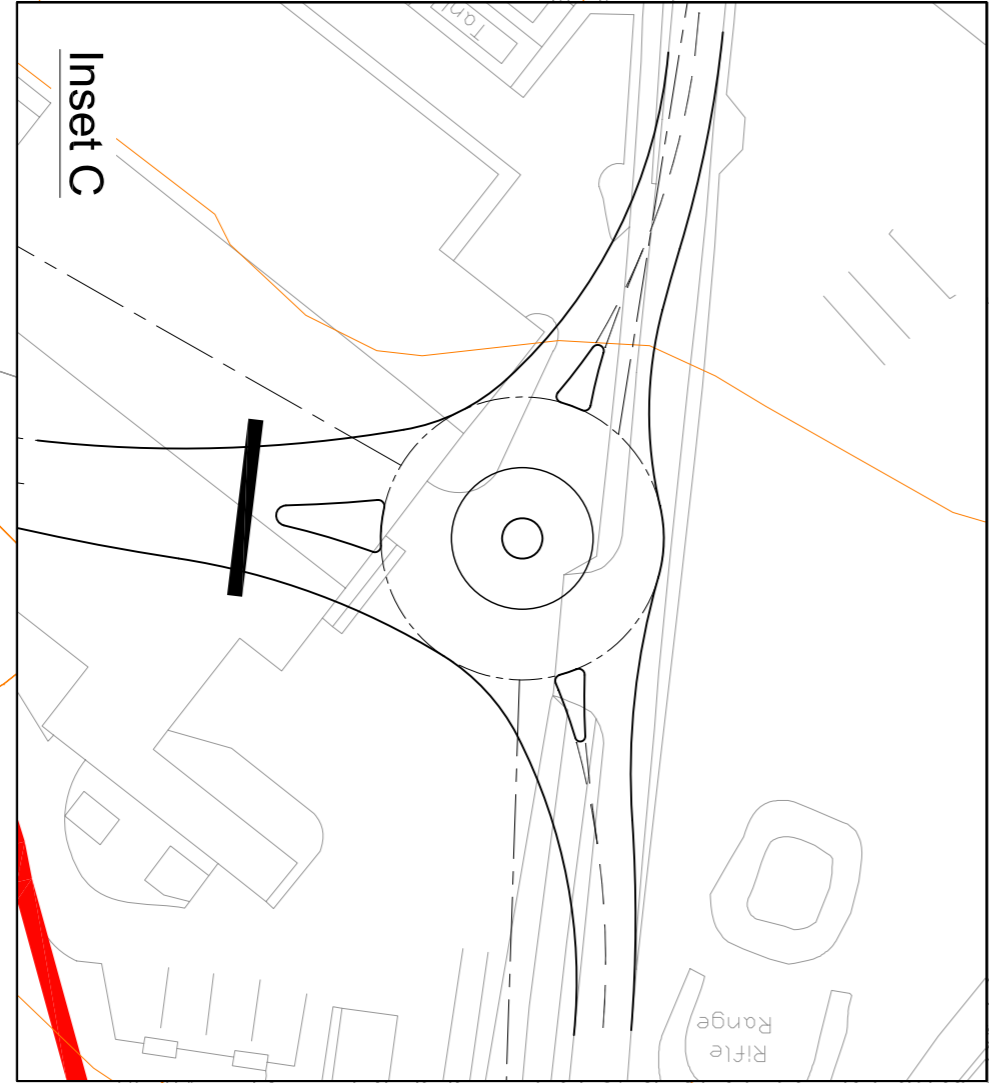
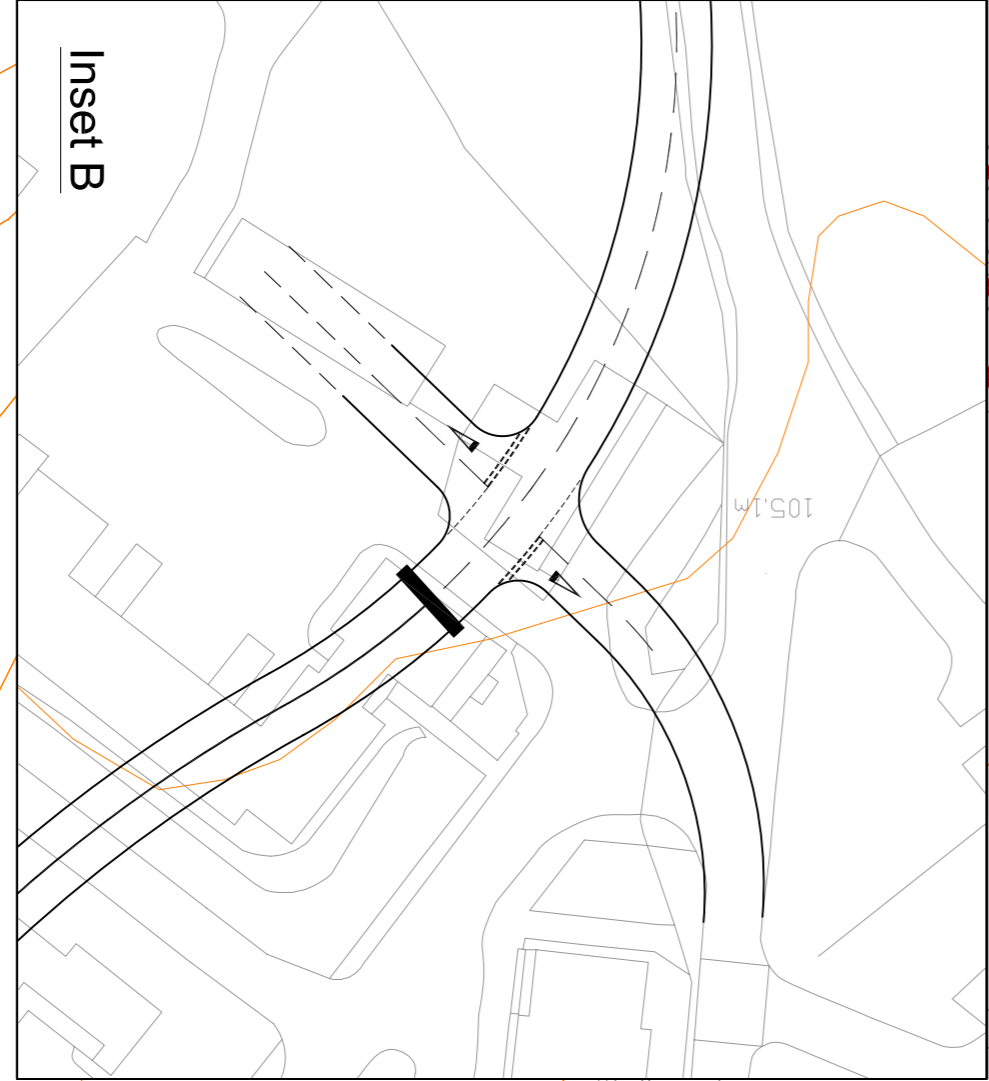
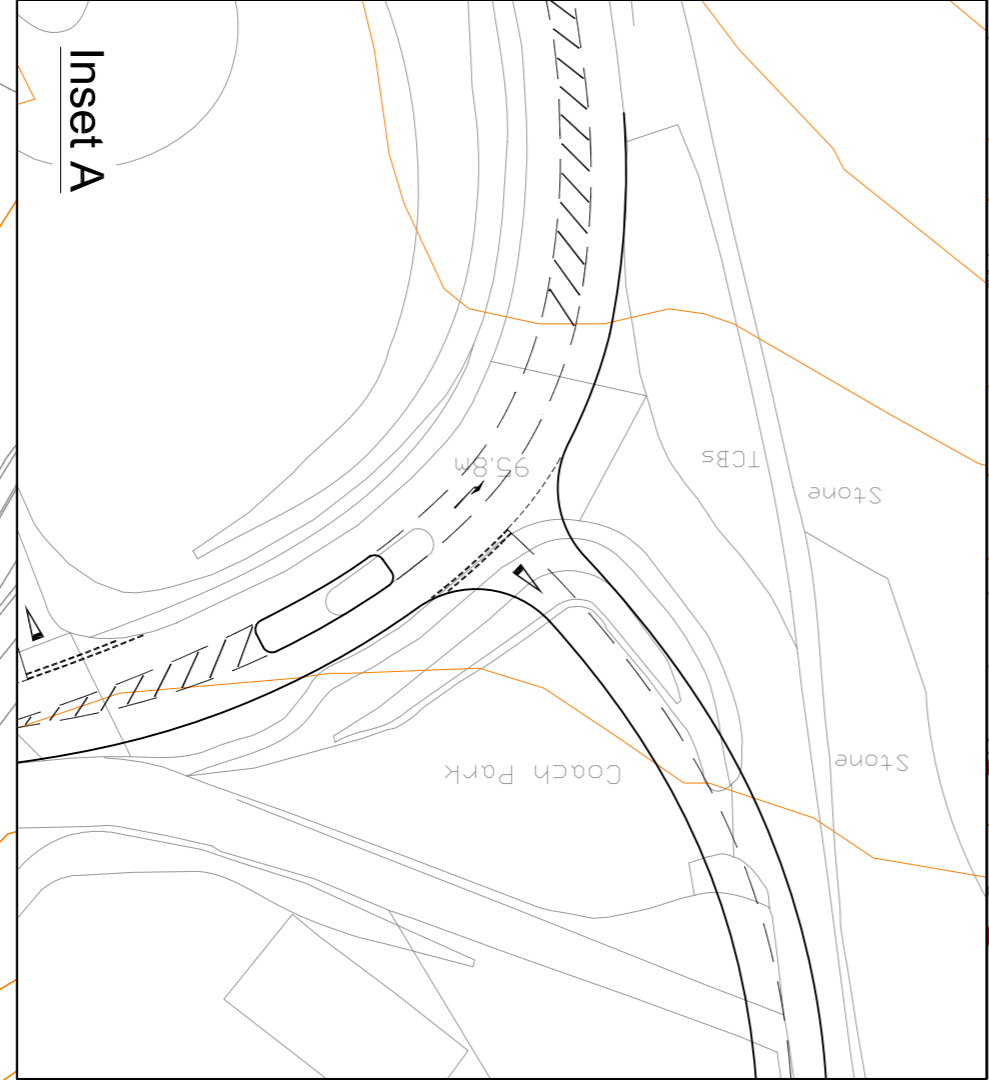
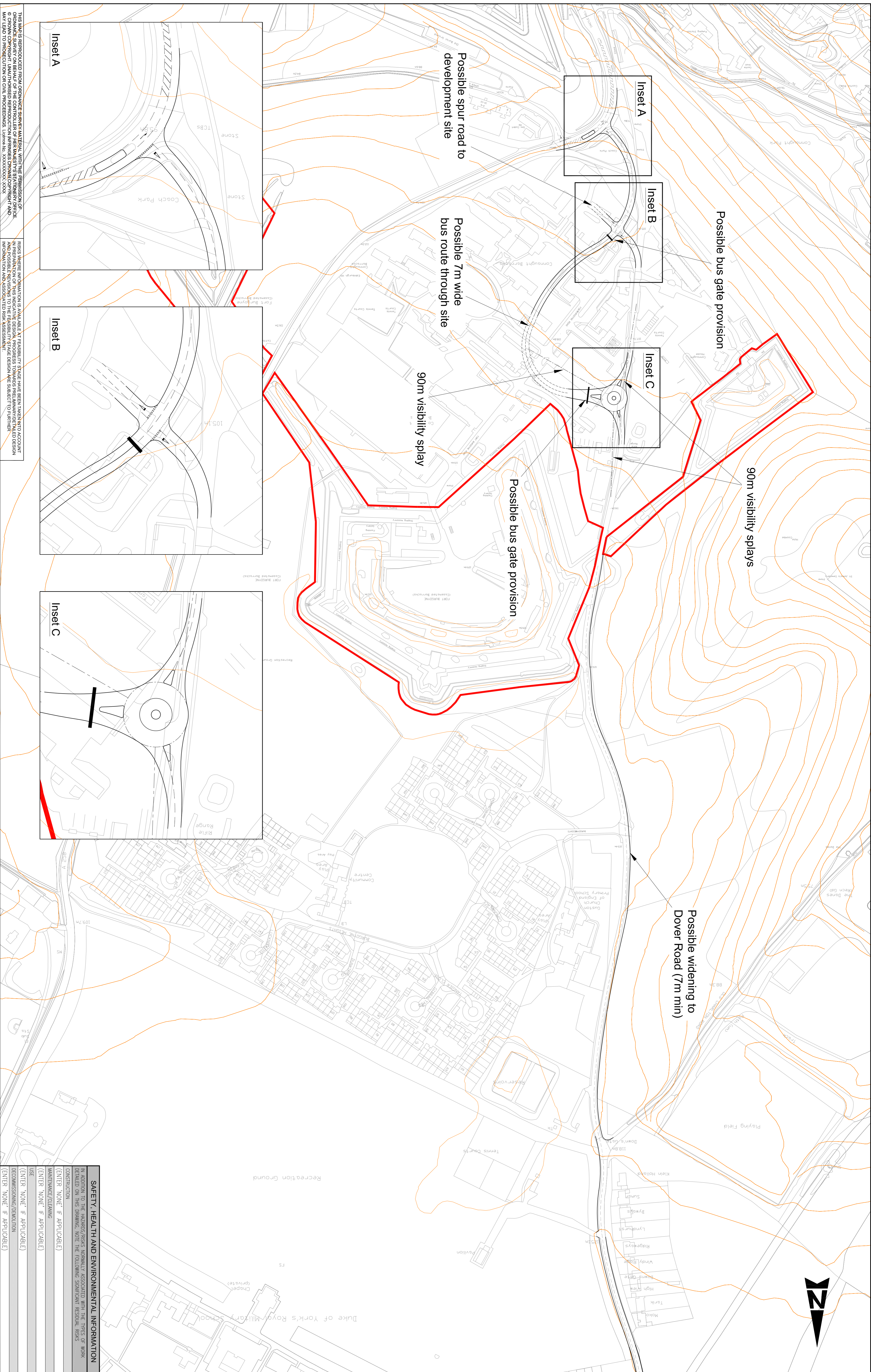
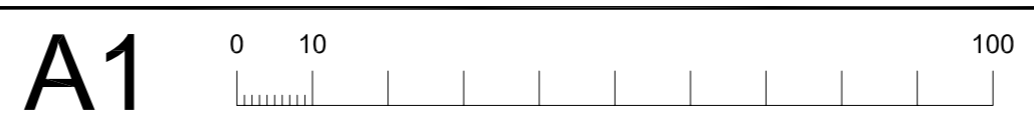
USE
 (ENTER NONE IF APPLICABLE)

DECOMMISSIONING/DEMOLITION
 (ENTER NONE IF APPLICABLE)

CONNECTION TO CONNAUGHT BARRACKS DEVELOPMENT SITE: OPTION 2



DO NOT SCALE



Notes
 1. Proposed layout based on OS base only. Design subject to change once topographical survey is available.
 2. The need for amendments to term line and footway narrowing to be determined at detailed design stage and avoided if possible.

Risks WHERE INFORMATION IS AVAILABLE A FEASIBILITY STUDY HAS BEEN TAKEN INTO ACCOUNT AND POSSIBLE REVISIONS TO THE FEASIBILITY STUDY DESIGN ARE SUBJECT TO FURTHER INFORMATION AND ASSOCIATED RISK ASSESSMENT.

THIS MAP REPRODUCED FROM ORDNANCE SURVEY MATERIAL WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. REPRODUCTION IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF THE CONTROLLER IS PROHIBITED. LITHOGRAPHED BY THE PRINTING WORKS OF THE GOVERNMENT OF GREAT BRITAIN AND IRELAND. PRINTED BY THE GOVERNMENT OF GREAT BRITAIN AND IRELAND. LITHOGRAPHED BY THE PRINTING WORKS OF THE GOVERNMENT OF GREAT BRITAIN AND IRELAND. LITHOGRAPHED BY THE PRINTING WORKS OF THE GOVERNMENT OF GREAT BRITAIN AND IRELAND.

Key
 - Fort Burgoyne (Scheduled Ancient Monument (SAM))

| Issue No. | Date | Author | Revised | Description |
|-----------|-------|--------|---------|---|
| A | 04/10 | CRC | A | INITIAL ISSUE |
| B | 06/10 | CRC | B | EXTENT OF SAM INCLUDED, ALIGNMENT AMENDED |

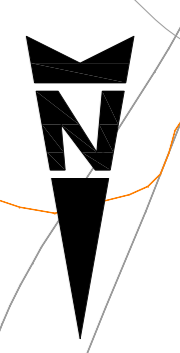
ATKINS
 Consulting Engineers,
 The Axis
 10 Holiday Street
 Birmingham
 West Midlands B1 1TF
 Tel: 0121 483 5000
 Fax: 0121 483 6161
 www.atkinsglobal.com

| | |
|---------|------------------------------|
| Project | DFT STRATEGIC STUDIES BUDGET |
| Client | DFT |

| | | | | |
|------------|---------------------|--------------|----------|------------|
| Sheet Size | Original Scale | Design/Drawn | Checked | Authorised |
| A1 | NTS | DR | FE | CRC |
| Status | Drawing Number | Date | Date | Date |
| P | 5085627/TP/PR&D/009 | 08/04/10 | 08/04/10 | 08/04/10 |

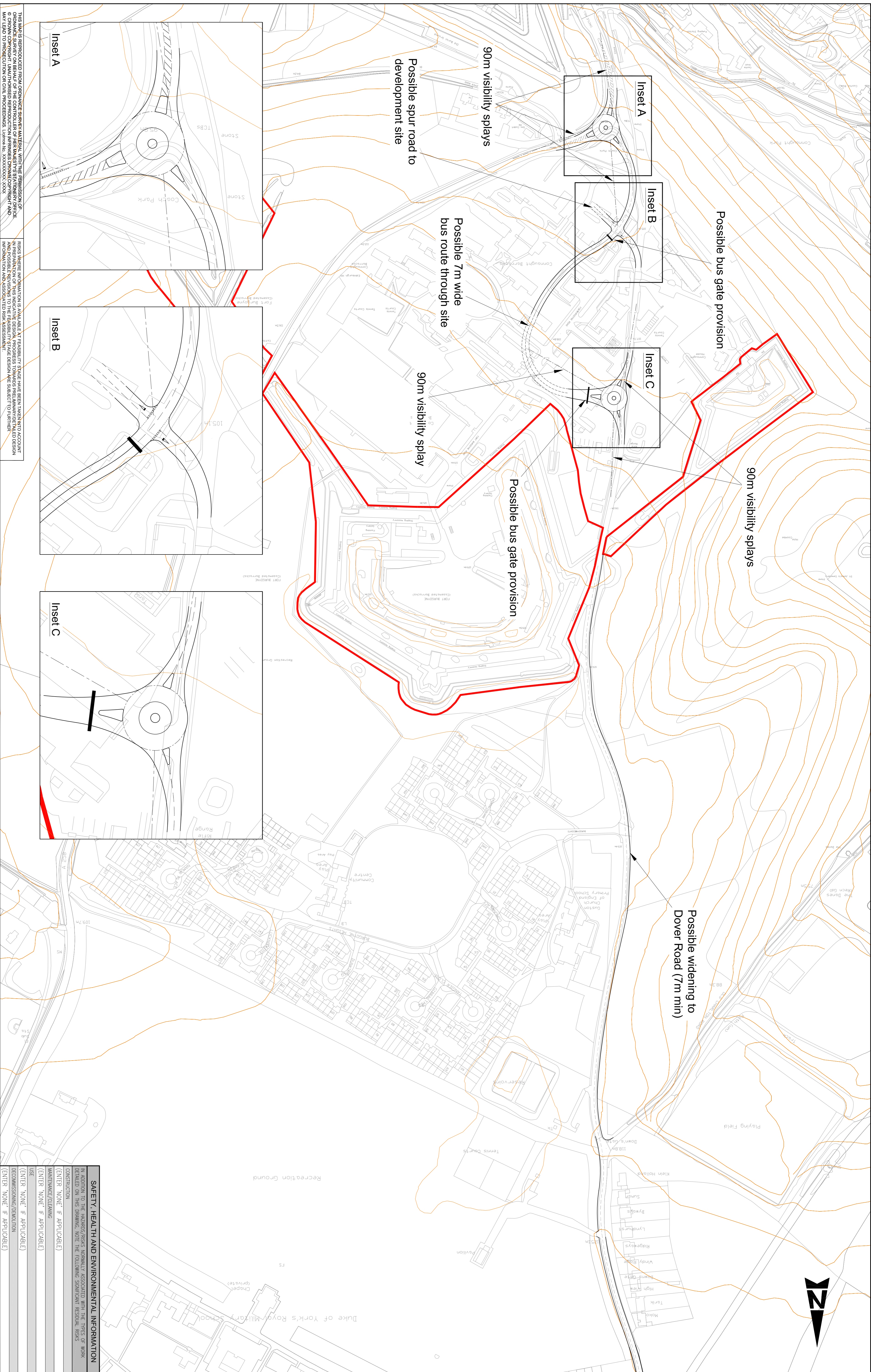
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
 IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DESCRIBED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS
 CONSTRUCTION
 (ENTER NONE IF APPLICABLE)
 MAINTENANCE/CLEANING
 (ENTER NONE IF APPLICABLE)
 USE
 (ENTER NONE IF APPLICABLE)
 DEMONSTRATION/DEMOLITION
 (ENTER NONE IF APPLICABLE)

CONNECTION TO CONNAUGHT BARRACKS DEVELOPMENT SITE: OPTION 3



P:\GBC\FA\TP\HB\Projects\PUBLIC_REALM_Dover_CAD\Current Working Drawings\5085627.TP.PR&D.009revB.dwg

DO NOT SCALE



Notes

1. Proposed layout based on OS base only. Design subject to change once topographical survey is available.
2. The need for amendments to term line and footway narrowing to be determined at detailed design stage and avoided if possible.

THIS MAP REPRODUCED FROM ORDNANCE SURVEY MATERIAL WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. ALL RIGHTS RESERVED. REPRODUCTION IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF ORDNANCE SURVEY IS PROHIBITED. LONDON: XXXXXXXX, XXXX.

RISKS WHERE INFORMATION IS AVAILABLE AT FEASIBILITY STAGE HAVE BEEN TAKEN INTO ACCOUNT AND POSSIBLE REVISIONS TO THE FEASIBILITY STAGE DESIGN ARE SUBJECT TO FURTHER INFORMATION AND ASSOCIATED RISK ASSESSMENT.

ATKINS
 Consulting Engineers,
 The Axis
 10 Holliday Street
 Birmingham
 West Midlands B1 1TF

Client: **DFT**

Project: **DFT STRATEGIC STUDIES BUDGET**

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS

CONSTRUCTION
 (ENTER NONE IF APPLICABLE)

MAINTENANCE/CLEANING
 (ENTER NONE IF APPLICABLE)

USE
 (ENTER NONE IF APPLICABLE)

DECOMMISSIONING/DEMOLITION
 (ENTER NONE IF APPLICABLE)

Key

- Fort Burgoyne (Scheduled Ancient Monument (SAM))

| Issue No. | Date | Author | Revised | Description |
|-----------|-------|--------|---------|---|
| A | 04/10 | CRC | A | INITIAL ISSUE |
| B | 06/10 | CRC | B | EXTENT OF SAM INCLUDED, ALIGNMENT AMENDED |

| Check | Date | Checked | By |
|-------|-------|---------|-----|
| DR | 04/10 | PE | CRC |
| DR | 06/10 | PE | CRC |

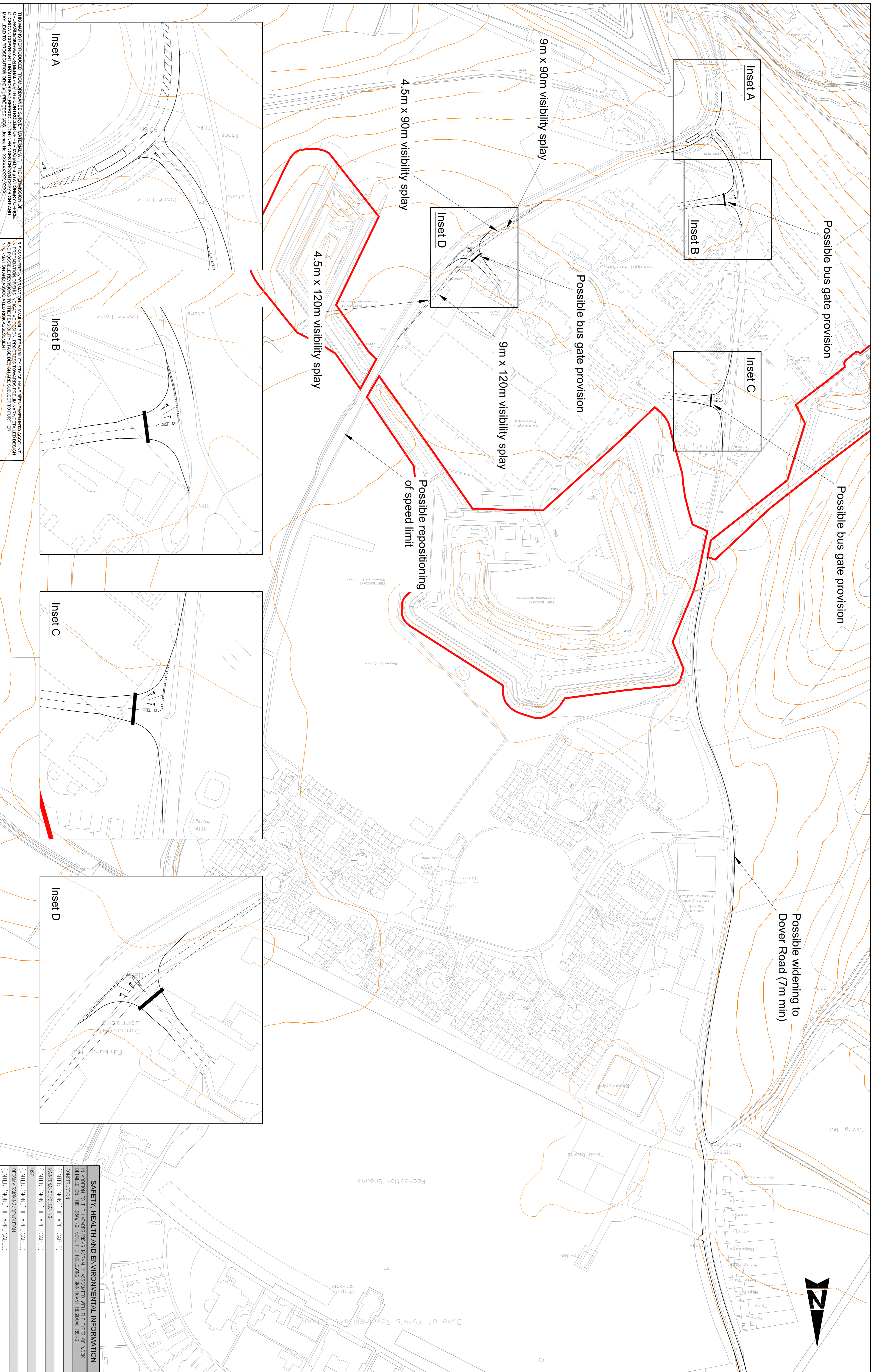
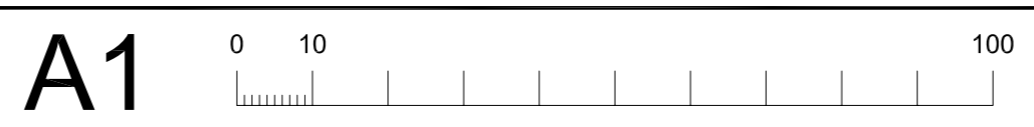
| Sheet No. | Original Scale | Design/Drawn | Checked | Author/Drawn |
|-----------|----------------|--------------|---------|--------------|
| A1 | NTS | DR | PE | CRC |

| Sheet No. | Original Scale | Design/Drawn | Checked | Author/Drawn |
|-----------|----------------|--------------|---------|--------------|
| A1 | NTS | DR | PE | CRC |

5085627/TP/PR&D/010

P:\GBC\FA\TP\HB\Projects\PUBLIC_REALM_Dover_CAD\Current Working Drawings\5085627.TP.PR&D.010revB.dwg

DO NOT SCALE



Notes
 1. Proposed layout based on OS base only. Design subject to change once topographical survey is available.
 2. The need for amendments to term line and footway narrowing to be determined at detailed design stage and avoided if possible.

THIS MAP IS REPRODUCED FROM ORDNANCE SURVEY MATERIAL WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. ANY REPRODUCTION OF THIS MAP WITHOUT THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE IS PROHIBITED. THE INFORMATION CONTAINED HEREIN IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A CONTRACT. THE INFORMATION CONTAINED HEREIN IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A CONTRACT. THE INFORMATION CONTAINED HEREIN IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE A CONTRACT.

RISKS WHERE INFORMATION IS AVAILABLE AT FEASIBILITY STAGE HAVE BEEN TAKEN INTO ACCOUNT AND POSSIBLE REVISIONS TO THE FEASIBILITY STAGE DESIGN ARE SUBJECT TO FURTHER INFORMATION AND ASSOCIATED RISK ASSESSMENT.

ATKINS
 Consulting Engineers,
 The Axis
 10 Holiday Street
 Birmingham
 West Midlands B1 1TF

DFT
 DFT STRATEGIC STUDIES BUDGET

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
 IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS:
 CONSTRUCTION
 (ENTER NONE IF APPLICABLE)
 MAINTENANCE/CLEANING
 (ENTER NONE IF APPLICABLE)
 USE
 (ENTER NONE IF APPLICABLE)
 DEMONSTRATION/DEMOLITION
 (ENTER NONE IF APPLICABLE)

Key

- Fort Burgoyne (Scheduled Ancient Monument (SAM))

| Serial | Purpose of Issue | Date | Auth | Rev | Description |
|--------|------------------|-------|------|-----|---|
| A | FOR INFORMATION | 04/10 | CRC | A | INITIAL ISSUE |
| B | FOR INFORMATION | 06/10 | CRC | B | EXTENT OF SAM INCLUDED, ALIGNMENT AMENDED |

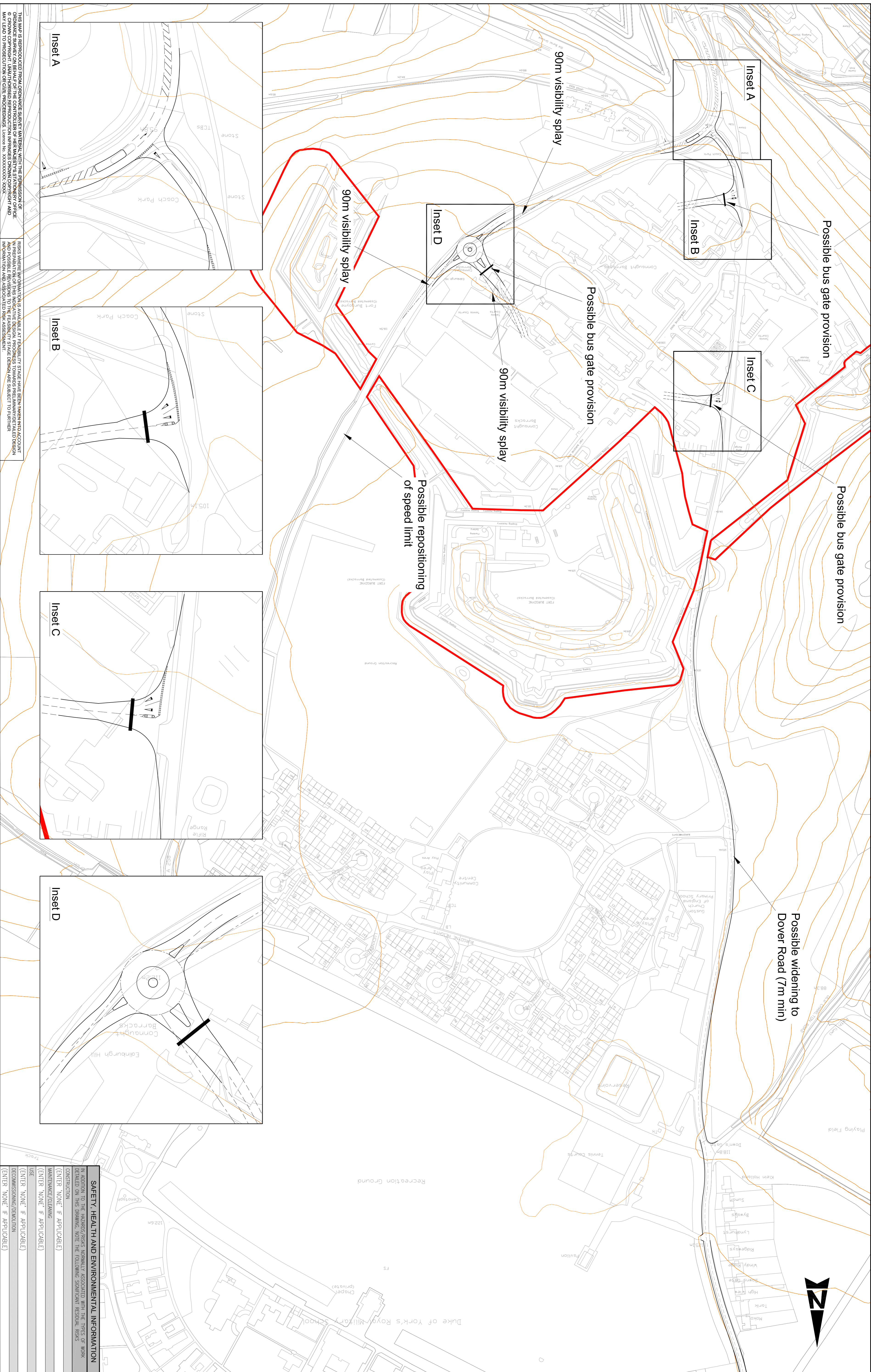
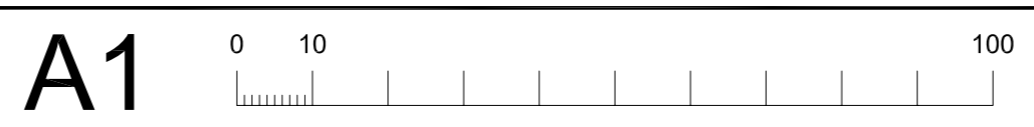
| By | Date | Checked | Auth |
|----|-------|---------|------|
| DR | 04/10 | PE | CRC |
| DR | 06/10 | PE | CRC |

| | |
|---------|------------------------------|
| Project | DFT STRATEGIC STUDIES BUDGET |
| Client | DFT |

| | | | | |
|------------|---------------------|--------------|----------|------------|
| Sheet Size | Original Scale | Design/Drawn | Checked | Authorised |
| A1 | NTS | DR | PE | CRC |
| Status | Drawing Number | Date | Date | Date |
| P | 5085627/TP/PR&D/011 | 08/04/10 | 08/04/10 | 08/04/10 |
| | | | | Rev |
| | | | | B |

P:\GBC\FA\TP\HB\Projects\PUBLIC_REALM_Dover_CAD\Current Working Drawings\5085627.TP.PR&D.011revB.dwg

DO NOT SCALE



Notes
 1. Proposed layout based on OS base only. Design subject to change once topographical survey is available.
 2. The need for amendments to term line and footway narrowing to be determined at detailed design stage and avoided if possible.

THIS MAP IS REPRODUCED FROM ORDNANCE SURVEY MATERIAL WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. ANY REPRODUCTION OR TRANSMISSION OF THIS MAP IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE, IS PROHIBITED. THE INFORMATION CONTAINED HEREIN IS PROVIDED AS IS AND WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMISSIONS AND ASSOCIATED RISK ASSESSMENT.

ATKINS
 Consulting Engineers,
 The Axis
 10 Holiday Street
 Birmingham
 West Midlands B1 1TF

DFT
 DFT STRATEGIC STUDIES BUDGET

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
 IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILLED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS:
 CONSTRUCTION
 (ENTER NONE IF APPLICABLE)
 MAINTENANCE/CLEANING
 (ENTER NONE IF APPLICABLE)
 USE
 (ENTER NONE IF APPLICABLE)
 DEMONSTRATION/DEMOLITION
 (ENTER NONE IF APPLICABLE)

Key
 - Fort Burgoyne (Scheduled Ancient Monument (SAM))

| Issue No. | Date | Author | Revised | Description |
|-----------|-------|--------|---------|---|
| A | 04/10 | CRC | A | INITIAL ISSUE |
| B | 06/10 | CRC | B | EXTENT OF SAM INCLUDED, ALIGNMENT AMENDED |

| Check | Date | By | Checked | Author |
|-------|-------|----|---------|------------|
| DR | 04/10 | PE | CRC | Birmingham |
| DR | 06/10 | PE | CRC | The Axis |

| Project | Client |
|------------------------------|--------|
| DFT STRATEGIC STUDIES BUDGET | DFT |

| Sheet Size | Original Scale | Design/Drawn | Checked | Author/Drawn |
|------------|---------------------|--------------|----------|--------------|
| A1 | NTS | DR | PE | CRC |
| Status | Design Number | Date | Date | Date |
| P | 5085627/TP/PR&D/012 | 08/04/10 | 08/04/10 | 08/04/10 |
| Rev | | | | |
| | | | | B |