A27/A270 interchange
Falmer, East Sussex

Cycling Masterplan

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in association with

Transport Planning Practice

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The Jo Walters Trust

Jo Walters died in 2010 while cycling alongside the A270. The aim of the Trust is to commemorate her life by giving grants to causes that she would approve of. The work leading to this report has been funded by a specific donation for that purpose.

Peter Mynors is an advisor to the Jo Walters Trust. He has over 45 years experience in highway design and transport planning, including having acted for Transport for London as their editor for the London Cycling Design Standards.

Transport Planning Practice (TPP) is an independent consultancy that has provided the drawing input to this document.

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1. INTRODUCTION

1.1 This note has been prepared to accompany a proposed Cycling Masterplan for the area of the A27/A270 interchange at Falmer. This Cycling Masterplan is included at the end of this document.

Background

1.2 An overview of cycle routes in Brighton and Hove can be seen on the city council's (BHCC) city-wide Cycle Map. The map is widely available and copies are given to students arriving each year at the two universities at Falmer.

1.3 In the vicinity of the A27/A270 interchange the only cycle route shown on the BHCC Cycle Map is Regional Cycle route 90, which runs along a shared path alongside the A270. There are however a number of major development projects in the area, some completed and some underway, which makes it sensible to review the overall cycle network in the area.

1.4 A meeting was held on 24 May 2011 at BHCC offices, arranged by the Jo Walters Trust, to bring together the various interested parties with a view to producing a coordinated cycling plan for the area. It was agreed that a useful first step would be to produce a consolidated base plan to show how a map of the area is likely to look when all the currently planned development is complete. Peter Mynors was asked by the Trust to arrange the production of this base plan, and on this to show proposals for the cycle network in the area taking into account comments made at the meeting.

1.5 Accordingly, copies of the relevant plans were made available by the County Council (a new County Records Office being built on Woollards Field, to be known as The Keep), by the new Falmer Stadium, and by BHCC (highway improvements to the A270, and the Brighton Aldridge Community Academy (BACA)). These have been assembled on an Ordnance Survey base by Transport Planning Practice (TPP) and this forms the base for the proposed Cycling Masterplan.

1.6 An initial version of the Cycling Masterplan was released on 2 September 2011 and circulated to those attending the 24 May meeting. The feedback received has been incorporated into this revised version. It is hoped that this Cycling Masterplan, which covers only a limited area, will act as a catalyst and that it will in due course be extended by those responsible to cover a much wider area.

2. TREATMENT OF A270 LEWES ROAD

2.1 Before the cycle network is described, it is necessary to consider first how cyclists will in future travel along the A270 between the city centre and Falmer.

2.2 At present, there are on-road cycle lanes in each direction between Coldean Lane (the western end of the area covered by this Cycling Masterplan) and the Vogue Gyratory (about 4km further west towards the city centre). To the east of Coldean Lane, the only provision for cyclists on the A270 is the shared use footway on the north side.

2.3 A key suggestion arising from the meeting on 24 May was that this on-road cycle provision on the A270 should be upgraded and extended further to the east. A check on traffic flows showed that in principle this should be possible, now that the A27 Brighton bypass has opened and removed long distance traffic from the area. Between junctions, the flows on the A270 are no longer such as to require two lanes in each direction for general traffic. In 2007 the two-way weekday peak hour flow on the A270 northeast of Coldean Lane was slightly under 1600.

2.4 The City Council, through its Local Sustainable Transport Fund (LSTF) project, is currently considering a number of proposals for improvements to Lewes Road, including converting the inner (left hand) lane of the A270 in each direction into a wide bus/cycle lane. Within these wide lanes, cycle lanes would be provided where the width is sufficient (4.5m or more). Elsewhere, cyclists would share the inner lane with buses. Plans for Lewes Road are expected to be the subject of more detailed public consultation in 2012, following the initial consultations that have been undertaken in November / December 2011.

2.5 This possible bus/cycle proposal fits well with all the other cycle routes in the Falmer area included in the initial version of the Cycling Masterplan. The Trust has therefore agreed to support this idea, and the current version of the plan has been drawn on the assumption that it will be adopted. Indeed in its present form, the Cycling Masterplan is dependent on this. It is assumed that in the eastbound direction the new bus lane will extend at least as far east as the junction with Stony Mere Way, and preferably as far as the A270 merge onto the A27. In the westbound direction, the bus lane would commence shortly before the Coldean Lane junction, alongside the site of the new Keep. The practicability of this has been investigated in sufficient detail to check that it is feasible.

2.6 Even where it is not possible to provide a separate cycle lane, these new bus lanes would provide a major improvement for cyclists. At present drivers tend to stick to the left hand lane, thus coming uncomfortably close to cyclists, and leaving the right hand lane relatively empty. With the bus lanes, cyclists will only have to share the inner lane with slightly over 30 buses per hour in each direction, albeit that these buses carry more than 35,000 passengers per day.

3. PROPOSED CYCLING NETWORK

3.1 The proposed network is shown on plan 30419/001AC/C at the end of this document.

3.2 The network is described using a node numbering system, rather than by the traditional method of numbering individual routes. The node numbering system is now well established throughout the Netherlands and parts of Belgium as the Knooppunten system. A description of this is attached as an appendix to this note.

3.3 The Knooppunten system has obvious applications for the UK, and cities such as Brighton who take cycling seriously would be well advised to consider adopting such a system on the ground. The system is used in addition to, not instead of, conventional signing and numbering of individual longer distance routes (similar to Sustrans routes in the UK). At this stage however the system is just being used in this note to facilitate the description of the various links in the network.

3.4 Each node has been allocated an arbitrary two-digit reference number for identification purposes. At the edges of the plan area, reference numbers whose first digit is an 8 or 9 have been used where the network joins into the city-wide cycle network on the BHCC Cycle Map.

Link	*Description/comment*
81 - 01	This mandatory with-flow cycle lane along the A270 already provides a reasonable route out of the city for eastbound cyclists. Assuming the BHCC bus lane option is adopted (see previous chapter) the left hand lane would become a bus lane within which a cycle lane will be marked wherever the width permits (≥4.5m). Cycle lanes would be provided along the vast majority of Lewes Road with a minimum width of 1.5m, and in some cases around 2 metres. Current widths are around 1.2 metres so this would be a significant improvement.
91 - 01	This 2-way shared use path is suitable for cyclists who do not wish to use the cycle lanes on the A270, including less experienced cyclists.
01 – 08 (footway)	This path currently operates as a shared path for 2-way cycling as well as pedestrians. With the increased volume of cyclists now using the route it is too narrow for this purpose, and it is proposed that cyclists should instead use the left hand lane of the main carriageway, which between junctions will become a bus/cycle lane. Cycling will however continue to be permitted on the footway, as with link 91 - 01, and this will also cater for cycle movements from Stony Mere Way to Coldean Lane. Resurfacing will be required in any event.

01 – 08 (on road)	If the bus/cycle lane option is taken forward by BHCC the left hand lane between junctions will become an eastbound bus lane shared with cyclists.
08 – 09 (eastbound)	The footway alongside the A270 currently operates as a shared path for 2-way cycling as well as pedestrians. As with link 01 - 08 it is now too narrow for this purpose, and it is proposed that for the time being it should be signed for use by cyclists only in the eastbound direction. Many eastbound cyclists do in fact already use the adjacent 20mph road Stony Mere Way, but concerns have been expressed that if significant numbers of slower cyclists used Stony Mere Way in the uphill direction, this could cause difficulties for buses entering Sussex University by this route because of the limited carriageway width. However a better arrangement, subject to Highways Agency agreement, would be for the new eastbound bus/cycle lane on the left hand lane of the A270 to be extended up as far as the point where the A270 merges onto the A27. Beyond the merge point, link 08 – 09 is away from the edge of the A270/A27 carriageway and continues alongside the much quieter Stony Mere Way. A properly designed cycle exit from the bus/cycle lane will be required at the point where eastbound cyclists join the shared path. 
09 – 10	This path currently operates as a shared path for 2-way cycling as well as pedestrians. It is just adequate for this purpose, provided that the verges are kept well maintained so that the full width of the path is available at all times. An alternative route now exists in both directions to and from the university along Stony Mere Way.
10 - 94	This existing route forms part of Regional Cycle Route 90.
09 – 08 (westbound)	Westbound cyclists should be signed to use Stony Mere Way, which in this direction is downhill and does not carry scheduled buses. Kerb adjustments will be required at node 09 where westbound cyclists arrive on the previous link, from node 10.
08 - 20	Cyclists arriving at node 08 from Stony Mere Way should be signed to continue under the new flyover to node 20, where they can turn right onto the slip road leading to the westbound A270.
20 - 02	A new on-road cycle lane needs to be provided on the slip road leading to the A270, as far as the start of the possible new bus/cycle lane. A drawing showing how this might be achieved is attached at the end of this document (30419/002AC). Traffic speeds on the westbound A270 will need to be reduced to 30mph by the end of the flyover, before the more urban road layout commences.
02 - 82	This mandatory with-flow cycle lane along the A270 already provides a reasonable route into the city for westbound cyclists. Assuming the BHCC bus lane option is adopted (see previous chapter) the left hand

	lane would become a bus lane within which a cycle lane will be marked wherever the width permits (≥4.5m). Cycle lanes would be provided along the vast majority of Lewes Road with a minimum width of 1.5m, and in some cases around 2 metres. Current widths are around 1.2 metres so this would be a significant improvement.
20 – 06	This is a new route made possible by the recently revised road layout here. It will form part of a northbound route from the city centre to Brighton University, BACA and the Stadium via 01 – 08 – 20 - 06 – 07, and in the reverse direction via 07 – 06 – 20 – 02 - 82. Cycle markings would need to be provided through the signalled junction at nodes 08 and 20, with appropriate signing.
06 – 07	This link uses the existing arch beneath the railway, and connects the A270 Lewes Road and Woollards Field with Falmer Stadium, Brighton University, BACA and the railway station.
07 – 13 13 - 12	A wide path has already been built here by the stadium and is suitable for use as a shared cycle/pedestrian route. At node 07 a ramp for cyclists is needed to avoid them having to negotiate the steps, and is scheduled to be built in February 2012 when the contractor has vacated the BACA site.
10 - 12	This link provides a connection between Sussex University and the other side of the railway.
12 - 15	This link provides a connection through the Falmer Stadium site, including access to the cycle parking for the stadium.
13 – 14 14 - 15	These links already provide access into Brighton University. To the southeast of the stadium, a shared footway on the south side of link 14 – 15 is available for cyclists although at off-peak times most cyclists will prefer to use the main carriageway.
15 - 16	Along this link shared use of the footway on the south side of the road is currently permitted, but dropped kerbs are needed at both nodes 15 and 16 to facilitate cycle movements. This could usefully be done at the same time as link 16 – 95 is upgraded, assuming this happens in due course.
06 - 04	This link will be built as part of the Woollards Field development, and will provide access to and through it.
07 - 05	This link will provide an alternative to links 20 – 02 and 06 – 04 until the latter are provided, and connects to the existing cycle network (05 – 93).
05 – 04 04 - 03	These links are already included on the City Cycle Map.
03 - 02	This largely traffic-free route is already used by some cyclists between the south end of Woollards Field and Lewes Road (node 02). Its use should be formalised, with suitable kerb adjustments at node 03 and signing.

3.5 The suggested off-road links are generally two-way, but in one instance (08 – 09) it is suggested that the off-road route be used only by eastbound cyclists. Whilst in general it is preferable for off-road cycle links to be two-way, in this instance the one-way regime should be largely self-enforcing provided that the kerb geometry at node 09 is laid out to direct westbound cyclists onto Stony Mere Way. This will be particularly important given that the shared use footway alongside the A270 has in the past been used as a two-way link by cyclists.

4. NEXT STEPS

4.1 The first action required is for all the relevant parties to consider the proposed Cycling Masterplan and confirm whether they are able to support this in principle, or if not what adjustments they suggest. All stakeholders in the area (the two Universities, Falmer Stadium, The Keep, BACA, Highways Agency and of course BHCC) will need to reach a consensus and work together in order to realise these improvements.

4.2 Implementation of the proposed cycle route network will be the responsibility of BHCC, who will need to lead ongoing work including ascertaining any land ownership/right of way rights that need to be addressed.

4.3 Much of the network is already in place. A number of minor local issues such as kerb adjustments are set out in the table at paragraph 3.4 and will need to be dealt with. These will need to be included in BHCC's works programme.

4.4 A major additional source of funding for the area has recently been secured via the BHCC Local Sustainable Transport Fund (LSTF) bid, which has been successful in spite of some very strong competition. This funding has a stronger emphasis on revenue funding than on capital funding, and contributions from other sources will continue to be needed to achieve all that is required.

4.5 Under the LSTF funding, BHCC have been awarded just over £4million from the Department for Transport (DfT). This will rise to £6million when local contributions from funding partners are taken into account. The funding is profiled over the next 4 years and will be used to deliver a range of infrastructure and smarter choices measures designed to help people travel more sustainably in the Lewes Road corridor area. The works described in this document fall squarely within that description. Elements of the LSTF which are relevant include:

- TI1 - Links to South Downs National Park
- TI2 – Traffic Signals Review and Upgrade
- SC2 - Travel Planning (Universities)
- SC1 – Personalised Travel Planning

4.6 An important component of this Cycling Masterplan is the possible conversion of the inner lanes of the A270 in each direction to bus/cycle lanes. This would bring great benefits to cyclists as well as providing bus passengers greater certainty of

travel time, without unduly affecting other traffic. Now that the A27 Brighton bypass has been open for some years, this reallocation of road space makes good sense and has the Trust's full support. It is hoped that it will be supported by all the relevant parties.

4.7 Looking more widely to the city as a whole, it would be sensible for the Knooppunten system to be investigated to see if this could usefully be adopted on a city-wide basis in Brighton and Hove. It has proved very successful in Holland and Belgium and seems a useful way to assist cyclists at relatively low cost. In the present context, the "Knooppunten" network around the A27/A270 interchange would probably be coarser than the one shown on the Cycling Masterplan, with only longer-distance cycle routes signed this way. The more local links would be signed using conventional finger-post signs as at present.

Node-based signing for cycle routes (Knooppunten)

Note arising from visit to Germany and Holland in June 2011 by Peter Mynors

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1. Northern Europe is fortunate in having a large number of cycle routes, many of which are traffic-free.

2. These have traditionally been signposted by conventional sign plates or "finger" signposts, which also give the route name or number where applicable. For example cycle route (Radweg) number 2 will have "R2" on the signs, and small repeater R2 signs along the route.

3. This works well for long-distance routes covering many kilometres, but less well for local networks within urban areas where the signed destination may cover several square kilometres.

4. A similar situation exists in London. There are a few numbered cycle routes that are signed, but generally each link in the cycle network caters for such a diverse combination of origins and destinations that a coherent system of route numbering is difficult to devise. London Cycling Design Standards stated in 2005 that:

   *"**6.6.14***
   Cycle route numbering system is to be reviewed by TfL. Once this review is complete and numbers have been allocated to routes, the route numbers can be added to signs as appropriate and, subject to the necessary approvals, be incorporated in road markings."

   but this review appears not to have been carried through.

5. The Netherlands have now introduced a node-based signing system, as described below. In developed areas this works much better than simply numbering particular routes. The principle would seem directly applicable to London and indeed other cities in the UK. London already has an established series of cycle maps, to which the necessary node numbers could be added at the next reprint.

6. Each node on the primary cycle route network has been allocated a number, which is shown on the map. These are not the only cycle routes – there are many others which are signed with conventional finger posts.

7. An overview (in Dutch) can be found at http://www.vvvfietsrouteplanner.nl/ Even if you don't understand the language, you can use this website to double-click onto an area of the map to enlarge it and see the nodes. The maps can be purchased as paper copies – 20 sheets at 1:50,000 scale cover the whole of the country.

8. On the ground, at each node a copy of the relevant area of the map is displayed on a signboard, which also gives the number of the node. Nearby, signs are provided pointing the directions to the adjacent nodes on the network.

9. If it is not obvious where the map will be displayed (for example at a staggered T-junction) then an additional sign points to where the panel can be found – see picture below.

10. Between nodes, repeater signs show the way wherever it is not obvious where the route goes. Note that the sign in one direction will be pointing to a different node number from that of the sign in the other direction (see right angled bend example in picture to right). This contrasts with conventional route numbering where the same route number is used in both directions, so a cyclist who is completely lost may go the wrong way by 180°.

11. The repeater signs are often attached to lamposts and may be quite small. In some places they have been added to conventional finger signs. In the example to the left, only one of the directions has been signed as leading to a node – the others are just local cycle routes.

12. To assist planning an unfamiliar route, a device is available (free from vvv tourist offices) which can be attached to a cycle's handlebars. A series of node numbers can be pencilled into the circles, after which the map can be packed away and the journey can be made simply by following the node numbers in the pre-planned order. This can be especially useful in wet or windy weather.

13. This numbering system is now well-established in Holland and parts of Belgium, and works well. For London, it would seem worthwhile to consider a similar scheme for routes shown on the London Cycle Guides. This could initially be done as a pilot scheme for one sheet, and then followed through to other sheets assuming it is successful. Other UK cities that have established cycle networks would also benefit from adopting the system.

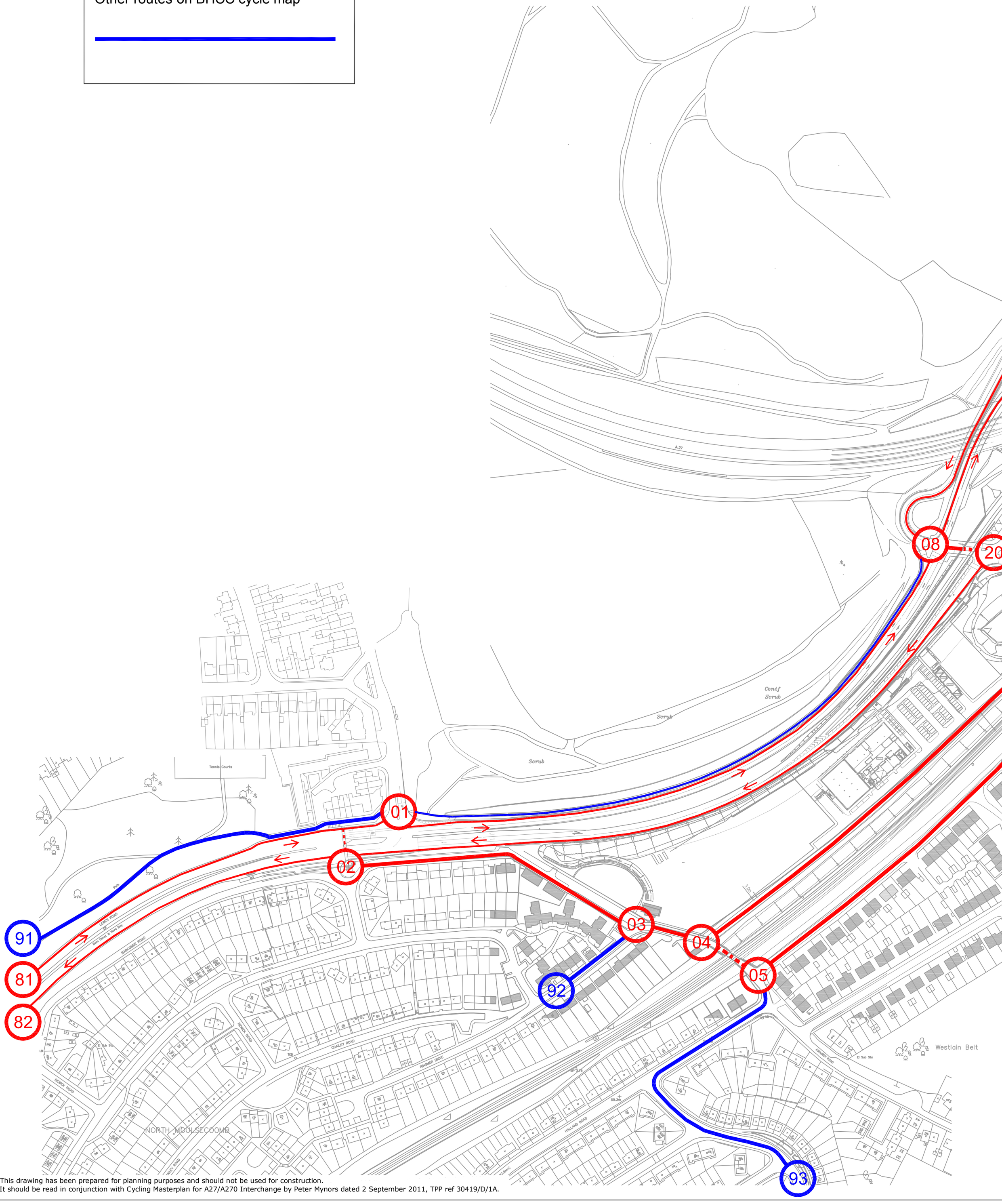
KEY:

Proposed long-term cycle network

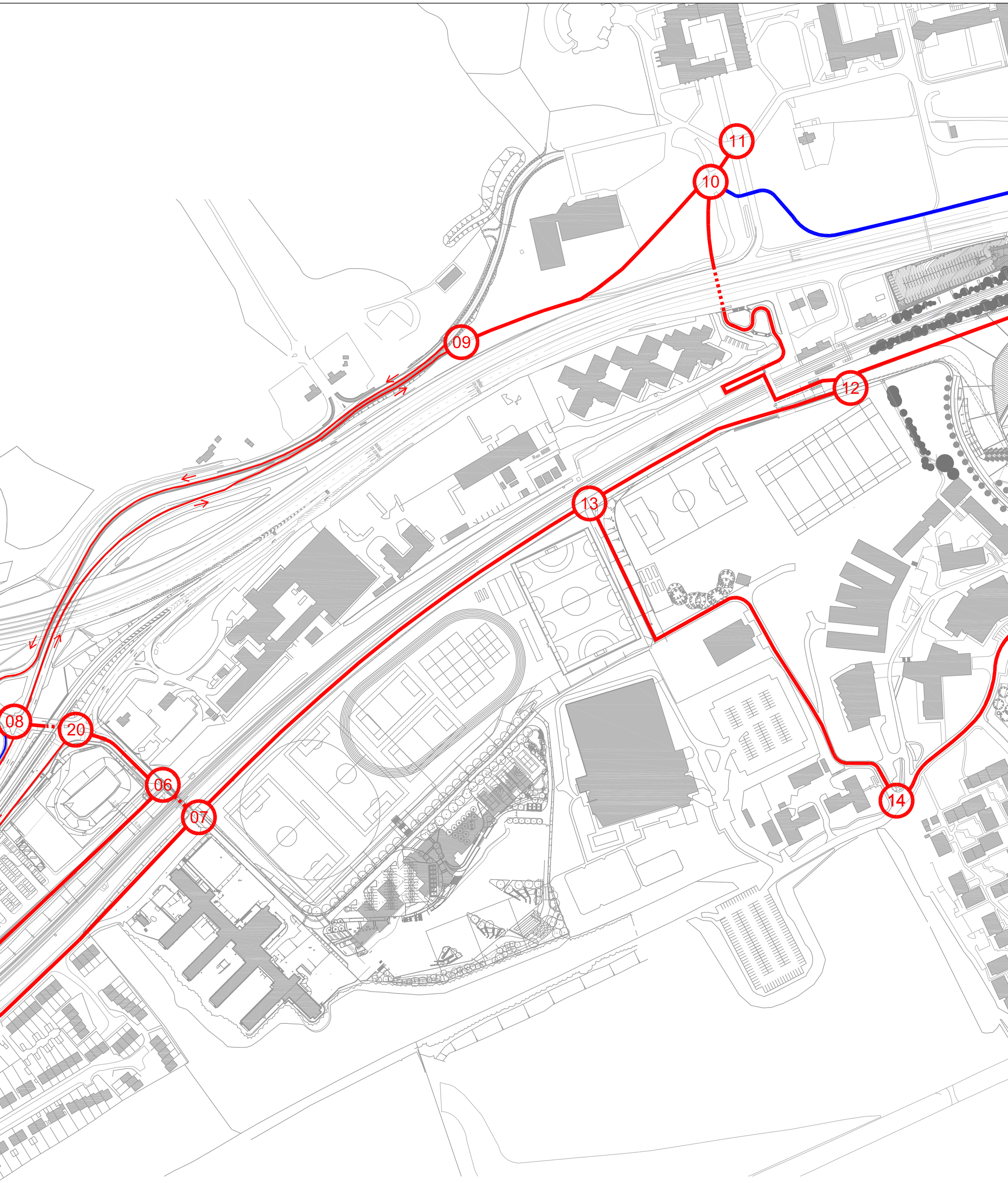
88

One-way Node Two-way

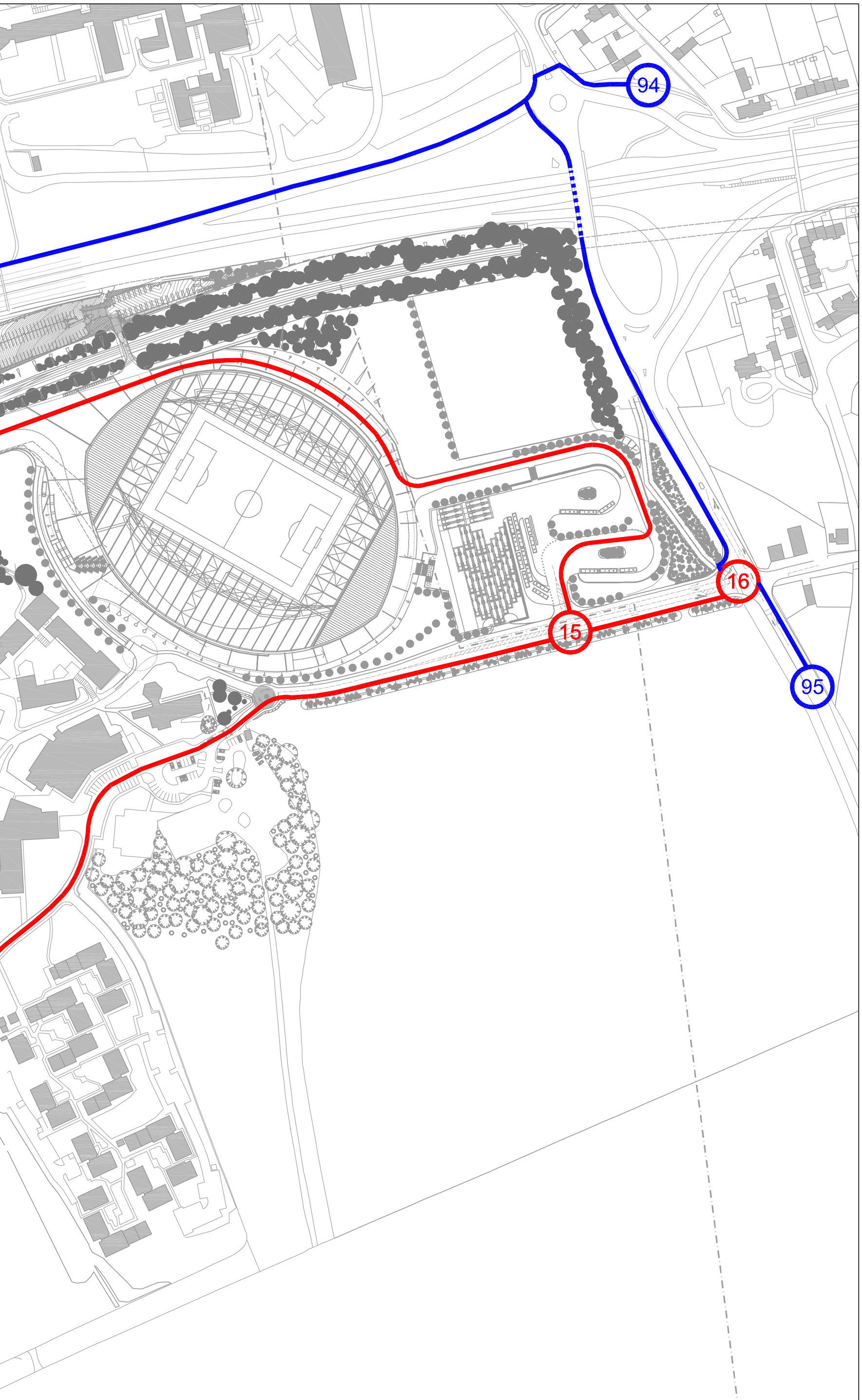
Other routes on BHCC cycle map



This drawing has been prepared for planning purposes and should not be used for construction.
It should be read in conjunction with Cycling Masterplan for A27/A270 Interchange by Peter Mynors dated 2 September 2011, TPP ref 30419/D/1A.



Westlain Belt



REV	COMMENTS	DR	CH	DATE
-	Draft			08/08/11
-	Final for issue			02/09/11
A	Links 07-05, 13-14-15-16-95, 12-15			18/10/11
B	Links 01-08-09, 08-20-06, 20-02			10/11/11
C	Links 01-08			10/11/11

NOTES

This drawing has been compiled from the following sources:
Amey drawing 00262859/520001 (TPP ref: 30419/IN/01)
EDCO Design drawing C375-L-S-000-L 101 P10 (TPP ref: 30419/IN/02)
KSS drawing 05099 474 B (TPP ref: 30419/IN/03)
The Keep- Site plan PL06 (TPP ref: 30419/IN/04)

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APM

CHECKED
PLBM

SCALE @ A0 width 1:2000
0 20 40 80m

DATE
08/08/11

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A27/A270 interchange. Cycle route masterplan

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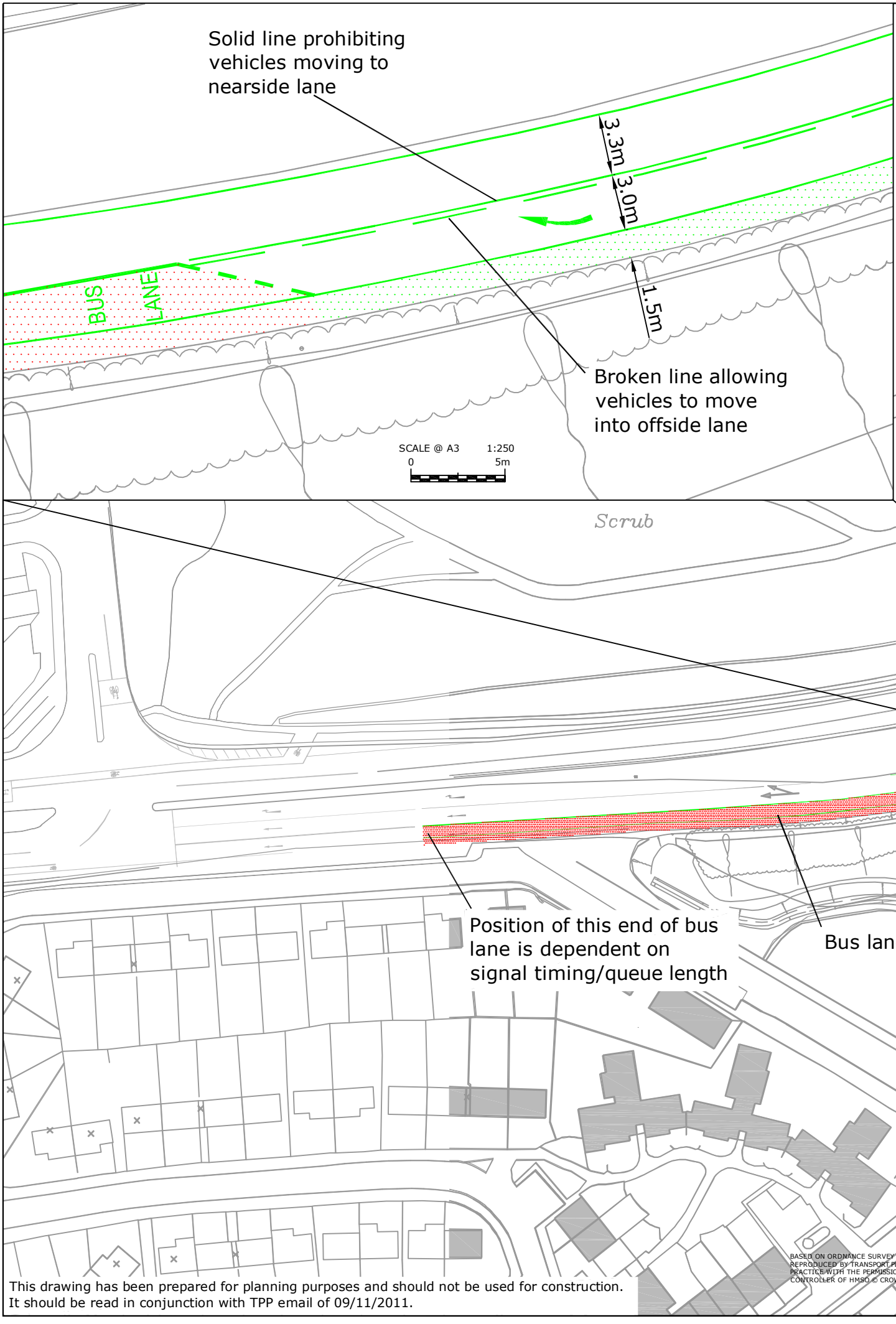
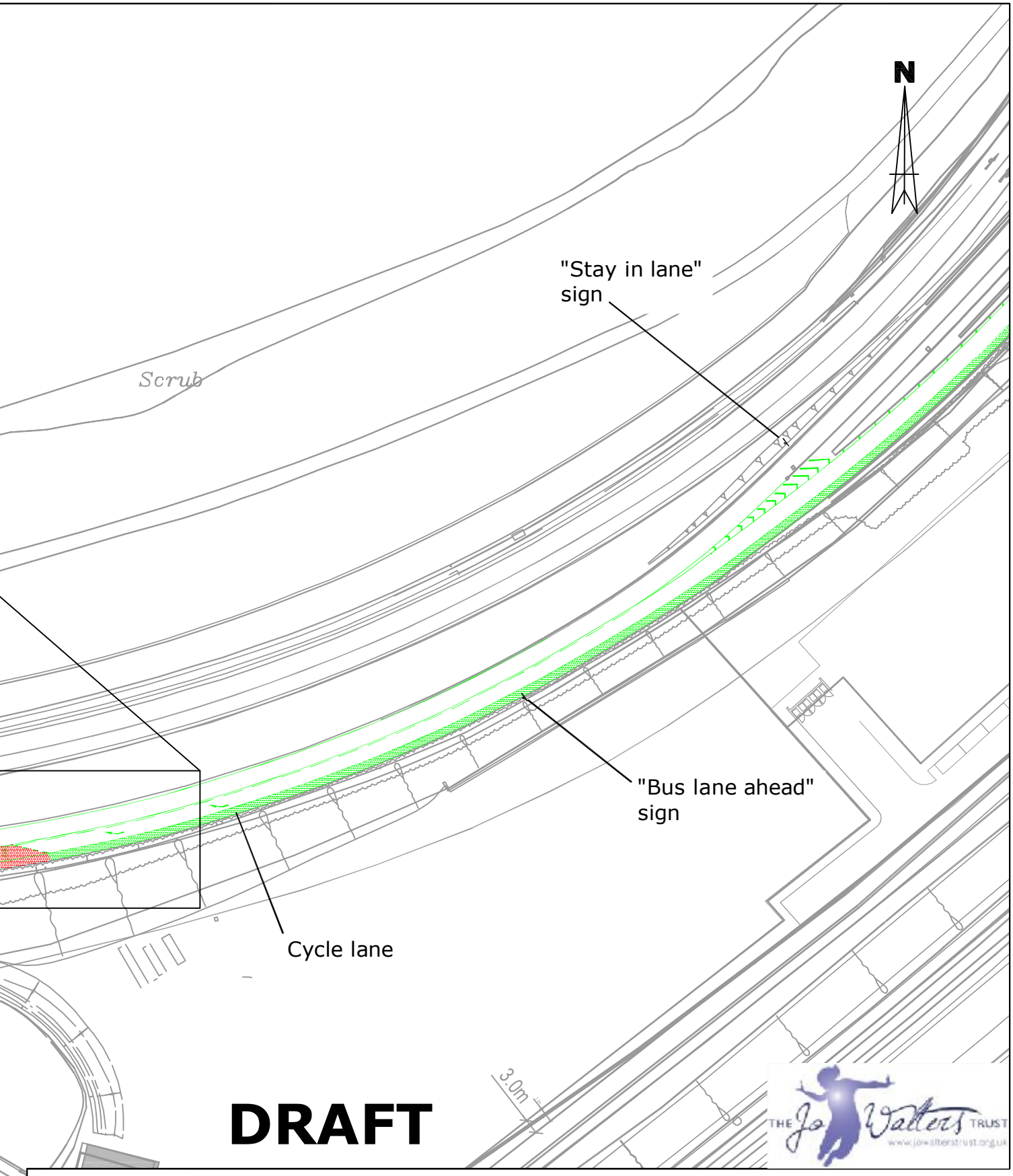


This drawing has been prepared for planning purposes and should not be used for construction.
It should be read in conjunction with TPP email of 09/11/2011.



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THE JO WALTERS TRUST

Proposed westbound cycle lane on A270
Merge details with 30mph restriction on A270 and slip road

SCALE @ A3 1:1000
0 10 20m

DATE (REV _)
09/11/11

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