

Woodhouse Meadows, Botley

Route 1, inc. SINC Crossing

Collision Risk Assessment

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Appendix A – General Arrangement

1 Introduction

1.1 Background

- 1.1.1 The Botley Route 1 scheme involves replacement of a temporary bridge with a new box culvert and includes track improvement works. These improvements involve regrading the track to the new box culvert bridge and making minor improvements to the rest of the track.
- 1.1.2 The design of Botley Route 1 adheres to the Hampshire Adoptable Standards - Technical Guidance documents.
- 1.1.3 As stated in Technical Guidance note 14 (TG14), a collision risk assessment is required for all schemes. This report assesses the Botley Route 1 project.
- 1.1.4 TG14 specifies which collision risk assessment method to be used based on the speed of the road and the Annual Average Daily Traffic (2-way flow) (AADT) and whether the scheme is close to a railway.
- 1.1.5 As the anticipated speeds on the Botley Route 1 track will be below 50 mph, and the expected AADT will be under 5000 the assessment method as per TG14 shall be, Provision of Road Restraint Systems on Local Authority Roads (PRRSLAR).
- 1.1.6 PRRSLAR offers several assessment methods. Given that the UDI Route 1 project is a new access track with limited accident data, the assessment will follow Method C – Risk Assessment, as per the guidance.

2 Hazards and Risks

2.1 Identification of Hazards/ Risks

- 2.1.1 An overview General Arrangement drawing of the scheme has been produced RJ510518-HEH-HGN-17133040-DR-CH-0001 GA, WHMB - ROUTE 1 – See Appendix A.
- 2.1.2 The main purpose of the scheme is to replace an existing temporary footbridge with a permanent boxed culvert. The box culvert will be covered with a Type 1 surface, and fences will be installed on top of the structure to function as parapets.
- 2.1.3 Additional highway-related works are necessary for the footbridge replacement. These include releveling the existing track leading up to the new box culvert, installing new fencing, and performing remedial work on the current track surface.
- 2.1.4 After reviewing the scheme, the following hazards have been identified and considered for Collision Assessment.
 - 1. Approaches to new box culvert bridge/ watercourse
 - 2. Existing trees next to track
 - 3. Existing school playing field next to track.

3 Assessment

3.1 General

- 3.1.1 The proposed horizontal and vertical alignments for Botley Route 1 comply with TG 2.
- 3.1.2 Access to the track is restricted by locked gates, and only maintenance vehicles are expected to use it. Given that only maintenance vehicles will access the track, their speeds should be low. Maintenance personnel should also be aware of the potential presence of other non-motorised users (NMUs) on the track and bridge.

3.2 Approaches to new box culvert bridge/ watercourse

- 3.2.1 The existing footbridge that is proposed to be replaced spans a watercourse, on the northside of the bridge the watercourse is shallow however on the south side of the bridge it has a deep section of water.
- 3.2.2 The existing footbridge is lower than the proposed replacement box culvert bridge. To facilitate the change in level it is proposed that the levels of the existing track are increased on the approach to the new box culvert bridge. This change also increases the height of the bridge over the watercourse.

Table 1- Approaches to new box culvert bridge and watercourse

Factor	Comment	Risk Factor Score
Location	UDI Route 1 is an access track through a wooded area. On one side of the track is an ancient woodland and on the other is a school playing field. Although a track of this type isn't defined in PRRSLAR, for the purposes of this assessment this location has been assumed to be a rural road.	1
Layout Factor - Part 1	The approaches to the proposed box culvert bridge over the watercourse are compliant with TG2, the alignment is relatively straight and speeds on the track are expected to be low.	0
Layout Factor - Part 2	There are no other highway design features on the approach to the new box culvert that would contribute to changing lane/ manoeuvres.	0

	Consideration has been given to the potential presence of NMUs on the track constituting in a change lane manoeuvre, however, this has been discounted as due to the low speed and good forward visibility on the track. If an NMU was on the track it would be expected that a driver using the track would take a correct course of action without loss of control into the watercourse.	
Collision Factor - Part 1	The approaches to the box culvert area adjacent to the watercourse. As the water course is perpendicular to the approaches to the bridge it is considered a spot hazard.	0
Collision Factor - Part 2	As this is a new track on the approach to a new replacement bridge, there is no KSI history available. For the purpose of this assessment, reference is made to Table 3.2 of the 'Provision of Road Restraint Systems on Local Authority Roads'. It is considered that this will be a 'non-built-up road' and hence for a risk item involving the possibility of a vehicle being submerged, the KSI% value is 31.6.	2
Consequential Factor - Part 1	It is not expected that any secondary events would occur as a result of a vehicle entering the watercourse.	0
Consequential Factor - Part 2	It is unlikely that an accident at this location would give rise to network disruption for more than one day.	0
Consequential Factor - Part 3	It is not expected that an accident at this location would result in significant cost, in terms of repair/replacement.	0
Total Priority Score		3

3.2.3 As the total risk ranking score for the approach to the new box culvert bridge and watercourse is lower than 8 it is designated as a Lower Priority site (See PRRRSLAR Para 6.5). Lower Priority Sites are where the level of risk is regarded as generally acceptable.

3.3 Existing trees next to track

3.3.1 The track is adjacent to an Ancient Woodland for most of its length. The woodland is set back from the track by approximately 5m.

Table 2 – Existing Trees next to track

Factor	Comment	Risk Factor Score
Location	UDI Route 1 is an access track through a wooded area. On one side of the track is an ancient woodland and on the other is a school playing field. Although a track of this type isn't defined in PRRSLAR, for the purposes of this assessment this location has been assumed to be a rural road.	1
Layout Factor - Part 1	The alignment of the track adjacent to woodlands are relatively straight and compliant with TG2.	0
Layout Factor - Part 2	There are no other highway design features that would contribute to changing lane/ manoeuvres. Consideration has been given to the potential presence of NMUs on the track constituting in a change lane manoeuvre, however, this has been discounted as due to the low speed and good forward visibility on the track it would be expected that a driver using the track would be able take a corrective action without loss of control.	0
Collision Factor - Part 1	The trees next to the track are present for most of the track length, therefore they have been assessed as a longitudinal hazard.	2
Collision Factor - Part 2	As this is a new track, there is no KSI history available. For the purpose of assessment, reference is made to Table 3.2 of the 'Provision of Road Restraint Systems on Local Authority Roads'. It is considered that this will be a 'non-built-up road' and hence for a risk item involving the possibility of a vehicle striking a tree, is KSI% value 31.3. .	2
Consequential Factor - Part 1	It is not expected that any secondary events would occur as a result of a vehicle entering the watercourse.	0
Consequential Factor - Part 2	It is unlikely that an accident at this location would give rise to network disruption for more than one day.	0
Consequential Factor - Part 3	It is not expected that an accident at this location would result in significant cost, in terms of repair/replacement.	0
Total Priority Score		5

3.3.2 As the total risk ranking score for the presence of trees adjacent to the track is lower than 8 it is designated as a Lower Priority site (See PRRRSLAR

Para 6.5). Lower Priority Sites are where the level of risk is regarded as generally acceptable.

3.4 Existing school playing field next to track.

- 3.4.1 The existing school playing field adjacent to the track has been considered as part of this assessment, however, as the existing school playing field already has an existing fence the need for any additional protection via a RRS or any other alternative has been discounted. Any further effort to reduce risk of an errant vehicle accessing the existing school playing field would be grossly disproportionate to the risk reduction achieved.

4 Conclusions and Recommendations

4.1 Conclusions

- 4.1.1 The assessment of the bridge approaches and the existing trees next to the track has determined that both are low-priority sites that do not require Road Restraint Systems or other risk-reducing measures.
- 4.1.2 As part of demarking the land boundary, the proposed UDI Route 1 scheme includes a new fence adjacent to the woodlands and over the proposed bridge. Although this collision risk assessment does not recommend additional risk-reducing measures, this fence reduces the risk of vehicles striking the trees or entering the watercourse at these locations.
- 4.1.3 As the proposed fence already provides additional protection against striking the trees and entering the watercourse no further alternative provision is required as any further effort to reduce risks would be grossly disproportionate to the risk reduction achieved.

4.2 Recommendations

- 4.2.1 It is assumed that only authorised maintenance vehicles will access the track and that these vehicles will be aware of potential NMUs on the track. If this arrangement changes and access is opened to all vehicles, this collision risk assessment should be reviewed to ensure its validity.
- 4.2.2 This assessment assumes that vehicle speeds on the track will be low, as only maintenance vehicles will be using it. To maintain low speeds, it is recommended that any organisation with access to the track updates their access policies for traversing the track to include a low-speed limit, such as 10 mph or less.

Appendix A – General Arrangement

