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Version:	1.1
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# Appendix C

## URS REVIEW OF CH2MHILL REPORT

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# Metrowest Phase 2

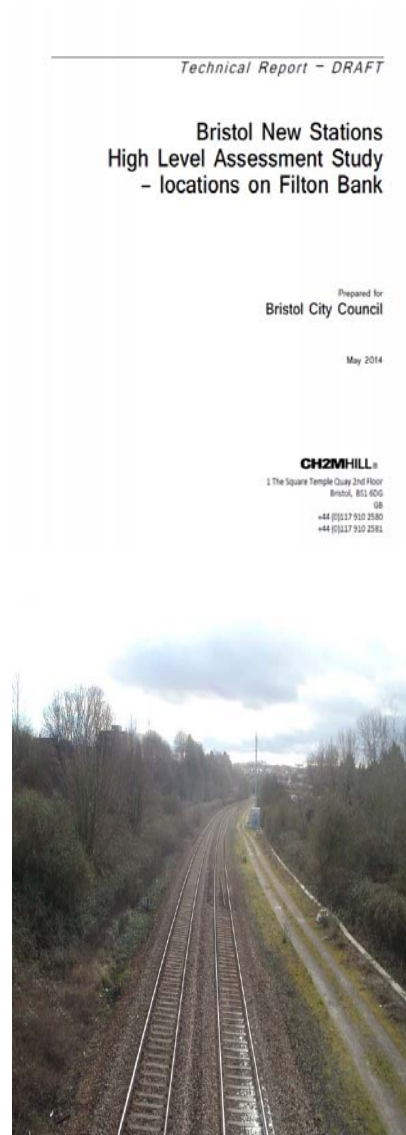
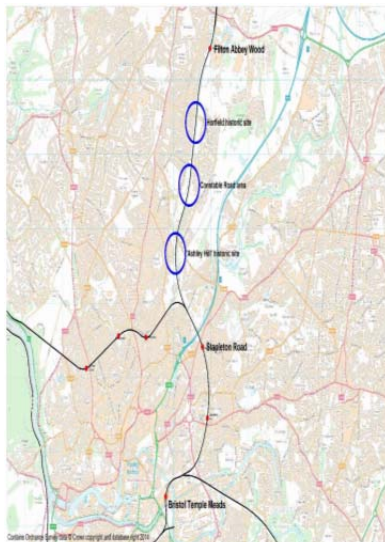
CH2MHILL Review

November 2014

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Prepared for:  
Network Rail

UNITED  
KINGDOM &  
IRELAND



REVISION SCHEDULE					
Rev	Date	Details	Prepared by	Reviewed by	Approved by
1	14/11/2014	Review of CH2MHILL report	Laura Hemsley - Project Manager	Karl Hatala - Senior Project Manager	Steve Turner - CEM
2	12/01/2015	Review of CH2MILL report	Laura Hemsley - Project Manager	Karl Hatala - Senior Project Manager	Steve Turner - CEM

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## 1 INTRODUCTION

URS have been engaged by Network Rail to review a report prepared by Messrs CH2MHILL in respect of potential station sites associated with the MetroWest Phase 2 project.

The report is titled:-

- Technical Report (Draft) – Bristol New Stations – High Level Assessment Study – Locations on Filton Bank. Prepared for Bristol City Council – May 2014

It should be noted that the status of the report reviewed by URS is marked “Draft”.

The purpose of the review is to validate the content of the CH2MHILL report, the identification of any errors or omissions, the identification of any new information that has emerged since the drafting of the report and the determination of any elements of the report, and the attendant drawings, that require revision or enhancement.

It is not the intention that the URS review will provide new text, drawings or estimates for the reports but merely provide recommendations and guidance to permit the update of them by Messrs CH2MHILL.

URS will themselves be preparing a GRIP stage 2 study to further inform both Network Rail and the respective Councils on the engineering requirements and associated costs for the preferred station options that have emerged.

The study looks in some detail at 3 possible locations for new stations on the track between Stapleton Road Stn and Abbey Wood Stn to the north of Bristol.

The 3 sites are Ashley Down (a former station), Constable Road and Horfield (also a former station).

## 2 PERMANENT WAY

The ruling gradient throughout the length of track is 1:75, much steeper than the 1:500 proposed by GI/GN/7616 for stations. As a compromise, the report has suggested a gradient of 1:220 through the platform lengths with consequent track lowering and lifting either side. The former stations must have had a gradient of 1:75 so this is a practical solution to the tightening of standards. The lowering and lifting is accounted for in the report but there is nothing for the disruption the work will cause.

There is also lowering required over an underbridge at the Ashley Down site which carries a footpath under the railway. This is a subway associated with the original station and would appear to have very limited construction depth which would be within the boundary of a new station at this location.

**Section 2.2.1 Overview** – Ashley Hill was opened in 1864 by the Bristol and South Wells Union Railway. This should be stated as South Wales.

**Section 2.1.3 – Permanent Way Baseline – 3<sup>rd</sup> Paragraph** – Reference should also be made to Guidance note GI/GN7616 which gives useful additional information when considering the risks associated with proposing platforms that do not conform to Railway Group Standards in respect of horizontal curvature and longitudinal gradients.

**Section 2.2.2 Initial Site Selection – Penultimate Paragraph** – It has now been accepted that proposed platform lengths will be set to accommodate 4 car units (101m) with passive provision for 5 car units (125m)

**Section 2.2.4 Permanent Way – 4<sup>th</sup> Paragraph** - It is no longer appropriate to install runaway catch points and these can be removed from the estimate.

**Section 2.3.1 Constable Road – Initial Site Selection – 2<sup>nd</sup> Paragraph** – S&C would be better defined as switch and crossing layouts.

**Section 2.3.2 Permanent Way – 6<sup>th</sup> Paragraph** - It is no longer appropriate to install runaway catch points and these can be removed from the estimate.

**Section 2.4.4 (Horfield) Permanent Way 3<sup>rd</sup> Paragraph** - It is no longer appropriate to install runaway catch points and these can be removed from the estimate.

Generally PWay issues have been dealt with in the report.

### 3 CIVIL ENGINEERING

The civil engineering work of the schemes is dealt with, however some possible issues ignored. For instance there is little or no discussion of:

- Ground conditions - Foundation selection, piles/strip/pad?
- Drainage - (track or general)
- Horfield site is in a cutting
- Retaining Walls - Horfield
- Construction of Platforms, Buildings and Bridges
  - Requirement for possessions
  - Access for possessions
  - Number of possessions
- Disruption to the railway during the works

This is a high level document and full details are not expected but the report also claims to consider the engineering issues. Costs are being given for each of the schemes with no obvious tolerance quoted.

### 4 ELECTRIFICATION

The effects on future electrification of the line are covered with no obvious issues identified.

### 5 TELECOMS

The comments are the same for each proposed station.

- The descriptive words do not contain any reference to the provision of Public Address (PA) although this is mentioned in each station estimate.
- There is no provision for the protection of existing cable routes and cables – during the construction phase
- There is no provision for operational communications associated with any new signals (SPT's) including changes/upgrades to signal box Telephone concentrators.

**6 SIGNALLING**

The report has also been reviewed by the NR Signaling Design Group who has stated that there are not any signaling issues requiring comment.

**7 ENVIRONMENT**

The report provides “station costs” however it makes no comment about the costs associated with changes to the existing public highway, and traffic management requirements.

**8 COSTINGS**

The costings are not unreasonable but as this is effectively a GRIP 2 report it should be made clear whether there is a +/- 50% or 30% tolerance on the figures. However, a large contingency figure has been used (40%) which will probably cover most eventualities.

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