Portishead Branch Line
(MetroWest Phase 1)
Environmental Impact Assessment

Transport Assessment Appendix K: Outline Construction Traffic Management Plan (CTMP)

Prepared for
West of England Councils

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Document History

Portishead Branch Line (MetroWest Phase 1) Environmental Impact Assessment

Transport Assessment Appendix K: Outline Construction Traffic Management Plan (CTMP)

West of England Councils

This document has been issued and amended as follows:

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01	February 2016	Draft for review	SM/JE	HS	HS
02	April 2016	Revised Final	SM/JE	HS	HS
03	November 2016	Final	SM/ÁK	HS	HS
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Contents

Tables

Figures

Acronyms and Abbreviations

CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
HGV	Heavy Goods Vehicle
LEP	Local Enterprise Partnership
LGV	Light Goods Vehicle
NSC	North Somerset Council
NSIP	Nationally Significant Infrastructure Project
TA	Transport Assessment
TDM	Travel Demand Management
TMWG	Traffic Management Work Group
WoE	West of England

Introduction

1.1 Background

CH2M has been appointed to prepare a Transport Assessment (TA) in support of the Portishead Branch Line (MetroWest Phase 1) proposal to reopen the Portishead line with stations at Portishead and Pill in North Somerset (the "Scheme").

The MetroWest Phase 1 project comprises the delivery of infrastructure and passenger train operations to provide enhanced services on the Severn Beach line, local stations on the Bath to Bristol line and for a reopened Portishead Branch Line with stations at Portishead and Pill. The re-opened Portishead Branch Line will maintain the existing freight train operations as well as re-introduce passenger train services on an hourly basis. The project is being led by North Somerset Council on behalf of the four West of England (WoE) councils, as a third party promoted rail project, funded by the four councils and the WoE Local Enterprise Partnership (LEP).

1.2 Aim of this document

The aim of the Outline Construction Traffic Management Plan ("CTMP") is to outline the specific transport impacts arising from the construction works and to provide a framework for addressing these impacts. The purpose of the document is to set out the principles that will be followed to manage construction traffic during the construction of the scheme.

This version of the CTMP is based on the latest assessment of the required works as identified in Section 8 of the TA.

1.3 Structure of this document

The CTMP is divided into the following sections:

Section 2 Overview of the Construction Works – This section provides a summary of the main construction activities.

Section 3 Access points and compounds– Within this part, the various access points and construction compounds hve been presented.

Section 4 Traffic generation and transport impacts – This section identifies the scale of the impact at each identified location.

Section 5 Mitigation – The final section outlines the measures that will be adopted to minimise the construction impacts on the highway, users and local residents and businesses.

Overview of the Construction Works

2.1 Outline construction strategy

The Outline Construction Strategy for the Scheme outlines the various components and activities of the building works. Whilst this document does not seek to replicate this, it is important to summarise the main components in order to understand the transport related impacts of the works.

The overall MetroWest Phase 1 Scheme will comprise construction within the Development Consent Order (DCO) red line boundary and other works outside this area (refer to Figure 1.2 of the TA).

2.2 Works within the DCO red line boundary

The DCO element of the Scheme comprises the following components:

- **Nationally Significant Infrastructure Project (NSIP) -** comprises of the reconstruction of 4750 metres of disused railway from Quays Avenue in Portishead, North Somerset (OSGR ST471765) to Pill in North Somerset (OSGR ST520762) with 750 metres of new parallel track through Pill village. The NSIP in summary includes a permanent railway of approximately 5450 metres long from Quays Avenue in Portishead to the existing operational railway (Portbury freight line) to the east of the M5 Motorway, then running parallel to the existing operational railway to a new junction east of Pill Viaduct (Pill Junction), to connect with the existing operational railway. The NSIP works comprises; the works to deliver the railway infrastructure, rail stations, car parks, pedestrian / cycle / highway infrastructure and maintenance compounds from Portishead to Pill Junction.

- **Associated development -** The other works required for the Scheme include:
    - Construction of new stations and carparks at Portishead and Pill.
    - Improvements to highway infrastructure including pedestrian and cycle networks.
    - Alterations to the railway between Pill and Ashton Vale level crossing.
    - Improvements works at the Ashton Vale Road/Winterstoke Road junction.
    - Maintenance access and compounds.
    - Construction of a new pedestrian footbridge close to Trinity Primary School.
    - Replacement of the signalling equipment of the half kilometre section of railway from Portbury Dock to Portbury Dock Junction within the land of the Bristol Port Company.

2.3 Works outside the DCO red line boundary

Construction works outside the DCO redline boundary will be undertaken on existing Network Rail land under general permitted development rights. The main elements of the works are:

- **Parson Street Junction upgrade -** including signaling, cabling and associated equipment to Ashton junction;
- **Bedminster down relief line –** including a partial reinstatement;
- **Severn Beach and Avonmouth signaling enhancement –** renewal of signaling; and
- **Bathampton turnback –** construction of a new turnback facility east of Bath

The current programme assumes that construction would commence in late 2018 with the scheme opening in 2021.

2.4 Components of construction works and transport methods

Table 2.1 details the main components of the construction works and the potential transport methods that are likely to be used.

TABLE 2.1
Components of construction works

Component	Transport methods including scheduling and duration
Site clearance and remediation	Three principal options for transporting materials as follows: **Option One –** Material loaded onto haulage vehicles and moved to a single site compound. Bulk material could be transported via rail mounted wagons with smaller bulk material using the highway network. **Option Two –** Material loaded onto haulage vehicles and moved to a single site compound for processing. Material to be removed using the highway network. **Option Three –** Similar to option one, but railway wagons would be shipped via Portbury Dock .
Drainage and under track crossings	Two potential options: **Option One –** Access and materials will be stored at one of the nearby compounds. **Option Two –** Access to neighbouring land may be required for ditch cleaning and drainage installation works. Blockades of the line are likely as drainage works through Pill station will be required
Construction of new track formation and bottom ballast	A number of potential options to undertake these construction works: **Option One –** Delivery by rail to Portbury Dock and then via the highway network. **Option Two –** Delivery by rail to Portbury Dock and then to compounds directly accessible from private dock land. **Option Three –** Delivery by sea to Portbury Dock. **Option Four** – Reprocessing of existing material. **Option Five –** Construction of a temporary rail head and delivery by rail.
Rail and sleepers	A number of potential options to undertake the works: **Option One –** Delivered by rail to Portbury Dock and then along the public highway. **Option Two –** Bulk material by rail to Portbury Dock and then to the compound at Lodway form thus negating the use of public highway. **Option Three –** Direct to the compounds using the public highway. **Option Four –** Direct to the site through a temporary rail head.
Installation of top ballast	Two principal methods of the installation of the top ballast – either by off track plant from the constructed haul road or by on track plant fed by onsite compound. A number of potential options to undertake the works: **Option One –** Delivered directly by rail. **Option Two -** Delivered by rail to Portbury Dock and then along the public highway.

Component	Transport methods including scheduling and duration
	Option Three – Bulk material by rail to Portbury Dock and then to the compound at Lodway form thus negating the use of public highway. **Option Four–** Direct to the site through a temporary rail head.
Installation of lineside equipment	Delivery by road either to the compound or directly to the site.
Portishead station	Utilities and other services would need to be diverted by others before the station works can commence.
Trinity footbridge	The bridge would be pre-fabricated off site and delivered as an abnormal load to the site. Use of a crane would be required.
Infilling of cattle creep underbridge	Access from neighbouring compounds although use of neighbouring land may be required.
New ballast on existing track	New ballast either delivered by rail or through the Portbury Dock. Removal of existing ballast either by rail or temporary storage at the Dock and removal by rail.
Avon Road underbridge	Main access will be through the Lodway Farm compound with additional access through Pill.
Pill Street station	Station works are timed for completion after the Avon Road bridge. Principal access will be through the Lodway Farm compound. Some temporary works may be required.
Parson Street Junction	Access to the site would be through the proposed compound at Parson Street junction.
Bedminster	Access will be from Honeywick Close.

Access points and compounds

3.1 Overview

This section of the CTMP provides information on the proposed access points and compounds for the construction works.

3.2 Access points

A number of access points have been identified as critical to the delivery of the construction phase of the scheme. Table 3.1 details the main access locations as follows and these are mapped in Figures 3.1 to 3.3.

Ref	Name	Purpose	Location
A-1	Portishead Station	To facilitate access to Portishead Station and Trinity Bridge sites.	Phoenix Way/Quays Avenue, Portishead
A-2	Sheepway (north of railway)	For construction vehicles and intermediate worker access. Option to use as part of haulage route.	Access from Sheepway on the north side of the Portishead Branch Line opposite Sheepway Gate Farm, Sheepway. Refer to Figure 4.9 of the PEIR for layout plan of access point.
A-3	Portbury Hundred	Access to main compound for all vehicles	Access off the A369 Portbury Hundred to the west of the junction with Station Road. Junction to be constructed with access restricted to left in/left out only. Refer to Figure 4.10 of the PEIR for layout plan of access point.
A-4	Marsh Lane 1	To facilitate access to Cattle Creep Underpass (to be infilled as part of the works) and fencing. For construction vehicles only.	Vehicular access from haul road on north side of railway
A-5	Marsh Lane 2	Access to the underbridge on the railway to the west of the M5. For construction vehicles only. Option to use as part of one way through system.	Vehicular access from Marsh Lane east to the underbridge on the railway to the west of the M5.
A-6	M5 Overbridge	Alterations to permissive path comprising part of NCR26 at the railway underbridge beneath the M5 Motorway.	To the west of the M5 Overbridge. Access permanently restricted to pedestrians.
A-7	Lodway Farm	Access to main compound for all vehicles	New junction and access road required from the Breeches (Pill). Option to use access from Marsh Lane via the Portishead Branch Line Railway Bridge under the M5 (i.e. A-4).
A-8	Avon Road	Access for construction vehicles only to construct Avon Road Underbridge to enable the double tracking to be facilitated	Access through Pill to Avon Road to construct Avon Road Underbridge (refer to Fig. 9.2 and Table 9.6 of the TA)
A-9	Pill Station car park	Access for construction vehicles only for the construction of Pill Station	Access from Monmouth Road, Pill
A-10	New Pill Station	Access for construction vehicles only to provide access to top of Pill Station ramp	Access from Station Road, Pill

Ref	Name	Purpose	Location
A-11	Pill Viaduct	Access for pedestrians only to the west of Pill Tunnel. Access possible for light vans via cycle path if agreed.	For access west of Pill Tunnel
A-12	Chapel Pill Lane	Access for all vehicles only to the main compound for the north end of Avon gorge	Access off end of adopted section of Chapel Pill Lane (opposite Penny Brohn UK). Refer to Figure 4.15 of the PEIR for details of access to Pill tunnel from Chapel Pill Lane and Macrae Road.
A-13	Chapel Pill Farm Access	Pedestrian access only for intermediate welfare. Access by light vehicles subject to consent from landowner/hazard assessment.	Pedestrian access only. Vehicle access to be agreed and vehicle access restrictions over bridge to be confirmed.
A-14	Miles Dock	Pedestrian access only for intermediate welfare. Access by ATV subject to consent/hazard assessment.	Avon Gorge Chainage 124m 07
A-15	Quarry Underbridge 4	Pedestrian access only for intermediate welfare. Access by light vehicles subject to consent from landowner/hazard assessment.	Avon Gorge Chainage 123m 23
A-16	Valley Underbridge	Pedestrian access only for intermediate welfare. Access by light vehicles subject to consent from landowner/hazard assessment.	Avon Gorge – north of Clifton Suspension Bridge Chainage 122m 31
A-17	Clanage Road	Pedestrian access only for intermediate welfare.	Access from Clanage Road
A-18	Clanage Road	Access for all vehicles only to the main compound for the south end of Avon gorge	Access from Clanage Road. Refer to Figure 4.16 of the PEIR for layout plan of access point.
A-19	Ashton Vale Road	Access for all vehicles to undertake construction works at the level crossing and new track junction	Access from Winterstoke Road/Ashton Vale Road

FIGURE 3.1

MetroWest Phase 1 Compounds and Access points - Portishead

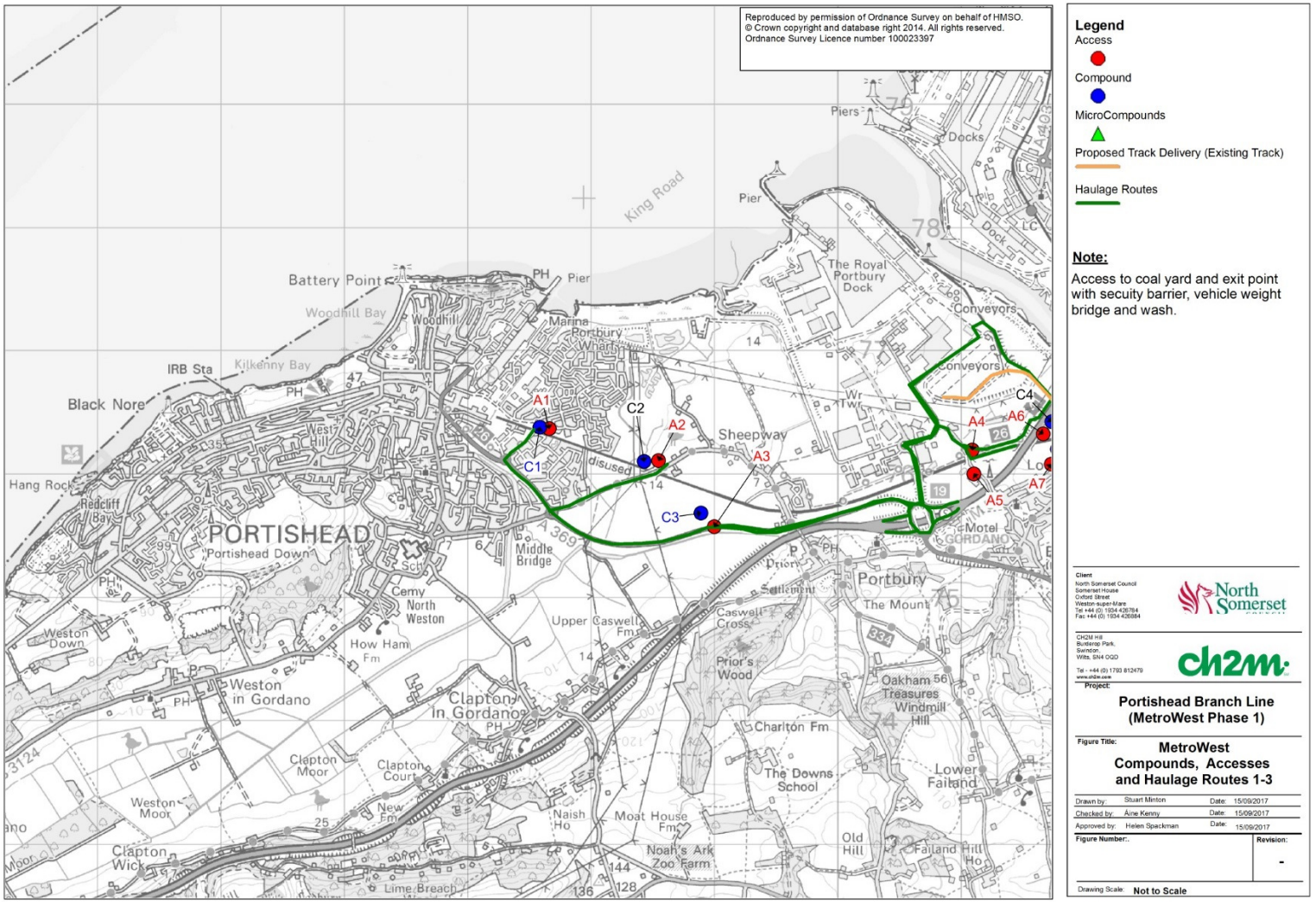


FIGURE 3.2

MetroWest Phase 1 Compounds and Access points – Pill and Avon Gorge

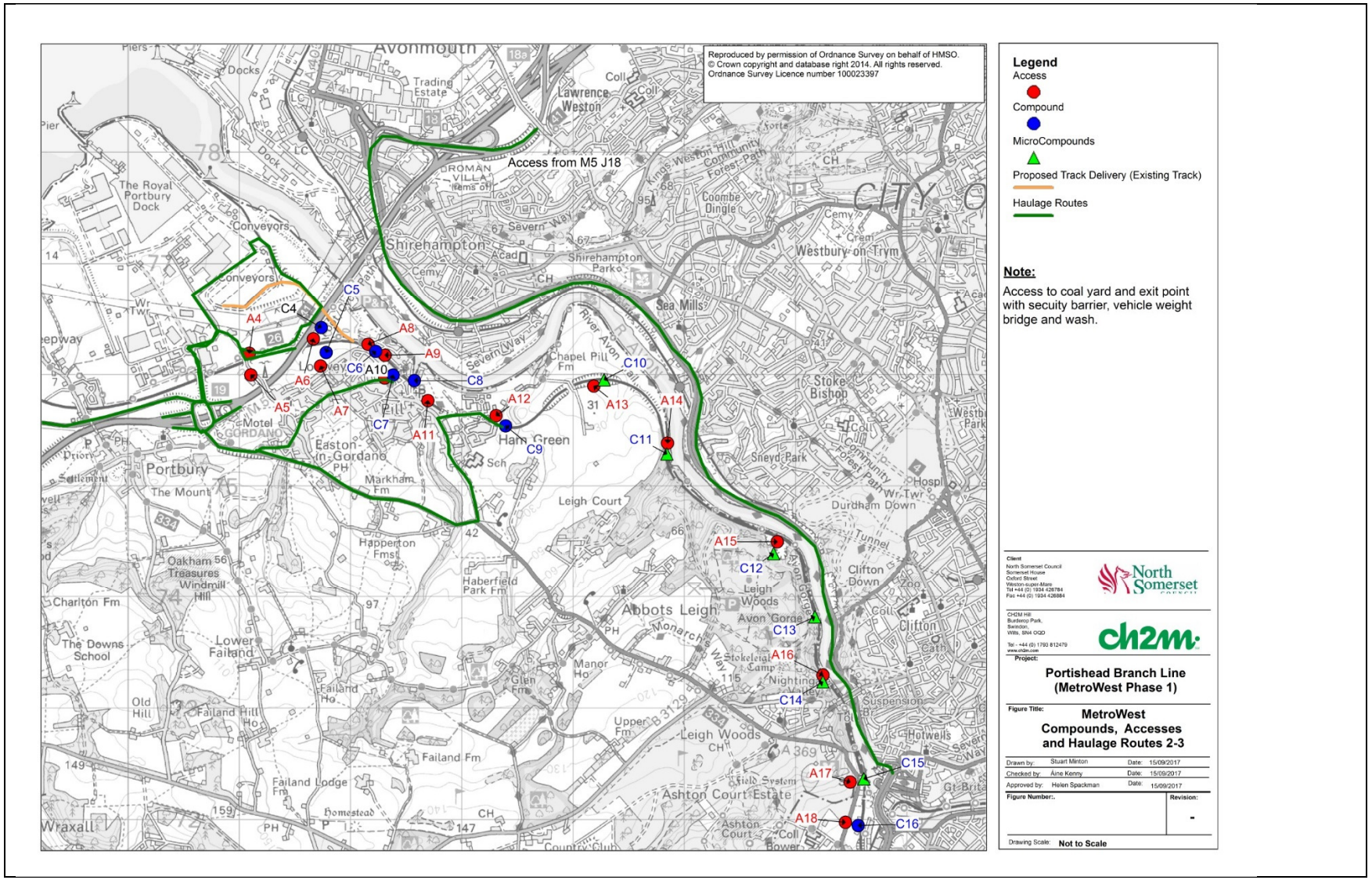
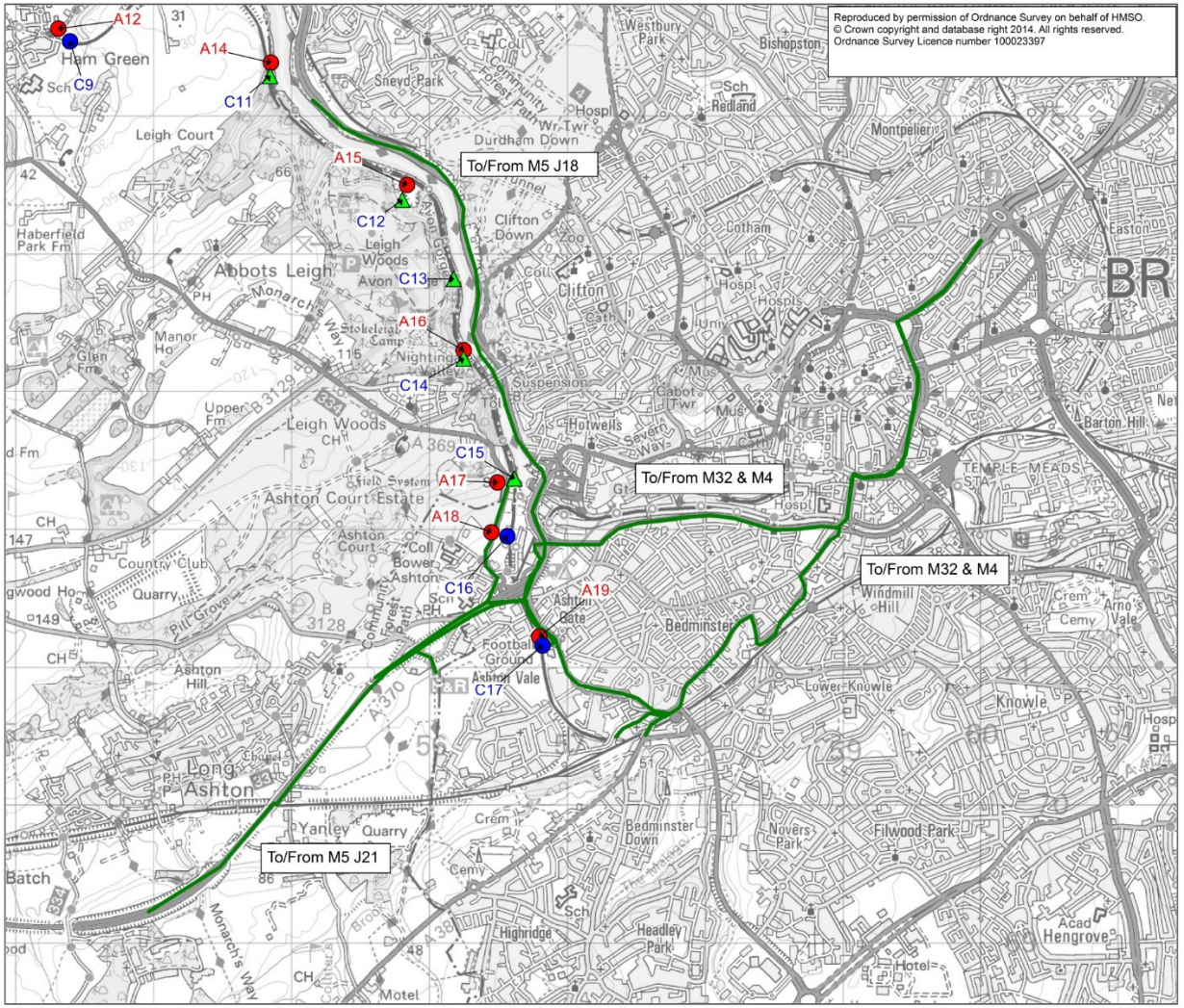


FIGURE 3.3

MetroWest Phase 1 Compounds and Access points – Avon Gorge and Ashton Vale



Legend

Access

Compound

MicroCompounds

Haulage Routes

Note:

Access to coal yard and exit point with secuity barrier, vehicle weight bridge and wash.

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Portishead Branch Line (MetroWest Phase 1)

Figure Title:

MetroWest Compounds, Accesses and Haulage Routes 3-3

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Checked by:	Aine Kenny	Date:	15/09/2017
Approved by:	Helen Spackman	Date:	15/09/2017

Figure Number:. Revision: -

Drawing Scale: **Not to Scale**

3.3 Compounds

A number of compounds have been identified and these are detailed in table 3.2. The location of the compounds are shown in figures 3.1 to 3.3 above. The table identifies the extent of HGV movements, on-site parking and the level of material storage for each compound.

TABLE 3.2
Description of Construction Compounds

No.	Place Name	Location	Proposed Construction Use	Car Parking	Materials Storage	Welfare facilities	Vehicle movements
C1	Portishead	Portishead on site of new station car park A on eastern side of the realigned Quays Avenue.	To facilitate construction of new station, realignment of Quays Avenue and Trinity Primary School crossing	Y	Y	Main	HGV and other construction vehicles. Medium level of car parking.
C2	Sheepway	Sheepway Overbridge	Site office and welfare facilities	Y	Y	Minor	Mainly worker vehicles with limited HGV movements. Minimal level of car parking and storage.
C3	Portbury Hundred	Land between the disused railway and The Portbury Hundred	Main construction compound for construction of track between Portishead and Pill.	Y	Y	Main	HGV and other construction vehicles. Large level of car parking and storage
C4	Avonmouth Bridge	Land under M5 Avonmouth Bridge.	Construction compound for construction of track between Portishead and Pill	N	Y	Minor	HGV and other construction vehicles.
C5	Lodway Farm	Fields between the M5, the disused railway and The Breaches in Pill.	Storage compound and access for reconstruction of underbridge south of Avon Road, temporary storage of waste and materials, and access to the railway.	Y	Y	Main	HGV and other construction vehicles. Medium level of car parking and storage
C6	Pill Yard	A former goods yard, off Monmouth Road, Pill	Material storage / site offices and welfare for construction of Pill Station	N	Y	N	HGV and other construction vehicles.
C7	Pill Station	7 Station Road, Pill	Following demolition of the property, temporary use of the site as a construction compound before developing the site as the new entrance to Pill Station	Y	Y	Main	HGV and other construction vehicles, including a large crane. Minimal level of car parking and storage
C8	Pill Viaduct	Pill Library carpark	Storage area.	N	Y	N	HGV and other construction vehicles.
C9	Ham Green	Field off McCrae Road, Ham Green	For work within Pill Tunnel, welfare, and for site of new permanent electrical building	Y	Y	Minor	HGV and other construction vehicles. Medium provision of car parking and storage

No.	Place Name	Location	Proposed Construction Use	Car Parking	Materials Storage	Welfare facilities	Vehicle movements
C10-C15	Micro-compounds	Avon Gorge	6 No. micro compounds through the Avon Gorge containing basic welfare facilities	N	N	N	Access by rail, foot or cycle only
16	Clanage Road	Clanage Road, Bower Ashton	Compound for welfare and access to Avon Gorge.	Y	Y	Main	HGV and other construction vehicles. Minimal provision of car parking and storage
17	Ashton Vale	Ashton Vale Level Crossing	Works next to Level Crossing	Y	Y	Minor	HGV and other construction vehicles. Minimal level of car parking and storage vehicles.

Construction Traffic Generation and Impacts

4.1 Overview

This section takes the information presented in the Outline Construction Strategy and identifies the likely impacts on existing users. AT this stage, the Construction Strategy does not indicate in detail the likely traffic generation arising from the construction works. However, it is possible to ascertain some of the likely impacts as shown in Table 4.1.

TABLE 4.1

Assessment of the MetroWest Phase 1 Construction Impacts

Ref	Location	Construction activity	Include HGVs?	Traffic Generation	Time of works	Is traffic expected in peak periods (7am-10am; 4pm-7pm)	Impact on existing users
PD/1	Portishead – Quays Avenue and Harbour Road junction	Relocation of existing services and utilities	Yes	Major HGV deliveries.	Weekday /day time	Yes	Temporary or partial closure of Quays Avenue required. Shared footway/cycleway relocation. Identification of crossing points. Impact on existing bus services.
PD/2	Portishead – Quays Avenue and Harbour Road junction	Construction of new Quays Avenue and Harbour Road junction	Yes	Major HGV deliveries. Medium level of construction worker car parking	Weekday /day time	Yes	Temporary or partial closure of Harbour Road. Footway relocation. Identification of crossing points. Impact on existing bus services.
PD/3	Portishead – Marjoram Way	Construction of new Trinity footbridge	Yes	Major HGV deliveries	Weekday /day time	Yes	Closure of existing permissive footpath between Marjoram Way and Galingale Way.
SY/1	Sheepway – Gate Farm	Access to compound	Yes	Limited HGV with lower level of worker car parking	Weekday /day time	No	HGVs may prevent impede the flow of traffic along Sheepway. Existing cycleway will need to be relocated to accommodate the compound (see Figure 8.5).
SY/2	A369 - The Portbury Hundred	Access to compound	Yes	Major HGV deliveries with large level of worker car parking	Weekday /day time	No	New access point from the A369 will need to be constructed.
PK/1	Portbury Dock Compound	Access to compound	Yes	Major HGV deliveries with large level of worker car parking.	Weekday /day time	No	Access to the compound will be through Royal Portbury Dock Road and onto Port land. A larger level of traffic movements from M5 J19 should be expected.
PI/1	Lodway farm	Access to compound	Yes	Major HGV deliveries	Weekday /day time	No	Access to site yet to be determined. Possibility of using the Port and

Ref	Location	Construction activity	Include HGVs?	Traffic Generation	Time of works	Is traffic expected in peak periods (7am-10am; 4pm-7pm)	Impact on existing users
							transporting material along the railway alignment
PI/2	Avon Road	Access to compound	Yes	Major HGV deliveries with no car parking	Weekday /day time	No	Difficulty to travel to and from Avon Road site due to narrow and constrained highway network
PI/3	Pill Station	Access to compound	Yes	Major HGV deliveries	Weekday /day time	No	Difficultly to travel to and from the station site due to narrow and constrained highway network
PI/4	Pill tunnel – Macrae Road and Chapel Pill Lane	Access to compound	Yes	Major HGV deliveries with medium level of worker car parking	Night work	No	Road layout is narrow in parts and on-street parking could impede HGV deliveries
PI/5	Pill tunnel – Chapel Pill Lane	Access to compound	Yes	Major HGV deliveries with medium level of worker car parking	Night work	No	Difficultly to travel to and from the site due to narrow road spaces and close proximity to housing.
AG/1-4	Avon Gorge Compounds	Access to Micro-compounds	No	Access from railway line or from neighbouring land	Night work	No	Very marginal and localised to specific locations
AV/1	A369 Clanage Road	Access to compound	Yes	HGV deliveries with medium level of worker car parking	Night work	No	There are currently weight restrictions on the A369 north of the compound site and deliveries will need to be directed via the A370 further south
AV/3	Ashton Vale – Ashton Vale Road	Access to compound	Yes	HGV deliveries with no car parking	Night work	No	There may be localised impacts on the operation of the existing Ashton Vale Road and Winterstoke Road junction

Mitigation

5.1 Overview

The construction works will lead to a range of transport impacts each requiring a different scale of intervention or mitigation where appropriate. In this section, the proposed mitigation measures are outlined and then applied to the appropriate identified locations

5.2 Detailed Construction Traffic Management Plan

Whilst this document provides a framework for the management of the construction traffic and the impacts, a detailed CTMP will be prepared once contractors have been appointed.

A detailed CTMP will be provided by the contractor throughout the duration of the works. Temporary traffic management works will be required to comply with the provisions of the Traffic Signs Manual: Chapter 8 Traffic Safety Measures and Signs for Road Works and Temporary Situations (2009). Traffic signs will comply with the traffic signs regulations and general directions (TSRGD) 2002 and its subsequent amendments.

A traffic management working group ("TMWG") will be formed for the Project at the construction phase. The Contractor will consult with the TMWG regarding traffic management, NMU and public transport issues. The members of the TMWG (including the Network Rail's representative) will agree a resolution procedure for disputes relating to traffic management and other traffic related measures to be implemented during the construction of the Project.

The Contractor will prepare the Final CTMP which will describe the traffic management, safety and control measures proposed during construction of the Project. The Final CTMP will include details of the following, as appropriate:

- Measures to provide for the safety of traffic, the public and construction staff during traffic management works and temporary traffic control measures;
- Measures to ensure that the maintenance and condition of public roads, cycleways and public Rights of Way (PRoW) do not deteriorate due to the construction traffic, including monitoring arrangements with local highway authorities;
- Procedures to be followed for the temporary or permanent closure or diversion of roads or accesses; including details of required notice periods;
- Procedures to be followed to obtain consent to work on or over railways;
- Existing pedestrian, equestrian and cyclist routes, including whether the routes are used by one or more of these groups of road users;
- Measures to be implemented to reduce construction traffic impacts or impacts associated with over-parking on residential streets;
- Details of parking arrangements for site staff and site visitors;
- Temporary and permanent access to the works;
- Permitted access routes for construction traffic;
- Monitoring requirements in relation to the plan;

- Requirements relating to the movement of farm animals where farm accesses are affected;
- A programme of traffic management measures to be implemented and details of traffic management proposals for the works on or adjacent to public roads;
- Details of phasing of works;
- Drawings showing traffic management layouts, signing and apparatus to be implemented, including proposed routes for pedestrians, equestrians and cyclists;
- Timing of operations;
- A list of roads which may be used by construction traffic in the vicinity of the site including any restrictions to construction traffic on these routes;
- The name and contact details of the Contractor's traffic safety and control officer and information and advice for the public regarding ways to raise complaints or request information; and
- A register of applications for consents associated with temporary traffic management measures.
- Block and layout plans of the compounds which will compromise:
    - Access/egress arrangements including visibility splays onto the public highway.
    - Turning movements within the site especially for articulated HGVs where appropriate so that vehicles enter and leave the site in forward gear.
    - Internal parking arrangements for staff and visitors.
    - Storage of materials and waste on site.
    - Pedestrian/circulation routes within the compound.

The detailed CTMP will also provide:

- Maximum number of daily two-way vehicle trips generated by the development;
- Network peak hour two-way daily vehicle trips (usually considered to be 08:00-09:00 and 17:00-18:00);
- Volume and distribution of abnormal load movements;
- Volume of material to be moved to and from the site;
- Volume of HGV movements (two-way);
- Distribution of HGV movements during the construction phase;
- Volume (two-way), type and distribution of all other traffic associated with the construction phase including workforce profile, shift patterns and staff catchment;
- Route for construction traffic between the M5 motorway and the development site;
- Impact of construction traffic on the surrounding local highway network for network peak hours; and,
- Mitigation measures to rectify any potential capacity impact, damage to structure or highway.

5.3 Delivery routes

The Contractor will consult with relevant highway authorities regarding access routes that may be used by the Contractor to access the construction sites. Final agreed routes will be detailed within the Final CTMP and all sub-contractors will be provided with copies of the haul route throughout the duration of the works. The Final CTMP will be consulted upon with the relevant authorities to ensure that agreement is reached regarding any timing restrictions on the use of roads. The Contractor will provide required signage.

Construction traffic will use the principal highway network wherever possible and designated routes to and from the compounds and access points will be identified in the final CTMP. These have been presented in Figures 5.1 to 5.3 and described in Table 5.1 below. These routes take account of weight restrictions, the capacity of the local highway network to accommodate HGV movements where required and the need to minimise the impacts on residential neighbourhoods, local businesses, local schools and other services. As a result, use of other routes will generally be prohibited. Where applicable, residents, local businesses and services will be kept informed of the timing of the works in advance.

The Contractor will keep site access points clear at all times and will design and construct site access points to a suitable standard to enable the smooth access and egress of vehicles in a forward direction to limit disruption to road users due to use of the access points.

It should be noted that the delivery route for the 100 tonne crane at the Avon Bridge site will require parking controls on Marine Parade, Pill due to the limited space on the road. This is to avoid any conflict with parked cars on this stretch.

TABLE 5.1
Description of the main construction delivery routes

Delivery Route	Description
1	Exit Junction 19 of the M5 then follow the Portbury Hundred (A369), crossing over the B3124/Sheepway roundabout and then turning right at the A369/Quays Avenue roundabout. The route ends at a site just to the south of the Harbour Road/Phoenix Way roundabout.
2	Exit Junction 19 of the M5 then follow the Portbury Hundred (A369) until turning right onto Sheepway at the roundabout with the B3124/Sheepway. Follow Sheepway until the bridge heading over the railway line.
3	Exit Junction 19 of the M5 then travel northbound on the Royal Portbury Dock road. Then turn right onto Gordano Way at the roundabout, and then turn right onto Marsh Lane. The entrance of the site is then accessed at the second lane on the left.
4	Exit Junction 19 of the M5 then travel southbound on Martcombe Road (A369) and take the first left onto Priory Road. Travel on Priory Road which leads onto Lodway, and then follow until it turns onto Heywood Road. Continue along Heywood Road and turn left onto Mount Pleasant. Continue along Mt. Pleasant, followed by Underbanks (going under the railway underpass) and then onto Myrtle Hill and Marine Parade. Continue on Marine Parade until reaching the junction with Avon Road. At this junction turn right onto Avon Road and then left onto Severn Road. It should be noted that the roads in the latter half of this journey are narrow and thus may cause an issue for large vehicles.
5	Exit Junction 19 of the M5 then travel southbound on Martcombe Road (A369) until turning left at the junction with Pill Road. Travel northbound along Pill Road until it leads onto Ham Green. Turn right at the roundabout onto Macrae Road. Travel along Macrae Road until turning right onto Hart Close followed by a left onto Chapel Pill Lane. The site can then be accessed by taking the first right off Chapel Pill Lane onto a track.

Delivery Route	Description
6	Leave Junction 18 of the M5 and then proceed along the Portway (A4) until taking the A3029. Leave the A3029 and turn right to go underneath Ashton Road (A370) and turn right. Continue onto Clanage Road.
7	Leave Junction 18 of the M5 and then travel along the Portway (A4) until taking the A3029 (Brunel Way over the Cumberland Basin). Follow the A3029 southbound until turning right at the Barons Close roundabout onto the A369.
Avon Bridge Crane Route	Leave Junction 19 of the M5 and travel south east along Martcombe Road. Turn left onto Pill Road which leads onto Ham Green. Continue until turning left at Mt. Pleasant which leads onto Underbanks. Follow this around until it joins Marine Parade followed by Avon Road.

FIGURE 5.1

MetroWest Phase 1 Construction Delivery Routes - Portishead

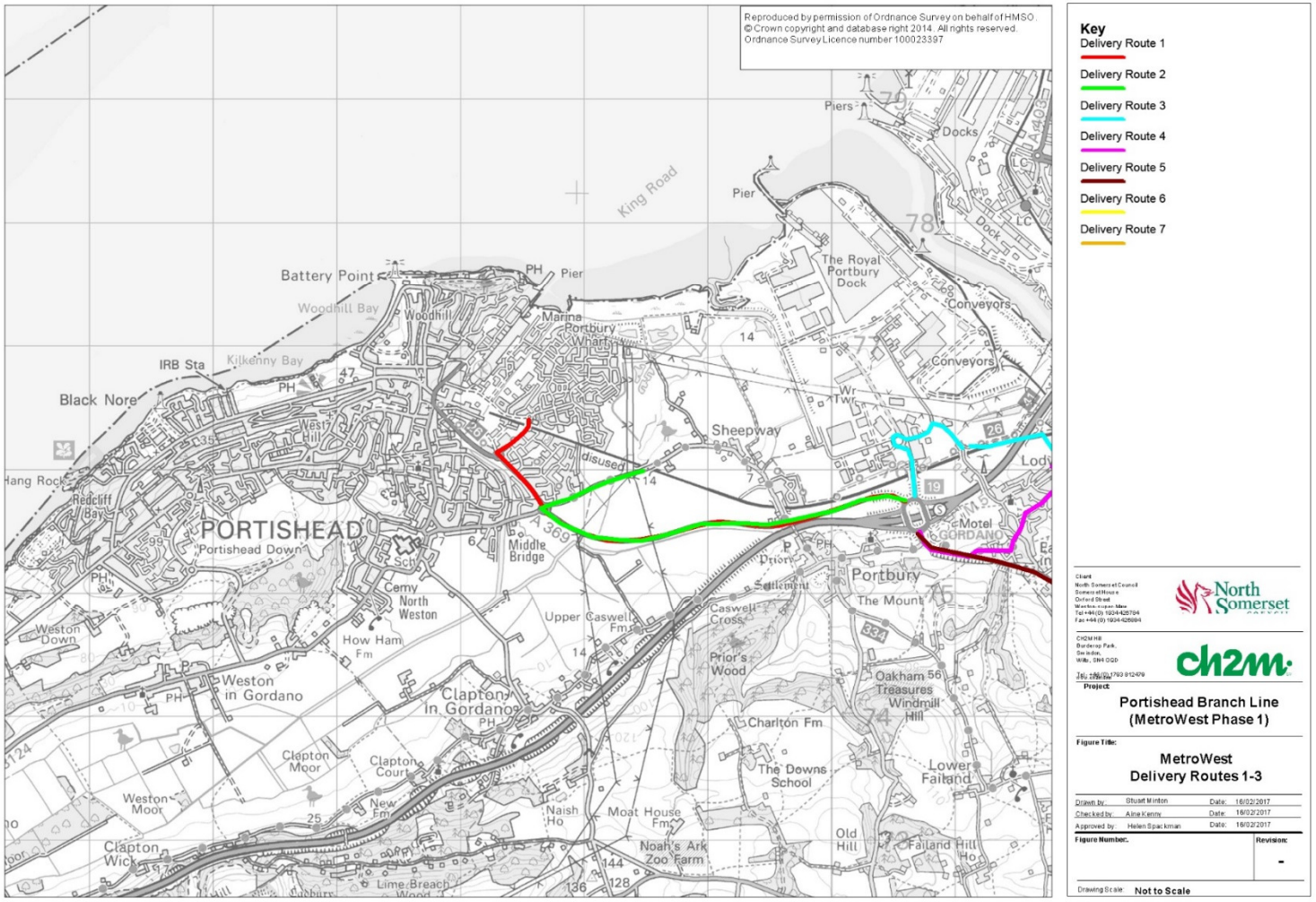


FIGURE 5.2

MetroWest Phase 1 Construction Delivery Routes – Pill and Avon Gorge

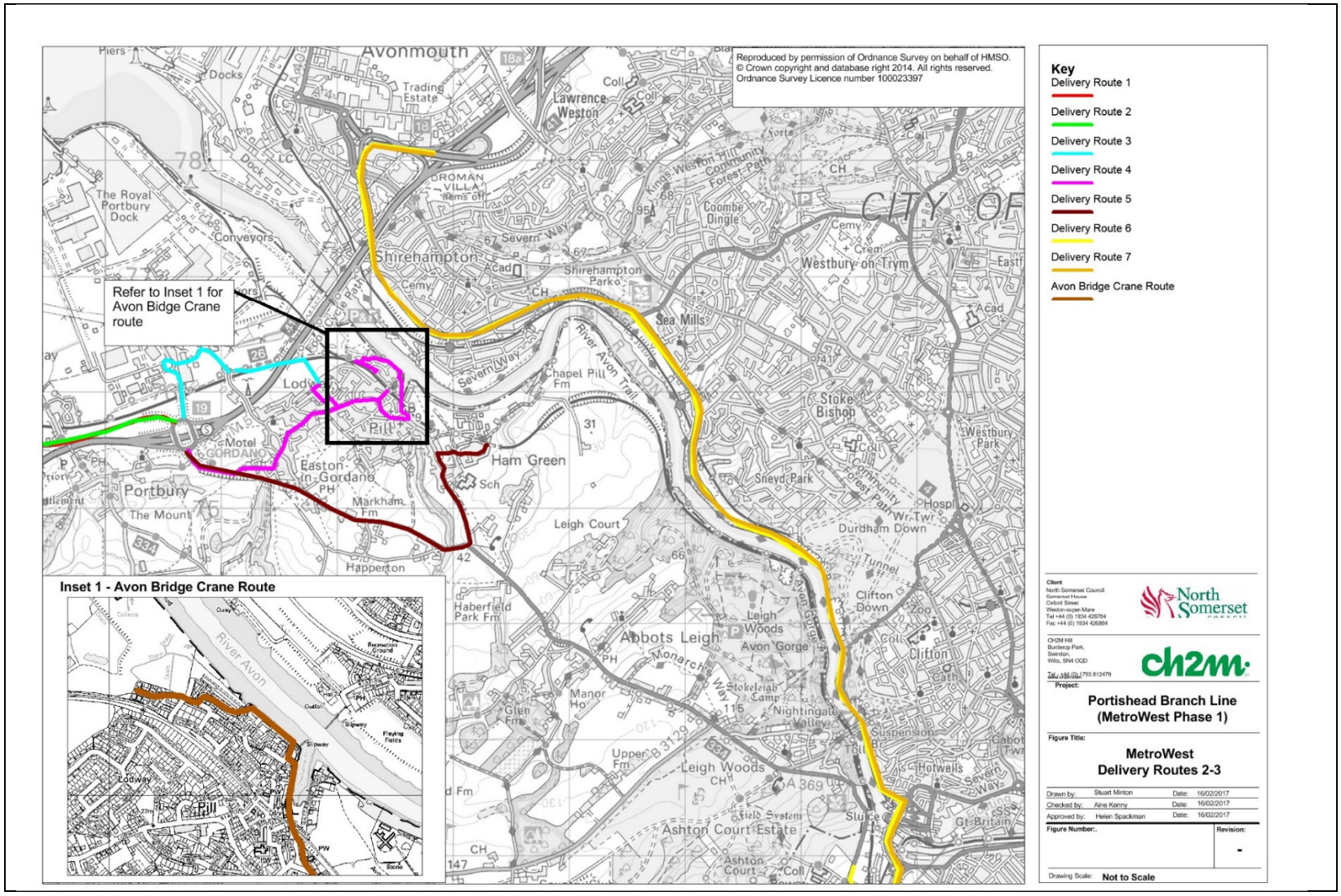
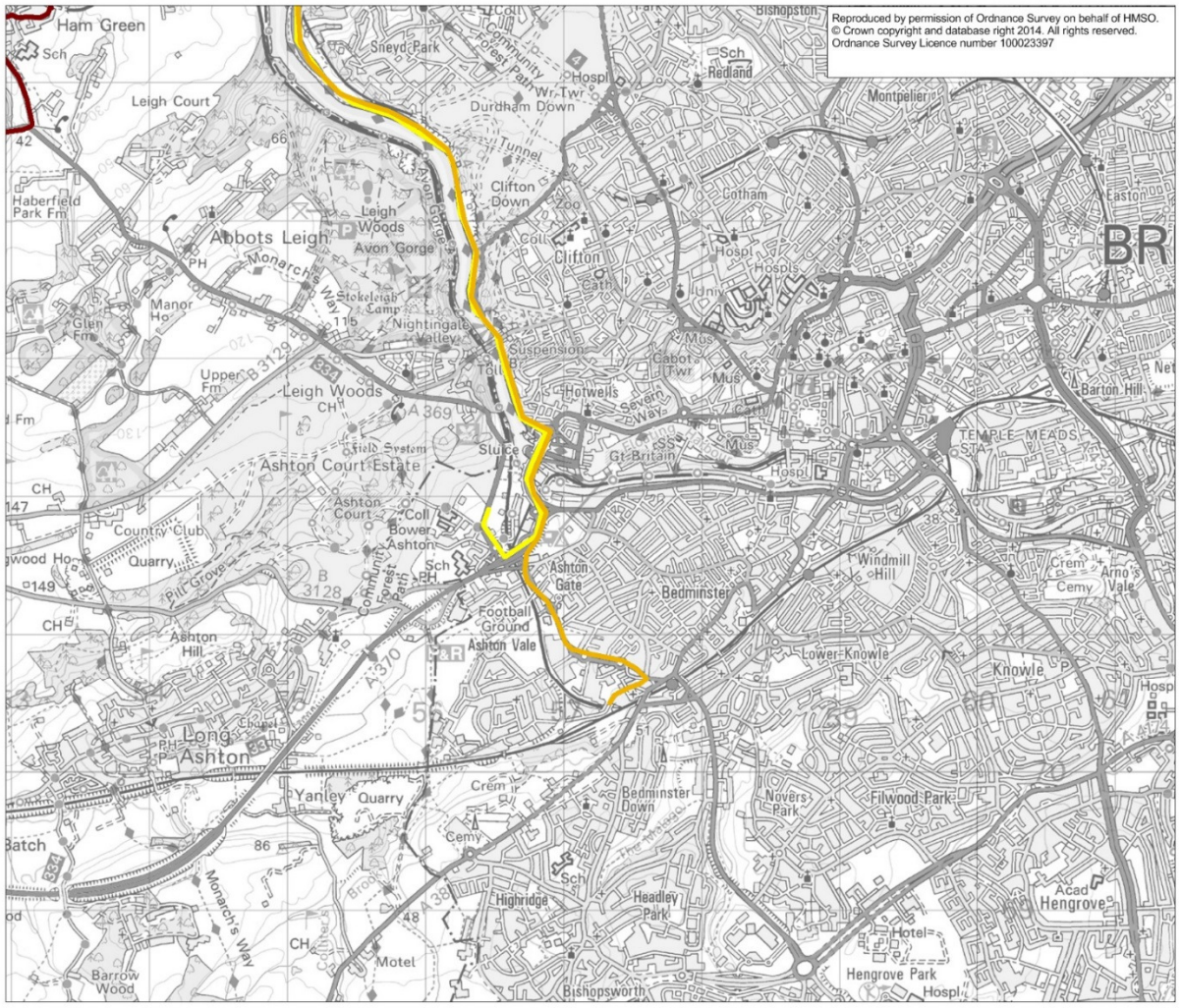


FIGURE 5.3

MetroWest Phase 1 Construction Delivery Routes – Avon Gorge and Ashton Vale



Key

- Delivery Route 1
- Delivery Route 2
- Delivery Route 3
- Delivery Route 4
- Delivery Route 5
- Delivery Route 6
- Delivery Route 7

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Portishead Branch Line (MetroWest Phase 1)

Figure Title:

MetroWest Delivery Routes 3-3

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Figure Number:. Revision: -

Drawing Scale: **Not to Scale**

5.4 Abnormal Loads

The construction works will involve the delivery of a number of abnormal loads and the movement of high volume materials. The extent and volume of these loads is currently not known but as the construction strategy is finalised, this information will become clearer.

Nevertheless, the following principles will apply to abnormal loads:

- To minimise disruption to traffic, abnormal loads will be grouped together and travel in convoy wherever possible;
- Careful consideration will be given whether the highway network can accommodate abnormal loads. This may require, in some instances, loads being broken into smaller blocks to minimise impacts;
- Prior to transportation of the first abnormal load, an access route survey feasibility report will be undertaken;
- The transport of abnormal loads will be timed to be moved outside peak traffic hours to minimise disruption. These deliveries will be pre-arranged and will meet the requirements of the Police, the Local Highway Authority and Highways England; and
- Information will be provided to local residents, businesses and services about the delivery of abnormal loads. The most effective way of communicating this information will be agreed at the appropriate time.

5.5 Phasing of Construction and Operating Periods

The Construction Strategy for the Scheme will detail the construction programme of the various component parts. Given part of the Scheme involves upgrading part of an operational railway, there may be a requirement for either temporary possessions or periods of night time working. Whilst the aim will be to minimise construction related traffic particularly in peak traffic periods on the highway network, construction hours may vary.

5.6 Traffic Management Measures in Compounds

The detailed CTMP will provide specific information for each compound. For each compound, the following principles will apply:

- Preparation and submission of a construction compound transport plan. This will include a block plan, indication of access points and connections to the highway network, surrounding land uses detail of security fencing and health and safety signage, internal layout and parking;
- The construction site will be managed so that vehicles and pedestrians using site routes can move around safely. This will include separate entry and exit gateways and clearly marked crossings. Where access onto highway is required, an assessment of a safe visibility splay will be undertaken;
- Vehicle movement on site will be controlled through designated parking areas and the location of storage areas so that delivery vehicles do not have to cross the site. Provision will be made for turning movement within each site so that, where possible, vehicles can leave and enter in forward gear; and
- Additional control measures such as banksmen who will be responsible to control manoeuvres and gatekeepers will be in place. Internal speed limits will be restricted to 5 mph.

5.7 Traffic Management Measures on the Highway Network

The final part of the mitigation will be a requirement to produce traffic management plans for the impacts on the highway network. The traffic management plans will provide an assessment of the following:

- Existing conditions. This includes all users of the highway including non-motorised users, key trip generators such as local schools and local services such as public transport;
- An assessment of the impacts. This may include a full temporary closure or a partial closure such as the use of temporary signals. Diverting pedestrian routes taking into account the importance of desire lines and the needs of those with physical or visual impairment;
- A review of the measures required. This should include any additional control measures that may be required such as manning of signals, notification and enforcement by local police; and
- The need for Travel Demand Management (TDM) measures. This includes the communication and dissemination of information to the public, businesses and local services. There may be a requirement to promote alternative routes or modes or recommendation not to travel at specific times.

5.8 Closures & Diversions

Where the Contractor proposes to provide a temporary or alternative route or access, the construction and layout will be suitable for the traffic anticipated to use the route.

Temporary or substitute road access will be maintained by the contractor throughout the works to adequately provide for the traffic using the affected routes. The Contractor will apply for any consents and prepare any orders or regulations required for temporary traffic management schemes or road closures and comply with the requirements of the relevant roads authority in this regard to ensure that temporary or substitute roads have the appropriate legal status.

Where temporary road closures are required to facilitate construction works, the Contractor will consult with Network Rail, Highways England (as relevant), relevant local authorities and the police. The Contractor will be required to demonstrate to the relevant authorities that the construction work cannot be carried out safely without the road closure. Agreement on diversion routes will also be required prior to works commencing.

Where temporary closures are required, the Contractor will keep the closures of public rights of way to as short a time as reasonably practicable. Local residents, local schools, work locations and other users of the area affected should be informed in advance of the dates and durations of the closure and provided with details of diversion route(s). Diversion route(s) must be signposted.

5.9 Monitoring

The Contractor will monitor traffic management schemes, traffic levels on roads and site accesses and public roads adjacent to access points to maintain their effectiveness and condition throughout the works and to provide for the safety of traffic, the public and construction staff during traffic management works. The Contractor will provide information regarding any delays to traffic due to construction works to Network Rail.

5.10 Construction Workers Travel Plan

A Construction workforce travel plan will be prepared by the Contractor to encourage the use of sustainable modes of transport where possible and to reduce the impact of workforce travel on the local residents and businesses. The plan will include:

- Identification of a travel plan co-ordinator and a description of their responsibilities;

- Key issues to consider for each site compound/construction site along the length of the Project;
- Forecast workforce trip generation and how it is likely change during the construction period;
- Mitigation measures to reduce the impact of the construction workforce on the local and strategic road networks;
- Targets to reduce individual car journeys by the construction workforce; and
- The process for monitoring and reviewing the construction workforce travel plan.