

Date: 20 September 2024

Ref.: CVLNCCP02-G1-01

Email: cvltrackaccess@amey.co.uk

DB Cargo (UK) Ltd
Freightliner Heavy Haul Ltd
Freightliner Ltd
GB Railfreight Ltd
Network Rail
Office of Rail and Road (ORR)
RailAdventure UK Ltd
Rail Express Systems Ltd
Transport for Wales (TfW)
Transport for Wales Rail Ltd
Vintage Trains Ltd
Welsh Ministers

Dear colleague,

CVL Network – Network Code Condition G1 Network Change Proposal: Cardiff Bay Station platform changes and Overhead Line Electrification System (“OLE”) Commissioning Heath Junction to Caerphilly Bay Platform and Coryton

This Network Change Notice is issued in accordance with Condition G1.1 of the Network Code and constitutes a formal proposal for a Network Change under that Condition. This Notice is issued to describe specific elements of the overall “CVL Transformation Programme” and is a consequence of having issued a G5 Notice of Intended Scope on 23 January 2024.

Seilwaith Amey Cymru / Amey Infrastructure Wales Limited (“AIW”) wishes to implement the Network Changes described above and is required under Condition G1 to give notice of its proposal to the parties shown above. Condition G2 allows all affected train operators to consider the scheme and bring to AIW’s attention any matters that concern them regarding the change. Access Beneficiaries may also assess the impact of the proposed change on their business and inform AIW what the direct costs and benefits of implementing the change are likely to be (if any).

This Network Change Notice details AIW’s proposals:

Proposed Scheme Title	Proposed Scheme Detail	Appendix*
Energisation of the Overhead Line Electrification system (OLE) from Heath to Coryton and from Heath to Caerphilly	This energisation event will see all of the 25kV OLE and HV distribution assets from the new sub-station at Queen Street North Junction to the end of the Coryton branch and Caerphilly Station brought into use. This will see the entry into service of the new OLE, overhead line switches, HV cabling, and an electrical substation.	Appendix A

Proposed Scheme Title	Proposed Scheme Detail	Appendix*
Line speed improvements on the Coryton branch.	Increases to the permissible speed for passenger trains throughout the Coryton branch. New “head of train” permanent speed restrictions will also be implemented over the existing footpath level crossings at Ty Glas and Whitchurch.	Appendix B
Cardiff Bay Station entry into service of platform 2 and temporary closure of platform 1	Realignment of the existing track between Queen Street South Junction and Cardiff Bay to facilitate the ongoing construction of the future new station and double-tracking of the whole branch. The historic island platform structure at Cardiff Bay will be widened and the new platform 2 (east / down-side of the formation) will be entered into service. The existing platform 1 will temporarily be taken out of use to facilitate the ongoing construction works.	Appendix C
Major Feeding Diagram (“MFD”)	Major Feeding Diagram for Core Vally Lines Network	Appendix D
Telephony Arrangements. Removal of Signal Post Telephones (SPTs)	This programme of recoveries, previously consulted as CVLNCCP01- G5 and CVLCP02-G5 is to continue onto the Rhymney and Coryton lines	Appendix E

* Note: Full details of these works as well as the detailed specification of the scheme is set out in the relevant Appendix to this notice and includes a plan showing where the work is to be done and the parts of the Network and associated railway assets likely to be affected.

In accordance with Conditions 5.7 and 5.12 of Part G of the CVL Network Code, any expansion of the scope of the Transformation Programme, including further detail to previously consulted scope, will be consulted with Access Beneficiaries. As defined by Condition G7 of the CVL Network Code, AIW will follow Condition G1 in order to consult with Access Beneficiaries and to establish changes to the CVL Network.

AIW is proposing these changes as part of the Transformation Programme to increase the capability of the Cardiff Core Valley Lines Network (the “CVL”).

In accordance with Condition G1.2(d), AIW is seeking comments from you to establish whether or not you are content for the changes to be implemented. We invite you to consider the proposed scheme and forward your comments to us by **20 October 2024**. If a formal response is not received by this date, it will be deemed that you accept the proposal without compensation.

Costs and Compensation

Condition G2 of the CVL Network Code allows all affected train operators to consider the scheme and bring to AIW’s attention any matters that concern them regarding the change. Train Operators may also assess the impact of the proposed change on their business and inform AIW what the direct costs and benefits of implementing the change are likely to be (if any).

Additional Terms and Conditions

Once this G1 Network Change has become an established Network Change (as defined in Part G of the CVL Network Code), AIW may, if it wishes to make any modification to the terms or conditions (including as to the specification of the works to be done, their timing, the manner of their implementation, the costs to be incurred and their sharing, and the division of risk) on which the change was established, use the following variation procedure:

AIW shall ensure the specific variation (or variations) is formally communicated to all parties to this notice (the original consultation notice) for consideration. The parties to the consultation shall consider and respond to the variation (or variations) in accordance with the procedures set out in Conditions G1 and G2 allowing for the changes in detail that must follow as a result of the procedure applying only to the proposed variation. It shall not be necessary for AIW to re-issue the entire Network Change notice for consultation.

Please respond using the standard form (b), (c), (d) or (e) as appropriate, each of which can be located on AIW's website <https://tfw.wales/projects/consultation-centre/cvl-infrastructure-manager>. Please send all responses electronically to cvltrackaccess@amey.co.uk.

Respondents should clearly indicate if they consider that all or part of their response is "sensitive information" as defined in Part A of the CVL Network Code.

Please let me know if you require any further details to enable you to respond formally to this notice.

If you are no longer the appropriate person in your organisation to receive communications such as this, I would be grateful if you could let me know.

I look forward to receiving your response to enable the progression of this proposal.

Yours faithfully,



Nick Rowe

Rheolwr Rheoleiddio a Chysylltiadau Cwsmeriaid / Regulatory & Customer Manager
E: nick.rowe@amey.co.uk M: + 44(0)7885 225692

Appendix A – Proposed scheme for the energisation of the Overhead Line Electrification System (“OLE”) from Heath to Coryton and from Heath to Caerphilly

Reasons for Proposed Change

As part of the CVL Transformation programme and the requirement to support the introduction of new electric rolling stock on the CVL Network, the railway is being electrified with a 25kV overhead line contact system. The OLE is supported by 25kV substations distributing the electricity around the Network.

The stage of energisation described in Appendix A will bring into service the OLE from Heath to Coryton and from Heath to Caerphilly. During later stages the ECR will expand its control area to cover the electrification infrastructure to Cardiff Bay and Rhymney.

NB This electrification system is of a new discontinuous type. For electric traction to operate in the area the locomotive or rolling stock needs to be certified as compatible with the system. The system does not compromise the running of any type of diesel trains on the CVL Network.

Specification of Works

This energisation event will bring into use all 25kV OLE and HV distribution assets from the limit of electrification between Queen Street North and Heath Junction through to the end of the branch at Coryton and to the limit of electrification south of Lisvane and Thornhill Station.

The bay platform at Caerphilly Station will also have 25kV equipment brought into use via HV cabling from the limit of electrification south of Lisvane and Thornhill Station.

This will see the Entry into Service of all new OLE, overhead line switches, HV cabling, and electrical substations as detailed on the Major Feeder Diagram (“MFD”) (TRAN01-KAW-R0-TPS-DDR-E-EP-000010-S4-B03, see Appendix D).

This will include the commissioning of a new substation at Queen Street North Junction.

The 25kV contact system has been taken from Network Rail’s UKMS100 design range. This is an interoperable statement of verification against the Energy National Technical Specification Notice (“ENE NTSN”). The system will be compliant with BS EN 50122-01. The system has a minimum energised wire height, in accordance with GL RT 1210 and Rail Industry Standards (“RIS”) RIS 1853 and RIS 2715.

The part of the electrification system brought into use at this stage contains Permanently Earthed Sections (“PES”) at Birchgrove Station & Caerphilly Road Bridge. Trains will require a compatible on-board energy system to pass through these PES areas.

NB Catenary Free Sections (“CFS”) have no overhead contact system at all and trains must pass through with the pantograph lowered. Permanently Earthed Sections (“PES”) have a physically continuous overhead contact system but the wires are not energised. Trains can pass through PES areas with the pantograph raised.

CFS Sections are as follows:

CAR 02.313km (Limit of Electrification) Up and Down Rhymney.

South of Lisvane & Thornhill Station to North of Caerphilly

CAR 06.735 km (Limit of Electrification) to

CAR 11.706km (Limit of Electrification) Up and Down Rhymney.

Proposed Timescale

The energisation of the OLE from Heath to Coryton and Caerphilly takes place during the start of commissioning under Rules on 30th October 2024.

Amendments to Sectional Appendix

Sectional Appendix Changes are shown in Annex 2 to this document.

To support the alterations described above, the following revisions will be made to the Western Route Sectional Appendix (June 2024).

The new requirements are shown in **Red** font whilst requirements that are to be removed are shown in **Green**. Any explanatory notes are in **Blue** font

Changes to Operating Instructions

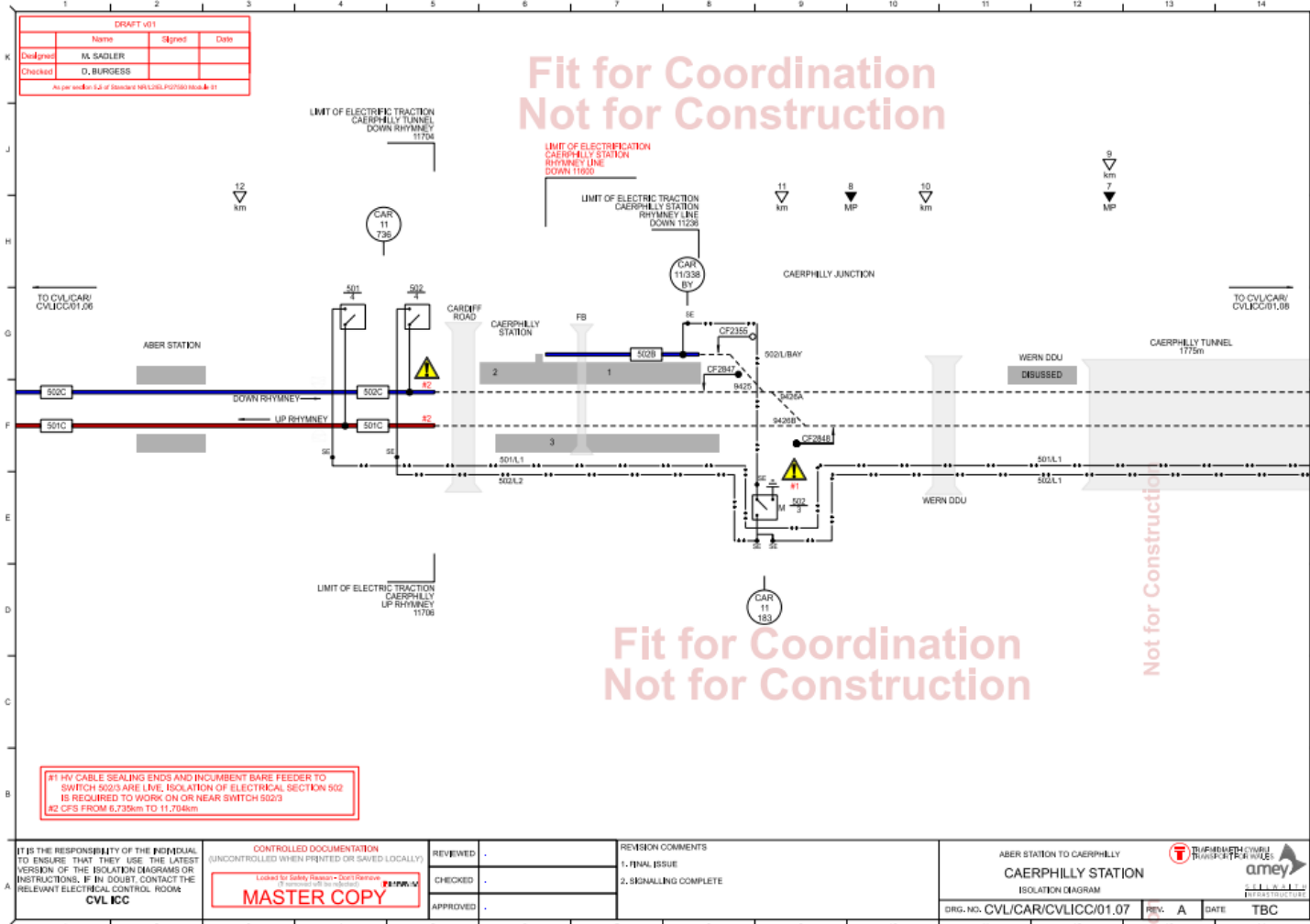
Isolation Diagrams (see Annex 1 to Appendix A)

- TRAN01-PSP-ZZ-CVL-DDR-Y-EP-000127-S1-P02
- TRAN01-PSP-ZZ-CVL-DDR-Y-EP-000128-S1-P02
- TRAN01-PSP-ZZ-CVL-DDR-Y-EP-000129-S1-P02

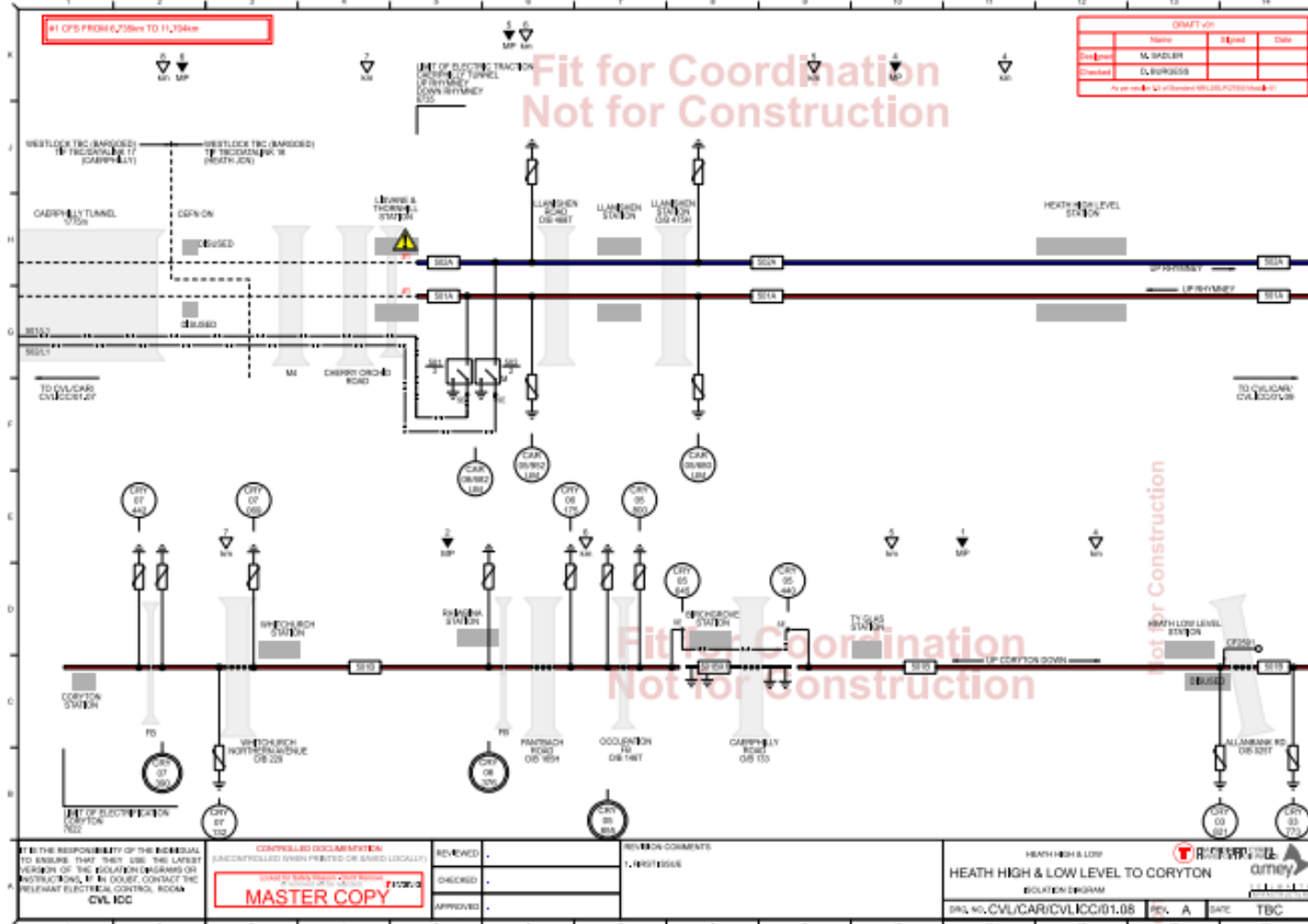
Annex 1 – Isolation Diagrams for the Energisation of the OLE Heath Junction to Coryton and Caerphilly

- TRAN01-PSP-ZZ-CVL-DDR-Y-EP-000127-S1-P02
- TRAN01-PSP-ZZ-CVL-DDR-Y-EP-000128-S1-P02
- TRAN01-PSP-ZZ-CVL-DDR-Y-EP-000129-S1-P02

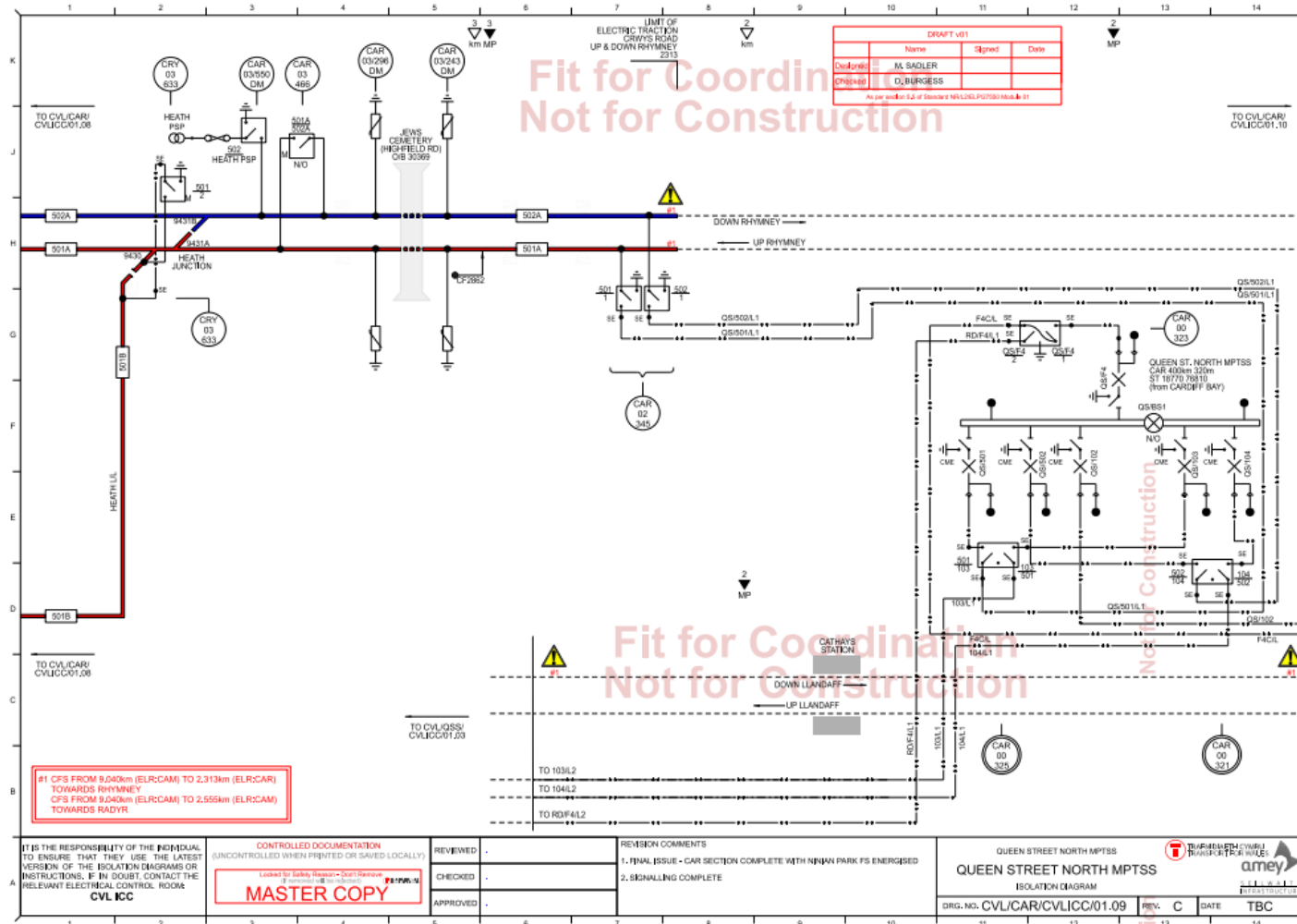
TRAN01-PSP-ZZ-CVL-DDR-Y-EP-000127-S1-P02 Caerphilly



TRAN01-PSP-ZZ-CVL-DDR-Y-EP-000128-S1-P02 Heath Junction to Caerphilly Tunnel and Heath Junction to Coryton



TRAN01-PSP-ZZ-CVL-DDR-Y-EP-000129-S1-P02 Queen Street North MPTSS to Heath Junction



Appendix B – Proposed Scheme for line speed improvements on the Coryton branch.

Reasons for Proposed Change

This scheme is required to deliver train service capacity and performance improvements on the Coryton branch.

Specification of Works

Line speed changes throughout the Coryton branch providing for 45mph and 50mph running of passenger services between Heath Low Level and Coryton in both directions.

New “head of train” permanent speed restrictions will be implemented on the approach to Whitchurch footpath crossing and Ty Glas footpath crossing in both directions. As set out in the Rule Book, trains will be permitted to return to line speed as soon as the front of the train has passed over the crossings.

Signage and other signalling equipment will be updated and/or relocated to reflect these changes in speed including:

- Speed boards
- Whistle boards
- Distant board CF2589 will move closer to Heath Junction by 17m
- AWS permanent magnets
- AWS signage

The buffer stop at Coryton will be renewed and fitted with reflective strips.

Proposed Timeline

Works are to be completed in the planned engineering blockade from 27th October – 2nd November 2024

Amendments to Sectional Appendix

Sectional Appendix Changes are shown in Annex 2 to this document.

To support the alterations described above, the following revisions will be made to the Western Route Sectional Appendix (June 2024).

The new requirements are shown in **Red** font whilst requirements that are to be removed are shown in **Green**. Any explanatory notes are in **Blue** font

Changes to Operating Instructions

There are no other changes to either the Sectional Appendix Local Instructions or existing Operating Instructions, as part of Appendix B to this G1 Network Change Notice.

Appendix C – Proposed Scheme at Cardiff Bay Station to see the entry into service of platform 2 and temporary closure of platform 1

Reasons for Proposed Change

The Cardiff Bay branch is being double-tracked, with two platforms provided at Cardiff Bay and a new station at Butetown. These works are to enable two services per hour from each of Treherbert, Aberdare and Merthyr Tydfil to pass through Queen Street and terminate at Cardiff Bay.

This enabling stage brings into use the new second platform at Cardiff Bay and involves the realignment of the track approaching Cardiff Bay to allow ongoing track, civils and OLE works to proceed.

Specification of Works

This scheme includes track work, minor signalling alterations and new station facilities.

The island platform (existing platform 1 widened) will be constructed and entered into service at Cardiff Bay as platform 2. The existing platform 1 will be temporarily closed off to the public to continue ongoing CVL improvements.

To facilitate the new train path into platform 2 the existing track will be slewed from platform 1 Cardiff Bay, into platform 2 Cardiff Bay. The new down line will be installed as per the permanent design from the buffer and will tie into the existing alignment about 300m to the north of the station.

The existing signalling arrangements will be retained and the method of operation will not change. However, alterations to the existing signalling equipment will be required to match the new track alignment.

- CF2872 AWS to move with the track slew in the same position.
- Axle counters to move with the track slew in the same position.
- The existing buffer stop TPWS OSS to move and be renamed to CB02 BS(OSS) into Platform 2. (Indication at the WROC will remain the same).
Temporary Buffer Stop (CB2 BS) with reflective strips to be added.

Proposed Timeline

Works are to be completed in the planned engineering blockade from 27th October – 2nd November 2024.

Amendments to Sectional Appendix

Sectional Appendix Changes are shown in Annex 2 to this document.

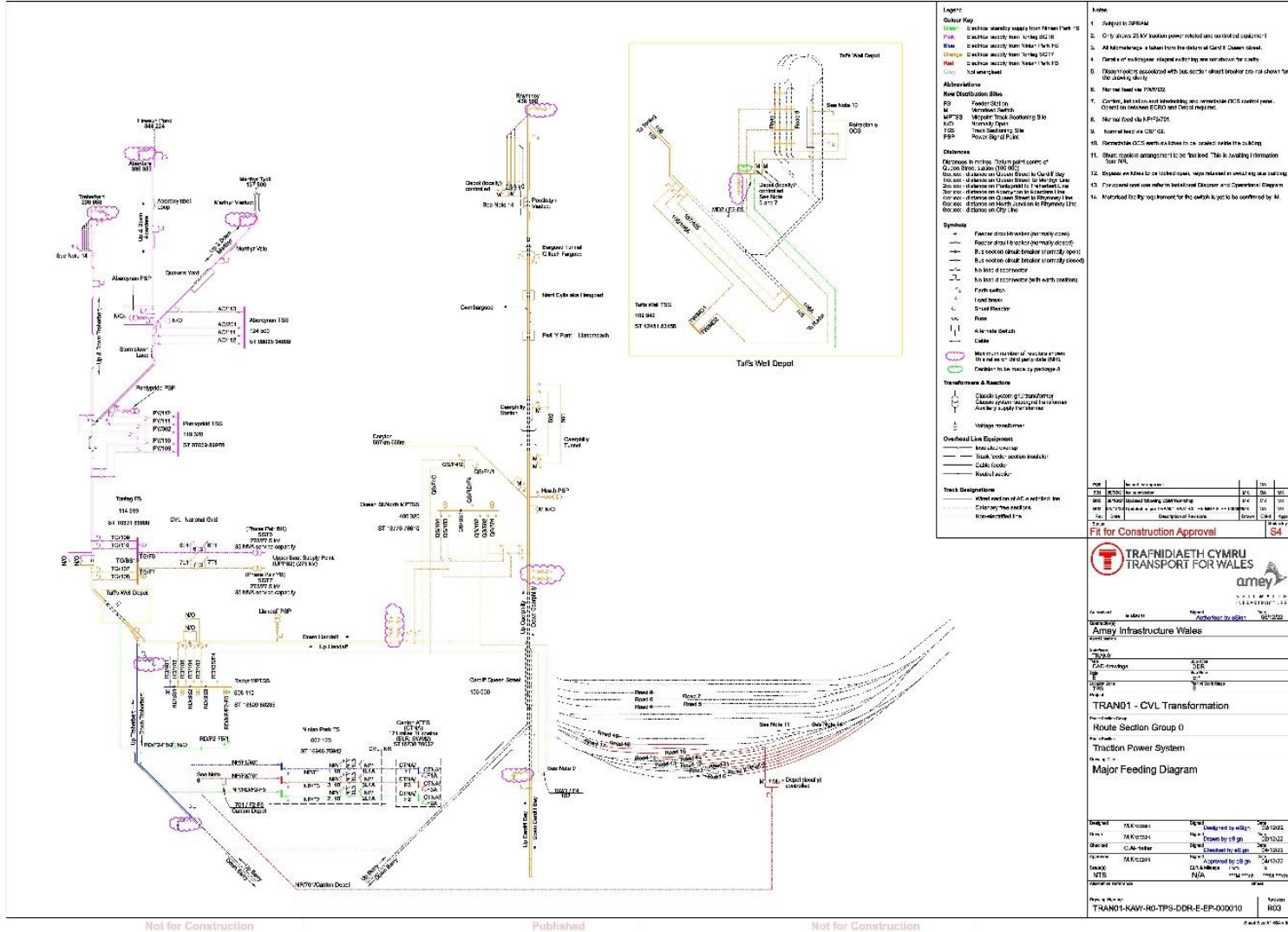
To support the alterations described above, the following revisions will be made to the Western Route Sectional Appendix (June 2024).

The new requirements are shown in **Red** font whilst requirements that are to be removed are shown in **Green**. Any explanatory notes are in **Blue** font

Changes to Operating Instructions

There are no other changes to either the Sectional Appendix Local Instructions or existing Operating Instructions, as part of Appendix C to this G1 Network Change Notice.

Appendix D – Major Feeding Diagram (“MFD”)



Seilwaith Amey Cymru / Amey Infrastructure Wales Limited is a company registered in England and Wales with registered number 11389544 and registered office at Transport for Wales CVL Infrastructure Depot/Ty Trafnidiaeth, Treforest Industrial Estate, Gwent Road, Pontypridd, United Kingdom, CF37 5UT

Appendix E – Telephony Arrangements (Removal of Signal Post Telephones)

Reasons for Proposed Change

As previously consulted, a review of the lineside telephony arrangements has been undertaken and it is proposed to remove the majority of the Signal Post Telephones (SPT) and Points Zone Telephones (PZT) throughout the CVL. This programme of recoveries is to continue onto the Rhymney and Coryton lines in 2024. If not already completed, Access Beneficiaries are recommended to review their operational performance risk assessments to determine whether the train crew should be provided with a public network mobile phone as a backup. Please note, GSM-R coverage has been surveyed and SPTs will be retained at any locations with inadequate signal strength

Specification of Works

The majority of the existing lineside telephones, including most Signal Post Telephones (“SPTs”) and Points Zone Telephones (“PZTs”) will be removed, with the primary method of communication from the trackside (for both train drivers and infrastructure workers) to the signaller becoming GSM-R. **NB** GSM-R coverage has been surveyed and SPTs will be retained at specific locations with inadequate signal, such as Caerphilly Tunnel

Proposed Timeline

Works are to be completed in the planned engineering blockade from 27th October – 2nd November 2024

Amendments to Sectional Appendix

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To support the alterations described above, the following revisions will be made to the Western Route Sectional Appendix (June 2024).

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Changes to Operating Instructions

There are no other changes to either the Sectional Appendix Local Instructions or existing Operating Instructions, as part of Appendix E to this G1 Network Change Notice.

Annex 2 Sectional Appendix Changes

To support the alterations described above, the following revisions will be made to the Western Route Sectional Appendix (June 2024).

The new requirements are shown in **Red** font whilst requirements that are to be removed are shown in **Green**. Any explanatory notes are in **Blue** font

LOR	Seq.	Line of Route Description	ELR	Route	Last Updated
GW810	001	Rhymney to Queen Street North Jn	CAR	Wales - TFW CVL	02/06/2023
Location		Mileage M Ch	Running lines & speed restrictions		Signalling & Remarks
End of Line		24 00			GSM-R
RHYMNEY/RHYMNI		23 72			TCB Wales Rail Operating Centre RA6 (Valleys) (CF)
		23 64			Non-SPT Area (Excluding CF7403 SPT) Axle counter area Platform - 127m (138 yards)
		23 49 *			4-Rhymney TFW LMD U&DR - Up & Down Rhymney
		23 28 *			Platform - 127m (139 yards)
Pontlottyn Viaduct 128m		23 00			PONTLOTTYN
		22 75			Platform - 127m (139 yards)
		22 65			① Points installed & out of use
		21 36			Platform - 124m (135 yards)
Craig Rhymney LC (UWC)		20 72			TIR-PHIL
		20 59 *			Platforms - 124m (135 yards)
		20 40			Platform - 124m (135 yards)
		20 16 *			
BRITHDIR		19 31			
		19 04 *			

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LOR	Seq.	Line of Route Description	ELR	Route	Last Updated	
GW810	002	Rhymney to Queen Street North Jn	CAR	Wales - TFW CVL	08/04/2023	
Location		Mileage M Ch	Running lines & speed restrictions		Signalling & Remarks	
		19 04			<div style="border: 1px solid black; padding: 2px;">TCB Wales Rail Operating Centre RA6 (Valleys) (CF)</div> <p>Non-SPT Area Axle counter area U&DR - Up & Down Rhymney</p>	
		18 77 *			<p>Platform 1 - 126m (137 yards) Platform 2 - 124m (135 yards)</p>	
Bargoed Viaduct 111m, 120yds		18 21 18 16			<p>Platform 1 - 126m (137 yards) Platform 2 - 124m (135 yards)</p>	
Single Line Jn		18 12 *				
		18 06 *				
BARGOED		18 03 17 76 *				
		17 59 *				
Bargoed South		17 54 *				
		17 35			<p>Platforms - 16m (17 yards)</p>	
GILFACH FARGOED		17 33 *				
		17 17 *				
<p>UR - Up Rhymney DR - Down Rhymney</p>						

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LOR	Seq.	Line of Route Description	ELR	Route	Last Updated	
GW810	003	Rhymney to Queen Street North Jn	CAR	Wales - TFW CVL	29/06/2024	
Location		Mileage M Ch	Running lines & speed restrictions		Signalling & Remarks	
(Start/end of diagram)		17 17 17 10 *			TCB Wales Rail Operating Centre RA6 (Valleys) (CF)	
PENGAM		16 30			Non-SPT Area Axle counter area	UR - Up Rhymney DR - Down Rhymney
Gibbons LC (UWC)		15 57 * 15 40			Platforms - 124m (135 yards) Location of Known Low rail adhesion Down 16m 50ch to 16m 20ch	
HENGOED		15 20 * 14 55			Platforms - 124m (135 yards)	
YSTRAD MYNACH		14 10 * 13 70 * 13 63(Up) 13 57(Dn)			Platforms - 124m (135 yards)	
Ystrad Mynach South Jn (Start/end of diagram)		13 41 13 40 *				

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LOR	Seq.	Line of Route Description	ELR	Route	Last Updated
GW810	004	Rhymney to Queen Street North Jn	CAR	Wales - TFW CVL	29/06/2024
Location		Mileage M Ch	Running lines & speed restrictions		Signalling & Remarks
(Start/end of diagram)		13 40			<div style="border: 1px solid black; padding: 2px;">TCB Wales Rail Operating Centre RA6 (Valleys) (CF)</div> <p>Non-SPT Area Axle counter area</p> <p>GSM-R </p> <p>DRL - Down Rhymney Loop, 645m, 2116ft</p> <p>Platforms - 124m (135 yards) Location of Known low rail adhesion Both lines 11m 15ch to 10m 58ch</p> <p>Platforms - 126m (137 yards)</p>
		12 11 *			
		12 10 *			
		11 40 *			
		11 32 *			
		11 14 *			
LLANBRADACH		10 74(Up)			
		10 68(Dn)			
		10 25 *			
		10 17 *			
ENERGLYN AND CHURCHILL PARK		09 45			
(Start/end of diagram)		9 35 *			

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LOR	Seq.	Line of Route Description	ELR	Route	Last Updated
GW810	005	Rhymney to Queen Street North Jn	CAR	Wales - TFW CVL	27/08/2022
Location		Mileage M Ch	Running lines & speed restrictions		Signalling & Remarks
ABER		8 70			GSM-R TCB Wales Rail Operating Centre RA6 (Valleys) (CF)
CAERPHILLY/ CAERFFILI		8 21			
	8 14 *				
	8 13 *				
	7 19 *				
	7 15 *				
Caerphilly Tunnel 1775m (1941 yards)		7 14 to 6 06			Platforms - 124m (135yds) Platform 1 - 150m (164yds) - PP/C Platforms 2 and 3 - 238m (260yds) Platform 1 (only) Electrified from 5m18ch to 5m20ch <div style="border: 1px solid red; padding: 2px; display: inline-block;">AC CVLICCC</div>

LOR	Seq.	Line of Route Description	ELR	Route	Last Updated	
GW810	006	Rhymney to Queen Street North Jn	CAR	Wales - TFW CVL	27/08/2022	
Location		Mileage M Ch	Running lines & speed restrictions		Signalling & Remarks	
LISVANE AND THORNHILL / LLYS-FAEN		5 76 *			<p>TCB Wales Rail Operating Centre RA6 (Valleys) (CF)</p> <p>Non-SPT Area Axle counter area UR - Up Rhymney DR - Down Rhymney</p> <p>Location of known low rail adhesion Both lines 5m 55ch and 5m 45ch</p> <p>Platforms - 124m (135yds)</p> <p>Location of known low rail adhesion Up 4m 79ch to 5m 45ch Both lines 5m 15ch and 4m 31ch</p> <p>Platforms - 124m (135 yards) (Tel - Up platform)</p> <p>AC CVLICC</p> <p>Location of known low rail adhesion Up 3m 65ch to 4m 61ch Both lines 3m 65ch and 3m 50ch</p> <p>Platforms - 124m (135yds)</p>	
LLANISHEN		4 61				
Limit of Electrification DN		5 29				
Limit of Electrification UP		5 28				
HEATH HIGH LEVEL / LEFEL UCHEL HEATH		3 52				
Heath Jn		3 32				
Limit of Electrification UP/DN		2 49				
		1 27 *				
Queen Street North Jn		1 22 1 17				

LOR	Seq.	Line of Route Description	ELR	Route	Last Updated
GW828	001	Coryton to Heath Jn	CRY	Wales - TFW CVL	27/08/2022
Location		Mileage M Ch	Running lines & speed restrictions		Signalling & Remarks
CORYTON		2 57 2 51 *			<p>OT Wales Rail Operating Centre RA6 AC CVLICC (Valleys) (CF)</p> <p>Axle counter area Non-SPT Area</p> <p>Platform - 64m, 71yds</p> <p>Platform - 99m, 107yds</p> <p>Platform - 108m, 117yds</p> <p>Platform - 64m, 71yds</p> <p>Platform - 49m, 54yds Exceptionally Poor Rail Adhesion Down direction 1m 40ch to 1m 10ch</p> <p>Platform - 107m, 116yds</p> <p>Permanently Earthed Section 1m 27ch - 1m 37ch</p>
WHITCHURCH/ EGLWYS NEWYDD WHITCHURCH FP		2 25 2 12			
RHIWBINA		1 78			
BIRCHGROVE		1 37			
TY GLAS TY GLAS FP		1 21 * 1 20			
HEATH LOW LEVEL/ LEFEL ISEL HEATH		0 29 0 26 *			
Heath Jn		0 15 3 32			

LOR	Seq.	Line of Route Description	ELR	Route	Last Updated
GW839	001	Queen St. South Jn to Cardiff Bay	CAM	Wales - TFW CVL	27/08/2022
Location	Mileage M Ch	Running lines & speed restrictions	Signalling & Remarks		
Queen Street South Jn	0 66		<div style="border: 1px solid black; padding: 5px;"> OT Wales Rail Operating Centre RA6 (Valleys) (CF) </div> <p>Non-SPT Area Axle counter area</p> <p>① - Up/Down Cardiff Bay Chord</p> <p>Platform - 87m, 95yds</p>		
CARDIFF BAY/ BAE CAERDYDD	0 02				

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