NETWORK RAIL

Bridge Detailed Examination Report

ELR: COL	**Contract Mileage: 189m 0838yds 38.09chs**	**Struc. Ref: 66**
Examination Type: Bridge Detailed	**NR ID: 12010424**	**Exam Date: 11-Dec-2019**
Area: Central East	**BRS: 0**	**OS Ref: SJ83849748**
Structure Name: RIVER MEDLOCK (MSJA VIADUCT)	**Type: BU**	**Exam ID: 2514574**
Route: London Road - Ordsall lane		**Complete Exam: No**

Section A: To Be Completed By The Examining Organisation

HIDDEN PARTS NOT EXAMINED (EXCLUDING FOUNDATIONS)	Part	Reason
	US/DS internal walls, most of LM and part of HM pier.	Obscured by cladding
	Pier faces in other spans	Tenanted access issues

ITEM	DESCRIPTION	LOCATION	Est. Cost £ +/- 20%	Priority Within	Quantity	Severity	Probability	Risk Score	Works Category
1	Repair / replace broken metal strapping to Downside elevation; steel section to match that of original / existing strapping.	LM DOWNSIDE	5000.00	6yrs	1 unit	2	3	E6	Steelwork Repairs
2	install additional drainage pipes through barrel with appropriate guttering.	Soffit	1000.00	6yrs	1 unit	2	3	E6	Drainage
3	Remove vegetation from elevations, treat to prevent regrowth.	elevations	800.00	6yrs	2 unit	2	3	E6	Vegetation
4	Stitch and grout fractures to barrel.	Barrel soffit	3000.00	6yrs	7 unit	2	3	E6	Pin and Grout
5	Repoint fractures to parapet and facering (US). Reposition bulging bricks, repoint DOJs, LTH bricks and fill voids. (DS)	US facerings, DS infill wall	2000.00	3yrs	8 m2	4	2	M8	Brickwork/Stone Repairs
6	Remove any loose concrete, make good as required. Install additional ties into brickwork as required.	Soffit, US LM corner	1000.00	1yr	1 m2	5	1	S5	Concrete Repairs

History of Live Significant Defects

No	Description	Location	Exam Date	Access Gained	Exam Type	Rec Raised	Risk Score	Access Req'd	Deter - ioration	Repaired	Flagged for Closure	Engineer Comments
1	Broken metal strapping.	LM down side.	29/04/13	Y	D	Y	6	Y	Baseline	N	N	New defect
1	Broken metal strapping.	LM down side.	25/03/14	Y	V	Y	6	Y	N	N	N	No change
1	Broken metal strapping.	LM down side.	20/05/15	Y	V	Y	6	Y	N	N	N	Old standing with little deterioration
1	Broken metal strapping.	LM down side.	17/02/17	Y	V	N	4	Y	N	N	N	NO CHANGE
1	Broken metal strapping.	LM down side.	03/11/17	Y	V	N	4	Y	N	N	N	Old standing with no deterioration
1	Broken metal strapping.	LM down side.	11/12/19	Y	D	Y	6	Y	N	Y	N	US strapping repaired, description updated.
2	Running water on the face of HM internal pier	Internal face of HM pier	20/05/15	Y	V	Y	5	Y	Baseline	N	N	Safety hazard
2	Running water on the face of HM internal pier	Internal face of HM pier	17/02/17	Y	V	Y	4	Y	N	N	N	Dry at time of exam, CARRS ID 1568532
2	Running water on the face of HM internal pier	Internal face of HM pier	03/11/17	Y	V	N	4	Y	N	N	N	Old standing with no deterioration

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History of Live Significant Defects

No	Description	Location	Exam Date	Access Gained	Exam Type	Rec Raised	Risk Score	Access Req'd	Deter - ioration	Repaired	Flagged for Closure	Engineer Comments
2	Running water on the face of HM internal pier	Internal face of HM pier	11/12/19	Y	D	Y	6	Y	Y	N	N	Dry at time of exam, no evidence of repair. Further dampness ./ staining apparent to brickwork since previous DE.
3	vegetation growing in brickwork joints to parapet, spandrel, and string course	both elevations	03/11/17	Y	V	Y	6	N	Baseline	N	N	Remove vegetation.
3	vegetation growing in brickwork joints to parapet, spandrel, and string course	both elevations	11/12/19	Y	D	Y	6	N	N	N	N	None located on pier face, located to parapet, spandrel, and string course. Description updated.
4	homeless sleeping in the void	Upside	03/11/17	Y	V	Y	10	N	Baseline	N	Y	Install gate to prevent access.
4	homeless sleeping in the void	Upside	11/12/19	N/A	D	N	N/A	N/A	N/A	N/A	Y	Removed from tracker, not structures risk.
5	7No. longitudinal fractures 3.7-6.5m L HL-1mm.	Barrel soffit	11/12/19	Y	D	Y	6	N	Baseline	N	N	New tracked defect, barrel not visible at previous detailed exam.
6	Fractures and displacement to parapet and separation fracture between arch face and under-ringing repair..	US elevation	11/12/19	Y	D	Y	6	N	Baseline	N	N	OS, new to tracker.
7	Deep open joints, bulging with LTH bricks and voids	DS Infill wall	11/12/19	Y	D	Y	8	Y	Baseline	N	N	New tracked defect
8	loose patch of concrete repair.	Soffit, US LM corner	11/12/19	Y	D	Y	5	Y	Baseline	N	N	New tracked defect

Engineers Notes

Previous BCMI only scored one INS on IS1, both now included.

Signed Marcus Dockray
For Employer

Name **Marcus Dockray**

Date **15-Oct-2020**

NETWORK RAIL

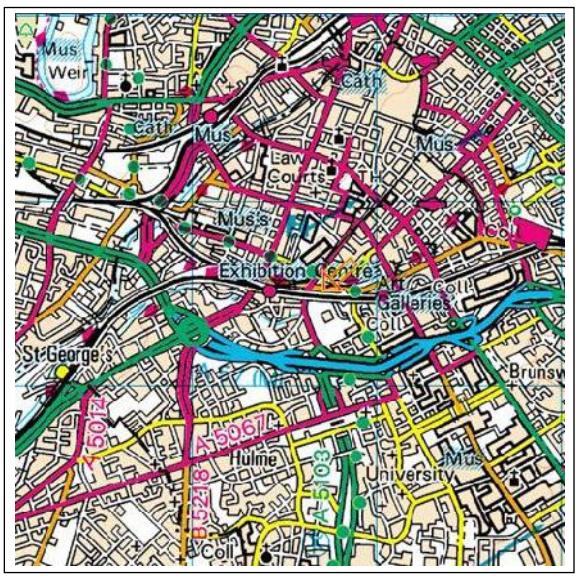
Bridge Detailed Examination Report

ELR: COL	**Contract Mileage: 189m 0838yds 38.09chs**			**Struc. Ref: 66**	
Struc Type BU	**NR ID** 12010424 **Rpt ID** 14792 **OS Ref** SJ83849748			**Exam ID**	2514574
Dimensions	Height 7.38m Length 12.91m Span 10.24m No. Spans: 1			**Exam Date**	11/12/2019
Primary Material	RBE - Brick			**Last Detailed**	29/4/2013
Secondary Material	RBE - Brick			**Last Visual**	3/11/2017
Structure Carries	Rail	**Over**	Land		
Line	London Road - Ordsall lane				
Name:	RIVER MEDLOCK (MSJA VIADUCT)				

Elevation Photograph



Map Extract



Examiners General Comments:

CONSTRUCTION
COL Span 66 is a one span tenanted arch which carries an electrified railway. The structure is constructed from brick with areas of cladding within.

METHOD OF EXAMINATION
The structure was examined utilising hand tools and PPE, accessed by MEWP, scaffolding, and roped access. The track was examined at night-time during possession. A Network Rail representative was present to allow access & scaffolding erected prior to examination.

CONDITION SUMMARY
The structure was found to be in generally fair condition during this examination.
The examination took place on 05/05/2019, 12/05/2019, 06/12/2019, and 11/12/2019.

This examination was carried out by Chris Reid, Dwain Jones, Joe Duckworth, and Eli Culyer.
This report was written by Brioney Bridges.

Note: The OS Grid Reference was incorrect and has now been amended to SJ83849748. This requires amendment in the Asset Database.

I confirm that previous detailed examination and visual reports have been reviewed and the dates of said report are given in this report.

The last detailed examination was incomplete and the unexamined parts are shown below:-
- Soffit due to cladding.
- Low mileage pier due to cladding.
- Low mileage face of 'pier 65' due to access issues.
- High mileage face of 'pier 66' due to access issues.

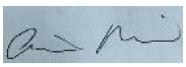
Has all the structure been examined? No (if no, see report for details)

Cladding obscures:
- Upside and downside internal walls
- Most of the LM pier (pier 65), and part of the HM pier (pier 66)

Unable to access spans 65 and 67 to examine the low mileage face of pier 65 and the high mileage face of pier 66 due to the tenanted arch access issues.
Has the structure been viewed under load? Yes

EXAMINERS NAME **Chris Reid**

DATE **29-Sep-2020**

SIGNED 

ELR: COL **Contract Mileage: 189m 0838yds 38.09chs** **Struc. Ref: 66**

Element Status Table

Element Name	Status	Condition
Arch Ring	Examined	Fair
Ballast Plates and Boards	N/A	N/A
Bearing	N/A	N/A
Cross Girders	N/A	N/A
Floor / Deck	N/A	N/A
Longitudinal Timbers	N/A	N/A
Main Girders	N/A	N/A
Parapets and Pilasters	Examined	Fair
Rail Bearers	N/A	N/A
Spandrels	Examined	Fair
Water Proofing	Not Examined	Cannot Determine
Abutments	N/A	N/A
Bedstones and Cills	Examined	Fair
Columns and Cylinders	N/A	N/A
Piers	Examined	Fair
Trestles and Crossheads	N/A	N/A
Wing and Retaining Walls	N/A	N/A
Debris	Examined	Fair
Drainage	Not Examined	Cannot Determine
Gutters And Downpipes	N/A	N/A
Handrails	Examined	Fair
Infill Wall	Examined	Fair
Introduced Strengthening	Examined	Poor
OHLE	Examined	Fair
Painting	Examined	Fair
Pointing	Examined	Fair
Revetment Walls	N/A	N/A
Rivets and Bolts	N/A	N/A
Signage	Examined	Fair
Track/Road	Examined	Fair
Vegetation	Examined	Fair

Record of Observations Under Load

Load Type	General Area Observed	Result Of Observation	Date & Time
Loco-hauled passenger train	Arch Soffit	No deformation noted	11/12/2019 00:00

ELR: COL **Contract Mileage: 189m 0838yds 38.09chs** **Struc. Ref: 66**

Avongards	
Are Avongards Present?	No

Date Tabs	
Are Date Tabs Present?	No

Plumbing Points	
Are Plumbing Points Present?	No

Environmental Factors Present: No

Item number	Description	Location

Record of Condition by Element

Element Name	Status	Condition
Arch Ring	Examined	Fair
Parapets and Pilasters	Examined	Fair
Spandrels	Examined	Fair
Water Proofing	Not Examined	Cannot Determine
Bedstones and Cills	Examined	Fair
Piers	Examined	Fair
Debris	Examined	Fair
Drainage	Not Examined	Cannot Determine
Handrails	Examined	Fair
Infill Wall	Examined	Fair
Introduced Strengthening	Examined	Poor
OHLE	Examined	Fair
Painting	Examined	Fair
Pointing	Examined	Fair
Signage	Examined	Fair
Track/Road	Examined	Fair
Vegetation	Examined	Fair

STATUS OF PREVIOUSLY RECORDED SIGNIFICANT DEFECTS and STATUS OF RECOMMENDATIONS MADE AT PREVIOUS EXAMINATION

DEFECT No: 1
DESCRIPTION: Broken metal strapping
LOCATION: Upside HM pier, and downside LM pier

STATUS: Repaired to the upside, no change to the downside
RECOMMENDATION RAISED LAST YEAR: Yes
PHOTO: 42 and 54

DEFECT No: 2
DESCRIPTION: Running water on the face of the HM internal pier
LOCATION: Internal face of HM pier
STATUS: Dry at time of examination
RECOMMENDATION RAISED LAST YEAR: Yes
PHOTO: 8-9

DEFECT No: 3
DESCRIPTION: Vegetation from pier face and spandrel
LOCATION: Upside
STATUS: None located on pier face, located to parapet, spandrel, and string course
RECOMMENDATION RAISED LAST YEAR: Yes
PHOTO: 41

DEFECT No: 4
DESCRIPTION: Homeless sleeping in the void
LOCATION: Upside
STATUS: Not present
RECOMMENDATION RAISED LAST YEAR: Yes
PHOTO: 1

OTHER RECOMMENDATIONS MADE BY THE ENGINEER ON LAST REPORT

Recommendation No: 1
DESCRIPTION: Remove vegetation from pier face and spandrel to prevent damage
LOCATION: Upside
STATUS: None located on pier face, located to parapet, spandrel, and string course

Recommendation No: 2
DESCRIPTION: Provide and install lockable gates to upside void to prevent homeless sleeping
LOCATION: Upside
STATUS: Not actioned

STRUCTURE DIMENSIONS

Width = 12.807m
Height = 7.02m
Square Span = 10.65m

Location of Track in relation to structure
Lateral Clearances
Upside = 1.5m
Downside = 5.5m

GENERAL PHOTOGRAPHS

Photo 1 – Upside elevation
Photo 2 – Downside elevation
Photo 3 – Track view towards low mileage
Photo 4 – Track view towards high mileage

SKETCHES

Sketch 1 – Site Layout
Sketch 2 – Soffit and Piers

Sketch 3 – Upside Elevation
Sketch 4 – Downside Elevation

SUMMARY OF ELEMENTAL PARTS

ARCH RING/SOFFIT
Constructed from brickwork, and found to be in an overall fair condition. See sketches 2-4.

PARAPETS AND PILASTERS
Constructed from brickwork, and found to be in an overall fair condition. See sketches 3-4.
TRACKSIDE PARAPETS:
Upside parapet (Photo 55).
Calcite seepage noted throughout the joints, affecting 0.5m². O/S NFD. Photo 56.
2m from low mileage, vertical fracture located, 1m long, open hairline to 1mm. O/S NFD. Photo 57.
4m from low mileage, vertical fracture located, 2m long, open 1-2mm. O/S NFD. Photo 58.
High mileage end of parapet is displaced by 30mm, affecting 0.5m². 3no missing bricks. Associated vertical fracture, 0.8m long, open hairline to 8mm. O/S SSD (previously displaced by 20mm). Photo 59.
Downside parapet (Photo 60):
Vegetation fronting the parapet, 2m². O/S NFD.
Open joints throughout, 2m², 40mm deep. New. Photo 61.
Weathering throughout, 1m², 20mm deep. New.

SPANDRELS
Constructed from brickwork, and found to be in an overall fair condition. See sketches 3-4.

WATERPROOFING
Unable to examine, however areas of wetness suggest failure.

BEDSTONES AND CILLS
Constructed from brickwork, and found to be in an overall fair condition. See sketches 3-4.

PIERS
Constructed from brickwork, and found to be in an overall fair condition where seen. Areas are obscured by cladding. See sketches 2-4.
As access to the low mileage face of pier 65 and the high mileage face of pier 66 was not possible, the previous detailed reports for COL 65 and COL 67 were viewed. The previous reports for did not examine the these pier faces due to cladding, and therefore cannot be used within this report.

DEBRIS
No debris present around the structure.

DRAINAGE
No drainage visible.

HANDRAILS
Metallic handrails located to the upside parapet at high mileage, and found to be in an overall fair condition with no significant defects.

INFILL WALL
Constructed from brickwork, and found to be in an overall fair condition where seen. Unable to examine the internal elevations due to cladding. See sketches 2-4.

INTRODUCED STRENGTHENING
Introduced strengthening was located to the upside high mileage pier face, and the downside low mileage pier face. The upside strengthening has been repaired and therefore found to be in an overall fair condition. The downside strengthening has not been repaired, and therefore was found to be in an overall poor condition. See sketches 3-4.

OVERHEAD LINE EQUIPMENT
Overall fair condition. See sketch 3. See photos 1 and 29.

PAINTING
Paint loss in associated with corroded elements. Overall fair conditions. See sketches 2-4.

POINTING
Isolated loss throughout the structure, totalling 9.75m², 20-50mm deep. See sketches 2-4.

SIGNAGE
Structure ID located on the parapet, overall fair condition. See sketch 3.

TRACK/ROAD
Constructed from mainly switches and crossings on timber sleepers, and found to be in an overall fair condition.

VEGETATION
Isolated vegetation throughout, overall fair condition. See sketches 3-4.

KEY

General

Dia. – Diameter
G.L – Ground Level
M.H – Manhole
N.F.D – No Further Deterioration
WL – Water Level
Col – Column
No. – Number
O/S – Old Standing
S.S.D – Shows Slight Deterioration

Masonry and Concrete

H – Hollow
H/L – Hairline
L.T.H – Loose to Hammer
O.J – Open Joints
DT – Date Tab
Sp. – Spall

New / Worsened Fracture (line thickness to reflect fracture width) *(Red Line)*

Old Standing Fracture – NFD (line thickness to reflect fracture width) *(Blue Line)*

Spalling / Missing Brickwork *(Light Grey)*

Open Joints *(Yellow)*

Bulging / Out of Plumb / Displacement *(Brown)*

Indications of wetness *(Light Blue)*

H Hollow / Drummy *(Black outline of area with "H")*

Date Tab / Avonguard (must also show installation date & reading) *(Black)*

Fractures

V.F – Vertical Fracture
V.S.F – Vertical Stepped Fracture
B.J.F – Bed Joint Fracture
D.F – Diagonal Fracture
D.S.F – Diagonal Stepped Fracture
HF – Horizontal Fracture
X<>mm – displaced by <> mm. *(+/- indicates direction of displacement)*

Metal

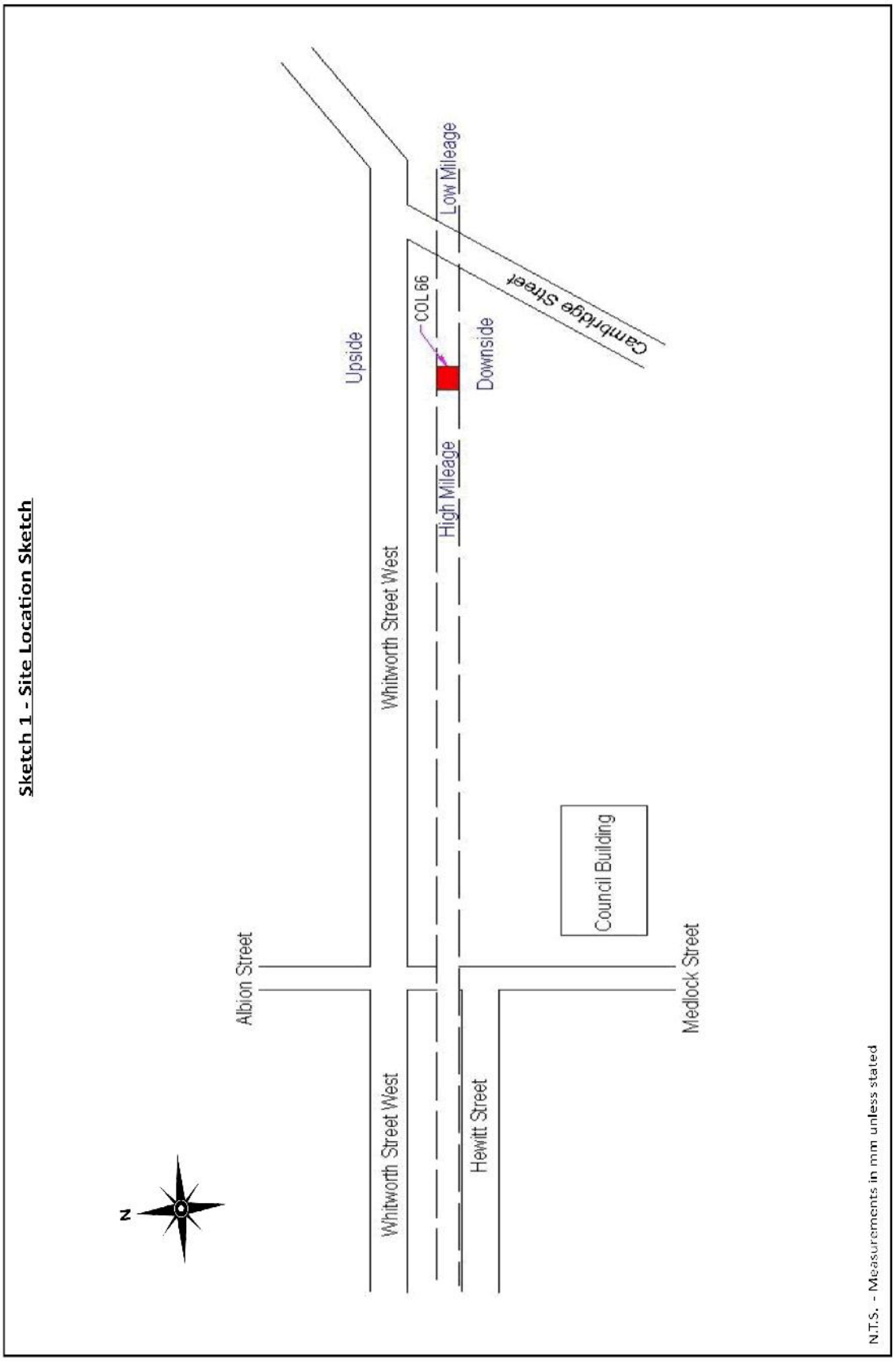
MG – Main Girder
XG – Cross Girder
BF – Bottom Flange
TF – Top Flange
CI – Cast Iron
WI – Wrought Iron
Corr – Corrosion
Lam – Lamination
LOS – Loss of Section
KE – Knife Edge

Corrosion / Lamination *(Light Orange)*

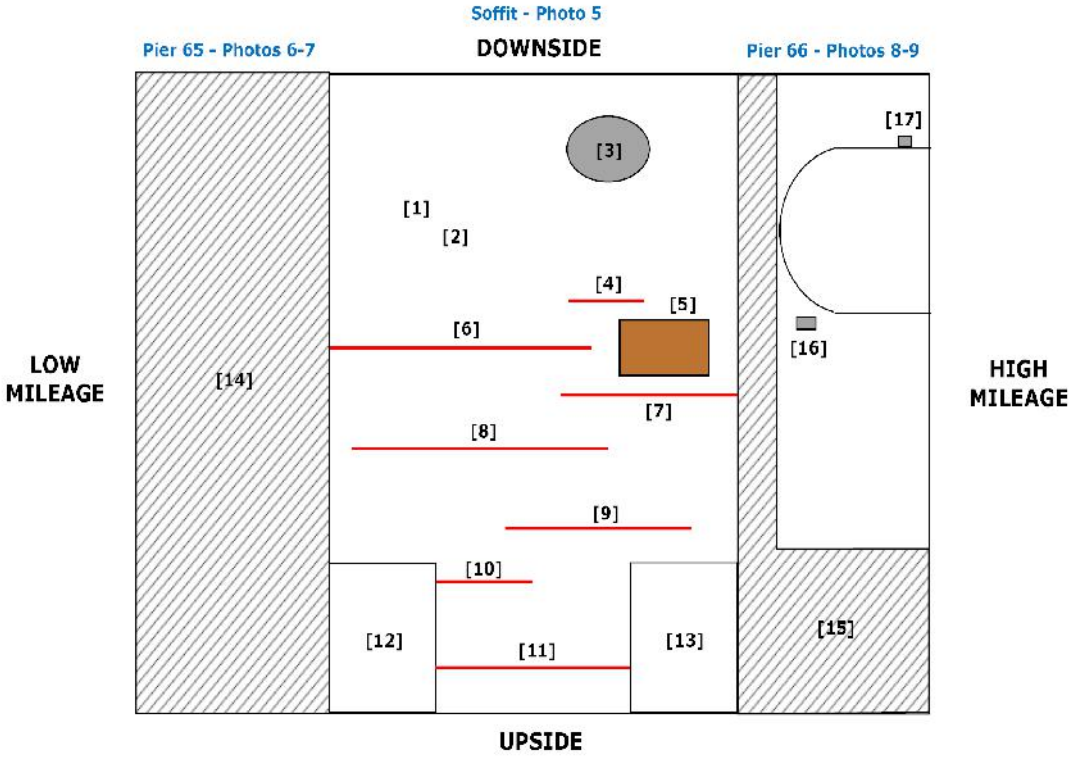
Fractures / Tears / Cracked Welds *(Red Line)*

Loss of Section / Buckling *(Red)*

Version 1.1 April 2008


Sketch 1 - Site Location Sketch
Low Mileage
Cambridge Street
COL 66
Upside
Downside
High Mileage
Whitworth Street West
Council Building
Albion Street
Medlock Street
Whitworth Street West
Hewitt Street
N
N.T.S. - Measurements in mm unless stated

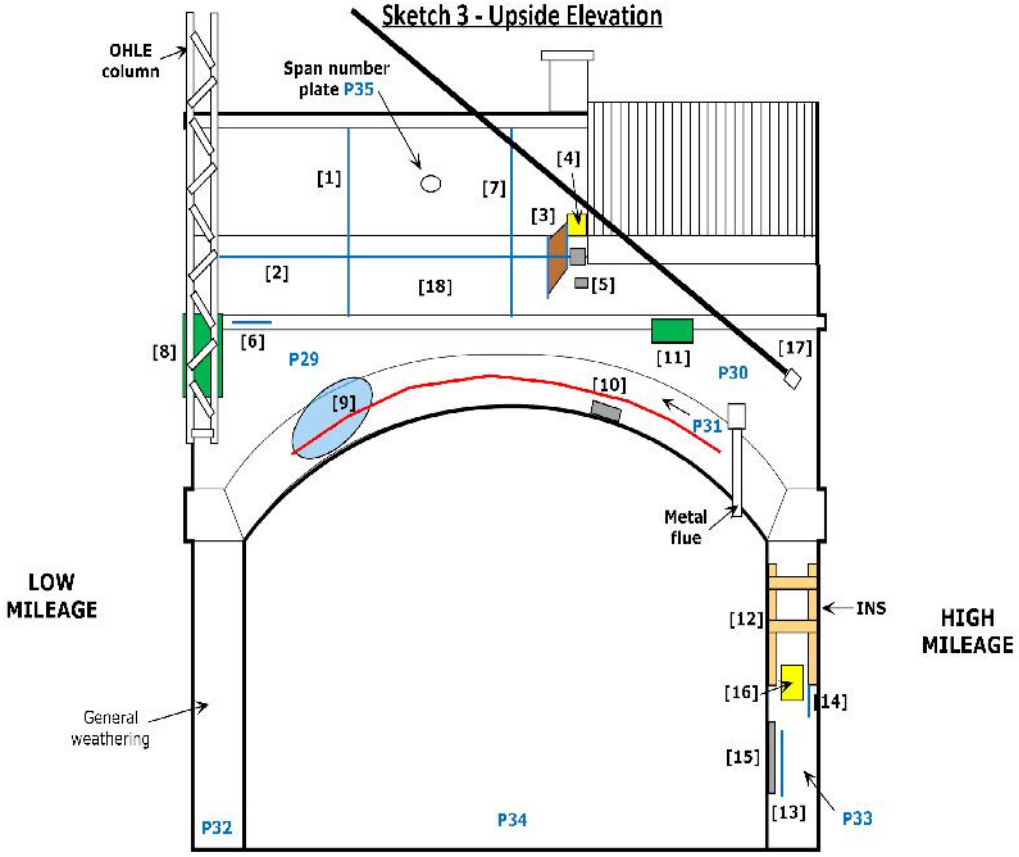
Sketch 2 - Soffit and Pier Sketch



[1] Wetness and damp throughout the soffit, affecting 70%. New.
[2] Weathering throughout the exposed brickwork to the soffit and pier 66, affecting 40% to 5mm deep. New.
[3] Spalling to the soffit, 1m², 60mm deep. New. **Photo 10.**
[4] Longitudinal fracture, 2.5m long, open hairline to 1mm. New. **Photo 11.**
[5] Bulging to the soffit, appears to be as-built, 1m², 50mm. New. **Photo 12.**
[6] Longitudinal fracture, 3.7m long, open hairline to 1mm. New. **Photo 13.**
[7] Longitudinal fracture, 4.5m long, open 1mm. New. **Photo 14.**
[8] Longitudinal fracture, 6.5m long, open 1mm. New. **Photo 15.**
[9] Longitudinal fracture, 4.7m long, open hairline to 1mm. New. **Photo 16.**
[10] Longitudinal fracture, 2.5m long, open hairline to 1mm. The fracture may continue but be hidden by concrete. New. **Photo 17.**
[11] Longitudinal fracture, 4.3m long, open 1mm. Associated calcite deposits and wetness (dripping). New. **Photo 18.**
[12] Concrete repair saddle, 1m² loose. New. **Photo 19.**
[13] Concrete repair saddle. Crazing affecting 2m². New. **Photo 20.**
[14] Cladding mostly obscures pier 65 high mileage face.
[15] Cladding partially obscures pier 66 low mileage face.
[16] 2no spalled bricks to pier 66, 10-25mm deep. O/S NFD. **Photo 21.**
[17] 1no spalled brick to pier 66, 30mm deep. O/S NFD. **Photo 22.**

Cladding obscures both the upside and downside internal walls **(Photos 23-24)**.
The tenanted arch is occupied by stairs, and scaffolding which forms two floors within the building **(Photos 25-28)**.

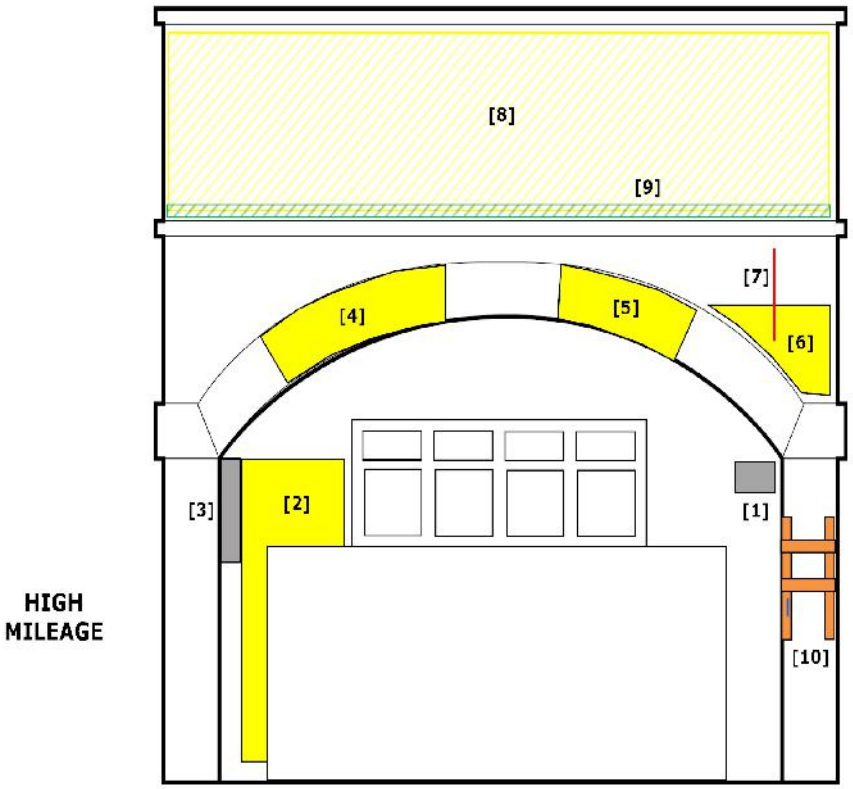
N.T.S. - Measurements in mm unless stated



[1] Vertical stepped fracture to the parapet, 1.5m long, open hairline to 3mm. O/S NFD. **Photo 36.**
[2] Horizontal fracture to the parapet, 6.7m long (full length), open hairling to 5mm. O/S NFD.
[3] 2no vertical stepped fractures to the parapet, 0.5m long each, open 10-20mm with associated displacement. Displacement affects an area of 0.4m², 20mm. O/S SSD (displacement previously noted to be 0.25m²). **Photo 37.**
[4] Open joints to the parapet, 0.25m², 20mm deep. O/S NFD.
[5] 3no spalled bricks to the parapet, 30-100mm deep. O/S NFD.
[6] Horizontal block fracture to the string course, 1m long, open hairline. O/S NFD.
[7] Vertical stepped fracture to the parapet, 1.5m long, open hairline to 8mm. O/S NFD. **Photo 38.**
[8] Vegetation growth to the spandrel, located behind the OHLE column, 1.5m. O/S NFD.
[9] Separation fracture to the face rings with associated wetness from the structure, 3m long, open 5-10mm. Wetness, <1m². O/S SSD (separation fracture preciously noted to be 1.5m long). **Photo 39.**
[10] 3no spalled bricks to the face rings, 50-100mm deep. O/S NFD. **Photo 40.**
[11] Tree growth to the string course, 30mm diameter. Sporadic vegetation and moss growth, 0.6m². New. **Photo 41.**
[12] General pitting and loss of paintwork throughout, 30%. O/S NFD. The previously noted separation and bending of the INS has been repaired **(Photo 42).**
[13] Vertical fracture to HM pier, 2m long, open hairline to 3mm. O/S NFD. **Photo 43.**
[14] Vertical fracture to HM pier, 0.5m long, open hairline to 1mm. O/S NFD.
[15] 4no isolated spalled bricks to the pier 66 (HM) quoin, 20-70mm deep. O/S NFD. **See photos 43 and 44.**
[16] Open joints to HM pier, 1m², 20-50mm deep. O/S NFD. **Photo 44.**
[17] Areas of total paint loss with corrosion sores and flaking paintwork to the OHLE. O/S NFD.
[18] Multiple leachate-filled fractures throughout the parapet, 1m long total, open hairline. O/S NFD. **Photo 45.**

N.T.S. - Measurements in mm unless stated

Sketch 4 - Downside Elevation



[1] Void located to the infill wall, 250x200mm by 250mm deep. New. **Photo 46.**
[2] Open joints to the infill wall, 2m², 40mm deep. New. **Photo 47.**
[3] Bulging and loose brickwork to the infill wall, 0.25m², <100mm bulging. New. **Photo 48.**
[4] Open joints to the face rings, affecting 0.5m², 30mm deep. New. **Photo 49.**
[5] Open joints to the face rings, affecting 0.5m², 30mm deep. New. **See photo 54.**
[6] Open joints to the spandrel, affecting 0.5m², 20mm deep. New. **Photo 50.**
[7] Vertical fracture to the spandrel, 1.5m long, open hairline. New. **Photo 51.**
[8] Isolated open joints throughout the parapet, affecting a total area of 3m², 30mm deep. Weathering/spalling throughout, 2m², 5-30mm deep. O/S NFD. **Photo 52.**
[9] Vegetation throughout the string course and parapet, 0.75m² total. New. **Photo 53.**
[10] 1no diagonal fracture/tear to the INS measuring 400mm long, open hairline to 1mm. Buckled and detached cross beam located to the low mileage side. O/S NFD. Corrosion throughout, affecting 0.25m², 1mm deep. New. **Photo 54.**

General weathering throughout the downside face, 10mm deep. O/S NFD.

N.T.S. - Measurements in mm unless stated



Photo 1 – Upside elevation



Photo 2 – Downside elevation



Photo 3 – Track view towards low mileage



Photo 4 – Track view towards high mileage



Photo 5 – General view of soffit



Photo 6 – LM pier



Photo 7 – LM pier



Photo 8 – HM pier



Photo 9 – HM pier



Photo 10 – Sketch 2 Item No 3 - Soffit - Spalling



Photo 11 – Sketch 2 Item No 4 - Soffit - Longitudinal fracture



Photo 12 – Sketch 2 Item No 5 - Soffit - Bulging



Photo 13 – Sketch 2 Item No 6 - Soffit - Longitudinal fracture



Photo 14 – Sketch 2 Item No 7 - Soffit - Longitudinal fracture



Photo 15 – Sketch 2 Item No 8 - Soffit - Longitudinal fracture



Photo 16 – Sketch 2 Item No 9 - Soffit - Longitudinal fracture



Photo 17 – Sketch 2 Item No 10 - Soffit - Longitudinal fracture



Photo 18 – Sketch 2 Item No 11 - Soffit - Longitudinal fracture



Photo 19 – Sketch 2 Item No 12 - Soffit - Concrete repair and loose



Photo 20 – Sketch 2 Item No 13 - Soffit - Concrete repair and crazing



Photo 21 – Sketch 2 Item No 16 - HM pier - 2no spalled bricks



Photo 22 – Sketch 2 Item No 17 - HM pier - 1no spalled brick



Photo 23 – Cladded downside internal infill wall



Photo 24 – Cladded upside internal infill wall



Photo 25 – Lower floor



Photo 26 – Upper floor

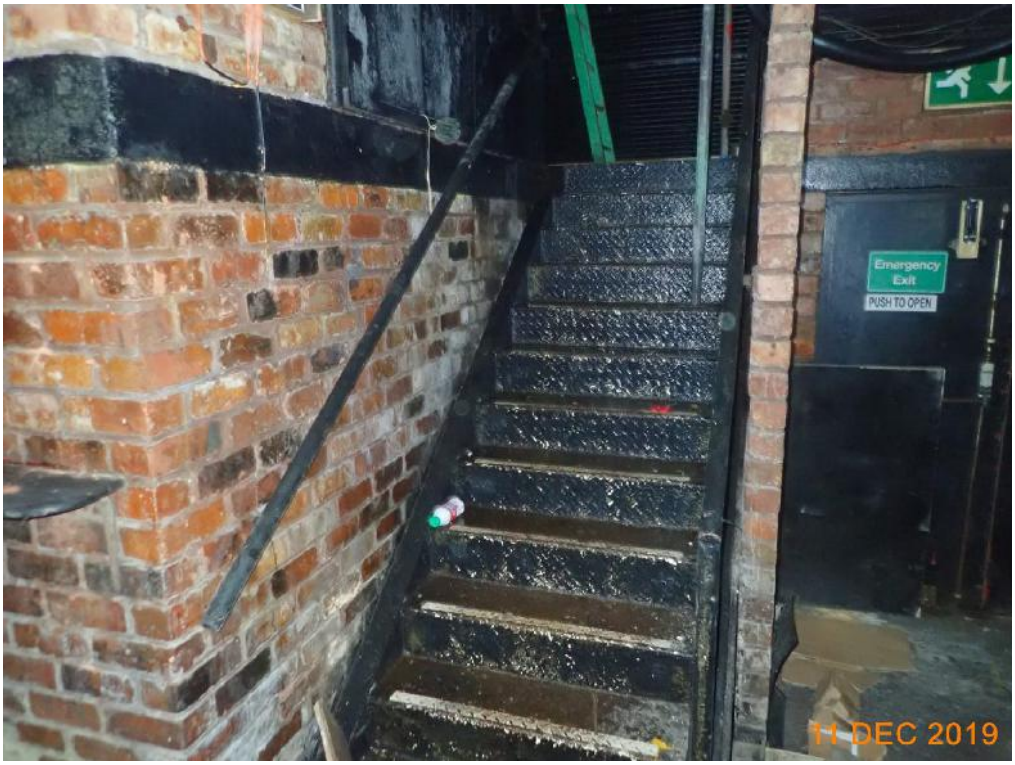


Photo 27 – Staircase



Photo 28 – Out of date internal scaffolding



Photo 29 – Upside elevation - LM spandrel



Photo 30 – Upside elevation - HM spandrel



Photo 31 – Upside elevation - Facerings



Photo 32 – Upside elevation - LM pier



Photo 33 – Upside elevation - HM pier



Photo 34 – Upside elevation - Decorative brickwork



Photo 35 – Upside elevation - Structure ID plate



Photo 36 – Sketch 3 - Item No 1 - VSF to parapet



Photo 37 – Sketch 3 - Item No 3 - 2no VSF and displacement to parapet



Photo 38 – Sketch 3 - Item No 7 - VSF to parapet



Photo 39 – Sketch 3 - Item No 9 - Separation fracture to facerings



Photo 40 – Sketch 3 - Item No 10 - Spalling to facerings



Photo 41 – Sketch 3 - Item No 11 - Vegetation to string course



Photo 42 – Sketch 3 - Item No 12 - Repair and pitting to INS



Photo 43 – Sketch 3 - Item No 13 - VF to HM pier



Photo 44 – Sketch 3 - Item No 16 - Open joints to HM pier



Photo 45 – Sketch 3 - Item No 18 - Leachate filled fractures to parapet



Photo 46 – Sketch 4 - Item No 1 - Void to infill wall



Photo 47 – Sketch 4 - Item No 2 - Open joints to infill wall



Photo 48 – Sketch 4 - Item No 3 - Bulging and loose bw to infill wall



Photo 49 – Sketch 4 - Item No 4 - Open joints to facerings



Photo 50 – Sketch 4 - Item No 6 - Open joints to spandrel



Photo 51 – Sketch 4 - Item No 7 - VF to spandrel



Photo 52 – Sketch 4 - Item No 8 - Open joints to parapet



Photo 53 – Sketch 4 - Item No 9 - Vegetation to string course



Photo 54 – Sketch 4 - Item No 10 - Buckling to INS



Photo 55 – Upside track parapet



Photo 56 – Upside track parapet - Calcite



Photo 57 – Upside track parapet - VF at 2m from LM



Photo 58 – Upside track parapet - VF at 4m from LM



Photo 59 – Upside track parapet - Displacement, missing units, VF



Photo 60 – Downside track parapet



Photo 61 – Downside track parapet - Open joints

NETWORK RAIL BCMI EXAMINATION REPORT FORM

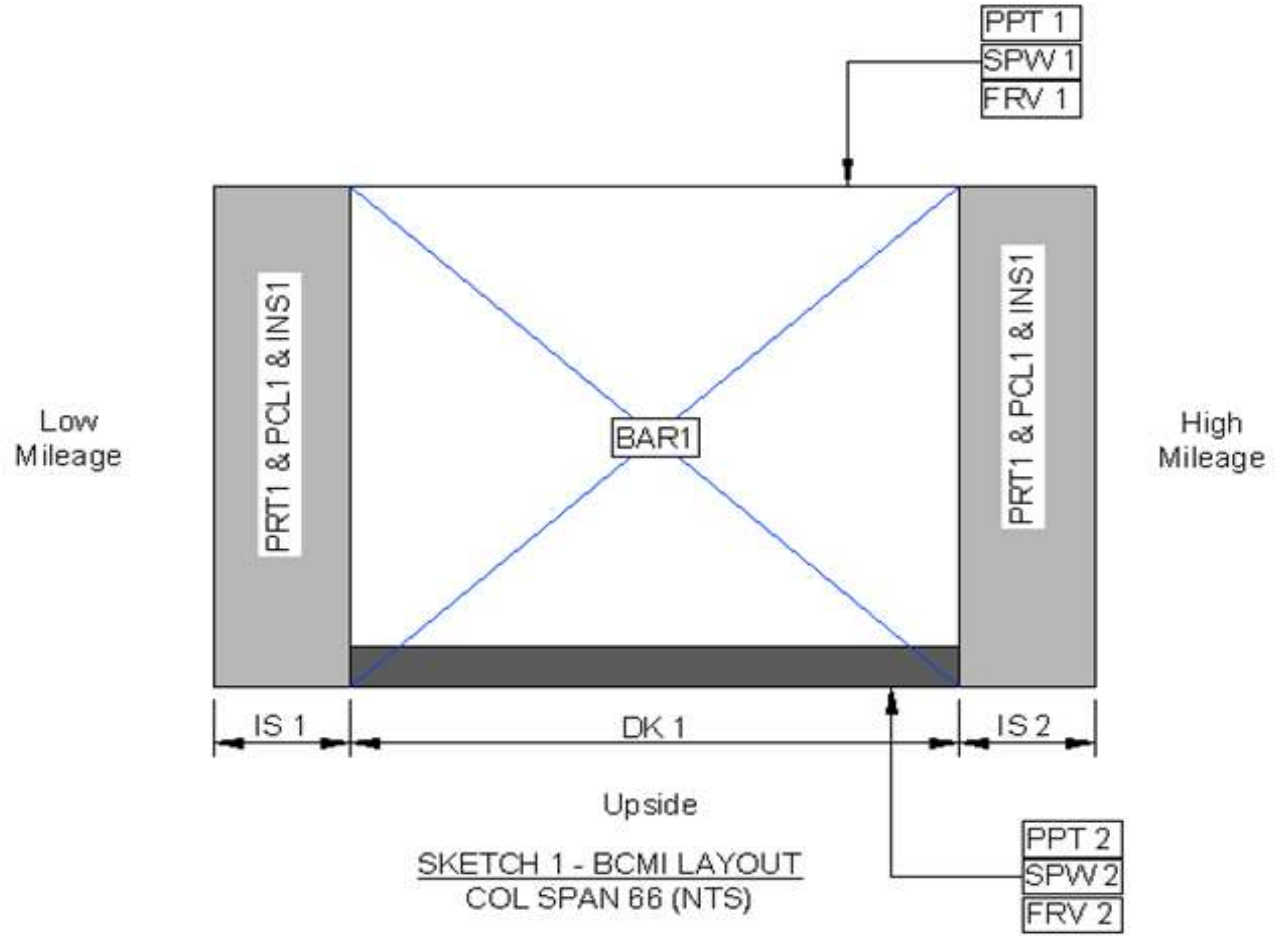
Territory	ELR	Structure No	Start Mileage	Group	Type	RAR ID	Structure Name	Exam Date	Task Year	Exam Type	Examiners Name	Weather
TLNW	COL	66	189.0838	BB	BBU		RIVER MEDLOCK (MSJA VIADUCT)	11/12/2019	18_19	D	C. Reid	FAIR

Major Element		Minor Element			Metal / Masonry / Concrete / Timber		Coated Metal / Cracked Masonry			Comments
Code	No	Code	No	Material	S/Ex 1	S/Ex 2	S/Ex 1	S/Ex 2	V	Note: This free text area of the report should be used extensively and can be enlarged as necessary.
IS	1	PRT	1	B	B5	A1	A1	A1	✓	Generally weathered throughout. LM face NE due to access issues and cladding.
IS	1	PCL	1	B	B5	A1	A1	A1	✓	Generally weathered throughout
IS	1	INS	1	M	G6	D6	L6	K5	✓	Buckling, and tear/fracture to INS at downside, and corrosion throughout with loss of paint and corrosion sores present.
DK	1	BAR	1	B	F3	D3	J9	G9	✓	Bulging (although appears as-built), spalling to 60mm, and multiple longitudinal fracture open hairline to 1mm.
DK	1	SPW	1	B	C3	B5	G9	A1	✓	Open joints 20mm deep, weathering throughout, and VF open hairline.
DK	1	SPW	2	B	B5	A1	A1	A1	✓	Generally weathered throughout
DK	1	FRV	1	B	C5	B5	A1	A1	✓	Open joints 30mm deep, and general weathering throughout.
DK	1	FRV	2	B	D3	B5	O9	A1	✓	Spalling 50-100mm deep, generally weathered throughout, and a separation fracture open 5-10mm.
DK	1	PPT	1	B	D4	C4	A1	A1	✓	Spalling throughout 30mm deep, and open joints 30mm deep.
DK	1	PPT	2	B	F3	D3	N10	L8	✓	Displacement to 30mm, spalling 30-100mm deep, horizontal fracture open hairline to 5mm, and VSFs open hairline to 8mm.
IS	2	PRT	1	B	D3	C3	J8	G7	✓	Spalling 10mm-70mm, OJ 20-50mm, 2no VF open hairline to 3mm. HM face NE due to access issues and cladding.
IS	2	PCL	1	B	B5	A1	A1	A1	✓	Generally weathered throughout.
IS	2	INS	1	M	D4	A1	L5	K4	✓	Corrosion throughout with total loss of paint and corrosion sores present.

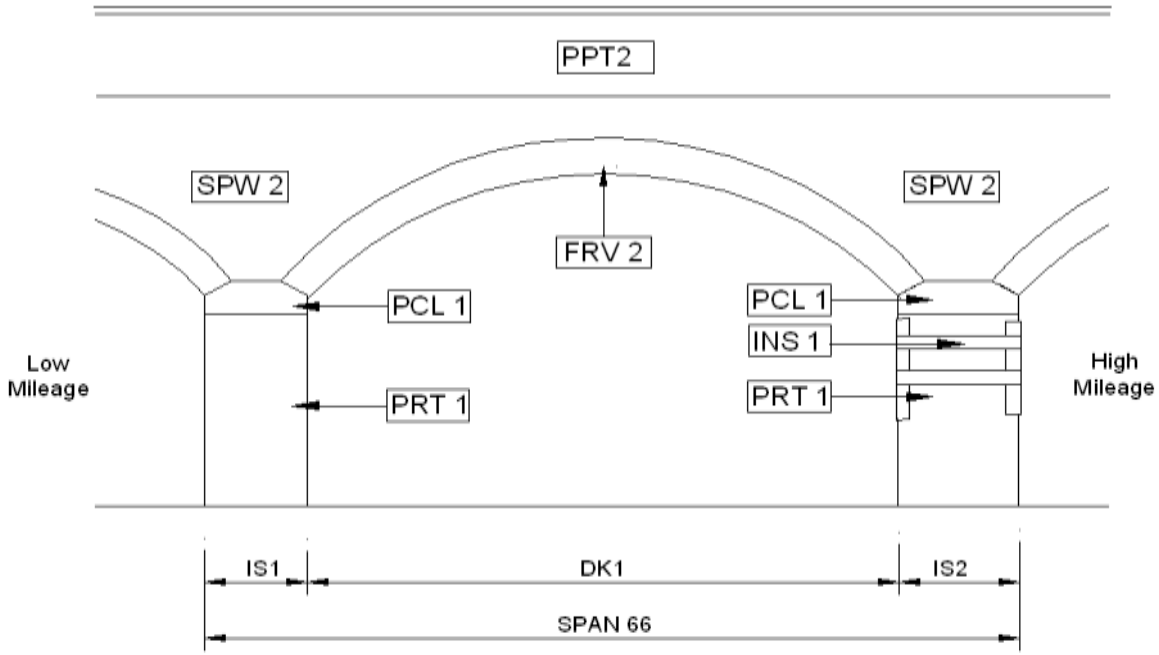
NETWORK RAIL BCMI EXAMINATION REPORT FORM

Major Element				
Code	**No**	**Material**	**Span No**	**V**
IS	1	B	1	✓
DK	1	B	1	✓
IS	2	B	1	✓

NETWORK RAIL BCMI EXAMINATION REPORT FORM



SKETCH 1 - BCMI LAYOUT
COL SPAN 66 (NTS)



SKETCH 2 - BCMI - UPSIDE ELEVATION
SPAN 66 (NTS)

NETWORK RAIL BCMI EXAMINATION REPORT FORM

Territory	ELR	Structure No	Start Mileage	Group	Type	RAR ID	Structure Name	Exam Date	Task Year	Exam Type	Examiners Name	Weather
TLNW	COL	66	189.0838	BB	BBU		RIVER MEDLOCK (MSJA VIADUCT)	11/12/2019	18_19	D	C. Reid	FAIR

Major Element		Minor Element			Metal / Masonry / Concrete / Timber		Coated Metal / Cracked Masonry			Comments	Scores		
Code	No	Code	No	Material	S/Ex 1	S/Ex 2	S/Ex 1	S/Ex 2	V	Note: This free text area of the report should be used extensively and can be enlarged as necessary.	Min El BCMI	Maj El BCMI	BCMI
DK	1	BAR	1	B	F3	D3	J9	G9	✓	Bulging (although appears as-built), spalling to 60mm, and multiple longitudinal fracture open hairline to 1mm.	55	63	62
DK	1	FRV	1	B	C5	B5	A1	A1	✓	Open joints 30mm deep, and general weathering throughout.	75		
DK	1	FRV	2	B	D3	B5	O9	A1	✓	Spalling 50-100mm deep, generally weathered throughout, and a separation fracture open 5-10mm.	45		
DK	1	PPT	1	B	D4	C4	A1	A1	✓	throughout 30mm	65		
DK	1	PPT	2	B	F3	D3	N10	L8	✓	Displacement to 30mm, spalling 30-100mm deep, horizontal fracture open hairline to 5mm, and VSFs open hairline to 8mm.	48		
DK	1	SPW	1	B	C3	B5	G9	A1	✓	20mm deep,	80		
DK	1	SPW	2	B	B5	A1	A1	A1	✓	weathered	85		
IS	1	INS	1	M	G6	D6	L6	K5	✓	tear/fracture to	0	58	
IS	1	PCL	1	B	B5	A1	A1	A1	✓	Generally weathered throughout	85		
IS	1	PRT	1	B	B5	A1	A1	A1	✓	Generally weathered throughout. LM face NE due to access issues and cladding.	85		
IS	2	INS	1	M	D4	A1	L5	K4	✓	Corrosion throughout with total loss of paint and corrosion sores present.	50	66	
IS	2	PCL	1	B	B5	A1	A1	A1	✓	Generally weathered throughout.	85		
IS	2	PRT	1	B	D3	C3	J8	G7	✓	Spalling 10mm-70mm, OJ 20-50mm, 2no VF open hairline to 3mm. HM face NE due to access issues and cladding.	68		