NETWORK RAIL

Bridge Detailed Examination Report

ELR: COL	**Contract Mileage: 189m 0852yds 38.73chs**	**Struc. Ref: 67**
Examination Type: Bridge Detailed	**NR ID: 12010425**	**Exam Date: 5-Jan-2022**
Area: Central East	**BRS: 0**	**OS Ref: SJ83849748.**
Structure Name: RIVER MEDLOCK (MSJA VIADUCT)	**Type: BU**	**Exam ID: 2570941**
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
	50% soffit	Mezzanine floor construction and cladding
	Pier 66 HM Face, Pier 67 LM Face	Cladding not removed due to tenants

ITEM	DESCRIPTION	LOCATION	Est. Cost £ +/- 20%	Priority Within	Quantity	Severity	Probability	Risk Score	Works Category
1	Carry out under-ring or similar strengthening work to this span. See Renewal item 1942145 (for span 63).	Structure	50000.00	6yrs	1 unit	3	3	E9	Other
2	Repair or replace deformed elements of straps and rust strip and paint remainder.	Pier strengthening (IS INS)	8000.00	3yrs	2 unit	4	2	M8	Steelwork Repairs
3	Remove vegetation throughout elevations and treat masonry to prevent regrowth. Remove and treat vegetation which roots are growing through construction joint.	Elevations and topside	1000.00	6yrs	3 m2	2	3	M6	Vegetation
4	Carry out minor brickwork repairs to elevations and improve drainage throughout structure to reduce vegetation growth. Coring with perforated pipes to spandrels above concrete fill levels. New guttering. Improved track drainage.	Structure throughout	10000.00	6yrs	30 m2	2	2	E4	Brickwork/Stone 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	Unexamined parts due to sheeting	Barrel and piers	29/04/13	N/A	D	Y	8	Y	Baseline	N/A	N	new
1	Unexamined parts due to sheeting	Barrel and piers	03/12/13	N	V	Y	8	Y	NV	N	N	NR to determine/arrange removal of internal sheeting to enable a full exam. Tenant complaint about water and brick damage to D/S HM end of arch.
1	Unexamined parts due to sheeting	Barrel and piers	24/11/14	N	V	Y	10	Y	NV	N	N	Water now seeping into lighting conduit
1	Unexamined parts due to sheeting	Barrel and piers	16/02/16	N	V	N	4	Y	NV	N	N	No complaints/reports of water seepage
1	Unexamined parts due to sheeting	Barrel and piers	21/02/17	N	V	N	4	Y	NV	N	N	No change
1	Unexamined parts due to sheeting	Barrel and piers	03/11/17	N	V	N	4	Y	NV	N	N	No change
1	Unexamined parts due to sheeting	Barrel and piers	05/01/22	N	D	Y	9	Y	N	N	N	50pc of barrel not viewed and only 5pc of pier. RS increase due to multiple fractures noted to barrel.

ELR: COL **Contract Mileage: 189m 0852yds 38.73chs** **Struc. Ref: 67**

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	Straps/ties corroded,failed	DS LM (IS1 INS1 BCMI 0) and US HM (IS2 INS1 BCMI 15).	29/04/13	Y	D	Y	6	N/A	Baseline	N/A	N	new
2	Straps/ties corroded,failed	DS LM (IS1 INS1 BCMI 0) and US HM (IS2 INS1 BCMI 15).	03/12/13	Y	V	Y	8	Y	Y	N	N	Repair/replace failed straps/ties to pier ends. Significant deterioration reported
2	Straps/ties corroded,failed	DS LM (IS1 INS1 BCMI 0) and US HM (IS2 INS1 BCMI 15).	24/11/14	Y	V	Y	6	N	N	N	N	Ongoing defect
2	Straps/ties corroded,failed	DS LM (IS1 INS1 BCMI 0) and US HM (IS2 INS1 BCMI 15).	16/02/16	Y	V	Y	6	N	N	N	N	No change
2	Straps/ties corroded,failed	DS LM (IS1 INS1 BCMI 0) and US HM (IS2 INS1 BCMI 15).	21/02/17	Y	V	N	4	N	N	N	N	No change. Risk reduced 2x2=4
2	Straps/ties corroded,failed	DS LM (IS1 INS1 BCMI 0) and US HM (IS2 INS1 BCMI 15).	03/11/17	Y	V	N	4	N	N	N	N	No change
2	Straps/ties corroded,failed	DS LM (IS1 INS1 BCMI 0) and US HM (IS2 INS1 BCMI 15).	05/01/22	Y	D	Y	8	N	N	Y	N	Part repaired to US LM. Low BCMI score, RS increased.
3	vegetation	trackside and to us face	29/04/13	Y	D	Y	5	Y	Baseline	N/A	N	new
3	vegetation	trackside and to us face	03/12/13	Y	V	Y	5	Y	Y	N	N	Remove vegetation to trackside (not viewed at this exam) and upside face. Tenant complaints. Estimate 10m total
3	vegetation	trackside and to us face	24/11/14	N	V	Y	5	Y	NV	N	N	Ongoing defect
3	vegetation	trackside and to us face	16/02/16	N	V	Y	5	N	NV	N	N	No change
3	vegetation	trackside and to us face	21/02/17	N	V	N	4	N	N	N	N	No change
3	vegetation	trackside and to us face	03/11/17	N	V	N	4	N	N	N	N	No change
3	vegetation	trackside and to us face	05/01/22	N	D	Y	6	N	N	N	N	No further deterioration.
4	bulged us lm spandrel around old tie bar	us lm spandrel SPW BCMI = 20	29/04/13	Y	D	Y	6	Y	Baseline	N/A	N	new
4	bulged us lm spandrel around old tie bar	us lm spandrel SPW BCMI = 20	03/12/13	Y	V	Y	6	Y	N	N	N	Continue to monitor spandrel bulging and displacement at all future visual exams, pending repairs arising from last detail exam 2013
4	bulged us lm spandrel around old tie bar	us lm spandrel SPW BCMI = 20	24/11/14	Y	V	Y	6	N	N	N	N	Ongoing defect
4	bulged us lm spandrel around old tie bar	us lm spandrel SPW BCMI = 20	16/02/16	Y	V	Y	6	N	N	N	N	No change
4	bulged us lm spandrel around old tie bar	us lm spandrel SPW BCMI = 20	21/02/17	Y	V	N	4	N	N	N	N	No change
4	bulged us lm spandrel around old tie bar	us lm spandrel SPW BCMI = 20	03/11/17	Y	V	N	4	N	N	N	N	No change

NETWORK RAIL

Bridge Detailed Examination Report

ELR: COL **Contract Mileage: 189m 0852yds 38.73chs** **Struc. Ref: 67**

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
4	bulged us lm spandrel around old tie bar	us lm spandrel SPW BCMI = 20	05/01/22	Y	D	N	4	N	N	N	N	No further deterioration.
5	displaced spandrel wall, 2.5m L x 20mm max. Associated area of wetness along joint.	upside	29/04/13	Y	D	Y	4	Y	Baseline	N/A	N	new
5	displaced spandrel wall, 2.5m L x 20mm max. Associated area of wetness along joint.	upside	03/12/13	Y	V	Y	6	Y	N	N	N	Continue to monitor spandrel bulging and displacement at all future visual exams, pending repairs arising from last detail exam 2013
5	displaced spandrel wall, 2.5m L x 20mm max. Associated area of wetness along joint.	upside	24/11/14	Y	V	N	4	Y	N	N	N	Continue to monitor spandrel bulging and displacement at all future visual exams, pending repairs arising from last detail exam 2013
5	displaced spandrel wall, 2.5m L x 20mm max. Associated area of wetness along joint.	upside	16/02/16	Y	V	N	4	Y	N	N	N	No change
5	displaced spandrel wall, 2.5m L x 20mm max. Associated area of wetness along joint.	upside	21/02/17	Y	V	N	4	N	N	N	N	No change
5	displaced spandrel wall, 2.5m L x 20mm max. Associated area of wetness along joint.	upside	03/11/17	Y	V	N	4	N	N	N	N	No change
5	displaced spandrel wall, 2.5m L x 20mm max. Associated area of wetness along joint.	upside	05/01/22	Y	D	Y	9	N	Y	N	N	Displacement has doubled since last DE (10 to 20mm) and increased by 0.5m. RS increased
6	Multiple Fractures to arch barrel soffit. 6No. Longitudinal and 2No. Transverse Varying lengths mostly HL with calcite.	Barrel soffit	05/01/22	Y	D	Y	9	Y	Baseline	N	N	New tracked defect. Significant areas of soffit remain cladded potentially hiding more fractures. Calcite build up could be disguising true width of fractures. Varying brick colours evident indicating
7	Pumping under load at construction join by 4mm. Seepage, soil and root ingress along joint.	Barrel construction joint	05/01/22	Y	D	Y	9	Y	Baseline	N	N	New tracked defect. Wil be difficult to observe when reclad.
8	Vertical fractures to spandrel walls	DS LM 1.5m x HL, US HM 2m x HL-3mm	05/01/22	Y	D	Y	6	N	Baseline	N	N	New tracked defect. US fracture OS.

Engineers Notes

Structure is in poor condition, no previous BCMI. New scoring = 37 due to defects identified to pier strengthening (INS) and would achieve a score of 80<+ if repaired. Multiple issues in adjacent spans to LM of this structure. Wholistic remediation of this section of viaduct should be considered. Last visual exam date was 16/11/21.

[redacted]

NETWORK RAIL

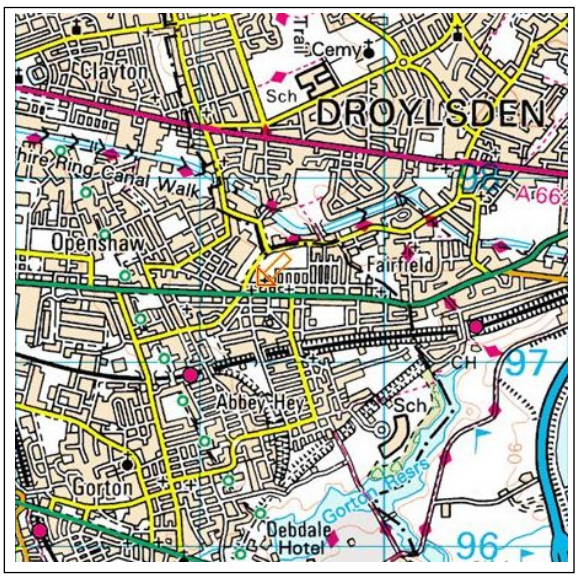
Bridge Detailed Examination Report

ELR: COL	**Contract Mileage: 189m 0852yds 38.73chs**			**Struc. Ref: 67**	
Struc Type BU	**NR ID** 12010425 **Rpt ID** 17385 **OS Ref** SJ83849748.			**Exam ID**	2570941
Dimensions	Height 7.05m Length 14.60m Span 10.65m No. Spans: 1			**Exam Date**	5/1/2022
Primary Material	RBE - Brick			**Last Detailed**	29/4/2013
Secondary Material	Masonry			**Last Visual**	3/11/2017
Structure Carries	Rail	**Over**	Land		
Line	London Road - Ordsall lane				
Name:	RIVER MEDLOCK (MSJA VIADUCT)				

Elevation Photograph



Map Extract



The structure was found to be in generally fair condition during this examination.

This exam was a best achievable due to part not been examined within the tenanted arch because the cladding could not be removed.

The Tenant staff raised issue of water seepage coming through the cladding in barrel to the upstairs mezzanine level and wetness and water staining to cladding covered piers faces adjacent from construction joint of arch barrel.

Note: The OS Grid Reference was incorrect and has now been amended to SJ83849748.

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

The last detailed examination report was incomplete and the unexamined parts are identified below.

- Arch Barrel & Internal Pier faces 100% covered in clad sheeting at detailed exam 29/4/2013

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

Cladding obscures:
50% of arch barrel cladding was removed at this exam – The rest of the soffit cladding was not removed due to how he mezzanine floor layout was constructed after cladding installed.
Pier 66 - 100% high mileage face of pier not examined (between span 66/67)
Pier 67 - 95% of Low Mileage face of pier not examined (between span 67 /68)
This was due access spans 66 and 68 to examine due tenanted arch access issues.
Has the structure been viewed under load? Yes

[redacted]

ELR: COL **Contract Mileage: 189m 0852yds 38.73chs** **Struc. Ref: 67**

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	Good
Drainage	N/A	N/A
Gutters And Downpipes	Examined	Poor
Handrails	Examined	Fair
INFILL WALL	Examined	Fair
INTRODUCED STRENGTHENING	Examined	Fair
Painting	Examined	Fair
Pointing	Examined	Fair
Revetment Walls	N/A	N/A
Rivets and Bolts	N/A	N/A
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	Excessive deflection - DEFECT ADDED	05/01/2022 00:00

Avongards

Are Avongards Present?	No

ELR: COL **Contract Mileage: 189m 0852yds 38.73chs** **Struc. Ref: 67**

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	Good
Gutters And Downpipes	Examined	Poor
Handrails	Examined	Fair
INFILL WALL	Examined	Fair
INTRODUCED STRENGTHENING	Examined	Fair
Painting	Examined	Fair
Pointing	Examined	Fair
Track/Road	Examined	Fair
Vegetation	Examined	Fair

==========
Engineers Recommendation
==========
ITEM: NO 1
DESCRIPTION: ARRANGE FOR INTERNAL SHEETING TO BE REMOVED TO ALLOW A FULL INSPECTION OF THE BARREL AND PIER FACES. NOTE TENANT COMPLAINT ABOUT WATER AND BRICK DAMAGE TO DS HM END OF ARCH
LOCATION: ARCH BARREL AND PIER FACES
STATUS: PART ACTIONED 50% OF BARREL CLADDING WAS REMOVED AT EXAM AND ONLY THE ELEVATION OF PIER WERE EXAMINED. THE LOW AND HIGH MILEAGE FACES WERE NOT EXAMINED DUE.
SEE: P05,P06 & P07

ITEM: NO 2
DESCRIPTION: REFURBISH STRAPS/TIES TO PIER QUOINS, INC CLEAN DOWN, REPAIR FRACTURE AND PAINT
LOCATION: HIGH AND LOW MILEAGE PIER CORNERS
STATUS: PART ACTIONED REPAIR CARRY OUT TO LOW MILEAGE UPSIDE PIER
SEE P30 / P42

ITEM: NO 3
DESCRIPTION: CUT DOWN AND REMOVE VEGETATION AND TREAT ROOTS
LOCATION: TRACKSIDE US, DS AND DS ELEVATION
STATUS: UNABLE TO DETERMINE VEGETATION STILL IS PRESENT
SEE P01 / P02

ITEM: NO 4
DESCRIPTION: MONITOR - DISPLACEMENT TO UPSIDE SPANDREL
LOCATION: US SPANDREL WALL
STATUS: UNABLE TO DETERMINE
SEE P34

ITEM: NO 5
DESCRIPTION: STITCH BULGED BRICKWORK AROUND OLE TIE AND MONITOR FOR ANY FUTURE MOVEMENT
LOCATION: US LM SPANDREL WALL
STATUS: NOT ACTIONED
SEE P31

==========
History of Live Significant Defects
==========
ITEM: NO 1
DESCRIPTION: BARREL/PIERS NOT EXAMINED SHEETED
LOCATION: BARREL PIERS
STATUS: PART ACTIONED 50% OF BARREL CLADDING WAS REMOVED AT EXAM. ONLY 5% OF PIER WAS EXAMINED.
SEE: P05,P06 & P07

ITEM: NO 2
DESCRIPTION: STRAPS/TIES CORRODED, FAILED
LOCATION: AROUND BOTH PIER CORNERS
STATUS: PART ACTIONED WITH REPAIR TO TOP BRACING TO LOW MILEAGE PIER
SEE: P30 / P42

ITEM: NO 3
DESCRIPTION: VEGETATION
LOCATION: TRACKSIDE AND TO US FACE
STATUS: UNABLE TO DETERMINE DUE TIME BETWEEN SITE VISITS, THERE IS SEASONAL VEGETATION GROWTH WAS PRESENT TO UPSIDE ELEVATION
SEE: P01 / P02

ITEM: NO 4
DESCRIPTION: BULGED US LM SPANDREL AROUND OLE TIE BAR
LOCATION: US LM SPANDREL
STATUS: OLD STANDING NO FURTHER DETERIORATION
SEE: P31

ITEM: NO 5
DESCRIPTION: DISPLACED SPANDREL WALL
LOCATION: UPSIDE
STATUS: O/S DISPLACEMENT TO SPANDREL OVER FACING RING FROM 10MM NOW 20MM SSD

SEE: P34

==========
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 – Mezzanine layout
Sketch 3 - Soffit
Sketch 4 – Upside Elevation
Sketch 5 – Downside Elevation

==========
Span Data
==========
Span Width: 10.65m
Span Length: 14.60m
Span Height:: 7.05m
Track Clearance:
Upside 1.45m
Downside 7.42m
==========
CONSTRUCTION
==========
COL Span 67 is a one span tenanted arch which carries an electrified railway. The structure is constructed from brick with areas of cladding within span. a mezzanine floor is fitted with internal partition wall.

==========
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. Enabling works were present to remove cladding with scaffolding and step-ladder prior to examination.

This structure was examined by multiple examiners of over 3 Site visits.

Joe Duckworth – Topside exam & Downside Elevation – 05/05/2019
Michael Whitehouse – Span 67 soffit, Low & High mileage pier faces not viewed at exam – 05/01/2022
Conner Kertland – Upside Elevation – 13/06/2022

==========
SUMMARY OF ELEMENTAL PARTS
==========
ARCH RING/SOFFIT
The arch ring and soffit is constructed from brickwork and found to be in an overall fair condition there are oldstanding open joints arch rings. The Soffit barrel shows seepage soil and root incursion, Calcite staining, longitudinal fracture and transverse fracture with isolated bricks spalled 10-15mm to 1m2 total and some area have not been examined. See sketches 2-5.

PARAPETS AND PILASTERS
Upside Parapet trackside Face is in a Fair condition with 1no Diagonal fracture, general weathering & dampness noted – Unable to confirm if there are any new defect present is site visit of 05/05/2019 NFD

Downside Parapet Face (Trackside) is in a Fair condition with 2no. missing bricks, isolated Open joints & general weathering noted – – Unable to confirm if there are any new defect present is site visit of 05/05/2019 NFD

SPANDRELS
Constructed from brickwork, and found to be in an overall fair condition with some bulging noted to upside and isolate fracture. See sketches 3-4.

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

BEDSTONES AND CILLS
The Cill is constructed from brickwork and concrete with handrail secured to the top , this was found to be in an overall fair condition. See sketches 4.

PIERS
Constructed from brickwork, and found to be in an overall fair condition where seen. Areas are obscured by cladding.
Pier 66 high mileage face is cover in completely in paint coat with stock and shop fitting. There is evidence of water seepage down face of pier and a plastic gutter running along edge of pier above the roof ties See photos - P54 – P56
See photos

Pier 67 – low mileage face not examined this is block from view and covered with paint is exposed areas See P57 to 59

Access to pier 66 and Pier 67 are restricted due to cladding and are tenanted 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
2No drainage pipes are detached to upside high mileage pier elevation face.

HANDRAILS
Metallic handrails located to the upside and found to be in an overall fair condition with oldstanding corrosion and loss of protective paint coating.

PAINTING
This is in fair condition, O/S Paint loss in associated with corroded elements. Overall fair conditions. See sketches 4 / 5.

POINTING
This is in fair condition, Isolated loss throughout the structure, typically 20-50mm deep to 12m2 total. See sketches 2-5.

TRACK/ROAD
Up And Down line switches and crossings present on timber sleepers, and found to be in an overall fair condition.

VEGETATION
Isolated vegetation throughout, overall fair condition. See sketches 4-5.

SIGNAGE
No structure ID located

INFILL WALLS
The downside infill wall is constructed from brickwork with sheet steel and window fitted. The upside is constructed with brickwork and is fitted doors, windows and cladding with tenant signage and roller shutter. This was found to

be in an overall fair condition where seen. Unable to examine the internal elevations due to cladding. See sketches 2-5.

INTRODUCED STRENGTHENING

Oldstanding corrosion was present to the introduced strengthening, located to the low mileage upside and downside pier face and the high mileage upside pier. The low mileage 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.

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

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)*

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)*

Metal

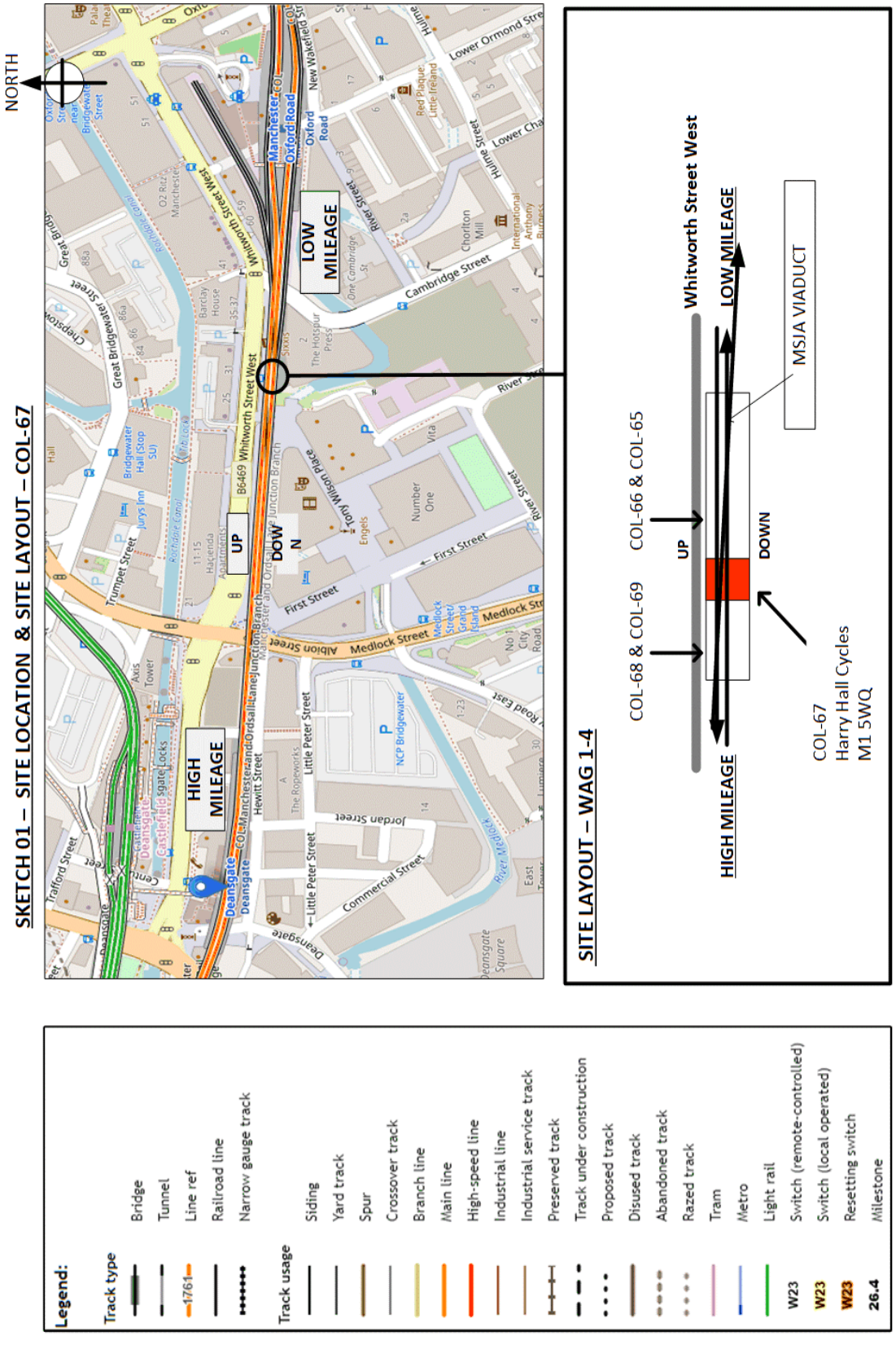
MG – Main Girder
XG – Cross Girder
BF – Bottom Flange
TF – Top Flange
CI – Cast Iron
WI – Wrought Iron
Corr – Corrosion
Lam – Lamination
LOS – Loss of Section
KE – Knife Edge

Corrosion / Lamination *(Light Orange)*

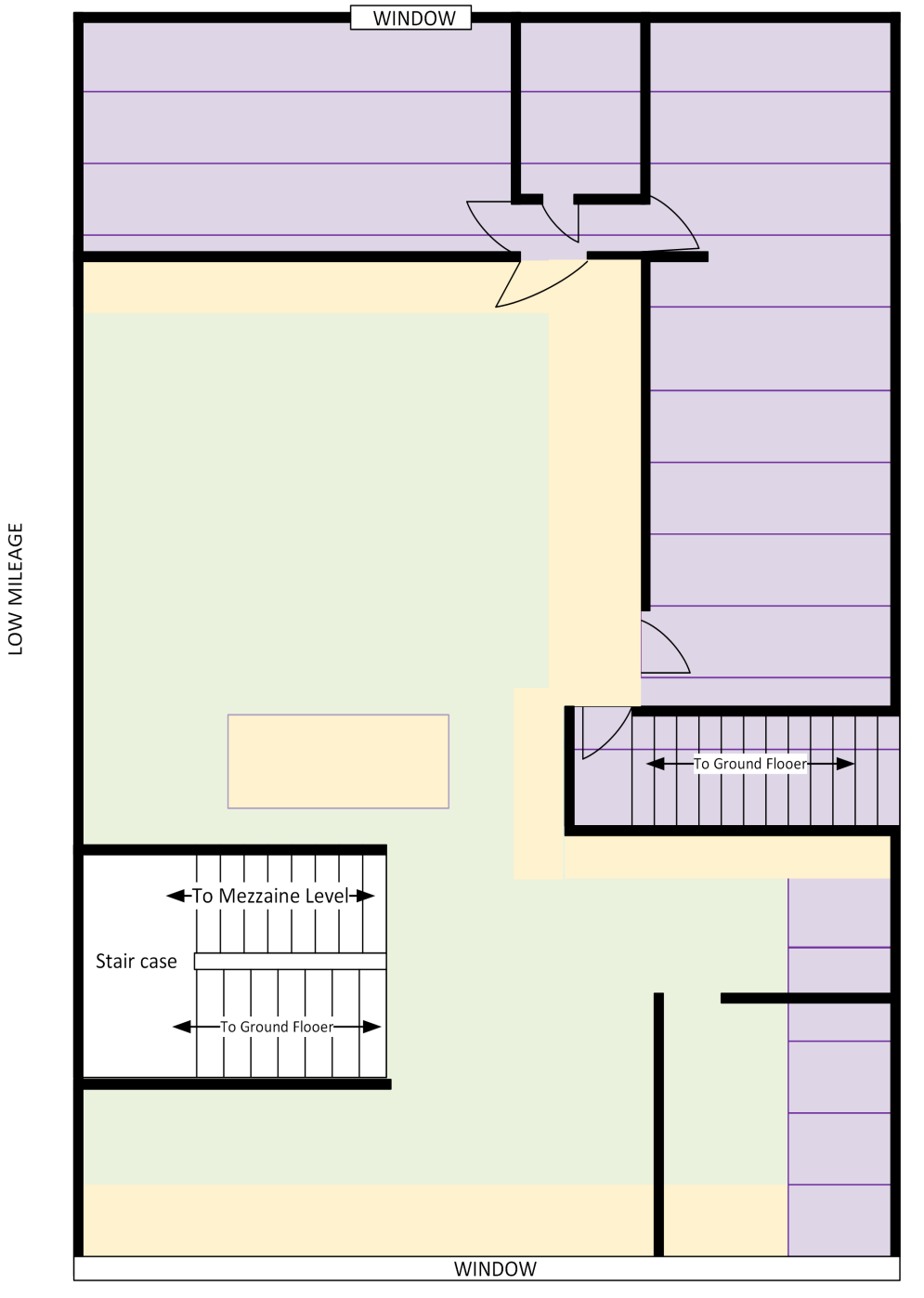
Fractures / Tears / Cracked Welds *(Red Line)*

Loss of Section / Buckling *(Red)*

Version 1.1 April 2008


SKETCH 01 – SITE LOCATION & SITE LAYOUT – COL-67
NORTH
HIGH MILEAGE
LOW MILEAGE
UP
DOWN
B6469 Whitworth Street West
Manchester and Ordsall Lane Junction Branch
Oxford Road
Deansgate
Albion Street
Medlock Street
First Street
Great Bridgewater Street
Cambridge Street
Lower Ormond Street
Commercial Street
Little Peter Street
Jordan Street
River Medlock
SITE LAYOUT – WAG 1-4
COL-68 & COL-69
COL-66 & COL-65
Whitworth Street West
LOW MILEAGE
HIGH MILEAGE
MSJA VIADUCT
COL-67
Harry Hall Cycles
M1 5WQ
Legend:
Track type
Bridge
Tunnel
Line ref
Railroad line
Narrow gauge track
Track usage
Siding
Yard track
Spur
Crossover track
Branch line
Main line
High-speed line
Industrial line
Industrial service track
Preserved track
Track under construction
Proposed track
Disused track
Abandoned track
Razed track
Tram
Metro
Light rail
Switch (remote-controlled)
Switch (local operated)
Resetting switch
Milestone

SKETCH 2 – MEEZZAINE LAYOUT

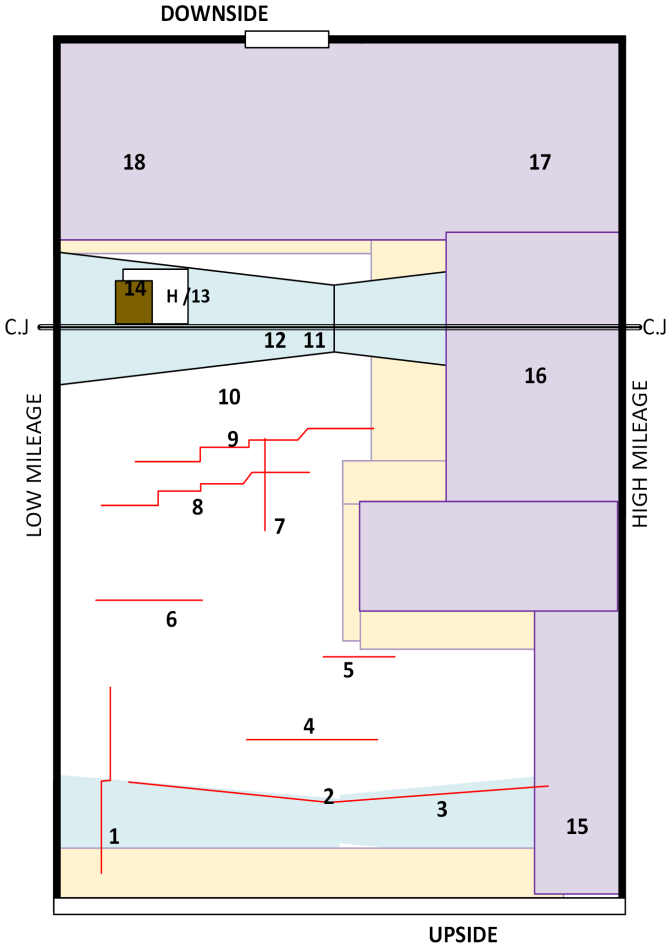


Area of cladding completely removed and tactile detailed exam carried out

Viewed behind cladding that was left in place due fixing

Unable to remove cladding from these area due to the way shop floor has been constructed

SKETCH 3 – SOFFIT



GENERAL COMMENTS

The soffit is covered in a sheet cladding fasten to timber support with some area of cladding could not be removed. A best achievable exam was carried out as due to the way the mezzanine floor level partition walls are constructed and location of fire alarm sensors as well as the tenants stock and equipment that was left in place. See P05 - P08

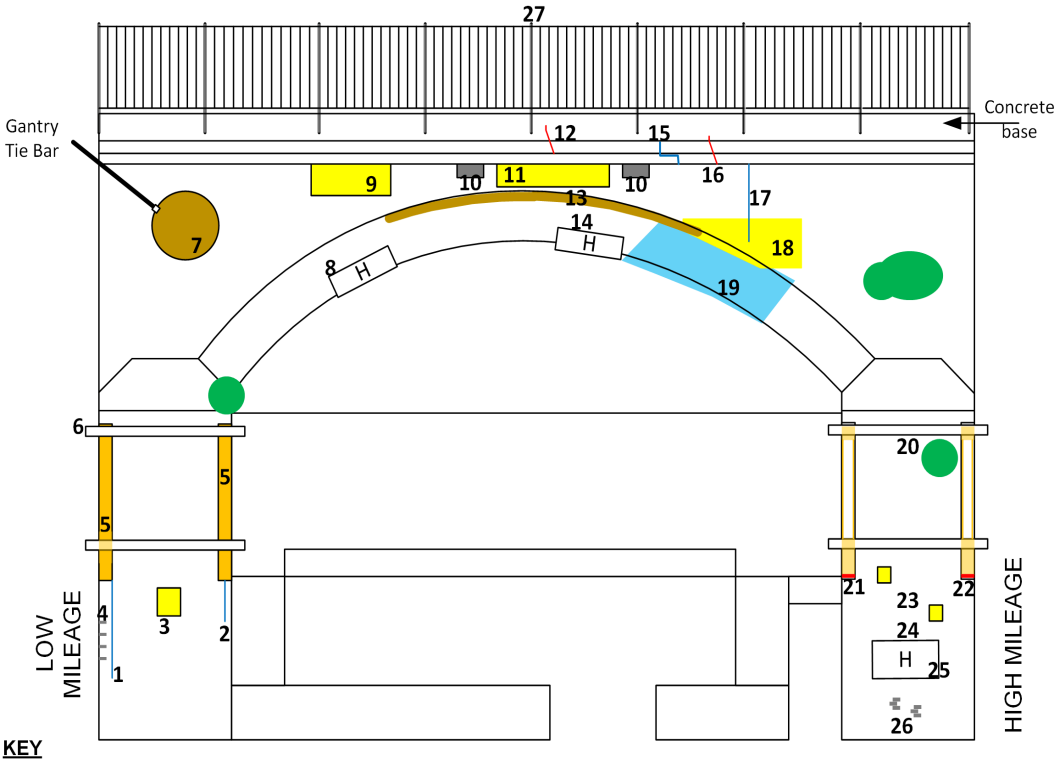
Viewed behind cladding that was left in place due fixing

Unable to remove cladding from these area due to the way shop floor has been constructed

DEFECT COMMENTS

1) New – Stepped transverse fracture calcite sealed and intermittently open H/L x 3.75m long which continues behind 2 no cladding sheets P09
2) New – Intermittent Longitudinal fracture 6.4m long part calcite sealed length of 3.2m with remaining open H/L x 3.2m P10 / P11
3) New – Seepage and slurry staining present running along the length of LF with damp brickwork behind cladding P10/11
4) New – Longitudinal fracture 2.6m long open H/L with intermittent calcite depositing P12
5) New – Longitudinal fracture 2.6m long open H/L Calcite Sealed P13
6) New – Longitudinal fractures open H/L x 1.8m with calcite deposit along its length P14
7) New – Transverse fracture open H/L x 1.6m long with calcite deposits along its length P15
8) New – Longitudinal fractures open H/L x 2.6m with calcite deposit along its length, with old standing historic brick work repair present between the fractures P16
9) New – Longitudinal fractures open H/L x 4.6m with calcite deposit along its length P16
10) New – Typical wet rot to timber battens supporting cladding throughout soffit with the soffit wet along construction joint and damp throughout P16 / P17
11) New -Soffit crown was observed moving underload up to 4mm at construction joint P18
12) New - Construction Joint failed along its length with seepage, soil ingress, root in growth and water staining P18 /P19
13) New – 2m2 area of Hollow sound brickwork adjacent to CJ P20
14) New – 1.5m2 area of Brickwork bulging down up to 20mm P20
15) Area not examined general view of stored equipment P21
16) Area not examined general view of stored equipment P22
17) Area not examined general view of area with stored workshop equipment P23 /P24
18) Area not examined general view of cladding to office area P25 /P26

SKETCH 4 – UPSIDE ELEVATION



KEY

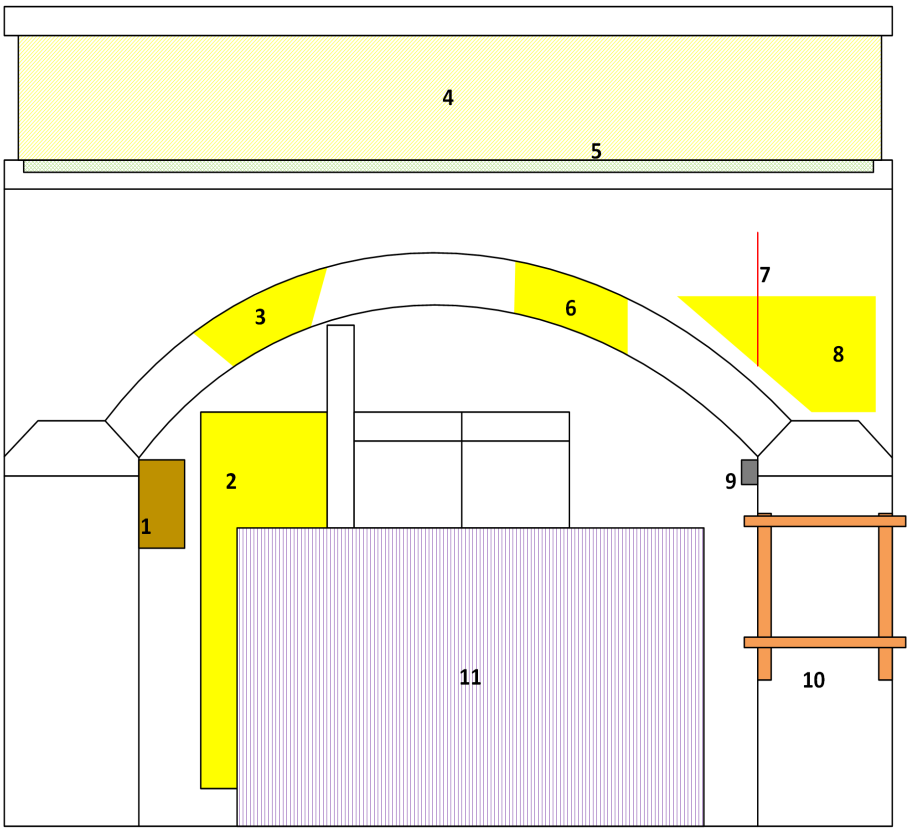
NPR – Not previously recorded

COMMENTS

Old standing general weathering 5-20mm to brickwork was noted throughout elevation NFD
The Span infilled area is made up of brickwork to lower half of span with timber cladding, roll down shutter, windows & doors.
Isolated patches of vegetation present to elevation up to 2.5m2 total which did not affect the exam

1) O/S VF open typically H/L -3mm max x 2m long NFD P27
2) O/S VF open typically H/L -3mm max x 0.5m long NFD P28
3) O/S isolated OJ 1m2 typically 20 to 50mm max NFD
4) O/S Isolated spalling to 4No bricks typically 20mm to 70mm max NFD
5) O/S Corr up to 5mm with complete loss of paintwork to quoin fenders NFD P29
6) Was Tear and distorted top bracing with corr up to 5mm Now bracing is repaired NFD P30 UE4
7) O/S Isolated bulging to brickwork typically 5-10mm to 3m2 NFD P31
8) O/S Hollow brickwork to 0.5m2 NFD
9) O/S isolated OJ 0.65m2 typically 15 to 30mm max NFD
10) 2No spalled bricks typically 20 to 40mm NFD P32
11) O/S isolated OJ 0.65m2 typically 15 to 30mm max NFD
12) New VF open 1-2mm x 0.5m long P33
13) O/S Displacement of spandrel was 2m long x 10mm Now 2.5mlong up to 20mm max SSD P34
14) O/S Hollow brickwork to 0.5m2 NFD
15) O/S VSF open H/L x 0.5m long NFD P35
16) New VF open 1-2mm x 0.5m long P36
17) O/S VF open H/L-3mm x 2m long NFD P37
18) O/S isolated OJ 0.65m2 typically 15 to 30mm max NFD
19) New area of wetness 1.2m x 0.7m P38
20) O/S corr up to 5-10mm at bracing connections to quoin fenders with complete loss of paintwork NFD P39
21) O/S Corr up to 5mm with complete loss of paintwork to quoin fenders with LOS 0.2m2 SSD P40
22) O/S Corr up to 5mm with complete loss of paintwork to quoin fenders with LOS 70mm x 100mm NPR P41
23) O/S isolated OJ 1m2 up to 40mm max NFD
24) 2No downpipes not connected with no wetness present at time of exam P42
25) New Hollow brickwork 0.75m2 P43
26) O/S Isolated spalling to 6No bricks typically 20mm to 50mm max NFD
27) O/S Metal Handrailing along the top of span is present and secure at time of exam with loss of painting and corr spots up to 1mm deep throughout NFD P44

SKETCH 5 – DOWNSIDE ELEVATION



HIGH MILEAGE LOW MILEAGE

Old standing general weathering throughout downside face up to 10mm NFD

DEFECT COMMENTS

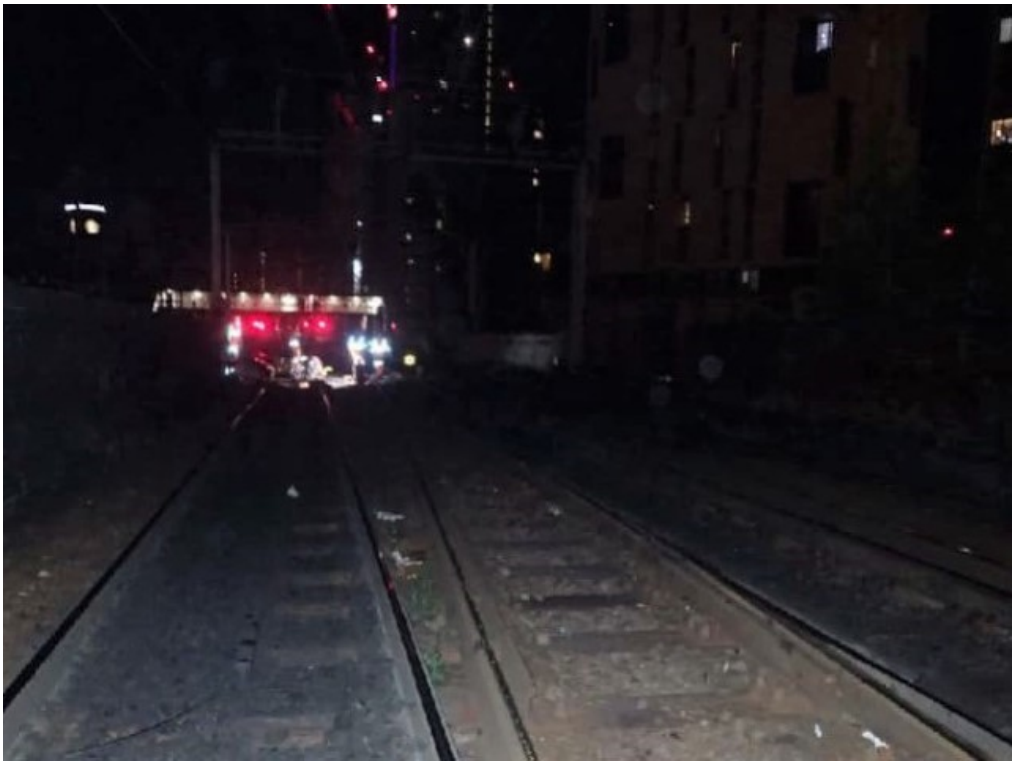
1) New – Bulging 0.25m2 up to 100mm forwards with brickwork loose to hammer P45 DE1
2) New – OJ to infill wall 2m2 x 40mm and LTH P46
3) New – OJ 0.5m2 up to 30mm deep to the face rings P47
4) O/S isolated open joints throughout the parapet up to 30mm deep to 3m2 total with weather /spalling throughout 2m2 5-30mm NFD P48
5) New – Vegetation throughout the string course and parapet 0.75m2 total P49
6) New – OJ 0.5m2 up to 30mm deep to the face rings P50
7) New – 1No VF open H/L x 1.5m to spandrel P51
8) New – OJ 0.5m2 up to 20mm to the spandrel P51
9) New – Missing brickwork located to infill wall 250mm x20mm x 250mm deep P52
10) New - 1No diagonal crack / tear to INS 400mm x H/L -1mm with cross beam buckled and detached with corr 0.5m2 x 1-3mm P50
11) Infilled wall not examined behind steel sheeting P53



P01 – Upside elevation – 13.06.2022



P02 – Downside elevation - 05.01.2022



P03 - Trackview towards low mileage – 13.06.2022



P04 - Trackview towards high mileage – 13.06.2022



P05 - Typical view of cladding to soffit pior to removal - 05.01.2022



P06 - General view oof soffit with cladding removed. - 05.01.2022



P07 - General view of soffit with cladding removed - 05.01.2022



P08 - Typical view of cladding reinstalled after exam - 05.01.2022



P09 - Typical view of part calcite sealed TF - 05.01.2022



P10 - longitudinal fracture - 05.01.2022



P11 - longitudinal fracture contiunes - 05.01.2022



P12 - Longitudinal fracture - 05.01.2022



P13 - Typical view of fractures - 05.01.2022



P14 - Longitudinal fracture with calcite deposits - 05.01.2022



P15 - Part calcite sealed Transverse fracture - 05.01.2022



P16 - Typical of Longitudinal fracture with seepage to CJ, wet rot to timber battens - 05.01.2022



P17 - Typical view behind cladding with soil, root ingress and seepage - 05.01.2022



P18 - Movement noted to crown along C.J - 05.01.2022



P19 - Typical of C.J with waterseepage and root ingrowth - 05.01.2022



P20 - Area of bulging of brickwork - 05.01.2022



P21 - Area not examined general vierw of stored equipment - 05.01.2022



P22 - Area not examine due to tennated stored equipment - 05.01.2022



P23 - Workshop equipment area not examined - 05.01.2022



P24 - Workshop equipment area not examined - 05.01.2022



P25 - Office area not examined - 05.01.2022



P26 - office area not examined - 05.01.2022



P27 - OS VF open typically HL -3mm max x 2m long – 13.06.2022



P28 - OS VF open typically HL -3mm max x 0.5m long – 13.06.2022



P29 - OS Corr up to 5mm with complete loss of paintwork to quoin fenders – 13.06.2022



P30 - Top bracing has been repaired – 13.06.2022



P31 - OS Isolated bulging to brickwork typically 5-10mm to 3m2 – 13.06.2022



P32 - Typical spall to brick – 13.06.2022



P33 - New VF open 1-2mm x 0.5m long – 13.06.2022



P34 - OS Isolated bulging to spandrel brickwork typically 5-10mm to 3m2 – 13.06.2022



P35 - OS VSF open HL x 0.5m long – 13.06.2022



P36 - New VF open 1-2mm x 0.5m long – 13.06.2022



P37 - OS VF open HL-3mm x 2m long NFD – 13.06.2022



P38 - New area of wetness 1.2m x 0.7m – 13.06.2022



P39 - OS corr up to 5-10mm at bracing connections to quoin fenders with complete loss of paintwork – 13.06.2022



P40 - OS Corr up to 5mm with complete loss of paintwork to quoin fenders with LOS 0.2m2 – 13.06.2022



P41 - OS Corr up to 5mm with complete loss of paintwork to quoin fenders with LOS 70mm x 100mm – 13.06.2022



P42 - 2No downpipes not connected with no wetness present at time of exam – 13.06.2022



P43 - New Hollow brickwork 0.75m2 – 13.06.2022



P44 - OS Metal Handrailing along the top of span is present and secure at time of exam with loss of painting and corr spots up to 1mm – 13.06.2022



P45 - Bulging with LTH brickwork – 05.05.2019



P46 - O.J with LTH brickwork – 05.05.2019



P47 - O.J to face rings – 05.05.2019



P48 - Isolated open joints throughout the parapet – 05.05.2019



P49 - Vegetation throughout the string course and parapet – 05.05.2019



P50 - O.J to facing with buckling to cross bracing – 05.05.2019



P51 - VF to spandrel – 05.05.2019



P52 - Missing brickwork to infill wall – 05.05.2019



P53 - Infilled wall not examined behind steel sheeting – 05.05.2019



P54 - Typical view along pier 66 high mileage face - 05.01.2022



P55 - Typical view along pier 66 high mileage face continues - 05.01.2022



P56 - View of drainage pipe and evidence of seepage - 05.01.2022



P57 - Pier 67 - low mileage face - 05.01.2022



P58 - Pier 67 - Low mileage face with was open and in use - 05.01.2022

NETWORK RAIL BCMI EXAMINATION REPORT FORM

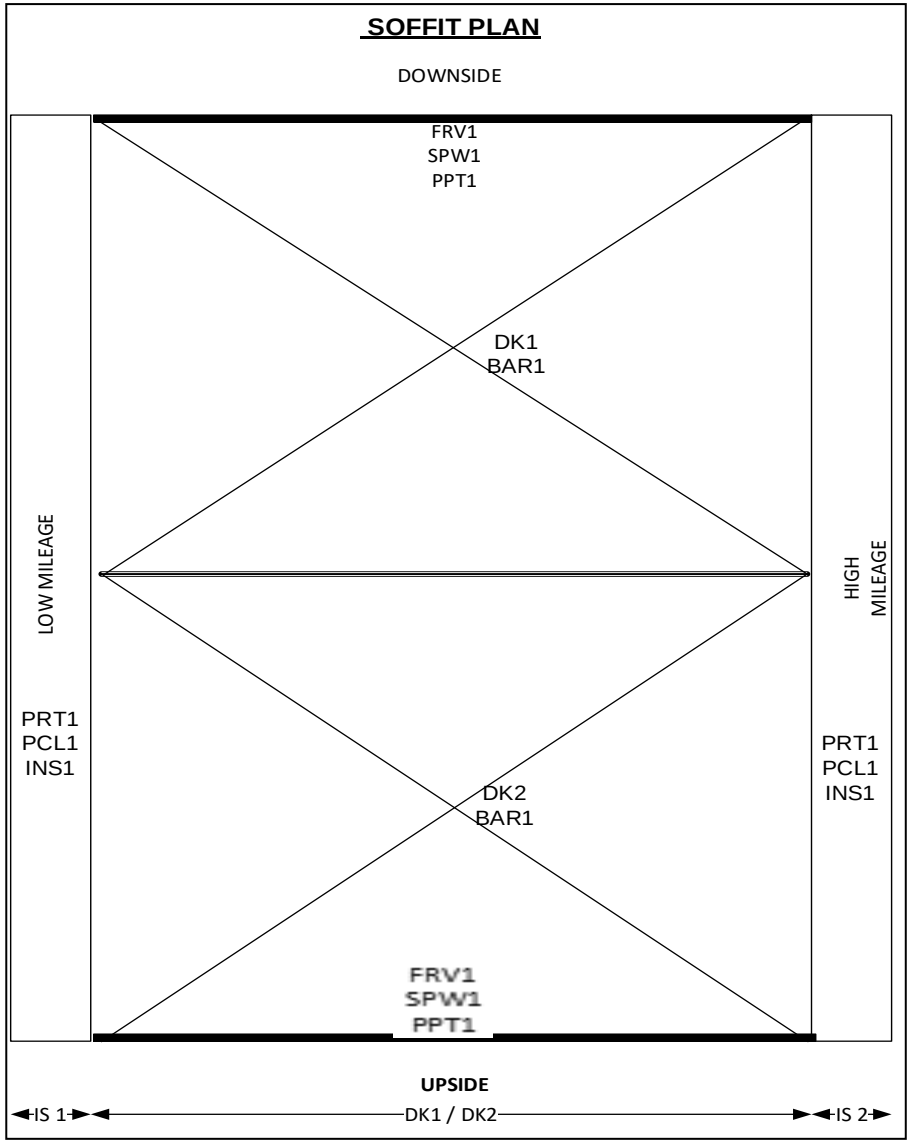
Territory	ELR	Structure No	Start Mileage	Group	Type	RAR ID	Structure Name	Exam Date	Task Year	Exam Type	Examiners Name	Weather
TLNW	COL	67	189.0852	BB	BBU		RIVER MEDLOCK (MSJA VIADUCT)	05/01/2022	18 19	D	Michael Whitehouse	Fair

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	NE	NE	NE	NE	✓	ONLY ENDS EXAMINED DUE TO ACCESS ISSUES TO HM FACE AND SHOP FITTTED CLADDING IN USE AT TIME OF EXAM
IS	1	PCL	1	B	NE	NE	NE	NE	✓	ONLY ENDS EXAMINED DUE TO SHOP FITTINGS ACCESS ISSUES TO HM FACE AND SHOP FITTTED CLADDING IN USE AT TIME OF EXAM
IS	1	INS	1	M	G6	D6	L6	K5	✓	REPAIR TO INS ON UPSIDE WITH BUCKLING & TEAR/ FRACTURE TO INS ON DOWNIDE WITH CORR & PAINT LOSS
DK	1	PPT	1	B	D4	C4	A1	A1	✓	SPALLING & O.J
DK	1	SPW	1	B	C3	B5	G9	A1	✓	O.,J , WEATHERING, V.F
DK	1	FRV	1	B	C5	B5	A1	A1	✓	O.J & WEATHERING
DK	1	BAR	1	B	F3	E3	A1	A1	✓	ONLY 10% OF SOFFIT WAS EXAMINED DUE TO CLADDING NOT ABLE TO BE REMOVED
DK	2	BAR	1	B	B6	A1	I7	G10	✓	[illegible] ISOLATED TF WITH CALCITE SEALED AREAS
DK	2	FRV	1	B	E4	B4	A1	A1	✓	HOLLOW + SEEPAGE
DK	2	SPW	1	B	F5	C4	J8	A1	✓	BULGING + FRACTURE +O.J
DK	2	PPT	1	C	B5	A1	A1	A1	✓	FRACTURE TO HANDRAIL BASE
IS	2	PRT	1	B	NE	NE	NE	NE	✓	[illegible] AT TIME OF EXAM
IS	2	PCL	1	B	NE	NE	NE	NE	✓	EXAMINED DUE
IS	2	INS	1	M	F3	D6	L6	K5	✓	LOS AND PAINT

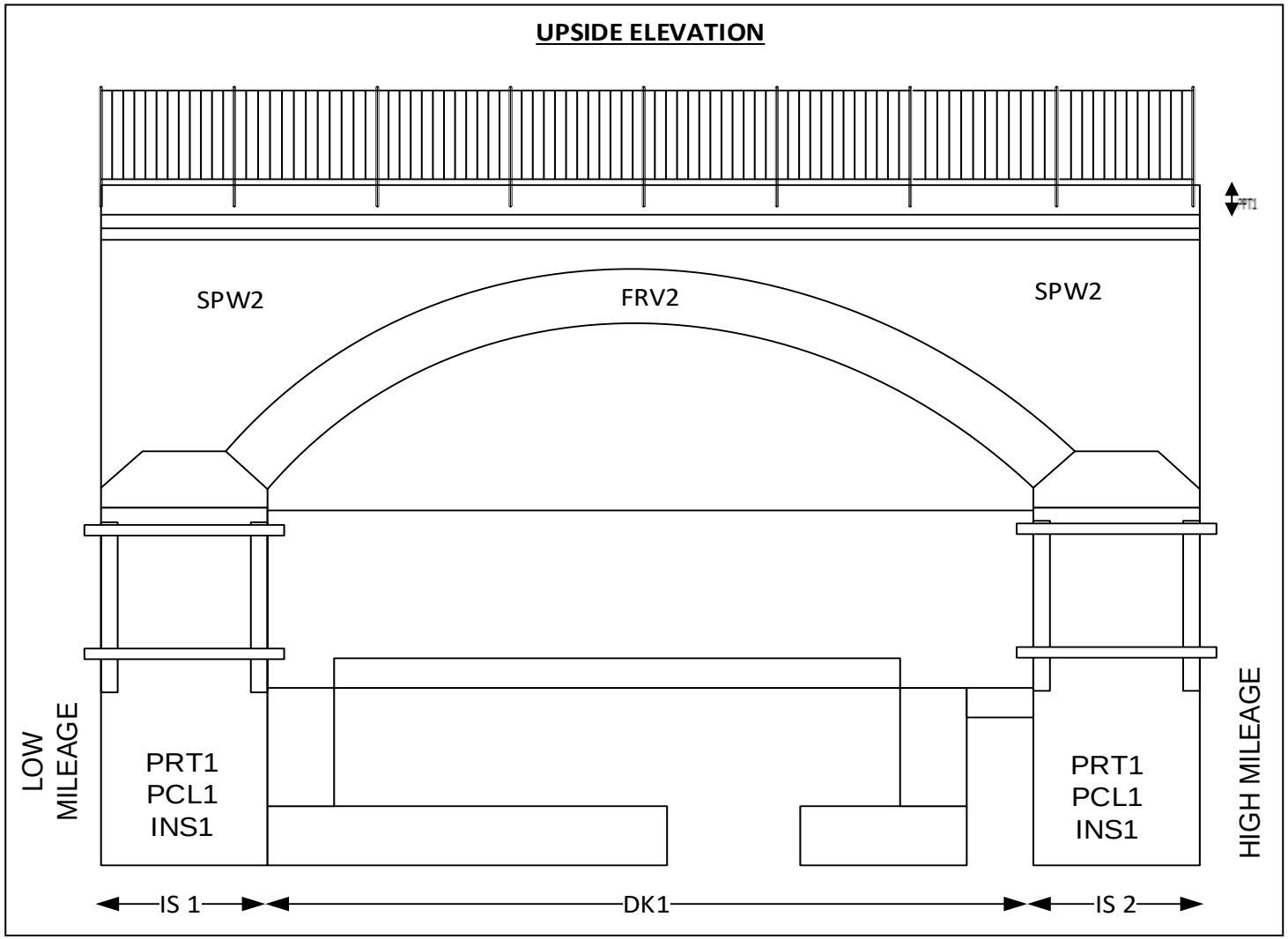
NETWORK RAIL BCMI EXAMINATION REPORT FORM

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

NETWORK RAIL BCMI EXAMINATION REPORT FORM



NETWORK RAIL BCMI EXAMINATION REPORT FORM



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	67	189.0852	BB	BBU		RIVER MEDLOCK (MSJA VIADUCT)	05/01/2022	18_19	D	Michael Whitehouse	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	E3	A1	A1	✓	ONLY 10% OF SOFFIT WAS EXAMINED DUE TO CLADDING NOT ABLE TO BE REMOVED	55	64	35
DK	1	FRV	1	B	C5	B5	A1	A1	✓	O.J & WEATHERING	75		
DK	1	PPT	1	B	D4	C4	A1	A1	✓	SPALLING & O.J	65		
DK	1	SPW	1	B	C3	B5	G9	A1	✓	O.,J , WEATHERING, V.F	80		
DK	2	BAR	1	B	B6	A1	I7	G10	✓	60% AREA EXAMINED WITH WETNESS WITH SOIL AND ROOT GROWTH FROM C.J WITH ISOLATED BRICK SPALL AND MULTIPLE	75	61	
DK	2	FRV	1	B	E4	B4	A1	A1	✓	HOLLOW + SEEPAGE	50		
DK	2	PPT	1	C	B5	A1	A1	A1	✓	FRACTURE TO HANDRAIL BASE	75		
DK	2	SPW	1	B	F5	C4	J8	A1	✓	BULGING + FRACTURE +O.J	20		
IS	1	INS	1	M	G6	D6	L6	K5	✓	REPAIR TO INS ON UPSIDE WITH BUCKLING & TEAR/ FRACTURE TO INS ON DOWNIDE WITH CORR & PAINT LOSS	0	0	