Post-Works Special Inspection Report

Storthes Hall Bridge

Structure No: K0150

June 2026

Produced for	*Prepared by*
Kirklees Council Operational Services Highway Structures Flint Street Fartown Huddersfield HD1 6LG	Waterman Group 6th Floor Trinity Court 16 John Dalton Street Manchester M2 6HY **T:** +44 161 839 8392

Document Control Sheet

Project Title	Kirklees Council 2026 – Special Inspection
Report Title	Storthes Hall Bridge
Bridge Ref	K0150
Revision	A
Reference	WIE19907-103-PWSI-1-1-1-K0150
Status	First Issue
Control Date	June 2026

Record of Issue

Rev	Author	Date	Check	Date	Authorised	Date
A	T Grimshaw	02/06/2025	Q Nadeem	04/06/2025	A Caso	05/06/2025

Distribution

Organisation	Contact	Copies
Kirklees Council	Khuram Hussain	khuram.hussain@kirklees.gov.uk

Structure Information Sheet

Structure Name:	Storthes Hall Bridge		
Structure No:	K0150	Road Name: Map Reference: Date of Construction:	Storthes Hall Lane 418889, 413350 Unknown

Crossing:

If above a railway line:	No	Give BR Region	N/A
		and BR Bridge No.	N/A
If above a river:	Yes	Is it tidal and/or navigable?	No / No
		Give Authority	Environment Agency
If above a road:	No	Give Road Name	N/A
Is the structure a confined space?			No
Is structure scheduled as an Ancient Monument?			No

Dimensions:

No. of span(s):	1	Skew:	0^0
Clear square span:	5.95m		
Clear square widths:	5.70m		
Clear skew span:	N/A		
Skew span lengths of decks C-C between bearings:	N/A		
Width of carriageway on bridge:	4.35m		
Width of verges/footpaths:	N: 0.55m, S: 0.30m		
Total width between parapets:	5.20m		
Total span width between elevations:	5.70m		
Parapet thickness (for masonry/brick):	0.25m both sides		
Parapet Height:	N: 0.90m, S: 1.00m		
Minimum headroom:	2.75m from soffit to invert		
Depth of cover:	>1m		

Loading

Is the structure subject to a weight restriction order:	No
If yes give details:	N/A
Assessed capacity (year assessed):	40t GVW (1987)

Construction

The structure is a single span 5.95m (4.9m was measured on site due to water level) stone masonry arch with masonry abutments, spandrels and parapets. Stone masonry parapets are positioned atop the deck edge, providing edge protection for pedestrians and motor vehicles.

The structure carries C574 Storthes Hall Lane over Thunder Bridge Dike. The structure comprises a 4.35m carriageway.

Bearings

N/A

Expansion Joints

N/A

Parapet Type

Stone Masonry

Waterproofing

Unknown

Paint System

N/A.

Contents

1 Introduction

1.1 Structure Description

Location	The structure is located at Grid Reference 418889, 413350, carrying C574 Storthes Hall Lane over Thunder Bridge Dike, approximately to the southeast of Huddersfield
Construction	The structure is a single span 5.95m stone masonry arch with masonry abutments, spandrels and parapets. Stone masonry parapets are positioned atop the deck edge, providing edge protection for pedestrians and motor vehicles. The structure carries C574 Storthes Hall Lane over Thunder Bridge Dike. The structure comprises a 4.35m carriageway.
History	Date of Construction: Unknown, record drawings indicate that the bridge was pressure pointed in 1982 and saddled in 1992. Assessment load rating: 40t Previous PI: January 2025 This inspection was instructed to identify any defects arising since the January 2025 Principal Inspection, and the report is formatted to facilitate this. It is important to consult the previous Principal Inspection report for complete commentary on the condition of the structure.
Drawings	No As Built drawings provided.

1.2 General Photographs

Photo A: General View of North (Downstream) Elevation

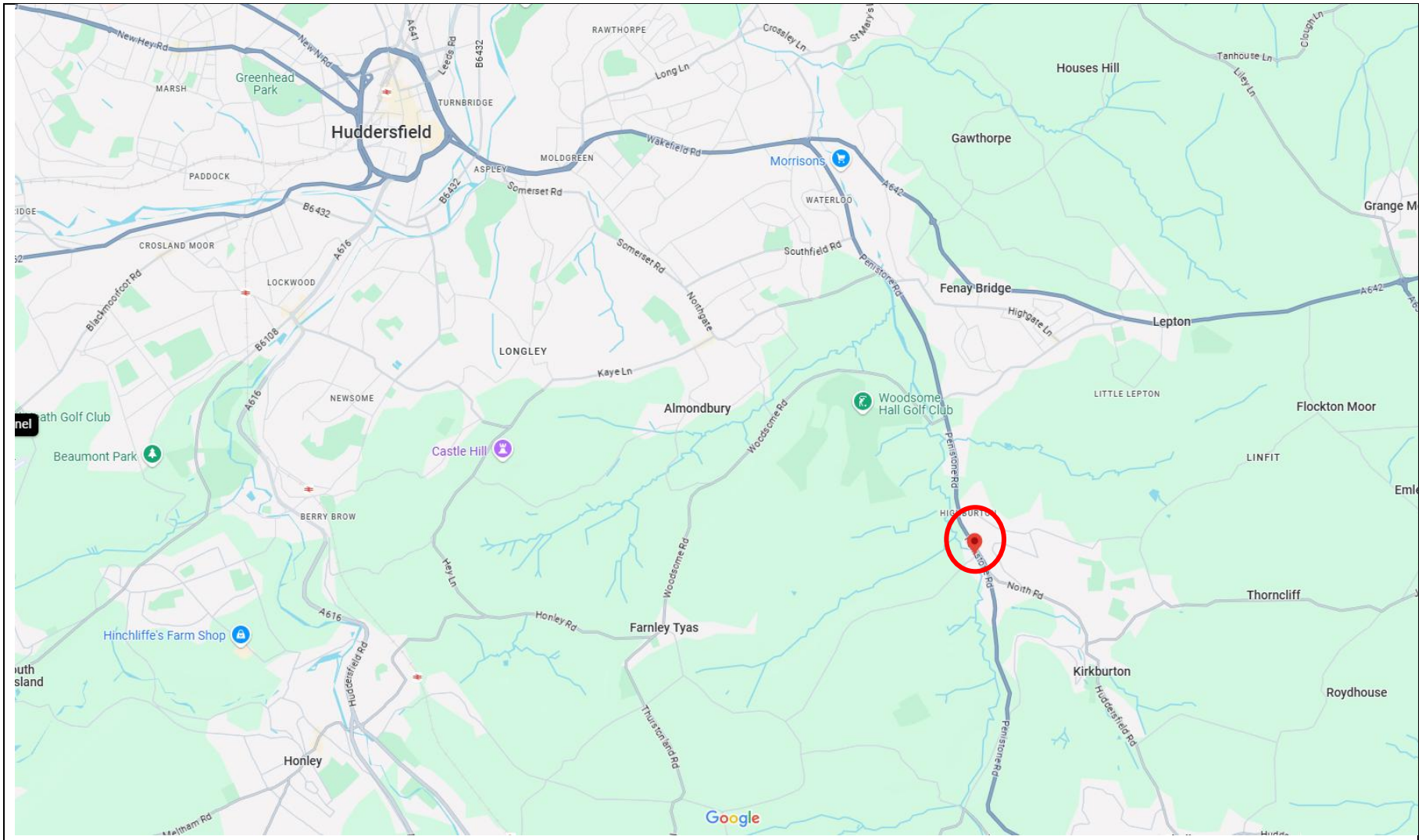
Photo B: General View of South (Upstream) Elevation

Photo C: General View Over Topside Carriageway

1.3 Orientation

The structure carries C574 Storthes Hall Lane over Thunder Bridge Dike which flows from south (upstream) to north (downstream) approximately to the southeast of Huddersfield at grid reference 418889, 413350.

1.4 Location Plan



National Grid Reference: 418889, 413350

2 Description of Inspection

2.1 General Details and Inspection Procedure

Date of Inspection	29/05/2026
Names of inspectors	T Grimshaw and C Richardson
Weather conditions	Dry, clear.
Access equipment requirements	Waders, throw ropes.
Access location(s)	Access to the structure was gained via northeast embankment.
Traffic management requirements and restrictions	Traffic management was not required; the carriageway remained open for the duration of the inspection.
EA, BWB, Network Rail permissions / requirements	N/A
Survey equipment	Tape Measure, laser distance measurement device, Spirit level
Comments	Reason for Inspection: This inspection was instructed to identify any defects arising since the previous Principal Inspection, and the report is formatted to facilitate this.

2.2 Areas Not Inspected

Area not inspected	**Reason why not inspected**
Foundations.	Not exposed.
Waterproofing.	Not exposed.
Services	Not exposed.

2.3 Testing Undertaken

Testing undertaken	Reason for testing	Results
Hammer tap survey to all masonry elements inspected.	To identify areas of loose, spalled, or hollow sounding material.	(See Section 3.1 of this document for details).

3 Inspection Findings

3.1 Deck elements

Primary deck element (Table 2)

- Photograph 3 - General View Of Arch Barrel
- Photograph 9 - Repointing To Arch Barrel Sound
- Photograph 10 - Structure Was Recently Repointed, Pointing Remains Sound
- Photograph 11 - Historic Repointed Cracks Remain Sound
- Photograph 12 - Masonry Repairs Remain Sound.
- Photograph 31 – 0.5m Diagonal Cracking Open 1-2mm to South End of Structure Below West ¼ point
- Photograph 32 – 0.5m Length Cracking Open 1-2mm Through Mortar And Masonry To West ¼ Point, Midway Along Structure Width

The arch barrel was recently repointed extensively, and remained dry, with the mortar sound. The joints were full, no distortion was visible to the arch profile, and no hollow sounding was found during the inspection.

The arch barrel was pressure pointed in 1982, and saddled in 1992 according to archive information. The saddle was not visible for inspection, however, there were no defects to the structure exhibited which would indicate any issues with the saddling.

2no. cracks were noted to below the west ¼ point, one at the south end and one at midway along the width of the structure. The cracking was measured at 1-2mm width and 0.5m length. It is recommended that the cracking is monitored for deterioration at subsequent inspections. These cracks were not identified during the 2025 Principal Inspection but were believed to be below the waterline.

The arch barrel did not appear to have deteriorated in condition since the 2025 Principal Inspection.

Secondary deck element/s Transverse beams

Not applicable.

Secondary deck element/s Element from Table 3

Not applicable.

Half joints

Not applicable.

Tie beam/rod

Not applicable.

Parapet beam or cantilever

Not applicable.

Deck bracing

Not applicable.

3.2 Load-bearing Substructure

Foundations

The foundations were not exposed for inspection. No indication of major settlement or rotation were identified during this inspection and the foundations were therefore presumed to be in good condition.

Abutments

No abutments were believed to exist to the structure, as no springing points were found.

Spandrel wall / head wall

- Photograph 1 - General View of North (Downstream) Elevation
- Photograph 2 - General View of Upstream (South) Elevation
- Photograph 15 - General View of South West Spandrel
- Photograph 16 - General View of South East Spandrel
- Photograph 17 - Vegetation Growth to North East Spandrel
- Photograph 18 - Vegetation Growth to North West Spandrel.

The spandrels for the structure were generally sound, with no notable deterioration exhibited.

The spandrel walls did not appear to have deteriorated in condition since the 2025 Principal Inspection.

Pier / Column

Not applicable.

Cross head / capping beam

Not applicable.

Bearings

Not applicable.

Bearing shelf / plinth

Not applicable.

3.3 Durability elements

Superstructure drainage

No superstructure drainage was identified during the inspection.

Substructure drainage

No substructure drainage was identified during the inspection.

Waterproofing

The waterproofing was not uncovered for inspection and therefore not inspected. Due to the structure being a masonry arch, it is not believed that there is any waterproofing present.

Movement/Expansion joints

Not applicable.

Finishes: deck elements

Not applicable.

Finishes: substructure elements

Not applicable.

Finishes: parapets/safety fences

Not applicable

3.4 Safety elements

Access / walkways / gantries

Not applicable.

Handrail / parapets / safety fences

- Photograph 23 - Cracking Through Mortar to North Parapet at East End, Full Height, Open 5-10mm
- Photograph 24 - Cracking To North Parapet Through Masonry, East End, Open 5-10mm
- Photograph 25 - General View Along North Parapet and Verge
- Photograph 26 - General View Along South Parapet and Verge.

The parapets were generally sound, however, there was cracking through mortar and masonry to the north parapet at the east end, full height, with associated spalled masonry. This crack should be repaired, and dated mortar tabs installed, to allow for monitoring at subsequent inspections.

The damage to the parapet is potentially due to vehicle impact. The cracking did not appear to have deteriorated since the 2025 Principal Inspection.

Carriageway surfacing

- Photograph 27 - Potholing To Carriageway Surface Now Repaired.
- Photograph 28 - General View Over Carriageway Surface.
- Photograph 29 - 1.5m By 150mm Wide Rutting To Centreline Of Carriageway, West End Of Structure.

The carriageway over the bridge was largely in good condition, and the previously identified pothole had been infilled.

An area of rutting 1.5m by 150mm was noted to the west end of the structure, which did not appear to have deteriorated since the 2025 Principal Inspection.

Footway surfacing

- Photograph 28 - General View Over Carriageway Surface.

There were no verges at the sides of the carriageway. To the south, there was a narrow kerb which was not sufficient to function as a walkway.

3.5 Other bridge elements

Invert / riverbed

- Photograph 4 - General View of Invert
- Photograph 5 - General View Upstream
- Photograph 6 - General View Downstream.

The invert was generally sound, with no notable deterioration observed. It is suggested that a Level 1 Scour Survey is undertaken.

Aprons

Not applicable.

Fenders / cutwaters / collision protection

Not applicable.

River training works

- Photograph 19 - South West Training Wall Exhibiting Partial Collapse Due To Established Tree Growth, Increased Deterioration Since 2025 Principal Inspection
- Photograph 20 - South East Training Wall Exhibiting Vegetation Growth
- Photograph 21 - North West Training Wall Generally Sound
- Photograph 22 - North East Training Wall Exhibiting Bulging And Established Sapling Growth

The training walls exhibited vegetation and established tree growth. The established tree growth to the southwest training wall had caused partial collapse to the training wall, circa 2.5m^2.

This was a slight increase since the 2025 Principal Inspection, but this was attributed to further vegetation growth and high water levels during the winter period, and not vehicle movement as the training wall does not sustain traffic loading.

The sapling growth to the northeast training wall had resulted in bulging to the masonry.

It is recommended that all vegetation growth is removed and treated, and that the area of partial collapse is rebuilt. The bulging should be monitored at subsequent inspections for progression after the sapling growth is removed.

Wing walls

Not applicable.

Retaining walls

Not applicable.

Embankments

Not applicable.

Machinery

Not applicable.

3.6 Ancillary elements

Approach rails / barriers / walls

Not applicable.

Signs

Not applicable.

Lighting

Not applicable.

Services

- Photograph 7 - Service Pipe Running Beneath Structure
- Photograph 8 - Service Pipe Running Beneath Structure
- Photograph 13 - Failed Support to Service Pipe, Upstream
- Photograph 14 - Failed Support to Service Pipe, Downstream.

The ownership of the service pipe is unknown, however, the 2no. supports to the service pipe have failed, and it is recommended that the owner and maintainer is found and advised of the requirements for remedial works.

The supports comprised 1no. brick column which has collapsed, and 1no. metal hanger which had fully corroded through and failed. These issues did not appear to have deteriorated since the 2025 Principal Inspection.

4 Conclusions & Recommendations

4.1 Conclusions

The inspection was instructed to identify any defects since the January 2025 Principal Inspection. In conclusion, the structure was found to be in ***GOOD*** overall condition due to the historic repairs to the arch barrel and the repaired potholing to the carriageway surfacing.

No significant additional defects were identified during the 2026 Special Inspection, which had occurred since the 2025 Principal Inspection, therefore no additional remedial recommendations are to be made.

4.2 Safety Issues

- None.

4.3 Additional Recommendations as of 2026 Special Inspection

Recommendation	Description	Timescale
Essential Maintenance	None	N/A
Preventative Maintenance	None	N/A
Monitoring	None	N/A
Structural Review	None	N/A
Testing	None	N/A
Other	None	N/A

It is recommended that future Principal and General Inspections are carried out in accordance with the guidelines provided in CS-450 - Inspection of Highway Structures, depending on the outcome of structural review.

It is required that all structures must have a structural review completed within 12 years of the publication of CS-451 (2020). It is therefore recommended that this structure has a structural review if not already carried out.

4.4 Bridge Condition Index (BCI)

The BCI_{crit} is 100.00 and the BCI_{ave} is 92.96, which reflects the condition of the structure. Refer to BCI Form (Appendix C) for details.

4.5 Completeness and Accuracy of Inventory Records

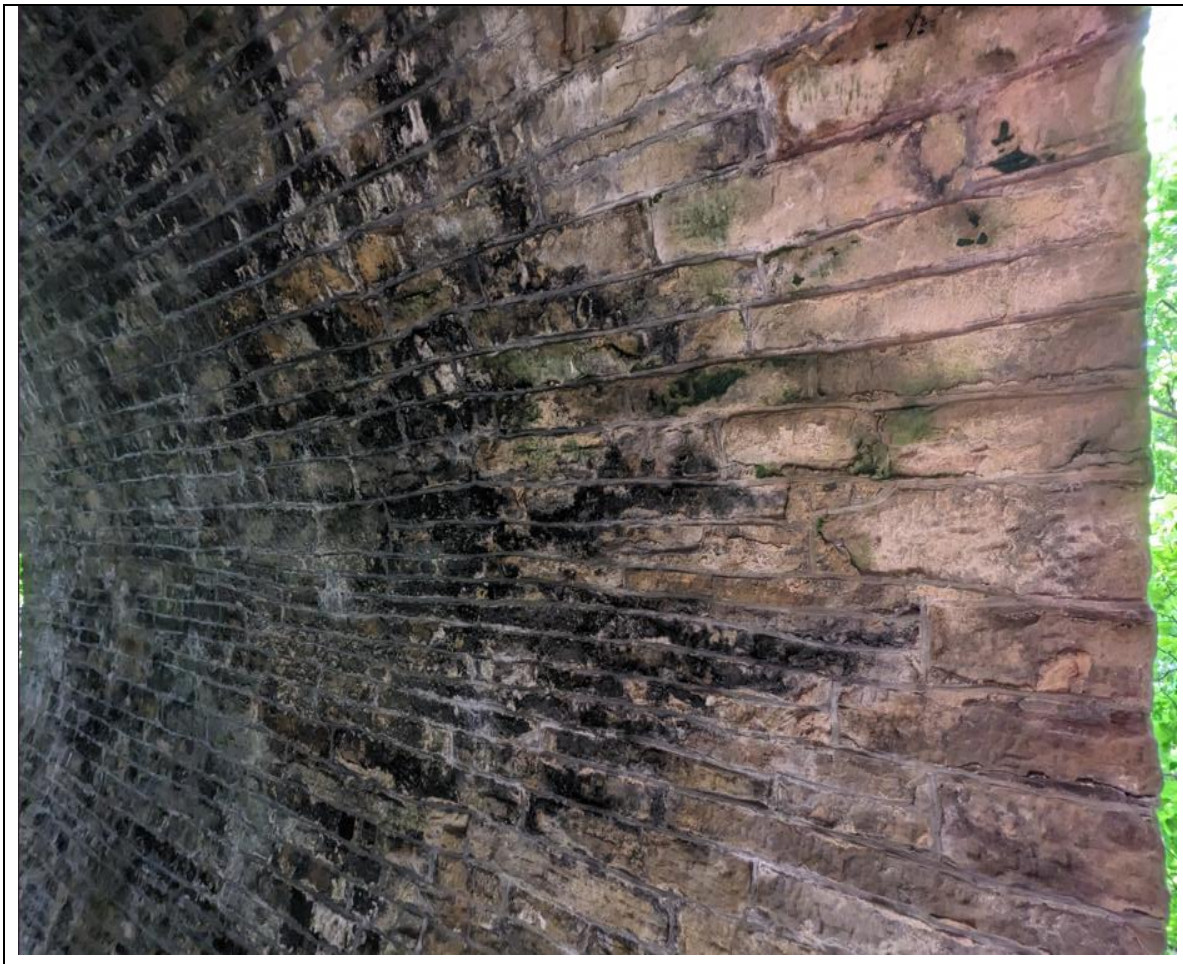
Missing / Incorrect Information	**Recommended action**
Assessment data	Undertake structural review

5 Appendices

Appendix A – Defect Photographs

Photograph 1 - General View of North (Downstream) Elevation

Photograph 2 - General View of South (Upstream) Elevation



Photograph 3 - General View of Arch Barrel

Photograph 4 - General View of Invert

Photograph 5 - General View Upstream

Photograph 6 - General View Downstream

Photograph 7 - Service Pipe Running Beneath Structure

Photograph 8 - Service Pipe Running Beneath Structure

Photograph 9 - Repointing To Arch Barrel Sound

Photograph 10 - Structure Was Recently Repointed, Pointing Remains Sound

Photograph 11 – Historic Repointed Cracks Remain Sound

Photograph 12 - Masonry Repairs Remain Sound

Photograph 13 - Failed Support To Service Pipe, Upstream

Photograph 14 - Failed Support To Service Pipe, Downstream

Photograph 15 - General View Of South West Spandrel Wall

Photograph 16 - General View Of South East Spandrel Wall

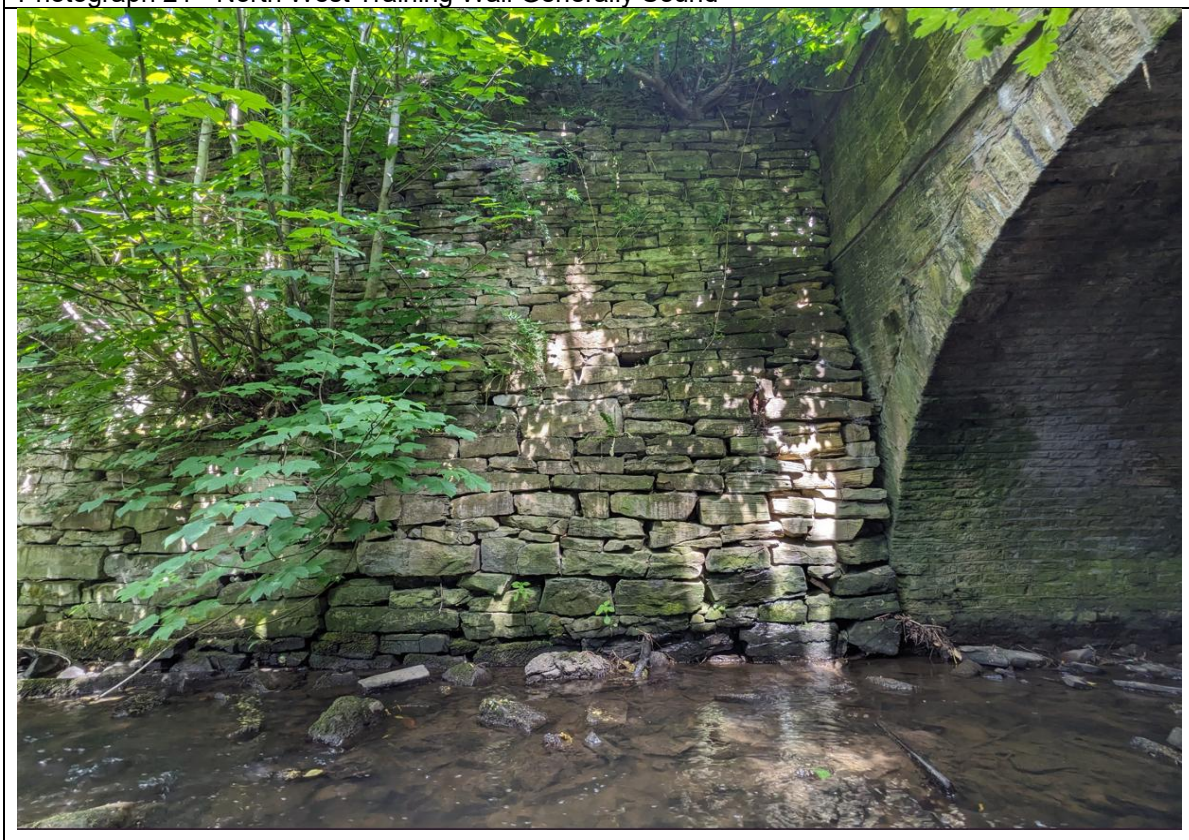
Photograph 17 - General View Of North East Spandrel Wall

Photograph 18 - General View Of North West Spandrel Wall

Photograph 19 - South West Training Wall Exhibiting Partial Collapse Due To Established Tree Growth, Increased Deterioration Since 2025 Principal Inspection

Photograph 20 - South East Training Wall Exhibiting Vegetation Growth

Photograph 21 - North West Training Wall Generally Sound



Photograph 22 - North East Training Wall Exhibiting Bulging And Established Sapling Growth

Photograph 23 – Cracking Through Mortar To North Parapet At East End, Full Height, Open 5-10mm

Photograph 24 - Cracking To North Parapet Through Masonry, East End, Full Height, Open 5-10mm

Photograph 25 - General View Along North Parapet And Verge with increased Vegetation

Photograph 26 - General View Along South Parapet And Verge

Photograph 27 - Potholing To Carriageway Surface Now Repaired

Photograph 28 - General View Over Carriageway Surface Showing Repair To Potholing

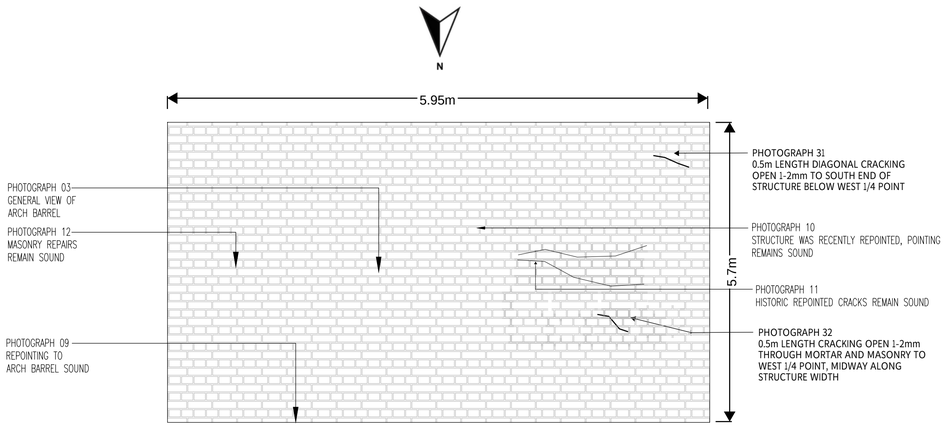
Photograph 29 – 1.5m By 150mm Wide Rutting To Centreline Of Carriageway, West End Of Structure

Photograph 30 – Not used

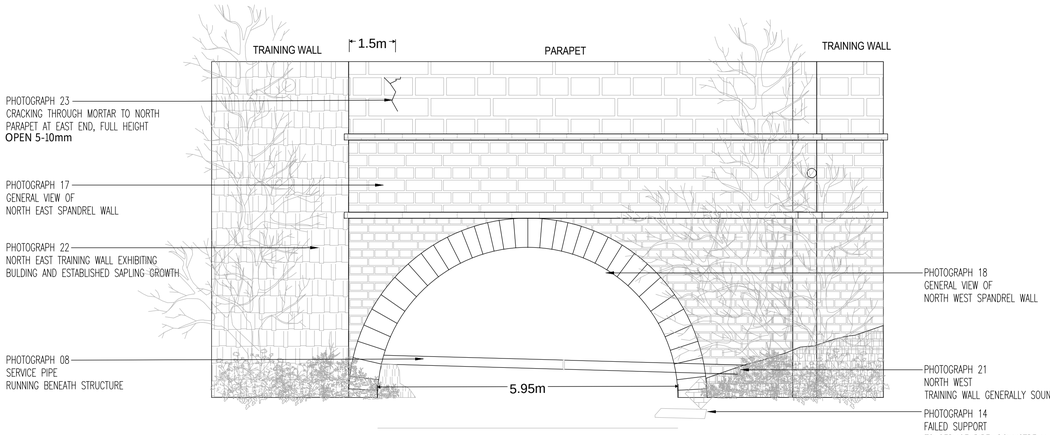
Photograph 31 – 0.5m diagonal cracking open 1-2mm to south end of structure below west ¼ point

Photograph 32 – 0.5m Length Cracking Open 1-2mm Through Mortar And Masonry To west ¼ Point, Midway Along Structure Width

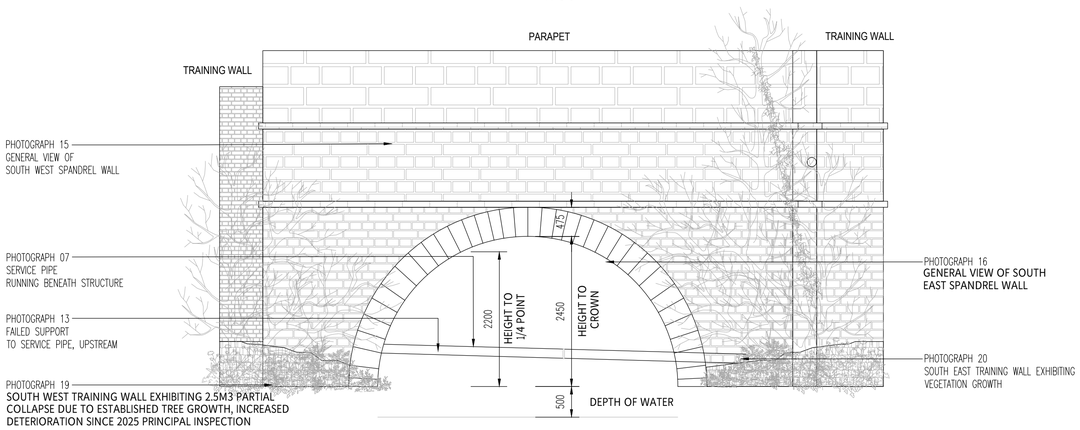
Appendix B – Defect & Photograph Location Drawings



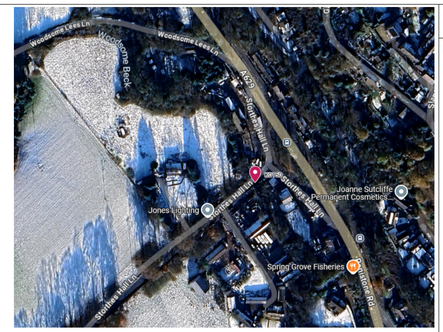
DEVELOPED VIEW OF ARCH BARREL
1:50



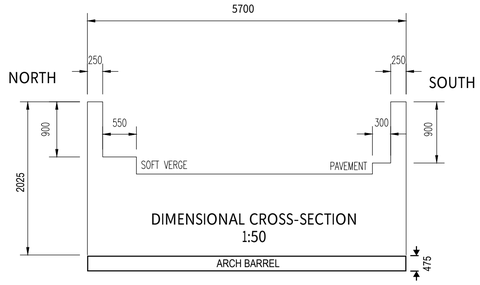
NORTH ELEVATION
1:50

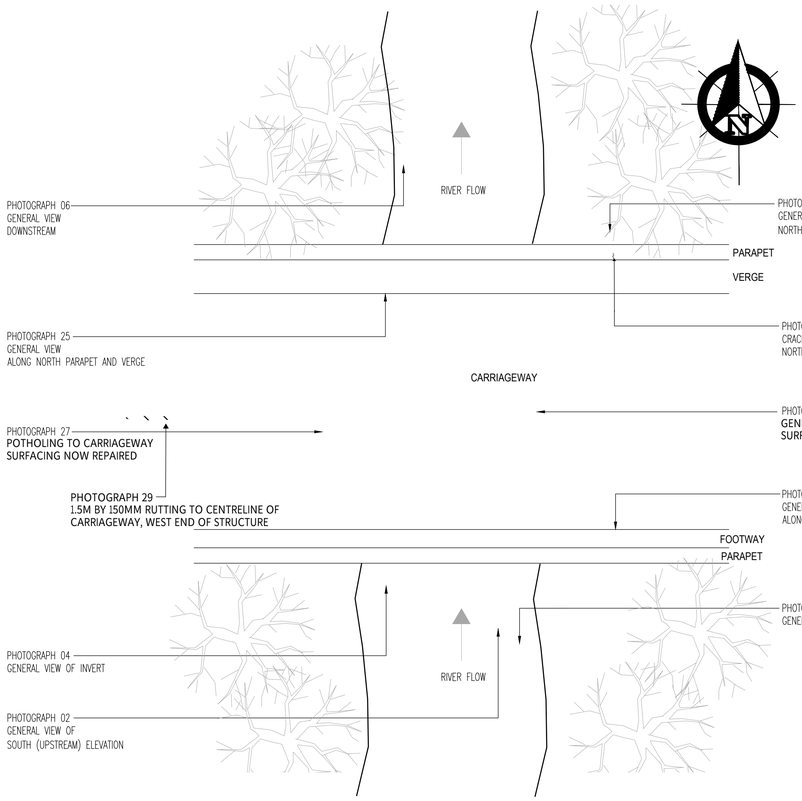


SOUTH ELEVATION
1:50



LOCATION PLAN
NTS





PLAN VIEW OF TOPSIDE
1:50

GENERAL NOTES

1. FOR DEFECT DESCRIPTIONS AND PHOTOGRAPHIC REFERENCES, REFER TO THE PRINCIPAL INSPECTION REPORT, APPENDIX A
2. THIS DRAWING IS NOT AN "AS-BUILT" AND IS FOR DEFECT IDENTIFICATION PURPOSES ONLY.

Rev	Date	Description	By
1.0	2/6/26	FIRST ISSUE	TDG

Amendments

Project
WIE19907 - Kirklees Council

Title
K0150
STORTHES HALL BRIDGE
GA & DEFECTS DRAWING

Client
KIRKLEES COUNCIL

waterman
2nd Floor South Central 11 Peter Street Manchester M2 5QR
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mail@watermangroup.com www.watermangroup.com

Drawing Status
PRELIMINARY

Designed by	N/A	Checked by	DS
Drawn by	TDG	Date	02/06/2026
Scales @ A1 work to figured dimensions only	AS SHOWN		

Project No WIE19907-100
Computer File No

Drawing No.
WIE SA 90 K0150

Revision
A01

A1-Wat-S

Appendix C – BCI Form(s)

Bridge Inspection Pro Forma

Form 1 of 1 for this bridge

Inspection Type:	GI	PI	SI	✓	Next Inspection Type/Date:	General - 2027

Structure name	Storthes Hall Bridge				Structure number	150	All above ground elements inspected?	Yes
Road name	Storthes Hall Lane	Span	1	of 1	Road No:	C574	Bridge Type Code:	
Owner	Kirklees Council	Span			Length	5.95 m	Primary deck element form (Table 2) Solid spandrel arch	01
Easting	418889 Northing 413350	Span			Width	5.7 m	Primary deck element material (Table 4) Stone	L
Date	May 29, 2026	Span			Area	34 m^2	Secondary deck element form (Table 3) No element (no transverse beams)	20
Inspector	T Grimshaw		BCI ave 92.96		BCI crit	100.00	Secondary deck element material (Table 4) No material	p

Set	No	Element Description	S	.Ex.	Def	W	P	Cost	Comments / remarks
Deck elements	1	Primary deck element (Table 2)	1	A	3.5	N			Historic cracking not progressive
	2	Secondary deck element/s: Transverse beams							
	3	Secondary deck element/s: Element from Table 3							
	4	Half joints							
	5	Tie beam/rod							
	6	Parapet beam or cantilever							
	7	Deck bracing							
Load-bearing Substructure	8	Foundations	NI	NI					Foundations Buried
	9	Abutments (incl arch springing)	1	A	3.1	N			
	10	Spandrel wall / head wall	1	A	3.1	N			
	11	Pier / Column							
	12	Cross head / capping beam							
	13	Bearings							
	14	Bearing shelf / plinth							
Durability elements	15	Superstructure drainage							
	16	Substructure drainage							
	17	Waterproofing							
	18	Movement / expansion joints							
	19	Finishes: deck elements							
	20	Finishes: substructure elements							
	21	Finishes: parapets/safety fences							
Safety elements	22	Access / walkways / gantries							
	23	Handrail / parapets / safety fences	3	C	3.4	R	M	£ 1,500	The north parapet cracking should be repointed
	24	Carriageway surfacing	2	B	9.3	N			Monitor rutting at subsequent inspections
	25	Footway / verge / footbridge surfacing	1	A					
Other bridge elements	26	Invert / river bed	1	A	7.1	N			
	27	Aprons							
	28	Fenders / cutwaters / collision prot'n							
	29	River training works	2	C	3.2	R	L	£ 5,000	Southwest training wall should be repaired.
	30	Revetment / batter paving							
	31	Wing walls							
	32	Retaining walls							
	33	Embankments							
	34	Machinery							
Ancillary elements	35	Approach rails / barriers / walls							
	36	Signs							
	37	Lighting							
	38	Services	5	E	3.6				Collapsed supports to service pipe
	39	Graffiti							
	40	Vegetation	3	C	5.3	R	L	£ 2,000	the vegetation growth throughout structure is to be removed and treated
	41								

MULTIPLE DEFECTS

Element No.	Defect 1			Defect 2			Defect 3			Comments
	S	.Ex.	Def	S	.Ex.	Def	S	.Ex.	Def	

INSPECTOR'S COMMENTS

Weather: Dry, clear.
Apart from the cracking to the parapet and the vegetation growth throughout, the bridge is generally in a good condition due to historic repair.
There was an area of collapse to the south west training wall associated with an established tree growth. There was bulging exhibited to the north east training wall and 1no. area of rutting to the carriageway surfacing.

Name *T. Grimshaw* Signed Date June 2, 2026

ENGINEER'S COMMENTS

The structure is generally in good condition. Consideration should be given to repairing the training walls which are suffering damage due to tree growth. This existing tree growth should be removed as a minimium to prevent further deterioration.

It is recommended that ownership and maintenance responsibility for the service pipe is established, and the mainainter advised of the requirements to reinstate the supports to the service pipe.

Name *A. Caso* Signed Date June 2, 2026

Ref. No	Suggested Remedial Work	Priority	Estimated Cost	Action/Work ordered
23	The north parapet cracking should be repointed	M	£1,000	
29	Southwest training wall should be repaired.	L	£5,000	
38	Establish ownership and maintenance responsibility for service pipe	M	£0	
40	the vegetation growth throughout structure is to be removed and treated	M	£2,000	

Date work processed _____

Name _____ Signed _____