



GOLDHAWK

Bridge Restoration



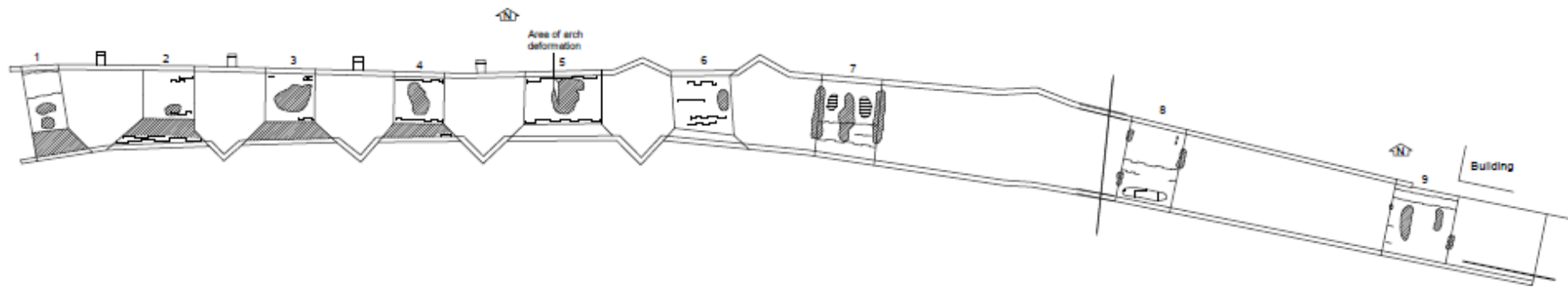
THRAPSTON NINE ARCH BRIDGE

MARS INSTALLATION CASE HISTORY -2021

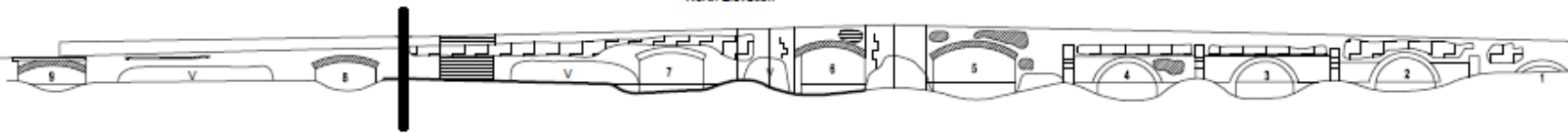
Client: Northampton Highways/WSP/Kier

HISTORIC NINE ARCHED BRIDGE - THRAPSTON

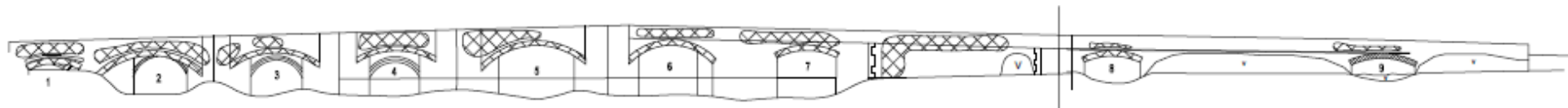




North Elevation

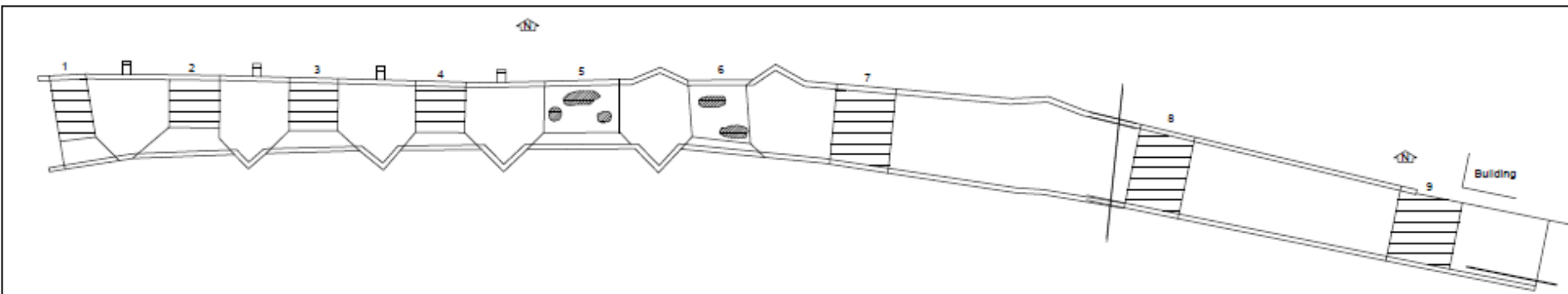


South Elevation



Key for defects

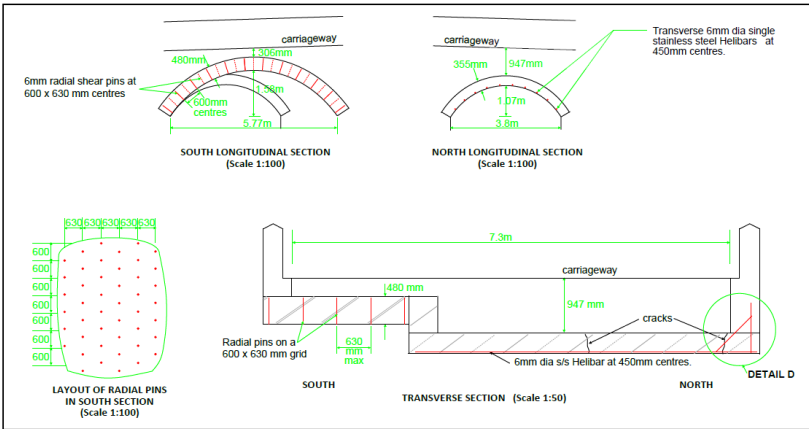
| | |
|--|---------------------|
| | Crack |
| | Weathering |
| | Lost material |
| | Horizontal movement |
| | Water penetration |
| | Vegetation |



Hammer tap survey

| | |
|--|---------------|
| | Not inspected |
| | Druminess |

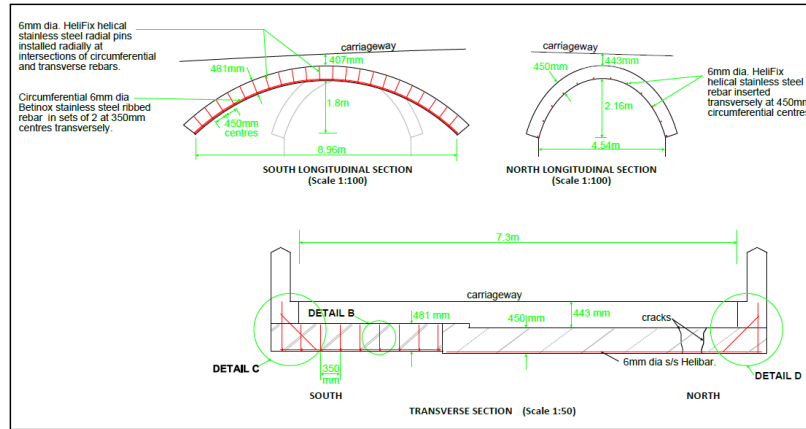
MARS STRENGTHENING DETAILED DESIGN



NOTES:

- All reinforcement to be 6mm Helibar Grade 1.4301 to BS EN 10088-1:2014 (304S31).
- Circumferential and transverse rebar to be encapsulated in MARFLEX epoxy grout.
- Radial shear pins to be encapsulated in HeliBond Grout.
- Design spacings may be adjusted downwards to enable bars to be inserted optimally along mortar joints.
- To be read in conjunction with Drawing No GHD1138/02.

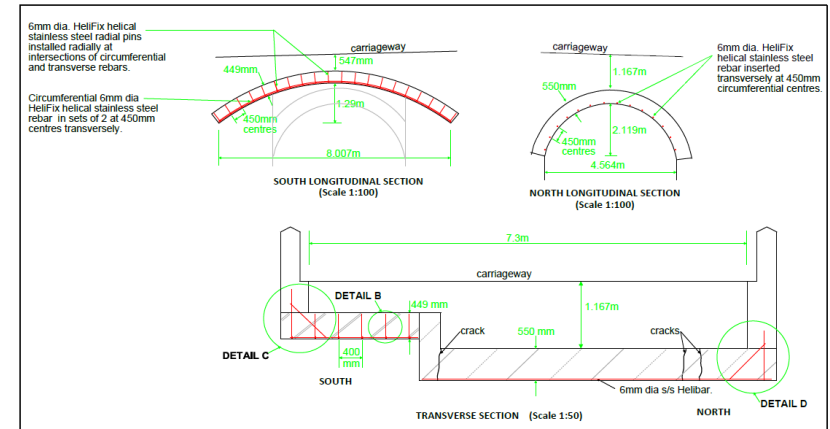
CLIENT: NORTHAMPTONSHIRE COUNTY COUNCIL
TITLE: 3361 NINE ARCHES BRIDGE, THRAPSTON Arch 1
DRAWN: REF CHECKED: DNK **SCALES:** 1:50 and 1:100
DRAWING NO: GHD1138/01/1 October 2020



NOTES:

- Helifix stainless steel radial shear pins are Grade 1.4301 to BS EN 10088-1:2014 (304S31) and are encapsulated in HeliBond grout.
- Belinox ribbed stainless steel circumferential rebar is Grade 1.4436 to BS EN 10088-1:2014 (316S36) and Helifix transverse bars are encapsulated in Marflex structural adhesive.
- Design spacings may be adjusted downwards to enable bars to be inserted optimally along mortar joints.
- To be read in conjunction with Drawing No GHD1138/02.

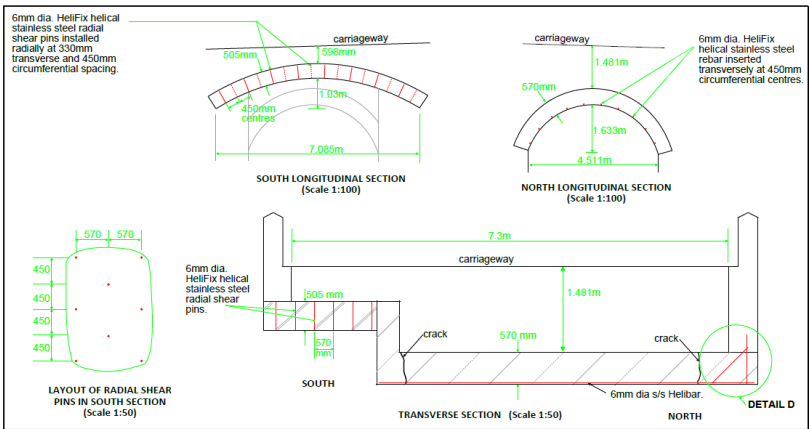
CLIENT: NORTHAMPTONSHIRE COUNTY COUNCIL
TITLE: 3361 NINE ARCHES BRIDGE, THRAPSTON Arch 2
DRAWN: REF CHECKED: DNK **SCALES:** 1:50 and 1:100
DRAWING NO: GHD1138/01/2 October 2020



NOTES:

- Helifix stainless steel radial shear pins are Grade 1.4301 to BS EN 10088-1:2014 (304S31) and are encapsulated in HeliBond grout.
- Helifix stainless steel circumferential and transverse rebar is Grade 1.4301 to BS EN 10088-1:2014 (304S31) and is encapsulated in Marflex structural adhesive.
- Design spacings may be adjusted downwards to enable bars to be inserted optimally along mortar joints.
- To be read in conjunction with Drawing No GHD1138/02.

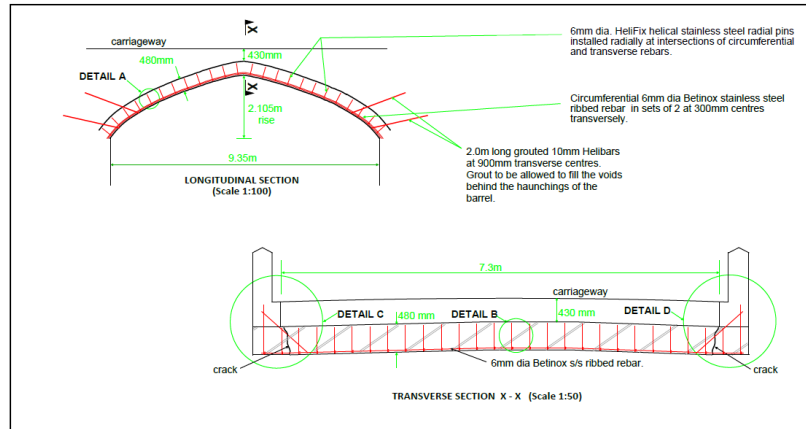
CLIENT: NORTHAMPTONSHIRE COUNTY COUNCIL
TITLE: 3361 NINE ARCHES BRIDGE, THRAPSTON Arch 3
DRAWN: REF CHECKED: DNK **SCALES:** 1:50 and 1:100
DRAWING NO: GHD1138/01/3 October 2020



NOTES:

- Helifix stainless steel radial shear pins are Grade 1.4301 to BS EN 10088-1:2014 (304S31) and are encapsulated in HeliBond grout.
- Design spacings may be adjusted downwards to enable bars to be inserted optimally in lines of mortar.
- To be read in conjunction with Drawing No GHD1138/02.

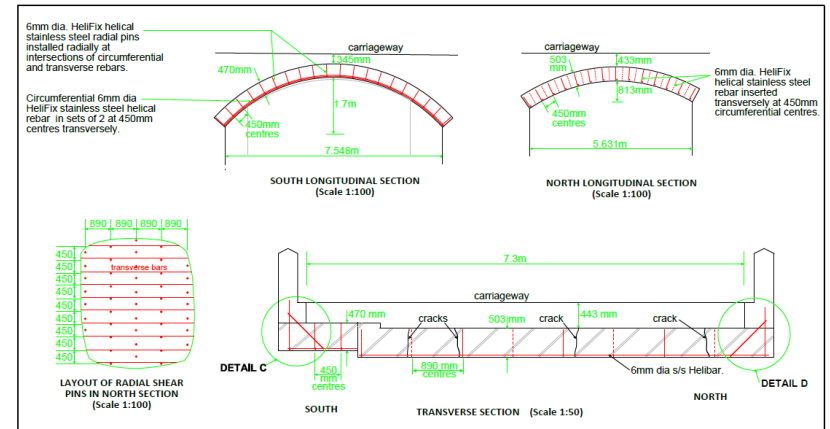
CLIENT: NORTHAMPTONSHIRE COUNTY COUNCIL
TITLE: 3361 NINE ARCHES BRIDGE, THRAPSTON Arch 4
DRAWN: REF CHECKED: DNK **SCALES:** 1:50 and 1:100
DRAWING NO: GHD1138/01/4 October 2020



NOTES:

- Circumferential and transverse reinforcement to be 6mm Belinox stainless steel ribbed rebar Grade 1.4262 to BS EN 10088-1:2014 encapsulated in MARFLEX epoxy grout.
- Radial shear pins to be 6mm Helibar Grade 1.4301 to BS EN 10088-1:2014 (304S31) encapsulated in HeliBond Grout.
- Design spacings may be adjusted downwards to enable bars to be inserted optimally along mortar joints.
- To be read in conjunction with Drawing No GHD1138/02.

CLIENT: NORTHAMPTONSHIRE COUNTY COUNCIL
TITLE: 3361 NINE ARCHES BRIDGE, THRAPSTON Arch 5
DRAWN: REF CHECKED: DNK **SCALES:** 1:50 and 1:100
DRAWING NO: GHD1138/01/5 October 2020



NOTES:

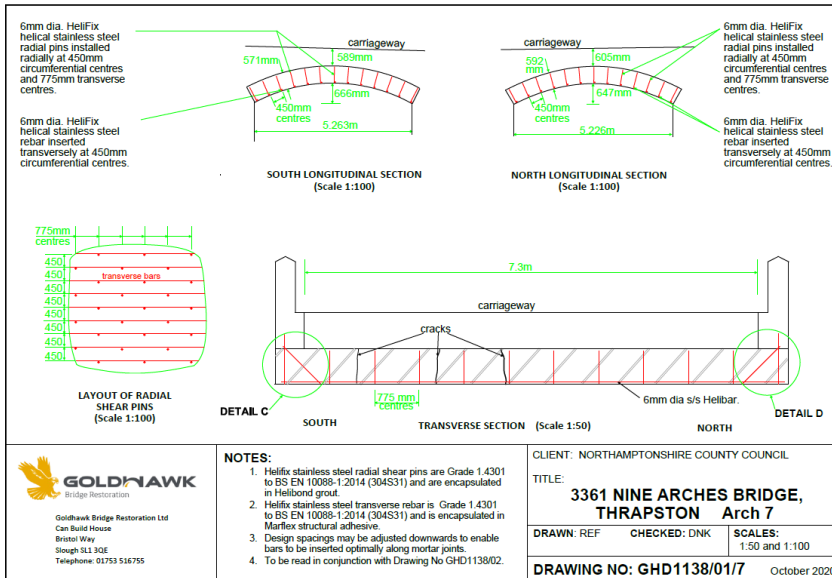
- Helifix stainless steel radial shear pins are Grade 1.4301 to BS EN 10088-1:2014 (304S31) and are encapsulated in HeliBond grout.
- Helifix stainless steel circumferential and transverse rebar is Grade 1.4301 to BS EN 10088-1:2014 (304S31) and is encapsulated in Marflex structural adhesive.
- Design spacings may be adjusted downwards to enable bars to be inserted optimally along mortar joints.
- To be read in conjunction with Drawing No GHD1138/02.

CLIENT: NORTHAMPTONSHIRE COUNTY COUNCIL
TITLE: 3361 NINE ARCHES BRIDGE, THRAPSTON Arch 6
DRAWN: REF CHECKED: DNK **SCALES:** 1:50 and 1:100
DRAWING NO: GHD1138/01/6 October 2020

DESIGN DRAWINGS



GOLDHAWK
Bridge Restoration



NOTES:

1. Helifix stainless steel radial shear pins are Grade 1.4301 to BS EN 10088-1:2014 (304S31) and are encapsulated in Helibond grout.
2. Helifix stainless steel transverse rebar is Grade 1.4301 to BS EN 10088-1:2014 (304S31) and is encapsulated in Marflex structural adhesive.
3. Design spacings may be adjusted downwards to enable bars to be inserted optimally along mortar joints.
4. To be read in conjunction with Drawing No GHD1138/02.

CLIENT: NORTHAMPTONSHIRE COUNTY COUNCIL

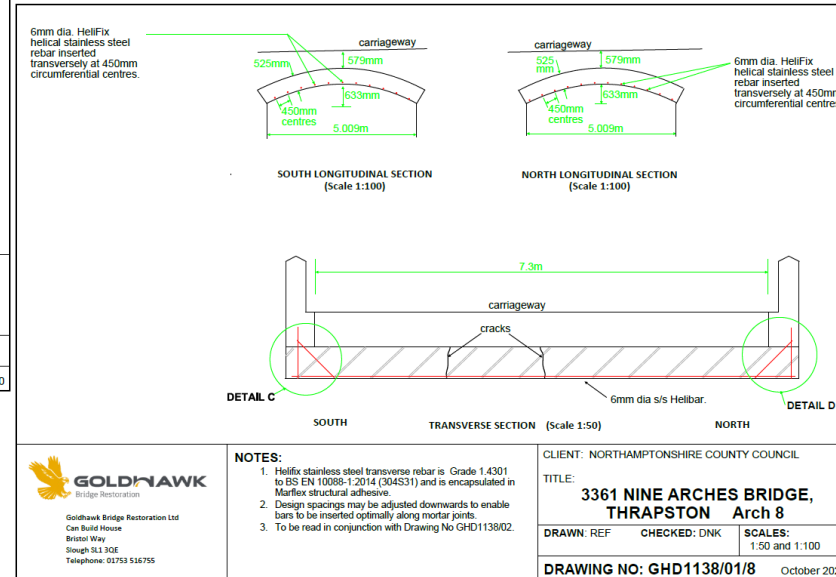
TITLE:
**3361 NINE ARCHES BRIDGE,
THRAPSTON Arch 7**

DRAWN: REF CHECKED: DNK SCALES:
1:50 and 1:100

DRAWING NO: GHD1138/01/7 October 2020



Goldhawk Bridge Restoration Ltd
Can Build House
Bristol Way
Slough SL1 3QE
Telephone: 01753 516755



NOTES:

1. Helifix stainless steel transverse rebar is Grade 1.4301 to BS EN 10088-1:2014 (304S31) and is encapsulated in Marflex structural adhesive.
2. Design spacings may be adjusted downwards to enable bars to be inserted optimally along mortar joints.
3. To be read in conjunction with Drawing No GHD1138/02.

CLIENT: NORTHAMPTONSHIRE COUNTY COUNCIL

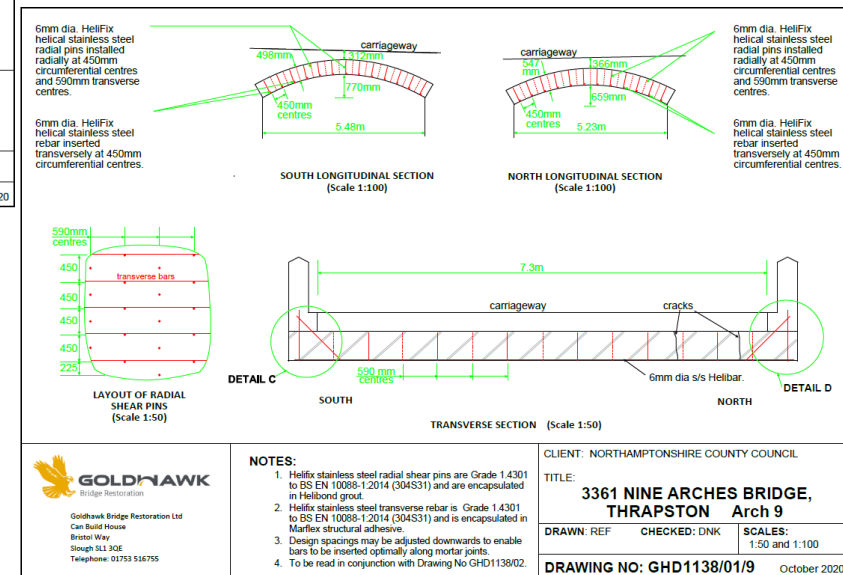
TITLE:
**3361 NINE ARCHES BRIDGE,
THRAPSTON Arch 8**

DRAWN: REF CHECKED: DNK SCALES:
1:50 and 1:100

DRAWING NO: GHD1138/01/8 October 2020



Goldhawk Bridge Restoration Ltd
Can Build House
Bristol Way
Slough SL1 3QE
Telephone: 01753 516755



NOTES:

1. Helifix stainless steel radial shear pins are Grade 1.4301 to BS EN 10088-1:2014 (304S31) and are encapsulated in Helibond grout.
2. Helifix stainless steel transverse rebar is Grade 1.4301 to BS EN 10088-1:2014 (304S31) and is encapsulated in Marflex structural adhesive.
3. Design spacings may be adjusted downwards to enable bars to be inserted optimally along mortar joints.
4. To be read in conjunction with Drawing No GHD1138/02.

CLIENT: NORTHAMPTONSHIRE COUNTY COUNCIL

TITLE:
**3361 NINE ARCHES BRIDGE,
THRAPSTON Arch 9**

DRAWN: REF CHECKED: DNK SCALES:
1:50 and 1:100

DRAWING NO: GHD1138/01/9 October 2020



Goldhawk Bridge Restoration Ltd
Can Build House
Bristol Way
Slough SL1 3QE
Telephone: 01753 516755





GOLDHAWK
Bridge Restoration

Keeping the country moving.

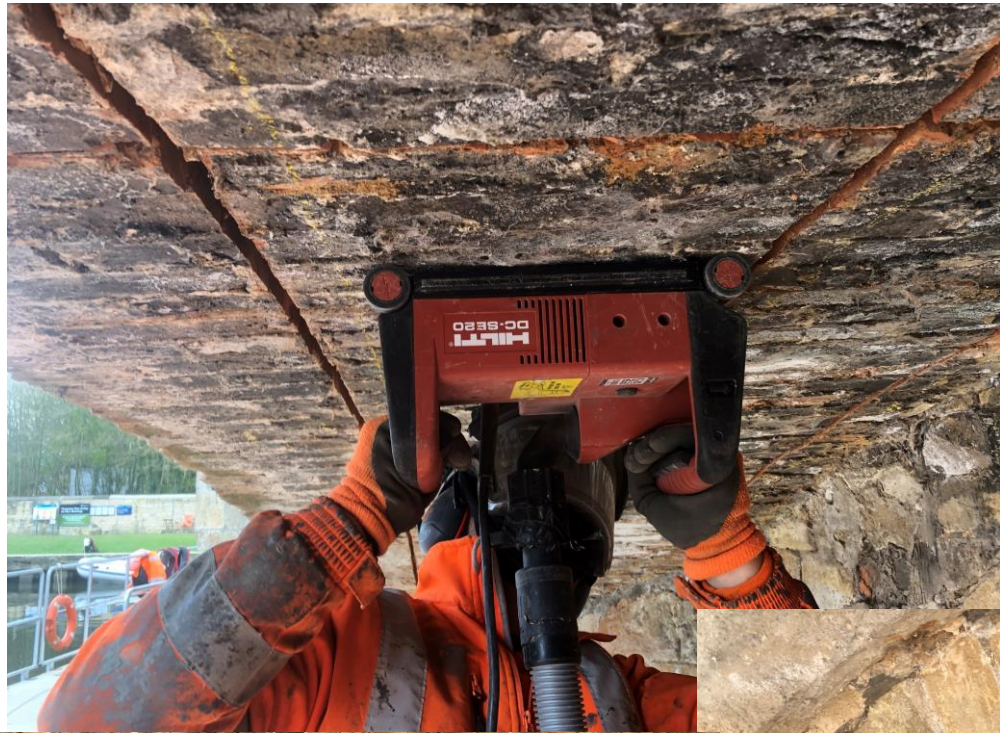
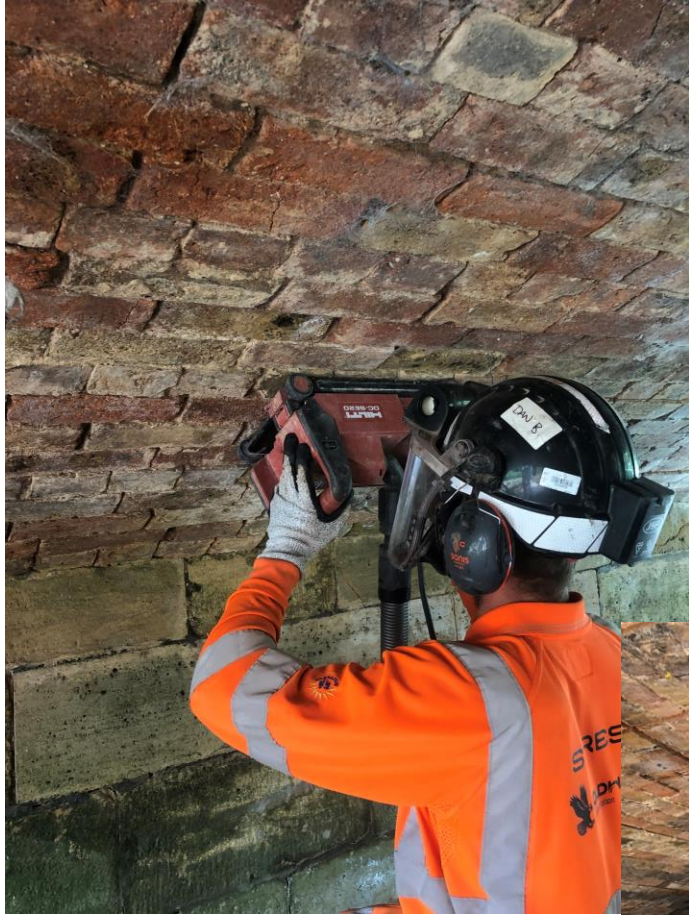
With the MARS system the road can stay open during the installation so negating expensive traffic disruption.

MARS
system



Accurate chasing with no dust and low vibration





STAINLESS STEEL BAR INSTALLATION



GOLDHAWK
Bridge Restoration

Betinox bar



Helibar
Super 6







GOLDHAWK
Bridge Restoration





THE 'A' TEAM

