

Appendix 6: Method Statements

The following Method Statements are included here:

- Crane Base 1
- Turntable B
- Capstan B

BAP1130
Kings Cross Central: SEFI – Granary Square
Restoration of Crane Base Coping Stones
Activity Plan Ref: BAP1130/MS/513 Rev P

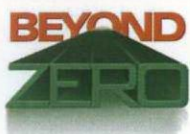
Nature of Proposal:

Restoration of crane base coping stones to Granary Square



Butterfly
cramps

Figure 1. The above photo shows the crane base in its original location before removal



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1.0 Method Statement Sequence

1.1 Crane Base : Location

- The coping elements of Crane Base 1 were removed as part of an earlier phase of the Eastern Goods Yard project and placed in storage.
- The coping stones are currently stored within King's Cross Central's Heritage Laydown Area. This area is located to the north of the main site straddling Plots S1 and S3.
- Where possible the butterfly cramps were left in-situ, attached to the granite, when the stones were removed.
- The brick foundations of the crane base remain on site in the location from which the coping stones were removed.

1.2 Repair

- Although an in-situ survey (by PCA) and initial contractor damage survey has been undertaken, all coping stones and butterfly cramps will be re-inspected prior to works commencing.

Coping Stones

- Only damaged sections of coping stone which would form a significant trip hazard if left untreated will be repaired.
- Where stones are split, holes will be drilled into the damaged coping stones and stainless steel pins of suitable size will be inserted. The hole/pin size will be determined by the masons on site. A stainless steel pin will be inserted and resin fixed.
- Where the surface of the stone is significantly damaged stones complimentary sized and shaped stones will be formed by the on-site masons to return the affected stones to a reasonably square profile. These 'inserts' will be cut from site-won granite kerbs which match the crane base coping stones in both colouration and texture. The inserts will be mortared to the base stone; where the size of stone allows the insert will also be secured with a resin fixed stainless steel pin.

Butterfly Cramps

- The butterfly cramps will then be carefully removed from the coping stones. The cramps will be individually inspected once removed to determine if repairs are required. A full condition survey will be produced and repair regime established.
- As the butterfly cramps no-longer serve a structural function it is suggested that the cramps are either:
 - plated back together where sheared; or
 - where small cracks are visible repaired with a metal filler and smoothed



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1.3 Foundations

- The existing brick foundations on which the coping stones founded have been retained on-site.
- In order to match the new site levels, and insure the structural integrity of the foundations, a new concrete ring beam will be constructed on top of the brick foundations.
- The ring-beam will be separated from the brick by a plastic sheet. Care will be taking when constructing the formwork not to damage the existing foundations.

1.4 Transportation

- Each stone will be transported from the Heritage Laydown Area to the site location individually
- Each stone lifted with padded sling for protection. The stones will be lifted onto the back of a low loader trailer. They will be set down on timber blocks to ensure ease of removing the lifting chains. The trailer will then be towed to the site location.
- Each stone will be unloaded using a padded sling.

1.5 Installation of Coping Stones and Butterfly Cramps

- The repaired coping stones will be laid on the foundation in the same position as they were removed
- The stones will be laid on a bedding mortar
- Once the stones are located, the butterfly cramps will be repositioned and grouted in place

1.6 Hard Landscaping to surrounding area

- The surrounding area inside and outside of the crane base coping stones will be hard landscaped using granite setts and porphyry. Skilled stone masons will complete the surface finishes under the supervision of BAM Nuttall managers.

BAP1060
Kings Cross Central: Eastern Goods Yard
Refurbishment and installation of Turntable B
Activity Plan Ref: BAP1130/MS/535 Rev P

Nature of Proposal:

Refurbishment and installation of recovered Turntable B to original location.



The above photo shows the turntable in its original location before removal.



BAP1060
Kings Cross Central: Eastern Goods Yard
Refurbishment and installation of Turntable B
Activity Plan Ref: BAP1130/MS/535 Rev P

1.0 Method Statement Sequence

1.1 Transportation of Turntable from site to Shepley Engineering Ltd

- Turntable B was removed as part of an earlier phase of the Eastern Goods Yard project and was placed in storage.
- The turntable is currently stored within King's Cross Central's Heritage Laydown Area. This area is located to the north of the main site straddling Plots S1 and S3.
- The turntable will be carefully loaded onto a trailer. Lifting strops rather than chains will be used in order to prevent damage to the structure.
- The turntable will be transported to the Shepley Engineering workshop.
- The structure will be off-loaded in the same manner which it was loaded.

1.2 Sweep blast and Trial Assembly

- The turntable & all its components will be laid out & sweep blasted to remove lead paint.
- Trained operatives will then complete a trial assembly within the workshop environment.

1.3 Inspection & Compile Condition Report

- The turntable & all components will be inspected to determine what action will be taken with each separate component
- A condition report will be compiled detailing the above.
- A detailed set of measurements will then be taken to allow the fabrication of the panelised glass/timber infills.

1.4 Removal of corner sections

- Elements to be removed will be carefully marked-out
- Removal will be undertaken by the careful application of an abrasive wheel

1.5 Refurbish structure

The following repair strategies will be deployed as dictated by the report (as mentioned in section 1.3). However two distinct strategies can be outlined at this point:

Strategy 1: Component Replacement (Wrought-iron components only)

- Any components that are beyond repair will need to be replaced.
- The wrought iron members on the turntable structure likely to require replacement take the form of either bar, angle or plate sections.



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- Modern low carbon steels (Grade S275) of the equivalent section will be used for replacements.
- Most of the wrought-iron elements are rivet fixed. Therefore where replacements are required existing fixing points within the retained structure can be used, with the inserted steel shaped, profiled and drilled to match these fixing holes.
- The replacement member will then be mechanically fixed utilising a tension control bolt which replicates the 'domed' rivet head.
- Where mechanical fixing is not viable (where the section is too small or is not the most advantageous for the repair) then a welded joint will be utilised. Shepley Engineering Ltd have extensive experience of this.

Strategy 2: Repairing of Retained Components (Wrought and Cast-iron)

- Repairing the retained elements of the structure will mainly take the form of reuniting broken/failed elements of the structure. A number of repair scenarios may be utilised dependant on the outcome of the detailed condition survey:
- **Pinning**- This consists of drilling the two sections to be jointed and epoxy resin fixing a series of steel dowels through both the elements being fixed remaining viable cracks would be filled and dressed flush.
- **Welding**:- A technique that Shepley Engineering Ltd have used extensively in the past with elements being pre and post heated during the welding procedure to prevent cracking. The welds would then be dressed flush..
- **Application of back straps**:- Consisting of low carbon steel backing plates fixed to non visible surfaces. These can then either be fixed straight through the section being repaired and fixed to a backing plate on the opposite side of the member being repaired forming a 'sandwich' or alternatively can be fixed by drilling and tapping into the existing structure. Visible cracks would be filled and dressed flush prior to decoration.

1.6 Decoration Preparation

- The entire structure would then be blast cleaned and all elements (except rail tracks) would be coated in a zinc phosphate primer.

1.7 Finishing

- Application of 2 coats of pigmented epoxy paint & 2 polyurethane top coats to all areas except the rail tracks.

1.8 Transport refurbished turntable back to site.

- The turntable (along with packing material) will be carefully loaded to a trailer & transported back to site for re-installation.



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1.9 Reassemble turntable components & lift into position.

- The refurbished turntable structure will be carefully lifted into position.
- Once located the infill panels (manufactured separately) and lights will be clamped into position.

1.10 Touch up paint.

- Any marked caused to the turntable structure during installation will be touched up.