

Bramley Moore Dock

Conservation Strategy – including Removal, Protection and Disposal Strategies

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1.0 Introduction

This document aims to set a guiding strategy for the conservation, restoration and cleaning works to the Bramley Moore Dock which includes the Grade II listed dock walls, the Grade II listed Hydraulic Tower and the Grade II listed Regent Road wall. This document therefore addresses the three principal heritage elements of the site.

This report provides guidelines on the approach to the repair and treatments to the external features of the site. In particular, the conservation repair and treatment strategies for the following:

- Heritage assets
- Stonework – Regent Road Wall
- Stonework – Dock Walls

The fundamental requirement contained in the strategy is that the proposed conservation repair and treatments are carried out according to good conservation methods and practice as outlined by Historic England's guidelines.

The key purpose of this Conservation Strategy is, therefore, to clarify the appropriate approach to the works and guide the more detailed proposals being developed for the dockyard according to the accepted best practice.

The document also includes Removal and Protection Strategies which aim to provide guidance to the contractor and specialist sub-contractors with respect to the removal and protection of heritage artefacts and features of the site. This document should be read in conjunction with the specific Heritage Methodologies that have been developed for each of the elements of the works throughout the duration of the project works.

All strategies should be read in conjunction with the Pattern and Buro Happold detailed information that has been prepared for Town Planning and Listed Building Consent submissions together with the associated detailed schedules of work.

Limitations

This strategy document will be developed further as greater understanding of the heritage elements of the site are uncovered through additional surveys and assessments. The hydraulic tower has yet to be fully inspected and therefore information on the required works to this element are yet to be determined.

2.0 Conservation Principles and Guidance

The over-arching policy which defines the proposed development is one of **minimum intervention** in the repair and/or replacement of the significant components of the historic dockyard site. This principle applies across the individual items of fabric, with the important caveat that the objective is to achieve the long-term, sustainable preservation of the individual components and the site as a whole.

3.0 Bramley Moore Dock – High Level Conservation Strategy

The following strategy outlines the overall heritage and conservation objectives that should be followed as part of the overall project works.

- Everton Football Club as owners of the site and their appointed design team and contractors shall ensure that the heritage significant features of the dockyard are protected against loss or damage during the site development, construction, operation and any future intrusive maintenance works.
- No demolitions, adaptations or alterations including ongoing maintenance shall be carried out on the historic fabric without the necessary statutory Town Planning and Listed Building Consent approvals being in place.
- Any materials used to carry out repairs to the heritage fabric should be compatible with the original material of the heritage fabric and be as easily and completely reversible as possible. The works should be undertaken by contractors and specialists with experience of the particular heritage materials used on the site.

- Any conservation-restoration treatment of the significant heritage features should be documented in written, photographic and pictorial records which are retained as part of the buildings Historic Environment Record (HER).

4.0 Detailed Conservation Strategies

4.1 Heritage Assets

A significant number of heritage assets have been identified around the dockyard these include:

- Mooring bollards, capstans, dock pulleys, gratings, covers and associated dock furniture.
- Dock gates and associated operational furniture.
- Rail tracks, points and associated rail transportation equipment.

These items are either directly connected to listed structures on the site or are adjacent with close association with the listed structures and should be deemed as curtilage to the listed structures.

The assets have been assessed by KM Heritage and Heritage Project Management to determine their heritage significance. As part of the proposed project works these assets will be either be retained in their original location or removed temporarily / permanently from the site.

Additional Strategy Requirements (above those noted for the high level conservation strategy)

- The heritage assets should be protected against loss or damage at all times during the construction works.
- The heritage assets should remain in their original location, where possible, and there is no conflict with physical elements of the new stadium development or the site's overall access requirements where they would pose an unacceptable safety risk to users of the site.
- Where assets require removal, the removal should minimise harm to the asset and the adjacent heritage structures.
- Any removed items should be fully recorded to note their original location and stored safely on site for possible re-use. Items that are not to be re-used will be disposed from site following a disposal strategy agreed with LCC.
- Conservation treatments should be undertaken to all retained heritage assets to safeguard their condition and prevent further degradation. The extent of treatments shall be dependant on the use and accessibility of the components within the future scheme.

4.2 Dock Walls

The Bramley Moore Dock “wet walls” are grade II listed with Historic England and are formed from close fitting granite blocks fitted in a cyclopean pattern with minimal mortar joints. The

project works will have some impact on the dock walls and the following conservation strategy should be followed where possible.

Additional Strategy Requirements (above those noted for the high level conservation strategy)

- The stonework of the dock walls should be protected against loss or damage at all times during the construction works.
- The stonework of the dock walls should remain in its original location where possible and only be re-located or modified where there is a conflict with the site's overall access requirements where their retention would pose an unacceptable safety risk to users of the site.
- The existing level of the dock coping stones should be maintained where this is undamaged. However, in areas where there is damage or the difference in levels pose an unacceptable level of risk to users of the site then localised alterations to the stonework is possible where this is the minimum extent of works necessary with the intention of maximising the retention of original material.
- Where original granite stonework has been removed and replaced over time with a concrete alternative this should be retained where the concrete remains in a sound condition. Any areas of concrete in poor condition should be replaced with sound concrete infills. The required surface finish of the concrete will be subject to trials to establish the level of surface variation, colour and overall quality of workmanship. Replacement concrete should be of a similar standard to that already installed within the dock walls.
- Where dock furniture has been fitted to the dock walls and requires removal to provide improved access then the minimum amount of material should be removed. Projecting furniture should be left flush with the dock walls / coping.
- Dock furniture such as ladders are to be retained in-situ and infilled with the main dock area. Any items that are highlighted as being of particular high risk of loss should be protected prior to filling to ensure that any rate of degradation is minimised.
- Necessary repairs to the dock walls and copings should be undertaken in like for like materials based on a full understanding of the existing materials and their compatibility with those used for repair.
- Any new stonework used for repair of the dock wall should be a close match to the existing granite material. Where possible salvage material should be re-used in preference to newly sourced stone.
- Any new penetrations through the dock walls should be executed with care to ensure that the level of overall harm is minimised. Any stone material removed as part of these works should be salvaged and re-used where possible for areas of essential repair.

Dock Gates

- The dock gates, where in a sound condition, are to remain in-situ during the works. They should be protected against damage at all times from the many adjacent activities which could transfer loadings, vibration or impact damage to the gates themselves.

- Essential repairs, where required, should be undertaken in like for like materials based on a full understanding of the existing timber and metalwork.
- Previously operational elements of the gates such as sluices, ties and chains should be retained on the gates to enhance the visual understanding of their operation.

Rail Tracks

- Existing rail tracks around the dockyard should be retained in the final scheme where possible. This should include operational elements such as points, switchgear etc.
- Where it is necessary to remove the tracks they should be fully recorded to identify their location, plan layout and configuration with adjacent fixtures and fittings, Re-instatement should replicate the original layout of these elements.

4.3 Regent Road Wall

The Regent Road wall is a Grade II listed structure which runs along the eastern perimeter of the site. It is constructed of granite stonework similar to that of the Bramley Moore Dock wall and although the stone element sizes are smaller it has a similar form of construction which utilises the variations in random stone sizes to provide a very flat face profile with minimal mortar joints.

Additional Strategy Requirements (above those noted for the high-level conservation strategy)

- The stonework of the Regent Road wall should be protected against loss or damage at all times during the construction works.
- Modifications to the wall that have detrimental or no heritage significance should be removed where possible and the wall returned to its original configuration. These include elements such as the sub-station, railings, services and signage.
- The concrete plinth at the base of the wall should be removed where this is possible without damage to the wall itself. Where it is considered that there may be detrimental harm to the wall itself by its removal then the concrete should be retained and incorporated within the scheme.
- Areas of harm to the wall through previous use such as the cutting of rebates for roof flashings should be retained, where these do not effect the stability of the stonework, as part of the visual history of the wall.
- Essential repairs, where required, should be undertaken in like for like materials based on a full understanding of the existing materials and the compatibility of those used for repair. Workmanship of the repairs should be of a similar high standard to that of the original wall construction with minimal mortar joints and clear faced stonework.
- New interventions through the wall should be the minimal necessary in size to achieve the required crowd flow from the stadium and the construction of these should where possible maximise the retention of original material.
- The design of the new entrances should be read as a modern intervention whilst keeping the line and massing of the original wall construction. Materials should be robust, of a similar scale, require minimal maintenance and be of high quality in keeping with the wall itself.

- The original patina of the wall should be maintained where possible. Should areas require cleaning (such as the rear of the sub-station) then the cleaning should be the minimal required to remove surface finishes and contaminants and not abrasively clean the stonework itself. The use of DOFF / Thermatech cleaning equipment should be initially trialled over other cleaning systems.
- The brickwork to the rear of the wall from the former “Switchback” is of heritage significance and should be considered as part of the Grade II listed wall. Repairs are required to stabilise the condition of the brickwork. These should be minimal in nature and seek to retain the current appearance of the degraded wall. Repairs should be undertaken in like for like materials and brickwork salvaged from the interventions should be utilised rather than newly sourced bricks.

Gatekeeper Lodges

The original gatekeepers lodges should be retained and conservation repairs undertaken to stabilise their condition and re-instate missing features such as window openings. Existing heritage significant features such as the original joinery, floors, fireplaces and stone fixtures should be retained for re-use.

North Gate

The north gate is a later poor-quality and non-operational replacement of little heritage significance. Options should be considered for the removal of this element to enable a fully operational gate to be fitted in-board within the site. The new gates should be of modern construction and allow views internally within the site. The existing historic base rail and overhead guides should be retained as non-operational historic features.

South Gate

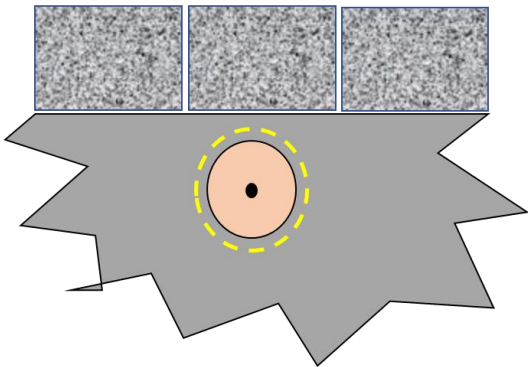
The south gate is believed to be original however is in a severely degraded condition. Minimal conservation repairs should be undertaken to this gate to stabilise its condition and allow it to be retained in its current open position. The existing base rail and guides should be retained as non-operational heritage features. Any new and operational gate for this entrance should be established within the main site and be independent of the heritage gate piers to retain their original appearance.

5.0 Illustrative Examples of Conservation Strategy

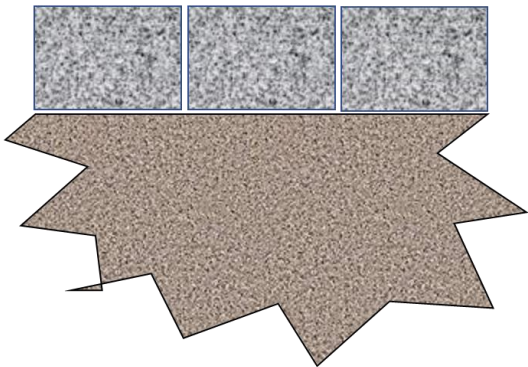


Bollard removed by over-coring removing bollard and surrounding concrete.

Type 1 Bollards
Treatment Options



Existing – bollard not physically attached to dock walls.

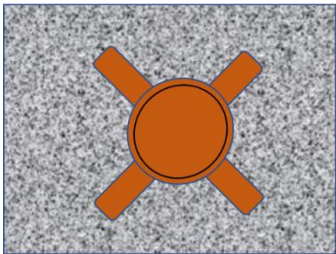


Proposed – bollard removed with no impact on dock walls. New surface finishes



Type 2 Bollards
Treatment Options

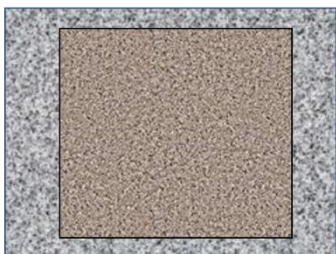
Option 3 - Preferred option



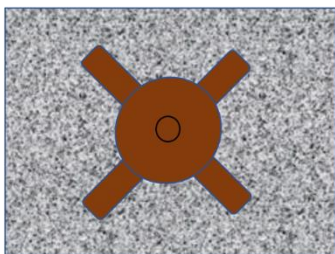
Existing bollard



Option 1 – Remove whole granite block and replace with close match



Option 2 – Remove bollard and retain as much as possible of the existing granite. Infill with close match.

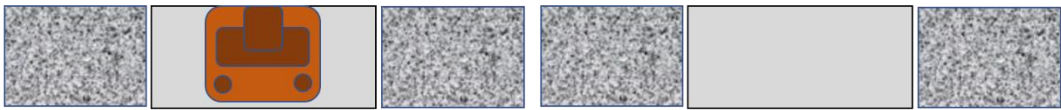


Option 3 – remove upper projecting ironwork and grind casting flush with existing granite.



**Type 3 Bollards
Treatment Options**

Option 1 – Preferred Option



Existing condition

Option 1 – remove bollard and replace with new concrete.

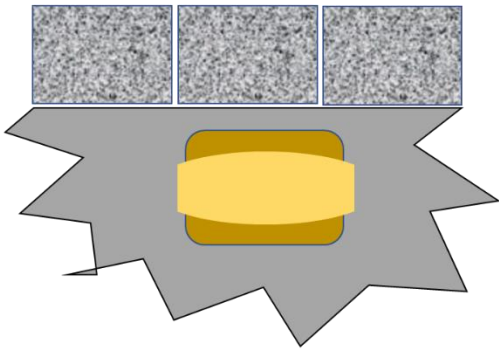


Option 2 – remove bollard and replace with close match granite.

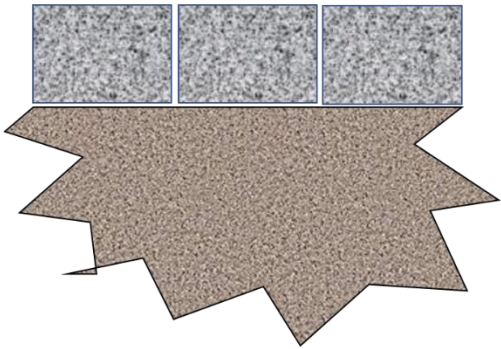


**Type 4 Bollards
Treatment Options**

Bollard removed by cutting concrete base and bolts to fully remove bollard. No impact on dock wall.



Existing – bollard not physically attached to dock walls.

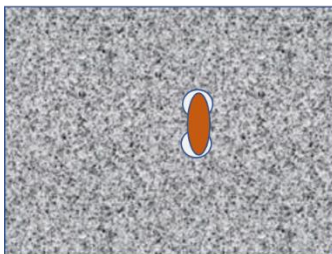


Proposed – bollard removed with no impact on dock walls. New surface finishes

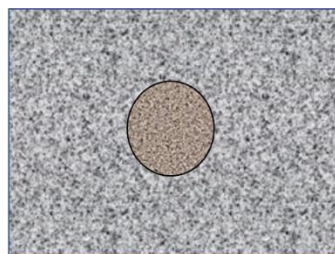


Hooks and Chains Treatment Options

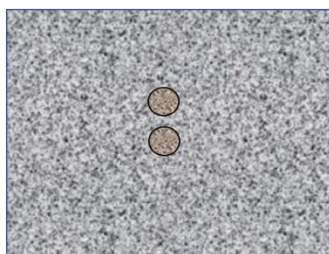
Option 3 – Preferred Option



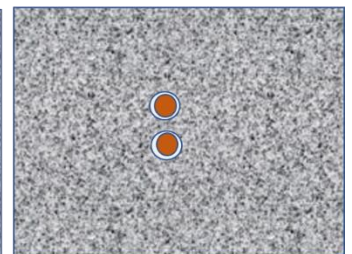
Existing loop



Option 1 – 150mm core
around loop and infill with
close matching stone.



Option 2 – Cut loop and
core out each leg to
remove ironwork and
grout.



Option 3 – Cut loop and
grind back to be flush
with stonework.



Detrimental significance modifications to be removed ie:

- Render coating and broken glass to coping.
- Concrete plinth.
- Sub-station
- Heavy calcium deposits

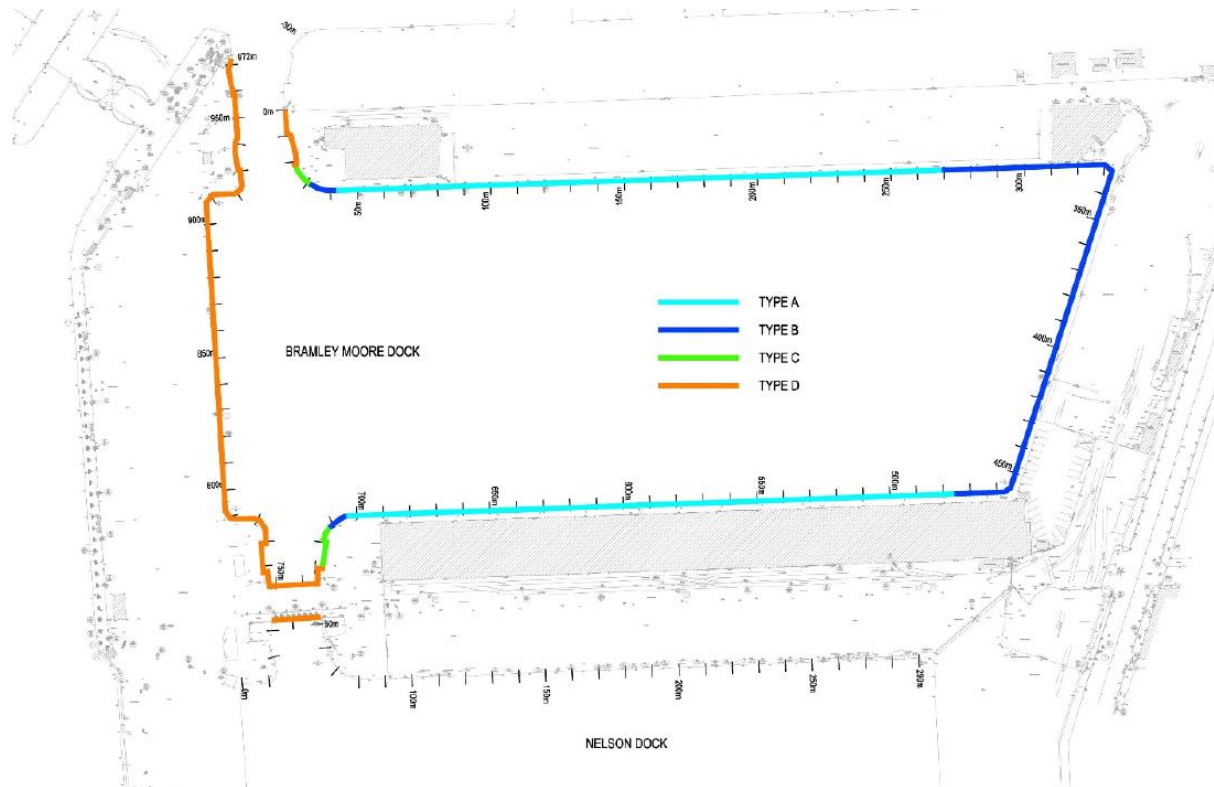
Regent Road Wall Treatment Proposals

- Variations in wall patina to be retained.
- Original gate elements to be conserved and retained.
- Ferrous fixings, services etc to be removed.
- Essential repairs to be undertaken to match original.
- Brickwork to “Switchback” to be stabilised and essential repairs carried out.



Dock Walls – Treatment Proposals

Wall types are as defined by Buro Happold within the Performance Specification for the Dock Walls and shown on the highlighted layout plan below:

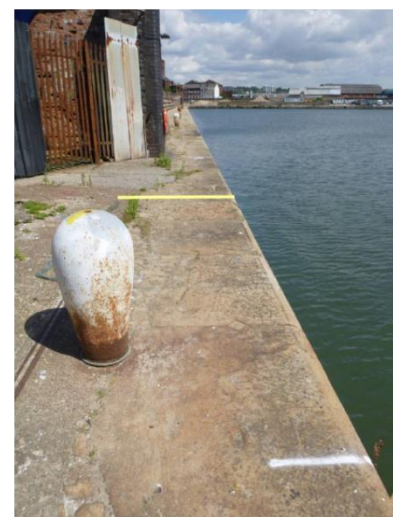


Dock Walls (Type A) Treatment Proposals

Dock wall below stadium.



- Essential wall repairs to be carried out.
- Bollards to be removed and concrete to be made good.
- No works to coping.



Dock Walls (Type B) Treatment Proposals

Dock coping exposed within external works.



- Essential wall repairs to be carried out.
- Bollards to be removed and concrete to be made good.
- Coping to be repaired where damaged / uneven.
- Areas of damaged stones to be indented with salvage stone.
- Small repair areas to be concrete / mortar filled.
- Existing concrete repairs to be retained.
- Coping stones to be re-pointed where mortar missing.
- Irregular gap between coping and new finishes to be infilled with exposed aggregate concrete.

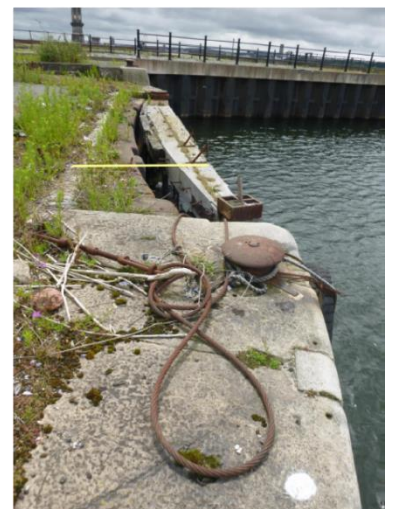


Dock Walls (Type C) Treatment Proposals

Dock coping and upper wall elevation exposed within external works.



- Essential wall repairs to be carried out.
- Coping to be repaired where damaged / uneven.
- Areas of damaged stones to be indented with salvage stone.
- Small repair areas to be concrete / mortar filled.
- Existing concrete repairs to be retained.
- Coping stones to be re-pointed where mortar missing.
- Irregular gap between coping and new finishes to be infilled with exposed aggregate concrete.



Dock Walls (Type D) Treatment Proposals

Functional dock wall, including isolation structure and lock gates.



- Essential wall repairs to be carried out.
- Coping to be repaired where damaged.
- Existing concrete repairs to be retained.
- Coping stones to be re-pointed where mortar missing.
- Irregular gap between coping and new finishes to be infilled with exposed aggregate concrete. (existing iron rails and features to be retained).



6.0 Removal and Protection Strategy

The Bramley Moore Dock is located within the Liverpool Maritime Mercantile City World Heritage Site (WHS) and is within the Stanley Dock Conservation Area.

A number of Listed structures are present on the site including:

- Bramley-Moore Dock Retaining Walls, Grade II listed
- Hydraulic Engine House at Bramley-Moore Dock, Grade II listed
- Dock Wall from opposite Sandhills Lane to Collingwood Dock with Entrances (Regent Road wall), Grade II listed; and
- Nelson Dock Retaining Wall, Grade II

6.1 Items to be Dismantled / Removed

The project works to the Bramley Moore Dock are extensive and it is important that the heritage features of the site are protected during the proposed site works.

A number of heritage items will be removed during the construction period with some returning either to their original locations or alternative locations on site. However, the majority of the heritage features of the site will be retained. It is essential that these are protected against damage and loss during the propose site works.

Heritage Methodologies will be developed for all items to be removed and these will be agreed by the project team prior to removal. These methodologies will detail the sequence to be undertaken to ensure that any damage is minimised in the salvage operation and detail the protection measures which are necessary for the safe storage of the items.

Items should only be removed once Heritage Methodologies are agreed with the project team.

6.2 Identification

Every item removed from the site should be clearly identified to allow it to be returned to its original location, where possible. Identification should be clear and link back to a database of removed components together with photographic images.

Tags should be used where possible rather than adhesive stickers or marking of the original components. Sub-assembly components should be clearly marked to identify their relative location and relation to the main assembly.

6.3 Packaging

Packaging should be appropriate to the item being transported and stored. Where possible this should provide impact protection to the items being transported ie custom crates and boxes.

Larger items should be transported on timber pallets. Inert foam packing should be used to ensure that the removed items are not directly in contact with the timber. Timber pallets should not be preservative treated. Where appropriate items should be strapped to pallets to prevent movement and smaller items loaded into timber crates.

Where two or more components are packaged together in a crate, adequate inert packaging material should be used to ensure that the components do not come in contact with each other or settle during transport. Where necessary internal struts shall be provided to isolate components.

The external faces of the crates should be clearly marked up in 2No locations with the crate reference and the identification numbers of the components contained therein. This should be in permanent marker ie “BMD Asset Ref ????”

6.4 Transportation

Transport of the removed items will be undertaken on site using forklift and heavy plant with any off-site transport carried out with covered transport. Generally, items should be secured to a suitable pallet for lifting however where lifting by strop or chains then these should be securely fitted to the items to ensure that the risk of movement is minimised.

6.5 Storage

Removed items should be placed in a segregated area which should be cordoned off to prevent close vehicle movements.

Crates should be stacked to ensure that there is adequate air movement around the crates to allow them to breathe with the changes to the building environment.

Double stacking of crates is not permitted and each crate should rest on either a level surface or appropriately sized racking system. Racking should not be loaded in excess of manufacturer's requirements.

6.6 Inspection

The crates / packing may be inspected by Liverpool City Council or its representatives to ensure that there has not been any changes that may affect the safety and protection of the stored items.

A list of the items will be stored together with the crates / removed components in the storage area.

6.7 Items to be Retained on site

The Bramley Moore Dock site has a considerable number of heritage features and listed structures that will be retained on site during the proposed works. It is important that these elements are protected from damage and loss during the works activities. The following strategy is proposed:

Isolation – where possible isolation areas should be formed surrounding the heritage features to prevent access and harm during the works. Physical barriers should be sufficiently robust and appropriate to the adjacent activities and isolate working from the immediate areas surrounding the heritage features.

Protection – where physical isolation is not possible then protection should be fitted to the heritage features. This should be sufficiently robust for the anticipated works activities in the adjacent area and should protect the physical integrity of the heritage elements.

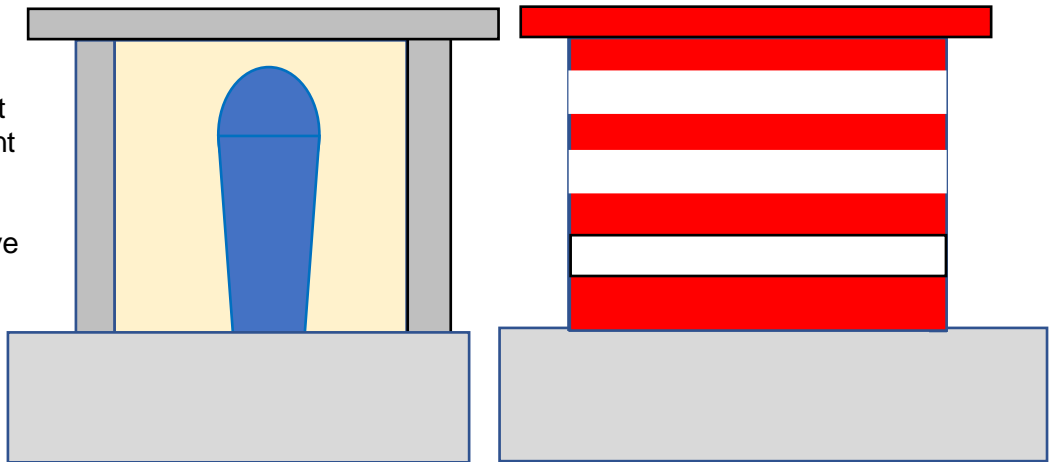
Permit to work – where heritage features cannot be safeguarded by either isolation or physical protection then a Permit to Work should be implemented for all works activities adjacent to the heritage features. The Permit to Work system should ensure that tasks are carefully planned through detailed method statements and that adequate monitoring can be established to review the condition of the heritage elements.

6.8 Specific Protection Requirements - Examples

Retained Bollards

All retained bollards should be protected by surrounding in concrete or plastic drainage / manhole rings sized to ensure that there is a minimum of 200mm clearance from the bollard itself. These should then be sand filled around the bollard and fitted with a suitably sized concrete or plastic cover. The protection should be painted in a high-resolution colour scheme to ensure that the item is easily visible.

Protection will minimise impact damage, prevent inadvertent removal and be visually obtrusive in the marked colour scheme.



In areas such as haul road additional protection should be fitted to ensure that the road does not encroach into the area around the heritage asset. The use of Rhino barriers (or similar) will ensure that vehicle tracking routes are maintained away from the heritage assets.

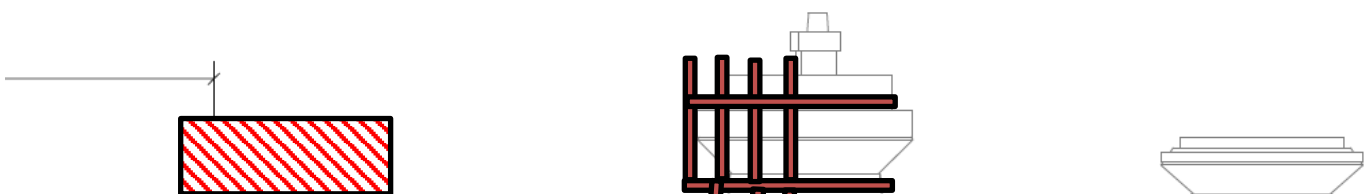


Manhole Covers

Where manhole and inspection covers are to be retained in-situ they will be covered by a metal road plate which will be painted to clearly identify the heritage asset. If the covers are within a roadway then a suitably sized thickness of plate will be used together with additional roadway temporary fill material to ensure that the heritage assets are not damaged during the works period.

Regent Road Openings

The existing north and south entrances will be used by vehicles to access the site during the construction works and there is a risk of damage to the gate piers where the opening is at its most constrained. Opportunities for isolation are limited as this further restricts the opening width so it is proposed that high visibility close fitting protection is fitted to the stonework piers.



A timber framework will be erected around the stonework piers – this will not be directly fixed to the stonework but will be close fitting and self-supporting to wrap around the circular piers. This framework will be over clad with plywood sheeting with hazard identification marking.

The primary protection will be the visual marking of the structures together with some secondary protection provided by the sheeting material.

Additional signage will be present to warn drivers and plant operators of the width restrictions.

7.0 Disposal Strategy

The construction works associated with the new Everton Stadium will include works to the heritage fabric of the site. A number of these activities will through their execution result in a surplus of original heritage fabric.

7.1 Identified activities include:

- **New entrances to the Regent Road Wall** – the three new pedestrian entrances will remove original stonework from the wall some of which will be re-purposed in the construction of the new stone clad lintel however it is anticipated that a surplus of stone and brick material will be resultant from this operation.
Note: Salvaged granite stonework and brickwork material from the Regent Road wall should be utilised where possible for repairs to the wall itself and the dock retaining walls.
- **Removal of heritage assets** – a number of low significance heritage assets have been identified for removal and disposal as part of the works proposals.
Note: Only items noted of low heritage significance should be disposed as identified on the Planit-IE schedule of Heritage Assets.
- **Removal of the granite setts** – areas of granite setts will be removed from the dock surfacing to allow new surfacing to be installed.

7.2 Strategy:

Where heritage fabric cannot be re-used within the site development the following disposal strategy should be followed:

1. Identified salvage material should be photographed and added to a schedule for disposal which documents the material, its original location and its overall condition.
2. The disposal material list should be offered, free issue, to the following stakeholders and organisations:
 - Liverpool City Council – for use in the repair of other heritage structures within the docks area.
 - Peel Ports – for use in the repair of existing Liverpool dock structures.
 - Any other parties where interest has been expressed.
3. Where there is no interest in the salvage material it should be disposed to appropriate local authority waste facilities and a note inserted in the overall site Heritage Environmental Record (HER).