Revealing Murgatroyd's Project





PROGRESS REPORT PHOTOGRAPHS

Contained in this report is the photographic evidence of works being carried out at Murgatroyd's Brine Pumps as part of the Revealing Murgatroyd's Project. Appendix 13.

Kerry Kirwan Heritage Development Officer

Murgatroyd's Brine pump Habitat work on site























Clearance of trees and plants that were causing obstructions and potential damage to the building, removal of dead trees and low branches to let light through to the ground underneath, removal of debris, create a natural path through the site. Document flora and fauna throughout the year. Establish bug hotels. Meeting and walkover with Groundwork for habitat advice and landscaping priorities.

Murgatroyd's Brine pump Stage 1 Ground Works



The flooding damage to the building can be clearly seen in the state of the brickwork at the base, we still have drainage issues on the North side at this point as the water is coming off the bunds and debris on the North-North-East side of the site. These issues are dealt with when the north side landscaping plan was carried out and we were able to start the habitats plan.

Murgatroyd's Brine pump Preparation and Inspection Week









Scaffold was erected and the gantry and building inspected. The initial inspections allow the gantry plan to be finalised. Our volunteer who is a professional pump engineer discusses the various issues around lifting the gantry and what we should expect underneath regarding the supports. Steve is meeting with timber expert Luke illustrating his points using a 3D model he made.

Murgatroyd's Brine pump Removal of Gantry



Key volunteers were involved in the lifting of the gantry, the roof was removed and the gantry supported ready for two large cranes to take out the gantry from its supporting timbers and laid the structure flat ready for transportation. The whole process was monitored by three volunteers from different angles, as well as photographs inside the building showing before and after. For the first time we all get a close up view of the structure and the methods used build the gantry and its supports.

Murgatroyd's Brine pump Gantry Repairs











The inspection of the gantry shows that the timber is mostly rotten all the way through which isn't surprising as it was built in 1889. An inspection and meeting took place with our volunteer engineer, Historic England and the timber specialist to decide the best way to proceed. Steve's plan and drawings were sent to the structural engineer to draw up and produce an architect's instruction.

The plan consists of using salvaged timber like for like to replace the damaged timber, some timber and metal supports were re-used where possible. The original legs are back for display at the site so we can retain them.

Parts of the steels can be salvaged from the gantry, agreement as to how the timber is to be spliced together was approved. The replacement timber has been cut identically.

Murgatroyd's Brine pump Clean-up of Pump House and Equipment









Image of the pump house during its deep clean, showing the materials used, construction, line of the pipework and paint colours















The biggest part of the project is cleaning up the site and working on the historical elements of the brine pumps and equipment. Photos show the clear out the buttress supports that held the gantry, clearing all debris from the floor, timbers, plinths, steels and wall mounted equipment. Lots of dirt, dust, corrosion and grease to be dealt with. We uncovered damaged timbers throughout the building, uncovered oil tanks and came across writing on the pumps themselves. Taken paint samples from all of the elements, including the plinth which we didn't know was painted, uncovered the base paint of the pumps. The floor is not as damaged as first thought; only five areas need timber replacements

Murgatroyd's Brine pump Watching brief



Volunteer Andrew Church working with the Heritage Development Officer and our pump engineer has been carrying out the watching brief, above are some of the documentary photographs taken of the site separating the building into four main areas. Each area is photographed and measured and compared to the original drawings, which shows some variation. The new findings will be written up as an update to the original building survey carried out in 2011.

Murgatroyd's Brine pump Watching brief



Updated measurements of the brine pump building as it exists today, this work is to be drawn up as a technical illustration and published online.

Murgatroyd's Brine pump Removal of the Breresford sub pump for display, document.



documents. The company brought one of their apprentices along to help with the lift, the base clamp was galvanized and painted.

Murgatroyd's Brine pump Gantry fabricated and galvanised







The new gantry, shot-blasted, galvanised and fabricated using as much of the old gantry parts as possible. New supporting timbers were made around the well head on the west side while the east timbers are re-used, the gantry legs slot back into place.







Murgatroyd's Brine pump Works to the roof and brickwork surrounding the gantry













Special lime mortar mix and application to the damaged 1930's brickwork, approved by Historic England. Improving the strength of the brickwork around the roof line, at the foot of the wall and around the windows.

The interior brickwork is whitewashed with an agreed lime mix as it once was.

Once the windows are in all timber cladding will be painted by the volunteers to protect it.

Murgatroyd's Brine pump Brine tank



Fabricated brine tank with additional I beams to replace the corroded ones. B R Fabrications painted the tank in red oxide as the original once was. Volunteers had a stencil made to the original design of the lettering and spray painted Murgatroyd's on the site facing side. Pictures show vols all suited and booted ready for action.

Crane Direct lifted the tank in place and the brickwork was re-instated.

Murgatroyd's Brine pump Shot blasting and priming the metalwork













After the volunteers cleaned out the brine pump building and cleaned the brine pumps and machinery, we got the metal shot blasted. Volunteers painted the specialised metal primer over everything to protect the metal against any further erosion, the brass plaque uncovered was protected and all the maker's names now readable were documented for further research.

Murgatroyd's Brine pump



One of the community talks given in 2019. The presentation given in November contained the history behind the project and updates on how the project was going, chance for discussion and to see some of the documents we are working with for digitisation. Outlined the next steps for us to take in the early part of 2020 to re-open to the public.



The project is also about documentation, keeping records, and selecting material for digitisation. All collection records are kept on computer and storage items are all numbered and stored. Volunteers have been auditing the collection understanding what is required for further research, what needs to be digitised, what can be placed in long term storage and what can be placed on display as part of our interpretation of the site. Some items also need conservation work and a specialised display plan.

Training on the new website, administration roles given to three people to start the process of uploading collections images onto new pages.

Far right: Conservation training on the pumpman's coat



Murgatroyd's Brine pump Top of shaft area



Murgatroyd's Brine pump Brine tank area restoration











Brine tank made like for like, new steels inserted over the switch room. Old steels all removed, brickwork re-done all around and tied back into structure.







New flashings each side of the brine tank, preventing any gaps, new infill brickwork above the window. Brine tank now complete.

Murgatroyd's Brine pump Windows and doors



Replacement of large doors, with an inserted maintenance door, kept the original framework







Original metal window at the rear of the building has been put back in on a new timber frame, other windows replaced like for like. Small door at the rear replaced and painted with brine pump colours. Timber work on the North East and South West of the building has been treated.

Murgatroyd's Brine pump Water ingress prevention, North side



The site has been used as a highways training space and storage site for years. The level of debris meant that the ground was much higher than the building. During heavy rain the water simply floods into the building, damaging the brickwork and the floor. The area was surveyed to find the right gradient, then tonnes of debris was removed to create a slight slope towards the brook, a pipe was inserted to drain the water and a layer of gravel to act as a soak away.







Volunteers put a safety fence at the base of the north east bund, and Cheshire Wildlife Trust planted native hedgerows on top of the north west bund and along the railway fence. Helps with drainage, habitats and screening.

Murgatroyd's Brine pump Air Vessel and associated machinery





The timber and pipework under the air vessel was rotten, it was posing a risk hazard and leaning into the void. The pipe was separated and the whole vessel lifted to make timber repairs to the floor. The vessel was put onto a fabricated plinth and moved a few inches towards the gantry, so it rests on the concrete and gives space for people to work around it













All metalwork has been sandblasted back to bare metal. We can now see makers labels as well as details not seen before. This will be used in future research. All metalwork was then painted with primer to protect from rust. Once the work in the building finished the machinery was painted in its original colours.

Murgatroyd's Brine pump Brine Pump Pipework Installation



Ladder and safety cage remade like for like. Pieces of original pipework were reattached and secured in place, two new pipe sections were fabricated to replace one beyond repair and one too heavy to be placed back. This piece of pipe is displayed on site.









Murgatroyd's Brine pump Clearing bund debris and brambles, erection of fence





Murgatroyd's Brine pump Volunteers Painting











Murgatroyd's Brine pump Electricity installation













Electricity installed by S P Energy using the original transformer. Neil Hopley electricians fitted new switches, cabling, lights, emergency lighting, and supplied lampshades in a similar design to the old ones.

For interpretation purposes we had a light fitted inside the brine shaft and we have cabling to an area at the back of the building that will contain a display case.

Murgatroyd's Brine pump Interior painting of the Brine Pump, assoc machinery and Building



















Murgatroyd's Brine pump Object displays and Lift





Above: photos of the original Gantry being moved, so that the ground underneath could be levelled off. Volunteers then made supports for the legs ensuring they were level before re-positioning the gantry legs on top. The area around the gantry has been cleared so that the cover can now be made in situ.

Left: Volunteers made brick supports for the piece of pipe that could not be put back on top of the brine tank

Murgatroyd's Brine pump Object displays and Lift















Top pictures: Volunteers prepared a base for the salt pan. Once the lift was complete, we check the gradient of the pan to ensure water would run off it.

Moving the hooker cell in three parts, ensuring the lift was precise so that all sections fitted perfectly. It was also a chance to photograph the cell in detail and measure for future display spacer to be inserted. The concrete was painted with protector and the metal is primed and painted.

Murgatroyd's Brine pump Object displays and Lift













Lifting the sub pump and associated rods into place on plinths at the back of the pump house. Pump and pipes were then re-painted where required.

Murgatroyd's Brine pump Gantry legs timber cover









Cover for the gantry in the style of the Canal structures protecting lock timbers. Three plinths have been built underneath, with timber separators. Gantry will also be covered in between openings to protect them from the weather. The ground is cleared all around the area for visitor access. An information panel will also be added in the near future

Murgatroyd's Brine pump

Habitat



Documenting the habitat through the year to monitor plants and wildflowers already established on site. Identification of plants in the vicinity growing in similar conditions and locally to form a plant list. Working from this we intend to re-wild using the established and identified plants only.

Murgatroyd's Brine pump

Habitat



Murgatroyd's Brine pump Completion













Murgatroyd's Brine pump Completion











Murgatroyd's Brine pump Completion







