

Henry Moore Statue

The statue is a large stone sculpture by Henry Moore located in Kensington Gardens in Hyde Park, London. It was given to the park by Moore in 1980. "After the 1978 exhibition at the Serpentine Gallery in London, in which several large pieces were located in Kensington Gardens.

The Arch was found to be unstable in 1996, and was subsequently dismantled and placed into storage. It was restored and replaced in its original location in 2012 .



The statue is a 9 metre tall sculpture made out of travertine marble . It was in seven blocks, which had steel pins connecting them before. The original sculpture started to have problems with joints opening up and cracking in the stone. Because of this, it was disassembled and put in storage for about 20 years.

The Royal Parks began a final project in December 2010 with partners at The Henry Moore Foundation to determine if, given its previous problems, it was possible to return the sculpture to the Gardens.

After an 18 month review of the detailed structural surveys, a plan was commissioned to carry out a trial re-assembly of *The Arch* by the contractor PAYE. Following the success of this the Arch was been rebuilt in its original location in Kensington Gardens.

As part of the restoration and installation work a new internal skeleton of Cintec stainless steel anchors was been created to overcome the previous structural issues. Travertine stone from the same quarry in northern Italy was been sourced to make repairs to the structure as natural as possible.



Under the Project Management of Rider Levett Bucknall on behalf of The Royal Parks, contractors PAYE were appointed to undertake the work needed to return *The Arch* to its former glory. Since then they collected the seven stones that weigh a total of 37 tonnes, carefully cleaned and restored them before delivering them to Kensington Gardens, where they could be assembled within a scaffolding framework.

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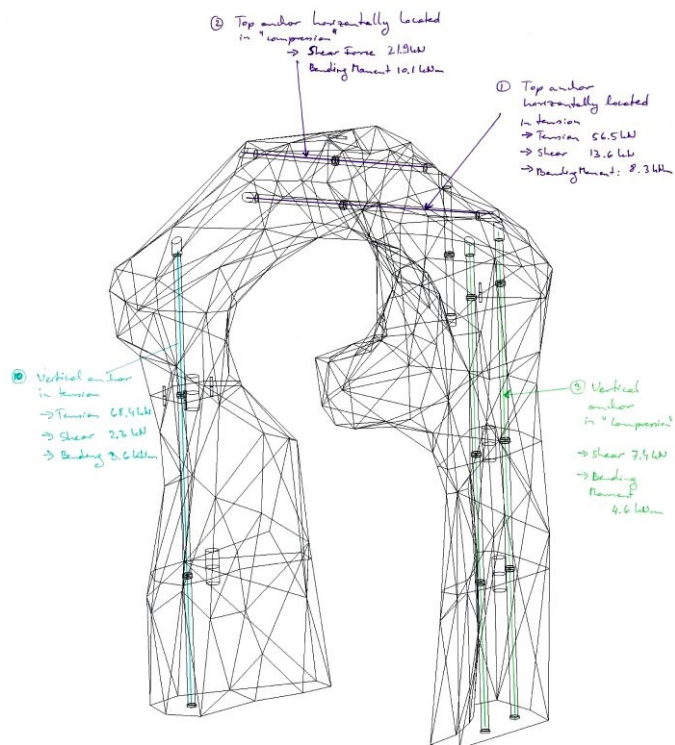
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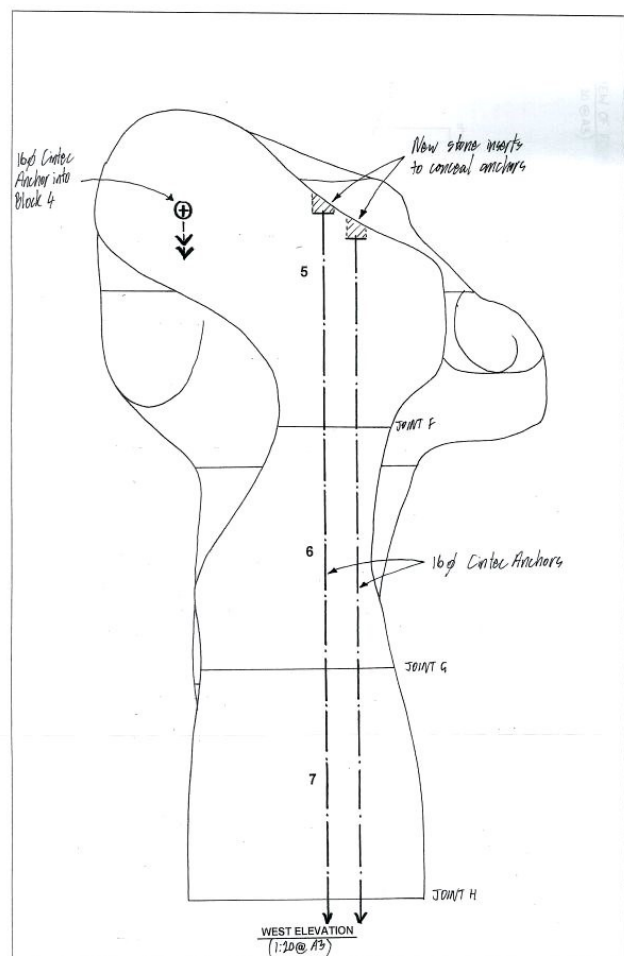
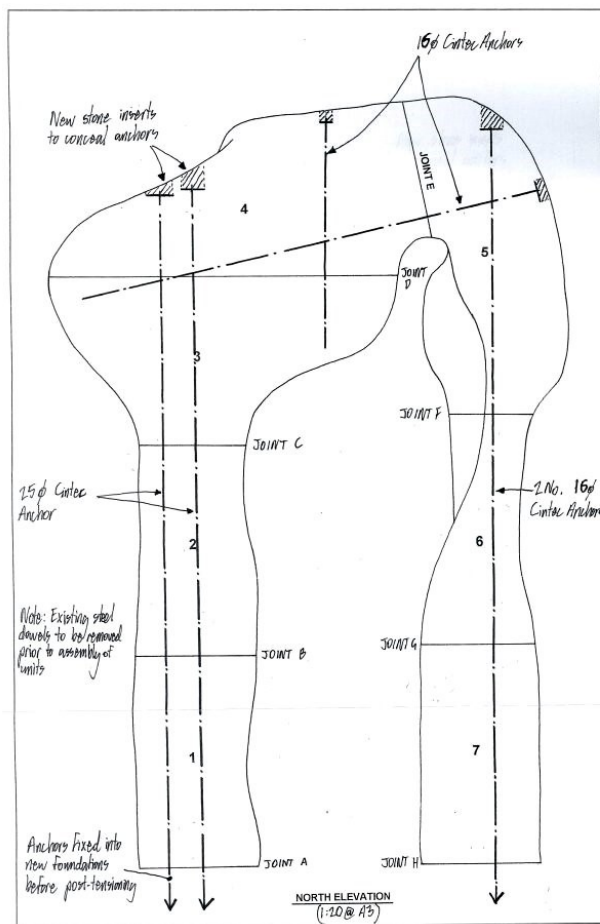
Drawn: JH/05/07/04 Date: 05/07/04

By: Henry Moore Sculpture

Forces on Henry Moore Anchors



Note: all forces unfactored due to dead + wind



Structural engineers Price & Myers produced sketches to show their current proposal to stabilise the structure. They advised us that they would like to use Cintec anchors to stitch the block together.

They then produced a Finite Element Analysis model of the sculpture in Solidworks simulation. From this they were able to obtain the axial, shear forces and bending moments, obviously being very cautious about this. They then produced a quick sketch showing those for each anchor, that they were looking at.

Anchor 10 had a combination of tension force and shear and bending. Anchor 10 would be a 24mm diameter rod with overall length of 4.5 metre. Anchor 1, 16mm and 1.7 long on each side of the joint area, each having steel plates at the ends of the anchors, which would transfer the tension force in the anchor in compression on the stone. Anchor 2 showed the highest shear and bending moment combination. From many previous anchor test results Cintec were able to confirm the anchor capacities were sufficient for the forces and the Cintec "Special Projects" team carried out the delicate task of the drilling and installation on site with the aid of support scaffolding to keep the separate parts in the correct position and alignment.