

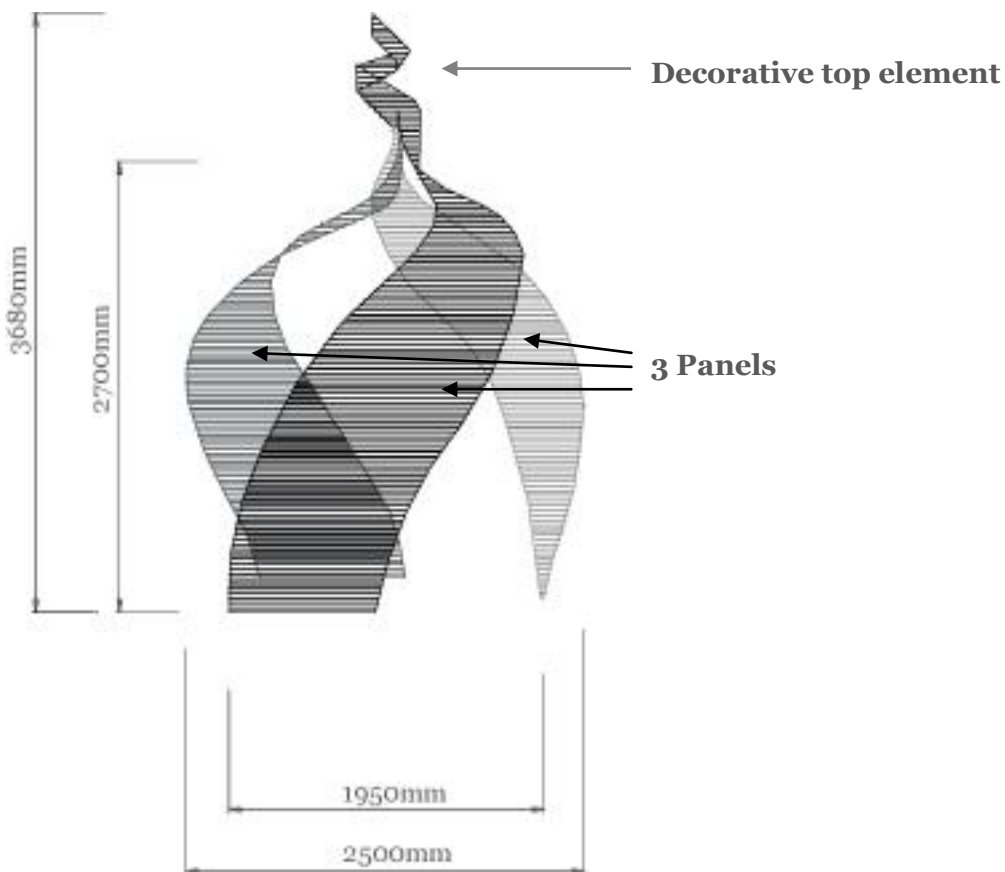
Museumaker
Alford Manor House and Susan Bradley
Design Sign-off
20th April 2010

1. About the design

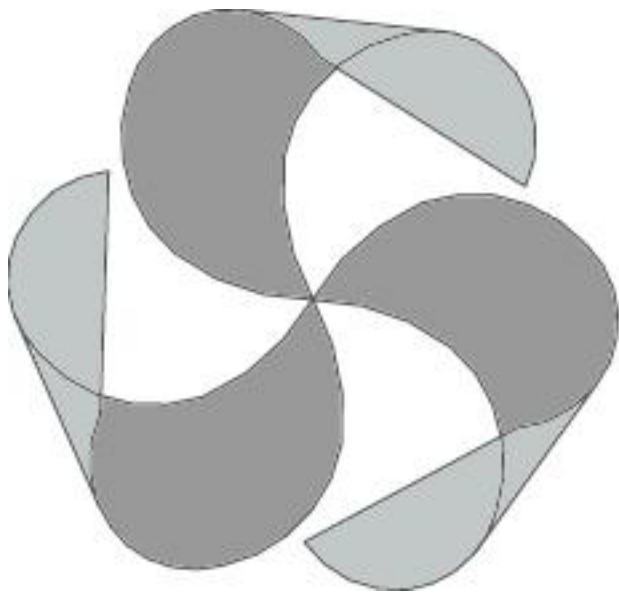
Called 'Twist', this sculptural garden feature is inspired by the corn dollies within the Hacketts Barn at Alford Manor House. Created from stainless steel, a woven wire braid facade is wrapped around a steel armature to create this contemporary piece that references the heritage of the region and the specific collection of the museum. Three identical panels rise from the ground and twist around the space, as a corn dolly is created in a spiralling form. Crowning the piece is a more free-form section at the top, consisting of three plaited steel wire elements, which reference the decorative plaited ends of a corn dolly and add to the feeling of movement and dynamism of the piece.

The three separate panels have space between to allow visitors to walk in and around Twist and experience it from different perspectives. They also act to entice and encourage visitors to interact with the structure.

2. Image of the proposed piece



Side elevation



← Shaded areas show the three panels making up the piece



Overall diameter 2500mm

Plan view

A separate technical drawing for planning purposes to be supplied as a .pdf file as soon as the design is signed off by museumaker team.

3. Technical information

3.1 Materials and construction

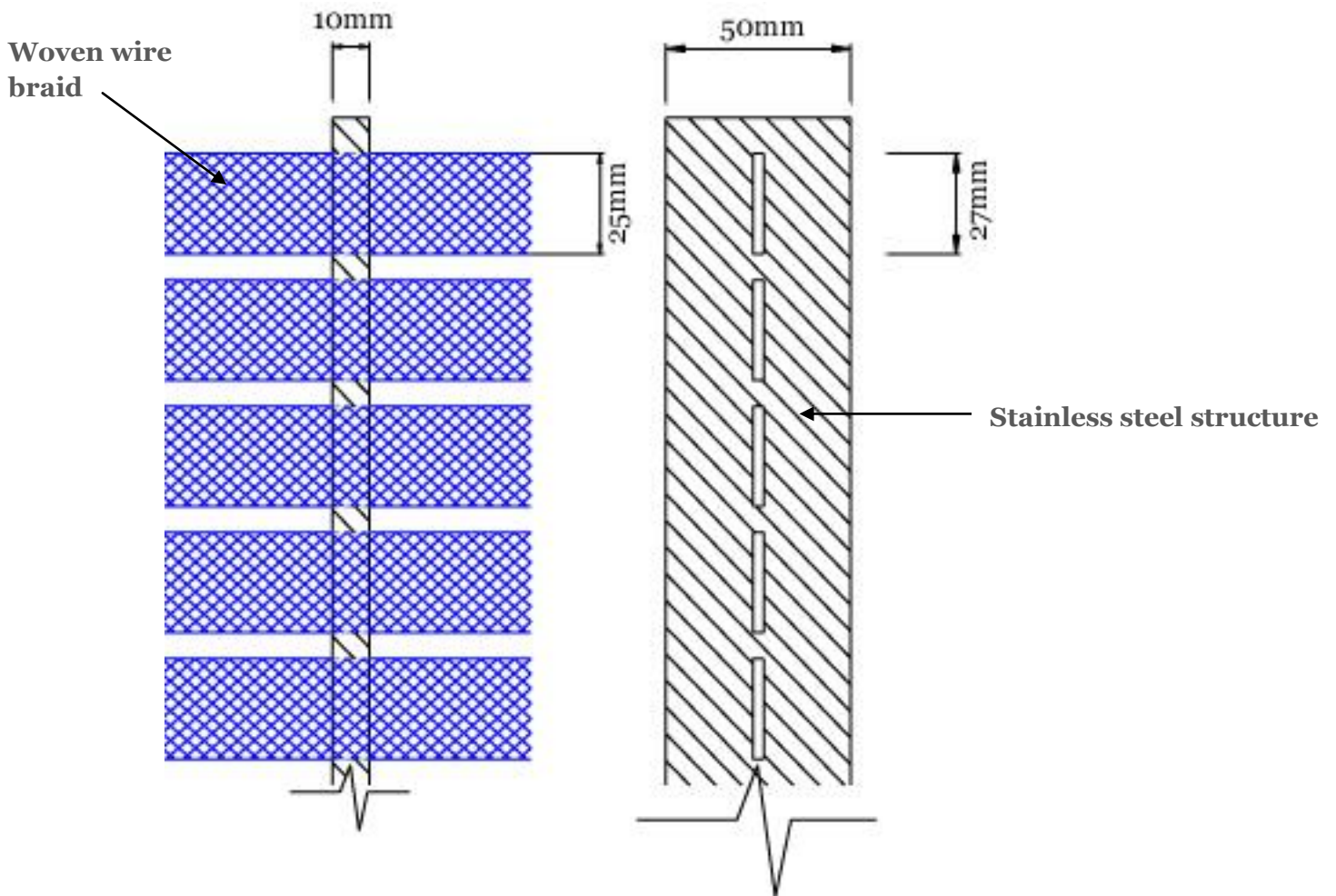
The structure of Twist will be created as three panels, which will be joined together at the top, and have a decorative plaited top element (which will be created as a separate piece). Each of the three panels will be identical in dimensions. The structure will be made from profiles of marine grade stainless steel, which will be laser cut from 10mm thick sheet material. The profiles will be welded together to create a structure to wrap the stainless steel woven wire braid (which is flat) around. To keep the spacing of the woven wire braid consistent over the height, the profiles will have slots cut into it to keep the braid in position (see following diagrams)

Woven wire braid image:



W=25mm

Dimensions of braided cable: W=25mm, H = 1.5mm



Side view

Showing slots for braided cable

Detail of braid and slotted stainless steel structure

3.2 Dimensions

Height of Twist:
 3680mm maximum
 2700mm main panels height
 980mm decorative top

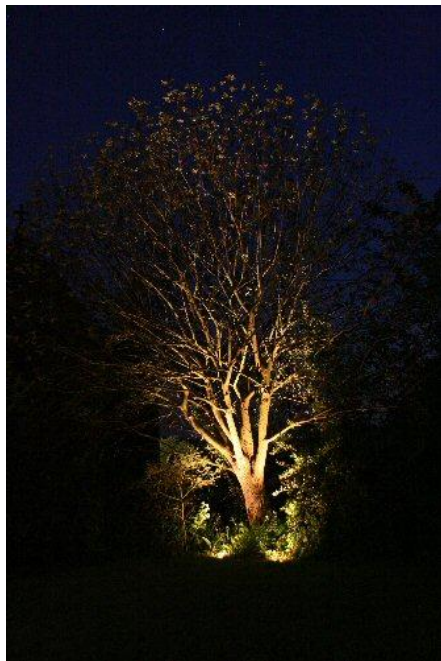
Maximum diameter of Twist:
 2500mm

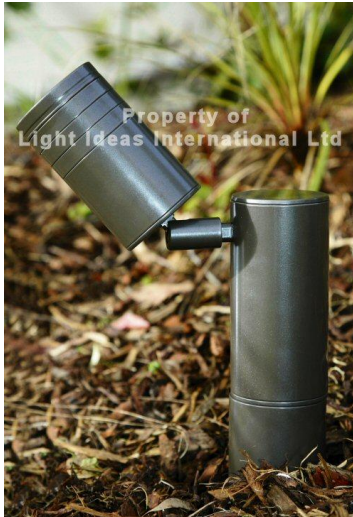
Panel widths:
 Each of the three panels will be 950mm wide.

Entrances/exits to Twist
 The distance at ground level between each panel is 95cm, this is therefore the space available to enter/exit Twist, at each of the three entry/exit points.

3.3 Lighting

The proposal is for three energy efficient uplights, which would be positioned at ground level and used to flood light upwards onto Twist - with one light shining onto each panel of the design. Examples of uplighting garden elements shown below with suggested luminaire:





Example of the uplighter

This type of luminaire is ideal for uplighting large trees (so should work well for this piece), and has a fully adjustable head allowing elevation adjustment. The lights shown are metal halide type, which are a highly energy efficient light source, using considerably less energy, having a considerably longer lamp life and outputting 2-3 times the light of a halogen lamp.

I would like to speak with Alford's garden designers who are undertaking the whole redesign of the garden for their recommendation as to suppliers for this lighting, to see if this seems appropriate in their experience, and to check to see if they are lighting other trees or elements of the new garden, to ensure there is no lighting conflict and that there is consistency in the appearance of the fittings.

Also the running of an armoured cable to the site and the switching of the lights (from the house I would imagine) needs to be worked out in conjunction with the main garden designers.

3.4 Material, Suppliers and Fabricators

The materials used will be marine grade stainless steel (the structure and the woven wire braid) to ensure longevity and prevent corrosion.

Woven wire braid, supplied by cabletec (based in Weston-Super-Mare, there are no suppliers more locally)

Fabrication – laser cutting and welding. I have gained initial pricing from my usual fabricators to use as a benchmark figure. I would very much like to have the piece fabricated in Lincolnshire as previously discussed. I have identified a number of companies in the area (Spalding and Lincoln) and once the design is signed off will approach them to discuss the project.

3.5 Sub contracted work

Concrete base pad – I would like to liaise with the garden designers on this, as this could be done at the same time as path laying etc.

Lighting – again to liaise with the garden designers on this, for the various reasons mentioned in point 3.3 above.

3.6 Fixing

Twist would best be fixed to a concrete ‘pad’ or base, which would then be covered with gravel or other substrate to blend in with the other paths within the garden.

Each of the three panels will be fixed to this concrete pad using heavy-duty stainless steel fixings - large bolts with built in expander nut which are specifically made for securing heavy items into concrete. Typical applications are the installation of heavy equipment, crash barriers and scaffolding, so they will be ideal for this application. There will be 9 bolts in total.

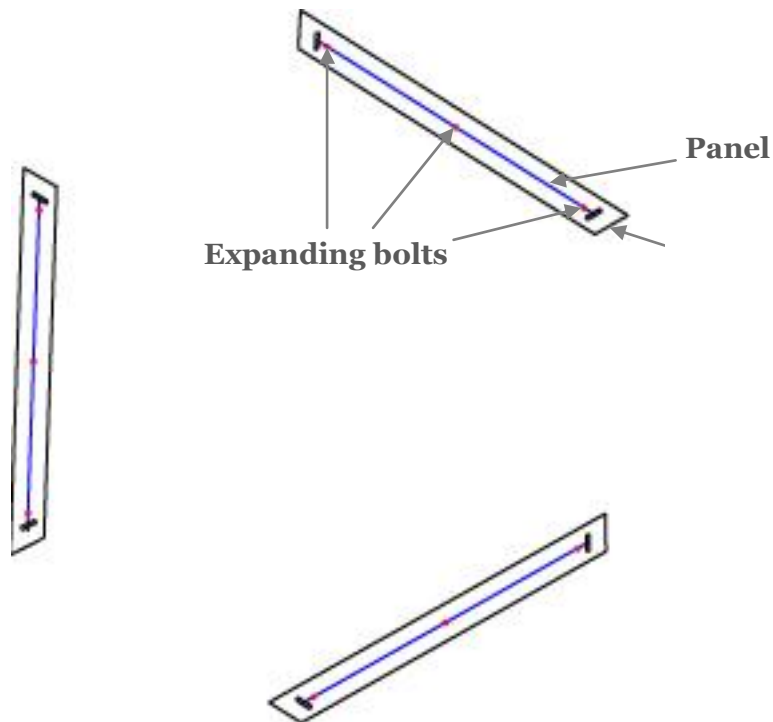


Image of an expanding bolts

3.7 Installation

The assembly of the three panels will take place onsite at Alford Manor House. The three panels will be joined together at the top once onsite and in situ, either welded or bolted together to provide structural support. The three panel assembly will then be fixed to the concrete pad, using the expanding bolts specifically designed for this purpose as described above.

At the base of each panel will be a fixing plate welded to the two uprights. The fixing plate will have three holes, through which the expanding bolts will fix down into the concrete pad – as illustrated below.



Plan view showing base plates, with fixings through

4. Timetable

The next step once the design is signed off is to create a 1:3 scale prototype, in steel using the woven wire braid.

Once this is created the fabrication of the actual piece can begin (subject to planning permission of course).

Ideal timetable (subject to planning permission)

Creation of prototype – end April to Mid May (3 weeks)

Fabrication of Twist – Mid May to Mid June 2010 (4 weeks)

Installation of Twist – Last 2 weeks of June

Prior to this the concrete pad would need to be laid. To allow the concrete to ‘go off’ fully this would be 1 week prior to installation (minimum).

5. Siting

The siting of Twist, in terms of how it will sit within the wider garden redesign is to be discussed with the Alford manor garden designers, and Sara the House Manager. This to happen as soon as possible.