

Temple of Spirals

Full design submission

By Karl Matthews

Concept

Spirals are a common shape found throughout nature. In the natural world, we find spirals in the DNA double helix, sunflowers, the path of draining water, weather patterns, vine tendrils, phyllotaxis (the arrangement of leaves on a plant stem), galaxies, the horns of various animals, mollusc shells, the nautilus shell, snail shells, whirlpools, ferns and algae. Look at your fingertip, where you would make a fingerprint, and you will see a spiral. Even the shape of your hair at the crown of your head...a spiral. Spirals permeate many diverse natural formations: inorganic and organic, lifeless and alive, non-conscious and conscious.

This design will incorporate a logarithmic spiral design and create a multidimensional space that maintains a light, ornate and simplistic beauty while providing a space for deep reflection, contemplation and inspiration.



Design

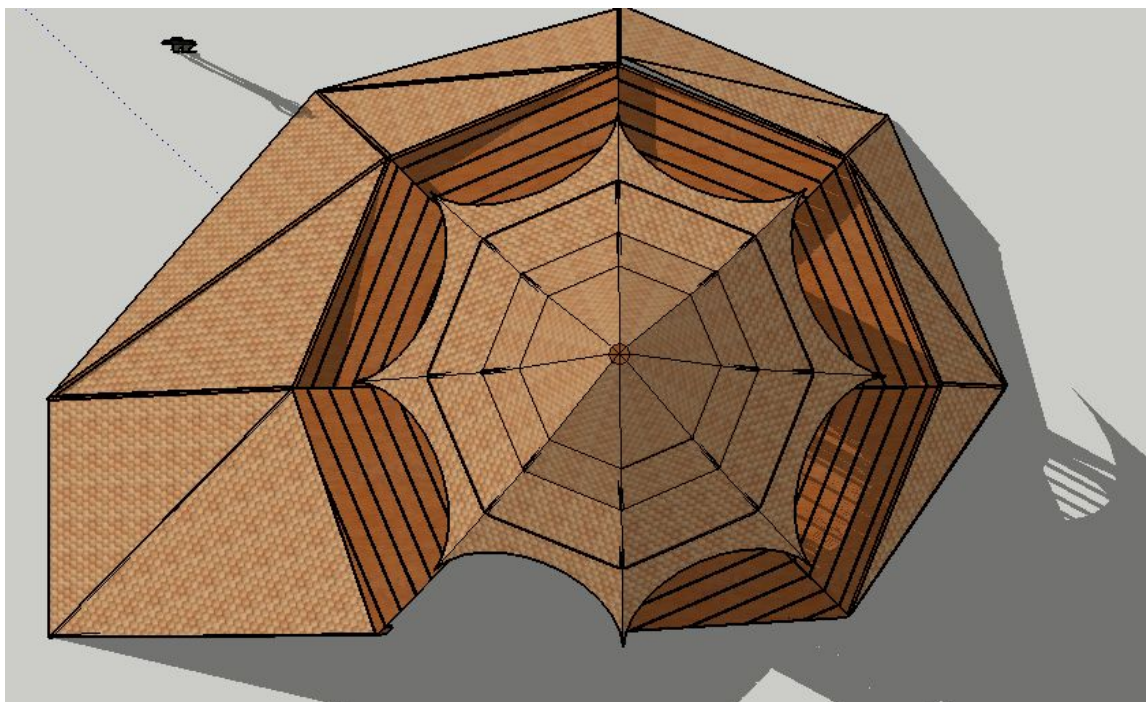
The layout, again based on a logarithmic spiral, will have an octagonal tower placed at the center of the origin of the spiral, and atop of the tower sits a spire and seven steps wrap around the tower for people to work their way to the platform inside of the tower. The shape of the spiral flairs out from the steps with the tightest part of the spiral beginning on the lowest step, working its way out to the the widest part of the spiral at the highest step.

The tower is 6 meters tall with a diameter of just over 5.5 meters. The platform sits at 2.8 meters with the steps working their way up the structure at intervals of 400mm. The spire is another 6 meters making the total height of the structure 12 meters total.

At the widest point of the base is just over 16 meters with the narrowest point being just over 10 meters.

The framing will be built out of untreated pine. The cladding will consist of plywood cut into 200-300mm wide strips and cut into lengths to create the effect of shingles. The will be attached to the structure with 50 x 25mm battens. The thickness of the plywood will have to be determined with consultation from FART.

There will be Balustrades along the full length of the stairs for safety, I have just run out of time to add them to the model.



Construction method *(For more detail consult Build timeline pdf)*

After the site has been surveyed and all of the footing have been leveled the construction of the main tower will begin. The tower will sit on top of a full bottom plate which will be dug into the ground and leveled to help tie the structure together. The tower will be constructed in two stages to make the lifting process safer. The first stage will consist of building panels to the height of the handrails (3.7m) in eight panels, then lifting them one at a time into place. Once each panel is lifted into place temporary bracing will be installed until all eight panels are in place. The top and bottom of the tower legs will be joined with a 500mm lap join that will be through bolted every 150mm. The second stage of the tower will happen at a later stage of the build.

Once the tower is up and stable construction can begin on the stairs frames and the tower platform. The platform can be constructed with help from the scaff tower, and most of the stairs will be able to be built from ground level or with help from ladders.

Well the platform and stairs are being constructed a team can split off and start work on the spire which will be built in two parts next to the main structure and lifted into place with a crane. The two spire sections and will be able to be completed using ladders.

Once the main tower platform and stairs are completed the balustrades can be built in creating safe working platforms. Once these are completed the second section of the main tower can be started. We will need use of a boom lift for a couple of hours for the safe completion of this task which can work around the schedule of the Effigy.

Well this is happening the framing of the outer spiral can start which can be completed using ladders.

When works on the spire sections are complete they can be lifted on with a crane. The two sections will have to be lifted onto each other which could potentially happen with the telehandler on site then the whole thing will be lifted onto the main tower. Temporary lifting points will be built into the structure for the task and removed afterward. We will need use of a boom lift during this process and then to attach the awnings in the coming days after the lift.

The final stage will to be to clad the outer spiral.

Crew

I have not been recruiting as of yet however I am confident that I will be able to find a crew if I am lucky enough to be given the project. I will offer places to whoever is involved in the other proposals first then build through my own networks, regional networks and with help of Crew Wranglers.

The total number of crew I would like to have is 15 total. Their arrival onsite will be staggered, with 5-7 arriving in the first week rising to 10-12 in the second week then having the full 15 by the final week.

There is one person who is on board and that is Jamie Ryan (Carpenter/MPW 2IC for Kiwiburn) so I'm not starting completely from scratch.

Crew Safety

Safety will be the top priority for this build and to make sure that is the case I will appoint a 'Crew Manager' to make sure everyone's needs are being met well I manage the construction of the project.

Before any new crew member begins working on the site they will have a Temple specific induction undertaken by myself or the Crew Manager to make sure they are aware of all the site specific hazards. Tool box meeting will be held every morning where the tasks for the day will be discussed and any issues from the previous day can be brought up. A sit Hazard Identification board will be in use and updated daily.

A pair of safety glasses and gloves will be assigned to each crew member at after their induction which has been budgeted for. Ear plugs will be available and earmuffs will be placed on some of the bigger tools. Anyone using the table saw will be required to wear safety goggles.

Sunscreen and fresh water will be available in the shade structure along with a first aid kit for any minor injuries.

Illumination

I would like to create a warm understated effect throughout the structure making it glow without any harsh or visible lights. Lighting will be placed under each of the stairs to create enough illumination for safety.

This will be a critical element of the project and it is not one of my best skills so I will recruit heavily to find someone able to create the effect that is needed. I have left this area a significant budget for that person to work with.

Burn Plan

The burn will be as simple as possible utilising diesel along with extra fuel which will consist of scraps from the build and branches and logs that will be collected from the surrounding forest on the day of the burn. Very little will have to be done to modify or hobble the structure, after the lights and any electrical has been removed. The branches and diesel will be arranged in a way as to draw the fire to the centre of the structure well being able to be lit from eight points around the outside of the structure. Liquid fuel will only be added in the hour before burn time after there is a clear indication that the weather will permit us to burn.

We will work closely with FART, DPI, State forestry and Rangers on the day to make sure this is all carried out in a safe manner.

Leave no Trace

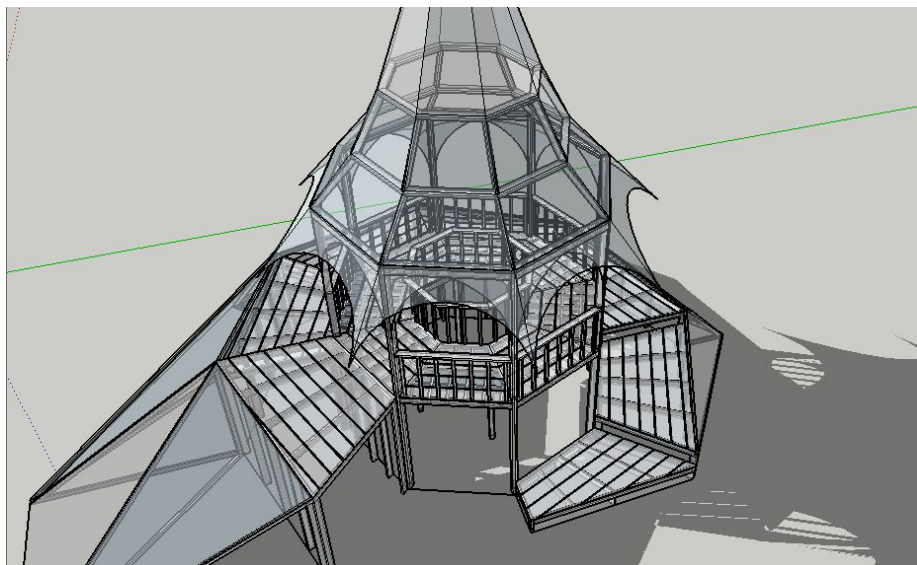
We will work with DPI the following day to get the ash scooped up with the telehandler and taken to the skip bin. After this is completed a crew of 6-8 will rake and use the magnet rakes to thoroughly clean the site. I will not leave the site until final sign off from LnT.

Budget

Costings	<i>All prices including GST</i>			
Item	Quantity	Unit price	Total	Quote from
Timber				
150 x 50mm Pine	600m	\$3.74	\$2,057	Jacksons Creek Sawmill
100 x 50mm Pine	300m	\$2.31	\$693	Jacksons Creek Sawmill
100 x 100mm Pine	40m	\$6.38	\$255	Jacksons Creek Sawmill
150 x 25mm Pine	600m	\$1.65	\$990	Jacksons Creek Sawmill
50 x 50mm Pine	150m	\$1.27	\$190	Jacksons Creek Sawmill
50 x 25mm Pine	200m	\$0.93	\$187	Jacksons Creek Sawmill
Cladding	50 ply		\$2,000	<i>Estimate</i>
Fixings				
100mm Batten screws	100	\$35.00	\$35	Bunnings
75mm Batten screws	500	\$46.00	\$46	Bunnings
50mm No2 square head	1000	\$49.00	\$98	Bunnings
12mm threaded rod	10m	\$10.00	\$100	Bunnings
M12 Zinc nuts	100	\$0.54	\$50	Bunnings
12mm 50x50x3mm washers	100	\$0.62	\$62	Bunnings
75mm Pasload nails	3000	\$77.00	\$77	Bunnings
38mm Brad nails	4000	\$46.00	\$92	Bunnings

Miscellaneous				
12mm Spade drill bit	3	\$8.93	\$27	Bunnings
Builders pencils	30	\$0.75	\$23	Bunnings
Safety glasses	15	\$10.00	\$150	Bunnings
Ear plugs	100	\$30.00	\$30	Bunnings
Safety Goggles	2	\$15.00	\$30	Bunnings
Gloves	15	\$8.00	\$120	Bunnings
Spray marker paint	2	\$8.69	\$17	Bunnings
String line	1	\$5.00	\$5	Bunnings
Transport				
Timber delivery			\$2,200	Jackson Creek Sawmill
General transport costs			\$1,000	
Lighting			\$2,500	
Burn night				
Deisel	80L	\$1.47	\$117	Current price in Wagga Wagga
Swag			\$500	
			\$13,651	

** We have a seconds plywood supplier in Coolamon who has provided us with cheap ply for a few years now. This price will still cover even if we had to purchase new.*



DPI support

Tools		Other		
Site lockbox	1	Shade Structure		1
Drop Saw + Stand	2	Toilet		1
Jig Saw	2	6.5 kva Generator + Fuel		1
Table saw	1	Lifeguard power distro board		1
Drill & Driver sets	4	30 meter 10 or 15amp extension leads		5
Pasload framing guns	2	15 Meter 10 or 15amp extension leads		3
Pasload brad guns	2	Tables		2
5" Grinder 240v	1	Plastic stacking chairs		4
5" Grinder 18v	1	Ladders various sizes		2
185mm Circular Saw	1	Sunscreen		2
185mm Circular Saw 18v	1	First aid kit		1
235mm Circular Saw	2	Hire Equipment	Dates needed	
Box cutters	3	Laser Level	Sep 5 - Sep 12	1
19mm ring spanner	2	4 meter ally clip scaffold	Sep 10 - Sep 24	1
8m Metric tape measure	7	Slewing Crane	1 or 2 lifts	1
50m tape measure	1	Boom lift	During crane lift and half a day after	1
Various sized clamps	6	Telehandler	Various times	1
Sharp hand saw	1	Site ute & Car trailer	For a ply collection & Burn day	1

Artist Bio

I have been involved with creating large scale burnable art since 2010. I have done this from the position of team lead and as part of a team. This has equipped me with a wide variety of relevant skills specific to the unique challenges posed by creating these structures. I have also been involved with with Burning Seed site build operations for the last four years.

My experience includes the following positions:

- Effigy - Burning Seed 2014 - Build 2IC
- Effigy - Kiwiburn 2013 - Project lead
- Effigy - Burning Seed 2013 - Build 2IC
- Effigy - Kiwiburn 2012 - Project and design lead
- Effigy (Rooman) - Burning Seed 2012 - Team member
- Temple of Transition - Burning Man 2011- Construction team lead, central tower
- Megatropolis - Burning Man 2010 - Team member
- Temple - Kiwiburn 2010 - Project and design lead

Contact Information

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