

# THE **Owner Builder**

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# Curves and graces

*Meera – a place where music can soar*

She was always in my mind as I looked out to the north from my kitchen; the impossible dream, a beautiful grand building. Impossible because, 'back in the day', I'd never built so much as a dog kennel in my entire life.

But I'd always wanted a magnificent building out there, and I'd seen and lived in a friend's owner builder home with its soaring ceilings, its natural non-hard hat approaches and curved shapes; I had to have something grand on my own piece of Wimmera clay. So, I drooled over books like *The Hand-Sculpted House* till late into the night on many a winter evening.

## Super surprise

It was the dead of winter again and I remember the moment, stirring my cocoa on the woodstove, hunching the phone to my ear and a letter in my free hand. Something about a super fund, from before my retirement as a teacher, had come in the mail about a week before. I really didn't want to make the call and

BY UNMANI

I'd put it off several times because I could see myself answering a million boring questions from some boffin at a desk in Melbourne proving I exist, grump, grump... and then I would end up getting about \$10 out of the whole exercise! Then came the moment when he said 'Actually madam, there's quite a bit there'. 'Um, is there? (At this point he had my undivided attention). Can you tell me how much?' '\$70,000' he said.

Turns out my blithe disinterest in 'boring money matters like super' throughout my career meant they had changed the fund over and when I retired, I didn't realise there was money there. While others in my noble profession were sweating on their life savings during the 90's financial crisis, my lot was steadily accruing. If I'd known, it would have been gone in a flash because we struggled

with the costs of getting the kids through secondary school.

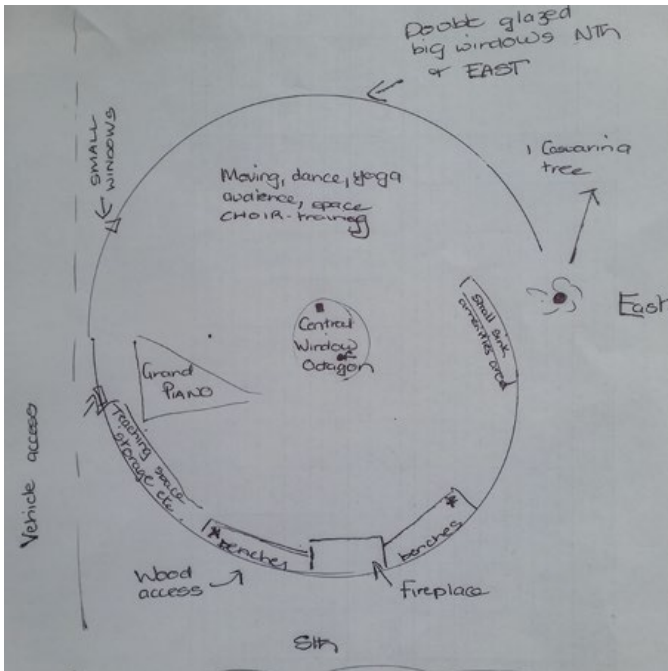
The other hilarious aspect of this miraculous manifestation was that I had already pre-planned a walk around two showrooms of grand pianos in Melbourne the following Sunday with absolutely no idea that I would actually be able to afford to buy one. But I could and I did. Then, of course, the big black shiny piano I chose needed a home, a proper home – an acoustically wonderful space.

So, you could say, Meera was built to house a piano.

## Story of the build

In preparation, I spent lots of time walking the build site, dragging around and laying down bits of curved timber from an old winery sherry barrel. I was clear that it would be circular with a spiral, but would it be nine, ten or eleven metres in diameter? What was just too vast and what was penny pinching? Fortunately my daughter steered me





From rough first drawing to model.



Pondering the centre and rough layout.



away from the eleven – too big and cavernous for my needs – and I settled on the nine metres, for its capacity to hold the very occasional crowd of 40 for concerts yet still have enough intimacy for music lessons on a daily basis. I knew I could make use of indoor plants and screens if necessary, to bring the size in.

What would be in the spiral and what would be in the gentle curve by the door? Eventually it felt just right to have the kitchenette as part of the small curve, where visitors and students could be seen arriving, and use the spiral for a day bed/ resting area – our womb room. Seeding my thoughts were the Pantheon in Rome and the Harem in the Topkapi Palace in Istanbul; they provided the daybed inspiration. I wanted no centre pole; with no idea how that could be solved, I knew there were better technical heads than mine to solve such elevated matters.

The official brief for building designer Annabel was to plan a non-habitable building to act as a music studio.

## Angel builders

I knew couldn't do it all myself; I had a compromised back and didn't have the skills. Two angel builders, Mystee and Peter, appeared and committed for the long haul; both with life-long owner builder credentials and trained at Cal-Earth, the California Institute of Earth Art and Architecture. They had a wealth of collective skills and experience with timber, were able and willing to solve issues in the moment, and to recycle what I had around to save me money.

Mystee co-designed and created the mosaic that catches and throws reflections of the sun as it moves across the sky. Peter created the Douglas fir timber door with its triangular windows (Mystee's design) to catch the god-beams in winter, which I had noticed as I stood at the future fireplace one frosty solstice morn. My own little Stonehenge moment. The double doors use the Golden Ratio proportions – Peter's idea.

## Snaking earthbags

The footings were dug by a local farmer with the help of a team of volunteers. It wasn't long after this that we started seeing the recycling potential of the ubiquitous broadacre cropping silo plastic that often flaps randomly around our country side with no properly thought through recycling set up. Don't get me started on that one! This tough plastic saved me \$70 in builders plastic; it was used over and over as a base for the concrete mixing dance, as floor protection during rendering, as templates for the wrap around cushioning and on the roofing tyre ridges as part of the water run off strategy. And I'm still using it to inhibit couch grass in my garden, with one side a sun soaking black.

Up went the walls, with snaking earthbags encircling the spiral shape. The fill mix was simply scoria for insulation, strengthened with a cement mix around the windows, halfway up the overall height and again at the top.





*Left page: Marking out the site, cleaning up the footings, filling bags with scoria, tamping bags, recycled plastic and reinforcing mesh added, cement slab complete.*

*This page: As the walls rose, the window spaces framed the views; plenty of manual labour was required in building and rendering the curved walls.*



*The inner galvanised steel ring acts as the centre support for the rafters, with the outer edges secured to the giant nine metre diameter metal circle fabricated with 50mm pipe. Marine ply covers the rafters, then tyre 'tiles'. Batts insulation was fitted between the rafters before internal timber ceiling lining boards were fitted.*

Scoria was Meera's biggest carbon footprint component; it comes from areas in southern Victoria, but it was chosen for it's wonderful insulative capacities

## Roof engineering

In walked the ever practical and innovative (of necessity) skills of the farmer. If you are going to build using a completely different design and materials, it can be useful being married to a fixer and solver; John had experience with grain silos and how they have a ring beam to prevent bowing out with the weight of the grain, he's built sheds and is a smart cookie with maths. Using a pipe bender, he incrementally shaped 6 metre long 50mm galvanised pipe into

a giant circle nine metres in diameter and welded on vertical 'stands'. With the help of Peter and sundry golfing mates, the epic visual grandeur of the ring being dragged across the paddock unrolled before my eyes. Over a couple of fences, around past the dam and safely raised with much mutual shouting and instruction giving, it was the Wimmera version of biblical. The giant ring was snugged down with metal strapping around the top snake of bags.

This was eventually followed by more ring raising wizardry using the front-end loader to place the central galvanised steel ring. This would later be adorned with the wonderful snake mosaic and be Meera's oculus, with our wide Wimmera skies and jewelled stars visible above.

## Re-tyred

The roof is covered with 'tiles' made from cut down speedway tyres. Annabel had suggested it's possibility. After a lot of looking around, I had given up because of the awkwardness of a machine that would have to spit and grind its way through the metal they have in car tyres, which didn't feel like the spirit of this non-hard hats Meera build.

And then, it happened... a random question during a rendering weekend working together on the wall, 'Unmani, what about the tyres idea for the roof?' A student piped up, 'I can get you any amount – my kids go speedway racing and there's no metal in them. They get used once in the race and then go on the



scrap heap.' In the end, about 445 tyres were towed back from the raceway after race meetings, processed ready for the roof and delivered to the farm in rubber tyre strips on a neat pallet, free of charge by this same generous local student.

Peter had experience with shingle tiling roofs and came up with a solution as to how the circular roof could best be done, using a 'bespoke' frill look with cut-to-order tiles down the 13 ridges created by the internal principle rafters.

### Judicious design

We live in a searing summer climate with climate change showing no let up. Several plugable ventilation holes, using PVC pipe through the wall, were placed

discretely under the wraparound seats, creating a flow of cooling air to travel up through the oculus, which can be raised electronically when needed. At this stage there is no airconditioning planned, just judicious use of evening ventilation according to the prevailing breezes, assisted by the mass and insulation of her walls plus the double-glazed tilt-and-turn opening windows.

I was also influenced by the Rudolf Steiner idea that, when incarnating, we come to the earth in a spiral, and that so many natural phenomena – from celestial to nautilus shells to the double helix of our DNA – are spiralled. There's stuff we notice in a round building now; how the wind moves, how we hear sound, how you can be more in touch

with the sun, moon and other planets across the sky. The sun throws reflections and little dancing orbs via the oculus onto the bench and walls. It dances off the reflective mosaic pieces at particular spots in its arc.

### What's in a name?

I knew I didn't want 'The Dome' or 'Unmani's Sound Shell' – they were too clunky and not individual enough. The name came in the night as I pondered women in history who were musicians and dancers. Meera was a 16th century Hindustani wealthy woman who threw it all in to dance and sing ecstatically for Krishna. Yessss, that'll do, I said to myself. But I needed to test it by sound.



◆ **Inspiration**

The Duomo in Florence, Pantheon in Rome, Ulm Minster in Germany.

*The Hand-Sculpted House* by Ianto Evans, Michael G. Smith and Linda Smiley  
And every fairy martin, welcome swallow and mud nest builder that ever lived.

◆ **Meera Studio**

Piano, violin, singing and accordion tuition, live and online, with Unmani Music.

0408 103 194, [www.unmani.com.au](http://www.unmani.com.au)

◆ **Cal-Earth**

Build with their own hands, using locally available earth, sandbags and barbed wire.

[www.calearth.org](http://www.calearth.org)

◆ **Annabel Mazzotti**

*Design & Drafting*, 0423 326 871

◆ **Big Sky John**

*Resident geologist, farmer and sky watcher.* 0428 596 246

◆ **Minna Graham Ceramics**

0407 818 609,  
[www.minnagrahamceramics.com](http://www.minnagrahamceramics.com)

◆ **Curtains by Robyn Creek**

03 5382 4219,  
[www.curtainsbyrobynecreek.com.au](http://www.curtainsbyrobynecreek.com.au)

◆ **Mystee Unwin**

0418 344 585,  
Instagram @mysteriosadeliciosa



Next day I walked around inside and whispered the word 'Meera' into her soft, sandy, breathing superadobe walls and she gave me the nod. She gets the personal pronoun now, and somehow that brings the building closer.

Like a beloved ship, she has gravitas.

**To be revealed**

On a daily basis she will be a live and online space for teaching piano, violin, accordion and singing. On a less regular basis, she will be used by a local choir, for various family parties and ad-hoc music making. Bands will be able to hire the facility for recording albums. Waterbirths will be possible using the space in the womb room curve. Yoga,

tai chi, dance, drama, personal growth workshops, art exhibitions, and parlour concerts of all sorts are possible. Weekend music immersions, mixed with our other offerings such as sky gazing with my astronomer husband John. The local region has a painted Silo Trail innovation winding up through the Mallee country and Meera is at the start of the entire journey. Tourists could enjoy her as well.

In short, her uses for the next several hundred years are still revealing themselves. There's something about the stark beauty of our big skies and the unbelievable sunsets and sun rises that works alongside Meera – she is so right here. ◆

***Dreaming it in***

You are a woman/man from a conservative background and don't 'believe' you can do it? I hadn't built anything, I was in my 60's with a compromised back when I started.

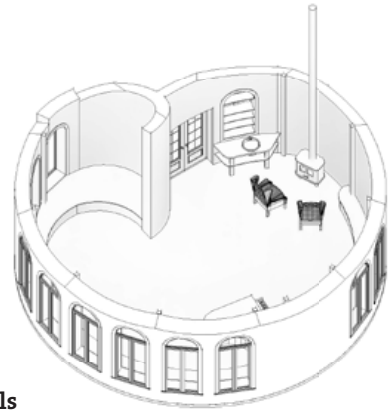
- Get onto the site every single day before one sod is turned – walk it, bless it, lay out hoses in the shape intended, spread out your arms to feel areas such as the bench spaces, pace it out. Does the building 'fit' you? Think of Leonardo da Vinci's drawing *Vitruvian Man* – the building is YOU, not the other way around.
- Do everything it takes to stay inspired, happy and excited about the project, no matter what, especially when the doubts creep around. Visit other projects, talk, phone, help others, drool over great books, pinterest – whatever it takes.
- The power of gratitude; there's something very humbling and powerful about saying a personal thank you. I went out of my way to say, email and phone people who were involved in any way, saying 'thank you'.
- Surround yourself with people who are practical, not afraid of having good ideas, and who 'get' the dream.
- Feed, water and rest the builders well – really well.
- Schedules can be killers. Set things up so that stress doesn't create mistakes and so that you can enjoy and celebrate each baby step. New and better design ideas need incubation times; we thought we were having a cupola (a dome shaped structure) on top of the dome, until my son saw the open glittering big skies, so now it's an oculus (an opening) framed by mosaics.



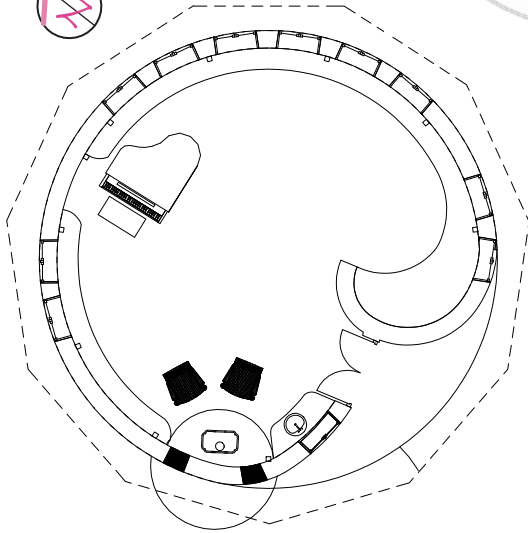


# 'MEERA'

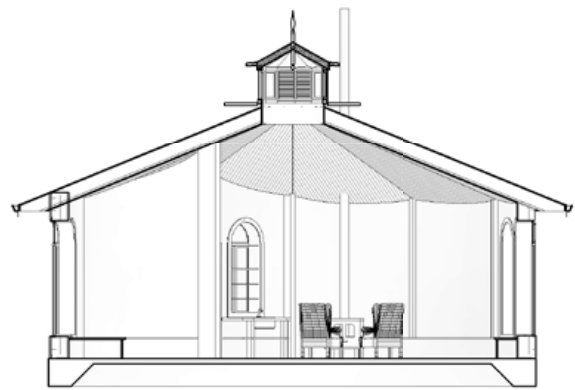
UNMANI'S SOUND SHELL



Internals



Floor plan



Section

PLANS: ANNABEL MAZZOTTI

## From Annabel Mazzotti, building designer

The brief from Unmani was to plan a non-habitable building to act as a music studio where she could teach piano and hold chamber music concerts. She told me she wanted to 'sit resplendent at her grand piano.' A room based on the Golden Ratio - she sent me a photo from inside The Duomo in Florence, that she had taken as a reference for the ceiling! Designing was done within the following parameters:

- With a tight budget, the \$17,000 quote for curved *PosiStrut* rafters to achieve the original dome plan meant we had to rethink the curve.
- The aim was for a grand music space combined with a cosy nestled natural hobbit building feel; I felt it was very important that the sound shell sat gently, not too high, and became part of the hill.
- The stepped surface of the windows, repeated in the walls, are what I took from the Duomo image; the multiple depths work to bounce the sound around. I consulted with a sound engineer who specified the basic principles we have stuck to, being uneven planes (the roof is 13 planes), multiple irregular planes (the central curve breaking the continuous circle, windows set to the outside, bench and kitchen tops at varying levels) and soft surfaces (earth walls and timber ceiling lining). The rubber tyre roof, double glazing and scoria-filled walls should stop all sound penetrating the walls, including rain sound from outside.
- The oculus is the light centre in the heart of the space, while the windows and the glass door are oriented to the cardinal points. The view, elements and features outside each of these aspects was also considered, such as seating, sunken gardens, sculptures, water bodies, pathways and a foot bridge.

Meera is designed as an energy amplifier. Unmani workshopped this in a meditation retreat she went on and returned with exciting sketches and ideas to incorporate into the design. It was amazing to work with her on this project, I am honoured to have been a part of it.

Peter was the perfect person for this job. He had just completed a scoria filled earth bag masterpiece and he was the only person I knew who would could birth this design and add his style to it, as it was meant to evolve. Peter brought Mystie and she added a whole new level of art and magic.