

# Notes on a meeting about the green-roofed veranda at Nightingale

**Held:** Monday 17 July at 3pm, Nightingale Garden

**In attendance:** Bob; Guy Belcher (City Council); Julian; Lois; Rebecca J.

## History of the project:

- Since the garden project started, we have talked about wanting an area that has **shade from the sun and also rain**. This would be for:
  - People to sit on a bench and enjoy the garden at any time;
  - Small groups to use when volunteers aren't around (e.g. for school bags);
  - The Nightingale Gardeners to use for Gardeners' tea;
  - Or for small workshops, when we don't want to put the event shelter up.
- We have also been keen to develop at least one **biodiverse green roof** – these create unique habitats for wildlife and are attractive all year around. They are also insulating for the area underneath and protect a flat roof from weather damage. The City Council is actively encouraging people to incorporate/add them to residential and commercial properties.
- In Autumn 2016, we applied for S106 funding for a 'green roof veranda' but were not successful; we also applied to Hill building for funding in 2016/7 and received a smaller sum (not enough for the project), which we are spending on the new shed instead.

## This year

In April 2018, Rebecca, for the Nightingale garden group, applied to Cambridge City Council for S106 funding for a green-roofed veranda – this was part of their improving community facilities grants. In June 2018, to our surprise, we were recommended for funding, up to just under £15K. S106 are funds levied from large developments, such as Ninewells – so not from our tax-raised Council funding.

- We are still waiting to hear from Community Services about the details of the funding, but in a pre-meeting we agreed that the Council will hold the budget, which also means we can avoid paying VAT. Guy Belcher is going to project manage the build, as he did for our previous grant. It will become, like the new shed, a City Council asset. We will need to think about insurance for it.
- Guy thinks we can aim to do the build in Spring 2019, which would also be good for establishing plants. [We might be tight on funds for some of it and might need to do some fundraising if we are short].

## Meeting on 16 July:

On 16 July, Guy came to the garden and a few of us discussed with him some 'design options'. Julian marked out an area in front of the club hut, trying it out for size with a table and chairs and making sure it doesn't get in the way of Louise and other wheelchair users getting down the slope.

Some decisions to make, for discussion with the Nightingale Gardeners Group:

1. **Function:** we want a flexible area that is mostly used for sitting, looking and chatting but can be used for doing and making things.

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- a. **Access:** we would use the opportunity to level the area in front of the club hut and we might be able to contour the slope a bit to make it better for wheeled (and unsure on their feet) users. The covered area would have a generous front opening between the central two posts (in line with the serving hatch) and another at the side near the club hut door. We could have a hip-height rail between the front posts and infill under it in some way (this could be retrofitted).
  - b. **Education:** we think we will, at least partly, fill in the short side by the current bug hotel, this could be with bug hotel materials on the outside and with, maybe, a noticeboard on the inside. It will allow us to give the structure more bracing and give that inside corner a bit more privacy and shelter from breezes or sun.
  - c. **Seating:** we could make a fixed bench to the right of the club hut window, by the filled-in side wall, which gives a view down the centre of the garden. We could make a moveable wooden table, maybe narrower than our current folding tables, and leave some plastic garden chairs out to put around it.  
**\*\*we need to check with Bridget at the Council about this – tables and chairs were in the revised application\*\*.**
  - d. **Safety:** we won't have a fixed ladder to access the roof but will assume that the kids who occasionally climb up, walk and sit on the sloped roof of the club hut will also climb up and walk on the green part. We won't have a balustrade around it and, if they fall off, they will fall onto grass. We do need to be a bit wary of heavy things on the roof that might get thrown off and around (and especially into the pond).
2. **Look and feel:** because the structure will need to be sturdy (green roofs are heavy), and we are not sure how long the club hut will last, we thought it would be best to design something that looked 'nature reserve and educational' rather than 'pretty old-fashioned bowling green pavilion'. It will look 'contemporary', maybe a bit Japanese in design, with chamfered roof joists and a cantilevered overhang.
  3. **Link to the club hut,** for practical reasons, we think we will design the green roof to be self-supporting; it will just cantilever over the front edge of the club hut roof to provide weather protection.
    - a. We will continue to collect rainwater from the club hut roof into the water butts so will keep the **downpipe** by the bug hotel, setting the new structure away from it.
    - b. We need to **re-clad** the front of the club hut – it is no longer water tight and has lots of gaps. We could clad it in horizontal or vertical wooden cladding or use a solid-sheet material. It could have one or more noticeboards or painted black boards.
    - c. Part of the grant is to install a **serving hatch** (probably a front-opening two-part window). This would have a protective shutter, secured by a padlock. It will allow us to serve drinks from the inside of the hut but also help with ventilation in hot weather and we can also access the electricity supply more easily and safely. When the new shed is functional, we will move the garden tools and some of the furniture out, and start to make the club hut more cosy

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and social. Adding some insulation would be great (but we don't have funding for this yet).

4. **Materials:** we will suggest natural, unstained wood, maybe **Douglas fir**, which can be grown in the UK. Other options are to use engineered wood (like exterior glulam) or to use a steel structure. They might be too expensive (Guy will check) or difficult to source, and steel could be harder to attach things to.
  - a. On the underside of the roof, we will ask for **natural wood beams** (maybe Douglas Fir) with a waterproof plywood sheet above it. We could paint the ply or just treat it. It should be well protected from the rain and sun.
  - b. We will need to make a floor for the area and are currently thinking about **simple concrete 'council slab' paving** – it is simple to lay without the use of lots of concrete, it is good for accessibility (it doesn't move much) and is easy to brush clean. Guy will see if he can source any second-hand slabs.
5. **Design:** we will need a proper measured design. Guy is going to use his contacts, including at the Council, to design something for contractors to price up and refine (he is also designing something very similar for his garden). We will need a **structural engineer** to check the loading.
  - a. We will base the design on green roofs made according to the '*Small Green Roofs*' book and **DIY Green Roof Guide** on [greenrooftraining.com](https://greenrooftraining.com)<sup>1</sup>. We have seen these roofs, including in a community garden in London and a nature reserve in Essex, and talked to the designer makers (Rebecca and Julian have been on a day course with them too). Ask Rebecca to see the book and print guide. They have a **sturdy wood beam construction**, with a deep roof, lined with **geotextile** and **butyl pond liner** on a plywood base. From the ground, you see a wooden edge (or they can have a gabion edge). We would probably specify a wooden edge – they are easier to make and might look better.
  - b. We would have a **slightly sloping flat roof** from the front of the club hut about 3 metres long, with a 400 to 600 mm overhang. It will be almost as wide as the front of the club hut, which is between 6 and 7 metres.
  - c. We will build in a **drainage gulley** all way around the roof, at least 100 mm wide. This can have small rocks in it. It stops the fine substrate draining away.
  - d. When rain falls, it takes a while to percolate through the green roof so you get less water draining away from it and more slowly. We like the idea of using **rain chains** as 'downpipes' into small raingardens at the bottom. One on each front corner. Or we could use drainpipes. Butyl channels are welded to the butyl liner above these 'holes'.
6. **Construction:** there might be elements we can get involved with (e.g. infills, shutter, noticeboards, furniture and bug hotels), but the main construction will need to be done by professionals.
  - a. For projects under £15K, the Council require **three written estimates**, which can be from people we identify. We have been advised we need 'a good carpenter'. Let us, or Guy, know of anyone you know to be good. People who

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<sup>1</sup> <https://greenrooftraining.com>

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make garden offices should have the right skills and be flexible for design and there are several local firms e.g. <sup>2</sup>

- b. If we can, we'd like to avoid digging deep foundations for the supporting posts. We will see if we can attach the posts to **cast concrete plinths** (with bolts). We have seen these in a nature reserve and also at The Centre for Alternative Technology in Wales. They work well and look a bit 'different'.
7. **Green roof:** we will ask for a deep roof **\*\*at least 150 mm\*\*** deep. This will allow us to grow anything we like (except trees!) and we won't worry about people going on the roof for maintenance (or heavy snow).
  - a. We will design the planting area as a **varied mosaic**: we like the idea of re-using some of the **bowling green clinker** as the substrate for at least some areas. We can purchase **crushed basins and loos** for some of it. We can use **sterilised soil** to avoid too many dominant weeds. We can lift some of the **existing turf** from the area and try out some **chalk soil**. We can have smaller areas with a **sandy mix** for solitary bees. We could put some **logs** and **hemp rope** on the roof (but are slightly concerned they might get thrown off the roof). We can enjoy planning this later on.
  - b. We'd like to **fill with substrate and plant** up the roof ourselves. We need to be very careful not to puncture the waterproof lining!
  - c. Rather than having a uniform drainage layer across the green roof, we can design **drainage channels** of larger stones so some areas will be dry most of the time and others can be damp.
  - d. Guy has had success using Emorsgate wildlife seed mix on the crushed basins mix at Bramblefields local nature reserve. The crushed basin substrate is cheap to buy but expensive to have it delivered from Essex. Emorsgate have a **Wildflowers for Green Roofs seedmix**, which suggests at least 75 to 150 mm depth<sup>3</sup>. Guy suggested we also add some sedum plugs (Rebecca fancies growing some from seed<sup>4</sup>), which can look good over a longer season.
8. **Maintenance:** green roofs don't need a lot of maintenance – a bit of weeding and unblocking channels. We can get onto the roof with a step ladder. The wood of the structure might need some treating from time to time. The bug hotels will need replenishing from time to time (we would probably chicken-wire the front).

### Next steps:

- Discuss with Nightingale Gardeners Group (by e-mail and including at the meeting on 22 July). Feedback any new decisions to Guy.
- Guy to try again to contact S106 people for details and timetable.
- Guy to talk to his contacts about design and engineering. Make a plan.
- Rebecca, and others, to start growing sedums.
- Group to start designing:
  - Planting area;
  - Fixed bench;

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<sup>2</sup> <http://www.myspacestudios.co.uk/index.htm>

<sup>3</sup> <https://wildseed.co.uk/mixtures/view/57>

<sup>4</sup> <https://www.seedaholic.com/sedum-roof-garden-formula-mix.html>

## Notes on a meeting about the green-roofed veranda at Nightingale

- Serving hatch and shutter;
- Moveable table;
- Noticeboards;
- Bug hotels;
- Infill materials under rails;
- Raingardens.