Options for long-term storage of the gear of NZLARPS Wellington Branch in Wellington city

The Problem

For the last ten years or so, the gear library of Wellington NZLARPs has been kept in the houses of various members, in garages and spare rooms. In recent memory it has been Chris Rosedale, Mel Duncan, Scott Kelly, and Malcolm and Donna in Palmerston North. This has had the advantage of being free but not all these locations are particularly convenient (not near town, or down many steps) and asking people to give up space in their homes and garages is intrusive and wears down on goodwill. Fitting the gear into the smallest possible space also makes it hard to use and causes damage in delicate items.

The gear is used by NZLARPs Wellington projects (with occasional loaning out to other NZLARPs projects), the larps at Kapcon each January, Hydra, and is rented out to non-NZLARPS projects (currently this is just Embers and Dry Spell). Many of these projects support the gear library in return by donating purchased equipment to the shed. Many members of the community (active larpers and otherwise) also offer potentially useful items to the library. The gear library is continually growing thanks to these efforts

A larger, permanent space with decent shelving NOT inside someone's home has the following advantages:

1. Easier to arrange for access. When the gear is inside someone's home, it means the person getting the gear and the homeowner need to coordinate a time to get the gear in and out. A shed or container outside someone's home allows the gear officer to arrange for a visit without needing the homeowner to be there.
2. Easier to get the box on the bottom. Without shelves, the box that contains the thing you need is inevitably on the bottom of the stack. This causes frustration and makes the process of getting gear out take a lot longer. It also makes putting things back in the correct box harder and therefore less likely to be done which makes next time much harder.
3. Everything has a place and everything in it's place. Speeds up gear extraction, speeds up putting it back. It will also reduce long-term cut costs as not misplacing things in the mess will cut back on the duplicate purchasing of things.

4. Easier to share the load among the community. In the past, the gear officer has also been the person in charge of storing the gear in their house - it was just difficult and awkward otherwise. With the gear being in a more neutral location, the responsibility to (organise the community to) take care of the gear can rotate through the members more often.
    a. This has the bonus of maintaining the committee members/volunteers goodwill better.

Mel's recommendation

My suggestion is that we get a 10ft container, and place it on the front section of Norms house. This will give us room for 40 crates (this is about the non-rationalised count of crates) PLUS some place for stacking things (eg gazebos). Weapons and shields can hang from the doors, or we can arrange the shelves so that they create walls they can hang from. The front spot is a bit more exposed, but the back spot has stairs which will potentially need to be navigated by tired people in the dark carrying heavy things. This would need about a day of landscaping the spot, perhaps a fence, and the container would cost around $3200 (plus GST, plus about $180.00 for delivery).

My second choice would be the 4x2m constructor container, placed either on the front or back section at Norms. The cost is not that much more, but they are shorter vertically and so give us a bit less options.

I recommend that we get three or four of the heavy-duty steel shelves, rather than building our own. This is cheaper and more efficient use of space. While someone else may be able to design timber shelves that occupy less space and be cheaper per are as cheap per crate as the steel ones, and scrap timber can be obtained (further dropping the price), the ease of construction and reconfiguring makes me think steel shelves is the best idea. This would be somewhere in the region of $400.

I think a 20ft container is going to be too big once I actually sketched out the floor plan. The constructor-crates are shorter vertically and so can only handle three crates in a stack, thus making them less efficient use of space, and being brand new they're more expensive for their floor space. However, either option is more long-term practical and less effort up-front than building a shed, as either container version is easily moved and doesn't need a floor to be built. Sheds also tend to be shorter (vertically) than a shipping container and will sometimes require permits.

My maths for all of these things is here:
https://docs.google.com/spreadsheets/d/1bSpfTq39t4DIay91Ey3_BA7_Xk5QgK4qzD1Cp5e-9j4/edit#gid=1665733994

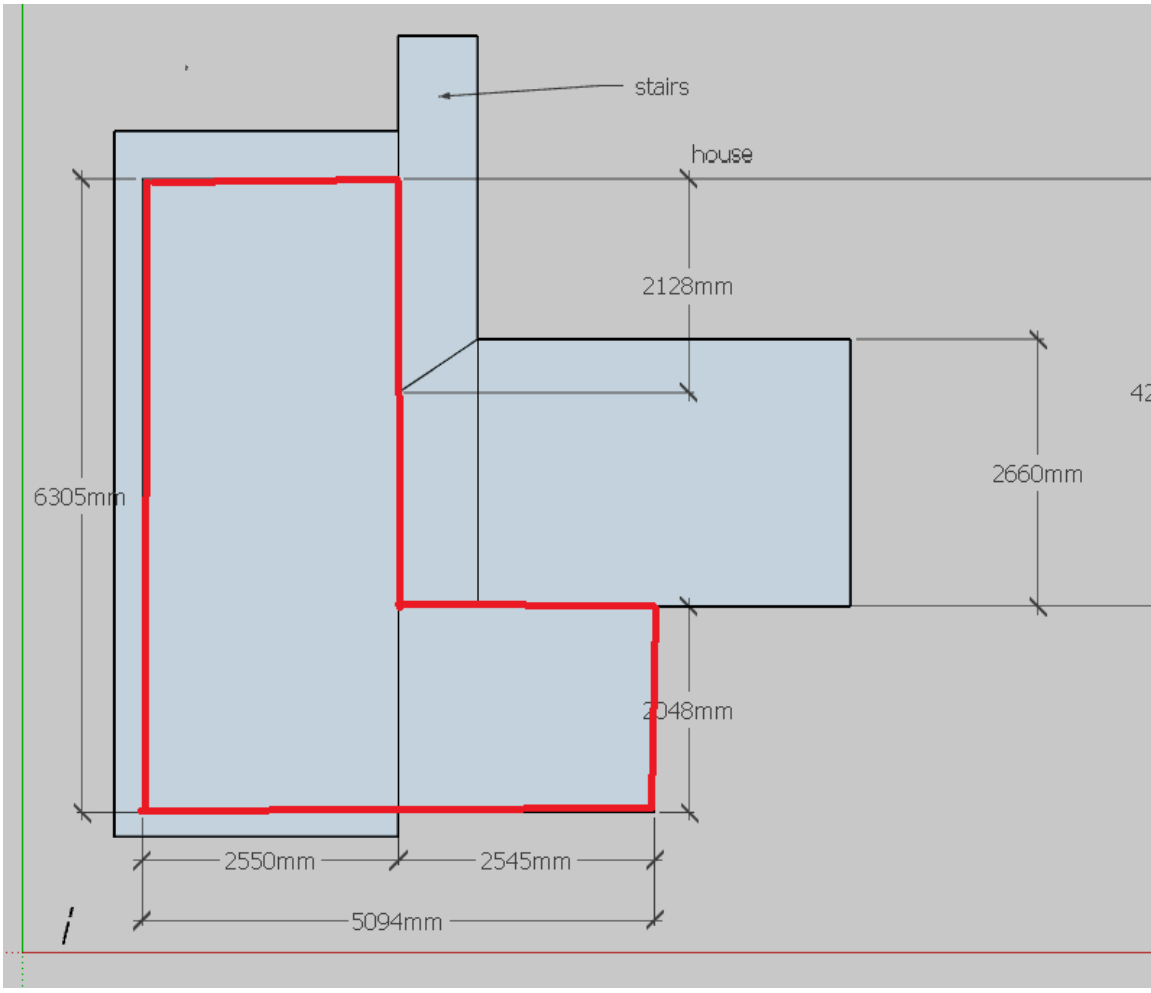
You can comment but not edit - if you want to add another option let me know. Please add comments to this document if you have stuff to say!

Locations

We currently have Norman Cates offering us to space on his property to install/build a shed, because he's a wonderful generous person. A few other options have been suggested as well, and in the interest of completeness I will list them out.

1. Norman Cates' house
    a. This is a five minute drive from the two venues we use most often in the city (Vogelmorn Hall and the Brooklyn Community Center). This is very helpful. He has suggested two locations on his property.

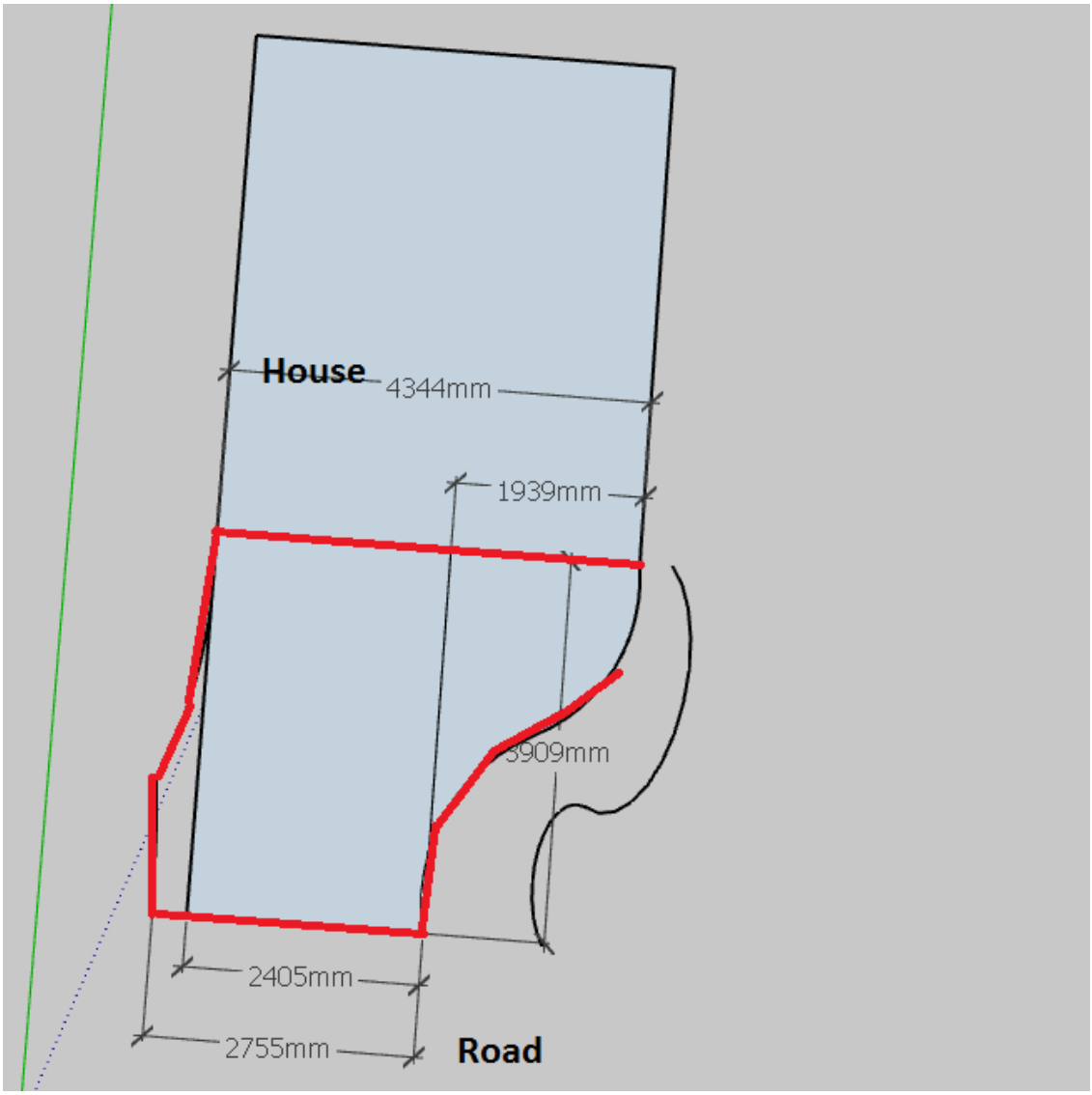
i.



The back area. This is down a gentle flight of stairs and is a well sheltered area away from the road. It would probably need a day or half-day of landscaping/branch removal in order to get a shed/container/whatever in the space. I do not think a crane will be able to get a shipping container into the space, but I am not an expert and would be happy to be surprised. The red area is (roughly) the area we could use to build/place something.

ii. The front garden. This is a flat area, on the side of the road. It would need a day of landscaping before we could install something. It would be less prone to flooding and/or landslide than the back area but much more visible from the road. I am pretty sure a crane could get a shipping container into the area. It also blocks a lot of the light going into one of the spare bedrooms.

iii.



These plans should be taken as indicative only, I'm struggling with some of the software and it would all need to be measured by someone who is better at it than I am.

2. Malcolm and Donna's place in Palmerston North.
    a. Malcolm and Donna sporadically mention that the gear could go back to their place. However, this is a roughly two hour trip (one way). Because they are also wonderful generous people. It would be workable for the smaller games (as they often attend and could bring the needed equipment), but it would cause huge problems for the big games where we want to take a substantial fraction of the gear.
3. Brookfields

   a. We primarily use Brookfields for the Wellington full weekend events - it's the right size for Wellington games, it's relatively close, it's a good price, and we have a great working relationship with the people in charge. We currently have an informal agreement to keep some things in their upstairs storage shed, and it's working well for us. It would probably be feasible to work out a more long-term storage agreement, and perhaps pay the costs to install a shed on their property.
   b. While this would make the large events we have on the site MUCH EASIER, these events are currently 3/year (Hydra and Embers 2/year), and it would make it much more trouble to get the gear for the smaller events held in the city (which happen approximately every month).
4. Commercial storage
   a. This option is suggested fairly often. However, with the current volume of games being run we simply do not have the cashflow. A normal sort of game run in Wellington brings in somewhere between $75-$150 and we run approximately one each month.
   b. Kilbirnie commercial storage offers a 2m by 3m shed for $236.50/month (including GST). Some storage companies do allow you to rent a slab of concrete to put a boat/car/similar onto, but Kilbirnie wasn't interested in letting us put a shed on their property. It's possible that another company might but I have not investigated.
5. Brooklynne's place in the Hutt
   a. Brooklynne is dear and sweet and kind and offered her place in the Hutt. This has the same long-distance issues of Brookfeilds without the bonus of being at the site
   b. It is free and fairly secure due to the number of houses nearby
   c. However it would also need some landscaping to get anything onto the property - digging and flattening, not just removing plants.
6. A community/council spot
   a. No research done yet

Sheds and containers

What we store the gear in could make a lot of difference in terms of stability of the walls and floor, resellability, and portability. They also have different consents issues.

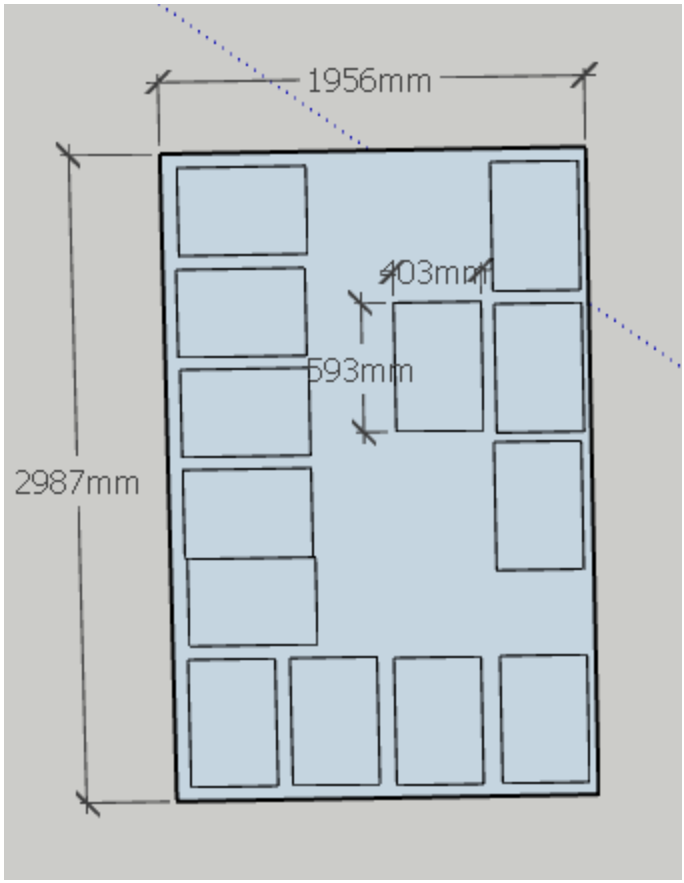
Second hand shipping container

1. Pros:
    a. These are sturdy, survive being moved and can be resold fairly easily (some of the sellers offer buy-backs).
    b. You can bolt things into the walls, and provided you do that carefully, they are water-tight.
    c. You don't need to install a floor, though the ground may need flattening or have some small piles installed to get the container to sit flat.
    d. They come in on a crane/truck (depending on location).
    e. If we bolt the shelves to the wall, we can move the container and all the gear without unpacking it. This will require a truck/crane and will cost money, but no effort!
        i. The container could be moved to Brookfeilds for the summer campaign/Hydra season if it turned out cheaper than a few rounds of van hire.
2. Cons:
    a. They can really only be moved on a crane or large truck.
    b. They cost more than sheds.
    c. Because it's not temporary, it will need a building consent.
3. They're about 2.4m high on the inside. They have double doors on the short side that can be padlocked shut.
    a. Based on the crates being 400mm high, and the internal height of the containers being 2390mm, you could stack the containers five deep if you were just stacking them. However, in order to make room for shelves and get the benefit of having shelves, I wouldn't want to go over **four** crates high.
    b. This gives room for a "smaller stuff" shelf of about 80cm, which is decent
4. 20 ft shipping containers are the normal ones you see around a lot. This translates to 6m X 2.44m on the outside. We have a quote for $2,150.00 ex

gst, plus $160 delivery (due to a mix-up, this is delivery to Wainui, town should be cheaper).

5. 10ft containers are also available. This is 3m X 2.44m on the outside. I have a quote for a “cut-down” one with one door, $3,200.00 (plus GST). This will fit about six stacks of crates (sitting with their long sides together) to the 10ft side, and the width is enough for two stacks without making the walkway too narrow to use. That would give us about 24 crates to each of the 10ft walls, and there are about 40 crates (and then cushions and gazeebos and other stuff).
    a. 10ft containers seem to be pretty universally more expensive than 20 footers. I imagine that they are in higher demand due to being more versatile.
6. If we place a container at Brookfields, it probably doesn’t matter what size it is. A 20ft container will not fit in either of the locations at Norms, although in the case of the back space, this is because of the location of the doors. A 10 ft container will fit with room to spare in either location, but I have no idea if it will be able to get it to the back one.

This is a quick sketch-up of a 10ft crate’s interior. Each of the smaller boxes is a blue 60L crate, to give an idea of scale.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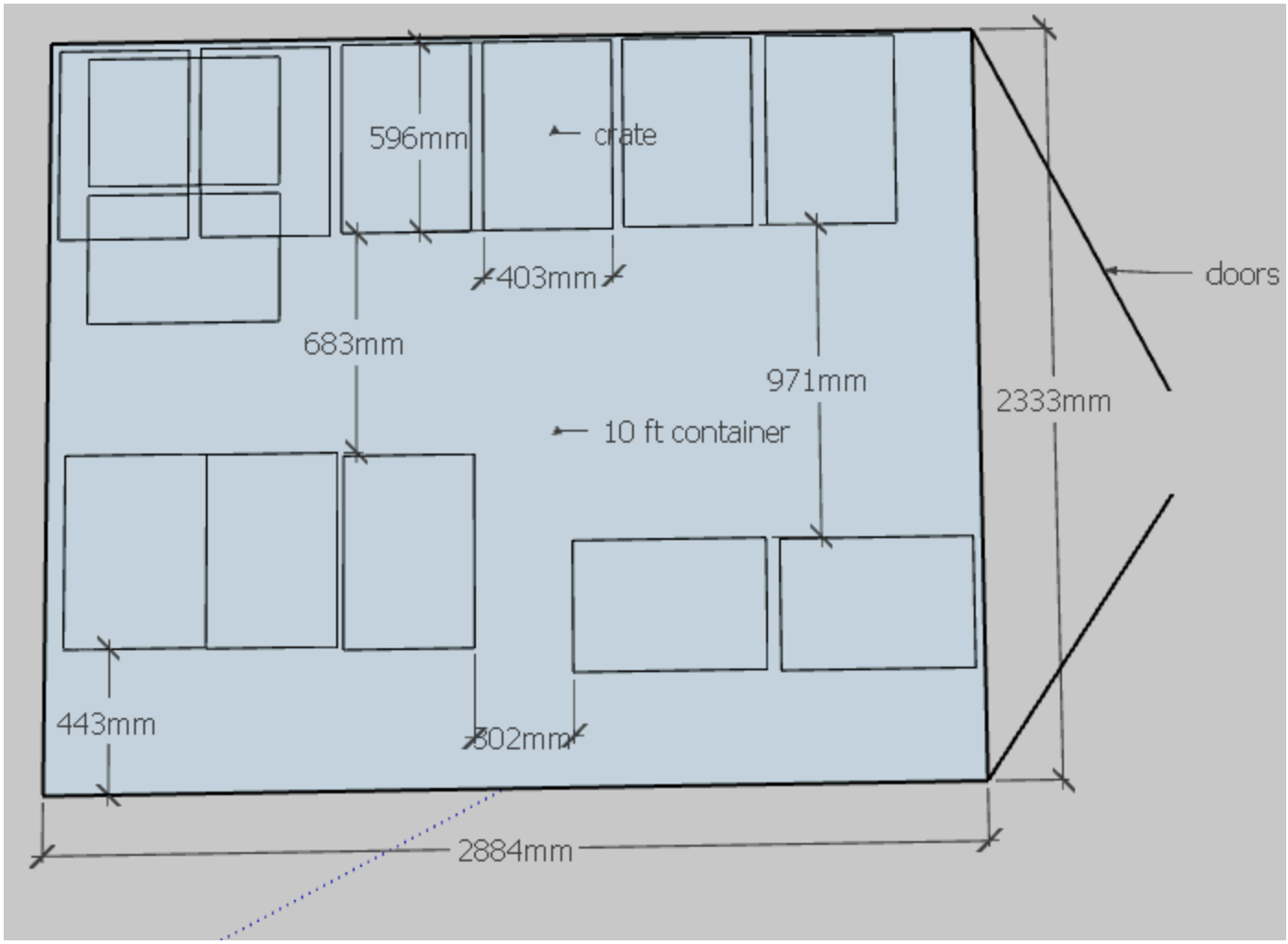
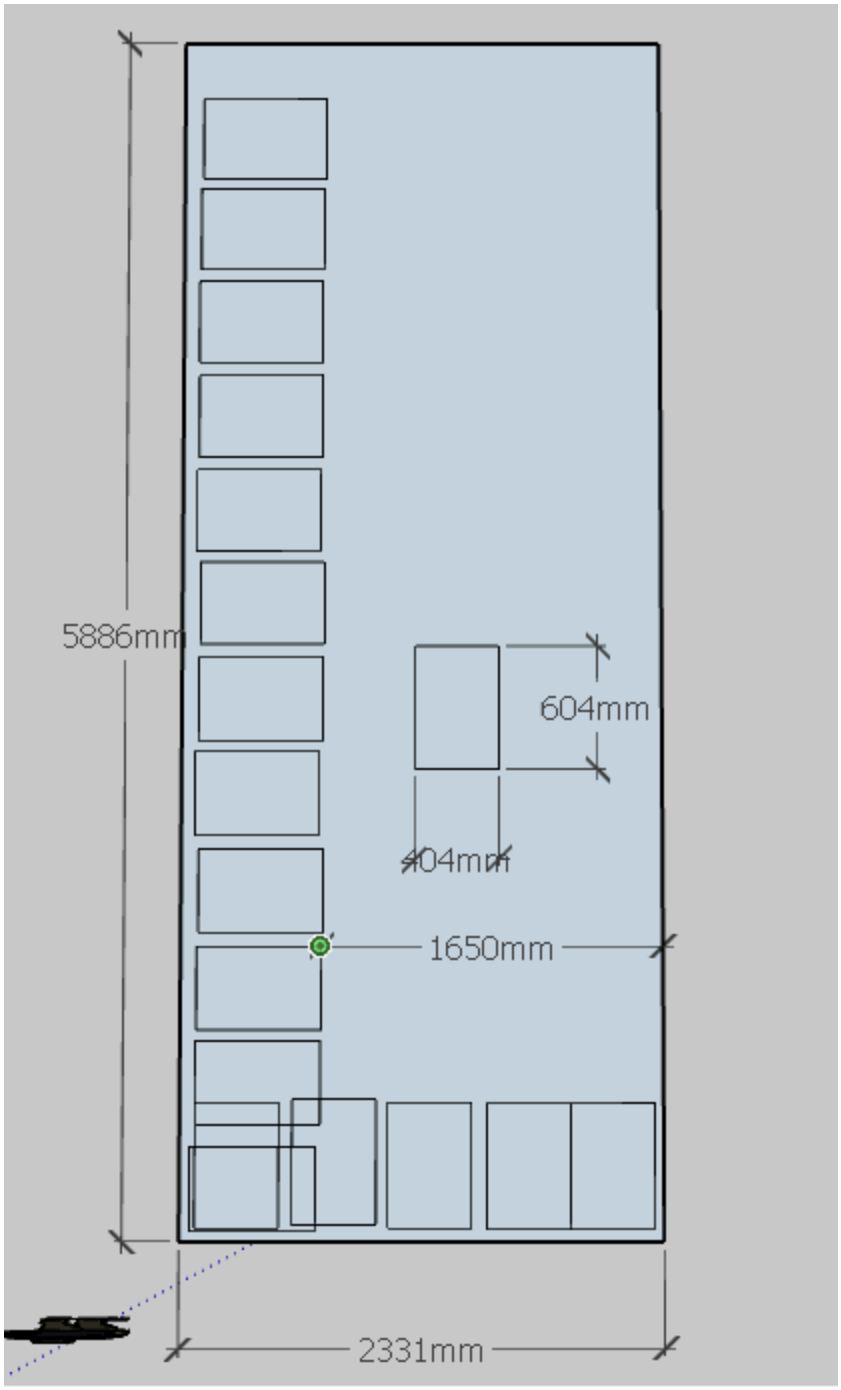


This version has another option for arranging the shelving which gives more “corridor” shapes for gazebos or similar.



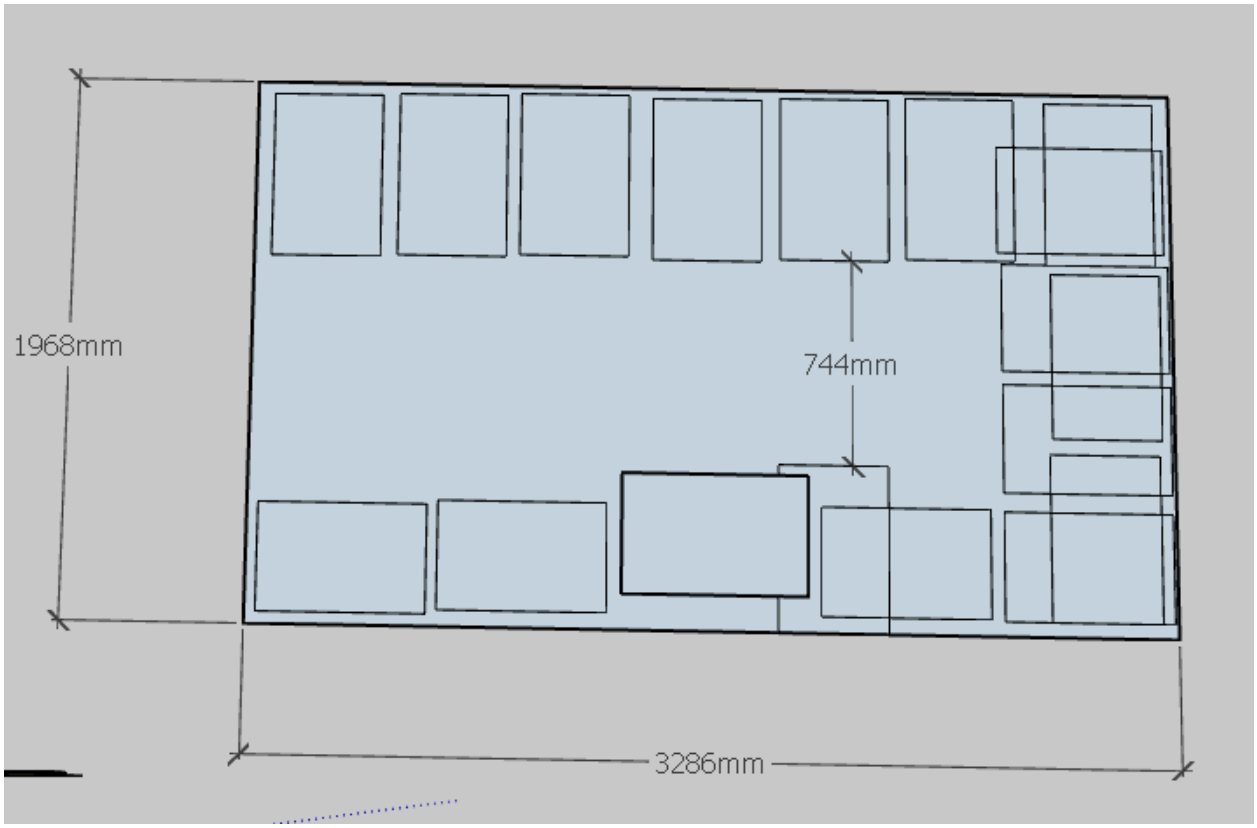
This is a 20ft container. I think this may be overkill. This gives room for 48 containers against one wall and then more than a 1.5m left over for the gazebos and things PLUS about an 80cm shelf on the top shelf for small things. We have a quote for $2,150.00 ex gst plus $160 delivery.

New Construct-a-container shipping container

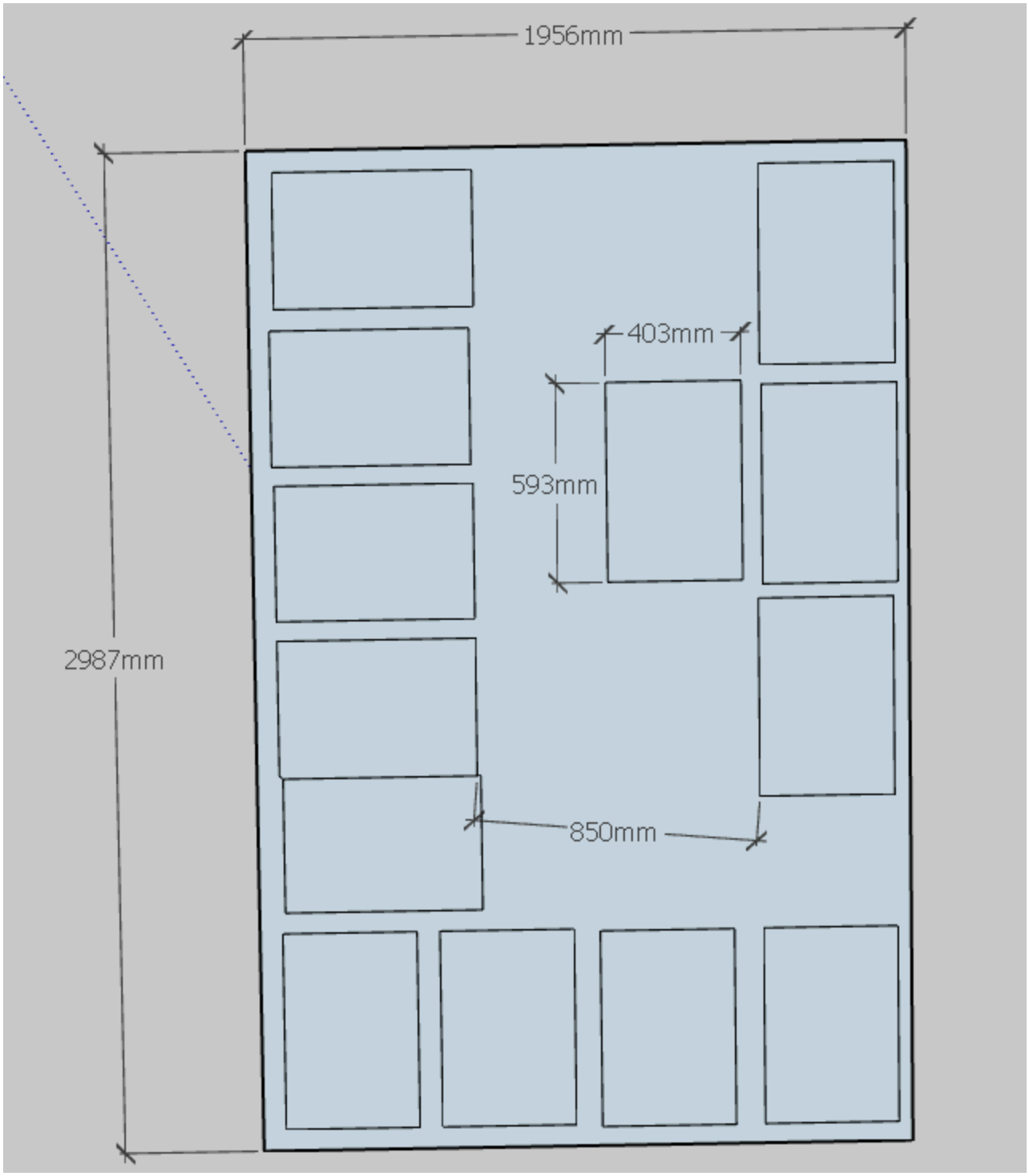
Norm found these: http://www.bosnz.co.nz/

There are containers that you build on the site you want it. They advertise that they're a no-tools required, done in minutes set-up, but I don't know anyone who has done one to ask.

1. Pros:
    a. Watertight
    b. Sturdy
    c. Build is supposed to be easy
    d. More flexible in design - can have the doors on the side for no extra effort/money
    e. Are advertised as being able to be resold.
    f. Don't need to build a floor
    g. Can dismantle it and move it quickly and easily (apparently).
2. Cons
    a. There is a building process at all - this adds to the effort involved.
    b. New, therefore more expensive
        i. For a unit about the same size a 20ft container, it is $3380 excluding GST, plus delivery
    c. Wind - these units are only rated to 160km/h gusts, which is about as strong as the big storms we had this year.
    d. If a shipping container needs one, this will need one
3. They are shorter vertically than shipping containers with an internal height of 1935mm. This only gives **three** crates high, and less room to put things on top of the top shelf.



This is a 4m x 2m. This will fit in the back section on Norms, and perhaps on the front one (depends on the angle of the path and the raised garden). This is $3450 excluding GST.

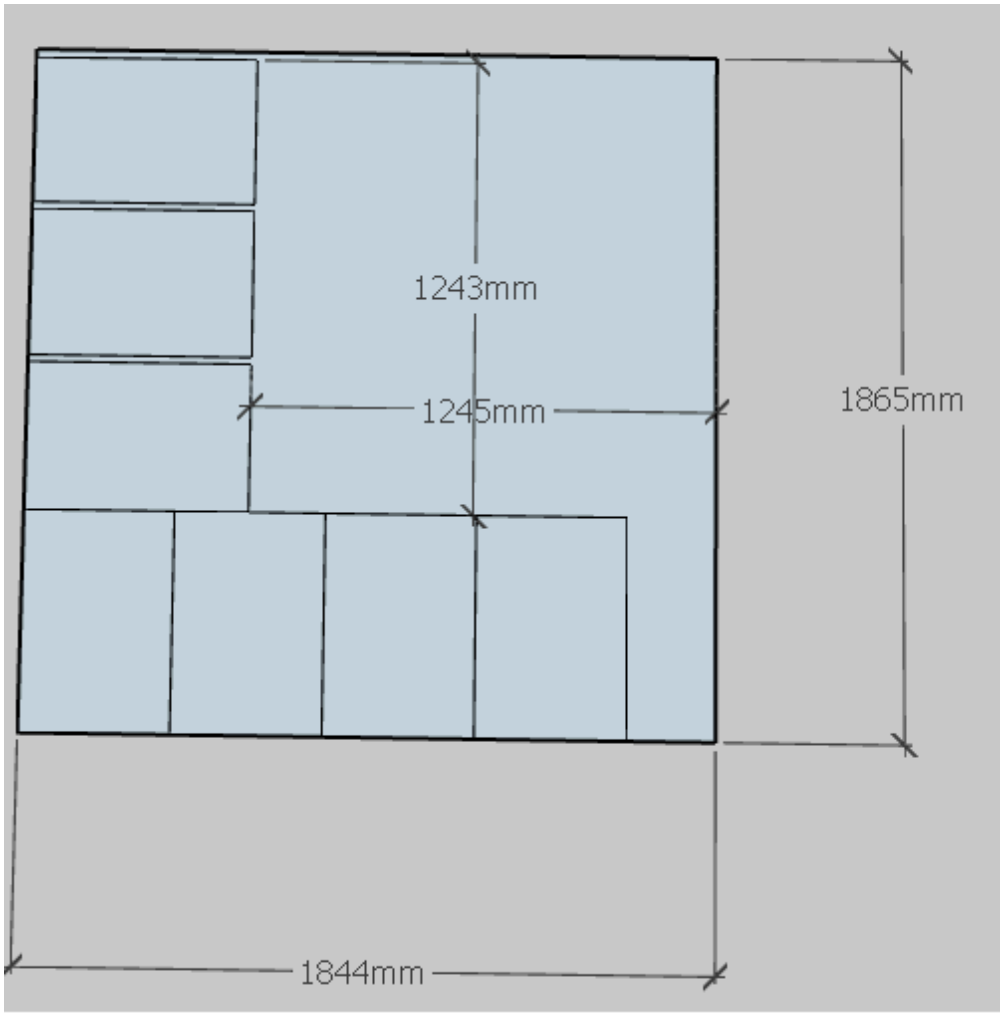


This is a 3X2 container. This will fit in either location in Norms place. This is $2950 excluding GST. The doors can go either on the side or the end.

Sheds

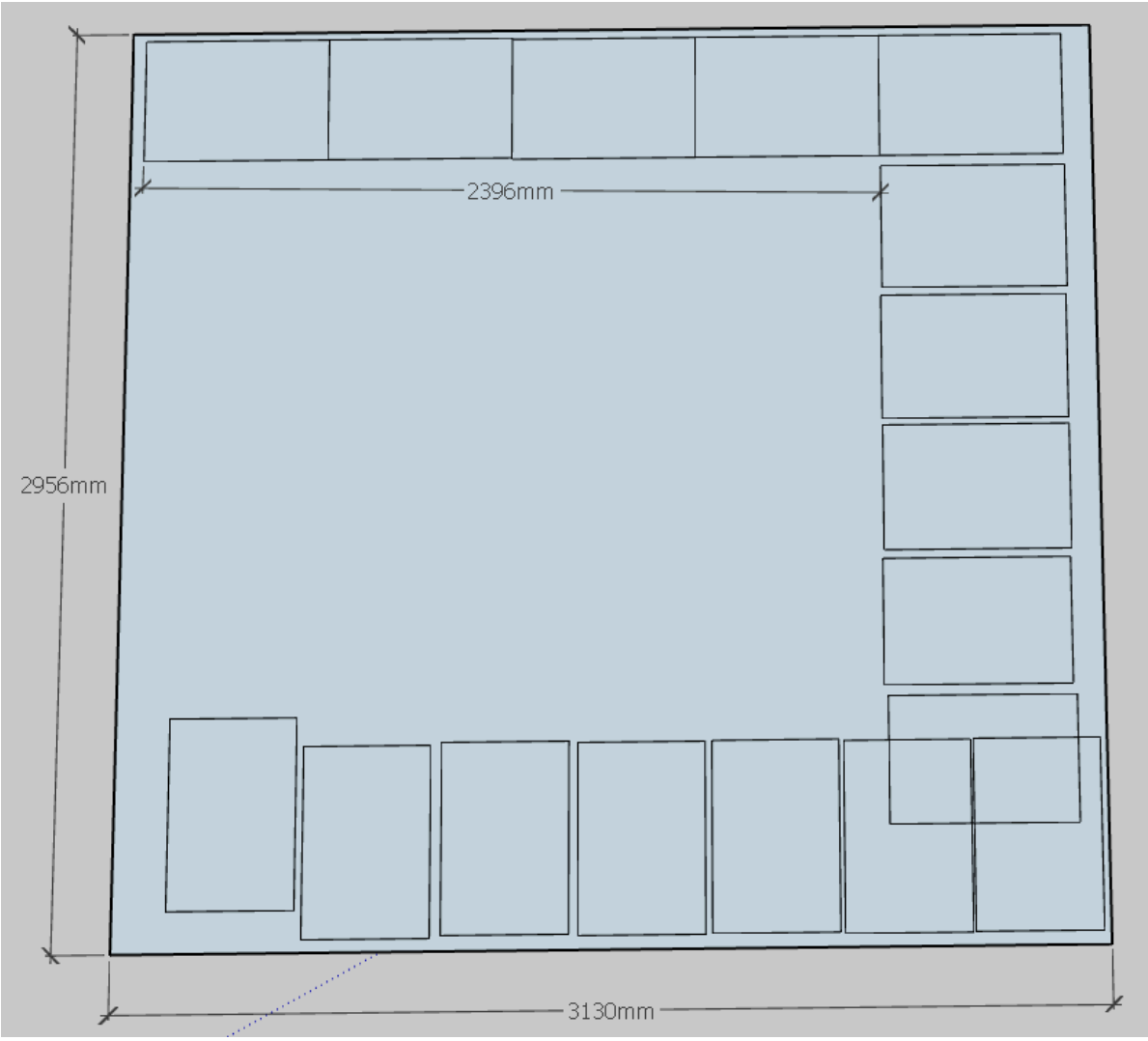
Garden sheds are widely available and are non-threatening.

1. Pros
    a. Relatively cheap compared to a shipping container, though delivery may be more
    b. Lots of possibilities and good sales are common.
    c. Jarrat and Evie are prepared to donate one to the community
2. Cons
    a. I am reliably told that some models are actually really difficult to construct
    b. Consent may become an issue
    c. Generally smaller than containers
    d. Needs a proper floor to be built out of concrete (wooden pallets can do in a pinch but not water-tight).
    e. Generally shorter vertically than either shipping container
    f. Will not move to a new location without a lot of effort
    g. Historically, these sorts of sheds have been known to leak and allow pests to get in. Either of those things would be quite bad for the gear we want to store.
3. Concrete pad
    a. I cannot find a decent explanation online of what to expect for the costs involved in this. My best estimate is $100 for a small shed but I wouldn't bet on that.
    b. But it will definitely add a weekend to the build time, and then it will need to cure for a week or a fortnight.
4. Free shed from Jarrat and Evie
    a. Shed is 185cm wide, 183cm deep, 190cm ish high.
    b. This would give us about 8 crates floor space without blocking the doors and still leaving room for other odds and ends
        i. But MUCH less space than a 10ft container.
    c. 190cm means it will only hold **three** crates high as well
    d. It will fit pretty much anywhere.



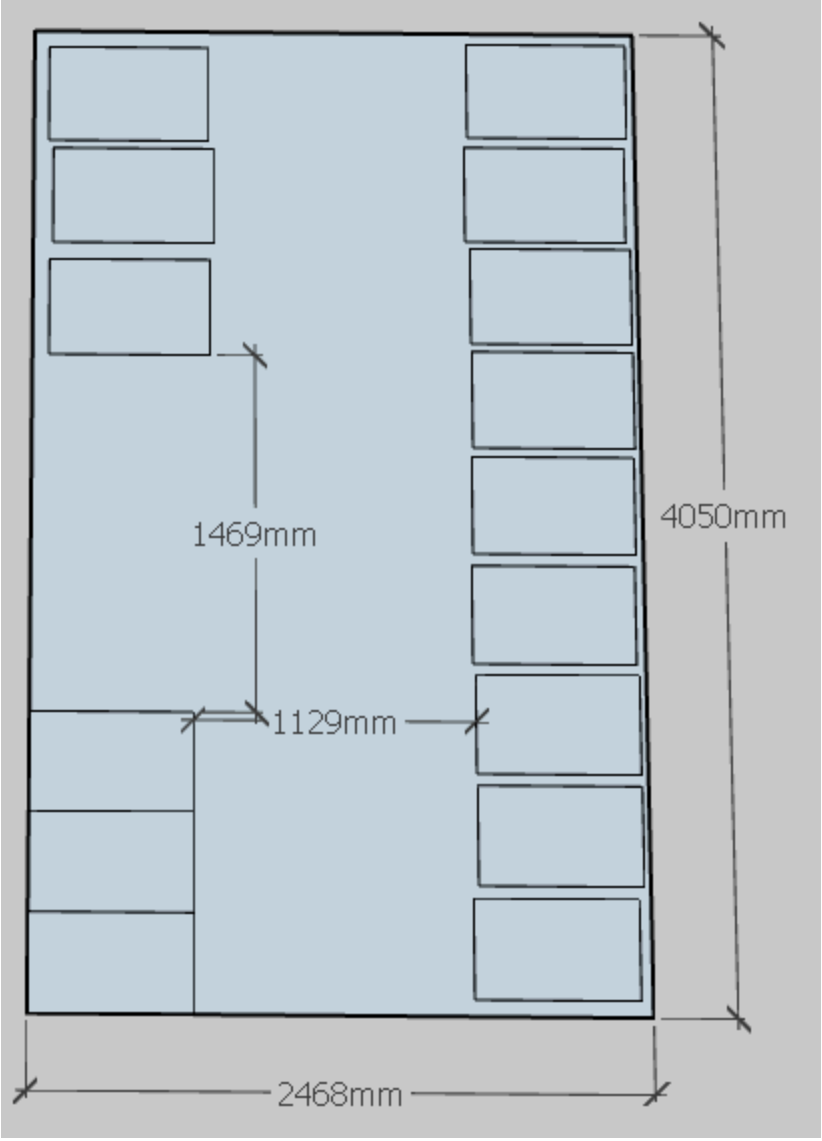
4 Another big option is the Toughout garden shed.(http://www.treasurebox.co.nz/outdoor-garden/garden-sheds.html?garden_shed_brand=11&gclid=CLzCg-jypNMCFZoGKgod9zIHeg)

This was $850 on sale but is currently sold out from the website.



These are 177cm at the lowest point of the roof, so will only hold **three** crates high. This MIGHT fit on the front space at Norms, but not the back. (http://www.treasurebox.co.nz/garden-shed-2-97m-x-3-12m-x-2-05m.html) the doors are in the middle of the wall)

This is another toughout shed, which is currently available. It is $900, and we'd probably need $200 of concrete. Again, it will only hold **three** crates high. It will definitely fit on Norms back space and maybe on the front one.
http://www.treasurebox.co.nz/toughout-garden-shed-4-08m-x-2-47m-x-2-05m.html



I’m not going to map out any further sheds, because there are literally hundreds of available options.

Shelving

Part of the appeal of getting a shed is that we can get some decent shelving in, and make it hugely easier to get everything. There are two main options for this - custom built timber shelves, or steel shelves purchased from hardware stores.

Having looked into it, I think steel shelves are the best option.

Steel shelves

1. Pros:
    a. Quick to build, no tools required
    b. Can be quickly reconfigured into hundreds of permutations
    c. Most are built to take 200kg/shelf. I doubt that any of our crates exceed 30kg and each shelf would take two or three
    d. Generally shorter shelf profile, meaning more crates for the same vertical shelf height
    e. Can be set up away from a wall and still be stable (this would allow us to make stacking space behind them, for eg for the cushion pile).
2. Cons:
    a. Rust could be an issue
    b. Expensive to fix in the unlikely case of repairs being needed
    c. Not QUITE of flexible as building whatever we like
3. Bunnings has a wide variety of options.
    a. My preferred option will hold three crates (long sides together) a shelf and would do four shelves with a spare shelf left over. This is “Handy-shelf”. The shelves are 609mm deep and 1219mm wide (a crate is 400mm by 600mm) and you can put the highest shelf at 1809mm high.
    b. They’re all in the $89/$99 region. They come out at about $9/crate for shelving
4. Which is the best unit to buy depends entirely on the shed we end up with. But I’ve checked out a couple of permutations and any option seems doable.
5. I would expect the shelves for 40 crates to cost about $400.

Timber shelves

1. Pros
    a. Can get literally any permutation we want
    b. Can make some shelves lighter and others sturdier
    c. Could get scrap timber to further cut down on costs
2. Cons
    a. Really needs to be built up against a wall
    b. Very slow to build and need to built precisely in order to fit the space
    c. Very slow to reconfigure

    d. Much more expertise required to ensure that the shelves are sturdy enough to do the job
    e. Unless someone smarter than me does it, more space required per shelf vertically.
3. Based on making the shelves out of 3x2 (cheaper than 4x2, but still definitely sturdy enough to take the job), it would be about $15/crate for shelving.
4. This would put the cost in the realm of $600 for 40 crates