Scott Kelly Critical Analysis

Key
Green = Useful
Blue = Not Useful

ATL Link

This research shows Research Skills and communication skills in inquiring about the correct footings for my project

Link to Criteria

“The Structure will be safe”
-or something like that

Global Context

Creating the footing is adapting the ground to my needs

Scientific and Technical Innovation
How Humans adapt the environment to their needs

Learner Profile Link

Inquirers

Why did I select this resource

I knew Scott and he has experience in creating large structures (shade sails) and I needed to find information on creating concrete footings for my structure

How I can apply this information

This has given me some incite into how to construct my footings. This project will need a lot of cement and I will need to investigate where that will be supplied from Scotts footing will be adapted as his footing uses excessive amounts of concrete and will be overkill for my structure

This is true and the main footing should be built to stop this for moving and falling over as well as to prevent it's weight sinking into the ground

Movement is a consideration but the tie wires anchoring these cages to the main structure should suffice

From: "Scott Kelly" <scott@shadeengineering.com.au>
Subject: RE: John's Personal Project
Date: 18 September 2016 at 12:17:55 PM AWST
To: "'John Wallis'" <19walj@helena.wa.edu.au>

Hi John,
obviously the greatest mass is in the centre of your structure, where the 2x main rock features are and this is what would need the greatest support.
The outer sections appear to be significantly lighter - the 300mm high rock sections at either end will also need a reasonable foundation to stop these sections from moving.

I would think the footing spec for your design would not need to be any bigger than one of the footings we used for the tensile membrane structure at the GFC oval.

These are irrelevant but the help to put the project into perspective

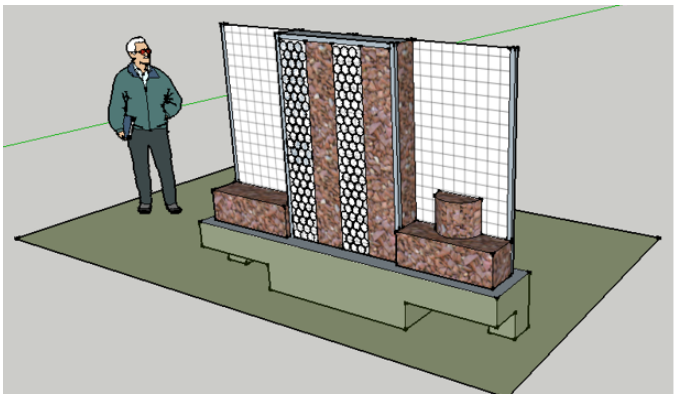
The restrictions of this site at the school (the limestone terraces and underground rock) meant we had to deviate from our standard footing design options - either a mass PAD footing or bored PIER footing.
Instead we used a STRIP footing detail – see photo "IMG 1353" and spec "1167_001" attached)

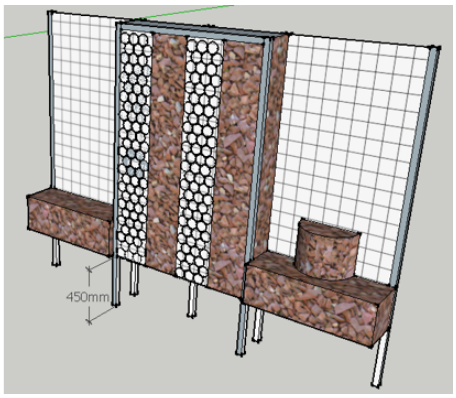
Based on your drawing, I think your structure would look something like this –

These Models will be useful for explaining to people what my product will look like.

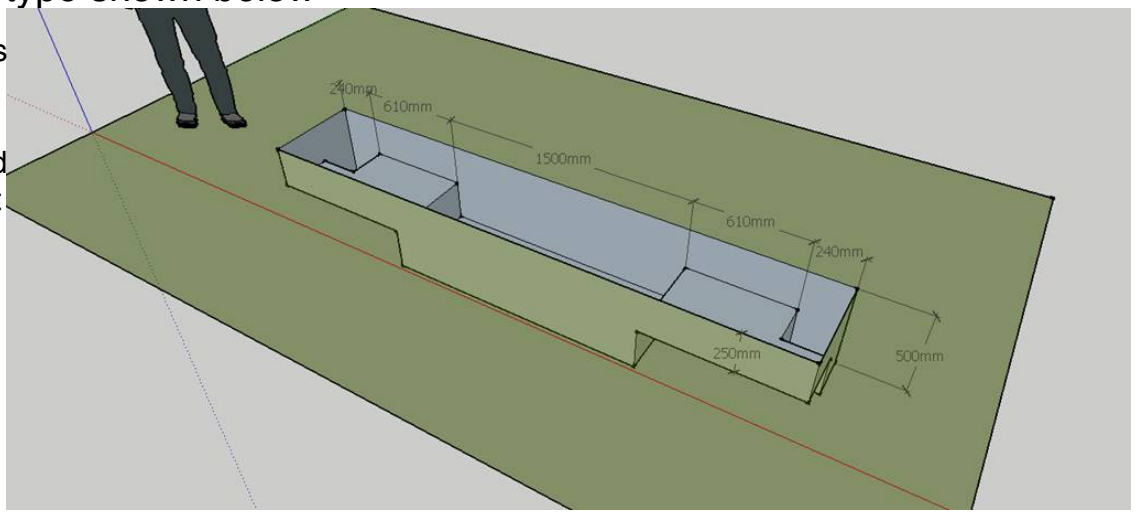
Scott's Models are exactly how I planned it would look

It is also useful as it shows that my drawings can be interpreted quite well by other people with limited explanation





I would think your structure would need a STRIP footing of the type shown below –



This is useful as it shows how much cement and sand I need as well as what type of aggregate and how much I need to use when I create my concrete

Concrete spec should be a 20/20 (20mm agregate/20MPa) with a “60 slump” (wetness) with 2 layers of F82 reo mesh cast into the footing.

Reinforced concrete and the sheer size of the recommended footing will be overkill for my project

Sketchup model (John W.skp) attached FYI.

Please let me know if you need anything further?

Regards

Scott Kelly
0439 443 439

This footing will need to be reduced in size the sides for the small mesh cages are not required due to the tie wires anchoring these cages

scott@shadeengineering.com.au

SHADE ENGINEERING
Architectural Excellence, Engineering Quality
www.shadeengineering.com.au

From: John Wallis [mailto:19walj@helena.wa.edu.au]
Sent: Sunday, 18 September 2016 9:49 AM
To: scott@shadeengineering.com.au
Subject: John's Personal Project

Dear Scott

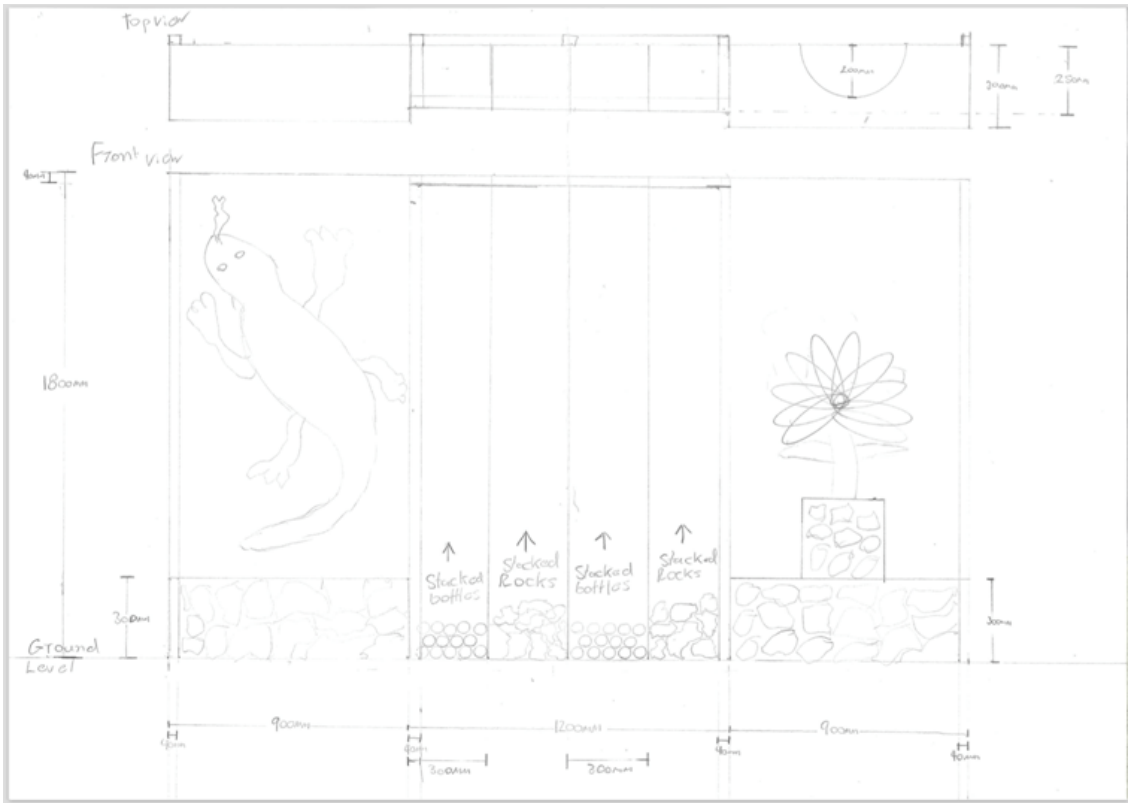
Thank you for the conversation we add about the school project.

Please find attached the drawing of the structure I am going to build. Essentially it will be used to screen a fence. The height will be 1800mm above ground level. The centre section which will have limestone rocks and empty bear bottles stacked in the gabion cages will be 1200mm long and 250mm wide which is about the length of a bear bottle. The two 900mm end sections of mesh will have various wall art hanging off of them. There are 5 posts along the back of the structure and 2 at the front as shown in the diagram. A single mesh sheet runs the length of the back of the structure.

The Frame is constructed out of 40x40x3mm square galvanised tubing, and the mesh is 50x50x4mm galvanised mesh.

The question I have is how deep to bury the upright posts and how wide the concrete footings should be.
Also is there a specific type of cement I should use and the ratio for the concrete mix.

Please let me know if there are any other detail that you need from design.



Kind regards

John Wallis