Lagoon dimensions

Depth: 18 ft

Wall height: 0.5m

Skid-skid distance: = 9.47293m

Skid plate

Nozzle diameter: 168.275mm

A computer drawing of a machine

Description automatically generated

<https://sendcutsend.com/blog/guide-to-sheet-metal-bending-in-solidworks/>

<https://sendcutsend.com/bending-calculator/>

use sheet metal calculator

<https://www.metalsupermarkets.com/product/stainless-steel-plate-304/>

material

<https://beginnerweldingguide.com/how-thick-can-a-plasma-cutter-cut/> plasma cutter background

A screenshot of a computer

Description automatically generated

Determined how to change the bonding/fixture type in solidworks simulations

Material: What material ?

Have to check the type and concentration of acid to compare   
<https://www.parrinst.com/wp-content/uploads/downloads/2011/07/Parr_Stainless-Steels-Corrosion-Info.pdf>

As well as the pH of the water in general

<https://www.nickelinstitute.org/media/1597/10-076_stainlesssteelinmunicipalwastewatertreatmentplants.pdf>

Weldments: thickness?

Use solidworks, should verify with a prof

<https://www.youtube.com/watch?v=rdcLC3yFZR0>

Research article on the viability of weld modelling in solidworks  
<https://www.researchgate.net/publication/264492636_Modeling_of_Welded_Connections_in_SolidWorks_Simulation>

Bolts: Class 150 slip-on flange

7/8” in UNC x 100mm

<https://www.mcmaster.com/products/bolts/thread-size~7-8-9/stainless-steel-hex-screw-and-nut-kits-for-pipe-flanges/?s=7%2F8%22+bolts>

slip-on rings

ductile iron?

calcs

truss analysis: method of joints

<https://pressbooks.library.upei.ca/statics/chapter/method-of-joints/>

[**https://calcresource.com/statics-simple-beam-diagrams.html**](https://calcresource.com/statics-simple-beam-diagrams.html) **beam diagrams**

<https://calcresource.com/statics-simple-beam.html>

<https://www.youtube.com/watch?v=08ChRvOt9iI> explained

<https://www.youtube.com/watch?v=9LtW7cknnT0> worked example

<https://valdivia.staff.jade-hs.de/fachwerk_en.html> truss solver

Solidworks Sim stuff

Top-op

<https://www.youtube.com/watch?v=wYhOhYffyNo>

shakles for lifting:

https://www.mcmaster.com/products/shackles/pin-type~safety/application~for-lifting/material~stainless-steel/safety-factor~5-1/