

The Sustainable Cabin Project

Green Island Getaways

By:Eoin McPartland

Green Island Getaways

- Owned by Bermuda Engineering Co. Ltd. who have extensive knowledge in renewable technologies.
- 70 Acre property in North Granville, PEI.
- Will operate as a sustainable community to be available year round as both a rental and educational facility.

The Site



Sustainable Cabin Project

- Began as a competition between two groups of UPEI Engineering students.
- The project brief included:
 - 300 - 380 sq. ft. total footprint
 - Design for all season occupancy
 - Energy efficient
 - Implement / showcase a variety of technologies
- The cabins will be constructed both by Holland College and Industry Partners.

The Competition

- Students were encouraged to engage lecturers, tutors from Holland College and those in the industry for information.
- Importance was placed on both sustainable building practices and sustainable material sourcing.
- The final brief required a detailed specification, full project schedule and project budget.

Final Cabin Designs

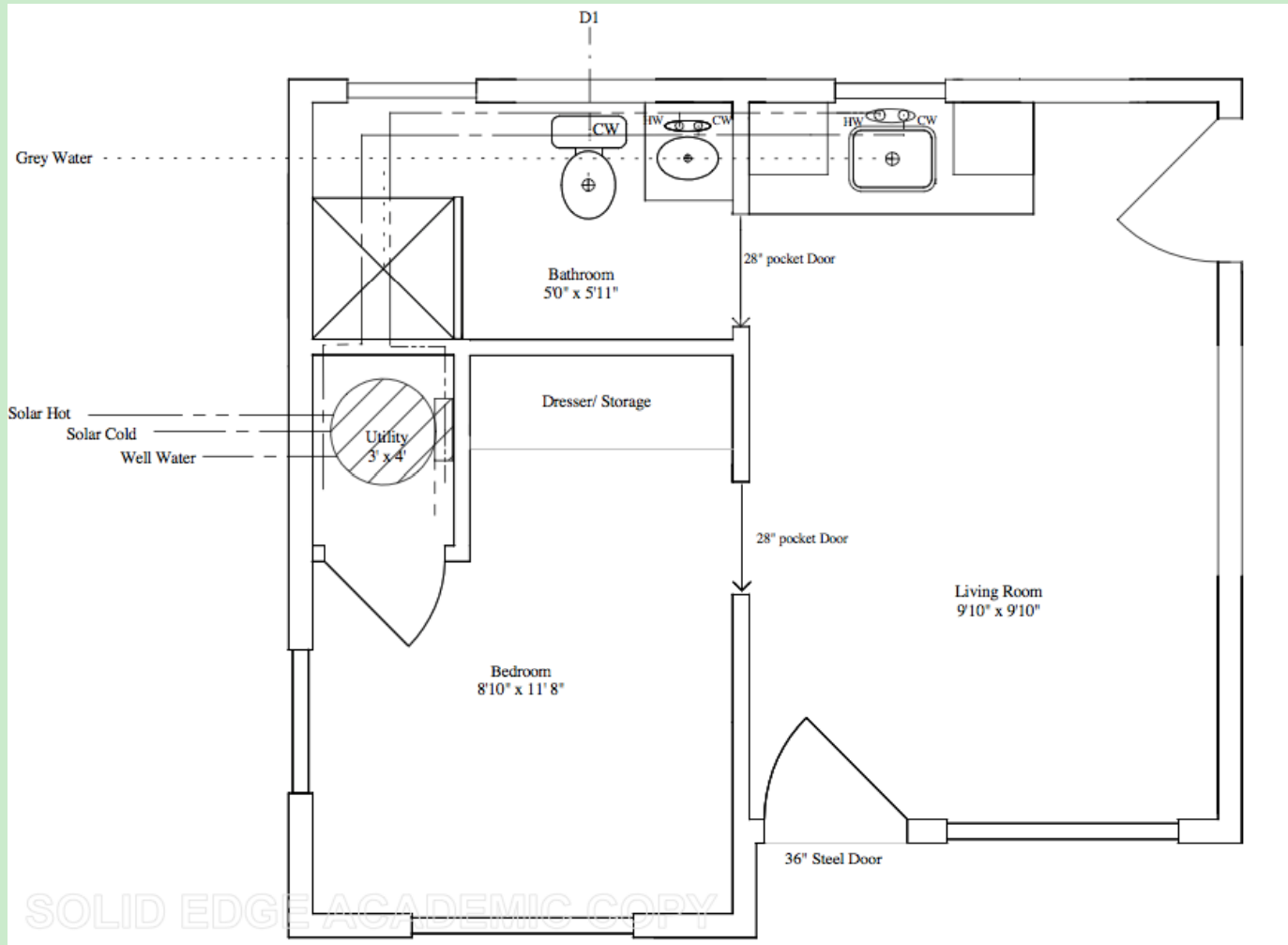
Cabin 1



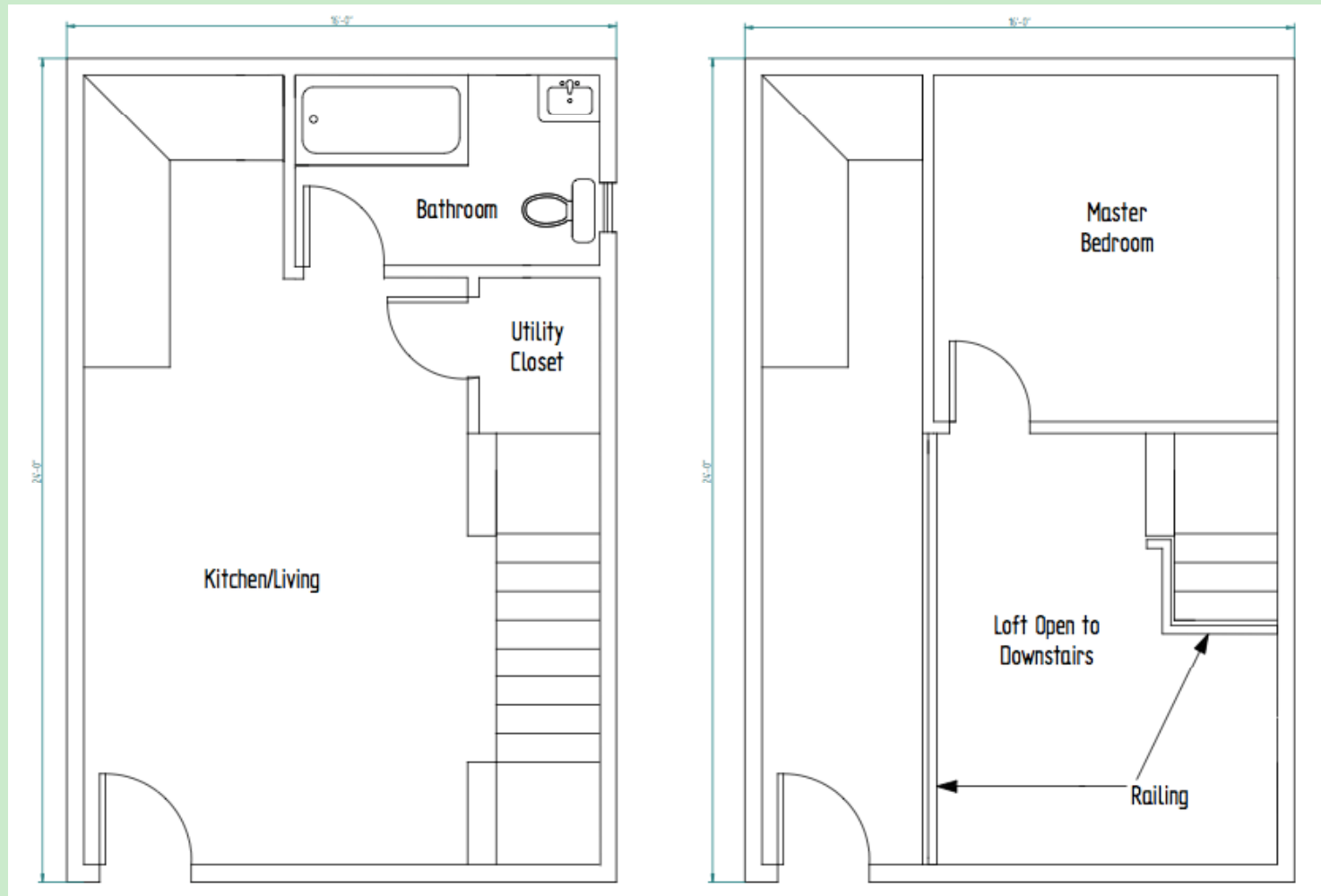
Cabin 2



Cabin 1 Design



Cabin 2 Design



Competition Outcome

- The outcome from the competition was a combination of technologies from both groups.
- Three students are continuing the design for the summer period.
- Holland College will commence construction in September 2010

Structural Details

- Five cabins will be on Cedar Posts and one cabin will be on a slab on grade.
- Timber Frame construction (2 x 6") with blown cellulose and 1" polystyrene external.
- Natural Exterior finishes – avoiding vinyl or synthetic products where possible.

Cabin Systems

- 20kW Wind Turbine with grid connection.
- Electric Heat giving us flexibility within the cabins.
- Solar Hot Water with electric boost.



Water / Secondary Usage

- Large emphasis placed on reduced consumption – low flow faucets.
- Grey Water Recycling System – Irrigation and secondary flush uses.
- Rainwater harvesting to potable standards.

Monitoring System

- Each cabin will have a display which outlines water and electrical consumption.
- Illustrates occupant's consumption in a graphical manner.
- Educational for guests and groups who visit the community.



Conclusion

- The hands on and professional experience has greatly benefitted the students.
- The program will be continued in the following years altering the constraints and overall aims for each group.
- The learning process continues as we get closer to project completion.