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An Outdoor Classroom to Improve the Student Experience and Connect the Community

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Abstract

An opportunity to learn outdoors unites students to their surroundings and closes the gap between human and nature. Outdoor spaces contribute to ecological literacy and are critical to a well-rounded education. The University of Southern Maine community places emphasis on environmental stewardship through classroom instruction and campus projects. The Gorham campus has 9 acres of wooded area plus unused green space. I am proposing the construction of an outdoor classroom. The proposal will include interviews from various stakeholders, a site assessment, and a digital and 3D model of the outdoor classroom that will be created per the *Site Planning and Design Handbook* (Russ, 2012) and to the 'design with nature' ideals of Ian McHarg. An outdoor classroom on the Gorham campus will enhance the learning experience, student connection to the community, and add to overall campus landscape and flow.

Background

The proposed outdoor classroom would be on the Gorham campus near the new apple orchard (Figure 1.). This project is intended to provide students, faculty, and staff a space that enhances the student experience and connects the community. Four specific design goals:

- enhance the aesthetic qualities of the university landscape
- maintain biodiversity through sustainable development
- provide a "living classroom"
- preserve significant wildlife habitat and native plant communities

Methods

- Interviews were conducted with several faculty and staff members within the university to gauge their opinion on the construction of an outdoor classroom.
- Through the interviews, two ideal sites (a spot in the upland forest from the tannery brook in the hemlock forest behind the campus and a site near the apple orchard plantings) were selected to complete an initial evaluation to determine which site fit the four design goals best.
- The apple orchard site was selected and an environmental site assessment was performed using some of the guidelines developed by the American Society for Testing and Materials (Russ, 2009) (Figure 2).
- Using input from interviews and considerations from the site analysis checklist, the outdoor classroom model was conceptualized.
- A digital model was created using Google Sketch Up © (Figure 3, Figure 4, Figure 5)
- A 3D model was constructed from the digital model sketch

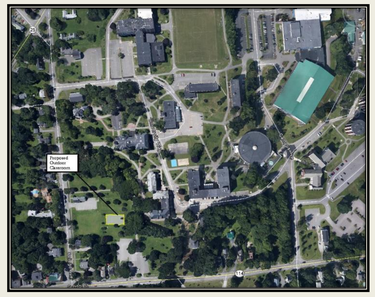

Figure 1. Aerial map showing location of proposed outdoor classroom site. GPS Coordinates: 43°40'51.53"N 70°26'42.42"

Time and Date of Assessment	3/19/15
Conditions	Partially snow covered, sunny, 35 degrees Farenheit
Landowner	University of Southern Maine Parcel 40-17
Site Condition	Overall good condition
Developed	No development on site specifically but development is adjacent to site
Existing buildings or structures	Adjacent to site is Applied Energy House and Corthell Hall
Points of access	Site can be access via walkway to the NE, two parking lots to the E and W as well as access from College Avenue.
Visibility of site	Site is visible from college avenue and from the walkways adjacent to site
Neighboring Property uses	Residential
Security considerations	The site is located on campus property which is protected by campus security and is set far enough back from street access
Utilities Access	Utilities are not located under the proposed site (T.Kidder, 2015)
Traffic	Not a major concern
Condition of local roads	Roads are in fair condition
Impact on Neighborhood	The outdoor classroom would be an improvement visually on the site. In the winter months, the site would be easily seen compared to the spring and summer months.
Topography	The site is located at the bottom of a gradual slope
General topography	The elevation at the site ranges from 248'-253'
Slope Stability	The slope is stabilized by several larger trees and will become more stabilized with the roots from the apple trees that have been planted.
Orientation of slope	The downward slope is to the south
Slope Degree	15-20%
Hydrology	Due to the impervious pavement of the walkways above the slope, runoff may be an issue
Presence of surface waters	None at this time of year
Wetlands	None
Floodplains	None
Aniticpated drainage	Located at the southern part of the site are two storm drains
Vegetation/Wildlife	Vegetation is sparse and mostly trees. No sign of wildlife other than squirrels
general types of vegetation	Oak, White Pine, and Apple trees are located around the site
Quality of vegetation	Vegetation is maintained and in good shape
Environmental Concerns	Storm water runoff is the main concern
Past Site uses	Just south of site, there used to be a tennis court which is snow a large low spot parallel to College Avenue. Historically the site used to be an apple orchard.
Neighboring site uses	Applied Energy House and two parking lots
Stormwater runoff	Storm water runoff will be mitigated with the use of native plant species, crushed rock, and potentially the use of rain gardens

Figure 2. Site Analysis Checklist for Apple Orchard Site

Figure 3. Northeast-facing view of classroom. The positioning of the classroom keeps the direct sun off the speaker and the audience throughout the day

Figure 4. Aerial view of classroom.

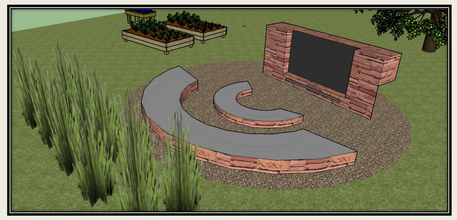

Figure 5. Northwest-facing view of classroom. The tall grasses will extend into native plant vegetation to help mitigate storm water runoff and contribute to species habitat.

Figure 6. Environmental Science and Policy in an outdoor space as a part of an experiential learning experience

Discussion

Adding an outdoor classroom to the University of Southern Maine's Gorham campus would improve the level of function in the landscape and enhance the student experience. The location offers space to plant native vegetation, add community gardens, exhibit storm water mitigation, and overall provide a "living classroom."

The site planning and design process provided three valuable experiences:

- Utilization of stakeholder input for the needs and obstacles of a site to conceptualize a site plan
- Applying research and design theories to the site plan and assessment
- Designing a space that improves the level of function of the university landscape while adding to local ecology.

Next Steps:

- Research cost of materials and labor to create a budget for construction
- Submit proposal to facilities management and university administration.

Acknowledgements

Thank you to USM faculty and staff that were willing to be interviewed for this project.

References

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