

Thesis Proposal

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Working Title

Landscape Foundations – A Technical & Practical Guide to Landscape Maintenance

Project Purpose

My main purpose is to teach homeowners the basic practices of and the applied science basics of landscape maintenance so they can have an easy-to-use landscape guide.

Project Importance

The reason I want to teach homeowners basic landscaping practices is because I want to help them be better stewards. God is the Architect of this world and the Provider of all we have. We are stewards with a responsibility. In D&C God revealed, “For it is expedient that I, the Lord, should make every man accountable, as a steward over earthly blessings, which I have made and prepared.”¹ This earth is a gift and a testing place where we show the true desires of our hearts. It was made to “please the eye and to gladden the heart.”² Its creations “enliven the soul.”³ The grander picture of a backyard is not that it is just a place with trees and grass. It is a place where families can gather together. It is where people can contemplate and reflect. It is a place where people can feel peace and feel closer to God.

Many people want to be good stewards, but too often, they don’t know how to properly take care of the stewardship they have been given. They try to do the best they can, but end up with a yard that isn’t properly managed. For example, many people overwater or over-fertilize their landscapes resulting in waste and nutrient pollution. These problems can be easily corrected by providing people with basic principles that, if followed, would make a significant difference in the health and appearance of their landscape.

This is my hope for Landscape Foundations - to help people become better stewards so they will have healthier landscapes. I want to “teach [homeowners] correct principles so they will know how to govern themselves.”⁴ Landscape Foundations will share the current and best practices of landscape maintenance. It will give homeowners the tools and resources they need to create a remarkable landscape.

As I have done preliminary research, I have realized that several pamphlets^{5,6} and textbooks present specific information about keeping a healthy landscape. Although these materials

¹ D&C 104:12-13

² D&C 59:18

³ D&C 59:19

⁴ John Taylor, “The Organization of the Church,” Millennial Star, Nov. 15, 1851, p. 339.

⁵ Purdue Extension. Taking Care of Your Yard: The Homeowner’s Essential Guide to Lawns, Trees, Shrubs, and Garden Flowers. Retrieved May 2017, from <https://www.extension.purdue.edu/extmedia/HO/HO-236-W.pdf>

⁶ Bolles, T. (2011). A Landscaping Guide for Homeowners Associations. Virginia Cooperative Extension. Read May 2017, from

<http://missionrcd.org/wp-content/uploads/2015/06/A-Landscaping-Guide-for-Homeowners-Associations.pdf>

are good, they don't accomplish my same goal. These materials differ by either not providing the science or the "why" behind maintenance principles or because they don't explain it in terms of a homeowner's understanding. For example, some pamphlets⁷ have limited basic information and don't explain the why behind those practices. Some textbooks⁸ have the more in-depth research, but they may not explain it as clearly for homeowners to understand it or they have such a vast amount of information that a homeowner would be overwhelmed.

My hope is to have up-to-date research supporting my guide and to make it simple to understand. I am working with Bryan Hopkins who is serving as my thesis advisor. He is very knowledgeable about soil and turfgrass, which are two major aspects of landscapes. His expertise is critical to Landscape Foundations because he can aid in my goal for current research. For example, he has recently performed cutting-edge technology that explains the effects of nitrogen and water in the health of turfgrass.⁹ Other reports from published articles and research will be incorporated into my project.

Project Overview

Landscape Foundations will cover the "why," the "what," and the "how" of landscape maintenance. The why will explain the science and purpose of landscape principles. The what will describe the principles to be applied. The how will show the way to apply the principles. The six main topics that will be discussed include soil, irrigation, fertilization, lawn care, tree and shrub care, and pest control. To find quality and up-to-date information I will review my class notes, extension websites, and the scientific literature. Landscape Foundations won't cover everything, but it will cover the foundations of proper landscape maintenance. Also because the hope is to share something universal to most regions, the information will focus on practices that will apply to 95% of situations. The information in Landscape Foundations will then be presented in two different formats — six short videos and a guidebook. Both will work together to teach and demonstrate correct landscaping principles and practices.

Guidebook. For the guidebook, I will compile the information together in a rough draft. Following that, I will design a guidebook and incorporate the rough draft into it. The guidebook will undergo some final revisions, with review from the thesis committee, and then be finalized.

To fulfill my purpose, I will provide pictures, tables, and charts for quick referencing and better understanding. I will teach simply the basic principles of landscape maintenance and

⁷ Horizon Distributors. (2013). Horizon Landscape Maintenance Guide. Retrieved from http://cdn2.hubspot.net/hub/207709/file-342321916-pdf/Landscape_Maintenance_Guide/Horizon_LndScp_Guide_AZNV.pdf

⁸ Christians, Nick E. (2011) "Fundamentals of Turfgrass Management." 4th ed. Hoboken, NJ: John Wiley & Sons. Print.

⁹ Kerri A. Russell, Austin P. Hopkins, Neil C. Hansen, and Bryan G. Hopkins. (2017) *Nitrogen and Irrigation Water Interaction in Drought Stressed Kentucky Bluegrass*. Western Nutrient Management Conference. Vol 12. Pg 172. Reno, NV.

then explain how to adapt them to the specific region's conditions so it can be used universally. I will also provide links to other resources throughout the guidebook so homeowners can learn more if they desire.

Following the cover and title page, Landscape Foundations will begin with a short purpose explaining why I am creating this booklet and what I hope it will accomplish. A table of contents will allow for quick reference to topics. Six sections will be covered, which will comprise the majority of the book. Each of the six maintenance sections will begin with a purpose statement. At the end of each section I will include a summary of the main principles, references to other resources for additional information, and several practical tips. Once it is completed, the guidebook will likely be about 30-50 pages.

Videos. For the videos, I will first determine what needs to be included in videos and then start writing scripts for each of the six videos. A hired videographer will help with shooting videos and editing them. Once they are finalized, they will be shared.

The videos will demonstrate several landscape maintenance practices and teach the science behind them. They will serve as a more engaging way to teach. Each of the six videos will be between 3-6 minutes long. Although there is much information that can be shared in these videos, they will share 5-10 basics practices that everyone should know. It will provide information that will be helpful to both beginners as well as advanced gardeners. For example, most people don't perform soil tests on their landscapes, but this is a useful practice in determining how much nutrients to apply.

Video equipment can be obtained through the BYU library or through Hopkins. Potential videographers will submit previous work so we can determine who will help us in our videos. We will pay them for their time which is what the majority of the funds will be used for.

Sharing. I want to make my research and work accessible to homeowners. This is important to me because it can't benefit others if they can't use it. I will share the guidebook through state extensions as well as publishing it on the BYU Landscape Management website. State extension organizations offer free, public information which is why they are my first source to share Landscape Foundations. The videos will be shared on youtube, in future PWS classes, and at a UNLA (Utah Nursery and Landscape Association) conference in January. At the conference I will rent a booth and present Landscape Foundations' videos and future guidebook.

Thesis Committee

Thesis Advisor: Bryan Hopkins¹⁰

Bryan Hopkins graduated from BYU with a bachelor's and a masters in Agronomy and Horticulture. He then graduated from Kansas State University in Agronomy with a Ph.D. He is a soil scientist and Professor in the Plant and Wildlife Sciences department at BYU.

¹⁰ <http://lifesciences.byu.edu/home/FacStaff/default.aspx?ID=293>

Hopkins was an integral part of creating the excellent soil and turf system at the LaVell Edwards Stadium. He consults with many people about turf and nutrient concerns and does an unmatched job in advising correct solutions. Dr. Hopkins is heavily involved in research and has published over 50 peer-reviewed journal manuscripts, 8 book chapters, as well as hundreds of other scholarly articles and presentations. Prior to working as a professor, he worked for many years as a consultant in private industry and, as such, is very familiar with writing in an applied style.

Many landscape problems are influenced by the soil. Because Dr. Hopkins is very skilled and knowledgeable about soil science and because soil is so critical to the health of a thriving landscapes, I have chosen professor Hopkins as my advisor. He will have the resources and knowledge to help me create a complete and professional guide.

Thesis Reader: Phil Allen¹¹

Phil Allen graduated from Brigham University with his master's degree. He then earned his Ph.D. from the University of Minnesota and since then he has worked in education. He is currently working as a Professor at Brigham Young University and is heavily involved in many professional landscape organizations such as NALP (National Association of Landscape Professionals) and ISA (International Society of Arboriculture). He is also a member of the Rock Canyon Preservation Alliance Steering Committee whose goal is to preserve the natural beauty of the canyon in Provo.

Dr. Allen is the arboriculture and systems professor in the Landscape Management major at BYU. He is a very influential professor and dedicated to his profession. He has expertise especially in trees and the management of them. Trees are important in landscapes so having his expertise will be beneficial. He also has connections to many landscape business managers, which will help in finding additional research and sharing my project.

Department Honors Coordinator: Craig Coleman¹²

Craig Coleman is the honors coordinator for the Plant and Wildlife Sciences college. He currently teaches genetics in the College of Life Sciences. He is greatly familiar with the biology of plants and one of his recently published journal articles focuses on Winter Annual grass and fungal seed disease. His knowledge in plant biology will provide helpful information in having accurate information in my guidebook.

Project Timeline

I will graduate in Apr 2018. I have already begun research, but I plan to continue doing research and creating a list of the important principles that I want to include in my landscape guide. Following that I will use my research and notes to create videos and a booklet. Then I will refine the designs and have the information reviewed. Finally, I will share the information.

¹¹ Phil S. Allen, VITA, May 2017

¹² <http://lifesciences.byu.edu/Directories/FacultyStaff/ctl/FacultyProfile/mid/5712/NetID/cec3>

Monthly Timeline

Jul - Oct (4 months): Research and create a compilation of notes and articles. Review literature and summarize key documents. Identify gaps in my plan and resolve concerns. Begin filming videos and create the outline for the guidebook.

Nov - Jan (3 months): Continue filming videos and create the rough draft and booklet design.

Feb: Refine booklet and prepare for publishing.

Mar: Share with state extension agencies.

Funding

I'm asking for the maximum funding of \$1,000 for creating the videos and guidebook, plus the additional \$500 for presenting it. The following is the breakdown of costs. There may be additional costs that will emerge during the creation of my project.

Item	Sub-Item	Price
Printing/Office supplies		\$90
	Rough Draft printing at BYU Cougar Creations	\$20
	Physical print of final booklet at BYU Cougar Creations	\$50
	InDesign for free at https://home.byu.edu/webapp/softwareDistribution/shop/searchResults/vendor/Adobe%20Systems%20Inc..htm	\$0
	Professional stock images to include in guidebook	\$20
Video Creation & Editing		\$1140
	Video editing software	\$50
	Tools for video demonstrations	\$100
	Video Camera rentals	\$30
	Wage for video editor (80 hrs at \$12 per hr)	\$960
Travel/Conference		\$50
	Travel to the UNLA conference in January as well as other vehicle travel for contacting landscapers.	\$50
	UNLA conference. Entry & booth.	\$90
Research		\$130
	BYU will likely have access to most research articles, but there may be a cost of buying an article or buying access to a journal.	\$30
	Textbook: Turfgrass Fundamentals, ISA Basic Practices, etc	\$100
Total		\$1,500