# CAMP WOOD: EXPERIENCE THE FLINT HILLS

by

AARON C. MITCHELL

A REPORT

submitted in partial fulfillment of the requirements for the degree

MASTER OF LANDSCAPE ARCHITECTURE

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Approved by:

Major Professor
Melanie Klein

# Abstract

Non-profit organizations seeking to expand their facilities are often met with difficult challenges. Oftentimes, funds are spent maintaining the grounds and facilities of the organization, reserving little or no funds for future expansions, marketing, or emergencies. Instead, these organizations rely on volunteers and donors. Without the guidance of design professionals, expansions may be developed without the direction of a coherent master plan. Circulation networks may need to be reconfigured, and newly constructed buildings may relate poorly to one another and to existing amenities.

Camp Wood is one camp facing these dilemmas. Located in the Flint Hills Region of Kansas, between Wichita and Topeka, Camp Wood is a YMCA organization and primarily functions as a summer youth camp for kids ages 7-17. It is the only camp in America located in the tallgrass prairie. The Flint Hills hold many ecological features that can be seen and experienced. There are also several man-made features that could be implemented to save energy, water, and other resources. With a coherent master plan, these natural and man-made features can help teach ecological concepts to campers. A master plan can organize vehicular and pedestrian networks to unify existing facilities and proposed future developments for Camp Wood.

The proposed master plan for Camp Wood is largely guided by a set of desired experiences that each camper will experience during their stay at Camp Wood. There are multiple site factors that influence each of these experiences. Once the program is defined and the program needs are determined, the site factors can be used to determine the most suitable location for the desired program elements. An in-depth analysis for each program element guides each program element’s location and design, allowing for each of the desired experiences to be achieved.

# CAMP WOOD

## Experience the Flint Hills

A Master's Project and Report

Aaron C. Mitchell

Fall 2009 to Spring 2010

Introductory Pages

## Acknowledgements

I would like to thank the many faculty members within the Department of Landscape Architecture/ Regional & Community Planning within the College of Architecture, Planning, and Design at Kansas State University. The knowledge I have gained in the last five years is invaluable and has allowed me to view and understand the natural and built worlds in a way that would not have been possible without your dedication and guidance. I would especially like to thank the faculty members who helped me significantly through the master's project and report experience: Melanie Klein, Lee Skabelund, Eric Bernard, and Stephanie Rolley. It has been a pleasure working with you all.

Tom Nelson, founding principal of BNIM Architecture and Design, is the architect responsible for introducing me to the Camp Wood project. Because of Tom, my master's project and report was more than just another project; it was an opportunity to apply my knowledge of landscape architecture towards a real project that may someday impact the lives of youth who experience Camp Wood.

I would like to thank the staff at Camp Wood for their cooperation throughout my master's project and report. It has been a unique and exciting experience working so closely with you. It is easy to see how much you care about Camp Wood, and the thousands of kids who visit each year are lucky to have such passionate camp leaders.

To say the last five years have been incredibly difficult would be an understatement. The relationships I built with my classmates is the only thing that made the many hours spent in studio bearable. Megan, Andrew, and John..... or John, Andrew, and Megan..... or Andrew, Megan, and John (because the order makes no difference), when I look back on my college days, the many dance parties and beers we shared together will be the things I remember most. And in some cases, they will be the things I can't remember at all! Thanks for the great memories, and good luck to all.

Lastly, I would like to thank my family for being such an important part of my life. To my grandparents, parents, and brother, you've all been so supportive in everything I do, and you have each had such a profound influence on the person I have become. Without you, my accomplishments thus far would be fewer. Thank you for your love and support, and I love you all very much.

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## Abstract

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The proposed master plan for Camp Wood is largely guided by a set of desired experiences that each camper will experience during their stay at Camp Wood. There are multiple site factors that influence each of these experiences. Once the program is defined and the program needs are determined, the site factors can be used to determine the most suitable location for the desired program elements. An in-depth analysis for each program element guides each program element's location and design, allowing for each of the desired experiences to be achieved.

# Project Introduction

- Description of the Master’s Project and Report
- Literature Review
- Glossary of Key Terms

## Project Introduction

The Description of Project Intent section provides the reader with an introduction to the master's report and project. It familiarizes the reader with the background information necessary in order to understand the general issues and scope of the project.

### Project Background

Camp Wood, near Cottonwood Falls, Kansas, was founded in 1915 and is a YMCA facility. Campers stay at Camp Wood for one or two weeks at a time and experience many different types of activities including hiking, swimming, canoeing, horseback riding, skateboarding, paintball, band, athletics, dancing, and arts and crafts. The camp can accommodate 200 campers at a time, with a summer staff of about 60 and a year-round staff of six. The camp is also used in the spring and fall seasons for retreats, conferences, and other programs by churches and other groups.

### Dilemma

During the past several years, Camp Wood has been involved in a successful fund-raising campaign to expand their program, and several new buildings have been developed including four sleeping lodges, a stable, and a large dining/administrative building. Unfortunately, a coherent master plan for Camp Wood has yet to be created. The placement of the newly constructed buildings has a poor relationship with the existing buildings. The vehicular and pedestrian networks need to be rethought to respond to the expanding campus and to better connect the different activity areas with one another. In general, Camp Wood needs a stronger sense of unity and place.

The director at Camp Wood has recognized the need and potential for the camp to incorporate an element of ecological education to its program. The Camp Wood staff do not know, however, how best to go about teaching both the natural processes of the earth and the manmade features that conserve energy, water, and other precious resources.

## Thesis

After a thorough study of Camp Wood, the needs, opportunities, and constraints for the camp's continued development can be determined. These considerations will help guide an analysis of the site and will shape the placement and form of the developments to be proposed including buildings, path networks, gathering spaces, and more.  Together, these elements will bring an overall sense of unity and identity to Camp Wood.

The Flint Hills have an abundance of natural processes to be discovered that can inspire campers. There are also a number of manmade elements that can be implemented to celebrate the natural processes of the earth. Together, these features can serve as tools for teaching ecological education to youth campers and to help them develop a feeling of self-responsibility to be a good steward of the land.

Through application of literature and critical thinking, the program of camp activities can be further developed to help campers build social skills, self-esteem, and to encourage exploration of the large expanses of upland prairie at Camp Wood.

## Site Location / Size

FIgure 1.1 shows that Camp Wood is located in the center of Kansas, between Wichita and Topeka, just north of highway 35. Figure 1.2 shows that Camp Wood is about six miles southwest of Cottonwood Falls. The camp boundaries fall within the Flint Hills Region and include about 630 acres of land.

Figure 1.1 - Regional Location Map

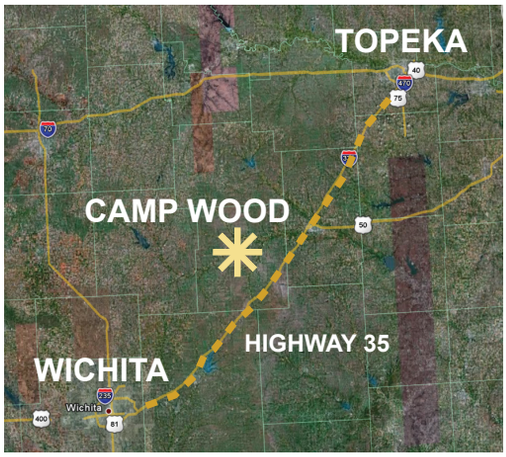
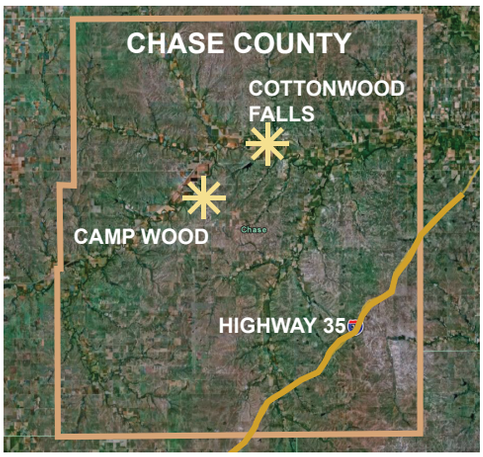



Figure 1.2 - Chase County Location Map




Figures 1.1 and 1.2 identify the location of Camp Wood.

# Project Introduction: Description of Project Intent

## Existing Site Conditions / Program Possibilities

During my initial site visit to Camp Woods, I quickly learned that there were several opportunities for the camp to become a more special place for its users. As I drove in, I noticed that the way-finding signs directing visitors to the site were inconsistent in size and formation. The edges of the main parking area could be better defined. There is no formal pathway leading visitors from the main parking lot to the Ritchie Lodge. Although there are pedestrian pathways throughout the camp, the camp as a whole lacks a cohesive pedestrian network connecting all the different buildings and activity centers. Over the past several years, the camp has experienced growth. New buildings have been developed, and the function of some of the existing buildings has changed. As a result of this development, some of the original roads may no longer be vital to the overall vehicular network.

In portions of the site, invasive species thrive where a healthy stand of prairie species once stood. This has been caused primarily from building development and overgrazing. While either walking the site or driving the roads within the site, it is obvious that erosion has affected several different areas of the camp. Once again, this is due to building development. Burning was introduced to the prairie last year for the first time in many years, but a burn management plan could be developed.

There is an abundance of open space within the camp; however, there are a few important features missing that could improve the overall function of the camp. There is no central gathering space nor an amphitheater where all campers can meet at the same time. There is no level playing field within the camp for sporting events or any other forms of activity. There are portions of the camp that seem disconnected from the campus core including the stable and the entire lower activity area near the lake. The lake area lacks a shelter for people to sit and watch the activities around the lake. Being located within the Flint Hills, the camp seems to be missing an opportunity to educate campers on environmental education. Four to six new sleeping lodges may need to be placed in the landscape to accommodate a growing camp community. There may be an opportunity to demolish and renovate some of the existing buildings in an effort to bring unity to the camp.

## Personal Goals for the Camp Wood Master's Project and Report Experience

- Develop a working relationship with a real client and a principal of an architectural firm
- Develop a site inventory and analysis that will support program element placement and guide design execution
- Use literature as a foundation to support design decisions
- Create standards for graphics to help the final product read as one cohesive piece
- Develop a clear and concise master plan that brings unity to Camp Wood
- Create a pedestrian and vehicular circulation system that connects the different activity areas within Camp Wood, connects the main campus area of Camp Wood with its surrounding environment, and provides appropriate access to buildings and other important elements
- Incorporate sustainable practices in new camp developments and use these as environmental education tools
- Choreograph a sequence of pathways and gathering spaces that celebrates natural processes, helps facilitate environmental education, and promotes a strong sense of land stewardship among campers and staff

## Literature Review

The literature review provides a detailed description of the literature pieces that are used support the decisions made throughout the document.

Kaplan, Rachel., Stephen Kaplan, and Robert L. Ryan.1998. With People in Mind: Design and Management of Everyday Nature. Washington: Island Press

Kaplan, Kaplan, and Ryan have broken their book down by themes and problems that tend to occur in most landscapes. They offer a way of thinking about each of these themes and problems in a way that relates certain aspects of the environment to the way people experience and react to them. Some of these themes and problems include way-finding, restorative environments, gateways, trails, views, and engaging people, among others. They study the patterns that exist within each of these topics and begin to suggest how their research findings can be applied in other landscapes. A reoccurring theme within the book is the idea that people need to be connected with nature as nature can provide healing for the mind and spirit. These ideas will be used to discuss the importance of the Flint Hills for the campers at Camp Wood.

Lynch, Kevin. 1960. The Image of the City. Cambridge. The Technology Press and Harvard University Press.

Lynch discusses the urban landscape and how its structure is something to be seen, experienced, and remembered. He focuses on the “urban form” of three different American cities: Boston, Jersey City, and Los Angeles. He studies each of the cities in terms of paths, edges, districts, nodes, and landmarks. Although these elements are discussed in an urban landscape context, they can be used to better understand a landscape at any scale. Paths, edges, districts, nodes, and landmarks, as described within Lynch’s book, can be used to help readers better understand a conceptual plan for Camp Wood.

LaGro, James A. 2001. Site Analysis: Linking Program and Concept in Land Planning and Design. Madison: John Wiley & Sons, Inc.

LaGro begins his text with an in-depth discussion on site selection and land use programming. He talks about the process of gathering and analyzing information pertaining to a site. He breaks down site inventory into three categories: physical attributes, biological attributes, and cultural attributes. He discusses methods for mapping site inventory and analysis information including the use of geographic information systems (GIS). The definitions for several of the key terms defined in the glossary are taken from this book.

Meyer, Elizabeth K. 2008. Sustaining beauty: The performance of appearance. Journal of Landscape Architecture: 6-21.

This article discusses the importance beauty and aesthetic values have on a sustainable landscape. Meyer talks about how sustainable landscapes should inspire the people who experience them to care more about how their actions affect the environment in which they live. Her hope is that with a greater understanding of how their actions affect the environment, they will change the way they live. Meyer suggests that the role of beauty in the landscape is, in part, to shift the "human consciousness from an egocentric to a more bio-centric perspective." Meyer's ideas regarding sustainable landscapes support the concepts for Camp Wood regarding ecological education.

Stine, Sharon. 1997. Landscapes for Learning. New York: John Wiley and Sons, Inc.

Stine discusses the landscape as an important piece for a well-rounded educational experience. She reports on the different variables that support or restrain designers and teachers who are the creators of outdoor learning spaces. Stine suggests that there are three key groups involved in outdoor learning spaces: designers, teachers, and students. Each entity interacts with one another, and these interactions influence the planning, building, and use of the spaces. The ideas contained in this reading help inform the features and activities within outdoor learning spaces at Camp Wood.

Harris, Charles W., and Nicholas T. Dines, trans. 1998. *Time-Saver Standards for Landscape Architecture*. New York: McGraw-Hill Publishing Company.

Harris and Dines provide a wide range of different types of spatial requirements for human use. The information within this book serves as a reference for the necessary dimensions for features within different program elements.

## Glossary of Key Terms

Aspect- the horizontal direction in which a slope faces, commonly expressed as compass direction such as north or northeast (LaGro)

Attribute- a defined characteristic of an entity such as topography or vegetation (LaGro)

Bioswale- A storm water management feature designed to slow down the movement of water and reduce the amount of storm water runoff (Mitchell).

Buffer- the zone of a specified distance around any map feature in a GIS layer (LaGro)

Constraint- any feature or condition of the built or natural environment that poses an obstacle to proposed land uses (LaGro)

Disturbance- an impact on the environment, such as forest clearing, characterized by physical or biological change (LaGro)

Ephemeral Stream- a stream without baseflow; one that flows only during or after rainstorms or snowmelt events (LaGro)

Filtration- a term generally applied to the removal of pollutants, such as sediment, with the passage of water through a soil, organic, and/or fabric medium (LaGro)

Geomorphology- a science that deals with the land and submarine relief features of the earth's surface, or the comparable features of a celestial body, and that seeks a genetic interpretation of them (LaGro).

Geographic Information System (GIS)- a mapping system designed for analysis, planning, and management applications involving overlapping and complex distributional patterns (LaGro)

Impervious Cover- any hard surface material, such as asphalt or concrete, that limits stormwater infiltration and induces high runoff rates (LaGro)

Percolation Rate- the rate at which water moves into soil through the walls of a test pit; used to determine soil suitability for wastewater disposal and treatment (LaGro)

Permeability- the rate at which soil or rock transmits groundwater (LaGro)

Water Table- the upper boundary of the zone of groundwater (LaGro)

Site Analysis- a process that identifies, in a spatially explicit form, the site's opportunities and constraints for a specific land use program (LaGro)

Suitability- in site analysis, a rating system applied to a specific program element and the attributes of a specific site that categorizes different areas within the site in a way that illustrates how appropriate the placement of the program element would be if it were located within a given category. (Mitchell)

Vulnerability- in site analysis, an assessment on a site's ability to recover from a disturbance (Mitchell)

# Process

- Time Line
- Design Process
- Master’s Report Process Model

## Time Line

Figure 2.1 illustrates the time line for the master's project and report. From August to May, the time line shows the approximate beginning and end for each of the major components of the project. Sub components supplement the major components and provide a better understanding of the tasks contained within the different portions of the project.

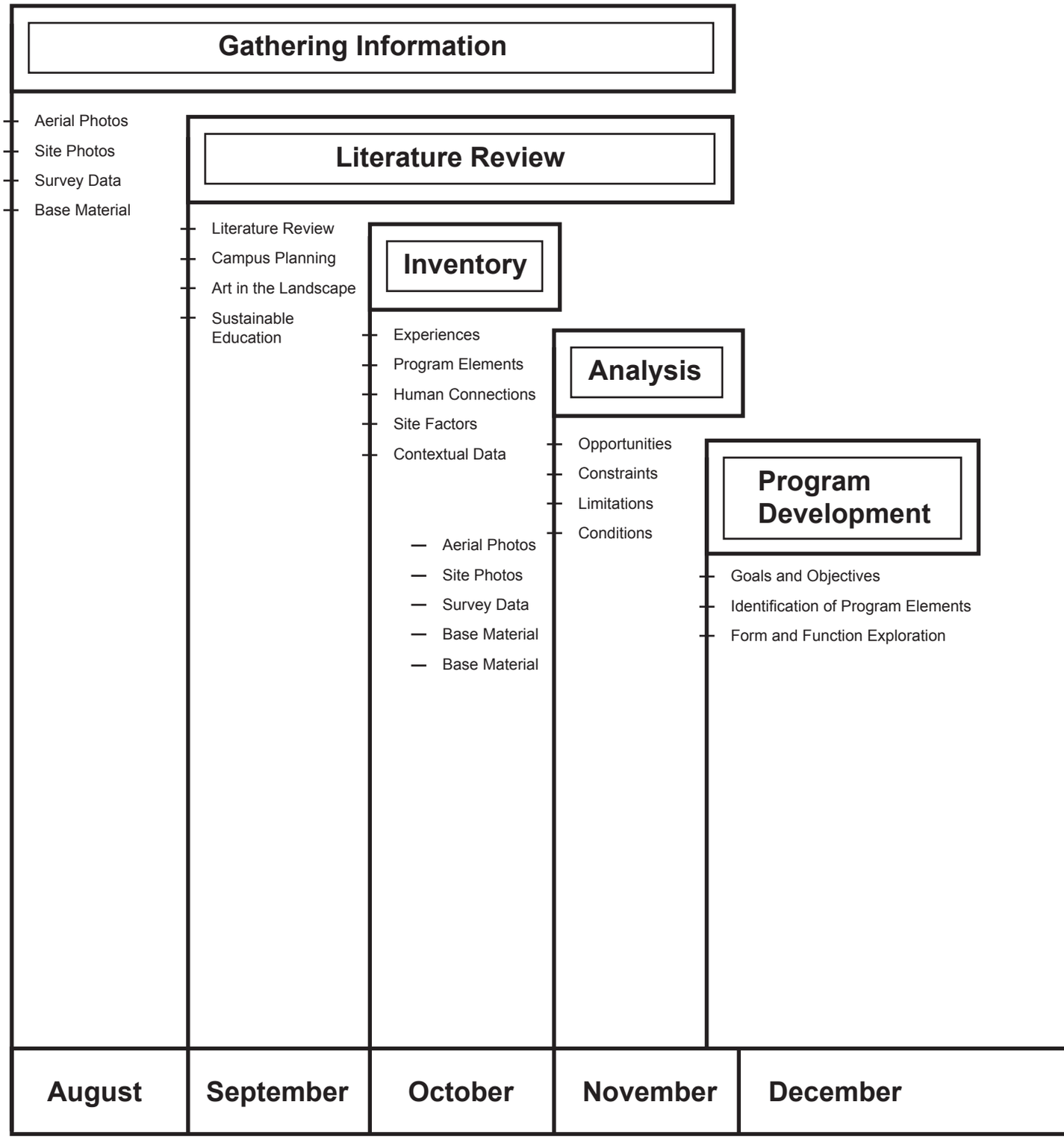



Figure 2.1 illustrates the time line for the different components of the master's project and report.

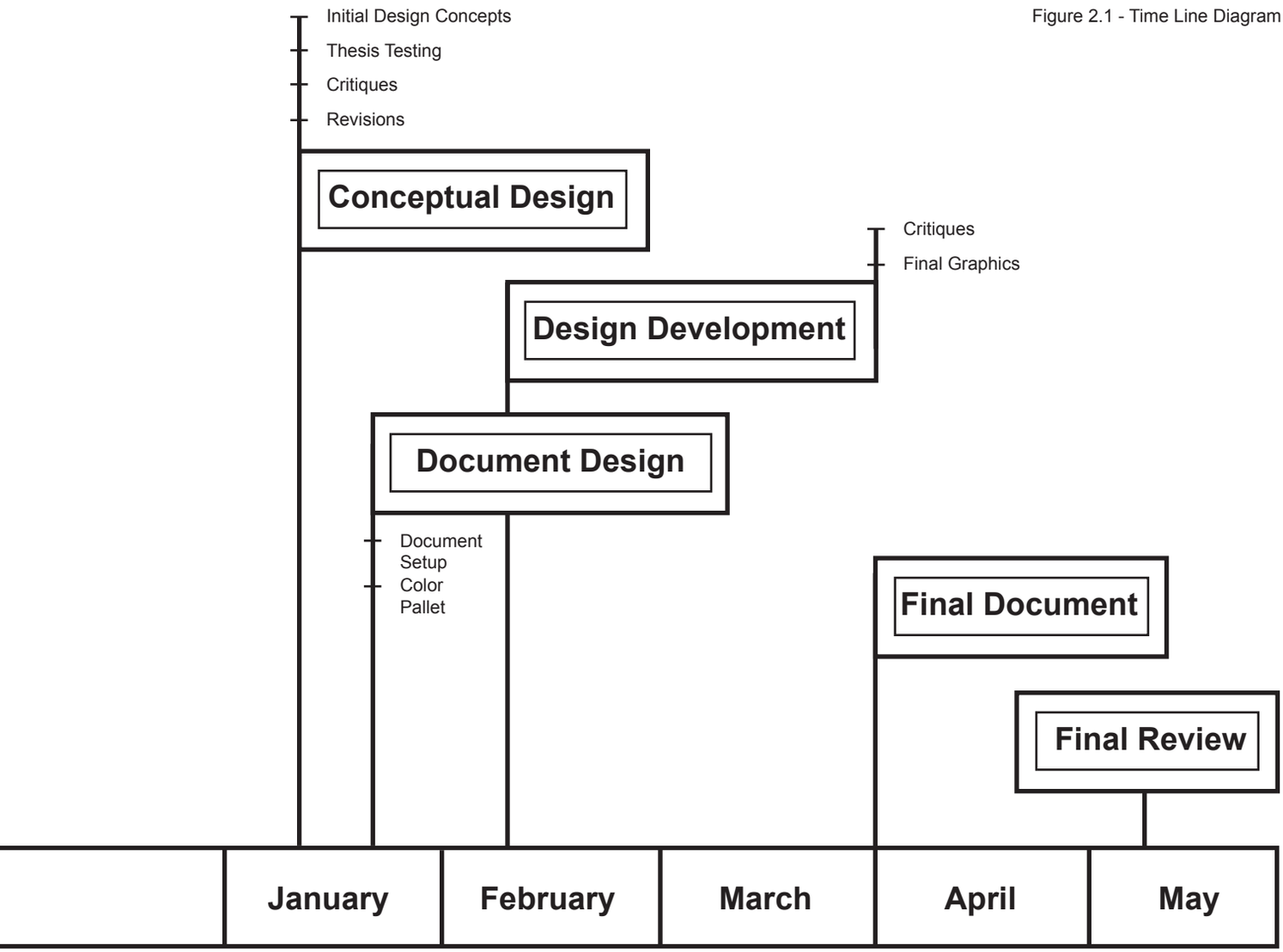



Figure 2.1 - Time Line Diagram

## Design Process

Figure 2.2 illustrates the design process diagram and describes the thought process involved with the pieces leading to the final document for the master's project and report. Unlike the master's project and report time line, the design process diagram describes how different tasks relate to one another. The dilemma is informed by background information as well as the initial client meeting. General project goals and objectives are formed, in part, from the dilemma. Together, the project goals and objectives and the dilemma help form the project thesis. The thesis acts as a foundation for the master's report and project, and after it is defined, the thesis is used to develop a strategy for inventorying site data. The thesis, the dilemma, and the project goals and objectives all help define the program for the design elements to be proposed. The program elements are directly related to specific pieces of the inventoried site data. The analysis explores these relationships to understand the opportunities and constraints of each program element. Once the analysis is complete, the conceptual design of the different program elements can begin. Conceptual design leads to design development, and throughout both processes, the thesis is revisited repeatedly to confirm that the proposed design solutions support what the thesis sets out to accomplish. The design proposals are tested against the thesis and revised as necessary. The design process leads up to and concludes with the final document.

Figure 2.2 - Design Process Diagram

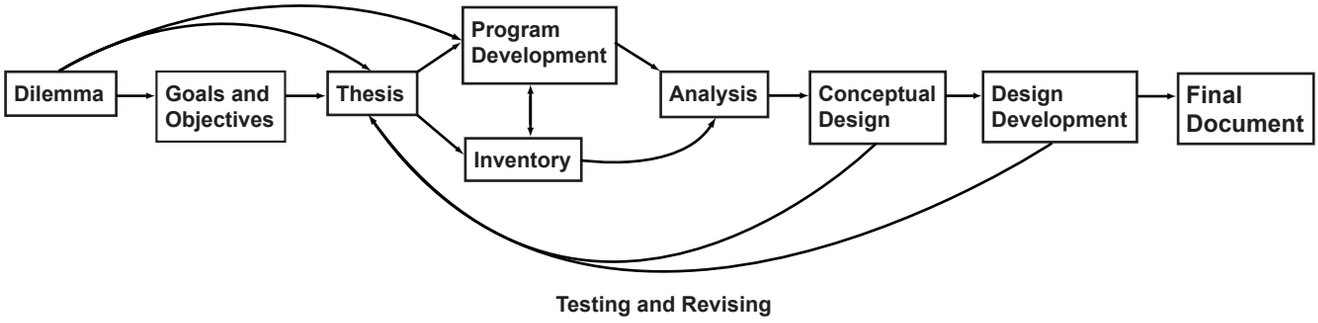



Figure 2.2 illustrates the design process for the master's project and report.

## Master's Project and Report Process Model

Figure 102 on page 21 illustrates the master's project and report process model. This model illustrates the thought process involved with how the proposed program elements relate to the core values at Camp Wood, human experiences, site data, and the expected project outcomes. Through the implementation of the program elements, the objectives described in the thesis on page 4 can be accomplished.

The staff at Camp Wood have emphasized that their camp is based on Christian principles including the core values of caring, honesty, respect, and responsibility. Although these core values derive from Christian principles, Camp Wood is not a religious camp, and campers do not receive religious instruction of any kind. Instead, these core values are both what the camp encourages campers to live by and how campers should treat one another. If the desired outcome is a designed experience which supports the idea of instilling these values within each of the campers, then these core values should be the foundation for the master's project and report process model.

The words: caring, honesty, respect, and responsibility are usually thought of in a social sense. They are words used to describe the way people should treat one another. These values can also be considered as they apply to the environment, or natural systems of the earth. When these values are "filtered" through social systems and natural systems, a framework begins to form that guides the process of gathering, sorting, and analyzing site information.

Prior to performing a site inventory and analysis at Camp Wood, the staff members were asked to answer a very specific question: "What is it that we are trying to accomplish in terms of the experience of the campers as we look toward future development?" They responded by talking about how the existing activities within the camp are considered tools to help build self-esteem, life skills, and relationships with one another. They also emphasized their hope to incorporate environmental education and sustainable practices into their program in the future. Their response helps guide the process for site inventory/analysis and is a driver behind design proposals.

The staff's response is then filtered through the social and natural systems in an attempt to identify the experiences within each system that are desired for the campers. Identifying these experiences helps determine the site data that should be collected and analyzed. Within social systems, the experiences that can be drawn from the staff's response are "relationships" and "achievement." The natural systems offer "discovery," "inspiration," and "responsibility." If the hope is that campers will become better stewards of the land, then they must first discover the natural processes. After campers discover the natural systems, a feeling of inspiration may come as they begin to learn and understand how different natural systems work.

There are several different site factors that have a strong influence on the future development of Camp Wood. Some of these factors are natural processes or features that are native to the Flint Hills Region; others are man-made features but are just as important to understand. Each of the experiences previously described is associated with specific site factors that directly influence each experience. A better understanding of each site factor and how it relates to the experience it influences will guide future design and lead to an enriched camp experience overall. The site factors inventoried are briefly discussed on the next page as they relate to the experience they influence. A complete inventory for the site factors can be found in the site inventory section beginning on page 24.

## INSPIRATION

Inspiration can be experienced when campers gain a feeling of self-responsibility and desire to become better stewards of the land. Different features spark a feeling of inspiration for different people. But, in general, views, solar patterns, and sounds can be used to inspire. Views can be distant views towards landscape features that are miles from the viewer. Views can be, however, smaller scale and can be a view within instead of a view out. Solar patterns offer a great sense of inspiration twice a day: sunrise and sunset. At these times, the landscape is often filled with warm colors that are peaceful and promote reflection. The landscape is filled with noises from a number of different sources. The sounds of trickling water, chirping birds, or rustling leaves can calm the soul.

## DISCOVERY

Discovery is perhaps most important for the campers to experience in order for them to become stewards of the land. Discovery is the first step to understanding how natural processes function, so it is important to encourage exploration so discovery can happen. Soils, vegetation, hydrology, slopes, along with several other natural features can be used to help campers discover nature. Natural processes and features can be found throughout Camp Wood, and the exploration for the discovery of these processes is an adventure.

## ACHIEVEMENT

The camp activities are used as tools to help campers build self-confidence, self-esteem, and self-worth. The hope is that campers will try new things at Camp Wood which they never considered trying before. Then, after they leave Camp Wood, maybe they will have the confidence to continue trying new things because of their achievements at Camp Wood.

## RELATIONSHIPS

The staff at Camp Wood feels that building relationships is another key component to their program. Throughout their stay, the activities campers partake in promote a relationship-building experience. The staff encourages campers to build relationships with other campers as well as adults. They would now like to see this idea expand to help campers build a relationship with nature. The social relationships are mainly formed through gathering spaces, buildings, and camp activities, which is where campers have the most interaction with one another. Gathering spaces and buildings vary in size and accommodate diverse social interactions. There are certain camp activities which demand that campers work together as a team in order to complete a given task. Some tasks are competitive in nature; others are focused on building trust and communication skills between campers.

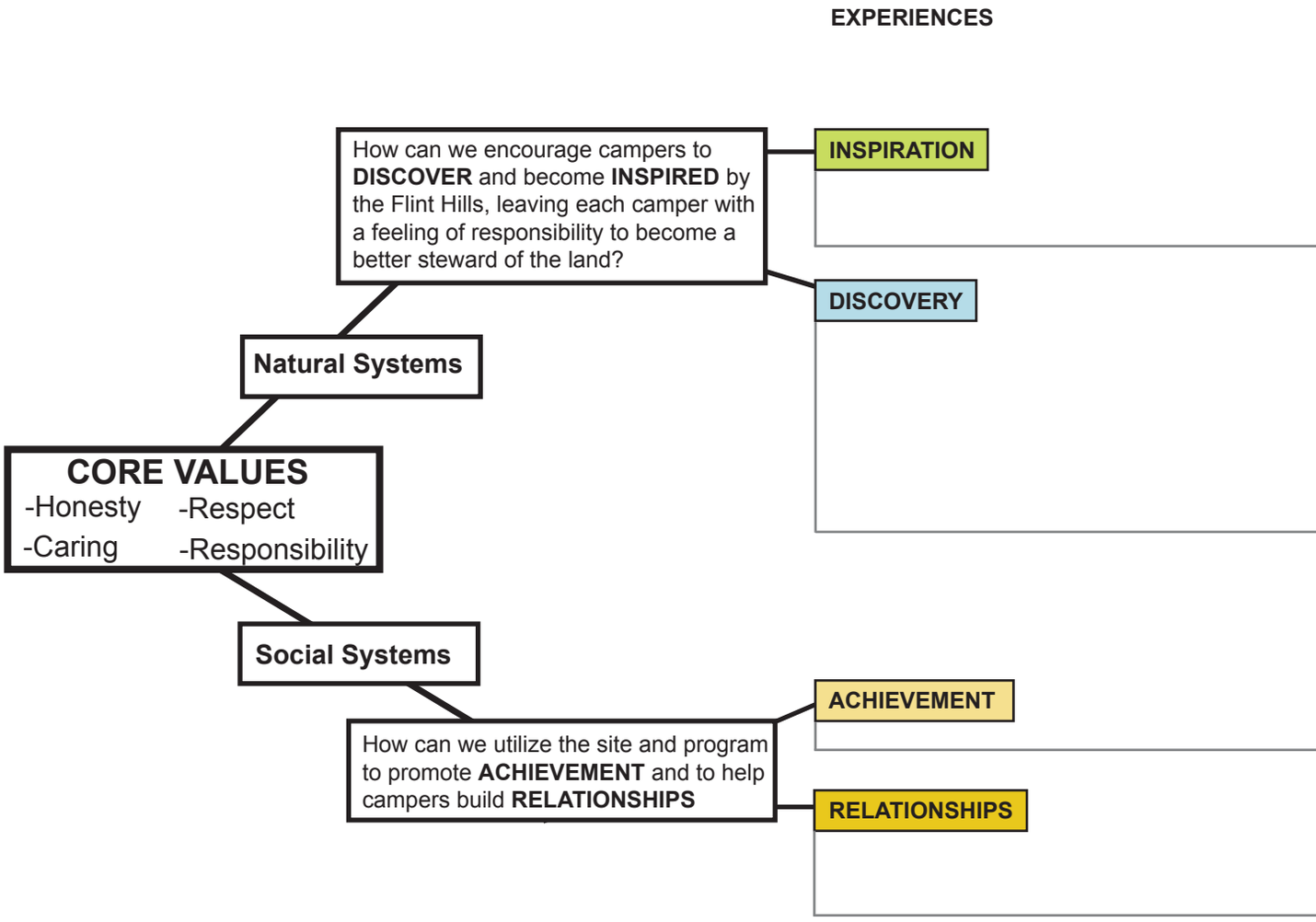
# Process: Master's Report Process Model

## PROGRAM ELEMENTS

In the program development section beginning on page 46, the program elements described in the master's project and report process model are described in depth. In the process model, each program element is color-coded to show the connection it has with the experiences that are listed. The success of each program element will depend on its ability to create or enhance the experiences it influences. Also connected to each program element are the site factors that have the greatest influence on the program elements themselves. The site factors connected to each program element are the basis for analysis for each program element. These connections are documented in the site analysis section beginning on page 54.

## EXPECTED OUTCOME

The expected outcome can be thought of as the take-home message for campers leaving Camp Wood. Each of the program elements, thinking more generally, is about one of two things: connecting people with nature, and connecting people with people. Some of the program elements are about both connection types. The intent of the program elements that connect people with nature is to use discovery and inspiration as a means for campers to gain a feeling of self-responsibility when considering the impacts his or her actions have on the environment. The program elements connecting people with people use the camp facilities and activities as a means to build communication and other social skills as well as self-esteem.




**NOTES**

*** Other Natural Processes**

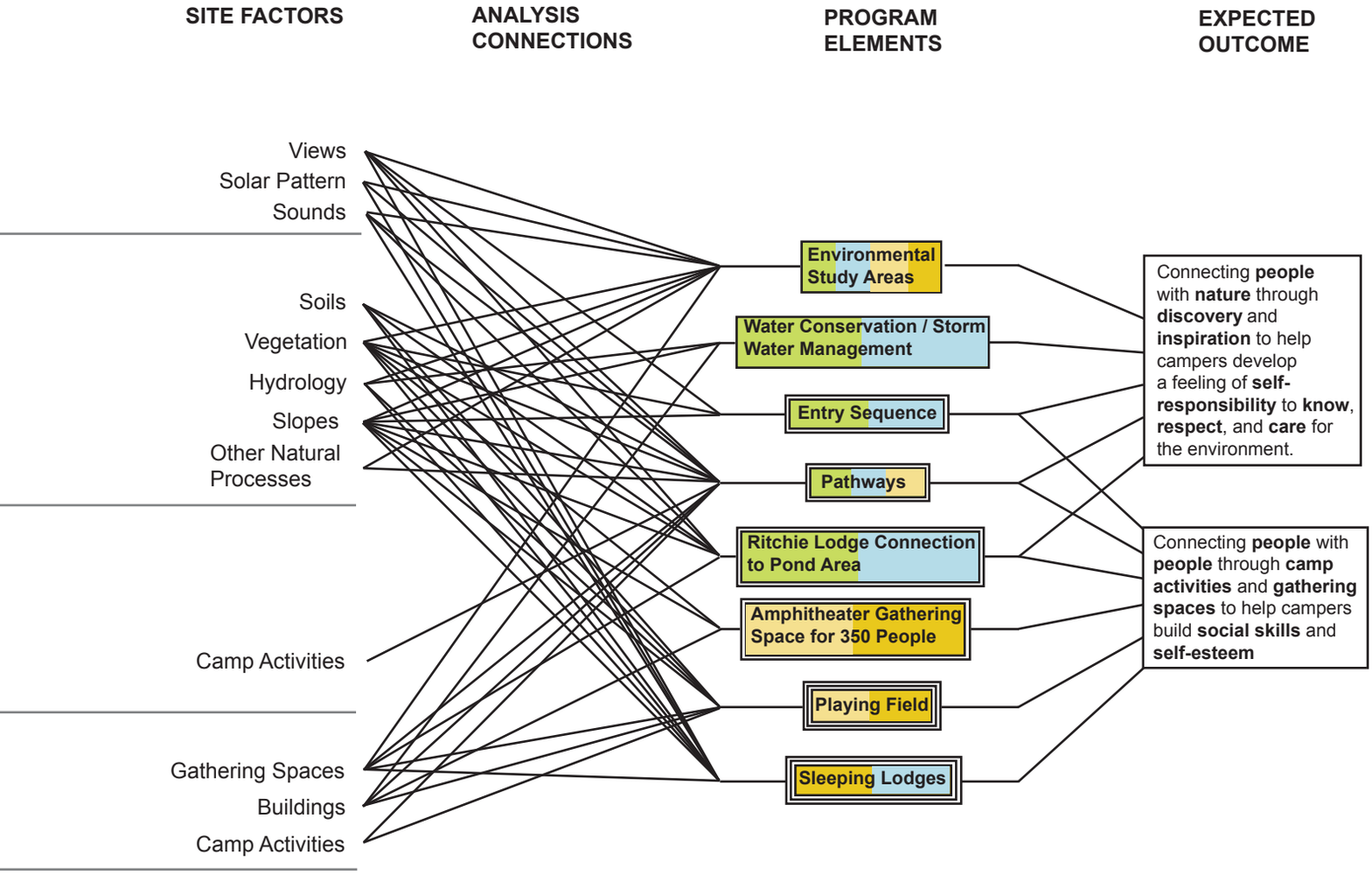
- River Corridor
- Ephemeral Stream Corridor
- Rock Outcroppings
- Native Plant Species
- Invasive Species
- Natural Heating / Cooling Elements
- Habitat Edges
- Flood Plane
- Manure
- Compacted Soils
- Native Material Use
- Bison Wallows

**** Camp Activities (Achievement)**

- Horseback Riding
- Archery
- Arts and Crafts
- Skate Park
- Tennis
- Fishing
- Canoeing
- Swimming

Figure 102 illustrates the master's project and report process model.

Figure 2.3 - Master's Project and Report Process Model




***** Camp Activities (Relationships)**

- Basketball
- Soccer
- Paintball
- Ropes Course
- Team-Building Course

**Program Element Categories**

**PRAIRIE RESTORATION / ENVIRONMENTAL STEWARDSHIP**

**HUMAN CONNECTIONS**

**FUTURE DEVELOPMENT**

# Site Inventory

- Hydrology
- Soils
- Slope Percentage
- Slope Aspect
- Other Natural Features
- Vegetation Classifications
- Viewsheds
- Sounds
- Buildings
- Camp Activities
- Exterior Gathering Spaces

## Site Inventory

The site inventory section is about gathering and sorting site information. From drainage networks to vegetation boundaries to building placement to inspirational views, the site inventory section provides a better understanding of Camp Wood in terms of both ecological and human function. A map accompanies each site factor that illustrates how the site factor applies to Camp Wood. Each site factor is discussed as it relates to the future development at Camp Wood as well as how each site factor can provide or enhance specific experiences.  Figure 2.3 on page 21 shows the different site factors listed under the experiences which they influence.

## Hydrololgy

The hydrology network within Camp Wood is diverse with a number of stream corridors and standing bodies of water. The north boundary of the camp is defined by the Cottonwood River. There are two ephemeral stream corridors that travel through the camp and discharge in the Cottonwood River. One of these streams feeds the large pond just east of the main campus area. This pond is used for swimming, fishing, and canoeing. There are also several minor ephemeral streams that feed into the larger streams. There are a couple of minor water retention areas on the site which are located in the 500+ acres of grazing land east of the pond. These hydrologic features create both opportunities and constraints for future development within Camp Wood and can be seen in Figure 3.1. The drainage corridors are areas where development will be limited. However, these areas also serve as learning opportunities for campers to discover and better understand general concepts related to hydrology and storm water management.

Figure 3.1 - Hydrology Map

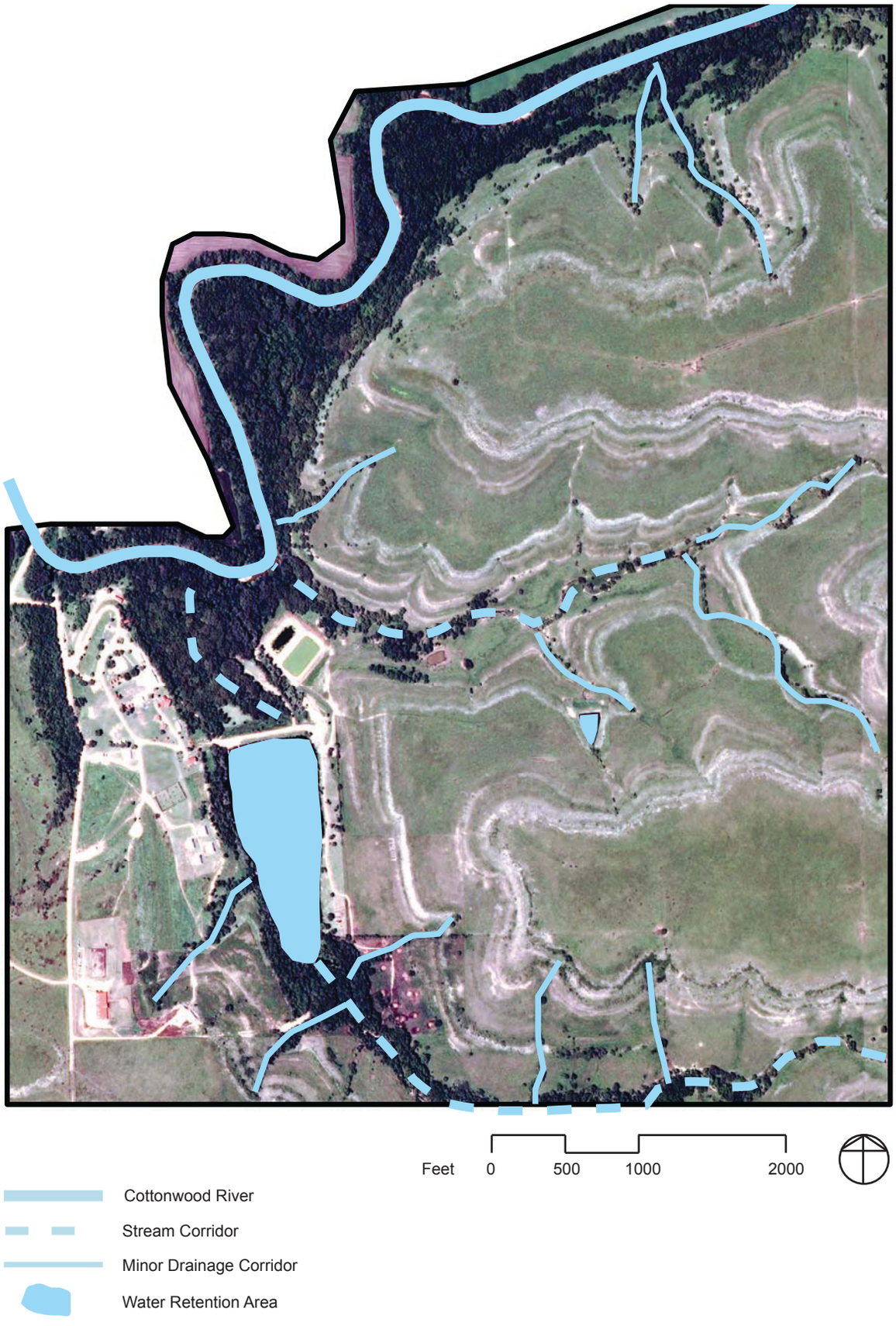



Figure 3.1 shows the location of the hydrologic features at Camp Wood.

## Soils

Camp Wood has several different soil types located within its boundaries. Though some of these soil types may appear to be the same in soil texture or structure, they vary greatly when considering different activities and structures that could be placed within the boundaries of each. Figure 3.2 shows the location of the different soil types found at Camp Wood. Some soils have better drainage characteristics than others. Some are better suited for the placement of a structure without a basement than others. Certain soils are more prone to erosion than others. Some soils experience frequent flooding. Along with other considerations, these soil attributes are used to identify appropriate locations for program elements and are discussed more in the site analysis section beginning on page 54. When discussing soils, campers can learn about things like soil texture, erosion, and drainage abilities.

Figure 3.2 - Soils Map

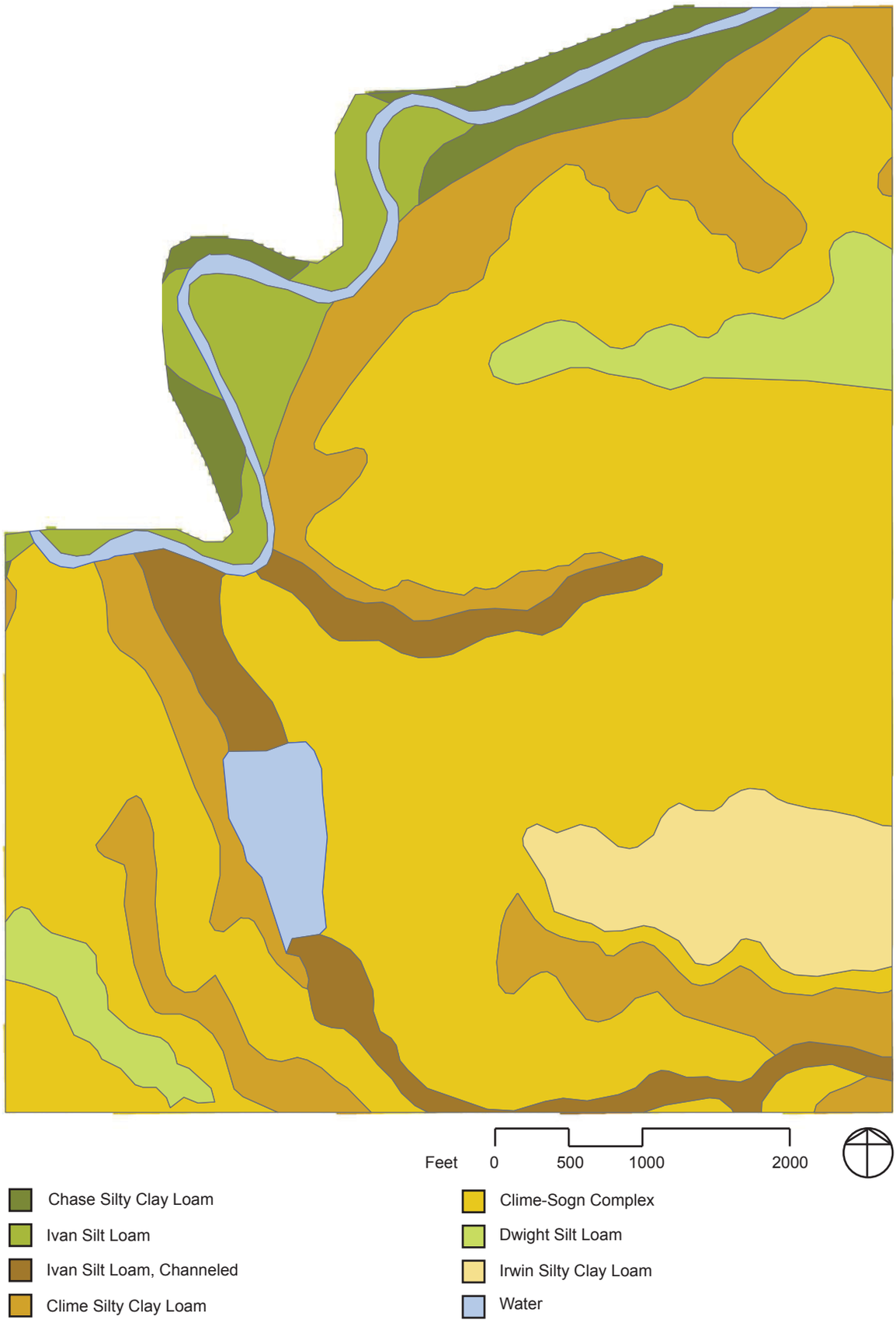



Figure 3.2 shows the location of the different soils types found at Camp Wood.

## Slope Percentage

The slope percentage map uses six different slope ranges to identify areas within Camp Wood that have slopes from gradual (0-2 percent) to steep (greater than 20 percent). The six slope classes show the boundaries for some very general project information. Figure 3.3 shows the six different slope classifications at Camp Wood. The zero to two percent class shows areas that may have trouble draining water away from buildings and other structures. The two to four percent class identifies areas that will adequately drain water away from buildings and would require minimum excavations for building development. Slopes greater than seven percent begin to be difficult for people in wheelchairs to navigate. Slopes from seven to twenty percent become increasingly costly to excavate. Slopes between twenty and twenty-five percent require a great amount of costly excavation to develop upon. Slopes greater than twenty-five percent are generally too costly to develop upon. However, placing buildings on stilts can allow for more limited disturbance to steep slopes. The slope percentage information is an important piece to site analysis as it is a determinant for whether or not program elements will be suitable in certain areas of the camp. Campers will be navigating gradual and steep slopes as they explore Camp Wood. They will have the opportunity to learn about the opportunities and limitations associated with these different slope classes.

Figure 3.3 - Slope Percentage Map

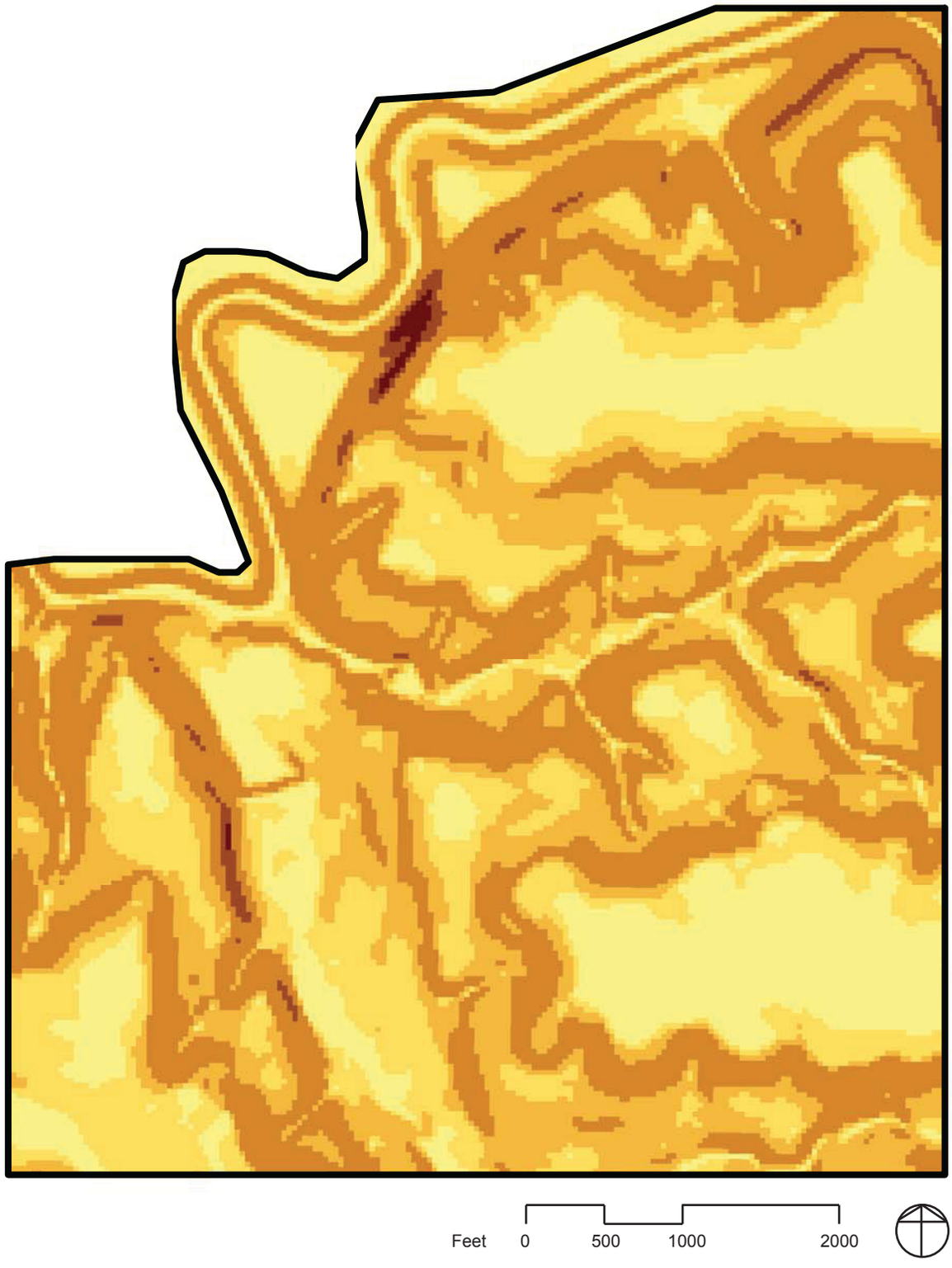



Figure 3.3 illustrates the slope of the landscape at Camp Wood.

## Slope Aspect

Slope aspect deals with the direction a given piece of land is oriented towards. Areas having a different aspect than others will have variations in vegetation, moisture content, soil stabilization, and more. This data is used in site analysis for program elements where orientation is essential. For instance, if an amphitheater is to be developed within Camp Wood, specific orientations will allow campers to use the space without facing directly towards the sun. Campers can learn about the concept of slope aspect and, with some explanation, can begin to understand the reasoning behind the placement and orientation of program elements. Figure 3.4 illustrates the orientation, or aspect, of every piece of the landscape within Camp Wood.

Figure 3.4 - Slope Aspect Map


Figure 3.4 illustrates the direction in which the terrain is oriented at Camp Wood.

## Other Natural Features

Figure 3.5 shows areas throughout Camp Wood where campers can discover and learn about some additional natural features found within the Flint Hills. Campers can learn about wildlife in different habitats and how species richness is associated with natural habitat edges. They can learn about how rock outcroppings are formed and about the alternating layers of shale and limestone. The limestone can also be discussed in relation to sustainability; the use of native materials reduces the amount of carbon dioxide emitted into the atmosphere from large trucks transporting materials long distances. Campers will have the opportunity to learn about the flood plain.

Figure 3.5 - Other Natural Features Map

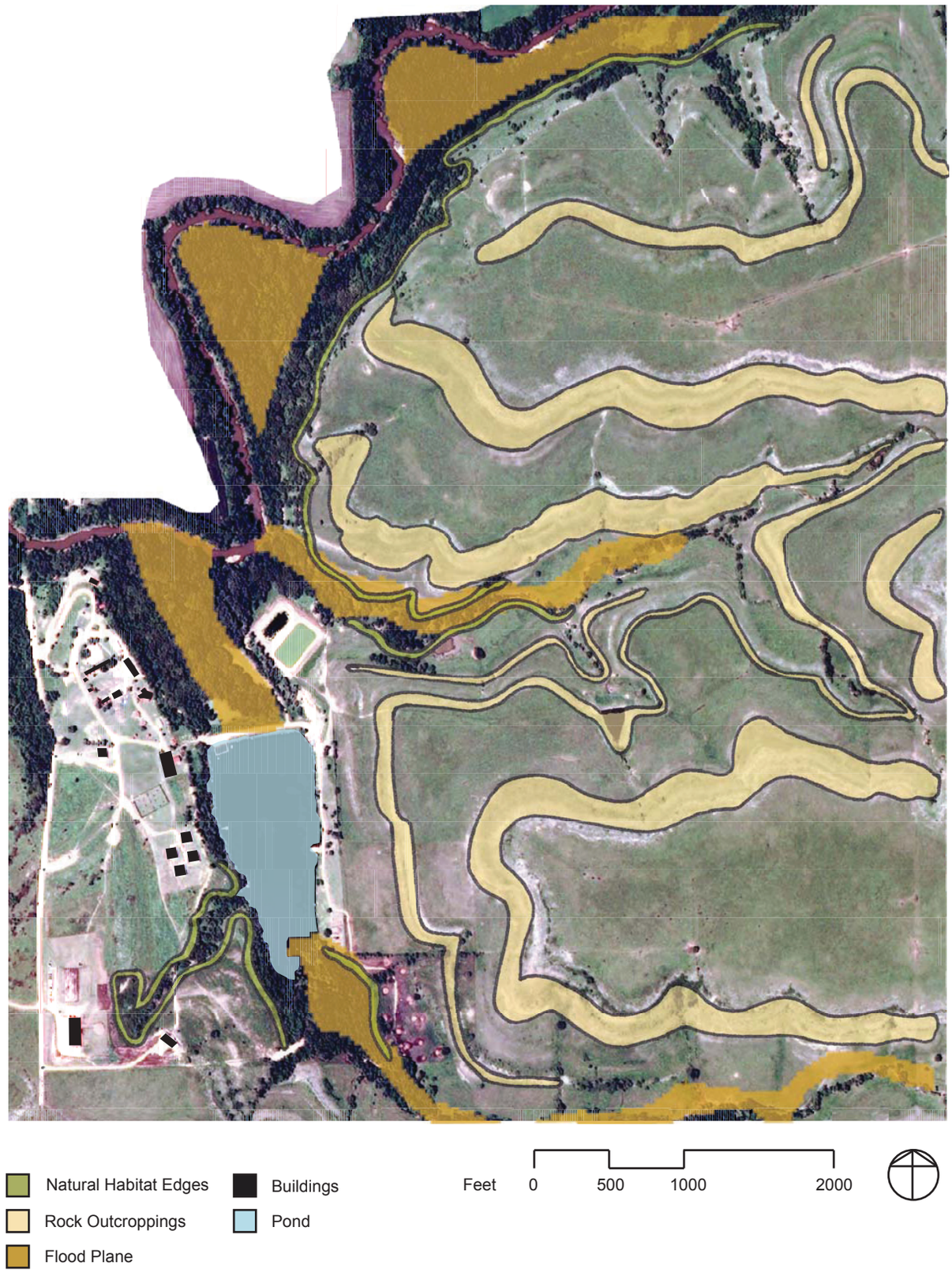



Figure 3.5 shows the location of natural features to be discovered at Camp Wood.

## Vegetation Classifications

Figure 3.6 shows the boundaries of the different classifications of vegetation found throughout Camp Wood including prairie, mowed turf, woodland, and invasive species. Campers can learn how each affects the other and most importantly, how humans impact each classification. They can learn about common maintenance practices within each classification. For instance, campers can learn about the benefits associated with carefully managed prairie fires.

Figure 3.6 - Vegetation Classifications Map


Figure 3.6 shows the location of the different vegetation classifications at Camp Wood.

## Sounds

There are several different elements within the Flint Hills that can be heard. A camper could identify a noise originating from the landscape anywhere within the 630 acres at Camp Wood. From a bird chirping to the wind pushing its way through the tallgrass prairie, almost anything within the landscape has the potential to make a sound. The areas defined in Figure 3.7 are, in general, places a camper could hear noises that could be inspirational including the sound of trees swaying in the wind or water trickling down a stream.

Figure 3.7 - Sounds Map

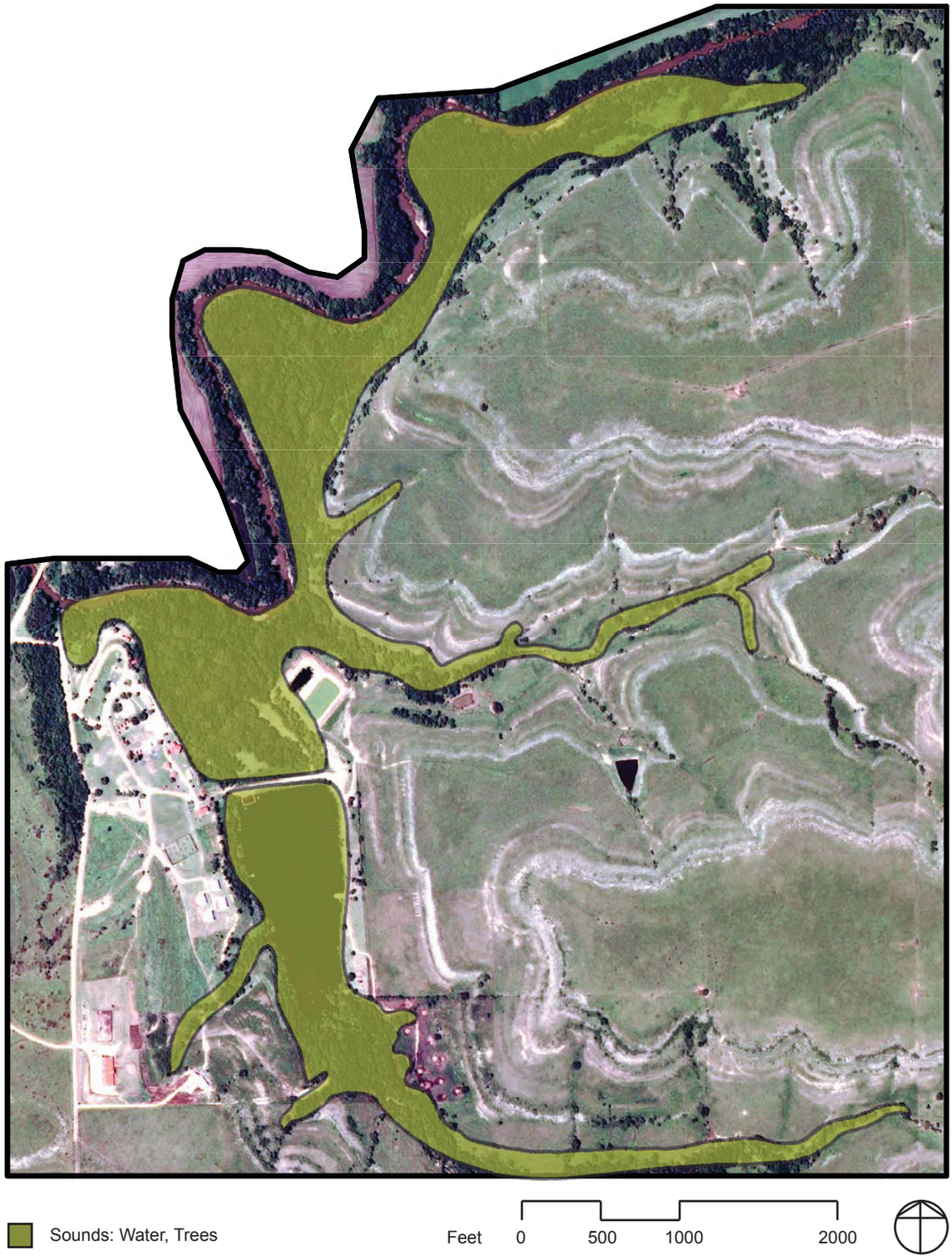



Figure 3.7 shows the areas within Camp Wood that provide sounds of trees swaying in the wind or moving water.

## Viewsheds

The viewshed map in figure 3.8 shows the areas within the main campus area of Camp Wood that offer a view into the distant landscape. The main campus area sits on a hill and has a ridgeline running through its center. The masses of trees towards the northern parts of the campus block most distant views. The boundaries delineated can inspire campers while they gaze at the distant horizon.

Figure 3.8 - Viewsheds Map

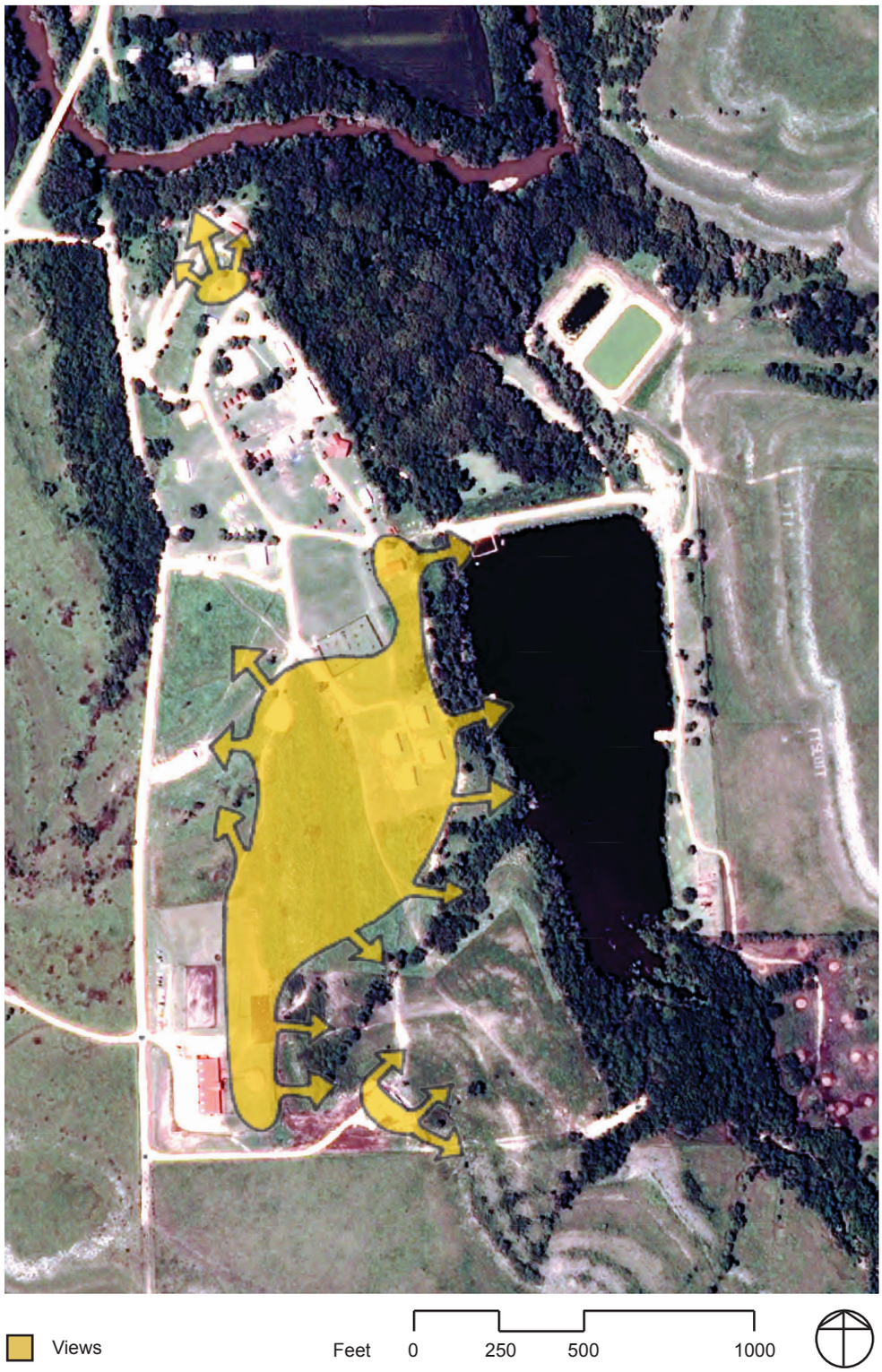
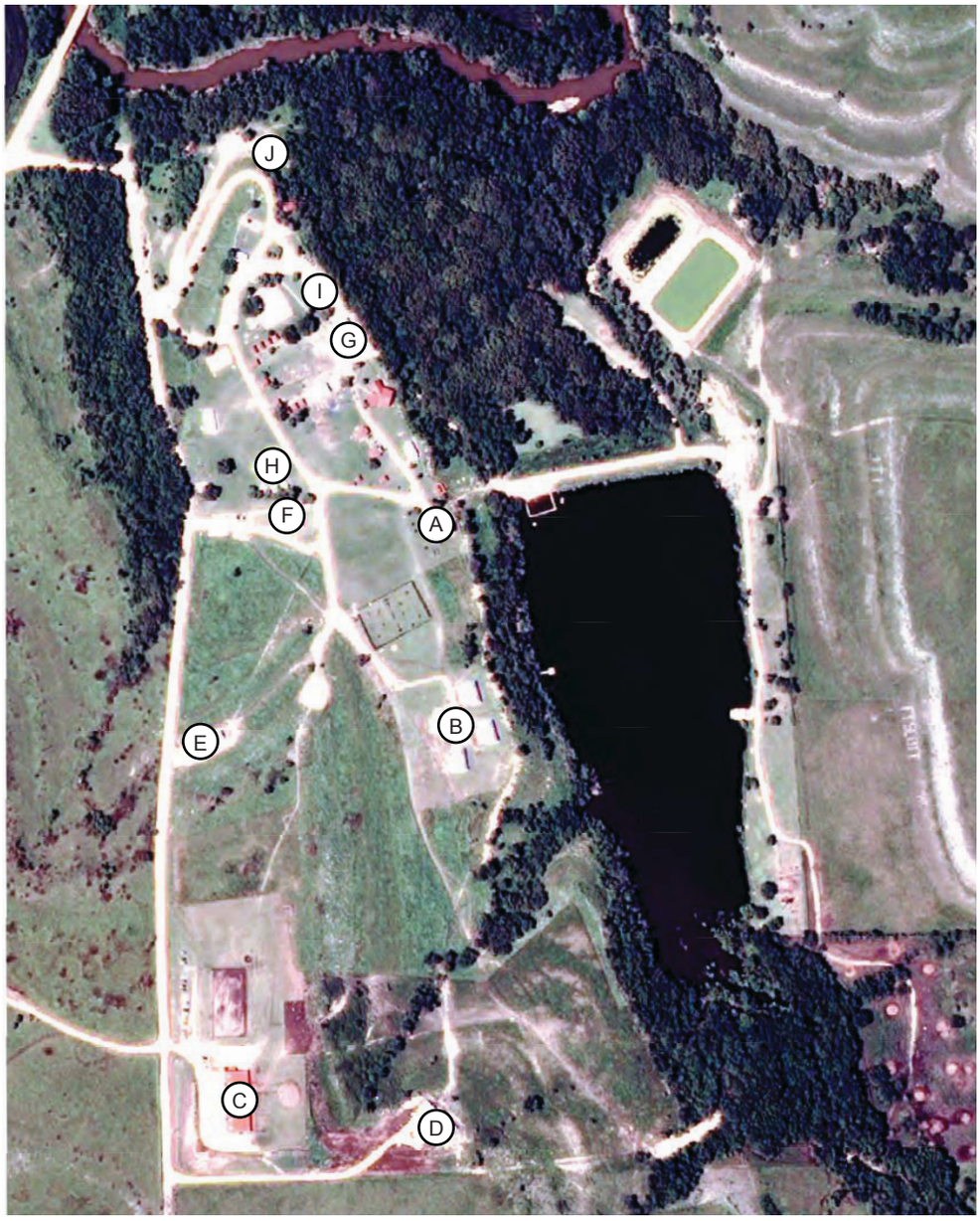



Figure 3.8 illustrates the spaces within the main campus area of Camp Wood that provide distant views into the Flint Hills.

## Buildings

Each of the major existing buildings at Camp Wood is mapped on Figure 3.9. With a wide range of size and function, the buildings offer places for campers to interact with one another. The Ritchie Lodge is one of the most recently developed buildings and perhaps the only building on the map that requires a definition in order to understand its function. It is the largest of any building at Camp Wood and functions as the main gathering/dining hall as well as the administrative building. With a maximum occupancy of 350 campers, the Ritchie Lodge was designed to support a growing Camp Wood in the near future.

Figure 3.9 - Existing Buildings Map




Feet 0 250 500 1000

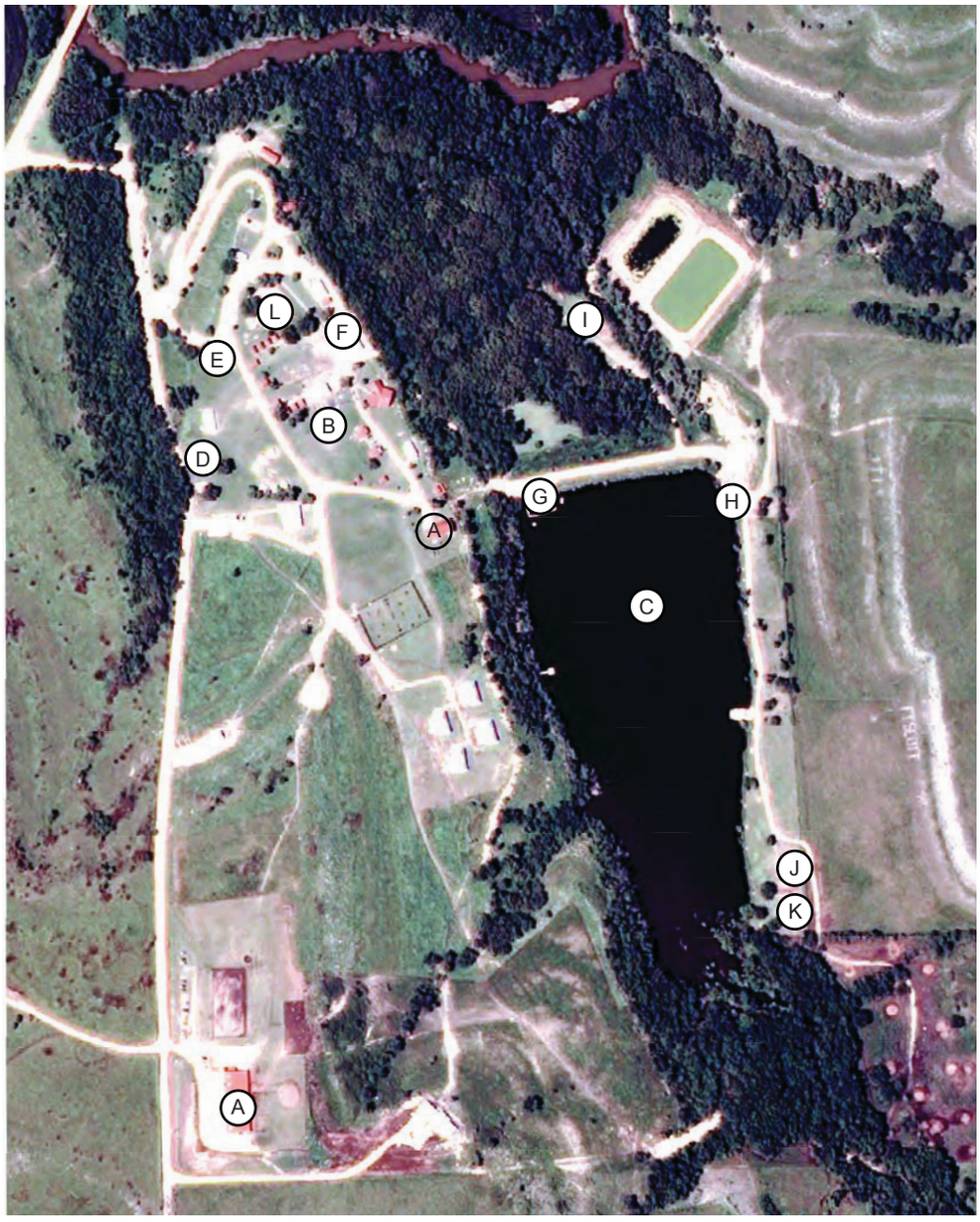
(A) Ritchie Lodge
(B) Sleeping Lodges
(C) Stable
(D) Director's House
(E) Counselor's Lodge
(F) Medical Building
(G) Old Administrative Building
(H) Tented Sleeping Structures
(I) Arts / Crafts Building
(J) Maintenance Building

Figure 3.9 shows the location of several existing buildings at Camp Wood.

## Camp Activities

Camp Wood allows campers to partake in a number of different activities. Besides being fun, the different activities help campers build life skills and are places where campers can interact socially with other campers. Figure 3.10 shows the location of the different activities offered to campers at Camp Wood.

Figure 3.10 - Camp Activities Map




Feet 0 250 500 1000

A Horseback Riding
B Soccer
C Fishing
D Archery
E Volleyball
F Arts and Crafts
G Beach / Swimming Area
H Canoeing
I Paintball
J Team-Building Course
K Ropes Course
L Skate Park / Tennis / Basketball

Figure 3.10 shows the location of the many activities offered to campers at Camp Wood.

# Program Development

- Human Connections
- Future Development
- Storm Water Management / Environmental Education

## Program Development

Camp Wood is a YMCA camp for youth, ages 7 to 17. The core beliefs of the camp derive from Christian principles including caring, honesty, respect, and responsibility. The purpose of the camp is to help campers build life skills, self-confidence, and relationships with one another. The staff at Camp Wood view the diverse assortment of activities offered to campers as tools to facilitate the camp purpose.

Camp Wood has the potential to expand upon these important ideas by enhancing the campers' experiences. This goal can be accomplished through a series of focused studies on a number of individual program elements.

It seems that each program element falls within one of three overall program categories: human connections, future development, and storm water management/environmental education. Each program category has multiple program elements associated with it. Also connected to each program category is a project objective that guides the design and helps accomplish the goals set forth for Camp Wood.

Each of the program categories begins by defining the project objective previously described. Each of the program elements that follow the objective statement relates back to and will help accomplish the project objective. Listed beneath each of the program elements are the performance specifications, opportunities, and constraints that are associated with the element.

## Human Connections

Project Objective - Create a pedestrian and vehicular circulation system that connects the different activity areas within Camp Wood, connects the main campus area of Camp Wood with its surrounding environment, and provides appropriate access to buildings and other important elements.

### Entry Sequence

#### Performance Specifications

- The entry sequence should encourage drivers to park and walk instead of driving all throughout the Camp Wood campus.
- The parking area needs to accommodate 80 vehicles.
- The edges of the parking area should be well defined.

#### Opportunities

- The entry sequence is a continual upward progression.
- The parking area is the first place campers can interact with prairie at a pedestrian level.
- The pathway leading people to the Ritchie Lodge can be stimulating and interactive.

#### Constraints

- The existing road leading to the existing parking area would be very difficult and expensive to relocate.
- Expanding the existing parking area southward is undesired due to an existing healthy stand of prairie.

## Pathways

### Performance Specifications

- The road network should provide necessary service to buildings at Camp Wood.
- The road network should separate vehicular and pedestrian circulation as much as possible.
- Pedestrian pathways should unite all activity areas within Camp Wood in a clear and sensible manner.
- Pedestrian pathways should encourage nature exploration and should offer alternative pathways for navigating Camp Wood.
- Pathways should lead campers to environmental study areas / social interaction spaces.

### Opportunities

- The existing road network is primarily separated from pedestrian circulation.
- Pedestrian pathways can be located to encourage exploration, discovery, inspiration, adventure and environmental education.
- Pavement materials themselves can help teach storm water management.

### Constraints

- Terrain is steep and rocky throughout portions of Camp Wood.

## Prairie Gateway Staircase

### Performance Specifications

- The link must safely connect the Ritchie Lodge to the pond area.
- Hardscape materials should be native to the Flint Hills when possible.

### Opportunities

- Existing topography may require little excavation work.
- There may be an opportunity to educate campers about natural features along the connection.

### Constraints

- Terrain is rocky; shallow excavations may be difficult.

## Amphitheater Gathering Space

### Performance Specifications

- The space needs to accommodate 350 campers and should be located near the Ritchie Lodge.
- The amphitheater should be oriented such that people are not directly facing the sun.
- The circulation to, through, and around the amphitheater should allow for people to move about without interrupting a person addressing the campers seated within the amphitheater.

### Opportunities

- Existing topography and slope aspects near the Ritchie Lodge support an amphitheater-style gathering space oriented away from direct exposure to the sun.
- A large gathering space near the Ritchie Lodge would be the gathering space that connects all parts of Camp Wood.

### Constraints

- To seat 350 people requires 2,000 $ft^2$ of sitting space (Harris p. 210-5).

# Program Development: Future Development

## FUTURE DEVELOPMENT

Project Objective: Incorporate sustainable practices and minimize negative ecological impacts for proposed developments.

### Sleeping Lodges

#### Performance Specifications

- Sleeping Lodges should be no more than 900 horizontal feet from the Ritchie Lodge (1.5 times the distance from the furthest existing sleeping lodge to the Ritchie Lodge).
- At least two of the sleeping lodges should be placed in areas that allow campers a new perspective on the Flint Hills not offered by existing lodges.

#### Opportunities

- There are wooded areas near the Ritchie Lodge that could accommodate this “new perspective” and meet the horizontal distance parameters set forth above.
- Strategic sleeping lodge placement can use natural features as cooling elements during summer months and can serve as an educational tool.

#### Constraints

- Much of the land near the pond and within the wooded areas lies within the floodplain.
- Alternative locations for sleeping lodges will cause disturbance to native prairie land.

### Playing Field

#### Performance Specifications

- The playing Field should be located within 400 feet of the Ritchie Lodge.
- The playing field should be near level (two-three percent slope for drainage).
- The playing field should measure at least 50 feet x 100 feet.
- The playing field should be irrigated by rain water collected from the Ritchie Lodge rooftop.

#### Opportunities

- The terrain northwest of the Ritchie Lodge has the most gradual slopes of all the land within 400 feet of the lodge.
- The Ritchie Lodge has a large roof area to collect rain water for irrigation.

#### Constraints

- Soils near the Ritchie Lodge are rocky and are not able to support a healthy and attractive stand of turf grass.

# Program Development: Water Conservation / Storm Water Management

## Storm Water Management / Environmental Education

Project Objective: Choreograph a sequence of  pathways and gathering spaces that celebrates natural processes, helps facilitate environmental education, and promotes land stewardship among campers

### Storm Water Management Features

#### Performance Specifications

- Features should be functional, visual, and attractive.

#### Opportunities

- Features can be used as educational tools.
- Features can be used to recycle rainwater for irrigation purposes.

#### Constraints

- Summer months can have long dry spells which would make the function of these features difficult to display.
- Rocky soils make underground storage difficult.

### Environmental Study Areas

#### Performance Specifications

- Study areas should help facilitate education of natural processes and should be part of the discovery and inspiration experiences.
- Study areas should be located near the natural process or feature being studied.
- Study areas should provide specific activities for campers that promote relationship-building and allow campers to feel a sense of achievement.
- Study areas should be designed to facilitate small impromptu social gatherings.

#### Opportunities

- Having a number of small study areas throughout Camp Wood will allow several different learning opportunities in several different settings.

#### Constraints

- As features in the landscape change, study areas may become removed from the features for which they were initially intended to study.

# Site Analysis

- Sleeping Lodges
- Amphitheater Gathering Space
- Playing Field
- Environmental Study Areas
- Storm Water Management
- Entry Sequence
- Pathways
- Ritchie Lodge Connection to Pond Area

## Site Analysis

Building from the data gathered during site inventory, site analysis looks at multiple layers of information. The purpose for a site analysis is to evaluate the layers of information as they relate to program elements in an effort to properly locate and to better understand the program elements. Site analysis allows a narrowed focus on the site in terms of future development. It will help make informed decisions that will guide design. The results of the site analysis for Camp Wood will be used as supporting evidence and will provide reason for why certain design decisions were made.

The way in which site analysis is illustrated for the different program elements varies from one program element to the next. Some of the program elements are analyzed through a series of maps. In this method, the site factors are discussed in terms of suitability, and each suitability map helps narrow the site in order to find the most appropriate locations for different elements. Other analyses are more of an in-depth discussion on the site factors relating to a specific program element and how that element relates to a camper's experience. Analyses using both approaches are supplemented with appropriate graphics for each program element.

Figure 4.1 shows an aerial view of Camp Wood. Three boundaries are identified on the map including the main campus area boundary, the greater main campus area boundary, and the Camp Wood property boundary. These three boundaries are defined on Figure 4.1 as the areas within the three boundaries are frequently referred to in the discussions to follow.

### Limitations of Study

As previously stated,  the results from the site analysis will be used to guide design. But these results are only part of the data that is used to decide the final location and orientation for program elements. Part of this is due to the fact that certain factors, such as views and sounds, are impossible to map using GIS (Geographic Information Systems, a computer program used to map spatial and demographic information). Next, it is important to note that the data used to create the different map sets in GIS is imperfect. The original attribute information for the different datasets within GIS was originated at a 30-meter by 30-meter pixel size. The output datasets for Camp Wood are displayed at a 10-meter by 10-meter pixel size which is preferred so lines and boundaries can be delineated more fluidly. What this means, however, is that values within the original 30-meter data were interpolated or assumed, and this likely influences the accuracy of the resulting data.

Figure 4.1 - Main Campus Area Boundary Map

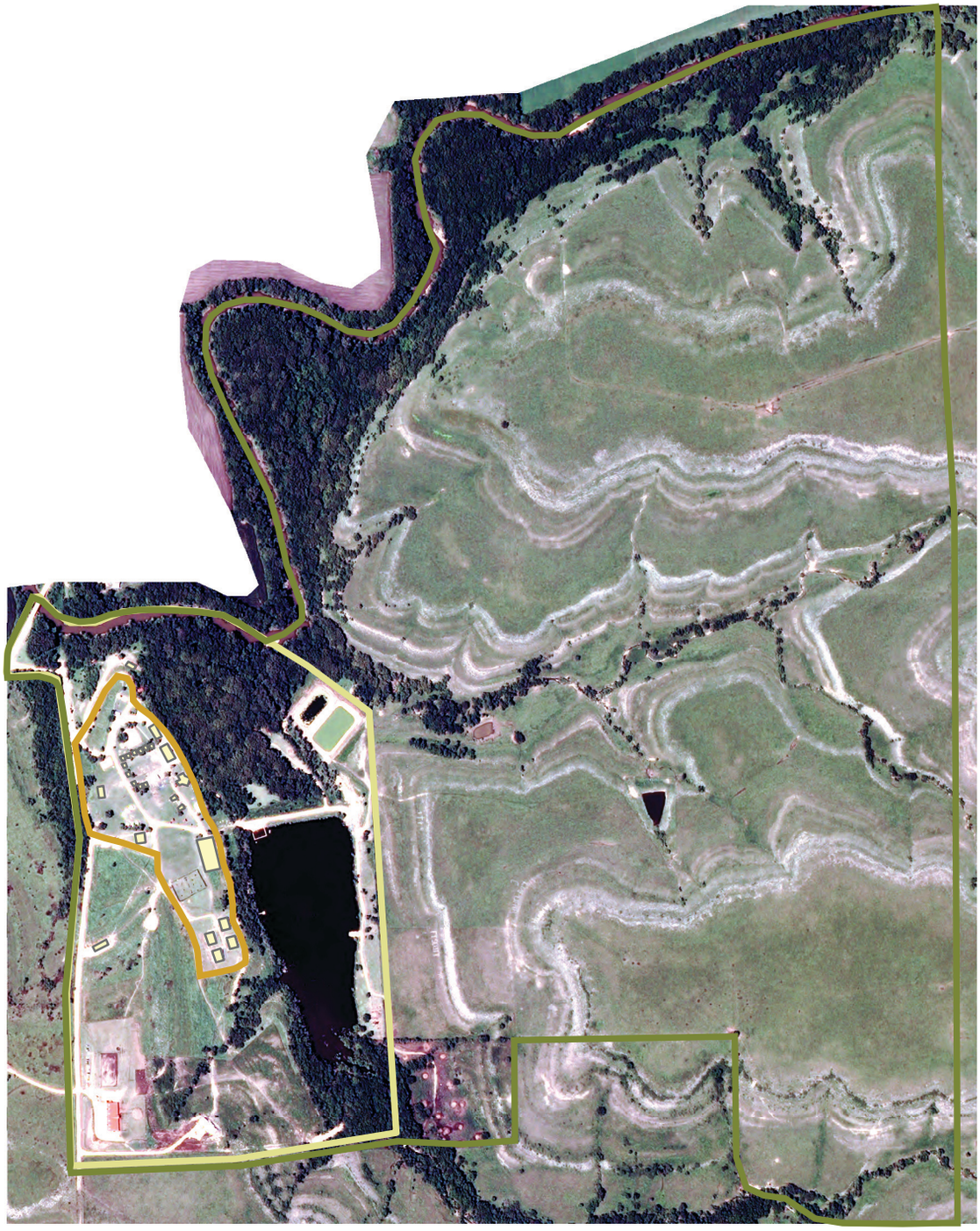



Figure 4.1 illustrates the boundaries for the main campus area, the greater main campus area, and the Camp Wood property boundary.

## Sleeping Lodges

The staff at Camp Wood is expecting continued growth in the years to come. They are seeking to build four to six more sleeping lodges identical to those located south of the Ritchie Lodge which hold 20 campers a piece. This expansion would allow Camp Wood to operate at full capacity which is 350. Figure 4.2 shows the existing sleeping lodges in relation to the Ritchie Lodge. Figure 4.3 shows the view looking east from one of the existing sleeping lodges.

Figure 4.2 - Existing Sleeping Lodges Map


Figure 4.2 shows the location of the existing sleeping lodges in relation to the Ritchie Lodge.

Figure 4.3 - Sleeping Lodge Perspective

Figure 4.3 shows the northeastern view looking out from one of the existing sleeping lodges. (Photo by Aaron Mitchell)

## Sleeping Lodges Built on a Concrete Slab

The existing sleeping lodges shown in Figure 4.2 are constructed on a concrete slab. The other type of construction method explored for the development of sleeping lodges is a stilted construction method. The analysis for sleeping lodges constructed on stilts begins on page 69. The following series of maps provides an analysis for sleeping lodges constructed on a concrete slab.

### Slope Percentage

The development of each sleeping lodge will require at least some excavation to be done in order to pour a concrete slab and to ensure positive drainage away from the buildings. The steeper the slope, the more difficult and costly excavation work becomes. Figure 4.4 shows areas within the greater main campus area of Camp Wood having slopes that are less than 15 percent. These areas are considered suitable for the placement of sleeping lodges. The areas on the map in white are considered not suitable for the placement of sleeping lodges and will not be considered for the placement of the sleeping lodges utilizing a slab-on-grade method of construction.

Figure 4.4 - Sleeping Lodge Slope Percentage Map

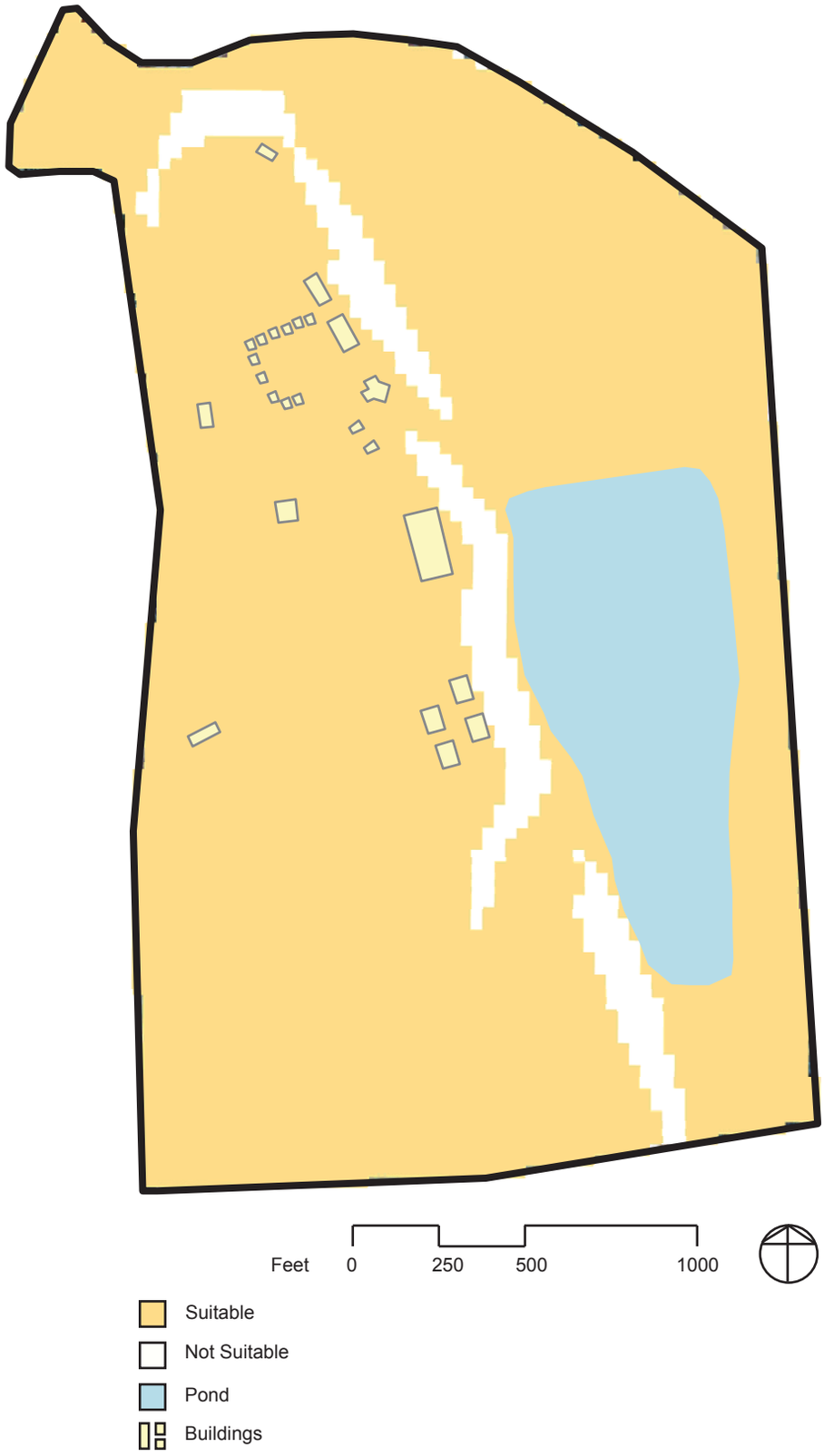



Figure 4.4 illustrates the areas within the greater main campus area of Camp Wood that are not suitable for the placement of the sleeping lodges constructed on a concrete slab.

## Flood Potential

Soil characteristics are also important to consider when defining suitable locations for a building. For a slab-on-grade method of construction, buildings should not be constructed on soils that experience flooding. Figure 4.5 shows the areas within the greater main campus area of Camp Wood that experience flooding and, as a result, are not suitable for the development of a building on a concrete slab. These areas will not be considered for the placement of sleeping lodges constructed on a concrete slab.

Figure 4.5 - Sleeping Lodge Flood Potential Map

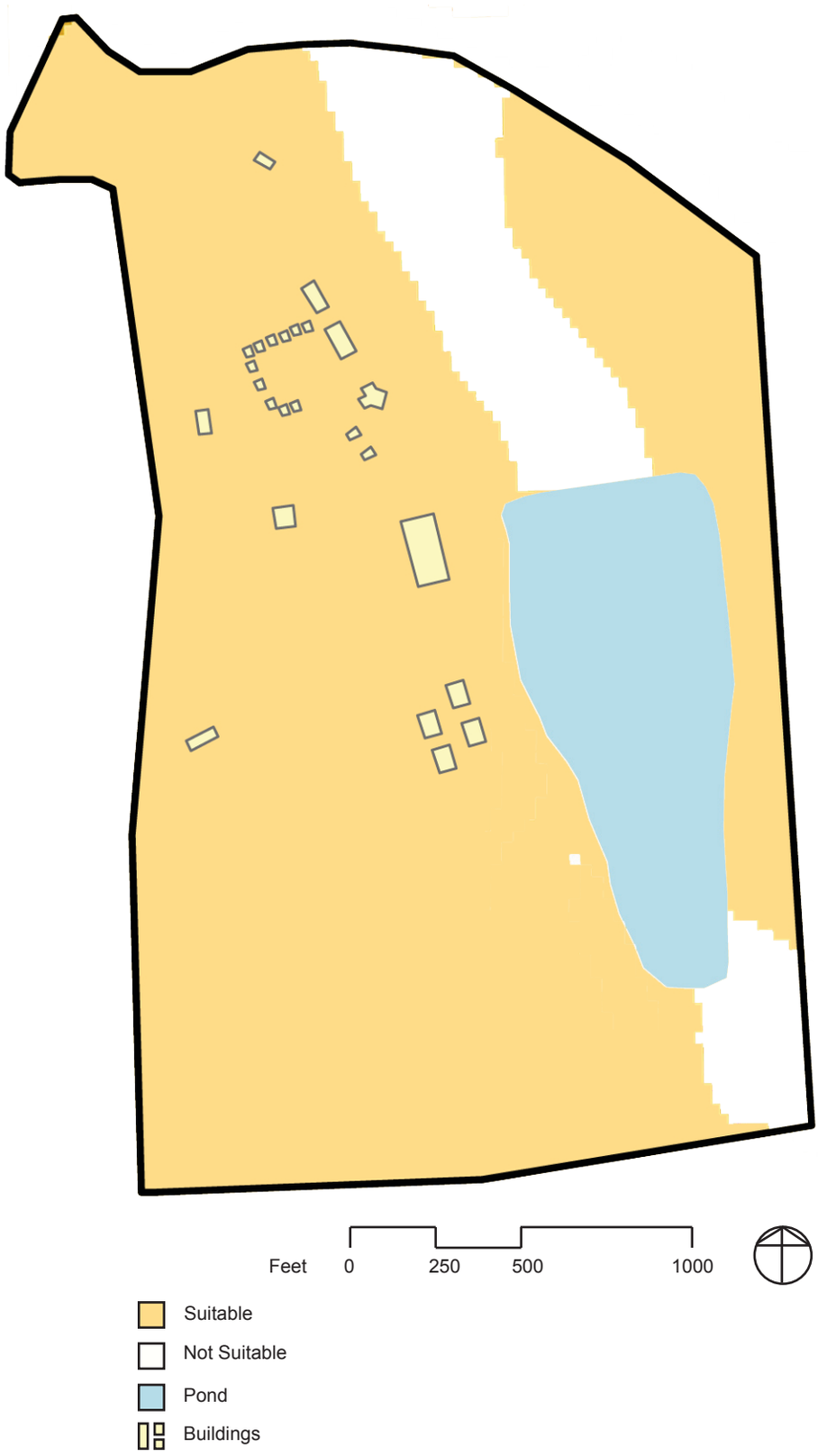



Figure 4.5 illustrates the areas within the greater main campus area of Camp Wood that are not suitable for the placement of the sleeping lodges constructed on a concrete slab due to the potential for flooding.

## Soils

The United States Department of Agriculture has determined certain soils to be inadequate for the construction of a slab-on-grade structure. Figure 4.6 shows the areas within the greater main campus area of Camp Wood having soils that are not suitable for a slab-on-grade building. These areas will not be considered for the placement of a sleeping lodge constructed on a concrete slab.

Figure 4.6 - Sleeping Lodge Soil Limitations Map

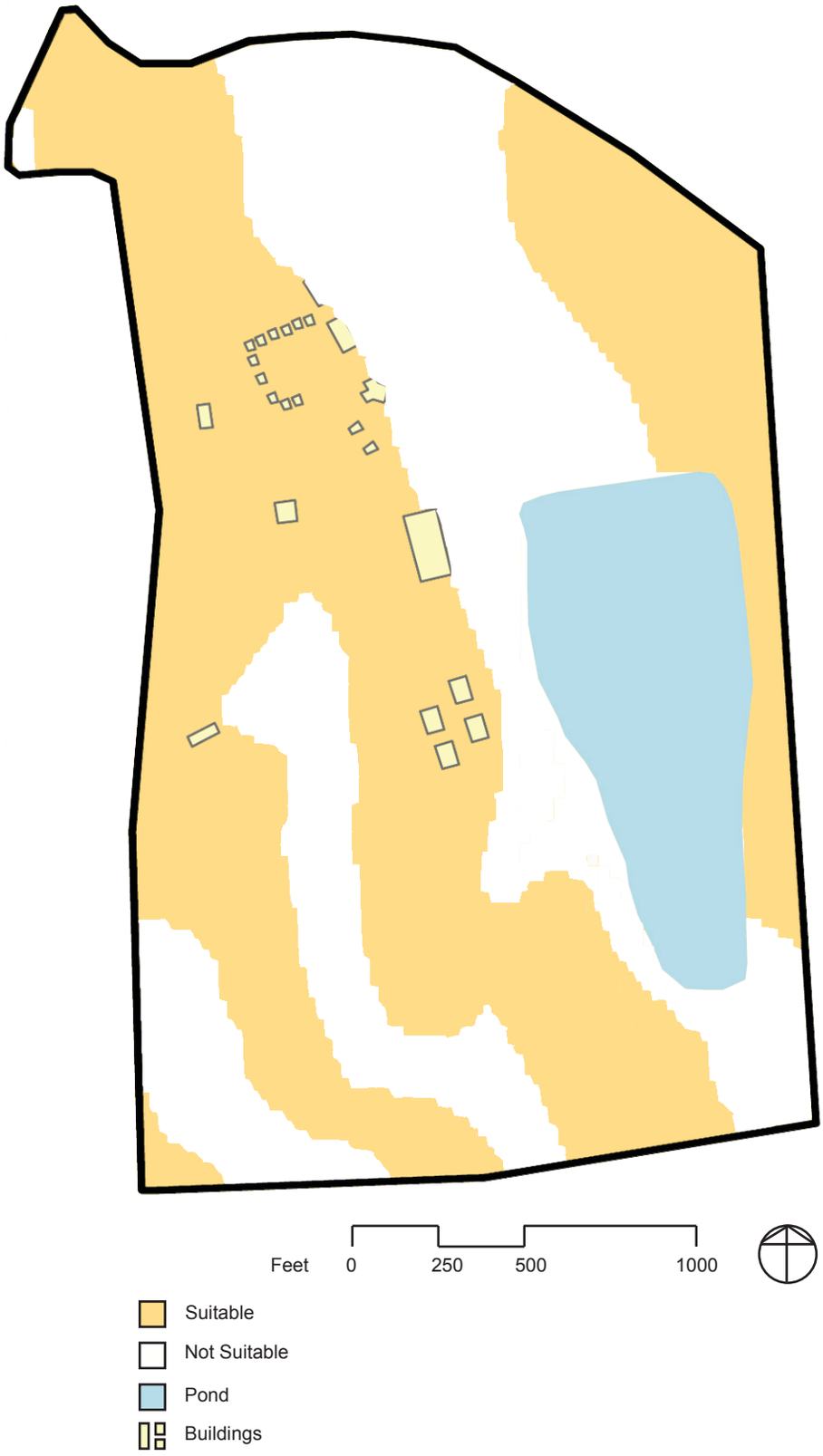



Figure 4.6 illustrates the areas within the greater main campus area of Camp Wood that are not suitable for the placement of the sleeping lodges constructed on a concrete slab because the soils are unsuitable for such development.

## Buffer

The staff at Camp Wood feels it is important to locate the sleeping lodges near the Ritchie Lodge. The future sleeping lodges should be located no further from the Ritchie Lodge than existing sleeping shelters. The furthest existing sleeping shelter is a bunkhouse located about 700 feet northwest of the Ritchie Lodge. Figure 4.7 shows the location of the furthest existing sleeping shelter as well as the areas within the greater main campus area of Camp Wood that are within 900 horizontal feet of the Ritchie Lodge. Areas within 900 feet of the Ritchie Lodge are considered suitable for the location of the sleeping shelters. An additional 200 feet was added to the previously discussed 700 feet with the idea that if there is a compelling reason to locate a sleeping lodge a bit further from the Ritchie Lodge, then campers would not mind walking the further distance. 900 feet can typically be walked in less than five minutes, even on a slope. Only land within these areas will be considered for the placement of the sleeping lodges constructed on a concrete slab.

Figure 4.7 - Sleeping Lodge Buffer Map

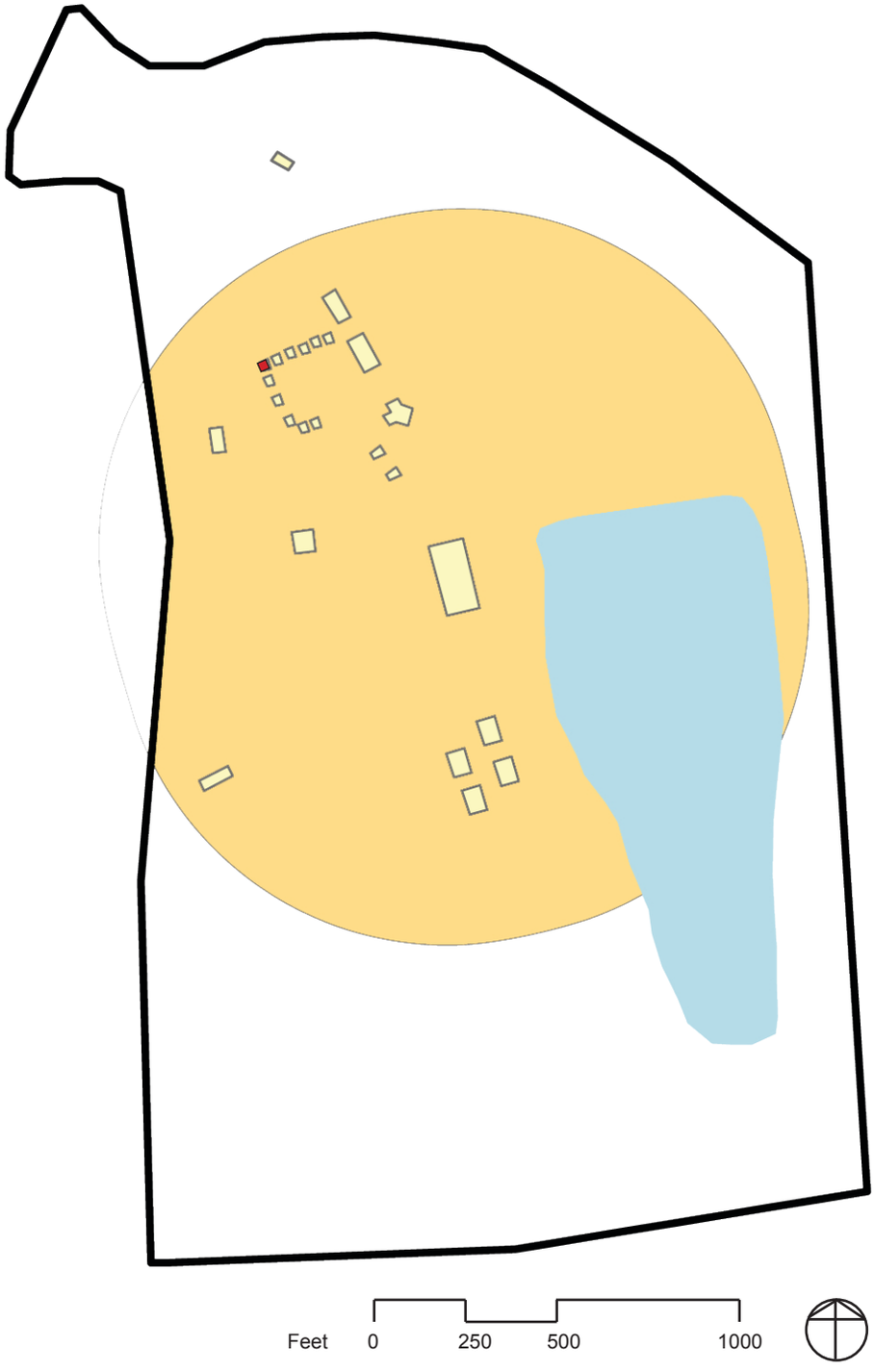



Figure 4.7 illustrates the areas within the greater main campus area of Camp Wood that are suitable for the placement of the sleeping lodges constructed on a concrete slab.

## Compilation Map

Figure 4.8 is a compilation of the previous suitability maps regarding the placement of sleeping lodges constructed on a concrete slab at Camp Wood. The areas labeled suitable are the areas that were assessed a suitable value in all of the previous suitability maps. These areas will be further explored for the location and design of the future sleeping lodges built on concrete slabs.

Figure 4.8 - Sleeping Lodge Compilation Map

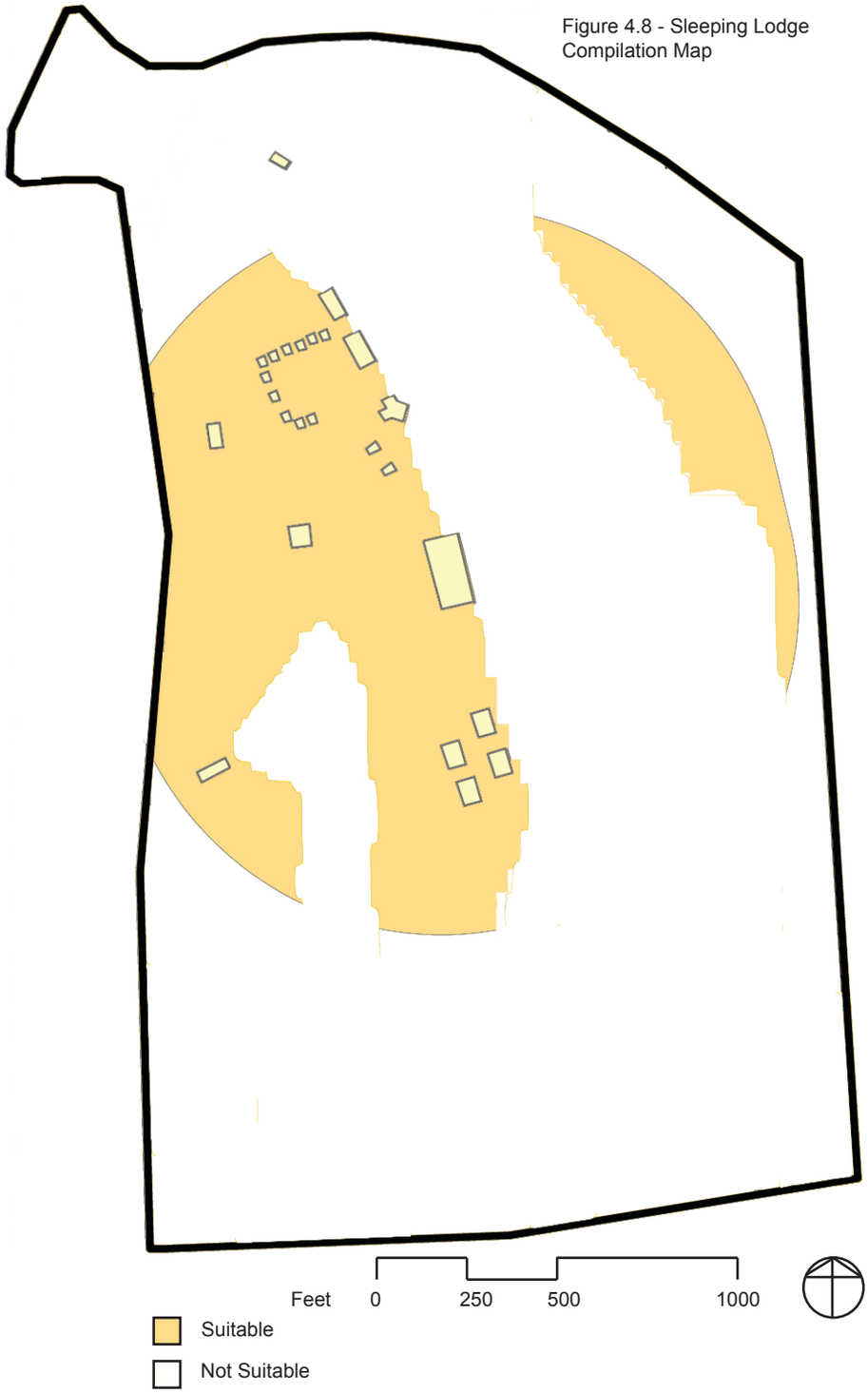



Figure 4.8 illustrates the areas within the greater main campus area of Camp wood that are not suitable for the placement of the sleeping lodges constructed on a concrete slab.

## Concrete Slab Sleeping Lodge Conclusions

The previous maps define suitable areas within the greater main campus area of Camp Wood for the future location of sleeping lodges built on a concrete slab. The sleeping lodges that will be constructed on a concrete slab will be located within 900 horizontal feet of the Ritchie Lodge, where slopes do not exceed 15 percent, where soils do not flood, and in areas having adequate soils for the development of a concrete slab structure. Figure 4.9 shows the aerial photo of the main campus area of Camp Wood. The areas assessed as suitable from the previous map are highlighted on top of the aerial photo.

Figure 4.9 - Sleeping Lodge Aerial Suitability Map


Figure 4.9 shows an aerial view with the boundaries of the spaces that are suitable for the placement of sleeping lodges constructed on a concrete slab.

## Sleeping Lodges Built on Stilts

In an effort to provide a completely different lodging experience from the existing sleeping structures, sleeping lodges could be constructed on stilts in wooded areas to create a tree-house living experience for the campers. The following maps help identify suitable areas within the greater main campus are of Camp Wood where sleeping lodges could be constructed on stilts.

### Buffer

Like the criteria for sleeping lodges constructed on a concrete slab, sleeping lodges constructed on stilts should be located within 900 horizontal feet of the Ritchie Lodge. Figure 4.10 shows the areas within the greater main campus area of Camp Wood that are within 900 horizontal feet of the Ritchie Lodge. Areas within 900 feet of the Ritchie Lodge are considered suitable for the location of the sleeping shelters constructed on stilts. Only land within these areas will be considered for the placement of the sleeping lodges constructed on stilts.

Figure 4.10 - Stilted Sleeping Lodge Buffer Map

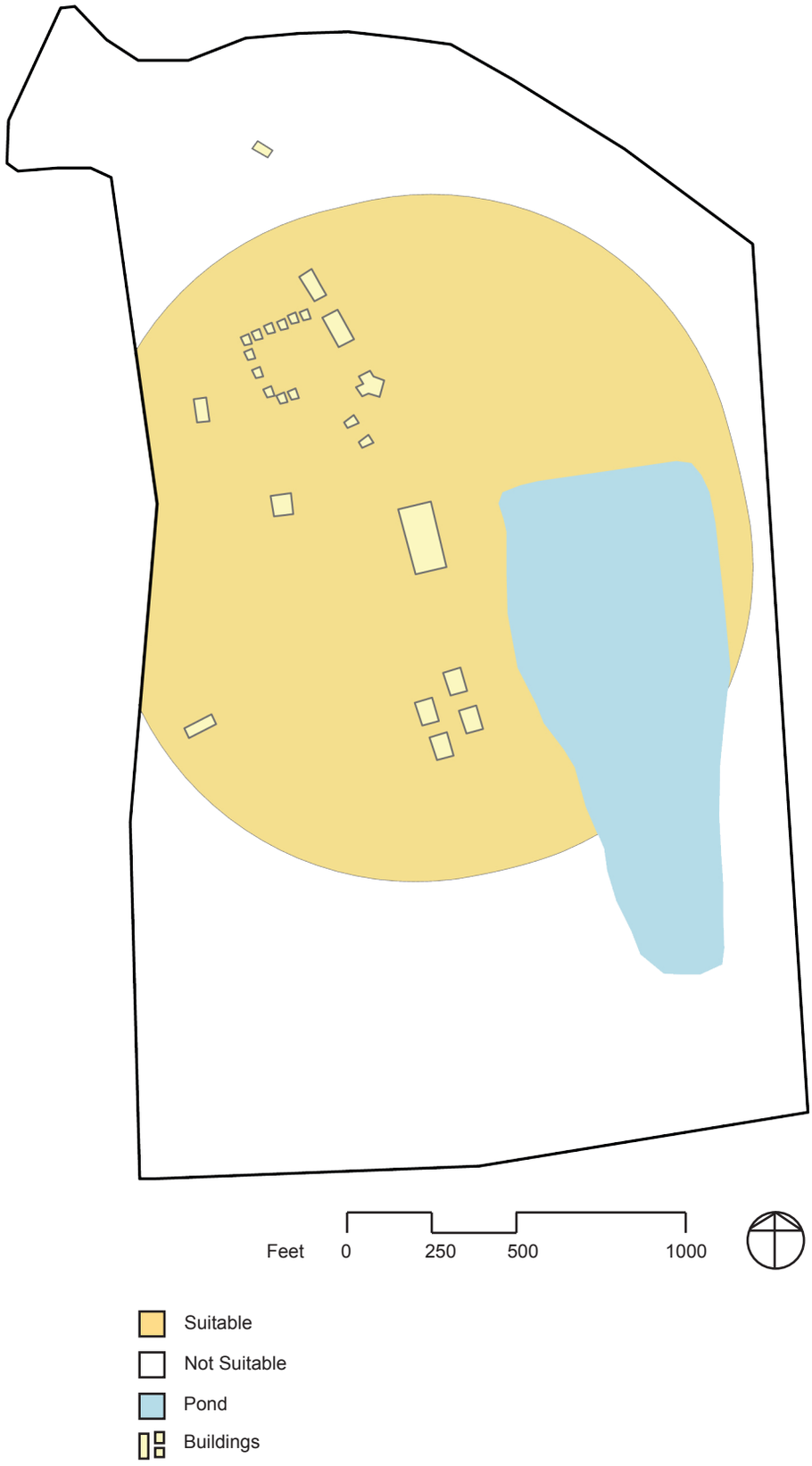



Figure 4.10 illustrates the areas within the greater main campus area of Camp Wood that are suitable for the placement of the sleeping lodges constructed on stilts.

## Vegetation

When considering the development of sleeping lodges constructed to provide a tree-house living experience, the most essential component would be for the sleeping lodges to be located in a wooded area. Figure 4.11 shows the areas within the greater main campus area of Camp Wood that consist of wooded vegetation. These areas are considered suitable for the development of sleeping lodges constructed on stilts. Only land within these areas will be considered for the placement of sleeping lodges constructed on stilts.

Figure 4.11 - Stilted Sleeping Lodge Vegetation Map

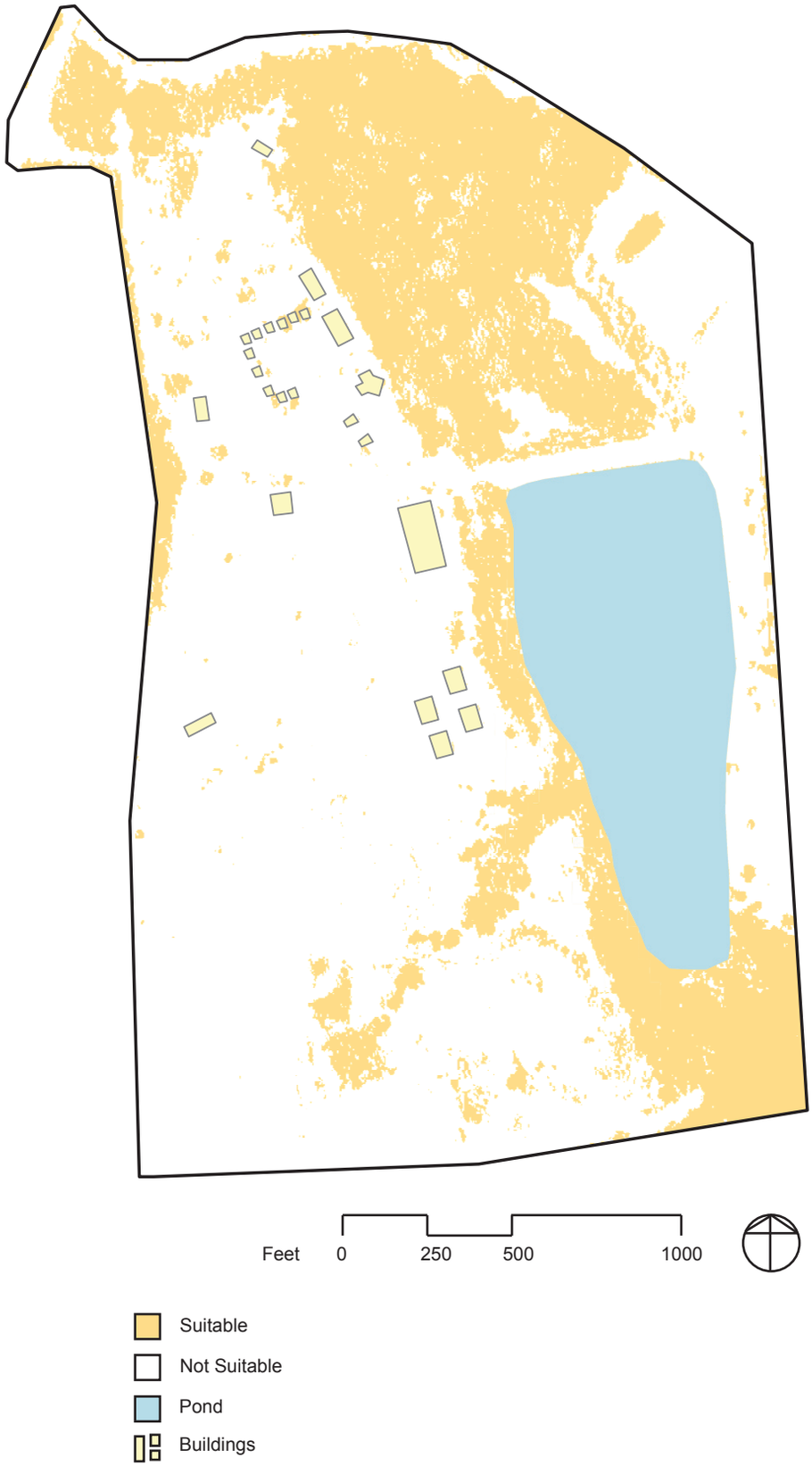



Figure 4.11 illustrates the areas within the greater main campus area of Camp Wood that are suitable for the placement of the sleeping lodges constructed on stilts.

## Compilation Map

Figure 4.12 is a compilation of the previous suitability maps regarding the placement of sleeping lodges constructed on stilts at Camp Wood. The areas labeled suitable are the areas that were assessed a suitable value for both of the previous suitability maps. These areas will be further explored for the location and design of the future sleeping lodges built on stilts.

Figure 4.12 - Stilted Sleeping Lodge Compilation Map

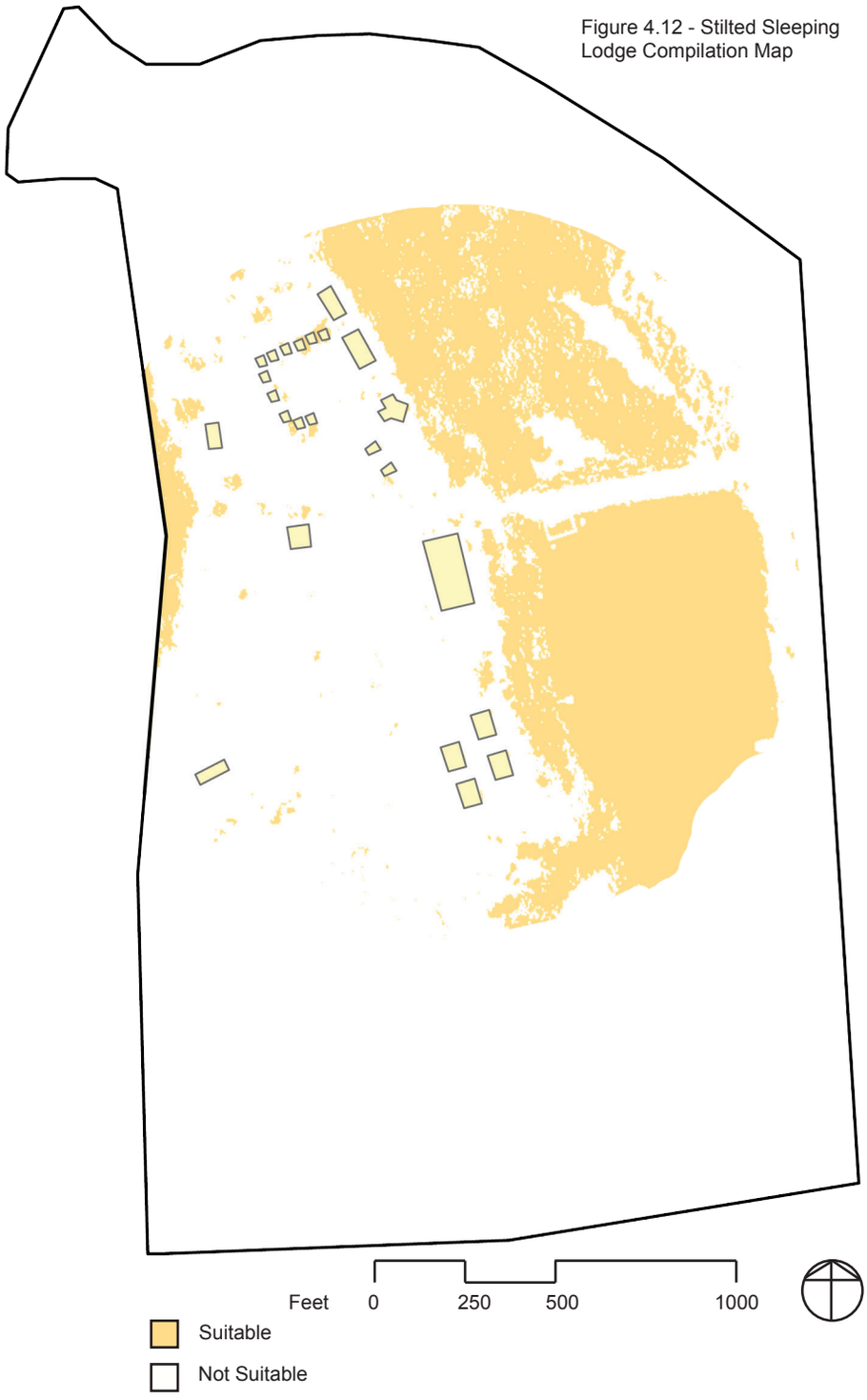



Figure 4.12 illustrates the areas within the greater main campus area of Camp wood that are suitable for the placement of sleeping lodges on stilts.

## Stilted Sleeping Lodge Conclusions

The previous maps define suitable areas within the greater main campus area of Camp Wood for the future location of sleeping lodges built on stilts. The sleeping lodges that will be constructed on a stilts will be located within 900 horizontal feet of the Ritchie Lodge and in an area consisting of wooded vegetation. Figure 4.13 shows the aerial photo of the main campus area of Camp Wood. The areas assessed as suitable from the previous maps are highlighted on top of the aerial photo.

Figure 4.13 - Stilted Sleeping Lodge Aerial Suitability Map

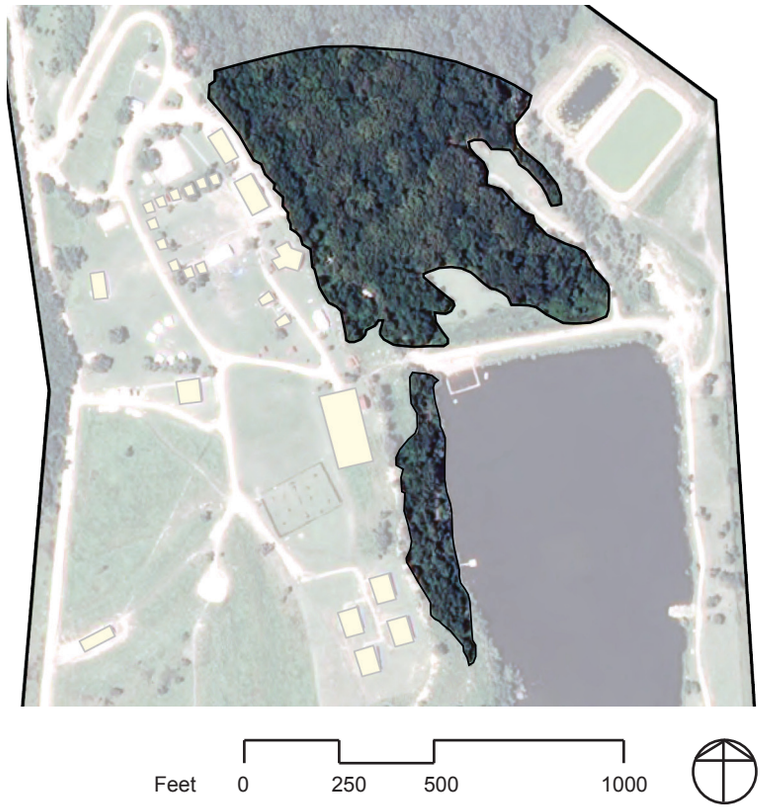



Figure 4.13 shows an aerial view with the boundaries of the spaces that are suitable for the placement of sleeping lodges constructed on stilts.

## Amphitheater Gathering Space

The staff at Camp Wood has expressed a desire to incorporate into the master plan a gathering space large enough to hold 350 campers. It makes sense to locate this space near the Ritchie Lodge as it is considered the main building at Camp Wood and is the only building that can accommodate 350 campers. An amphitheater gathering space would allow Camp Wood staff to easily address all the campers at once. This gathering space could serve as a space that campers socialize in between activities or before/after meals. Finally, an amphitheater space would allow campers to perform skits or concerts for one another.

### Slope Aspect

Figure 4.14 is a slope aspect map which illustrates the direction every piece of land is oriented towards within the greater main campus area. The orientation of the amphitheater gathering space is very important. If the space is oriented such that the audience faces south, southeast, or southwest, the audience could be facing directly towards the sun. Figure 4.14 highlights the areas within the main campus area of Camp Wood having an aspect of south, southeast, or southwest. These areas are considered to be not suitable and will not be considered for the placement of the amphitheater gathering space.

Figure 4.14 - Amphitheater Slope Aspect Map

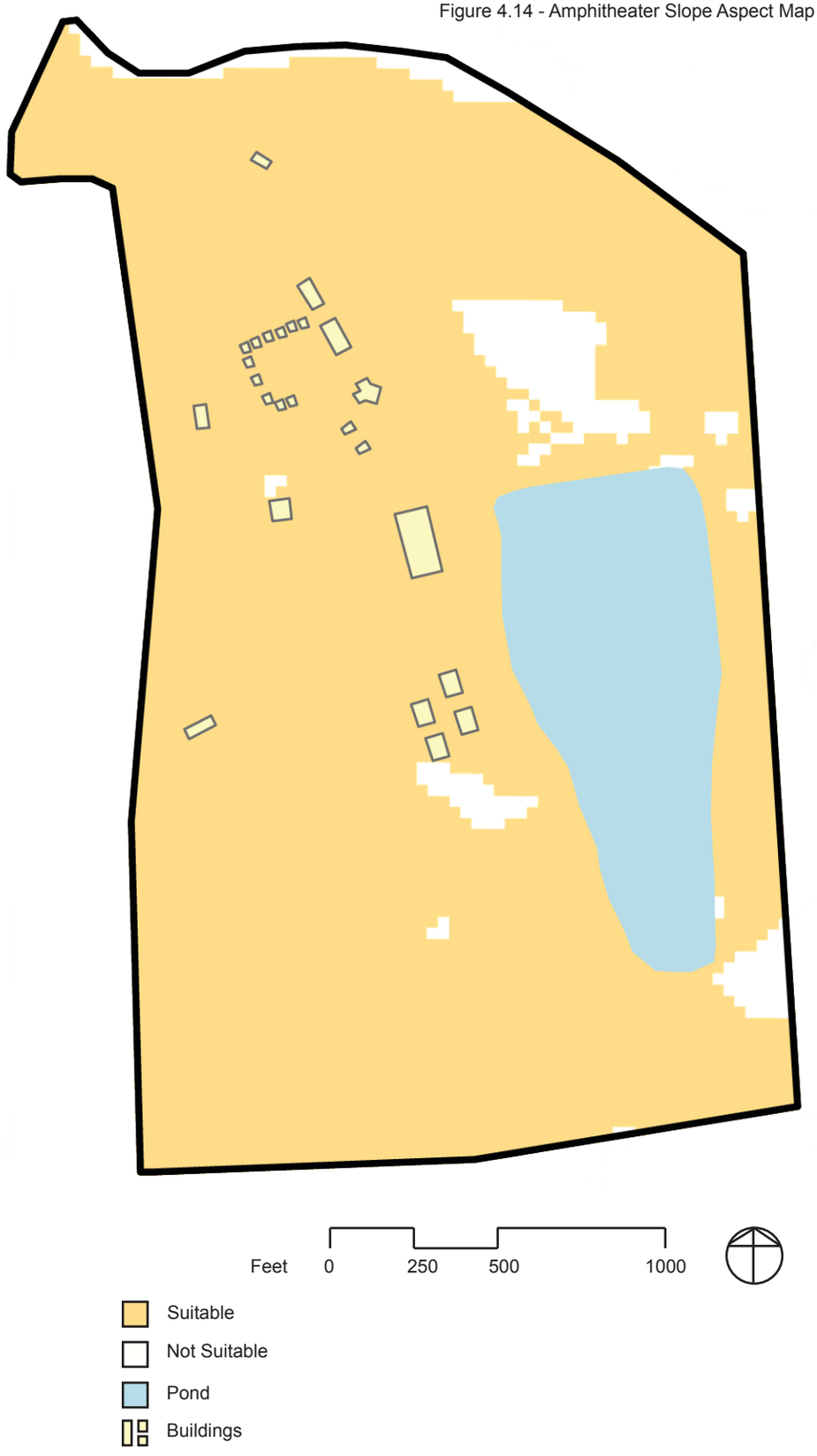



Figure 4.14 illustrates the areas within the greater main campus area of Camp Wood that are unsuitable for the placement of the amphitheater due to the aspect, or direction in which they are oriented.

### Slope Percentage

An amphitheater space designed to utilize existing topography will result in less excavation costs as the sitting terraces will step down more naturally with the existing terrain. Because funding is a major issue for any program element to be implemented at Camp Wood, it is important that the cost of excavating be kept to a minimum by taking advantage of existing slopes. Slopes greater than 15 percent may become too expensive to excavate a large amphitheater space for Camp Wood. Figure 4.15 shows the areas within the greater main campus area of Camp Wood where the slopes exceed 15 percent. Areas within these boundaries are considered to be not suitable and will not be considered for the placement of the amphitheater gathering space.

Figure 4.15. Amphitheater Slope Percentage Map

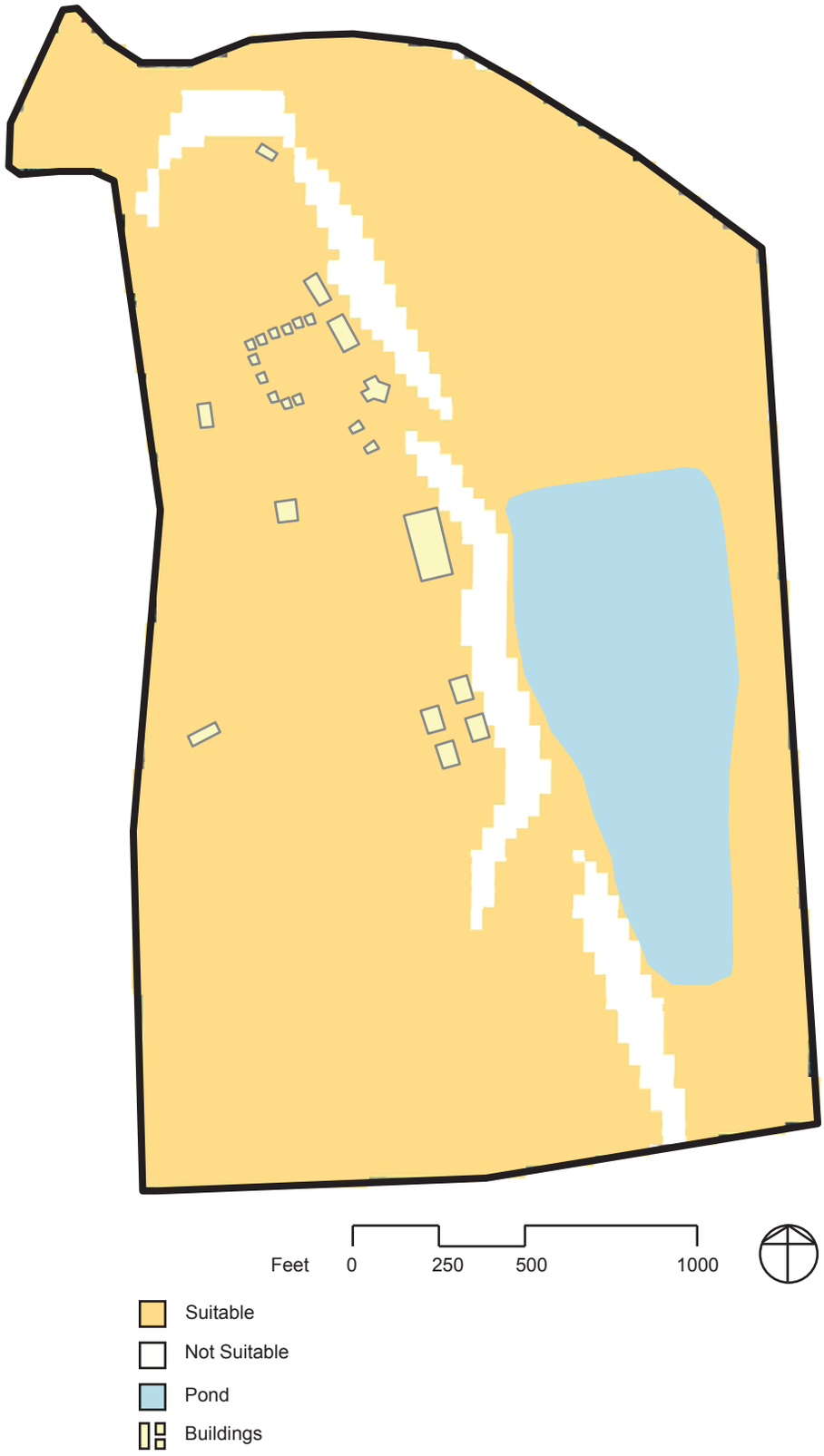



Figure 4.15 illustrates the areas within the greater main campus area of Camp Wood that are not suitable for the placement of the amphitheater gathering space because of steep slopes.

## Vegetation

An amphitheater space large enough to hold 350 campers will occupy several thousand square feet. If this space were located within a wooded area, a large number of trees would need to be removed which would be expensive as well as an unnecessary disturbance to the landscape. Locating the gathering space where there are no trees would be much more financially beneficial. Figure 4.16 highlights the areas within the greater main campus area of Camp Wood that are wooded. These areas will not be considered for the location of the amphitheater gathering space.

Figure 4.16 - Amphitheater Vegetation Map

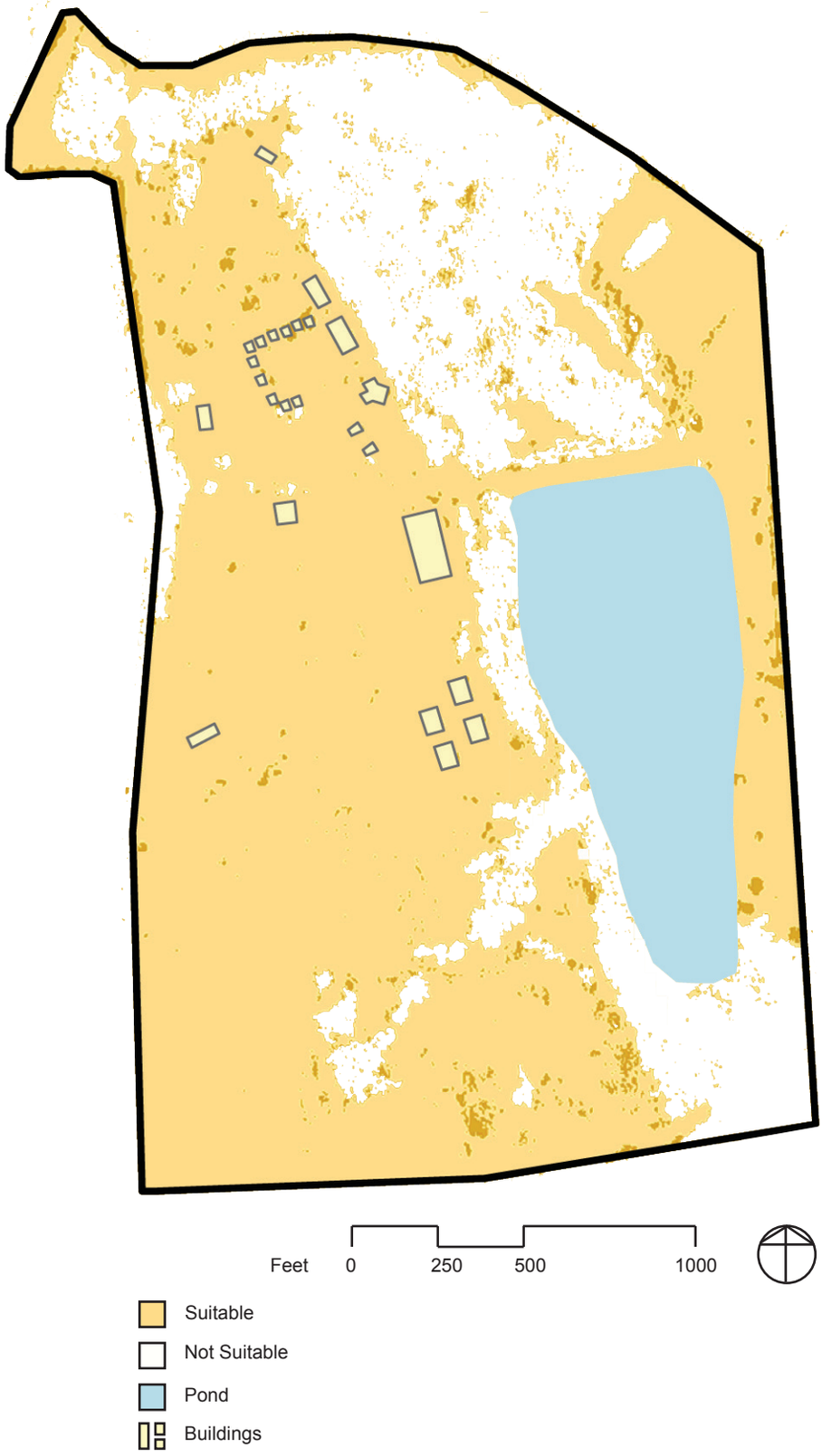



Figure 4.16 illustrates the areas within the greater main campus area of Camp Wood that are not suitable for the placement of the amphitheater because they are wooded areas.

### Buffer

Figure 4.17 highlights the areas within the main campus area of Camp Wood that lie within 400 feet of the Ritchie Lodge. This is a distance from the Ritchie Lodge that can be walked in one or two minutes by most people. Only land within this delineated area will be considered for the placement of the amphitheater gathering space.

Figure 4.17 - Amphitheater Buffer Map

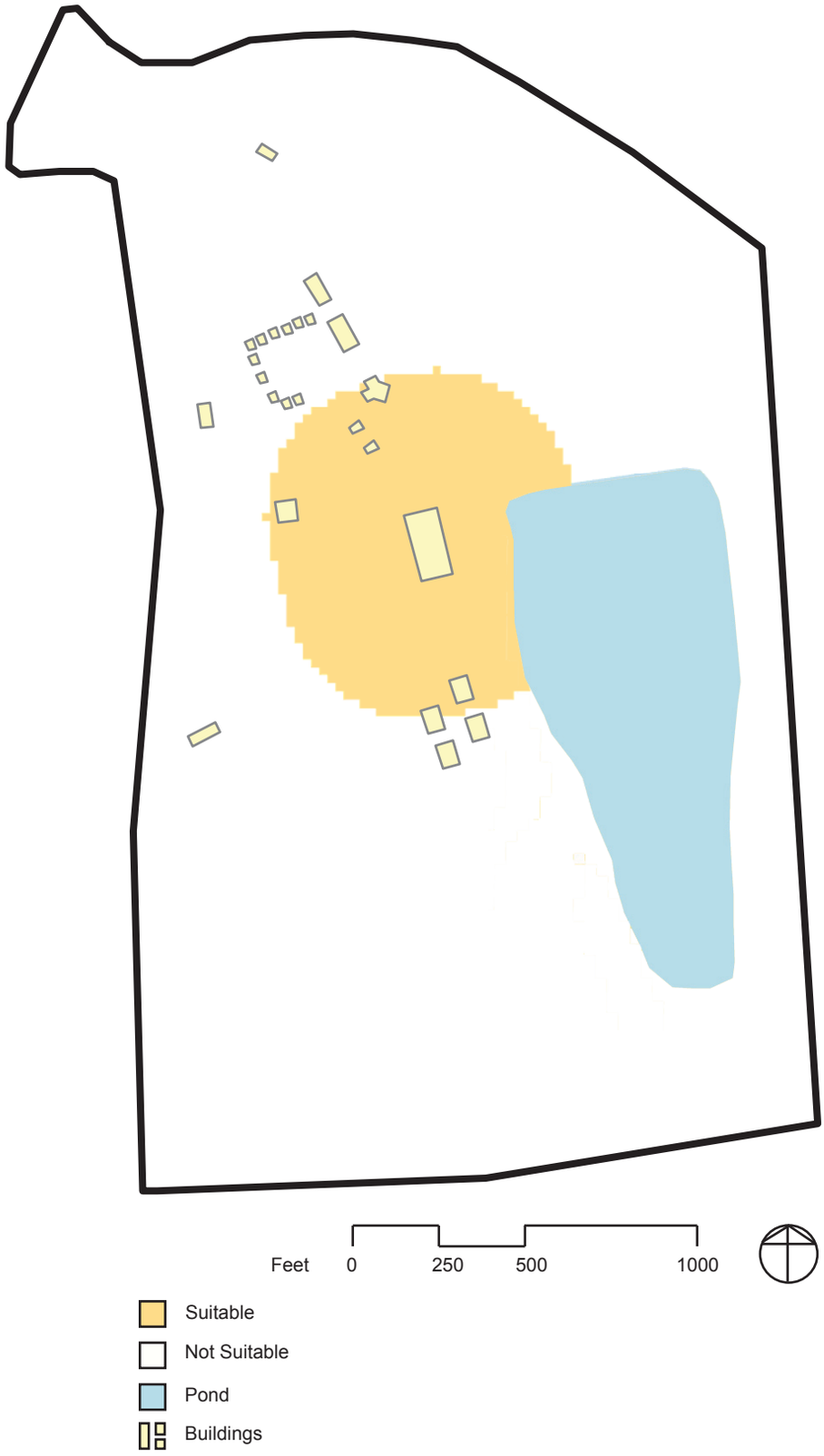



Figure 4.17 illustrates the areas within the greater main campus area of Camp Wood that are suitable for the placement of the amphitheater as they are within 400 horizontal feet of the Ritchie Lodge.

## Compilation Map

Figure 4.18 is a compilation of the previous suitability maps regarding the amphitheater. The areas labeled suitable are the areas that were assessed a suitable value in all of the previous suitability maps. These highlighted areas will be further explored for the location and design of an amphitheater gathering space.


Figure 4.18 - Amphitheater Compilation Map

Figure 4.18 highlights the areas within the greater main campus area of Camp Wood that are suitable for the placement of an amphitheater.

## Amphitheater Gathering Space Conclusions

The amphitheater gathering space will be designed to hold 350 campers and will be located near the Ritchie Lodge. The space will utilize existing topography and will not be located in a wooded area. Figure 4.19 shows the aerial photo of the main campus area of Camp Wood. The areas assessed as suitable from Figure 4.18 are highlighted on top of the aerial photo.

Figure 4.19 - Amphitheater Aerial Suitability Map


Figure 4.19 shows an aerial view with the boundaries of the spaces that are suitable for the placement of the amphitheater gathering space.

## Playing Field

The staff at Camp Wood keeps the campers busy every day with an assortment of different activities from morning until night. The campers pick which activities they partake in, but they do not have a great deal of time throughout the day to do “whatever they want.” During the transition times between meals and activities, soccer seems to be a popular activity. This impromptu activity allows social interaction between campers in a way that most of the other camp activities can not provide. Soccer is a competitive activity, usually played between two teams and usually resulting with a winning team and a losing team. This element allows the athletes, at least half of them, to feel a sense of achievement.

The existing playing field is north of the Ritchie Lodge and consists of two small, steel, movable goals. The land slopes from one side to the other at about five percent, which is not extremely steep, however, a playing field with about two to three percent slope is optimal. The condition of the turf could be improved as well. The location and orientation of the field works, but it currently lacks a sense of place and has no pathways leading to or from its location. Figure 4.20 below shows the soccer field’s location in relation to the Ritchie Lodge. Figure 4.21 shows a view of the soccer field looking south towards the Ritchie Lodge.

In an effort to find the most appropriate place within Camp Wood to place a playing field, there are a few important criteria to consider that help narrow the site considerably in terms of suitability. Each criteria is discussed and supplemented with a suitability map. The three maps are then combined to show areas within Camp Wood to be further considered for the placement of the playing field.

Figure 4.20 - Existing Playing Field Location Map

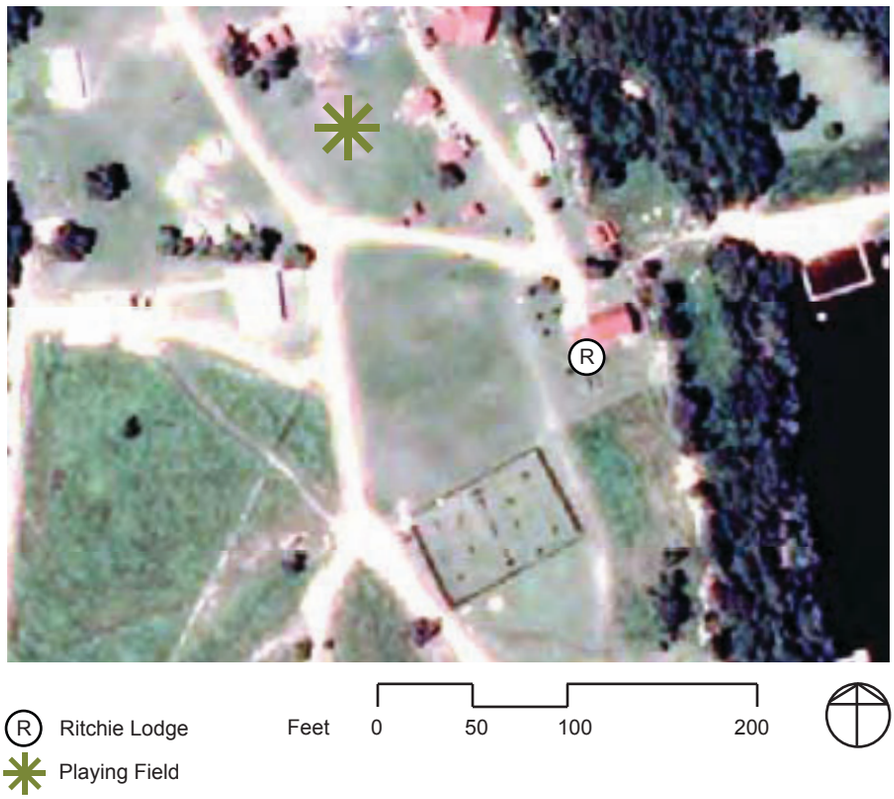



Figure 4.20 shows the location of the existing playing field in relation to the Ritchie Lodge.

Figure 4.21 - Playing Field

Figure 4.21 shows existing playing field at Camp Wood. (Photo by Aaron Mitchell)

## Slope Percentage

The usefulness of a piece of land for the purpose of a playing field is largely determined by the slope of the land. Playing fields need some slope to allow proper drainage, but steep slopes are not desirable. A side slope of about two or three percent is optimal. Excavating the existing terrain to a suitable grade is one way to obtain proper slopes for a playing field. After a certain point, however, existing terrain becomes too steep to excavate for a playing field because of high excavation costs. Figure 4.22 shows the areas within the greater main campus area of Camp Wood where the existing slopes are less than six percent. Only land within these delineated areas will be considered for the placement of the playing field.

Figure 4.22 - Playing Filed Slope Percentage Map

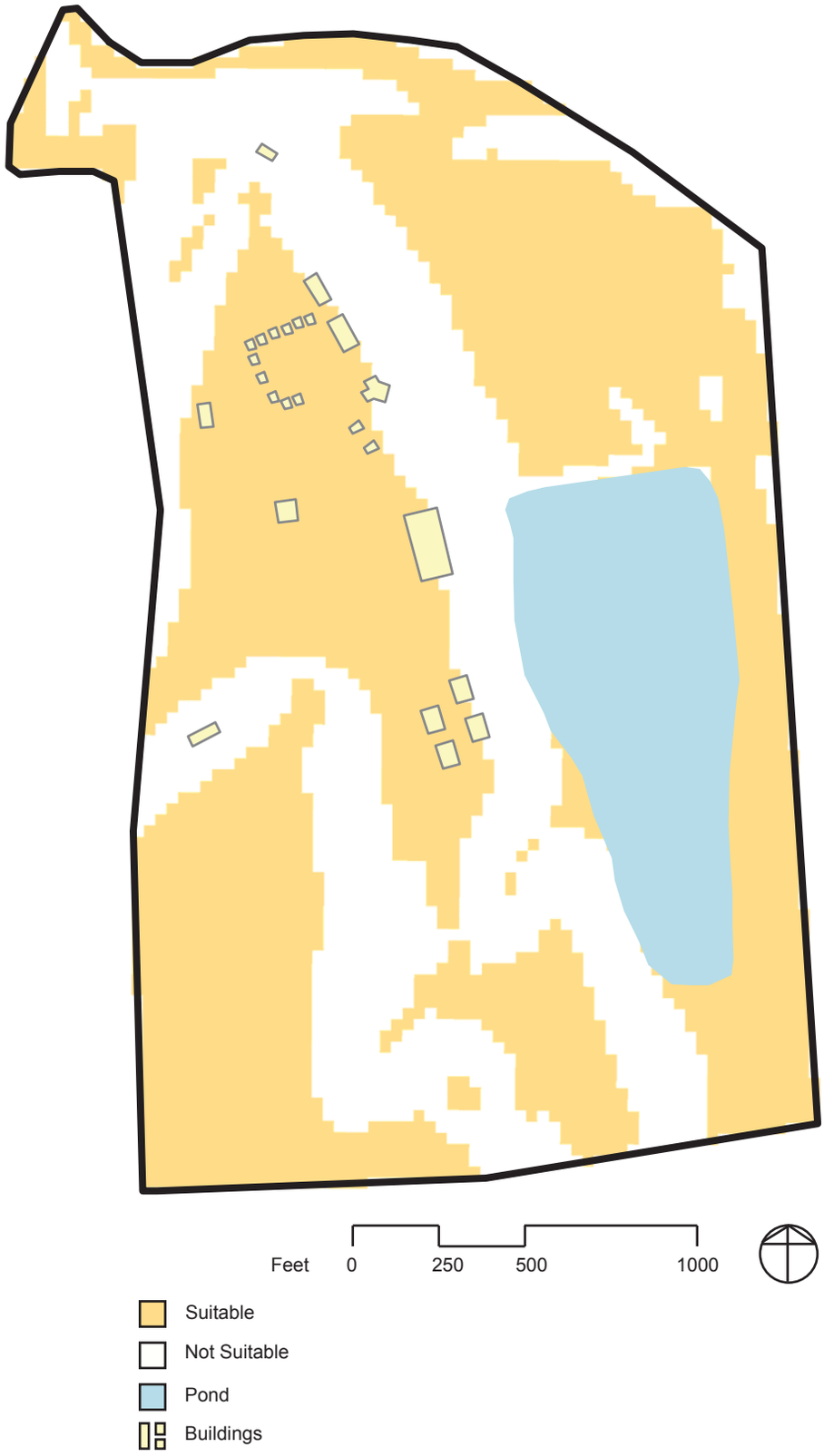



Figure 4.22 shows the areas within the greater main campus area of Camp Wood that are unsuitable for the placement of the proposed playing field.

## Vegetation

The areas within Camp Wood that are dominated by wooded vegetation are unsuitable for the placement of a playing field. If a playing field were to be located within a wooded area, the removal of several trees would be required. If several trees were removed, the soil would continue to settle for several years as the root systems of the trees would continually decompose and create an uneven playing surface. Therefore, areas dominated by wooded vegetation are unsuitable for the placement of a playing field. Figure 4.23 illustrates the areas within the greater main campus area of Camp Wood that are not suitable for the placement of the playing field. Land within these delineated areas will not be considered for the placement of the playing field.

Figure 4.23 - Playing Field Vegetation Map

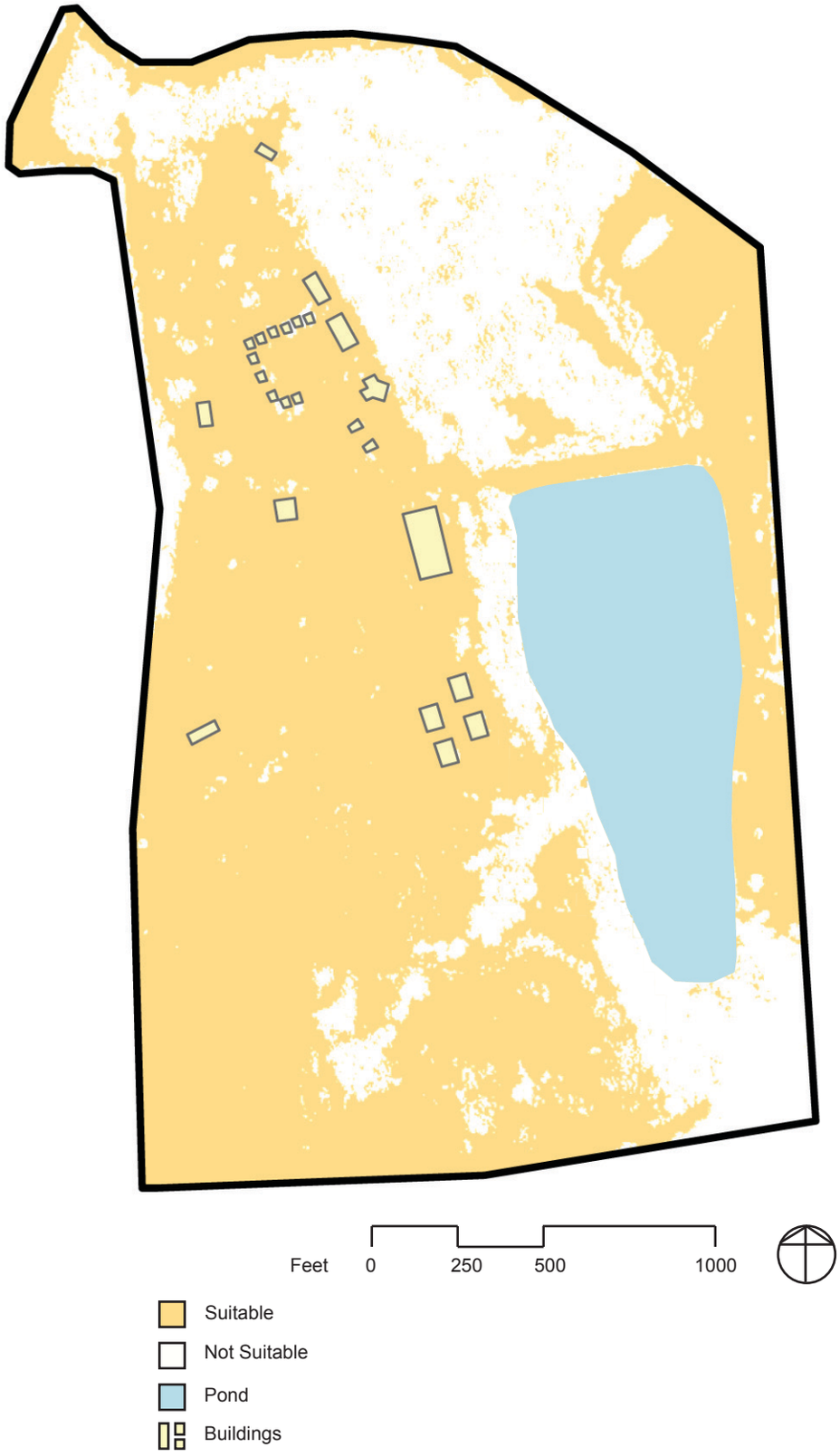



Figure 4.23 illustrates the areas within the greater main campus area of Camp Wood that are not suitable for the placement of the playing field due to existing wooded vegetation.

## Buffer

The staff has stressed the importance of the playing field to be located no further from the Ritchie Lodge than where it currently sits which is about 400’ away. As previously stated, soccer seems to be a popular activity, and locating the field within one or two minutes walking distance from the Ritchie Lodge allows campers to easily access it between activities. Figure 4.24 shows the greater main campus area of Camp Wood. A 400’ buffer area is shown surrounding the Ritchie Lodge. The land within this delineated area is considered suitable and will be considered further for the placement of the playing field.

Figure 4.24 - Playing Field Buffer Map

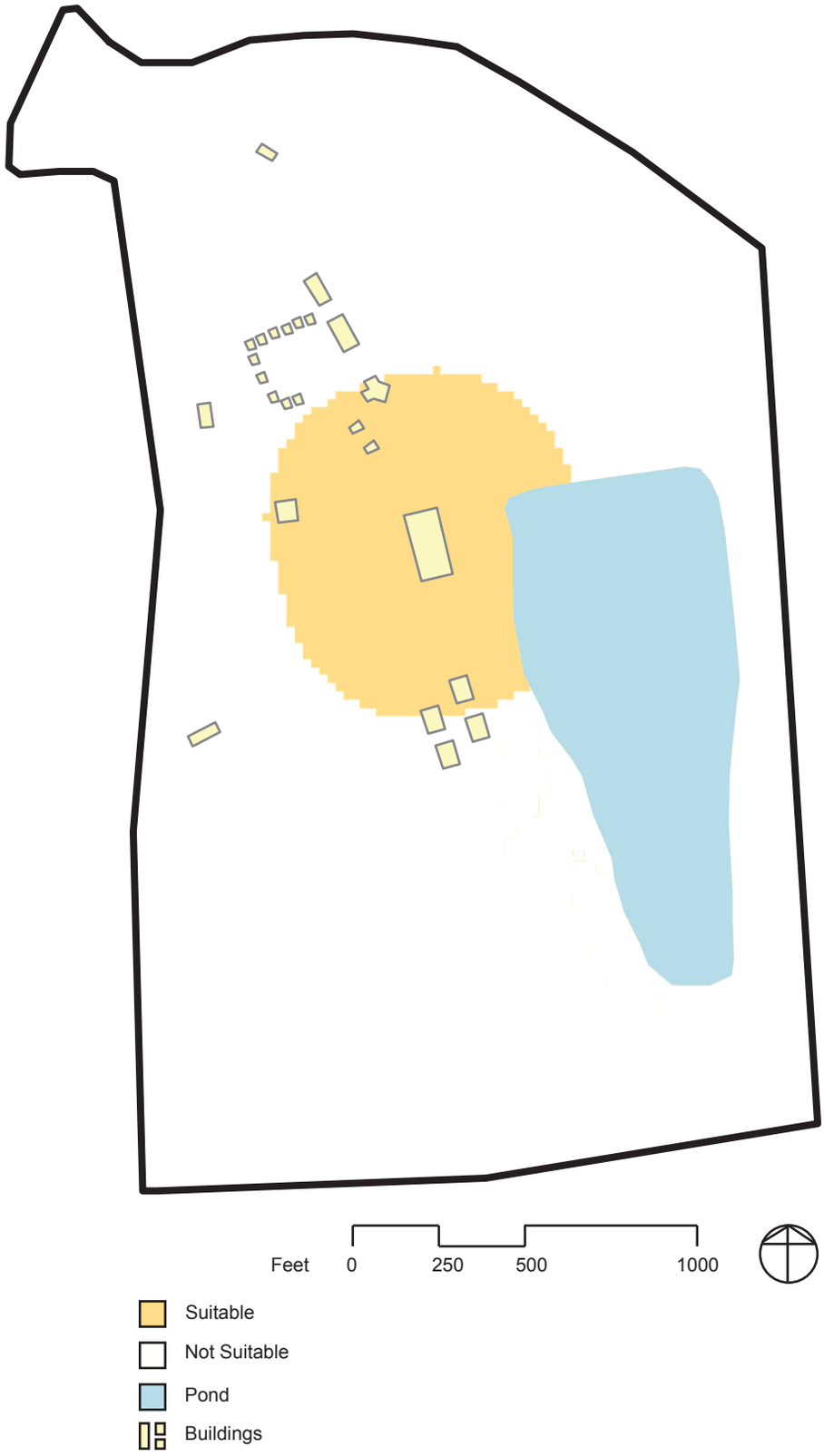



Figure 4.24 illustrates the areas within the greater main campus area of Camp Wood that are suitable for the placement of the playing field as they are within 400 feet of the Ritchie Lodge.

## Compilation Map

Figure 4.25 is a compilation of the previous suitability maps regarding the proposed playing field. The areas labeled suitable are the areas that were assessed a suitable value in each of the previous suitability maps. These areas will be further explored for the location of the playing field.

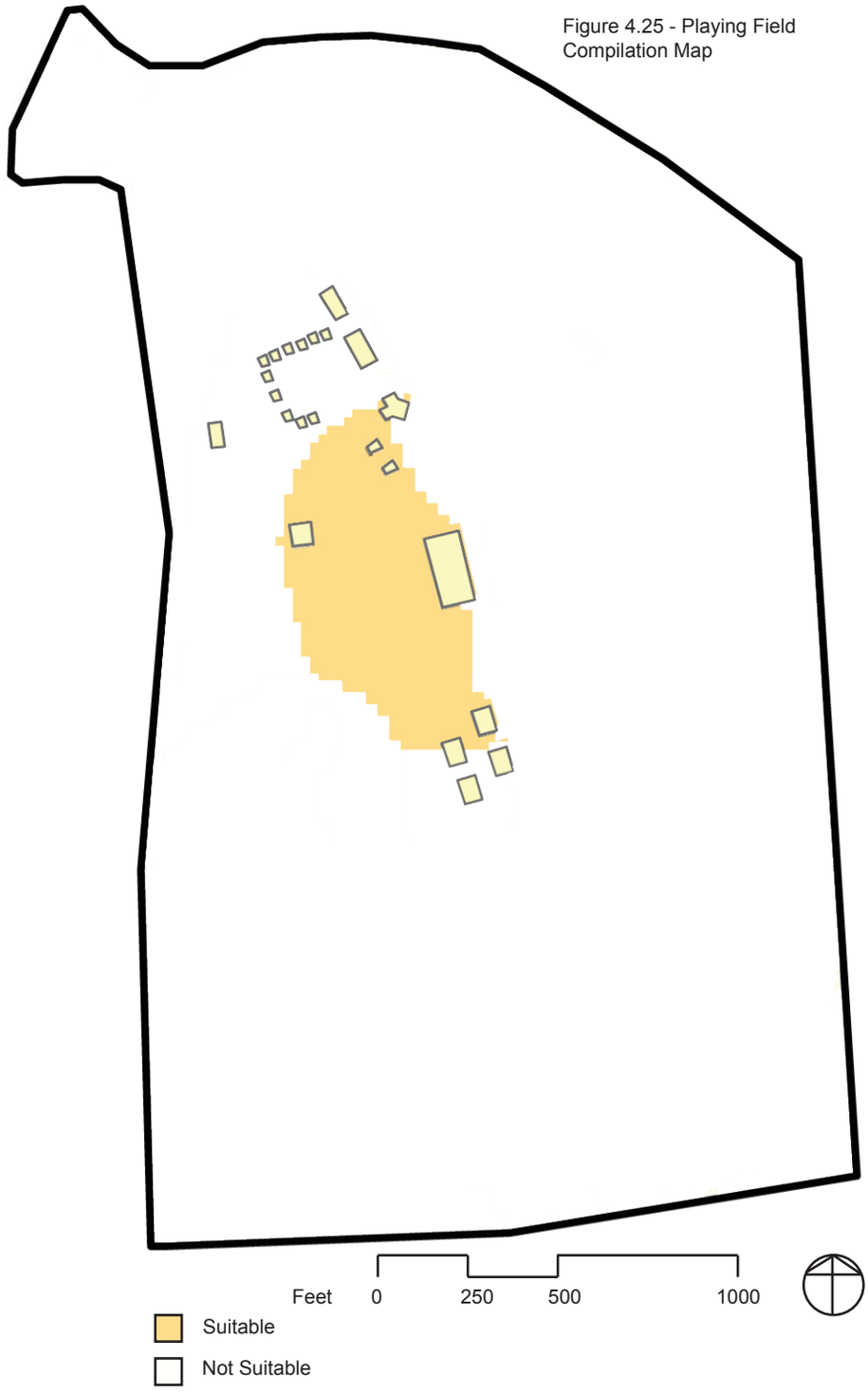



Figure 4.25 highlights the areas within the greater main campus area of Camp Wood that are suitable for the placement of the playing field.

Figure 4.26 shows the aerial photo of a portion of the greater main campus area of Camp Wood. The areas assessed as suitable from the previous maps are highlighted on top of the aerial photo.

Figure 4.26 - Playing Field Aerial Suitability Map

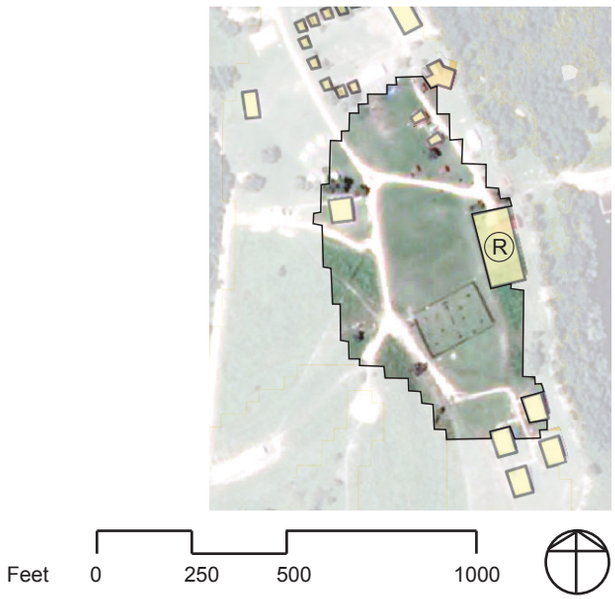



Figure 4.26 shows an aerial view with the boundaries of the spaces that are suitable for the placement of the playing field.

## Soils

Figure 4.27 shows the soil boundaries as they exist within the main campus area of Camp Wood. The boundary identifying the area suitable for the playing field is also shown. Nearly all of the area within the suitability boundary falls within the soil type, Clime-Sogn-Complex. Clime-Sogn-Complex is a rocky soil type and is classified as being somewhat limited for shallow excavations. Excavation within this soil will be difficult. The Clime-Sogn-Complex is a well drained soil and has no flooding potential. This soil type is classified as being very limited on its ability to support a healthy and attractive stand of turf grass for the purpose of a playing field.

## Playing Field Conclusions

The playing field offers another chance for campers to have social interaction at a competitive level. A thoughtful location for the playing field as well as a sensible circulation system connecting it to the rest of the camp will give the playing field the sense of place it currently lacks. Because of the rocky soil conditions, soils that are well suited for athletic fields will need to be brought in so that desired slopes can be achieved and so that the field can support a healthy stand of turfgrass.

Figure 4.27 - Playing Field Suitability Boundary on Soils Map

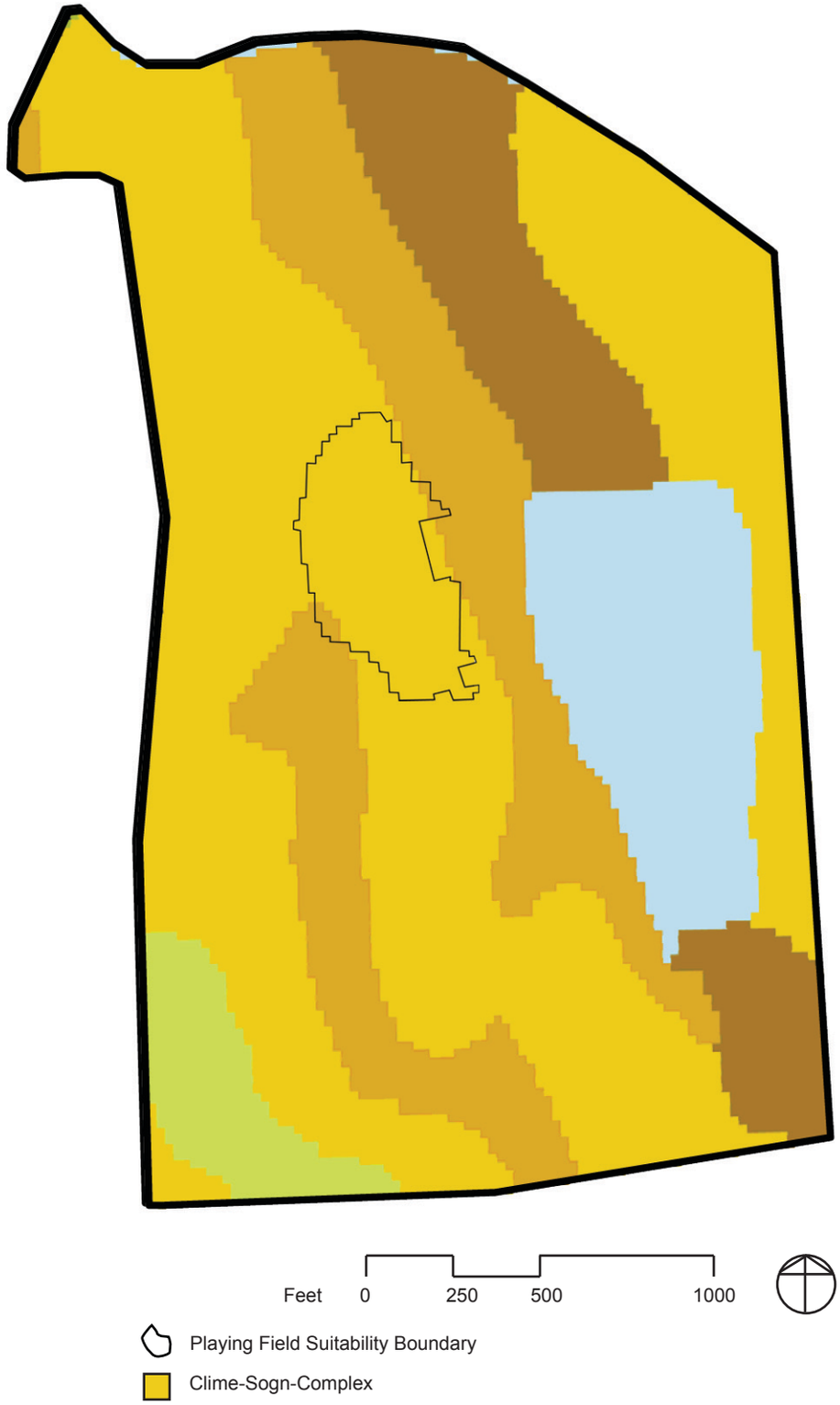



Figure 4.27 illustrates that the suitability boundary falls almost completely with the Clime-Sogn-Complex soil type.

## Environmental Study Areas

By creating environmental study areas throughout Camp Wood, campers can learn about different ecological concepts as they apply to the Flint Hills Region. The concept is that through discovery and inspiration, campers can acquire a sense of responsibility to be a good steward of the land. These spaces are also opportunities to provide fun activities for campers to partake in that will help them build self-confidence as well as help them build social skills while interacting with other campers.

Proper location of these environmental study areas is an important factor in making this program element a success. Figure 4.28 shows that the best places to locate these study areas are where areas of discovery and areas of inspiration overlap.

Figure 4.28 - Discovery and Inspiration Diagram

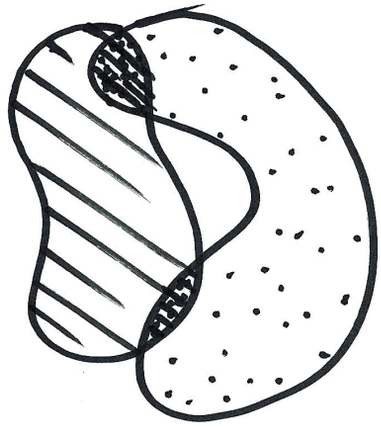


Figure 4.28 demonstrates the overlap of discovery spaces and inspiration spaces.

Kevin Lynch talks about nodes and pathways in his book, Image of the City. He discusses how nodes are often formed from the junction of two pathways and how these spaces are important. People must make decisions at junctions, and it is in these spaces that people pay close attention and perceive their surroundings with a heightened sense of awareness (Lynch 1960, 72). Figure 4.29 shows the junction of two pathways and how that junction can become a node.

Figure 4.29 - Node Diagram

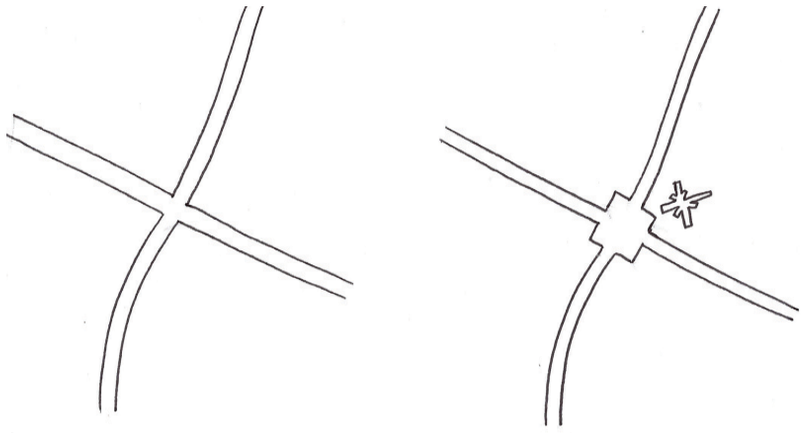


Figure 4.29 illustrates that the junction of two pathway forms a node.

Therefore, the best place to locate an environmental study area is at the juncture of two pathways occurring within both a discovery and an inspiration area. A study area that meets these criteria allows discovery, inspiration, and a more focused attention. Figure 4.30 illustrates the combination of these ideas.

Figure 4.30 - Discovery, Inspiration, and Node Diagram

Figure 4.30 illustrates a node formed from the junction of two pathways occurring within a space that offers both discovery and inspiration.

# SITE ANALYSIS: Environmental Study Areas

## Discovery Areas

The discovery experience is about familiarizing campers with several different natural features found throughout Camp Wood. The idea is to locate the environmental study areas in places that allow the campers to be submerged in the natural systems they are learning about. Doing so will allow for a more hands-on experience and should be fun and exciting for the campers. By creating a number of different spaces throughout the camp, campers must explore the landscape to locate the different features, making the whole experience an adventure.

Campers exploring Camp Wood will discover many natural systems and features including soils, vegetation, hydrology, slopes, geological features, habitats, and more. As campers see, touch, hear, smell, and maybe even taste different features, they begin to build a relationship with nature.

The potential systems, features, and relationships to be learned within the Flint Hills quickly exceed the attention span for most youth. It is unrealistic to think that every possible facet of ecology could be covered within a week's time or that any system, process, or feature could be discussed in depth without losing the campers' attention. Instead, it may be sufficient to expose campers to different systems, explain generally how they form and function, show why they are important, and help them realize how their actions impact the environment as a whole.

The features that provide discovery are elements that are easily recognizable: prairie grasses, a river corridor, a dry creek bed, layers of rocks protruding from the earth, the transitional areas between prairie and wooded areas, and more. These features are mapped on Figures 4.31 and 4.32. Two maps are shown instead of one for clarity purposes. Each map shows areas within Camp Wood that can provide an experience of discovery.

Figure 4.31 - Environmental Study Areas - Discovery Features Map 1

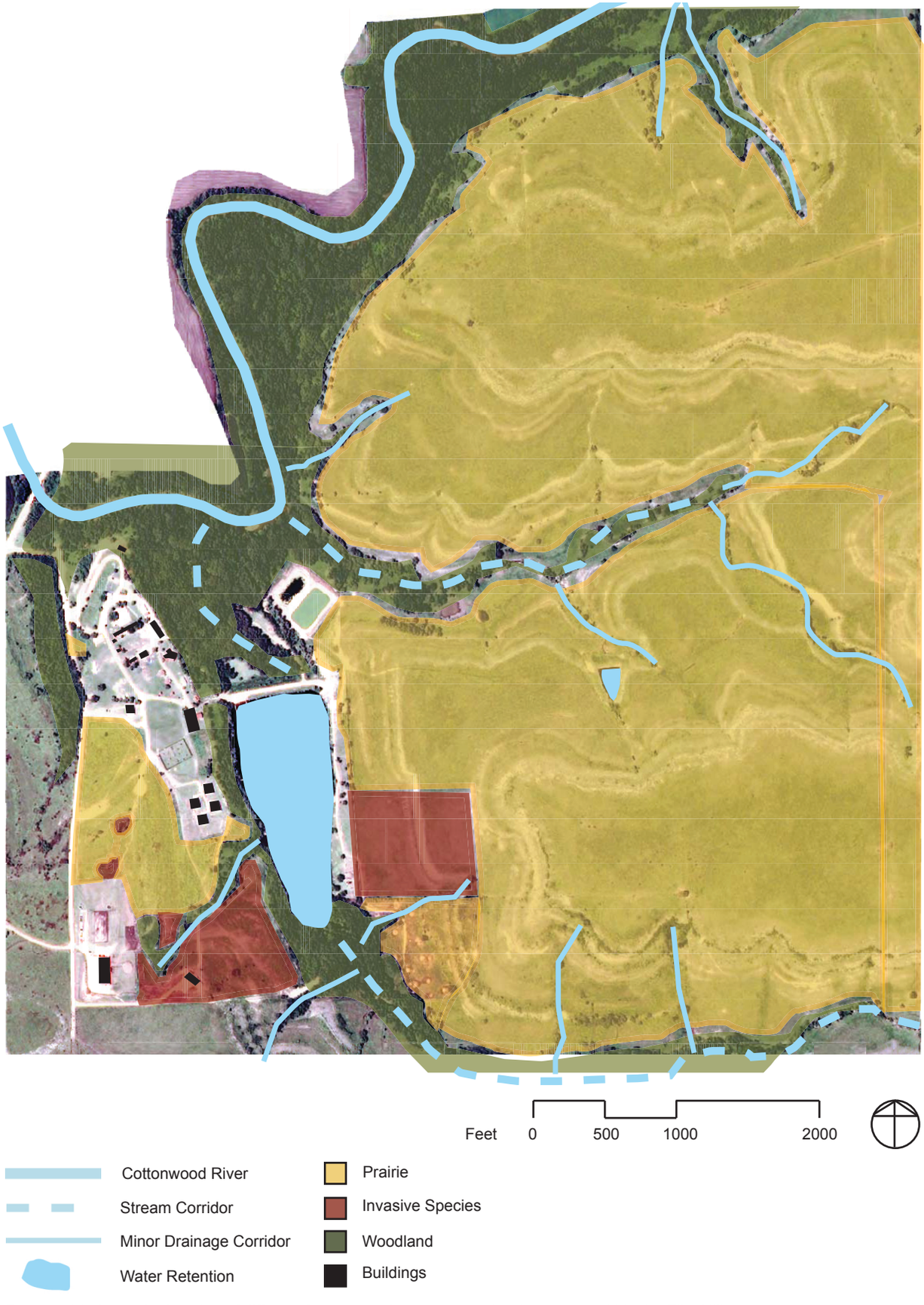



Figure 4.31 shows the location of different features and processes to be discovered within the Flint Hills.

Figure 4.32 - Environmental Study Areas - Discovery Features Map 2

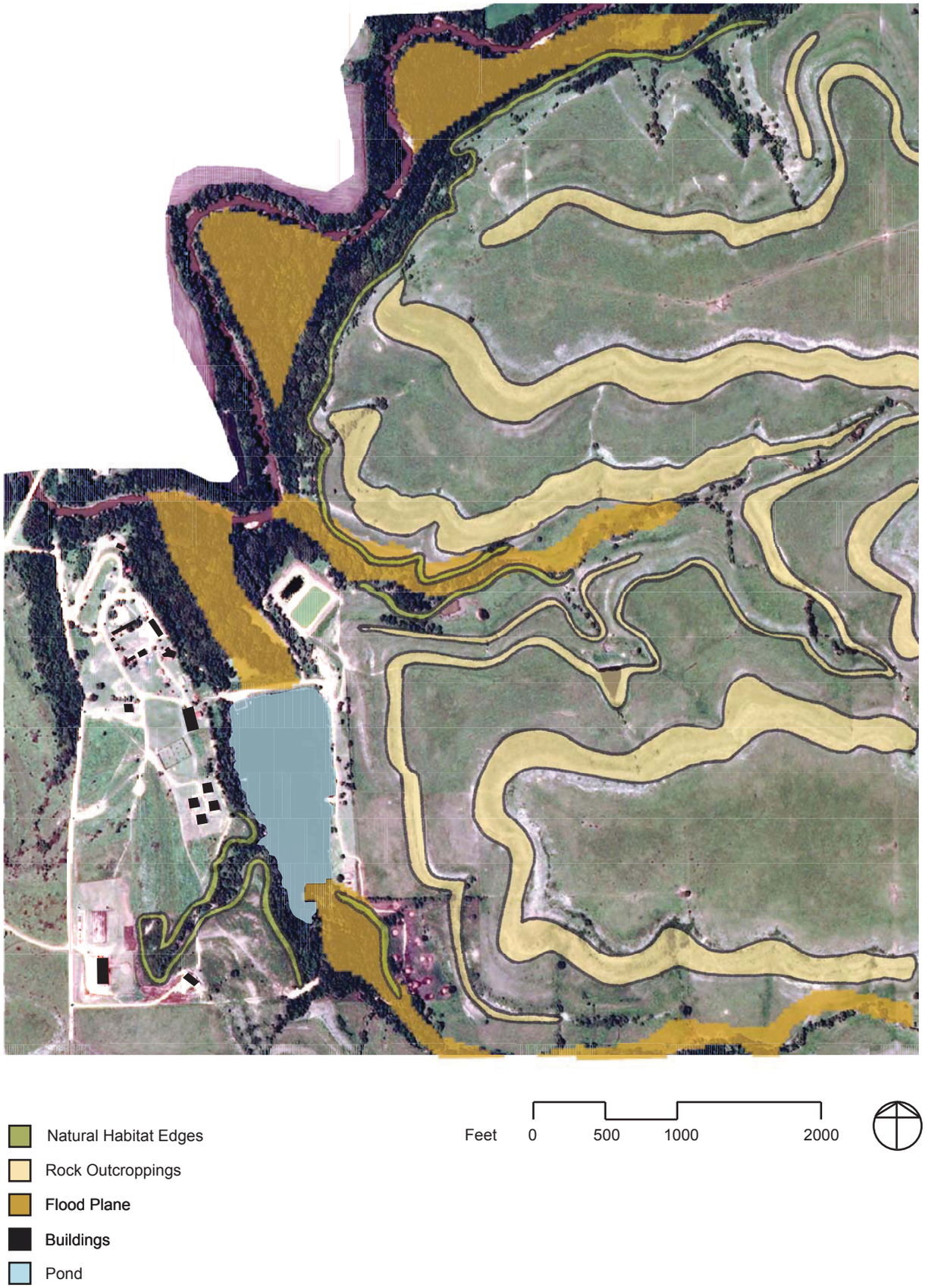



Figure 4.32 shows the location of different features and processes to be discovered within the Flint Hills.

Figure 4.33 is a compilation of Figures 4.31 and 4.32 and shows all the discovery spaces as one entity instead of separating them from one another. Also, the areas delineated as “Prairie” and “Water Retention Areas” from Figure 4.31 are removed. The prairie areas were taken out of the “Discovery Spaces Map” because they inhibit the narrowing-down process of locating suitable areas to place environmental study areas. This idea is revisited in the environmental study areas conclusions section on page 109. The pond area is removed because it would only allow people to gather within its boundaries by boat or some other floatation device. Instead, the immediate perimeter of the pond is defined as a discovery space for the pond area.

Figure 4.33 - Environmental Study Areas - Discovery Spaces Map


Figure 4.33 shows the areas within Camp Wood that provide discovery.

## Inspirational Spaces

The landscape can also inspire. After the initial discovery of the aforementioned natural features and systems, campers can learn about the features' or systems' formation, function, and relationships to one another. Perhaps most importantly, campers can consider how humans influence the health of each natural system. Campers will begin to appreciate the natural systems and will begin to reflect on why each system is important. Simultaneously, they will begin to think about how their actions affect the environment in which they live. If this reflection can be accompanied by a striking view of a meadow or sunset, or the sound of trickling water or birds chirping, then the process of discovering, understanding, and feeling inspired by the natural systems becomes that much more enriched. And only after campers experience this process will they begin to feel responsible to treat the environment with care and respect.

It may seem a bit unrealistic to expect every first-grader to reflect upon how their actions affect the environment, but they can learn things like turning light switches off when leaving a room or shutting off a water faucet while brushing their teeth. It is very realistic to think that a teenager is able to consider how their actions affect the environment. And, if the younger kids are introduced to natural processes at an early age, then they will be better prepared when they are mature enough to reflect upon how their actions affect the environment.

Defining areas within Camp Wood that provide inspiring characteristics is a difficult task to accomplish. People can draw inspiration from all sorts of different features in a landscape, and what might be inspirational to one person might not mean a thing to another. Also, it would be easy to simply say that a person could find a way to draw inspiration from the landscape anywhere within the 630 acres at Camp Wood. This approach would not, however, help locate the most appropriate places for environmental study areas. The idea behind mixing inspiration with discovery is that people will subconsciously become inspired by the landscape instead of intentionally considering how a given space can be inspirational.

For this particular study, the factors used to define inspirational areas are views, solar patterns, and sounds. Factors that can inspire people subconsciously include: views to a distant landscape, sunrises, sunsets, sounds of the wind pushing against the trees, and the sound and view of moving water. Figure 4.34 shows these inspirational features at Camp Wood.

Figure 4.34 - Environmental Study Areas - Inspiration Features Map


Figure 4.34 shows the location of the different areas and features that provide inspiration.

Figure 4.35 compiles the inspirational factors mapped in Figure 4.34 and shows them as one entity instead of separating them from one another. The inspirational areas shown in Figure 4.35 represent the spaces within Camp Wood that provide campers with natural features that inspire.

Figure 4.35 - Environmental Study Areas - Inspirational Spaces Map

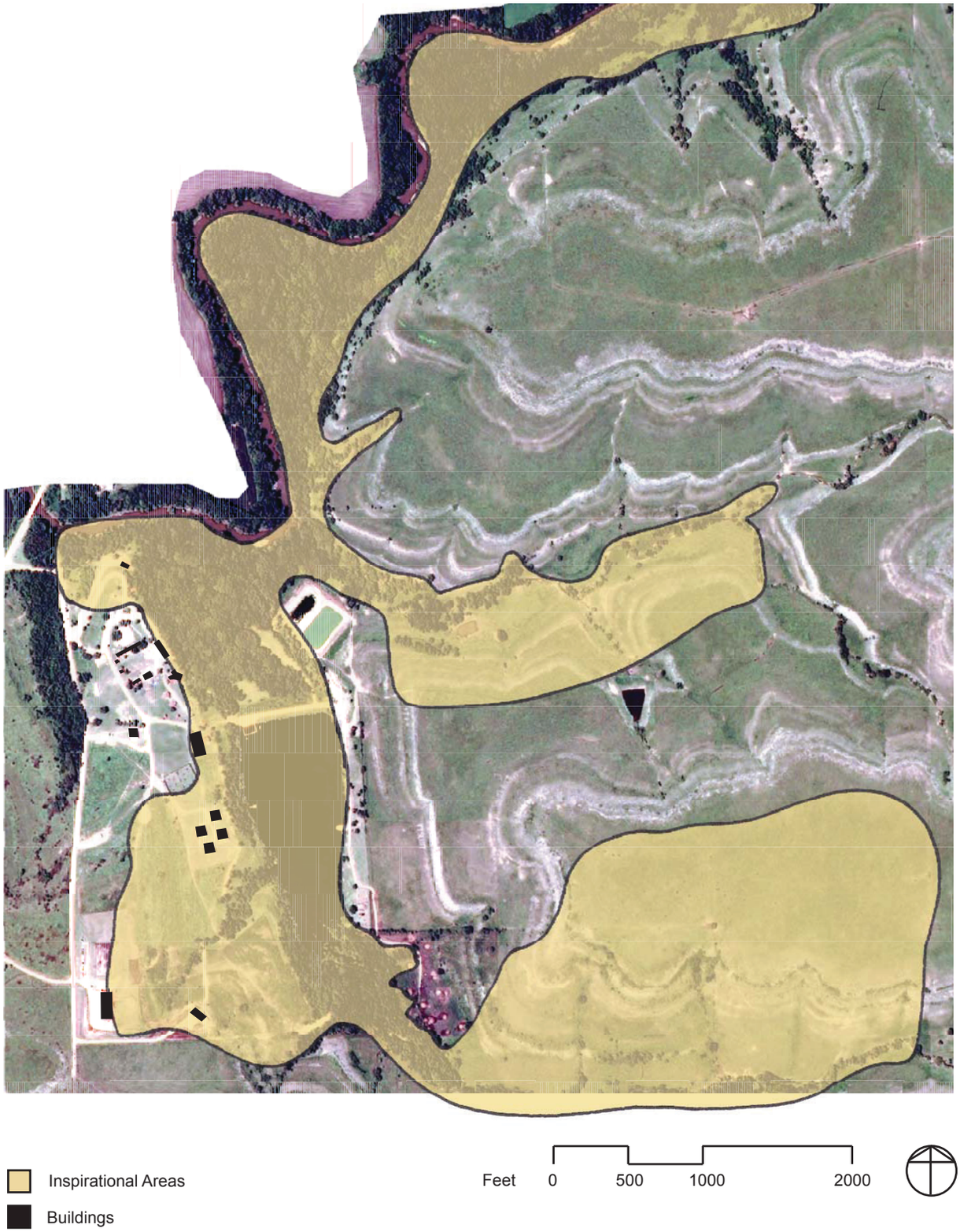



Figure 4.35 shows the areas within Camp Wood that provide inspiration.

## Environmental Study Areas Conclusions

Figure 4.36 delineates the areas within Camp Wood that allow a camper to experience discovery as well as inspiration. This map is a combination of the discovery spaces map (Figure 4.33) and the inspirational spaces map (Figure 4.35), showing the areas where the discovery and inspirational spaces overlap. Figure 4.36 does not convey exact locations for the placement of environmental study areas. However, the analysis map greatly narrows down the site and suggests a series of spaces to be further explored in order to find the most appropriate locations for environmental study areas.

There are natural systems and features that are intended to be part of the discovery process which were not included in this study. Soils types, for example, are literally found everywhere and could be studied at any given environmental study area. Areas composed of prairie land were removed as they would limit the ability to narrow the site. The function, structure, and dynamics relating to prairie concepts should certainly be introduced within these learning spaces, and there are hundreds of acres at Camp Wood where this could occur.

Figure 4.36 - Environmental Study Areas - Discovery and Inspiration Areas Map

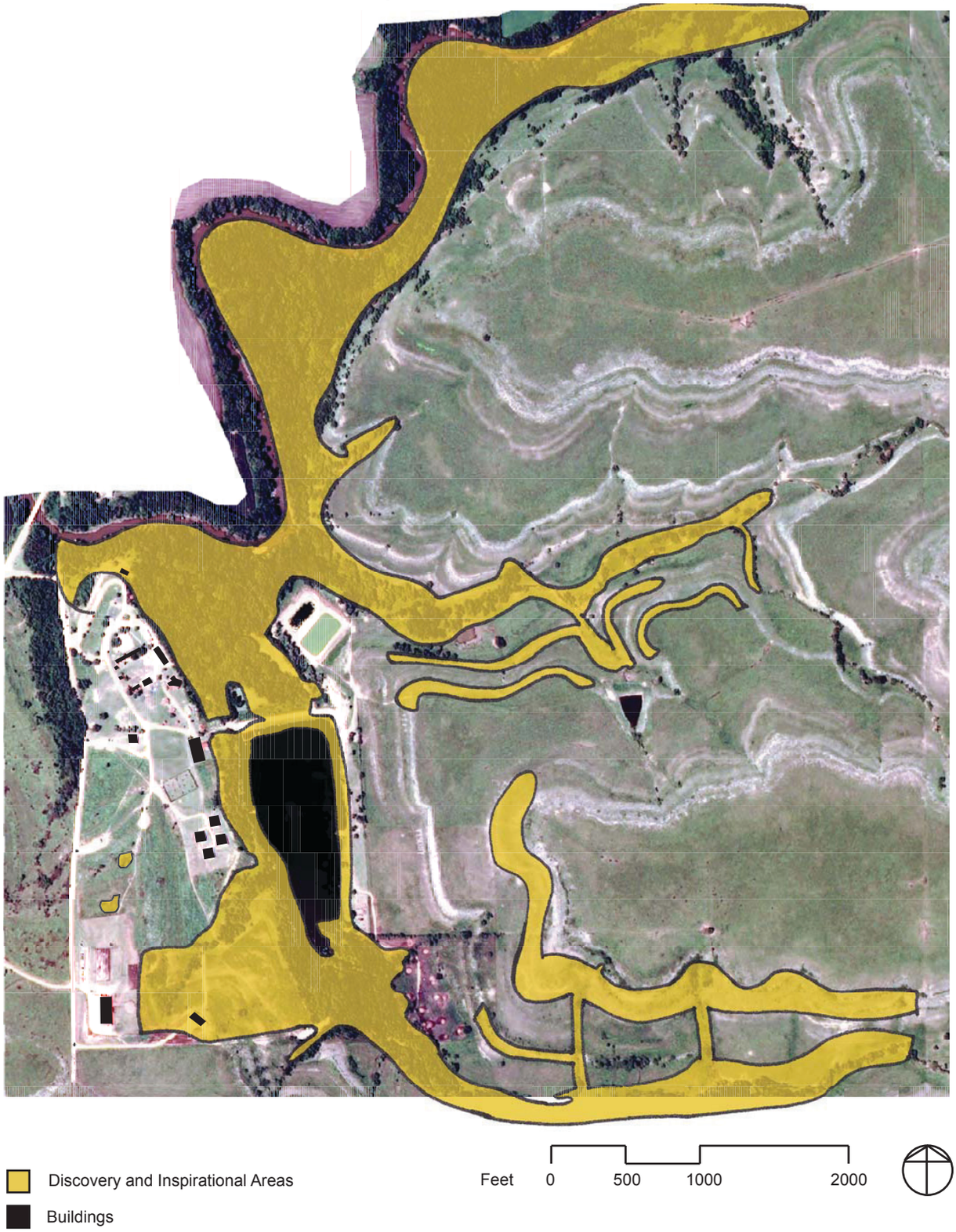



Figure 4.36 shows the areas within Camp Wood that provide discovery and inspiration.

## Storm Water Management

The staff has expressed their desire to incorporate sustainable practices into the future development at Camp Wood. There are multiple opportunities to accomplish this goal. One of these opportunities is to implement features that reduce wasteful water consumption and collect and reuse storm water. In addition to being functional sustainable elements, these features can also be used to teach campers about water conservation and storm water management.

Elmdale, Kansas receives, on average, 40.5 inches of rainfall yearly. May, June, and October are the months which receive the most precipitation. Figure 4.37 shows the average precipitation amounts by month for Elmdale, Kansas.

Figure 4.37 - Average Monthly Precipitation

| Average Monthly Percipitation for Elmdale, Kansas | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| January | February | March | April | May | June | July | August | September | October | November | December | Total |
| 1.25 | 0.95 | 4.17 | 3.38 | 6.59 | 6.52 | 3.46 | 2.42 | 1.97 | 6.26 | 0.13 | 3.37 | 40.47 |

Figure 4.37 shows the average monthly rainfall for Elmdale, Kansas.

Storm water management includes the collection, retention, infiltration, and the slowing down of rainwater. Rainwater falling on the roof of the Ritchie Lodge provides an opportunity to demonstrate two different ways storm water management works. First, through the use of a gutter system, rainwater falling on the roof of the Ritchie Lodge could be collected and stored in an underground cistern. Then, the collected rainwater could be reused to irrigate the playing field.

The collection of storm water from rooftops can also be used as an aesthetic feature in the landscape. Meyer-Reed is a landscape architecture firm that worked on a condominium complex project in Portland, Oregon called Mirabella. The landscape surrounding the complex is dedicated to collecting and infiltrating storm water. The following two images illustrate this process. Figure 4.38 shows the top terrace in a series of terraces where storm water is first introduced to the landscape from the rooftop collection system. Water begins to infiltrate into the soil and serves as a means of irrigation for the plants in the terrace. As the terrace fills up, the rainwater flows through a sequence of undulating notches cut out of the concrete wall and into the second terrace where the rainwater continues to infiltrate through the soil. This process is shown in Figure 4.39.

Figure 4.38 - Storm Water Precedent Image 1

Figure 4.39 - Storm Water Precedent Image 2

Figures 4.38 and 4.39 illustrate a series of rainwater collection and infiltration beds in Portland, Oregon. (Photos by Aaron Mitchell)

The Ritchie Lodge has the potential to implement a similar system in front of its entry way. Water flowing directly off of the roof could be collected by a similar series of terraces that would infiltrate water, could serve as planting beds, and would be visually intriguing. Figure 4.40 shows a space adjacent to the entry of the Ritchie Lodge where this feature could be implemented.

Figure 4.40 - Ritchie Lodge Storm Water Collection Area

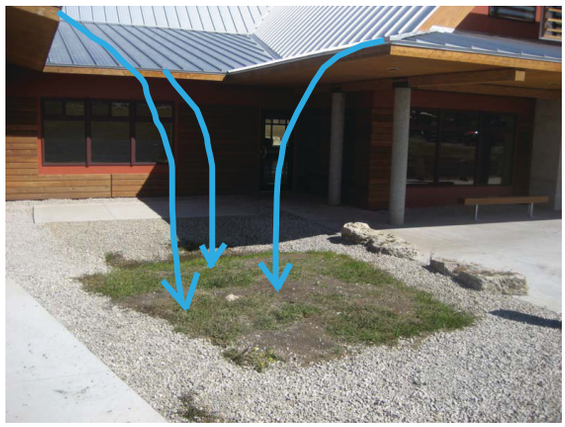


Figure 4.40 illustrates that a portion of the Ritchie Lodge rooftop sheds water to a common area in front of the entry to the Ritchie Lodge. (Photo by Aaron Mitchell)

A second type of storm water management feature that could be implemented in front of the Ritchie Lodge is a bioswale. Just as water flows off a roof, storm water not infiltrated into the soil flows over the surface of the landscape. This process is known as runoff. Runoff can affect the landscape negatively in multiple ways including erosion and flooding. The idea of a bioswale is to collect storm water and allow it to infiltrate into the soil, reducing the amount of runoff in the process. Using native prairie grasses, the movement of water is slowed, and the plant material begins to absorb the water through its root system. This process is illustrated in Figure 4.41 below.

Figure 4.41 - Bioswale Section Diagram

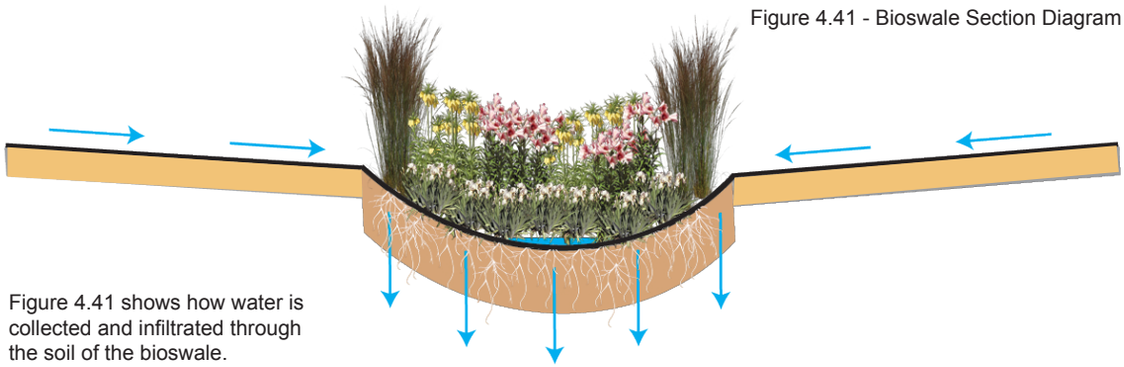


Figure 4.41 shows how water is collected and infiltrated through the soil of the bioswale.

Water drains towards the Ritchie Lodge on the east side of the building. The primary existing vegetation within this area of approximately 20,000 square feet is mowed turf. Figure 4.42 illustrates the boundary of the land which sheds its rainwater to the area in front of the Ritchie Lodge where the infiltrating bioswale would be located.

Figure 4.42 - Bioswale Watershed Diagram


Figure 4.42 identifies the boundary of approximately 20,000 square feet of land in front of the Ritchie Lodge that drains water towards the Ritchie Lodge.

Figure 4.43 shows the existing landscape in front of the Ritchie Lodge. The current drainage swale is shown in blue and runs alongside the crushed asphalt walkway leading to the entrance of the Ritchie Lodge. Currently, the walkway bisects the swale and the front patio space of the Ritchie Lodge.

Figure 4.43 - Existing Swale Diagram

Figure 4.43 illustrates the existing drainage swale in front of the Ritchie Lodge. (Photo by Aaron Mitchell)

## Storm Water Management Conclusions

The Ritchie Lodge will be home to both a bioswale and a collection/infiltration feature fed by rainwater falling on the roof of the Ritchie Lodge. An underground cistern may be incorporated into the rooftop collection system that could be used to irrigate the playing field. Implementing these features into the landscape at Camp Wood will help reduce runoff and water consumption. These features will be used as tools to teach campers the concepts of water conservation and storm water management, and they will add aesthetic value to Camp Wood.

## Entry Sequence

The majority of campers who come to Camp Wood come from nearby cities lying outside of the Flint Hills including Kansas City, Topeka, and Wichita. This means that most of the campers are first exposed to the Flint Hills through the window of a vehicle traveling about 70 miles per hour. Here, campers are able to view the vast landscape at a larger scale, looking several miles into the distance. as the vehicle nears Camp Wood, the slower the speed limits are, and campers are able to see the Flint Hills at a smaller scale. It is not until the campers step out of the car at Camp Wood, however, that they are able to fully interact with the tall native prairie grasses of the Flint Hills. This is an important idea that suggests that the connection from the parking area to the Ritchie Lodge will be an important place to introduce and encourage interaction between campers and the prairie.

The way-finding signs currently existing are inconsistent in form and , in some cases, could be more strategically placed. Figure 4.44 displays photos of several signs at Camp Wood. They lack a sense of hierarchy. From looking at the images in Figure 4.44, a person would be unable to pick out the main entry sign. A more consistent series of way-finding signs would help bring sense of unity to Camp Wood.

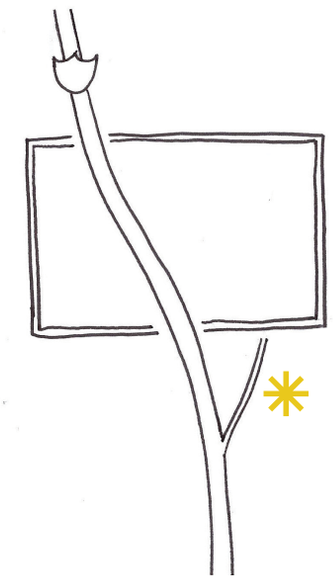
Figure 4.44 - Way-finding Signs


Figure 4.44 shows several existing way-finding signs at Camp Wood. (Photos by Aaron Mitchell)

Kevin Lynch discusses the idea of a sense of arrival in his book, Image of the City. His research found that the key places people feel a sense of arrival are at the “break-points of transportation,…the transition areas,” such as getting off a highway onto a side street (Lynch 1960, 73). Figures 4.45 and 4.46 illustrate Lynch’s ideas on a sense of arrival. Figure 4.45 is a conceptual illustration of a highway going through the downtown area of a city. The off-ramp taking people from the highway to the downtown area acts as the transition point where people first begin to feel a sense of arrival.

Figure 4.46 describes this sense of arrival as it applies to Camp Wood. After people drive into the city of Elmdale, they will turn off on a gravel road called Camp Wood Road. This transition from a paved surface to a gravel road lets people know they are very close to arriving at Camp Wood. After driving two miles down Camp Wood Road, drivers will turn once more on Camp Wood Road. This road leads to the parking area at Camp Wood. The transition spaces described are labeled in the illustration. These spaces are appropriate places to locate entry signs for Camp Wood. Further research and exploration is needed in order to develop a cohesive way-finding system for Camp Wood; however, such research and exploration is beyond the parameters of this study.

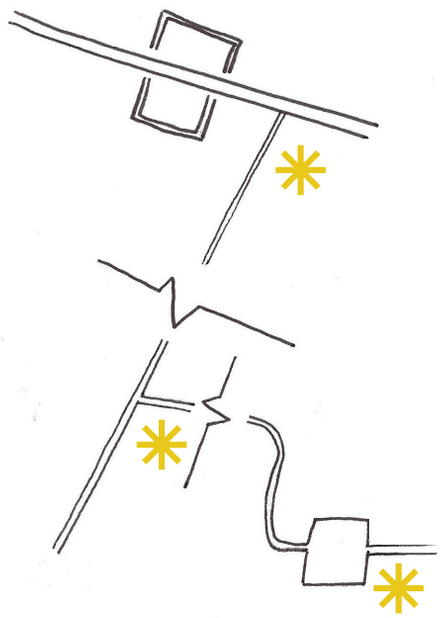
Figure 4.45 - Sense of Arrival Diagram



Transition Point

Figure 4.45 illustrates Kevin Lynch’s ideas on a sense of arrival.

Figure 4.46 - Camp Wood Sense of Arrival Diagram



Transition Point

Figure 4.46 illustrates the places where someone would feel a sense of arrival at Camp Wood.

Figure 4.49 shows a map of the northern portion of the greater main campus area of Camp Wood. The map shows the two transition spaces nearest Camp Wood that suggest a sense of arrival. Based on Lynch's ideas, these are places where signs should be placed to welcome campers to Camp Wood. Starting at the river on Camp Wood Road, the campers begin an upward progression towards the parking area. One foot contours are shown on the map to help illustrate this idea of an upward progression. Once campers get out of their vehicles at the parking area, they walk to the Ritchie Lodge. Along the way, campers are provided a glimpse into the distant landscape.

The pedestrian link from the parking area to the Ritchie Lodge is very important and should be carefully articulated. Lynch discusses how edges and pathways can be designed in order to suggest a greater sense of importance. He suggests that pathways seem strongest when the edges are "not only visually prominent, but also continuous in form and impenetrable to cross movement" (Lynch 1960, 62). The connection from the parking area to the Ritchie Lodge can be strengthened by incorporating Lynch's ideas.

The two sketches below illustrate a simple way pathways can be given prominence. Figure 4.47 shows two people walking along a path. People can stray from the pathway in either direction as they please. Also, people walking perpendicular towards the path are able to easily pass over the walkway and continue into the open land. Figure 4.48 shows the same two people walking on the same pathway. The difference is that one of the edges of the path is delineated with continuous tallgrass prairie. This detail helps define the pathway and suggests that there is no defined intersecting path to take.

Figure 4.47 - Entry Pathway

Figure 4.48 - Entry Pathway with Prairie Grasses

Figures 4.47 and 4.48 help illustrate the idea that a pathway that is defined with prairie grasses is more prominent than a pathway with nothing defining its edges.

Figure 4.49 - Entry Sequence Map

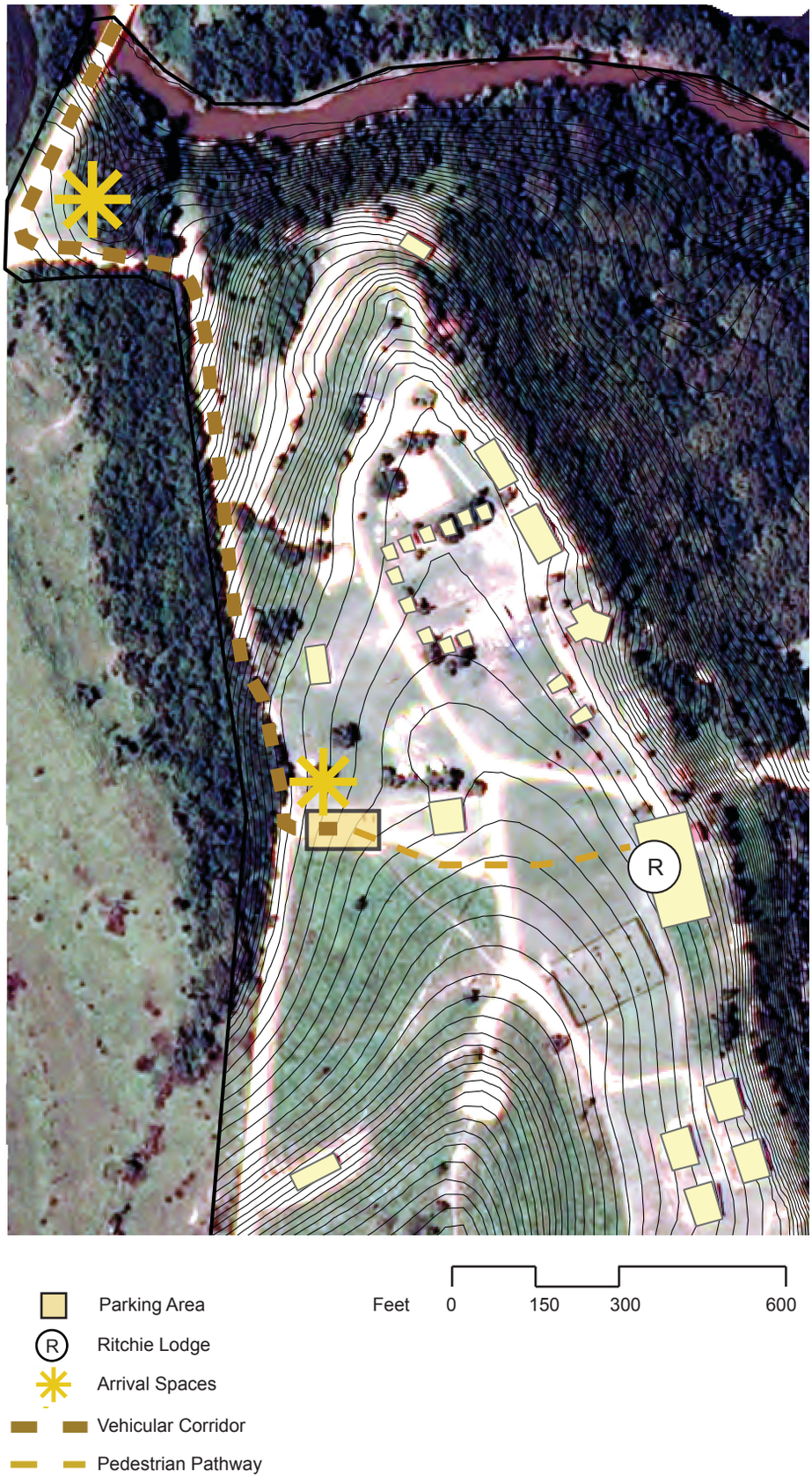



Figure 4.49 illustrates the transition space where people feel a sense of arrival. It also shows the vehicular and pedestrian pathways leading campers to the Ritchie Lodge.

## Pathways

The pathways throughout Camp Wood are what connect the buildings and activity areas to one another. The vehicular pathways get campers to Camp Wood, and the pedestrian pathways are what the campers use to navigate the camp. The pathways will serve as explorative routes the campers will use to discover, begin to understand, and become inspired by the Flint Hills.

The pathways can take different forms in different areas of Camp Wood. It may be appropriate for the pathways leading people to the Ritchie Lodge from the parking lot, for example, to be constructed from a hardscape material and to be accessible by people in wheelchairs. Other pathways may be more appropriate as nature trails, with rocks and exposed soil articulating the surface. If the nature trails beyond the main campus area could present challenges for campers, such as steep grades or climbing over rocks, the successful navigation of the trails themselves can bring a sense of achievement to campers.

As Camp Wood has expanded over the past few years, so have the circulation networks. But instead of taking a step back and considering what paths do and do not need to be in place, new pathways have just been added on to the existing path network The result is a network of pathways that lack hierarchy, vary in material and sometimes fail to connect different buildings and activity areas within Camp Wood. Since the expansions, some of the existing pathways are no longer vital for efficient circulation. Figure 4.50 shows the location and material type of the different pathways throughout the greater main campus area of Camp Wood.

Figure 4.50 - Existing Pathway Network Map

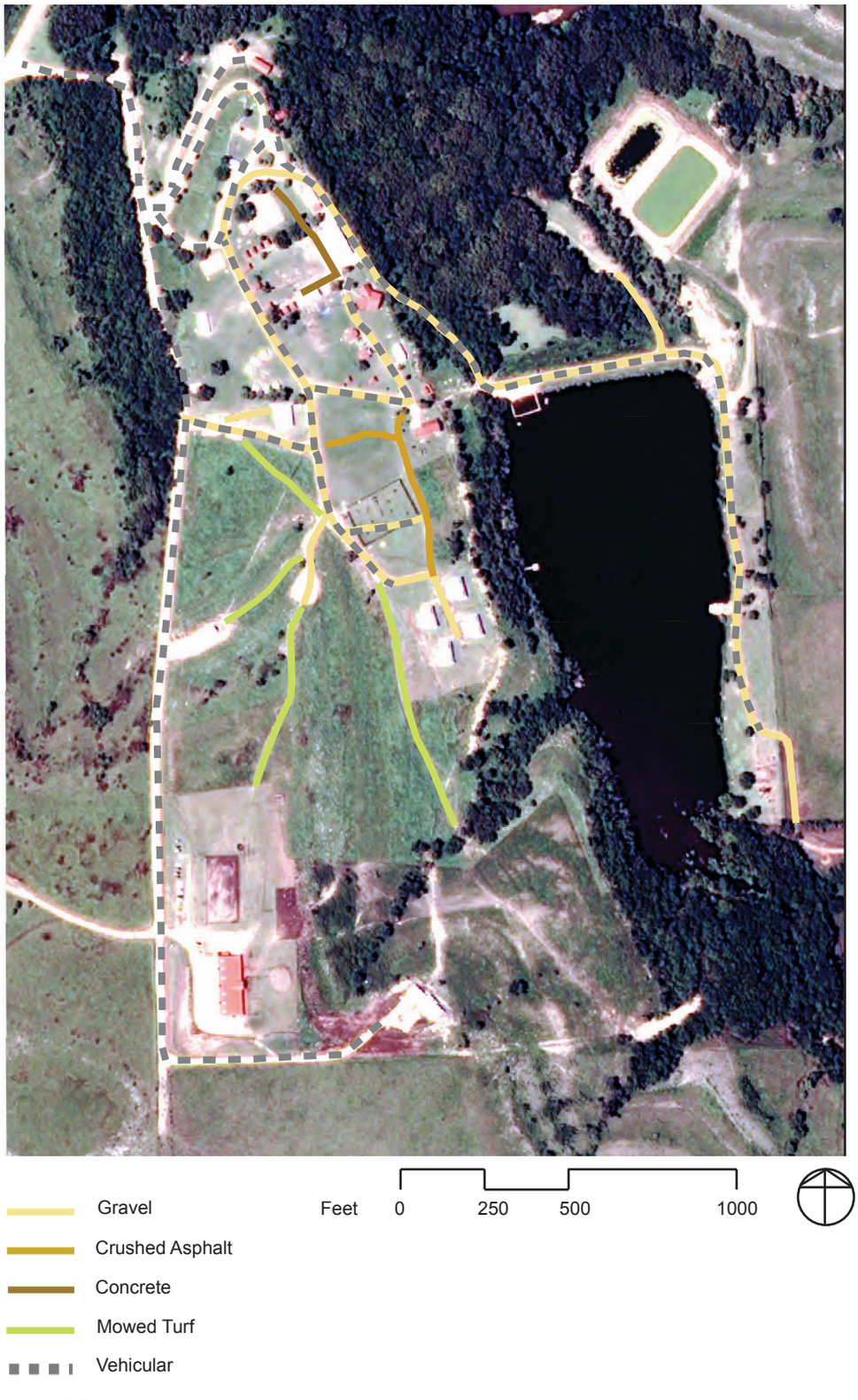



Figure 4.50 illustrates the location and material type of the existing pathways at Camp Wood.

## Unnecessary Vehicular Pathways

Each of the buildings needs to have appropriate vehicular access. For public buildings like the Ritchie Lodge, vehicles will occasionally need to get right up next to the building. For the more private buildings like the sleeping lodges and bunk houses, it may not be as important for vehicles to be able to pull right up to the buildings, but emergency vehicle access should be feasible. As previously stated, some of the existing vehicular corridors are no longer needed in order for buildings to have proper vehicular service. Figure 4.51 shows the existing vehicular corridors that are no longer vital to an efficient vehicular circulation system.

Figure 4.51 - Unnecessary Vehicular Pathways Map

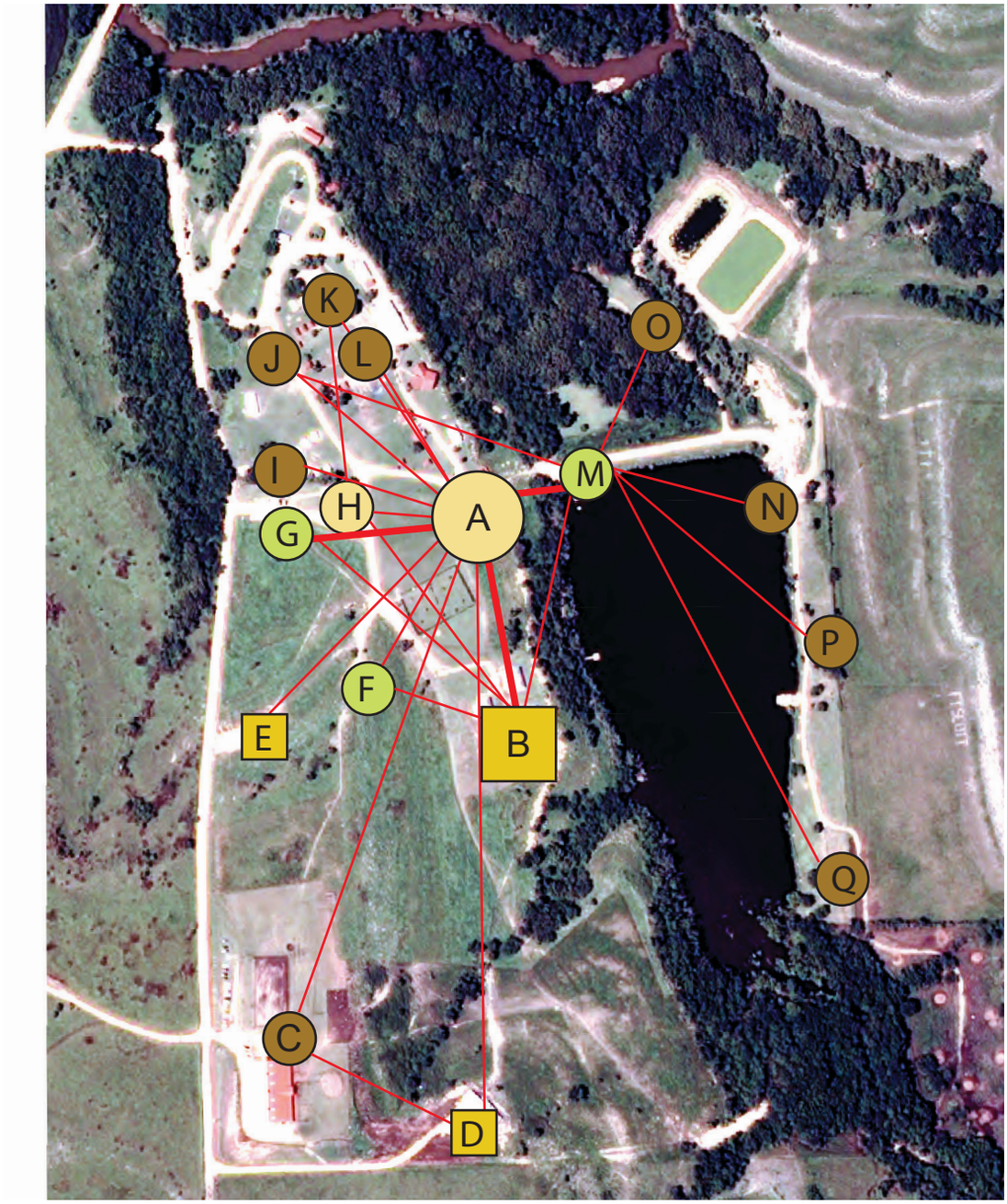

Figure 4.51 illustrates the vehicular pathways that are no longer essential for an efficient vehicular circulation system.

Figure 4.52 shows the location of several different camp activities found at Camp Wood. More importantly, it shows the relationships between activity areas and buildings in terms of which activities and buildings need to be connected to one another. This map will be used to help define where pathways should lead.

## Pathways Conclusions

Pathways will be used to efficiently move people where they need and want to go throughout Camp Wood. They will be used to allow campers to explore, discover, and become inspired by the Flint Hills. Thoughtful execution of vehicular and pedestrian circulation networks will help unify the master plan for Camp Wood.

Figure 4.52 - Desired Pedestrian Connections Map




(A) Ritchie Lodge
B Sleeping Lodges
(C) Stable
D Director's House
E Counselor's Lodge
(F) Exterior Chapel
(G) Main Parking Area
(H) Medical Building
(I) Archery
(J) Volleyball
(K) Skatepark / Tennis / Basketball
(L) Arts / Crafts Quad
(M) Beach / Swimming Area
(N) Canoe Put-in
(O) Paintball
(P) Team Building Course
Lodging
Program Activities
Dining / Administration
Transition Spaces
Important Connections

Figure 4.52 illustrates the desired pedestrian connections between buildings and activity areas at Camp Wood.

## Ritchie Lodge Connection to Pond Area

The floor elevation of the Ritchie Lodge is about 60 feet higher than the surface of the pond. Campers going from the Ritchie Lodge to the pond area have two options in how to get there. Campers can walk down the access road to the pond which means walking north from the Ritchie Lodge to meet the access road behind the old administrative building. The second option is that campers walk straight down the steep and rocky slope to reach the pond area. Option two seems to be the preferred choice as there is an implied pathway leading straight down that was created by foot traffic. This pathway leads right by the deck which is located at the top of the steep slope. Figure 4.53 shows each of the routes discussed.

A hardscape pathway connecting the Ritchie Lodge to the pond area will allow campers to safely and more conveniently navigate between the two. If the design incorporates limestone or other local materials, the link can also serve as an educational tool for teaching campers about the use of materials native to the Flint Hills.

### Ritchie Lodge Connection to Pond Area Conclusions

Designing a pathway linking the Ritchie Lodge with the pond area would create a strong connection between the two areas having the highest levels of activity at Camp Wood, the main campus are and the pond area. Using materials found in the Flint Hills, campers could learn about the relationship between native material use and sustainability.

Figure 4.53 - Ritchie Lodge Connection to Pond Area Map


Figure 4.53 illustrates the two pathways campers can take from the Ritchie Lodge to the pond area.

# Design: Human Connections

- A Master Plan for Camp Wood
- Entry Sequence
- Pathways
- Prairie Gateway Staircase
- Amphitheater Gathering Space

## A Master Plan for Camp Wood

The proposed master plan for Camp Wood addresses a number of different issues that currently limit the camp's ability to function as one cohesive place. Keeping in mind that the proposed plans are for a not-for-profit organization, it was important to think realistically but also creatively about the different possibilities for future development. The proposed master plan maximizes the use of existing amenities and minimizes the demolition of existing structures and areas of healthy stands of prairie.

Figure 5.1 shows the diagrammatic master plan for the main campus area of Camp Wood. The location of each of the proposed program elements within the main campus area can be seen on this map. Figure 5.1 is meant to show the relationships between spaces, buildings, pathways, and features contained within the proposed master plan. It also differentiates between existing and proposed buildings.

Figure 5.2 on page 131 is an illustrative master plan for the main campus area of Camp Wood. A more realistic graphic than Figure 5.1, the illustrative master plan is annotated to better describe the features contained within the plan. Several of the proposed elements including buildings and pathways have been given names to provide meaning for the different elements.

Implementation of this master plan would require the demolition of all the small sleeping bunks and the large shelter structure. These buildings define the quadrangle space but also cause the quadrangle to feel disconnected from the Ritchie Lodge and the four existing sleeping lodges south of the Ritchie Lodge. Figure 5.3 on page 134 shows the location of the Ritchie Lodge, the quadrangle space, and the buildings to be demolished.

The proposed master plan (Figures 5.1 and 5.2) shows how a new mass of sleeping units in the form of an "L" can begin to address and unite the spaces between the quadrangle space and the Ritchie Lodge. These sleeping unites help the quadrangle space serves as the terminating point for the stretch of open space extending back to the Ritchie Lodge. A main pedestrian corridor named Opportunity Pathway provides a direct connection from the Ritchie Lodge to the arts and crafts building (old administrative building). This corridor provides campers several opportunities to take part in a number of different activities and spaces. The Opportunity Pathway connects campers to a proposed amphitheater space, a proposed playing field space, a proposed shady sitting area where campers can rest or watch other activities taking place, and several different shapes and sizes of open space. These elements are annotated on Figure 5.2 on page 131.

To preserve some historic value within the quadrangle space, one of the existing sleeping units that currently helps define the quadrangle is placed in the center. This once sleeping unit now acts as a monument and helps the quadrangle space re-establish its importance.

Another issue the master plan addresses is the lack of well-defined, meaningful open space as well as a lack of prairie grasses within the immediate campus area. By proposing the re-introduction of prairie grasses within the main campus area, pathways, boundaries and spaces become more well-defined. This restorative effort will mean that campers will interact more with the prairie grasses. As a result, they will become more comfortable with the prairie grasses and may be less reluctant to explore the greater expanses of Flint Hills east of the main campus area.

Figure 5.1 - Camp Wood
Diagrammatic Master Plan


Figure 5.1 illustrates the proposed diagrammatic master plan for the main campus are of Camp Wood.

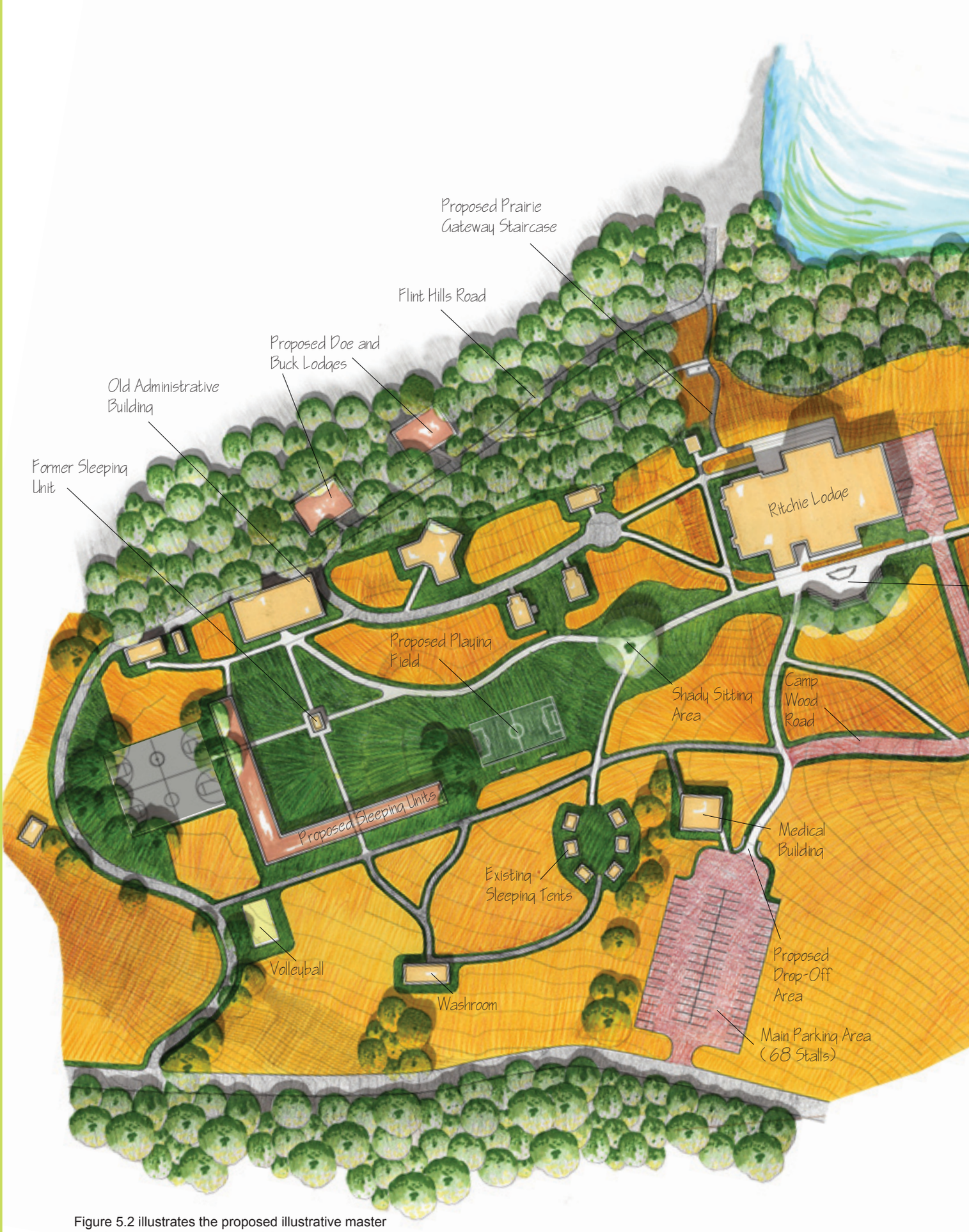



Figure 5.2 illustrates the proposed illustrative master plan for the main campus are of Camp Wood.

Figure 5.2 - Camp Wood Illustrative Master Plan

Figure 5.3 - Building Demolition Plan


Figure 5.3 shows the proposed building demolition plan for Camp Wood.

## Entry Sequence

Camp Wood plans to continue expanding their facilities to accommodate a higher number of campers in the future. As their maximum capacity increases, so too will their parking needs. Currently, there are three separate parking areas that are identified on the conceptual master plan in Figure 5.4. Each of the three parking areas shown on the map is located where parking currently exists; however, each parking area has been expanded and/or reconfigured to increase the number of parking stalls and to attempt to separate vehicular and pedestrian movement for safety reasons. Utilizing the existing areas and pathways that are currently used for parking and vehicular movement will save money and conserve areas that are dense with prairie. Figure 5.4 also shows where the drop off area is located as well as the vehicular pathways leading to the parking areas.

Figure 5.4 - Diagrammatic Master Plan - Entry Sequence

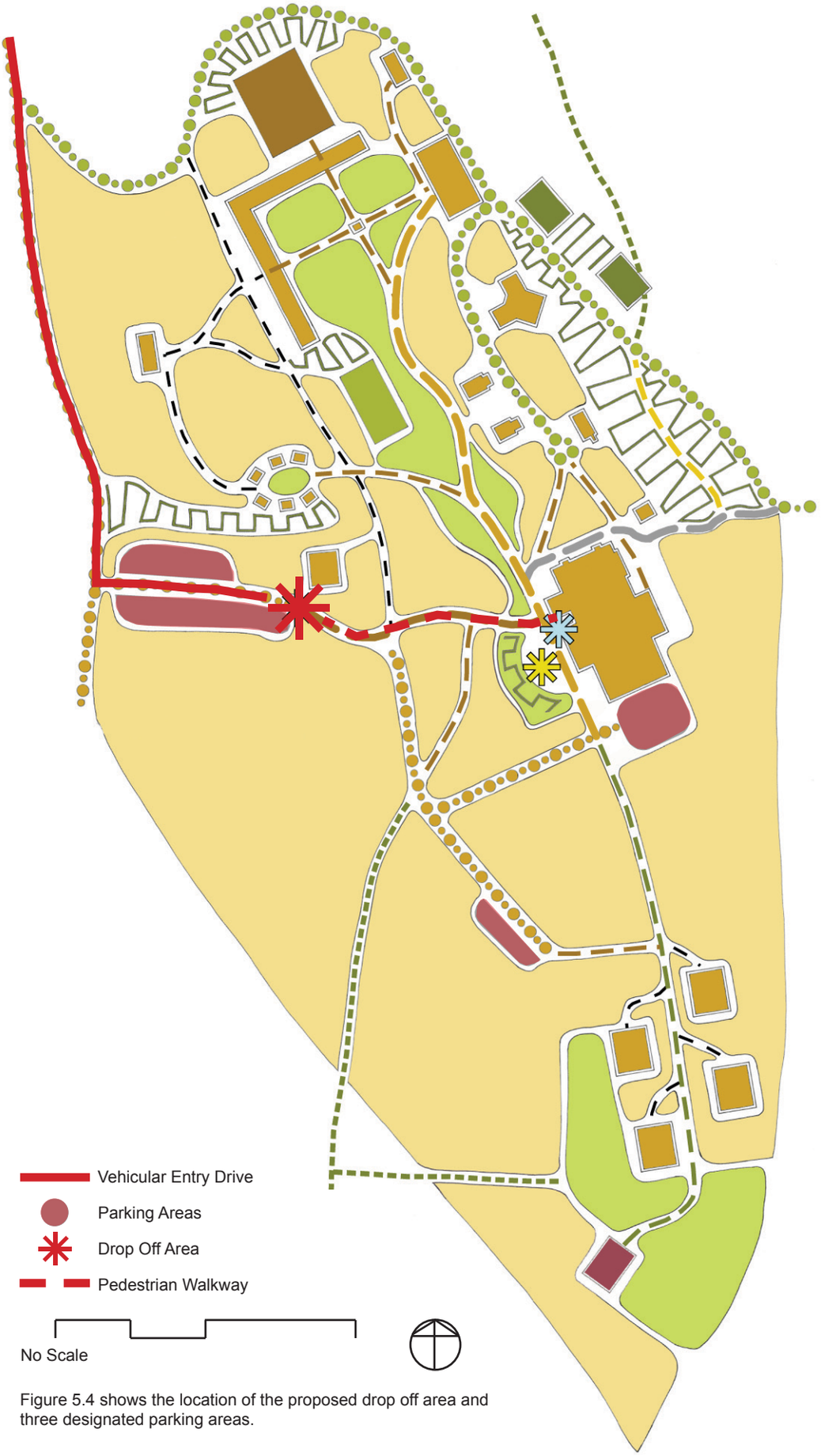



Figure 5.4 shows the location of the proposed drop off area and three designated parking areas.

Figure 5.5 shows the proposed drop off area for the large parking lot and the Ritchie Pathway leading campers and their families to the Ritchie Lodge. In the site analysis portion of this document on page 116, Kevin Lynch's ideas were discussed as they relate to a sense of arrival. He says that the places where people feel a sense of arrival are at the "break-points of transportation,... the transition areas" (Lynch 1960, 73). It is appropriate to locate welcome signs and way-finding signs at these key points of transition. One such transition area is the drop off space from the parking lot. Figure 5.5 illustrates a limestone piece with the engravement, "Camp Wood YMCA" along with the "Y" icon used to represent the YMCA. These elements can be incorporated to distinguish the drop off as a space of transition.

To minimize vehicle traffic, the drop off area is designed to discourage drivers from continuing along the Ritchie Pathway. This objective is accomplished through a change in materials as well as pathway width. The parking areas are paved with pervious pavers to allow water to infiltrate through the soil, and the Ritchie Pathway is constructed as a poured-concrete walkway. Because the change in materials occurs at the drop off area, drivers will be hesitant to continue driving along the Ritchie Pathway. The Ritchie Pathway measures ten feet wide. Although it is wide enough for one vehicle to comfortably navigate, the pattern and width suggest that the walkway is for pedestrian use, and drivers will either drop off passengers or park and then walk to the Ritchie Lodge.

From the drop off area to the Ritchie Lodge, campers have their first opportunity to interact with the tall grass prairie of the Flint Hills. Prairie grasses are used to define the Ritchie Pathway. Referring back the Site Analysis portion of this document, Lynch also discusses how a pathway seems strongest when the edges are "not only visually prominent, but also continuous in form and impenetrable to cross movement" (Lynch 1960, 92.) Along with the prairie grasses, limestone pieces are used to articulate the Ritchie Pathway and encourage campers to interact with both the limestone and prairie grasses.

Figure 5.5 - Proposed Drop Off Area

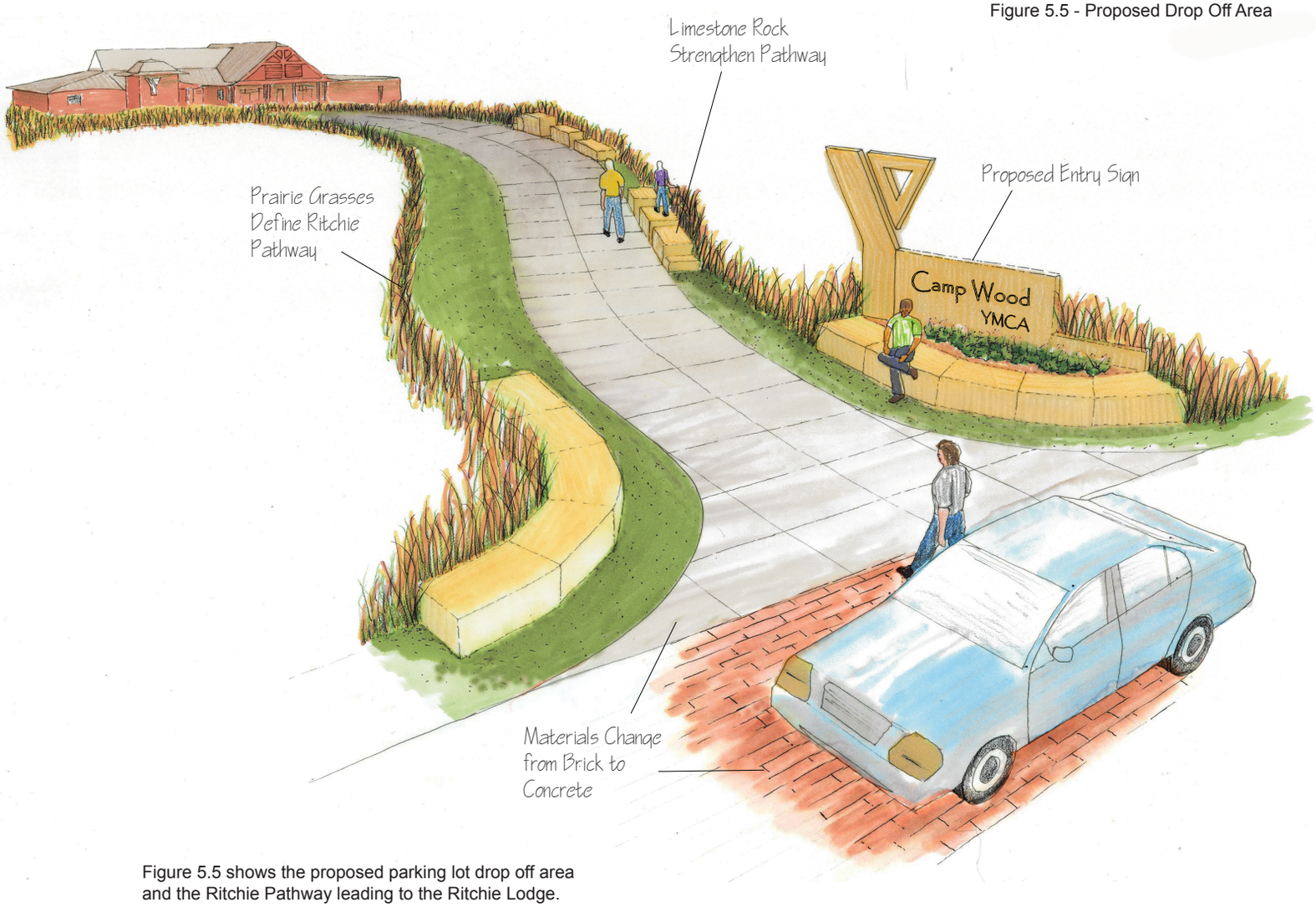



Figure 5.5 shows the proposed parking lot drop off area and the Ritchie Pathway leading to the Ritchie Lodge.

Figure 5.6 shows the three parking areas near the Ritchie Lodge. Currently, Camp Wood can accommodate about 40-50 parked vehicles within the delineated parking areas. Together, the proposed parking areas can accommodate 102 vehicles. The main parking area has 68 parking stalls. The parking area attached to the Ritchie Lodge has 12 stalls that are intended to be used by staff and by people with wheelchairs. Beyond the parking area, toward the back of the Ritchie Lodge, is the service area. The parking area next to the Ritchie Lodge has been reconfigured to separate vehicular traffic from pedestrian traffic. The south parking area holds 12 stalls with an overflow space that can hold another 12 stalls; this space is primarily intended to be a short-term parking area for parents dropping off children who are staying in the adjacent sleeping lodges.

Figure 5.6 - Proposed Parking Areas Map


Figure 5.6 illustrates the three proposed parking areas near the Ritchie Lodge.

## Entry Sequence Conclusions

The proposed parking areas will provide the necessary parking to accommodate Camp Wood as it reaches its maximum capacity. The drop off area discourages excessive vehicular traffic to the Ritchie Lodge. From the drop off area to the Ritchie Lodge, the Ritchie Pathway encourages campers to discover and interact with limestone rocks and the prairie grasses of the Flint Hills.

## Pathways

The proposed network of pathways makes appropriate connections between buildings and spaces, allowing campers to conveniently navigate Camp Wood. The pathways section is divided into two parts: Main Campus Area Pathways, and Discovery Trails. The pathways within the main campus area are illustrated in Figure 5.7 and are designed to efficiently move campers to the different spaces and buildings in the main campus area. Discovery pathways are used to encourage campers to explore the prairie and wooded areas outside the main campus area in order to discover natural elements within and become inspired by the Flint Hills.

### Main Campus Area Pathways

There are a number of different proposed pathway types within the main campus area that lead campers to the different buildings and activity areas they want and need to reach. The different pathway types are shown in Figure 5.7 and include camp connection pathways, adventure pathways, periphery pathways, discovery trails, and vehicular corridors. These pathway types are associated with a specific hierarchy and vary from one another in surface material and width of pathway. The hierarchy to the different pathway types suggests that some pathways are more important and are intended to accommodate larger volumes of foot traffic than others. Figure 4.52 on page 124 from the site analysis section influenced both the location and hierarchy for the pathways within the main campus area.

As shown in the legend of Figure 5.7, some specific pathways have been named, but they are still articulated with the features and qualities of the pathway type which they are categorized under.

Figure 5.7 - Diagrammatic Master Plan - Pathways


Figure 5.7 shows the location of the proposed pathway network within the main campus area of Camp Wood.

## Camp Connection Pathways

The camp connection pathways are the primary pedestrian links at Camp Wood. They are pathways that all campers will use on a daily basis, and they connect the Ritchie Lodge to other important elements including the main parking lot, the amphitheater, the pond area, and the stretch of open space extending from the Ritchie Lodge northward by the playing field to the quad space and arts and crafts building.

Figures 5.8 and 5.9 are sections illustrating the qualities that define the camp connection pathways. Figure 5.8 is a section of the Ritchie Pathway, and Figure 5.9 is a section of the Opportunity Pathway. The location of the section cut lines for Figures 5.8 and 5.9 is shown in Figure 5.10, along with the location of the section cut lines for the remaining pathway types yet to be described.

The camp connection pathways measure eight feet in width and are built with concrete. A six-foot mowed buffer separates the walkway from the prairie grasses that help define the paths. In Figure 5.8, Limestone helps articulate and strengthen the Ritchie Pathway. Campers just arriving at Camp Wood might Jump up on rocks and touch the prairie grasses on their way to the Ritchie Lodge. Figure 5.9 shows Opportunity Pathway running alongside the open space that helps connect the quad space to the Ritchie Lodge.

Figure 5.8 - Ritchie Pathway - Section A

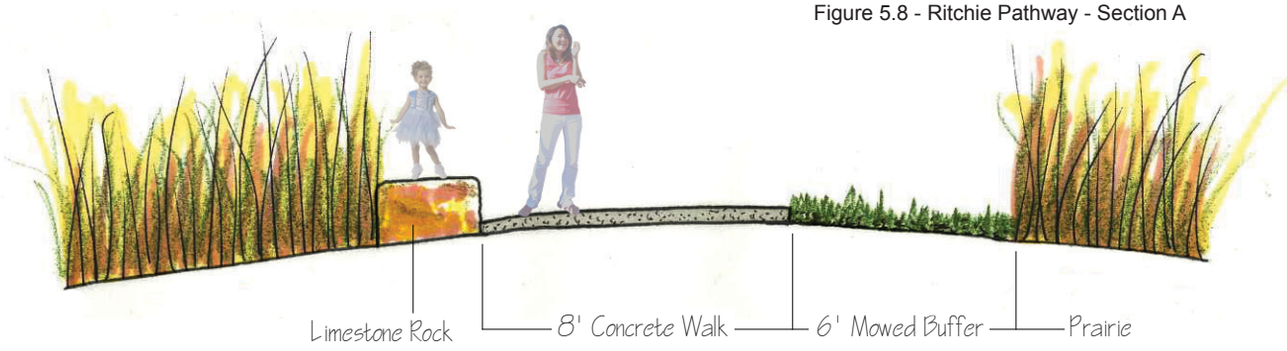




Figure 5.9 - Opportunity Pathway - Section B

Figure 5.8 and 5.9 illustrate the qualities of the proposed camp connection pathways for Camp Wood.

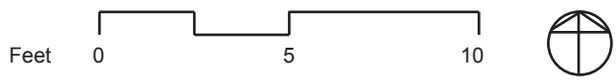


Figure 5.10 - Diagrammatic Master Plan - Section Cut Lines


No Scale

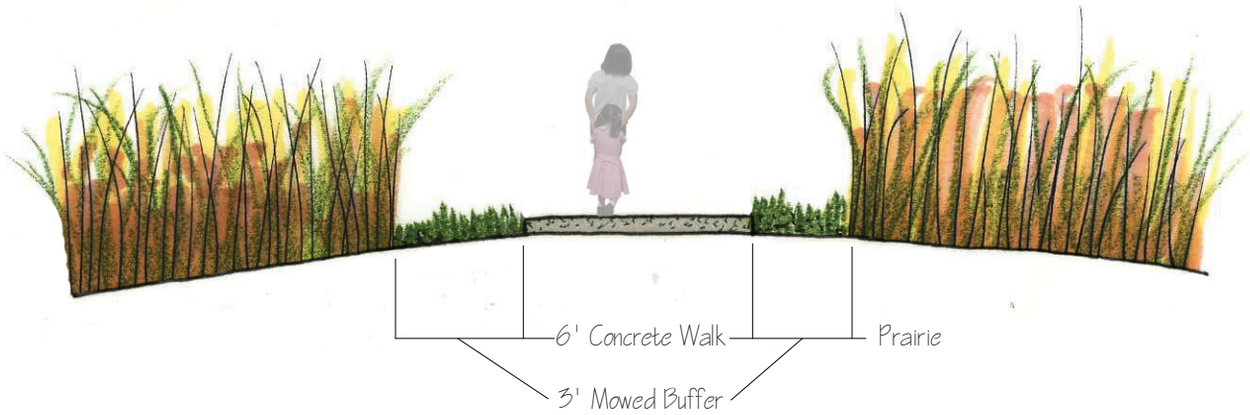
Figure 5.10 shows the location of the section cut lines for the different proposed pathway types.

## Adventure Pathways

Adventure pathways are secondary pathways. They connect to the camp connection pathways and are designed for smaller volumes of traffic than the camp connection pathways. The adventure pathways are not likely to be used by every camper on a daily basis. For instance, campers sleeping in one of the 20-person sleeping lodges to the south of the Ritchie Lodge will use the proposed Bison Lodge Pathway to access the Ritchie Lodge, but a camper sleeping in another part of Camp Wood may not have any reason to walk that corridor.

Adventure pathways start to lead campers toward the more natural areas of Camp Wood outside of the main campus area. The main identifying feature for the adventure pathways is the six foot wide concrete walkway. Figure 5.11 shows a section of the Bison Lodge Pathway. Defined by prairie grasses, a three-foot mowed buffer separates the prairie grasses from the concrete walk. Figure 5.12 shows an adventure pathway bisecting the mowed turf of the quad space.

Figure 5.11 - Bison Lodge Pathway - Section C



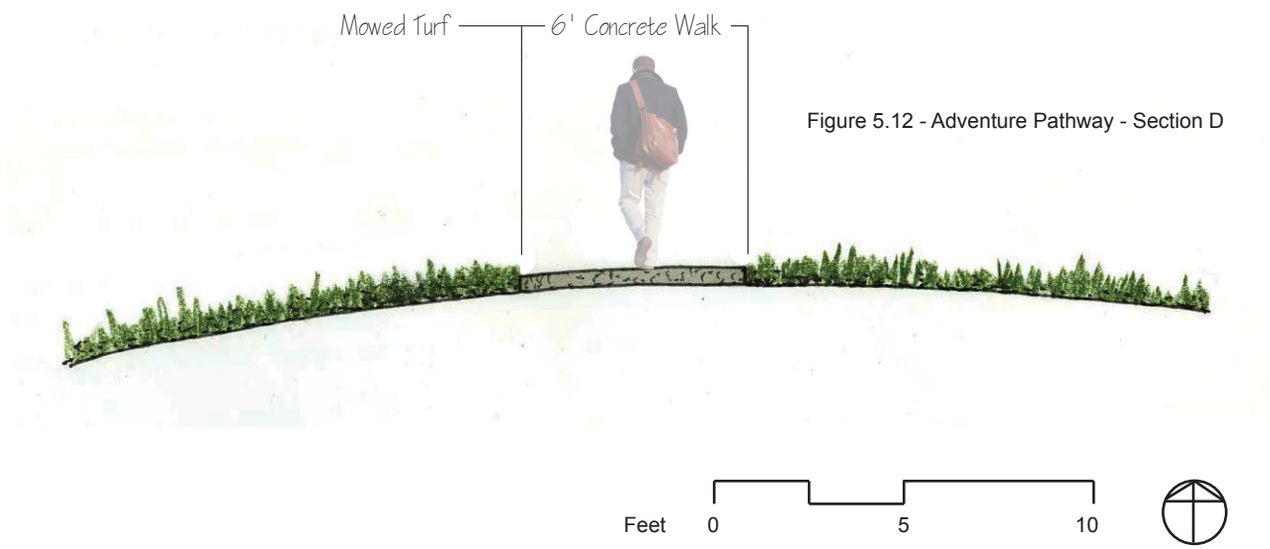



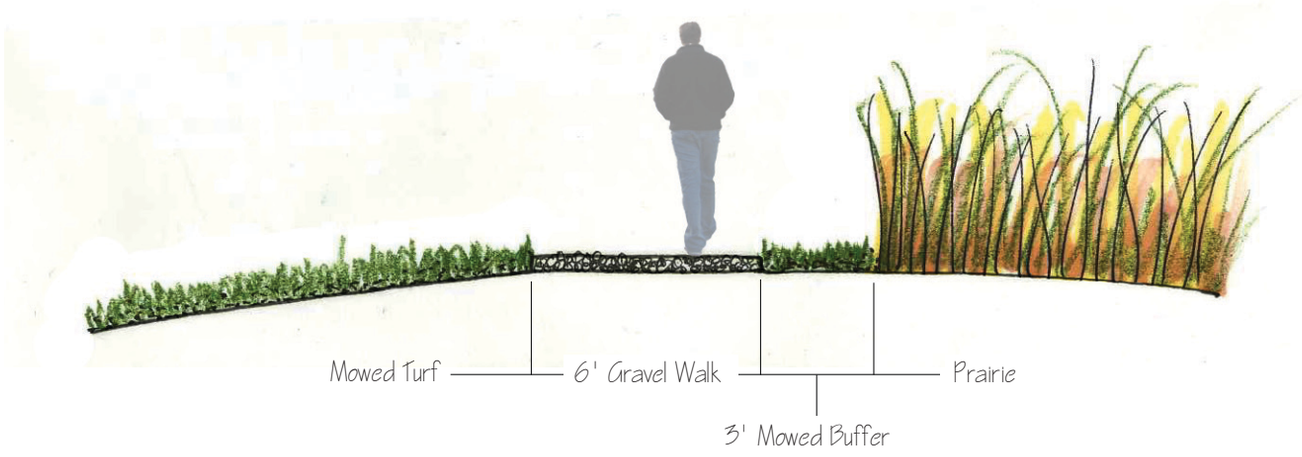

Figure 5.12 - Adventure Pathway - Section D

Figure 5.11 and 5.12 illustrate the qualities of the proposed adventure pathways for Camp Wood.

## Periphery Pathways

The periphery pathways make convenient connections between different buildings and spaces. These pathways are intended to accommodate the lowest amount of pedestrian traffic of the three pathway types discussed thus far. The periphery pathways primarily connect to the adventure pathways. Figure 5.13 shows a peripheral pathway with a six-foot wide gravel surface. A three-foot mowed buffer separates the prairie from the peripheral pathway.

Figure 5.13 - Peripheral Pathway - Section E



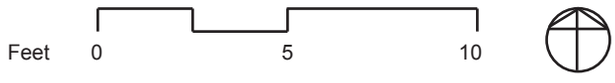




Figure 5.13 shows the qualities of the proposed peripheral pathways for Camp Wood.

## Discovery Trails

Discovery trails lead campers into and through the natural wooded and prairie areas to encourage discovery and inspiration. Some of the walking surfaces for these trails include exposed soil, rocky soil, ground covers, and leaves. The widths of discovery trails vary and are largely determined by the features in the immediate area including trees, shrubs, rocks, fences, and water features. These trails are discussed in more detail in the discovery trails portion of this section beginning on page 149. Figures 5.14 and 5.15 illustrate two discovery trails located near the main campus area.

Figure 5.14 - Discovery Trail 1 - Section F

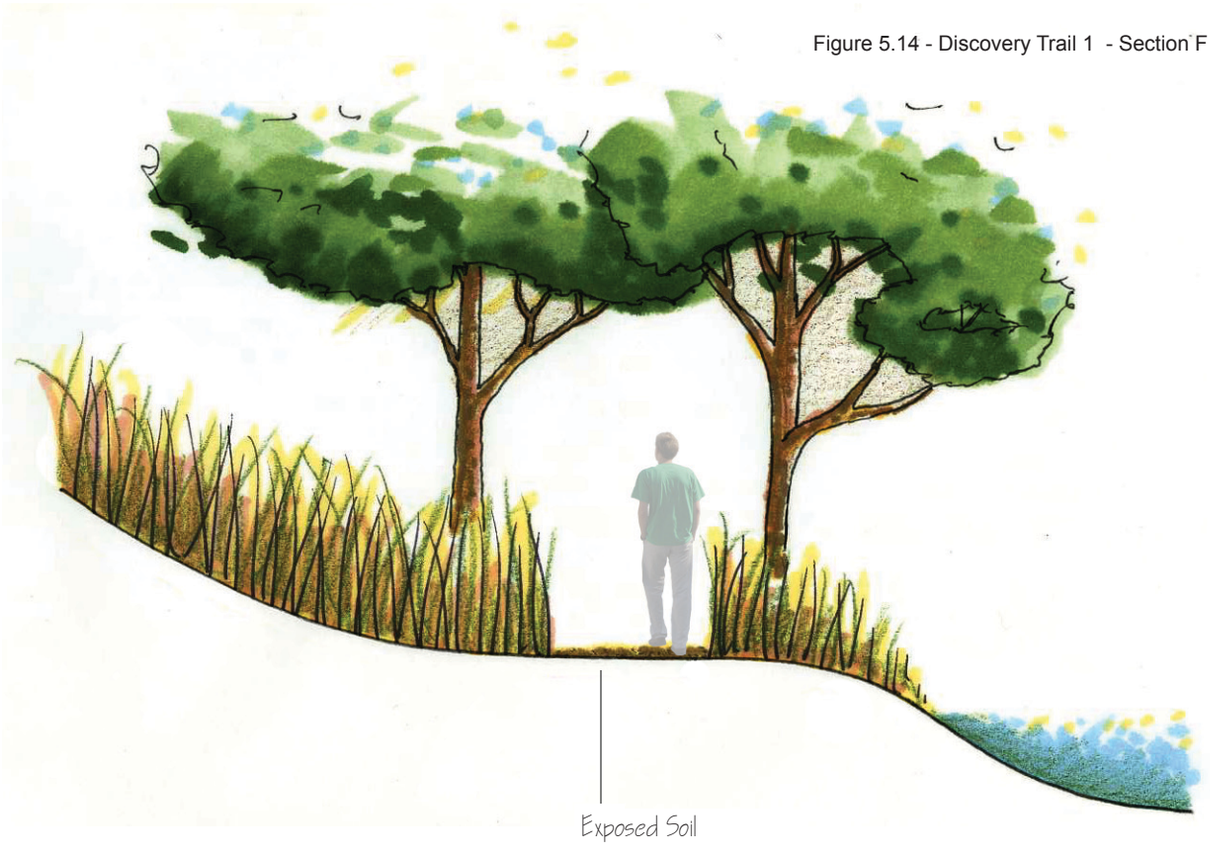



Figure 5.15 - Discovery Trail 2 - Section G

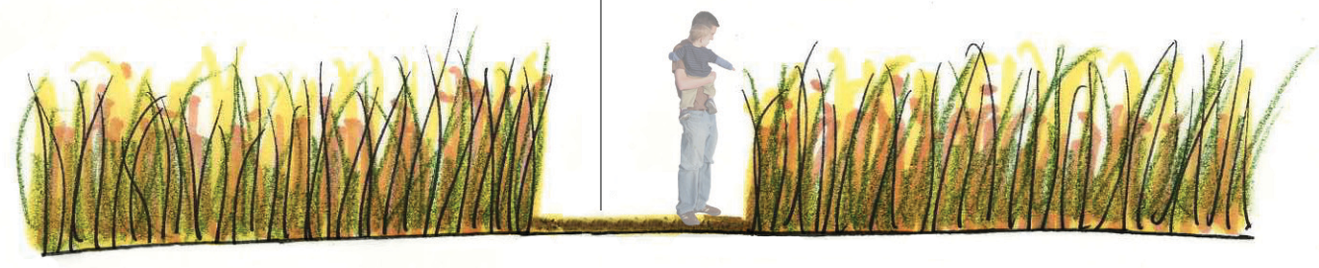


Figure 5.14 and 5.15 illustrate the qualities of proposed discovery trails at Camp Wood.

Feet 0 5 10

## Vehicular Corridors

The vehicular corridor pathways provide the necessary service access for the buildings and activity areas within and near the main campus area of Camp Wood. The two pathways that make up the vehicular corridors pathway type are Flint Hills Road and Camp Wood Road. Shown in Figure 5.16, the Flint Hills road is an existing vehicular pathway and measures 12 feet wide with a gravel surface. The proposed six-foot mowed buffers provide room enough for one vehicle to pull over to allow another to comfortably pass by.

Figure 5.17 shows a section of Camp Wood Road. The location of this road remains unchanged from its existing condition. However, the proposed design shows a 20-foot wide corridor paved with pervious pavers to allow rain water to infiltrate into the soil. A six-foot mowed buffer separates the pathway from the prairie which helps define it.

Figure 5.16. Flint Hills Road - Section H

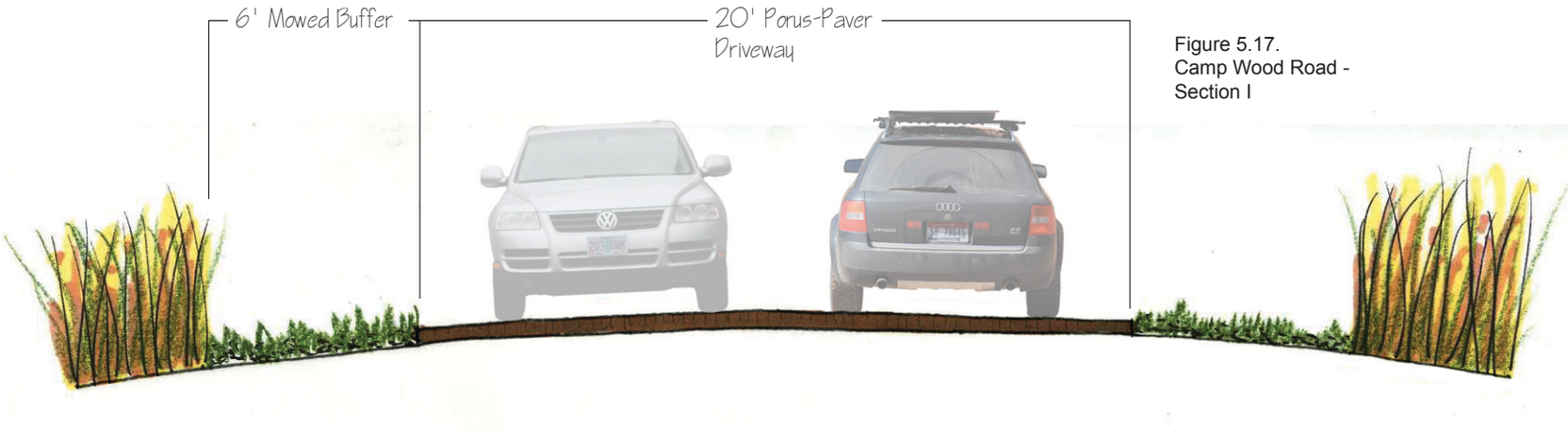




Figure 5.17.
Camp Wood Road - Section I

Figures 5.16 and 5.17 show the two different proposed vehicle corridor types at Camp Wood.

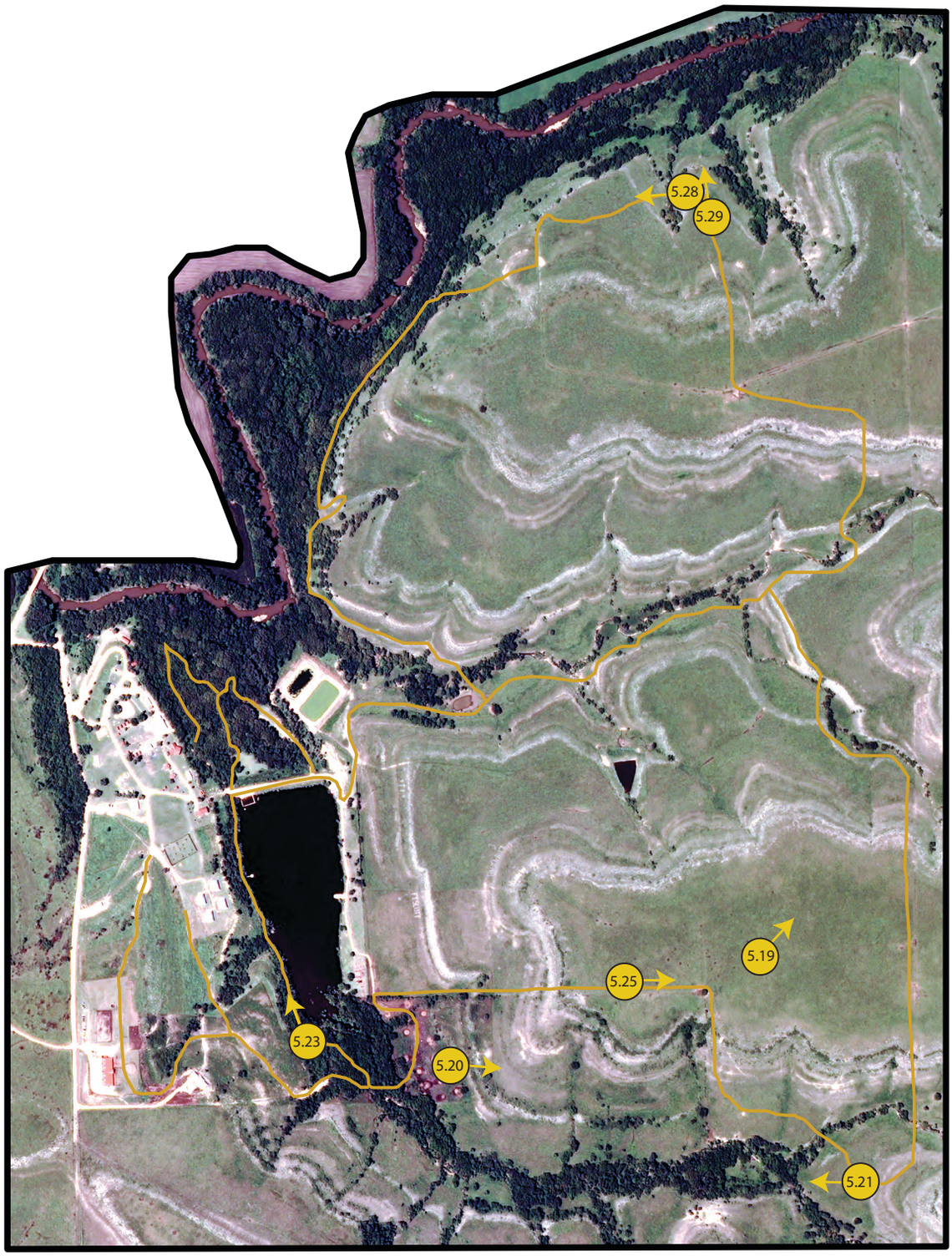
Feet 0 5 10

## Discovery Trails

The main purpose for discovery trails is to encourage campers to venture out into the great expanses of upland prairie within the 630 acres at Camp Wood. Once campers begin to explore the landscape, they will begin to discover the many features and landform types that exist within the Flint Hills Region. Throughout their journey, campers will have several opportunities to feel inspiration from the environment through constantly changing views and sounds. The process of successfully navigating through the prairie will result in a feeling of accomplishment that will help campers build self-confidence.

The proposed discovery trails will lead campers throughout the large expanse of prairie east of the main campus area. Figure 5.18 illustrates this proposed trail network. Along the trails, several pictures were taken that are used in the following discussions to describe the qualities of the landscape along the proposed discovery trail network. In the discussions to follow, the location from which each photograph originated is illustrated in Figure 5.18 by figure numbers.

Figure 5.18 - Discovery Trails Map




Proposed Discovery Trails

Figure 5.18 illustrates the proposed discovery trails network for Camp Wood.

Feet 0 500 1000 2000

The key to creating a successful discovery trails network is understanding the landscape qualities that can naturally draw and lead people through spaces while providing a sense of security. It is also important to understand the qualities that can discourage people from wanting to enter into or move through particular spaces in the landscape. The following themes occur multiple times along the proposed discovery trails network, but only one instance of each theme is discussed.

## Undifferentiated Landcover

Rachel Kaplan, Stephen Kaplan, and Robert L. Ryan discuss several different qualities that encourage or discourage people from moving through landscapes in their book, *With People In Mind* (Kaplan et al. 1998). Within the 630 acres of Flint Hills prairie at Camp Wood, there are several large expanses of prairie that could easily overwhelm a young camper. Because each of these spaces is visually organized in a similar fashion, campers have little or nothing to focus on. These “large expanses of undifferentiated landcover” could discourage campers from exploring because it may seem that there is nothing new to see or discover (Kaplan et al. 1998, 11). Figure 5.19 shows one such space that would seem uninviting to a young camper.

Figure 5.19 - Undifferentiated Landcover

Figure 5.19 shows how large expanses of prairie can be overwhelming to a camper and discourage exploration. (Photo by Aaron Mitchell)

## Dense Vegetation and Obstructed Views

Another discouraging quality is dense vegetation and obstructed views (Kaplan et al. 1998, 12). Figure 5.20 illustrates a space that fails to encourage exploration. The vegetation within the given view seems unorganized, and like the large undifferentiated landcovers, this space lacks any kind of focus. Campers might feel uneasy about being in this space because they would likely be unsure what to expect because the vegetation obscures their view (Kaplan et al. 1998, 12).

When considering the different opportunities for where the explorative pathway network could lead campers, spaces with these qualities were generally avoided. Figure 5.18 shows that both Figure 5.19 and 5.20 were photographed away from the proposed discovery trails.

Figure 5.20 - Dense vegetation and obstructed views

Figure 5.20 shows how dense vegetation can obscure views and make a space feel unorganized. (Photo by Aaron Mitchell)

Kaplan, Kaplan, and Ryan note that there are qualities that naturally encourage people to move through a landscape and provide a sense of security. These qualities include coherence, mystery, and legibility (Kaplan et al. 1998).

## Coherence

Coherent landscapes are orderly and easily understood. A coherent landscape often has repeating themes and a small number of varying textures (Kaplan et al. 1998, 14). Figures 5.21 and 5.22 represent what would be considered a coherent landscape scene in the prairie at Camp Wood. Figure 5.21 is an image of a prairie landscape running into a drainage corridor. Campers would not have a problem understanding the organization of this landscape. Figure 5.22 illustrates that two drainage corridors come together to form a "Y." The two contrasting textures in this scene are prairie grass and wooded vegetation. Landscape scenes that include these coherent qualities are common along the proposed explorative pathway network.

Figure 5.21 - Coherence

Figure 5.22 - Illustrated Coherence

Figures 5.21 and 5.22 illustrate coherency in the landscape. (Photos by Aaron Mitchell)

## Mystery

Mystery in the landscape can be used to encourage exploration as it suggests that a person can find out more about a place as they continue along a pathway. A winding pathway that disappears around a corner makes people want to know where the path leads to (Kaplan et al. 1998, 16). Figures 5.23 and 5.24 show a scene in a wooded area where a pathway is defined by a number of trees and other features. Figure 5.24 illustrates a pathway that curves out of site. Campers will be intrigued to find out where the path might take them and will likely want to explore the pathway further. Spaces that offer winding pathways and vegetation that partially obscures a view are common qualities along the proposed explorative pathway network.

Figure 5.23 - Mystery

Figure 5.24 - Illustrated Mystery

Figures 5.23 and 5.24 illustrate mystery in the landscape.
(photos by Aaron Mitchell)

## Legibility

Perhaps the most important quality for the different spaces along the proposed discovery trails network is legibility. Legibility refers to landmarks in the landscape, distinctive elements that make a space recognizable. Landscapes that are legible provide a feeling of security as they allow easy way-finding and keep people from becoming lost (Kaplan et al. 1998, 15). Figures 5.25 and 5.26 show a scene where a fence line is used to delineate a property boundary. Figure 5.26 illustrates that this fence line runs toward one large oak tree standing in the middle of the prairie. The oak as well as the fence serve as recognizable features that will provide a camper with a sense of security.

Figure 5.25 - Legibility

Figure 5.26 - Illustrated Legibility

Figures 5.25 and 5.26 illustrate legibility in the landscape.
(Photos by Aaron Mitchell)

Like coherence and mystery, there are several instance along the proposed explorative pathway that provide legibility. A number of different natural and man-made features can be used to help campers from becoming lost. Figure 5.27 is a map showing several of these features. Campers could take this map with them along their journey. The features on the map would likely encourage campers to go and find the next closest landmark from their current position. This is a strategy to encourage further exploration, but it is also an opportunity for campers to use a map and legend system to help navigate their way through a landscape. A camper who reaches the north fence line would not be able to see any of the buildings in the main campus area of Camp Wood. However, by using the map, they would understand that if they were to follow the fence line, it would take them back toward the main campus area. It is very likely that there are more features within the greater expanses of Flint Hills at Camp Wood that can serve as landmarks for campers but were not discovered during this study.

Figure 5.27 - Camp Wood Landmarks Map


Figure 5.27 shows the natural and man-made features that provide legibility in the Flint Hills landscape at Camp Wood.

The natural features within a landscape can help guide people through spaces. There are a number of different features along the proposed explorative pathway that can naturally draw people toward different space. Figure 5.28 shows an opening in the wooded vegetation of a small drainage corridor. a camper in this scene might be enticed to move toward the opening to see what is on the other side.

Figure 5.28 - Vegetation Opening

Figure 5.28 shows how an opening in vegetation can draw a camper to and through the space. (Photo by Aaron Mitchell)

Landform can also encourage movement through the landscape. Figure 5.29 shows the view campers will have after they allow the undulating hills represented in Figure 5.30 to guide them to a look out point. Figure 5.30 shows a camper walking toward the wooded area shown in Figure 5.29. They come upon what they expect to be a look out point where the landscape drops off and the they can look out to the spaces below. What they find, however, is a rolling hill that leads them to a second hill peak. Once again, they expect to have this great view looking out, but when they get closer to the peak of the second hill, they realize that it is another slight roll in the landscape. It is not until the third hill crest that the campers are finally able to stand on a hilltop and look down and out to the ground plane under the wooded vegetation.

Figure 5.29 - View to Wooded Vegetation

Figure 5.29 shows the view to the wooded area campers will see after allowing the rolling hills to guide them to the look out point. (Photo by Aaron Mitchell)

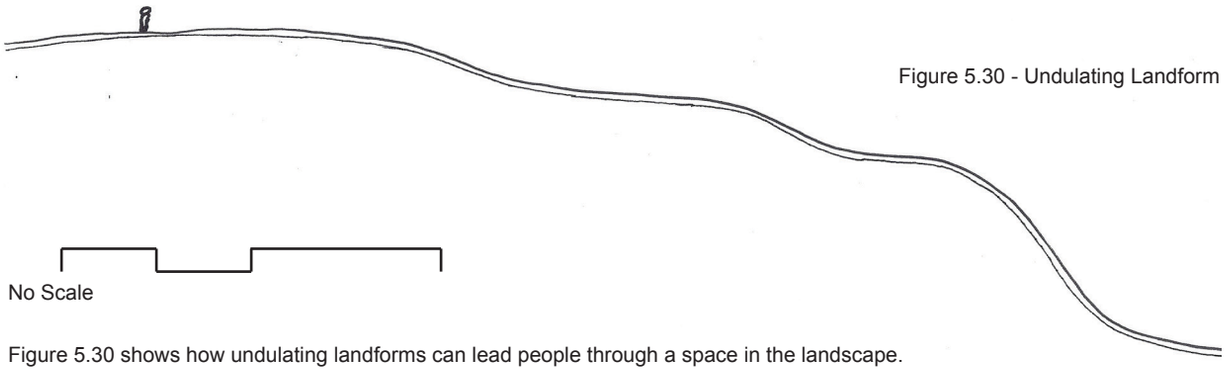



Figure 5.30 - Undulating Landform

Figure 5.30 shows how undulating landforms can lead people through a space in the landscape.

## Pathways Conclusions

It is important to note that the amount of time spent exploring the greater expanses of prairie at Camp Wood was limited during this study. However, the landscape qualities discussed can be used to develop more pathways within the proposed discovery trails network.

The proposed discovery trails will lead campers through an abundance of different landform types. Some of these landforms include rolling hills, valleys, creek beds, and plateaus. Campers will see and have a chance to interact with a number of different natural features, some unique to the Flint Hills Region and others that can be found in most any environment. Some of these features include prairie grasses, limestone outcroppings, bison wallows, stream corridors, the Cottonwood River, and an assortment of wildlife.

Throughout their journey, campers will get to experience some fantastic views, and hear, smell, and touch nature in a way they have possibly never experienced before. Not knowing or even trying, campers begin to build a relationship with the environment, discovering what nature has to offer and feeling inspired by a specific view or even the sound of water trickling through a creek bed. Successful navigation of the Flint Hills at Camp Wood will bring a feeling of achievement to the campers and will give them confidence that they can explore other natural settings without fear of becoming disoriented in the landscape. After campers leave Camp Wood, they may reflect on their experience and realize that their actions have an important impact on the environment.

## Prairie Gateway Staircase

The proposed Prairie Gateway Staircase provides a safe connection from the Ritchie Lodge to the pond area and acts as the element connecting the main campus area with the lower level activities area. This pathway is the direct link connecting the main campus area with the greater expanse of prairie to the east of the pond area. Figure 5.31 shows the location of the proposed Prairie Gateway Staircase as it relates to the rest of the main campus area.

Figure 5.31 - Diagrammatic Master Plan - Prairie Gateway Staircase


Figure 5.31 shows the location of the proposed Prairie Gateway Staircase.

The proposed Prairie Gateway Staircase follows the existing pathway campers use multiple times a day to navigate back and forth between the main campus area and the pond area. Special attention is needed for this connection as the existing pathway's surface is composed of bare soil and rocks, creating a safety hazard for campers hiking up or down the pathway. Figure 5.32 shows the proposed Prairie Gateway Staircase as well as a small sitting space located about half way down. This space provides a resting opportunity for people walking up or down the staircase. It also acts as a transition space connecting Deer Run Pathway to the proposed sleeping lodges. These elements are discussed further in the next chapter.

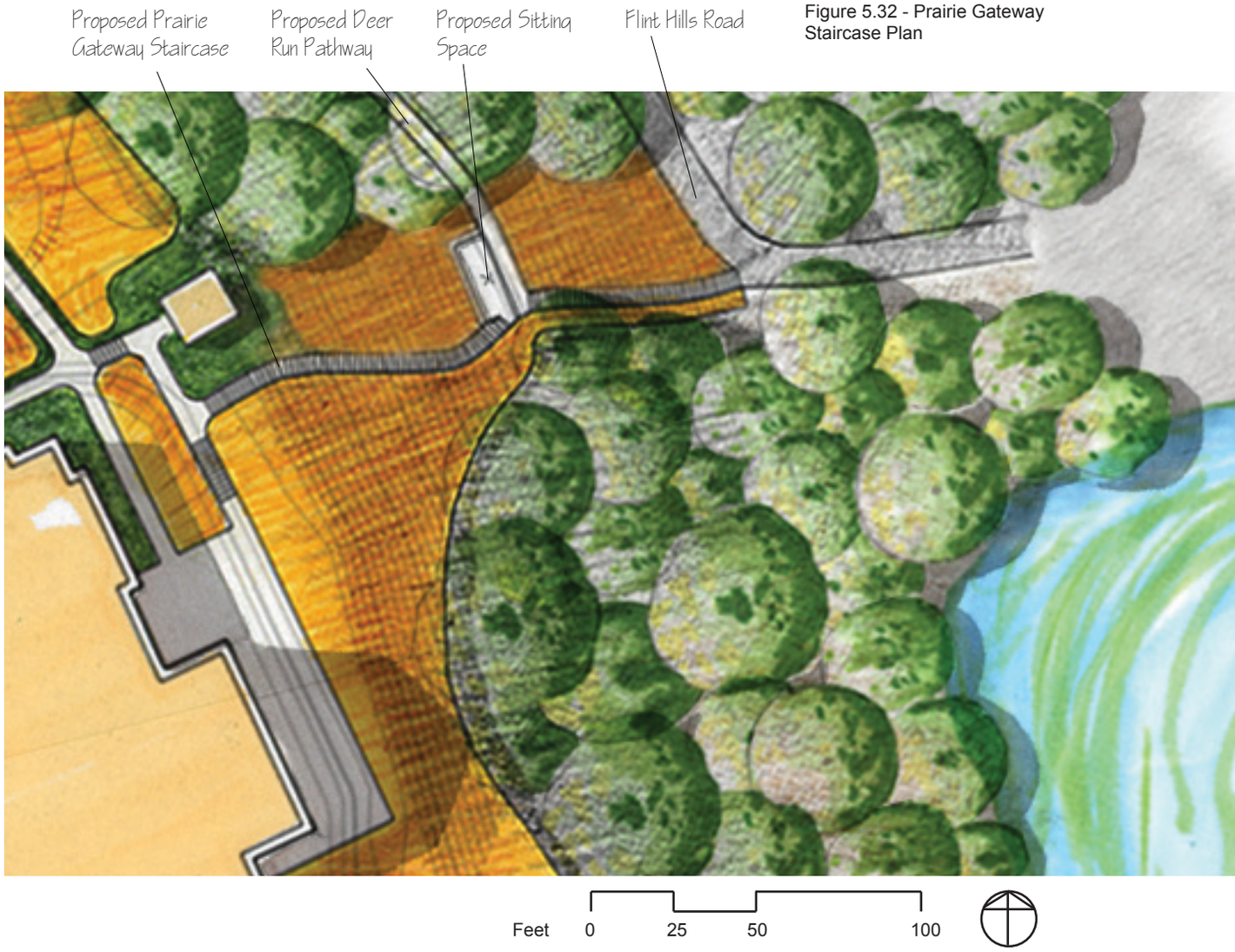



Figure 5.32 - Prairie Gateway Staircase Plan

Figure 5.32 shows how the proposed Prairie Gateway Staircase connects the Ritchie Lodge with the pond area .

Because of the high volumes of traffic and because the proposed Prairie Gateway Staircase is the major link between the main campus area and the pond area, it seems appropriate that it be constructed with limestone which can be collected from the site. The process of harvesting limestone from the site and using it to create this staircase feature can be a teaching tool used to help campers understand the concept of sustainability. Figure 5.33 shows the limestone steps of the proposed Prairie Gateway Staircase. It also shows how the sitting space relates to the Prairie Gateway Staircase as well as Deer Run Pathway. People sitting on the limestone wall have a great view of the designated swimming area below.

Figure 5.33 - Prairie Gateway Staircase

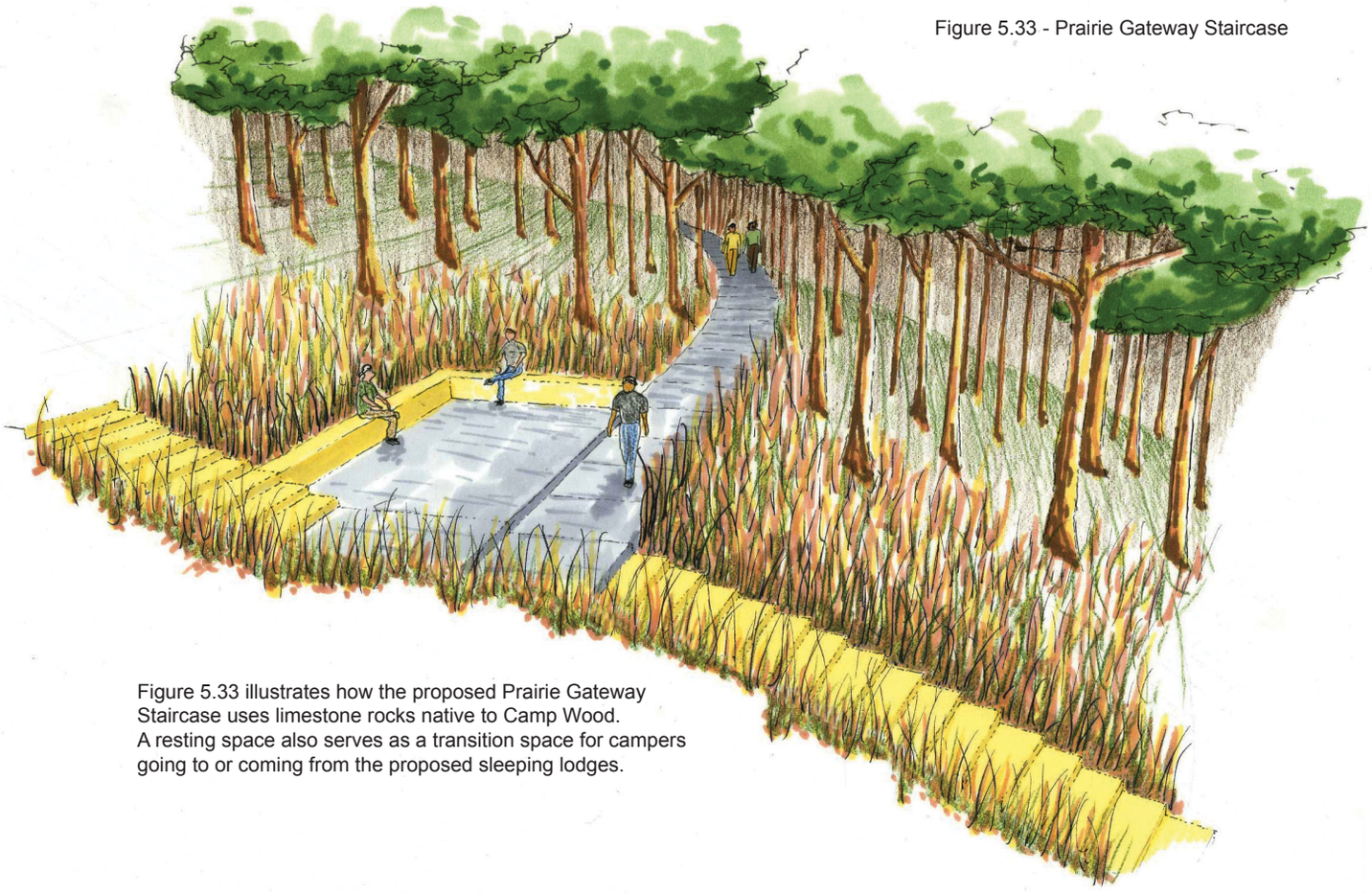


Figure 5.33 illustrates how the proposed Prairie Gateway Staircase uses limestone rocks native to Camp Wood. A resting space also serves as a transition space for campers going to or coming from the proposed sleeping lodges.

In an attempt to minimize excavations for the Prairie Gateway Staircase, the rise and run for each limestone step should be six inches and one foot, seven inches, respectively. Using this ratio, about 95 steps will be necessary to complete the staircase.

## Prairie Gateway Staircase Conclusions

The proposed Prairie Gateway Staircase better connects the main campus area with the pond area and provides a safe way for campers to move back and forth between the two activity areas. The sitting space along the staircase provides a resting area for people walking up the staircase, a space from which people can sit and view the different activities happening below, and a transition space for campers walking towards or coming from the proposed sleeping lodges. By using limestone gathered from the site to create the Prairie Gateway Staircase, campers can learn about native material use as it relates to sustainability.

## Amphitheater

The proposed amphitheater gathering space provides one central space large enough for 350 campers to gather at once and receive instruction from the Camp Wood staff. The amphitheater also encourages impromptu social interaction among campers before and after meals and between activities throughout the day. The space can also accommodate small performances. Figure 5.34 illustrates how the amphitheater space relates to the rest of the main campus area of Camp Wood.

The location of the proposed amphitheater gathering space falls within the boundary that was defined as being suitable for the placement of the amphitheater. This boundary is represented in Figure 4.19 on page 84. The process of how this boundary was created is discussed in the site analysis section beginning on page 75.

Figure 5.34 - Diagrammatic Master Plan - Amphitheater


Figure 5.34 shows the location of the Amphitheater Space.

Figures 5.35 and 5.36 illustrate the proposed amphitheater in its relation to the Ritchie Lodge and the adjacent circulation network. The amphitheater is, in general, oriented toward the northeast. This orientation allows campers to use the amphitheater in the afternoon hours without looking directly into the sun. The Ritchie Lodge acts as a back drop for the amphitheater space, blocking any view from the amphitheater to the distant landscape. This detail will keep campers better focused on the person or persons speaking to or performing for them.

The stage is constructed from large limestone pieces and is raised up 18 inches high. The placement of the stage area allows circulation to continue even when a camper or staff member is using the stage to address the campers seated in the amphitheater. Three proposed Burr Oaks (Quercus macrocarpa) provide afternoon shade for the campers seated in the amphitheater.

Figure 5.35 - Amphitheater

Figure 5.35 shows the amphitheater space and how it relates to the entry of the Ritchie Lodge.

Figure 5.36 - Amphitheater Plan

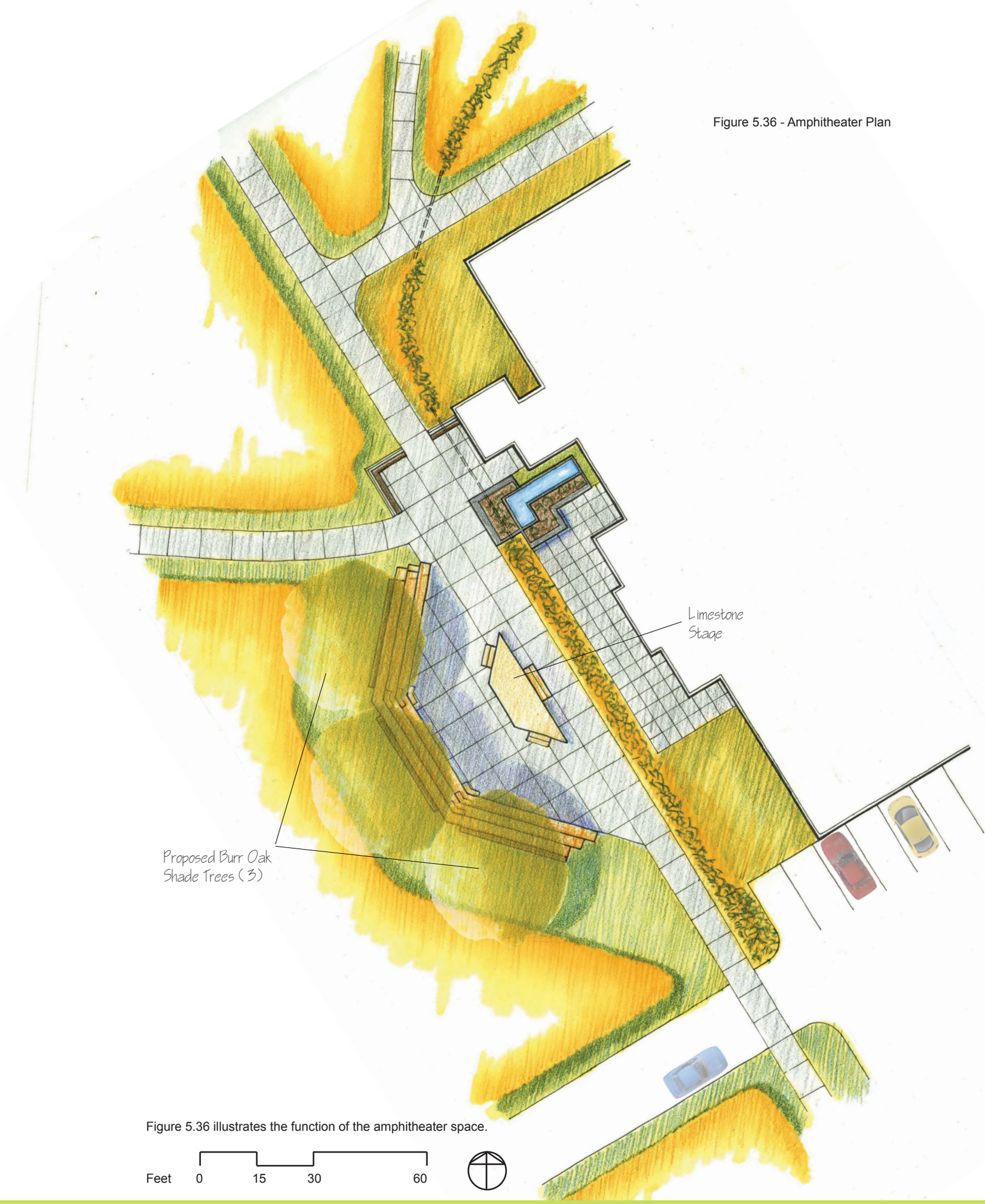



Figure 5.36 illustrates the function of the amphitheater space.

Figure 5.37 shows the existing and proposed topography for the amphitheater space. Section J cuts through the amphitheater space and is represented in the section drawing in Figure 5.38.

Figure 5.37 - Amphitheater - Proposed Grading Plan

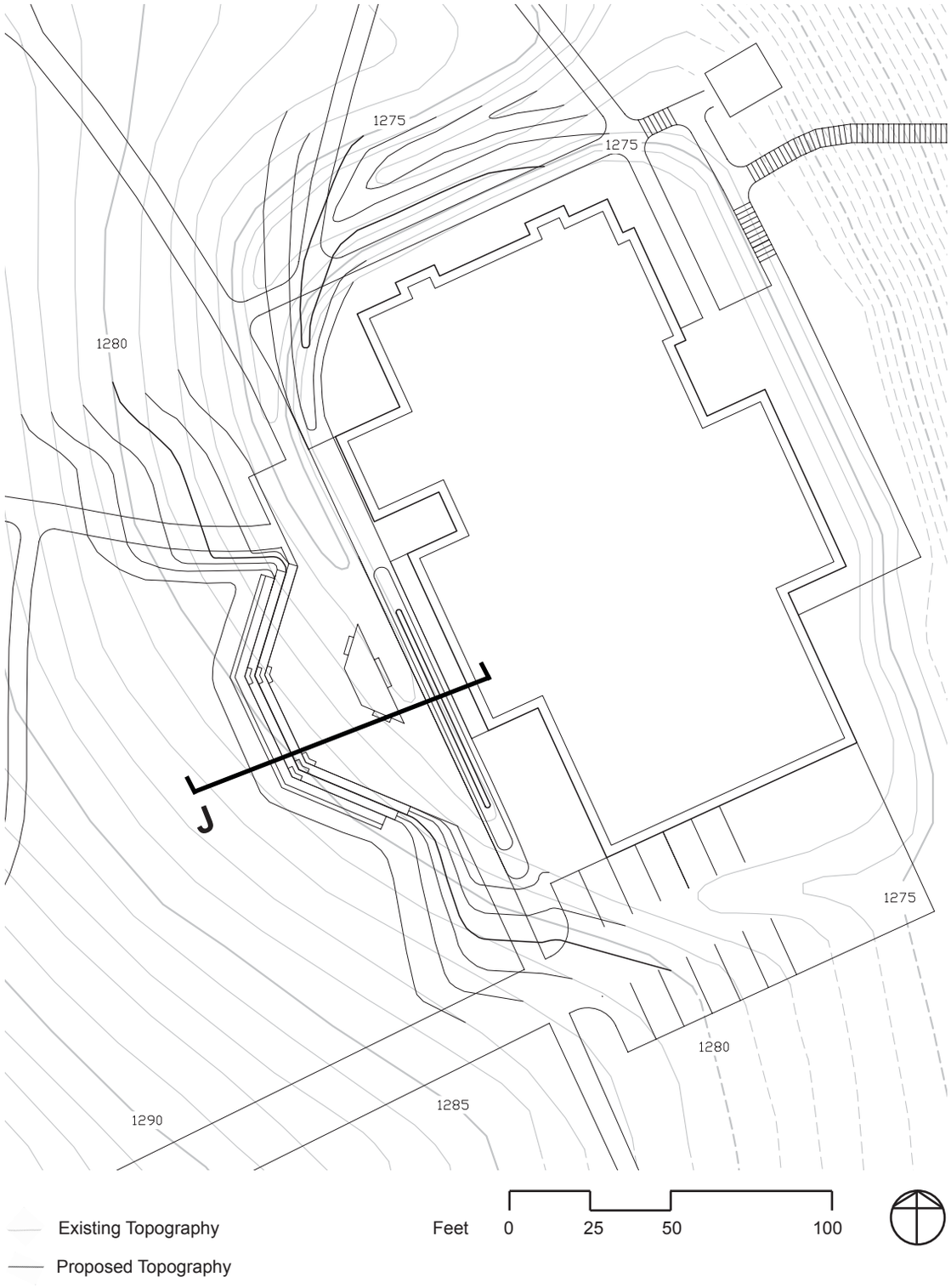



Figure 5.37 shows preliminary grading for the amphitheater space.

Figure 5.38 is a section of the amphitheater space and is generated from the preliminary grading plan in Figure 5.37. One of the reasons the amphitheater space is placed in its proposed location is because  of the existing topography. The exiting topography slopes toward the Ritchie Lodge at about an eight percent slope. The terraced limestone seating for the amphitheater can be constructed into the existing slope in a way that minimizes the amount of excavation costs and balances the amount of cut and fill. Rainwater from the amphitheater flows underneath the stage and collects in the swale in front of the Ritchie Lodge. This swale is discussed more in the Storm Water Management / Environmental Education Chapter beginning on page 192.

Figure 5.38 - Amphitheater Section J

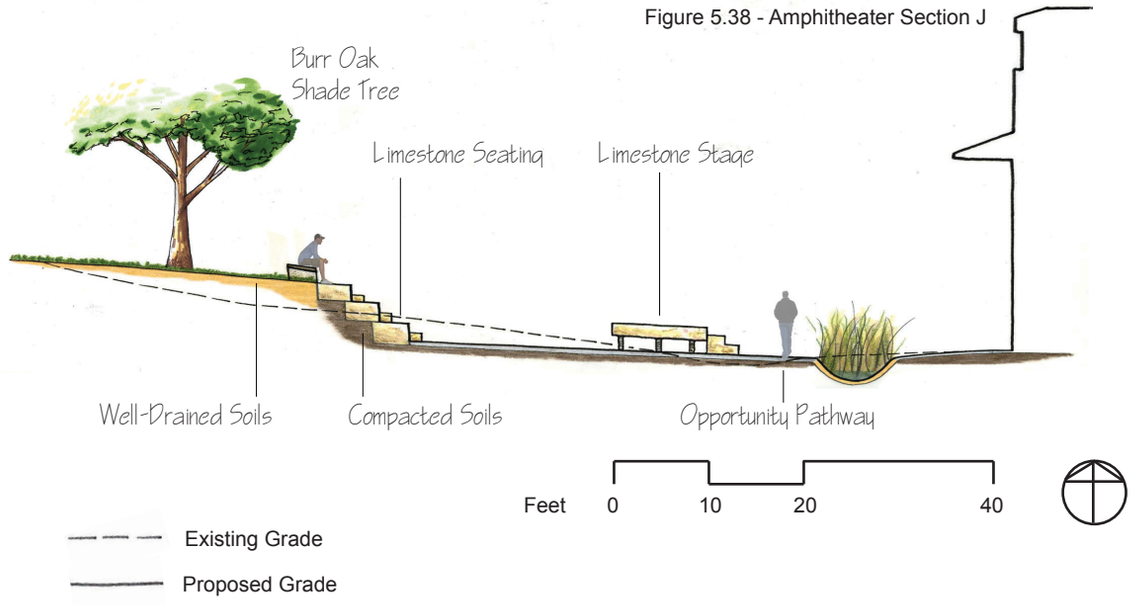



Figure 5.38 shows how the amphitheater uses the existing topography in order to balance the amount of cut and fill during excavation.

## Amphitheater Gathering Space Conclusions

The proposed amphitheater gathering space provides enough seating space to allow 350 campers to sit and receive instruction or watch a performance. It also functions as an informal gathering space for campers to use during transition times throughout the day. The preliminary grading for the amphitheater space minimizes excavation costs and allows drainage from the amphitheater surface to collect in the swale in front of the Ritchie Lodge.

# Design: Future Development

- Sleeping Lodges

- Playing Field

## Sleeping Lodges

The four proposed sleeping lodges are located in two different areas near the Ritchie Lodge. The proposed Bison Lodge is a slab-on-grade, two-story sleeping lodge and is located just south of the four existing sleeping lodges. The proposed Buck and Doe lodges are stilted lodges and are located in the wooded area north of the Ritchie Lodge, just off Flint Hills Road leading to the pond area. Figure 6.1 shows the location of these lodges and other features.

Figure 6.1 - Diagrammatic Master Plan - Sleeping Lodges


Figure 6.1 shows the location of the proposed Bison, Buck, and Doe Lodges as they relate to the rest of the main campus area.

At Camp Wood, there are a number of different types of sleeping structures including small, wooden bunk houses, tented structures, historic limestone buildings, and, most recently, larger, 20 person sleeping lodges. Of the different types, the 20 person sleeping lodges seem to be the most adequate for a number of different reasons. A vaulted ceiling captures warm air to allow the living space within each lodge to have a more comfortable temperature. Each bunk bed is accompanied by a window through which campers can look out into the landscape. Each sleeping lodge consists of two separate sleeping quarters as well as two separate washrooms. The arrangement of the sleeping quarters and washrooms creates a space in the center of each lodge that looks out into the Flint Hills landscape. Figure 6.2 shows the floor plan for the four existing sleeping lodges and how the sleeping quarters and washrooms create a central gathering space for each lodge.

The central gathering space acts as a space for campers to interact with one another. Also, by providing a view into the landscape, the gathering space within each lodge likely encourages campers within theses spaces to further explore Camp Wood. Because of these qualities, the four proposed sleeping lodges are based off of the floor plan of the existing sleeping lodges.

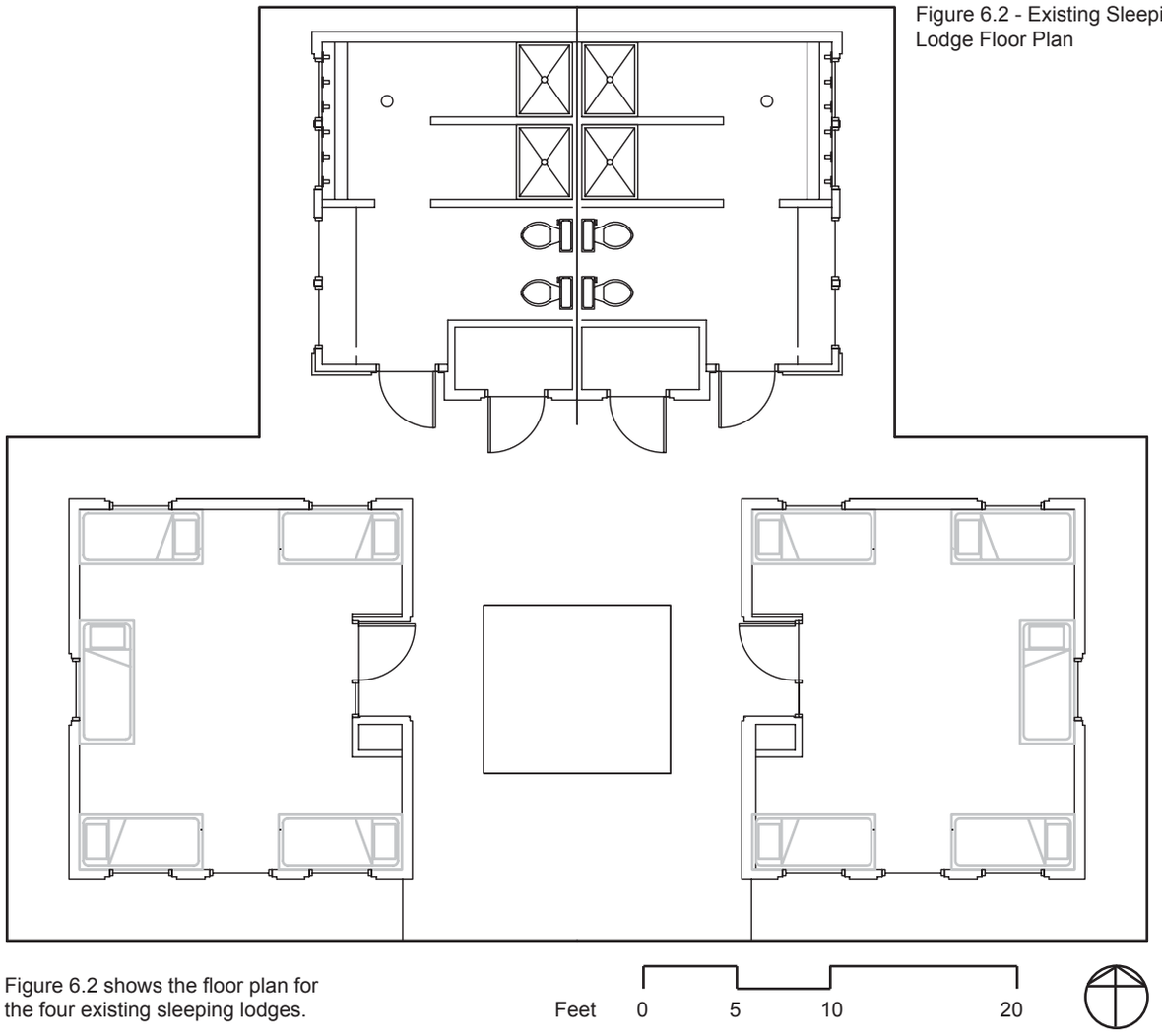



Figure 6.2 - Existing Sleeping Lodge Floor Plan

Figure 6.2 shows the floor plan for the four existing sleeping lodges.

## Bison Lodge

The location of the Bison Lodge falls within the boundary that was defined as being suitable for proposed sleeping lodges constructed on a concrete slab. This boundary can be seen in Figure 4.9 on page 68. The process of how this boundary was created is discussed in the site analysis section beginning on page 59.

Located just south of the existing sleeping lodges and oriented towards the southeast, Bison Lodge is constructed on a concrete slab just like the adjacent four existing sleeping lodges. Figure 6.3 shows a detailed plan of Bison Lodge as it relates to the adjacent lodges and immediate landscape surrounding it. Section K is shown on the plan and is the cut line used to generate Figure 6.4.

Figure 6.3 - Bison Sleeping Lodge Plan

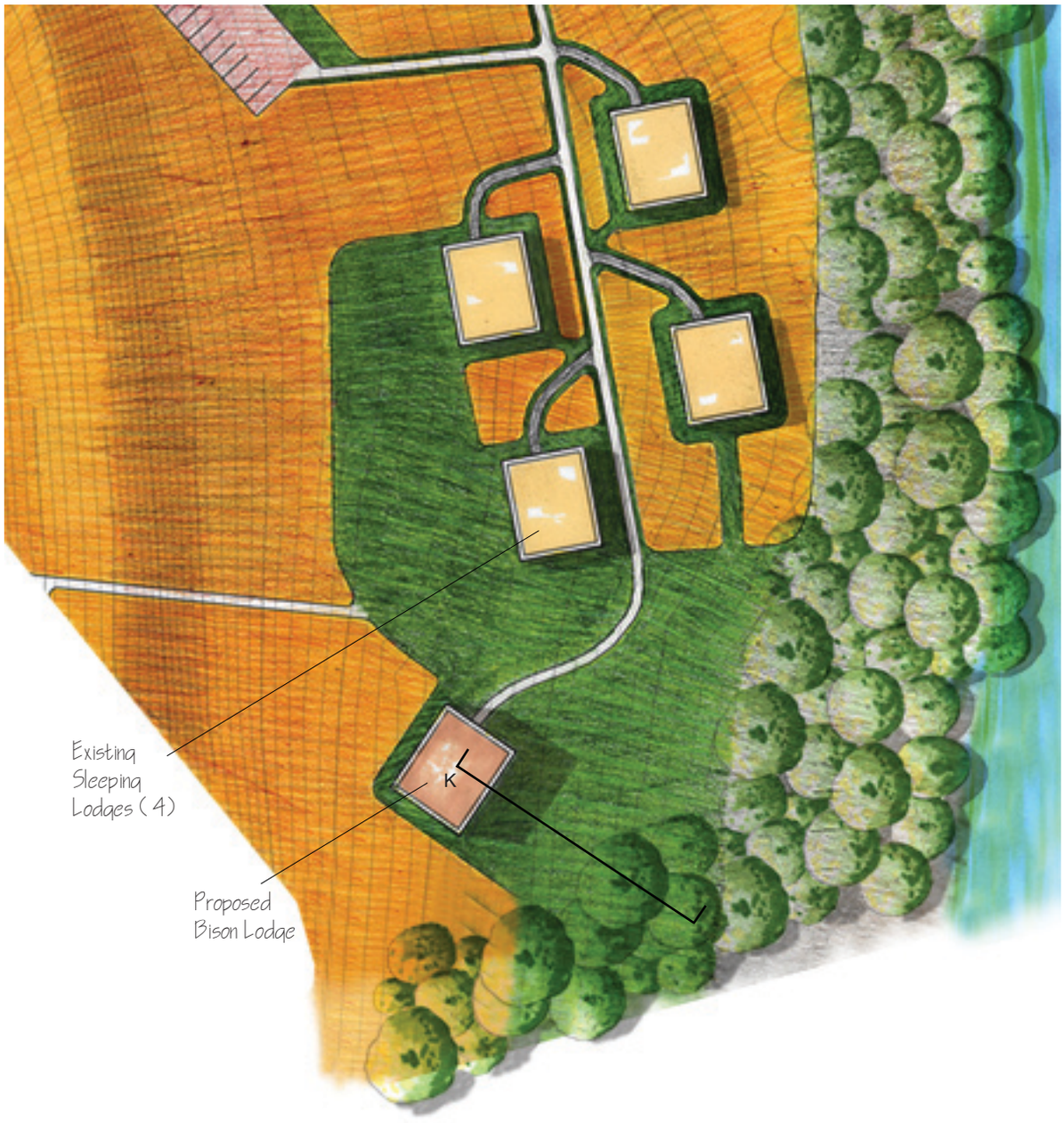



Figure 6.3 illustrates Bison Lodge as it relates to the adjacent buildings, spaces, and vegetation.

The main difference between Bison Lodge and the existing lodges is that Bison Lodge is a two-story lodge. There are multiple advantages to having a two-story sleeping lodge. First, one sleeping lodge constructed on top of another lodge results in a smaller footprint which is the area covered by a building. The smaller the footprint, the less disturbance the surrounding prairie will experience. Next, the bottom story will remain cooler in the summer months as a result of the second story. These concepts can be used to teach campers about land and energy conservation. Thirdly, the above story is elevated such that campers looking out from the gathering space will have views down the hill into a wooded area as well as a views above the trees into the distant landscape. Figure 6.4 shows a camper looking out into the landscape from the gathering space on the second story of the Bison Lodge.

Figure 6.4 - Bison Lodge - Section K

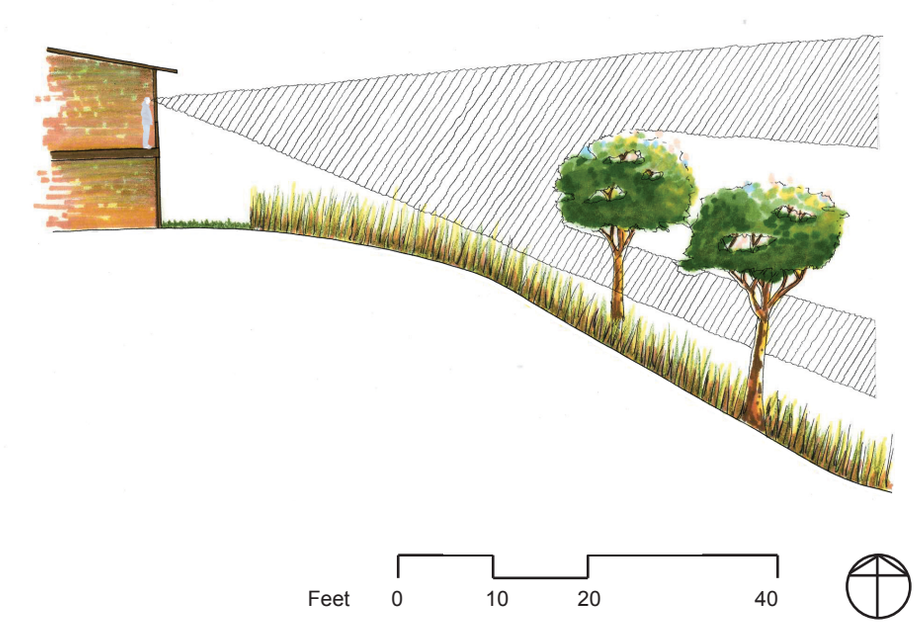



Figure 6.4 illustrates how a camper on the second story will have a view both above and below the adjacent trees.

## Buck and Doe Sleeping Lodges

In an effort to provide a completely different experience for campers staying at Camp Wood, the remaining two proposed sleeping lodges are located within the wooded area north of the Ritchie Lodge. The concept of these sleeping lodges is inspired by a tree house.

The location of the proposed Buck Lodge and the Doe Lodge fall within the boundary that was defined as being suitable for proposed sleeping lodges constructed on stilts. This boundary can be seen in Figure 4.13 on page 74. The process of how this boundary was created is discussed in the site analysis section beginning on page 69.

Figure 6.5 is a plan view showing the Doe Lodge as it relates to the surrounding wooded area. From Doe Lodge, campers walk down Flint Hills Road and up Deer Run Pathway to access the Ritchie Lodge. A ramp system connecting Flint Hills Road with the Doe Lodge allows a handicapped camper to experience the tree house camping experience. The floor plan for the lodge still uses the sleeping quarters and washrooms to shape a central gathering space but has been reconfigured in an attempt to minimize structural requirements and to provide each camper with a view into the wooded landscape from their bunks. The topography shown in the plan provides a better understanding of the terrain in the immediate area surrounding Doe Lodge. However, since there is no formal topographic information for this area, the topography shown should be considered conceptual.

From Doe Lodge, a camper looking out into the landscape has a much more limited view when compared to the existing four sleeping lodges which are oriented towards a large open mass of Flint Hills and extends miles to the horizon. This confined viewshed from the Doe Lodge will allow campers to focus on paths, spaces, and features that are close by. This should result in more campers wanting to explore the immediate wooded landscape surrounding the Doe and Buck Lodges. Section L is shown on the plan and is the cut line used to generate Figure 6.6.

Figure 6.5 - Doe Lodge Plan

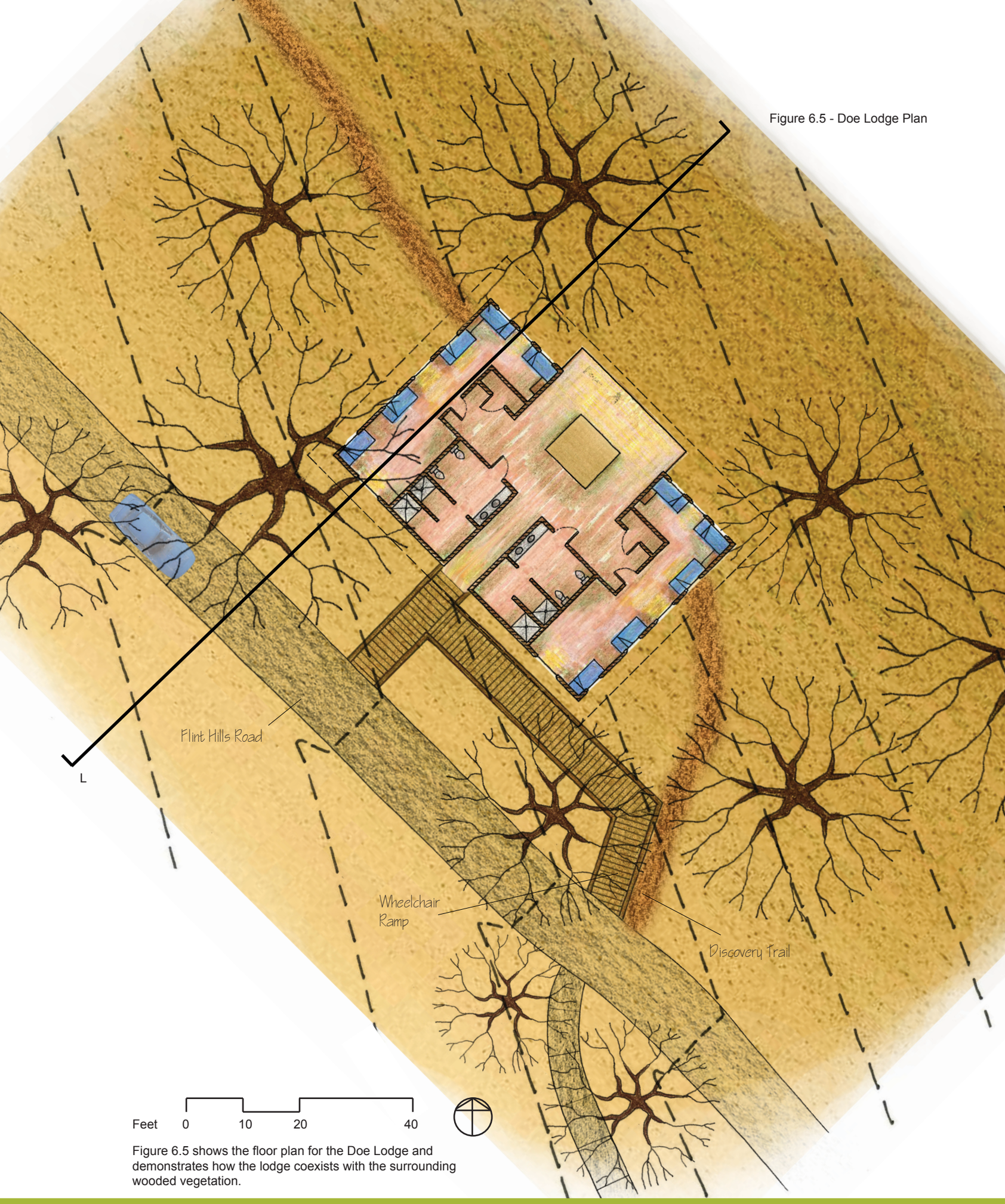



Figure 6.5 shows the floor plan for the Doe Lodge and demonstrates how the lodge coexists with the surrounding wooded vegetation.

Figure 6.6 shows a section of the Doe Lodge as it relates to the sloping landforms and vegetation around it. The slope of the terrain is conceptual as there is no formal topographic information from which to build an accurate section model. The Lodge should be placed high enough so the horizontal structural components including beams, joists, and flooring are above the 100-year flood plain. Another important element to consider when deciding the elevation of the Doe and Buck Sleeping Lodges is the possibility of the pond area experiencing a dam failure. Further research regarding a dam failure, however, is beyond the parameters of this study.

As the Doe Lodge currently sits, a camper standing in the sleeping quarters area of the lodge who is looking back up the hill will not see Flint Hills Road but will only see the wooded hill leading back up to the main campus area. The placement of the Buck and Doe Sleeping Lodges takes advantage of the earth's natural cooling systems. The trees below, adjacent to, and behind the Doe Lodge provide shade for the lodge throughout the day. This element can be used as a tool to teach campers about the natural cooling systems of the earth. Underneath the lodge runs a portion of an explorative pathway leading campers to the team-building environmental study area. These features are discussed later.

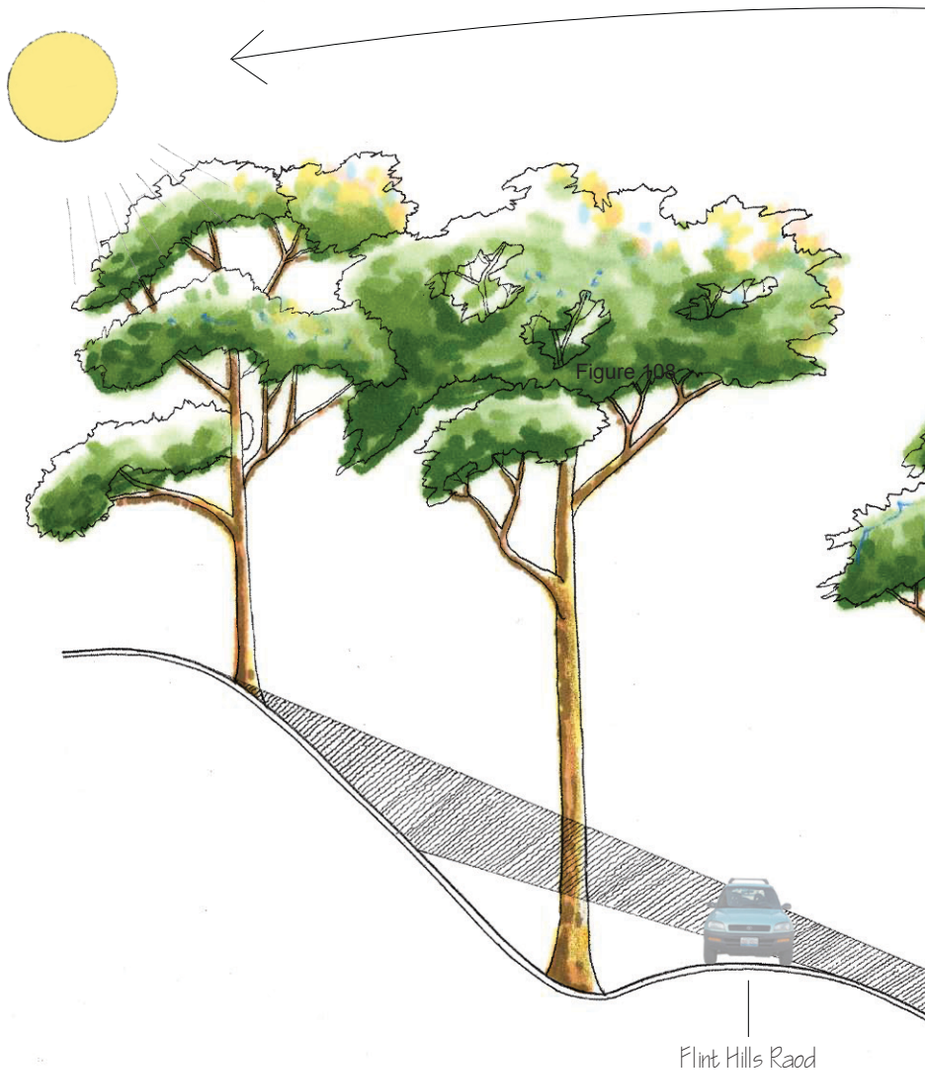
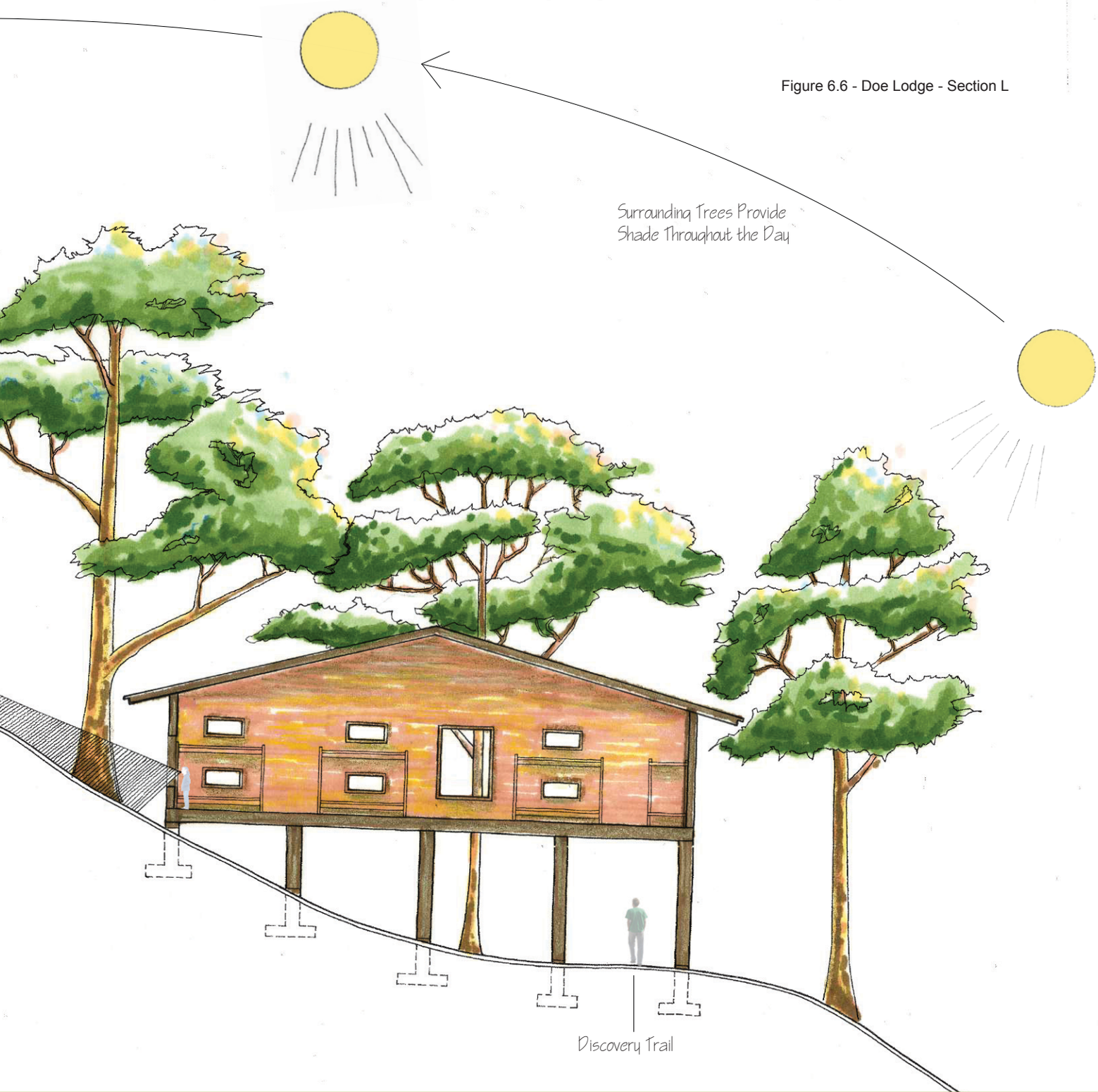



Figure 6.6 Illustrates how the Doe Lodge fits into the existing landscape and takes advantage of the earth's natural cooling systems.

## Sleeping Lodge Conclusions

The location, function, and orientation of the three proposed sleeping lodges provides campers with the opportunity of a different lodging experience than what the existing lodging amenities offer. The proposed lodges create exterior sheltered spaces for campers to build relationships with one another. Campers sleeping in or just visiting these lodges will be more likely to explore, discover, and become inspired by the immediate landscapes surrounding the different lodges. The lodges can provide campers with a visual learning experience regarding the earth's natural cooling systems.

Figure 6.6 - Doe Lodge - Section L



## Playing Field

The proposed playing field area offers campers a chance to take part in competitive, team-building activities that promote sportsmanship. Campers will learn to work together to achieve a common goal while building self-confidence, self-esteem, and relationships with other campers. Irrigated from the proposed underground cistern that collects water from the rooftop of the Ritchie Lodge, the playing field will be, in part, used to teach campers about water conservation. Water conservation is further discussed in the Storm Water Management / Environmental Education chapter beginning on page 192. The location of the playing field as it relates to other spaces, buildings and features within the main campus area is shown in Figure 6.7.

Figure 6.7 - Diagrammatic Master Plan - Playing Field


Figure 6.7 shows the location of the proposed playing field.

The location of the proposed playing field falls within the boundary that was defined as being suitable for the placement of the field. This boundary can be seen in Figure 4.26 on page 94. The process of how this boundary was created is discussed in the site analysis section beginning on page 85.

The playing field is located about 300 feet from the Ritchie Lodge, so campers will be able to quickly access the field during transition periods before and after meals and between other activities. Its location does not require the destruction of any wooded vegetation. Instead, the existing deciduous trees to the northwest act as a buffer separating the playing field from the sleeping units defining the quadrangle space. The trees also provide a shady space for campers to sit and watch other campers on the playing field. Besides the trees, the stretch of open space and the band of prairie grasses help create a sense of “place” for the field. The prairie grasses also separate the playing field from the tented sleeping structures to the southwest. Figure 6.8 shows these elements as they relate to the playing field.

Figure 6.8 - Playing Field Map


Figure 6.8 shows the proposed playing field as it relates to the adjacent buildings and activity areas.

Existing topography is another important element that influenced the location of the proposed playing field. Minimal changes to the existing topography results in minimal excavation costs. A playing field with a two percent slope from one sideline to the other will ensure proper drainage and will be hardly noticeable to the players on the field. Drainage from sideline to sideline instead of goal line to goal line keeps either team from having a topographic advantage. Figure 6.9 shows the preliminary grading plan for the playing field. The existing topography slopes at about two percent, but it drains water from the southwest corner of the field towards the northeast corner. The proposed grading drains water from the western sideline to the eastern sideline and requires minimal excavations. Section M cuts through the playing field and adjacent elements and is illustrated in Figure 6.10.

Figure 6.9 - Playing Field Grading Plan


Figure 6.9 shows the preliminary grading for the proposed playing field.

To the southwest of the proposed playing field, there are six tented sleeping structures facing towards one another that form a small, common open space. Since they are used for sleeping, the tented structures create more of a private space that should be clearly separated from public spaces that are highly active. Figure 6.10 shows how prairie grasses are used to create a buffer between the playing field and the tented sleeping structures. The section also shows a consistent two percent slope from the west sideline to the east sideline. Limestone seating allows campers to watch other campers playing on the field.

Figure 6.10 - Playing Field - Section M

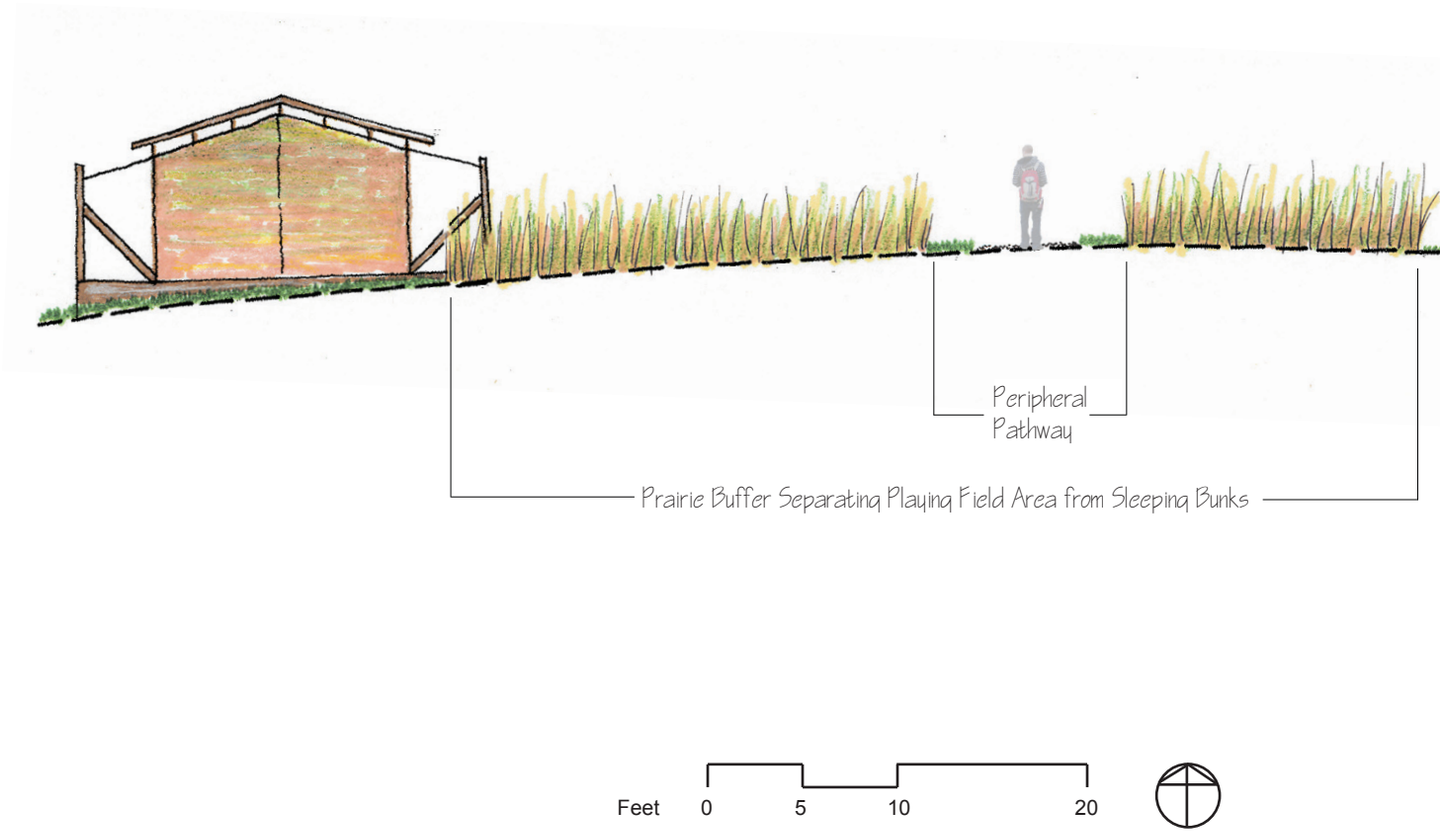
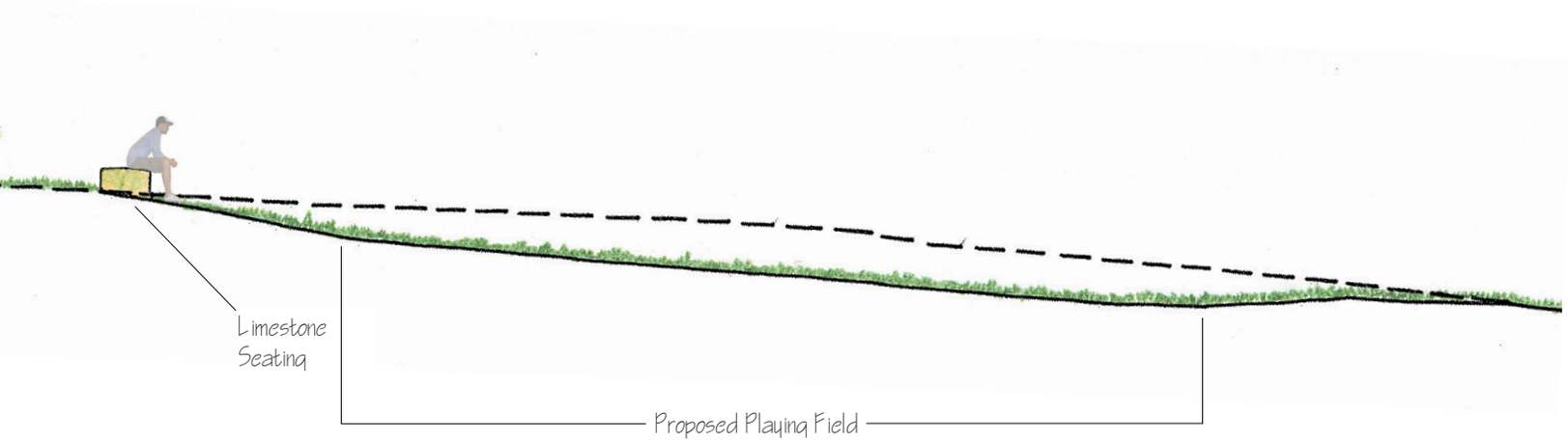



Figure 6.10 shows the proposed playing field and how prairie grasses are used to create a separation between the field and the adjacent tented sleeping structures. The section is drawn with two-times vertical exaggeration.

In the site analysis portion of this document on page 95, the existing soils within the playing field area were determined to be unsuitable to support a  healthy stand of turf grass for an athletic field. Once the proposed playing field area is graded, soils can be brought in that are better suited for a playing field. Soil information can be obtained from a number of different sources. The United States Department of Agriculture (USDA) has an abundance of soil information that can be accesses from www.ks.nrcs.usda.gov/soils. Proper management practices for athletic fields are discussed in depth at www.soilsecrets.com.




## Playing Field Conclusions

The proposed playing field offers campers the opportunity to take part in a competitive, team-building activity that promotes relationships and can provide a feeling of achievement. The preliminary grading ensures proper drainage and prevents either team from gaining an advantage because of the slope of the field. The prairie grasses adjacent to the playing field create a separation between public and private spaces. Although not shown in the drawings, rooftop water collected from the Ritchie Lodge is intended to be used for irrigation purposes (see page 193).

# Design:
# Storm Water Management / Evironmental Education

- Storm Water Management

- Environmental Study Areas

## Storm Water Management

The proposed storm water management features include a rainwater collection feature as well as a bioswale. These features add aesthetic quality to the entry of the Ritchie Lodge but are also sustainable features that reduce rainwater runoff. Through the rainwater collection feature and the bioswale, campers can learn about water conservation. These features can be seen in Figure 6.11. The location of these features as they relate to other features within the main campus can be seen in Figure 6.12.

Besides being functional, it is important for the proposed water conservation features to be visually appealing. Elizabeth Meyer writes about the relationship between aesthetics and sustainability in her article, "Sustaining Beauty: *The Performance of Appearance*." She offers that a sustainable design is not enough to persuade a culture to become sustainable. She suggests that "what is needed are designed landscapes that provoke those who experience them to become more aware of how their actions affect the environment, and to care enough to make changes" (Meyer 2008, 6).

Figure 6.11 shows the proposed rainwater collection feature as well as the bioswale. The rainwater collection feature collects rainwater from a portion of the Ritchie Lodge rooftop and stores it in an underground cistern for irrigation purposes for the playing field. It also provides seating for the Ritchie Lodge entry and patio spaces. The bioswale collects and infiltrates water from the adjacent amphitheater space as well as from the Ritchie Lodge patio space. Together, the bioswale and the rainwater collection feature help separate the Ritchie Lodge patio space from the amphitheater and the Ritchie Lodge entry space.

Figure 6.11 - Storm Water Management Features

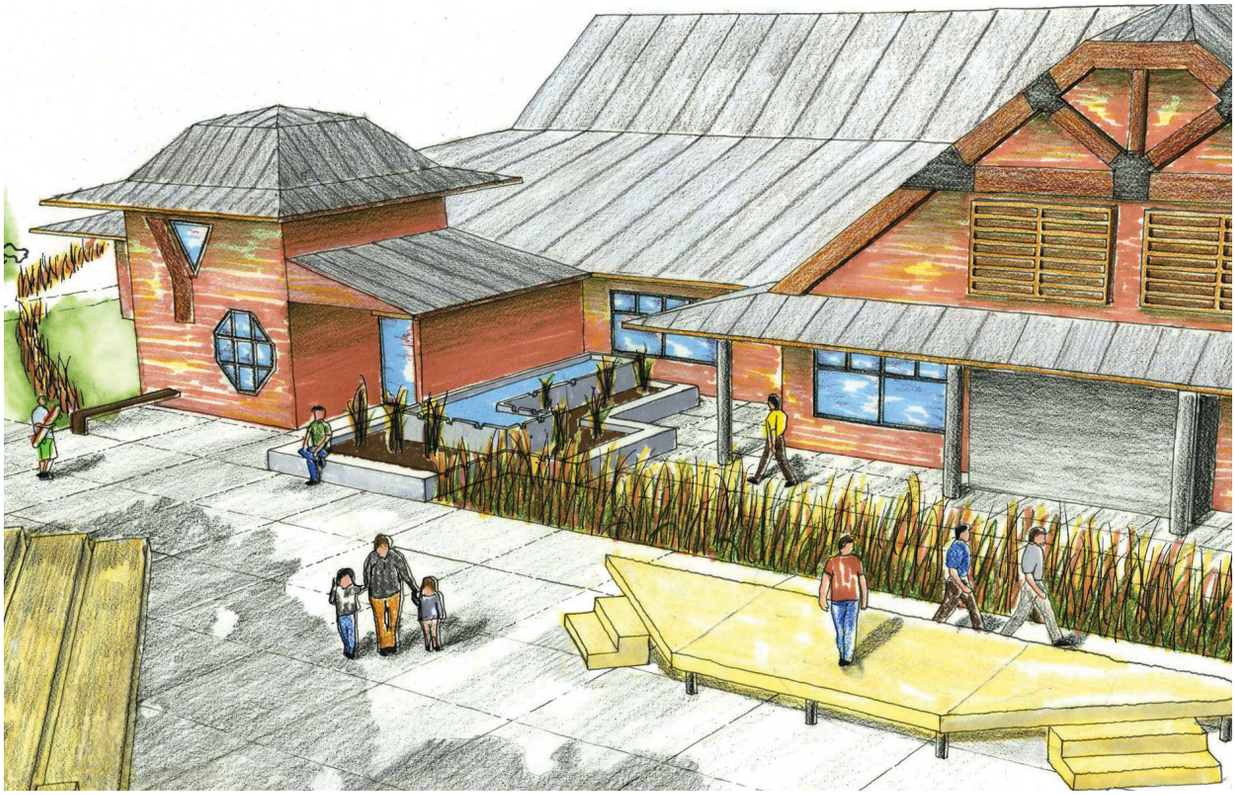


Figure 6.11 illustrates how the proposed rainwater collection system could provide seating for the Ritchie Lodge entry and patio spaces. The bioswale separates the patio from the amphitheater space and provides a backdrop for the amphitheater.

Figure 6.12 - Diagrammatic Master Plan - Storm Water Management

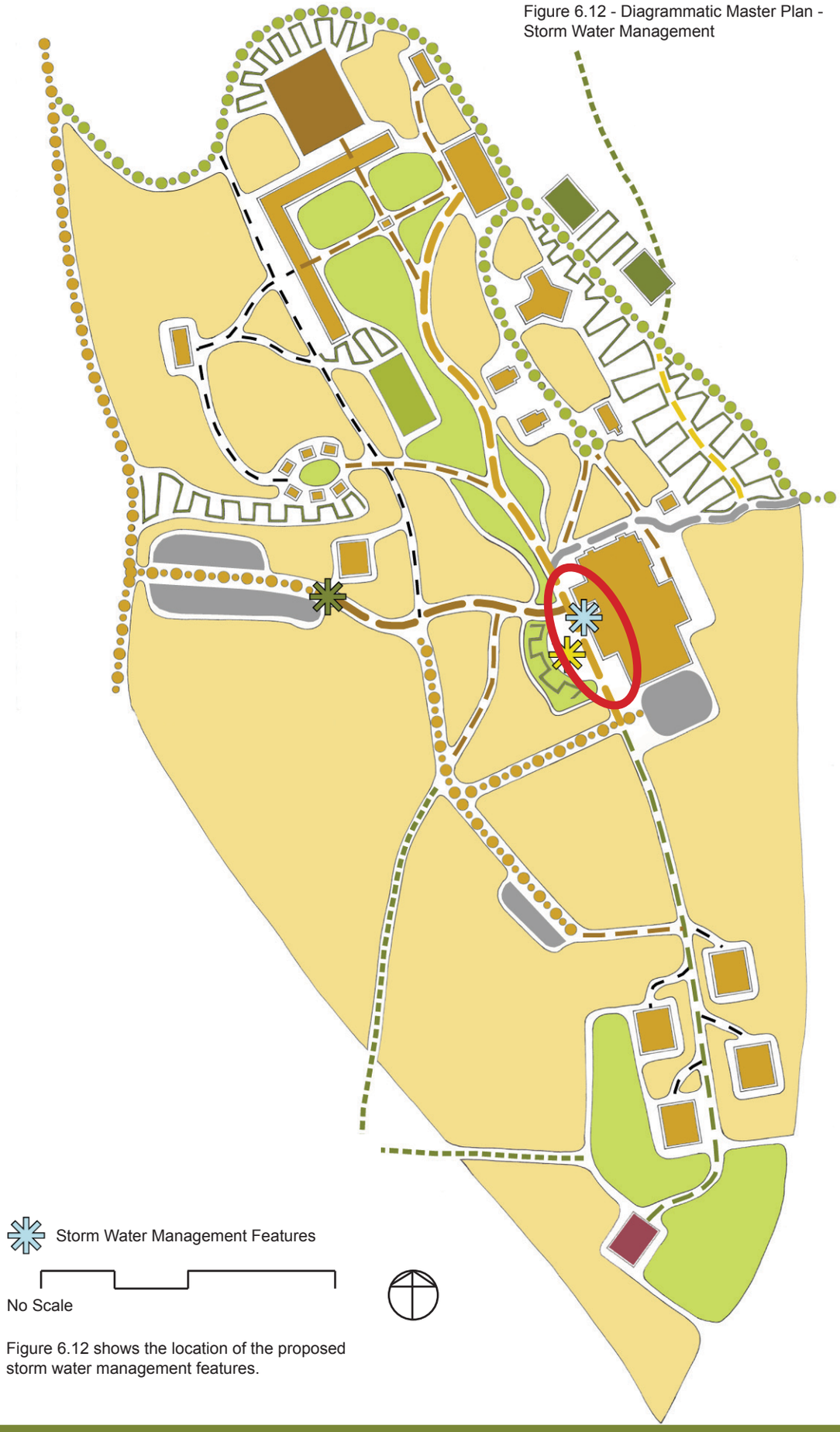



Figure 6.12 shows the location of the proposed storm water management features.

Figure 6.13 - Storm Water Management Plan

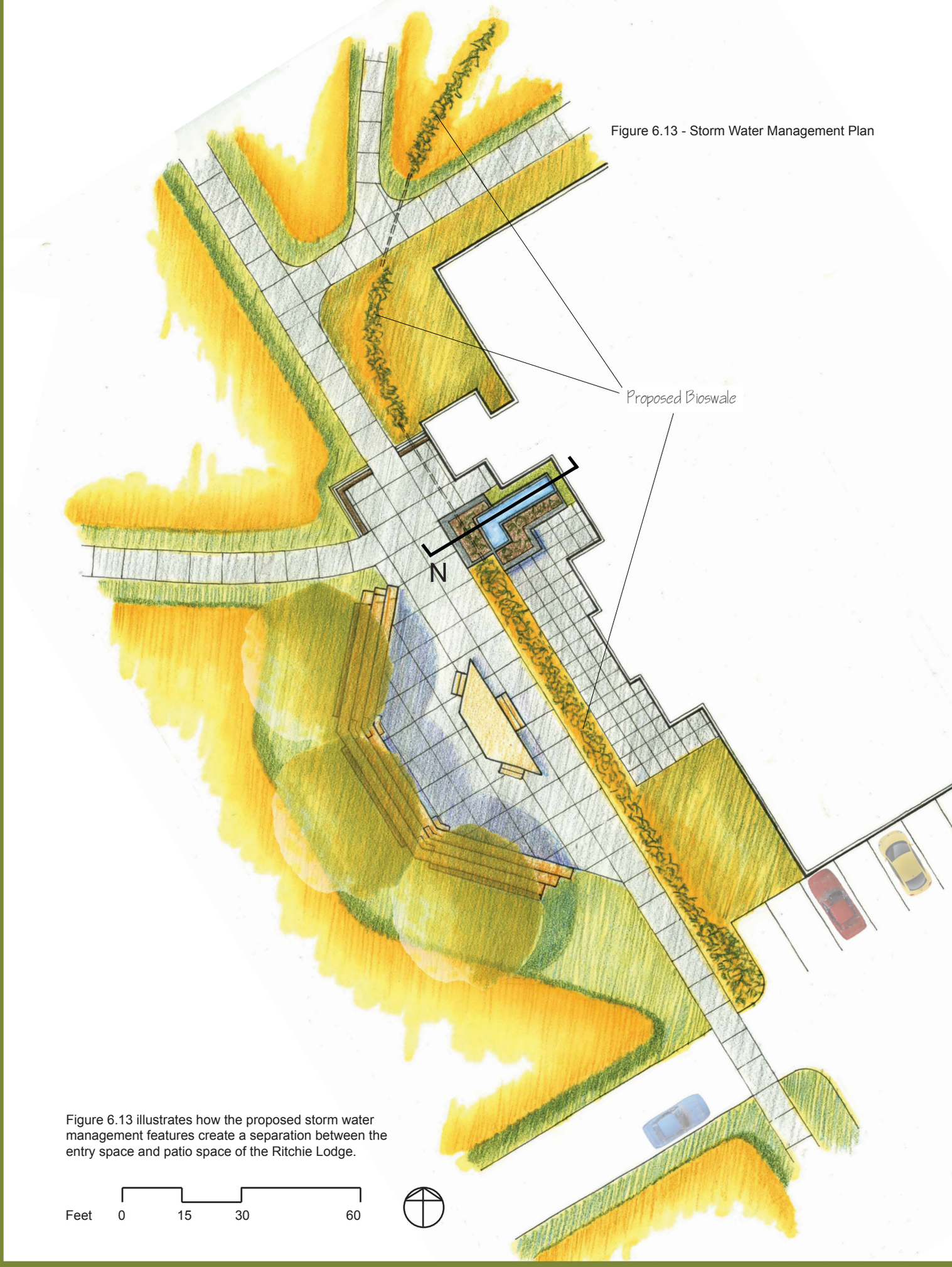



Figure 6.13 illustrates how the proposed storm water management features create a separation between the entry space and patio space of the Ritchie Lodge.

Figure 6.13 shows the plan view of the bioswale and the rainwater collection feature. Once the bioswale reaches its maximum capacity, rainwater begins to flow into a culvert underneath the Ritchie Lodge entry way. The water then daylights at the northwest corner of the Ritchie Lodge into another piece of the bioswale and then continues around the building to the northeast. Figure 6.13 shows the location of the section cut line used to describe the rainwater collection feature illustrated in Figure 6.14.

Figure 6.14 describes the function of the proposed rainwater collection feature. After rainwater from a portion of the Ritchie Lodge rooftop collects in a gutter system, the water is released into the collection pool which is filled with river rocks that could be collected from the Cottonwood River. These rocks provide an aesthetic quality to the feature during dry periods when there is little or no rainwater in the pool. A sloped concrete base forces the rainwater to drain to a pipe that leads to an underground cistern. The water collected is then stored in the cistern and can be used to irrigate the playing field.

Once the cistern and the collection pool reach capacity, the rainwater begins to overflow into the infiltration beds adjacent to the collection pool through notches in the concrete that can be seen in Figure 6.11. The infiltration bed allows water to move downwards through the soil and also serves as a planter bed. The plants add an aesthetic quality to the Ritchie Lodge entry but also soak up some of the water that overflows into the infiltration bed from the collection pool. The outer concrete wall of each infiltration bed serves as a seating wall for both the entry and the patio space of the Ritchie Lodge. Figure 6.11 shows that once the infiltration beds reach capacity, the excess rainwater feeds into the bioswale through a second series of notches in the concrete.

Figure 6.14 - Storm Water Collection Feature - Section N

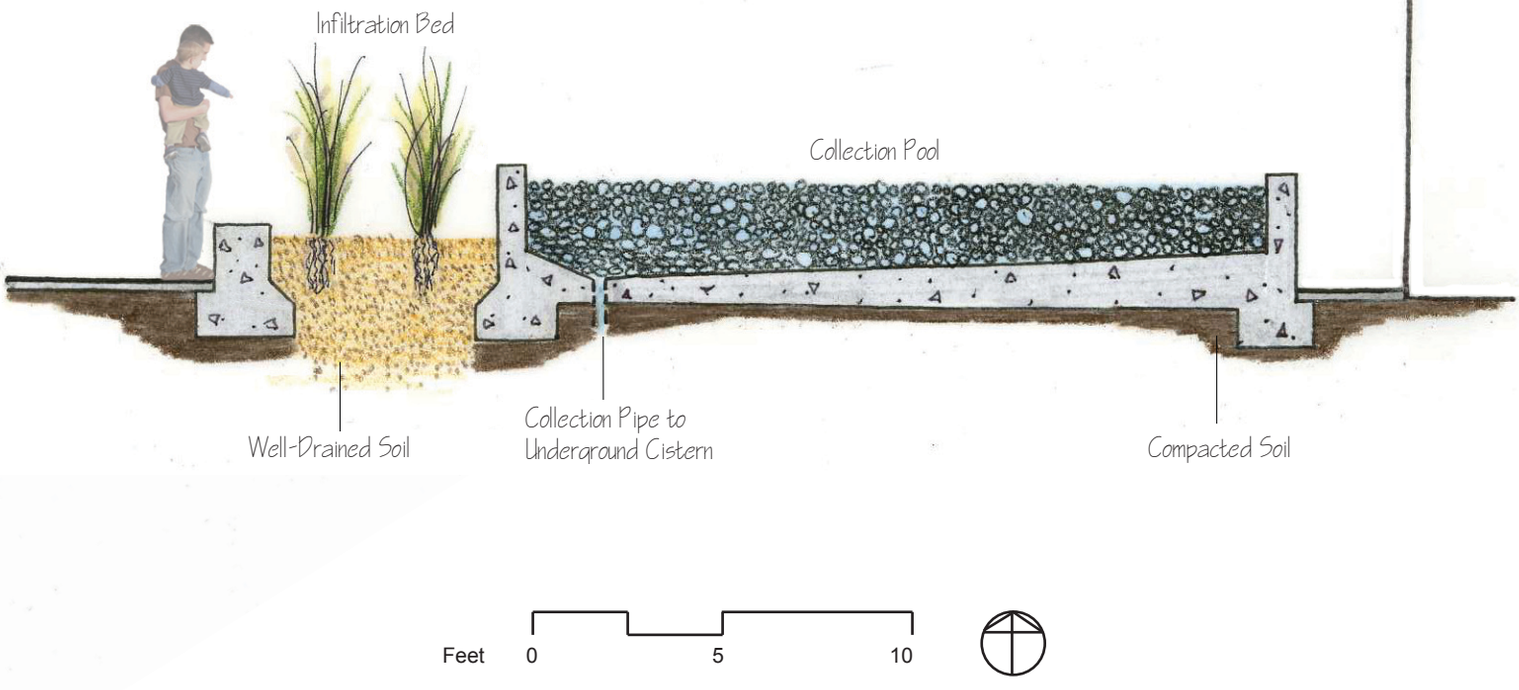



Figure 6.14 illustrates how the proposed collection and infiltration system could provide seating for the Ritchie Lodge entry and patio spaces. The swale separates the patio from the amphitheater space and provides a backdrop for the amphitheater.

Figure 6.15 - Bioswale - Proposed Grading Plan

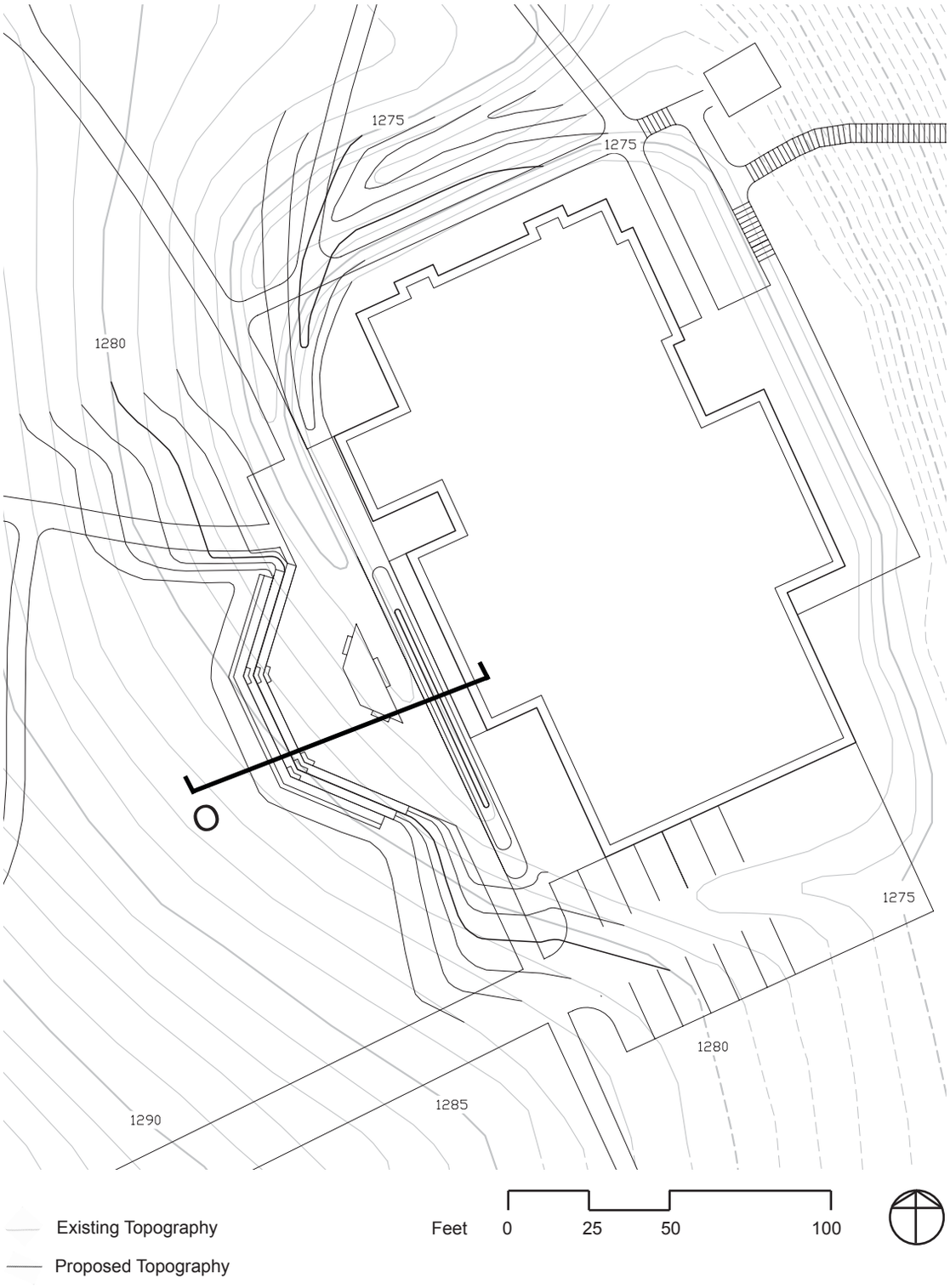



Figure 6.15 shows the drainage of the amphitheater space collecting in the proposed bioswale.

Figure 6.15 shows the existing and proposed grading for the proposed bioswale. Section O cuts through the bioswale and is represented in the section drawing in Figure 6.16.

Figure 6.16 shows how rainwater is collected in the bioswale from the amphitheater space as well as the Ritchie Lodge patio space. The section also shows that the proposed bioswale provides a separation between the Ritchie Lodge patio space and the Opportunity Pathway leading to the Ritchie Lodge entry.

Figure 6.16 - Bioswale - Section O

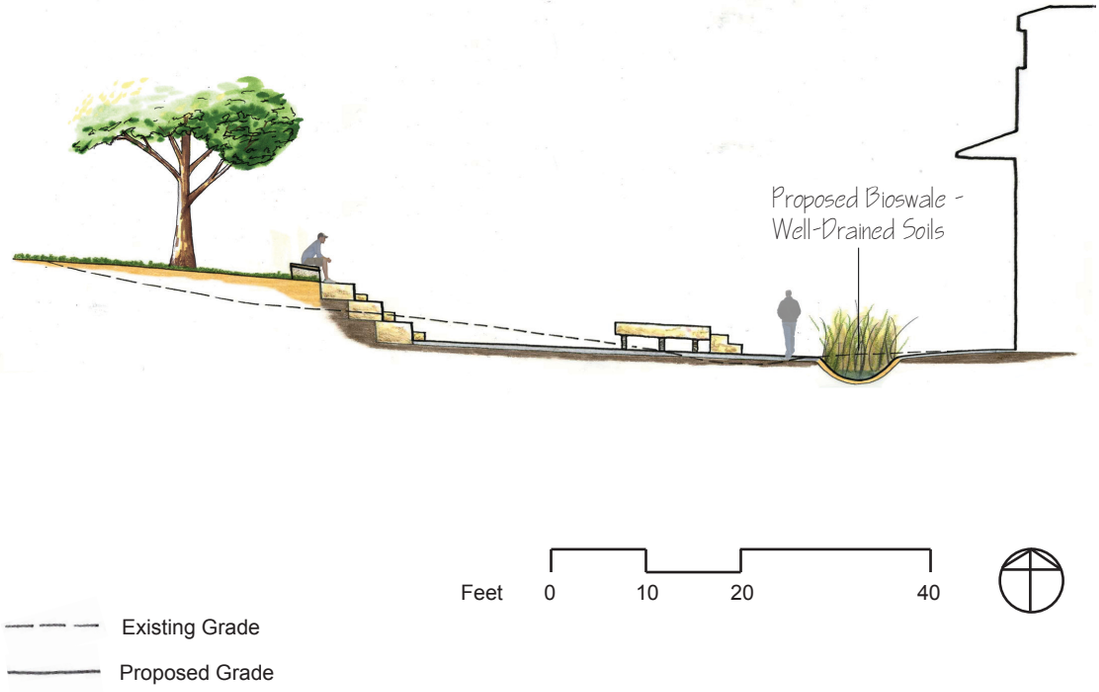



Figure 6.16 shows how water from the Ritchie Lodge patio space is collected in the proposed swale. The section is drawn with a five-times vertical exageration.

## Storm Water Management Conclusions

The proposed water conservation features provide that provocative quality Meyer refers to. They provide discovery and inspiration by offering campers a visually appealing learning tool that will teach them about slowing down the movement of surface water and infiltrating it through the soil. Once the campers begin to realize the true beauty behind what the proposed water conservation features do for the environment, maybe they will begin to “care enough to make changes.”

## Environmental Study Areas

The proposed environmental study areas provide opportunities for the natural features and systems of the Flint Hills to be discovered by and to inspire the campers at Camp Wood. Each space is unique from one another, and each provides campers with an activity or activities that are designed to help campers build self-confidence through completing specific tasks and/or to facilitate a relationship-building experience through group tasks.

One of the challenges the staff at Camp Wood faces is not knowing how best to motivate campers to explore the greater Flint Hills areas within Camp Wood. The location of the three environmental study areas begins to address this issue. Almost every activity at Camp Wood is located within the main campus area or the open areas surrounding the pond. Campers are able to access these different activities by walking to them on a gravel, crushed asphalt, or mowed pathway. The location of each of the three proposed environmental study areas demands that campers walk on an explorative pathway in order to reach the different spaces. By locating multiple activities outside of the main campus area that are accessible only after walking on an explorative pathway, campers will begin to feel more comfortable walking through natural areas. As a result, they will be more likely to want to explore the great expanses of prairie east of the main campus area.

The three proposed environmental study areas include an observation tower, a challenge space, and a team-building space. Within the site analysis section on environmental study areas beginning on page 97, it was determined that the three study areas should each be located within spaces that offer discovery and inspiration. It was also discussed that each space should be located at the junction of two pathways. Figure 6.17 shows the location of the three proposed environmental study areas.

Figure 6.17 - Environment Study Areas Location Map

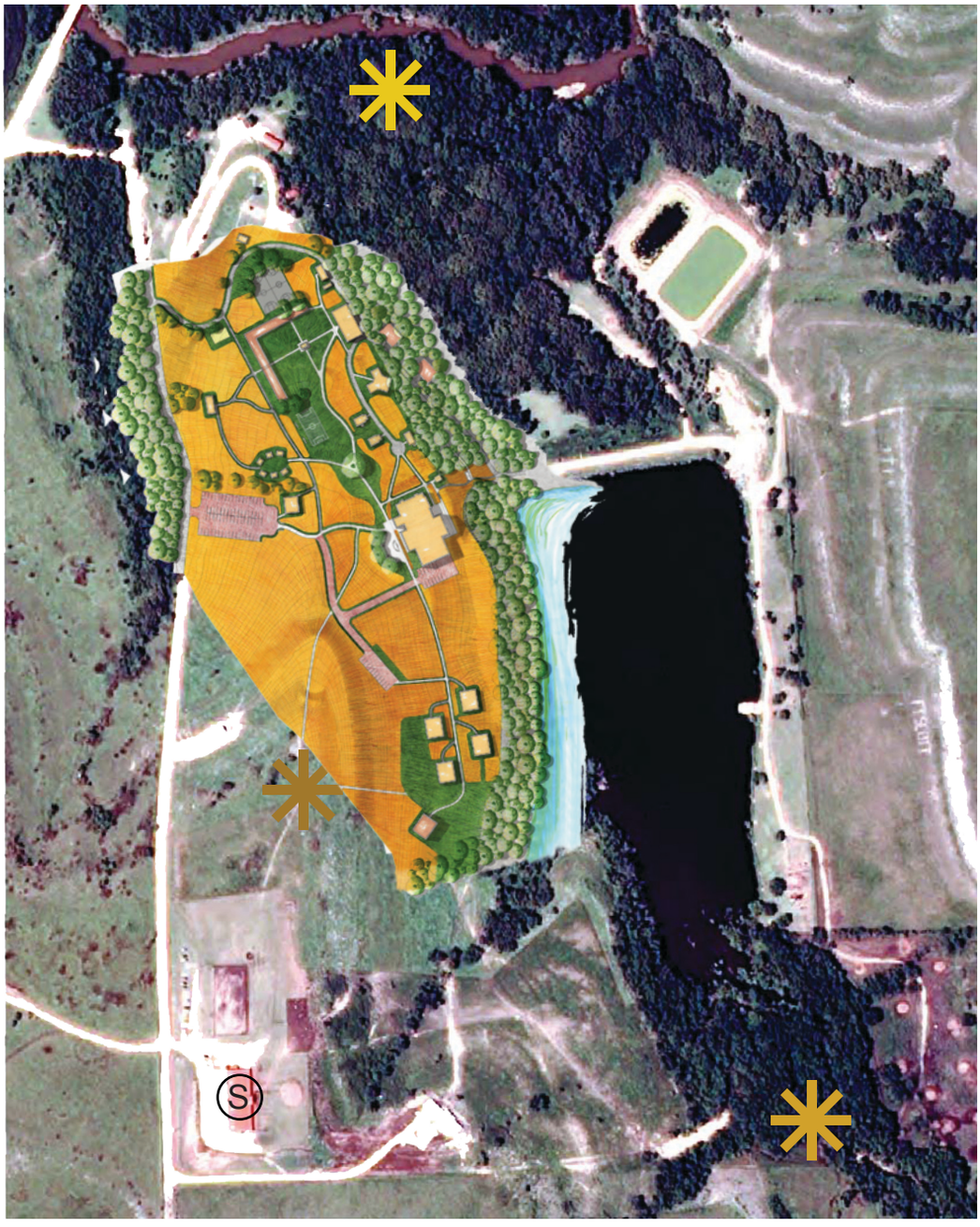



Figure 6.17 shows the locations for the proposed environmental study areas.

## Observation Tower

The observation tower space is located along the ridgeline southwest of the main campus area at the juncture of two explorative pathways. One pathway leads from the main campus area to the stable in the southwest corner of the site, and the other connects the observation tower space with the sleeping lodges to the east. These elements are shown in Figure 6.18. The observation tower encourages exploration by providing campers with an elevated view into the landscape to see what spaces and features are accessible to them.

Sharon Stine discusses the idea of accessible versus inaccessible spaces in her book, Landscapes for Learning. She suggests that if a child is restricted on what they can see and touch, then they are also restricted on how much they can explore. She writes, “if a child cannot see the possibilities for play activities or reach an area, he or she cannot explore the learning opportunity available there” (Stine 1997, 25). She also mentions the idea that providing kids with a view from an elevated position where they can look down allows them to “see the world in another way” (Stine 1997, 25).

In the Flint Hills during the summer months, some native prairie grasses can reach heights of more than four feet, taller than the average ten-year-old boy. Even when standing on a ridgeline, kids that can not see over the prairie grasses are unable to identify spaces that might be accessible to them. The proposed observation tower provides campers an elevated view 12 feet off the ground and well above the tallest prairie grasses. From the highest observation deck, campers will be able to look down and out into the immediate and distant landscapes. The view to the immediate landscape will allow campers to see features and spaces that are accessible to them and will likely encourage campers to go explore the landscape to find out more about the things they saw from the tower. Looking out into the distant landscape, the panoramic view will be unmatched by any view of the Flint Hills from any other location at Camp Wood. Campers might also take note of a specific feature in the distant landscape and become motivated to venture out to see what they can find.

The staff at Camp Wood would like to build a zip-line for the campers at Camp Wood. A zip-line system could be incorporated into the observation tower and could connect with the proposed amphitheater stage, the sleeping lodges to the east, or possibly across the pond to the ropes course feature. Several campers would likely be reluctant to ride the zip-line. However, after watching fellow campers successfully complete the zip line, they may build up enough confidence to try it out. Doing so would help them build self-confidence and would provide them with a feeling of great achievement.

In front of the observation tower, limestone rocks are used to create an instructional sitting space. The proposed observation tower is located in an area that has both native and invasive plant species. The main topic dealing with environmental education could be about native prairie grasses and how invasive species are commonly found in areas that have experienced disturbance. Campers will be able to see and touch both native and invasive plant materials.

Figure 6.18 - Observation Tower

Figure 6.18 illustrates the function of the proposed observation tower space. (Photo by Aaron Mitchell)

## Challenge Space

The challenge space is located in the wooded area south of the pond and lies very near a stream corridor that feeds into the pond. Next to the challenge space is a habitat edge where the wooded vegetation transitions into a healthy stand of prairie. There are two explorative pathways that converge next to the challenge space: one leading from the stable and the other from the west side of the pond. The challenge space is designed to challenge campers with several different activities that involve risk-taking and will help them build self-confidence.

In Landscapes for Learning, Stine discusses the ideas of challenge, risk, repetition, and security as developmental tools that help kids learn and build self-confidence. She suggests that facing challenges and taking risks is an important experience that allows kids to test their physical skills and helps them understand their own competence and limitations. She stresses the importance of providing risk without the presence of real physical danger. She also suggest that with repitition, kids will feel more and more secure completing a challenge they once considered to be risky (Stine 1997, 29-30).

The proposed activities allow campers to take risks without the presence of real physical danger. Figure 6.19 illustrates the different activities within the proposed challenge space. A series of balance beams challenges campers to maintain their balance while walking along a series of wooden planks. The risk increases as campers progress through the series of beams, each one higher and more narrow than the previous. Younger campers may feel more comfortable holding the hand of a friend who walks on the ground alongside the beam. In this case, the two campers are building trust. Older campers might find the balance beams to be too easy and begin to try to complete the series blind folded, or they might start competing for the fastest completion time. This involves a completely different type of social interaction at a competitive level. The ropes tied between the two trees offer a similar type of challenge.

The trees, as well as the rope hanging from the trees, offer climbing challenges. A camper who climbs seven feet high on the rope one Tuesday might feel comfortable climbing a little higher on Thursday. Completion of these activities will provide campers with a feeling of achievement, and with repetition, campers will feel more secure when facing these challenges. The challenge space will help campers build the self-confidence necessary to face more difficult challenges that, before experiencing the proposed activities, they had not considered attempting.

The balance beams are set up to act as a seating area for campers to sit and learn about wildlife in the Flint Hills, habitat edges relating to species richness, and hydrology. The movement of water in the stream corridor, the sound of birds chirping, and the trees swaying in the wind may all serve as inspiring elements around the proposed challenge space.

Figure 6.19 - Challenge Space

Figure 6.19 illustrates the different activities that provide risk within the proposed challenge space. (Photo by Aaron Mitchell)

## Team Building-Space

The proposed team-building space is located in the wooded area north of the main campus area. This space is accessible from the explorative pathway beginning at the proposed Buck and Doe Lodges. The Cottonwood River runs adjacent to the team-building space, and within all of Camp Wood, it is also most easily accessed from this space. The team-building space provides activities that build trust and require teamwork, good communication, and problem solving.

For the team-building space, it is important to note that the activities themselves are less important than the resulting experiences the campers gain from participating in the different activities. There are numerous types of activities that could be implemented in the team-building space that involve teamwork, problem solving, and building trust. A good reference that describes a wide variety of these activities is www.WilderDom.com/games/. Within this website, different activities are sorted by category: team-building activities, trust-building activities, environmental education games, and more.

For instance, on the website, under “Environmental Education Games,” there is a game called “Hug-a-Tree.” In this activity, campers pair up, and one camper puts on a blind-fold. The partner then leads the blind camper through a wooded area and finally arrives at a specific tree. The blind camper then tries to memorize specific features about the tree and the surrounding area by using each of his sense except for sight. The partner then guides the blind camper away from the tree, and the blind camper removes the blind-fold. The camper then tries to find the tree he was led to, using the sensory information he remembers about the tree, the surrounding terrain, sounds, and any other information he gathered. The campers would then switch rolls and repeat the process. This activity is also a trust-building activity.

Figure 6.20 illustrates two different group activities that could be used in the team-building space. On the left, campers are participating in “The Trust Fall.” Here, one camper walks up the stairs to the platform and turns away from his fellow campers below and closes his eyes. On the ground, the remaining campers stand in two rows and hold out their arms horizontally, intertwining them with the arms of the campers directly across. When the camper on the platform is ready, he falls backwards and his fellow campers catch him before hitting the ground. This activity is fun and demands that campers trust one another.

On the right, campers are participating in an activity called, “Skies.” Here, a group of campers each has one foot on each board; they also have a rope in each hand that is connected to the board directly in front of each foot. The campers must develop a strategy and work as a team in order to “ski” from one point to another.

As this space is located adjacent to the Cottonwood River, campers could learn about how the water level rises during and after a storm event. Discussed on page 193, the concepts of the proposed water conservation features can be revisited here to allow campers to finally understand the importance of slowing down and infiltrating rain water. Again, inspirational features in this area would include the Cottonwood River, the sound of birds chirping, and the sound and view of trees swaying in the wind.

Figure 6.20 - Team-Building Space

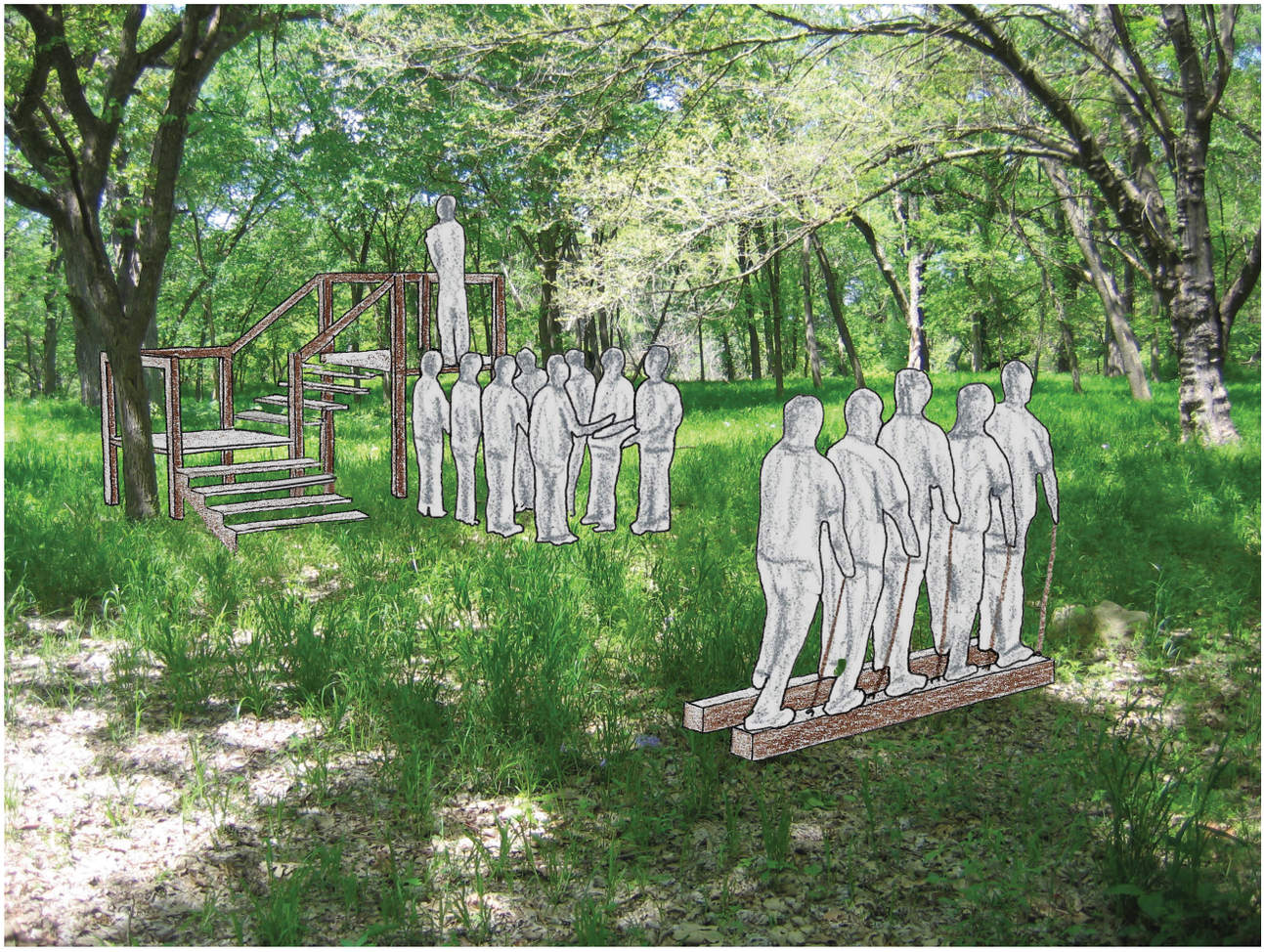


Figure 6.20 illustrates two of the many possible activities that can take place in the proposed team-building space. (Photo by Anne Snyder)

## Environmental Study Areas Conclusions

The proposed environmental study areas will allow campers to feel achievement and build relationships with one another through participating in several different fun activities. After successful completion of the proposed tasks and challenges, campers will have more self-confidence and will be better prepared to face more difficult tasks in the future. The location of these spaces demands that campers experience a discovery trail in order to reach the different spaces, making campers feel more comfortable exploring natural areas within the Flint Hills. Campers will have the opportunity to learn about different natural systems and how their actions impact the environment. All the while, campers are surrounded by elements in the landscape that can provide them with a feeling of inspiration.

# Master’s Project and Report Conclusions

## Master's Project and Report Conclusions

### Landscape Architects as Critical Thinkers

Oftentimes, the profession of landscape architecture is misunderstood, and as a result, organizations may fail to recognize the value landscape architects can offer. In order for organizations to realize the importance of the profession of landscape architecture, we must establish ourselves as strong critical thinkers and problem solvers.

My application of critical thinking was illustrated several times throughout this master's report. I researched, inventoried, and analyzed site data to gain a better understanding of the landscape at Camp Wood, to locate program elements, and to provide rationales for design decisions. After a thorough study of spatial organization between existing buildings, vegetative masses, and camp activities, the proposed master plan would allow Camp Wood to function as one cohesive place with buildings relating to one another and vehicular and pedestrian corridors that allow efficient circulation. Several of the proposed developments incorporate sustainability to conserve natural resources but also to provide visual elements to help teach campers about environmental stewardship. Through the application of literature, proposed activities and pathways encourage exploration of the Flint Hills at Camp Wood and help campers build self-confidence as well as relationships with one another.

When I initially began working with the Camp Wood staff, I do not think they fully understood how professional guidance could help create a coherent Camp Wood vision and master plan that addressed the functional issues and enhanced the campers' experiences. During a site visit, I sat down with staff members and explained my master's project and report process model (Figure 2.3 on page 21). The process model provides a visualization of my thought process as I developed the framework for the project.

After I finished discussing the relationships between the many components within the model, I realized the staff members' excitement and that they were even more interested in hearing my thoughts as the project progressed. Judging from the staff's reaction, the early process model proved to be essential for helping the Camp Wood staff understand the value my research and landscape architecture education could eventually provide their organization. Visual explanation of critical thinking can help landscape architects communicate the value of their profession to clients who otherwise may not seek the guidance of design professionals.

### Designing for Human Experience

My master's project and report was largely driven by a set of human experiences that included relationship-building, achievement, discovery, and inspiration. Throughout the project, these experiences were constantly revisited as I continually asked myself the question, "What is the experience I am seeking to create?" This idea of designing for human experience as well as the related literature I have applied to Camp Wood have begun to shape my own design philosophy and will only develop further throughout my career.

Elizabeth Meyer writes about designing for experiences in her article, "Sustaining Beauty: *The Performance of Appearance*." In the article, she writes, "Beautiful sustainable landscape design involves the design of experiences as much as the design of form and the design of ecosystems. These experiences are vehicles for connecting with, and caring for, the world around us" (Meyer 2008, 18). When we focus on the human experiences we are trying to create through our designs, we are sure to design meaningful spaces for people to use and enjoy.