

# Clinton Campground

University of Iowa – Spring 2023



# Project Team



Audrey Birk  
Civil Engineering



Andrew Klinkrodt  
Civil Engineering



Valerie Pardo  
Environmental Engineering



Nicholas Hughes  
Civil Engineering



**Project Scope  
& Statement**

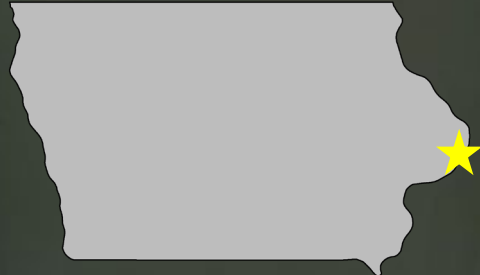


**Final Designs**



**Cost**

# Eagle Point Park - Clinton, IA



67



Eagle Point Park Lodge

Eagle Point Park

Oakland Cemetery



Eagle Point Park Castle



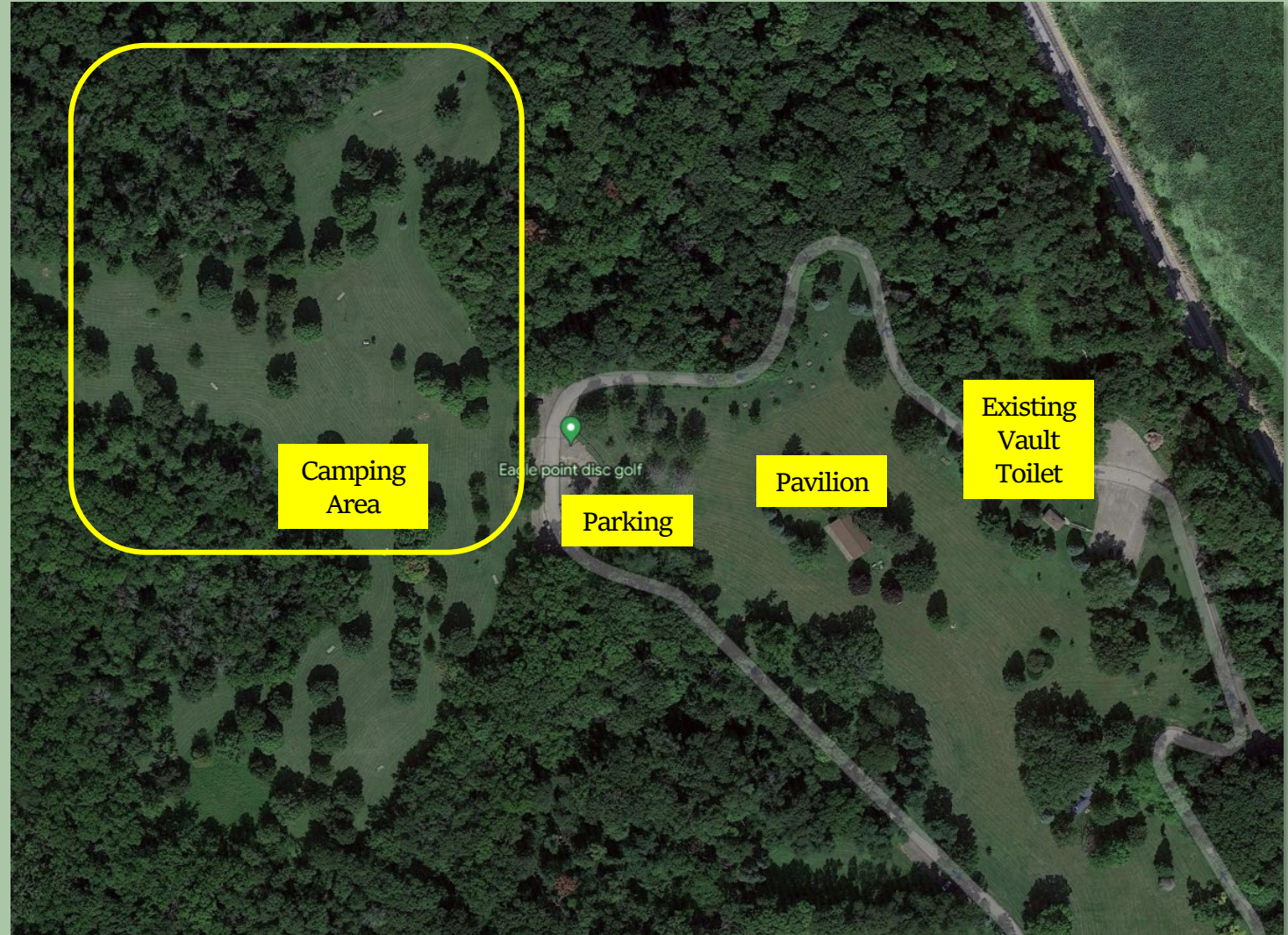
Mississippi River

ILLINOIS

# Project Scope and Statement

Primitive Campground Layout  
Frisbee Golf Course Impact  
Campground Components  
Hydraulic Modeling  
Restroom and Storm Shelter  
Water and Electricity  
Front Gate Access

Goals:  
Safety  
Impact

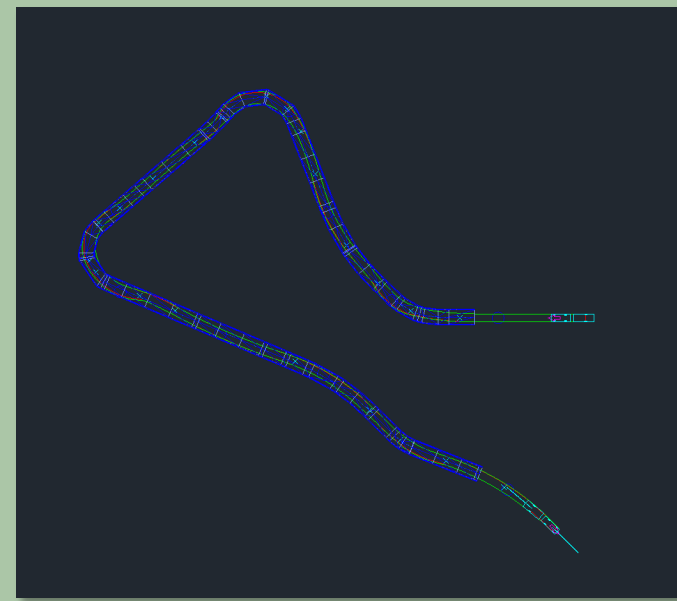


# Campground Layout

17 Campsites

Gravel Road

Grading





# Frisbee Golf Relocation

Relocation of holes 1, 13, and 18





# Campground Components



30" Fire Ring w/ Cooking Grate



6' Recycled Plastic Picnic Table



Site Signs



54" Community Fire Ring  
w/ Cooking Grate



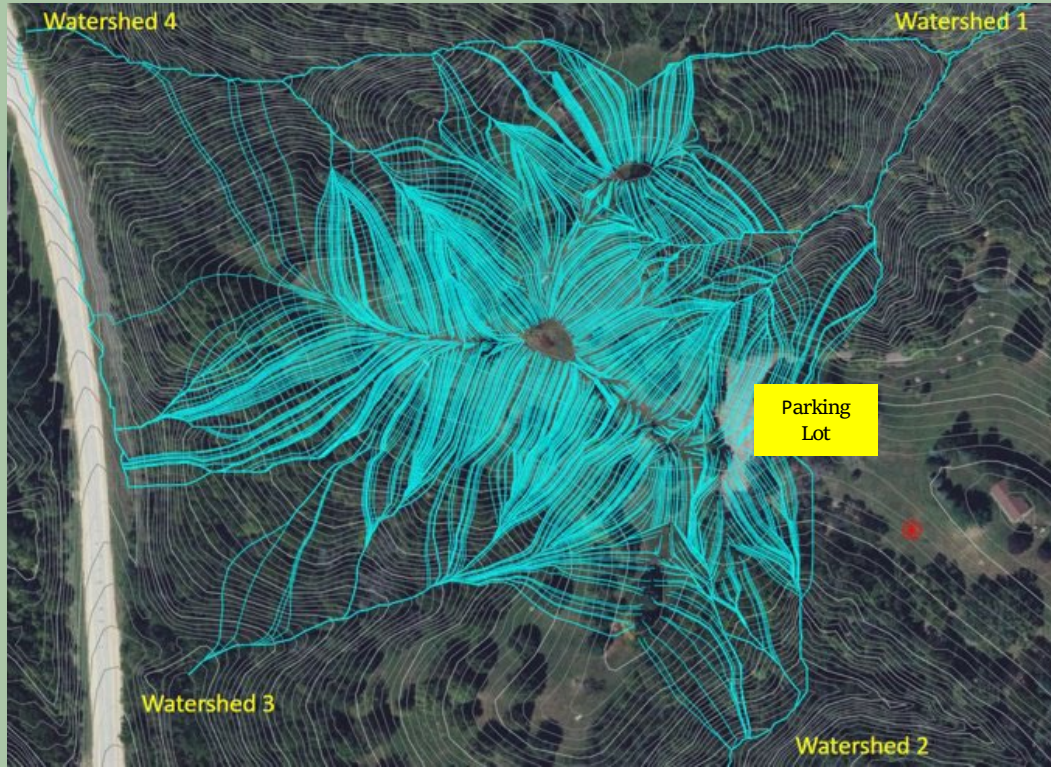
65-Gal Trash Cans



Information Board

# Hydraulic Modeling

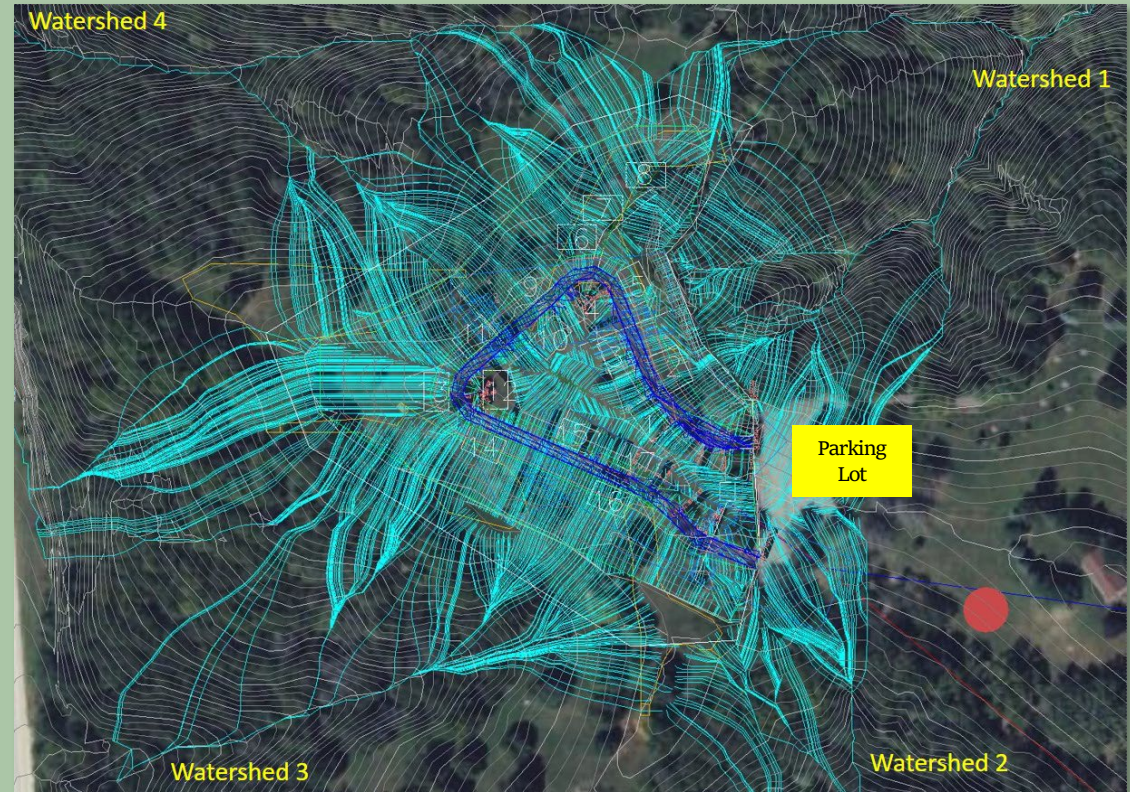
ISWMM; Rational Method



Pre-development

Peak Runoff Discharges (cfs)			
	Return Period		
Tc	5-yr	10-yr	100-yr
10-min	3.6	4.19	7.69

Watersheds 1, 2, 3, 4



Post-development

Peak Runoff Discharges (cfs)			
	Return Period		
Tc	5-yr	10-yr	100-yr
10-min	3.6	4.19	7.69
5-min	4.92	5.74	10.44

Watersheds 3 and 4  
Watersheds 1 and 2

# Hydraulic Modeling



Mulching



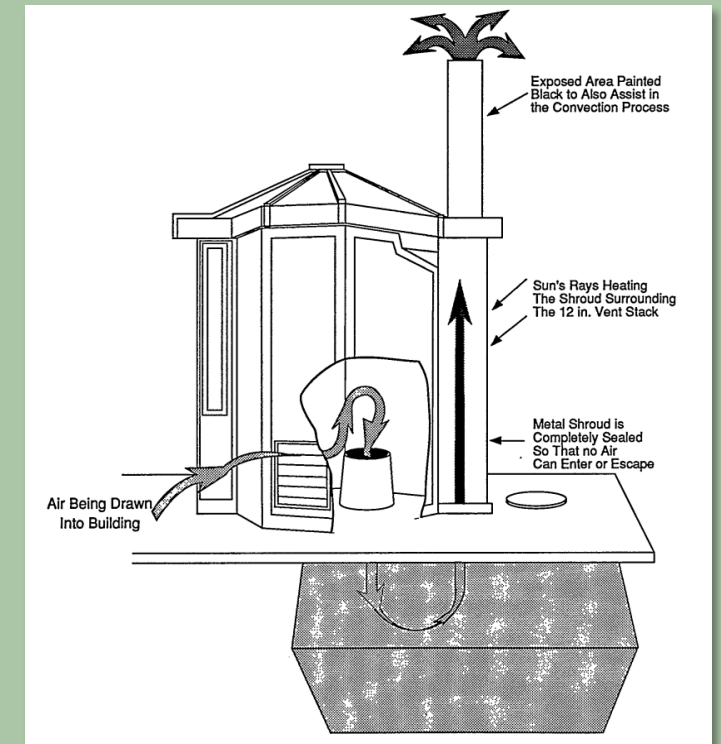
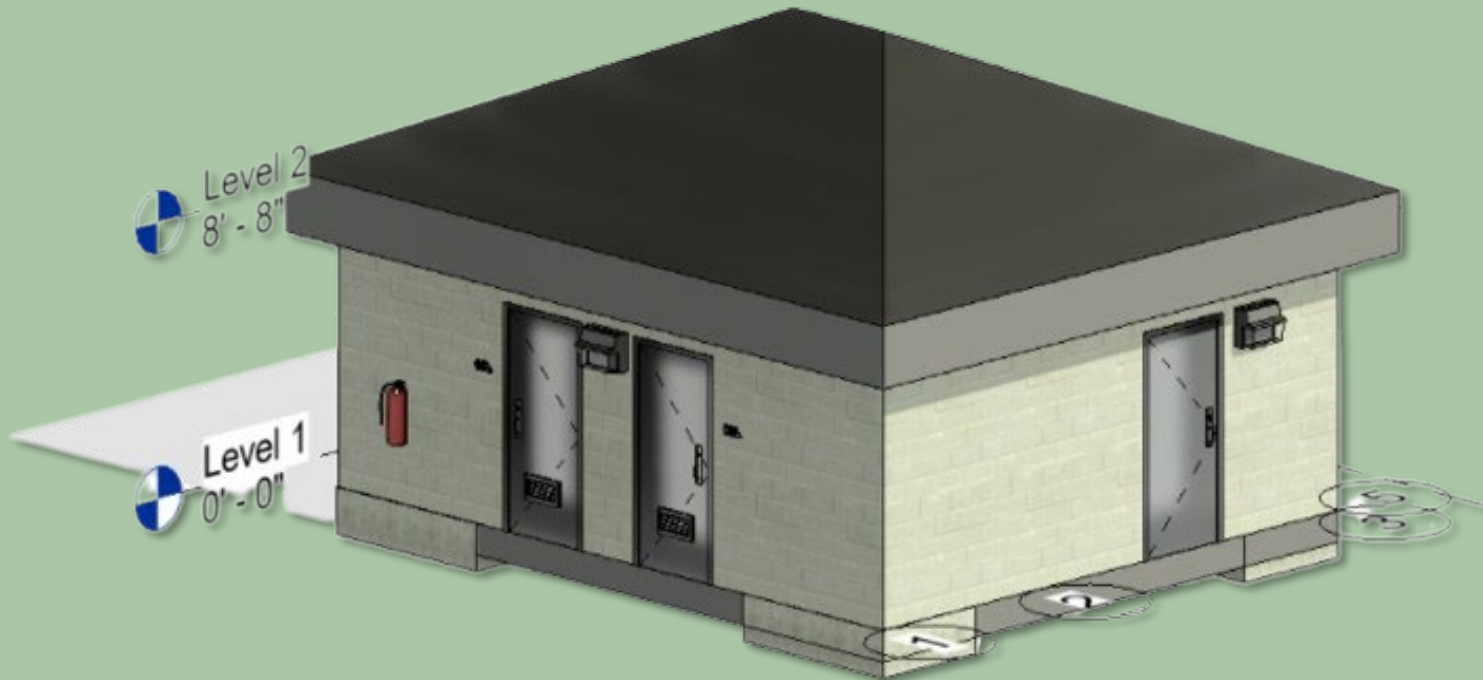
Vegetative Filter Strip

# Restroom Facility

2 Vault Toilet Stalls and Storm Shelter (Occupant Load: 51)

FEMA ICC 500-2020, Clinton Code of Ordinances

Polyethylene Tank



# Restroom Facility Design

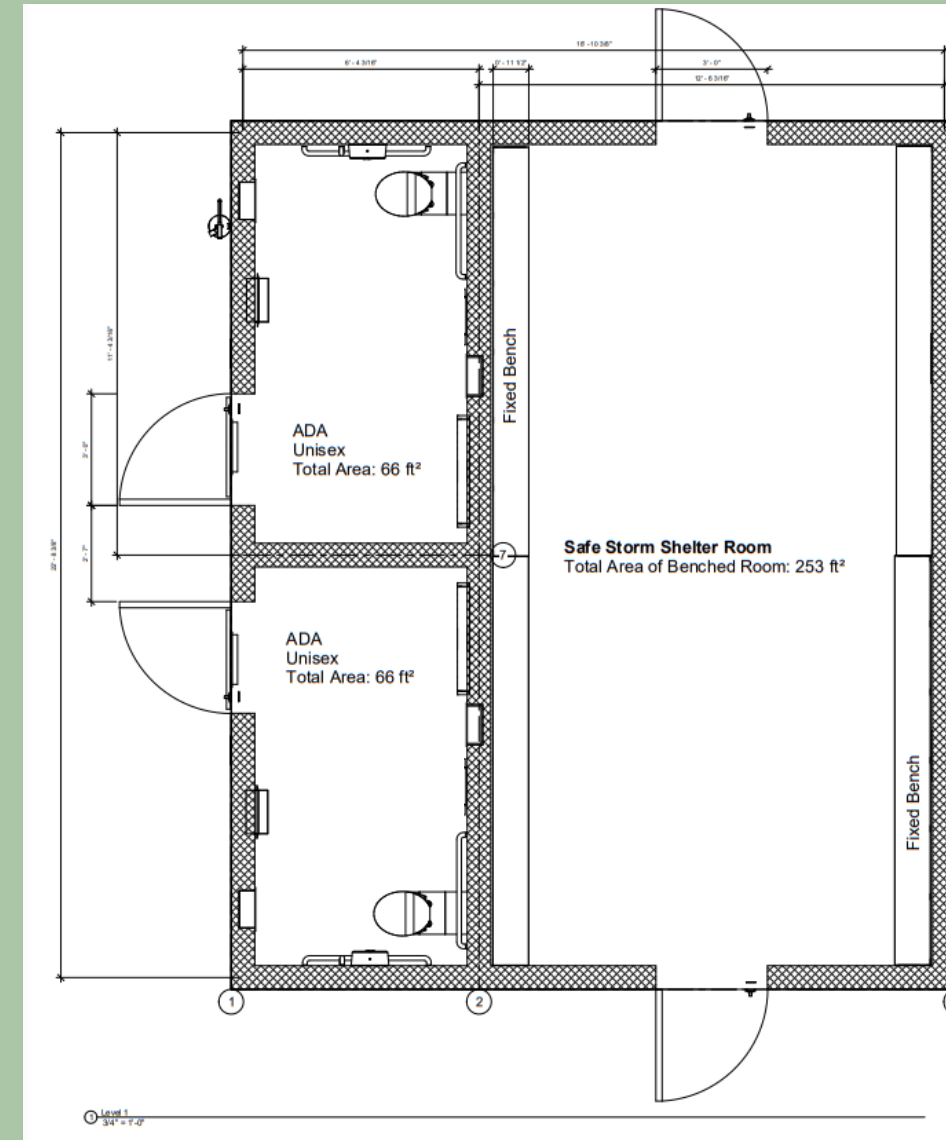
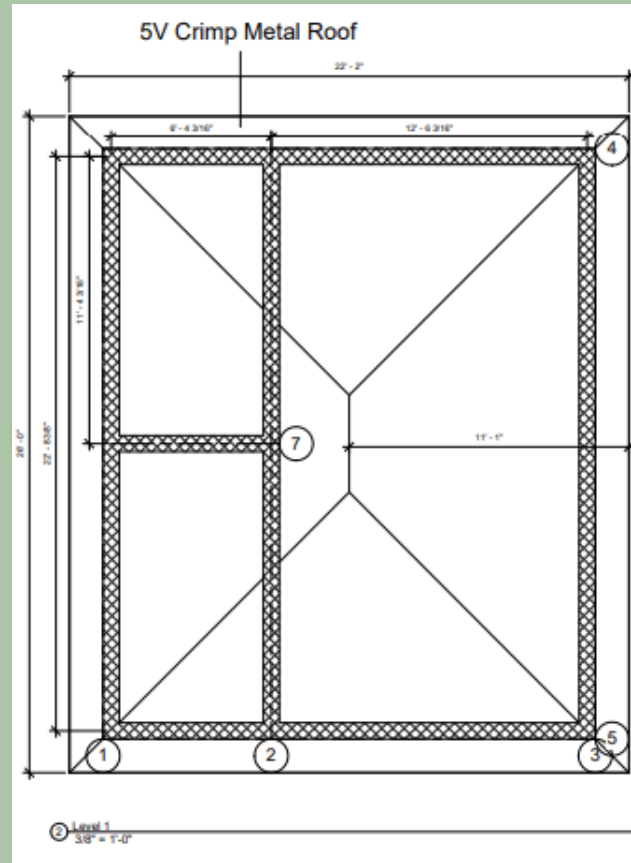
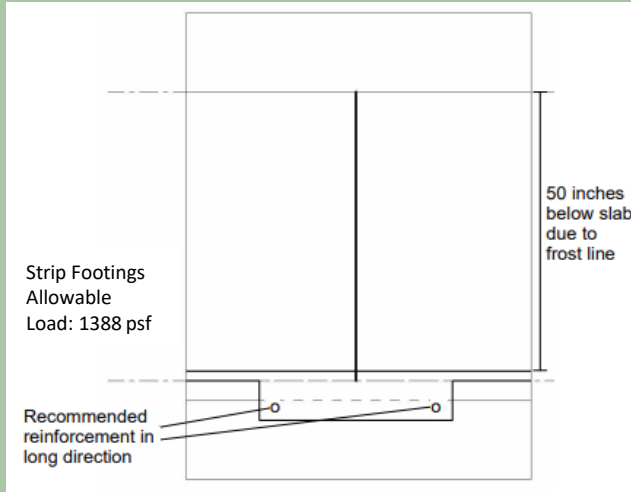
Two ADA Stalls

FEMA P-361 Approved

Ventilation

Concrete Strip Footing

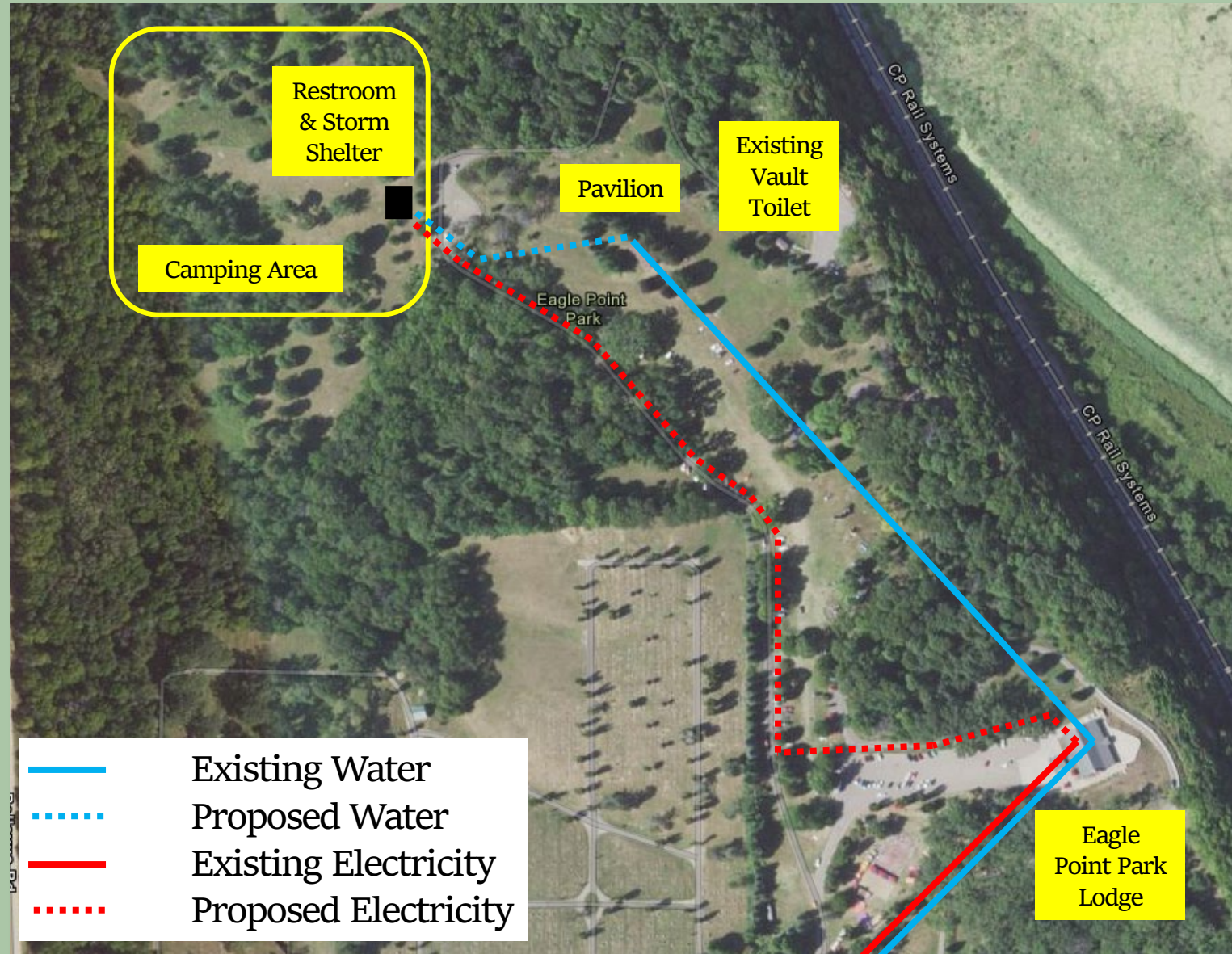
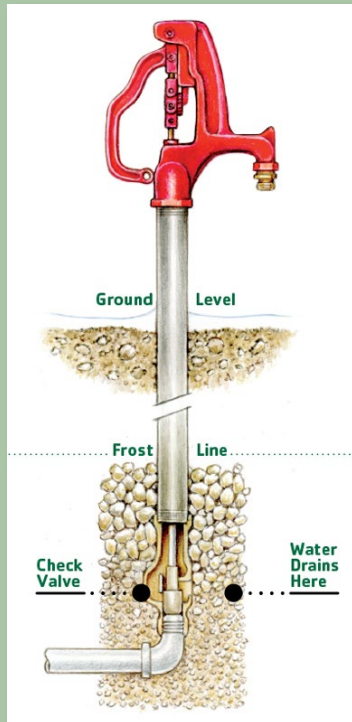
Telemetry-Based Lock



# Utilities: Water and Electricity

Lighting for Restroom

Water Spigot  
with Runoff Gravel Basin



# Gate Access

Automatic Gate

with Keypad Access



# Cost Estimate

## Includes:

Material,  
Labor,  
Equipment,  
20% Overhead & Profits,  
10% Contingencies

## Source:

RSMeans Data,  
Manufactures,  
& Suppliers

## Project Breakdown:

Utilities	\$13,200
Sitework & Road	\$77,400
Restroom & Storm Shelter	\$93,600
Campsites	\$53,300
Gate Access	\$9,000
<b>Total Cost</b>	<b>\$246,500</b>

## Phase Breakdown:

Phase 1 – Dirt work, Campsite Features & Automatic Gate	\$95,900
Phase 2 – Gravel & Utilities	\$57,000
Phase 3 – Restroom & Storm Shelter	\$93,600
<b>Total Cost</b>	<b>\$246,500</b>





**IISC**  
Continued from Front

peers with guidance from university faculty while collaborating with clients to achieve their goals. While this is the first time Clinton has had a full partnership with the initiative, the IISC previously completed projects in the city through its regional partnership with the East Central Intergovernmental Association from 2016-18. City of Clinton City Administrator Matt Brooke said the city tried to fit in as many IISC projects that it could to keep progressing the city forward. "All of which, if I tried to do with my staff or hire outside consultants, would take a lot longer, and frankly, we may not have had the same experience because we have this different crowd that's not as familiar with Clinton coming in and sharing their thoughts and visions," Brooke said.

IISC Director Travis Kraus said while communities may be receiving tangible help from the UI, students are able to gain experiences that will prepare them for their careers. "It's a way for higher education institutions to be a part of solutions to our greatest challenges," Kraus said. "We are better preparing our future leaders when we give them real-world experiences that exist outside of the classroom or outside of a textbook."

Over 100 students from more than five university departments — from Library and Informational Sciences to the Tippie College of Business' Marketing Institute — are collaborating with the city to address everything from local housing needs to painting murals in the Clinton community.

This year's partnership includes several projects:

- Rebranding the city with a new marketing campaign to draw visitors, residents, and businesses to the area.
- Making policy recommendations on how to address issues of opioid addiction and abuse in the Clinton community, which has a higher prescription rate than the state average.
- Evaluating city-owned vacant lots to determine possible reuse while designing several potential structures for each open area.
- Creating a new trail system for cyclists and pedestrians.

The full list of Clinton projects can be found on the IISC's website.

For one project, students designed a campground space in an area that formerly served as a disc golf course in the city's Eagle Point Park. A team of four UI seniors, including Audrey Birk, Valerie Pardo, Nicholas Hughes, and Andrew Klinkrott, are developing a plan for the area's first campground.

Birk, a civil engineering major who will be graduating with a certificate in sustainability in the spring, said transforming the area into a campground will use the land to its full potential. The project has already accumulated some funding, but the exact date of construction remains unclear.

"The land is there, but no one's really using it," Birk said.

Pardo, the only environmental engineer working on the project, said she expects the campground to bring more visitors from Clinton and neighboring communities to the area.

"I think it makes an exciting new thing for the community members to partake in, especially to get connected with the outdoors and just having other things to do with friends and family," Pardo said.

The proposed model includes campground pads, firing areas, and a bathroom. Although campgrounds are not always required to add a storm shelter, Birk said the group decided to include one in their plans for a bathroom.

"You can never be too prepared," Birk said. "Putting yourself in those shoes as if you're a camper out there in the woods and you have nowhere to go if a storm comes out of nowhere just got us thinking."

Pardo said engaging with the community helped her understand how her future career affects the people around her.

"One part of engineering that I've realized throughout the years is that we help people a lot more than we think," Pardo said. "I think this is beneficial to the community and the people around us ... just knowing that we had a part in this is awesome."

The Eagle Point Park Campground project group will present its finished design alongside peers at a briefing open to anyone in the community on May 10. A celebration of the partnership will follow.

While the exact location and time of the event have yet to be determined, more information will come from the City of Clinton soon.

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Questions?

**IOWA**<sup>TM</sup>  
CIVIL & ENVIRONMENTAL  
**ENGINEERING**