

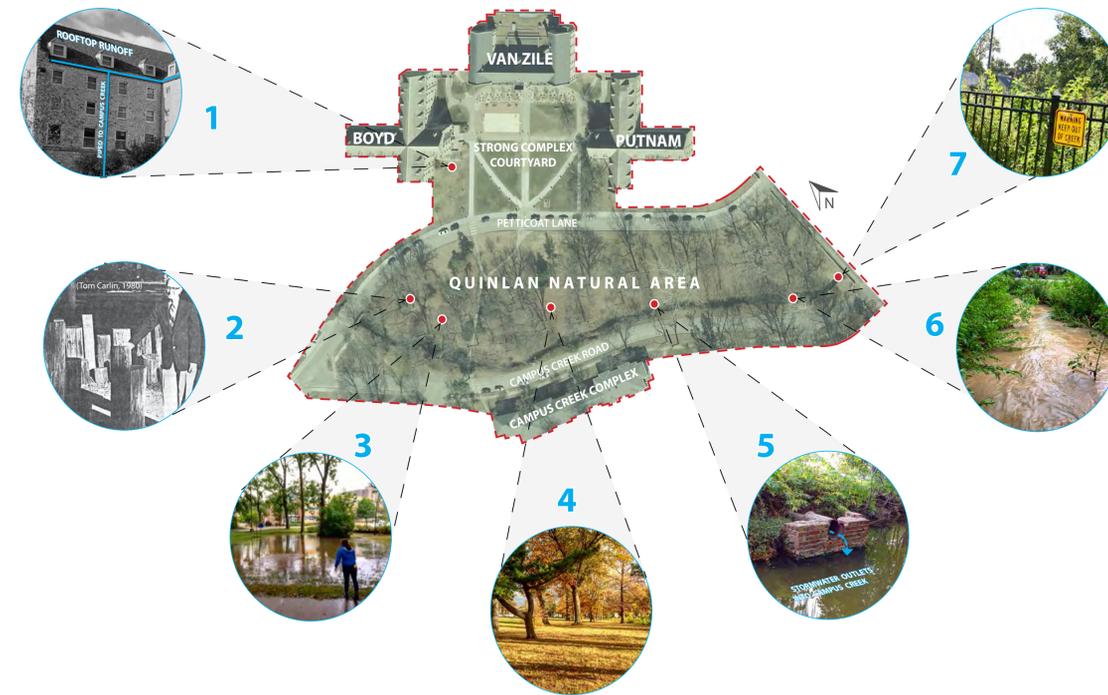
Perspective of Bioretention Cell



View Looking Northeast from Bioretention Cell

Existing Site Character and Problems

D6



1. Downspouts

The proposed design reroutes downspouts and diverts stormwater into the large 10,000 gallon cisterns.

2. Historical Remnants

In the late 1970s Dr. Quinlan, the universities first landscape architect, installed tree stump seating features throughout the site

3. Stormwater Ponding

Even during minor storm events, rainwater ponds in certain areas of the site, creating large swaths of muddy and unusable land

4. Picturesque Woodland

One of the strongest assets of the site is its mature riparian woodland, a feature that the proposed design preserves and enhances

5. Pipe Outlets to Creek

Runoff from multiple sources is directly piped into the creek through old underground structures

6. Flash Flooding

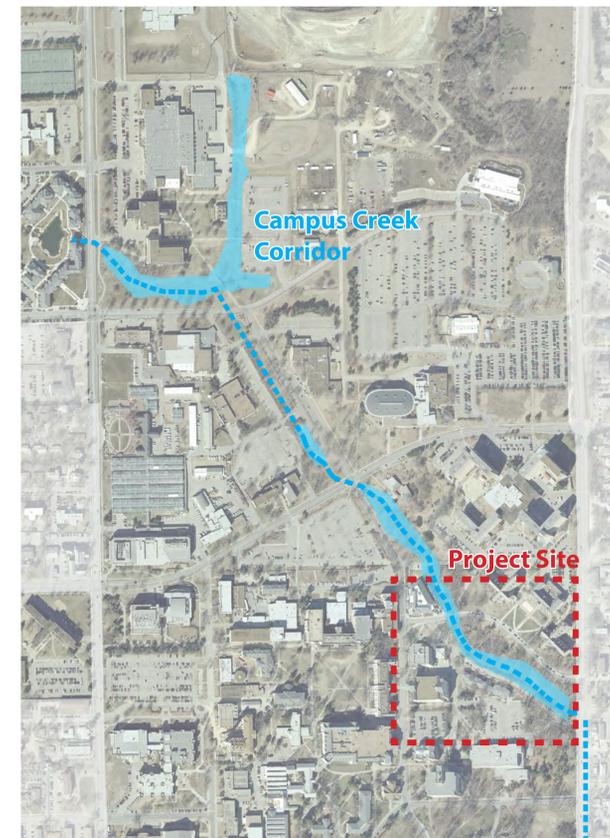
Climate change is altering weather patterns such that more extreme rain events occur in less time, creating a persistent problem of flooding

7. Safety Warnings

City Officials as well as Facilities Staff have posted signs and erected fences warning people to keep away from the creek

Site Context

The project site is located in the City of Manhattan, Kansas on the Kansas State University Campus. Situated at the end of the Campus Creek corridor, the proposed design interventions help minimize flooding by slowing water through infiltration and storage. With support from facilities staff, the site was selected because of the immediate attention required to solve the recurrent flooding issues, as well as the opportunities it affords to the community as a mature woodland and campus green space.



Pre-Design Analysis

Existing Site Areas

Currently, the site is characterized by four distinct zones. To the west there is a densely wooded area (green). The Strong Complex courtyard (pink) is enclosed by the residence halls. There is an open riparian woodland (yellow). The area directly along Campus Creek is a riparian corridor which is overrun with invasive weeds and remains largely unusable to the public due to frequent flooding

Permeable Surfaces

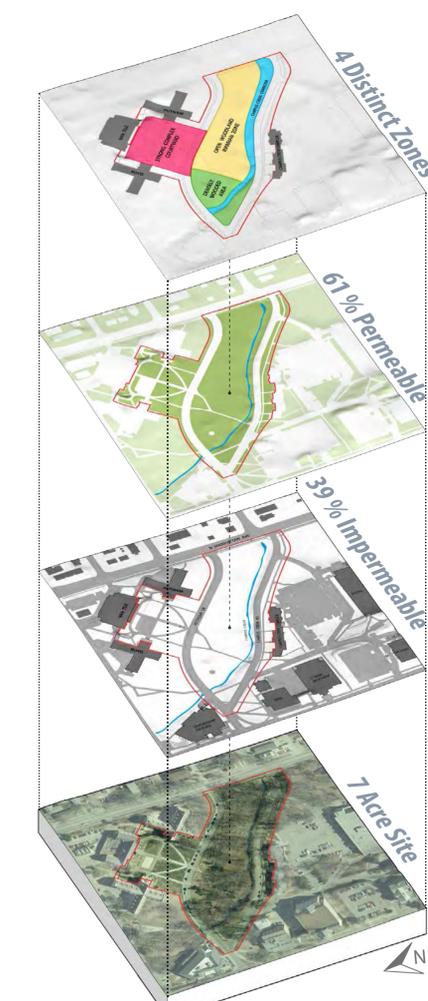
Permeable surfaces - including turfgrass, shrub beds, and the riparian corridor - cover **61 percent** of the project site. Currently, the vast majority of the site is vegetated with irrigated turfgrass. Additionally, the riparian corridor of campus creek is overrun with woody invasive species, creating further difficulties in maintenance and management.

Impermeable Surfaces

Impermeable surfaces - including roads, sidewalks, and rooftops - cover **39 percent** of the project site. In accordance with KSU's 2025 Campus Master Plan, campus roadways are being replaced with newly built pedestrian walks. In this transition, there is an opportunity to reduce the area of impermeable surfaces by decreasing the width of paving areas, removing unnecessary sidewalks, and using permeable pavement in strategic locations.

Project Site

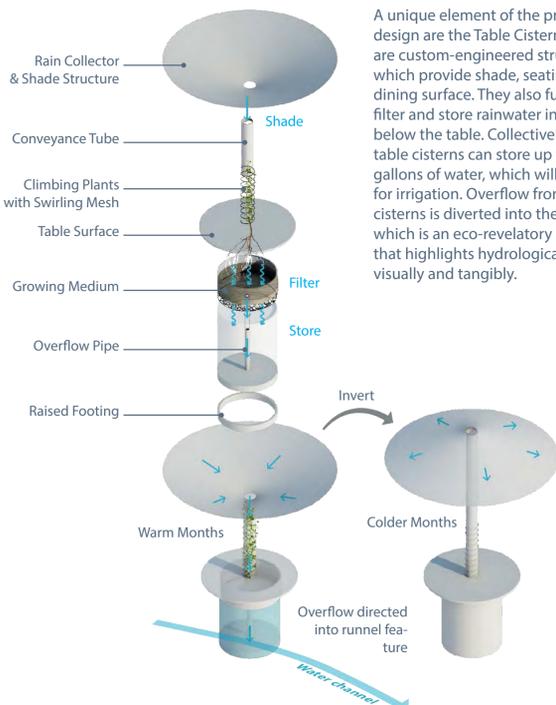
This **7.15 acre** site includes both the Strong Complex courtyard, and the Quinlan Natural Area. The Strong Complex courtyard is enclosed by the residence halls of Boyd, Van Zile, and Putnam, which collectively house around 580 students. The Quinlan Natural Area, a historic campus green space, is bounded by the roads Petticoat Lane to the north and Campus Creek Road to the south.



Rainwater Harvesting Cisterns

Table Cisterns

A unique element of the proposed design are the Table Cisterns. These are custom-engineered structures which provide shade, seating, a dining surface. They also function to filter and store rainwater in the basin below the table. Collectively the six table cisterns can store up to 270 gallons of water, which will be used for irrigation. Overflow from these cisterns is diverted into the runnels, which is an eco-revelatory component that highlights hydrological processes visually and tangibly.



Strong Complex Cisterns

Stormwater is diverted from the rooftops of the Strong Complex into three large 10,000 gallon cisterns

