Module 2: Application

Learning goal: Collaborate with project partners to develop design solutions that meet landscape performance goals.

Landscape Design Scenarios for Water Conservation in the Middle Rockies

OVERVIEW

In this service-learning design project you will apply knowledge and skills of landscape performance gained in the first part of the studio course. The studio will work with the City of Bozeman Water Conservation Division to develop a suite of landscape plans that will be precedents for how their new Planting and Outdoor Watering guidelines could be implemented by area property owners. Ultimately, these landscape design alternatives would provide rationale for a paradigm shift of what resilient, regenerative urban landscapes may look like. Through this client-based experience, you will continue to advance your communication skills through stakeholder outreach, landscape representation, and verbal and technical written presentation.

DESIGN CHALLENGE

You will create site designs for a set of representative parcels that meet landscape performance goals. After calculating baseline site performance, the site design scenarios and performance targets will be developed together as a class along with feedback from our project partner. The design work and landscape performance calculations will be a combination of team and individual assignments. Your design solutions should create a *sustainable landscape design,* based on landscape performance criteria and principles outlined in the course texts and LPS website. Following our final design review, module three also includes writing a memo highlighting implementation and management recommendations.

LANDSCAPE PERFORMANCE CRITERIA

To assess existing conditions of "conventional" properties that cumulatively contribute to high potable water use for irrigation, we will begin by calculating a number of landscape performance metrics along with a more traditional site analysis. These baseline figures will provide the rationale for writing landscape performance goals that alternative scenario designs must meet or exceed. The characteristics of scenarios may be organized in numerous ways, and we will work together to develop a matrix that fits best with our partner's goals and audience. This matrix will differentiate final site plan alternatives.

In addition to setting landscape performance goals, because we have limited time for site testing and design development, there will be some criteria that require transparent assumptions. For example, site specific soil types and chemistry. Identifying and communicating these will be part of the design challenge.

PROCESS (detailed assignment sheets provided separately; refer to course *schedule* for dates)

A2: Baseline Performance	• Visit sites and produce base map • Characterize existing site and its context • Build 3D site models • Calculate conventional performance • Analyze site challenges & opportunities
A3: Schematic Design Mid-Review **R2**	• Set Landscape Performance Goals (team) • Scenario development (team) • Mid-review meeting organization & facilitation • Final schematic site designs
A4: Design Performance	• Planting design, materials detailing • Scenario design landscape performance • Cost Estimate (may not be until A6)
Module 3: Communication	
A5: Sharing Solutions **R3**	• Representation; 3D site model / sketch model • PowerPoint presentation • Boards
A6: Memo	• Installation/management/maintenance schedules • Brochure

FINAL DELIVERABLES

For the final presentation for partners and reviewers, students will present their design solutions using digital media as well as printed poster format. Students may also be asked to participate in additional presentation opportunities to discuss their work (i.e. City of Bozeman groups, etc.) Site design concepts will be communicated through a range of drawing types, such as, plans, section-elevations, perspectives, 3D-models, collage, photos, written description, and verbal presentation. Following the final presentations, students will also write a brochure highlighting recommendations for site construction, stewardship, and maintenance based on the landscape performance goals and metrics.

MEMORANDUM OF UNDERSTANDING

This service-learning project carries a formal Memorandum of Agreement between MSU (faculty and students) and the City of Bozeman. Please refer to this document for work, communication, and ownership expectations.