

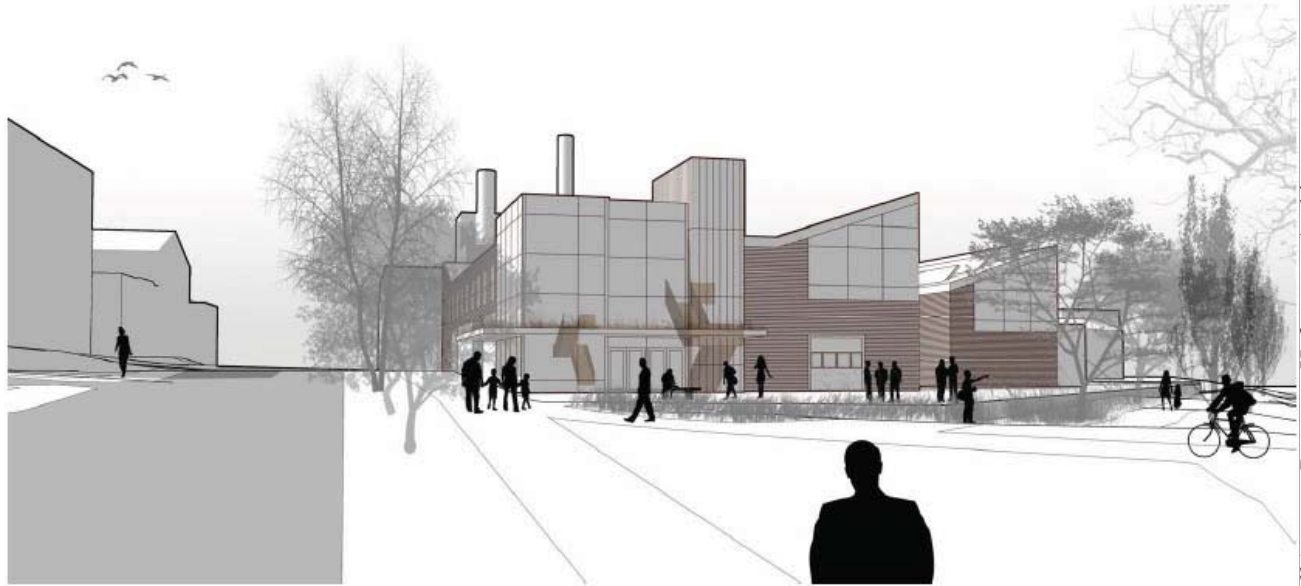
Arch 464  
ECS  
Spring 2010

Name \_\_\_\_\_

Quiz #2

## "The Engineering Innovation Lab: Water"

### OPTION B: COURTYARD



All images: Patano + Hafermann Architects

*The view down Sixth Street toward the west shows the EIL and the UI power plant behind.*

For this problem you are the water use consultant for Patano + Hafermann Architects and the UI College of Engineering. Their project is the proposed Engineering Innovation Lab sited in a currently gravel parking lot next to the UI Steam Plant on Sixth Street in Moscow. The building, housing mechanical engineering vehicle research labs, will be an exemplary sustainable and net zero energy design project. Your role is to advise the architects and the client on strategies that assure water use on the site is as sustainable as possible.

**Context.** The site slopes down from Sixth Street to Paradise Creek. The part of the site north of the building is in the 100-year flood plain (see plan on page 2). Moscow receives about 20 inches of precipitation each year.

**READ THE ENTIRE QUIZ BEFORE YOU BEGIN!**



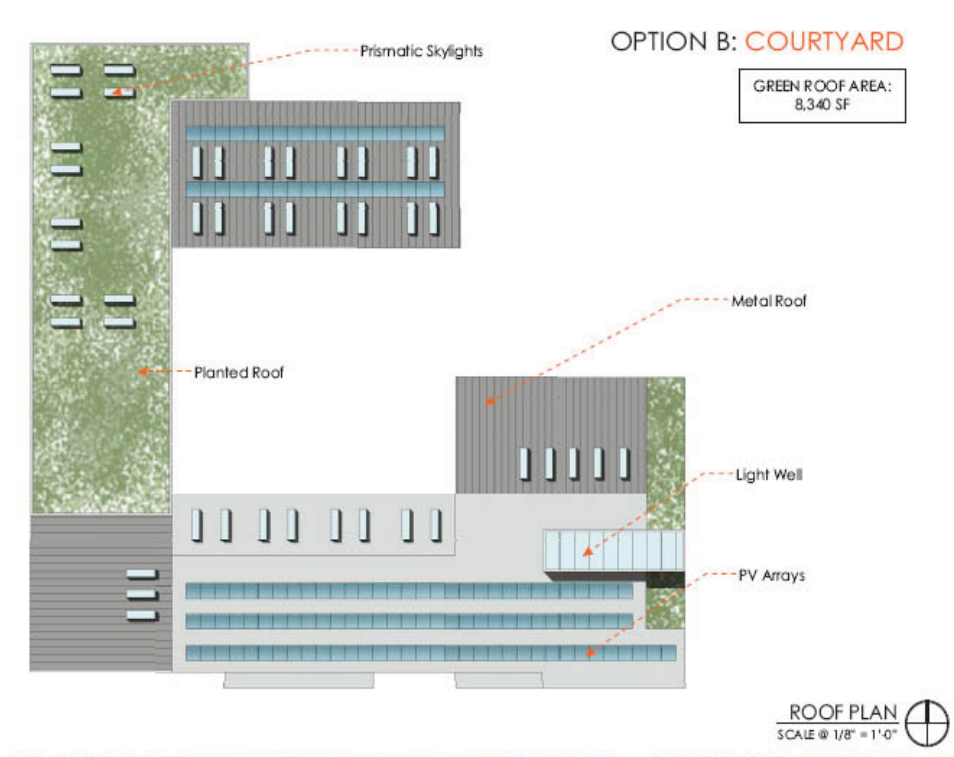
*Building diagram in context.*



The proposed site plan.

- 3 pts.*      1. **Propose methods that three features** called out on the site plan on page 2 that could be employed to manage stormwater on the site. **Fully explain** the merits and limitations of each method on this site. Use diagrams as needed to explain your ideas.

- 3 pts. 2. **Propose methods that three** different roof types called out in the plan below could be employed to manage stormwater. **Fully explain** the merits and limitations of each method for this building. Total roof area is about 20,000 sf. Use diagrams as needed to explain your ideas.



4 pts. 3. **Propose and diagram** two different strategies that could be used for this building on this site to significantly reduce or eliminate black water discharged from this site to the city waste water treatment plant. **Fully explain your ideas.**