

Arch 463
ECS
Fall 2003

Name _____

Quiz #1

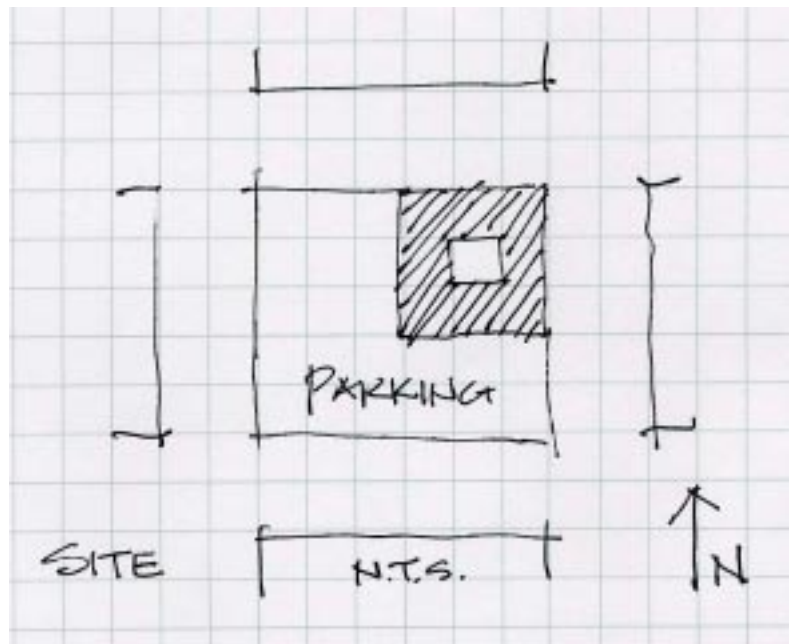
"Lovelock Courtyard Restaurant"

For this problem you are the designer of a new restaurant in a remodeled courtyard building in Lovelock, NV. The building is the only one on a downtown block. It occupies the northeast quadrant of the block and is surrounded by an asphalt parking lot and paved city streets. Your client is the first renter for the second (top) floor of the building and, thus, has her choice of four prospective spaces that fit her spatial needs. Each one is adjacent to a broad deck that will allow for dining al fresco. Since her seating capacity almost doubles when patrons can eat outdoors, she wants to maximize the season for outdoor eating. The restaurant will be open for lunch and dinner seven days a week.

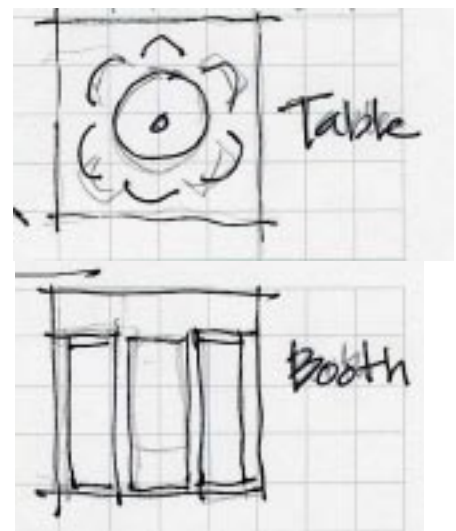
Climate Context. The site is on the north edge of downtown Lovelock, just south of a small lake. Lovelock, population 2500, is located at 40° NL and is east of the Sierra Nevada Mountains. The entire town of Lovelock is sited on nearly level land surrounded by high desert vegetation, except for the small trees and shrubs that grow in the riparian zone along the river that flows west to east several blocks south of downtown.

Modular Design. The restaurant will be based on 10' x 10' modules. The nine-module interior (30' x 30') will contain 4 kitchen modules, 4 seating modules, and an entry/reception module. Outdoors will be comprised of 3 seating modules and 3 circulation modules.

Each 10' x 10' seating module contains either a round table with a center umbrella hole and six chairs OR a rectangular table with two pews that have solid backs that are 5' high. You may use both kinds, but no more than a total of 7 modules—4 inside, 3 outside.



Site plan. North is up.



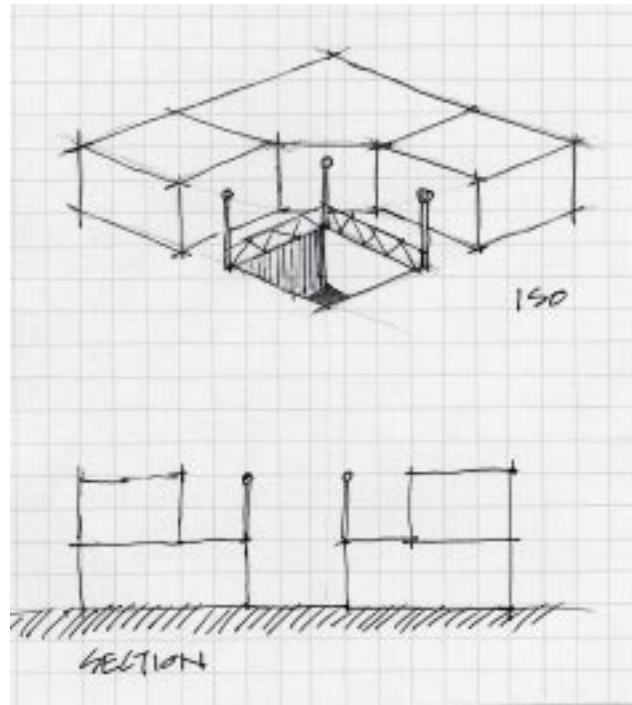
Seating modules.

3 points

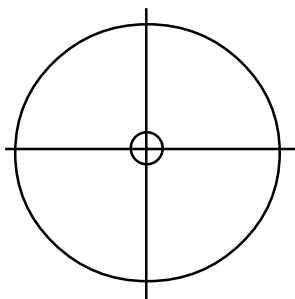
1. Analysis

Describe the climatic and microclimatic effects of sun and wind that you expect to find on the site.

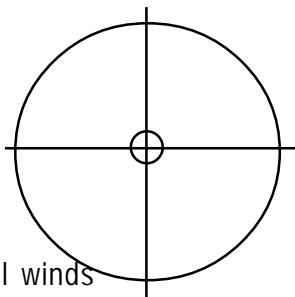
Draw a wind rose for prevailing winds and one for microclimatic thermal winds.



Isometric drawing of typical corner showing two prospective restaurant locations and building section through two restaurant locations. Ceiling height is 20'.



Prevailing winds



Microclimatic thermal winds

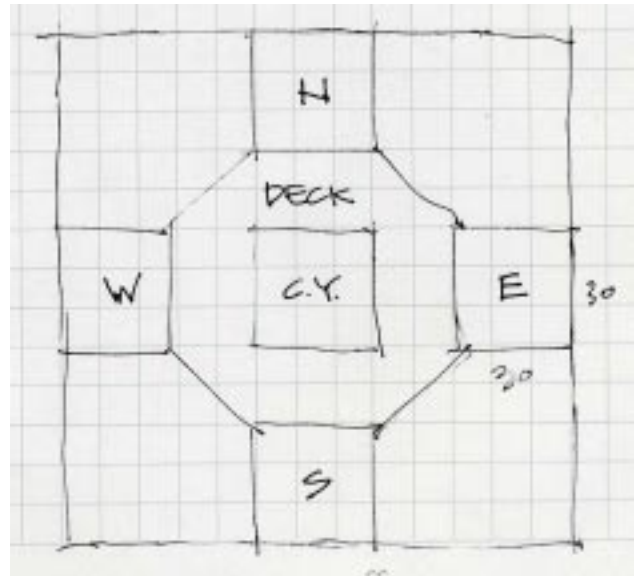
3 points

2. Preliminary Design

Specify your choice for the location of the restaurant and **indicate** it on the plan.

Explain, in terms of the Bioclimatic or Psychrometric Chart, why the outdoor, and alternatively the indoor, seating area has the potential be comfortable to seated patrons at three critical times of year.

Summer solstice.



Building plan with the four prospective restaurant locations labeled W, N, E, and S. Each grid square is 10' x 10'.

Spring/Fall equinoxes.

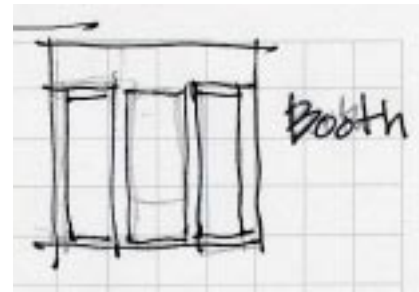
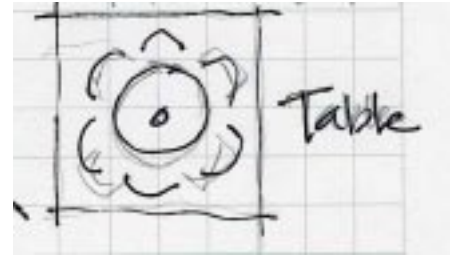
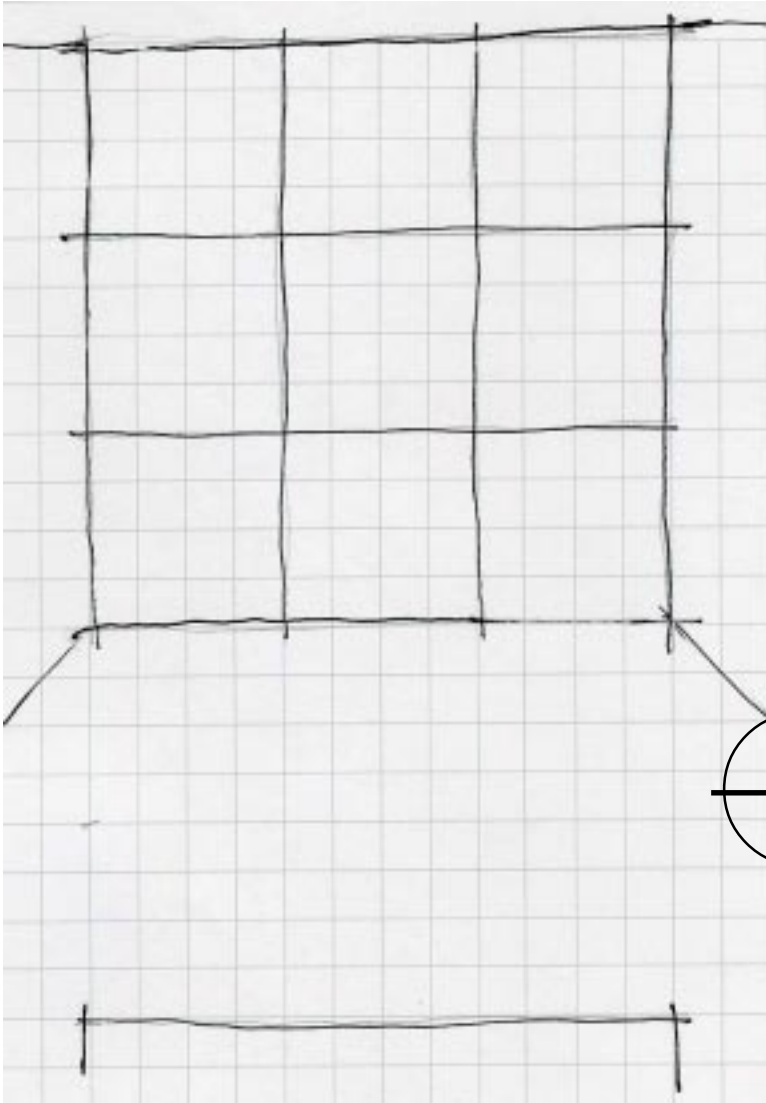
Winter solstice.

4 points

3. Seating Scenario Design

Draw a modular plan of the interior and exterior spaces on the floor plan below. **Show** which seating unit (round table, with or without umbrellas, or rectangular table) is placed in each of the 7 indoor and outdoor seating modules. **Indicate** which direction is north.

Declare which months your choice will provide comfortable outdoor dining and **explain** how you will achieve that comfort during both cold sunny days and hot sunny days.



Building Program

Kitchen	4 modules
Indoor Seating	4 modules
Entry/Reception	1 module
Outdoor seating	3 modules
Outdoor Circulation	3 modules

Restaurant floor plan. Show locations of indoor and outdoor modules and seating scenarios. Indicate north on compass rose above.