Lighting Proposal Memo | September 11, 2009

I am proposing to study five spaces for the lighting portion of my thesis. The spaces to be analyzed and redesigned are as follows:

- Large work space | Graduate bullpen I
- Special purpose space | Lecture hall
- Circulation space | Lobby and atrium with adjacent stair
- Open work space and lounge
- Building façade

For the lobby and atrium space, I will produce three different design concepts.

For the open work and lounge space, I will produce lighting solutions that lead to two different psychological impressions. The two impressions that I intend to consider are public versus relaxation. These impressions are pseudo-opposites; however, each of these impressions is applicable to this space for different functions of the space—study sessions and entertaining, respectively.

Graduate Bullpen I | Large Work Space

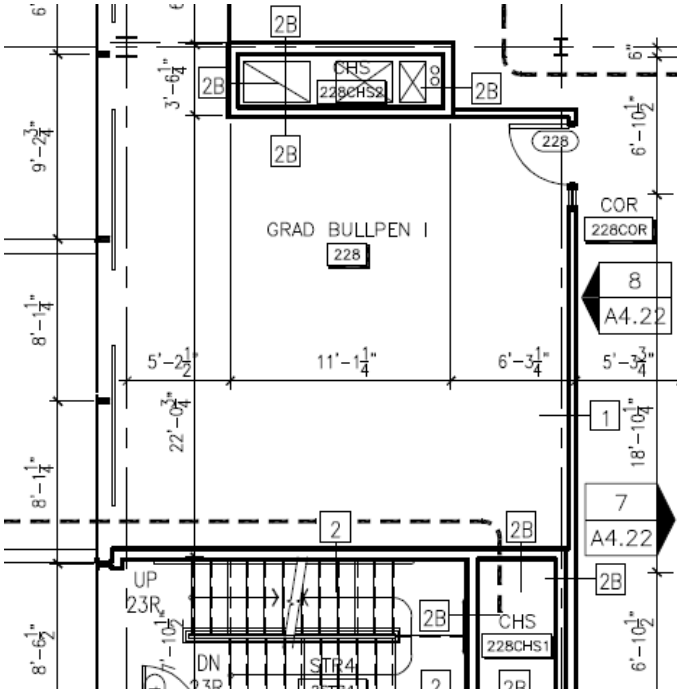

Figure 1: Graduate Bullpen I

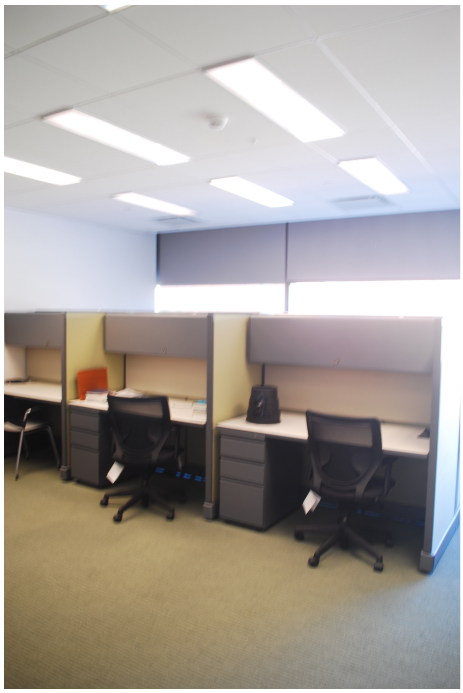

Figure 2: Graduate Bullpen I

The graduate bullpen is essentially an open office space for graduate students. Visual tasks include reading and writing of various prints. Although computers are not shown in the image above, students are likely to bring laptops. Viewing of VDT's is thus another critical task for this space. Additionally, since laptops are considered, provisions must certainly be made for semi-specular monitors.

The overall dimensions of the space are 22.5' x 22', with a ceiling height of 9'. More detailed dimensions are shown on Figure 1. I have also been provided with several building sections that contain vertical dimensions for the space in greater detail.

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Table 1 indicates the finishes throughout the space.

Table 1: Graduate Bullpen Finishes

Ceiling	Acoustical ceiling tiles
N, E, S Walls	White painted gypsum board
Floor	Carpet: 00565 Renew
W Wall	Combination of windows and spandrel panels (further information available, to be detailed in Technical Report I)

The space is located at the perimeter of the building, with west-facing windows. My study of the space will include a thorough daylight study and analysis. I aim to determine how much daylight is being lost due to the configuration of the spandrel panels along the building façade. The impact that the current furniture configuration has on the viewing conditions and daylight potential is another study that I will incorporate. My ultimate goal for this space over the course of the year is to investigate ways to incorporate more daylight to save energy while also improving the quality of the lighting system.

Lecture Hall | Special Purpose Space

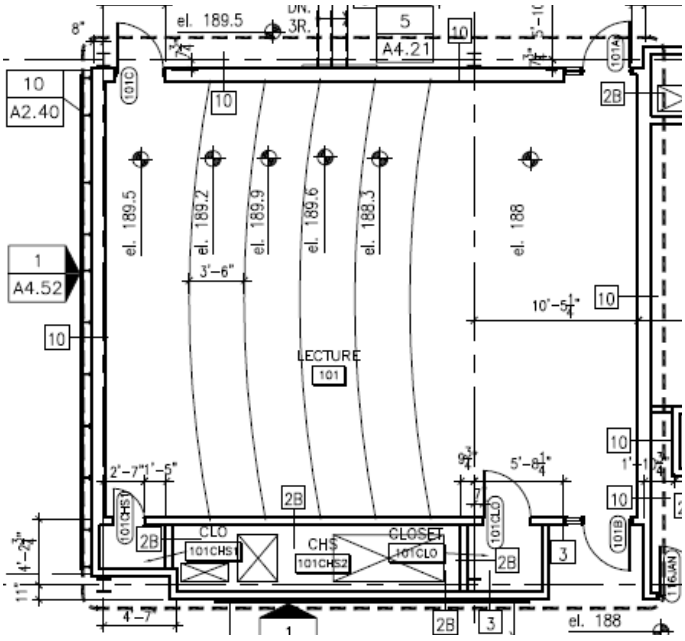

Figure 3: Lecture Hall

Figure 4: Views of Lecture Hall

The lecture hall is used for primarily instructional purposes. A chalkboard spans the wall at the front of the space. Additionally, there is an adjustable screen and a projector for digital presentations. Visual tasks in the space vary, depending on the mode of presentation. The lighting design must therefore be flexible. Students will be viewing lectures on the board, as well as lectures projected on the screen. Additionally, tasks will include reading and writing for the purposes of note-taking. The design must also consider proper facial modeling of the instructor to allow for effective communication of information during lectures.

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The overall dimensions of the space are 34' x 28', with a ceiling height of 10.5' at the bottom stair and 8.5' at the top stair. More detailed dimensions are shown on Figure 3. I have also been provided with several building sections that contain vertical dimensions for the space in greater detail.

Table 2 indicates the finishes throughout the space.

Table 2: Lecture Hall Finishes

Ceiling	Acoustical ceiling tiles, cherry wood at the front of the space
N, S Walls	Green gypsum board/fabric
E Wall	Cherry wood (clear finish), Chalkboard
W Wall	Honeycombed cherry wood panels (clear finish)
Floor	Carpet: 00281 Brilliant

Lobby and Atrium | Circulation Space

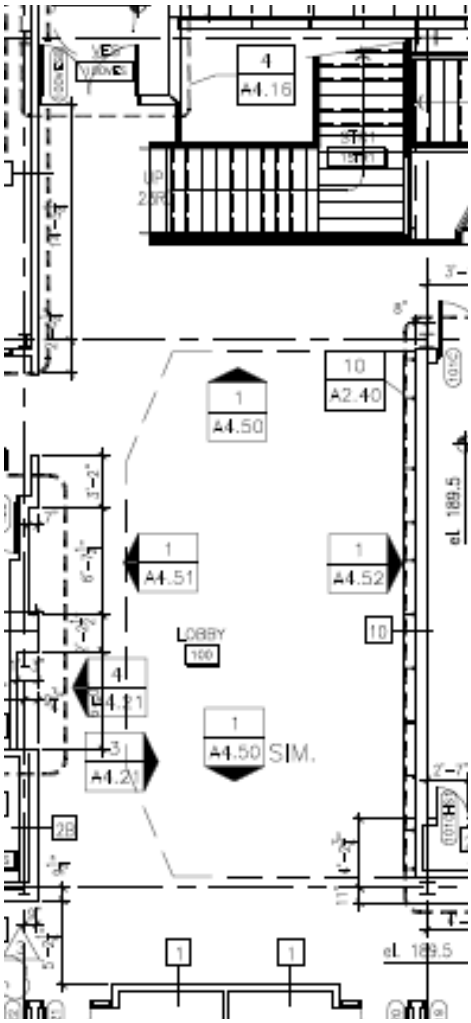

Figure 5: Lobby and Atrium

Figure 6: View of Lobby, Atrium, and Stair

The lobby and atrium (and adjacent stair) serve as a central hub in the building that nearly all other spaces tie into. The architecture should be enhanced with light to create drama and excitement that will energize the space. A light sculpture by a prominent LA artist ascends through the stair and should

be carefully integrated with the lighting design. This central space is a primary circulation path; thus, the lighting design should provide adequate light to facilitate safe movement up and down the stairs and throughout the adjacent corridors.

At the first level, several tables and seating areas allow the space to be used as an informal lounge, where students and faculty may meet for discussions. The space will likely be used for entertaining as well. A balcony extending off of the stair at the second level is reserved for events. The lighting throughout should allow for good facial modeling and color rendering to enhance interactions that occur in the space.

The overall dimensions of the space are 23' x 58', with an overall atrium height of 38'. Specific dimensions of the space are conveyed in Figure 5. I have also been provided with several building sections that contain vertical dimensions for the space in greater detail.

Table 3 indicates the finishes throughout the space.

Table 3: Lobby and Atrium Finishes

Ceiling	White painted gypsum board
S, W Walls	White painted gypsum board
E Wall	Honeycombed cherry wood panels (clear finish)—with translucent glass behind
N Wall	Combination of windows and spandrel panels (further information available, to be detailed in Technical Report I)
Floor	Black granite and Durkan Commercial Plateau II wood (841 Franklin)

A large skylight at the top of the atrium allows daylight to penetrate the atrium. However, with the current configuration and materials, the daylighting conditions are extreme at certain times of day and certain sky conditions. I intend to propose modifications to the skylight configuration to improve the daylight quality throughout. These proposed modifications are likely to affect structural and architectural features of the space and will provide issues to study as part of my breadth topics.

Additionally, I will be considering three different lighting design solutions for this space. More specific information about these designs will be provided in Technical Report I.

Open Work Space/Lounge

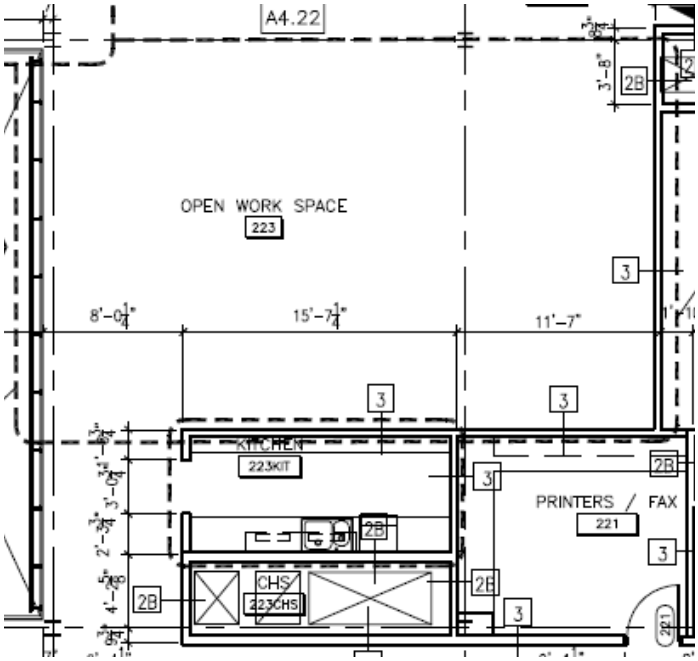

Figure 7: Open Work Space

Figure 8: Views of Open Work Space

The open work space and lounge area is a multi-use space. Broadly, the area has academic and entertainment functions. Academic functions are broken down further. Many lectures and classes take place in this room. The lighting solution must provide adequate light at the board on the wall. Students may also gather here for study sessions and discussions. Visual tasks may include reading and writing on printed materials. Additionally, students may bring laptops (many of which now have glossy screens) to this space during study sessions.

The space may also be used for functions related to entertainment and relaxation. There is a kitchen adjacent to the work space that is likely in place for use during events. Students may also come to this space when class is not in session to relax.

Due to the multi-use nature of this space, I have chosen to study this space with respect to psychological impressions. The two impressions that I intend to consider are public versus relaxation. The lighting design must be flexible here to allow for a change in mood from class time to formal entertaining.

The overall dimensions of the space are 22.5' x 22', with a ceiling height of 9'.

Table 4 indicates the finishes throughout the space.

Table 4: Open Work Space Finishes

Ceiling	Acoustical ceiling tiles
N, E, S Walls	Green painted gypsum board
Floor	Carpet: 00565 Renew
W Wall	Honeycombed cherry wood panels (clear finish)

Building Façade

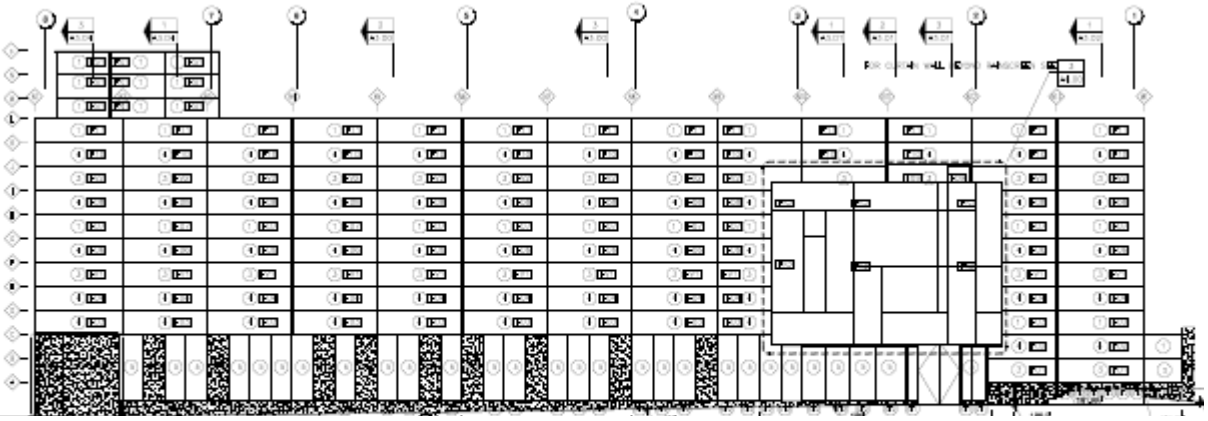

Figure 9: North Elevation

As Figure 9 shows, a complicated aluminum curtain wall system of windows and spandrel panels comprises the building enclosure. The system employs a combination of transparent, frosted, and fritted glass panels. Some panels are custom fritted with white marks in the style of strokes of a paintbrush. In all, there are five different general curtain wall types. There are also a variety of fritting patterns used throughout. The Type 1 system is a spandrel panel, and, moving from the exterior to the interior, consists of a double layer of ¼" thick tempered, fritted glass (with a ½" air space), a 4-1/4" air space, ¼" thick tempered and acid etched glass, a ¾" air space, and 2" thick polyisocyanurate insulation. The Type 2 system is also a spandrel panel and is nearly identical in construction to Type 1, with an additional ¾" air space and ¼" thick layer of tempered and acid etched glass on the interior. The type 3 system consists of a double layer of ¼" thick tempered, fritted glass (with a ½" air space). This system allows for views to the exterior, but the fritting reduces the amount of direct sun that penetrates the building. Type 4 systems consist of a double layer of ¼" thick tempered, fritted glass (with a ½" air space), a 7" air space, and ¼" thick tempered and acid etched glass. This translucent system diffuses daylight that enters the building, creating less harsh lighting conditions. The Type 5 system is a transparent system consisting of a double layer of ¼" thick tempered glass with no frit (with a ½" air space). The building is also clad in several locations on the first level with 2" and 3" thick granite panels.

The properties of the building skin system will be carefully considered in the daylighting analysis of my building. Additionally, the lighting design of the spaces adjacent to this façade will significantly affect the look of the building at night. Figure 10 shows the way the building currently looks at night. Figure 11 is a schematic rendering of the building at night, demonstrating their original design intent.

Figure 10: Actual Building at Night

Figure 11: Schematic Rendering (Frederick Fisher Partners)

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The important thing to note about the lighting design for this façade is that light will not actually be applied to any of the façade. Rather, the building will glow from within. Therefore, the effect of the design of the interior spaces on the exterior look of the building at night is a central consideration. Exterior design goals must inform interior lighting design criteria. Ultimately, my goal for this façade is to more closely meet the architect's original intent through the careful application of light on the building interior.