Paul B. Sogg Architecture Building Addition

Rani Farmanali, Dr. Michael Kroeling, ABS 443 Individual Case Study, Fall 2007
# Project Information

<table>
<thead>
<tr>
<th>Completed Construction Date</th>
<th>Fall 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architect</td>
<td>DPHS</td>
</tr>
<tr>
<td>Contractor</td>
<td>Issac Construction</td>
</tr>
<tr>
<td>Project Budget</td>
<td>$1.6 million</td>
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<tr>
<td>Building Area – Gross S.F. (entire building)</td>
<td>90,169</td>
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<tr>
<td>Building Area – Net S.F. (entire building)</td>
<td>66,012</td>
</tr>
<tr>
<td>Major Spaces</td>
<td>Studios and offices</td>
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</tbody>
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Source: [http://facilities.unlv.edu/plancon/arc_add.html](http://facilities.unlv.edu/plancon/arc_add.html)
Current Conditions

Reflected Ceiling Plan

Paul B. Sogg Architecture Building Addition
Current Conditions

Electrical Plan

Paul B. Sogg Architecture Building Addition
Current Conditions

Interior image: North wall

“Cold spots” with insufficient lighting.
Current Conditions

Interior image: South wall

“Cold spot” near back wall with insufficient lighting.
Current Conditions

Interior image: Light fixture

Paul B. Sogg Architecture Building Addition
Current Conditions

Light fixtures

- 4’ Modular Pendant – Mounted direct/indirect fluorescent
- Manufacturer: Alera
- 3 fixtures per every 4’ section
- 277 Volts
- 100 Watts per 4’ section
- Pendants mounted such that bottom of fixture is +9’-0” AFF
Current Conditions

Light Scoops / Top Lighting
Current Conditions

Challenges

- There is not sufficient ambient lighting throughout the studio space.
- A glare is produced from the daylighting apertures.
- There isn’t an adequate amount of task lighting to allow for a comfortable and productive working environment.
• Studios and art related classrooms are much different than conventional classrooms.
• In addition to a higher lighting level (50+ footcandles), these rooms have critical needs with respect to the color of light.
• Studios and art classrooms are often illuminated with a 5000K white light source, using either natural daylighting or 5000K fluorescent lamps to simulate natural light.
• Color rendering at 5000K is more or less neutral, and designers are effectively free to make visual choices about color without concern for the color bias of most electric light sources.
• The classrooms may use industrial fluorescent luminaries that provide effective and efficient illumination with mounting heights of 10’ to 16’.
• Because computers and laptops are frequently used in these spaces, this must also be incorporated into a studio’s lighting design.
  – Computer workspaces often require highly controlled lighting.
  – The general nature of computer classrooms is a highly controlled lighting environment, with two or more layers of light and controls that permit optimizing the lighting system for specific working situations.

Source: Lighting Design Basics
Design Solutions

- The lighting fixtures would provide a sufficient amount of ambient light if they were more frequent. By placing the fixtures closer together, the issue of “cold spots” would be reduced.

- By simply diffusing the skylights with frosted glass, the strong glare produced throughout the day will be eliminated. This technique will also contribute to the ambient lighting.

- For task lighting, it would not be appropriate to install pendant lighting throughout the space, due to the fact the arrangement of the space is often changed. With this in mind, individual drafting lamps are ideal. They can accommodate to each individual’s personal preferences easily.