OPPORTUNITIES
The e-Newsletter of the Design Communication Association Spring 2013

Glazing in Architectural Representation – Part 1

Steve Oles, New Mexico

In terms relevant to architectural illustration, glazing has but two principal visual characteristics: **transparency** and **reflectivity**. These two attributes are mutually antithetical; one can pertain only at the expense of the other. In a given single context, the visual behavior of glass will fall somewhere on a continuum between the perfectly transparent (equivalent to the absence of glazing) and the perfectly reflective (equivalent to glazing with an opaque mirrored surface.)

There are two important contextual variables which mediate and determine this specific visual behavior. The first is the general level of light intensity present on far side of the glazing relative to that on the near side, and the second is the angle from which the glazing is viewed by the observer. Assuming that the glass is clear (untinted and non-mirrored) and clean (free of dust or film), these two major variables establish the degree of glazing transparency/reflectivity in a given case.

Notice that no reference has been made to the direction or character of incident sunlight. Although the brightness of the sky is important as an element of general light intensity on the exterior side of the glazing, the phenomenon of direct sunlight itself does not visibly affect glass.

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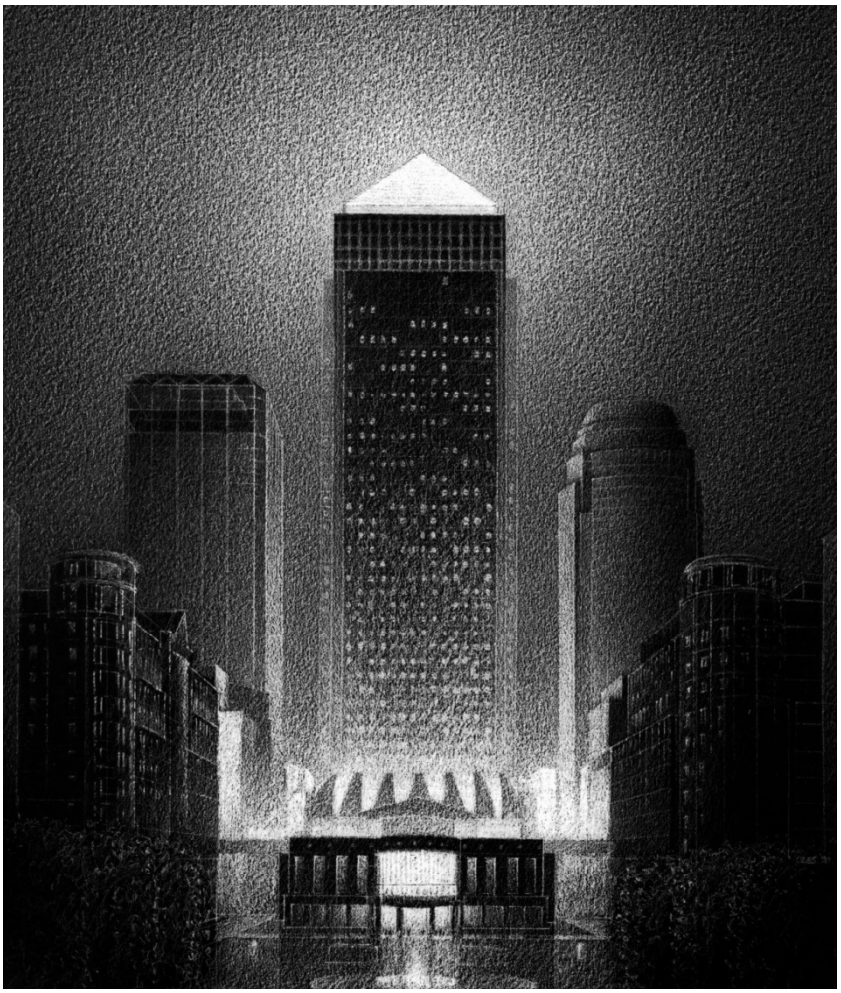

Night rendering by Steve Oles

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Participate in the Design Communication Association Blog

Kathe Julin, DCA Blog Editor

Blogging is a special category of social media that has at its heart the two goals of including a community and dispersing information. The Design Communication Association (DCA) Blog (http://designcommunicationassociation.wordpress.com/) supports one of the main purposes of the organization in maintaining "a dialog among design communication professionals and educators concerning alternatives for teaching and promoting the concepts and skills of design communication." The intent of the blog is to contribute to building a scholarly community and quality education and encourage engagement and interaction between DCA members. Among the social mediums (websites, FaceBook, LinkedIn, Twitter and Youtube), the blog format offers a space to house relevant discussion on current design communication topics of interest to DCA members and others.

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From Henry Sorenson's Travel Journal leading Montana State University's Foreign Study Program in India.

Henry Sorenson, Montana State University

Hampi: Thursday, February 14, 2013

Mahesh, Aman, Disksit, Rashi all spied me sitting in the lobby of the hotel in Hospet (the only place there is a wi-fi signal) and wanted to write on my iPad. I asked them to type their names and so here they are.

As noted, we are in Hospet, the closest town to Hampi—an enormous ruined city at the heart of an ancient empire—where I thought we would have a good chance to draw and paint in an open and peaceful setting. The drive from Hassan to Hospet day before yesterday was memorable. After sightseeing at the Hoysala temples in the morning, we were off for what proved to be a nine hour drive. Almost all the roads were narrow, two-lane affairs. More than half were dirt. Half the rest were heavily potholed. And then it got dark. Trucks, called lorries here, are not allowed to transport goods between 8 am and 6 pm due to the congestion they create. So after 6, trucks take over the road. It was like a truck train—truck after truck after truck after truck—we must have passed 100 in a row going the other direction. And, of course, there was no reason or way to try to pass those in front of us—there was never an open passing lane and anyway what good does it do to pass a truck with 99 more still ahead of you? Oh, I forgot to mention the construction. The state is obviously about to widen some of these roads and earth-working had taken place in many areas we passed though. There were many stumps of very large trees that had been felled in preparation. Also many 1 - 4 story buildings next to the road had their front rooms removed revealing their innards in a way strangely reminiscent of architectural section drawings. When we finally arrived, we all felt like we might if we had we had been riding horses cross-country all day long.

Was it worth it? Absolutely. Yesterday we toured Hampi and it is a uniquely beautiful and powerful site. Stone cities sprinkled with temples set among giant boulders and rocky outcroppings of granite rising out of rice paddies and coconut groves. Amazing and magical. The students were really stoked. As part of our explorations we crossed the river on a very small ferry and climbed the highest precipice in the whole area to reach the temple of the monkey god, Hanuman. It is said he was born on that spot. Climbing brought back memories of going up Wayna Picchu in Peru. I was really tired—at the half way point. Making the top took me to my limit. It was a spectacular view; there were monkeys in the rocks and on the temple grounds. Of course the students want to do it again. I'm done.

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Hindu Temple, Hampi India

From Henry Sorenson's Travel Journal leading Montana State University's Foreign Study Program in India.

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Today was dedicated to drawing projects. I thought I had a good subject (oddly enough, a Hindu temple) in mind but realized it was going to be a very hot day and my drawing location put me sitting directly on solid rock fully exposed to the sun. So I looked around for a long time hoping to find a viable alternative—finally deciding that my original subject was the one I was drawn to most. I looked around the temple some more and managed to find a spot scrunched under the low overhang of an enormous boulder. So I was out from under the sun. It must have gotten to at least 95 degrees in the sun.

I spent a well over an hour laying out my watercolor. A group of boys were playing nearby—using a plastic water bottle as a sled and sliding down the rock face fifteen feet from my drawing spot (gives you some idea of the precariousness of my perch). At one point, I looked up to find two black puppies sharing my shaded nook. As I was looking at them, the nearest one barked and growled menacingly at me. I scolded him gently. They decide it was too close for comfort and moved on. Dogs are generally not treated well in India.

After about an hour I knew for a fact that my drawing was not going to work out. My shaded overhang got me out of the sun but made for a poor composition. I went to check on the students. Two female students were being overly appreciated by two young men who were violating their personal space and acting out as young men will. I spoke briefly with them explaining the ladies were students, were working, and this was important. When they ignored me, I stood between the youths and the students and stared at them till they decided they were ready to move on. Then I went in search of another subject that would allow me to draw out of the sun, thought I found one, and got to work again. I'm not happy with that layout either. Tomorrow I think I will try to find a subject in the tiny town just outside the archeological zone.

This evening, the female students and I had a talk about behavior towards foreigners and how to best handle awkward situations. It was a good discussion and hopefully provided some useful advice.

I will end this for now. I am being eaten alive by mosquitoes in the open air lobby and staff wants to turn off all but the night lights.

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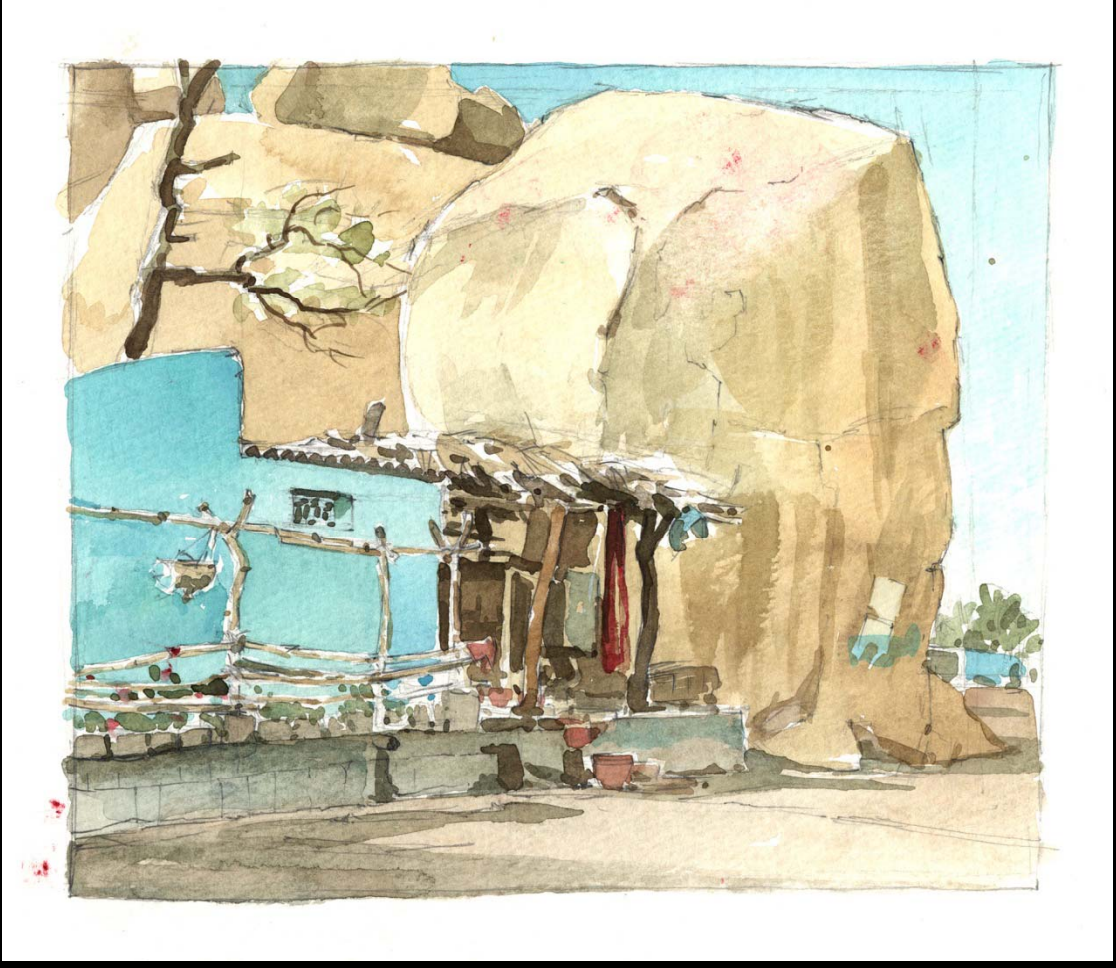

Hindu Temple, Hampi India

From Henry Sorenson's Travel Journal leading Montana State University's Foreign Study Program in India.

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Hampi: Friday, February 15, 2013

Today, Friday we got a relatively early start, hitting the ruins by 9:30 with production on our minds. I had the vehicle drop me off at the edge of town after unloading the students at the entrance to the ruins. I made a number of photographs as I walked the town's streets. As I walked, a number of children came up and asked for a photo and I got some cute ones. I set up shop on the side of the road (again in FULL sun) and began my layout process. Town folk, including the owner of the building I was working on (not to mention area dogs), came by to check me out and look over my shoulder as I worked. I pushed the pace of my drawing and painting—knowing I would have a limited time to execute my piece (we were scheduled to meet up at 2:00 for lunch and then take on some more sightseeing in the afternoon). Amazingly I was done by 12:30. I was generally happy with how it turned out except the random red blotches that suddenly appeared in the boulders above the building. I seem to have an issue with my paint palette. Everything is fine when I can set the palette on a tabletop or other raised surface but not when I have to hold it in my left hand. This is because I have filled the well next to the hinge of the palette with brilliant red paint. Somehow, every time I hand-hold the palette, I get my thumb in the paint and eventually it gets to my paper, pants, and anything I manage to touch. It also doesn't come out with water. After this happened to me in Mahabalipuram, I scooped half of the paint out of the well and cleaned my box. Apparently that isn't going to be good enough. Near the end of painting, undesired red paint made its way to my paper and pants—again. I will have to take more drastic measures.

After finishing, I walked over to the restaurant I had been drawing (I didn't even know it was a restaurant) and showed off my work. I had an idea I might send a digital copy but no one there had e-mail. They took turns looking at the painting and offered me some tea. It was piping hot and delicious after a full-on morning of intense concentration.

Since it was still early for our meeting, I decided to walk back to the ruin site, exploring on the way. I had a coconut water from a stand by the side of the road. The vender picks a coconut from a pile, hacks off the end of the husk with a machete, chops a small wedge piercing the hollow heart and sticks in a straw. Perfectly sterile, refreshingly thirst quenching. Once the liquid is gone, a retuned coconut is split in two and a sliver of husk becomes a spoon for scraping out the meat. Efficient and effective. As I sat on a wall outside the archaeological park, a couple of boys, say twelve, came and sat beside me asking me all the usual questions. One was admiring the Disney style cowboy hat I had acquired as a shade-maker (pure tourist garb but does the job) so I put it on his head. He called some of his classmates over to show off his head gear. We talked in broken English for about 20 minutes and then he had to leave. I was thinking it was getting towards the time we were to meet. 2:00 passed. 2:30 passed and I knew something was wrong. I decided to retrace my steps to town and go on to the Mango Tree, the restaurant we had eaten at the past two days. When I arrived, there was our minivan and the driver waving at me out the window. He said he could not find me and they had decide to go to the restaurant thinking I might be there (it was actually just down the road from my drawing site). It turns out the students had finished their work early also and were picked up at 1:30 instead of 2:00. Apparently, I just missed them when I arrived at the pick-up point. So it goes. Lunch was excellent.

Food at the Mango Tree

Steel Competition Recognizes University of Idaho Student

By Roman Montoto, University of Idaho

University of Idaho Master of Architecture 2012 Graduate, Jason Allred, recently earned national recognition for his design work in the 2011-12 ACSA/AISC Steel Design Student Competition. His project, Landscape: Rehabilitation Research Center, was developed in associate professor Román Montoto's graduate project studio last spring and was awarded second place from over 100 entries to the competition's open category.

Allred's initial ideas for the project stemmed from an abstract installation piece composed in the graduate studio's preceding seminar. Here Allred sought to better understand and develop a sensitivity for intervening on a landscape with architecture. This inquiry led to an abstract blending of the two through the composition of an art installation which informed a suitable project program and approach for intervention that he carried over into the studio course.

Comments from the Jury: This project has terrific integration of site with the tectonic of the building. It is intriguing to see how the land and structure work together to create the overall character. The structural characters of the long span elements are evocative of agriculture sprinklers. The delicate and light filled frames take advantage of steel's lightness and the project expression. The submission has a clear complexity of design while preserving a clarity of program.

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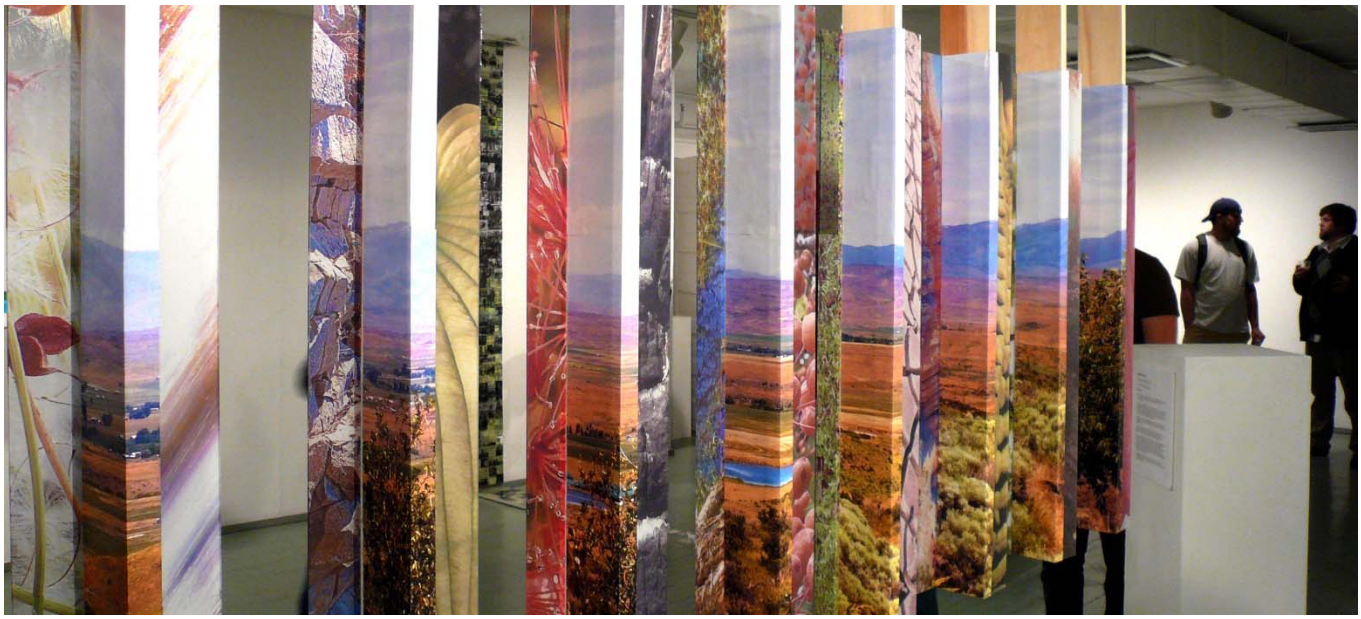

Design installation

View from the access road

Steel Competition Recognizes University of Idaho Student

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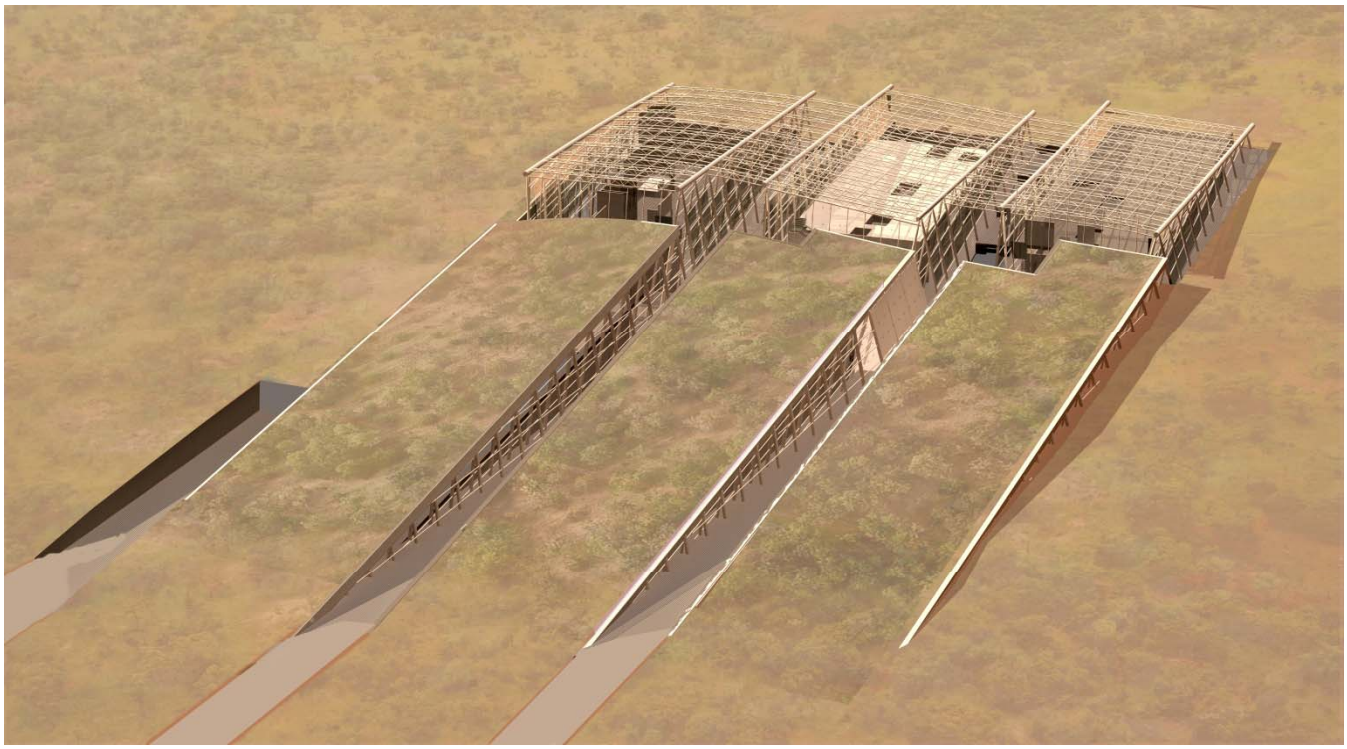

Project aerial view

View of the plaza

Using Interviews to Understand Stakeholder Buy-In

By Jenna Thompson and Michael Chisamore, University of Memphis

We usually think of design communication within the context of drawings and other media that would express design intent. Each phase of a project has forms of communication tailored to move the process forward. Conceptual drawings lead to construction drawings. Shop drawings and field sketches help formalize the details of the design. Yet once the work is complete, the design is built, is design finished? Are there forms of communication to be employed at that part of the process?

The built environment itself is a form of non-verbal communication. How the users engage the design after construction is another way of communicating. Traditionally *post-occupancy evaluation* has been the means by which the design enters a retrospective mode. Interview and analysis is one of the constructive means of communication in this phase. At the University of Memphis we have been exploring the mechanics of how this communication works in a test project: the Green Fee Recycle Zone.

The university is progressively pursuing green campus projects to further their commitment to environmental stewardship. One such way this is achieved is through the Green Fee program. The program began in 2007 when students voiced discontent with the lack of sustainable initiatives happening on campus. From this grass roots effort, a $10 Green Fee was established and is paid by the students each semester. The raised funds are then redistributed through a University wide call for proposals and ideas for sustainable development projects that will benefit the campus and the students.

In the summer of 2010, the University of Memphis, Department of Architecture submitted a proposal to the Green Fee program to design and implement a Recycling Zone. The Recycling Zone design would hopefully promote recycling while at the same time provide an educational landscape and walking path where students might relax or socialize as they navigate the campus.

During the project design and construction, various stakeholders (students, faculty, and staff) played a key role in the successful completion of the Recycling Zone. During this process, conflicts emerged when communication between the various stakeholders seemed to breakdown. These conflicts presented obstacles to a collaborative spirit and became the focus of a research initiative.

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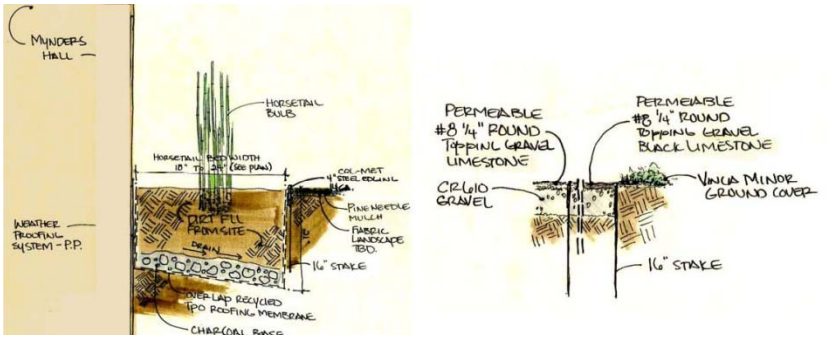
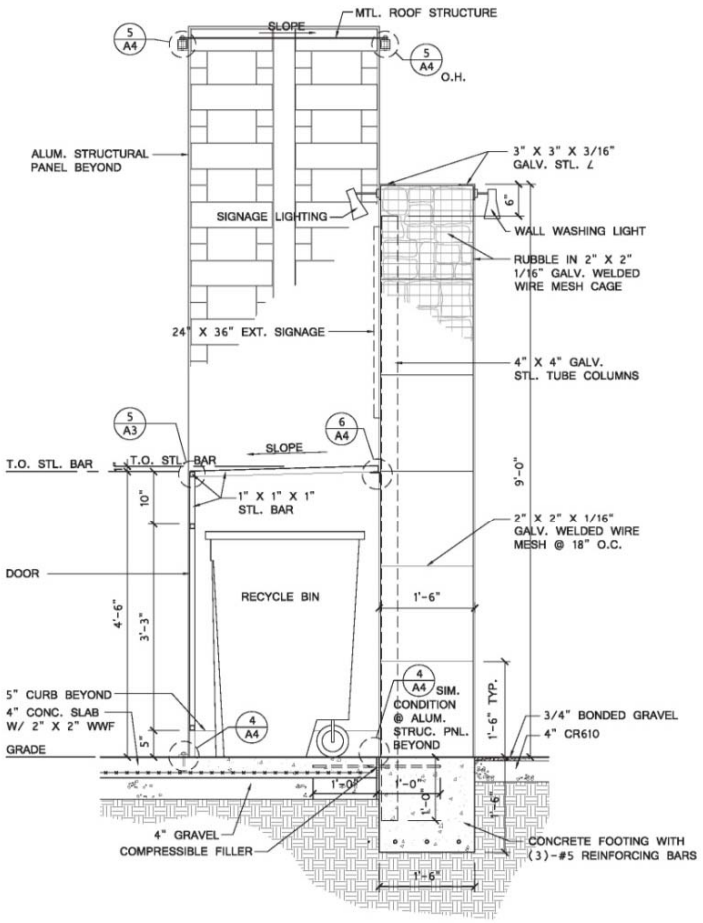
Early design digital image



Design details



Section drawing from the construction drawing set

Using Interviews to Understand Stakeholder Buy-In

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The purpose of the research was to understand how stakeholder perceptions of the Green Fee and implemented projects affect their buy-in. Additionally, how this understanding might identify key elements that are effective in cultivating and maintaining stakeholder buy-in. Interviews of participants of the Green Fee project were conducted as a way of collecting pre- and post-occupancy data. This information will hopefully be used to guide future Green Fee projects.

Furthermore, after conducting this research, the Department of Architecture believes it is a feasible process for collecting qualitative data. The following is brief description of the post occupancy evaluation process and important findings.

In qualitative research, methods such as semi-structured interviews are considered rigorous forms of data collection. In the case of the Recycling Zone project, three semi-structured interviews were conducted. It is important to note that a semi-structured interview format was important to conducting the qualitative research in that this type of interview process provides structure to the interview process. This means interview questions may provide insight to specific issues and topics being investigated; while at the same time, provide flexibility so the narrative of the participant is more personal to their experience.

The participants were selected based on their role in the Green Fee program and represented a cross-section of student/faculty, administration and staff stakeholder groups. The following research questions were developed to help guide the process:

1. How do stakeholders perceive the role of the Green Fee program?
2. How does stakeholder visibility as a member of a Green Fee project affect their buy-in?
3. How does stakeholder perception create buy-in or present obstacles to implementing a Green Fee project?

After the completing the interview process, each interview was fully transcribed and analyzed using a coding system. Coding analysis consists of pulling words or short phrases from the transcript in an attempt to capture the essence of the experience of the participants. The coding process allows the researcher to then develop categories that are representative of the codes.

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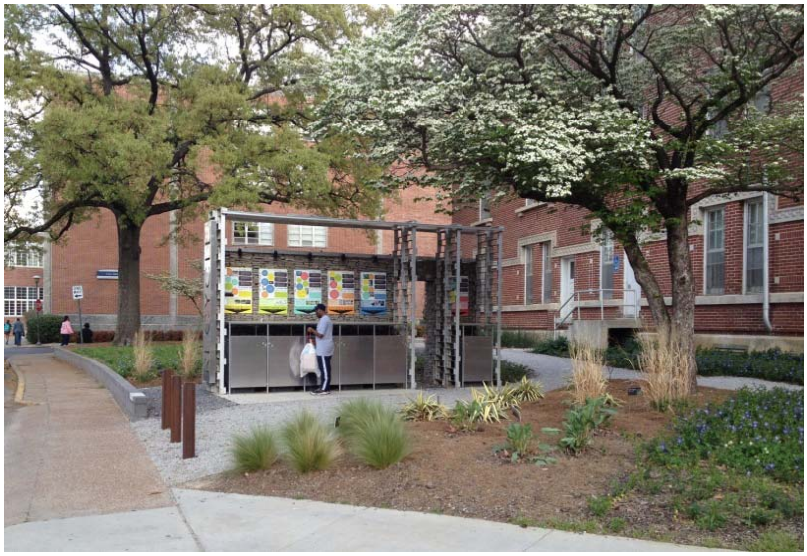
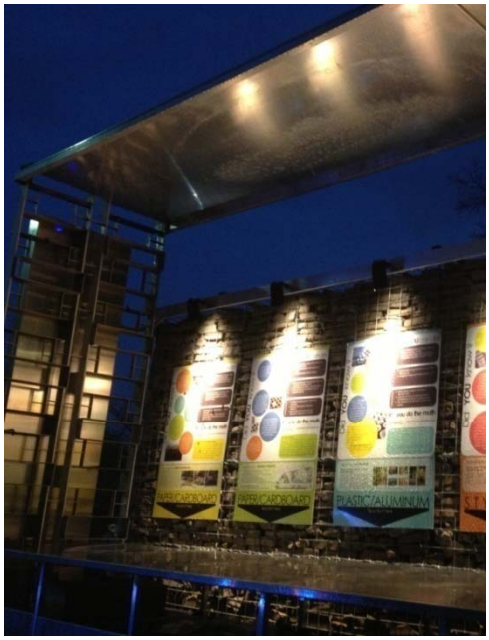
Student and faculty team building the gabion wall



Completed Recycling Zone west side garden and bin enclosure

Recycling Zone east side seating

Recycle sign with LED lighting


Educational signage


Indigenous and drought resistant plants

Using Interviews to Understand Stakeholder Buy-In

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codes

Participants

student led initiative, participation, too many fees, lack of understanding, sweat hours, protect, take care of, greater than self, long lasting, overlooked, proactive, accessible, community, educational, communication, responsibility, involved, support, funding, proving worthiness, empowerment, leadership, lack of inspiration, inclusive, transparency

Coding example

Categories are one word descriptors of the codes that represent important characteristics of the interviews. The following eight categories were identified, 1) community, 2) visibility, 3) education, 4) Passion, 5) incentive, 6) support, 7) communication, and 8) Indifference. From these categories, themes are constructed as statements that present possible interpretations of the transcription analysis and their relationship to the research questions.

For the Recycling Zone project, the following themes were developed:

> **Research Question 1:** How do stakeholders perceive the role of the Green Fee program?
> **Theme 1:** *The Green Fee program successfully provides funding support for sustainable projects; however, it struggles to build passion and community within the University and promote education and visibility of these green projects.*

This theme to research comparison might suggest that the Green Fee program committee take a greater role in building passion and community for sustainable initiatives on campus beyond the funding support. This might be achieved through promoting existing projects to a greater extent and showcasing these projects in multiple formats and acknowledging participant contributions.

> **Research Question 2:** How does stakeholder visibility as a member of a Green Fee project affect their buy-in?
> **Theme 2:** *High visibility of Green Fee projects, through acknowledgement in multiple forms of media, helps create greater passion, community, and education among participants.*

In this comparison, the theme developed not only demonstrates that visibility plays an important role in stakeholder buy-in, but it also supports the notion that if the Green Fee actuates acknowledgement of these projects, the program might also build passion and community around green campus initiatives.

> **Research Question 3:** How does stakeholder perception create buy-in or present obstacles to implementing a Green Fee project?
> **Theme 3:** *Stakeholder perception is greatly influenced in a positive way through community among participants but seems to suffer when communication and lack of visibility, incentive, and support occurs.*

This comparison demonstrates that Green Fee projects are a good resource for creating stakeholder buy-in, or in other words, community involvement. It also reveals the importance of visibility in maintaining stakeholder buy-in with sustainable initiatives.

The intent of this article was to present interviewing as a viable option for collecting qualitative data in an effort to improve the design process. Interviews can be an effective communication tool for documenting outcomes and making suggestions for future design projects. In terms of the Green Fee program, the built environment can become a platform to develop passion for protecting the environments and instill a sense of community

Glazing in Architectural Representation

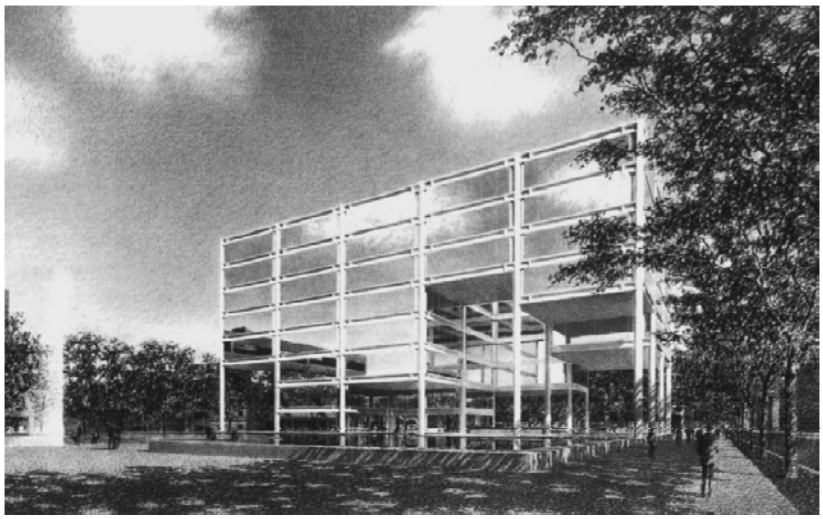
Continued from page 1

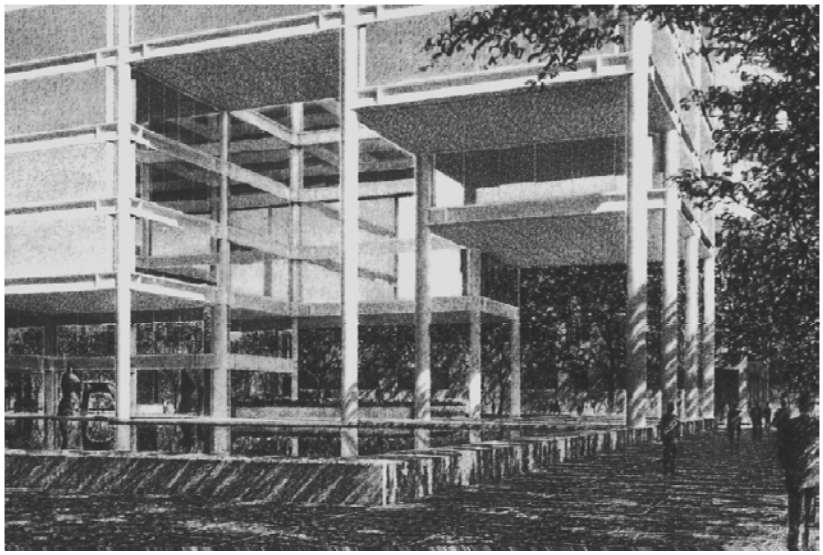
Accordingly, a wholly glazed structure has no observably sunlit or shade side (apart from matte elements such as mullions) and does not show shadow definition on its surface. Precise areas of dark value commonly observed "on" glazing are usually reflections of dark objects such as soffits or reveals. Another condition in which shadows are mistakenly assumed to occur on glazing is when those shadows fall through the glass to become visible on blinds, curtains or screens immediately behind the glazing.

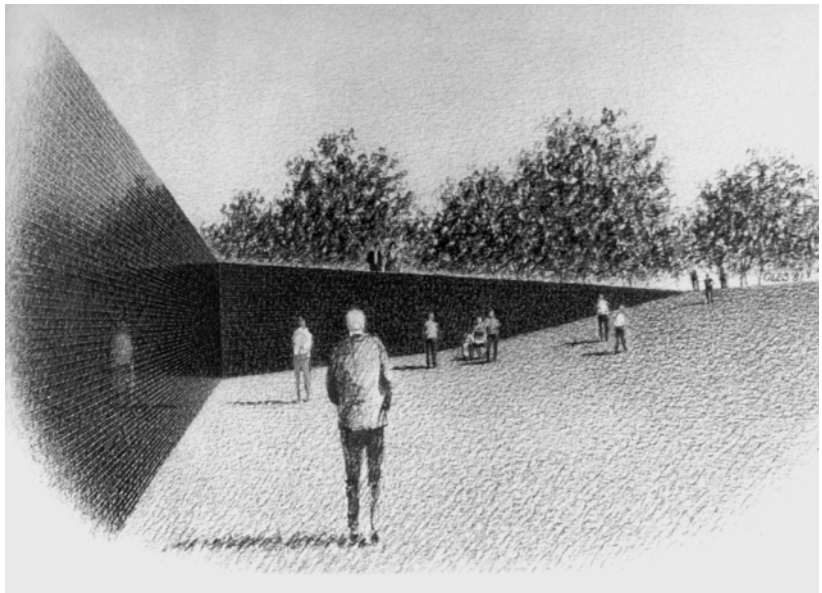
When glazing reflects a dark object such as an adjacent soffit or shaded reveal, the darkness of the image comes not from the reflected object itself, but from the transparency in the glass caused by the reflection of a dark area. The darkness of the image is typically that of the much darker interior surfaces of the building seen through the glazing rather than a shadow occurring on it. It should be noted here as a useful rule of thumb that the common reflected image of the soffit or shaded reveal is typically darker than the actual object appears when viewed directly. As a design note, it should be remembered that a six-inch glazing reveal produces a six-inch reflection, which results in a apparent reveal of double the actual depth, or twelve inches.

An image seen within a glazed area is either the result of the transparency of the glass (showing the real image of an object beyond the glazing) or the result of its reflectivity (showing the virtual image of an object on the observer's side of the glass.) In either case, the image is located beyond the surface of the glass, and not upon it. In most situations, both kinds of images appear simultaneously and are superimposed, their relative visual definition or legibility being determined by the intensity of the light energy (luminance) emanating from each of the two image sources. In most cases, the image possessing the greater luminance dominates, since "darkness" cannot be reflected as such in transparent glazing.

The character of reflected images in glazing is frequently misperceived and wrongly illustrated as "fuzzy" or indistinct. Although the images are usually slightly darker and lower in key (more limited in value range) and less intense in color than the objects they reflect, they are nearly as geometrically precise in contour as those reflected objects. This is particularly true of nearby objects, and even in the cases of distorted reflections of distant objects, the images are usually precisely-edged in spite of image wobble and waver caused by some non-planar glazing surfaces.







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Glazing in Architectural Representation

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A very important and virtually ubiquitous daytime light-emitting source on the exterior side of the glazing is, of course, the sky. For views of glass which in part reflect the sky (including virtually all eyelevel exterior perspectives) the canopy of sky is a major element in the array of reflected images seen within the glazing. Further, the brightness of the sky becomes a transmitted rather than reflective value when it is seen beyond the glass in the case of corner glazing or when seen through openings –glazed or not--on the far side of the building.

Although the sky is never a constant brightness in all parts of its hemisphere (it is brighter toward the sun location and the horizon on clear days, and toward its apex when overcast) it may be considered as uniform for purposes of simplification for reflected image calculation. A clouded sky is often useful to indicate in drawing the reflective nature of a glazed building by providing figuration rather than simple value gradation in the reflected sky image.

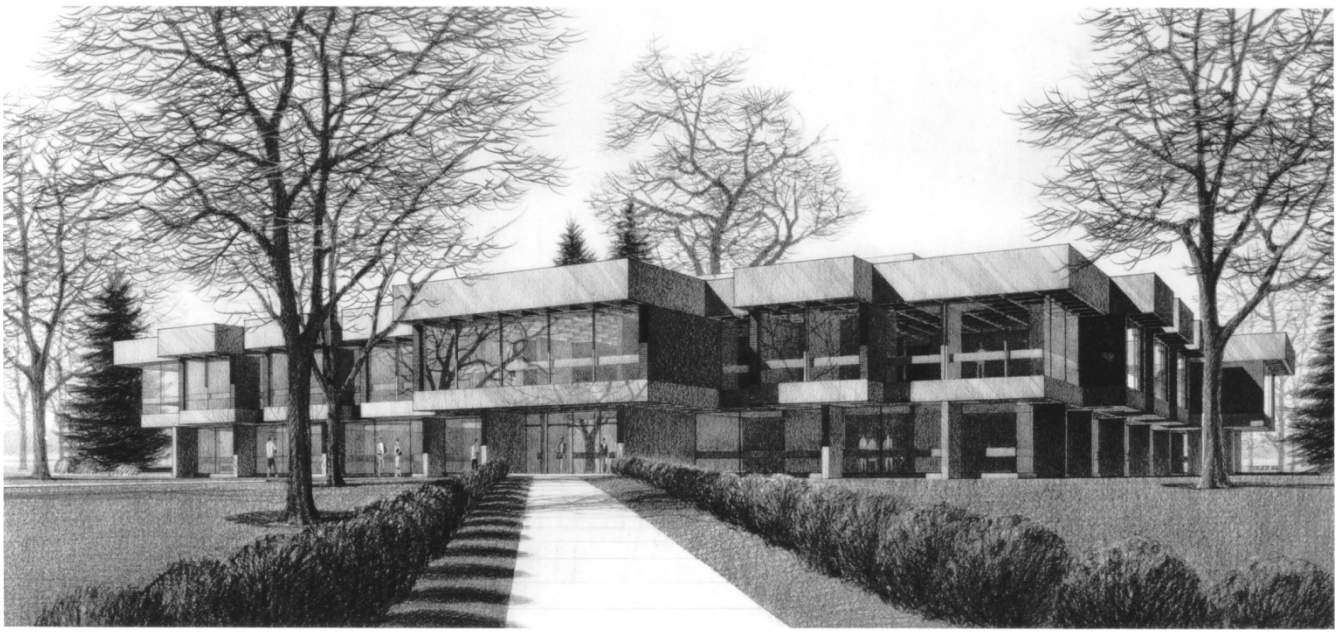
A frequently observed interior energy-emitting source is the lighted luminaire, particularly apparent when occurring in patterns on a visible ceiling. Although daytime lighting energy levels are almost always vastly greater on the exterior side of glazing, the image of a directly viewed interior light source will frequently be brighter than the general value of sky reflection. In that case, the image of the illuminated fixtures is the dominating--and sometimes the only-- visible interior image in a particular expanse of glazing. Those images become more pronounced and increase in contrast as the sky darkens toward the twilight hours.

Time of day and its resulting exterior brightness is obviously of major importance in determining the direction and degree of transparency of glazing. A typical glazed opening as seen from the exterior is mostly reflective by day, and virtually entirely transparent by night. The reverse is true in the case of a view from within a lighted interior space: the glazed window is seen as transparent by day and (with the exception of bright exterior lights and lighted surfaces) it becomes a virtual mirror after dark. Parallel glazed walls such as those which occur in some pedestrian bridges present a particularly ambiguous array of images at night--it becomes very difficult to determine whether a visible light beyond is a transmitted image from in front of the observer or a reflected one from behind.

As mentioned earlier, the second major mediating factor in the determination of perceived glass reflectivity is the angle formed between the plane of glazing and the observers line of sight. A view normal, or perpendicular to the glazing plane yields the greatest possible transparency in an otherwise fixed context, while relative reflectivity increases progressively as that ninety degree angle becomes more raking and approaches zero degrees. The rate of change is more rapid in the lower range of angles, the difference in perceived reflectivity from a view of sixty to ninety degrees is usually minor.

It should be borne in mind that an observers viewing angle of a large surface of glazing changes with distance along its length or height. Accordingly, one may view the near part of a window wall at 90 degrees (which will yield maximum transparency) while the far end of the wall may be viewed at, say, 30 degrees. The gradual change in perceived reflectivity is usually accompanied by a corresponding change in value, especially if viewed from the exterior side with a part of the reflected image being constituted by the sky. Such a glazed surface would appear to lighten progressively with distance, increasingly veiling the real images seen through the glazing on the interior. This phenomenon, called the Fresnel effect, is similar to the characteristic observed when viewing reflecting ponds or other bodies of quiet water which appear darker in the foreground and lighter in the distance.

Part II of Steve Oles' "Glazing in Architectural Representation" will appear in the Fall 2013 edition of Opportunities



DCA Conference, Atlanta, Georgia, October 2014

By M. Saleh Uddin, 2014 Conference Chair and the Southern Polytechnic State University Conference Organizing Committee

Host School: Department of Architecture, Southern Polytechnic State University

We here at Southern Polytechnic State University (SPSU) are excited to announce that we'll be hosting the next DCA conference and our preparations are about to begin. And continue for all of 2013. For those of us who were here at SPSU, we have great memories of the DCA conference held on our campus in 2009.

The 2014 DCA Conference in Atlanta encourages inclusive participation from allied disciplines of architecture including interior design, landscape, graphic design, and product design. Specific dates and schedule of the conference to be held in October 2014, will be announced in early fall after consultation with DCA Executive Board. Our school's location is just about 10 miles north of downtown Atlanta. Atlanta Hartsfield-Jackson International Airport, where many of you will arrive, is the world's busiest passenger airport, and less than a 40 minute drive from SPSU. A dynamic place, Atlanta is not only the base for major international design firms, but for young and cutting-edge offices as well. Our alumni, students and faculty are well-connected, and we will integrate local professionals and their work into our plans.

This will be the DCA's second conference hosted by SPSU's architecture program. We have lots in store in the way of events, paper presentations, keynote speakers, workshops, and an Atlanta tour. We will do our best to carry on the long tradition of the DCA as a thoughtful, challenging, and supportive organization. We look forward to seeing you in October 2014.

In the spirit of forthcoming 2014 conference, 4th Year spring 2013 architecture studio by professor Uddin assigned a one-week warm-up assignment to formulate a conference theme and to construct visual graphic design for following conference stationeries:

•Conference Poster (any size and shape between 18" and 24")
•Conference Folder (to hold letter sized documents)
•Name Tag
•Conference Banner (2'x8')
•Conference Bag to hold 300 page conference proceedings, 90 page DCA journal, and conference folder with 10 pages of announcements and relevant information.
•Graphic structure of a web site exclusively for this conference.

Conference Poster designs by SPSU architecture students Yaseen Arvaz, Neil Patel, Julian Quinn, Rene Lopez, and Jessica Pickelsimer.

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DCA Conference, Atlanta, Georgia, October 2014

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Conference Banner (2'x8') designs by SPSU architecture students Yaseen Arvaz, Jessica Pickelsimer, Neil Patel, Julian Quinn, Rene Lopez, Yen Nguyen, and Hector Lopez.

Conference Web Graphic Structure designs by SPSU architecture students Jessica Pickelsimer, Rene Lopez, and Manali Yagnik.

Conference Bag designs by SPSU architecture students Kristen Tolentino, Manali Yagnik, Yen Nguyen

The Newsletter of the
Design **C**ommunication
Association Spring 2013

DCA Blog

Participate in the Design Communication Association Blog

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This social media site for DCA is intended for active discussion on topics relating to traditional hand drawing to advanced technology in design presentation. In sharing ideas, design educators and professionals in the field can interact and share thoughts promoting professional development. This blog is not focused on marketing and self-promotion, but on getting reactions and comments on subjects that will improve and add to the understanding of a variety of methods for DCA. As a process-driven and dynamic mode of communication, the DCA blog intends to deliver valuable information and keep the membership current in the on-going discussions of the organization. Do feel free to participate and contribute to the discussion. Your perspective is important in building a viable community of designers.

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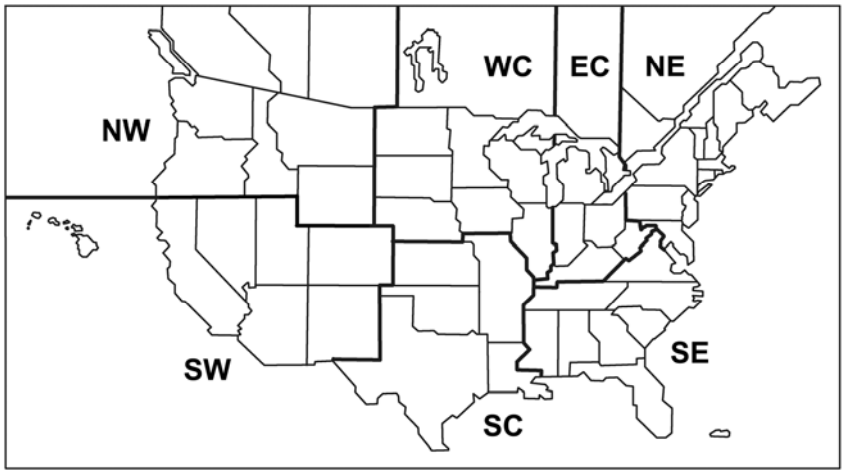

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