Preserving a window to the past:
the conservation treatment of two architectural drawings by Alfred Zucker

Within the framework of an independent study, I took on the conservation treatment of two drawings from the Alexander Architectural Archive. The drawings, both by Alfred Zucker, depict the Harlem Casino building in New York City. Before beginning any conservation treatment, it is important to have a thorough understanding of the materials and media that make up the item to be treated. Additionally, it is useful to be able to place the item within an historical context, both in order to understand its importance as a cultural artifact, and to have an increased knowledge of the methods and materials that the creator may have used. In the course of my independent study I worked to gain such an understanding of the Zucker drawings, and in the following paper I will discuss my findings. Specifically, I will address the importance of drawings in the practice of architecture. I will discuss the types of drawings used, and the materials used to create them. Next, I will address the two drawings considered in this study. After commenting on the architect and the historical context of his work, I will fully describe both drawings in terms of subject matter, method of production, material makeup, and condition prior to treatment. Finally, I will provide a detailed description of the conservation treatment performed.

The Importance of drawings in architecture

Drawings serve an indispensable role in the profession of architecture. There are numerous kinds of drawings, and each is used to express different information for different people. A building generally begins its existence in the form of a preliminary design, perhaps sketched quickly on a napkin or scrap piece of paper. Such drawings are often created spontaneously and serve to give life to the idea that previously existed in only in the architect’s mind. Next, the building is depicted in developmental drawings,
which give further definition and detail to the idea. According to one architect, drawings in this state show “a tentativeness and a flexibility reflecting the intermediate nature of this stage, during which concepts are clarified, competing notions examined, and problems resolved” (Saliga 22). Next, the design is offered to the client in the form of a presentation drawing. Presentation drawings have a finished quality and frequently incorporate color. They often rely on imagined imagery, such as trees and people, to promote the idea of the building (Saliga 24). These drawings may also be used for publication, public display, or entry into a competition. While drawings are useful as a tool for the architect to communicate with the client, they also serve as an important tool for study after the completion of the project. Drawings illustrate the creative process, and give insight to the thoughts of the architect. Also, as time passes and buildings are demolished, drawings may serve as the only remaining representation of a structure. In all cases, drawings clearly serve as an important tool in the architectural process.

**Historical Context of the Zucker drawings**

The two drawings selected for this study are a part of the Alfred Zucker collection at the Alexander Architectural Archive at the University of Texas. The Zucker drawings originally came to the Archive as a part of the James Riely Gordon collection. Gordon, a prominent Texas architect, and Zucker were colleagues during the last part of Zucker’s career. The electronic finding aid developed by the Archive states that the Zucker collection contains 761 drawings representing 30 buildings in New York City.

Zucker was born in Silesia in 1852. When he came to New York in 1872, he arrived as a fully trained architect, with several years experience (Stroh 6). As a new immigrant, he worked as a journeyman bricklayer and draftsman before going to Galveston, Texas where he set up an architectural practice with John Moser. In 1867 he moved from Galveston to Vicksburg, Mississippi where he took work as a consulting architect for the Vicksburg and Meridian Railroad, and as architect for the public buildings of the state of Mississippi. After a brief stay in Europe, Zucker returned to the United States in 1883 and began practicing with Henry Fernbach. It is at this point that he enters his most prolific period of work, designing at least seventy-one buildings between
1883 and 1903 (Stroh 9). The biographical information in the electronic finding aid indicates that during this time he was instrumental in developing a new mercantile district in area west of lower Broadway. In 1902 Zucker began a partnership with James Riely Gordon. However, the relationship ended on a sour note with Zucker leaving the country to avoid a lawsuit filed by Gordon, who was alleging fraud and misrepresentation.

Despite the professional disagreements that overshadowed Zucker’s last days in practice, he remains a significant, albeit obscure, figure in the architectural history of this country. His work demonstrates a disregard for any strict architectural style, and for this reason a study of his work is essential for understanding the architectural climate in New City at the close of the 19th century (Stroh 1). Since many of Zucker’s buildings are no longer standing, the only way one can study his work is through the preservation of his drawings.

Changes in the field of architecture

Zucker worked at a time that saw many changes in the field of architecture. In the time between 1860 and 1890, architecture developed a professional identity and became a business as well as an art. With this change, firms began to organize themselves in hierarchical fashion, with designers, draftsman, and engineers each performing individual tasks (Saliga 20). Additionally, the influence of the Beaux-Arts school of thought, which was prevalent in American schools of architecture schools between 1890-1930, began to emphasize the artistic appearance of drawings. It was during this time that architectural firms began to employ professional artists to execute finished drawings. Such a breakdown of tasks is clearly evident in Zucker’s work. The watercolor drawing is signed by an artist named Welch, which indicates that Zucker did not create the drawing himself.

The materials used for executing drawings also saw some changes during the time in which Zucker practiced. Overall, there appears to be a lack of standardization in the use of materials for producing presentation drawings in the United States (Sugarman 1). This is possibly the result of the varied educational backgrounds held by architects at the beginning of the nineteenth century. As architectural education develops in the United
States, some trends begin to emerge. Historically, architects had executed presentation
drawings on laid writing papers. As the artists of England began to develop increasingly
sophisticated watercolor techniques, specialized drawing papers were developed. For
example, the Whatman paper mills in England produced cold-pressed handmade rag
papers to meet artists’ needs (Price 2). Architects quickly adapted the technique and the
materials, and Whatman papers were used almost exclusively by American architects for
finished drawings through the beginning of the twentieth century (Price 2). As early as
1846, Windsor and Newton were producing machine-made cartridge paper on a roll to be
used for drawings (Sugarman 2). This paper was presumably of poor quality, and it is
likely that it was only used for sketches and working drawings (Price 2). However, by
1870 architects were using machine-made papers made especially for finished drawings.
No watermark is visible on the Zucker’s watercolor drawing, but it does appear to be on
machine-made paper.

Tracing cloth was another tool that the profession embraced during the late
nineteenth century. Architects began using tracing cloth as early as 1850 and it came into
common use by the 1870s (Price 4). Although the cloth is generally referred to as tracing
linen, most manufacturers used Egyptian cotton to make the product. The starch-coated
cloth was heavily calendared into a smooth, glossy finish, which provided a durable
support for tracing line drawings. Architects continued using cloth of this nature well into
the early decades of the twentieth century.

Conservation treatment of architectural drawings

The practice of preserving architectural drawings can be difficult. As conservator
Rebecca Rubin points out, architects often considered drawings simply to be the tools
they used to communicate with the client (165). Drawings were created with a practical
purpose in mind and were not designed to withstand their initial use (Saliga 20).
Consequently, materials were not necessarily chosen for their longevity. As a result,
conservators may face any number of challenging circumstances when working with
architectural drawings. For example, drawings are frequently mounted on acidic or brittle
boards. While care was taken to use special paper for presentation drawings,
developmental and working drawings were often executed on poor quality paper. Media may be fugitive, or may be applied in a manner that does not withstand repeated handling. They may have been rolled for years, or may have been stacked haphazardly, with little protection. Presentation drawings such as the one treated in the course of this study may have hung on the office wall with little protection from light damage and temperature fluctuation.

Description of the drawings

As noted in the introduction, the drawings chosen for this study depict the Harlem Casino building in New York City. One is a watercolor presentation drawing and the second is a line drawing executed in ink on linen tracing cloth. Both show an image of the completed building. As noted previously, presentation drawings often incorporate environmental imagery, and this is certainly the case with Zucker’s drawings. In both illustrations we see many pedestrians going about their business around the exterior of the building, suggesting that the building is situated in a busy center of activity. A flag hoisted majestically above the building gives the impression of prosperity and success. Overall, the two drawings exhibit many of the various media and supports used by architects of the late nineteenth century.

Ink on linen

Zucker’s drawing is executed on an off-white cloth with the characteristic glossy smooth finish of tracing linen. The drawing is in black ink, and the artist is likely to have used bottled India inks, a common medium in the architectural studios during the mid to late 1800’s. Graphite is visible in some areas of the image, suggesting that the image was penciled in before the ink was applied. Overall, the drawing is in fair condition. The most noticeable problem is the presence of several large pink stains throughout the drawing. These stains probably occurred at a time when the drawing was stacked, and the ink from the drawing above it bled though. Aside from these rather obtrusive stains, the drawing is in fair condition. The ink remains a true black and shows no sign of fading or flaking. There is surface dirt overall and some small, very faint brown stains near the bottom of
the image area. There is a small edge tear at the right margin area. There are several flyspecks on the reverse side of the support.

**Watercolor**

As noted previously, watercolor was a popular medium for renderings during the time in which Zucker practiced. A handbook on architectural rendering provides more reasons for the popularity of the medium. First, it is clean and easy to use. Additionally, it allows the renderer “to simulate practically any shade or texture he desires with a minimum of effort and it usually impresses a client favorably” (Halse 171).

In his presentation drawing, Zucker’s draftsman uses many colors to depict the Harlem Casino, including blue, reddish-orange, green, various shades of tans and browns, black, various shades of gray, and white. As with the line drawing, graphite lines are visible under some areas of the watercolor. The drawing is executed on a primary support of a very heavy, machine-made paper and it is mounted on a secondary support made of rigid, yellowish board. The board has a laminate structure, which will later prove useful in removing the drawing from it. In examining the condition of the watercolor presentation drawing of the Harlem Casino, the most evident problem is the fact that the drawing has a tear that runs from top to bottom, splitting the drawing into two pieces. In addition to the tear, there is a significant loss at the top right corner. There is a smaller loss at the top left corner and another small loss at the bottom left of the page. Both the primary support and the secondary support are brittle and inflexible. While the media are in fair condition overall, the colors are somewhat obscured by surface dirt on the drawing, which gives a dark appearance overall. Adhesive residue and paper fragments surround the edges of the drawing, indicating that it was stored in a mat at one time. Six small holes along the outer margin suggest that the drawing was once hung with tacks or pins.

**Treatment - Ink on linen**

Spot testing indicated that the pink dye was soluble in water and ethanol. Testing with a dampened swap also indicated particulate offset of the black ink. The nature of the
support ruled out a bath as a viable treatment option. Had the cloth been placed in a bath, the starch coating would have dissolved, presumably taking the ink and the cloth’s characteristic glossy, smooth surface with it. For this reason, I wanted to control the amount of moisture that I introduced to the item. I used small strips of dampened blotter on the areas with staining. Initially I used water, but later I found that ethanol was much more effective in pulling out the color. I kept applying blotter until eventually I reached a point where color was no longer being drawn out. I then placed the drawing on a suction table, hoping to pull out more of the ink. Again, I had some success, but there was a point where no more color was being drawn out. The treatment did cause some cockling of the cloth. I used a tacking iron to reduce this cockling. Although the staining is still clearly visible, it is greatly reduced.

Treatment – Watercolor drawing

The major problem facing the watercolor presentation drawing was the fact that it had been torn in half. However, before it could be mended, it was essential to remove the drawing from the secondary support to which it was mounted. Since the support was constructed in laminate layers, it was fairly easy to split the board from the back, leaving only a very thin layer of the board adhered to the drawing paper. Having removed the bulk of the support board, the next step was to wash the item in an attempt to remove dirt and degradation products from the paper. Because of the nature of the media, a bath was not an acceptable washing method. For this reason, I opted to wash the item with damp blotters. Spot testing indicated some particulate offset of the watercolors. However, limited lateral movement of the blotters during washing would help to avoid any particulate offset. Before beginning the washing process, the item was sprayed out on both sides with water. This step served to relax and flatten the paper fully before exposing it to the damp blotters. Once the two pieces of the drawing were completely relaxed, they were placed face up on a damp blotter. This allowed materials to be pulled out of the back of the drawing, into the blotter. Areas of yellow staining were visible on the blotter almost immediately, indicating the migration of at least some dirt and degradation products. After a few minutes, the drawing was flipped over and placed face down on a second damp blotter. While the drawing was face down, we had the
opportunity to remove the final layer of the secondary support. It has softened considerably while in contact with the blotter, and was easily removed with a microspatula. Once the board was completely removed, the back of the drawing paper was wiped down with damp cotton to remove any residual adhesive from the secondary support. During washing the drawing was observed closely to monitor the state of the media. After a few minutes there was slight offset of the red pigment, so the drawing was removed from the blotter. The two pieces were dried under felts between layers of Remay. During washing one small fragment became detached from the torn edge of the drawing. This fragment was retained so that it might be reattached during mending. Once the pieces were fully dried, I was able to begin mending the item. Because the image is the most important aspect of this item I wanted to mend the drawing from the back, leaving the front unmarred. In order to accomplish this, I set up a table using Plexiglas, wood blocks and a mirror that would allow me to view the front of the drawing while mending from the back. This would ensure that I had lined up the image correctly. The drawing was repaired with wheat starch paste and Japanese paper. I choose to use a tissue toned with acrylic paint because I thought it might prevent the mend from showing through from the front. Because of the thickness of the paper, I was not able to fit the pieces together snugly. After completing the mend, there was roughly half a millimeter of space between the two pieces. This space was filled with a mixture of paste and alpha cellulose powder. Once the alpha cellulose fill had dried it was in-painted with watercolor so it would blend with the drawing. The fragment that had detached during washing was re-adhered, and the small loss in the center of the flag was also filled and in-painted. Fills for the losses at the top corners were created out of machine made paper, and toned with acrylics to blend with the overall hue of the image. Initially, a single piece of the toned paper was affixed to the drawing. However, the thickness of the fill did not match the thickness of the drawing paper. Consequently, the fill was removed and replaced with a piece that was constructed of two layers of the toned paper adhered with PVA. These fills were attached to the drawings with wheat starch paste and Japanese tissue. Finally, the drawing was housed in a lignin-free mat.
Conclusion

In the course of this project, I learned a great deal about the various kinds of architectural drawings and the methods and materials used to create them. I was able to put this knowledge to practical use in the conservation treatment of the two drawings. Overall, I feel that the treatments were successful. While there is still visible staining on the line drawing, the intensity of the staining has been greatly reduced. The condition of the watercolor drawing has also been greatly improved. It is no longer mounted on its brittle, acidic support. It is now in one piece, and it is housed securely in a lignin-free enclosure. In both cases, a small piece of architectural history has been preserved for the future.
Works cited


