RESTORATION OF POW MURALS

REMINGTON HALL
Building 51

FORT McCLELLAN, ALABAMA

U.S. Army Contract No. DABT02-96-D-0005
Delivery Order 0038

Prepared by:

REISZ
ENGINEERS

Huntsville, Alabama
March, 1999

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CATHERINE GAMBRELL ROGERS
Paintings Conservator
P.O. Box 1408
Charleston, SC 29401
(843)853-2953
cgrogers@charleston.net

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ACKNOWLEDGEMENTS

Catherine Gambrell Rogers, consultant to the contractor, conducted this restoration of the Prisoner of War murals in Remington Hall with special assistance from her sister, Mary Rogers. It was Mary Rogers who revealed the presence of a second artist's signature. Special regard is given to Joan McKinney and Marga Blount for their researching of POW records and newsletters to locate the family of one of the artist in Germany and bringing the existence of the murals to the attention of the United States, Canadian, and European media. The contractor gratefully acknowledges the efforts of Ronald M. Levy, the Director of the Environment at Fort McClellan, who recognized the historical and cultural value of the murals and obtained approval for this restoration from the Commanding General.

LIST OF PICTURES

1.0 INTRODUCTION

This report addresses the treatment and restoration of the free-form German Prisoner of War (POW) murals painted on the upper five feet of each wall of the former Officers' Club lounge located in Remington Hall at Fort McClellan, Alabama. These works of art represent a priceless legacy, bringing our European and American heritage, that should be preserved for future generations. This body of art represents a priceless legacy which brings our European and American heritage together and should be preserved for future generations. Completed in 1945, the murals were painted by WWII German POWs captured in North Africa in 1943 and brought to Fort McClellan for interment. As with most German POWs in the south, these soldiers were part of Erwin Rommel's Afrika Corps.

The only known painters of the murals are Albin Sagadin and Herbert Bolau (could also read Belau or Balau). These two signatures were found on the murals, one each on the North and South walls. The South wall displays the signature of Albin Sagadin and reads, "Sagadin Anno 1945". After conversations with Albin's widow, Maria Sagadin, it was discovered that Albin passed away on November 15, 1998, at the age of 84. It was also learned that Albin was a student at the Dresden Acadamie of Arts from 1941-44. Therefore, he arrived at Fort McClellan sometime in 1944, at the age of 30. After the war, Albin returned to Germany where he married Maria in 1953 and they had a child, Carmen. Herbert Bolau's signature was discovered on the North wall. The only known information about him was obtained from the POW newsletter, DIE OASE. Herbert was 22 at the time of his imprisonment; he originated from East Prussia, where prior to the war he worked in agriculture. Other painters may have contributed to the murals, but there is no evidence. These colorful murals depict scenes varying from pleasant homeland street life to bloody barbaric battles. They present a panorama with a Spanish accent of the dreams and possible fears of soldiers from all ages.

Painted directly on the original heavy plaster walls, the murals have sustained damage from humidity, condensation, and temperature fluctuation. For many years, the room that houses these murals was used as an Officers' Club lounge. As a result, the murals were layered with dust, nicotine soot, and scuff marks. The treatment of physical and aesthetic defects, and restoration of the murals to like new condition is the objective of this project.

2.0 HISTORY OF REMINGTON HALL

Funded by the Works Progress Administration the Officers' Club, now known as Remington Hall, was constructed in 1936 by the Quartermaster Corps, United States Army. As inscribed on the plaques outside of Remington Hall, the building was named in honor of Philip Remington, D. S. C., after he killed Datu Ali and led the advance guard detachment that captured his cotta and killed his followers.

The building was built in the Post Headquarters Area and was of Spanish Colonial Revival architecture. The following photograph of Remington Hall, Picture 1, portrays this Spanish mission architecture. This area was organized with a sense of community and embellished the beauty of the area. As reported by *The Fort McClellan News,* this building housed a carved bar and exceptional murals which are credited to German POWs that were contained at Fort McClellan during World War II.

Picture 1: Former Officers' Club, now called Remington Hall, located at Fort McClellan, Alabama.

3.0 CONDITION REPORT

In order to properly restore these murals, it was necessary to analyze and document their current condition. Wall support, paint layers, and previous restoration attempts were addressed.

3.1 Wall Support

The murals are painted on plaster walls, which provide their support. Numerous cracks in the plaster supports are evident throughout the murals. These cracks are consistent with many wall murals done on plaster. The cracks are more extensive on the walls adjacent to the fireplace. If the fireplace were previously used, the excess heat would cause the support to crack. The irregularity of the plaster in the corner of the North and East walls indicate that the plaster support has been previously repaired. This is possibly due to water damage, since the surrounding murals' walls appear sound. For complete understanding of the history of the walls, an architect or contractor is needed to conduct an analysis.

3.2 Paint Layers

The paint layers appear to be composed of pigments in an egg medium (estimated). The paint on the four walls is of thin to moderate thickness with some build-up of impasto. Applications of heavy paint are noted in the North-East corner. This is thought to be the

result of an earlier restoration work done in 1985 by Kay McFarland. In some areas of original paint application, drying cracks are noted in the surface. This is clearly illustrated in Picture 2. In areas of previous restoration work, these drying cracks do not exist, which helps the viewer detect the original work from restoration work.

Picture 2: Detailing of impasto on mural located on the South wall depicting two men pouring wine into glasses and holding riding crop. The picture was taken before treatment using a raking light method, which illuminates the flaking paint. (Close-up of Pictures 16 and 17).

The paint layers vary in condition. Abrasions to the paint surface are scattered randomly throughout the murals; this is due to the fact that this room used to be the main lounge of the Officers' Club and people had direct contact with the murals. Active flaking of the paint layers is noted on the North and East walls. Minute to large areas of losses are associated with the flaking paint. Areas with the most flaking paint are on the East wall to the right of the fireplace near the light switch (see Picture 3), and on the North wall where the mural of the two men with the duck, the dog, and the lady in the chair (see Picture 4 for close-up of lady in chair) is located. To make the areas of flaking paint more vivid, the picture was taken in raking light, which served as an illumination tool. The excessive flaking paint shown in this North-East wall area is a result of water damage. This is also the area that has been previously restored.

Picture 3: Mural portraying a hurt man, which is located on the East wall just right of the fireplace. The picture was taken before treatment using a raking light method, which illuminates the flaking paint. (Close-up of Picture 6)

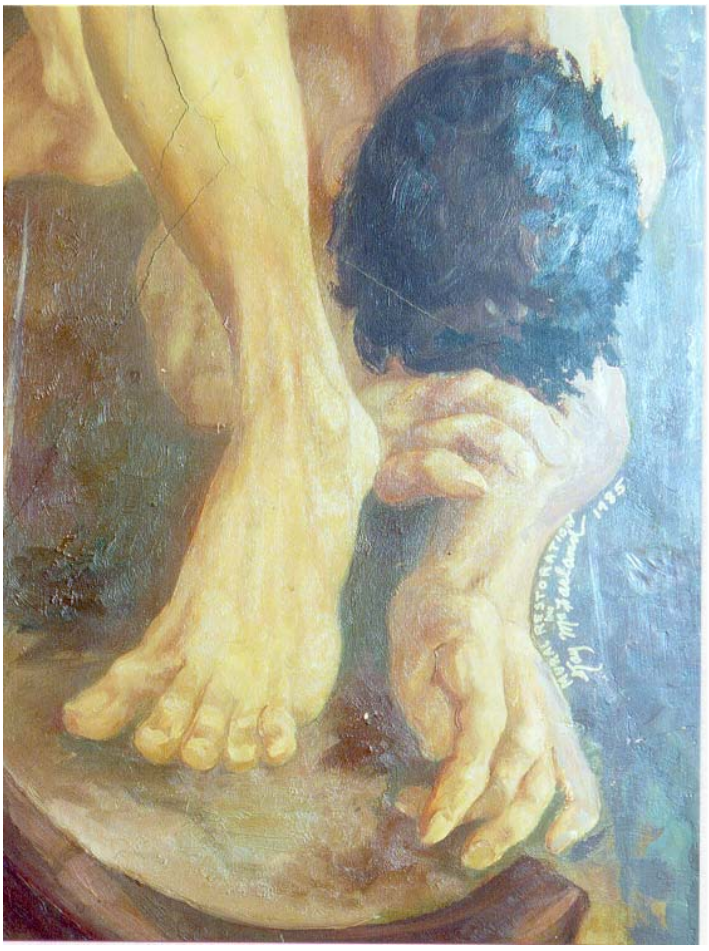
Picture 4: Located on the North wall, this mural is of a woman standing in a chair. The picture was taken before treatment, in normal lighting.

3.3 Previous Restoration, Surface Coatings, and Grime Layers

Previous restoration work is documented on the murals by an inscription/signature by the restorer which reads, "Mural Restoration//Kay McFarland 1985". It is located in two places: one on the mural to the left of the fireplace on the East wall (refer to Picture 5) and the other located on the North wall in the mural of the men fighting.

There is a light layer of dust and grime on the surface of the murals. A layer of nicotine residue most likely covers the murals, as a result of previous use as a lounge. A simple removal of a light layer of surface dust and grime can be undertaken by the conservator with organic solvents that are safe to use on the paint film of the murals.

The disfiguring appearance of the murals is a result of prior unprofessional restoration. Large areas of original paint were overpainted, reducing the aesthetic quality of the originals. This appears to have been done excessively and randomly throughout the murals. The previous restoration appears to have copied the original design, but is very evident because of the heavy application of paint, unmatched colors values, and application over cracks in the paint layers and plaster. Because these areas have not been tested, it is unclear at this time if the prior work can be reversed without damage to the original paint. If a conservation proposal for treatment of the removal of overpainting were undertaken, it would be time consuming, tedious, and expensive.



Picture 5: Detail of the previous restorer's signature that is part of the mural of men with snakes, which is located on the East wall left of fireplace. The picture was taken before treatment, in normal lighting.

4.0 TREATMENT REPORT

The murals were visually examined and treatment plans were formulated. Treatment protocol addressed cleaning, restoring, and preserving. Before beginning the conservation project, all wall and floor surfaces adjacent to the murals were protected with appropriate materials to prevent accidental damage. Next, areas of loose and lifting paint was consolidated with a reversible adhesive, BEVA D-8. Organic solvents were used to remove surface grime from the murals. Losses due to flaking paint were filled with gesso to level the substrate with the surrounding mural level before inpainting the loss. Areas of insect specks, drips, and accretions were removed mechanically with a scalpel. After this work was completed, an isolating brush varnish of a ketone resin was applied to the surface of the murals.

4.1 Areas of Flaking and Lifting Paint

Areas of flaking and lifting paint were consolidated using Beva D-8 adhesive and the heat from a tacking iron. Flaking and lifting paint was especially noted on the East wall in the mural of the soldier with the bloody sword, Picture 6; and on the West wall in the mural of the two men with a duck, the dog, and the woman in red dress on the chair (Picture 4). Damage to the mural on the East wall was concentrated along the lower edge near the light switch, while the damage on the West wall was more extensive and most likely caused by leaking water. The West wall shows evidence of large areas of previous restoration both to the painting's design and support.

4.2 Surface Cleaning

Initially the surface of the murals were dusted. Surface grime was removed using distilled water, sponges, and cotton rags. To insure that as much as possible of the surface grime and nicotine residue were removed, this step was repeated several times. The signature of the previous restorer was written in gold paint on two areas of the murals. These signatures were removed using solvents with no damage to the underlying paint.

Solvent tests were performed in areas of the overpaint. In some areas the overpaint was reversible without damage to the original paint layer, but in other areas, the removal did undermine the original paint layer.

4.3 Areas of Loss

Areas of loss were filled with gesso. A test was performed on one mural to see if filling and inpainting the large cracks in the murals to the right and left of the fireplace (East wall) would improve the appearance of the murals. It was the decision of the conservator not to undertake the filling and inpainting of the cracks because it proved to be more disturbing to the viewers' eyes. Areas of fills and abrasions were inpainted with Winsor & Newton's acrylic paints and Lefranc & Bourgeois inpainting pigments.

Picture 6: Located on the East wall just right of fireplace, this mural depicts a man holding a bloody sword with a crowd of people around him. The picture was taken before treatment, in normal lighting.

4.4 Application of Protective Surface Coating

Numerous areas of insect specks, drips, and accretions were removed mechanically using a scalpel and a solvent mixture. An isolating brush varnish of a ketone resin was applied to the surface of the murals to even out the previous surface coating(s) and saturate the colors. The murals were probably not originally varnished by the artists, but in the prior restoration work; a surface coating was applied. The coating no longer saturated the paint and varied in appearance with matte/gloss properties. A detail photograph from the mural of the beggar with children shows this surface coating and its unevenness in a specular light photograph (see Picture 7). This surface coating is also observed in other before treatment photographs of the murals.

Picture 7: Detail of the mural of a beggar seated with children around him, which is located on the East wall left of fireplace. The picture was taken during treatment in a specular lighting setup, which aids in the interpretation of brushstrokes from a prior application of surface coating.

5.0 RESULTS

The restoration was completed in December, 1998. The murals were cleaned of all residue; areas of insect specks, drips, and accretions were removed; flaking paint was re-attached, areas of loss were inpainted; and a surface coating was applied. Upon completions, the murals were photographed for documentation.

This restoration removed more than 50 years accumulation of dust, grime, and nicotine stain from the surfaces and re-attached uplifted paint. The murals appearance has been improved in several ways. The murals colors are brighter and more vivid. The re-attachment of the up-lifted paint gives a more uniform and pleasing surface finish. Areas of the murals repaired by filling in and painting have restored the completeness of the original paintings. Hairline cracks in the plaster wall were not filled in , but left as-is because they validate the true age of the murals and structure.

The after-treatment appearance of the murals is a much-improved one, which still retains the original imagery created by the artists. The following before and after treatment pictures of the murals show the improvements in appearance that was achieved with this restoration effort.

Picture 8 (above**):** Mural on South wall exhibiting a castle atop a bluff with surrounding landscape. The picture was taken before treatment, in normal lighting.

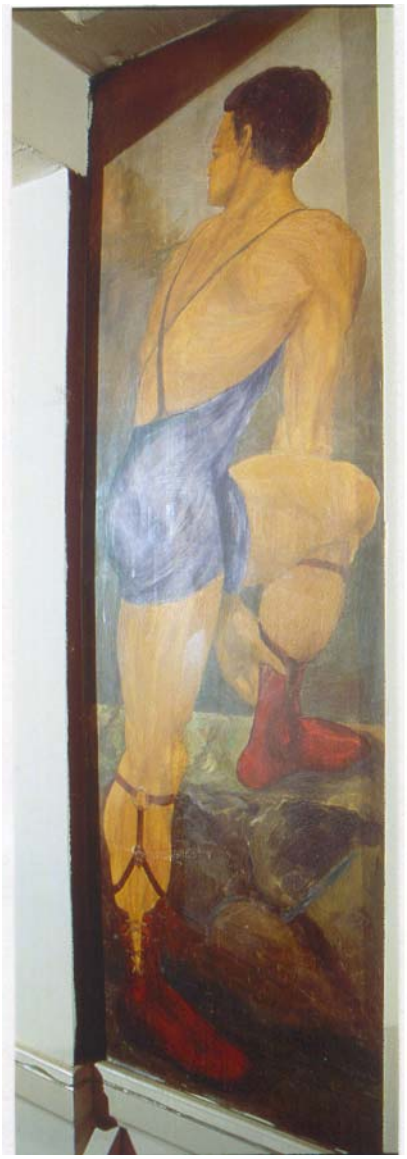
Picture 9 (below**):** Mural on South wall exhibiting a castle atop a bluff with surrounding landscape. The picture was taken after treatment, in normal lighting.

Picture 10 (left)**:** Mural on North wall displaying two soldiers who are carrying a goose. The picture was taken before treatment, in normal lighting.

Picture 11 (right)**:** Mural on North wall displaying two soldiers who are carrying a goose. The picture was taken after treatment, in normal lighting.

Picture 12 (left)**:** A South wall mural of soldier talking to a young woman holding a folded umbrella. The picture was taken before treatment, in normal lighting.

Picture 13 (right)**:** A South wall mural of soldier talking to a young woman holding a folded umbrella. The picture was taken after treatment, in normal lighting.



Picture 14 (above)**:** A North wall mural displaying a man with one leg propped up on a stone wall. The picture was taken before treatment, in normal lighting.

Picture 15 (below)**:** A North wall mural displaying a man with one leg propped up on a stone wall. The picture was taken after treatment, in normal lighting.

Picture 16 (left)**:** Mural located on the South wall that illustrates two men pouring wine into glasses. The picture was taken before treatment, in normal lighting.

Picture 17 (right)**:** Mural located on the South wall that illustrates two men pouring wine into glasses. The picture was taken after treatment, in normal lighting.

Picture 18: Mural located on the North wall displaying muscular men fighting with barbaric crude weapons. The picture was taken before treatment, in normal lighting.

Picture 19: Mural located on the North wall displaying muscular men fighting with barbaric crude weapons. The picture was taken after treatment, in normal lighting.

Picture 20 (above)**:** East wall mural located just right of fireplace exhibiting a soldier with sword dropping coins at a woman in a red dress. The picture was taken before treatment, in normal lighting.

Picture 21 (below)**:** East wall mural located just right of fireplace exhibiting a soldier with sword dropping coins at a woman in a red dress. The picture was taken after treatment, in normal lighting.

6.0 CONCLUSIONS

Remington Hall at Fort McClellan houses original murals painted by German POW's during World War II. These murals have been generally neglected in their 50-year existence even though they are historic artifacts of unique value. These paintings have been restored, thus provided much needed cleaning and protection against the elements (humidity and temperature). These murals need to be kept in a museum quality environment for their future preservation. Presently, Remington Hall does not possess such an environment.

7.0 RECOMMENDATIONS

In order to preserve these murals for future generations, it is recommended that the future caretakers of Remington Hall be required to maintain standards that are conducive to the preservation of these POW murals. This condition requires stable structure with protection from moisture, incompatible temperatures, excessive dust, toxic gases, and harmful light. The murals should be treated as art objects and housed in a museum quality environment. To achieve this environment the following recommendations should be implemented. The estimated cost of renovating Remington Hall to museum standards is approximately $300,000. The estimated cost to upgrade the room with the murals is approximately $60,000.

7.1 Climate Controlled Environment

The proper Heating, Ventilation, and Air Conditioning (HVAC) System with humidification and dehumidification capability must be provided to properly control the environment for the preservation of the murals. Control of relative humidity (R.H.) is the single most critical factor in preserving the life of the murals. The standard recommended environment is 50% ± 2% relative humidity and 70°F ± 2°; which can vary slightly with location and altitude (see art object climate zone on psychometric chart located in Appendix). This level must be held constant, day and night, summer and winter. Slow seasonal changes can be tolerated relatively safely, but for a room to be heated or cooled it should be done gradually to avoid potentially destructive sudden changes. If the murals are permitted to cool overnight, the next day layers of air having progressively higher relative humidities will envelop them. These may range from the ambient 45 to 60% to 97% immediately next to the objects surface, thus effecting a change in material regain or even condensation. The support of these murals, the plaster walls, is sensitive to changes in humidity and temperature. Excessive expansion and contraction of the support can lead to lifting and flaking of the paint. It can be assumed on the basis of past climatic experiences that without humidification in the cold months the indoor R.H. can drop to 20% or even lower if central heating is introduced at 70-75^{0}F. Such low R.H. levels would cause severe strain to the murals and any variety of humidity sensitive objects. To raise the internal R.H. to higher levels the building temperature would have to be dropped to perhaps 50-55^{0}F, which would be uncomfortable for staff and visitors.

The building envelope must be sealed properly using the proper vapor barrier. Installing and sealing the proper doors and windows are also a must. If appreciable humidity is introduced, for example 50% R.H., by means of a HVAC system, and the museum is not protected with extensive insulation, vapor barriers, and very sophisticated insulated windows of double glazing, there will be considerable condensation at cold exterior walls as well as the windows. The dew point is readily reached at such surfaces and results in drippage, water damage with soiling, and moisture migration through walls, all of which cause damage. On cold, frosty nights, surface moisture will freeze, and will melt during daytime sunny periods. In freeze-thaw cycles such as these wood, brick, and mortar will break down due to expansion-contraction caused by water-ice phase changes.

To prevent problems caused by abrupt and excessive changes in humidity and temperature conditions requires exceptionally good vapor barrier and insulation systems installation. A completely continuous "zero perm" vapor barrier system is essential in these circumstances. In this context, "zero perm" means a permeability rating of less than 0.01 grains of water per square foot per hour per inch of mercury vapor pressure in accordance with American Society for Testing and Materials (ASTM) E 96 test procedure A, B, or BW. In addition, windows should be double-glazed, which will further reduce the negative effects of condensation and R.H. and temperature changes. It is very important that, on a daily basis, the R.H. remains fairly constant and not fluctuate more than 3-5% (R.H.) per hour about the set point. Also, winter and summer requirements will be different for both the R.H. and temperature. Slow, programmed increases (or decreases) over the 12-month period are important in order to avoid undue stresses on humidity sensitive artwork.

In order to monitor the R.H. and temperature a hygrometer (refer to hygrometer picture in the Appendix) is recommended as part of the curatorial kit. This instrument records humidity and temperature, which will help the museum personnel keep track of the changing climate within the building.

7.2 Filtration

An air filtration system to filtrate gaseous and particulate pollutants would enhance the environmental housing conditions of the murals. A bag filter with throw away pre-filters, UL Rating Class 1: particulates removed to 95% efficiency on American Society for Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) (52/76) would be the preferred choice. Double Glazed glass should be installed to filter out harmful ultraviolet rays. Also, the doors and windows must be airtight.

7.3 Structural Analysis

Painted directly on plaster walls in Remington Hall, the POW murals rely on the structural stability of these walls for stationary support. Any shifting, settlement, expansion, or contraction of the walls would be detrimental to the murals. Cracks near the fireplace and doors are evidence that some shifting has already occurred. Excessive moisture and temperature fluctuations also adversely affect the plaster walls. To safeguard Remington Hall and the murals from future structural damage, it is recommended that the responsible party in charge:

(1) Conduct a detailed baseline structural investigation. This initial investigation would identify problems such as existing damage, roof leaks, air infiltration, termite damage, etc. Conduct periodic scheduled inspections to prevent structural damage from occurring that may lead to mural damage.

(2) Repair or replace any damaged materials that may be found in the building.

(3) Properly insulate floor, walls, and ceiling. This includes installation of double pane, insulated windows. Ensure that doors and windows are airtight.

(4) Control and monitor the temperature and humidity in any critical part of Remington Hall that may be used as an art exhibit area. Part of this control would be the installation of a vapor barrier in the floor, walls and ceiling to prevent uncontrolled moisture migration into the structure.

To prevent any unnecessary damage or addition of grease and dirt to the murals, signs should be placed about the room asking that visitors not touch the murals.

7.4 Lighting

The levels of visible and ultraviolet light on objects of art should be controlled. Implementing the list of techniques described in the following paragraphs will accomplish this.

7.4.1 Sunlight

Prevent direct daylight from falling on the murals. Heat, as well as ultraviolet rays present in sunlight degrade the materials of a painting. Because of this photochemical degradation, art exhibit rooms in galleries do not normally have windows.

7.4.2 Light Filtration

Treat the windows with an ultraviolet absorbent film or install double-glazed windows that have a low emissivity coating on an inner surface. If existing windows are treated with ultraviolet absorbent films, care should be taken in following the manufacturer's cleaning instructions to maintain the level of filtration. The ultraviolet component of light is especially dangerous to paintings. The filtration of ultraviolet light from artificial lighting (fluorescent lights) and from all forms of daylight (sun, blue sky, and overcast bright sky) is an important first step in reducing fading and photochemical deterioration. UV rays from artificial light can be avoided almost entirely by using incandescent light sources. If natural or other light sources are involved, careful UV filtration is essential.

7.4.3 Light Control

Utilize blinds at existing windows to control the level of outside light entering the area of the murals. This will prevent outside light from striking the

murals incorrectly and allow gallery lighting to properly illuminate them from the correct angles and with the appropriate levels.

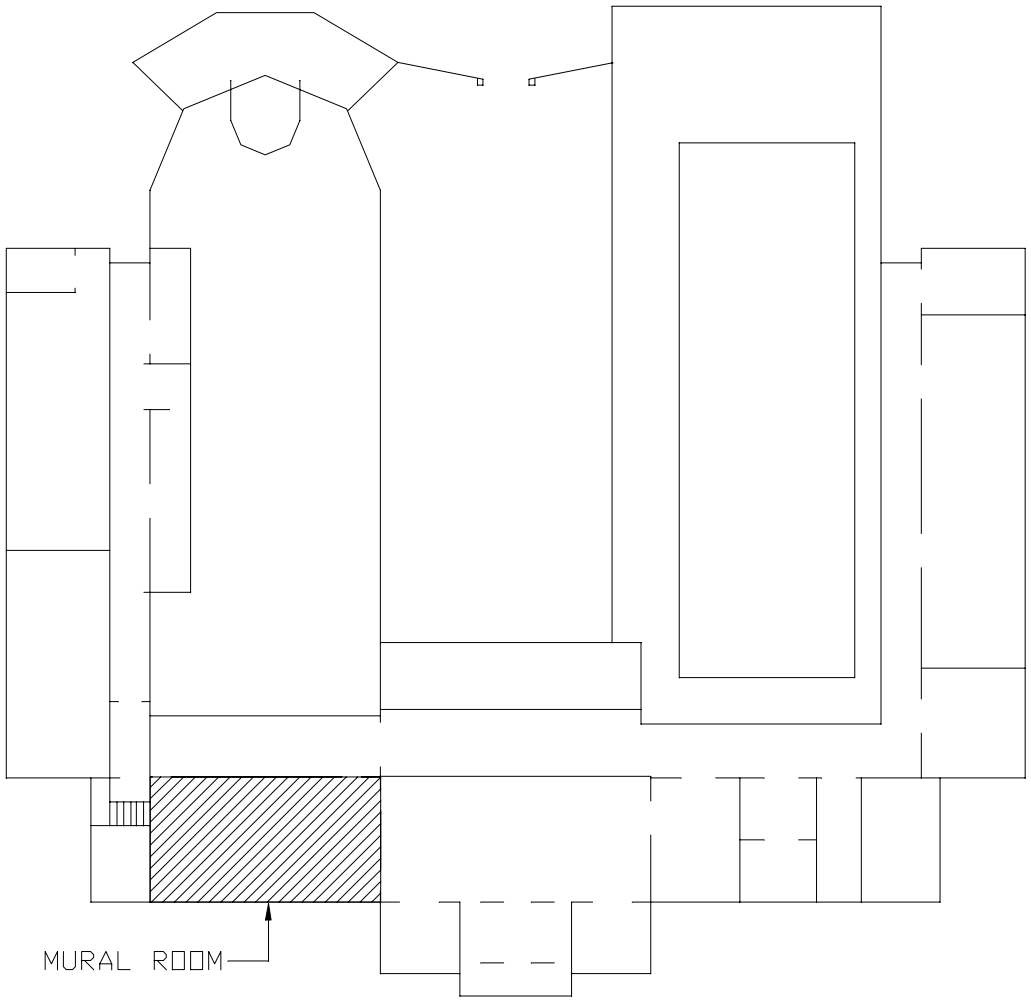
7.4.4 Light Levels

Maintain light levels on the murals that do not exceed 200 lux. This will provide adequate illumination for viewing without being so bright as to generate a harsh look or damage the mural.

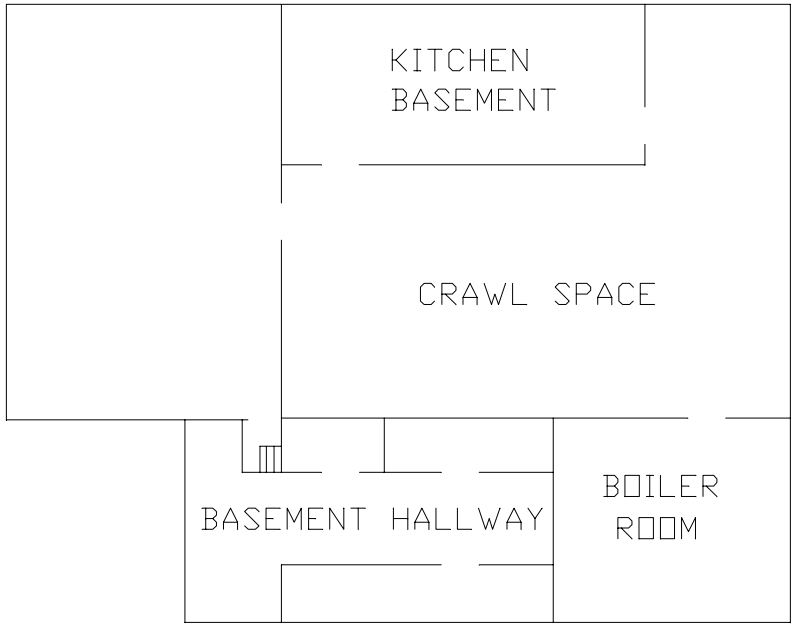
7.4.5 Light Selection

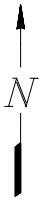
Select the proper type of interior lighting and specify the proper mounting locations to illuminate the murals sufficiently for viewing without adding excess heat or ultraviolet radiation. Basic gallery lighting consists of a good track lighting system properly placed in relation to the exhibition walls. Line voltage track offers more flexibility in selection of fixtures, and generally produce a softer effect with low glare. Low voltage fixtures can produce more highly focused beams for special effects. Small low voltage fixtures are less intrusive but more expensive and, since the sources are more concentrated, the light quality is harsher. Concealed or shielded lighting sources are desirable. Track lighting can be exposed, shielded, or concealed. If correct lighting is attained, the finest details of any piece of art will become crisper and clearer with colors that will seem more intense, distinct, and lifelike.

APPENDIX



REMINGTON HALL BUILDING 51	FIRST FLOOR PLAN	SCALE: 1/6" = 1'	**REISZ ENGINEERS**





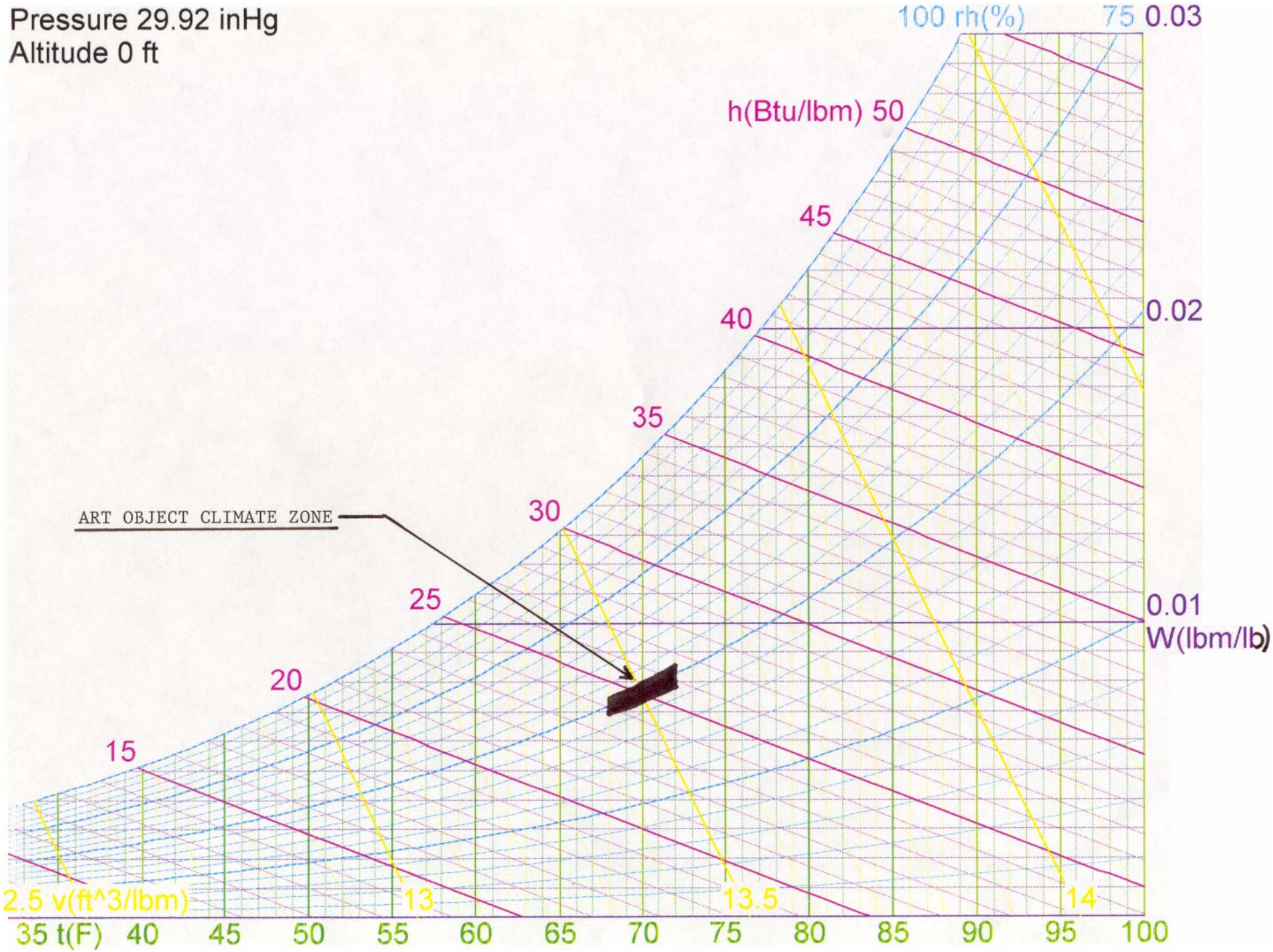
REMINGTON HALL BUILDING 51	BASEMENT PLAN	SCALE: 1/6" = 1'	**REISZ ENGINEERS**

Hygrometer

PSYCHOMETRIC CHART

Air and water vapor are the media by which air-conditioning systems operate. Water vapor in varying amounts always exists in air, and the regulation of this moisture content and of the temperature of the vapor-air mixture is what a designer must look for. The psychometric chart graphically represents the thermodynamic properties of moist air. The chart is used to assist in the solution of processes involved in the conditioning of moist air.

See the next page, which shows the Art Object Climate Zone. This area represents the temperature and moisture content of air that would maximize the life of the murals as well as be comfortable for human occupancy.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