PAINTING WORKSHOP
- for - VINTAGE HOUSES

PAINT YOUR VINTAGE HOUSE WORKSHOP

CENTER FOR COMMUNITY DEVELOPMENT AND DESIGN
2502½ WEST COLORADO AVENUE, #307
COLORADO SPRINGS, COLORADO 80904

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1983

UNIVERSITY OF COLORADO AT
COLORADO SPRINGS

"Remember that brilliant colors, like brilliant people, are pleasing when you do not have too much of them; while on the contrary, quiet colors are restful".

"It is difficult to give a color scheme in words; the best that one can do is to suggest certain combinations to be used in particular situations. I would like to advise a study of the colorings in Kate Greenway's illustrations, and in Oriental rugs and other Oriental fabrics. Examples of this kind are worth volumes of written illustrations".

from "The Interior Finish of a Modest Home", The Ladies Home Journal, at the turn of the century.

WORKBOOK

FOR

PAINTING WORKSHOP

FOR

VINTAGE HOUSES

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PAINTING WORKSHOP

FOR

VINTAGE HOUSES

1. HISTORY OF COLOR - CHOICES FOR VICTORIAN HOUSES

2. COLOR THEORY

3. ANALYSIS OF HISTORIC COLORS ON YOUR HOUSE.

   a) Slide Show, Courtesy of American Association for State and Local History (provided by Penrose Public Library)

   b) Slide Show - "Colors Choices for Local Houses" prepared by CCDD staff

4. GETTING YOUR HOUSE READY TO PAINT

   Joel Giusti - High Country Painting
   Senior, U.C.C.S.

5. HANDS-ON COLOR SESSION.

6. WRAP-UP

WORKSHOP PACKAGE FOR PARTICIPANTS

Center for Community Development
and Design
2502½ W. Colorado Ave., #307
Colorado Springs, Colorado 80903

Dear Workshop Participant:

The U.C.C.S. Center for Community Development and Design is very pleased to offer this workshop, "Painting Your Vintage House." In order to get the most out of the Workshop Session, we are asking you to bring some information to the workshop. If you can fill out the attached worksheets before the workshop, we will be better able to help you with your color process during the session. Please write the answers in the space provided. Bring the worksheet and any photos of your house and those of your neighbors with you to the session.

We look forward to meeting you and hope you will find the workshop useful.

Sincerely,

Ellen Kotz
Director,
U.C.C.S. Center for
Community Development and Design

EK/gm

attachment

COLORS AND YOUR HOUSE

THIS SECTION OF THE QUESTIONNAIRE WILL GUIDE YOU IN CONSIDERATIONS ABOUT YOUR HOUSE AND SURROUNDINGS THAT WILL AID IN SELECTING COLORS.

1. Is the house exposed or more hidden by shrubs and trees?_____
_____.

2. Are surrounding plantings deciduous ("warm")?_____or evergreen (cool)?_____.

3. Which season do you feel shows the house at its best?_____.

4. What are the predominant colors of flowering plants?_____
_____.

5. Is the current roofing material to stay? If so, what is its color?
_____.

6. Are there strong natural elements to set a color scheme? (These could include a stone or brick foundation, retaining wall, steps, etc.)
_____
_____.

7. What are neighboring color schemes?_____
_____.

8. What are the good features of the house -- details, trims, etc. that can be highlighted in contrasting colors or tones? How can your chosen color scheme contribute to harmonious feeling?_____
_____
_____.

9. What are the poor features of the house which need to be minimized?
_____
_____.

10. What architecural elements can be celebrated in color (changes in plane, texture, material, etc. which can be highlighted)?_____
_____
_____.

11. What are three (3) of your favorite house combinations in town? (Please note address)?_____
_____.

12. What are three (3) combinations of colors in houses that are your style, that you have seen and liked?_____
_____.

(OVER)

YOUR FAVORITE COLORS - THIS SECTION WILL HELP YOU IDENTIFY SOME PERSONAL FEELINGS ABOUT COLORS.

1. What is your favorite color?_____
_____.

2. What is the color you dislike the most?_____.

3. What is your favorite color combination?_____
_____.

4. Are there special colors that make you feel cozy and intimate?_____
_____.

5. Are there special colors that make you feel elegant, but a little cool or aloof?_____
_____.

6. What colors make you happy, what colors make you sad?_____
_____.

7. What colors do you prefer to wear?_____
_____.

8. What colors do you prefer for furniture?_____
_____.

9. Any special thoughts about colors you like or don't like?_____
_____.

COLOR THEORY

COLOR THEORY*

Definitions of Terms:

1. Color: The character of a surface which is the result of the response of vision to the wavelength of light reflected from that surface.

   Local (Objective) Color: The naturalistic color of an object as seen by the eye (green grass, blue sky, red fire, etc.).

2. Hue: Used to designate the common name of a color and to indicate its position in the spectrum or in the color circle.

3. Intensity: The saturation or strength of a color determined by the quality of light reflected from it. A vivid color is of high intensity; a dull color, of low intensity.

   Value: The characteristic of a color in terms of the amount of light reflected from it. It refers to the lightness or darkness of tone.

   Neutralized Color: A color which has been grayed or reduced in intensity by mixture with any of the neutrals or with a complementary color.

   Neutrals: Surface tones which do not reflect any single wavelength of light but rather all of them at once. No single color is then noticed but only a sense of light or dark such as white, gray, or black.

   Pigments: Any material or medium used to create the effect of color on a surface.

   Spectrum: The band of individual colors which results when a beam of light is broken up into its component wavelengths of hues.

Color Relationships:

   Analogous Colors: Those colors which are closely related in hue: They are usually adjacent to each other on the color wheel.

   Color Triad: A group of three colors spaced an equal distance apart on the color wheel. There is a primary triad, a secondary triad, and two intermediate triads on the twelve-color wheel.

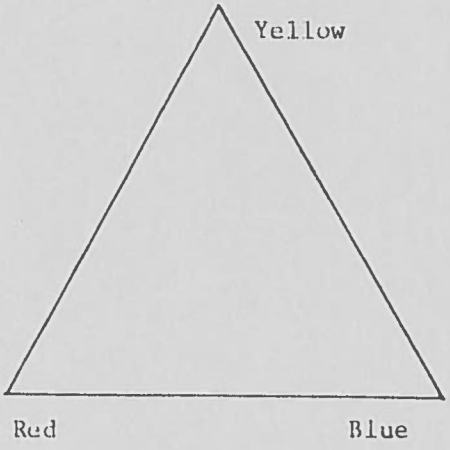
Color Relationships (continued):

Complementary Colors: Two colors which are directly opposite each other on the color wheel. A primary color would be complementary to a secondary color which was a mixture of the two remaining primaries.

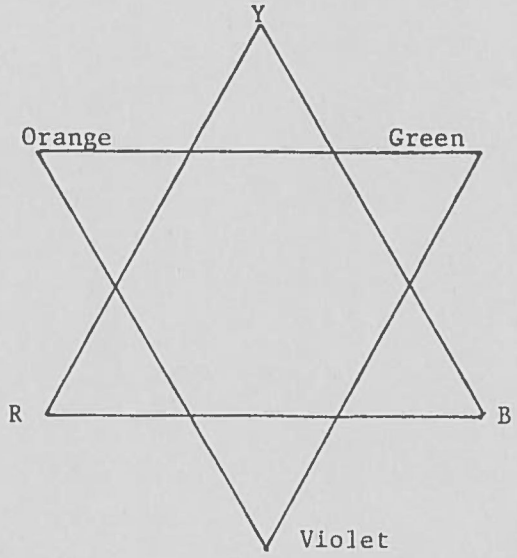
* "Art Fundamentals, Theory and Practice", Ocvirk, Vone-Stinson & Wig, 3rd Edition, W.C.Brown & Company, Publisher, Dubuque, Iowa, Copyright 1975.

COLOR WHEEL**

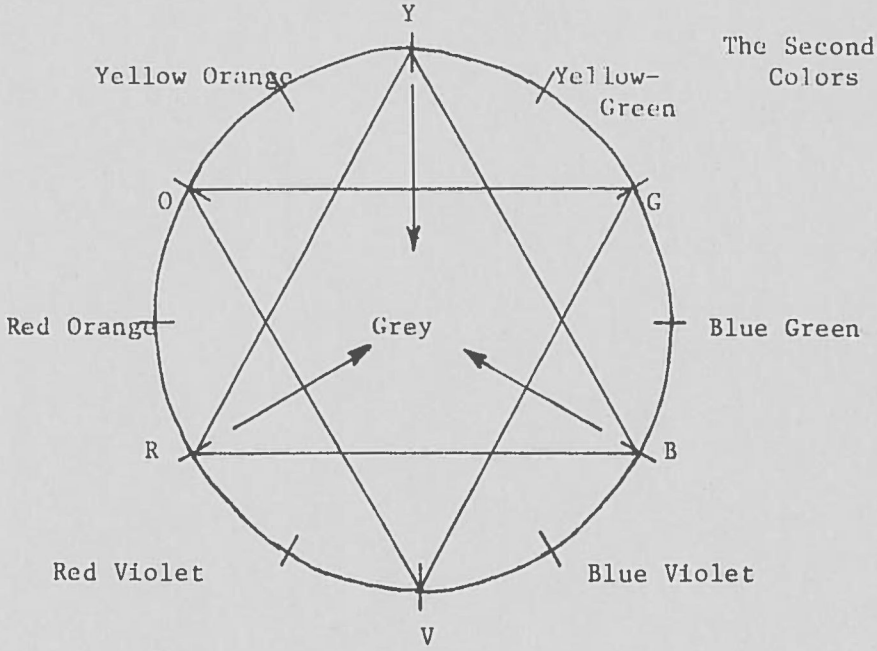
These three diagrams indicate: first the primary triad, second, the addition of the three secondary colors, and third, the placement of the six intermediate colors. In theory, the three primary colors when mixed will neutralize each other and produce gray.



The Primary Colors are red, yellow, and blue



The Secondary Colors

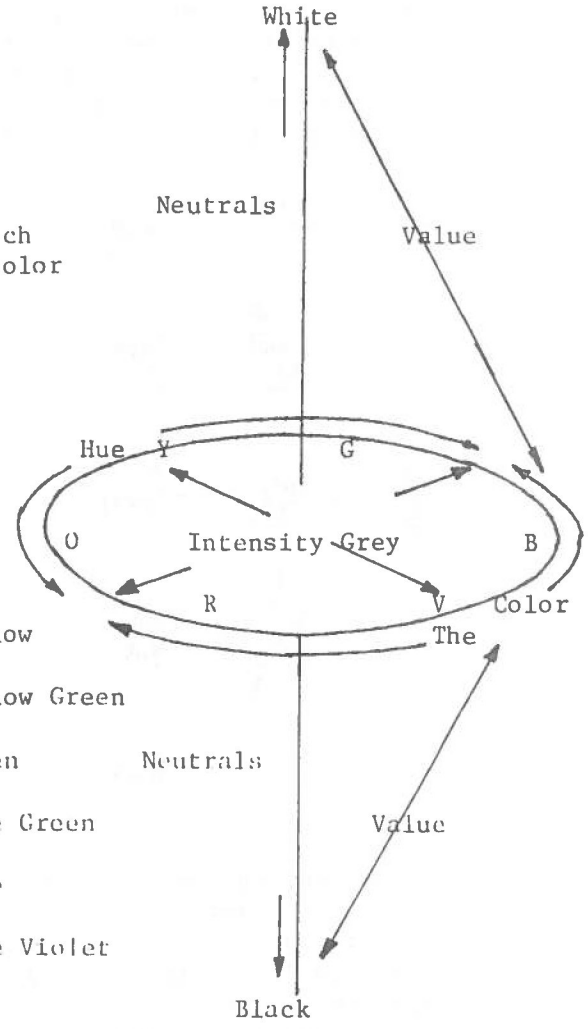


The placement of the six intermediate colors which are derived by mixing the adjacent primary and secondary colors, such as orange and red combine to produce red orange.

** The material on color theory is taken from Art Fundamentals, Theory, and Practice, by Ocvirk, Bone-Stinson, and Wigg, 3rd Edition, W. C. Brown and Company, Dubuque, Iowa, 1975

VALUE

The property of color known as value distinguished between the lightness and darkness of colors or the quantity of light which a color reflects. It is possible to have many value steps between the darkest and lightest appearance of any one hue. To change the tone value of a pigment, we must mix another pigmantent with it which is darker or lighter in character. The only dark or light pigments available which would not also change the hue of a color are black and white.



	White	
	High light	Yellow
Yellow orange	Light	Yellow Green
Orange	Low light	Green
Red orange	Medium	Blue Green
Red	High dark	Blue
Red violet	Dark	Blue Violet
Violet	Low dark	
	Black	

This diagram demonstrates all three physical propeties of color. We can see all of the color variations as existing on a three-dimensional solid (a double cone). As the colors move upward or downward on the solid, they change in value. As all of the colors on the outside move toward the center, they become closer to the neutral values and there is a change in intensity.

INTENSITY

The third property of color, intensity (sometimes called saturation or chroma), refers to the quality of light in a color. In this way, it differs from value which refers to the quantity of light which a color reflects. We use the term intensity in distinguishing a brighter tone of a color from a duller one of the same hue, that is to say a color which as a high degree of saturation or strength from one which is grayed or neutralized in character.

There are actually four ways of changing the intensity of colors when mixing pigments. Three of these are accomplished by adding to the hue pigment, a neutral that is black, white, or grey. (Chart I): 1. As white is added to any hue, the resulting tone becomes lighter in value, but it also loses its brightness or intensity of color. 2. In the same way, when black is added to

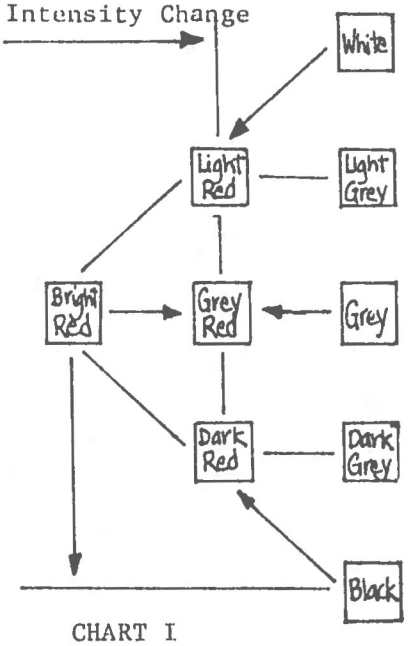


CHART I

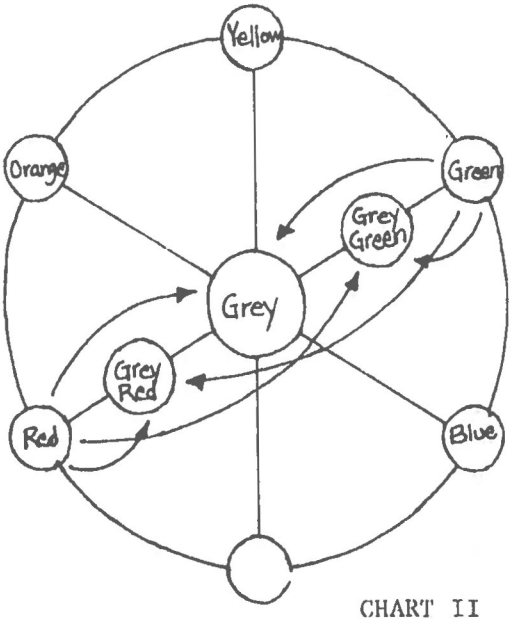


CHART II

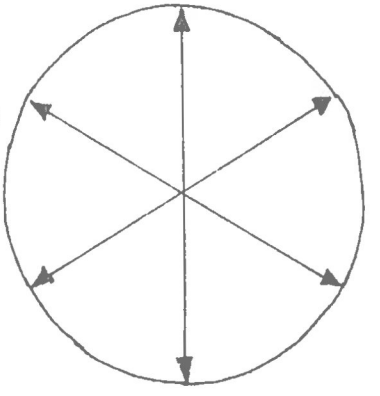
a hue, the intensity diminishes as the value darkens. In other words, we cannot change value without changing intensity, although these two properties are not the same. 3. When using the third method of changing intensity, a neutral gray of the same value is mixed with the spectrum color. The mixture then will be a variation in intensity without a change in value; the color will become less bright as more gray is added but will not get lighter or darker in tone.

Chart II: The fourth way of changing the intensity of any hue is by adding some of the complementary hue. As has been previously mentioned, the mixture of two hues which occur exactly opposite each other on the color wheel such as red and green, blue and orange, or yellow and violet will result in a neutral gray. The bottom diagram indicates change of intensity, by adding to a color a little of its complement. For instance, by adding a small amount of green to red a gray, red is produced. In the same way, a small amount of red added to green results in a gray green. When the two colors are

COLOR RELATIONSHIPS

The key to the successful use of color depends upon an understanding of color relationships. A single color by itself may have a certain character, but that character may be greatly changed. when it is seen with other colors. Colors may be closely related, or they may be contrasting, but the contrast can vary considerably in degree.

Complementary Colors:

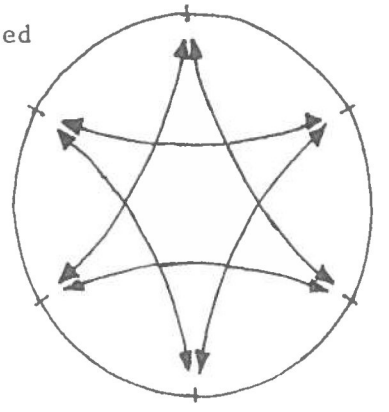


The greatest contrast in hue occurs when two colors are used together which appear directly opposite, each other on the color wheel.

In working on a house color scheme, complements are usually to strong, although in a commercial building one might want to use a touch of the complement for an accent.

Triadic Colors:

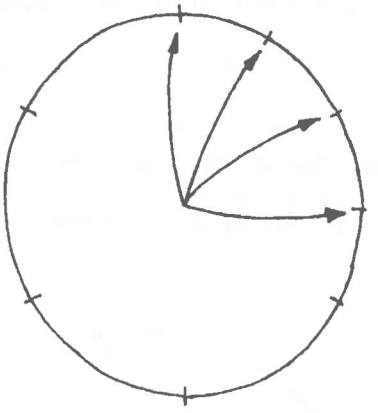
There is a shorter interval between colors and consequently less contrast when three colors are used which are spaced equally distant on the color wheel. The first group, known as the primary triad, consists of red, yellow, and blue; the second group or secondary triad is composed of orange, green, and violet. The contrast is more striking in the primary triad; in the secondary triad, although the interval between hues is the same, the contrast is softer. This effect probably takes place because in any pair of the triad there is a common color: orange and green both contain yellow fore example.



Again, these colors are usually two strong for the exterior of the everyday house, but the principles may be appropriately reserved for the unusual circumstance.

COLOR RELATIONSHIPS

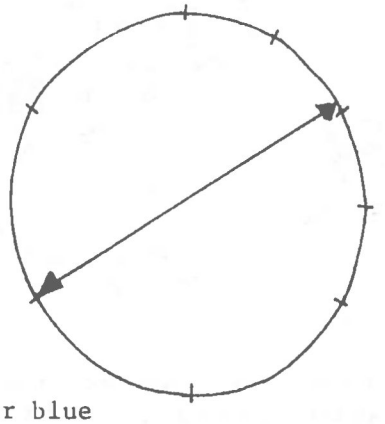
Analogous Colors:



Where colors actually appear next to each other on the color wheel, we have the shortest interval and consequently the closest relationship. Three or four neighboring hues (analogous colors) always contain one common color which dominates the group.

Generally in choosing colors for your house, it is preferable to use an analogous color scheme. A color from the complementary family may be used as an accent or highlight for trim. If the analagous colors are warm colors, you may want a cool trim color. If the base scheme is cool you want to choose a warm trim color.

Warm and Cool Colors:



All of the colors which we know are usually thought of as belonging to one of two groups, the warm color or the cool colors. Red, orange, and yellow colors are usually associated with the sun or fire and are considered warm. Any colors containing blue, such as green, violet or blue green, are associated with air, sky, and water and are called cool colors. This quality of warmth or coolness in a color may be affected or even changed by the hues around or near it. Think carefully about this attribute when choosing colors for your house.

HISTORY OF COLOR SELECTION

IN HOUSE PAINTING

COLOR HISTORY

One of the earliest people to set standards for the use of color on houses during the Victorian period was Andrew Jackson Downing, an early landscape architect and architect.

In his influential book on the design of country houses, Downing suggested guidelines and reasons for choices of colors on houses. These guidelines came into practice around the 1880's based on Downing's influence. They are especially appropriate for Victorian and frame Victorian houses.

- In buildings, we should copy the colors that (nature) offers chiefly to the eye - such as those of soil, rocks, wood, and the bark of trees - the materials of which houses are built.

- We should not use green, however, because "houses are not built of grass or leaves." Buildings should be painted soft quiet shades called neutral tints, such as fawn, drab, grey, and brown. Colors such as white, yellow, red, blue, black, should always be avoided.

- In proportion, as a house is exposed to view, let its hue be darker and where it is much concealed by foliage, a very light shade of color is preferred.

- If a house is large, it may very properly receive a somewhat sober hue, expressive of dignity. A certain sprightliness is always bestowed on a dwelling in a neutral tint, by painting the bolder projecting features a different shade. The simplest practical rule that we can suggest for effecting this is the following:

  - Choose paint of some neutral tint that is quite satisfactory, and if the tint is a light one, let the facings of the windows be several shades darker than the facings or else the darkest green.

  - If the tint chosen is a dark one, then let the window dressings be a much lighter shade of the same color.

By the 1988's houses would probably share stylist characteristics and would be painted the same color palette of greens, olives, grays, yellows, and browns - colors much darker and richer.

Mr. Downing also wrote against the earlier colors which were predominantly white with green shutters.

"It is too glaring and conspicuous. Scarcely anything more uncomfortable to the eye, thanks to approach the sunny side of a house in one of our brilliant midsummer days, when it revels in the fashionable purity of its color.

White does not harmonize with the country and thereby, mars the effect of rural landscapes. Much on what beauty of landscapes depends in what painters call breadth of tone - which is caused by broad masses of color that harmonize and blend agreeably together."

COLOR PERIODS:

A Century of Color denotes the following color periods:

-Late Federal through Neoclassical (1820-1840) white with green shutters.

-Gothic & Italianate Revival or early Victorian (1840-1870) - pale earth tones to dark muddy colors.

-Late Victorian (1870-1890) - light pastels.

-Colonial Revival (1890-1920) - white and light pastels.

COLOR CHART: (from LOWELL RESTORATION WORKBOOK, Lowell, Massachusetts.)

	WALL COLOR	TRIM COLOR	DOOR COLOR
FEDERAL	-pale yellow -off white -soft beige -pale green -medium gray -medium blue	(lighter than base color -white -buff -pale yellow -medium blue	-black -natural
GREEK REVIVAL	-white -buff -pale yellow -green-gray -blue-gray -pale gray	-olive green -gray-blue -green black -buff -white -black	-dark green -medium blue -black
EARLY VICTORIAN	-buff -pink -light gray -ochre -green-gray -blue-gray -medium blue -dark brown -medium red	(darker than base color) -black -chocolate -red -dark gray -dark green -dark brown	-oak, frequently unpainted wood
HIGH VICTORIAN	-deep blue -medium gray -dark ochre -tan -slate	-golden yellow -dark gray or green-black -medium or dark brown -beige -red -olive green	

COLOR PLACEMENT

-Nearly all the houses built in America prior to World War I were intended to be defined by the trim color- outlining the corner boards, cornices and belt courses. All of these are usually painted in the major trim color.

-Trim colors should be used on the vertical and horizontal elements of porches, windows, and door openings. Window sashes should be of a dark trim color to make them recede.

-A light body and dark trim makes house look bigger. This is generally the favored choice.

-On a large house, one may want to use the opposite color to make it look smaller.

-After the house has been fully outlined, additional colors may be introduced.

-The simpler the house, the fewer the colors.

-Reversing trim color is preferred on houses except for Queen Anne or late Victorian. Cornice brackets and porch balustrades look best painted in the body color against trim.

-Except in Queen Anne houses, decorations were generally not highlighted with a different color. Only in Queen Anne and the late Victorian period did you really have multi-color schemes for the body of the house.

-A safe and effective color combination is to use dark to light shades of the same color with darkest shade on the first floor. The medium on the second, lightest on the third.

-Sherwin Williams Company wrote a book in 1885 suggesting that one could use colors to bring out the structural design:

-The projecting parts called highlights, should be lighter in color than the receding or sunken parts, called shadows.

-Again, we should bear in mind that the parts nearest the ground should, by the use of darker colors, be made to look heavier than the higher parts which, by use of lighter colors, prevent the structure from appearing top-heavy.

Selecting Colors

By Katharine Conley

MANY PEOPLE ASK, "What color should I paint my house?" Roger Moss has already in his article stressed the importance of color placement. It is as significant a decision to place the colors properly as it is choosing the colors in the first place. The following guide should help you find color combinations that are historically appropriate and suitable for your taste.

PRE-1800 HOUSES were painted whatever colors were obtainable. White paint was not available in a pre-mixed form before the 19th century, but white lead was used to make white paint on site from early colonial days. Those people who could not afford or did not have access to white lead used whatever natural pigments they could (when they didn't simply leave their clapboards to weather) such as rust which made "spanish brown" and "indian red."

HOUSE COLORS CHANGED DRAMATICALLY between 1820 and 1920. Popular colors were pale, then dark towards the end of the 19th century, and pale again at the century's turn. These changes were made according to predictable changes in taste, but also according to changes in house styles.

BETWEEN 1800 AND 1840, houses were mostly painted in whites and creams with green shutters. The classical revival styles were most popular partly because Thomas Jefferson fostered them, thinking them best suited to the democratic ideals of the young American republic. After 1840, Andrew Jackson Downing helped start a fashion for romantic Gothic and Italian style cottages that were better painted in soft stone and field colors than in the more severe colors of the classical revival styles.

THE 1860's AND 1870's introduced more imposing formal styles like Second Empire, Renaissance Revival and Italianate. These larger houses were suited for their role in the expanding cities in which they were built. They were sometimes painted in pale colors to suggest the formality of stone palaces, but more often they were painted in dark greens and reds suggestive of the masonry and brick buildings they emulated. These darker colors were used by architects such as James Renwick, who designed some of the buildings in one of America's first national museum complexes: The Smithsonian Institution in Washington, D.C.

BY THE 1880's AND 1890's, colors were not only dark but vivid and plentiful. Queen Anne and Stick styles both boasted a wealth of detail and color to heighten the effect of all those balusters, shingles, porches and towers. And these colors became more vivid as the century wore on. Initially they were predominantly painted in earth tones of green and rust, reminiscent of the natural pigments used in the glazes that distinguished Craftsman style Rookwood pottery. Later the hues were increasingly bright and joyously fanciful, similar to the luminous colors used by Tiffany in his art glass.

THE TURN OF THE CENTURY witnessed a colonial revival that brought back plain white and creams. The many-colored late Victorian Queen Anne houses were masked in white, as were houses of every other earlier style, whether they were built in a colonial revival style or not. The movement from pale to dark and back to pale had come full circle.

Choose By Style

WHEN SELECTING COLORS, the best place to start is with your house's style. If you choose colors that were initially intended for the style, you will show it in its best light. Even if your house was built years after its style was at its peak, (a Greek Revival built in 1870, for example), you should still paint your house in the colors suitable for that style.

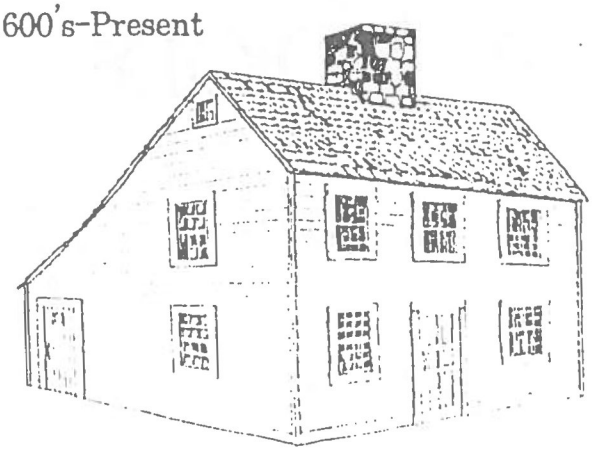
PAINT COLORS, like house styles, did not conveniently go out of fashion as soon as a new color combination or house style was introduced. Best to study the details on your house (shape, mass, type of roof, windows, porches), and determine which style it most closely resembles. Then choose colors accordingly. Most houses are not true examples of any one style. Frequently they are transitional and combine details or characteristics of more than one style.

IN THE GUIDE that appears on the following pages the odds are you won't find a house that is exactly like yours. But you should be able to find a style--or combination of styles--that approximates it, and the color ranges that are suitable.

Illustrated by Charles Fanel. Queen Anne house adapted from "Gift to the Street."

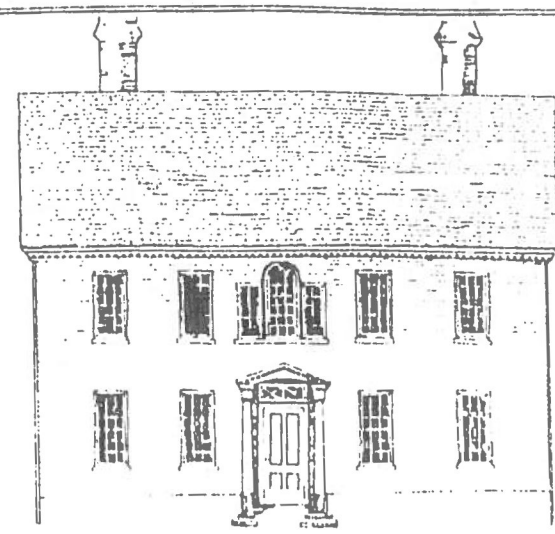
Saltbox

1600's–Present



Early saltboxes were usually left unpainted. Wood weathered to a brown-gray color; today, stain would be appropriate. Even after the introduction of paint, colors were limited. White lead was the pigment for white paint, while other natural pigments were used to make dark brown and red.

Body	Trim
White Spanish brown Indian red Ochre	Same



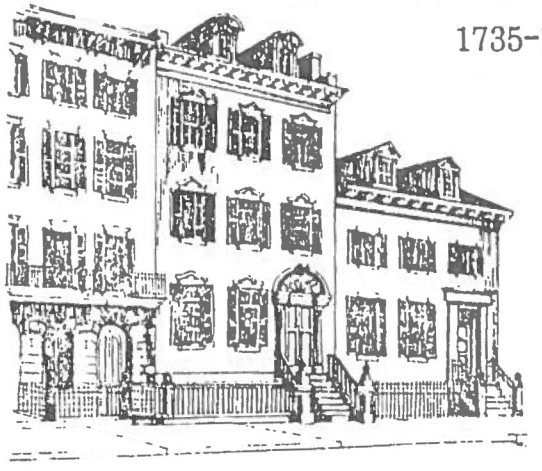
Georgian 1700–1800

The classic formal Georgian house would most often have been painted white, with green or black shutters. Earlier, less formal houses of this style were sometimes painted in the darker, colonial colors.

Body	Trim	Door
White	White	Dark brown
Dark brown	Same	Black-green
Barn red	Cream	Dark blue
Dark green	Any of above	Red

Federal Rowhouses

1735–1835



These urban houses were often painted in light, severe colors with white or cream trim. Doors were dark: Black or natural dark wood. Shutters were dark red, green or brown.

Body	Trim	Door
White	White	Black
Pale yellow	Cream	Natural
Cream	Same	Dark green
Medium blue	Any of above	Dark brown

Classic Farmhouse

1800–Present

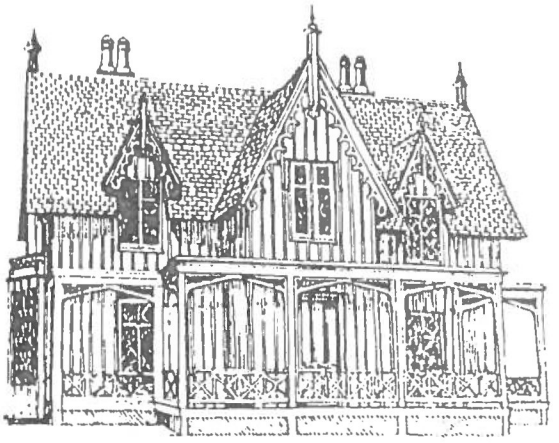
These houses were built throughout the 19th century, and were painted whatever colors were popular at the time. Many were painted white, sometimes with red roofs. Often these houses were painted plainly all in one color, with only the doors colored dark brown or red for contrast.

Greek Revival

1820–1865

Suitably "classical" colors were white or pale yellow, accented with white or cream trim. Pale gray, blue, green, and yellow are also considered appropriate.

Body	Trim	Door
White	Cool white	Dark green
Pale yellow	Dark green	Medium blue
Light gray	Sandstone	Black
Sandstone	Any of above	Any of above



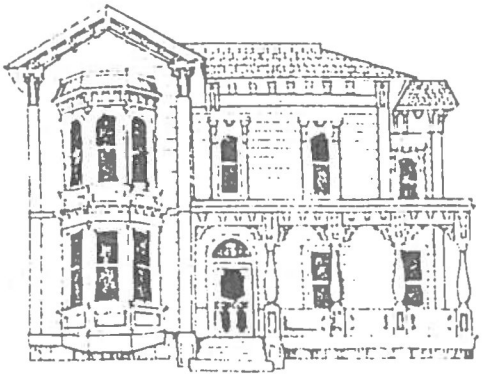
Gothic Revival/ Carpenter Gothic 1840-1860

Gothic Revival mansions and Carpenter Gothic Cottages alike were most often painted in light browns and pinks. Trim was done in the same or similar colors, or painted dark brown. Doors and shutters were dark.

Body	Trim	Door
Rose beige	Dark brown	Natural
Light brown	Medium brown	Dark red
Dark brown	Light brown	Dark brown
Medium blue	Light gray	Dark green

Vernacular Italianate

1840–1880

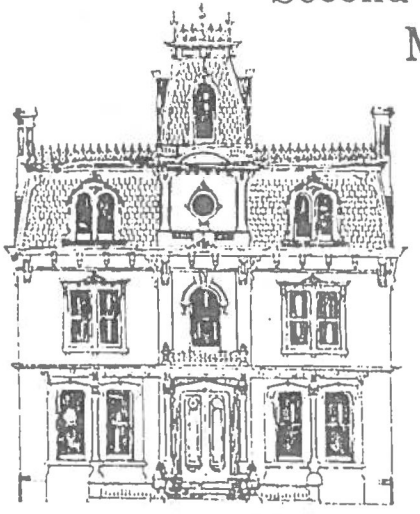


These were painted in warm, light colors with contrasting trim, and dark doors. Trim was often the same color, but in a different shade–lighter or darker. Colors range from cream to brown, gray to green.

Body	Trim	Door
Warm brown	Beige	Natural
Dark brown	Warm brown	Dark green
Dark gray	Light gray	Dark brown
Light green	Medium gray	Any of above

Second Empire/ Mansard

1860–1880

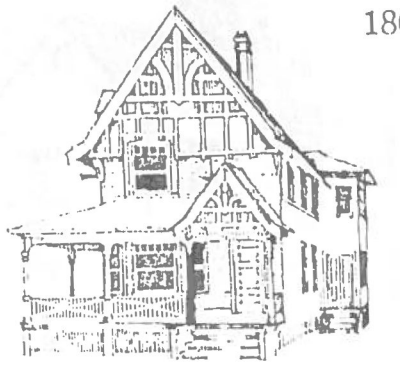


Details were picked out in dark greens, reds and browns. Earlier houses continued to be painted in Italianate colors that resembled stone. Trim was generally lighter, with doors and shutters in subtle contrast to the trim.

Body	Trim	Door
Dark green	Beige	Natural
Dark red	Cream	Dark brown
Brown	Light brown	Green-black
Beige	Yellow	Any of above

Stick Style

1860–1885



Body and trim were painted contrasting dark colors (red, gray and brown) to heighten the decorative trim. Doors were often oak or another unpainted hardwood.

Body	Trim	Door
Medium gray	Dark gray	Oak
Indian red	Dark brown	Unpainted wood
Ochre	Green-black	Either of above
Dark blue	Beige	"

Stick–Eastlake

1870–1900

Bold, colorful contrasting color schemes—reds, greens, yellows with maroons and blues—earned these West Coast houses the name "painted ladies," even as far back as 1885.

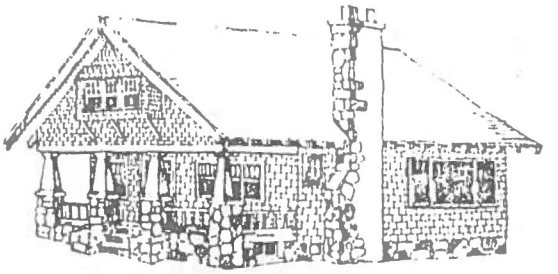
Base	Body	Trim	Sash	Door	Cornice
Pompeiian red	Olive	Bronze	Indian red	Oak	Terra cotta
Indian red	Maroon	Seal	Yellow	"	"
Granite	White		Bronze	"	Sky blue

Colonial Revival

1880–Present

These went back to pale colors: Mostly white or cream, sometimes pale yellow, with white or cream trim. The difference from earlier, true colonial styles is the large size of the house and the frequent presence of a big front porch.

Body	Trim	Door
White	Cream	Oak
Light yellow	Warm white	Unpainted wood
Tan	Any of above	Either of above
Medium gray	"	"

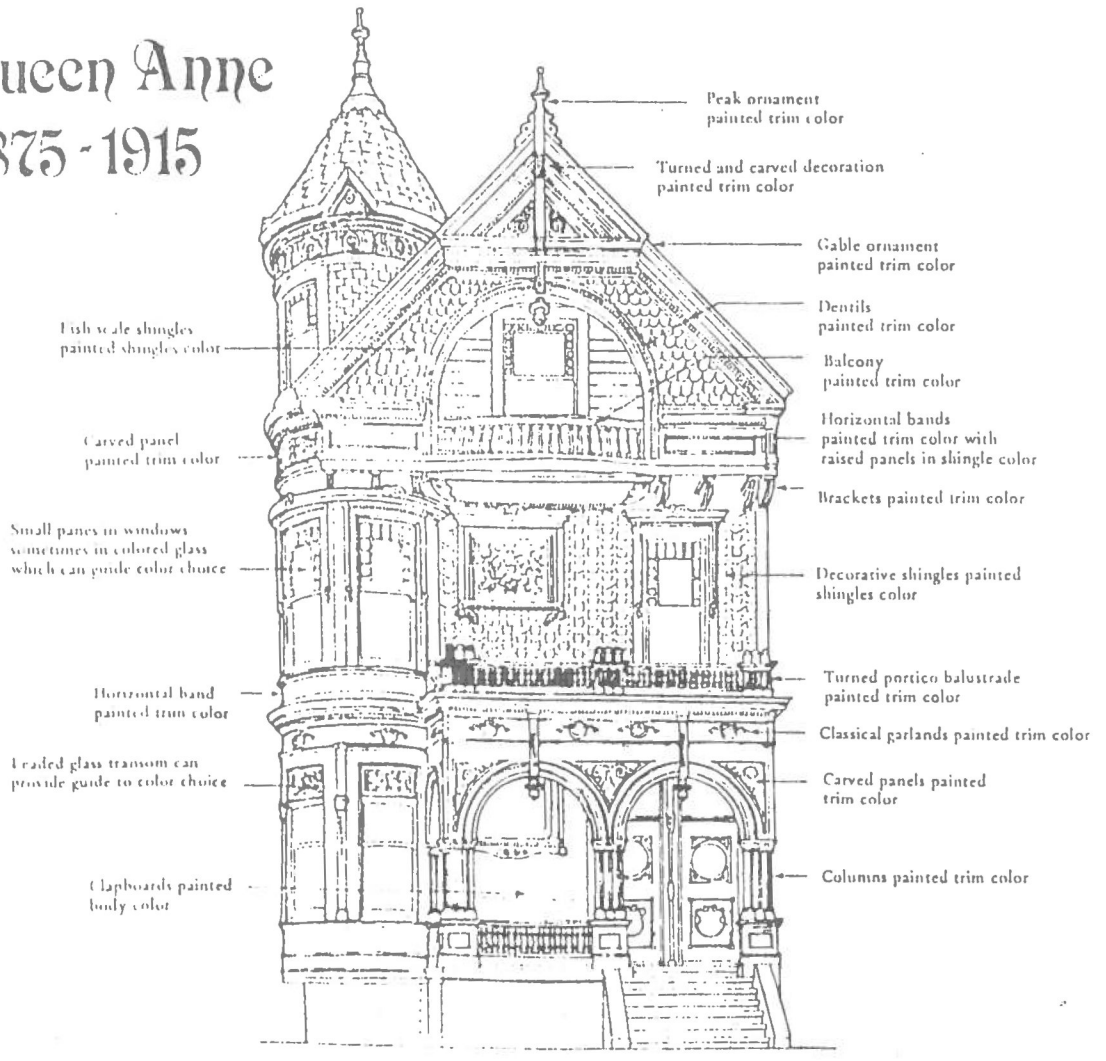


Craftsman Bungalow

1900–1930

These bungalows, like other turn-of-century styles—Tudor, Shingle—were unpainted. The natural materials used, stone and wood, were untreated except for an occasional stain to darken the wood. Stucco, too, was left a natural color.

Queen Anne
1875 - 1915



OF ALL THE REVIVAL STYLES in the 19th century, Queen Anne had the most variety of detail and texture. Coincidentally, at the same time that the Queen Anne style was most popular, the darkest, most vivid colors were also popular. As a result, Queen Anne houses were painted several dark colors, to highlight all the detail.

THERE WERE ELEMENTS of the Queen Anne style that were part of the early stages of the Colonial Revival which was in its heyday about twenty years afterwards. The Colonial Revival did not merely consist of Georgian Revival style houses. It was a general harkening back to early styles, including Queen Anne, even though most of the early styles evoked were American, not British.

THE QUEEN ANNE STYLE was fashionable at a time when a lot of building was taking place in the United States. Perhaps the most important thing to remember when painting a Queen Anne house is that the many architectural details outlined above were picked out and celebrated with color.

QUEEN ANNE COLOR SCHEMES		SHINGLES				TRIM				SASH				BLINDS			
		Dark red	Reddish brown	Warm brown	Light green	Maroon	Reddish orange	Bronze yellow	Dark green	Maroon	Dark red	Dark green	Olive	Dark green	Tan	Dark red	Dark blue
CLAPBOARDS	Buff	■	■				■				■				■		
	Olive	■		■				■			■		■			■	
	Dark brown			■	■				■			■		■			
	Gray	■			■			■	■					■		■	■

COLOR EXERCISES FOR THE VINTAGE HOUSE

BASIC HOUSE COLOR EXERCISES

Color taste changes over time. Here are some basic ideas to remember as you begin to choose colors for your historic house. The following pages are five different houses in the community and on this page are five suggested exercises to give you practice developing color schemes for different house types and for different moods.

Most of the houses in our community are from the Victorian period. During this time drabs, olives, prussian blues, and maroons were very popular. Previously, in colonial times, white was an indicator of purity and spotless house cleaning. White was revived again during the classical revival period; and would be very suitable for classical style houses.

Try the following exercises with the houses on the following pages:

1. A simple house should use just a few colors. A small house will look larger with a light colored body plane and a darker trim. Try such a combination on house # 1. Remember to consider the coloring of fences, particularly those of stone.

2. A large house will look smaller with a dark body color and a light trim color. Try a dark color scheme with a light trim color on house #2. Recesses can be highlighted by darker shades of the main color. Try this technique on house #2 also.

3. On a large house, the many details can be accented by a new color for decorative trim. Thus, three to four colors can be appropriate. Try such a color scheme on house #3. Color the foliage. When a house is surrounded by dark foliage, it is often preferable to use a light colored body paint to help it stand out from the foliage even if it is a large house.

4. Experiment with warm colors on the body of house # 4 which is a Dutch Revival style house. Note the gambrel roof. Don't forget to choose a color for the roof. Protrusions can be highlighted by using a lighter color in the same shade as the body color. Try this. Try a cool color for trim.

5. The Queen Anne house in #4 is to be used as an office building. The owners would like it to be an elegant as possible. They believe a cool scheme would be most effective. Can you develop such a scheme for this house. What color trim would you add? What color for the porch?

These exercises should give you a range of understanding about appropriate colors. Now think again about what you would like for your own house.

A simple house should use just a few colors. A small house will look larger with a light colored body plane and a darker trim. Try such a combination on house #1. Remember to consider the [illegible] features, particularly the [illegible] of [illegible].

QUEEN ANNE COTTAGE HOUSE #1

A large house will look smaller with a dark body color and a light trim color. Try a dark color scheme with a light trim color on House #2. Recesses can be highlighted by darker shades of the main color. Try this technique on house #2 also.

QUEEN ANNE HOUSE #2

On a large house, the many details can be accented by a new color for decorative trim. Thus, three to four colors can be appropriate. Try such a color scheme on house #3. Color the foliage. When a house is surrounded by dark foliage, it is often preferable to use a light colored body paint to help it stand out from the foliage even if it is a large house.

ECLECTICE HOUSE #3

Experiment with warm colors on the body of the house #4 which is a Dutch Revival style house. Note the dambrel roof. Don't forget to choose a color for the roof. Protrusions can be highlighted by using a lighter color in the same shade as the body color. Try this. Try a cool color for trim.

DUTCH REVIVAL

GAMBREL ROOF

HOUSE #4

The Queen Anne house in #4 is to be used as an office building. The owners would like it to be as elegant as possible. They believe a cool scheme would be most effective. Can you develop such a scheme for this house. What color trim would you add? What color for the porch?

QUEEN ANNE

HOUSE #5

TECHNICAL PROCEDURES

FOR

HOUSE PAINTING

REPAINTING THE OLDER HOME

The repainting of older homes involves dealing with many problems not normally encountered when painting newer structures. In general, these problems stem from the lack of adhesion of previous coats of paint to the wood substrate. As a rule, it is best to use the gentlest means to work the paint down to the next sound layer. Since paint will, in general adhere to a sound layer of paint as well as bare wood, there is not usually a necessity to remove all paint before recoating the house.

Paint surface conditions generally fall into three categories. Class I conditions include minor blemishes or dirt collection and generally require no paint removal; Class II conditions include failure of the top layers of paint and generally require limited paint removal; and Class III conditions include substantial or multiple-layer paint failure and generally require total paint removal.

Class I conditions:

a) Dirt, soot, pollution, cobwebs, etc.

Accumulation of environmental "grime" does not generally constitute a paint problem unless it is painted over instead of being removed prior to paint application.

Most surface matter can be cleaned off using a direct stream from a garden hose. Stubborn dirt can be removed using 1/2 cup household detergent in a gallon of water with a soft bristle brush. The surface should be rinsed thoroughly and allowed to dry before application of paint.

b) Mildew

Mildew is caued by fungi feeding on nutrients contained in the paint film or on dirt adhering to any surface. It usually occurs in wet areas such as around gutter and down-spouts, behind shrubbery or on window sills. It may sometimes be difficult to distinguish mildew from dirt, but to test for its presence, place a drop of household bleach on the suspected area. If the area turns white, it is mildew.

Mildew is best treated by alleviating, as much as is practicable, the source of the moisture problem. This usually involves cutting back of shrubbery or ensuring proper drainage. To remove existing mildew, use a solution of non-ammoniated detergent, a quart of household bleach and one gallon of water. The area should be scrubbed with the solution, rinsed thoroughly and allowed to dry before recoating.

c) Chalking

This condition consists of the powdering of the paint surface and is caused by the gradual disintegration of the resin in the paint film. Chalking can also be caused by the paint having too much pigment for the amount of binder (as many old white lead carbonate/linseed oil paints often did).

Chalk can be cleaned off using a solution of 1/2 cup household detergent in a gallon of water. The surface should be scrubbed, rinsed and allowed to dry thoroughly before recoating.

CLASS II conditions:

a) Crazing

This condition is caused by the hardening of several layers of old paint rendering them unable to expand and contract with the wood substrate. It is characterized by fine interconnecting hairline cracks and generally is not a problem unless left untreated allowing water to get behind the paint.

The best remedy is to mechanically or hand sand the surface and recoat. Although the cracks may show through the new paint, the surface will be protected from moisture penetration.

b) Intercoat peeling

This is usually the result of improper surface preparation prior to the last repainting. It often occurs on the eaves and covered porches which do not receive regular rinsing with rainwater. It can also be caused by incompatability between paint types, such as latex paint over an improperly prepared oil paint (chalky surface, etc.) or oil paint over latex paint since, upon aging, oil paint is less flexible than latex paint.

To treat this condition, wash down thoroughly, then hand sand or mechanically sand and apply an oil-type exterior primes and recoat after allowing primer 2-3 days drying time with either latex or oil-base paint.

c) Wrinkling and surface blistering

These are generally defects caused by the improper application of a solvent (oil) based paint and are caused by the surface of the paint drying before the layer underneath. This generally stems from a. applying paint too thickly, b. applying second coat before the first coat dries, c. painting at higher than recommended temperatures.

To treat the problem, the surface should be hand or mechanically sanded, primed if bare wood is encountered, and recoated.

CLASS III

a) Peeling

This condition is generally caused by excess interior or exterior moisture collecting behind the paint film. Generally beginning as blisters, cracking, and peeling occur when moisture causes the wood to swell, breaking the adhesion of the bottom layer.

The first step in treating peeling is to determine the source of the moisture problem and rectify it before recoating. It can be caused by: leaky roofs, gutters, downspouts, cracks in siding and trim, defective caulking, and shrubbery growing too close to painted wood. After the moisture source has been eliminated, the wood should dry thoroughly, peeling paint should be scraped back to a place where the bond is still good, then sanded, primed and painted.

b) Cracking, alligatoring

Cracking and alligatoring are simply advanced stages of crazing. Once the bond between the layers has been broken, moisture is allowed to enter causing further expansion and contraction of the wood substrate. Since the expansion occurs both laterally and longitudinally, the cracks will occur in both directions causing an alligator-like appearance.

If cracking and alligatoring are present in only the top coats, they can be hand or mechanically sanded, then primed and recoated. If the problem has progressed to bare wood, then most of the affected area will have to be taken down to bare wood, then primed and recoated.

In general, paint removal should be limited to only the most severely affected areas, (assuming that most of the paint still retains a good bond to the substrate). The most commonly used method is to hand scrape, sand and fill, and then prime with an oil-type primer prior to recoating. If large areas need to be cleaned, either an electric heat plate or heat gun will provide the best, safest paint removal. Flame-type removers should be avoided due to fire danger. Chemical type strippers work best for areas which contain intricate decorative features and on windows where heat might break the glass.

For Class I and Class II conditions, a top coat of high quality oil paint is best. The reason for recommending oil rather than latex paint is that a latex paint applied directly over old oil paint is more apt to fail. The reasons for this are a. the old oil is very brittle and, as such is quite sensitive to the elasticity and shrinkage of the new latex paint, b. oil paints shrink less on drying than latex paints do, so do not exert the stress on the previous coats that latex paint will.

For Class III paint conditions, where paint has been removed down to bare wood, an oil type primer should be used, following by either an oil top coat or a latex top coat preferably by the same manufacturer to assure compatability with the primer.

BASIC TOOL KIT - HOUSE PAINTING

1. Wire Brush
2. Sandpaper
3. Paint Scraper - 4"
4. Hammer and Galvanized Nails
5. Masking Tape
6. Caulking Gun and Caulking
7. Putty Knife and Exterior Spackle
8. 9" Roller Frame
9. 9" Roller Sleeve (with 1¼" nap - lambswool if possible)
10. Roller Pan
11. 3"-4" Paint Brush
12. 1½"=2½" Sash Brush (angled is better)
    a. Nylon for Latex
    b. Pure Bristle for Oil Base Paint
12. Oil Base Primer
14. Ladders
15. Drop Cloths
16. Mineral Spirits
17. Wiping Rags

OPTIONAL IF AVAILABLE

1. Telescoping Roller Extension Handles
2. 5 Gallon Buckets (for mixing paint)
3. Paint Hook (to hold bucket on ladder)
4. As Much Assistance as Possible

Preservation League of New York State

Technical Series/No. 1

Property Owner's Guide to Paint Restoration and Preservation

By Frederick D. Cawley
Assistant Director
Preservation League of New York State

During the past decade the historic use and composition of architectural paints have become major topics of research and debate among preservationists in America.[1] Increasingly, the proper use of paint on older buildings has also become the concern of homeowners, historic district and landmark commissions, public officials, and others who are eager to protect and in come cases to restore property which they own or control.

The historic use of paint as a protective and decorative finish and the methods of preserving and reproducing old paints are highly complex subjects. The application of new paint to old surfaces is also a complicated problem. While much important research into the history of architectural paints in America has been undertaken, a comprehensive history of the subject is not available.[2]

The Preservation League has prepared this technical leaflet as a short introduction to these subjects. The leaflet is intended to guide readers to pertinent publications and other resources in the field. As with all aspects of architectural preservation and restoration, property owners must remember that the restoration of a particular painted finish will require careful investigation of each individual situation.

Types of Historic Paints and Their Use

Until the introduction of alkyd resins to the paint industry in the 1930's, paints most commonly used on American buildings were either oil-base or water-base. Historic oil base paints were composed of a non-volatile oil and a thinner, together known as the vehicle, and various hiding and coloring pigments. Linseed oil was usually the non-volatile base or binder of the vehicle although sometimes nut, tung, or fish oil was used. Turpentine or japan driers were used to thin the vehicle and speed the drying process of the paint respectively. Until the 19th century thinners were seldom used. The most common hiding pigment was white lead. A great variety of natural and manufactured pigments was available to the painter in 18th and 19th century America, and his palette was often brighter than suspected today.[3]

There were a number of historic water-base paints. Whitewash, the most common, was composed simply of water, acting as the vehicle, and slaked lime, to which was often added a small amount of salt or tallow and possibly a shading pigment. In drying, whitewash formed a calcium carbonate or sort of plaster. When a protein glue, gelatin, or gum was added to whitewash or when a paint was principally bound by glue or size, it was know as distemper paint. Distemper paints were able to hold darker pigments than whitewash. Calcimine is a type of distemper paint which was made with whiting or powdered chalk. It takes its name from the earthen pigments which were calcined or burnt, then finely ground and added to the paint. Casein paint is a type of distemper paint which has a binder of skimmed or curdled milk. It was not used in America until the early years of the 19th century and again had wide usage during World War II.[4] When dry, casein paint is a very tenacious material which is also difficult to cover with modern paints.

Throughout the 18th century and up through the early 20th century oil-base paints were most commonly used on interior woodwork and all exterior surfaces. Water-base paints were usually used for interior plaster walls and ceilings. Whitewash, however, was used extensively on fences and outbuildings. Calcimines continued to be used by high quality professional painters down through the 20th century because of the paint's color retention and velvety texture. Calcimine was often applied as a final coat over whitewash and frequently was used on ceilings. Distemper paints were used for both interior and exterior work. Fine mural painting and stenciling was often done in distemper colors. Casein paint to which pitch was added was also used on the exterior of buildings.[5] Tar and pitch, sometimes in combination with oil, are encoun-

tered as paint on old buildings. This type of finish was primarily used for waterproofing and was usually reserved for roofs, masonry surfaces, or wooden outbuildings.

Throughout the 18th and 19th centuries masonry was often painted for protection. Most building brick, especially that used for commerical buildings and speculative housing, was underfired and therefore did not have a durable weathering surface. Buildings constructed of this material were always intended to be painted or treated with linseed oil. Today, unfortunately, many are being sandblasted or chemically cleaned, leaving the exposed surface scarred and vulnerable to atmospheric attack, water penetration, and discoloration.[6]

Generally speaking, the professional painter, glazer, or stainer manufactured and applied oil-base and distemper paints; the property owner mixed and applied his own whitewash. However, calcimines were used most often by professionals. Ready-mixed canned oil paints were not produced in quantity in America until after the Civil War.[7] Skilled painters, however, continued to mix their own paints up through World War II.

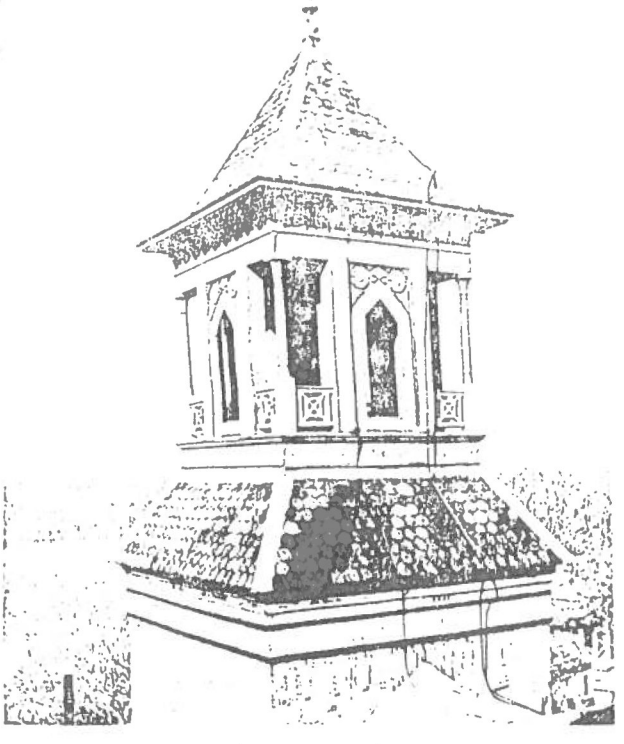
Colors and Special Finishes

Historic buildings were often designed with specific color schemes which were an integral part of their architectural character. When researching the paint history of a structure, one should always consider the stylistic trends as well as the technological advances in paint manufacture that occurred throughout a building's life. Paint application techniques, recommendations of contemporary tastemakers, dates different pigments were introduced, and aging characteristics of paint are important factors in accurate paint restoration.

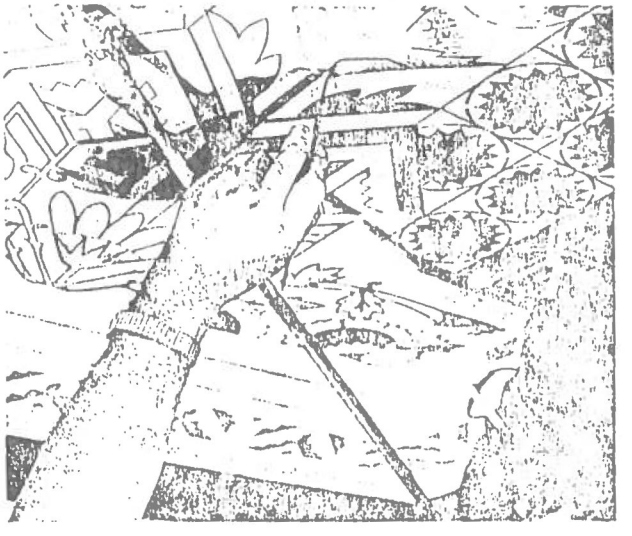
Nineteenth century architectural pattern books, farmers' and home owners' journals, and almanacs often discuss paint colors and recipes and recommend their utilitarian and decorative use. Painters' manuals, which were updated throughout the 19th century, are an excellent source of technical information.[8]

Since the chemical composition of many historic paint pigments is known along with their introduction dates, that information can be a tool in dating paint colors and the layers in which they appear.[9]

When investigating paint colors it should be remembered that oil paint has a tendency either to yellow with too little exposure to light (as when covered by succeeding layers of paint) or to bleach with overexposure. Furthermore, some pigments are light-sensitive, or fugitive, and can fade with time.[10] Physical investigation, the most accurate method of determining paint colors, is described on pages 4-5.



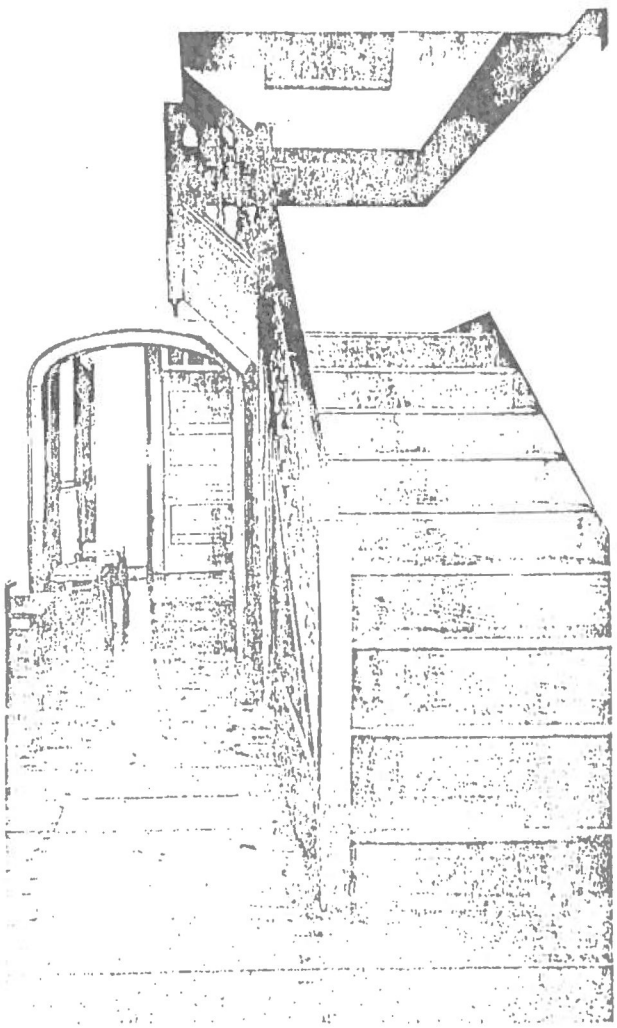
The paint colors on the wooden elements of the water tower of Olana, Hudson, New York, were recently restored through microscopic analysis of carefully removed paint samples. The restored paint scheme complements the constructional polychromy of the masonry and of the slate roofs. Photograph courtesy of the Division for Historic Preservation, N.Y.S. Office of Parks and Recreation.



A craftsman is shown completing the restoration of a stylized floral and geometric stenciled ceiling surface at Glenview, the John Bond Trevor Mansion at the Hudson River Museum, in Yonkers, New York. The original stencils, dating from c. 1876, were uncovered, accurately traced, and restored in 1974 (see bibliography). Photograph courtesy of the Hudson River Museum.

Research and physical investigation into paint should also consider the possibility that polychromy was used; where polychromy is suspected, it should be thoroughly investigated. Both interior and exterior architectural details were often highlighted with different colors of paint. Buildings constructed or redecorated during the latter half of the 19th century will often reveal striking combinations of colors, while earlier color schemes may feature subtly shaded hues of the same color.[11] Interiors should also be checked for decorative wall painting and stenciling.[12]

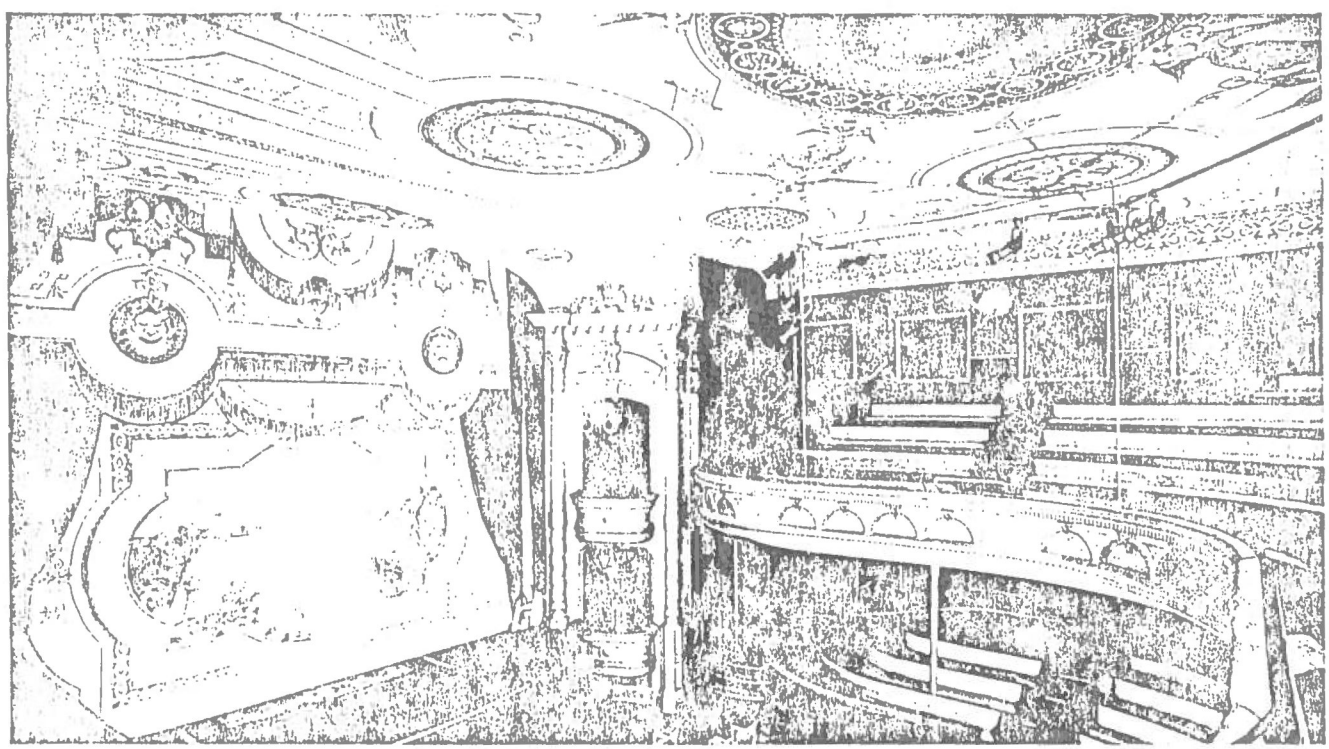
Graining and marbling or marbleizing were common practices throughout the 18th and 19th centuries in all types of buildings. Graining was usually used to disguise domestic American woods as costly, imported hardwoods such as mahogany or rosewood. However, it is also not unusual to find a base surface of oak or walnut finished with a grainer's imitation of the same wood. Marbling -- painting in imitation of expensive, polished stone -- was used in America from at least the early years of the 18th century.[13] Mantels and paneled mantel walls with definite architectonic features very often were marbled. In many formal houses the walls of entire rooms -- particularly entrance halls -- were painted and scored in imitation of marble blocks.[14] Soon after the Civil War, the factory process of marbleizing slate, particularly for mantels, became an important industry. It was not, however, the province of the painter.



The colors and design of a painted surface were not the only factors that contributed to the appearance of that surface. The sheen of the surface, for instance, was an important consideration, During the 18th century interior woodwork was often painted and then given an oil-base glaze to increase surface reflectivity and depth of color.[15] On the other hand, the neoclassical taste of the

Left. When layers of paint were removed from the staircase in the front hall of the Van Cortlandt Manor House in Croton-on-Hudson, New York, much of the original graining (c. 1750) was found intact. Damaged areas were in-painted using the original technique. The graining and color simulate a rich mahogany and match the woodwork elsewhere in the hall. Photograph courtesy of Sleepy Hollow Restorations.

Below. After seventy years of abandonment, the Cohoes Music Hall was restored and opened on November 23, 1974, exactly one hundred years after the original opening night. The original polychromed paint scheme, including the elaborate canvas ceiling, was carefully researched and painstakingly restored. Photograph by E. M. Weil, courtesy of Mendel Mesick Cohen Architects.



early 19th century demanded that walls and other planar surfaces not have a glaring sheen. So interior walls during that period were often covered with a high pigment content oil-base paint which produced a flat or dull surface. During later periods the sheen of easily maintained varnished woodwork and pumiced and polished paint was again often preferred.

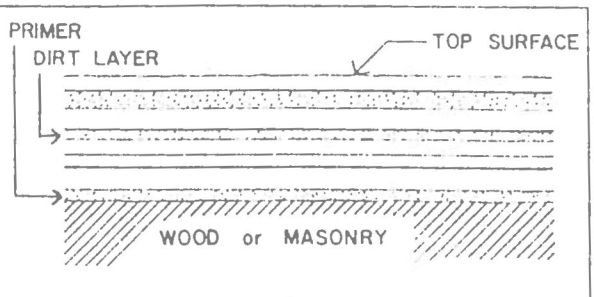
A practice that affected the surface appearance of exterior paint was sanding -- mixing sand with paint or applying sand to tacky paint. Particularly fashionable during the first half of the 19th century, sanding was used as a finish on wooden elements of masonry buildings, such as a wood cornice on a brownstone-faced building, in order that the entire building would appear to be stone. Later, cast iron building elements, such as storefronts or entire facades, were often given a final coat of sanded paint in order to make the building appear lithic and more substantial.[16]

Physical Investigation of Paint Colors

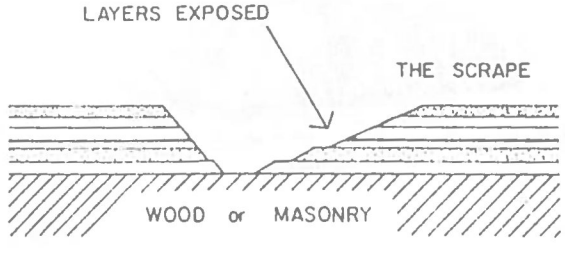
Unless a building has been severely damaged or altered, it is usually possible to find enough evidence to reconstruct the paint history of the building. Determining the original and subsequent paint colors actually used on a building is the most useful guide to repainting and assuring the continued integrity of the building.

For buildings that are of exceptional historic, architectural, or civic interest and for buildings where an extremely accurate restoration is desired, a restoration architect should be called in to undertake historical research and a scientific description of the paint history as part of a historic structure report on the building. This procedure is not, however, practical for most property owners, who can with simple tools accomplish adequate paint investigation.

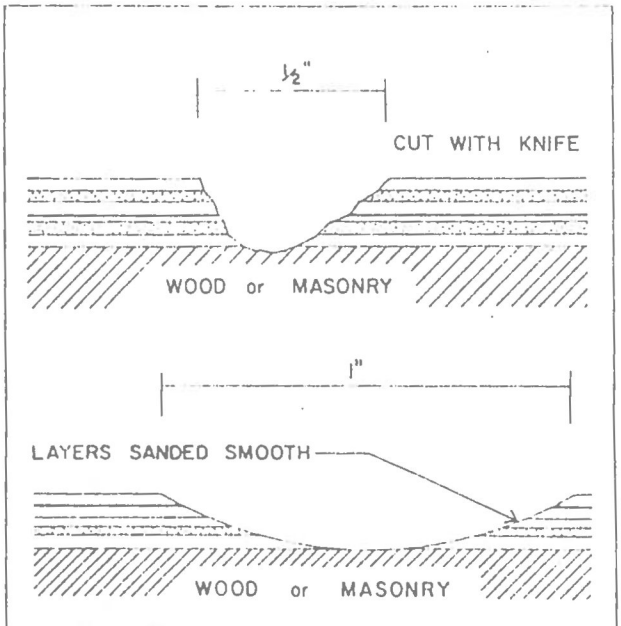
Tools needed for paint sampling are a surgical scalpel or an X-acto knife, portable lights, and a magnifying glass. The scalpel is used to expose carefully all successive layers of paint in a one inch square area down to the substrate, the original unfinished surface. The layers are then examined with the help of the magnifying glass and the light. Increased accuracy is possible if sampling is done in areas such as corners which have a greater concentration of undisturbed paint film. A detailed explanation of this technique and proper methods of removing samples for laboratory inspection can be found in *Paint Color Research and Restoration,* by Penelope H. Batcheler (see bibliography). Another technique for initial paint investigation involves the use of the same tools with the addition of fine grit sandpapers and lubricating oil. The knife is used to make a small (½") gouge in the surface to be sampled. The cut is sanded in a circular motion and kept workable by the oil to reveal a polished dish of component layers



A painted surface in an old building is typically composed of a number of paint layers separated by nearly microscopic layers of dirt. The above drawing schematically illustrates the components of a typical painted surface including the prime coat and substrate. The components may be interpreted as if they formed the stratifications of layers of earth uncovered during an archeological excavation.



In the initial investigation of the paint colors of a building or interior room as many small scrapes as necessary to determine a coherent pattern or scheme should be made. Layers are exposed by cutting on a bevel with an X-acto knife or surgical scalpel through the layers to the substrate. Drawings by Douglas Bucher.



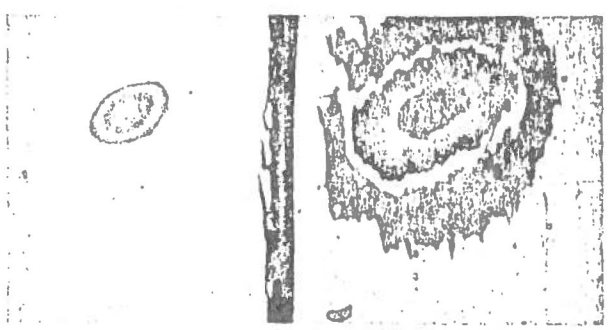
Another method of initial investigation of a painted surface is schematically illustrated in the above drawings. A shallow, dished scalpel cut is made through the layers of a painted surface (top drawing). The sides of the cut crater are then sanded down to a smooth gradual slope with 220 grit wet/dry finishing paper (bottom drawing). Liberal use of a clear lubricating oil is essential both to the polishing action and to a clear exposure of the color sequence. Drawings by Douglas Bucher.

of paint from the surface to the substrate. Paint layers exposed in this manner are easily enumerated. This technique is explained in "Some Notes on Paint Research," by Morgan W. Phillips and Norman Weiss (see bibliography).

In order to determine the original and subsequent color schemes, the property owner should begin by taking as many inconspicuous paint samples as possible on the surfaces to be repainted in a room or on a building. By comparing the layers and colors in samples taken in the same space, the painting sequence of the space can be determined. Comparison of layers will also aid architectural investigation of various building elements dependent on the paint layers they exhibit and the place of those layers in the sequential scheme.[17] Owners should also check all historical records associated with their building and consult other sources, such as contemporary paint catalogues and painter's manuals (see bibliography). Information gleaned from the physical investigation and the documentary research should be carefully evaluated to determine the color scheme to be restored.

Once the color scheme is decided upon, the property owner must relate the old colors to paint colors available on the current market. Through the use of solvents it is possible to obtain a fairly accurate indication of a color by exposing a larger area of the desired color, measuring approximately two inches square.[18] The exposed square can then be matched in place with commercial paint chips. Yellowing, blanching and fading of the paint should be taken into account.[19] In order to minimize the problem of metamerism, the phenomenon which allows two different pigments to appear the same under one type of light and different under another, the sample area should be examined under different kinds of light including daylight and incandescent. If colors cannot be matched exactly, most paint dealers have mixing machines and are willing to experiment with hard-to-match shades.

Under certain circumstances, a property owner may want to contact a professional restoration consultant about more sophisticated systems for matching samples with modern paint colors. One of these systems is a comparative method in which a paint sample is matched beneath a microscope to a color chip from *The Munsell Color Book*. Another method, called spectrophotometric curve analysis, involves the illumination of a paint sample with different wavelengths of light through the complete range of the spectrum. The relative absorption and reflectance of the sample at each wavelength are plotted on a graph to produce a unique curve. From this curve the Munsell Laboratories are able to produce a paint formula for most colors. In both methods a Munsell color notation is provided and should become a part of the permanent record of the building.[20]



This photograph of portions of an interior door and adjacent jamb (c. 1770) in the hall of Washington's Headquarters, Newburgh, New York, illustrates the application of circular sanding method of paint sampling and the chronochronological method of dating building fabric. The exposed paint rings may be read like tree rings with the interior rings indicating the earliest paint. The dark interior rings are identical in color, thereby revealing that the door and jamb received similar decorative treatment during the late 18th century. The successive parallel but contrasting layers on the door and jamb remain from 19th century repaintings of the surfaces. Photograph courtesy of Division for Historic Preservation, N.Y.S. Office of Parks and Recreation.

Preservation and Maintenance of Historic Paints

In some cases, property owners may have an interest in preserving historic paints. This is especially true with interiors which may have original finishes or color schemes of sufficient age and quality to merit antiquarian interests.[21] In any case, it is always advisable to leave exposed in an inconspicuous location a strip displaying the evidence of the different layers of paint. This technique can add to present and subsequent owners' knowledge and pleasure in the structure. The layers of paint on and within a building are an irreplaceable record of paint history not only as documentation for that particular building, but as a contribution to the general history of the subject. This is especially true in historic house museums in which paint layers should be respected and left undisturbed as valuable archeological resources for future generations.

Paint stripping and scraping in historic buildings should be undertaken only where successive paint layers have built up to an inflexible thickness and are peeling and cracking or where fine architectural detail has been obscured by paint film. Even in this case, removal should proceed only as far as necessary and stop at historically important early layers.

Proper cleaning and maintenance of painted surfaces will aid their preservation and lessen the need for continual, costly repainting and consequent undesirable build-up of paint layers. The choice of the proper cleaning agent will depend upon the type of paint and the surface on which it is found. Much routine cleaning cam be accomplished by dusting and vacuuming. Some surfaces, such as whitewash and certain distemper paints, cannot be wet washed; they were, and still must be, removed and reapplied when too dirty or worn. Modern flat emulsion paints, such as latex, have also proved difficult to clean. Wood may be damaged by the strong alkalis in common household cleaners, such as ammonia.

Choosing the Proper Paint for an Old Building

Once the colors are chosen, it is very important to consider the type of paint to be used. If it is decided to reproduce a historically accurate paint scheme, the paint job may well have a longer life than most contemporary

paint jobs that are governed by changing tastes.[22] Permanency is thus the most desirable quality in the paint. Among properties of historic paints which should be emulated when they are reproduced are ropiness, or texture, produced by brush strokes; color depth, which can be achieved by glazes; and sheen.

The two basic types of modern paint -- latex and oil base or alkyd paints -- are discussed below. Property owners should be aware that all types of paint have desirable and undesirable qualities depending upon their intended use and should be very careful about the situations and conditions in which they intend to use different types of paint.

Latex paints are based on a suspension of particulate droplets of acrylic or polyvinyl acetate resins dispersed in water. Added to this vehicle are various resins, hiding and coloring pigments, and extenders. Latex paints dry by the evaporation of water and the coalescence of the resin particles. Because they are easy to apply, latex paints have become very popular. Yet many restoration architects do not recommend using latex paints where oil-base paints have traditionally been used. However, masonry acrylic latex paints have proven very successful finishes for exterior masonry. Acrylic latex is also used successfully as a primer and size on interior plaster. When using latex as a final coat on exterior woodwork, it is recommended that an impervious oil-base, non-porous primer be used.

Oil-base or alkyd paints are generally considered to be the best type for use on historic structures except masonry buildings. In modern oil-base and alkyd paints the vehicle consists of various combinations of nonvolatile oils and resins, usually with thinners. Alkyds are synthetic gelatinous resins compounded from acids and alcohol and modified with oils. Alkyd and oil-base paints accept almost any variety of coloring and hiding pigments. Alkyd paints, which have for the most part supplanted the more expensive natural oil paints, have been found very serviceable in that role. Alkyd and oil-base paints have important preservative qualities because of their penetration, adhesion, and durability. When choosing paint for the interior of a building it is best to use an alkyd or oil-base paint in areas of high wear and areas which will require frequent cleaning.

The proponents of latex and alkyd or oil-base paints are in frequent debate over the relative merits of each type of paint. *The Historic Preservation Manual,* produced by the Division for Historic Preservation, New York State Office of Parks and Recreation, recommends that alkyd or oil-base paints be used on all woodwork and interior surfaces and that latex paints be reserved for use only on exterior masonry.[23]

Because the main function of a final coat of paint is protection of the primer, it is important that property owners choose a primer and finish paint designed as a system by the same manufacturer.

Professional painters can often be judged by the type of paint they prefer to use. Those who use a better quality, more expensive paint will usually match the performance of the product. If a property owner chooses to do his own painting, there are many helpful painting manuals that will help in choosing the proper paint, cleaning and preparing the surface, and applying the paint. One of these is *Paint and Painting* by the U.S. General Services Administration (see bibliography). Some major paint companies also produce useful painting guides, which can be obtained from dealers when purchasing paints.

A key to successful painting is always proper surface preparation, and this is particularly important with older buildings which may contain many deteriorated surface areas. Paint applied over deteriorated plaster and wood, loose paint, rusting metal, and damaged masonry will only aggravate already serious conditions and undermine well-meant restoration and preservation efforts.

Footnotes

[1] See Lee H. Nelson, "Paint Color Research and House Painting Practices"; Carole L. Perrault, "What Shall We Do With Our Walls?"; John Volz, "Paint Bibliography."

[2] See Richard M. Candee, "Housepaints in Colonial America" and "Materials Toward a History of Housepaints"; Abbott Lowell Cummings, "Decorative Painters and House Painting"; Nina Fletcher Little, *American Decorative Wall Painting;* Theodore Zuk Penn, *Decorative and Protective Finishes.*

[3] Comprehensive lists of pigments, including their manufacture, characteristics, and introduction dates are available in Rutherford J. Gettens and George L. Stout, *Painting Materials,* and Candee, "Housepaints in Colonial America."

[4] Richard M. Candee in "Rediscovery of Milk-based House Paints," p. 79, notes that although milk-based paints were common until the invention of oil-based paints in the 15th century, their use was superseded by oil-based paints until the scarcity of linseed oil became a problem during the Revolutionary era.

[5] Candee, "Housepaints in Colonial America," Vol. 4, No. 5 (1966), p. 33; Charles E. Peterson, "Early Sanded Paint Finish," p. 23.

[6] *The Cleaning and Waterproof Coating of Masonry Buildings,* Preservation Brief #1, by Robert C. Mack, describes the proper care and cleaning methods for historic brickwork. Available without charge from Technical Preservation Services, Heritage Conservation and Recreation Service, U.S. Dept. of the Interior, Washington, D.C. 20240.

[7] Samuel J. Dornsife, "Exterior Color," p. 20.

[8] Joseph T. Butler in "A Case Study in Nineteenth Century Color" and Dornsife in *Exterior Decoration* discuss some of the more influential 19th century architectural pattern books and painters' manuals.

[9] Penelope H. Batcheler in *Paint Color Research and Restoration* discusses the usefulness of this dating method.

[10] For a discussion of the ramifications of these problems in restoration, see Morgan W. Phillips, "Problems in the Restoration and Preservation of Old House Paints" and Robert F. Feller, "The Deterioration of Organic Substances."

[11] Marjorie Ward Selden, *The Interior Paint of the Campbell-Whittlesey House.*

[12] See Little, *American Decorative Wall Painting,* for examples.

[13] Cummings, "Decorative Painters and House Painting," pp. 105-107; Little, *American Decorative Wall Painting,* pp. 6-12.

[14] At the Seabury-Treadwell House, built in 1832-35 in New York City, the walls of the entrance hall were recently cleaned, revealing an original painted pattern in imitation of bright yellow, coursed marble ashlar.

[15] Phillips, "Problems in the Restoration and Preservation of Old House Paints," pp. 280-281.

[16] Dornsife, "Exterior Color," p. 16; Peterson, "Early Sanded Paint Finish," p. 24. Peterson notes that sanding was also thought to be valuable as fireproofing.

[17] Architectural investigation in this manner is sometimes known as chromochronology. The technique has been used with promising success at Washington's Headquarters, Newburgh, N.Y. See Peter H. Stott, "Summary of Remarks."

[18] Solvents can range from water to acetone to commercial paint removers. Experiments should be undertaken to determine which solvent removes upper paint layers while leaving the desired underlayer intact. Some solvents may discolor samples.

[19] Phillips, "Problems in Restoration and Preservation of Old House Paints," pp. 274-275.

[20] Munsell Color Company, 2441 North Calvert St., Baltimore, Md. 21218. *The Munsell Color Book,* in two volumes with removable color chips, is available for approximately $350.

[21] In such cases it is best to check with local museums or state agencies on proper conservation methods. In New York State contact Conservation Care, Bureau of Historic Sites, N.Y.S. Office of Parks and Recreation, Peebles Island, Waterford, N.Y. 12188.

[22] Exceptions to this statement are historic house museums where, although the paint scheme is constant, touristic wear and tear may require continual renewal of paint.

[23] "Preservation and Restoration," *Historic Preservation Manual,* p. 20.

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November, 1978. Rev. ed. Printed in the U.S.A.

APPENDIX

BASE DRAWINGS

FOR

HOUSES

To make a base drawing for your house, you need a lide projector, a slide of your house, and paper.

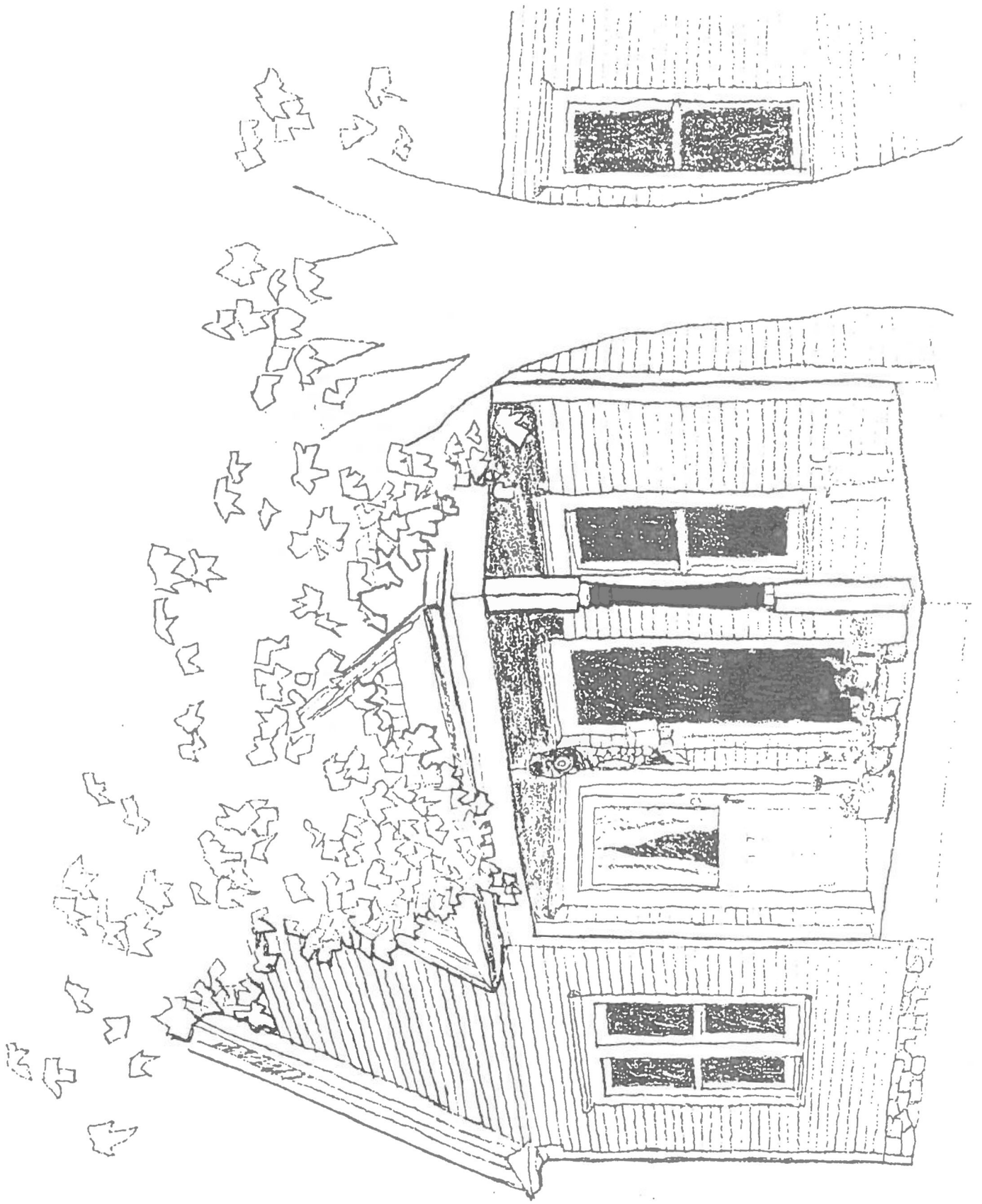
1. Pin paper on solid surface such as a wall.

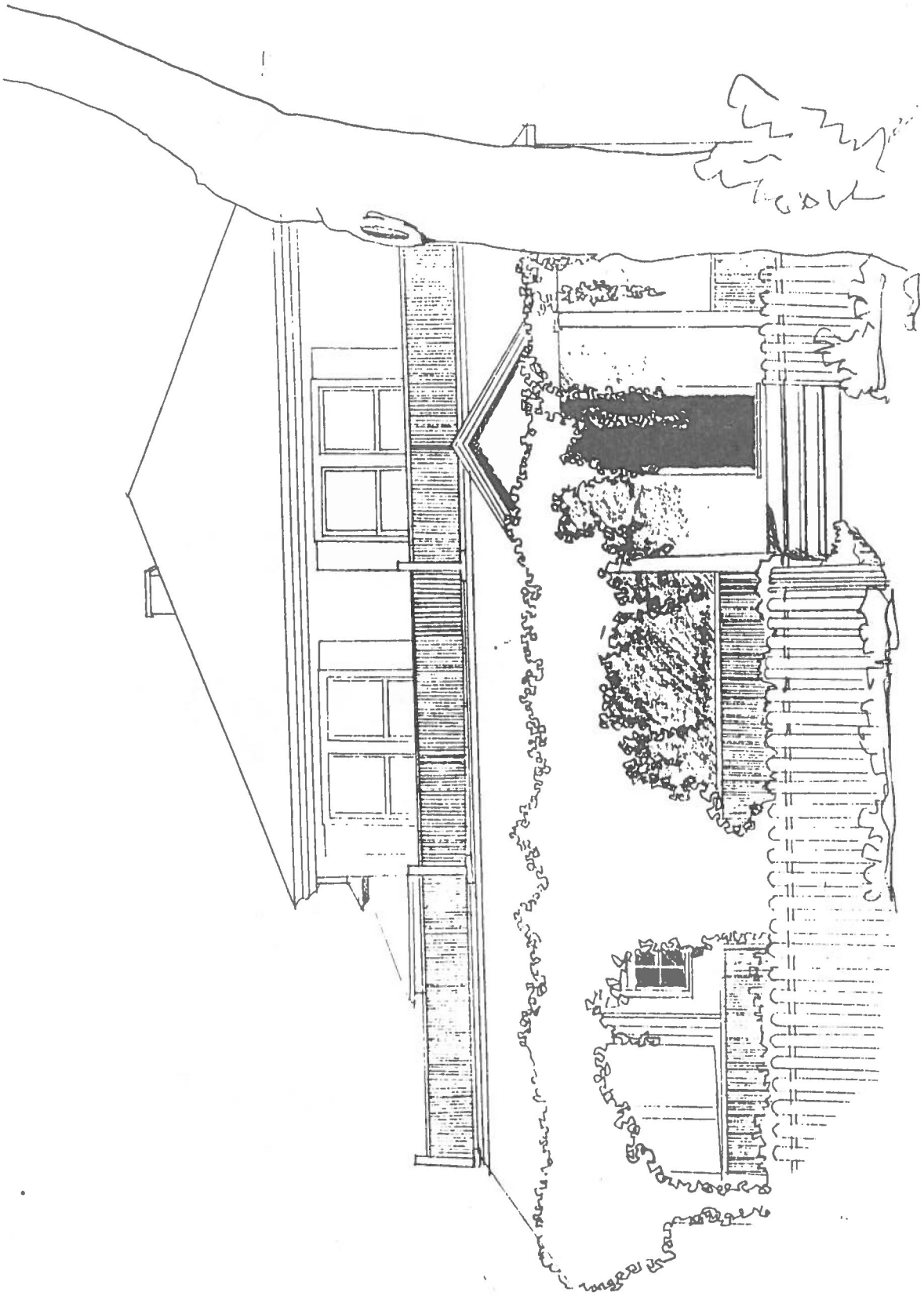
2. Project slide onto paper so that image fits within paper.

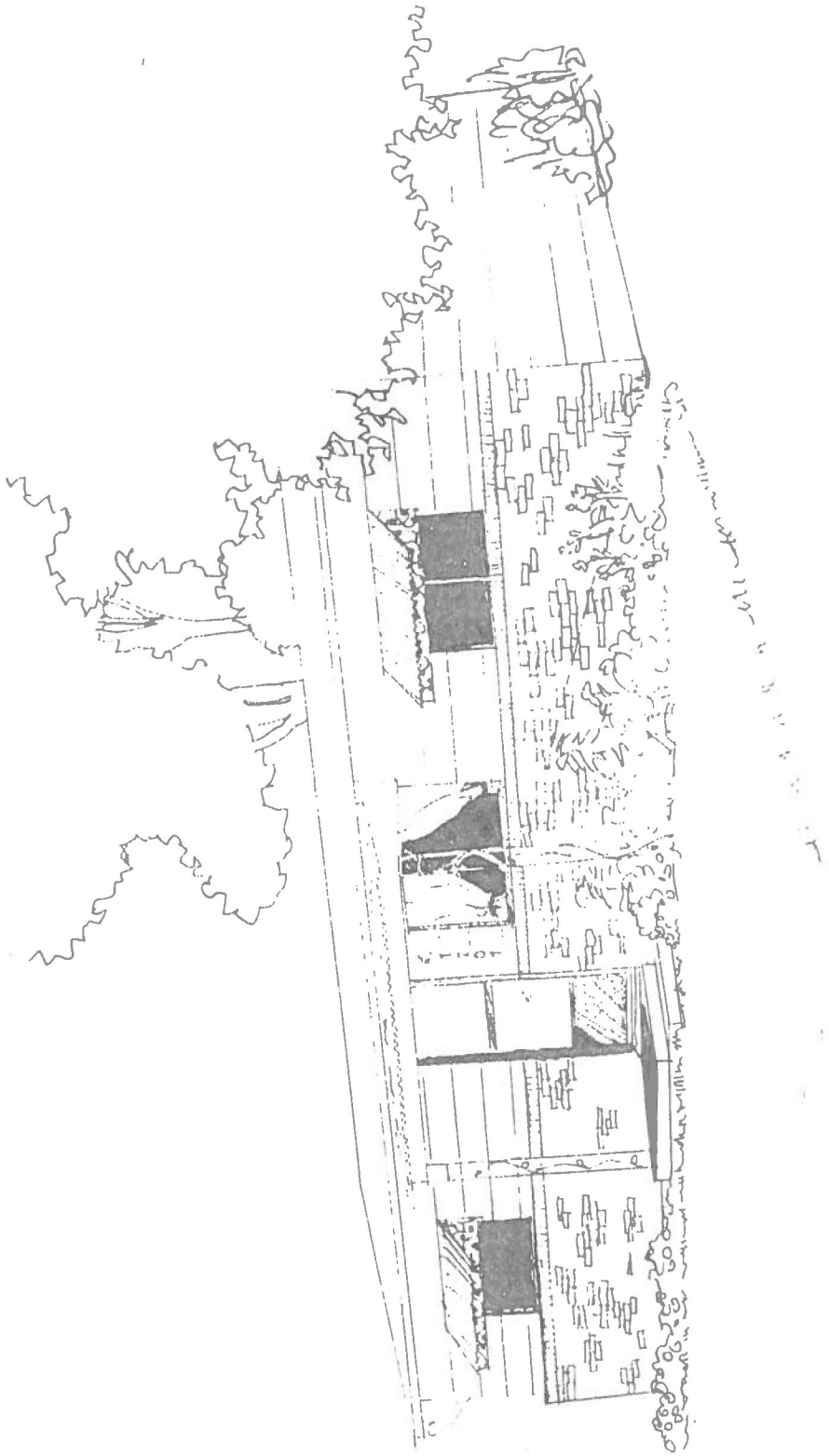
3. Using lead pencil or penteel pen, follow outlines.

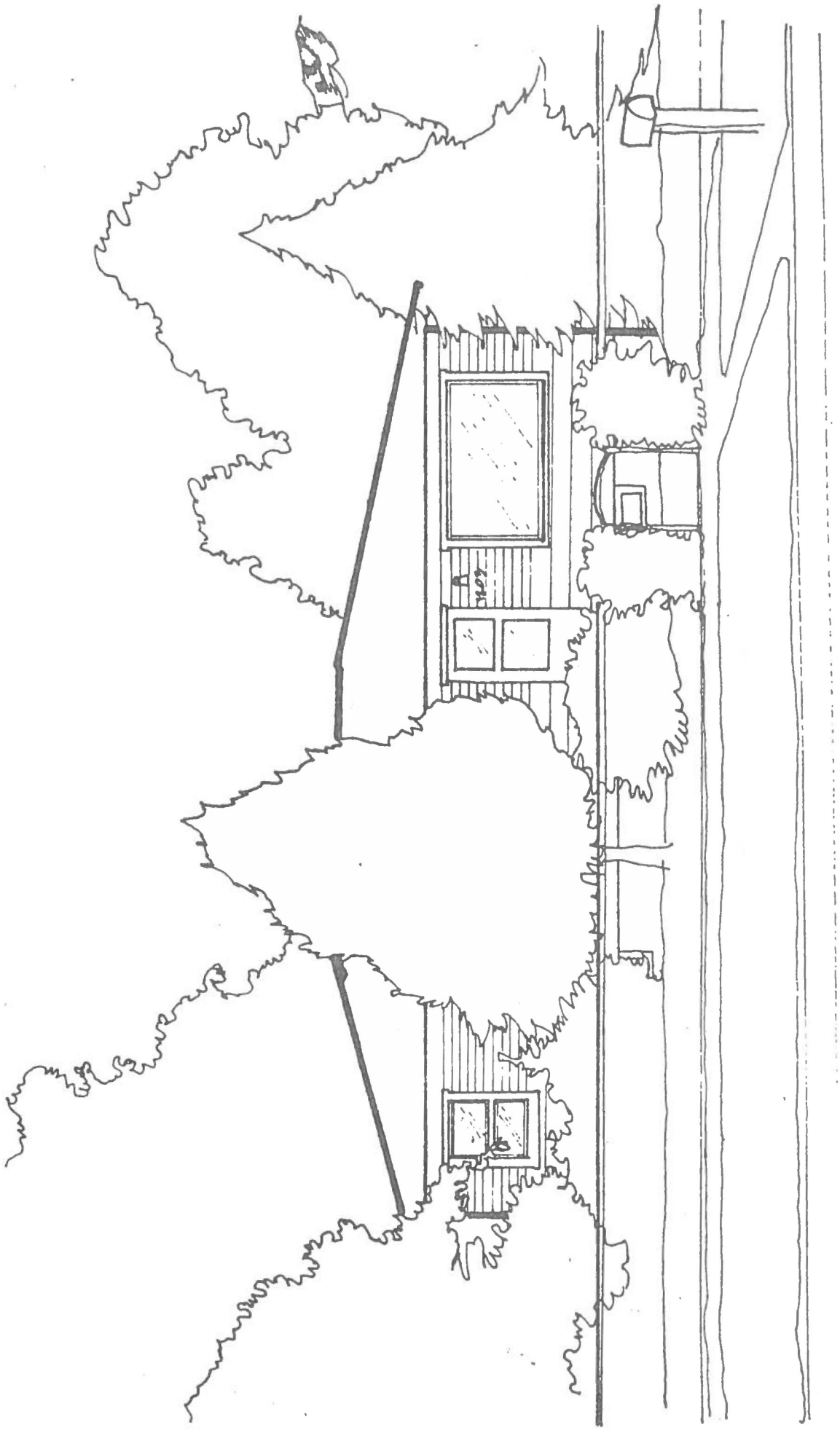
4. Make several zerox copies to practice combinations of colors for house.

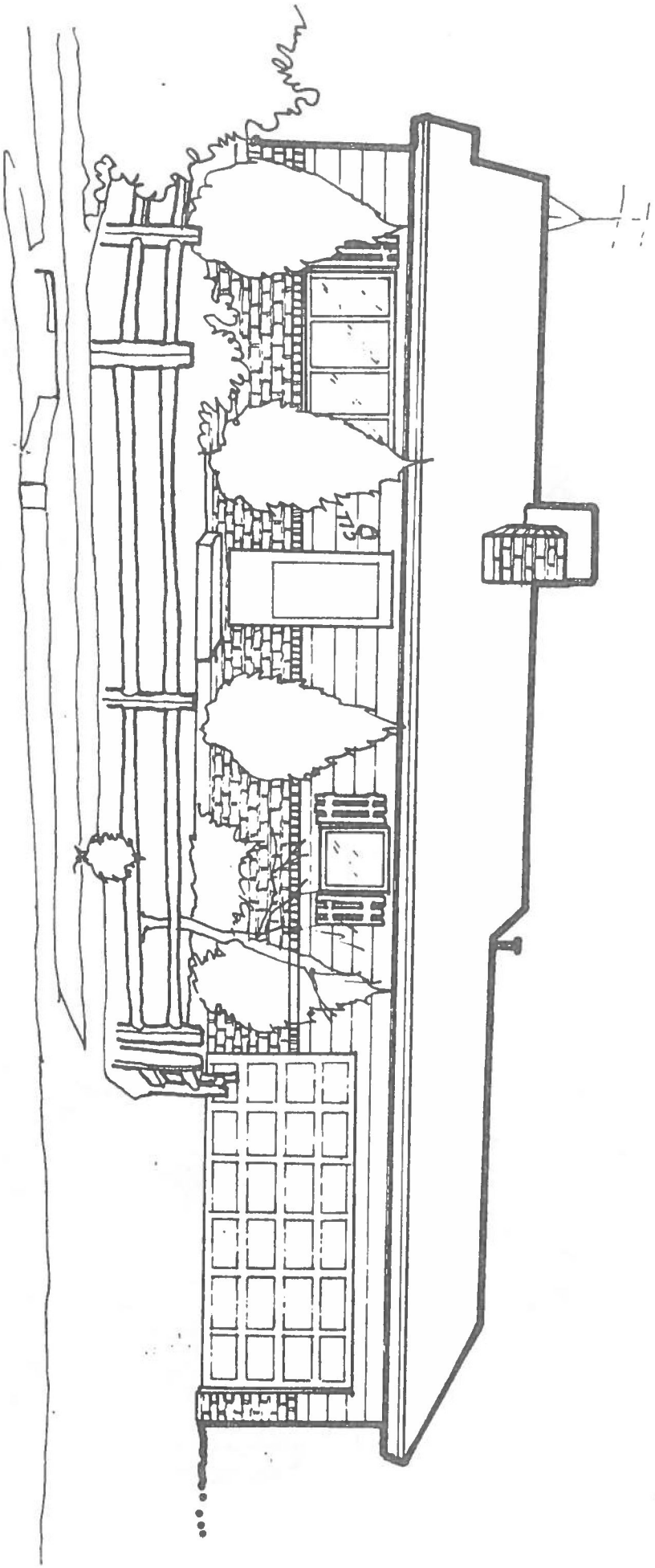
5. Use colored pencils, magic markers, paint chips, and other colored materials to achieve effects desired.

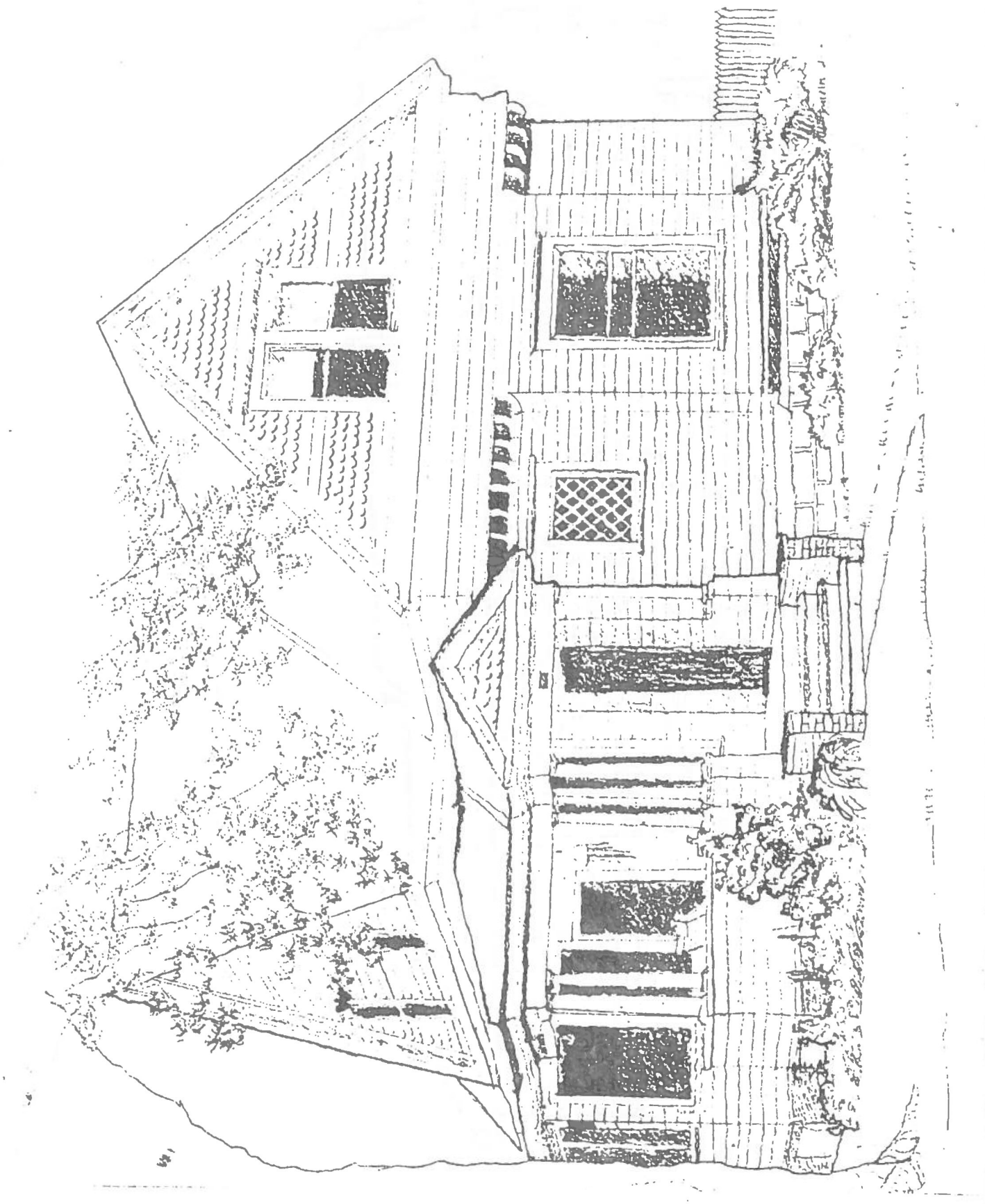


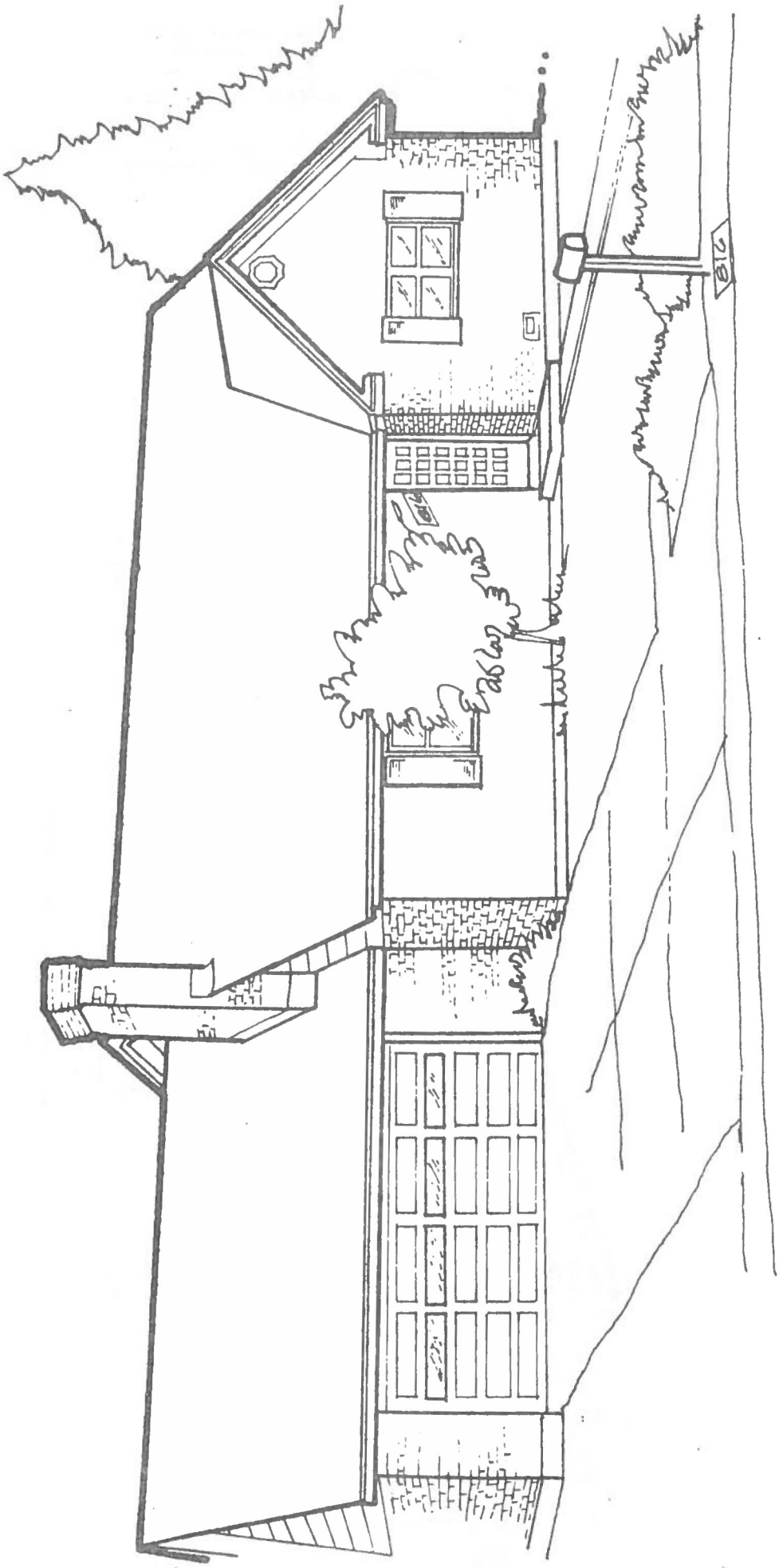


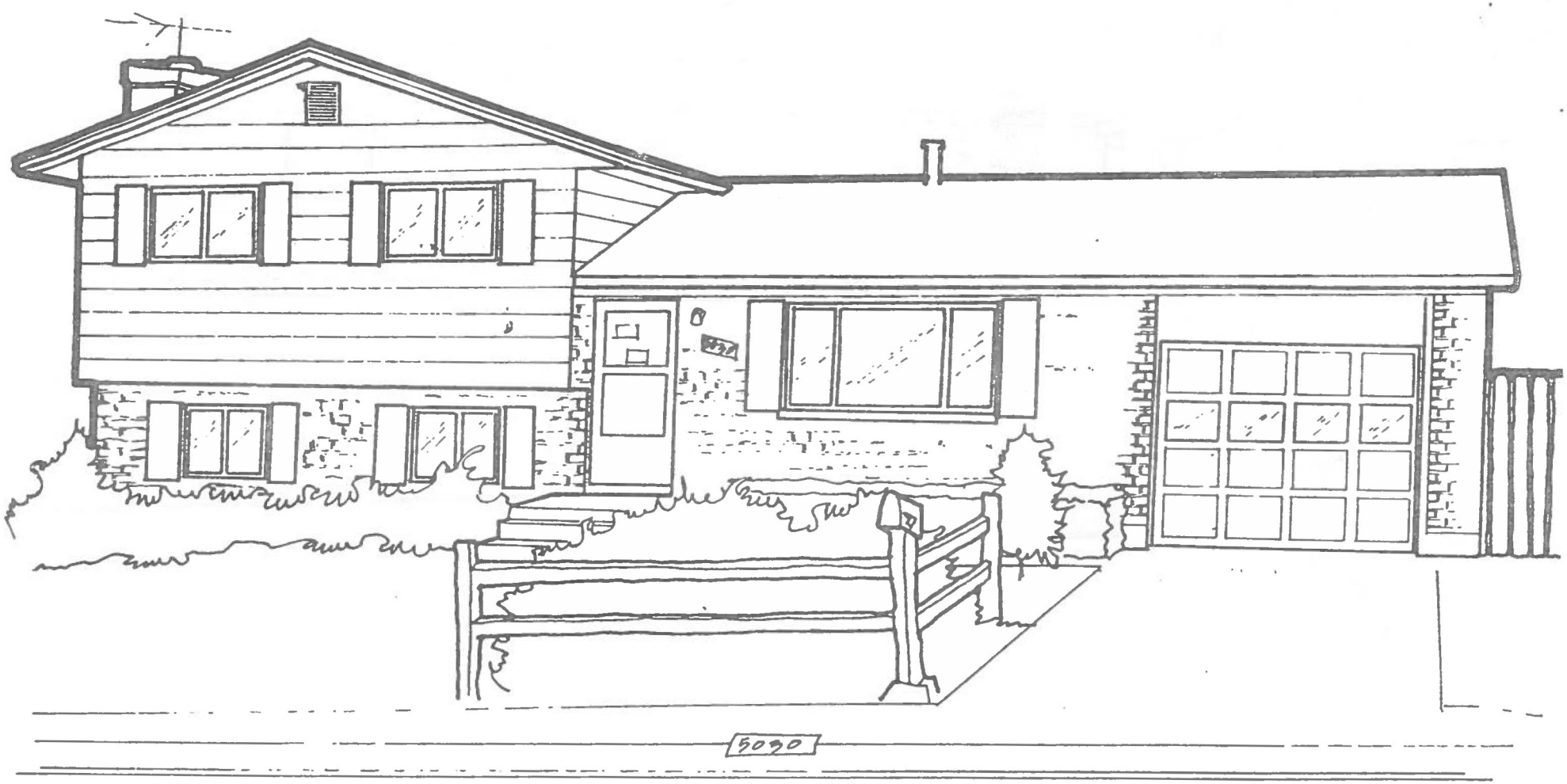








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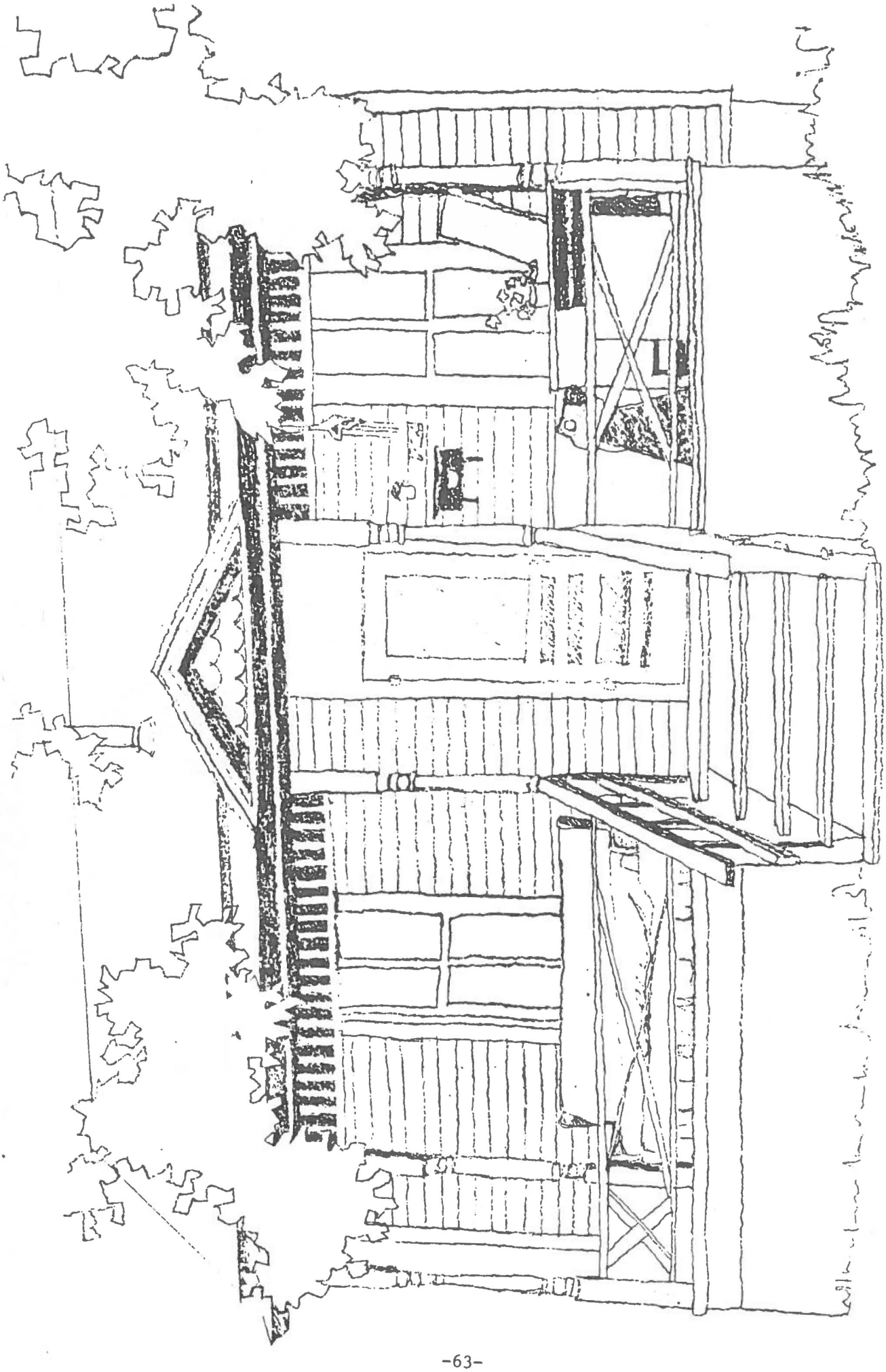

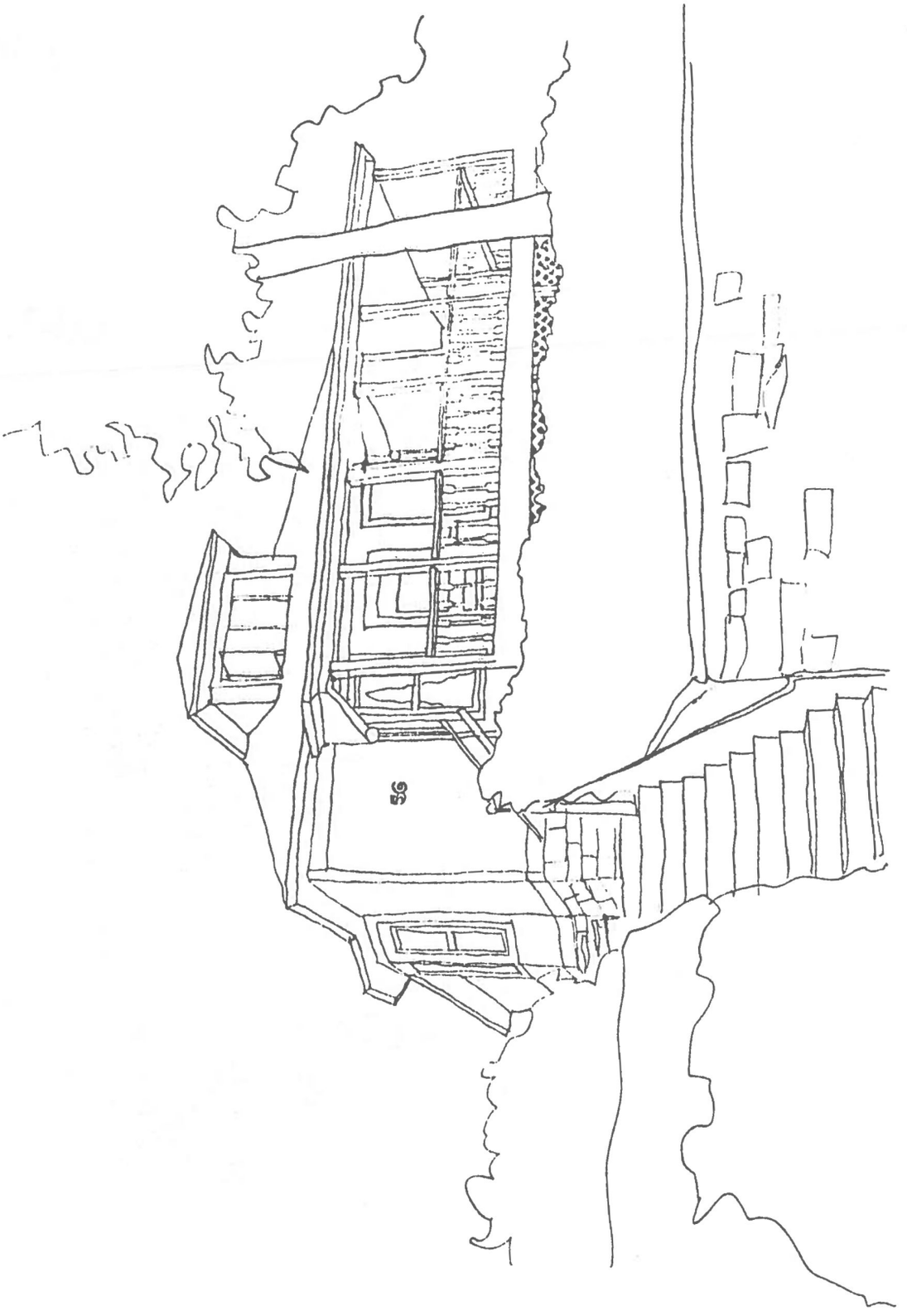

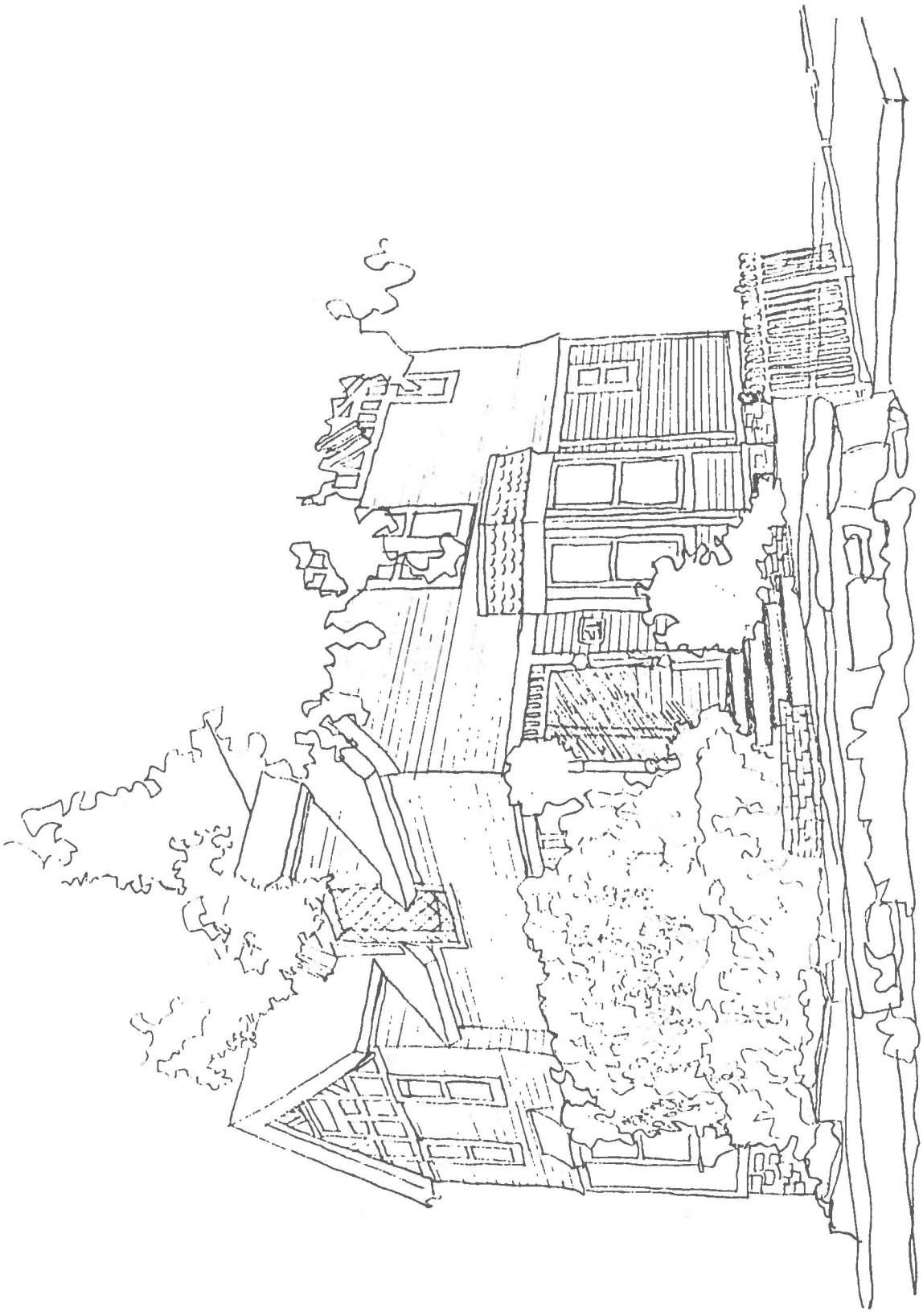

WORKSHOP EVALUATION PROCESS

EVALUATION

To date two workshops have been given, the first one on June 15, 1983 and the second one on August 24, 1983. Forty people attended the first workshop and fifteen people attended the second workshop. The first workshop was evaluated verbally, while the second workshop included a written evaluation form, samples of which are enclosed.

A verbal evaluation of the first workshop proved very positive. Among the attendees were members of the City Administration as well as contractors and lay people who planned to paint their houses during the summer. Contractors found the workshop to be among the most useful they had ever attended and felt that we had packed an unusual amount of materials in one session. One woman later called and said that she had zeroxed twelve copies of her house drawing and had given it to all the members of her family and they were all making proposals for color schemes.

We felt that forty people were too many to serve adequately and felt that it was very important to have only fifteen to twenty people in a group. In addition, we noticed that many people had difficulty learning to use the magic markers and the colored pencils with enough fluency to really experience the range of color choices. We considered expanding the workshop to a two session format but currently are wanting to further explore potential of a one-session workshop with packaged "homework" and brief follow-up counselling session.

For the second session, we handed out evaluation forms. Several completed copies are included in this section and we are still gathering data to understand people's desires in terms of format and number of sessions.

August 24, 1983

CENTER FOR COMMUNITY DEVELOPMENT AND DESIGN
2502 1/2 West Colorado Avenue #307
Colorado Springs, Colorado 80903

PAINT YOUR VINTAGE HOUSE WORKSHOP EVALUATION

NAME _____

ADDRESS OF HOUSE _____

TELEPHONE NUMBER _____

1. What part of this workshop did you find most useful?

2. What part of this workshop did you find least useful?

3. How many sessions would you have preferred?

   one session (as done)?

   two sessions (with an opportunity to work on drawings at home and return with ideas during following week)?

4. Would you like follow-up assistance from us? If so please describe how we can help you.

5. Can you offer us any suggestions for the continued improvement and usefulness of this workshop?

WHAT OTHER TOPICS WOULD BE USEFUL TO YOU AND YOUR NEIGHBORS?

How to add an addition?

How to remodel the interior?

How to build a community playground?

How to design a low maintainance garden?

How to check for structural faults?

Other suggested topics on design, neighborhood organization, and areas for community improvement?

BIBLIOGRAPHY AND FURTHER RESOURCES

COLOR IN HISTORIC BUILDINGS

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