PRESERVING AMERICA'S LATE TWENTIETH CENTURY DOMESTIC ARCHITECTURE: A STUDY OF THREE NEIGHBORHOODS IN ALLEGHANY COUNTY, VIRGINIA

by

VICTORIA ASHLEY LEONARD

(Under the Direction of CARI GOETCHEUS)

ABSTRACT

A comparison of eight houses in three different neighborhoods in Alleghany County, covering the 1900-2000 time period, was conducted in order to understand their architectural style, construction methods and materials in order to evaluate whether single family detached residences built between 1980 and 2000 could be eligible for the National Register. The case studies of the twenty-four houses, through examination of evolving architectural styles, building materials, standard, and construction processes over time, shaped an idea of how these factors may impact National Register eligibility. The results of the case study neighborhood built between 1980-2000 were evaluated alongside National Register criteria of significance and integrity to determine that neighborhoods of the late twentieth century can be preserved through the National Register, but that the process may require some changes in the future.

INDEX WORDS: Historic Preservation, National Register Eligibility, National Register Nomination for Modern Resources, Rosedale, Clearwater, Clearview

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DEDICATION

This work is dedicated to my parents. Thank you for supporting me and giving me everything I could ever need to succeed in life.

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CHAPTER 1

INTRODUCTION

> *"If we wish to have a future with greater meaning, we must concern ourselves…with the total heritage of the nation and all that is worth preserving from our past as a living part of the present."* – With Heritage So Rich, 1966[1]

The purpose of historic preservation is to help us understand the broad patterns of history and cultural heritage, and to foster care for significant portions of the built environment. As defined by Congress in the Historic Preservation Act of 1966, the purpose of preservation is to protect irreplaceable heritage so that the legacy of cultural, educational, aesthetic, inspirational, economic, and energy benefits will be upheld and enhanced for the benefit of future generations of Americans.[2] People wish to preserve cultural heritage for many reasons. To understand our present selves we look to the past for instruction which, in turn, can provide a foundation for building a future worth preserving. In the July 1972 issue of the National Trust's monthly newspaper *Preservation News*, Robert E. Stipe, a Trustee Emeritus of the National Trust for Historic Preservation, outlines reasons why he feels historic preservation is important. Stipe holds degrees in economics and law from Duke University and a graduate degree in regional planning from the University of North Carolina. He was a professor of Public Law and Government at the University of North Carolina at Chapel Hill from 1957-74 and a professor of Design at North Carolina State University from 1976-2001. Stipe was a Senior Fulbright

[1] Beth Savage and Marilyn Harper. "My Property Is Important to America's Heritage, What Does That Mean?" National Park Service: National Register Publications. (1993. Accessed July 30, 2014. http://www.nps.gov/nr/publications/bulletins/myproperty/.) 1.
[2] Beth Savage and Marilyn Harper. "My Property Is Important to America's Heritage, What Does That Mean?" National Park Service: National Register Publications. (1993. Accessed July 30, 2014. http://www.nps.gov/nr/publications/bulletins/myproperty/.) 1-3.

Research Fellow at London University in 1968/69 and served briefly as the North Carolina State Historic Preservation Officer in the mid-1970s. He received the Secretary of Interior's Distinguished Service Award in 1978 and the National Trust's Louise du Pont Crowninshield Award in 1989.[3] Stipe states that we, as a society, preserve our heritage as a tangible link to the past, and because the historic and architectural world we once inhabited has become a part of us. He states further that we preserve our heritage as a means of maintaining difference, individuality, and personal identity in a world with ever increasing technological and cultural homogeneity. People may also seek to preserve a resource because of its connection to past events, or to individuals, we wish to honor or understand better. Stripe adds that we seek to preserve architecture and landscapes for their artistic value and that preservation can serve important human and social purposes in society as a means of expressing our traditional concern with great events in history.[4] The resources that survive through preservation efforts provide a tangible link to both an individual and societal past.

One of the tangible links to American history is found in its architecture. With the Historic Preservation Act of 1966, and subsequent legislation, detailed standards and guidelines were created which outline how to physically preserve historic buildings and other resources. The Secretary of Interior's Standards for Preservation provide principles to promote best practices for historic preservation and protection of the nation's irreplaceable historic resources.[5] The National Park Service, one of the first federal level preservation agencies, was charged with developing guidelines for the identification and preservation of historic buildings. Under Park Service guidelines, a building must have significance, integrity, and in most cases be 50 years

[3] Stipe, Robert E. *A Richer Heritage*. (Chapel Hill: University of North Carolina Press, 2003.) 539-540.
[4] Robert E. Stipe. *A Richer Heritage*. (Chapel Hill: University of North Carolina Press, 2003) xiii-xv.
[5] "The Secretary of the Interior's Standards: The Treatment of Historic Properties." National Park Service: Technical Preservation Services. (Accessed January 10, 2015. http://www.nps.gov/tps/standards.htm.) 1-2.

old in order to be considered historic. Historic significance is determined when a resource satisfies four facets of history with which it is associated. A resource being evaluated for significance must meet one or more of the following criteria: A) be associated with events that have made a significant contribution to broad patterns of history, B) be associated with significant persons, C) have architectural or other artistic significance, embody unique characteristics of a type, period, or method of construction, or represent the work of a master, or D) have divulged or are likely to reveal archaeological information.[6] Beyond these four criteria for significance, there are seven aspects of integrity by which a property is evaluated which can also help measure how much of the building's original fabric, or feeling is left intact. These seven aspects of integrity are: 1) location, 2) design, 3) setting, 4) materials, 5) workmanship, 6) feeling, and 7) association.[7] More detail on the criteria for significance and integrity is provided in a later section of this thesis. Essentially, though, for a building to be considered historic, it should, in most cases, be fifty years of age, have at least one of the criterion for significance and most of the aspects of integrity, but not necessarily all of the seven.

Recently in the world of preservation professionals there has been lively discussion regarding the preservation of mid-twentieth century architecture which has now reached 50 years of age.[8] Ranch houses and split-level residences now can potentially be considered historically significant architecture and, as such, are eligible candidates for preservation, either individually or within historic districts. Much of the public, as well as some preservationists, have difficulty

[6] "National Register Bulletin: Criteria for Evaluation." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb34/nrb34_6.htm.) 1-4.
[7] "Guidelines for Evaluating and Documenting Historic Aids to Navigation to the National Register of Historic Places." National Park Service: Technical Preservation Services. (Accessed August 24, 2014. http://www.nps.gov/nr/publications/bulletins/nrb34/nrb34_8.htm.) 1-2.
[8] Carol D. Shull and Beth L. Savage. "From the Glass House to Stonewall: National Recognition of the Recent Past." National Register Publications: National Register of Historic Places Workshop. (2001. Accessed November 11, 2014. http://www.cr.nps.gov/nr/publications/bulletins/01workshop/glasshouses.htm.) 1-3.

appreciating the value of these buildings, partly because there are so many of them and because it can often be challenging to detect much variation between one mid-century ranch home and the next. To be sure, many ranch houses do not vary greatly, even as they represent a popular, unique architectural style of an era. Also, many people find it hard to see the value in saving a resource that is seemingly not that old, and is so commonly found.[9] The Arkansas State Historic Preservation Officer, for example, has raised pertinent questions noting, "objectivity evaluating modern architecture can be difficult. How much time needs to pass and how much popular acclaim and scholarly assessment are necessary to provide the perspective to determine with objectivity that a property is truly of historic significance?"[10] In spite of the ubiquity of such historic architectural resources, however, it is important for preservationists to consider the developmental context of the building type, the architectural style and existing details, their function, and the reasoning behind a house's particular layout. Regardless of their great numbers, these structures represent an important part of America's heritage, one experienced first-hand by an even greater number of citizens who have owned or lived in one of these buildings. These mid-century buildings define several decades of American residential tastes, and are representative of an evolution in architecture. For these reasons, they deserve to be counted as possible resources from which to learn, and surely deserve preservation.

Likewise, mobile homes and other buildings of the 1970s and 1980s are fast approaching the age at which they also can be considered "historic". Much thought is being given to which

[9] Carol D. Shull and Beth L. Savage. "From the Glass House to Stonewall: National Recognition of the Recent Past." National Register Publications: National Register of Historic Places Workshop. (2001. Accessed November 11, 2014. http://www.cr.nps.gov/nr/publications/bulletins/01workshop/glasshouses.htm.) 3.
[10] Carol D. Shull and Beth L. Savage. "From the Glass House to Stonewall: National Recognition of the Recent Past." National Register Publications: National Register of Historic Places Workshop. (2001. Accessed November 11, 2014. http://www.cr.nps.gov/nr/publications/bulletins/01workshop/glasshouses.htm.) 3.

modern and contemporary buildings should be preserved.[11] The debate about preserving ranch houses and split-level houses is ongoing. Questions about whether or not to preserve mobile homes or trailer parks, considered by some as temporary architecture, indeed even attempts to clearly define the meaning of temporary architecture, remain unsettled. New preservation questions and concerns are continually being raised. Why and how to preserve late twentieth century residential buildings and their qualifications for National Register eligibility must be addressed if preservationists are to make long-term investments in preserving this period of architectural history.

Research Question

The intent of this thesis is to study three neighborhoods from different periods of time within the twentieth century in order to understand their architectural styles, construction methods and materials. Through this process, the author will come to understand how each neighborhood fits into the evolution of styles and construction methods across the twentieth century. In addition to the neighborhoods themselves, and perhaps most importantly, this thesis seeks to evaluate whether single family detached residences built between 1980 and 2000 should be considered eligible for the National Register. Finally, this thesis aims to determine what character-defining elements of residences built in the years between1980 and 2000 should be preserved, and to explain why and how this might be accomplished.

This study is significant to the field of historic preservation because it considers the future of preservation and will provide a foundation regarding how to approach difficult preservation questions of the future. It is reasonable to question the possibility and advisability

[11] Robert E. Stipe. "Where Do We Go from Here?" In *A Richer Heritage*, 451-493. Chapel Hill: University of North Carolina Press, 2003.

of preserving single family detached residences constructed from 1980-2000. Preservationists and the public will have opinions concerning the significance of these historic resources, so preservationists need to be formulating answers to these questions now.

Determining National Register eligibility of residential architecture from this period presses upon the present boundaries of historic preservation just as future preservation problems surely will. Since the National Register process and system will likely remain the same, maintaining its present restrictions and guidelines, we as a society and profession will continually face the same questions about any future resources as soon as they reach 50 years of age. Therefore, the research question of this thesis asks: What issues arise when evaluating 1980-2000 single family houses to National Register eligibility?

Methods

To begin to answer the research question, key historic preservation policies and principles related to the National Register will be reviewed, beginning with the National Historic Preservation Act of 1966, which was one of the earliest major pieces of legislation defining preservation policy in the United States. The National Historic Preservation Act of 1966 established the National Register, which remains one of the foundations of the preservation process today.[12] The next step will be to provide an overview of the National Register and National Register eligibility, which will include a more in-depth look at the criteria involving age, significance, and integrity, as outlined in the National Register Bulletin, with the aim to define what makes a building historic.

[12] Robert E. Stipe. *A Richer Heritage*. (Chapel Hill: University of North Carolina Press, 2003) 11.

Further, the research question requires an examination of the Secretary of Interior's Standards and the National Park Service's Preservation Briefs relating to historic buildings and their materials. Beyond the technical details of preservation policy, it is important to note past and present debates and discussions involving preservation policy and National Register criteria and eligibility. Writings, articles, journals, and other works about preservation topics and debates will be studied to help determine National Register criteria and how they apply to contemporary building preservation. This will demonstrate how the research here is applicable to future preservation decisions.

More research will also be conducted on architectural styles and construction processes over time. First, it will be necessary to consult books on architecture and its evolution to evaluate how buildings of the late twentieth century do or do not differ structurally from those of the early to mid-century. To do this, the author will examine volumes of Ramsey and Sleeper's *Architectural Graphic Standards* addressing twentieth century architecture. This section will conclude with an examination of such books as *How Buildings Learn: What Happens After They're Built* and *The Natural Art of Building,* and pamphlets and studies addressing the durability, and lifespan of building materials commonly used during the twentieth century.

The next step in understanding the evolution in single family detached residences from 1900-2000 will be to identify case studies as examples of methods and patterns in building construction over time. These case study neighborhoods will be evaluated in order to understand how resources from 1980-2000 fit into the evolution of style and construction methods.

The identification of case studies via criteria, their description by size, location, era, general construction practices, and character-defining features will be followed by an analysis of the case studies. Analysis will include describing the process of identifying the houses to be

surveyed, noting the dates when work was completed in each neighborhood. For each case study, this section will also include the findings of each survey. Architectural research will also be conducted by examining building records in the Alleghany county courthouse and GIS system. Information such as construction dates, materials, square footage, number of stories, and simple floor plans is expected to be obtained. The research will also involve site visits, thus allowing examination of building materials, designs, architectural details, and other character-defining features. Attention will also focus on foundation materials, inner and outer wall coverings, flooring, windows, trim, and the presence of decorative details for each house. The primary goal is field verification of the applied aesthetics rather than structural systems.

To gain a better understanding of construction processes and materials, an interview will be conducted with a local contractor who has worked in each neighborhood and with a real-estate agent who has sold houses in each neighborhood. It is hoped that each interviewee will have and share extensive knowledge of the case study neighborhoods. All interviews will use the same list of questions, all of which will focus on building condition, materials, and other observational data, and all interview answers will be summarized. Similar interviews of homeowners will be done. Homeowners will be asked about their houses and how they feel about their durability to identify any problems the owners may have with the design or construction of their houses. Questions will also focus on varying decorative details of each structure. Here too all answers will be summarized. The final stage will be to evaluate the data using tables and charts, to convey findings and conclusions, and lastly, to provide recommendations for future research.

Limitations

This thesis will not address the impact of building maintenance and the impact it may have on the lifespan of a building and its materials, nor will it address internal mechanical systems, such as plumbing, heating, and air conditioning. This thesis will also not cover extensively the impact of building codes, zoning codes, or ASTM standards, although it should be noted that they have changed throughout the twentieth century and have an impact on building materials and construction methods. This thesis will also not discuss the issue of sprawl and lifestyle in relation to the preservation of these numerous single family residences. This thesis is limited to only single family detached residences, and no other types of buildings are included. Finally, this thesis is limited to a discussion of Alleghany County and the impact of preserving single family residences from 1980-2000 in the area, thus providing a foundation on how to approach the evaluation of resources in other localities and a basis for beginning the discussion on preserving these resources on a national level of significance.

Thesis Organization

Following this introduction, Chapter Two, the literature review, provides an overview of the background research topics, including National Register eligibility, the Secretary of Interior's Standards, Preservation Briefs, preservation debates and discussions, architectural styles, and construction processes over time. The section surveying twentieth-century architectural styles and construction processes will include information on common construction materials, durability, and graphic standards. Chapter Three explores three case studies, the criteria for their selection, a description of their size, location, era, and construction materials as well as a description of any character-defining features. Chapter Four contains a description and analysis

of the case studies, conveys additional research, survey findings, and conclusions from interviews, and site visits. Survey procedures as well as interview questions and responses will be provided in this chapter as well as an evaluation of the data. The final chapter finishes by answering the proposed research question posed in chapter one, including recommendations for future research and final conclusions.

CHAPTER 2

BACKGROUND RESEARCH

The purpose of preservation is to help one understand the broad patterns of history and cultural heritage, and to care for significant portions of the built environment as tangible links to the past. The National Register of Historic Places is one of the most common and effective resources for preserving our nation's heritage. As building materials, construction processes, and architectural values have changed, preservation professionals have begun to assess the eligibility of modern and contemporary buildings for nomination to the National Register. The aim here is to assess three case study neighborhoods to determine whether single family detached residences dating from 1980 to 2000 could be eligible for the National Register. To do so, it is necessary first to understand the basic nature and evolution of architectural styles, building materials, standards and construction processes over time, and the impact of those elements on National Register eligibility.

Historic Preservation

The National Historic Preservation Act of 1966 (NHPA) was established by Congress as a program for preserving historic resources throughout the nation. It was intended to preserve both historical and archeological resources and is the primary federal law governing the preservation of cultural and historic resources in the United States.[13] "The law establishes a national preservation program and a system of procedural protections which encourage the

[13] "National Historic Preservation Act." National Trust for Historic Preservation: Save the Past, Enrich the Future. (2015. Accessed August 20, 2014. http://www.preservationnation.org/information-center/law-and-policy/legal-resources/preservation-law-101/federal-law/nhpa.html.) 1-2.

identification and protection of cultural and historic resources of national, state, tribal and local significance."[14] The act created the National Register of Historic Places, the State Historic Preservation Offices (SHPO), and enhanced the National Historic Landmarks program, which was established in 1935 by the Historic Sites Act. Other components of the act included the establishment of the Advisory Council on Historic Preservation, the Section 106 Review Process, and general articulation of national policy governing the protection of historic and cultural resources. The act also gave the Secretary of the Interior, through the National Park Service, responsibility for maintaining the National Register of Historic Places. The National Park Service, on behalf of the Secretary of the Interior, established guidelines and standards for the preservation of federally owned properties.[15]

The National Register of Historic Places was established in 1966 with the Historic Preservation Act of 1966 and is the primary vehicle for identifying and protecting historic resources in the United States. The National Register is the official and most comprehensive list of historic resources in the United States. It includes individual properties, districts, sites, objects, buildings, and structures that have significance to American history, architecture, archaeology, engineering, and culture.[16] The National Register also includes all historic areas in the National Park System, National Historic Landmarks designated by the Secretary of the Interior, and properties significant to the Nation, State, or community which have been

[14] "National Historic Preservation Act." National Trust for Historic Preservation: Save the Past, Enrich the Future. (2015. Accessed August 20, 2014. http://www.preservationnation.org/information-center/law-and-policy/legal-resources/preservation-law-101/federal-law/nhpa.html.) 1-2.
[15] "National Historic Preservation Act." National Trust for Historic Preservation: Save the Past, Enrich the Future. (2015. Accessed August 20, 2014. http://www.preservationnation.org/information-center/law-and-policy/legal-resources/preservation-law-101/federal-law/nhpa.html.) 1-2.
[16] "National Historic Preservation Act." National Trust for Historic Preservation: Save the Past, Enrich the Future. (2015. Accessed August 20, 2014. http://www.preservationnation.org/information-center/law-and-policy/legal-resources/preservation-law-101/federal-law/nhpa.html.) 1-2.

nominated by the SHPO and approved by the National Park Service.[17] "There are more than 80,000 properties listed on the National Register, which includes information on more than 1.4 million resources."[18]

Age, Significance and Integrity

To be considered historic and eligible for the National Register, guidelines suggest that a property in most cases be fifty years old and have historic significance and integrity. Historic significance is evaluated using four criteria with which the resource may be associated, including: A) events that have made a significant contribution to broad patterns of history, B) significant persons, C) architectural or other artistic significance, embodying unique characteristics of a type, period, or method of construction, or representing the work of a master, or D) revealed or are likely to reveal archeological information.[19]

Under Criterion A, the resource must be associated with events that have made a significant contribution to broad patterns of history. This simply means that the resource has to be tied to a significant event of the past. Examples include historic battlefields, the site where the continental congress signed the Constitution of the United States, or where Abraham Lincoln delivered his Emancipation Proclamation. Criterion B requires that the resource be associated with significant persons. Sometimes jokingly called the 'George Washington Clause', this criterion deals with important historical figures and places where they lived or worked. Unlike Criterion A and B, Criterion C focuses more on artistic values. Here, the resource must have

[17] National Register Brochure: The National Register of Historic Places." National Park Service: National Register Publications. (2002. Accessed August 20, 2014. http://www.nps.gov/nr/publications/bulletins/brochure/.) 2.
[18] "National Historic Preservation Act." National Trust for Historic Preservation: Save the Past, Enrich the Future. (2015. Accessed August 20, 2014. http://www.preservationnation.org/information-center/law-and-policy/legal-resources/preservation-law-101/federal-law/nhpa.html.) 1-2.
[19] "National Register Bulletin: Criteria for Evaluation." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb34/nrb34_6.htm.) 1.

architectural or other artistic significance, embody unique characteristics of a type, period, or method of construction, or represent the work of a master. Architecture not associated with a person or event, is most often nominated under this criterion based on its own architectural merit. This can include monuments, or structures and objects that are significant for how they are constructed or for their appearance. This criterion includes both high style and vernacular properties, and puts emphasis on the details of workmanship and craftsmanship of a particular era. Criterion D states that the resource has divulged or is likely to reveal archeological information. This criterion aims to protect historical information that is archeologically significant.

Beyond these four significance criteria, there are also criteria considerations that deal with special circumstances and generally ineligible properties. "Ordinarily cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register."[20] Such resources may qualify, however, if they contribute to a district, or are particularly significant as outlined by each criteria consideration. There are seven criteria considerations, listed (a-g) below.

a) A religious property deriving primary significance from architectural or artistic distinction or historical importance.[21]

[20] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_2.htm.) 1.
[21] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_2.htm.) 1-2.

b) A building or structure removed from its original location but which is primarily significant for architectural value or which is the surviving structure most importantly associated with a historic person or event.[22]

c) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building associated with his or her productive life.[23]

d) A cemetery that derives its primary importance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events.[24]

e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan and when no other building or structure with the same association has survived.[25]

f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance.[26]

g) A property achieving significance within the past 50 years if it is of exceptional importance.[27]

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[22] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_2.htm.) 2.

[23] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_2.htm.) 2.

[24] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_2.htm.) 2.

[25] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_2.htm.) 2.

[26] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_2.htm.) 2.

[27] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_2.htm.) 2.

Criteria consideration "g" is particularly important since 50 years is simply a guiding tool when considering nomination criteria.

Besides meeting the significance criteria, a potentially eligible property must also retain historic integrity. "Integrity is the ability of a property to convey its significance."[28] There are seven aspects of integrity which address how much of the property's original fabric or feeling remains. These seven aspects of integrity are: 1) location, 2) design, 3) setting, 4) materials, 5) workmanship, 6) feeling, and 7) association.[29] "The evaluation of integrity is sometimes a subjective judgment, but it must always be grounded in an understanding of a property's physical features and how they relate to its significance."[30] To retain or convey integrity, a resource does not have to possess all aspects of integrity, although it should possess most. Ultimately, the assessment of a resource's historic integrity is based on whether or not the property retains the identity for which it is significant.[31]

The first aspect of integrity, *location*, refers to the place where the historic property was constructed or the place where the historic event occurred.[32] The second aspect of integrity, *design*, relates to the combination of elements that create the form, plan, space, structure, and

[28] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 1.
[29] "Guidelines for Evaluating and Documenting Historic Aids to Navigation to the National Register of Historic Places." National Park Service: Technical Preservation Services. (Accessed August 24, 2014. http://www.nps.gov/nr/publications/bulletins/nrb34/nrb34_8.htm.) 1-2.
[30] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 1.
[31] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 1.
[32] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 2.

style of a property.[33] "It results from conscious decisions made during the original conception and planning of a property (or its significant alteration) and applies to activities as diverse as community planning, engineering, architecture, and landscape architecture. Design includes such elements as organization of space proportion, scale, technology, ornamentation, and materials."[34] Design can apply to individual properties or districts and reflects the historic functions and technologies as well as aesthetics of each.[35] Integrity of *setting*, similar to integrity of location, refers to the physical environment of a historic property. More specifically, setting refers to the character of the place in which the property existed historically and involves how the property is situated and its relationship to surrounding features rather than just the *where*.[36]

Integrity of *materials* and *workmanship* are related to each other and are particularly applicable to this thesis. Integrity of *materials* involves the physical elements that were combined or deposited during a particular period of time and in a particular pattern, or configuration, to form a historic property.[37] "The choice and combination of materials reveal the preferences of those who created the property and indicate the availability of particular types of materials and technologies."[38] Similarly, integrity of *workmanship* refers to the physical

[33] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 2.
[34] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 2.
[35] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 2.
[36] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 3.
[37] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 3-4.
[38] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 3.

evidence of the crafts of a particular culture or people during any given period in history. It is the evidence of artisans' or craftsman's labor and skill in constructing or altering a building, structure, object, or site.[39] "Workmanship is important because it can furnish evidence of the technology of a craft, illustrate the aesthetic principles of a historic or prehistoric period, and reveal individual, local, regional, or national applications of both technological practices and aesthetic principles."[40]

The final two aspects of integrity, *feeling* and *association*, depend on individual perceptions of a resource. Due to this, their retention alone is not considered sufficient to support eligibility of a property for the National Register. *Feeling* relates to a property's expression of the aesthetic or historic sense of a particular period of time. It involves the physical features that together convey the property's historic character.[41] *Association* is the direct relationship between an important historic event or person and a historic resource. "Like feeling, association requires the presence of physical features to convey a property's historic character."[42]

For this thesis, integrity of design, materials, and workmanship will be emphasized, as those are the elements most in question regarding the recent past. Fitch considers integrity when he states that treatment or repair should always consider how a building was originally designed, and what its character-defining features are. James Marston Fitch, one architectural critic, was

[39] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 3-4.
[40] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 4.
[41] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 4.
[42] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 4.

an established architect and preservationist. Fitch wrote many articles and other published works on architecture, landscape design, and preservation and in 1954 joined the faculty of Columbia University School of Architecture, Planning, and Preservation. He was responsible for the establishment of the preservation program at the University of Pennsylvania and produced the first comprehensive book on the subject of curatorial management in Historic Preservation.[43] He suggests that some changes, repairs, stabilization, and replacement of materials are inevitable, but that it is important to follow a standard set of guidelines when alterations become necessary.[44] Although all aspects of integrity are important to a property's eligibility to the National Register, these three aspects of integrity, *design*, *materials*, and *workmanship*, are the ones pertaining most to changing architectural styles, building materials, and construction processes discussed in later chapters of this thesis.

Secretary of the Interior Standards and Guidelines

While significance and integrity are used to evaluate the eligibility of a historic resource for the National Register, the Secretary of the Interior's Standards (the Standards hereafter) and the associated Guidelines, offer *direction* for approaching the physical preservation of a historic resource. Fitch believes that the construction of Colonial Williamsburg and the action of the Mount Vernon Ladies Association were the main driving forces leading to the Secretary of Interior's Standards.[45] The Standards provide a general approach to preservation and were

[43] "James Marston Fitch." The James Marston Fitch Charitable Foundation. (2015. Accessed April 11, 2015. http://fitchfoundation.org/about/honorees_fitch/.) 1-2.
[44] James Marston Fitch. "The Visual Criteria for Historic Building Restoration: Determining Appropriate Repair/Cosmetic Treatments" In *Selected Writings on Architecture, Preservation, and the Built Environment*, 208-219. (New York: W.W. Norton & Company, 2006.) 212-219.
[45] James Marston Fitch. "The Philosophy of Restoration: Williamsburg to the Present" In *Selected Writings on Architecture, Preservation, and the Built Environment*, 172-181. (New York: W.W. Norton & Company, 2006.) 172-173.

established to help guide preservation practice, especially regarding conservation intervention ranging from minimum to maximum

levels.

> The *Standards* are a series of concepts about maintaining, repairing, and replacing historic materials, as well as designing new additions or making alterations. The *Guidelines* offer general design and technical recommendations to assist in applying the *Standards* to a specific property. Together, they provide a framework and guidance for decision-making about work or changes to a historic property. The *Standards* and *Guidelines* can be applied to historic properties of all types, materials, construction, sizes, and use. They include both the exterior and the interior and extend to a property's landscape features, site, environment, as well as related new construction.[46]

The *Standards* define the four proposed preservation treatments; preservation, rehabilitation, restoration, and reconstruction. Through examples, the Secretary of Interior's Guidelines assist the practitioner to understand the breadth of integrity questions to consider when doing a physical intervention. They also offer proposed solutions for unique challenges presented by buildings from the recent past. For example, vinyl siding typically has a lifespan of up to 50 years, meaning it will need to be replaced more often than wood, which has a lifespan up to 100 years, or brick which can last even longer. Replacing vinyl siding with new vinyl siding negatively affects the building's material and workmanship integrity, while it may not affect the design aspect of integrity at all. The logic is that design can be retained by using the same type, size, color, and composition of vinyl. Because replacement vinyl will likely look the same as the original, and because the aspect of integrity *design* is based on appearance, the building will retain integrity of design. However, the material and workmanship aspects of integrity will be lost because the vinyl is not the original vinyl material and the work and method of putting that original material on has been lost. A comparison of the seven aspects of integrity against the Standards can help make preservation options clearer. The standards provide the framework for

[46] "The Secretary of the Interior's Standards: The Treatment of Historic Properties." National Park Service: Technical Preservation Services. (Accessed January 10, 2015. http://www.nps.gov/tps/standards.htm.) 1-2.

addressing future preservation issues and should be consulted as the discussion of National Register eligibility evolves and moves forward. Because the guidelines are conceptual, do's and don'ts for historic property are provided in this thesis through images and text from preservation briefs, which are discussed next.

Preservation Briefs

Along with the Secretary of Interior's Standards, Preservation Briefs are another valuable resource for how to approach historic resources, their materials and construction. Published by the National Park Service, Preservation Briefs are an essential resource, helping preservationists assess the potential National Register eligibility as well as actually preserving late twentieth century dwellings. In general, the Preservation Briefs introduce a material or construction process, identify its characteristics, review procedures for preservation, and outline how changes to those characteristics may effect integrity, or in some cases, National Register eligibility. A selection of briefs (see Table 1) was reviewed to assist in answering the research question. The following pages summarize the key ideas of each Preservation Brief studied here.

List of Preservation Briefs Used in This Thesis	
Preservation Brief 8	*Aluminum and Vinyl Siding on Historic Buildings*
Preservation Brief 14	*New Exterior Additions on Historic Buildings*
Preservation Brief 15	*Preservation of Historic Concrete*
Preservation Brief 16	*The Use of Substitute Materials on Historic Building Exteriors*
Preservation Brief 17	*Architectural Character – Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving their Character*
Preservation Brief 18	*Rehabilitating Interiors in Historic Buildings: Identifying and Preserving Character-Defining Elements*
Preservation Brief 22	*The Preservation and Repair of Historic Stucco*
Preservation Brief 47	*Maintaining the Exterior of Small and Medium Sized Historic Buildings*

Table 1: Preservation Briefs reviewed that directly relate to late 20th century historic resources (Leonard, 2015)

Preservation Brief #8, *Aluminum and Vinyl Siding on Historic Buildings*, is particularly applicable for recent-past preservation. It primarily discusses replacement of materials, and addresses issues such as the inappropriateness of replacing wood siding with newer and more modern materials such as aluminum or vinyl. It stresses the importance of keeping the original material in order to retain historic character. The same concept can be applied to more modern materials such as vinyl, stressing that if the original siding is vinyl then it should stay vinyl if a building's historic integrity is to be preserved, and its National Register eligibility maintained.

> "Preservation of a building or district and its historic character is based on the assumption that the retention of historic materials and features and their craftsmanship are of primary importance. Therefore, the underlying issue in any discussion of replacement materials is whether or not the integrity of historic materials and craftsmanship has been lost. Structures are historic because the materials and craftsmanship reflected in their construction are tangible and irreplaceable evidence of our cultural heritage. To the degree that substitute materials destroy and/or conceal the historic fabric, they will

> always subtract from the basic integrity of historically and architecturally significant buildings."[47]

Brief #8 also defines circumstances in which substitute materials may be used without damaging the integrity of a historic building or adversely changing its historic character. This contributes to the discussion about lifespan of newer materials and how to approach their preservation and maintenance. Although this Brief primarily addresses wood, brick, and stone and how they are generally durable and serviceable materials with a long lifespan, the main point is the value of original materials on historic buildings. The Brief also highlights how all materials can fall into disrepair if not properly maintained, and emphasizes that retention of original materials is always the most architecturally appropriate, and usually the most economically sound, when the objective is to preserve the unique qualities of a historic building.[48]

Preservation Brief #14, *New Exterior Additions on Historic Buildings*, like Preservation Brief #8, provides some context and guidance for approaching modern building materials, and also emphasizes the importance of retaining original materials to help maintain the historic integrity of a resource. Throughout the discussion of appropriate new additions to historic buildings runs a subtle theme naming which of a building's features are truly character-defining. Concerning exterior additions to historic buildings, the Brief emphasizes how one risks damaging significant materials or changing a building's essential character in the process. Additions should be considered only if additional space is absolutely needed. The Brief specifies

[47] John H. Myers. "Preservation Brief 8: Aluminum and Vinyl Siding on Historic Buildings." National Park Service: Technical Preservation Services. (October 1984. Accessed August 25, 2014. http://www.nps.gov/tps/how-to-preserve/briefs/8-aluminum-vinyl-siding.htm.) 3.

[48] John H. Myers. "Preservation Brief 8: Aluminum and Vinyl Siding on Historic Buildings." National Park Service: Technical Preservation Services. (October 1984. Accessed August 25, 2014. http://www.nps.gov/tps/how-to-preserve/briefs/8-aluminum-vinyl-siding.htm.) 1-5.

that any new addition to a historic building should be constructed in a manner that preserves significant materials, features and form, and preserves a building's historic character.[49]

The most important lesson from Brief #14 is how to emphasize the historic character as well as the value of a resource, and how alterations may significantly damage both. The Brief provides solid ground for moving forward with resources from the recent past, showing how to address eligibility for the National Register. Preservationists are reminded throughout the brief that the most important goal is to preserve historic character.

Preservation Brief #15, *Preservation of Historic Concrete,* addresses the preservation of a specific material. It outlines the history of concrete, how and when it became popular, its deterioration, tendencies, and ways to repair and protect it. The focus is on concrete use in the construction of buildings or structures that are of historical, architectural, or engineering interest regardless of their age.[50] This Brief reviews some scenarios that may be useful regarding the preservation of many mid-to-late twentieth century materials. It emphasizes the value of original materials, suggests that specific components of concrete can be replaced if they are beyond repair, and that replacement must be in-kind; a solution that can be applied to any material.

Preservation Brief #16, *The Use of Substitute Materials on Historic Building Exteriors*, includes descriptions of several substitute materials, notes advantages and disadvantages, outlines when to use them and provides caution regarding expected performance.[51] The Brief stresses the importance of matching the appearance and physical properties of historic materials

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[49] Anne E. Grimmer and Kay D. Weeks. "Preservation Brief 14: New Exterior Additions to Historic Buildings." National Park Service: Technical Preservation Services. (August 2010. Accessed August 25, 2014. http://www.nps.gov/tps/how-to-preserve/briefs/14-exterior-additions.htm.) 2-9.

[50] Paul Guadette and Deborah Slaton. "Preservation Brief 15: Preservation of Historic Concrete." National Park Service: Technical Preservation Services. (2007. Accessed August 25, 2014. http://www.nps.gov/tps/how-to-preserve/briefs/15-concrete.htm.) 3-7.

[51] H. Ward Jandl. "Preservation Brief 16: The Use of Substitute Materials on Historic Building Exteriors." National Park Service: Technical Preservation Services. (September 1988. Accessed August 25, 2014. http://www.nps.gov/tps/how-to-preserve/briefs/16-substitute-materials.htm.) 3-6.

and of finding a successful long-term solution. It also helps address questions of integrity when considering replacement materials by urging repair of historic materials rather than replacement. It also provides direction should replacement become absolutely necessary, and highlights potential future difficulties of newer materials. "In some respects these newer products (often referred to as high tech materials) show great promise; in others, they are less satisfactory, since they are often difficult to integrate physically with the porous historic materials and may be too new to have established solid performance records."[52]

Architectural Character – Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving their Character, Preservation Brief #17, describes a three-step process for identifying visual character. Step one is simply identifying overall visual aspects such as shape of a building. These include its roof and roof features, projections, major recesses, and voids, all of which distinguish physical aspects of a building without focusing on details like molding profiles or cornice designs. Step two, observing visual character at close range, is looking at the building closely and identifying surface materials that show evidence of craftsmanship and age, and which distinguish historic buildings from other buildings. Step three is identifying the visual character of interior spaces, features, and finishes. This step involves moving through each interior space of the building, identifying primary and secondary spaces in an attempt to understand the overall shape, and how space is interconnected and related.[53] This Brief aims to identify character-defining features and their impact on the understanding of a historic resource. "The visual emphasis of this brief will make it possible to ascertain those features that should be

[52] H. Ward Jandl. "Preservation Brief 16: The Use of Substitute Materials on Historic Building Exteriors." National Park Service: Technical Preservation Services. (September 1988. Accessed August 25, 2014. http://www.nps.gov/tps/how-to-preserve/briefs/16-substitute-materials.htm) 3.
[53] Lee H. Nelson. "Preservation Brief 17: Architectural Character – Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character." National Park Service: Technical Preservation Services. (September 1988. Accessed August 25, 2014. http://www.nps.gov/tps/how-to-preserve/briefs/17-architectural-character.htm.) 2-6.

preserved because their loss or alteration would diminish or destroy the historic character whether on the outside, or on the inside of the building."[54]

Preservation Brief #18, *Rehabilitating Interiors in Historic Buildings: Identifying and Preserving Character-Defining Elements*, points out that while a building's exterior is more visible to the public eye, its interior often conveys a greater sense of historical development over time. The Brief offers a process to follow when considering rehabilitation. The first stage of the process is to identify and evaluate those important interior elements that the building may possess. This includes researching the building's history, observing spatial arrangements to locate elements important to the building's character, as well as assessing alterations and deteriorations, all of which contribute to a full evaluation of significance and integrity. As with Preservation Brief #17, the initial step in beginning to identify character-defining elements is to separate the rooms into primary and secondary spaces and then evaluate them by function. Spaces are often designed to relate both visually and functionally, and therefore those with a greater function will likely encompass an interior's character-defining features.[55] The use of new materials requires a context to identify the character-defining features of recent past historic resources. This Brief is a first step toward identifying those unique architectural features of newer buildings and materials.

The Preservation and Repair of Historic Stucco, Preservation Brief #22, offers a history of stucco, which has been used since ancient times, tells of the advantages of stucco, and describes its application to a building's exterior. Stucco is relatively inexpensive and can be

[54] Lee H. Nelson. "Preservation Brief 17: Architectural Character – Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character." National Park Service: Technical Preservation Services. (September 1988. Accessed August 25, 2014. http://www.nps.gov/tps/how-to-preserve/briefs/17-architectural-character.htm) 8.

[55] H. Ward Jandl. "Preservation Brief 18: Rehabilitating Interiors in Historic Buildings: Identifying and Preserving Character-Defining Elements." National Park Service: Technical Preservation Services. (October 1988. Accessed August 25, 2014. http://www.nps.gov/tps/how-to-preserve/briefs/18-rehabilitating-interiors.htm.) 2-5.

made to imitate stone. The Brief also describes the changing composition of stucco from mid-to-late nineteenth century to the present, as well as methods of application and traditional finishes. This Brief provides tips on assessing and repairing damaged stucco, instructions on how to identify its various types, and shows how it is applied. The section most applicable to this thesis, though brief, concerns contemporary stucco products. This document emphasizes repair of stucco before replacement and also offers tips on how to minimize the impact on the historic building if replacement is the only option. The Brief provides a model approach to the preservation of a contemporary building material, which can in turn be applied to preserving other new materials.[56]

Maintaining the Exterior of Small and Medium Size Historic Buildings, Preservation Brief #47, stresses the importance of maintenance as the most effective preservation treatment for extending the life of a historic building. The Brief suggests that understanding original construction techniques and older building material qualities helps formulate a better maintenance plan and leads to more successful preservation. The resource also provides specific guidance for creating a maintenance plan and general guidance for inspection and maintenance of exterior building components. The Brief states that using traditional maintenance and repair methods, as well as selecting in-kind materials where replacements are necessary, helps preserve a building and maintain historic character. Maintenance is also noted as essential for maximizing the life span of the materials and the building.[57]

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[56] Anne E. Grimmer. "Preservation Brief 22: The Preservation and Repair of Historic Stucco." National Park Service: Technical Preservation Services. (October 1990. Accessed August 25, 2014. http://www.nps.gov/tps/how-to-preserve/briefs/22-stucco.htm.) 1-8.

[57] Sharon C. Park. "Preservation Brief 47: Maintaining the Exterior of Small and Medium Size Historic Buildings." National Park Service: Technical Preservation Services. (June 2007. Accessed August 25, 2014. http://www.nps.gov/tps/how-to-preserve/briefs/47-maintaining-exteriors.htm.) 3-11.

Historic preservation standards and resources, such as the Historic Preservation Act of 1966, the Secretary of Interior's Standards, and Preservation Briefs can provide not only general information, but also techniques preservationists can use to determine both the value of a potentially historic property and its eligibility to the National Register. Combining these standards and resources with knowledge of architectural styles and construction practices over time provides the knowledge required to understand fully issues concerning nearly fifty year-old properties.

Architectural Styles and Construction Practices Over Time

Building practices have evolved over millennia, beginning in the Neolithic period with mud-brick houses in Asia and the primarily wattle and daub log houses in Europe. A major development in architecture c. 2900 B.C. followed with the Egyptians building Ziggurats, or temple architecture, and the pyramids.[58]

Figure 1: Mortuary Temple of Hatshepsut, Egypt, c. 1473-1458 B.C. (Kleiner, p. 53)

[58] Fred S. Kleiner. *Gardner's Art Through the Ages.* Vol. 1. (Boston: Wadsworth, Cengage Learning, 2010) 1-65.

The next major architectural evolution came from the Greeks with the introduction of Classical orders. Greek architecture focused mainly on temples, public buildings, stores, and open spaces called agoras. The Doric, Ionic, and Corinthian orders, which were primarily reflected in columns, capitals, and entablatures, were intended to demonstrate a hierarchy of buildings based on use. This was an important architectural style and construction practice that became widely used, spreading over time to various cultures.[59]

Building design and construction practices continued to evolve with the Romans, who were particularly revolutionary with the invention of the arch, the dome, vaulting, and the development of an early form of concrete as a building material. The Romans, with these new developments, were on the cutting edge of understanding architectural theory based on building practices. The use of these Roman innovations can be seen in the Colosseum, aqueducts, and the Pantheon, as well as in temples and baths.[60]

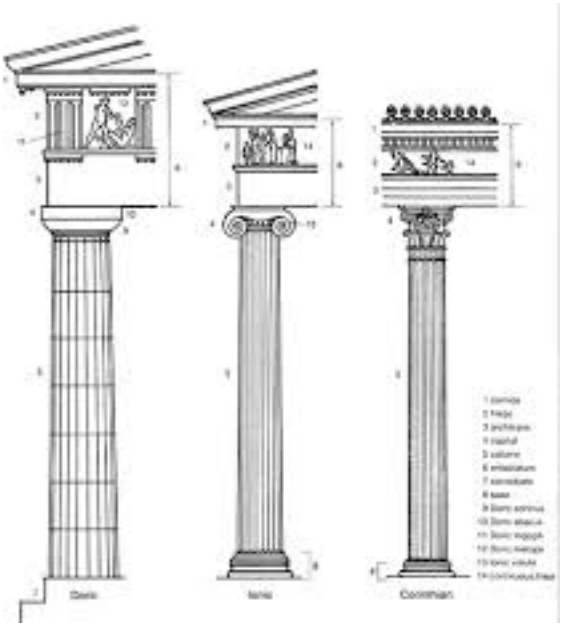

Figure 2: Greek Classical Orders, from left to right: Doric, Ionic, Corinthian (History of Architecture, p. 6)

[59] Fred S. Kleiner. *Gardner's Art Through the Ages.* Vol. 1. (Boston: Wadsworth, Cengage Learning, 2010) 85-141.
[60] Fred S. Kleiner. *Gardner's Art Through the Ages.* Vol. 1. (Boston: Wadsworth, Cengage Learning, 2010) 157-207.

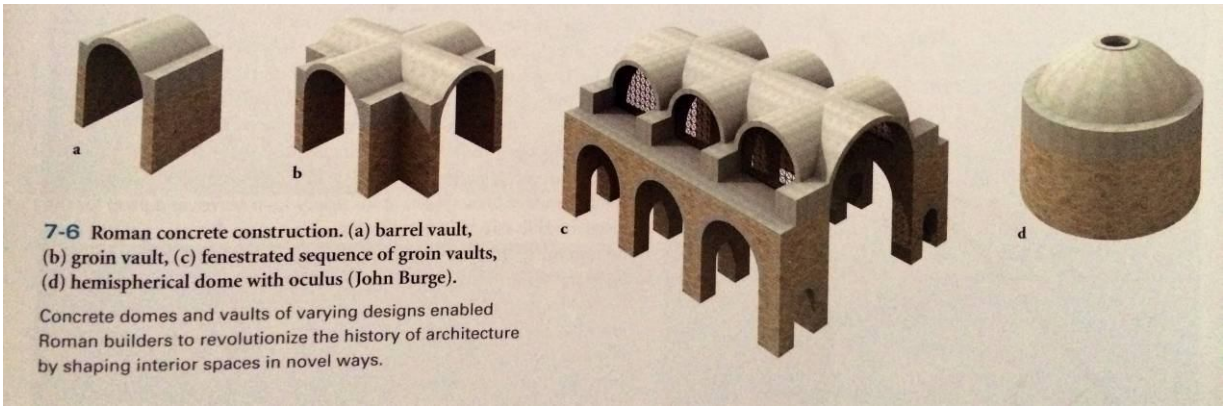

Figure 3: Roman Concrete Construction Diagram Showing the use of a Barrel Vault, Groin Vault, and Dome, Gardner's Art Through the Ages (Kleiner, p. 161)

Roman construction practices would be used and expanded upon throughout the ages, particularly in Byzantine and Early Christian churches and in the Romanesque and Gothic styles. Gothic cathedrals made particular use of the vaulting systems developed by the Romans.

Although architecture has continued to change and develop, the principles established by the Greeks and Romans have been the most influential building practices in history, manifesting in various ways through many styles of architecture over time. The design theory and material standards discussed were primarily built on a foundation of classical architecture. Much of what has been built leading up to the twentieth century can be traced directly to the Greek and Roman principals and influence. Many architectural styles that followed, such as Gothic, Beaux-Arts, and many of the revival styles, all are based on principles from Classical architecture. The tradition of producing Classical style architecture and emulating its building practices was centuries-long, went relatively unchallenged until the Industrial Revolution, and continued into the twentieth century. The introduction of modern architecture, with styles such as Art Nouveau and the International Style, broke from this tradition, intent on presenting a new kind of construction practice devoid of Classical influence.

Understanding the evolution of residential construction in the United States, especially during the twentieth century, is essential to answering the research question. The sweeping influences that shaped U.S. housing nationally also affected residential housing in small communities. The way America approached architecture and its views toward housing, along with broad economic and political forces are all factors having an enormous effect on the designs and materials preservationists currently question as they are tasked with preserving today's building styles and construction techniques.

To understand the reasoning behind evaluating the impact of late twentieth century single family detached residences for National Register eligibility, it is important to note particular areas of preservation history and appreciate preservationists' values towards architecture over time. Certain references are used here to address why it is necessary to evaluate the value of buildings and materials now, even though many are not yet 50 years of age, which is the guiding age for being considered historic. Other information is included to contextualize the overall preservation process.

James Marston Fitch's *Selected Writings on Architecture, Preservation, and the Built Environment,* offers insights into recent preservation concerns and debates. With a forward by Jane Jacobs, Fitch's writings are an important source of information because he, like Jacobs, is associated with the early preservation movement. Jane Jacobs was writer and activist on the subject of urban planning. Although she had no formal training in planning and simply relied on her observations, she became one of the most influential figures in protecting local neighborhoods and community-based activism. She is most famous for her action against NY Park Commissioner Robert Moses's plans for New York City and her treatise on *The Death and*

Life of American Cities.[61] Fitch broke away from the traditional high-style preservation movement to include buildings associated with average individuals. Jane Jacobs describes him as having a great deal to do with bringing democracy to preservation. In her forward she says, "The preservation movement began as an elite preoccupation with saving or restoring isolated works of exceptional historic or esthetic importance. Jim helped broaden these aims by emphasizing that the fabric of entire neighborhoods or districts were worthy of being cherished, and showing that their humble components were as vital as landmarks."[62]

Works of Ada Louise Huxtable also provide insight on recent preservation concerns and debates. Huxtable was architecture critic and writer for New York Magazine. She was also the first architecture critic to write for the New York Times, and was awarded the first Pulitzer Prize for criticism. Huxtable wrote over ten books on architecture and was considered a driving force behind New York City's Landmarks Preservation Commission.

Architectural Evolution 1900-1940

From 1900 through the 1930s the predominant residential architectural styles were the Prairie and Craftsman styles. Both sprang from the Arts and Crafts movement, which sought to abandon historical precedent for decoration and design. The Prairie and Craftsman Styles were soon followed by the Modernistic and International Styles which were most popular from the 1920s to 1940s, and which abandoned historic design and construction influence. It is important to note, however, that despite the popularity of these new and unprecedented architectural styles, styles introduced in the 1880s and 1890s such as Queen Anne, Shingle, Tudor, Colonial Revival, and Chateauesque were also popular at the turn of the century. In general, residential building construction consisted of buildings using Braced Frame construction, which slowly replaced

[61] "Jane Jacobs." Project for Public Spaces. (Accessed April 11, 2015. http://www.pps.org/reference/jjacobs-2/.) 1.
[62] Jane Jacobs. "Forward by Jane Jacobs." In *Selected Writings on Architecture, Preservation, and the Built Environment*, 7. (New York: W.W. Norton & Company, 2006.) 7.

Post-and-Girt framing. The most prevalent materials used in construction of this period are wood, brick, and stone. Nearly all foundations were masonry or concrete due to the known tendency of wood to rot when in persistent contact with moisture.

Figure 4: Robie House, Frank Lloyd Write, Prairie Style (Robie House, p. 1)

Figure 5: John Calvin Ownings House, Queen Anne Style (Couturier, p. 1)

Bill Risebero is an architect and town planner in London as well as a professor. He teaches at Central Saint Martins College of Art and Design in London and in the London Program of Syracuse University. Additionally, Risebero has published several books on architecture.[63] According to Bill Risebero's book, *Modern Architecture and Design*, during the late 1920s and early 30s, America was less "depressed" than Europe, which allowed industry to continue to grow and workers unions to gain ground. This resulted in a gradual shift from a system of labor based on craftsmanship, with tradesmen organized by craft, to one based on manufacturing and workplace organization. The resulting increased industrial productivity helped fuel the success of and increased demand for automobiles, which in turn led to suburbia.[64] Risebero states that the reason behind a different type of housing in suburban developments is

[63] "Bill Risebero." The MIT Press. (2015. Accessed April 11, 2015. http://mitpress.mit.edu/authors/bill-risebero.) 1.
[64] Bill Risebero. *Modern architecture and design: an alternative history*. (MIT Press, 1985.) 176.

the burgeoning mass production of building products and, going hand in hand with industrialization, the standardization of parts.[65]

In *History of Housing in the U.S. – 1930-1980*, Joseph B. Mason discusses the history of housing by decade in the period he says embodies the height of architectural quality and design. The goal of his book is "to show how the American Dream of better housing for all was advanced in these 50 years by the effort and individual genius of builders large and small, working largely under an unfettered private enterprise system."[66] Mason's personal experiences as a builder and a writer for *Building Age* and *American Building Age* magazines provided him with valuable first-hand knowledge and experience of the influences and causes of the changes in residential architecture throughout this portion of the twentieth century.

Mason details the years 1930-1940, arguing that the period's main effect on housing was the Great Depression and the revitalization that eventually followed. The stock market crash had an enormous impact on housing, building, mortgage finance, and much more. With so many out of work, it was natural that the housing market would cease to be as robust as previously. "Builders stopped work overnight, mortgage finance dried up, housing starts plunged, millions of building men were thrown out of work, and more than one-and-a-half million houses were foreclosed. It was not until 1936 that housing was able to begin a feeble comeback."[67] One of the most important lessons learned from the 1930s is how much American housing is influenced by monetary and political forces.

The majority of housing construction in the 1930s was done by individual builders or small companies. Specialized carpenters, builders, and sub-contractors worked on houses one at a time, and the overall building process was relatively slow. However, the 1930s also saw

[65] Bill Risebero. *Modern architecture and design: an alternative history*. (MIT Press, 1985.) 178-205.
[66] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) Preface.
[67] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 2.

government policy affecting the housing market. President Roosevelt's New Deal had a profound impact on housing. Policy enacted as part of, or along with, the New Deal from 1933 to 1935 included the Emergency Banking Relief Act, the Glass-Steagall Banking Act of 1933, the Federal Deposit Insurance Company (FDIC), the Public Works Administration (PWA), the Federal Emergency Relief Act (FERA), the Civil Works Administration (CWA), the Works Progress Administration (WPA), the Civilian Conservation Corps (CCC), the Farm Credit Administration (FCA), the Tennessee Valley Authority (TVA), the Home Owners' Loan Corporation (HOLC), the Federal Housing Administration (FHA), and the Social Security Act. These programs had an impact on housing by providing jobs and restoring confidence in the market, therefore providing private builders with the means to start building once again.[68]

Other events and programs contributed to the 1936 resurgence of housing construction and provided inspiration for new designs. One influential event was the 1933 Chicago World's Fair, which showcased a variety of new housing types. Styles ranging from classic, based on historic precedent and European classical influence, to modern, which deviated from historic construction and design principles, were displayed at the fair. Along with new architectural housing styles, the fair introduced new construction materials, as well as some of the early efforts pointing toward prefabrication. The theme of the Chicago World's Fair was technological innovation, and the event was meant as a showplace of invention and revolutionary ideas. Indeed, the need to construct an entire city quickly to serve the purpose of the fair itself reinforced the push for new architectural styles and construction materials.

[68] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 7-17.

Figure 6: Hall of Science, 1933 Chicago World's Fair, Shows Modern Building Style (Chicago, p. 2)

The fair buildings were constructed out of five-ply Douglas fir plywood, ribbed-metal siding, and prefabricated boards, such as Masonite, Sheetrock, Maizewood, as well as other new man-made materials.[69]

Appreciation of Colonial architecture, as seen in Williamsburg's restoration, also influenced housing design and resulted in a large number of houses nostalgically referencing colonial times in the Colonial Revival style. Another major development was planned residential communities where the entire building process, as well as surrounding amenities and features, were conceptualized and implemented through a planning process. New communities were designed to include everything a family could wish for, including schools, playgrounds, shopping centers, parks, open space, large lots with large well-designed houses, often with restrictive covenants.[70] In essence, 1930s innovations and fashion spawned the birth of the "neighborhood" as we now know it. The decade brought a horrific housing crash followed by a

[69] Lisa D. Schrenk. *Building a Century of Progress: The Architecture of the 1933-34 Chicago World's Fair*. (University of Minnesota Press, 2007) 130-131.
[70] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 19-24.

successful economic recovery. That, along with an extensive range of economic and political innovations, had an impact on housing greater than during any other single decade.

The early 1940s also saw strong political and economic upheaval, but the effect was much different than that of the 1930s. World War II was responsible for a great deal of the economic success and housing growth of the 1940s.[71] A time of great technological development, albeit with a focus on weaponry, there was a useful overflow of technological advancement into the civilian world.[72] According to Risebero, "The fact remains, however, that such technical advances are made in wartime because it becomes politically acceptable to mobilize industry on a national scale and to control the economy centrally. Governments feel able to spend massively and to reduce unemployment dramatically, in a way they are unwilling to do in peacetime. This was widely recognized during the earliest months of the Second World War; the possibility of carrying over the high levels of central control, of investment, employment and social cohesion into peace-time years, was seen as a way to reconstruct society and to ensure that 'never again' the depression years of slum living, and poverty would return."[73]

Architectural Evolution 1941-1979

The need to produce mass quantities of housing for factory employees before and during World War II, and housing for returning veterans starting families, were key reasons for the economic and technological innovations and prosperity of the 1940s; over seven million houses were built for war veterans and other Americans.[74] Postwar veteran communities, such as the

[71] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 48.
[72] Bill Risebero. *Modern architecture and design: an alternative history*. (MIT Press, 1985.) 207-208.
[73] Bill Risebero. *Modern architecture and design: an alternative history*. (MIT Press, 1985.) 211.
[74] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 31.

famous Levitt-towns[75], sprang up across the United States.[76] Though housing production remained largely in the hands of private builders, there were continued advances in home design, construction, and research, resulting in mass-production of standard building materials. Although consideration was given to applying to housing the prefabrication methods and assembly line systems that worked for the automobile in the 1930s, such a process was not truly established for buildings until the late 1970s.[77] During the 1940s there was a demand for quickly built housing, which paved the way for greater efficiency, mass-production and prefabrication of materials, and the development of engineered building products such as asbestos. Unlike the 1930s, there were more than enough funds available to finance the building of large housing projects, and prospects for the future of the industry were extremely promising.[78]

The boom in postwar housing was also furthered by additional legislation— home-financing and reasonable mortgages became available. The period of economic success spurred innovation and the development of new building methods resulting in quicker and more cost effective construction practices. Although fear of the economy falling back into depression persisted, the expected flip in the housing market never came, and by the late 1940s, housing construction was at an all time high.[79]

The prosperity of the latter half of the 1940s continued into the 1950s, and morphed into a new age of housing. The growing population along with concurrent changes in lifestyles sent scores of Americans from cities to new suburban developments. "With the fifties came social and cultural advances, economic growth, vast highway expansion, new concepts for better living and,

[75] Levitt-towns were four famous planned communities built by the firm Levitt & Sons Inc. The firm built such communities with an eye towards speed, efficiency, and cost-effective construction. They used pre-cut lumber and nails shipped from their own factories, and built on concrete slabs. They are famous for being quickly constructed planned residential communities that used advanced materials and methods.
[76] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 48.
[77] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 2-6.
[78] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 31-33.
[79] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 36-55.

of course, building advances. A record 15.1 million houses were constructed, and they were markedly better built, better planned, and better equipped, were larger in size, and had a higher monetary value than had ever been achieved in either the U.S. or other nations. Housing research, planning, and design reached new heights, paving the way for still further improvements."[80] Not only was America now safe from foreign threats, but unemployment was at an all time low. Newly rising incomes, population growth and increased spending all contributed to a booming economy.

During this time, people began to desire more space in their houses. Families wanted bigger yards, better schools, and as many of the newly advertised housing amenities as possible. The newly planned and implemented federal highway system accommodated heavy traffic in and out of cities. Growth of the new suburbs soon led to suburban sprawl and the creation of mini-cities offering all the basic services and amenities of a larger city, minus the city's congested traffic. Over time, life became about backyard barbecues and Parent Teacher Association (PTA)[81] meetings ─ the stereotypical 1950s image.[82]

Architectural advancements and government programs both contributed to changes in housing during this period. An intense debate developed between public and private housing interests, with some accusing the government of over-regulation, even socialized housing, due to instituting assisted housing const controls. Through it all, housing standards continued to improve. In 1957, Federal Housing Administration Commissioner Norman Mason pushed for an opportunity that would permit buyers to acquire more expensive, better quality houses with less income. Mason was also responsible for development of the *Minimum Property Standards* for

[80] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 61.
[81] PTA is a network that provides parents with the place and tools to help influence the decisions regarding their children that affect the school and in the community.
[82] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 61.

one and two-family houses, also known informally as the 'construction bible.' "It simplified, clarified, and raised standards, and included specifications for bigger rooms, better insulation, more storage space, and longer warranties."[83] Lower down payments and low interest loan rates were largely responsible for home building expansion during the decade, and various housing acts accelerated private production to some of its highest levels. The important Housing Act of 1954 provided housing for veterans and was responsible for slum clearance and urban renewal.[84]

During this era there was a great willingness to break from architectural design tradition, resulting in new styles such as Ranch and Split-level houses. Huxtable describes the 1960s as the point when it became evident that Modern architecture is here to stay. "It is no longer a crusade; it is the structural norm, the speculator's tool, the routine designer's rubber stamp, the only practical way to build."[85] A great amount of research and experimentation was done to determine how to get more house for less cost. "The major thrust was to standardize dimensions so that house parts could be precut and prebuilt to fit together easily on site. Rapid expansion in the use of prefabricated or precut component parts was taking place as well as improved on-site methods for putting them together."[86] Architect James T. Lendrum, came up with his "Ten Ways to Cut Costs" which ranged from using precut framing material to laying an entire floor before partitioning.[87] Risebero also notes that people of the post-war decades sought automation and prefabrication as a means of reducing labor costs. Prefabrication was an obvious way to achieve fast, high-quality building while reducing labor costs by transferring skilled labor from the work

[83] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 65.
[84] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 64-65.
[85] Huxtable, Ada Louise. *On Architecture: Collected Reflections on a Century of Change*. (New York, New York: Walker & Company, 2008.) 6.
[86] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 79.
[87] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 85.

site to the factory. The prefabrication of the 1950 and 1960s provided an easy solution to the growing population's increased demand for housing.[88]

Several new building materials emerged and came into common use as well, including aluminum, plastics, concrete, and ceramic tiles. Joseph B. Mason asserts that more new, readily available products emerged during the single decade of the 1950s than had been introduced in the previous 50 years.[89] Aluminum in particular became hugely popular. "Soon builders began using aluminum windows, gutters, storm doors, siding, roofing, prefab panels, soffits, structural members, and much more. Aluminum panels were produced in new colors, finishes, and textures, and these were very well liked and contributed a great deal to prefab use."[90] Vinyl floorings, paneling, plastic wall tiles, and moldings also became available. These products helped bring about the even more complete prefabrication, which finally emerged by the end of the 1970s. The 1950s saw the beginning of many of the major advancements leading to prefabrication, new architectural styles, and the industrialization of materials and construction.[91]

The 1960s was a decade of remarkable housing growth in which 14.42 million new houses were constructed.[92] The 1960s saw the U.S. population reach an all-time high, growing to almost 208 million by the end of the decade.[93] Highway expansion continued to literally pave the way to suburbia and the creation of thousands of new residential communities developed by successful private builders. Mason states that the housing market was still in good shape from the previous decade, economics were in good standing, and rising stock prices helped everyone.[94]

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[88] Bill Risebero. *Modern architecture and design: an alternative history*. (MIT Press, 1985.) 235.
[89] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 89.
[90] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 87.
[91] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 78-89.
[92] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 97.
[93] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 97.
[94] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 97-99.

Although building construction remained in the private sector, there was a shift from private home builders and small construction companies to larger ones near the end of the decade. These development groups, called "giants", planned entire communities, envisioned better communities and better designed houses. These developers speculatively bought land and hired design and construction teams to complete the design, planning and building processes. This led to what are now called 'spec' development with 'spec' houses. Under this model, houses were sold by inviting buyers to first view finished models, sometimes resulting in as much as 95% of a development pre sold before completion.[95] The decade also saw a variety of other new planned-community ideas evolve, such as the Planned Unit Development (PUD), Glamour Communities, and Newtowns[96].

There was also a tremendous amount of effort and research into creating less expensive building materials primarily aimed at building a better home for less money. If there was a cheaper alternative to be used, it was, such as gypsum[97] versus plaster. The industrialization of the building process allowed for dimensional standardization of parts and pieces which made installation easier. Furthermore, builders and researchers perfected the use of larger components such as roof trusses, stressed-skin and foamcore panels, wall, floor, and roof systems, utility cores, plumbing trees, packaged door and window units, modular units, and steel and aluminum systems. As a result, there was an increased use of all of these components.

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[95] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 99-101.

[96] Planned Unit Development (PUD) is a type of building development with a regulatory process that combines varied and compatible land uses such as housing, recreation, commercial centers, and industrial parks into one community. Glamour Communities were projects of the 1960s that were colorful, lush, and completely planned. The architecture was stimulating and included a mixed housing types, a broad range of sizes and prices, as well as included shopping and recreational facilities. Newtowns were the idealistic answer to the problems of suburban sprawl that were never fully realized. Newtowns were supposed to be large self-sustaining communities that offer both employment and a wide range of housing types for people of all economic levels. Planned by large scale builders and investors, they were expected to include green space, recreational facilities, as well as community services such as schools and community centers.

[97] Unlike plaster, which required lathe, hair, and a specialized wood and masonry person, Gypsum was easier and quicker to install, and already had a board containing all the material needed. The individual installing Gypsum did not have to be as well versed in both masonry and wood knowledge.

Other newly emerging materials included engineered lumber using glue, as well as plastic building materials. "Manufactured lumber of glued and laminated pieces made its appearance. Beams, trusses, and structural members gained new capacities from laminations, connectors, glues, and adhesives."[98] Wood laminate flooring that was glued, rather than nailed, to the sub floor was promoted as a faster, more economical construction method. The plastics industry developed hundreds of new products and ways of using them. A few examples include plastic-coated wallboards, plastic laminates in large decorated panels, plastic floor and wall tiles, and paneling. Another major new product was urethane foam, which is a sprayed-on foam used to fill crevices and forms a tight seal. Urethane foam was found particularly useful for insulating concrete slabs and foundation walls, and to serve as sandwich panels for exteriors of gypsum or aluminum.[99]

Although much of the building industry continued in the private sector, the federal government did pass three housing acts ─ the Housing Act of 1961, 1965, and 1968, all intended to assist urban renewal and spur public housing, with only marginal success. Despite slow development of public housing, the decade ended with increased prefabricated housing and the widespread use of mobile homes. Mobile home parks boomed by the end of the decade with approximately 100,000 parks developed nation-wide by 1969.[100]

The 1970s, according to Joseph B. Mason, was the U.S.'s finest decade of high quality housing construction and design. However, both Mason and Risebero consider the latter half of the decade effectively the end of quality construction. The decade saw a dramatic shift from private sector driven to government-funded projects. Much like the 1930s, the 1970s were a period of economic, and environmental crises resulting first in a near halt to construction,

[98] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 132.
[99] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 131-132.
[100] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 129-131.

followed by a striking shift in building production methods and design. Inflation, high interest rates, energy supply problems, and the 1975 Recession caused the building industry to contract for an extended period of time. According to Mason, other difficulties presented included builders, building codes, exclusionary zoning, financial confusion, federal deficit financing[101], the financial crisis, lack of investment in housing diversion of government subsidies into other fields, fewer houses/higher rents, lower standard of building, declining output of new building, unemployment, and poorer building methods.[102]

New environmental laws caused the price of land to skyrocket and also caused delays and problems for builders. The embargo from oil-rich countries also severely hurt the economy which in turn halted the building process. However, some positives occurred from the oil restrictions and energy concerns. Builders passionately sought energy saving ideas and eventually developed houses with better insulation and more efficient, energy-saving equipment.[103] "A veritable explosion of laws and regulations followed as Congress passed more than two dozen laws covering air and water pollution, toxic chemicals, strip mining, wetlands control, flood control, atomic energy control, and even noise control. As a result of the requirements of the laws, a proliferation of federal, state, county, and local agencies sprang into being that soon had a finger in almost every citizen's pie – and put thousands of housing and building projects out of business."[104] According to Mason, these are some of the factors that can have an affect on housing.

Risebero attributes the decline in building to many factors, particularly the energy crisis and its dramatic effect on the economy. He maintains that an alternative to petroleum-based

[101] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 136-137.
[102] Bill Risebero. *Modern architecture and design: an alternative history*. (MIT Press, 1985.) 235-240.
[103] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 147-151.
[104] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 144.

energy could not be found quickly enough to allow for growth.[105] Risebero believes too that architectural theory was becoming a more remote idea, one detached from the real world. Architecture, he says, began showing "less concern for the serious, puritanical principles of the modern movement and a greater interest in self-indulgent expressionism, in richness, in the frivolous and bizarre."[106]

James Fitch, in *Vernacular Paradigms for Post-Industrial Architecture,* also notes a declining quality of architecture in the post-industrial period. Fitch builds on his earlier work by discussing a lack of theory and practice involved in new buildings. The author discusses what he calls obsolescence which, according to him is the state of being which occurs when an object, service, or practice is no longer wanted, even though it may still be in good working order. This, he explains, is the type reasoning behind why people no longer wish to keep old buildings.[107]

Despite all this, however, 17.8 million housing units were built during the decade; the most to that time in U.S. history. Due partly to the resurgence of women in the work force, the American dream of home ownership, for many, finally became a reality. With additional income, more families were able to afford single family houses, rather than rent apartments, and made the move to suburbia. Furthermore, there was an increase in unmarried couples and single young adults looking to buy their first house.[108] Home ownership was becoming more valuable to Americans as a sign of security. Buyers could take advantage of high equity from an older home, often selling to purchase a newer one and making the transition to the suburbs in the process. In response, builders developed new designs, styles, and offered more amenities,

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[105] Bill Risebero. *Modern architecture and design: an alternative history*. (MIT Press, 1985.) 240.
[106] Bill Risebero. *Modern architecture and design: an alternative history*. (MIT Press, 1985.) 241-242.
[107] James Marston Fitch. "Vernacular Paradigms for Post-Industrial Architecture" In *Selected Writings on Architecture, Preservation, and the Built Environment*, 237-250. (New York: W.W. Norton & Company, 2006.) 237-239.
[108] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 138-140.

making houses even more desirable. Huxtable points out that the 1970s saw a trend back toward ornamentation, a practice that had been barred from the modern movement after Adolf Loos' *Ornament is Crime*.[109]

Mousumi Sarkar, the Demographic Directorate for the U.S. Census Bureau, compiled a report on U.S. Census data. Sarkar's report shows a trend toward multi-family houses during the 1970s and 1980s, noting three out of ten at that time were multi-family, which still supports the primacy of single family construction.[110] Eggers and Thackeray, employees of Econometrica, Inc. who collaborated with HUD and compiled a report based on data from 1973 to 2005 American Housing Surveys; note an increase in the size of houses during the 1970s. However, Mason suggests that, to meet high energy costs and energy saving requirements, houses temporarily became smaller again.[111] Upon studying 1970s building practices in detail, the U.S. Department of Housing and Urban Development found that construction defects were becoming common place, including leaks in basements, leaks in roofs, open cracks or holes in ceilings or walls, holes in the floor, and problems with electrical wiring. Figure 12 indicates the problems identified between 1973-75 and 2001-05.[112]

James Marston Fitch discusses architecture from 1950 to 1980, which he maintains was modern architecture's golden age despite its problems. Fitch explains that the 1950s to 1980s saw an exceptional collection of buildings and landscapes, and although most were public,

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[109] Ada Louise Huxtable. *On Architecture: Collected Reflections on a Century of Change*. (New York, New York: Walker & Company, 2008) 12.
[110] Mousumi Sarkar. "How American Homes Vary By the Year They Were Built." Census.gov. (June 2011. Accessed November 11, 2014. http://www.census.gov/housing/patterns/publications/HousingByYearBuilt.pdf.) 1-2.
[111] Joseph B. Mason. *History of Housing in the U.S., 1930-1980*. (Houston: Gulf Pub. Co., 1982.) 155-156.
[112] Frederick J. Eggers and Alexander Thackeray. "32 Years of Housing Data." Huduser.org. (October 2007. Accessed November 11, 2014. http://www.huduser.org/datasets/ahs/ahs_taskc.pdf.) 18.

residential architecture also experienced the same design triumph.[113] He discusses notable public building and housing projects that were particularly impressive during the period, while also allowing that significant errors also surfaced in modern architecture. Despite these errors though, which he says is to be expected when attempting architectural exploration, the majority of people's dislike for modern architecture was based on aesthetics alone rather than performance. He concludes by noting that modern architecture is about function, experimentation, and challenges vs. taste.[114]

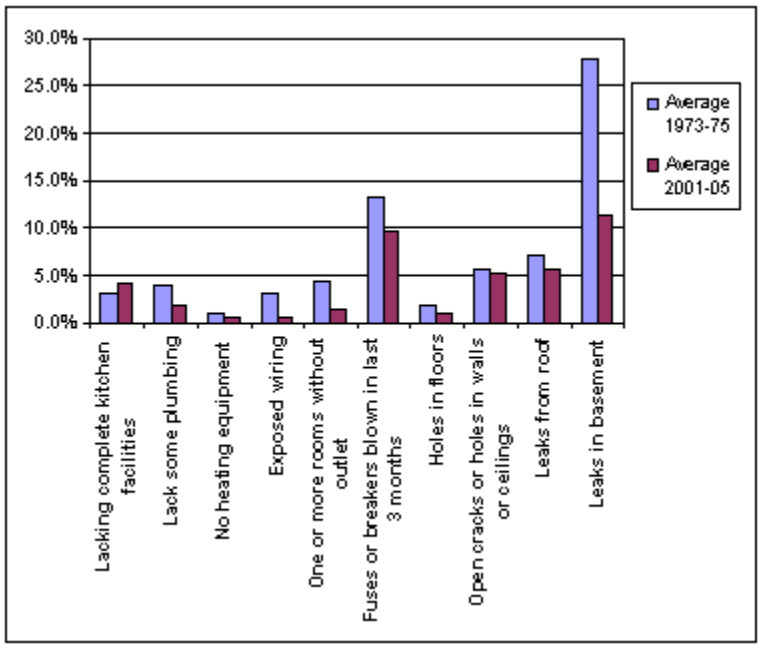

Figure 7: Selected Housing Defects from 1973-1975 and 2000-2005 and Rates of Occurrence at the Beginning and End of Each Period, from "32 Years of Housing Data" (Eggers, p. 18)

Architectural Evolution 1980-2000

Mason's research and comments on the future of residential construction in the 1980s, along with *32 Years of Housing Data 1973 to 2005*, and *How American Homes Vary by the Year*

[113] James Marston Fitch. "Murder at the Modern" In *Selected Writings on Architecture, Preservation, and the Built Environment*, 156-170. (New York: W.W. Norton & Company, 2006.) 156-158.
[114] James Marston Fitch. "Murder at the Modern" In *Selected Writings on Architecture, Preservation, and the Built Environment*, 156-170. (New York: W.W. Norton & Company, 2006.) 158-170.

They Were Built, a report created by the United States Census Bureau covering the period of 1960-2009, collectively provide wide-ranging data regarding the housing industry from 1980 – 2009[115].

Newly built houses between the 1980s and 2000s increased by nearly thirty thousand overall. Between 1973 and 2005, the number of housing units grew faster than the population grew to occupy them.[116] Sarkar's data shows that home size increased overall from 1960 to 2009. Specifically, the number of rooms per house increased from an average of five or six in the 1980s to six or seven in the 1990s. Eggers and Thackeray agree, and point to an average 10% increase in square footage from 1985 to 2005.[117]

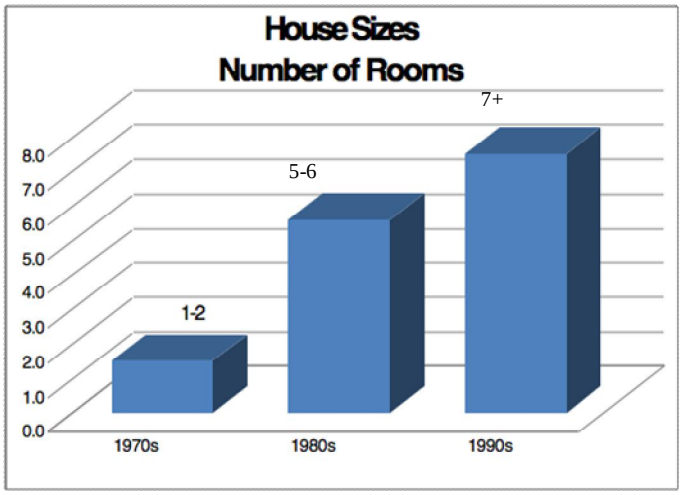

Table 2: The Increasing Number of Rooms per Household from 1970s to 1990s. (Leonard based on materials in Sarkar, p. 2-3)

[115] Although author Sakar discusses data by regions (West, South, Mid-west, and Northeast), the focus for this thesis emphasized use of data for the South.
[116] Frederick J. Eggers and Alexander Thackeray. "32 Years of Housing Data." Huduser.org. (October 2007. Accessed November 11, 2014. http://www.huduser.org/datasets/ahs/ahs_taskc.pdf.) 4-11.
[117] Frederick J. Eggers and Alexander Thackeray. "32 Years of Housing Data." Huduser.org. (October 2007. Accessed November 11, 2014. http://www.huduser.org/datasets/ahs/ahs_taskc.pdf.) 13.

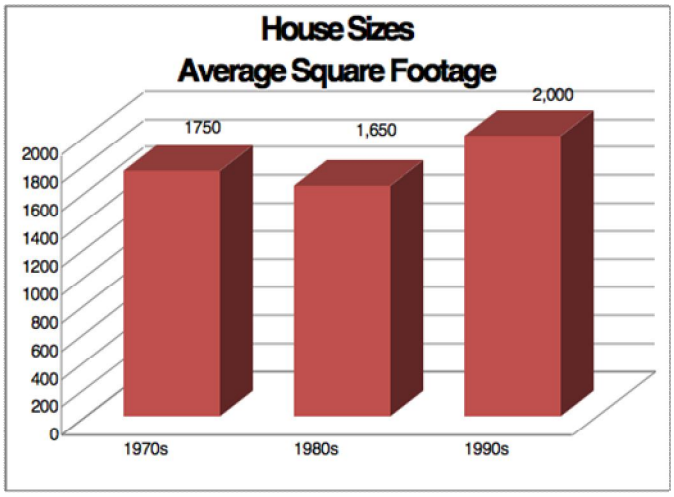

Table 3: The Average Square Footage of Housing from 1970s to 1990s. (Leonard based on materials in Eggers, p. 13)

Starting in 1985, but not truly apparent until 1989, there was a sharp increase in moderate to severe construction-related problems in houses, as seen in Figure 7. The frequency of problems was somewhat reduced by 1991, and lessened until finally reaching a more stable level by 1993. The frequency of problems stayed relatively stable until another spike in 1997, and again decreased gradually through 2005.[118] Eggers and Thackeray suggest that a possible reason for the fluctuation in construction quality is that it was tied to inflation. The data suggests that it became much more expensive to either rent or own a home beginning in the late 1970s and early 1980s, and that because of this, builders had to develop a cheaper house in order for the average person to be able to afford one. Median monthly cost for homeowners rose from approximately $350 per month in 1985 to approximately $650 per month in 2000.[119]

[118] Frederick J. Eggers and Alexander Thackeray. "32 Years of Housing Data." Huduser.org. (October 2007. Accessed November 11, 2014. http://www.huduser.org/datasets/ahs/ahs_taskc.pdf.) 20.
[119] Frederick J. Eggers and Alexander Thackeray. "32 Years of Housing Data." Huduser.org. (October 2007. Accessed November 11, 2014. http://www.huduser.org/datasets/ahs/ahs_taskc.pdf.) 21-22.

The American Housing Survey[120] suggests that the overall value of houses decreased from 1973 to 2005. Subsequent surveys, conducted by HUD and the census bureau, show that the value of houses fluctuated, based in part on household income. Other surveys suggest a drop of home value in 1986 and again in 1998 but an increase in value from 1975 to 1979 and again in 1999.[121]

James Marston Fitch in, *A Funny Thing Happened…*, describes how in the 1980s architecture changed from something wonderful to a catastrophe. Fitch says that instead of advancing architectural theory, as had been the case until then, 1980s architects sought to abandon architectural principle and evolution that had been achieved to that point, and made no effort to advance the practice. Fitch saw the architecture of the 80s as a crisis: "And crisis infests the whole field – theory and practice, architect and critic, builder and client. It is clearest of all in the malfunction (dysfunction) of architecture itself. Under such circumstances, it is not surprising that there is a rising tide of dissatisfaction from both inside and outside the architectural profession. Nor should it surprise us that the controversy is most intense in the U.S.A."[122] Fisk's main point is that throughout time, evolution in architecture was due to architects and builders pushing the bounds of design ideas, the capabilities of the materials used, and simple experimentation with new things. For example, Fisk noted a breaking from traditional design with invention of the Bauhaus, or using materials in a seemingly unusual way. He suggests the cause of 1980s architectural decline began with people not thinking certain principles or styles were pretty, along with a diminished amount of control of architects over a

[120] Frederick J. Eggers and Alexander Thackeray. "32 Years of Housing Data." Huduser.org. (October 2007. Accessed November 11, 2014. http://www.huduser.org/datasets/ahs/ahs_taskc.pdf.) 24.
[121] Frederick J. Eggers and Alexander Thackeray. "32 Years of Housing Data." Huduser.org. (October 2007. Accessed November 11, 2014. http://www.huduser.org/datasets/ahs/ahs_taskc.pdf.) 24.
[122] James Marston Fitch. "A Funny Things Happened..." In *Selected Writings on Architecture, Preservation, and the Built Environment,* 64-69. (New York: W.W. Norton & Company, 2006.) 65.

given project.[123] Fitch is scornful of the lack of architectural thinking, saying, "But now we can begin to see, in four-dimensional reality, the architectural consequences of their theoretical apparatus. They are anything but reassuring. A prefabricated ruin at a new shopping center whose cascading brick is frozen into a sort of permanent scree. An elegant country house whose cantilevered stairway has no handrail and inadequate headroom for the adult member of the family…"[124]

Fitch also questions the reasoning behind such things, especially when people are now finding that constructing for a so-called replacement society is not actually cheaper in the long run. He argues further that although one can rightly say that energy efficiency in new construction has increased dramatically, would it not be more energy efficient by far to avoid tearing down an older building and constructing a new one?[125] Fitch finishes the discussion having expressed a noticeable dislike for 80s architecture. He says of postmodernism that it contains "jackdaw-and-magpie"[126] esthetic doctrines.

On the opposite end of the spectrum, Ada Louise Huxtable in *On Architecture: Collected Reflections on a Century of Change*, describes architecture of the 1980s as having finally achieved the goals set by the modern movement. She considers the architecture of the 1980s to finally be breaking the rules, an objective the modern movement had failed to achieve. Huxtable describes the architecture of the period by saying, "There is absolutely no way to view the architecture of the eighties as static, reactionary, or out-of-steam. Even the rediscovery of

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[123] James Marston Fitch. "A Funny Things Happened..." In *Selected Writings on Architecture, Preservation, and the Built Environment,* 64-69. (New York: W.W. Norton & Company, 2006.) 65-67.
[124] James Marston Fitch. "A Funny Things Happened..." In *Selected Writings on Architecture, Preservation, and the Built Environment,* 64-69. (New York: W.W. Norton & Company, 2006.) 68.
[125] James Marston Fitch. "Vernacular Paradigms for Post-Industrial Architecture" In *Selected Writings on Architecture, Preservation, and the Built Environment,* 237-250. (New York: W.W. Norton & Company, 2006.) 240-241.
[126] James Marston Fitch. "A Funny Things Happened..." In *Selected Writings on Architecture, Preservation, and the Built Environment,* 64-69. (New York: W.W. Norton & Company, 2006.) 69.

history – so long outlawed by modernists – is infused with the spirit of radical change. The "retreat" to the past is either a total break with modernism or a new and unprecedented kind of eclecticism."[127] According to Huxtable, this type of 'modern' architecture is as much a part of history as the Renaissance or classicism.

All in all, the 1980s-2000 saw big changes in construction practices from the previous decades and saw the industry responding to changing needs and desires of society. This twenty-year period is known for having generated a great deal of construction done quickly. Construction in general shifted from personal homebuilders to an increased amount of speculative construction as well as diminished architect control. The overall square footage of houses increased, as did the number of rooms. There was also a noticeable increase in structural problems developing across the two decades, due largely to a demand for ever-cheaper housing, high interest rates, and inflation.

Throughout the entire twentieth century came many changes and developments with construction practices and design principles. These changes along with fluctuating economic factors and changing tastes led eventually to the controversial architectural trends of the 1980s and 1990s discussed here. The twentieth century was one filled with technological advancements and changing societal views and values. It saw the post-industrial stage, the machine age, and the development of the neighborhood. One of the most notable factors influencing construction throughout the century was a shift from builders following precedent to creating entirely new building forms. The twentieth century, with each new step, sought to break away from tradition, forging new design and construction principles. While many practices of

[127] Ada Louise Huxtable. *On Architecture: Collected Reflections on a Century of Change*. (New York, New York: Walker & Company, 2008) 16.

the late nineteenth century continued through the turn of the century, the twentieth century is unique in its sharp movement away from design and principles based on historical precedent.

There was a shift too away from craftsmanship and a move toward manufacturing and mass-produced building components. The century brought the standardization of parts, prefabrication, and advancements in new materials. Technological innovation in construction led from using natural materials at the beginning of the century to wide-spread use of new, man-made materials such as aluminum, vinyl, gypsum, and plastics in the latter half of the century. Construction speed increased over time, due partly to prefabrication and the standardization of parts. There was also a shift from building in the small scale building in the private sector to that of construction companies and large investors towards the end of the 1970s. The latter half of the century saw the development of the neighborhood, leading in turn to more elaborate, planned residential communities.

Changes beginning early in the twentieth century led inexorably to even greater change late in the century, and resulted in the kinds of housing seen in the 1980s and 1990s. Other factors of the late twentieth century included more unified appearance of neighborhoods, as more were speculatively developed. There were also new laws and regulations regarding housing of the late twentieth century that came with the general shift from the private to public sector. As was the case throughout the entire twentieth century, economic forces largely shaped construction practices. Building design and construction practices improved or declined over time based on conditions in the larger economy. This century, more than most, reflects the changing American lifestyle. Understanding these changes is essential to evaluating the significance of late twentieth century single family dwellings, and integrity since integrity is the ability of a property to convey its significance.

Although high style architecture is discussed in this section in order to understand the evolution of styles, single family residences in Alleghany County primarily represent vernacular representations of the styles. These residences are primarily designed by contractors and personal homebuilders, rather than a licensed architect. Those houses that resemble high style architecture are not true high style, but simply draw from a set of tools that are already known to work. They do, however, contain many of those characteristics that resemble high style architecture. Such examples are characterized more by culturally and politically influenced spatial arrangements with a heavy emphasis on aesthetic values. Most vernacular examples focus primarily on functionality and contain simply the basics of living needs. Vernacular architecture is also considered to be highly adaptive.

Architectural Standards 1900-2000

While this section will focus on standards, what also needs to be understood is that zoning, building codes, and ASTM standards were changing throughout the twentieth century and have an impact on building design and materials. Building codes, as defined by the International Code Council, is the government's official statement on building safety. Building codes address all aspects of building construction, including fire, structural, plumbing, electrical, and mechanical aspects. "The regulation of building construction is not a recent phenomenon. It can be traced through recorded history for more than 4,000 years. Through time, people have become increasingly aware of ways to avoid the catastrophic consequences of building-construction failures."[128] In early American, George Washington and Thomas Jefferson encouraged the development of building regulations to help ensure health and safety. During the

[128] International Code Council. "Building Codes: How They Help You." International Code Council (ICC). (Accessed April 9, 2015. http://www.iccsafe.org/safety/Documents/BSW-BldgCodes-How.pdf.) 2.

1900s, building codes were authored by code enforcement officials in communities, and were assisted by all segments of the building industry. Today, most of the United States is regulated by modern building codes as they are the central regulatory basis for programs and ensure uniformity of regulations.[129] In addition to National building codes, individual states have building codes. In particular, the State of Virginia has the Virginia Uniform Statewide Building Code (USBC) which must be used when constructing a new building, structure, or new addition to an existing building, as well as when maintaining or repairing an existing building or changing a building's use.[130] Since building codes cover segments of the building industry ranging from fire and structural safety to health, security, and conservation of energy, they can play a role in building development, especially in relation to materials.

The same can be said of ASTM standards, which are the most widely recognized guidelines for materials. ASTM International, formerly known as the American Society for Testing and Materials, is a recognized leader in the development of voluntary consensus standards. The company was formed in 1898 by chemists and engineers from the Pennsylvania Railroad. The ASTM standards cover a wide range of material, products, systems, and services. ASTM is responsible for testing materials and giving such materials an ASTM code. "ASTM serves diverse industries ranging from metals to construction, petroleum to consumer products, and many more."[131] Today, over 12,000 ASTM standards are used around the world.

Zoning codes is another factor that can affect building development. Zoning codes have evolved over the years as urban planning theory has changed, legal constraints have fluctuated,

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[129] International Code Council. "Building Codes: How They Help You." International Code Council (ICC). (Accessed April 9, 2015. http://www.iccsafe.org/safety/Documents/BSW-BldgCodes-How.pdf.) 1-2.
[130] Cindy Davis. "Virginia Uniform Statewide Building Code (USBC)." Virginia.gov: Virginia Department of Housing and Community Development. (Accessed April 9, 2015. http://www.dhcd.virginia.gov/index.php/va-building-codes/building-and-fire-codes/regulations/uniform-statewide-building-code-usbc.html.) 1.
[131] ASTM. "Overview." ASTM International: Helping Our World Work Better. Accessed April 9, 2015. http://www.astm.org/ABOUT/full_overview.html.

and political priorities have shifted. In particular, as it most applicable to this thesis, subdivision regulations date back to the early nineteenth century and control the manner in which blocks of land over a certain size may be converted into building lots.[132] Other zoning practices were relatively new by the time of the first significant zoning case of *Village of Euclid v. Ambler Realty Co*. in 1926. The case, which involved Ambler Realty Co. suing the Village of Euclid for placing a zoning ordinance on the land which reduced the value of land by limiting use, established precedent. By siding with the Village of Euclid, the Supreme Court demonstrated support for maintaining and regulating the character of a neighborhood.[133] Zoning can affect building design and development, and is subject to the criticism that it severely limits the freedom of the architect and site designer and therefore may lower design quality.[134]

While zoning, building codes, and ASTM standards were changing throughout the twentieth century and undoubtedly have an impact on building development and construction practices and standards throughout the century, they were not researched in detail for this thesis.

Standards

Some design standards can be traced to the architectural and structural experimentation of both the Greeks, with the classical orders, and the Romans, with the arch. Eventually, architectural theory would become a subject of study and the need for standards would arise. Fil Hearn, a professor of History of Art and Architecture, suggests that architectural theory first came about from questioning what a building ought to look like, and soon after that, the structural process of making the desired design happen.[135] Architectural theory and standards

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[132] John M. Levy. *Contemporary Urban Planning*. 8th ed. Upper Saddle River, (New Jersey: Pearson Education, 1988.) 140.
[133] "Village of Euclid, Ohio v. Ambler Realty Co., 272 U.S. 365 (1926)." FindLaw: For Legal Professionals. (Accessed April 9, 2015. http://caselaw.lp.findlaw.com/scripts/getcase.pl?court=US&vol=272&invol=365.) 1-7.
[134] John M. Levy. *Contemporary Urban Planning*. 8th ed. Upper Saddle River, (New Jersey: Pearson Education, 1988.) 153.
[135] Fil Hearn. *Ideas That Shaped Buildings.* (Cambridge: MIT Press, 2003) xi.

began to be developed through formal treatises, which were written by interested professionals, architects, and patrons. Many such people began writing their own books on architecture and, by doing so, established informal standards of design.

Some of the first Western architectural ideals began in 30 B.C. with Vitruvius's *Ten Books on Architecture*, which primarily focused on the rules of the classical orders. Architectural theorist, Leon Battista Alberti, published his own *Ten Books on Architecture* during the Renaissance period; a work that resembled Vitruvius's and sought to further investigate Roman architecture. Later into the sixteenth and seventeenth century Sebastiano Serlio and Andrea Palladio among others, would follow with their own ambitious and highly illustrated books on architecture.[136] Their developments, for example the Palladian window, were much used in later centuries, as they continue to be. Important standards of the 1800s were established with the publishing of John Ruskin's *The Seven Lamps of Architecture* and Viollet-le-Duc's *Discourses on Architecture*, as it is known in English.[137] The principles outlined in these books, along with the previously established classical orders, became a canon of design throughout Western culture and into the modern world. Additional sources leading up to the graphic standards of the early twentieth century were builder's guides. These guides were developed to provide the building industry with the latest and most practical information on building practices, and show how to apply building science principles to structures, sorted by climactic region. Sarkar notes that types of amenities available, as well as safety standards, had an impact on buildings and were the driving force behind building construction.[138] [139] Prior to

[136] Fil Hearn. *Ideas That Shaped Buildings*. (Cambridge: MIT Press, 2003) xi-11.
[137] Fil Hearn. *Ideas That Shaped Buildings*. (Cambridge: MIT Press, 2003) 11-46.
[138] By safety standards, Sarkar refers to smoke detectors, fire extinguishers, carbon monoxide detectors, and sprinkler systems.
[139] Sarkar, Mousumi. "How American Homes Vary By the Year They Were Built." Census.gov. (June 2011. Accessed November 11, 2014. http://www.census.gov/housing/patterns/publications/HousingByYearBuilt.pdf.) 5.

the twentieth century, architectural standards in graphic form had yet to be introduced. The first such standards in graphic form would not be published until 1932.

Architectural Graphic Standards was first published in 1932 by Charles George Ramsey and Harold Reeve Sleeper, and was the first book to present the accepted architectural practices of the time in a clear and accessible graphic form. Since then many new editions of *Architectural Graphic Standards* have been published. Following Ramsey and Sleeper's edition, the American Institute of Architects took over updating and publishing new editions and has done so since. From their beginning, these books have been a foundation for architectural principle and design. They are the most trusted and relied upon reference manual for design, materials, and construction. Each book provides detailed guidelines for architects, engineers, decorators, builders, and draftsman. Another book, *Architectural Details* by Louis Rouillion and Charles Ramsey, provides similar guidelines for design but is not as comprehensive. Both graphic standard books have provided contextual insight regarding common construction techniques, designs, and materials throughout the twentieth century. The discussion of standards below is divided into three sections: early, middle, and late twentieth century. The focus is on common materials, foundations, framing, interior and exterior wall coverings, and flooring.

In addition to an understanding of standards, an understanding of material changes over the twentieth century is essential in order to evaluate National Register eligibility. To know how to approach buildings, and how to preserve them, it is important to understand their general properties, lifespan, and durability. A building can then be compared to other known materials, and evaluated using National Register criteria and aspects of integrity. In conjunction with *Architectural Graphic Standards*, the primary focus is on materials for foundations, exterior wall coverings, interior wall coverings, and flooring. The discussion also includes window materials

and significant decorative details. The most notable materials are brick, vinyl, wood, plaster, carpet, and various laminates.

Early Twentieth Century Material and Building standards

At the turn of the century, tried and true building materials included wood, stone, and brick, and this continued to be true into the late 1920s and early 1930s. However, many of the twentieth century building materials were composites of natural and synthetic substances.[140] The 1932 edition of *Architectural Graphic Standards* begins with brick and other masonry paving and flooring patterns for walks, terraces, porches, and steps. General material notes included structural steel and reinforcing bars. The steel beams noted include H Column, Bethlehem I Beam, Standard Channel, Standard I Beam, Equal Leg Angle, and Unequal Leg Angle. Reinforcing bars include information on dimensions, anchoring methods, standard bar types, and spacing guidelines.[141] Materials such as asbestos siding, asbestos cement roofing, and Portland Cement used for concrete blocks were being introduced and more frequently used at the beginning of the twentieth century. [142]

Foundations

Foundations in the early twentieth century were primarily constructed of brick and stone, but occasionally reinforced concrete and steel columns were used as a foundation material. The

[140] Richa Wilson and Kathleen Snodgrass. "Tech Tips - 0673-2314P-MTDC; Early 20th-Century Building Materials: Introduction." USDA: United States Forest Service. (March 2006. Accessed September 15, 2014. http://www.fs.fed.us/t-d/pubs/html06732314/.) 1.
[141] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 1st ed. (New York: John Wiley & Sons, 1990 (1932).) 12-14.
[142] Richa Wilson and Kathleen Snodgrass. "Tech Tips - 0673-2314P-MTDC; Early 20th-Century Building Materials: Introduction." USDA: United States Forest Service. (March 2006. Accessed September 15, 2014. http://www.fs.fed.us/t-d/pubs/html06732314/.) 1.

differences in material depended on the weight of the walls to be placed on the foundations.[143] Foundation walls were made of concrete, brick, and stone for both frame and brick structures, as were brick and wooden piers.[144]

Framing

Beyond foundations, one of the most important parts of a building is its framing. During the early part of the twentieth century, three main types of framing were commonly used; Balloon framing, which is considered lightest and uses studs extending the length of two floors; Western framing, which works with a system of platforms, cross-bridging and diagonal bracing; and Braced framing, which contains strong corner posts, diagonal bracing, and is primarily held together with joinery. Both Braced framing and Balloon framing are good for all types of construction, although Balloon framing works best with stucco or brick veneer. Western framing, on the other hand, which is not recommended for stucco or brick veneer construction, is most suitable for one-story buildings, due partly to difficulty in running pipes up walls to accommodate higher stories.[145] Braced and Balloon framing both work well for two story buildings. In Balloon framing, the studs extend only to the girts, which are horizontal members in a framed wall providing lateral support to the wall. Separate vertical studs simply rest upon the girts to support upper-story plates. Braced framing, on the other hand, is more rigid, with studs and sills mortised together. This type of framing is typically used for larger and better work.[146]

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[143] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 1st ed. (New York: John Wiley & Sons, 1990 (1932).) 7.
[144] Louis Rouillion and Charles George Ramsey. *Architectural Details*. (New York: John Wiley & Sons, 1924.) 21.
[145] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 1st ed. (New York: John Wiley & Sons, 1990 (1932).) 92-94.
[146] Louis Rouillion and Charles George Ramsey. *Architectural Details*. (New York: John Wiley & Sons, 1924.) 45-46.

Depths of joists and joist spacing were determined by building type. For residential buildings, joist spacing ranged from sixteen to twenty-four inches and stretched a span anywhere from eight to twenty-eight feet, increasing by four feet. In 1932 there were fourteen framing systems for floors commonly used.

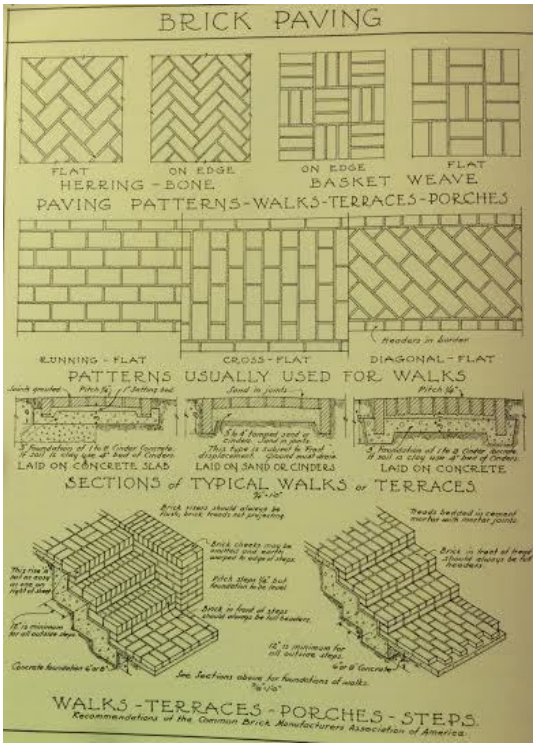

Figure 8: Masonry Flooring & Paving **(1932 Ramsey, 5)**

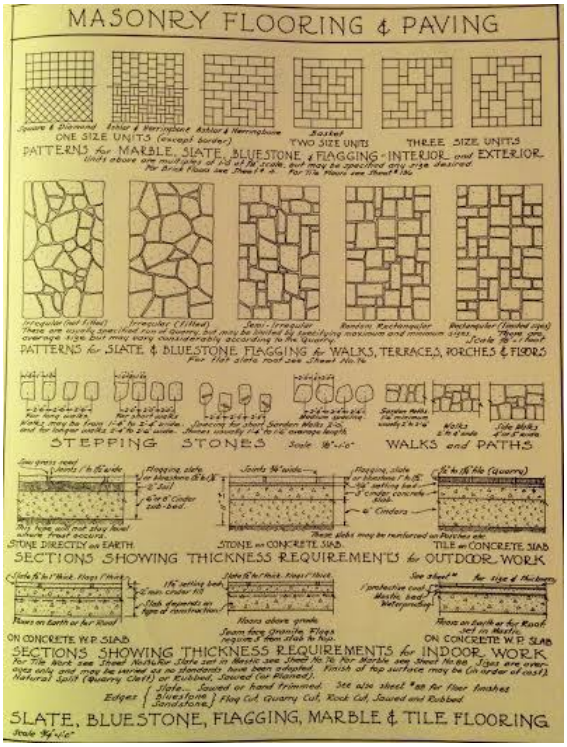

Figure 9: Brick Paving (1932 Ramsey, 4)

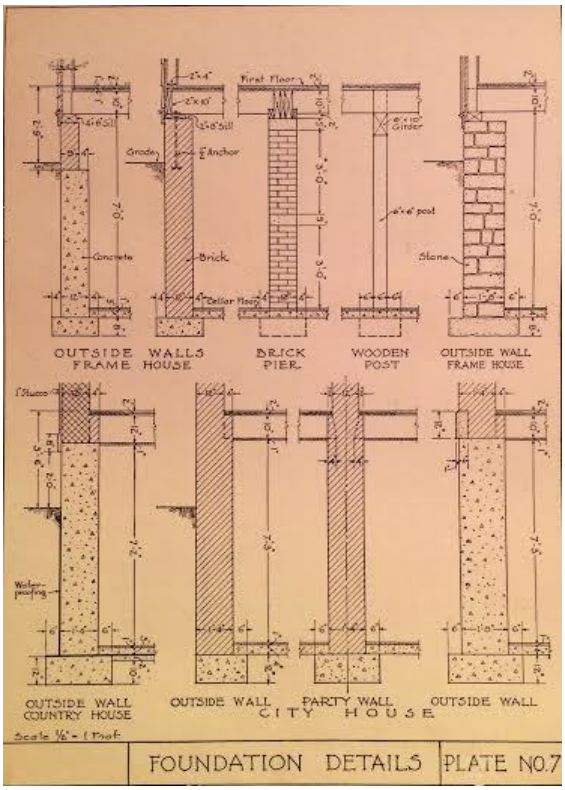

Figure 10: Foundation Details (Rouillion, 21)

These include open web steel joists, light rolled steel joists, metal tile and concrete slab, top and bottom gypsum, hy-rib top and gypsum bottom, steel and cinder concrete arches, reinforced concrete beam and slab, two-way tile-schuster, two-way slag blok-republic, one-way clay tile, wood open joist non-fireproof, aerocrete, battle deck (1 hour resistance), and battle deck (2 hour resistance). Tin pan floor construction was used as yet another option for floor slabs, and was considered removable.[147] By 1941 there were only thirteen framing systems in use for floors. Although residential masonry buildings were still common, they were less common in small communities.

Wall Materials

Brick

The most common wall covering materials in early twentieth century use in the South were brick, gypsum, stone, and wood, which was used in the form of clapboard, weatherboard, or board and batten. Use of brick involved differing techniques, including several different brick bonds as well as various brick joint types. The brick bonds include Common (Header bond), Common (Flemish bond), English, English (cross), Flemish, Flemish (double stretcher), Flemish (cross), Flemish (diagonal), Garden Wall, and Garden Wall (cross)[148], as seen in Figure 15. By 1941, brick bonds also included checkerboard and running header veneers. Additionally, an average brick size was established to be roughly 2 ¼" x 3 ¾" x 8".[149]

[147] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 1st ed. (New York: John Wiley & Sons, 1990 (1932).) 80-81.
[148] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 1st ed. (New York: John Wiley & Sons, 1990 (1932).) 15.
[149] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 3rd ed. (New York: John Wiley & Sons, 1941.) 7-10.

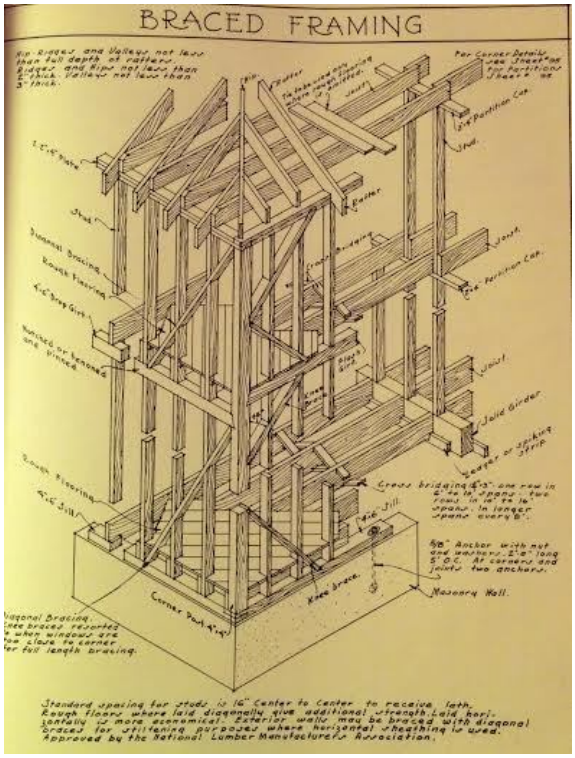

Figure 11: Braced Framing (1932 Ramsey, 93)

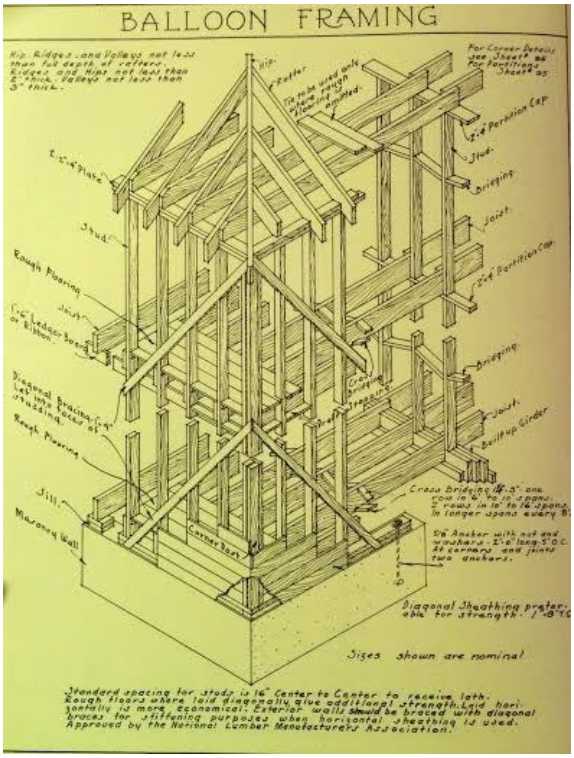

Figure 12: Balloon Framing (1932 Ramsey, 92)

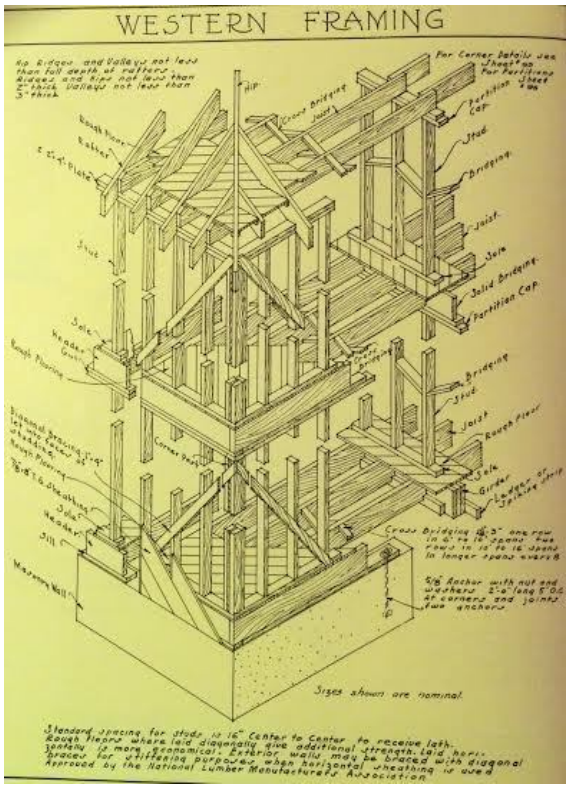

Figure 13: Western Framing (1932 Ramsey, 94)

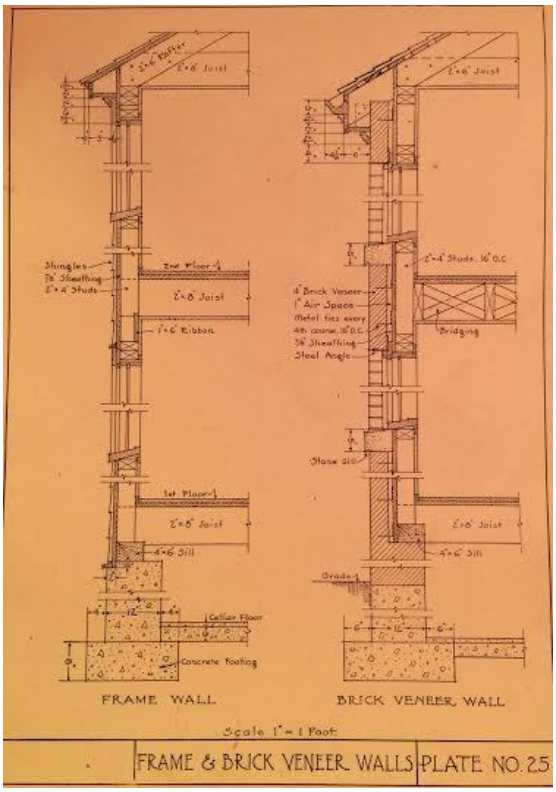

Figure 14: Frame and Brick Veneer Walls (Rouillion, 57)

Stone

Another form of masonry wall material used in residential architecture was stone. A variety of stone types were used, ranging from uncut and uncoursed to uncut and coursed, to ashlar, and smooth. Similar to brick, stone was used to support walls for some buildings, but was more commonly used as a veneer, even during the early twentieth century. Unlike brick, stone, or wood, gypsum was primarily used as partition tiles and in basements rather than as a main exterior cladding material.[150] Gypsum is a soft, but thick, rock forming mineral that, when heated to the right temperature can resemble plaster.

Other wall covering materials include stucco, tile, shingles, slab siding, moulded siding, and half-timber imitation. Wall thicknesses ranged widely, from four-inch economy to eight-inch standard, to as much as twelve and a half inches for heavy-duty walls.

Flooring Materials

Just as with foundation materials and wall coverings, there are also a variety of flooring materials and construction guidelines. Flooring materials of the early twentieth century included cement, cork tile, ceramic tile, terrazzo, marble, wood, wood block, brick, and slate. Wilson and Snodgrass note use of linoleum, asphalt, cork, rubber, and in some cases asbestos as types of resilient flooring, being used in the early 1900s.[151] Linoleum was the first type of resilient flooring to be developed and was the most durable of the resilient floorings. Even so, linoleum is susceptible to cracks, dents, and stains.[152]

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[150] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 1st ed. (New York: John Wiley & Sons, 1990 (1932).) 50.
[151] Richa Wilson and Kathleen Snodgrass. "Tech Tips - 0773-2322-MTDC; Early 20th-Century Building Materials: Resilient Flooring." USDA: United States Forest Service. (August 2007. Accessed September 15, 2014. http://www.fs.fed.us/t-d/pubs/pdfpubs/pdf07732322/pdf07732322dpi72.pdf.) 1-2.
[152] Richa Wilson and Kathleen Snodgrass. "Tech Tips - 0773-2322-MTDC; Early 20th-Century Building Materials: Resilient Flooring." USDA: United States Forest Service. (August 2007. Accessed September 15, 2014. http://www.fs.fed.us/t-d/pubs/pdfpubs/pdf07732322/pdf07732322dpi72.pdf.) 2.

Cork flooring is less durable. Made from wood chips and ground less finely than linoleum, it is then pressed and baked. It was used from roughly 1900 to the 1960s, and requires considerable maintenance. Another resilient flooring type is felt-base flooring, although it is much less durable than either linoleum or cork flooring and is subject to extreme peeling, bulging, and adhesive failure.[153] Asphalt flooring was introduced in the 1920s and replaced linoleum by the 1930s.

Rubber flooring, although it had been available since the nineteenth century, became available in sheets during the 1920s, and was by the 1950s being mixed with other materials. Rubber was more expensive than the other resilient flooring types, but was often preferred due to its colors, durability, and sound-deadening properties. Vinyl flooring was introduced in the 1930s, not long after rubber. Vinyl became popular because of its low-cost, easy availability, wide color palette and flexibility, its resistance to most solvents, and its ease of cleaning.[154]

Roofing Materials

Early twentieth century roofing materials included slate, clay tile, tin, copper, zinc, galvanized iron, lead and canvas, as well as asbestos, asphalt, and metal shingles.[155] Asphalt shingles, in particular, became widely popular in small residential communities.

[153] Richa Wilson and Kathleen Snodgrass. "Tech Tips - 0773-2322-MTDC; Early 20th-Century Building Materials: Resilient Flooring." USDA: United States Forest Service. (August 2007. Accessed September 15, 2014. http://www.fs.fed.us/t-d/pubs/pdfpubs/pdf07732322/pdf07732322dpi72.pdf.) 4.
[154] Richa Wilson and Kathleen Snodgrass. "Tech Tips - 0773-2322-MTDC; Early 20th-Century Building Materials: Resilient Flooring." USDA: United States Forest Service. (August 2007. Accessed September 15, 2014. http://www.fs.fed.us/t-d/pubs/pdfpubs/pdf07732322/pdf07732322dpi72.pdf.) 6.
[155] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 3rd ed. (New York: John Wiley & Sons, 1941.) 79-93.

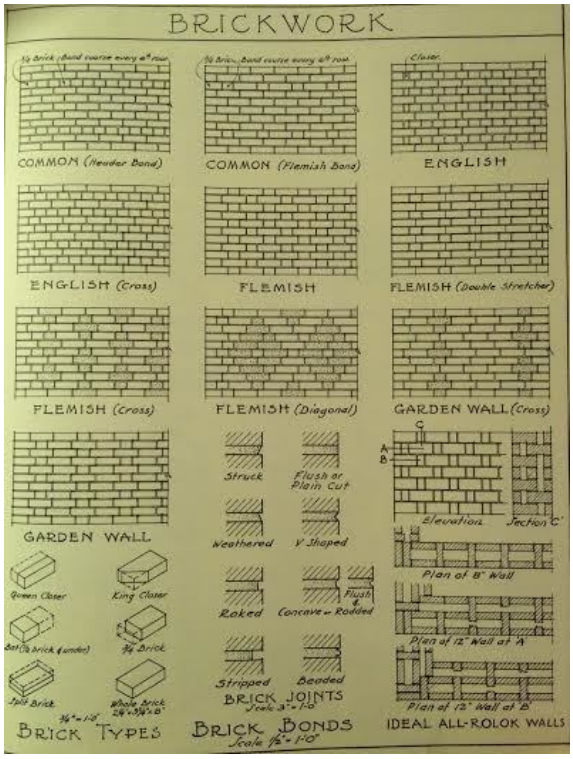

Figure 15: Brick Work (1932 Ramsey, 15)

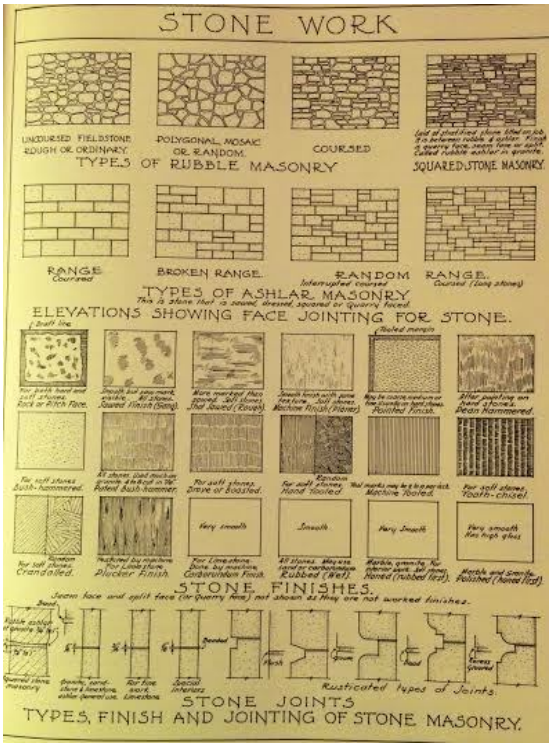

Figure 16: Stone Work (1932 Ramsey, 35)

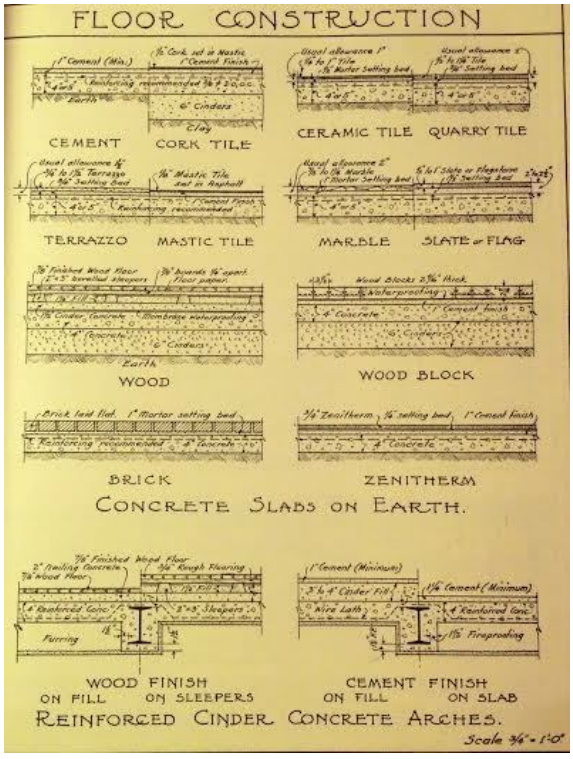

Figure 17: Floor Construction (1932 Ramsey, 79)

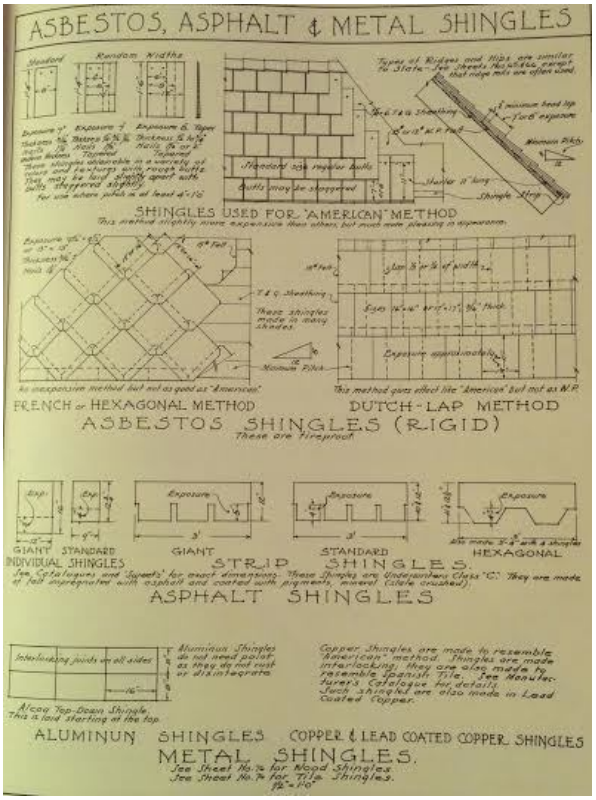

Figure 18: Asbestos, Asphalt, & Metal Shingles (1932 Ramsey, 77)

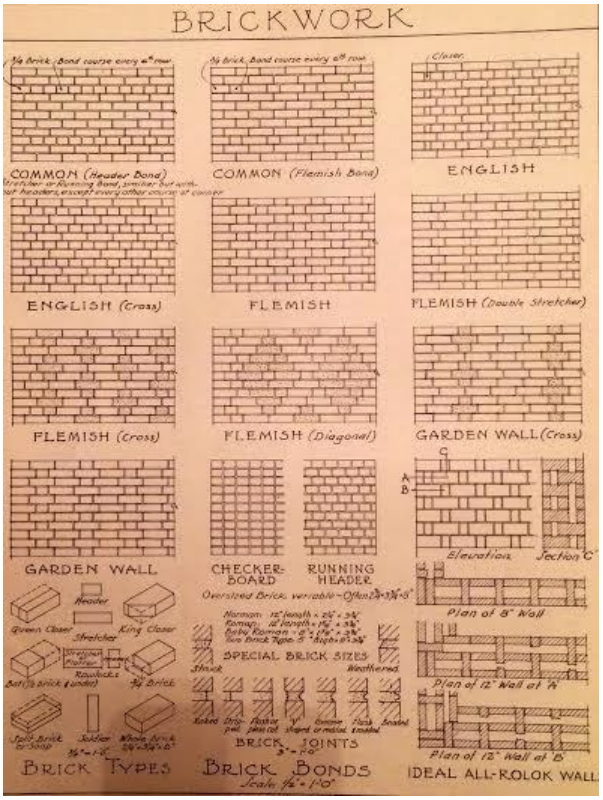

Figure 19: Brick Work (1941 Ramsey, 8)

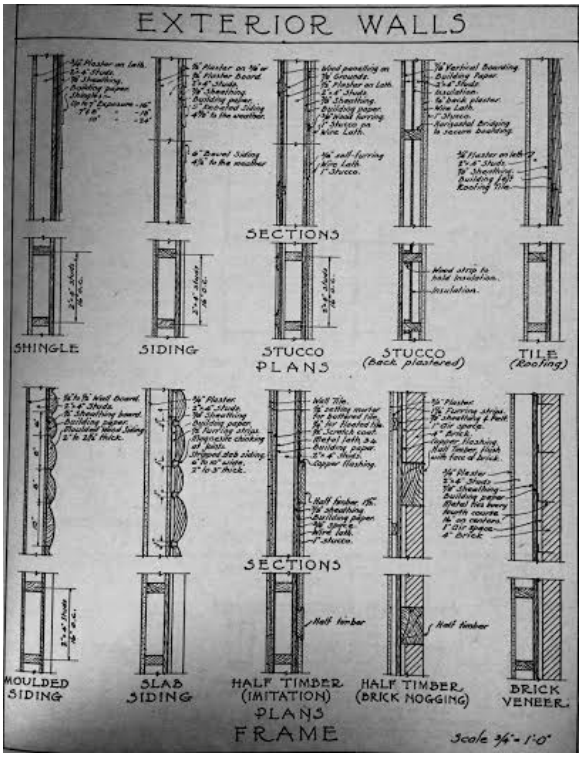

Figure 20: Exterior Walls (1941 Ramsey, 125)

Mid-Twentieth Century

The 1940s and the 1950s were defined by war. Manufacturing boomed during these years, and products such as aluminum, gypsum, fiberglass, laminated lumber and plywood, all became increasingly available and came into more widespread use. "The postwar civilian housing shortage created a market for cheap houses that could be erected easily and quickly. Many houses were built with modern materials, such as concrete block, hardboard, plywood, gypsum board, composition shingles, and plastic laminate. Construction costs were reduced and architectural styles changed as roof pitches were lowered, overhangs and porches were eliminated, and open floor plans were adopted."[156]

By the 1950s, a new edition of *Architectural Graphic Standards* was published (1951). Although a large amount of information was added to the book, many of the details and materials remained the same. The second half of the century saw new and exploratory building materials and new styles of architecture. By the 50s, prosperity had resulted in construction of sturdier and larger houses, particularly Ranch houses. New materials such as composition roofing, resilient flooring, and drywall also became popular.[157] Some familiar materials were improved and again became popular during this time. One of the most significant changes noted in the 1956 edition of *Architectural Graphic Standards* is the standardization of lumber. Types, sizes, and shapes of lumber became standardized for use in particular building functions. Yard lumber, which is manufactured, became the norm for a majority of residential buildings. Wood joists, rafters,

[156] Richa Wilson and Kathleen Snodgrass. "Tech Tips - 0673-2314P-MTDC; Early 20th-Century Building Materials: Introduction." USDA: United States Forest Service. (March 2006. Accessed September 15, 2014. http://www.fs.fed.us/t-d/pubs/html06732314/.) 3-4.
[157] Richa Wilson and Kathleen Snodgrass. "Tech Tips - 0673-2314P-MTDC; Early 20th-Century Building Materials: Introduction." USDA: United States Forest Service. (March 2006. Accessed September 15, 2014. http://www.fs.fed.us/t-d/pubs/html06732314/.) 4.

posts, and columns were all standardized.[158] With greater demand for lighter construction, details for light wood framing were expanded, as was the number of wood siding patterns. Common wall sheathing types for wood framing by 1956 included plywood, fiberboard, gypsum, and horizontal wood.[159] Particleboard and oriented-strand board (OSB) became available for sheathing, and products such as fiberglass and metal clad doors and windows became common.

Foundations

By the 1950s, foundation standards and materials had not changed, with primary materials continuing to be brick and stone, and concrete becoming an increasingly common material. The greatest addition was the introduction of concrete block, which was used for foundations as well as a wall material. As seen in Figure 33, there are a number of types of concrete blocks used for a variety of purposes in a building.[160] There was also a variety of glazed and unglazed structural tile.

By 1970, reinforced concrete with concrete encased steel columns was widely used for foundations.[161] Use of concrete had become more prevalent since the mid-twentieth century. It was used for formwork and ties, joints in slabs on grad, poured-in-place construction, pre-stressed post-tensioned construction, and lift-slab and tilt-up construction. There was also precast concrete for wall units and structural precast concrete. Reinforced concrete was by far the most popular.[162]

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[158] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 5th ed. (New York: John Wiley & Sons, 1956.) 10-30.
[159] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 5th ed. (New York: John Wiley & Sons, 1956.) 34-46.
[160] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 5th ed. (New York: John Wiley & Sons, 1956.) 78-105.
[161] American Institute of Architects. *Architectural Graphic Standards*. 6th ed. (New York: John Wiley & Sons, 1970.) 90-92.
[162] American Institute of Architects. *Architectural Graphic Standards*. 6th ed. (New York: John Wiley & Sons, 1970.) 128-143.

Framing

In addition to the three types of framing in use by 1941 [Balloon framing, Braced framing, and Western (now commonly called Platform) framing], a new framing system was introduced – now called Modern Braced framing – characterized by its similarity to Balloon framing at the sill and Braced framing throughout the rest of the system. Like Balloon framing, Modern Braced framing is lighter than Braced framing and may be used for any type of construction. Unlike Braced framing, however, Modern Braced framing uses nails instead of joinery to hold it together.[163]

Wall Coverings

By 1951 there were a variety of wall covering materials including brick, concrete, gypsum, adobe, glass blocks, stone, granite, marble, soapstone, aluminum, and architectural terra cotta. Exterior wall coverings and veneers such as, brick, architectural terra cotta, stone, asbestos, and metal were still common siding materials. After 1951 structural glass was introduced and most commonly used in commercial store fronts. Structural glass could also be used as walls and ceilings in residential buildings. By 1970, there was an addition of ceramic veneer and reinforced brick masonry.

By 1956 standards for architectural terra cotta as a veneer were presented. Another development of the mid-twentieth century was the extensive use of curtain walls.[164] By the mid-twentieth century, specific standards were in place for veneers.

[163] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 4th ed. (New York: John Wiley & Sons, 1951.) 198-201.
[164] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 5th ed. (New York: John Wiley & Sons, 1956.) 142-165.

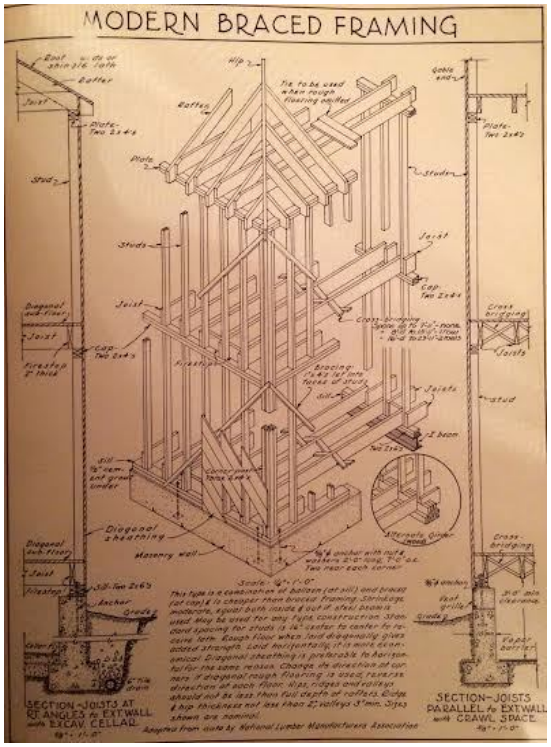

Figure 21: Modern Braced Framing (1951 Ramsey, 201)

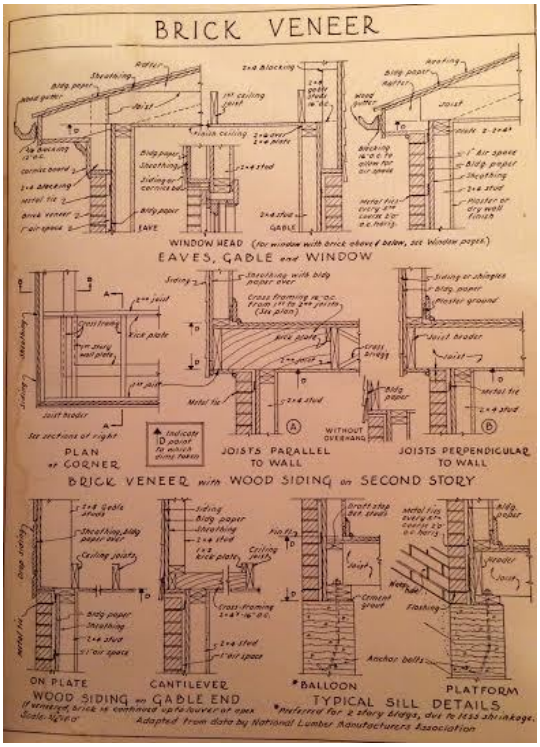

Figure 22: Brick Veneer (1951 Ramsey, 13)

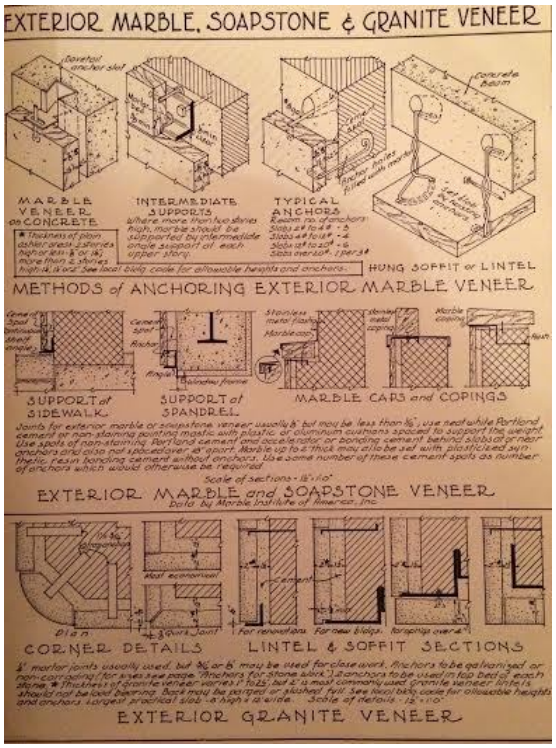

Figure 23: Exterior Marble, Soapstone, & Granite Veneer (1951 Ramsey, 59)

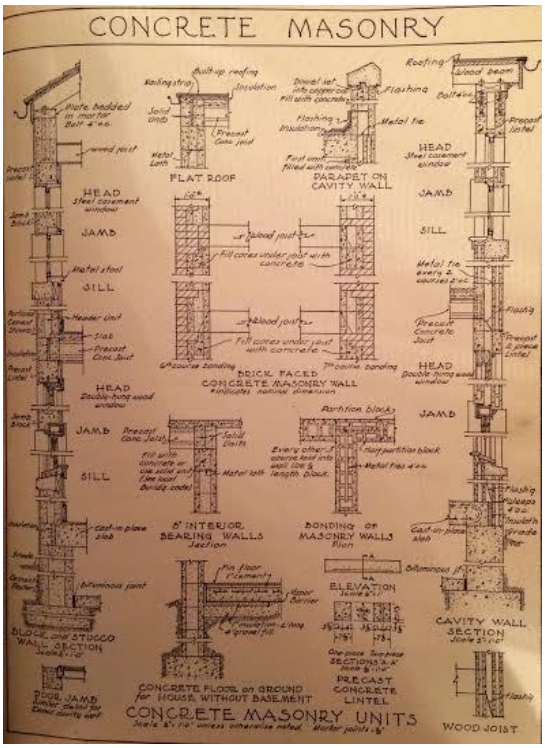

Figure 24: Concrete Masonry (1951 Ramsey, 37)

Brick veneer standards included guidelines for preferred framing types, such as Balloon or Platform framing, as well as particular sections of the buildings and cases where the second story of the building is to be covered with wood siding.[165] Standards for marble, granite and soapstone, most commonly used as lintels, included details on supports, anchors, patterns, and thickness. Anchors for these types of stones should have been galvanized or non-corroding to prevent a reaction with the stone and quick deterioration in the future. Use of Portland cement for mortar and other cushions around the material was highly recommended during this period.[166]

Steel and aluminum siding as well as asbestos cement siding were popular siding materials during the mid-twentieth century. Aluminum in particular, was popular because it could be installed easily and quickly, was inexpensive, and was advertised as low-maintenance and rot and fire resistant.[167] Aluminum was extremely widespread in the 1940s and as a result of its popularity, many houses clad in clapboard or weatherboard siding were 'modernized', and their siding was replaced with aluminum. Aluminum's use peaked in the 1970s and was eclipsed by vinyl siding, which had been introduced in 1963.[168]

Gypsum continued to be used primarily for partition walls and in basements. Materials such as adobe, glass, glass blocks, and architectural terra cotta, though common in the mid-twentieth century are not discussed in detail because they are often limited to commercial building types and not relevant to this residential study.

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[165] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 4th ed. (New York: John Wiley & Sons, 1951.) 13.
[166] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 4th ed. (New York: John Wiley & Sons, 1951.) 59.
[167] Richa Wilson and Kathleen Snodgrass. "Tech Tips - 0873-2308P-MTDC; Early 20th-Century Building Materials: Siding and Roofing." USDA: United States Forest Service. (February 2008. Accessed August 25, 2014. http://www.fs.fed.us/eng/pubs/htmlpubs/htm08732308/.) 8-9.
[168] Richa Wilson and Kathleen Snodgrass. "Tech Tips - 0873-2308P-MTDC; Early 20th-Century Building Materials: Siding and Roofing." USDA: United States Forest Service. (February 2008. Accessed August 25, 2014. http://www.fs.fed.us/eng/pubs/htmlpubs/htm08732308/.) 8.

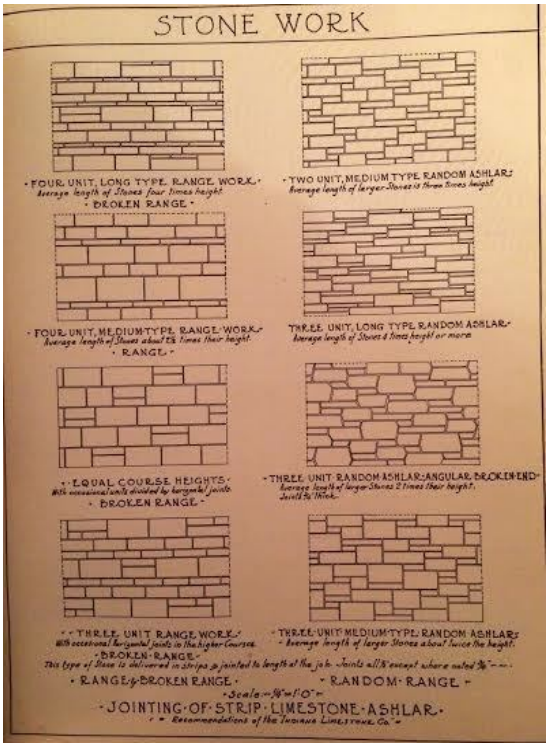

Figure 25: Stone Work #2 (1951 Ramsey, 55)

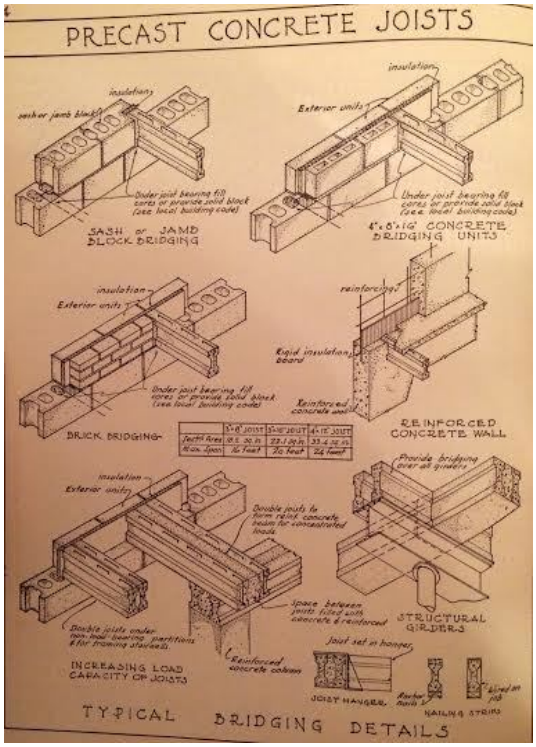

Figure 26: Precast Concrete Joists (1951 Ramsey, 74)

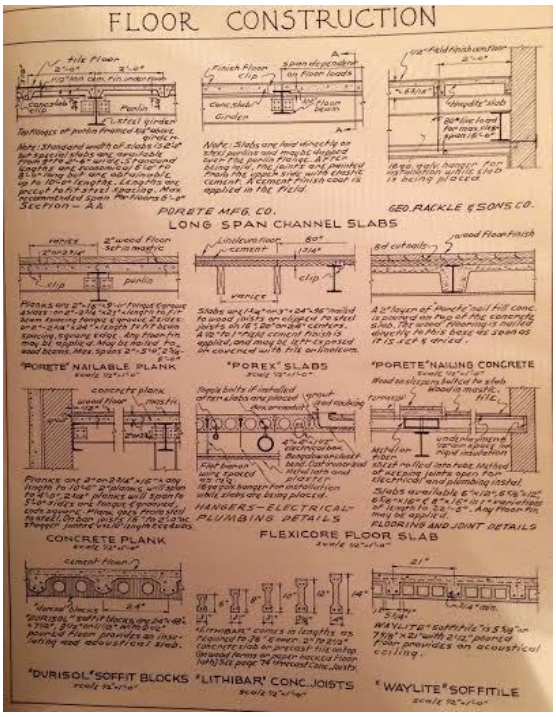

Figure 27: Floor Construction (1951 Ramsey, 79)

Concrete masonry was primarily used at this time for concrete slab floors for interior bearing walls, lintels, or as the structure for brick veneer. Regarding stone, more patterns had developed by the mid-twentieth century. Specifically, smooth cut stone was used more often in courses – creating neat strips and a clean streamlined design.[169]

Flooring Materials

Although not much had changed in flooring materials, there were new developments in floor construction. One new development was the introduction of precast concrete joists. These were primarily used for reinforced concrete walls and concrete bridging units, and it is not likely that they would have been used commonly in residential buildings. Other advancements included fireproof elements within the flooring, linoleum tile floors, concrete planks, flexicore floor slabs, and long span channel slabs.[170]

Many resilient flooring materials that were introduced in the 1920s and 1930s, such as rubber and vinyl, became popular by the 1950s. It was around this time that vinyl was introduced as a siding material, gradually replacing aluminum. Asphalt flooring, also introduced in the 1920s and 1930s, became the most popular flooring type by the 1950s. Although asphalt flooring is in general noisier and easier to damage, it was most useful for application on top of below grade concrete because it was not susceptible to alkali deterioration leaching from a damp concrete floor.[171]

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[169] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 4th ed. (New York: John Wiley & Sons, 1951.) 37-58.
[170] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 4th ed. (New York: John Wiley & Sons, 1951.) 74-81.
[171] Richa Wilson and Kathleen Snodgrass. "Tech Tips - 0773-2322-MTDC; Early 20th-Century Building Materials: Resilient Flooring." USDA: United States Forest Service. (August 2007. Accessed September 15, 2014. http://www.fs.fed.us/t-d/pubs/pdfpubs/pdf07732322/pdf07732322dpi72.pdf.) 5.

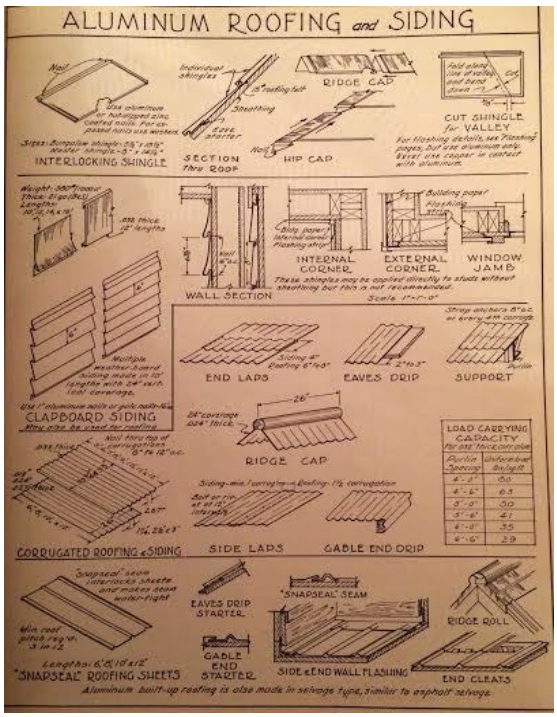

Figure 28: Aluminum Roofing and Siding (1951 Ramsey, 115)

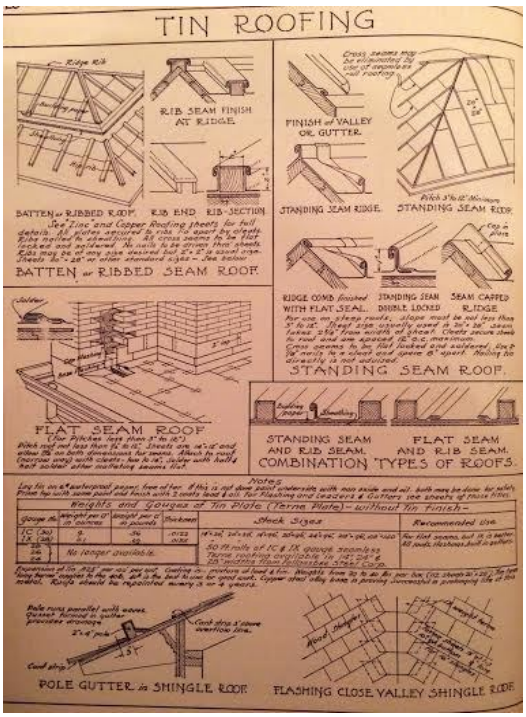

Figure 29: Tin Roofing (1951 Ramsey, 120)

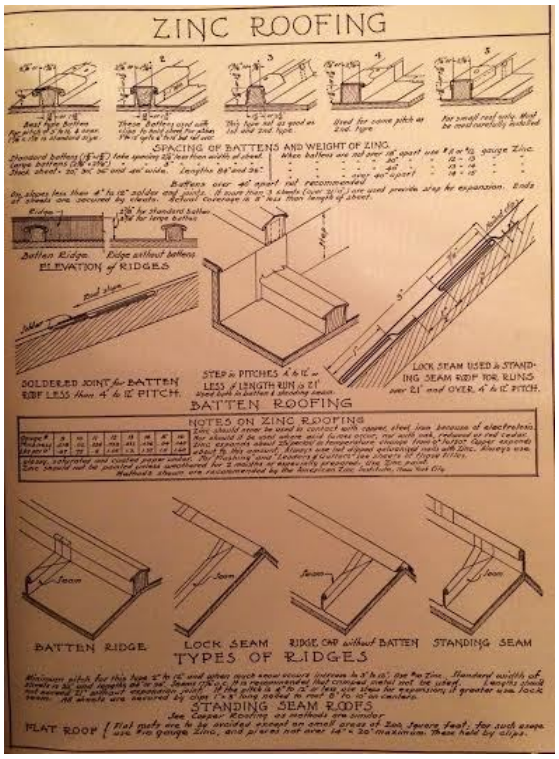

Figure 30: Zinc Roofing (1951 Ramsey, 121)

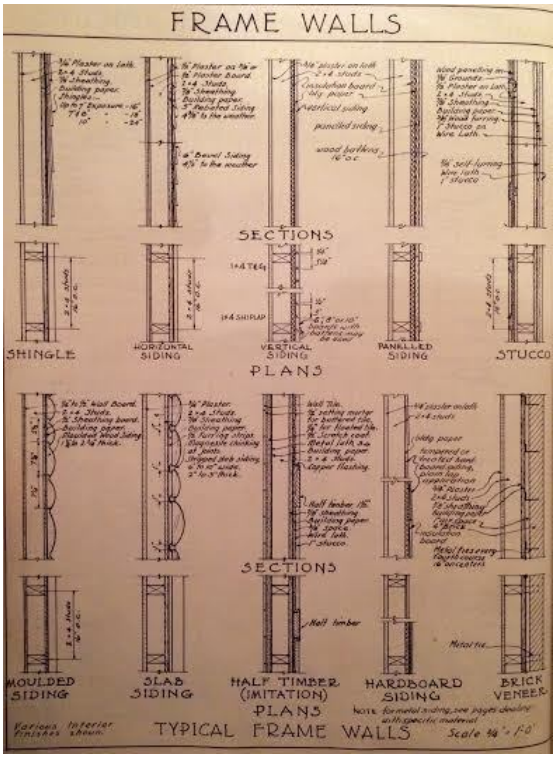

Figure 31: Frame Walls (1956 Ramsey, 34)

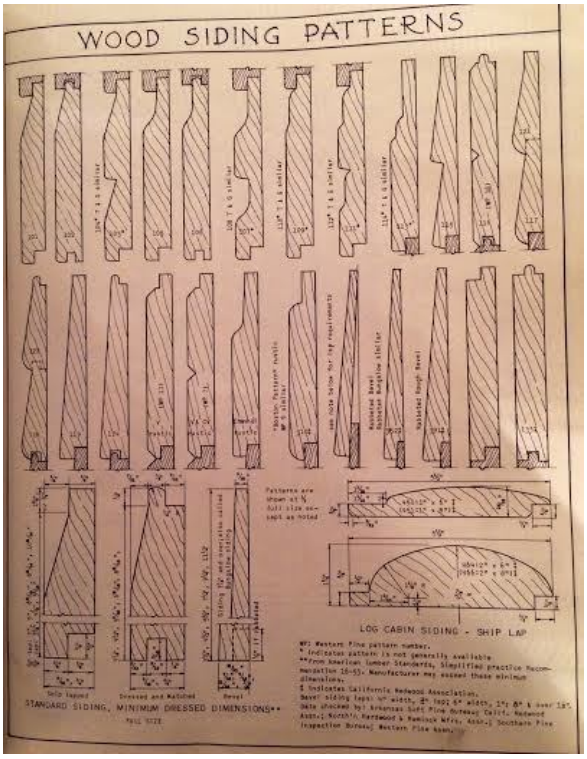

Figure 32: Wood Siding Patterns (1956 Ramsey, 35)

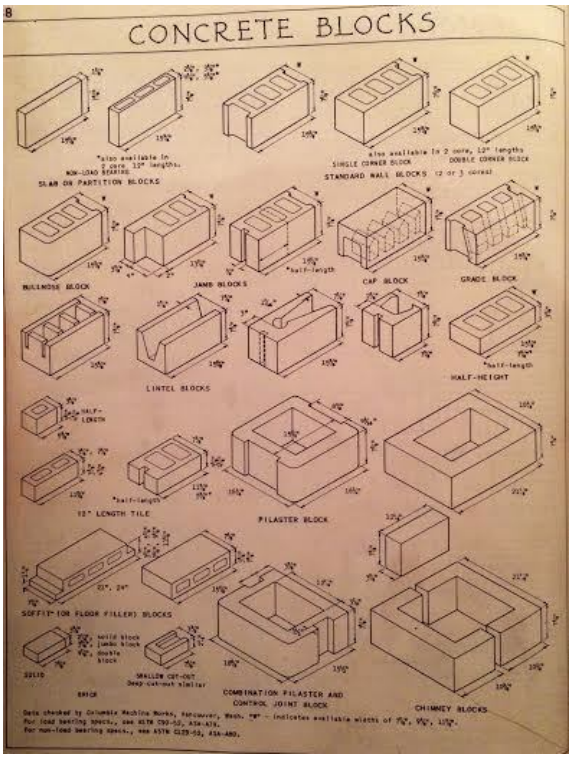

Figure 33: Concrete Blocks (1956 Ramsey, 88)

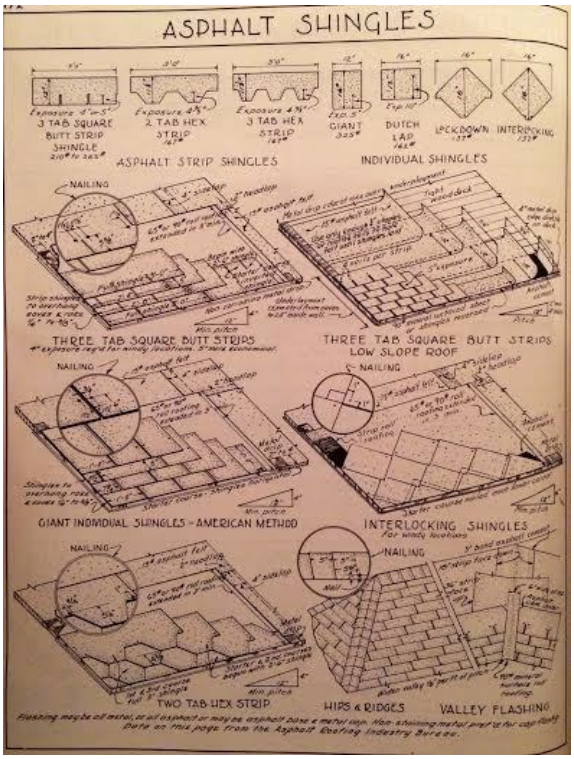

Figure 34: Asphalt Shingles (1956 Ramsey, 172)

Roofing

The greatest change by mid-century was in the additional roofing materials, which now included copper, aluminum, galvanized iron, lead roofing, monel, tin, zinc, clay tile, wood shingles, asphalt shingles and roll roofing, asbestos cement roofing, composition roofing, and fiber board and canvas roofing. Copper, aluminum, galvanized iron, tin, and zinc were all forms of metal roofing that came in sheets that were then attached together with either flat, batten, or standing seams when used to craft the roof.[172] Wilson and Snodgrass note that although asbestos cement roofing was affordable and promoted for its fire resistance, it was only recommended for temporary structures. Asphalt shingles, on the other hand, came to be one of the most widely used roof covering materials of the twentieth century. Although the idea of asphalt roofing began in the mid-to-late nineteenth century with rolls of composition roofing, asphalt as individually cut shingles began around 1903.[173] Because of the fire resistance quality of asphalt shingles, around World War I the idea of asphalt shingles became popular due to a campaign to reduce the use of wood shingles because of their lack of fire resistance. In addition to asphalt shingles, the 1940s introduced paper and wood products reinforced with asbestos. By the 1970s, though, mats of fiberglass began to replace asbestos due to a growing concern with asbestos safety.[174]

By 1956, there were a variety of new types of asphalt shingles, new designs, and even new ways of attaching them to the roof. Three tab square butt strip shingles, two tab hex strip shingles, three tab hex strip shingles, giant, Dutch lap, lockdown, and interlocking shingles were

[172] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 4th ed. (New York: John Wiley & Sons, 1951.) 113-136.
[173] Richa Wilson and Kathleen Snodgrass. "Tech Tips - 0873-2308P-MTDC; Early 20th-Century Building Materials: Siding and Roofing." USDA: United States Forest Service. (February 2008. Accessed August 25, 2014. http://www.fs.fed.us/eng/pubs/htmlpubs/htm08732308/.) 2.
[174] Richa Wilson and Kathleen Snodgrass. "Tech Tips - 0873-2308P-MTDC; Early 20th-Century Building Materials: Siding and Roofing." USDA: United States Forest Service. (February 2008. Accessed August 25, 2014. http://www.fs.fed.us/eng/pubs/htmlpubs/htm08732308/.) 2.

all shingle types attached with nails. Three new roofing types that were in use by 1956 were canvas roofing, plastic dome roofs, and galvanized steel metal roofs. Canvas roofs were rolled out flat and nailed to the top of the decking. Like other metal roofing types, galvanized steel came in sheets, plain, corrugated, v-crimp, pressed standing seam, triple-drain, or storm proof sheets.[175]

By the 1970s, different types of asphalt shingles included organic felt, asbestos felt, glass and organic felt, and roll roofing. Each of these came in a variety of colors and textures and was fastened by either nails or staples. Flat Seam, Batten Seam, and Standing Seam were the most popular methods of attaching metal roofing sheets together. Corrugated and crimped roofing was commonly used for iron and steel or galvanized iron, aluminum, fiber glass, and plastic.[176]

Interestingly, by the 1970 edition of *Architectural Graphic Standards*, the first to be published after original authors had each died, even nail types and uses had become specified. Different nails were now recommended for rough carpentry, finish carpentry, wood flooring, lathing, sheathing or siding, and roofing and sheet metal. The same type of detailed information is also provided for other fastening materials such as screws, bolts, turnbuckles, flush joint wood fasteners, washers, and curtain wall topseal fasteners, whereas previously this kind of information had been limited to rivets.[177] Standardized lumber guidelines and plank and beam framing design guidelines continue to exist. Numerous light wood framing details remain, although the standard framing types have now been reduced to two; Balloon framing and Platform framing.

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[175] Charles George Ramsey and Harold Reeve Sleeper. *Architectural Graphic Standards*. 5th ed. (New York: John Wiley & Sons, 1956.) 170-185.
[176] American Institute of Architects. *Architectural Graphic Standards*. 6th ed. (New York: John Wiley & Sons, 1970.) 270-292.
[177] American Institute of Architects. *Architectural Graphic Standards*. 6th ed. (New York: John Wiley & Sons, 1970.) 190-197.

Unlike in previous years, the 1970 edition gave more attention to paneling and plywood details, including interior details. Paneling and plywood served not only as a protective surface of the material below, but served as designed veneers.[178] By 1970, standards were also developed for laminated plastic veneers, hardboard, particle board, gypsum and other drywall types, and for wallboard.[179] Finish materials included plaster, ceramic tile, flexible wall coverings, wood and resilient flooring, and brick and tile flooring.[180]

[178] American Institute of Architects. *Architectural Graphic Standards*. 6th ed. (New York: John Wiley & Sons, 1970.) 214-259.
[179] American Institute of Architects. *Architectural Graphic Standards*. 6th ed. (New York: John Wiley & Sons, 1970.) 260-267.
[180] American Institute of Architects. *Architectural Graphic Standards*. 6th ed. (New York: John Wiley & Sons, 1970.) 387-416.

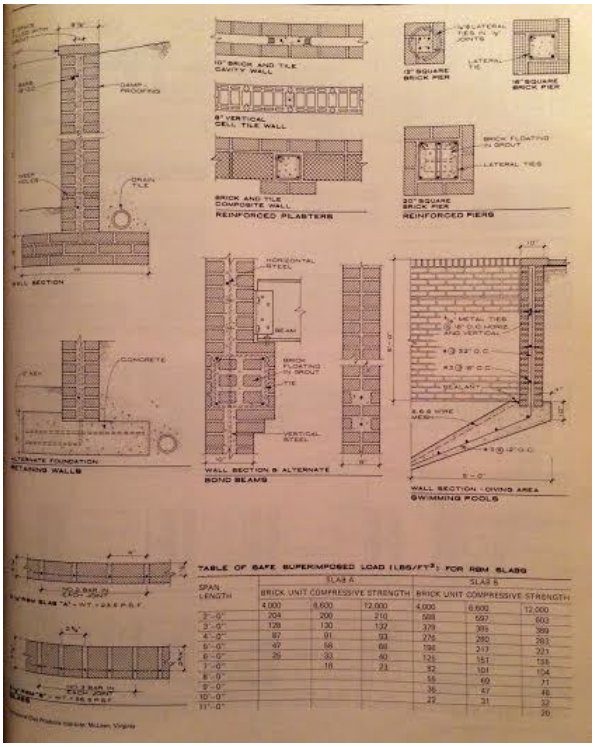

Figure 35: Reinforced Brick Masonry (1970 American, 155)

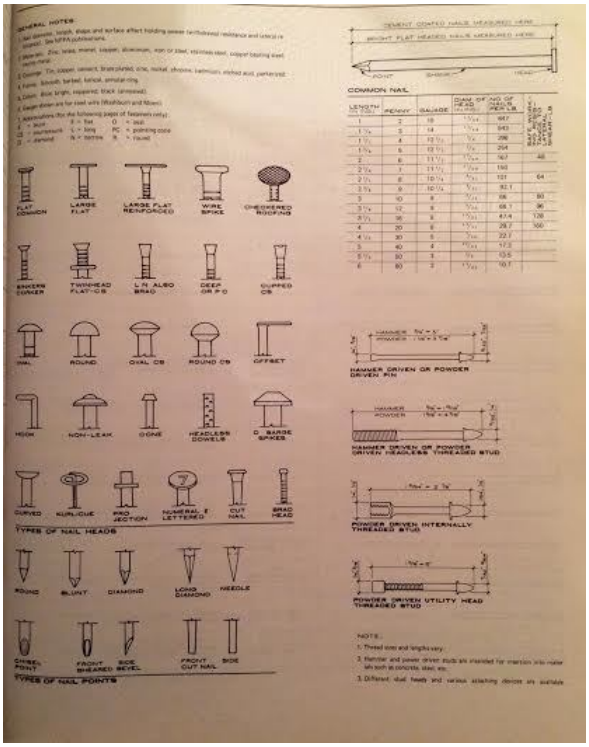

Figure 36: Nails (1970 American, 191)

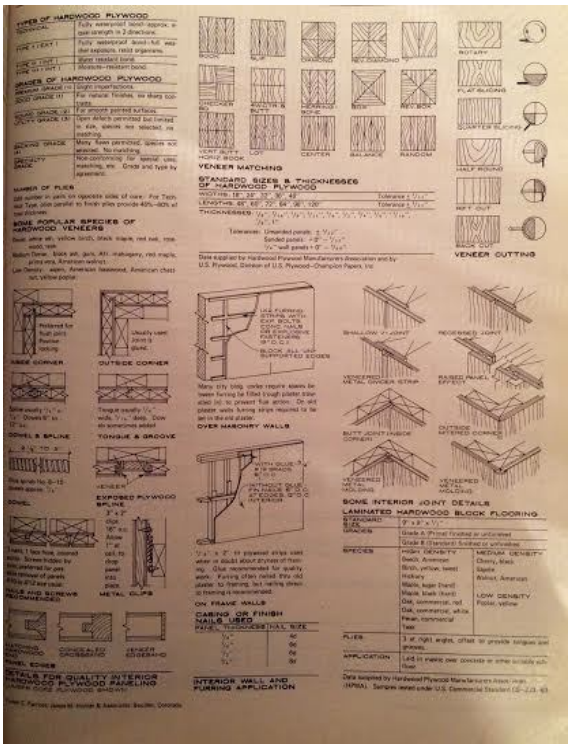

Figure 37: Plywood Details and Interior Plywood (1970 American, 259)

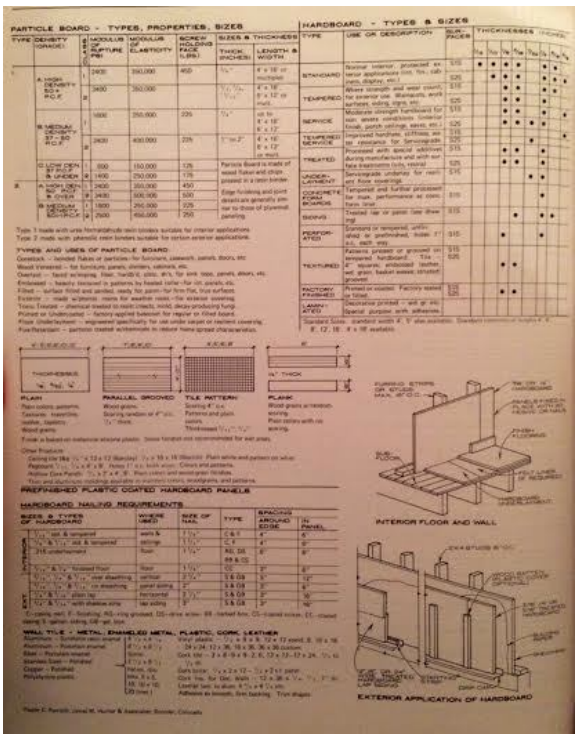

Figure 38: Hardboard, Particle Board, Miscellaneous Wall Tiles (1970 American, 266)

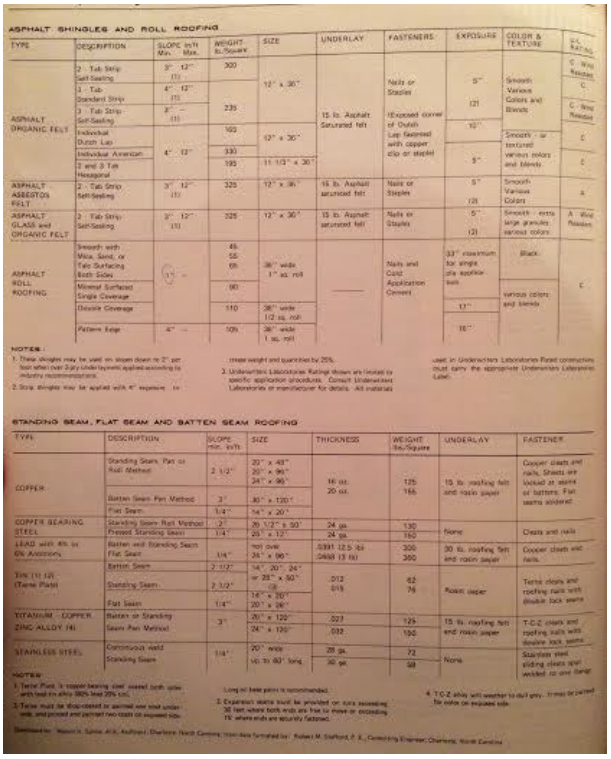

Figure 39: Asphalt Shingles and Roll Roofing, and Seamed Metal Roofing (1970 American, 272)

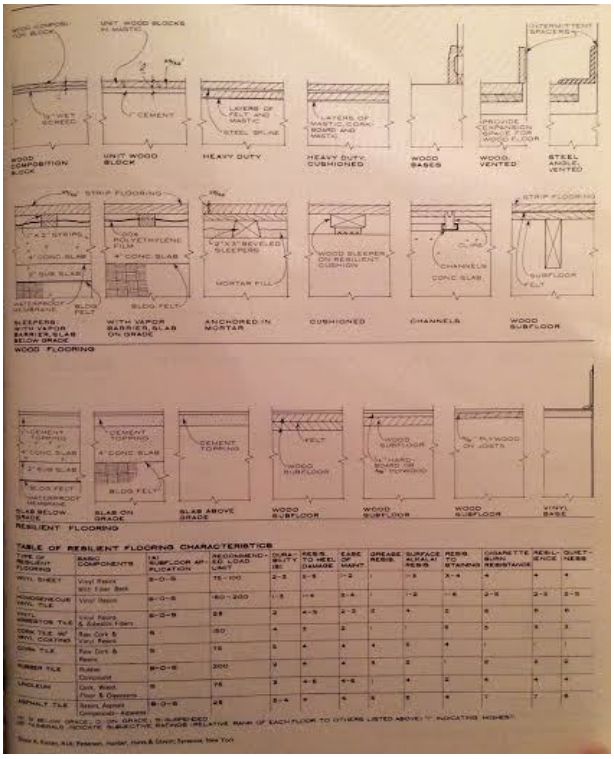

Figure 40: Wood and Resilient Flooring (1970 American, 409)

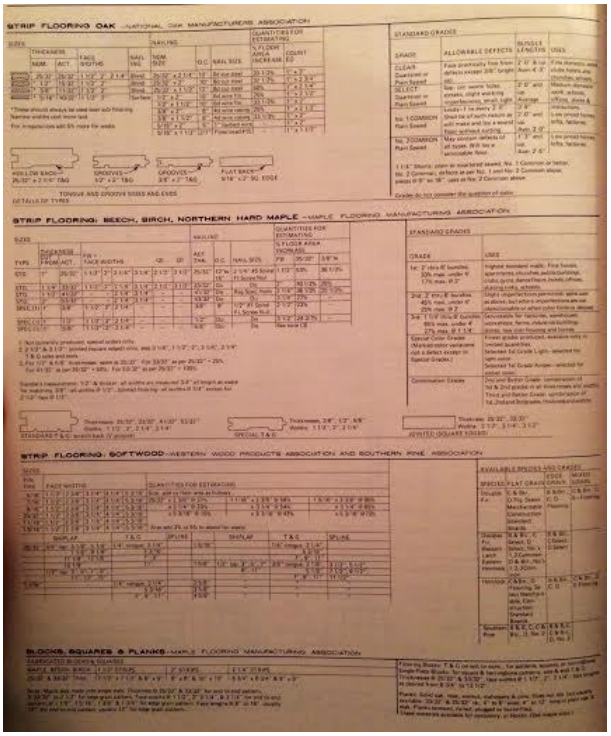

Figure 41: Wood Flooring (1970 American, 408)

Late Twentieth Century

There were almost as many editions of *Architectural Graphic Standards* published in the last fifth of the twentieth century as had been published in the previous eighty years combined. This attests to the fast pace of architectural design, materials development, and changing construction practices in the late twentieth century. By 1988 the standards began including concerns beyond the building itself, extending to site planning and landscaping. Designs for sidewalks, ramps, and other aspect of the built environment that surrounds a building were also provided.

Some notable observations are that standardized lumber, particleboard, and glued laminated timber continue to be common construction materials in wood frame houses. Fabricated trusses were commonly used, and by this time, instead of solid wood, pieces of wood were being glued together. Specifically, this type of timber was made from wood laminations bonded together using adhesives. The grains of the laminations are mostly parallel lengthwise, but cannot be guaranteed or duplicated exactly.[181] Despite the demand for quickness, cheapness, and prefabrication, there is a surprising level of detail concerning wood joints. Particleboard and other manufactured products, by 1994, were more common and playing larger roles in building construction. Specifically, glued laminated timber, which is roughly wood chips glued together, was upgraded to an entire construction system. Details were given for structural glued laminated timber shapes, architectural appearance, and finishes.

Jackie Jackson was the editor of the study on home components that was performed by the economics group of the National Association of Home Builders sponsored by the Bank of America Home Equity. Jackson, editor of *Study of Life Expectancy of Home Components* states

[181] American Institute of Architects. *Architectural Graphic Standards*. 8th ed. (New York: John Wiley & Sons, 1988.) 308-317.

that technology-related building components had improved by the 1980s, but also notes that the life expectancy of other materials had declined.[182] The materials covered are concrete and masonry, doors, engineered lumber, flooring, footings and foundations, and framing systems. Jackson notes that concrete and masonry can have a lifespan of 100 years or more, and that wood, marble, slate, and granite flooring can last just as long.[183] He also discusses the lifespan of doors and that of other materials such as vinyl, linoleum, carpet, and concrete block.

Framing

Although Balloon and Platform framing continue to be the popular framing types, more detail is provided in the 1970 edition of standards. For example, with Platform framing it is noted that before any other part of the structure is built, the first floor subflooring must be put down, creating a platform. Because the floor framing and walls do not interlock, it is necessary to have diagonal sheathing and bracing to provide resistance. In the case of Balloon framing, in addition to the studs extending the full two stories, at the second floor, a ribbon is slipped into the studs. The upper-level floor joists rest on the ribbon and are fastened to the studs, a practice which ties the whole structure together. Much attention was still given to wood joinery details.[184] There are also more detailed standards for framing around openings and for stairs.

[182] Jackie Jackson. "Study of Life Expectancy of Home Components." National Association of Home Builders/Bank of America Home Equity. (February 2007. Accessed August 25, 2014. http://www.nahb.org/fileUpload_details.aspx?contentID=99359.) 1.
[183] Jackie Jackson. "Study of Life Expectancy of Home Components." National Association of Home Builders/Bank of America Home Equity. (February 2007. Accessed August 25, 2014. http://www.nahb.org/fileUpload_details.aspx?contentID=99359.) 3-4.
[184] American Institute of Architects. *Architectural Graphic Standards*. 9th ed. (New York: John Wiley & Sons, 1994.) 318-322.

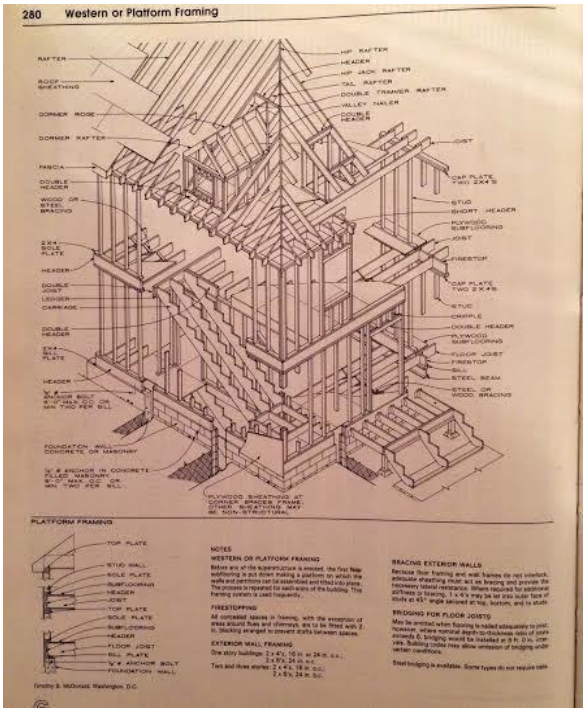

Figure 42: Western, or Platform, Framing (1988 American, 180)

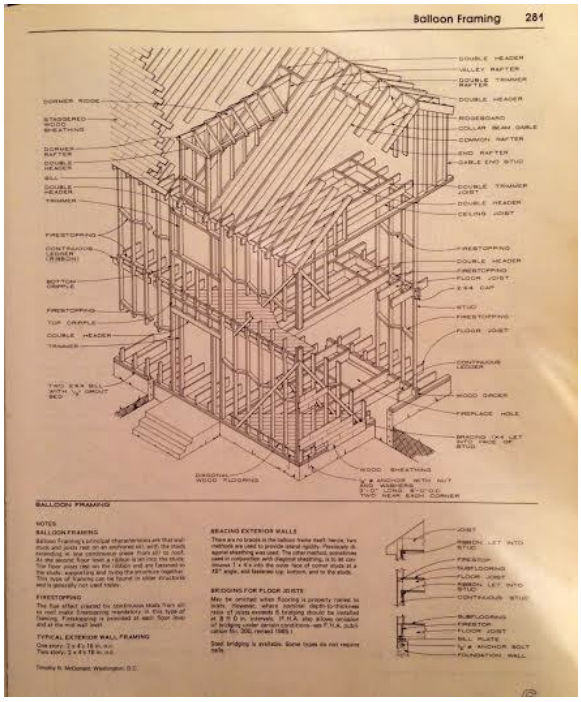

Figure 43: Balloon Framing (1988 American, 281)

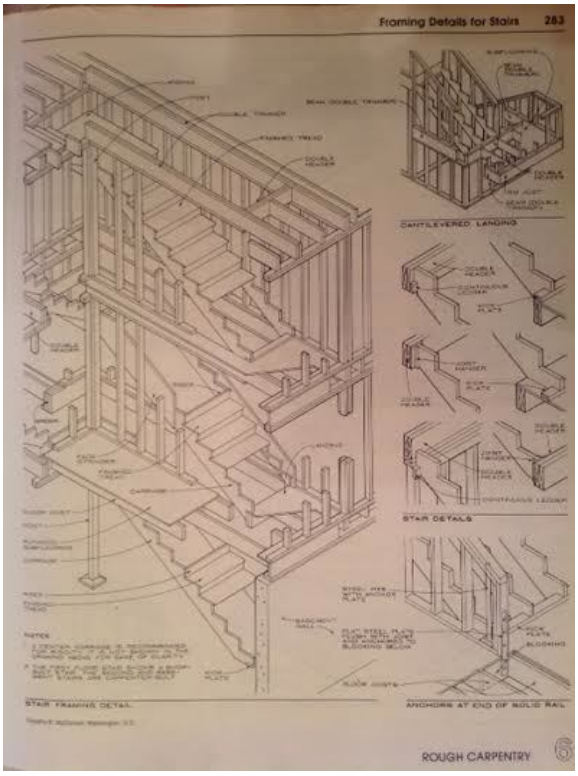

Figure 44: Framing Details for Stairs (1988 American, 283)

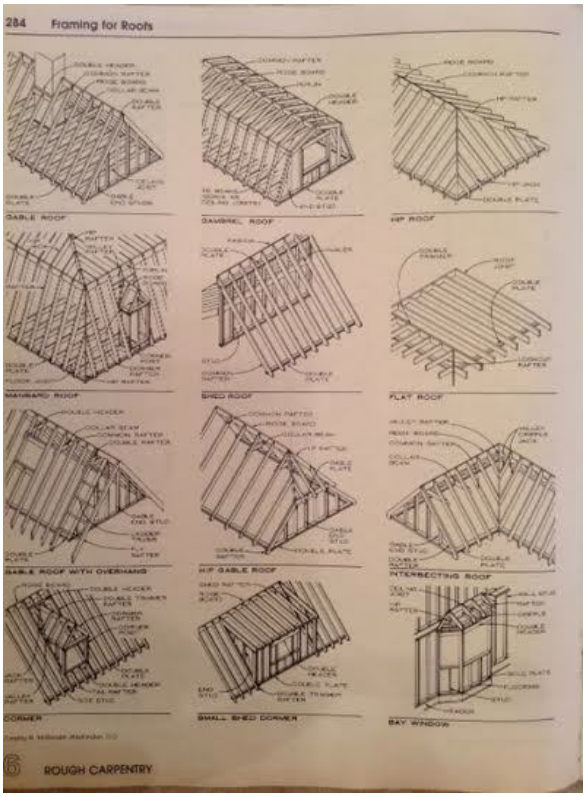

Figure 45: Framing for Roofs (1988 American, 284)

By 1994 Balloon framing was no longer being used, leaving the standard Platform framing as the only system being encouraged.[185] Aside from wood framing, in the 1994 edition considerable attention is now given to steel framing systems rather than individual components. The two main steel framing systems discussed are Moment-Resisting Frame and Rigid Frame. Moment-Resisting Frame is characterized by its lateral stability and resistance to wind and seismic forces. The use of bolts as fasteners is permissible, but the system is more effective when the beams are directly welded to the columns. The system is more effective for shorter buildings because they are designed to counteract mostly lateral forces. The frame works best in compression and is most comparable to Braced framing. The Rigid Frame is also most useful for one-story construction and for balconies or mezzanines. The system can carry vertical loads and resist horizontal forces such as wind. The system can also span long distances, which is useful for buildings types such as warehouses, recreational buildings, and showrooms.[186]

Wall Coverings

By 1988 there were a variety of finish materials available. Plaster was still available, although primarily used for ceilings rather than walls. Gypsum wallboard was still common, but by 1988 there were more types and accessories. Brick work, concrete, and structural tile remained the same, although glass block and stone work saw a few minor changes. By the late twentieth century the design of glass blocks changed to include solar controlled units and an expansion strip that allowed for differential movement. They also required a horizontal joint for reinforcement and metal anchors to secure the blocks to adjacent construction. Unlike the advancements with glass blocks, stone work seems to have diminished heading into the late

[185] American Institute of Architects. *Architectural Graphic Standards*. 9th ed. (New York: John Wiley & Sons, 1994.) 294-300.
[186] American Institute of Architects. *Architectural Graphic Standards*. 9th ed. (New York: John Wiley & Sons, 1994.) 253-263.

twentieth century. There are fewer courses and designs than there were during the latter portion of the mid-twentieth century. In 1988 there were only six ashlar courses and only three patterns for uncoursed and uncut stone.

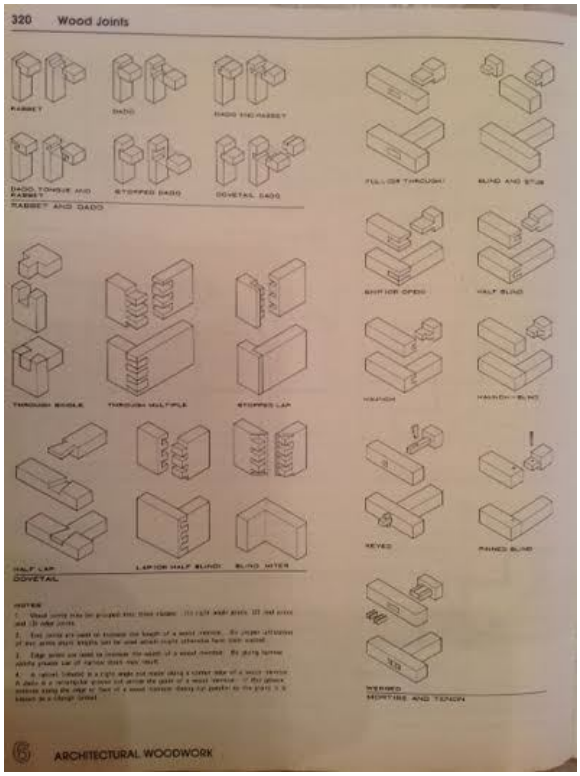

Figure 46: Wood Joints Figure 1 (1988 American, 320)

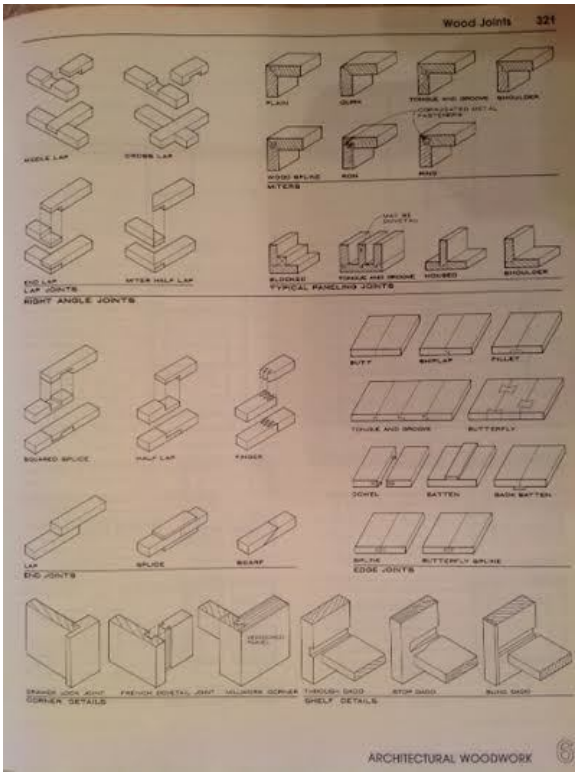

Figure 47: Wood Joints Figure 2 (1988 American, 321)

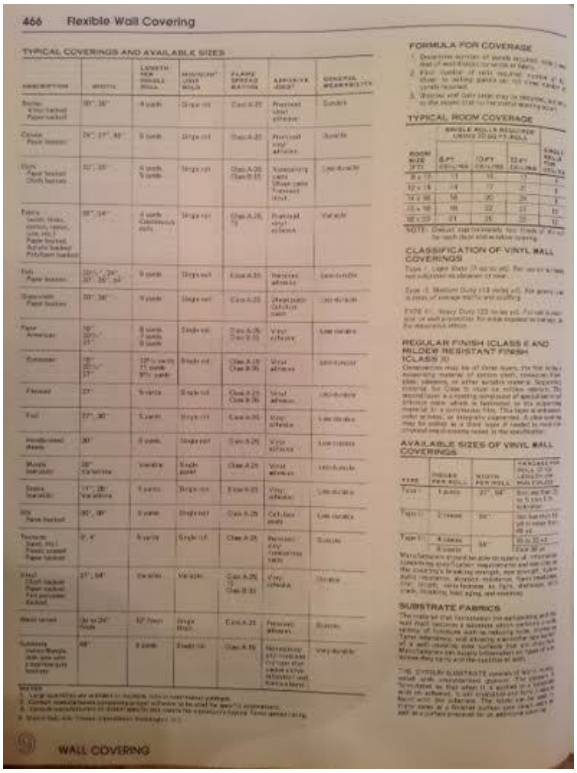

Figure 48: Flexible Wall Covering (1988 American, 466)

In keeping with the general trend of the late twentieth century, there was shop bonded stone available.[187]

By 1994, more details were given on masonry wall construction, units, and foundation walls. Brick bonds were severely reduced, leaving only two types of Common bonds, a Flemish bond, English, Flemish (cross), Stack, and two running courses that simply vary in brick size. Brick veneer construction noticeably expanded, details were improved, and anchored veneers and adhered veneers were discussed. More details were given specifically for stone veneer, with additional information on wall coverings including terra cotta, ceramic veneer, and glass block. One of the largest improvements to glass block was the use of a curve. With the use of intermediate expansion joints and supports, glass block designs could now include bended corners and wavy designs.[188] Once again, plaster and gypsum board were the most common finish materials. Plaster continued to primarily be used for ceilings, and gypsum board was primarily used for interior wall coverings and partition walls. Interior wall coverings also included paint and various flexible wall coverings ranging from wood veneer to paper backed silk to paperbacked felt. Prefinished wall panels included vinyl covered gypsum board plastic laminate panels, fabric covered fiberboard, vinyl covered fiberboard, and tempered hardboard.[189]

Flooring Materials

Flooring materials of the late twentieth century included ceramic tile, terrazzo, wood flooring, resilient flooring, and finally carpet. Types of resilient flooring include vinyl sheets, homogenous vinyl tile, vinyl composition tile, cork tile with vinyl coating, cork tile, rubber tile,

[187] American Institute of Architects. *Architectural Graphic Standards*. 8th ed. (New York: John Wiley & Sons, 1988.) 194-203.
[188] American Institute of Architects. *Architectural Graphic Standards*. 9th ed. (New York: John Wiley & Sons, 1994.) 213-239.
[189] American Institute of Architects. *Architectural Graphic Standards*. 8th ed. (New York: John Wiley & Sons, 1988.) 462-467.

and linoleum. Each of these is rated for durability, resistance to damage, and ease of maintenance. Cork tile, cork tile with vinyl coating, and linoleum have the lowest level of durability.[190] (see Appendix D)

By 1994, flooring included ceramic tile, terrazzo, acoustical tile, wood, stone, carpet, and occasionally rubber. Carpet construction details and types had been expanded. There were eight types of carpet construction included – velvet construction, axminister construction, wilton construction, knitted construction, flocked construction, needlepunched construction, tufted construction, and fusion bonded construction. Types of carpet fibers included wool, cotton, nylon, acrylic, polypropylene, and polyester. The most common carpet fiber was nylon. Resilient flooring was still available by 1994, although the durability of each specific material had not been improved.[191]

Roofing

By the 1980s there are detailed standards for common roof framing types, including a gable roof, gambrel, hip, mansard, shed, flat, intersecting, hip gable, and a gable roof with overhang. The framing for roofs also includes a gable dormer, a small shed dormer, and a bay window.[192]

Throughout the twentieth century standards, in general, have become more unified, in some cases more simplified, and have also expanded to include a wider range of materials. From 1900-1940 foundation materials consisted of brick, stone, concrete, and brick and wooden piers. By the mid-twentieth century, wood was no longer used as a foundation material, but otherwise

[190] American Institute of Architects. *Architectural Graphic Standards*. 8th ed. (New York: John Wiley & Sons, 1988.) 445-460.
[191] American Institute of Architects. *Architectural Graphic Standards*. 9th ed. (New York: John Wiley & Sons, 1994.) 458-483.
[192] American Institute of Architects. *Architectural Graphic Standards*. 8th ed. (New York: John Wiley & Sons, 1988.) 280-284.

the standards for foundations remained the same through the late twentieth century. Framing at the beginning of the century began with Braced Framing, Balloon Framing and Platform framing. In mid-century, Modern Braced framing, which uses nails instead of joinery, was introduced. Although Modern Braced Farming was introduced, Balloon Framing and Platform framing were still commonly used. Overall, framing has become more simplified over the years, culminating with nearly an exclusive use of Modern Braced Framing by the end of the twentieth century with the exception of the introduction of metal framing.

Wall covering materials, flooring materials, and roofing materials gradually increased in number throughout the century. These materials began with primarily brick and stone, as well as wood, stucco, and tile, in the early twentieth century. By 1941 a larger variety of wall covering materials were available, which now included brick, stone, concrete, stucco, glass blocks, aluminum, adobe, gypsum, marble, and soapstone. This period also saw the introduction of vinyl as a siding material in the 1960s. Such materials continued to be popular into the 1980s and 1990s. The biggest change was seen in the use of plaster, which was dominant in the early-to-mid-twentieth century, and had been replaced by drywall, which by the late twentieth century had become nearly ubiquitous.

There were a wide range of flooring and roofing materials available throughout the entire century, although usage changed. From 1900-1940 wood was the primary flooring material, although materials such as terrazzo, linoleum, marble, rubber, ceramic tile, cork tile, and cement were also available. Such materials were also available into the mid-century with the addition of vinyl. Wood as a flooring material became less common into the late twentieth century, while carpet became quite popular. Roofing materials changed little throughout the century. A variety of materials, such as asphalt, asbestos, tine, copper, zinc, clay tile, and galvanized iron were

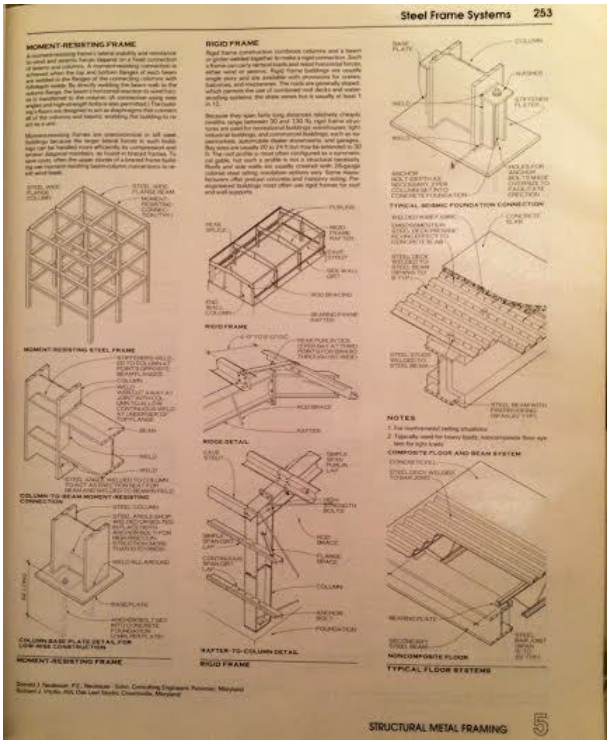

Figure 49: Steel Frame Systems (1994 American, 253)

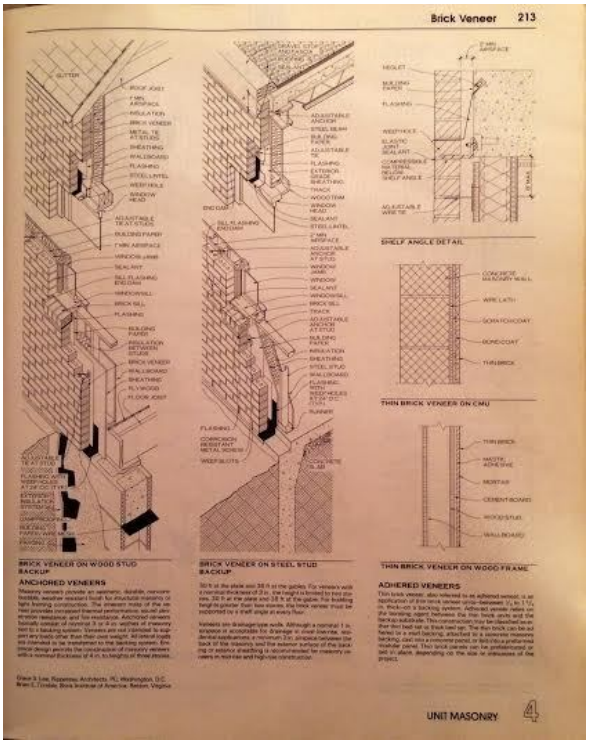

Figure 50: Brick Veneer Figure 1 (1994 American, 213)

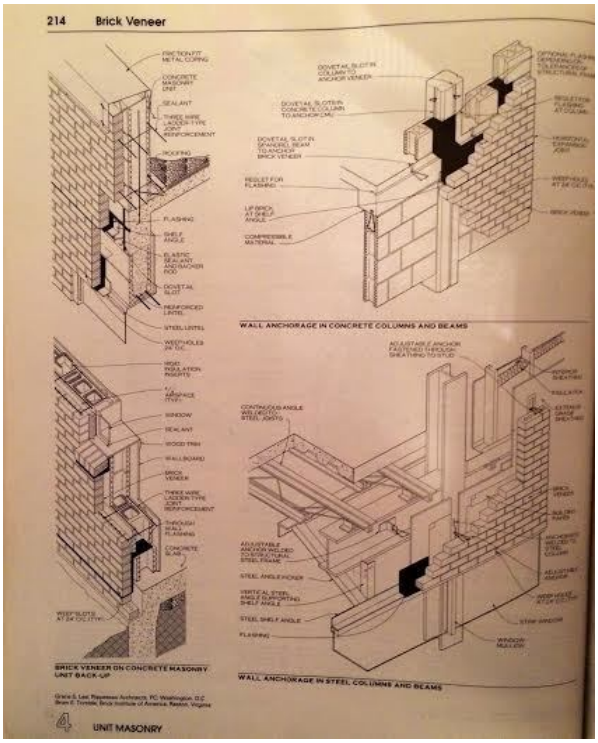

Figure 51: Brick Veneer Figure 2 (1194 American, 214)

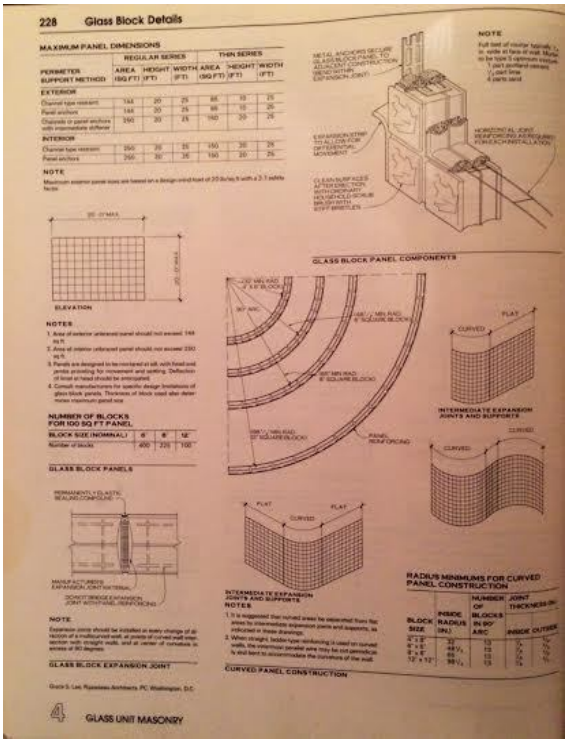

Figure 52: Glass Block Details (1994 American, 228)

available in the early twentieth century. Metal roofing became increasingly popular into the mid-to-late-twentieth century as did asphalt shingles. Asphalt shingles, in particular, became one of the most common residential roofing types of the twentieth century. All in all the standards throughout the twentieth century saw the introduction of many new materials, standardized dimensions, and the increased use of synthetic materials.

Conclusion

Preservation has a system, and a key part of that system is the National Register, which is the focus of this thesis. The preservation movement began with small entities such as the Mount Vernon Ladies Association and the erection of Colonial Williamsburg. Preservation became a national priority with the establishment of the Historic Preservation Act of 1966. The law established a preservation program and system responsible for the identification and protection of historic and cultural resources of national, state, local, or tribal significance. The Act gave the Secretary of the Interior, through the National Park Service, the responsibility of maintaining the National Register of Historic Places. Today the National Register, which is a comprehensive list of historic resources including individual properties, districts, sites, objects, buildings, and structures, is the primary vehicle for identifying and protecting historic resources of the Unites States. Eligibility to the National Register is based on a guiding age of 50 years, four significance criteria, seven aspects of integrity, and seven criteria considerations.

Through the course of the twentieth century came many changes and developments with construction practices, design principles, and economic factors all resulting in the different architectural trend of the 1980s and 1990s. The twentieth century was filled with technological advancements and changing societal views and values. One of the most notable factors

influencing construction throughout the century is the general shift from precedent to new building forms that deviated completely from historical precedent. Additionally, there was a general shift from craftsmanship to manufacturing and mass produced building components. The century saw the standardization of parts, prefabrication, and advancements in new man-made materials such as aluminum, vinyl, gypsum, and other synthetic materials, especially during the latter half of the century. The period saw an increase in construction speed as well as a shift of building from the private sector towards construction companies and large investors towards the end of the 1970s.

By the 1980s-2000, America had seen big changes in construction practices from previous decades, along with changing needs and desires of society. Construction in general shifted from personal homebuilders to an increased amount of speculative construction as well as diminished architect control. Neighborhoods shifted from sporadic individual development to well-thought-out communities. The neighborhoods of the late twentieth century also took on a more unified appearance through speculative development and a general shift in housing from the private to public sector. In all, building construction practices were primarily influenced by economic factors and the changing needs and values of society over time.

Building standards throughout the twentieth century have gradually become more unified, in some cases more simplified. They have also expanded to include a wider range of materials. The focus for this thesis was on foundation materials, framing systems, wall coverings, flooring materials, and roofing materials. Foundation materials primarily consisted of brick, stone, and concrete throughout the century. At the turn of the century there were three popular framing systems; Braced Framing, Balloon Framing, and Platform Framing. By the mid-twentieth century Braced Framing had been replaced with Modern Braced Framing, which

used nails instead of joinery. Modern Braced Farming, along with metal framing, were almost exclusively used by the 1980s.

The biggest change in wall covering materials is the shift from plaster, commonly used through the mid-twentieth century, to drywall in the late twentieth century. The twentieth century also saw an expansion of both exterior wall coverings and flooring materials. Wall covering materials began with primarily brick and stone, as well as wood, stucco, and tile, in the early twentieth century, and saw the addition of glass blocks, aluminum, adobe, gypsum, marble, soapstone, and vinyl in the mid-twentieth century. Vinyl in particular became quite popular into the late twentieth century. Likewise, flooring materials shifted from a primary use of wood to synthetic materials throughout the century. Wood, terrazzo, linoleum, marble, rubber, ceramic tile, cork tile, and cement were all available in the early twentieth century. Vinyl was introduced in mid-century, and there was an increased popularity of carpet in the 1980s and 1990s.

Roofing materials changed little throughout the century. A variety of materials, such as asphalt, asbestos, tin, copper, zinc, clay tile, and galvanized iron were available in the early twentieth century and most continued to be popular until late century. Asphalt shingles and metal roofing became increasingly popular throughout the century. All in all the standards throughout the twentieth century saw the addition of many new materials, standardized dimensions, and the increased use of synthetic materials. It is important to note, however, that although some of the aforementioned material was still standard and available, that does not necessarily mean that they were still commonly used. The understanding of changes in Architectural Graphic Standards helps determine the character-defining features of late twentieth century neighborhoods. The evolution of architectural styles, building materials, standards and construction processes as described above will be valuable in assisting with the evaluation of the

case study neighborhoods, and the assessment of National Register eligibility, in the following chapters. More specifically, Architectural Graphic Standards in combination with understanding construction processes and materials helps preservationists evaluate integrity and anticipate the issues that may arise when considering eligibility for the National Register.

CHAPTER 3

CASE STUDIES

To assess potential National Register eligibility of 1980s-2000s-era residential architectural styles, construction processes, and materials, case studies will be used. These will help produce a balanced discussion of the era's residential buildings, and provide the context in which they should be evaluated. The case studies will broaden our understanding of changing styles as well as construction practices and materials over time.

Criteria for choosing sites

To observe changes in single family detached residences from 1900-2000, it is best to study neighborhoods representing a distinct period in twentieth century residential design. All neighborhoods discussed here are located in a single geographic area, and each has a similar historic context. Three neighborhoods were chosen, each representing one of three periods: early (1900-1940), mid (1941-1979), and late twentieth century (1980-2000). Rosedale was built in the period of 1900-1940, Clearwater was built in the period of 1941-1979, and Clearview 1980-2000.

All three neighborhoods have a strong connection to mill, meaning each was in some way promoted or advertised by the mill as a desired place for higher paying management of the mill to reside. The choice of case study sites was based, in part, on the author's previous knowledge of one of them, the old and prominent Rosedale neighborhood. For comparison, two other prominent mill neighborhoods in the area were chosen, each developed in the twentieth century and having features similar to those of Rosedale. Each case study neighborhood is the same

relative size, situated in the same locality, and all share certain economic and physical characteristics. The market prices for houses in all three neighborhoods are similar, as are the income levels of residents living there.

These three particular case study neighborhoods will be evaluated in order to understand how resources from 1980-2000 fit into the evolution of style and construction methods. In addition to providing a basis for comparison, evaluating three neighborhoods covering the entire twentieth century will also provide a basis for determining-character defining features in the late twentieth century neighborhood.

Alleghany County Context History

Prior to describing the individual neighborhoods, it is important to place them in a regional context. Situated in the Alleghany Mountains, Alleghany County was formed by an act of the Virginia General Assembly on January 5, 1822, and was made using former portions of Botetourt, Bath, and Monroe Counties.[193] Of the approximately 452 square miles that make up the county, nearly 50 percent is now designated as the George Washington National Forest.

[193] John R. Strutner. "Alleghany County, Virginia: Services Guide and Directory of County Departments." Alleghanycounty.us. (April 2013. Accessed August 26, 2014. http://www.alleghanycounty.us/co_administrator/brochure.2010.pdf) 4-5.

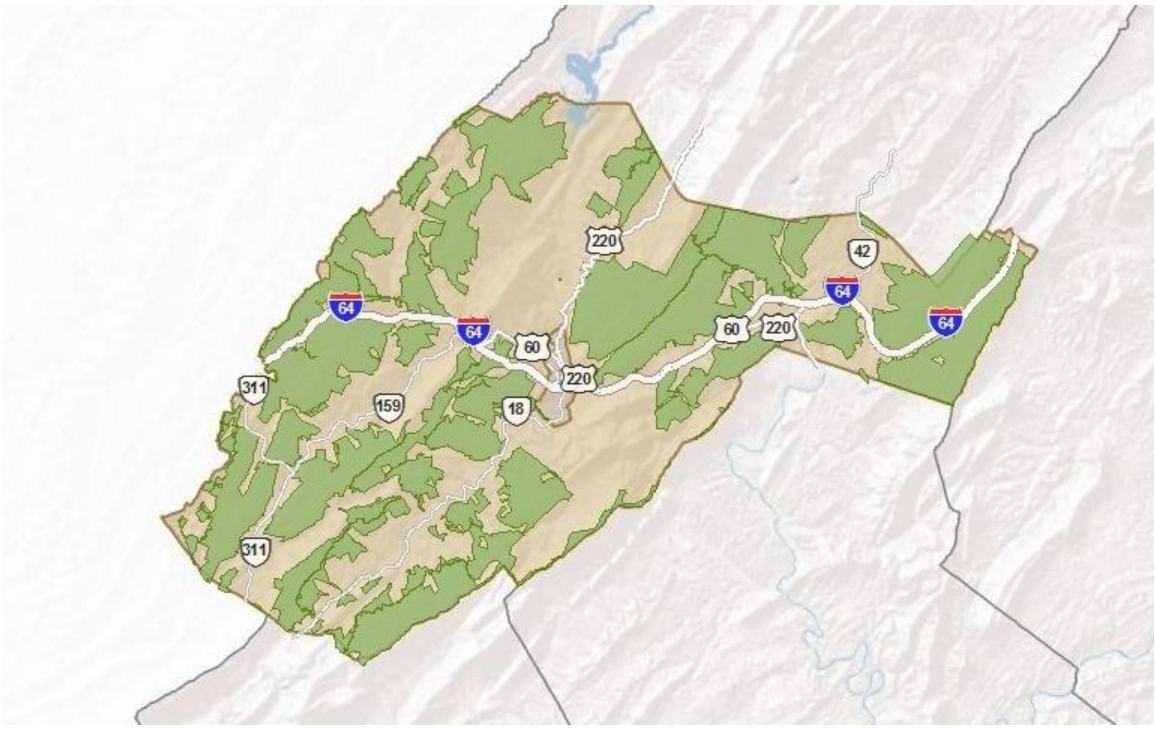

Figure 53: Map Showing the George Washington National Forest areas within Alleghany County, Alleghany County Geographic Information System (Worldview, 2015)

The county is a rural, mountainous region with deep valleys. Its highest point is Big Knob peak in Warm Springs with an elevation of 4,049ft, and the lowest point is the town of Iron Gate at 1,000ft.[194] The area has a population of approximately 16,161 people according to 2013 census data.[195] The county contains the towns of Clifton Forge, Iron Gate, and Covington, which is the main population center and county seat. Since Interstate 64 runs right through the heart of Alleghany County, it is considered Virginia's gateway to the western United States.[196]

[194] Virginia Economic Development Partnership. "Alleghany Highlands, Virginia." Community Profile. (Accessed February 21, 2015. http://virginiascan.yesvirginia.org/communityprofiles/createPDF.aspx?id=138.) 2-3.
[195] "Alleghany County, Virginia." United States Census Bureau. (Accessed July 8, 2014. http://quickfacts.census.gov/qfd/states/51/51005.html.) 1-2.
[196] Virginia Economic Development Partnership. "Alleghany Highlands, Virginia." Community Profile. (Accessed February 21, 2015. http://virginiascan.yesvirginia.org/communityprofiles/createPDF.aspx?id=138.) 2-3.

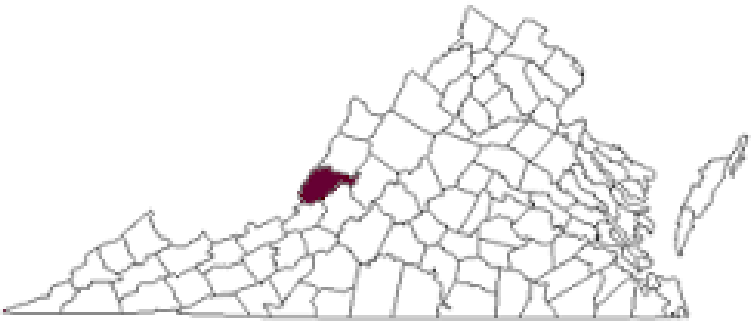

Figure 54: Alleghany County, Location within Virginia (Alleghany – Genealogy, p. 1)

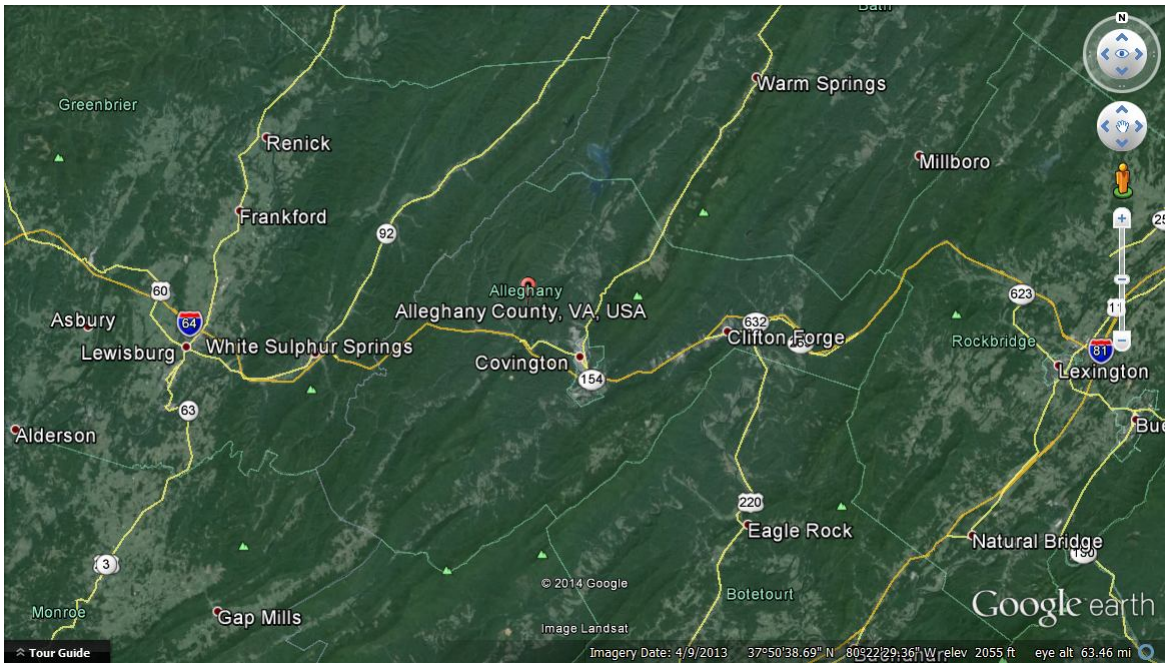

Figure 55: Alleghany County, View Showing Covington and Surrounding Towns (Google, 2014)

One of the most influential people in forming Alleghany County was Bernard Pitzer, who owned the land that would later become Rosedale. From approximately 1790 to 1825 the principal export in the area was hemp, production of which was encouraged by the state. For a time, large sums were paid for each delivery and most of the product was hauled to Richmond by

wagon to a rope factory. As ship store accumulated, prices for hemp declined and the county's agriculture shifted to grains, hay, and livestock.[197]

The Civil War had a huge impact on Alleghany County, as the county was said to have provided more soldiers to the Confederate Army than it had voters. Due primarily to its location in the transition zone between Union and Confederate territory, the county suffered greatly during the war and took many years to recover from the losses. Another pivotal influence on the county, which remains today, was the arrival of the West Virginia Pulp and Paper Company in 1899. The decision of the West Virginia Pulp and Paper Company to locate a mill in Alleghany County was the single biggest boost to industrial progress in the area. That act was responsible for the development and growth of associated industrial and commercial interests[198], as well as housing growth. With the arrival of the mill, the population nearly doubled to 16,330.[199]

A valuable source for understanding both historic and recent housing effects and economic factors in Alleghany County is a report called *Challenges for Economic Growth in the Alleghany Highlands*, completed for The Alleghany Foundation in 2008 by K.W. Poore. Although the main focus of the report is on economic conditions in the area, a significant portion is devoted to housing history and conditions. The report uses data from previous reports about the Alleghany Highlands and relies on interviews, census data, and surveys.

Another source, the *Rosedale Book* written by Howard Revercomb Hammond, is a comprehensive history of the Rosedale neighborhood, including not only detailed information about its history and dwellings, but also information on the greater Alleghany County and

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[197] John R. Strutner. "Alleghany County, Virginia: Services Guide and Directory of County Departments." Alleghanycounty.us. (April 2013. Accessed August 26, 2014. http://www.alleghanycounty.us/co_administrator/brochure.2010.pdf) 4-5.
[198] John R. Strutner. "Alleghany County, Virginia: Services Guide and Directory of County Departments." Alleghanycounty.us. (April 2013. Accessed August 26, 2014. http://www.alleghanycounty.us/co_administrator/brochure.2010.pdf) 4-5.
[199] "Alleghany County, Virginia." United States Census Bureau. (Accessed July 8, 2014. http://quickfacts.census.gov/qfd/states/51/51005.html.) 1-2.

Covington area. The volume also provides information on the beginnings of the Clearwater neighborhood. The book resulted from a reunion which took place in 1993 for many who had memories of Rosedale from having grown up there. Hammond uses numerous interviews with those who once lived in Rosedale, along with newspaper articles, deed records, and his own personal records and memories of having lived there.

The book also contains dated photographs of nearly every house in Rosedale, as well as of many people who once lived in the neighborhood, and of certain events in Rosedale and the town of Covington. The author used newspaper clippings and old photographs providing images and information about MeadWestvaco, the railroad, schools, and entertainment locations in Covington during the prime of the neighborhood of 1900-1940 and years following. This volume proved an invaluable resource to gaining an understanding of Rosedale and its history as well as insight into the Clearwater neighborhood, showing how each fits into the history of Alleghany County. It also provided information about industry in the area and the role it has had in the area's history, and continues having today.

Challenges for Economic Growth in the Alleghany Highlands notes that housing saw only modest growth in the twenty-five years between 1983 and 2008, and that much of that is now in poor condition. Houses in the area are primarily single family residences, remain relatively affordable, and tend to accommodate middle-aged mill workers.[200] Most of the mill housing was constructed before 1980; however, there was a considerable population increase in Alleghany County during the 1980s, concurrent with a population rise state-wide. Over the next

[200] K.W. Poore & Associates, Inc. *Challenges for Economic Growth in the Alleghany Highlands.* (April 2008. Accessed August 30, 2014. http://www.alleghanyfoundation.org/images/AlleghanyDataReport.pdf.) 4-5.

three decades, though, as Virginia's population continued to rise, the population in Alleghany County decreased steadily.[201]

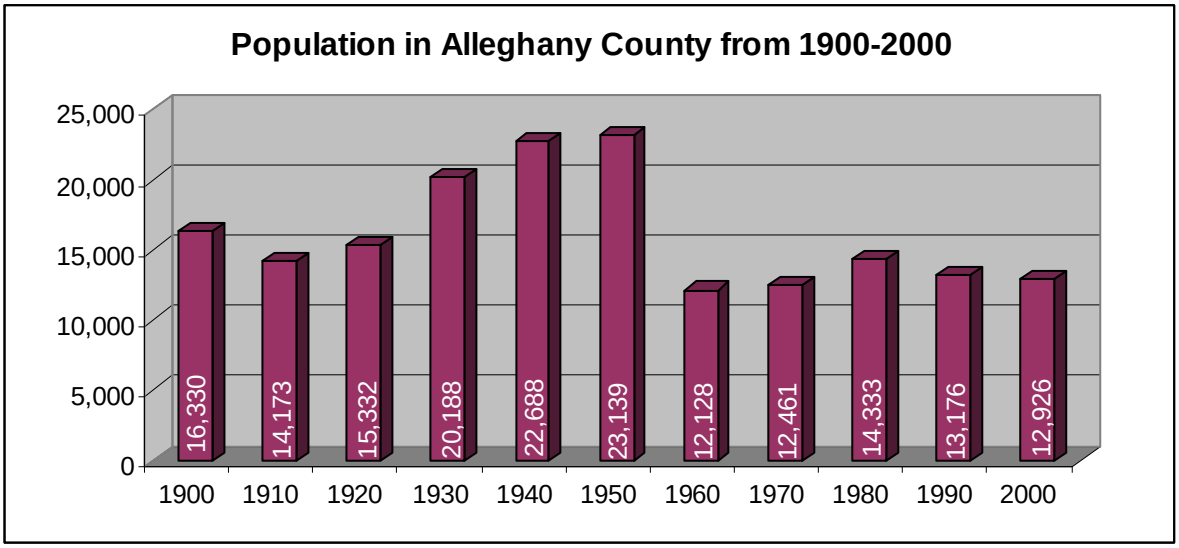

Figure 56: Graph Showing Alleghany County Population 1900-2000 (Leonard based on materials in Virginia, Race, p. 1)

The nature of employment in Alleghany County is vastly different than the rest of the state of Virginia. Manufacturing comprises a large portion of Alleghany County's economy and, taking population density into account, is significantly greater than levels of manufacturing in the rest of Virginia. Manufacturing along with the jobs it creates has been in decline in the United States since the 1990s. Responsible for 17.80 million jobs in January of 1990, manufacturing jobs had fallen sharply to 13.77 million by late 2007.[202] To fully understand the impact of manufacturing on the economy of Alleghany County, it is important to note that MeadWestvaco alone employed 1,541 people in 2007. This number is low compared to previous years, yet still

[201] "Virginia: Population of Counties by Decennial Census -1900-1990." Census.gov. March 27, 1995. Accessed April 11, 2015. https://www.census.gov/population/cencounts/va190090.txt.
[202] K.W. Poore & Associates, Inc. *Challenges for Economic Growth in the Alleghany Highlands.* (April 2008. Accessed August 30, 2014. http://www.alleghanyfoundation.org/images/AlleghanyDataReport.pdf.) 22.

accounted for 66% of all manufacturing jobs in the area.[203] Figure 57 shows employment by industry, highlighting how much the area depends on manufacturing and how drastically it can affect the economy with the arrival or loss of a single company.

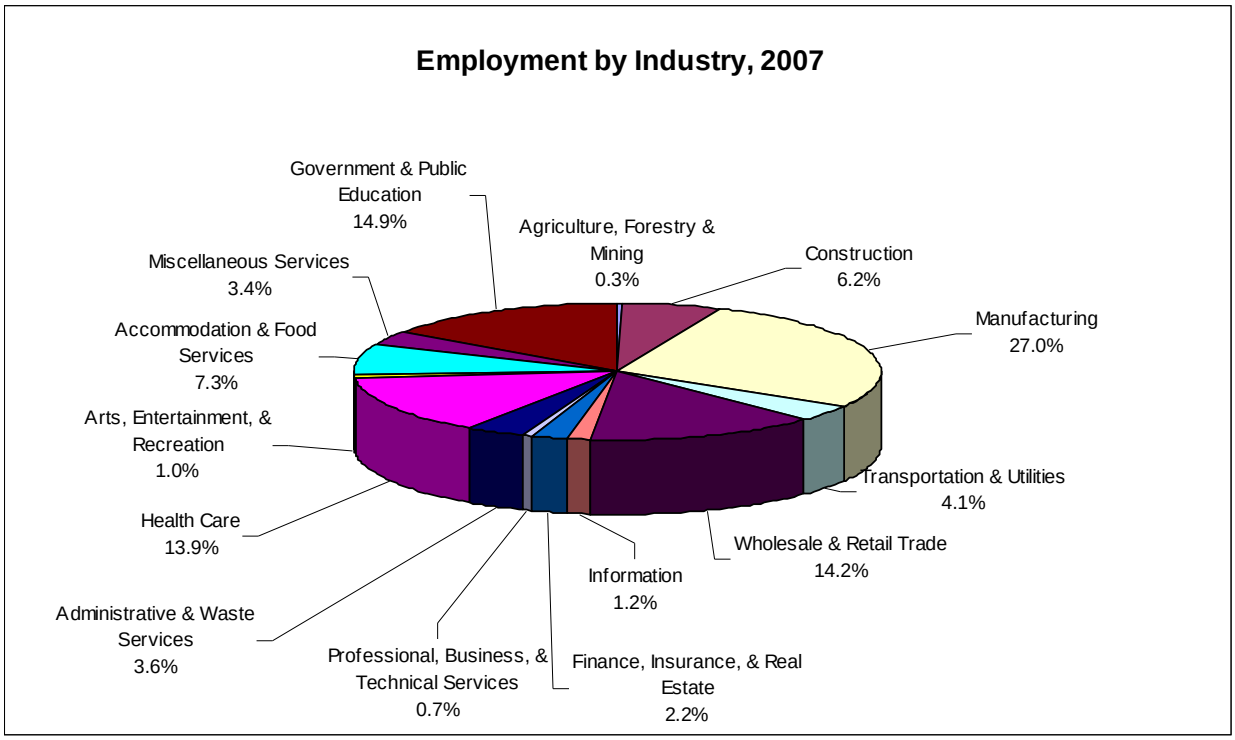

Figure 57: Pie Graph Showing Employment by Industry for Alleghany County in 2007, (Leonard based on materials in Quarterly Census of Employment and Wages p. 1)

Manufacturing is 18.5% higher in the area when compared to the rest of Virginia. At the same time, there is a serious lack of professional and technical service jobs in Alleghany County, which employ only 0.8% of the population, compared to 9.6% state-wide. The percentage of jobs in Alleghany County related to government and public education is 14.9%, a number in accord with the rest of Virginia's economy.[204]

[203] K.W. Poore & Associates, Inc. *Challenges for Economic Growth in the Alleghany Highlands.* (April 2008. Accessed August 30, 2014. http://www.alleghanyfoundation.org/images/AlleghanyDataReport.pdf.) 23.
[204] "Quarterly Census of Employment and Wages (QCEW) for Multiple Industries in Alleghany County in the Second Quarter of 2007." Virginia.gov - LMI: Labor Market Information. (Accessed April 11, 2015. https://data.virginialmi.com/vosnet/analyzer/results.aspx?session=ind202.) 1.

It is worth noting that industry in the area is not limited to just MeadWestvaco. Bacova Guild, LTD, in existence since 1965, underwent a change in ownership in 1981 which resulted in company expansion and a new line of products. "Bacova's first products focused on nature scenes laminated onto fiberglass items including the firm's famous fiberglass covered mailboxes."[205] Today the company manufactures large rugs, printed floor mats, and other home décor products. The company's expansion in 1981 brought more workers to the area. Another company, Lear Corp, arrived in the area in 1989. Lear's arrival helped restore employment in the area which had three years earlier been reduced by the closing of another local manufacturer, Hercules Inc., due to fire. Lear was a huge success upon its arrival and continued operations until it too vacated the area in 2006, taking with it 220 jobs.[206]

During the early-to-mid-1980s, during the boom and arrival of other manufacturing businesses in the area, MeadWestvaco remained strong and anticipated future growth. In addition to MeadWestvaco's continued success as a paper and packaging company, in 1983 there was also the anticipation of the arrival of a water bottling plant. The plant was expected to employee almost 700 people, with plans to expand as the water bottling industry expanded.[207] Unfortunately, the plans for the arrival of a water bottling plant were never fully realized.

Context History in Relation to Housing

The changing quality of materials and construction practices for residential buildings throughout the twentieth century relates to political and economic forces as well as industrial advancements. Local changes to housing and construction in Alleghany County are due in part

[205] K.W. Poore & Associates, Inc. *Challenges for Economic Growth in the Alleghany Highlands.* (April 2008. Accessed August 30, 2014. http://www.alleghanyfoundation.org/images/AlleghanyDataReport.pdf.) 29.
[206] K.W. Poore & Associates, Inc. *Challenges for Economic Growth in the Alleghany Highlands.* (April 2008. August 30, 2014. http://www.alleghanyfoundation.org/images/AlleghanyDataReport.pdf.) 30.
[207] "County Gets Second Chance At Industry." (*Covington Virginian*, February 22, 1983.) 1.

to fluctuations in the manufacturing-based economy. Since manufacturing is responsible for the largest portion of the area's employment and economy, its fortunes have a significant impact on housing in the area. The arrival or closing of manufacturing facilities is the prime cause of people entering or leaving the area, as well as building, buying, or selling houses.

As noted before, although Alleghany County had its highest population level in the 1980s, the majority of housing in the area was built prior to 1980.[208] Approximately 25% of area housing was constructed prior to 1939. Housing starts began increasing during the 1950s with a sharp growth of 6% from the 1960s to 1970s resulting in nearly 20% of housing in the area having been constructed in the 1970s.[209] Figure 58 shows the percentage of housing constructed by decade following 1939.

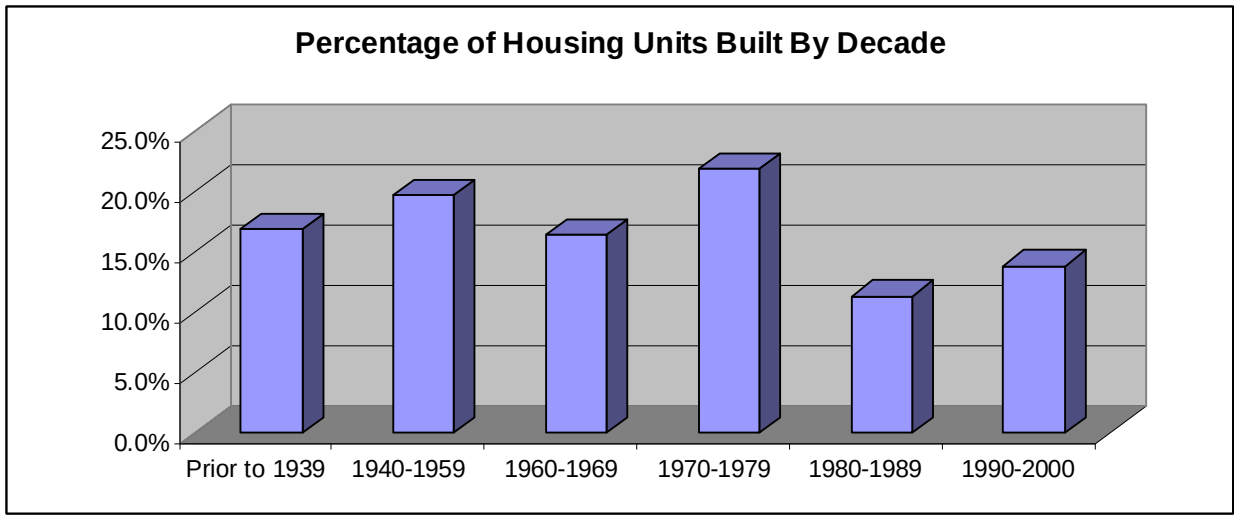

Figure 58: Graph Showing Percentage of Housing Units by Decade in Alleghany County (Leonard based on materials in Profile of Selected Housing Characteristics p. 1)

In November 1980, Hercules Manufacturing had a Health Hazard Evaluation Report completed, which was the result of complaints by employees who were exposed to dust

[208] K.W. Poore & Associates, Inc. *Challenges for Economic Growth in the Alleghany Highlands.* (April 2008. Accessed August 30, 2014. http://www.alleghanyfoundation.org/images/AlleghanyDataReport.pdf.) 5.
[209] "Profile of Selected Housing Characteristics: 2000 - Census 2000 Summary File 3 (SF-3) - Simple Data." American Fact Finder: United States Census Bureau. Accessed April 11, 2015. http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk.

containing bird droppings, which in turn was suspected of having caused some employees to develop a fungal disease.[210] The evaluation, which was conducted by the Hazard Evaluations and Technical Assistance Branch of NIOSH, took place in November of 1980, and the final report was published in March of 1981.[211]

Hercules manufactured plastic film from polypropylene. At the time of the report, the company employed approximately 700 people. Just a few months earlier, however, it had had nearly 1,400 employees.[212] Due to a fire in early 1980, parts of the plant were permanently closed and the number of employees was reduced dramatically. It was suggested that broken windows as well as a general lack of maintenance had allowed the birds to enter the plant, resulting finally in the evaluation report. The report notes that there was already strong evidence of the plant declining by the end of 1980.[213]

Although the plant did not last for many more years after the report was completed, the report itself was not the cause of the plant closing. Although evidence was uncovered of health related issues, they were not considered severe enough to force a plant closing. The report noted that there were indeed broken windows, an unreasonable amount of dust, and bird droppings, but these could not be linked to a fungal disease as the workers had claimed. The health organization recommended that the broken windows be repaired immediately so that birds could

[210] NIOSH – Hazard Evaluations and Technical Assistance Branch. *Health Hazard Evaluation Report.* (March 1981. Accessed August 30, 2014. http://www.cdc.gov/niosh/hhe/reports/pdfs/1981-0013-0836.pdf.) 2.
[211] Although this is a health evaluation report, this resource does give a brief background history of the company. Given that Hercules is no longer in existence in Covington, Virginia, this is one of the few pieces available containing any information on Hercules, and was, therefore, extremely valuable for acquiring dates and other necessary information related to the company.
[212] NIOSH – Hazard Evaluations and Technical Assistance Branch. *Health Hazard Evaluation Report.* (March 1981. Accessed August 30, 2014. http://www.cdc.gov/niosh/hhe/reports/pdfs/1981-0013-0836.pdf.) 4.
[213] NIOSH – Hazard Evaluations and Technical Assistance Branch. *Health Hazard Evaluation Report.* (March 1981. Accessed August 30, 2014. http://www.cdc.gov/niosh/hhe/reports/pdfs/1981-0013-0836.pdf.) 7.

no longer enter, and that areas containing dust and bird droppings should be thoroughly and continually cleaned and sanitized.[214]

Alleghany County Today

Today, Alleghany County is still primarily supported by the industry of the West Virginia Pulp and Paper Company, now known as MeadWestvaco. As of the 2013 census, the county had a population of approximately 16,161 people, 23.5% of whom were age 65 or over.[215] Most housing in the area is single family dwellings, with multi-family housing making up only 8.2%.[216] Much of Alleghany County, as stated above, is designated as the George Washington National Forest, which includes Douthat State park and other natural areas. There is little commercial development compared to overall land area, and the average commute time from home to school or work is twenty-five minutes.[217] A one hour commute is not uncommon in this sparsely populated area, whose primary attraction is unspoiled nature and outdoor recreational activities.

Although Alleghany County has a diverse history and covers a large area, the case study discussion will focus on just three neighborhoods, due to their similarities. Each of the neighborhoods is a relatively short distance from the county seat of Covington, which is where the mill, employing most neighborhood residents, is located. Rosedale is situated across the Jackson River from the city of Covington, while Clearwater and Clearview are approximately four miles northeast of the city.

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[214] NIOSH – Hazard Evaluations and Technical Assistance Branch. *Health Hazard Evaluation Report.* (March 1981. Accessed August 30, 2014. http://www.cdc.gov/niosh/hhe/reports/pdfs/1981-0013-0836.pdf.) 7.
[215] "Alleghany County, Virginia." United States Census Bureau. (Accessed July 8, 2014. http://quickfacts.census.gov/qfd/states/51/51005.html.) 1-2.
[216] "Alleghany County, Virginia." United States Census Bureau. (Accessed July 8, 2014. http://quickfacts.census.gov/qfd/states/51/51005.html.) 1-2.
[217] "Alleghany County, Virginia." United States Census Bureau. (Accessed July 8, 2014. http://quickfacts.census.gov/qfd/states/51/51005.html.) 1-2.

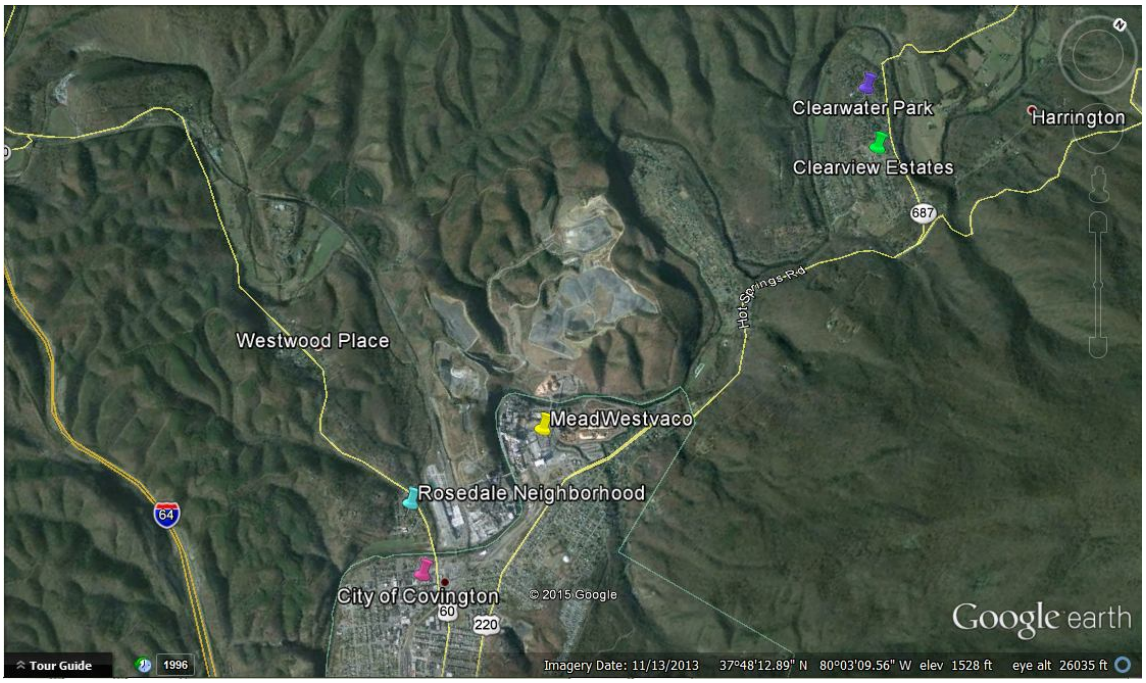

Figure 59: Case Study Neighborhoods in Relation to Each Other (Google, 2014)

Rosedale

The story of twentieth century housing in Alleghany County, Virginia begins with Rosedale. The area comprising Rosedale was previously part of the Pitzer farm and apple orchard. Thompson McAllister purchased 2,128 acres of land from the Pitzer family in 1851 for $15,000.[218] Work started in 1856 with the construction of the Rose Dale house, after which the neighborhood was named. McAllister's purchase would eventually evolve into one of the most prominent neighborhoods of the early twentieth century in Alleghany County. For 50 years, though, the Rose Dale house remained the only house on the farm.[219] The few houses to be constructed in the early 1900s through the 1910s came as a result of the new industry that arrived in 1899. The West Virginia Pulp & Paper Company purchased land directly across the creek

[218] Howard Revercomb Hammond. *History of Rosedale*. (Covington: Howard Revercomb Hammond, 1993.) 2-3.
[219] Howard Revercomb Hammond. *History of Rosedale*. (Covington: Howard Revercomb Hammond, 1993.) 6-10.

from Rosedale in 1899.[220] Soon thereafter, A.A. McAllister's son Thompson McAllister began selling house lots to the new mill across Dunlap Creek. The neighborhood expanded quickly, especially in the 1920s, when the mill developed the site as one of the neighborhoods it acquired outside of the corporate town limits as "home sites" for mill employees.[221] The mill, which began with 300 employees, had 1200 employees by 1925, resulting in increased development in Rosedale over that decade. The West Virginia Pulp & Paper Company, now known as MeadWestvaco[222], had a tremendous impact on the local economy upon its arrival in the early twentieth century, as it continues to have.[223]

Today Rosedale contains 46 houses located along both sides of the three streets, all of which are oriented facing forward. There is also one row of houses situated along Midland Trail on the outer edge of the neighborhood. The streets in Rosedale are called Addams Street, Rosedale Avenue, and Sweetbrier Avenue. Although Rosedale Avenue was built first, Addams Street is now considered the main thoroughfare through the neighborhood. Addams Street connects to the main road, Route 60/Midland Trail, at one end of the neighborhood and Rosedale Avenue at the other. The primary entrance to the neighborhood is onto Rosedale Avenue. Although A.A. McAllister sold many lots to the West Virginia Pulp and Paper Company, he retained several lots to build houses for his children and to sell to friends of the family. One of the first houses to be built on Addams Street, the main thoroughfare, was a home A.A. McAllister built for his son and daughter in law, Frank and Clara McAllister, in 1927.[224]

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[220] Ben C. Mommaw Jr. "Local Industry Has Evolved - Iron Was First Major Industry." (*Covington Virginian*, August 10, 1974.) 19.
[221] Howard Revercomb Hammond. *History of Rosedale*. (Covington: Howard Revercomb Hammond, 1993.) 12.
[222] The West Virginia Pulp and Paper Company changed its name to Westvaco in 1969 and again to MeadWestvaco in 2002.
[223] Ben C. Mommaw Jr. "Local Industry Has Evolved - Iron Was First Major Industry." (*Covington Virginian*, August 10, 1974.) 19.
[224] Howard Revercomb Hammond. *History of Rosedale*. (Covington: Howard Revercomb Hammond, 1993.) 53.

Figure 60: Rosedale, Alleghany County, VA, Google Earth with Plat Map Overlay (Leonard, using Google, Worldview, 2014)

Figure 61: 612 Addams Street, Frank & Clara McAllister House, Rosedale, Covington, VA (Leonard, 2014)

All houses in Rosedale during that early period were custom built, and nearly all houses on Addams Street were brick.[225] The McAllister family was responsible for setting the standard of building quality seen in the neighborhood, but the mill followed suit, building fine quality houses designed for individual workers and their families. "The majority of people who lived in Rosedale were connected in one way or another with West Virginia Pulp & Paper Company once the mill moved to Covington. It has grown to be the largest industry in the community and its success has been due in no small part to the labor of families living in Rosedale."[226] One mill-built house is the Barr house, located at 613 Addams Street. Another example is only a few doors away at 608 Addams Street. Both were built during the 1920s, the prime period of the neighborhood. By the late 1930s to the early 1940s, the full build-out of available lots in Rosedale was complete.[227]

[225] Howard Revercomb Hammond. *History of Rosedale*. (Covington: Howard Revercomb Hammond, 1993.) 25-48.
[226] Howard Revercomb Hammond. *History of Rosedale*. (Covington: Howard Revercomb Hammond, 1993.) 53.
[227] Howard Revercomb Hammond. *History of Rosedale*. (Covington: Howard Revercomb Hammond, 1993.) 46.

Figure 62: 613 Addams Street, Rosedale, Covington, VA (Leonard, 2014)

Clearwater

In the late 1940s and 1950s, many who lived in Rosedale left their houses to build new ones in the Clearwater neighborhood, an up-and-coming mill-related neighborhood.[228] Development in Clearwater began in the 1930s by Mr. Hirons and Mr. Sill with the construction of two of its first three houses, which would remain the only ones in the neighborhood until the late 40s and early 50s.[229] The third house was originally built by Gertrude Hatcher & Lawrence Courtney McGuire.[230] After World War II, the neighborhood became "fashionable" and many

[228] Howard Revercomb Hammond. *History of Rosedale*. (Covington: Howard Revercomb Hammond, 1993.) 59.
[229] Howard Revercomb Hammond. *History of Rosedale*. (Covington: Howard Revercomb Hammond, 1993.) 23-36.
[230] Howard Revercomb Hammond. *History of Rosedale*. (Covington: Howard Revercomb Hammond, 1993.) 36.

lots began to sell. Thus people began moving from Rosedale to Clearwater, and the Clearwater neighborhood caught the attention of the mill.[231]

Today Clearwater contains approximately 90 housing lots located along each side of the neighborhood streets. The main thoroughfare is Clearwater Drive, a winding road circling the entire neighborhood. Clearwater Drive connects to the main road, Jackson River Road, providing a secondary entrance to the neighborhood. At the other end of the neighborhood it connects to a smaller street called Gilpin Avenue. Gilpin Avenue connects to Jackson River Road at the main entrance and extends past Clearwater Drive, until it reaches a dead end. Another small section of houses is situated at the end of Gilpin Avenue. Parkview Avenue meets Gilpin Avenue at the main entrance and branches off in the opposite direction. Parkview Avenue is a smaller street which connects with Clearwater Drive at one end. Another secondary entrance from Jackson River Road into the neighborhood is at Waller Avenue, which also connects to Clearwater Drive. One small loop road exists on the lower end of the neighborhood, called Clearwater Circle, connecting with Clearwater Drive on both ends. As in Rosedale, houses are situated along both sides of each of these roads and are oriented facing them. Once construction began in ernest in Clearwater in the late 1940s to early 1950s, houses were built steadily until the mid-1970s.

We have noted that some families moved from Rosedale to Clearwater as the new neighborhood became fashionable, yet the need for a new neighborhood with fresh available space was again due to the West Virginia Pulp & Paper Company and the influx of new workers into the area. The company reached its peak of employment in 1950 with 2400 employees.[232]

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[231] Howard Revercomb Hammond. *History of Rosedale*. (Covington: Howard Revercomb Hammond, 1993.) 113.
[232] Ben C. Mommaw Jr. "Local Industry Has Evolved - Iron Was First Major Industry." (*Covington Virginian*, August 10, 1974.) 19.

Likewise, Hercules, a plant that manufactured plastic film from polypropylene[233], reached a height of 1,500 employees in the early 1970s.[234]

Figure 63: 101 Parkview Avenue, Clearwater, Alleghany County, VA, Built 1930 (Leonard, 2014)

[233] NIOSH – Hazard Evaluations and Technical Assistance Branch. *Health Hazard Evaluation Report.* (March 1981. Accessed August 30, 2014. http://www.cdc.gov/niosh/hhe/reports/pdfs/1981-0013-0836.pdf.) 2.
[234]"60th Anniversary of Hercules." (*Covington Virginian*, August 10, 1974.) 21.

Figure 64: Clearwater, Alleghany County, VA, Google Earth with Plat Map Overlay (Leonard, using Google, Worldview, 2014)

Clearview

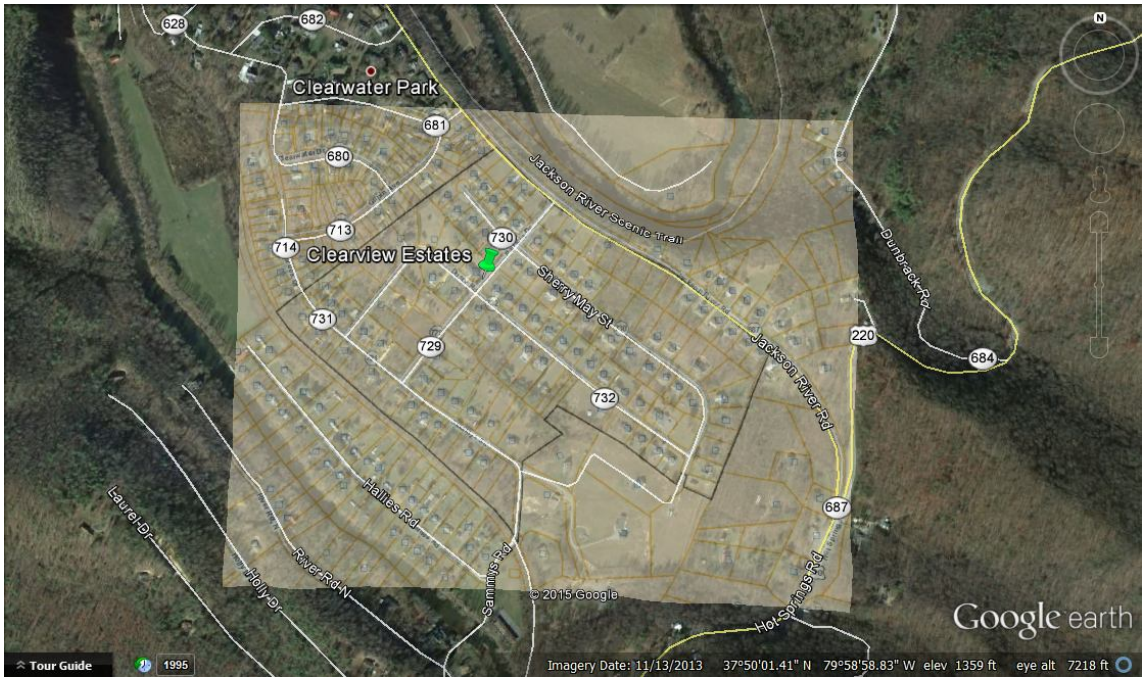

Figure 65: Clearview, Alleghany County, VA, Google Earth with Plat Map Overlay (Leonard, using Google, Worldview, 2014)

Clearview, unlike Rosedale and Clearwater, consists of speculative houses that were built by one construction company, Bulldog Construction. Research has not uncovered any custom-built houses in Clearview. The neighborhood was largely constructed from the 1980s to 2000. All were built relatively quickly and cheaply in anticipation of potential buyers due to expected industry boosts. Despite the fact that most housing in the area had been built prior to 1980, more housing was built in Clearview, in a much shorter period of time, than in either of the other two neighborhoods. This was due to a number of industry-related changes that resulted in a need for housing fast.

Figure 66: 222 Sherry May Street, Clearview, Alleghany County, VA (Leonard, 2014)

Today, Clearview contains approximately 91 housing lots with houses located on either side of the roads. Clearview, in comparison to both Clearwater and Rosedale has a more

planned appearance. The road organization more closely resembles a grid, and is easy to follow. The main road through the neighborhood is called Patricia Drive, and the other roads all connect with this one. The first road to branch off Patricia Drive is Sherry May Street. Sherry May Street is located on either side of Patricia Drive, but on the northwestern side of the neighborhood it reaches a dead end. On the other side of Patricia Drive, Sherry May Street continues around a loop that then becomes Dusty's Road. Dusty's Road continues on the other side of Patricia Drive, forms and L, and continues down to the last road of the neighborhood, Sammy's Road. Sammy's Road extends along the back of the neighborhood on either side of Patricia Drive.

The last twenty years of the twentieth century was a period of great change within Alleghany County. The land where Clearview was to be built was purchased by Bulldog Construction in October of 1978[235], a time when Hercules was still going strong with 1,400 employees and was anticipating continual growth. Just a few years before, in 1973 and 1974, the Hercules plant was experiencing significant growth and had undergone renovation and modernization.[236] There was also the continued success of the mill, along with the possibility of a water bottling plant, as mentioned earlier. Overall, industrial growth and changes resulted in a large influx of people into the area and a need for more housing, all in an extremely short period of time. According to U.S. census information, there were more people in Alleghany County during the 1980s than in any other decade.[237] Clearview was built in anticipation of a growing industrial local economy.

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[235] Deed Book 254 pg. 183, Circuit Court, Alleghany County, Virginia.
[236] Ben C. Mommaw Jr. "Local Industry Has Evolved - Iron Was First Major Industry." (*Covington Virginian*, August 10, 1974.) 19.
[237] K.W. Poore & Associates, Inc. *Challenges for Economic Growth in the Alleghany Highlands.* (April 2008. Accessed August 30, 2014. http://www.alleghanyfoundation.org/images/AlleghanyDataReport.pdf.) 14.

Deed Book 254 – Development of Clearview

Deed Book 254 provided information about the development of Clearview. From that resource, it is indisputable that Clearview was a speculative neighborhood with no custom-built houses. The name of the construction company was provided, rather than the names of individual builders as with the other two neighborhoods, pointing to the original, speculative intent of the neighborhood. Deed Book 254 provides the start date of neighborhood development as well as plans, maps, lot sizes, dwelling size restrictions, and set-back guidelines. It was particularly useful in confirming construction dates that were found on the GIS system.

CHAPTER 4

CASE STUDY ANALYSIS

Introduction

This chapter will describe the process of identifying the houses to be surveyed, and note the dates when work was completed in each neighborhood. This section will also include survey findings for each case study. Architectural research will be conducted by examining building records in the Alleghany county courthouse and GIS system. Information such as construction dates, materials, square footage, number of stories, and simple floor plans is expected to be shown. The research will also involve site visits, which will entail examining building materials, designs, architectural details, and other character-defining features. For each house, attention will focus on foundation materials, inner and outer wall coverings, flooring, windows, trim, and the presence of decorative details. The intent of the chapter is to describe the methodology for collecting the case study information, identify the key features of the neighborhoods, and to analyze the data in relation to National Register eligibility. The chapter will also summarize each interview held with the contractor, real estate agent, and homeowners. Finally, it will show the changes of building materials, workmanship, and craftsmanship through the twentieth century as exemplified in these neighborhoods, and will demonstrate certain patterns in building construction practices over the period.

Residential Architectural Research

Case Study data was collected in five ways – through a windshield survey, municipal building records, site visits, interviews with a local contractor and real-estate agent, and informal interviews with homeowners.

Windshield Survey

The first step taken in studying these neighborhoods was to conduct a windshield survey in each neighborhood. The purpose and method of conducting the windshield survey was the same for all three neighborhoods. The main objective of the windshield survey was to obtain a better understanding of the neighborhood character, meaning the collective features and traits that form the individual nature of each neighborhood. Further, it was instrumental in helping select a number of specific houses in each neighborhood, which were chosen to represent accurately each neighborhood. Once identified, these were to be visited once more to collect more data prior to conducting more formal site visits. The process involved driving around each neighborhood to observe all of its buildings. Each neighborhood was driven through completely, and every aspect, such as layout, types of houses, general neighborhood styles, and typical materials used, were all noted from inside a car. In this way, the best examples of the neighborhoods were finally chosen as case studies.

Using the windshield survey, the author determined that it would be necessary to visit at least eight houses per neighborhood in order to fully understand each neighborhood and identify what housing materials were used and determine the average level of workmanship and construction quality. Initially ten to twelve houses per neighborhood were chosen based upon their appearance alone. These became candidates for closer study. From those, the author checked construction dates and determined which eight were to be studied in detail for this

thesis. The cases study sites became truly final after contacting the owners of each, via telephone, to obtain permission to visit their home and scheduling a time to do so. The final eight seemed to best represent each neighborhood, showing the variety of features typically found there. The author, in an attempt to represent the scope of each neighborhood, chose varied examples of architectural styles and details; ranging from simple houses to those with many decorative features.

Upon completing the windshield survey in each neighborhood, some notable differences between the three became apparent. Some of the initial observations noted in each neighborhood were siding materials, roofing materials, general massing of the buildings, and whether or not the houses have a definable style or are simply vernacular. The primary siding material in Rosedale is brick. Others also common there include wood and aluminum. It was also noticed that the majority of the neighborhood buildings have asphalt shingle roofs and are moderately sized (2,075 ft.^{2}) two-story houses. Rosedale also has examples of high style architecture and vernacular examples featuring high style elements. Another observation was of the general layout of the neighborhood. Although laid out in a logical manner, it is apparent that the specific location of lots and houses were not planned in detail from the beginning of the neighborhood development. Houses in Rosedale are typically spaced close together at just ten to fifteen feet apart.

General Observations of Windshield Survey			
	Rosedale	**Clearwater**	**Clearview**
Siding Materials	Brick, Wood, Aluminum	Brick, Stucco, Wood	Vinyl, some Brick
Roofing Material	Asphalt Shingles	Asphalt Shingles	Asphalt Shingles
# of Stories	2	2	2
Size	2,075 sq. ft.	2,124 sq. ft.	2,210 sq. ft.
Some High Style Examples	Yes	Yes	No
Houses spaced close together	Yes	Yes	No
Planned appearance	No	No	Yes

Table 4: General Observations of Windshield Survey for Case Study Neighborhoods (Leonard, 2015)

The windshield survey through Clearwater revealed both similarities to Rosedale as well as a uniqueness of its own. Although many of the houses in Clearwater feature brick as a siding material, it is not as commonly found there as in Rosedale. The Clearwater neighborhood features roughly equal examples of brick, stucco, and wood used as siding materials. One of the immediately noticeable features of the neighborhood, unique from the other two neighborhoods, was the more common use of stucco as a siding material. Like Rosedale, the majority of the buildings in Clearwater have asphalt shingle roofs and are moderately sized (2,124 ft.^{2}) two-story houses. It was also noted that Clearwater contains some high style building examples as well as some vernacular houses. Like Rosedale, Clearwater has a logical pattern and flow to its street layout, though here too it is apparent that lots were developed as needed. Detailed planning of

the neighborhood does not appear to have occurred upon initial development, and the houses in this neighborhood are spaced close together.

Clearview, the last neighborhood in which the windshield survey was conducted, was found to have some notable differences between it and the first two neighborhoods. The most prominent characteristic of this neighborhood is the use of vinyl siding. A majority of the buildings feature vinyl siding while only a very small portion of the houses have brick, or wood, siding. Similar to the first two neighborhoods, however, is the consistency of asphalt shingles as the primary roofing material. The houses in Clearview are also primarily two-story buildings of a moderate size (2,210 ft^2), though the presence of attached garages is common, often making the houses appear larger. While nearly all of the houses in Clearview are vernacular, some do feature decorative features drawn from high style elements. One striking difference between Clearview and the other two neighborhoods is that Clearview was definitely well planned and organized. Lots are laid out in neat rows, appear to be of a similar size, and allow a reasonable amount of space between each house.

The windshield survey was a simple, effective method for grasping the general character of each neighborhood. The method provided a starting point from which to study each neighborhood in more detail. The goals of gaining a general impression of each neighborhood, narrowing the number of houses to possibly visit, and finally selecting which specific houses to visit, were each met. Observations made during the survey also provided a basis for focusing the research on building materials, highlighting some of the major differences between the neighborhoods.

Municipal Building Records

The next step of the case study process was to narrow down the quantity of houses from the windshield survey to eight and learn more specific information about each. This first required examining the construction dates of each house to make sure a wide date range for each neighborhood was represented. These dates came from examining municipal building records. In addition to construction dates, the author focused on materials for siding, foundations, floors, and interior walls, as well as square footage, number of stories, and floor plans for each building. The primary goal of examining these records was to finalize the case study house selections and to learn as much as possible about each building prior to conducting site visits.

The primary source material for obtaining information on the houses in Rosedale was the Alleghany County tax assessment website.[238] From the website the author obtained construction date information, building materials, square footage, number of stories, and basic floor plans.[239] This site gave the specific date range for the construction of Rosedale.[240] An additional resource, also used to find construction dates, was the *History of Rosedale,* written by Mr. Howard Hammond.[241] Hammond had completed extensive deed research for the entire neighborhood, which helped verify information from the tax assessment website and confirm the construction dates for Rosedale. The National Register nomination for Rosedale was also helpful in establishing the overall construction date of the neighborhood.[242] With this information in hand,

[238] http://alleghany.mapsdirect.net/
[239] The author recognized that the tax assessment website did contain a few bits of wrong information. In a few cases in the Rosedale neighborhood, dates were off by one or two years. Thus it was necessary to double check the information against other resources and site visits. This was not proven to be an issue with Clearwater or Clearview.
[240] WorldView Solutions, Inc.. "Welcome to the Alleghany County, VA Mapping Site." Alleghany County of Virginia. (Accessed August 15, 2014. http://alleghany.mapsdirect.net/.) 1.
[241] Howard Revercomb Hammond. *History of Rosedale*. (Covington: Howard Revercomb Hammond, 1993.) 12, 1-72.
[242] "Rosedale Historic District." Virginia Department of Historc Resources. (June 26, 1998. Accessed April 19, 2015. http://www.dhr.virginia.gov/registers/Counties/Alleghany/003-0348_Rosedale_Historic_District_1998_Final_Nomination.pdf.) 5-9.

the author was able to narrow the selection to eight specific houses for later site visits. These sources show the neighborhood was constructed from 1900-1940, with the bulk of construction happening during the 1920s and 1930s.[243] This information confirmed that the selected cases study houses contained one from each decade.

After finalizing all eight of the case studies for the Rosedale neighborhood, a chart showing the foundation material, siding material, interior wall covering materials, and floor materials for each house was developed. This information, of course, would all need to be verified when conducting the site visits. The square footage for each building, the number of stories, as well as a basic sketch of the floor plan for each of the eight case study houses were also noted on the chart.

The primary source material for obtaining initial information about the houses in the Clearwater neighborhood was also the Alleghany County tax assessment website.[244] *History of Rosedale* also verified some of the information involving the early Clearwater development.[245] The book covers the beginnings of Clearwater because of the neighborhood migration from Rosedale to Clearwater. Construction date information, building materials, square footage, number of stories, and floor plans all came from these sources. The website also showed a specific date range for the construction of the Clearwater neighborhood, supporting the author's hypothesis that it was built during the mid-twentieth century.[246] Although the neighborhood's first house was built in 1930, the neighborhood began to consistently see construction from the

[243] "Rosedale Historic District." Virginia Department of Historc Resources. (June 26, 1998. Accessed April 19, 2015. http://www.dhr.virginia.gov/registers/Counties/Alleghany/003-0348_Rosedale_Historic_District_1998_Final_Nomination.pdf.) 5-9.
[244] WorldView Solutions, Inc.. "Welcome to the Alleghany County, VA Mapping Site." Alleghany County of Virginia. (Accessed August 15, 2014. http://alleghany.mapsdirect.net/.) 1.
[245] Howard Revercomb Hammond. *History of Rosedale*. (Covington: Howard Revercomb Hammond, 1993.) 30-36, 112-113.
[246] WorldView Solutions, Inc.. "Welcome to the Alleghany County, VA Mapping Site." Alleghany County of Virginia. (Accessed August 15, 2014. http://alleghany.mapsdirect.net/.) 1.

1940s to the late 1970s, with the height of construction during the mid-to-late 1950s and early 1960s.[247] As in the Rosedale process, once the eight case study sites were finalized, outlining the materials used for foundation, siding, interior wall coverings, and flooring for each house, along with its square footage and number of stories and floor plan, was completed.

The same process was followed for Clearview, except the *History of Rosedale* book was not used, as it does not contain information about Clearview. Although initial construction date information was obtained from the tax assessment website[248], some had to be verified by consulting deeds from the Alleghany County circuit court.[249] Based on this information it was determined that the neighborhood began in October of 1978, with most if its construction done in the 1980s and early1990s.[250] Although there is land available for further development, the neighborhood's completion is understood to have been between 1980 and 2000.[251] As with the first two neighborhoods, information was obtained on foundation material, siding material, interior wall covering materials, and floor material for each house, as well as the square footage, number of stories, and floor plans. Again, once the eight case studies were finalized, a chart was made outlining this information for each house.

Site Visits: Rosedale, Clearwater, Clearview

In each of the three neighborhoods eight houses were examined in detail. These specific buildings were chosen by date of construction, location in the neighborhood, and overall representation of neighborhood character. The focus of each site visit was on architectural

[247] Howard Revercomb Hammond. *History of Rosedale*. (Covington: Howard Revercomb Hammond, 1993.) 36.
[248] WorldView Solutions, Inc.. "Welcome to the Alleghany County, VA Mapping Site." Alleghany County of Virginia. (Accessed August 15, 2014. http://alleghany.mapsdirect.net/.) 1.
[249] Deed Book 254 pg. 183, Circuit Court, Alleghany County, Virginia.
[250] Deed Book 254 pg. 183, Circuit Court, Alleghany County, Virginia.
[251] Dressler, E.C. "Tell It Like It Is." *Covington Virginian*, November 3, 1979.

character-defining features and any clues to structural support of the house. However, some homeowners were willing to show nearly all of their house, and others visits were limited to a few rooms. Therefore, since the author was unable to go into attics or basements, framing and other detailed structural information was not verified in the field. Individual neighborhood case study observations will be discussed in detail first, and then analyzed across the three neighborhoods.

Rosedale

During August 2014, eight houses were visited in Rosedale, each with construction dates ranging from 1906 to 1940 (See Appendix A). The neighborhood consists primarily of one and two-story houses, with an average square footage of 2,130 square feet. Overall, houses in the neighborhood range from 1,269 square feet to as many as 2,678 square feet for its largest house. The most common siding material in Rosedale is brick. In fact, nearly all of the case study houses in Rosedale have brick veneer siding, with the exception of a few houses that feature wood siding, and a few that have been replaced with aluminum. The primary foundation materials are brick and concrete. All of the houses visited contain interior walls of plaster, with more modern drywall present only in additions. Every house visited has original hardwood floors, a high quality material that can last for over 100 years.[252] It is important to note that most buildings in Rosedale have already survived eighty or more years of use, and remain in great condition overall. The high historic and architectural value of Rosedale is evident from having consulted many historic context studies regarding similar dated resources.

The most notable character-defining features in Rosedale houses are their high quality, sturdy materials and architectural ornamentation featured on both the interior and exterior. The

[252] Jackie Jackson. "Study of Life Expectancy of Home Components." National Association of Home Builders/Bank of America Home Equity. (February 2007. Accessed August 25, 2014. http://www.nahb.org/fileUpload_details.aspx?contentID=99359.) 10.

neighborhood has examples of Greek Revival, Adam, Queen Anne, and Cape Cod architectural styles as well as vernacular examples that feature some high style details. Decorative porticos, full entablatures, Doric columns, elliptical fanlights, transom windows and sidelights, segmental arches, and bay windows are just some of the commonly featured exterior details seen throughout the neighborhood.

Figure 67: 610 Addams St., Greek Revival Style House, Rosedale, Alleghany County, VA (Leonard, 2014)

One of the characteristics that really sets Rosedale apart is the level of craftsmanship, which can be seen in both the details and the materials.[253] Not only do the majority of the buildings have brick as the wall covering, which can last nearly forever[254], but they also have solid wood

[253] Steve Sams. Interview by Victoria A. Leonard, August 22, 2014.
[254] Stewart Brand. *How Buildings Learn: What Happens After They're Built*. (New York: Penguin Books, 1995.) 119.

framing of actual dimensions.[255] The sheer amount of wood in the Rosedale houses makes them some of the sturdiest houses possible, due to the fact that few materials combine the lightness, strength, and durability of wood.[256] In Rosedale a 2" x 4" truly measures 2" x 4" instead of the standard modern measurement of 1 ½" x 3 ½".[257] Houses in Rosedale would additionally include 2" x 8" or 2" x 10" across the bottom walls to the floor. In one Rosedale house, builders actually poured cement between the floor joists, which is something not often seen today.[258] Steve Sams, a local contractor, noted during a repair project that the concrete floor was pretty time consuming to remove, but had obviously been there for some time and was quite sturdy.[259] Houses in Rosedale also feature solid pieces of wood between the interior walls and brick veneer, making them some of the sturdiest possible walls.[260]

All of the case study houses in Rosedale, feature wooden windows, along with the majority of neighborhood houses. There are a small number, however, that have aluminum casings instead. The windows in Rosedale often have thick decorative wooden casings and wooden muntins with true divided lights. They are typically one-over-one or six-over-six double-hung windows, but some casement windows were also observed during the site visits. There are also a number of unique decorative windows in Rosedale, such as octagonal windows or quarter circle windows. These are primarily located toward the peak of the side gable roofs, on either side of chimneys, or above entrances. These are outlined in brick and also contain true wooden muntins. One observation in Rosedale that differs from some examples found in the

[255] Actual dimensions refer to the dimensions that are the same size that the name suggests. For example, a 2 x 4 board is actually 2" x 4". On the other hand, with nominal dimensions a 2 x 4 board is actually 1 ½" x 3 ½", or in some cases larger than 2" x 4".
[256] Ted Butchart. "Building As If the Future Matters." In *The Natural Art of Building*, 16-20. (Gabriola Island: New Society Publisher, 2002.) 19.
[257] Steve Sams. Interview by Victoria A. Leonard, August 22, 2014.
[258] Steve Sams. Interview by Victoria A. Leonard, August 22, 2014.
[259] Steve Sams. Interview by Victoria A. Leonard, August 22, 2014.
[260] Steve Sams. Interview by Victoria A. Leonard, August 22, 2014.

other neighborhood site visits is the location of the windows. Not only are there numerous windows on the front elevation of each house, typically laid out symmetrically and in keeping with the architectural style, but they are featured in like numbers for each elevation. The sides and back of the houses have windows just the same as those on the front elevation, although they are not necessarily arranged in the same fashion as those on the front.

One of the most notable character-defining features of the Rosedale houses observed during site visits is the amount of architectural ornamentation and the high quality of ornamentation within the houses. A number of houses feature solid wood baseboards and crown moldings, solid wood paneled doors, as well as windows and window sills. Baseboards and crown moldings, in particular, are not only solid wood, but are also thick and highly decorative. Steve Sams notes that there is a vast amount of finished woodwork and trim in the Rosedale houses that is, as he describes, "out of this world", but rarely duplicated today because, he says, not too many people could afford to duplicate it.[261] Another interesting and unique feature to Rosedale is the archways inside the houses as well as the elaborate entryways. The archways in particular have no visible purpose as they are not supporting any particular load, but they certainly add character to the houses having them.

[261] Steve Sams. Interview by Victoria A. Leonard, August 22, 2014.

Figure 68: 612 Addams St., Decorative Details – Solid wood trim/crown molding and decorative wooden door surround, Rosedale, Alleghany County, VA (Leonard, 2014)

A high level of craftsmanship was used in the construction of Rosedale houses, which is evident by the completed products. The buildings feature mostly solid materials that have a proven lifespan of 100 years or more, with very few less durable materials being used. Carpet, with a lifespan of only ten years[262], and drywall are seldom found in Rosedale houses. The little carpet and drywall that is seen, is mostly found only in additions or replacement and repair projects.[263] Much effort was made in Rosedale to make stylish, high quality houses for the new owners. More important, these owners put effort into insuring they were building a house made

[262] Jackie Jackson. "Study of Life Expectancy of Home Components." National Association of Home Builders/Bank of America Home Equity. (February 2007. Accessed August 25, 2014. http://www.nahb.org/fileUpload_details.aspx?contentID=99359.) 10.
[263] Informal homeowner interviews – similar comments from Jenkins, Minter, Hanna, and Leonard

from high quality materials, having well executed architectural ornamentation. They were rewarded with houses that would last the duration of their lifetimes and those of their children.

Clearwater

In Clearwater eight houses were examined in detail to evaluate construction, materials, and architectural ornamentation found in the neighborhood (See Appendix B). Clearwater represents the mid-twentieth century for this thesis, as most of the houses there were constructed between the late 1930s to mid-1970s. In many ways similar to Rosedale, Clearwater primarily consists of high quality custom-built houses. The houses in this neighborhood feature mostly solid, long-lasting materials, and a significant amount of architectural ornamentation and craftsmanship. The neighborhood features several high style architectural examples as well as some elaborately constructed vernacular examples. Some styles seen during the site visits, conducted in August 2014, were Tudor, Minimal Traditional, and Ranch. Other vernacular buildings feature decorative details such as Tuscan columns, transom windows, triangular pediments, and window hoods and lintels. Some of the houses closely resemble high style architectural examples even though they are not exactly true to the style.

Figure 69: 401 Clearwater Drive, Clearwater, Alleghany County, VA (Leonard, 2014)

As observed during the site visit, the neighborhood contains a variety of foundation materials such as stone, brick, poured concrete, and concrete block. Clearwater features high quality siding materials, such as brick, wood, and stucco. The majority of interior walls are plaster versus drywall. The average interior wall thickness was approximately six or seven inches, suggesting a setup similar to that found in Rosedale, with the solid wood walls. The most common flooring material in the Clearwater houses is wood flooring, which again has a lifespan of 100 years or more.[264] A few houses did feature carpet in additions and upstairs bedrooms[265],

[264] Jackie Jackson. "Study of Life Expectancy of Home Components." National Association of Home Builders/Bank of America Home Equity. (February 2007. Accessed August 25, 2014. http://www.nahb.org/fileUpload_details.aspx?contentID=99359.) 10.
[265] Informal homeowner interviews – support of statement provided by Croy, Thompson, and Byers

as well as vinyl flooring in the kitchen, which unfortunately has a shorter lifespan of fifty years or less.[266]

Although less elaborate than Rosedale, Clearwater also features decorative details. Baseboards and crown moldings were present, but are generally simpler than those in Rosedale. These too are made from solid wood, and likewise, most doors are solid wood rather than hollow. Other unique features found in Clearwater were red gum wainscoting, interior archways, built-in wooden wardrobes, and exposed, decorative wooden beams.

Figure 70: Red Gum Wainscoting, 101 Parkview Avenue, Clearwater, Alleghany County, VA (Leonard, 2014)

[266] Jackie Jackson. "Study of Life Expectancy of Home Components." National Association of Home Builders/Bank of America Home Equity. (February 2007. Accessed August 25, 2014. http://www.nahb.org/fileUpload_details.aspx?contentID=99359.) 10.

It must be said that Clearwater is very similar in appearance and materials to Rosedale. The houses in Clearwater show the craftsmanship put into their construction. Like Rosedale, the buildings feature mostly solid, high quality materials that have a proven lifespan of 100 years or more. Very few lower quality materials are present in Clearwater. Of those found, as in Rosedale, most are primarily limited to additions. The continued value of craftsmanship in the mid-twentieth century is evident in the Clearwater neighborhood.

Clearview

Clearview, the neighborhood of the late twentieth century, was primarily built from the late 1970s to 2000. Just like Rosedale and Clearwater, another eight houses were visited, in August 2014, in order to better understand the construction, materials, and character-defining features of the neighborhood (See Appendix C). This neighborhood was of particular interest while conducting these case studies because it contains resources that have been given little attention from the preservation world. It is important to remember that these houses were built with no particular buyer in mind; they were constructed as quickly and as cheaply as possible in anticipation of a future influx of people from rising employment in the area. Due to various economic and political changes, these houses represent a common building type seen in late twentieth century America.

The Clearview neighborhood has less durable, and generally less proven materials than those seen in Rosedale and Clearwater. Instead of an overall solid range of materials and frequent use of those materials already proven to stand the test of time, Clearview features mostly plastic material variations held together with adhesives; all having an average lifespan of just ten, twenty, or fifty years.

Despite the overall nature of construction in the Clearview neighborhood, the foundation materials were well chosen. The primary foundation materials are concrete, concrete block, and brick. Nearly all of the houses in Clearview have vinyl siding, which not only has a short lifespan of ten to fifteen years[267], but can often trap moisture behind it, either from leaks or condensed house humidity, and keep it hidden for years which can easily result in major structural damage.[268] Another siding material in Clearview is brick veneer, which here is often featured alongside vinyl. As was fashionable at the time, the bricks are all a light salmon color which suggests softer bricks. On another note, instead of plaster, the primary interior wall coverings are drywall. The most common flooring materials in Clearview are wood laminate, carpet, and vinyl which all have short lifespans.[269]

One of the most noticeable differences between Clearview and the neighborhoods of early and mid-century, are the level of architectural details and ornamentation. Clearview houses have very little decoration, and what does exist is extremely simple. Instead of the solid wood crown moldings, baseboards, doors, etc. that are seen in Rosedale and Clearwater, what little ornamentation Clearview has is made of plastic materials or pieces of wood glued together.[270] There are only a few decorative door surrounds or entryways. Most of the details in Clearview are simply pressed hardboard.[271] On the other hand, Clearview does feature some columns, pediments, dormers, and decorative louvered shutters.

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[267] John H. Myers. "Preservation Brief 8: Aluminum and Vinyl Siding on Historic Buildings." National Park Service: Technical Preservation Services. (October 1984. Accessed August 25, 2014. http://www.nps.gov/tps/how-to-preserve/briefs/8-aluminum-vinyl-siding.htm.) 5.
[268] Stewart Brand. *How Buildings Learn: What Happens After They're Built*. (New York: Penguin Books, 1995.) 117-118.
[269] Jackie Jackson. "Study of Life Expectancy of Home Components." National Association of Home Builders/Bank of America Home Equity. (February 2007. Accessed August 25, 2014. http://www.nahb.org/fileUpload_details.aspx?contentID=99359.) 10.
[270] Steve Sams. Interview by Victoria A. Leonard, August 22, 2014.
[271] Steve Sams. Interview by Victoria A. Leonard, August 22, 2014.

Figure 71: 200 Sherry May Street, Clearview, Alleghany County, VA (Leonard, 2014)

These details though simple, cheaply made,[272] and flimsy, convey a unique sense of character for late twentieth century residential buildings. Though often considered of inferior quality, these features are what set the 1980s to 2000s apart as a new building age in America.

Other observations of these late twentieth century residences in comparison to ones of the earlier twentieth century, concern what is beneath the surface of the building. Instead of actual dimensioned joists with a layer of concrete under hardwood floors for extra support, Clearview simply features plywood over joists and then has particleboard over that. One homeowner in particular mentioned how he had replaced the vinyl floor in the kitchen after fifteen years, and had already had to replace parts of the roof twice in less than thirty years. The owner stated how

[272] James Lewis, Site Visit, Informal homeowner interview with Victoria A. Leonard, August 13, 2014.

there was plywood sheathing over the framing, and the roof that he had to replace twice already, is nailed directly to that.[273] Other observational data included a single I-beam featured in the garages in order to avoid having to put in a truss system and smaller 2" x 6" studs with sixteen inches between each one.[274]

Beyond siding materials and structural support, another contrast between Clearview and the earlier neighborhoods is the windows. Although they are similar as far as window type and number of lights, the primary window material is plastic. The windows feature plastic casings, muntins, and sills. Also, muntins are typically found to be in between a single piece of glass rather than having true divided lights. Double-hung windows are a common window type of the neighborhood. Additionally, octagonal windows, which are seen frequently in Rosedale, are common in Clearview as well. One observation unique to Clearview was the placement of the windows. With but a few exceptions, houses in Clearview do not have many, if any, windows on the side elevations of the houses; all have arranged windows on the elevation facing the road and a few on the rear of the house. The side elevations are relatively plain in comparison to the rest of the house. Overall, the materials and durability of construction in Clearview is of lesser quality than that of the other two neighborhoods in this study.[275]

[273] Mike Wade, Site Visit Discussion with Victoria A. Leonard, August 18, 2014.
[274] Mike Wade, Site Visit Discussion with Victoria A. Leonard, August 18, 2014.
[275] James Lewis, Site Visit, Informal homeowner interview with Victoria A. Leonard, August 13, 2014.

Figure 72: 202 Sherry May Street, Plastic Window & Muntins, Poor Re-pointing Job, Clearview, Alleghany County, VA (Leonard, 2014)

Figure 73: 105 Sammy's Road, Deteriorating Door Frame & Broken Seal, Clearview, Alleghany County, VA (Leonard, 2014)

Plastics instead of wood, pressed hardboard instead of a solid board, nominal dimensioned lumber instead of full-sized boards, and the use of adhesives to hold together major building components are just some of the less durable construction practices and materials seen in Clearview. Several homeowners in Clearview expressed displeasure with their houses or dismay at how often they have had to replace certain features.[276] Almost every homeowner mentioned the builder, 'Doodlebug' Dressler, who became known for cutting corners. Deterioration is visible from the street in some cases. Awnings are failing, plastic is peeling, and vinyl is cracked or missing in some locations. One owner in particular noted how his house was extremely energy efficient, but otherwise was gradually falling apart only twenty years after being constructed.[277]

The case studies proved to be most useful for putting late twentieth century single family detached residence construction and material practices into perspective. Although many architectural flaws and unproven materials exist in the houses of Clearview, the case studies also highlighted their value as a period of architectural history. Although residences resembling high style architecture is seen in the first two neighborhoods, single family residences in Alleghany County primarily represent vernacular representations of the styles. These residences are primarily designed by contractors and personal homebuilders, rather than a licensed architect. Those houses that resemble high style architecture are not true high style, but simply draw from a set of tools that are already known to work. In addition to architectural style, the houses of the late twentieth century use different materials and different construction methods that reflect the general nature of American housing and the needs and desires of homeowners. In particular, a shift in home value and usage is reflected in the houses of Clearview. This process provided a

[276] Informal homeowner interviews conducted during site visits, August 2014.
[277] James Lewis, Site Visit, Informal homeowner interview with Victoria A. Leonard, August 13, 2014.

means for evaluating historic significance and discussing integrity as it applies to late twentieth century residences as a whole and applying it to the future of late twentieth century National Register nominations.

Comparison

A few general similarities exist across the neighborhoods, including the average house size per neighborhood is similar, and two-story houses are the most common. Further, nearly all houses are frame construction with asphalt shingles. A few houses have slate, clay tile, or metal roofs, but these are rare in comparison to the number of asphalt shingle roofs, which exist on all but one of the case study houses.

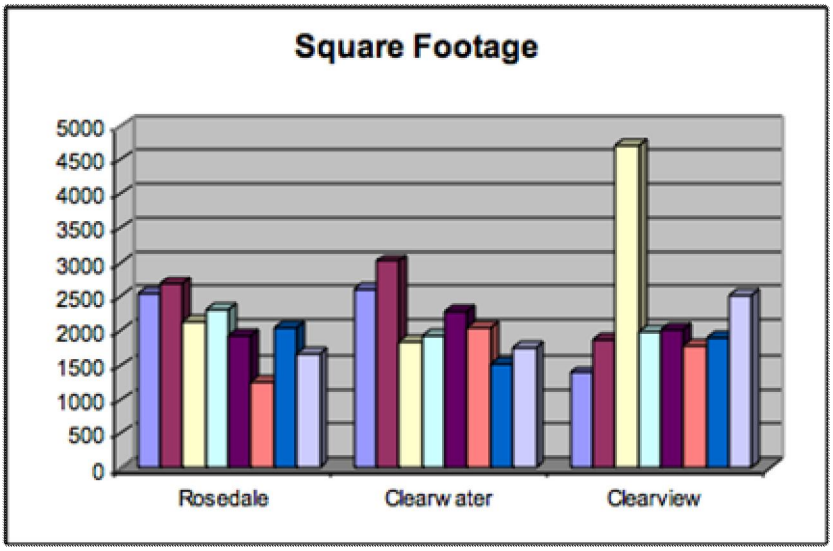

Table 5: Square Footage in each neighborhood with each column representing a case study site (Alleghany County Tax Assessment Website, See Appendices A, B, and C)

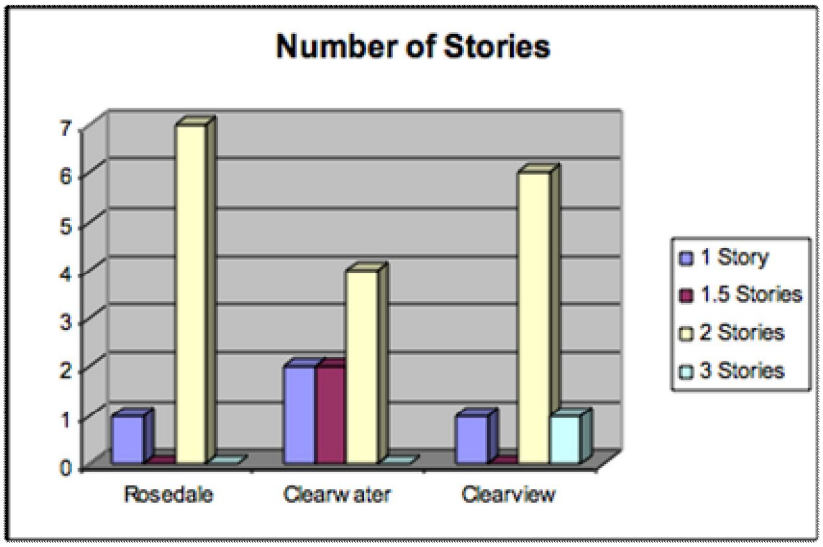

Table 6: Number of Stories in each neighborhood (Alleghany County Tax Assessment Website, Site Visits, See Appendices A, B, and C)

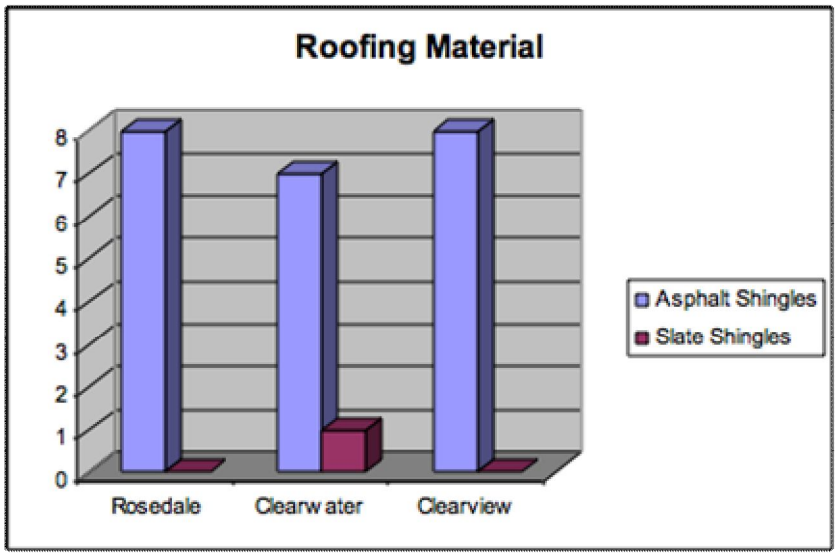

Table 7: Roofing Materials of Case Study Sites in each neighborhood (Site Visits, See Appendices A, B, and C)

Other than these similarities, however, the neighborhoods do differ. Clearview especially, is vastly different from both Rosedale and Clearwater in both condition and appearance. Steve Sams, an interviewee, describes the difference between construction methods and material quality from the Rosedale period to the Clearview period as tremendous, like night and day.[278]

[278] Steve Sams. Interview by Victoria A. Leonard, August 22, 2014.

One of these differences can be seen in architectural style. The architecture of Clearwater and Rosedale more closely resembles high style architecture and contains many of those characteristics that focus more on cultural and political values as well as aesthetics. In contrast with most vernacular architecture examples in which the primary focus is on functionality and the basics of living and working, functionality was less important in the construction of many Rosedale houses as much of Rosedale was constructed for higher paying management of the mill. Clearview, by contrast, demonstrates the basic functions of living and is highly adaptive as is typical with vernacular architectural examples.

As you can see in Figure 77, about half of the houses in the oldest neighborhood, Rosedale, have brick foundations. However, the newer neighborhoods have more concrete and concrete block foundations with a few houses featuring stone and cinderblock foundations. All three neighborhoods have houses containing brick as a siding material. However, in the older houses, weatherboard and clapboard are also a primary siding material, with mid-twentieth century materials also including stucco and aluminum. The use of vinyl siding is primarily limited to the Clearview neighborhood; however, some vinyl siding is seen on small additions and remodeling projects within Rosedale. Although other materials, such as brick and wood, are seen in Clearview, nearly every house features some vinyl siding.

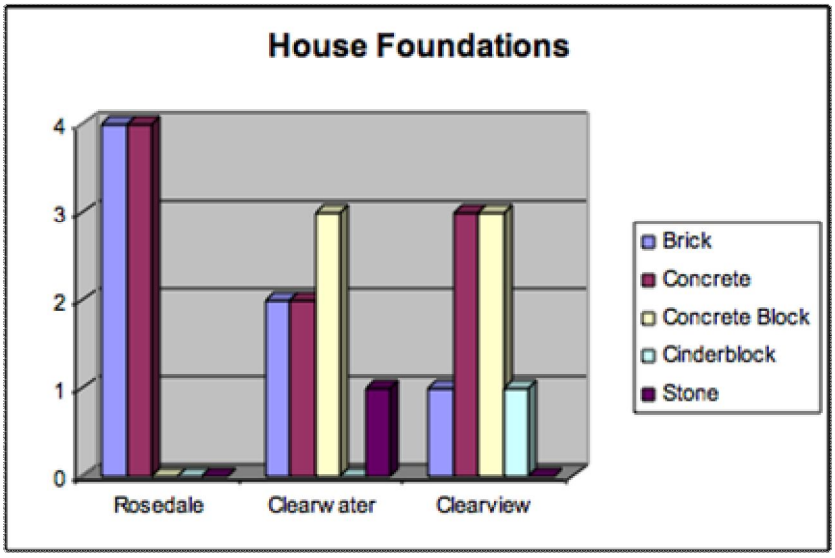

Table 8: House Foundation Materials for each case study neighborhood (Site Visits, See Appendices A, B, and C)

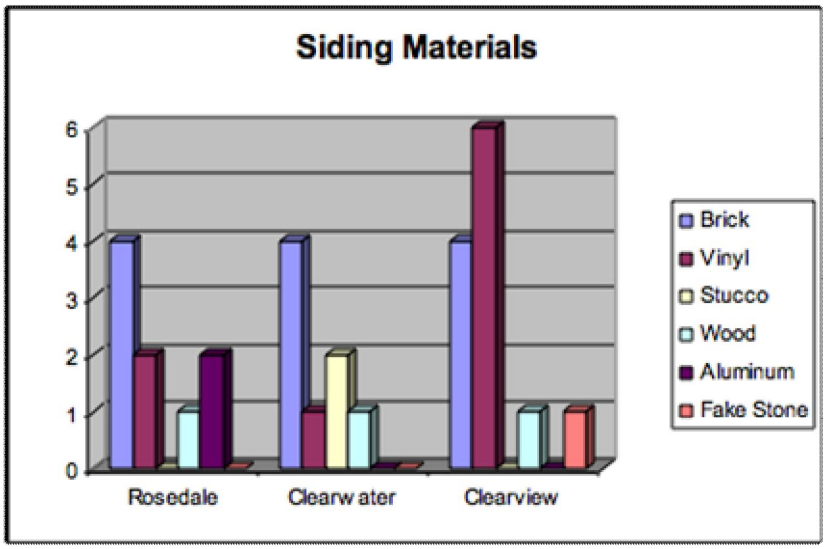

Table 9: Siding Materials for case study sites per neighborhood (Site Visits, See Appendices A, B, and C)

As you can see from the chart below, interior wall coverings consist mainly of plaster in the earliest neighborhood, a mix of plaster and drywall in the mid-twentieth century neighborhood, and primarily drywall in the late twentieth century neighborhood. In Rosedale, each house originally featured only plaster walls, but as people have added onto their houses they have chosen to use drywall. Other interior wall covering materials used throughout all periods of

the twentieth century consist of tile, which is most frequently found in bathrooms, and occasionally in kitchens.

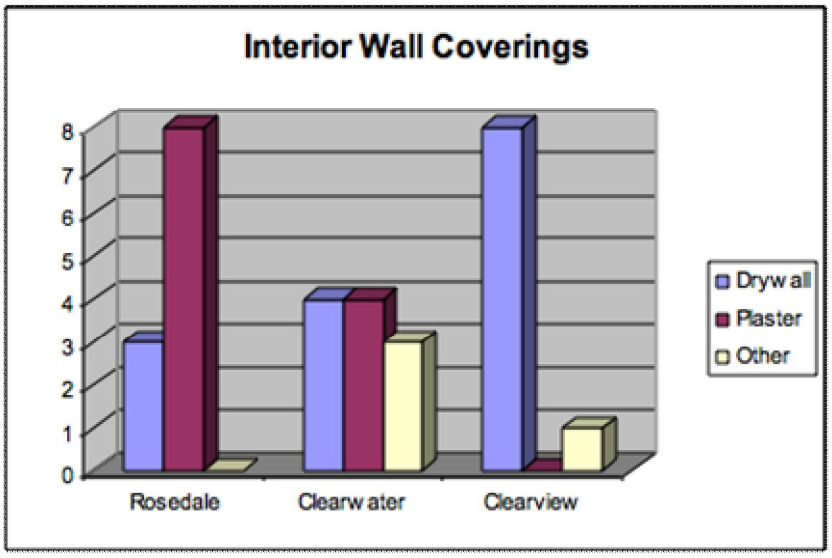

Table 10: Interior Wall Coverings for case study sites (Site Visits, See Appendices A, B, and C)

Unlike interior wall covering materials, there are a variety of flooring materials in each neighborhood. There is a noticeable difference between primary flooring materials throughout the three neighborhoods. All eight houses in Rosedale have original hardwood floors with the exception of a few carpeted additions and tiled bathroom and kitchen areas. Similarly, in Clearwater seven of the eight houses have original hardwood floors with carpet featured in additions. Clearwater also contained vinyl kitchens and a marble bathroom. Contrary to the two earlier neighborhoods, the flooring in Clearview is primarily wood laminate and carpet. Clearview, however, does feature the widest variety of flooring materials of the three neighborhoods.

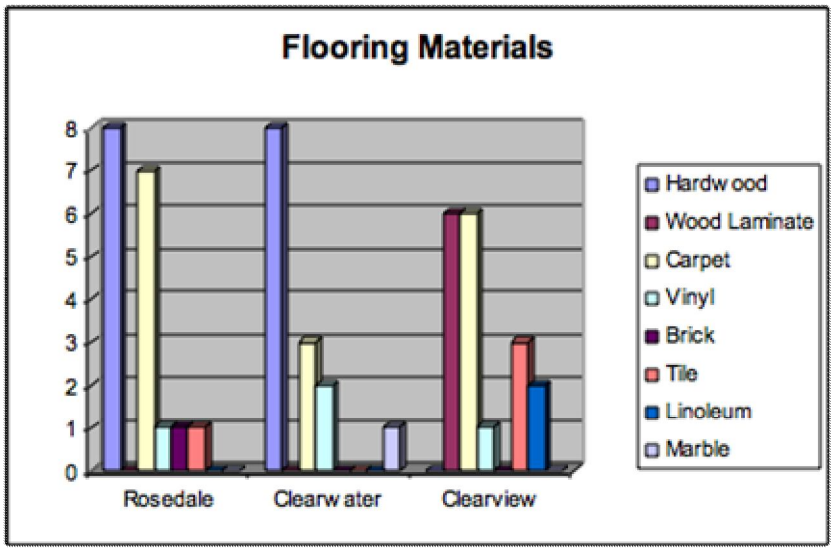

Table 11: Flooring Materials seen in each neighborhood (Site Visits, See Appendices A, B, and C)

Interviews

The second method used to ascertain additional information about the neighborhoods and the buildings within, was through interviews. These interviews provided an opportunity to learn about expert opinions regarding each building stage of the twentieth century. This is applicable to the consideration of National Register eligibility because, in some cases, it supports the need for a discussion regarding significance and integrity of late twentieth century dwellings. Additionally, many small scale local buildings are nominated to the National Register based on their significance as perceived by the individual who has come into contact with that building. It is necessary to understand their thoughts in order to reasonably assess their value in light of the National Register.

Steve Sams

One of the most significant public sources of information was an interview conducted with a man named Steve Sams. Sams is a local contractor who has worked in each of the three neighborhoods and has extensive knowledge of building materials and their performance, as well

as construction practices and changes over time. He is the leading commercial and residential building contractor in the Alleghany Highlands and has a proven track record over the past sixteen years. Sams is a Class 'A' licensed contractor for the state of Virginia and has received an Associate's Degree in Applied Science and a Bachelor of Technology. He established his company, Sams & Co., in 1994 initially to develop a residential community in Covington, Virginia. It was during that time that a need for a quality local building contractor was recognized.[279]

Given Steve Sams' knowledge of each neighborhood and his extensive experience, an interview was conducted with him on August 22, 2014 to get his professional opinion on the building materials seen in the three neighborhoods as well as their value and potential preservation.

Summary of Interview Responses

Rosedale is a neighborhood of solid, high quality construction. Most of the houses are brick with fully dimensioned 2" x 4" wood boards throughout, and 2" x 8" or 2" x 10" across the bottom walls to the structural frame of the second floor. Additionally, the exterior sheathing in Rosedale is one-inch thick wood board, typically six to eight inches wide, that is nailed to the exterior on a diagonal. It creates a subsurface layer before the siding material is installed. The level of craftsmanship in the buildings of Rosedale is evident in the details as well as the materials used. The finished interior woodwork found there is impressive, particularly so when compared to today's standard, and was originally stained or naturally finished rather than painted. Trim would have been cut form the same tree, or piece of lumber, so that simply staining it or leaving it in its natural state would have resulted in a really beautiful product. Rosedale contains durable materials, such as brick and hardwood, that will stand a longer test of time.

[279] Sams & Company, Company Profile

Clearwater is very similar to Rosedale, and is kind of a transitional neighborhood between Rosedale and Clearview. The neighborhood contains a lot of brick and hardwood. Most of the houses have solid wood doors and trim. While there are a couple newer houses in the neighborhood, like the 1960s prefabricated house, most of the houses are older and resemble houses in Rosedale in their construction quality and architectural details. The level of craftsmanship as well as the materials used also match the level of Rosedale fairly well.

The construction of Clearview, on the other hand, was quick and simple – big boxes with little style but lots of square footage. Clearview was built to give people the most space for the least amount of money. The artistic value seen in Rosedale and Clearwater is not present in Clearview. The primary siding material of the neighborhood is vinyl, which can crack and fade quickly. Even though vinyl has been improved upon many times, one of its biggest disadvantages is that UV rays will discolor it. Also, vinyl thins, and as it fades it forms a white chalk-like substance over it. This pulls out the resins, meaning the moisture, which can cause the vinyl to become brittle. Nearly everything in Clearview contains at least some pressed hardboard. Trim is pieced together with finger joints, and has been painted, reflecting low quality that is cheaper to build. In that sense Clearview houses are in keeping with today's demand. Sheathing material is typically OSB board, which is wood chips glued together at high pressure. Flooring materials consist primarily of plywood or OSB sub-flooring with wall-to-wall carpet over top. This arrangement generally has a lifespan of five to ten years.

Steve Sams thinks that a neighborhood like Clearview could be preserved, but it would be a different kind of preservation than that used for older buildings. Vinyl siding and windows, in a neighborhood like Clearview, would have to be replaced often before the integrity of the material becomes compromised. But as with historic materials now, if the material is replaced

in-kind, then it is acceptable as preservation. Ultimately, Sams thinks that neighborhoods like Clearview will be preserved.

Real-Estate Agent Kathy Lytle – B.A. Rupert

Another major source of information about the three case study neighborhoods is a local real estate agent, Kathy Lytle, who has had experience in all three neighborhoods. Lytle, a B.A. Rupert real estate agent, was interviewed on March 2, 2015. She joined B.A. Rupert Real Estate, Inc., a local real estate agent that has been operating in the area for 34 years, in 1995 as a full time sales agent. Since then she has become a Licensed Residential Appraiser and Associate Broker in the state of Virginia. She has lived in Alleghany County for 33 years.[280]

Summary of Interview Responses

In each of the three neighborhoods, most houses are two-story houses with an average family size of four people. When considering purchasing a home, people most often consider convenience, size (square footage), and overall appeal. In general, Kathy Lytle seems to place more value on Clearwater, and Rosedale, than Clearview. Lytle sees the construction in Rosedale to be of superior quality, due mostly to the crown moldings, hardwood floors, and finishes. The average age of people buying houses in Rosedale is 40 years old, and the average cost of houses in Rosedale is $100,000. Most of the houses there are already over 70 years old. While most of the houses in Rosedale are brick, the houses all have different characteristics, and two houses look the same.

Clearwater is an established neighborhood of well-kept houses, mature trees, and different architectural styles, such as Cape Cod and Ranch. The average age of people buying houses in Clearwater is 50 years old, and the average cost of houses in Clearwater is $200,000.

[280] "About Us." B.A Rupert Real Estate. (2015. Accessed March 3, 2015. http://www.barupert.com/index.php?option=com_content&view=article&id=2&Itemid=3.) 1.

Clearwater is one of the preferred neighborhoods because it is not right next to the mill. The construction of Clearwater is of superior quality, like Rosedale. The use of hardwoods along with other materials, such as brick or tile, makes them good houses.

Of the three neighborhoods, Clearview tends to be high on the desirability list because of space and distance from the mill. The average age of people buying houses in Clearview is 50 years old, and the average cost of houses in Clearview is $250,000. Clearview contains speculative built houses and does not have a distinctive architectural style. It lacks some of the more durable and desirable materials the other two neighborhoods have, such as crown molding, hardwood floors, and quality finishes, and has lower quality materials such as carpet and vinyl. Overall, Clearview's architecture is of an inferior quality than the other two neighborhoods.

Informal Homeowner Interviews

Other interviews, such as those with homeowners, were conducted during site visits to individual houses. Homeowner interviews were conducted in each neighborhood, but were primarily focused on Clearview, since owner opinions were most valuable in shedding light on the value of that neighborhood, which was initially the least well known by the author upon entering into the case studies process. Therefore, the information gathered from homeowners during this process proved to be more essential than was the case with Rosedale and Clearwater. It is important to note that questions were casually presented to homeowners upon observing his or her house. Some homeowners were eager to participate, and others had little to say in addition to opening their houses for study. Given the nature of the process, and the willingness of owners to even show their houses, the author did not press the owners into a formal interview setting.

Analysis

Despite being built by a developer known to cut corners, Clearview Estates, which dates from the late 1970s to 2000, represents a distinct type of architecture commonly seen throughout the United States during this time period. As discussed in the literature review, the architecture of the period reflected a change in societal needs and values regarding houses as well as the current economic environment. The neighborhood, which was built with no particular buyer in mind regardless of later promotion from the mill, was constructed as quickly and as cheaply as possible, a marked change from construction practices seen in Alleghany County up until then, as shown by both Rosedale and Clearwater. The particular materials used, as well as the number of different materials seen in the neighborhood, set the neighborhood apart from the examples seen in the two other case study neighborhoods.

The character-defining features of the neighborhood are siding materials, flooring materials, building style, interior walls, windows, and types and level of details and ornamentation. Each characteristic singularly represents this neighborhood and similar neighborhoods of the late twentieth century. The most common siding material throughout the neighborhood is vinyl followed by the popular salmon colored bricks of the time. The primary flooring materials are wood laminate, carpet, and vinyl. There is also some tile and linoleum in the neighborhood. Split-levels and other two-story vernacular buildings are the most common building styles of the neighborhood, but there are also some houses loosely resembling Minimal Traditional and Cape Cod style houses. The interior walls are exclusively drywall, something indicative of the time in architectural history. Window materials, in particular, are a striking characteristic of the neighborhood. Window types differ very little from the earlier twentieth century examples in terms of appearance, but vary greatly in materials from which they are

made. Instead of wood, the windows are primarily plastic, with plastic muntins, and are not true divided lights.

The most notable character-defining features of the neighborhood involve building details and level of architectural ornamentation. On the exterior of buildings, there are many decorative shutters and dormers. Simple square columns, with no reference to high style classical architecture, supporting a pediment that is placed asymmetrically on the building façade, is indicative of this time period. Interior details, such as moldings, baseboards, and other trim, are made of plastic, pressed hardboard or finger-jointed wood pieces, and are simple in comparison to details seen earlier in the century.

The materials and finished products found in Clearview suggest a difficult road ahead for preservationists. They are already beginning to show signs of deterioration without having yet reached fifty years of age. This fast deterioration will surely present difficulties with preservation maintenance, issues with integrity, and therefore consideration for the National Register. On the other hand, the neighborhood easily has significance.

Clearview Estates in Alleghany County, VA derives its significance from its representation of a distinctive neighborhood type, period of architectural history, and method of construction. The neighborhood is significant under Criterion C for representing a distinct stage of physical development and the materials and methods used in construction that represent a new architectural era for the area. The collection of late twentieth century architecture present in the neighborhood is unparalleled in Alleghany County and represents a distinct period of architectural history known for its break from traditional styles and building methods.

As explained in the background research chapter, there are seven aspects of integrity: 1) location, 2) design, 3) setting, 4) materials, 5) workmanship, 6) feeling, and 7) association.

Although a largely subjective judgment, in order to retain historic integrity a property must possess several, and usually most, of the aspects. The retention of specific aspects of integrity is vital for a property to convey its significance. Clearview retains integrity of *location* because the houses are in the original location of their construction. Likewise, Clearview retains integrity of *setting*, because the environment of the neighborhood, as well as how the buildings and surroundings are situated in relation to each other, has not changed since the time of construction. Although *feeling*, a property's expression of the aesthetic or historic sense of a particular period of time, and *association*, the direct relationship between an important historic event or person and a historic resource, on their own are not enough to support eligibility because of their reliance on individual perceptions, most would consider Clearview to retain integrity of *feeling* and *association*.

The difficulty in considering the National Register eligibility of the houses in Clearview, and others like them, is in integrity of *design*, *materials*, and *workmanship*. Integrity of *design*, relates to the combination of elements that create the form, plan, space, structure, and style of a property. Design includes such elements as organization of space proportion, scale, technology, ornamentation, and materials. Design also applies to aesthetics.[281] Integrity of *materials* and *workmanship* are related to each other and are particularly applicable to this thesis. Integrity of *materials* involves the physical elements that were combined or deposited during a particular period of time and in a particular pattern, or configuration, to form a historic property.[282] Similarly, integrity of *workmanship* refers to the physical evidence of the crafts of a particular

[281] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 2.
[282] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 3.

culture or people during any given period in history. It is the evidence of artisans' or craftsman's labor and skill in constructing or altering a building, structure, object, or site.[283] These three aspects of integrity are the elements that most reveal changing values of architectural styles, building materials, and construction processes.

The materials used in Clearview are ones having short lifespans and are subject to quick deterioration. Plastics instead of wood, pressed hardboard instead of solid board, nominal dimensioned lumber instead of full-sized boards, and the use of adhesives to hold together major building components are just some of the characteristics seen in the neighborhood. For a neighborhood that has only been around for approximately thirty-five years, much deterioration in the neighborhood is visible, and owners have already mentioned having to replace several building components once or twice since the building was constructed. Some deterioration is visible from the street, such as failing awnings, peeling plastic, and cracked or missing vinyl in some locations. Due to this, replacement of building materials in this neighborhood will have to happen more often than preservationists have had to face with the replacement of historic materials on other historic resources. Needing to replace materials then calls into question, not only the integrity of *material*s, but also the integrity of *workmanship* and *design*.

For example, current vinyl siding typically has a lifespan of up to 50 years; with that kind of lifespan, it will need to be replaced more often than wood with a lifespan up to 100 years, or brick which can last one hundred years or more. Replacing vinyl siding with new vinyl siding negatively affects the building's material and workmanship integrity, while it may not affect the design aspect of integrity at all. The logic here is that design can be retained if it is the same type of vinyl, the same size, color, and composition. Because the replacement vinyl will likely look

[283] "National Register Bulletin: How to Apply the National Register Criteria for Evaluation - How to Evaluate the Integrity of a Property." National Park Service: National Register Publications. (Accessed August 25, 2014. http://www.nps.gov/nr/publications/bulletins/nrb15/nrb15_8.htm.) 3-4.

the same as the original and because the aspect of integrity *design* is based on appearance, the building will likely retain integrity of *design*. However, the *material* and *workmanship* aspects of integrity will be lost because the vinyl is not the original vinyl material and the work and method of putting that original material on has been lost.

This is largely the case in Clearview, of which the primary siding material is vinyl. Since the material will not withstand a long expanse of time, it will have to be replaced relatively soon in comparison to the overall life of the building. The retention of the integrity of *design*, *materials*, and *workmanship* will depend on how the replacement is handled. If simply replaced with the newest version of vinyl, and with no thought to historic methods of applying vinyl, then integrity of *design*, *materials*, and *workmanship* will be lost. On the other hand, if the vinyl siding is replaced with vinyl that is of the same configuration, made of the same material, looks the same as the original, and otherwise is the same as the original, then it is possible that the building could retain integrity of *design* and *materials*. This is considered to be replacing in-kind, which is already deemed an acceptable practice with historic materials, as demonstrated in the Preservation Briefs discussed in Chapter 2.

Integrity of *workmanship* is a little trickier and may not be as easy to retain. *Workmanship* is generally considered lost after the touch of the original method of construction and person, or company, which was responsible for the construction or application of the material, is gone. In some cases, the same method for crafting a material or constructing a building can be applied, and therefore, *workmanship* can be retained. In the case of Clearview, however, when considering vinyl siding, for example, it would not only have to be the same composition, but it would have to be made the same way. As new methods of making and applying materials come along, it is often rare to for workmen, or homeowners, to choose the original, out-of-date way of

doing things. In the case of Clearview, one also has to question the desire to retain integrity of *workmanship*. Since the builders of Clearview were known, as mentioned by homeowners, to cut corners, would it be wise to use the same method of applying the vinyl siding? If it is possible, primarily through replacement in-kind, to retain at least six of the seven aspects of integrity, then integrity of *workmanship* might be best evaluated on a case-by-case basis in the neighborhood.

The same principles apply to any other material or construction method in Clearview just as they do regarding vinyl siding. The plastic windows, when they eventually need to be replaced, should be replaced in-kind in order to retain integrity of *materials*, *design*, and in some cases *workmanship*. Other materials, such as wood laminate or carpet, which has a lifespan of only five to ten years, can be addressed the same way. The guidelines currently available to preservationists regarding the replacement of historic materials can also be applied to these newer materials, the only difference being they may need to be applied more often than preservationists have previously encountered.

Clearview is quite eligible for the National Register. It has often been difficult for preservationists to accept "new" resources as historic, yet when remaining objective about single family detached residences of the late twentieth century, it is easy to see the value they have as a part of America's architectural history. These buildings surely represent changing building needs and desires, as well as the role the economy can play in shaping architectural styles and material choices. The guidelines for preserving buildings and their materials, and for dealing with replacements, are already in place for historic materials. When the same principles are applied to newer resources, it becomes possible to ensure the integrity of late twentieth century residential

resources and to preserve them as significant contributions to the architectural evolution of, in this case, Alleghany County.

CHAPTER 5

CONCLUSION

I began this thesis process by asking the question: What issues arise when evaluating 1980-2000 single family houses to National Register eligibility? To begin to answer the research question, the historic background chapter identified key historic preservation policies and principles related to the National Register, and defined National Register eligibility requirements. The Secretary of Interior's Standards, along with Preservation Briefs, were discussed as tools available to assist preservationists, helping them realize the breadth of integrity questions to consider when doing a physical intervention. The chapter also proposed solutions to challenges posed by buildings from the recent past. The evolution of architectural styles, building materials, standards, and construction processes over time were explored in order to form an idea of how those factors may impact National Register eligibility.

Following the background research, I explained why case studies would be useful to help understand both the evolution in single family detached residences from 1900-2000, and the criteria for selecting them. The three case study neighborhoods – Rosedale, Clearwater, and Clearview – were chosen as examples from three time periods of the twentieth century. These neighborhoods are located in Alleghany County, Virginia. Their architectural styles, construction methods, and materials were examined in order to understand how each neighborhood fit into the evolution of styles and construction methods used over the twentieth century. Architectural research was conducted by examining building records, surveying the neighborhoods, and through site visits. Information such as construction dates, materials, square

footage, and number of stories was obtained using research materials prior to the site visits. Through site visits, a thorough examination of building materials, designs, and architectural details was made possible. Attention focused on foundation materials, inner and outer wall coverings, flooring, windows, trim, and the presence of decorative details for each of the houses studied. Each of the three neighborhoods was first discussed individually. Then they were compared to each other to demonstrate that construction and materials have changed and evolved dramatically over the course of the twentieth century. Using architectural research, site visits, and interviews, the author was able to determine the character-defining elements of residential architecture typical of the period from 1980 to 2000. Following the discussion of the case study observations and research, the results as they relate to National Register eligibility, were then analyzed.

Research Question

The impact of fast-changing construction process from 1900-2000 on National Register eligibility of late twentieth century housing began to be addressed through the evaluation of Clearview, as was discussed in chapter 4. Through the use of preservation tools, it was determined that the Clearview neighborhood could be considered eligible for the National Register based on current criteria. This conclusion also leaves room to question future evaluation of resources from 1980-2000.

Stepping back and surveying the architectural evolution of the twentieth century allowed the value of buildings from the 1980-2000 period to become apparent. Despite reservations that many may have about the aesthetics of late twentieth century architecture, after reviewing the literature it becomes clear that buildings of the late twentieth century tell a part of the unique

story of architectural development in the United States. Through the evaluation of Clearview, preservationists can begin to see that resources of the late twentieth century are a key part of history, and that preservation of this period of architecture must be addressed. Clearview derives its significance because it is representative of a distinct neighborhood type, a particular period of architectural history, and a distinct method of construction. The neighborhood is significant under Criterion C, representing a discernible stage of physical development and the materials and construction methods used, all combining to represent a new architectural era in the area. The breadth of late twentieth century architecture in the neighborhood is unparalleled in Alleghany County, and represents a distinct period of architectural history, one unique for its break from traditional styles and building methods.

Despite the subjectivity of some aspects of integrity, it was easily determined that Clearview retains integrity of *location* and *setting* because the houses there remain in their original locations, and the general layout of the neighborhood is left unchanged. Clearview, at this point in time, also retains integrity of *feeling* and *association*, although these aspects in particular will need to be reassessed once the houses in the neighborhood reach 50 years of age, due to the usefulness of this guiding age criteria in assessing the value of these two aspects of integrity in the long-term. Since these two aspects of integrity concern how accurately a resource reflects a sense of its time period, integrity of *feeling* and *association* may be the most questionable aspects when considering the longevity of the resource.

The main difficulty, though, in considering the National Register eligibility of the houses in Clearview, which are typical of residential housing built between 1980-2000, is in integrity of *design*, *materials*, and *workmanship*. Since these three aspects of integrity are the elements that most reveal changing values of architectural styles, building materials, and construction

processes, they are key to evaluating resources of the late twentieth century. However, here lies the difficulty when considering the National Register eligibility of resources that contain a multitude of materials with much shorter lifespans than those previously dealt with by preservationists. It was found in Clearview that replacing deteriorating building materials will necessarily happen sooner and more often than preservationists have perhaps come to expect with the replacement of historic materials on older historic resources. The need to replace materials then calls into question not only the integrity of *material*s, but also the integrity of *workmanship* and *design*. While Clearview was determined to retain integrity of *design* and *materials* as it is now, these are other aspects that will need to be re-evaluated when Clearview has had a chance to age more. Clearview does not retain integrity of *workmanship* because of the changes that have already occurred there, and the poor level of quality maintained in the initial construction, as noted by the interviewees.

Guidelines for preserving buildings, their materials, and for facilitating replacements are currently in place for historic materials. When these same principles are applied to future resources, it becomes possible to ensure the integrity of late twentieth century residential resources and to preserve them as significant contributions to the architectural evolution of the United States. However, this does mean likely changes are ahead in the way resources of the late twentieth century are evaluated. The seven aspects of integrity, most importantly *materials*, *workmanship*, and *design*, are not going to be attainable for resources of 1980-2000 in the same way that they are for buildings constructed prior to 1980. Whether or not such resources are able to retain integrity, they represent a different kind of preservation than the one preservationists have become comfortable with until now. In light of this, when a historic context is prepared

that articulates the impact of residential buildings from 1980-2000, National Register criteria may need to be revisited.

Recommendations for Future Research

Recommendations for future research focus on expanding the discussion of late twentieth century resources in consideration for the National Register. First, it is recommended that study move beyond Alleghany County to consider other examples of housing from the 1980s-2000. This would make a valuable addition to our understanding of trends beyond Alleghany County, and help preservationists evaluate the impact buildings built from 1980-2000 have on National Register eligibility.

It would also be beneficial to consider the value of technological advances in single family detached residences from 1980-2000 alongside the character-defining features. Studying technological advances can help preservationists to fully understand a building, its lifespan, and how that may affect National Register eligibility. Additionally, a more detailed study on the development and impact of building codes, ASTM standards, and zoning codes alongside the discussed standards will add to the understanding of residential building development and construction throughout the twentieth century.

Since maintenance is a consistent factor of a building's life, a study of the impact of regular maintenance and care versus neglect on buildings and specific building materials used over the twentieth century should be conducted. This will help determine exactly how much of an effect maintenance has on the lifespan of a building and its materials. It will also emphasize further the quality of materials throughout the century.

Conclusions

The research conducted here presents some questions for the future. As represented by the case study neighborhood of Clearview, the materials and finished products found in single family detached residences from 1980-2000 suggest a difficult road ahead for preservationists. Houses are already beginning to show signs of deterioration without having yet reached the 50 year guideline. This presents difficulties with preservation maintenance, issues with integrity, and therefore have bearing on consideration for the National Register. While there are guidelines in place to help retain the integrity of a resource when it comes to replacement, guidelines making it practical to consider a late twentieth century neighborhood eligible for preservation through the National Register, how do these apply to long-term efforts to preserve buildings and sites constructed from 1980-2000?

The biggest issue with preserving residential buildings from1980-2000 is related to time. While there are tools available to assist preservationists with the repair and replacement of historic materials, which can address issues of integrity, what if there is never an opportunity to put these solutions into practice? Replacing materials in-kind is a principle that was designed with longer material lifespans in mind. Although the practice may be extremely applicable to resources of the late twentieth century, what if it does not happen because too many replacements have occurred before such resources were evaluated as significant? There is much that can happen to a resource before it even reaches the typical guiding 50 years of age, and this, I believe, is the biggest difficulty when considering National Register eligibility.

If the lifespan of some of the character-defining features of the residential buildings from 1980-2000 is an average of fifteen to twenty years, then how do preservationists ensure that replacement materials are in-kind? What if, as in the case of siding materials, there is no original

vinyl siding left on the building by the time these resources age more and someone begins to consider these resources for the National Register? What if, by the time a resource reaches the typical 50 years of age, there are literally no examples of residential buildings from 1980-2000 with all of their original materials intact from the time of construction? If such resources are nominated to the National Register, have we really preserved a resource representative of architectural history from 1980-2000? Can the physical preservation tools available to preservationists today really apply on such a large scale?

Moving forward it is perhaps necessary for preservationists to consider whether changes ought to be made to National Register eligibility in order to include those resources from 1980-2000. Although the 50 year age criteria is a guiding criteria for evaluation, should preservationists re-evaluate it to ensure the inclusion of these resources before too many alterations have occurred? Or is it perhaps necessary to re-evaluate integrity in a way that is more inclusive of resources now and in the future? What might need to change to help ensure that authentic examples of residential buildings from 1980-2000 exist for future preservationists to learn from and discuss as part of America's architectural history and record? Most importantly, before preservationists can truly evaluate these resources, it is critical that a developmental context study take place.

Additionally, in considering the practicality of preserving single family housing neighborhoods from 1980-2000, preservationists may need to consider the practicality of preserving suburb/neighborhoods in general since people today are moving towards goals of a denser environment. Although, since the general trend is moving towards living in cities, perhaps this is one reason why such neighborhoods should be preserved. In light of that, what is the best example of such resources? Should preservationists consider preserving kind of the

Disney World perfect version of resources from 1980-2000? Or should they be evaluated simply by level of significance to individual localities? Whether or not we seek to preserve unique example of these resources, or the most typical example, is something that preservationists will need to determine in the future.

The topic is important for a number of reasons. For one, as previously stated, new preservation questions and concerns are continually being raised. Questions concerning why and how to preserve late twentieth century residential buildings, and those building's qualifications for National Register eligibility, must be addressed if preservationists are to make long-term investments in preserving this period of architectural history. This study is significant to the field of historic preservation because it considers the future of preservation and will provide a foundation regarding how to approach difficult preservation questions of the future. It is reasonable to question the possibility and advisability of preserving single family detached residences constructed from 1980-2000. Preservationists and the public alike will have opinions concerning the significance of these historic resources, so preservationists must begin formulating answers to these questions now. Determining National Register eligibility of residential architecture from this period presses upon the present boundaries of historic preservation, just as future preservation problems surely will. We as a society and profession will continually face these same questions about any future resource.

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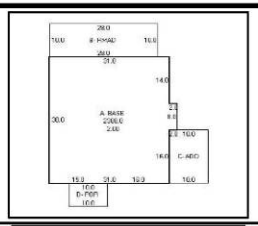
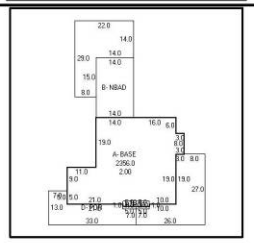
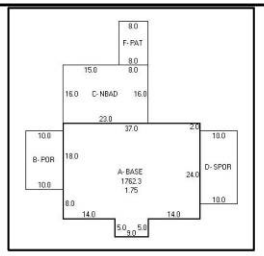
Rosedale

Thumnail Image	Address	Owner	Year Built	# of stories	Floor Plan	Foundation material	Ground Level or Raised 1st floor elevation?	Square Footage
	204 Rosedale Avenue	Hammond	1906	2		Brick	Raised first floor elevation	2,548
	106 Rosedale Avenue	Carper	1910	2		Brick Piers (covered with lattice work)	Raised first floor elevation (but more to level with the slope of the hill)	2,678
	612 Addams Street	Leonard	1927	2		Brick	Ground level	2,130

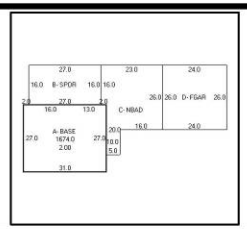
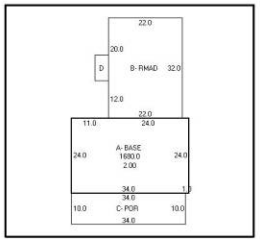
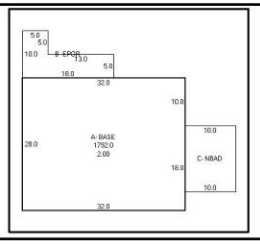
Rosedale

Thumnail Image	Address	Siding Material	Windows (location, size, shape, materials)	Roof (shape & size)	Roof Material	Dormers?	Porches? (location, size, shape, materials)
	204 Rosedale Avenue	Aluminum Siding (had been clapboard)	Wood windows, aluminum outer casings, double-hung one over one	Cross-gabled-hipped	Asphalt Shingles	No	Entry Porch (barely more than a portico) - East elevation
	106 Rosedale Avenue	Aluminum Siding (had been clapboard)	Wood windows, aluminum outer casings	Cross-gabled	Asphalt Shingles	No	Half length covered porch, Northeast elevation
	612 Addams Street	Brick Veneer	Wood windows, double-hung six over six	Side Gable, shed roof on addition	Architectural Asphalt Shingles	Yes, extended dormer across the front	Two side covered proches, one converted to screen, no rails

Rosedale

Thumnail Image	Address	Exterior Architectural Elements (high style or vernacular)	Garages? (attached or not, size, shape, materials)	Interior Wall Covering	Floor Materials	Fireplaces?	Interior Architectural Elements (high style or vernacular)
	204 Rosedale Avenue	Gable protico, porch spindles, shutters, transom window and sidelights	Detached one car garage, rectangular	Plaster	Wood (original floors)	Yes, 2	Crown moldings, solid wood doors, and door surrounds
	106 Rosedale Avenue	Unique (large) eliptical window with window box, bay window, small eliptical window	Detached two car garage (but is shared with neighbor, so only one car per house)	Plaster	Wood, carpet, vinyl, brick (in the kitchen)	Yes, 2	Crown moldings, decorative baseboards, brick kitchen floor
	612 Addams Street	Adam style, eliptical fanlight, sidelights, decorative, triangular pedimented door surround with columns, louvered shutters with moon symbol cut out, quarter circle windows on either side of chimney	Detached two car garage (brick and vinyl siding)	Plaster, drywall in addition	Original wood floors, carpet in addition	Yes, one (used to be two, one now covered)	Crown moldings, decorative baseboards & door surrounds, solid wood materials, archways, French doors

Rosedale

Thumnail Image	Address	Owner	Year Built	# of stories	Floor Plan	Foundation material	Ground Level or Raised 1st floor elevation?	Square Footage
	619 Addams Street	Minter	1929	2		Concrete	Ground level	2,302
	610 Addams Street	Hanna	1929	2		Concrete	Ground level	1,680
	613 Addams Street		1936	2		Concrete	Ground Level	1,932

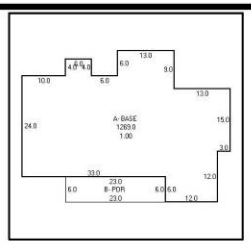
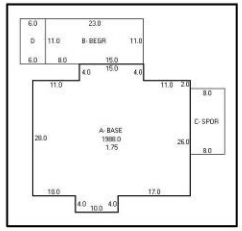
Rosedale

Thumnail Image	Address	Siding Material	Windows (location, size, shape, materials)	Roof (shape & size)	Roof Material	Dormers?	Porches? (location, size, shape, materials)
	619 Addams Street	Wood (weatherboard siding), vinyl on addition	Wood windows, double-hung six over six	Side Gable, Shed roof on addition and porch	Asphalt Shingles	No	Screened in porch extended along back of original portion of house)
	610 Addams Street	Brick Veneer	Wood windows, double-hung six over six and one over one, octagonal windows on each side gable	Side Gable	Asphalt Shingles	No	Two Story (full-façade) Greek Revival Porch with Doric columns
	613 Addams Street	Brick Veneer	Wood windows, double-hung six over six, octagonal window center 2nd story	Hipped	Asphalt Shingles	Yes, Hipped dormer in center of South elevation (front)	None

Rosedale

Thumnail Image	Address	Exterior Architectural Elements (high style or vernacular)	Garages? (attached or not, size, shape, materials)	Interior Wall Covering	Floor Materials	Fireplaces?	Interior Architectural Elements (high style or vernacular)
	619 Addams Street	Segmental arches and hoods above windows, entry portico with square columns	Attached two car garage (attached to addition)	Plaster, drywall in addition	Carpet (layed over top of original wood floors)	One	Solid wood doors, archways, French doors, crown moldings, solid wood baseboards
	610 Addams Street	Greek Revival with Colonial Revival elements, wooden Doric columns, modillions, eliptical fanlight above the door & sidelights, louvered shutters with boat design cut out, jack arches, semi-circular brick arch above entrance	Detached one car garage	Plaster (some covered with wallpaper), drywall in addition	Wood, carpet, tile in entry & kitchen	Yes, 2	Thick wood door surrounds, simple wood crown molding, decorative wood baseboards, plaster ceiling, decorative stair brackets, decorative fireplaces with columns & pediments
	613 Addams Street	Wide overhanging eaves, louvered shutters, beltcourse	None	Plaster	Wood, carpet upstairs	One	Archways, solid wood decorative baseboards and door surrounds

Rosedale

Thumnail Image	Address	Owner	Year Built	# of stories	Floor Plan	Foundation material	Ground Level or Raised 1st floor elevation?	Square Footage
	712 Sweetbrier Avenue	Hylton	1937	1		Concrete	Raised first floor elevation (but more to level with the slope of the hill)	1,269
	622 Addams Street	Jenkins	1940	2		Brick	Ground level	2,054

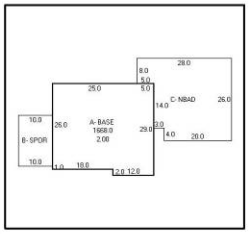
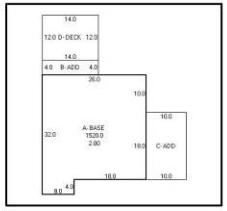
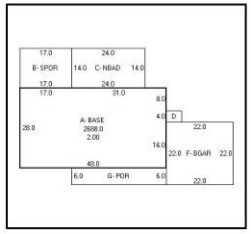
Rosedale

Thumnail Image	Address	Siding Material	Windows (location, size, shape, materials)	Roof (shape & size)	Roof Material	Dormers?	Porches? (location, size, shape, materials)
	712 Sweetbrier Avenue	Vinyl siding (originally weatherboard)	Wood windows, double-hung, one over one	Hipped	Asphalt Shingles	No	Front porch, lattice foundation with concrete steps, arbor-like section on side
	622 Addams Street	Brick Veneer	Wood windows, fixed & casement, varying number of lights	Cross-gabled	Asphalt Shingles	Yes, one extended dormer on the back	Side screened in porch, West elevation

Rosedale

Thumnail Image	Address	Exterior Architectural Elements (high style or vernacular)	Garages? (attached or not, size, shape, materials)	Interior Wall Covering	Floor Materials	Fireplaces?	Interior Architectural Elements (high style or vernacular)
	712 Sweetbrier Avenue	Front door with glazing & sidelights, unique arbor-porch	Detached one car garage, rectangular, vinyl siding	Plaster	Wood, carpet	None	Built-in bookshelves & cabinets, paneled doors, crown moldings, decorative & solid wood baseboards & door surrounds
	622 Addams Street	Bricks made to look like they are older, glazed batten front door, slate threshold	None	Plaster	Wood, carpet upstairs	One	Crown moldings, archways, decorative baseboards and door surrounds

Clearwater

Thumnail Image	Address	Owner	Year Built	# of stories	Floor Plan	Foundation material	Ground Level or Raised 1st floor elevation?	Square Footage
	101 Parkview Avenue	Croy	1930	2		Stone	Ground level	2,607
	511 Clearwater Drive	For Sale/Fresh Estates	1937	2		Concrete Block	Ground level	1,756
	401 Clearwater Drive	For Sale/B.A. Rupert	1954	2		Brick	Ground level	3,024

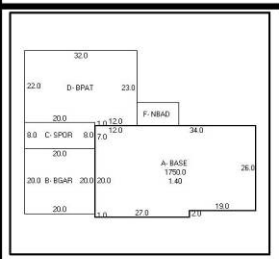
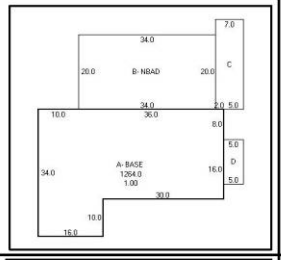
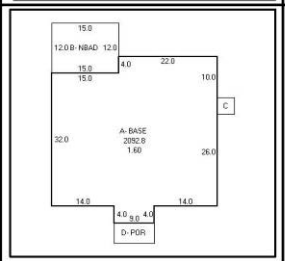
Clearwater

Thumnail Image	Address	Siding Material	Windows (location, size, shape, materials)	Roof (shape & size)	Roof Material	Dormers?	Porches? (location, size, shape, materials)
	101 Parkview Avenue	Stucco	Medieval style diamond windows on front elevation, others are single-hung four over four windows (some paired), all wooden casings & muntins	Cross-gabled, steeply pitched	Slate shingles	Subtle shed dormer on front (blends like an eyebrow dormer)	Screened-in side porch
	511 Clearwater Drive	Vinyl Shingles (Originally wood)	Wood two over two double-hung windows in sets, front elevation has two sets of three, one set of four, and one set of two, rear & side elevation have six over one & a fixed eight light window	Cross-gabled, steeply pitched	Asphalt Shingles	Hipped dormer above entrance	Open deck on rear elevaiton (level with first story but above above ground basement (sits on hill)
	401 Clearwater Drive	Brick	Wood windows with simple wooden hoods (but thick casings), most are eight over eight, but some are six over six double-hung, one three part window with six over six & twenty four light fixed window in center	Side Gable	Asphalt Shingles	No	3/4 lenth façade covered front porch

Clearwater

Thumnail Image	Address	Exterior Architectural Elements (high style or vernacular)	Garages? (attached or not, size, shape, materials)	Interior Wall Covering	Floor Materials	Fireplaces?	Interior Architectural Elements (high style or vernacular)
	101 Parkview Avenue	Tudor style	Detached three car garage (made to look like the house)	Plaster, Board and Batten	Wood (original), marble foyer	None	Red gum wainscoting, highly decorative crown molding and baseboards
	511 Clearwater Drive	Minimal Traditional	Attached one car garage	Drywall	Wood, tile, carpet on stairs & one upstairs bedroom	One	Thick decorative wooden baseboards, wooden crown moldings, archways, wood door surrounds, exposed summer beam
	401 Clearwater Drive	Vernacular, square tuscan columns on porch, louvered shutters, full entablature (though simple)	Attached 2 car garage	Plaster	Wood, Carpet (upstairs), vinyl (kitchen)	one	Built in window seats, built in bookshelves, decorative crown moldings, baseboards, & chair-rails, solid wood doors

Clearwater

Thumnail Image	Address	Owner	Year Built	# of stories	Floor Plan	Foundation material	Ground Level or Raised 1st floor elevation?	Square Footage
	510 Clearwater Drive	For Sale/B.A. Rupert	1954	1.5		Concrete	Ground level	1,834
	309 Clearwater Drive	Thompson	1940	1		Concrete Block	Ground level	1,944
	108 Waller Avenue	Byers	1952	1.5		Brick	Ground level	2,273

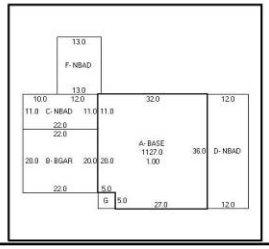
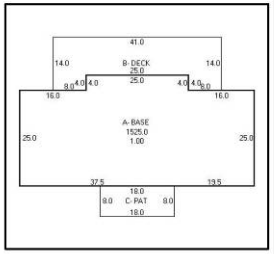
Clearwater

Thumnail Image	Address	Siding Material	Windows (location, size, shape, materials)	Roof (shape & size)	Roof Material	Dormers?	Porches? (location, size, shape, materials)
	510 Clearwater Drive	Brick Veneer	One bay window on front elevation with medieval style diamond lights (solid piece of glass though with plastic muntin inside), eight over eight single-hung window in pediment, others are six over six (others with wood munitns)	Cross-gabled	Asphalt Shingles	Large gable dormer to the side of the pediment (features large window)	Screened-in porch behind garage (accessed through side of house)
	309 Clearwater Drive	Stucco	Wood windows (thick casings), six over six double-hung windows (shorter ones on the side), twenty eight light fixed windows on rear elevation	Cross-gabled	Asphalt Shingles	No	None
	108 Waller Avenue	Brick	Wood windows with thick casings & wooden muntins, one over one double-hung windows, dormer windows also one over one (but shorter), one set paired on front elevation	Side Gable with front pediment	Asphalt Shingles	Two gable dormers	Screened-in porch (but it's not actually attached to the house, it's attached to the garage

Clearwater

Thumnail Image	Address	Exterior Architectural Elements (high style or vernacular)	Garages? (attached or not, size, shape, materials)	Interior Wall Covering	Floor Materials	Fireplaces?	Interior Architectural Elements (high style or vernacular)
	510 Clearwater Drive	Vernacular, some Cape Cod & Ranch elements, transom window above door/glazed door, louvered shutters, triangular pediment above enty half of house	Attached 2 car garage	Drywall, Board & Batten	Wood, Carpet	One	Thick walls, decorative crown moldings & baseboards & chair-rails, built-in bookshelves, extremely decorative mantle with ceramic tiles
	309 Clearwater Drive	Vernacular, louverd shutter, simple (but thick) wooden window hoods, wooden door surround with added brick surround	Detached one car garage	Drywall	Wood, tile in kitchen	One	Solid wood doors, interior Doric columns, decorative mantle with tiles, crown moldings, baseboards
	108 Waller Avenue	Cape Cod, unique clay terrazzo stoop	Detached two car garage	Plaster	Original Hardwood , vinyl in kitchen	None	Simple solid moldings, archway, decorative mantle

Clearwater

Thumnail Image	Address	Owner	Year Built	# of stories	Floor Plan	Foundation material	Ground Level or Raised 1st floor elevation?	Square Footage
	104 Parkview Avenue	Patterson	1962	1		Concrete	Ground level	2,035
	206 Gilpin Avenue	Donnan	1968	2		Concrete Block	Ground level	1,525

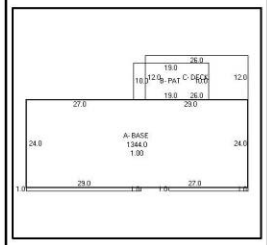
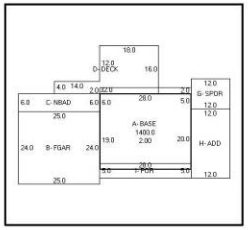
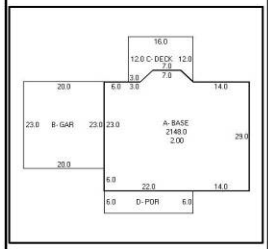
Clearwater

Thumnail Image	Address	Siding Material	Windows (location, size, shape, materials)	Roof (shape & size)	Roof Material	Dormers?	Porches? (location, size, shape, materials)
	104 Parkview Avenue	Brick Veneer	Wooden & short Ranch style windows, set of three one over one casement windows across front elevation, row of six across rear elevation	Side Gable	Asphalt Shingles	No	Small entry porch with single column
	206 Gilpin Avenue	Vertical Wood Planels	Metal windows, encompass entire front elevation & most of each side elevation, divided into three unequal sections with upper levels fixed & lower levels casement, rear elevation has row of six single fixed panes	Side Gable	Asphalt Shingles	No	Second story wooden deck on front elevation (length of façade)

Clearwater

Thumnail Image	Address	Exterior Architectural Elements (high style or vernacular)	Garages? (attached or not, size, shape, materials)	Interior Wall Covering	Floor Materials	Fireplaces?	Interior Architectural Elements (high style or vernacular)
	104 Parkview Avenue	Ranch, brick window sill	Attached two car garage	Plaster	Original wood, tile in kitchen	One	Built in closets & shelves, solid wood baseboards, wooden picture alcoves in wall
	206 Gilpin Avenue	Kit house, exposed rafters, window	Car port (fits two cars)	Drywall, Wainscoting	Wood	One (kind of an open chimney window - large)	Exposed beams, simple crown moldings, more structure closer together

Clearview

Thumbnail Image	Address	Owner	Year Built	# of stories	Floor Plan	Foundation material	Ground Level or Raised 1st floor elevation?	Square Footage
	200 Sammy's Road	Riley	1978	2		Concrete	Ground level (split level actually)	1,393
	104 Sammy's Road	Wade	1983	2		Cinderblock	Ground level - but sloped in the back	1,882
	116 Dusty's Road	Shifflett	1985 (huge 2004 addition)	3		Concrete	Raised foundation	4,708

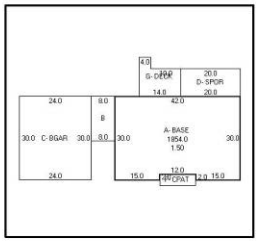
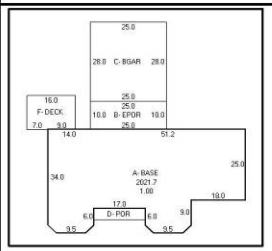
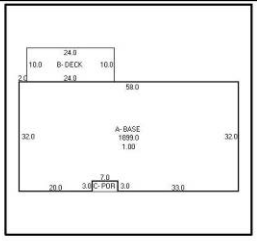
Clearview

Thumbnail Image	Address	Siding Material	Windows (location, size, shape, materials)	Roof (shape & size)	Roof Material	Dormers?	Porches? (location, size, shape, materials)
	200 Sammy's Road	Brick, Vinyl	Plastic, one over one double-hung & three part windows, short Ranch style windows on lower story, none on sides	Side Gable, medium pitch	Asphalt Shingles	No	Back wooden deck extending length of elevation, tall (entered from upper level)
	104 Sammy's Road	Western Cedar Siding, Board & Batten	Wooden six over six double hung windows, located on each elevation, numerous amount, concentrated on front & back	Kind of gambrel - but acting like a hipped roof	Asphalt Shingles	No	Back wooden deck extending length of back elevation & partial garage (2 feet off ground)
	116 Dusty's Road	Vinyl, fake stone (permastone)	Plastic, six over six double-hung windows (some three part windows), concentrated on front elevation, some back, none on side elevations	Side Gable with entrance pediment	Asphalt Shingles	No	Covered back patio (not really a porch), small covered entry porch

Clearview

Thumbnail Image	Address	Exterior Architectural Elements (high style or vernacular)	Garages? (attached or not, size, shape, materials)	Interior Wall Covering	Floor Materials	Fireplaces?	Interior Architectural Elements (high style or vernacular)
	200 Sammy's Road	Split level, blue fixed louvered shutters, multi-colored brick	Detached two car garage	Drywall	Wood laminate, Carpet	One	Banister above stairs, minimal crown moldings
	104 Sammy's Road	Vernacular (but resembles split level in ways, red board & batten shutters	Attached two car garage	Drywall	Wood laminate squares, Carpet, Ceramic Tile	One	Simple wood moldings, cinderblock flue, exposed brick chimney
	116 Dusty's Road	Vernacular, white Tuscan columns, window hoods, fixed louvered shutters	Attached two car garage	Drywall, covered with tile in bathrooms	Wood laminate, Carpet upstairs, tile in kitchen & bathrooms, stained wooden steps	None	Large foyer, decorative wooden baseboards & chair-rail, column in kitchen from counter to ceiling, crown molding in hallways & entry

Clearview

Thumbnail Image	Address	Owner	Year Built	# of stories	Floor Plan	Foundation material	Ground Level or Raised 1st floor elevation?	Square Footage
	215 Sherry May Street	Barbour	1986	2		Brick	Ground Level	1,982
	105 Sammy's Road	Cole	1987	1		Concrete Block	Raised foundation	2,022
	202 Sherry May Street	For Sale/B.A. Rupert	1988	2		Concrete	Ground level	1,899

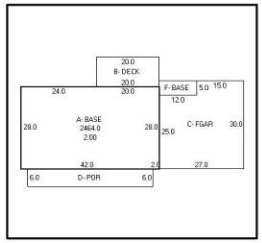
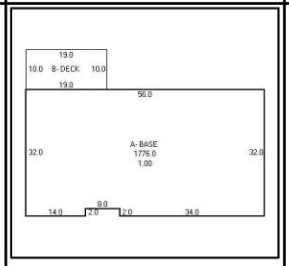
Clearview

Thumbnail Image	Address	Siding Material	Windows (location, size, shape, materials)	Roof (shape & size)	Roof Material	Dormers?	Porches? (location, size, shape, materials)
	215 Sherry May Street	Brick	Plastic, doubled six over six double-hung windows on either side of entrance, smaller singles in dormers, octagonal window over entrance, one window in each gable	Side Gable	Asphalt Shingles	Three Gable Dormers	Small square upper story screened porch opening to small deck stairs, extends 1/3 width of rear elevation
	105 Sammy's Road	Brick, Vinyl	Plastic one over one double-hung windows, paired for projecting front rooms	Cross Gable	Asphalt Shingles	No	Ground level deck - no porches
	202 Sherry May Street	Brick, Vinyl	Plastic six over six double-hung windows, plastic octagonal window above door	Side Gable	Asphalt Shingles	No	Rear deck extending half of rear elevation, raised one foot off ground

Clearview

Thumbnail Image	Address	Exterior Architectural Elements (high style or vernacular)	Garages? (attached or not, size, shape, materials)	Interior Wall Covering	Floor Materials	Fireplaces?	Interior Architectural Elements (high style or vernacular)
	215 Sherry May Street	Resembles Cape Cod appearance (but is not), fixed louvered shutters	Attached two car garage	Drywall	Carpet, tile in kitchen	One	Plaster ceiling, wooden baseboards & door surrounds
	105 Sammy's Road	Vernacular (resembles modified Ranch), fixed louvered shutters	Attached two car garage	Drywall	Wood laminate, linoleum, carpet	One	Plastic based material baseboards, hollow door, plastic eliptical window on door
	202 Sherry May Street	Split level, fixed paneled shutters	Attached two car garage	Drywall	Wood laminate, vinyl	One	Simple door surrounds with zero transparent sidelights, minimal molding

Clearview

Thumbnail Image	Address	Owner	Year Built	# of stories	Floor Plan	Foundation material	Ground Level or Raised 1st floor elevation?	Square Footage
	310 Sammy's Road	Lewis	1988	2		Concrete Block	Ground level	2,524
	222 Sherry May Street	Lewis	1995	2		Concrete Block	Ground level (but sloping up hill)	1,776

Clearview

Thumbnail Image	Address	Siding Material	Windows (location, size, shape, materials)	Roof (shape & size)	Roof Material	Dormers?	Porches? (location, size, shape, materials)
	310 Sammy's Road	Vinyl	Plastic six over six double-hung windows on all elevations, assymetrically placed	Side Gable	Asphalt Shingles	No	Coverd porch extending length of front elevation, small square deck for exit from sliding door on rear elevation
	222 Sherry May Street	Vinyl	Paired & single plastic six over six double-hung windows, shorter versions on side elevation & next to garage, octagonal window above entrance	Side Gable	Asphalt Shingles	No	Back deck extending length of rear elevation (excluding length of garage

Clearview

Thumbnail Image	Address	Exterior Architectural Elements (high style or vernacular)	Garages? (attached or not, size, shape, materials)	Interior Wall Covering	Floor Materials	Fireplaces?	Interior Architectural Elements (high style or vernacular)
	310 Sammy's Road	Vernacular, louvered shutters, skinny square semi-fluted porch columns	Attached two car garage	Drywall	Wood laminate, carpet	One	Simple plastic based material baseboards, simple plastic based material door surrounds, simple strip (plastic) crown molding
	222 Sherry May Street	Vernacular version of a split level	Attached two car garage	Drywall	Carpet, linoleum	None	Minimal basebaords & door surrounds, no solid materials (per owner), wood railing

APPENDIX D

Steve Sams

Given Steve Sams' knowledge of each neighborhood and his extensive experience, an interview was conducted with him on August 22, 2014 to get his professional opinion on the building materials seen in the three neighborhoods as well as their value and potential preservation. The following questions were asked:

1. *Can you briefly describe the work you do?*

Answer: Work primarily consists of miscellaneous repairs, renovations, or rehabilitations, but overall includes a wide range of construction projects on both commercial and residential buildings.

2. *Have you done work in all three neighborhoods…Rosedale, Clearwater, and Clearview?*

Answer: Yes. Work in Rosedale included remodeling an upstairs bathroom in one of the houses. Work in Clearwater included several minor repairs after the Derecho storm damage. A wide range of work has been done in Clearview.

3. *Have you noticed any major differences in construction between the houses in the neighborhoods?*

Answer: Yes. One of the biggest differences between the three neighborhoods is craftsmanship. The craftsmanship of buildings constructed during the Rosedale period is evident in the details as well as the materials used. In Rosedale you see fully dimensioned 2" x 4" boards instead of 1 ½" x 3 ½". The finished interior woodwork in Rosedale, and others during the period, is out of this world. The 'stately' houses of the era contain

woodwork that you just don't see today because not many could afford to duplicate it now. There is a tremendous difference in construction between Rosedale and Clearview.

4. *Do you notice any differences in the quality of materials?*

Answer: Yes. A difference in quality is most notable in the interior of houses in Rosedale and Clearview. For instance, back during the construction period of Rosedale, when people built houses all of the woodwork was stained or finished natural. Not a lot of the woodwork was painted back then, whereas in Clearview you almost have to paint it because the quality of the material is such that it cannot be stained. In other words, in Clearview pieces of board are joined together with what is called a finger joint every two or three feet (or perhaps six inches). This process is how trim is made, which means there really is no matching grain or anything like that, so you cannot stain it or make it look nice naturally. Therefore you have to paint it. Whereas back in Rosedale, and other houses of the same time period, it was still common to cut long pieces of trim from the same tree, or from the same piece of lumber, so you could stain it and it would be really beautiful wood. Most of such trim, however, is often painted later on in the lifespan of the house. Additionally, the majority of houses of the Rosedale period had solid wood interior and exterior doors, whereas everything in Clearview is pretty much pressed hardboard that has been painted, which is definitely a cheaper quality but more in style with today's demand.

5. *Is there anything that stands out about Rosedale? (given that it is the oldest)*

Answer: In addition to the woodwork already noted, one of the most unique characteristics of Rosedale was discovered in the bathroom remolding project. The construction seen was common during that period. Back then they would put a 2" x 8" or 2" x 10" across your bottom walls to the structural frame of the second floor. In the case of the bathroom project,

they actually poured cement down between the joists, which would not be seen now. It was pretty time consuming to remove, but obviously quite sturdy and had been around for a long time. Today some plywood would be put down on top of the structural frame and then some cement down.

6. *In your opinion, does Clearview as a whole contain cheaper and/or lower quality materials?*

Answer: Yes. In particular, the amount of pressed hardboard and trim that is pieced together is of a lower quality. Additionally, although the quality of vinyl has improved over the years, it can crack and fade quickly. It does not hold up as well as wood and masonry materials. In addition to the vinyl itself, vinyl often does not protect the Oriented Strand Board (OSB) beneath it well, which can lead to major problems in the future. Floor coverings – in Clearview it is plywood, and OSB sub-flooring with carpet right over it vs. the hardwood that you see in Rosedale. Carpet has a very short lifespan of maybe five to ten years.

7. *Have you seen a lot of prefabrication in the neighborhood?*

Answer: No. There are a couple prefabricated houses in Clearwater, but the majority of houses in Clearview are site built, stick built houses.

8. *What about composite woods versus solid wood?*

Answer: One of the biggest differences between composite wood and solid wood in comparing the neighborhoods can be seen in exterior sheathing (referring to the material beneath the siding, but not the framing). For instance, in Rosedale the exterior sheathing board would be one-inch thick board that is usually six or eight inches wide and typically nailed to the exterior on a diagonal. What would happen, is that they would nail each

individual board to a subsurface on the outside before they would put the siding material up, be it brick or wood. However, in Clearview, instead of using individual wood boards, half-inch OSB board would be used. OSB, or Oriented Strand Board, is wood chips glued together under high pressure and made into 4" x 8" or 4" x 10" sheets. Therefore, what you see is a wood particle type of panel versus individual solid wooden boards. The lifespan of OSB board largely depends on the exterior cladding, given that the most damaging factor to it is moisture. In the case of vinyl, which is often paired with the OSB board, moisture can get in somewhat easily, which can cause it not to last as long as it should.

9. *Most of the siding in Clearview is vinyl…what can you tell me about the lifespan and durability of vinyl? Are other factors, such as discoloration, a concern for the integrity of the material?*

Answer: Vinyl siding is probably the least expensive siding material that can be used now, and it has its disadvantages. The newest version of vinyl, which is what Clearview contains, is much better than the older vinyl, but it still has problems. Even though vinyl has been improved upon many times, one of its biggest disadvantages is that UV rays will discolor it. Also, vinyl thins, and as it fades it forms a white chalk-like substance over it. This pulls out the resins, meaning the moisture to a certain degree, which will cause the vinyl to become brittle. It can make the material so brittle that "seven, eight, ten years down the road you could go up, slap on it, and it would actually crack."[284] This can also be a problem when doing landscaping because activities such as weed eating can damage the vinyl easily. The vinyl in Clearview is reaching the point where it is pretty brittle and probably needs to be painted and cleaned. The actual appearance of it at this point is way down from where it was originally, and the integrity of it is probably suspect.

[284] Steve Sams. Interview by Victoria A. Leonard, August 22, 2014.

10. *Given that the older houses, such as those in Rosedale, have been around for decades, what do you see the lifespan of buildings in Clearview being?*

Answer: Probably 50 years – up to 100.

11. *Do you think it would be possible to preserve such a neighborhood as Clearview?*

Answer: I believe that a neighborhood like Clearview will be preserved, but it would not be the same type of preservation that you would see with Rosedale. In Rosedale you are looking at more durable materials that will stand a longer test of time, such as the brick veneers and heavy wood. It may need to be freshened up, but the actual material itself is going to stay there and be preserved. On the other hand, with Clearview the vinyl, as well as the windows, will likely have to be replaced because of their inferior quality. They will not withstand that long expanse of time. Even if kept well-maintained, the quality of the material itself will be suspect as far as standing up to that amount of time. If you are preserving it in its original state, you would have to take the vinyl siding off and put up new vinyl siding. As far as integrity, if it is still vinyl siding and the configuration of it was the same, and it was made of the same material, then all you're doing is updating the actual existence of the material. You're just making it newer. It would be the same process as what happens now when you have to replace historic materials in historic resources. For example, when you go into a historic district now, if it is an aluminum window that needs to be replaced, in a true historical restoration you have to put back another aluminum window. You wouldn't be able to use wood or anything else even though it may look the same. The key is making the appearance as well as the material the same, but that doesn't necessarily mean the material has to be from the same time period as what was originally used.

12. *Is there anything else about the quality of houses in Clearview worth noting?*

Answer: Clearview was built to give people the most space for the least amount of money. It is quick and simple – big boxes – little style but lots of square footage. At the time, this was the most popular option.

13. *What can you tell me about the quality of construction in Clearwater?*

Answer: It is very similar to Rosedale. There is a lot of hardwood – solid wood doors and trim. There is also a lot of brick in the neighborhood.

14. *In Clearwater, do you tend to see a greater resemblance to the construction quality of Rosedale or Clearview?*

Answer: Clearwater is kind of a transitional neighborhood. There are a couple newer houses, like the 1960s prefabrication house we worked on a roof for once, but there are also a lot of older houses, like the Rooklin house, that resemble the level of construction seen in Rosedale.

15. *Any major similarities between all three neighborhoods?*

Answer: No, not right off. The architectural styles are different, the quality is different, and the details are different. Rosedale and Clearwater are somewhat similar as far as the quality and architectural details. But as far as Rosedale vs. Clearview, there is not any similarity there at all.

16. *In your opinion, has construction quality declined over the years? Or have modern materials themselves declined? Or do you think that they have improved?*

Answer: Both construction quality and material have definitely declined. But, even though it is a bit contradictory, in some ways they have also improved. Energy efficiency and overall space has improved, and in a few cases materials, such as ceramic tile, have

improved. Also, though most products may have not necessarily improved, the installed technique has improved. Plumbing has also been a big improvement.

17. *Do you think there is a loss of artistic value in more modern construction? (80s-2000s)*

Answer: It sure isn't what it used to be. Craftsmanship isn't there. It is just a whole different time. Artistic value is definitely not there in Clearview.

18. *Are materials, such as vinyl, really cheaper in the long run?*

Answer: As far as their full life-cycle, no, it is not really cheaper. It is a lot cheaper in the initial start-up, but not in the full lifespan of a building.

19. *Any thoughts on what the root cause and effect of the changing quality of residential building construction is?*

Answer: Without question, economy. People always want quality, but cannot always afford it. Also, people's needs and lifestyle have changed. For example big dining rooms vs. family rooms.

20. *Have buildings materials, workmanship, and craftsmanship changed over the years resulting in the quality of housing of the late 20th century?*

Answer: Yes, but it is primarily due to the economy and availability of materials rather than shifting desires. Everyone wants a quality home, but people just cannot afford it now.

APPENDIX E

Real Estate Agent Kathy Lytle – B.A. Rupert

1. *Have you sold houses in all three neighborhoods?*

Answer: Yes

2. *What is the typical age group of people living/buying houses for each neighborhood?*

Answer: Rosedale = 40's, Clearwater = 50's, Clearview = 50's

3. *What is the average family size in each neighborhood?*

Answer: For all three neighborhoods – 4 per household

4. *What is the sales price range in each neighborhood?*

Answer: Rosedale = Average of $100,000, Clearwater = Average of $250,000, Clearview = Average of $200,000

5. *Do you attribute any of the demographic factors to construction quality or architectural style?*

Answer: Not answered.

6. *From a buyers perspective, what is the desirability of each neighborhood? Are there certain characteristics that a buyer is looking for?*

Answer: Buyers are typically looking for convenience, size (square footage), and overall appeal. Clearwater and Clearview tend to have a greater desirability because they are not located as close to MeadWestvaco (the mill).

7. *Have the perceptions of the neighborhoods changed over time? If so, how?*

Answer: Perceptions may have changed in Rosedale due to the location of social services in the neighborhood instead of the old hospital.

8. *Do you notice a preferred architectural style in each neighborhood?*

Answer: There are a variety of architectural styles in Rosedale. Ranch style houses are very popular in Clearwater, but not super common outside of the neighborhood. Cape Cods are also seen in Clearwater. There is not really a distinctive style in Clearview.

9. *Have you noticed any major differences in construction between the houses in the neighborhoods?*

Answer: The houses in both Rosedale and Clearwater are superior in construction and in finishes, the presence of crown moldings, and hardwood floors. Clearview consists of speculative built houses and lacks the qualities mentioned above, such as crown moldings, hardwood floors, and finishes.

10. *Do you notice any differences in the quality or types of materials?*

Answer: Hardwood in Rosedale and Clearwater, but not in Clearview.

11. *Is there anything that stands out about Rosedale? (given that it is the oldest)*

Answer: The houses are much older. They all have different characteristics and do not look the same. Although most of the houses are brick, they are unique and individual.

12. *What can you tell me about the quality of construction in Rosedale?*

Answer: Superior quality. Presence of hardwood and tile, in addition to brick

13. *What are some of the things that you notice about Clearwater?*

Answer: It is an established neighborhood with well-kept houses, mature trees, and different architectural styles, such as Ranches and Cape Cods. There is also a variety of one and two-story vernacular houses.

14. *What can you tell me about the quality of construction in Clearwater?*

Answer: It is much better than Clearview. There are hardwood floors, some tile, and wood trim. The neighborhood generally contains solid materials.

15. *What are some of the things that you notice about Clearview?*

Answer: A lot of the houses are the same style – look very similar. They were built by the same person, and it is noticeable.

16. *What can you tell me about the quality of construction in Clearwater?*

Answer: It is lower than the other two neighborhoods. The materials are not as good as the others. For example: Carpet and vinyl vs. hardwood

17. *Do you notice any major similarities/differences between all three neighborhoods?*

Answer: All have different age groups (building age). Plus, Clearview is different because the houses are spec built. Additionally, the houses in both Rosedale and Clearwater have varying architectural styles as well as solid materials and decorative details. Houses in Clearview look the same and have less desirable materials such as carpet, vinyl, and other synthetic materials.

18. *How does the Clearview neighborhood compare to other neighborhoods in the area of a comparable age range?*

Answer: It is the newest and was speculative built.

19. *Given that the older houses, such as those in Rosedale, have been around for decades, what do you see the lifespan of buildings in Clearview being?*

Answer: Not as long as those in Rosedale, maybe 80 years tops from the time of initial construction.

20. *Do you think there is a loss of artistic value in more modern construction? (80s-2000s)*

Answer: Yes, definitely.

APPENDIX F

Informal Homeowner Interviews

The following questions were asked:

1. What are the major materials in your house?
2. Approximately how long have you lived here?
3. What are the most notable features about your house?
4. What is the most unique thing about your house?
5. How do you feel about the quality and condition of your houses?
6. Have you had any problems with your house?
7. If so, and in your experience as a homeowner, is it something you find unusual or is it normal wear and tear?
8. Have you made any major changes to your house since you moved here?
9. If any, what are those changes?

Homeowner answers are throughout the document.

RESILIENT FLOORING CHARACTERISTICS

TYPE OF RESILIENT FLOORING	BASIC COMPONENTS	SUBFLOOR APPLICATION*			RECOMMENDED LOAD LIMIT (PSI)	DURA-BILITY†	RESIS-TANCE TO HEEL DAMAGE	EASE OF MAINTE-NANCE	GREASE RESIS-TANCE	SURFACE ALKALI RESIS-TANCE	RESIS-TANCE TO STAINING	CIGARETTE BURN RESISTANCE	RESIL-IENCE	QUIET-NESS
Vinyl sheet	Vinyl resins with fiber back	B	O	S	75–100	2–3	2–5	1–2	1	1–3	3–4	4	4	4
Homogeneous vinyl tile	Vinyl resins	B	O	S	150–200	1–3	1–4	2–4	1	1–2	1–5	2–5	2–5	2–5
Vinyl composition tile	Vinyl resins and fillers	B	O	S	25–50	2	4–5	2–3	2	4	2	6	6	6
Cork tile with vinyl coating	Raw cork and vinyl resins			S	150	4	3	2	1	1	5	3	3	3
Cork tile	Raw cork and resins			S	75	5	4	4	4	5	4	1	1	1
Rubber tile	Rubber compound	B	O	S	200	2	4	4	3	2	1	2	2	2
Linoleum	Cork, wood, floor, and oleoresins			S	75	3	4–5	4–5	1	4	2	4	4	4

*B: below grade; O: on grade; S: suspended.
†Numerals indicate subjective ratings (relative rank of each floor to others listed above), "1" indicating highest.
Bruce A. Kenan, AIA, Pederson, Hueber, Hares & Glavin; Syracuse, New York.

APPENDIX H

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form.* If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property
Historic name: __Clearview Estates_____
Other names/site number: _____
Name of related multiple property listing**:**
____NA_____
(Enter "N/A" if property is not part of a multiple property listing

---

2. Location
Street & number: __2700 Jackson River Road_____
City or town: _Covington__ State: _Virginia__ County: _Alleghany_____
Not For Publication: ☐ Vicinity: ☐

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3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this __ nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property ___ meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

___national ___statewide ___local
Applicable National Register Criteria:

___A ___B ___C ___D

_____
Signature of certifying official/Title: **Date**
_____
State or Federal agency/bureau or Tribal Government

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official: **Date**

Title : **State or Federal agency/bureau or Tribal Government**

4. National Park Service Certification

I hereby certify that this property is:

___ entered in the National Register

___ determined eligible for the National Register

___ determined not eligible for the National Register

___ removed from the National Register

___ other (explain:) _____

Signature of the Keeper Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply.)

Private:	x
Public – Local	
Public – State	
Public – Federal	

Category of Property

(Check only **one** box.)

Building(s)	
District	x
Site	

Structure ☐

Object ☐

Number of Resources within Property
(Do not include previously listed resources in the count)

Contributing	Noncontributing	
78	13	buildings
	1	sites
		structures
		objects
78	14	Total

Number of contributing resources previously listed in the National Register 0

---

6. Function or Use
Historic Functions
(Enter categories from instructions.)
Domestic

Current Functions
(Enter categories from instructions.)
Domestic

7. Description

Architectural Classification
(Enter categories from instructions.)
Other – late 20th century

Materials: (enter categories from instructions.)
Principal exterior materials of the property:

Foundation	Concrete, brick
Walls	Synthetics - Vinyl
Roof	Asphalt

Narrative Description
(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph

The Clearview neighborhood district encompasses 91 residential buildings and 1 site. Seventy-eight (78) buildings contribute to the significance of the district. Only thirteen (13) residential buildings and one site, a small grave plot, fail to contribute to the significance to the district. The district is marked by a definable neighborhood entrance off the main road, Jackson River Road, and the boundary of the state maintenance road at the other end of the neighborhood. The neighborhood is an open and spacious with minimal mature tree coverage. The road organization more closely resembles a grid, and is easy to follow. The neighborhood consists of speculative built houses, located on either sides of the roads that were built by one construction company.

Narrative Description

Situated in the Alleghany Mountains, Alleghany County was formed by an act of the Virginia General Assembly on January 5, 1882, and was made using former portions of Botetourt, Bath, and Monroe Counties. Of the approximately 452 square miles that make up the county, nearly 50 percent is now designated as the George Washington National Forest. The county is a rural, mountainous region with deep valleys. Its highest point is Big Knob peak in Warm Springs with an elevation of 4,049ft, and the lowest point is the town of Iron Gate at 1,000ft. The area has a population of approximately 16,161 people according to 2013 census data. The county contains the towns of Clifton Forge, Iron Gate, and Covington, which is the main population center and county seat. Since Interstate 64 runs right through the heart of Alleghany County, it is considered Virginia's gateway to the western United States. Clearview is located in Alleghany County, approximately four miles northeast of the city of Covington, which is the county seat as well as the location of employment for the neighborhood.

Clearview contains approximately 91 housing lots with houses located on either side of the roads. Clearview was definitely well planned and organized. Lots are laid out in neat rows, appear to be of a similar size, and allow a reasonable amount of space between each house. The road organization more closely resembles a grid, and is easy to follow. The main road through the neighborhood is called Patricia Drive, and the other roads all connect with this one. The first road to branch off Patricia Drive is Sherry May Street. Sherry May Street is located on either side of Patricia Drive, but on the northwestern side of the neighborhood it reaches a dead end. On the other side of Patricia Drive, Sherry May Street continues around a loop that then becomes Dusty's Road. Dusty's Road continues on the other side of Patricia Drive, forms and L, and continues down to the last road of the neighborhood, Sammy's Road. Sammy's Road extends along the back of the neighborhood on either side of Patricia Drive.

The neighborhood consists of speculative built houses that were built relatively cheaply and quickly. The houses in Clearview are primarily two-story buildings of a moderate size (2,210 ft^2). Although, the presence of attached garages is common, it often makes the houses appear larger than in actuality. The most prominent characteristic of this neighborhood is the use of vinyl siding. While nearly all of the houses in Clearview are vernacular, some do feature decorative features drawn from high style elements. A majority of the buildings feature vinyl siding while only a very small portion of the houses have brick siding or wood. As was fashionable at the time, the bricks are all a light salmon color which suggests softer bricks. Asphalt shingles as the primary roofing material. The primary foundation materials are concrete, concrete block, and brick. The primary interior wall coverings are drywall, and the most common flooring materials in Clearview are wood laminate, carpet, and vinyl.

Clearview has very little decoration, and what does exist is extremely simple. Most of the details in Clearview are made out of plastic or pressed hardboard. Ornamentation consists of some columns, pediments, some dormers, and decorative louvered shutters. Windows types of the neighborhood primarily consist of double-hung windows and some octagonal windows. The materials are plastic; plastic casings, muntins, and sills. Muntins are typically found to be in between a single piece of glass rather than having true divided lights. With but a few exceptions,

houses in Clearview do not have many, if any, windows on the side elevations of the houses. All have arranged windows on the elevation facing the road and a few on the rear of the house. The side elevations are relatively plain in comparison to the rest of the house.

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- [ ] A. Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] B. Property is associated with the lives of persons significant in our past.
- [x] C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] D. Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark “x” in all the boxes that apply.)

- [ ] A. Owned by a religious institution or used for religious purposes
- [ ] B. Removed from its original location
- [ ] C. A birthplace or grave
- [ ] D. A cemetery
- [ ] E. A reconstructed building, object, or structure
- [ ] F. A commemorative property
- [ ] G. Less than 50 years old or achieving significance within the past 50 years

Areas of Significance
(Enter categories from instructions.)
__Architecture_____
Community Planning & Development
_____
_____
_____
_____
_____

Period of Significance
____1978-2000_____
_____
_____

Significant Dates
_____1978_____
_____
_____

Significant Person
(Complete only if Criterion B is marked above.)
_____
_____
_____

Cultural Affiliation
_____
_____
_____

Architect/Builder
_Bulldog Construction
_____
_____

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

Clearview Estates in Alleghany County, VA derives its significance from its representation of a distinctive neighborhood type, period of architectural history, and method of construction. The neighborhood is significant under Criterion C for representing a distinct stage of physical development and the materials and methods used in construction that represent a new architectural era for the area. The collection of late twentieth century architecture present in the neighborhood is unparalleled in Alleghany County and represents a distinct period of architectural history unique for its break from traditional styles and building methods.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

Clearview Estates, built from the late 1970s to 2000, represents a distinct type of architecture commonly seen through the United States during this time period. The architecture of this time period reflected a change in societal needs and values regarding houses as well as the economy. The neighborhood, which was built with no particular buyer in mind, was constructed as quickly and as cheaply as possible, and in both cases differs dramatically from common construction practices seen in Alleghany County up until then. The particular materials used, as well as the number of different materials seen in the neighborhood, set the neighborhood apart from early architectural examples in the area.

The neighborhood was built relatively quickly and cheaply in anticipation of potential buyers due to expected industry boosts. Despite the fact that most housing in the area had been built prior to 1980, more housing was built in Clearview, in a much shorter period of time than in previous neighborhoods. The land where Clearview was to be built was purchased by Bulldog Construction in October of 1978[i]. Clearview was built in anticipation of a growing industrial local economy.

HISTORIC BACKGROUND

One of the most influential people in forming Alleghany County was Bernard Pitzer, who owned the land that would later become Rosedale. From approximately 1790 to 1825 the principal export in the area was hemp, production of which was encouraged by the state. For a time, large sums were paid for each delivery and most of the product was hauled to Richmond by wagon to a rope factory. As ship store accumulated, prices for hemp declined and the county's agriculture shifted to grains, hay, and livestock.[ii]

The Civil War had a huge impact on Alleghany County, as the county was said to have provided more soldiers to the Confederate Army than it had voters. Due primarily to its location in the transition zone between Union and Confederate territory, the county suffered greatly during the war and took many years to recover from the losses. Another pivotal influence on the county,

which remains today, was the arrival of the West Virginia Pulp and Paper Company in 1899. The decision of the West Virginia Pulp and Paper Company to locate a mill in Alleghany County was the single biggest boost to industrial progress in the area. That act was responsible for the development and growth of associated industrial and commercial interests[iii], as well as housing growth. With the arrival of the mill, the population nearly doubled to 16,330.[iv]

History In Relation To Housing

The changing quality of materials and construction practices for residential buildings throughout the twentieth century relates to political and economic forces as well as industrial advancements. Local changes to housing and construction in Alleghany County are due in part to fluctuations in the manufacturing-based economy. Since manufacturing is responsible for the largest portion of the area's employment and economy, its fortunes have a significant impact on housing in the area. The arrival or closing of manufacturing facilities is the prime cause of people entering or leaving the area, as well as building, buying, or selling houses.

Although Alleghany County had its highest population level in the 1980s, the majority of housing in the area was built prior to 1980.[v] Approximately 25% of area housing was constructed prior to 1939. Housing starts began increasing during the 1950s with a sharp growth of 6% from the 1960s to 1970s resulting in nearly 20% of housing in the area having been constructed in the 1970s.[vi]

In November 1980, Hercules Manufacturing had a Health Hazard Evaluation Report completed, which was the result of complaints by employees who were exposed to dust containing bird droppings, which in turn was suspected of having caused some employees to develop a fungal disease.[vii] The evaluation, which was conducted by the Hazard Evaluations and Technical Assistance Branch of NIOSH, took place in November of 1980, and the final report was published in March of 1981.[viii]

Hercules manufactured plastic film from polypropylene. At the time of the report, the company employed approximately 700 people. Just a few months earlier, however, it had had nearly 1,400 employees.[ix] Due to a fire in early 1980, parts of the plant were permanently closed and the number of employees was reduced dramatically. It was suggested that broken windows as well as a general lack of maintenance had allowed the birds to enter the plant, resulting finally in the evaluation report. The report notes that there was already strong evidence of the plant declining by the end of 1980.[x]

Although the plant did not last for many more years after the report was completed, the report itself was not the cause of the plant closing. Although evidence was uncovered of health related issues, they were not considered severe enough to force a plant closing. The report noted that there were indeed broken windows, an unreasonable amount of dust, and bird droppings, but these could not be linked to a fungal disease as the workers had claimed. The health organization recommended that the broken windows be repaired immediately so that birds could no longer enter, and that areas containing dust and bird droppings should be thoroughly and continually cleaned and sanitized.[xi]

Bacova Guild, LTD, in existence since 1965, underwent a change in ownership in 1981 which resulted in company expansion and a new line of products. "Bacova's first products focused on nature scenes laminated onto fiberglass items including the firm's famous fiberglass covered mailboxes."[xii] Today the company manufactures large rugs, printed floor mats, and other home décor products. The company's expansion in 1981 brought more workers to the area. Another company, Lear Corp, arrived in the area in 1989. Lear's arrival helped restore employment in the area which had three years earlier been reduced by the closing of another local manufacturer, Hercules Inc., due to fire. Lear was a huge success upon its arrival and continued operations until it too vacated the area in 2006, taking with it 220 jobs.[xiii]

During the early-to-mid-1980s, during the boom and arrival of other manufacturing businesses in the area, MeadWestvaco remained strong and anticipated future growth. In addition to MeadWestvaco's continued success as a paper and packaging company, in 1983 there was also the anticipation of the arrival of a water bottling plant. The plant was expected to employee almost 700 people, with plans to expand as the water bottling industry expanded.[xiv] Unfortunately, the plans for the arrival of a water bottling plant were never fully realized.

Alleghany County Today

Today, Alleghany County is still primarily supported by the industry of the West Virginia Pulp and Paper Company, now known as MeadWestvaco. As of the 2013 census, the county had a population of approximately 16,161 people, 23.5% of whom were age 65 or over.[xv] Most housing in the area is single family dwellings, with multi-family housing making up only 8.2%.[xvi] Much of Alleghany County, as stated above, is designated as the George Washington National Forest, which includes Douthat State park and other natural areas. There is little commercial development compared to overall land area, and the average commute time from home to school or work is twenty-five minutes.[xvii] A one hour commute is not uncommon in this sparsely populated area, whose primary attraction is unspoiled nature and outdoor recreational activities.

Although Alleghany County has a diverse history and covers a large area, the case study discussion will focus on just three neighborhoods, due to their similarities. Each of the neighborhoods is a relatively short distance from the county seat of Covington, which is where the mill, employing most neighborhood residents, is located. Rosedale is situated across the Jackson River from the city of Covington, while Clearwater and Clearview are approximately four miles northeast of the city.

Endnotes

[i] Deed Book 254 pg. 183, Circuit Court, Alleghany County, Virginia.
[ii] John R. Strutner. "Alleghany County, Virginia: Services Guide and Directory of County Departments." Alleghanycounty.us. (April 1, 2013. http://www.alleghanycounty.us/co_administrator/brochure.2010.pdf) 4-5.
[iii] John R. Strutner. "Alleghany County, Virginia: Services Guide and Directory of County Departments." Alleghanycounty.us. (April 1, 2013. http://www.alleghanycounty.us/co_administrator/brochure.2010.pdf) 4-5.
[iv] "Alleghany County, Virginia." United States Census Bureau. July 8, 2014. http://quickfacts.census.gov/qfd/states/51/51005.html.
[v] K.W. Poore & Associates, Inc. *Challenges for Economic Growth in the Alleghany Highlands.* (April 2008. http://www.alleghanyfoundation.org/images/AlleghanyDataReport.pdf.) 5.
[vi] K.W. Poore & Associates, Inc. *Challenges for Economic Growth in the Alleghany Highlands.* (April 2008. http://www.alleghanyfoundation.org/images/AlleghanyDataReport.pdf.) 44.
[vii] NIOSH – Hazard Evaluations and Technical Assistance Branch. *Health Hazard Evaluation Report.* (March 1981. http://www.cdc.gov/niosh/hhe/reports/pdfs/1981-0013-0836.pdf.) 2.
[viii] Although this is a health evaluation report, this resource does give a brief background history of the company. Given that Hercules is no longer in existence in Covington, Virginia, this is one of the few pieces available containing any information on Hercules, and was, therefore, extremely valuable for acquiring dates and other necessary information related to the company.
[ix] NIOSH – Hazard Evaluations and Technical Assistance Branch. *Health Hazard Evaluation Report.* (March 1981. http://www.cdc.gov/niosh/hhe/reports/pdfs/1981-0013-0836.pdf.) 4.
[x] NIOSH – Hazard Evaluations and Technical Assistance Branch. *Health Hazard Evaluation Report.* (March 1981. http://www.cdc.gov/niosh/hhe/reports/pdfs/1981-0013-0836.pdf.) 7.
[xi] NIOSH – Hazard Evaluations and Technical Assistance Branch. *Health Hazard Evaluation Report.* (March 1981. http://www.cdc.gov/niosh/hhe/reports/pdfs/1981-0013-0836.pdf.) 7.
[xii] K.W. Poore & Associates, Inc. *Challenges for Economic Growth in the Alleghany Highlands.* (April 2008. http://www.alleghanyfoundation.org/images/AlleghanyDataReport.pdf.) 29.
[xiii] K.W. Poore & Associates, Inc. *Challenges for Economic Growth in the Alleghany Highlands.* (April 2008. http://www.alleghanyfoundation.org/images/AlleghanyDataReport.pdf.) 30.
[xiv] "County Gets Second Chance At Industry." (*Covington Virginian*, February 22, 1983.) 1.
[xv] "Alleghany County, Virginia." United States Census Bureau. July 8, 2014. http://quickfacts.census.gov/qfd/states/51/51005.html.
[xvi] "Alleghany County, Virginia." United States Census Bureau. July 8, 2014. http://quickfacts.census.gov/qfd/states/51/51005.html.
[xvii] "Alleghany County, Virginia." United States Census Bureau. July 8, 2014. http://quickfacts.census.gov/qfd/states/51/51005.html.

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

"Alleghany County, Virginia." United States Census Bureau. July 8, 2014. http://quickfacts.census.gov/qfd/states/51/51005.html.

"Alleghany County." VamaNet: Virginia Mass Appraisal Network. September 5, 2014. http://www.vamanet.com/cgi-bin/MAPSRCHPGM?LOCAL=ALE.

Deed Book 254 pg. 183, Circuit Court, Alleghany County, Virginia.

Dressler, E.C. "Tell It Like It Is." *Covington Virginian*, November 3, 1979.

Hammond, Howard Revercomb. *History of Rosedale*. Covington: Howard Revercomb Hammond, 1993.

Jensen, Kurt. "County Gets Second Chance At Industry." *Covington Virginian*, February 22, 1983.

K.W. Poore & Associates, Inc. *Challenges for Economic Growth in the Alleghany Highlands.* April 2008. http://www.alleghanyfoundation.org/images/AlleghanyDataReport.pdf.

Sams, Steve. Interview by Victoria A. Leonard, August 22, 2014.

Strutner, John R. "Alleghany County, Virginia: Services Guide and Directory of County Departments." Alleghanycounty.us. April 1, 2013. http://www.alleghanycounty.us/co_administrator/brochure.2010.pdf.

Virginia Economic Development Partnership. "Alleghany Highlands, Virginia." Community Profile. http://virginiascan.yesvirginia.org/communityprofiles/createPDF.aspx?id=138.

WorldView Solutions, Inc.. "Welcome to the Alleghany County, VA Mapping Site." Alleghany County of Virginia. http://alleghany.mapsdirect.net/.

Previous documentation on file (NPS):

____ preliminary determination of individual listing (36 CFR 67) has been requested
____ previously listed in the National Register
_____previously determined eligible by the National Register
_____designated a National Historic Landmark
____ recorded by Historic American Buildings Survey #_____
_____recorded by Historic American Engineering Record # _____
____ recorded by Historic American Landscape Survey # _____

Primary location of additional data:

____ State Historic Preservation Office
____ Other State agency
____ Federal agency
_x__ Local government
____ University
____ Other
Name of repository: _____

Historic Resources Survey Number (if assigned): _____

---

1. Geographical Data

Acreage of Property _____

Use either the UTM system or latitude/longitude coordinates

Latitude/Longitude Coordinates
Datum if other than WGS84:_____
(enter coordinates to 6 decimal places)

1. Latitude: 37°50'12.15"N Longitude: 79°59'5.05"W

2. Latitude: 37°50'3.20"N Longitude: 79°59'18.94"W

3. Latitude: 37°50'1.13"N Longitude: 79°58'44.77"W

4. Latitude: 37°49'51.41"N Longitude: 79°58'49.74"W

5. Latitude: 37°49'53.93"N Longitude: 79°59'2.48"W

Verbal Boundary Description (Describe the boundaries of the property.)

The district is bound by Jackson River Road to the northeast, a separating line of trees to the northwest and east, a hilly field to the southeast, and a line of trees as well as the end of state maintenance boundary to the southwest. The district conforms to the road patterns of the main road through the neighborhood, Patricia Drive, as well as Sherry May Street, Dusty's Road, and Sammy's Road.

Boundary Justification (Explain why the boundaries were selected.)
The district includes all properties within the neighborhood boundaries of Clearview.

2. Form Prepared By

name/title: Victoria Leonard
organization: _____
street & number: 612 Addams St.
city or town: Covington state: Virginia zip code: 24426
e-mail victoria4preservation@gmail.com
telephone: 540-962-3247
date: 3/5/15

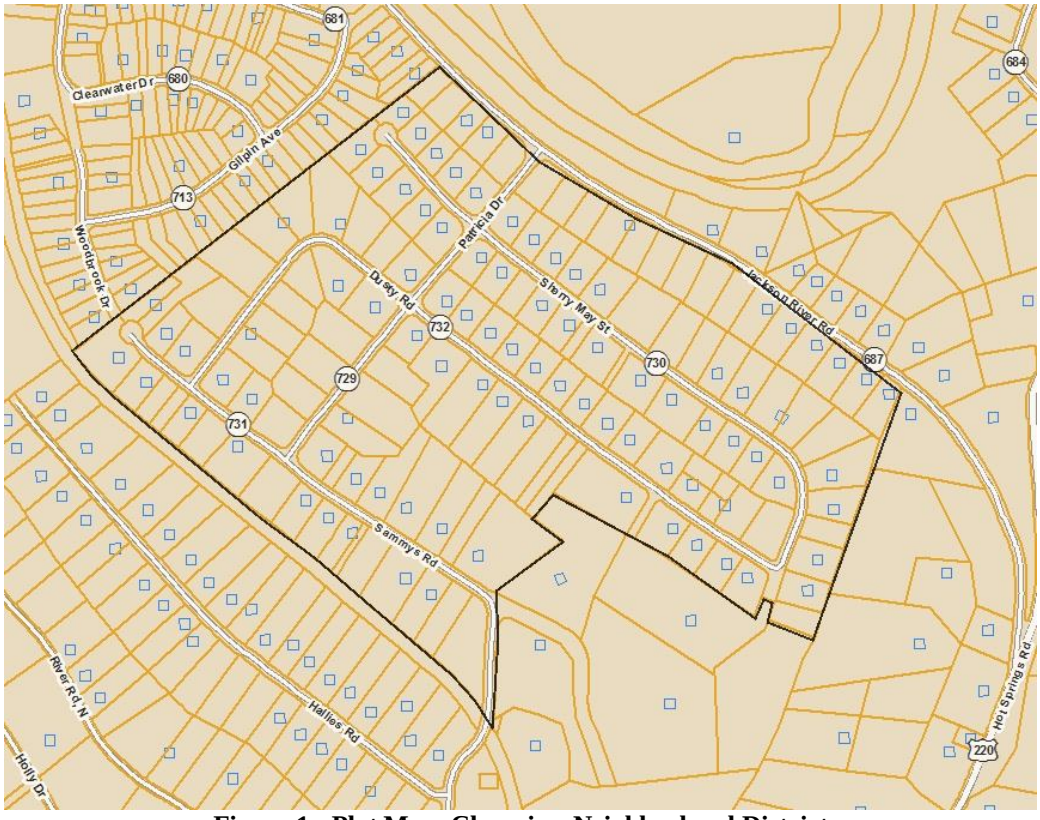
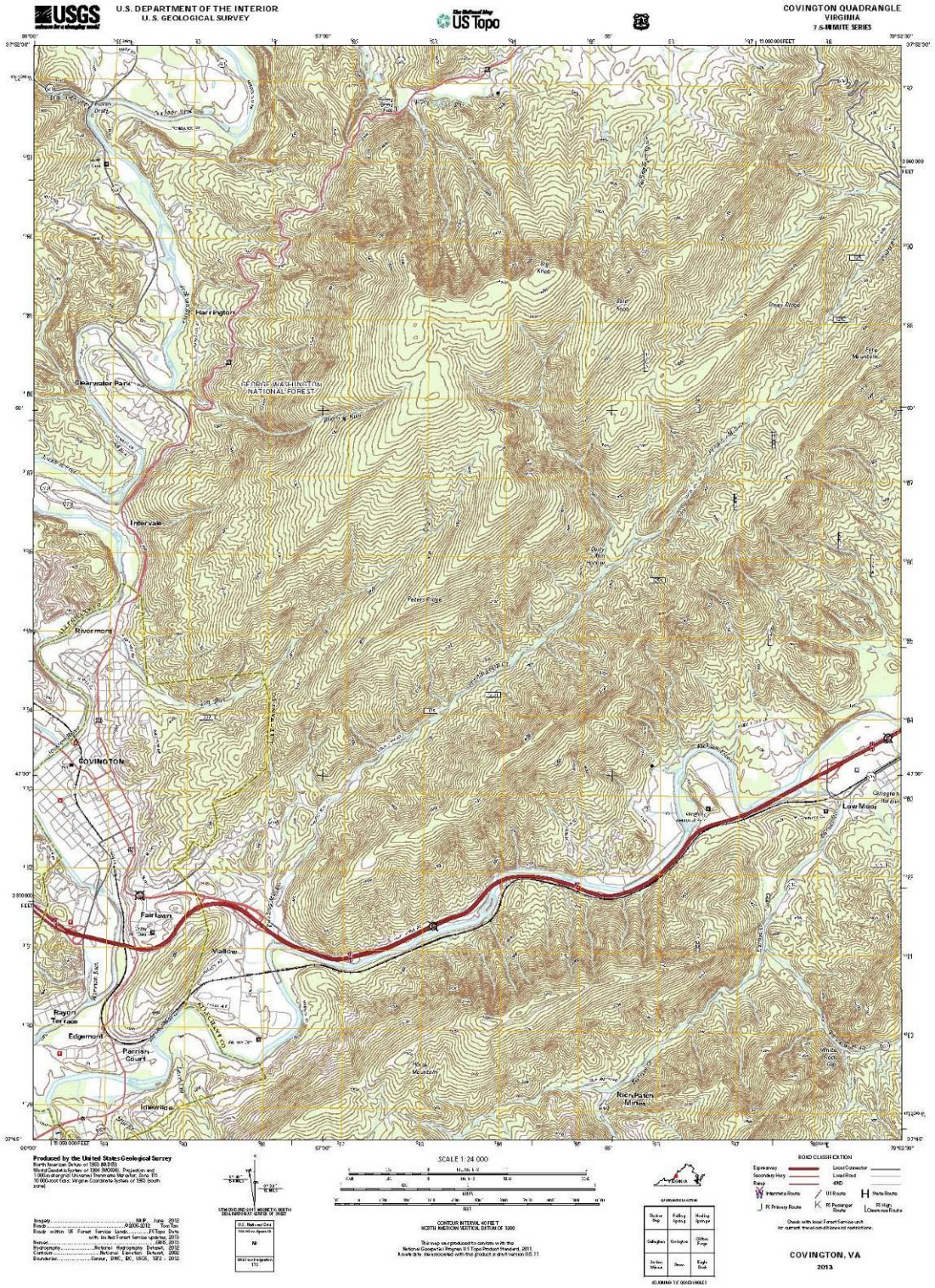


Figure 1: Plat Map, Clearview Neighborhood District


U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
US Topo
COVINGTON QUADRANGLE
VIRGINIA
7.5-MINUTE SERIES
GEORGE WASHINGTON NATIONAL FOREST
Harrington
Intervale
Rivermont
COVINGTON
Low Moor
Fairlawn
Willow
Rayon Terrace
Edgemont
Parrish Court
Interlaken
Rich Patch Mtn
Peters Ridge
Produced by the United States Geological Survey
SCALE 1:24 000
CONTOUR INTERVAL 40 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988
ROAD CLASSIFICATION
COVINGTON, VA
2013