Muscle Shoals Reservation Design Guidelines and Architectural Controls

Muscle Shoals, Alabama

2013

Table of Contents

ACKNOWLEDGEMENTS 1
INTRODUCTION 2
Historic Preservation in Muscle Shoals Reservation 3
Design Guidelines 3
How to Use the Design Guidelines Manual 4
HISTORY AND ARCHITECTURE 6
Brief History of Muscle Shoals Reservation 7
Brief Overview of Industrial Architecture 7
Adaptive Re-Use of the Industrial Building 8
Industrial Architecture and Muscle Shoals Reservation District 9
3 A Building 10
5 A Building 11
Liquid Air Building 12
Bath House Building 13
Substations 14
Catalyzer Buildings 15
L & N Building 16
Machine Shop 17
Pipe Shop 18
Sheet Metal Shop 19
Service Building 20
Warehouse Z 21
L/N Building 22
L/N Warehouse Building 23
Chemical Feed House 24
Store House Building 25
Engineering Lab 26
Environmental Research Center 27
Tin Shop Building 28

RECOMMENDATION GUIDELINES FOR GENERAL MAINTENANCE 29
Introduction to Maintenance 30
Maintenance and Inspection Checklist 31
DESIGN GUIDELINES FOR EXISTING BUILDINGS 33
Exterior Building Materials 34
Masonry 35
Wood 39
Synthetic Siding, Dryvit and Fiber Cement Siding 42
Architectural Metals 42
Architectural Details 45
Doors, Entries, Fire scapes and Loading Docks 47
Windows 50
Cornices 53
Roof, Roof Forms and Roof Features 55
Awning and Canopies 59
Accessory Buildings 61
DESIGN GUIDELINES FOR SITE ELEMENTS AND DESIGN 62
Site Elements 63
Historic Infrastructure 65
Railway Corridors and Spurs 65
Streetscape 67
Street Landscape 69
Utilities 70
Parking 72
Design Guidelines For Americans With Disabilities Act (ADA) Compliance and Handrails 73
Americans with Disabilities Act (ADA) Compliance 74
Handrails 77
DESIGN GUIDELINES FOR NEW CONSTRUCTIONS AND ADDITIONS TO EXISTING BUILDINGS 79
New Construction 80
Mass and Building Footprint 82
Height 83
Width 84

Scale 85
Building and Roof Form 86
Orientation 87
Rhythm of Spacing and Setback 88
Solid-to-Void Ratio 89
..... 89
Materials 90
Windows and Doors 91
Awnings and Canopies 92
New Accessory Buildings 93
Additions 94
DESIGN GUIDELINES FOR SIGNAGE 96
Signage 97
DEMOLITION, RELOCATION, MOTHBALLING, and ENVIRONMENTAL CONERNS 101
Demolition 102
Review Criteria for Demolition 103
Guidelines for Demolition 104
Guidelines for Approval of Demolition 105
Relocation of an Existing Building 106
Review Criteria for Relocation 106
Guidelines for Relocation 107
Mothballing or Stabilization 109
Guidelines for Mothballing 109
Environmental Concerns 109
ARCHAEOLOGICAL RESOURCES 110
Archaeology 111
Mitigation Treatments 112
Interpretation 113
Design Guidelines for Archaeology 113
APPENDICES 114
Glossary 115
Preservation Briefs 124

Introduction to Historic Preservation and Rehabilitation 126
Incentives for the Rehabilitation of National Register of Historic Places Designated Buildings 126
Federal Tax Incentives 127
Alabama Tax Incentives 128
Secretary of Interior's Standards 129
Applying the Secretary's Standards 130
Levels of Preservation Efforts: Building Project Categories 131
Project Planning 132
Bibliography 134

ACKNOWLEDGEMENTS

The Muscle Shoals Design Guidelines Manual

Muscle Shoals, Alabama

Prepared by: Terri L. Foley

Credit:

Lord, Aeck & Sargent Architects

INTRODUCTION

- Historic Preservation in Musle Shoals Reservation
- Design Guidelines
- How to Use the Design Guidelines Manual

INTRODUCTION

Historic Preservation in Muscle Shoals Reservation

The Muscle Shoals Reservation District has a significant collection of historic resources. The district has distinct industrial architectural building types represented in its historic district from the early to mid- twentieth century (primarily 1918 and 1947).

The historic resources symbolize a visual record of the industrial and architectural history of the Muscle Shoals Reservation District area. These historic resources serve as bonds to the past and as tangible keepsakes of the people and events that created the development of the area. The historic resources provide a walkway into the past that illustrates and articulates the story of the Muscle Shoals Reservation in a way that history books cannot express.

Design Guidelines

The Muscle Shoals Reservation Design Guidelines Manual is the product of a signed Memorandum of Agreement (MOA) between Tennessee Valley Authority (TVA) and the Alabama State Historic Preservation Office (AL-SHPO)(also known as the Alabama Historical Commission or AHC). The guidelines according to the MOA will be enforceable by TVA and/or potentially by appropriate local government (s) or coal historic commissions. The established review body will have the right to amend the guidelines but must do so formally, stating the original section/wording, the proposed change, and the purpose of the amendment, as well as the date. Any amendments to the guidelines must be typed up on a new document and inserted into the guidelines. The existing guidelines must not be changed without a formal amendment.

Design review guidelines protect the economic value of the historic district, and encourage the preservation, enhancement, and maintenance of buildings, structures and areas of architectural, cultural, and historic significance within the Muscle Shoals Reservation; as well as develop and maintain appropriate settings and environment of such properties. Properties in historic districts are affected by the action of all their neighbors. Design guidelines provide an evenly balanced method for all property as the guidelines apply to everyone in the district. Through design guidelines, all property owners' rights are protected from the adverse economic impact that could develop from the acts of another. Design guidelines assist all property owners to understand the history and unique characteristics of the area in which they conduct business and help encourage a more beautiful environment to work within.

How to Use the Design Guidelines Manual

The *Muscle Shoals Reservation Design Guidelines Manual* is intended to be easy to read and to allow for quick location of specific information. The manual is divided into topical sections with section headings for easy reference. Each section is divided into subsections to locate specific information more easily. The manual also includes illustrations or photos to clarify the text.

The *Secretary of the Interior's Standards for Rehabilitation* are incorporated into the manual to provide additional information and to consolidate as much information as possible into one publication. In the Appendices section are the titles of National Park Service *Preservation Briefs* that offer additional technical information. Also provided is information on how to obtain the Briefs. A glossary of preservation-related terms, and resources for additional information can be found in the Appendices section.

The *Muscle Shoals Reservation Design Guidelines Manual* is consistent with the preservation principles established by the United States Department of the Interior and stated in the *Secretary of the Interior's Standards for Rehabilitation.* The manual addresses only the exterior of historic buildings, and the architectural features that define the unique character of the Muscle Shoals Reservation; as well as the streetscape and landscape.

Design Guidelines ARE intended to:

- **Respect** the traditional character of the district, reinforcing community identity and appearance;
- **Retain** the architectural character and historic quality materials of buildings during the course of rehabilitation, renovation, and maintenance;
- **Ensure** proposed additions to existing buildings and new construction respects and is compatible with setbacks, spacing, scale, and other defining characteristics in the district;
- **Preserve** significant features;
- **Serve** as a tool to assist property owners, architects, and contractors in making basic design decisions;
- **Increase** public awareness of historic architecture and design issues;
- **Protect** the value of public and private investment;
- **Avoid** Demolition-by-Neglect.

Design Guidelines ARE NOT intended to:

- **Control** how space is used in a building's interior. These guidelines regulate exterior alterations;
- **Control** appearance of the interior of a building (with some regard to what is placed inside façade windows such as air conditioning units or suggestions about changes to the interior that may affect the exterior windows and doors);

- **Control** what color you paint your property. Colors are not regulated; however the application of paint or sealants is reviewed if applied to un-painted or original brick;
- **Limit** growth or development;
- **Control** routine maintenance.

HISTORY AND ARCHITECTURE

- Brief History of Muscle Shoals Reservation
- Brief Overview of Industrial Architectural
- Adaptive Re-Use of Industrial Buildings
- Industrial Architectural and Muscle Shoals Reservation District

History and Architectural

Brief History of Muscle Shoals Reservation

The Muscle Shoals Reservation developed as a result of the National Defense Act (NDA) signed into law on June 3, 1916 by President Woodrow Wilson. One of the provisions to the NDA was the production of wartime materials which led to the construction of nitrate plants. Muscle Shoals was selected in September of 1917 for the construction of two plants. Along with the two nitrate plants, numerous secondary buildings were constructed. The majority of buildings within the Muscle Shoals Reservation were constructed in 1918.

In 1933, Tennessee Valley Authority (TVA) was established and the site was transferred to TVA. To accommodate ongoing changes in the weapons field, Plant No. 2 was converted to the production of ammonium nitrate and phosphorous. The Muscle Shoals Reservation played an active role in the weapons production during World War II. The site also produced fertilizers but ceased operation in the 1990s.

Brief Overview of Industrial Architecture

There have always been three primary objectives for industrial architecture: functionality, productivity, and safety. The overall design of industrial buildings such as warehouses and factories was shaped by the need to change raw goods into manufactured goods, as well as the avoidance of fire which could bring about loss of goods but also the loss of life.

Industrial buildings tended to be uncomplicated in design early on in the industrial era as a result of their order in society or visual appeal. The design of an industrial building was to be functional and to promote a more work friendly environment. To avoid the potential for fires, the interior walls were usually void of coverings, and wide-open interior spaces were encouraged to expedite extinguishing fires. In addition, attic spaces were not recommended in case of fire, but instead flat roofs were recommended as a way to aid with fire containment, as well as sizable windows and flat floor surfaces for quick escape.

Unlike other building types (residential and commercial) the roofs and walls of an industrial building played a crucial role in the day-to-day operation of a building. Industrial buildings' roofs and walls were designed to serve a purpose. Roofs and walls of industrial buildings were constructed in a method to supply ventilation and light for the interior space. The necessity of daylight for production influenced the overall size of a building. The dimensions of the walls regulated the window mass and the number of windows.

The sash type also influenced the overall dimensions of windows. Location of windows on the wall surface played a significant role as well in the productivity of manufacturing. The windows

were sited based on the interior workspace; above worktables. From the exterior, the window sill provided an indication where worktables were located in the interior – beneath the sill. Steel sash windows became prevalent in industrial buildings about 1910 when manufactures in the United States commenced production of the steel sash.

Like windows, roofs served various functions in industrial buildings and contributed to the overall form and atmosphere. The form of the roof aided in the function of the building. A building's solidity was strengthened with a flat roof, whereas, attic space was a key component of a gable roof and heat was dispelled with ventilators placed on a roof.

Gable roofs often featured a monitor or a raised section of the roof, generally straddling the ridge which has window openings along the sides to admit light or air. The monitor may also hold louvers. These windows located on the side of a monitor are more commonly known as a clerestory. Flat roofs grew in popularity in the twentieth century, as a flat roof helped in fire prevention by the removal of the attic space and the roofing material used was more fire resistant.

Perhaps the role of the roof is best explained by a quote from *Engineering News-Record*, 1936:

> "On the basis of the functions that is has to perform, the roof of an industrial building is more important than the walls. In addition to providing weather protection, it usually serves as both lungs and eyes of the structure."

The roof, walls and windows defined industrial buildings and these key components can be seen as part of the industrial buildings in the Muscle Shoals Reservation District.

Adaptive Re-Use of the Industrial Building

Often times a vacant industrial building becomes a "white elephant" as few people are not capable or do not wish to visualize an industrial building being adapted to a new use. However, the wide-open interior spaces, along with the exposed building materials of industrial buildings have inspired people to realize these types of buildings can be utilized for something other than their intended purpose. Over time, there as been an increase in the adaptive re-use of industrial buildings for various commercial uses and residential use. The industrial heritage is preserved when industrial buildings are utilized for adaptive re-use.

Industrial Architecture and Muscle Shoals Reservation District

To understand a building type or architectural style, it is beneficial to know the original construction dates or the dates of any additions, when determining a building's style or type. If the dates are unattainable, take into consideration the key forms of the building such as the roof shape, overall form, scale, materials, entrances, windows, doors and details help to identify the style or type. A building style or type can be part of a widespread cultural pattern or a unique individual expression.

It is important to know that a building's function is not a style and a time period or era is not a style but a time when styles were established. While residential dwellings, commercial, schools, churches and public buildings are all designed in several styles, industrial buildings were designed more for function than for certain architectural style.

Buildings evolved through the years, and older buildings are sometimes incorporated into a larger building through additions constructed to existing buildings. Some buildings experience a makeover in previous years to get them a more up-to-date look. Buildings that evolved may have lost some of their original features. Because buildings may have undergone changes, it could make it harder to determine a type or style. If this is the case, it is important to identify the most significant features of a building and to consider and take into consideration those features and to protect those features when planning changes or alterations, than it is to classify a building by a type or style classification.

The Muscle Shoals Reservation District has a significant collection of historic buildings, whose industrial architectural forms represent the history of the area from 1918 to the 1950s. In this section of the design guidelines the contributing buildings in the Muscle Shoals Reservation District will be featured and their key identifying elements will be highlighted.

3 A Building

3 A Building

- Gable roof
- Galvanized Corrugated Metal Roof
- Monitor
- Clerestory
- Hollow Clay Block
- Brick Walls
- Quoins
- Window Walls
- Industrial Steel Sash Windows (covered)
- Window Headers and Sills - concrete
- Metal Staircase
- Industrial Style Doors
- Rectangular Form

5 A Building

5 A Building

- Gable roof
- Galvanized Corrugated Metal Roof
- Monitor
- Clerestory
- Hollow Clay Block
- Window Walls
- Lintels
- Industrial Steel Sash Windows
- Metal Staircase
- Industrial Style Doors
- Rectangular Form

Liquid Air Building

Liquid Air Building

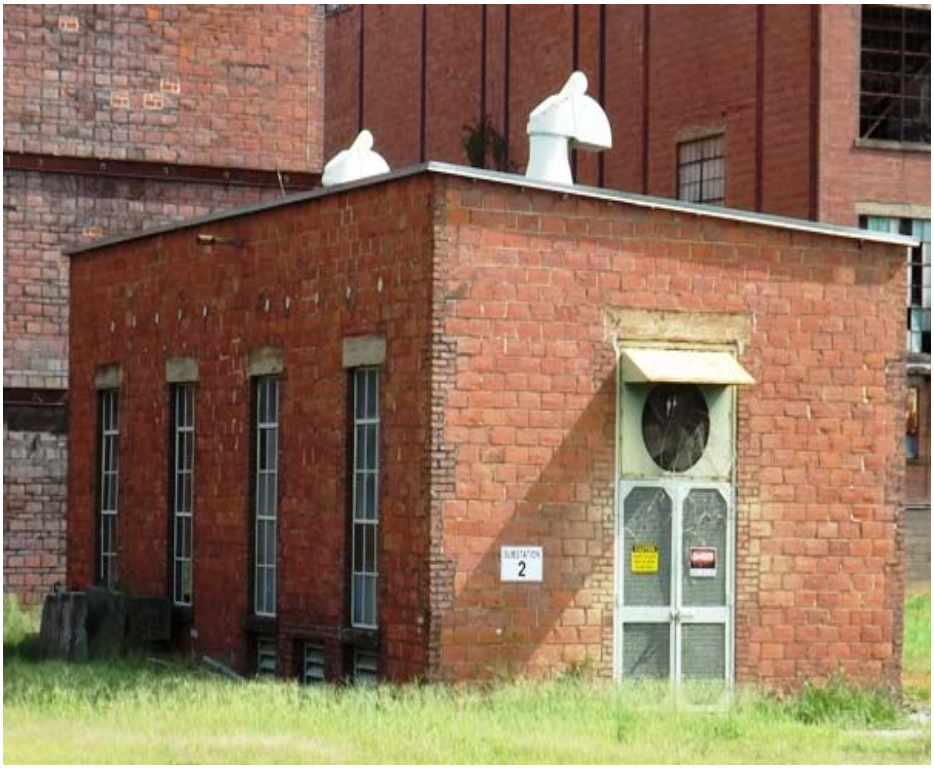
- Low -Pitched Gable
- Monitors
- Clerestory
- Hollow Clay Tile Wall Surface
- Brick Quoins
- Window Openings
- Door Openings with Aluminum Doors
- Garage Bays
- Cornice
- Rectangular

Bath House Building

Bath House Building

- One-Story
- Low-Pitched Gable Roof
- Over-Hanging Eaves
- Window Openings (replacement windows)
- Concrete Window Headers and Sills
- Door Openings with Industrial Style Doors
- Rectangular

Substations



Substations

- One –Story
- Shed Roof
- Hollow Clay Tile Wall Surface
- Brick Quoins
- Industrial Metal Sash Windows
- Concrete Window Headers and Sills
- Door Openings with Industrial Style Doors
- Rectangular

Catalyzer Buildings

Catalyzer Buildings

- Low-Pitched Gable Roof
- Monitor
- Clerestory
- Hollow Clay Tile Wall Surface
- Brick Quoins
- Industrial Metal Sash Windows
- Concrete Window Headers and Sills
- Door Openings with Industrial Style Doors
- Rectangular Form
- Structural Anchors

L & N Building

L & N Building

- Low-Pitched Roof
- Three Monitors
- Clerestory
- Hollow Clay Tile Wall Surface
- Brick Quoins
- Industrial Metal Sash Windows
- Concrete Window Headers and Sills
- Door Openings with Industrial Style Doors - Wood
- Rectangular Form
- Cornerstone stating “March 13, 1918”

Machine Shop

Machine Shop

- Low-Pitched Gable Roof
- Two Monitors
- Clerestory
- Hollow Clay Tile Wall Surface
- Brick Quoins
- Industrial Metal Sash Windows
- Concrete Window Headers and Sills
- Door Openings with Industrial Style Doors
- Garage Bays
- Rectangular Form
- Awning

Pipe Shop

Pipe Shop

- Low-Pitched Gable Roof
- Monitor
- Clerestory
- Hollow Clay Tile Wall Surface
- Brick Quoins
- Industrial Metal Sash Windows
- Concrete headers/sills
- Door Openings with Industrial Style Doors
- Rectangular Form

Sheet Metal Shop

Sheet Metal Shop

- Low-Pitched Gable Roof
- Monitor
- Clerestory
- Hollow Clay Tile Wall Surface
- Brick Quoins
- Industrial Metal Sash Windows
- Concrete Windows Headers and Sills
- Door Openings with Industrial Style Doors
- Rectangular Form

Service Building

Service Building

- International Style
- Flat Roof
- Brick Wall Surface with Expressed Concrete Structure
- Windows – Aluminum
- Concrete Window Surrounds
- Doors – Aluminum and Glass
- Concrete Canopy with Eave Extensions
- Linear, Rectangular Form
- One-Story

Warehouse Z

Warehouse Z

- Low-Pitched Gable Roof
- Hollow Clay Tile Wall Surface
- Windows Openings (aluminum windows – non-historic)
- Door Openings (aluminum doors – non-historic)
- One-Story
- Rectangular Form

L /N Building

L/N Building

- Shed to Gable with Monitor
- Clerestory
- Hollow Clay Tile Wall Surface
- Brick Quoins
- Window Openings
- Door Openings with Industrial Style Doors
- Rectangular Form

L /N Warehouse Building

L/N Warehouse Building

- Low-Pitched Sloping Roof with Monitor
- Clerestory
- Corrugated Metal Wall Surface
- Corrugated Metal Doors
- Rectangular Form

Chemical Feed House

Chemical Feed House

- International Style Characteristics
- Flat Roof
- Wide Overhanging Eaves
- Brick Veneer
- Steel Frame Windows
- Continuous Bands of Windows
- Linear, Rectangular Form
- Chimney

Store House Building

Store House Building

- Flat-to-Shed Roof
- Hollow Clay Tile Wall Surface
- Window Openings (replacement windows)
- Door Openings with Industrial Style Doors
- Garage Bays
- Brick Quoins
- Awning
- Rectangular Form

Engineering Lab

Engineering Lab

- Shed to Gable Roof
- Clerestory
- Monitor
- Two-Story with One-Story Shed Roof Addition
- Hollow Clay Tile Wall Surface
- Quoins
- Window Openings
- Doors (metal or wood with glass panels)
- Rectangular Form

Environmental Research Center

Environmental Research Center

- International Style
- Flat Roof
- Brick Wall Surface with exposed concrete
- Continuous Bands of Windows
- Windows – Aluminum (fixed and pivot)
- Doors – Aluminum/glass
- Linear, Rectangular Form with Curvilinear Entrance on Façade
- Canopy

Tin Shop

Tin Shop Building

- Low-Pitched Gable with Monitor
- Clerestory
- Hollow Clay Tile Wall Surface
- Industrial Steel Sash Windows
- Doors – Wood Rail and Stile
- Rectangular Form

RECOMMENDATION GUIDELINES FOR GENERAL MAINTENANCE

- Introduction to Maintenance
- Maintenance and Inspection Checklist
- Common Maintenance Issues

RECOMMENDATION GUIDELINES FOR GENERAL MAINTENANCE

Introduction to Maintenance

The historic architecture of the Muscle Shoals Reservation District features a well-constructed industrial building stock of early to mid-twentieth century buildings. Many of these industrial buildings may continue to serve the property owners of the Muscle Shoals Reservation if the buildings are well maintained.

Implementation of a regular and preventive maintenance schedule is one of the best ways to ensure a property retains its value in the marketplace. A property owner is not provided with an operator's manual or warranty booklet outlining a recommended maintenance schedule. As a result, many property owners do little or no regular maintenance or repair until a serious problem arises. The related repairs can be significantly more involved and costly to address when the problem is finally spotted.

The exterior envelope of a building consists of the roof, walls, windows and doors. These components function together as a system to protect the interior from the environment. Several of the normal environmental conditions affecting the exterior building envelope include:

- Moisture, rain, snow, ice, humidity, and groundwater;
- Wind;
- Sunlight;
- Temperature variations;
- Atmospheric chemicals and acid rain;
- Insects, birds, and rodents;
- Vegetation, molds, fungi and algae.

Over time, all building materials whether old or new, will deteriorate. Each of the environmental conditions mentioned above has the ability to respond differently with the materials that compromise a building's exterior envelope and cause deterioration. The potential outcome is further complicated by the method the materials are installed and joined together. It is through the implementation of a regular maintenance and repair plan, the rate of deterioration can be significantly slowed.

Perhaps the most universal problem associated with the maintenance of a historic building is water and moisture infiltration. Leaking, sagging or plugged up gutters can release huge amounts of water resulting in deterioration. A leaky roof can cause damage to the building can

joists, walls, interior structure and finishes. Windows that are not maintained can cause water damage to the window, the frame, the wall area surrounding the window and the floor.

Property owners of historic buildings should share the same goal—to preserve the building's architectural integrity and its historic character. Original building elements can be preserved by conducting regular inspections and fixing any problems discovered during the inspection. This manual provides a ***recommended not a required*** maintenance and inspection checklist which should be adapted and developed to reflect architectural elements unique to individual buildings.

Maintenance and Inspection Checklist

Roof

Inspect: Every six months

Check For: Roof materials and ridge caps that are broken, torn, loose, or missing; flashing around roof features, vents and along parapets and valleys; water infiltration visible on the interior.

Gutters and Downspouts

Inspect: Every three months

Check For: Loose, sagging, bent, or clogged gutters; gutters that continue to drip when it is no longer raining—could indicate debris in gutters or holes; deteriorated gutters that leak when it rains; downspouts coming loose from gutters or walls; gutters coming loose from fascia boards; clogged downspouts; water pooling at the base of downspouts.

Walls

Inspect: Every six months

Check For: Cracking, blistering, or peeling paint which may indicate moisture problems; cracked, loose, or damaged siding board, bricks, or stones; deteriorated mortar in masonry walls which could indicate moisture retention; excessive accumulation of mildew and mold on surfaces or stained brick might indicate moisture retention.

Doors and Windows

Inspect: Every six months

Check For: Loose or missing caulking around door and window openings; glass panes with missing or deteriorated glazing; cracked or loose glass; crackling, blistering, or peeling paint which may indicate moisture problems.

Foundation

Inspect: Once a year

Check For: Tilting or shifting of foundation walls or the support piers could be an indication of pooling water at the bases of foundation walls or piers; cracks in mortar joints, bricks, stone blocks, concrete, or concrete blocks; growth of moss or green staining indicating the possibility of moisture retention.

DESIGN GUIDELINES FOR EXISTING BUILDINGS

- Exterior Building Material
  - Masonry
  - Exterior Wood Materials
  - Synthetic Siding, Dryvit, and Fiber Cement Siding
  - Architectural Metals
- Architectural Details
- Doors, Entries, Fire Escapes and Loading Docks
- Windows
- Cornices
- Roof, Roof Forms and Features
- Awnings and Canopies
- Accessory Buildings

DESIGN GUIDELINES FOR EXISTING BUILDINGS

Exterior Building Materials

Policy:

Primary historic building materials preserved in place whenever feasible. Limited replacement, matching the original material should be considered when the material is damaged beyond repair. Primary historic building materials shall never be covered or subject to harsh cleaning treatments.

This section focuses on the treatment of primary historic building materials, those that comprise the dominant exterior surfaces of historic buildings. The guidelines deal with preservation and repair as well as replacement of these materials. The guidelines are sectioned into different topics to better address the various building materials and elements.

In the Muscle Shoals Reservation District, the typical primary building material used was brick or hollow clay tile with wood or metal siding infrequently utilized. The distinct characteristics of the primary building material, consisting of the scale of the material unit, its texture, and finish, contribute to the historic character of a building.

Exterior material on a building's wall surface performs both functional and aesthetic purposes. Functionally, the exterior material (brick, hollow clay tile, wood, or metal) serves as the skin of the building, deflecting sunlight, shedding water and a buffer to wind. Aesthetically, brick, hollow clay tile, wood and metal are a vital design feature and can be utilized as siding, ornamental trim and bigger components such as stoops and awnings. Exterior materials:

- Establishes a weather-tight enclosure, offering protection from the outside elements: wind, rain, snow, ice and sun;
- Is impacted by temperature variation and building settlement;
- Establishes the scale, mass, and proportion of a building;
- Assist in defining a building's architectural style and is a significant design feature;
- Creates a visual appeal to the streetscape;
- Creates pattern and casts a shadow on wall surfaces.

Exterior building elements can last for centuries with proper maintenance. Whereas, improper maintenance can result in problems and deterioration from water, mold, insects and fungus.

Masonry

Masonry and hollow clay tile are the common building material used in the Muscle Shoals Reservation District. Masonry includes brick, hollow clay tile, and concrete.

Brick: is one of the most durable historic building materials. Brick is a clay-based building material. Prior to the twentieth-century brick functioned as structural materials in addition to wall surface material. In the twentieth-century, brick was utilized less as a structural material and was used as a veneer applied to wood framed buildings.

Brick can also function as a decorative element on buildings. Bricks can be used as decorative features in the cornice line, brick arches, around windows and doors as a defining feature, recessed brick panels and patterned brickwork adding a visual importance to a building.

Hollow Clay Tile: is a hollow masonry building unit composed of burnt clay, shale, fireclay, or mixtures thereof, having parallel cells or cores (or both) within a single tile. Hollow clay tile was first used as a building structural material in the mid-nineteenth century and was commonly used as a structural material until around the 1950s.

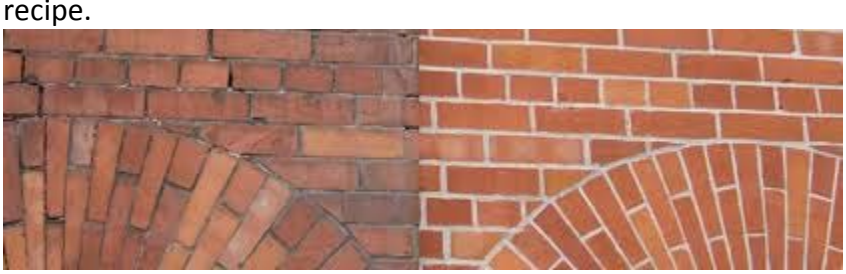
An example of a hollow clay tile.

Concrete: is composed of sand, gravel, crushed stone, or other coarse material that is bound by material, such as lime or cements and when mixed with water the mixture hardens. Concrete for the most part is considered a twentieth-century building material.

Hollow-cast, concrete blocks with rusticated or vermiculated surfaces became popular in the twentieth-century, as well as pre-cast concrete buildings. Iron or steel reinforcing strengthens reinforced concrete.

Mortar: is a material used to bond masonry units. It can be used with brick, stone, concrete block, or terra cotta. Prior to 1880, mortar was soft and composed mainly of sand and lime. Usually locally, sand was used if available. After 1880, Portland cement became popular and when used as mortar produced a harder mortar. Mortar should always be softer than the material that it will bind, as it will allow for contractions and expansion. Applying mortar that is harder than the material it will bind usually results in deterioration.

Repointing: is the removal of mortar from between the joints of masonry unit and the replacing of it with new mortar. Repointing shall always be undertaken with the appropriate mortar recipe.



A brick building recently repointed with a historically appropriate lime mortar

The harder mortar joints did not allow for the natural expansion and contraction of the brick unit, so the face popped off when the brick expanded. This building has been damaged by the application of Portland cement in mortar joints, which trapped moisture in the bricks and caused the face to deteriorate and pop out. The Portland cement was a harder material than the brick. Always use mortar that is softer than the historic bricks.

APPROPRIATE TREATMENT FOR MASONRY

- ✓ Retain the original color and texture of masonry walls.
- ✓ Retain masonry elements that are significant in defining the overall character of a building.
- ✓ Retain joint width and profiles.
- ✓ Clean masonry and mortar only when necessary to limit deterioration.
- ✓ Restore masonry with great care.
- ✓ Remove paint using the gentlest means possible
- ✓ Keep unpainted masonry in its natural condition, do not paint or seal unpainted masonry.
- ✓ Repair damaged masonry by piecing in, patching, or consolidating to match original.
- ✓ Repair masonry to match the original size, texture, color, and pattern of units.
- ✓ Photograph and measure existing conditions before beginning work to facilitate accurate duplication.
- ✓ Carefully remove moss, ivy and other vegetation from masonry walls.

INAPPROPRIATE TREATMENT FOR MASONRY

⊗ Removing, radically changing, or covering masonry that defines the historic character of the building is inappropriate.

⊗ Replacing masonry that can be repaired.

⊗ Removing non-deteriorated masonry or mortar and replacing masonry or mortar to achieve a uniform appearance.

⊗ Replacing or covering historic masonry with vinyl, aluminum, Dryvit, or fiber cement siding.

⊗ Covering or removing decorative masonry.

⊗ Over-cleaning exterior masonry to create a new appearance.

⊗ Sandblasting, caustic solutions, and high pressure water blasting is an inappropriate way of cleaning masonry. These methods erode and damage the surface and mortar, in addition to increasing deterioration.

⊗ Painting masonry, which is historically unpainted.

⊗ Removing paint from historically painted masonry.

⊗ Repointing with inappropriate mortar – synthetic caulking compound or hard, cementations mortar -, which causes damage to masonry.

⊗ Replace mortar with morter that is harder than the original masonry.

⊗ Removing masonry that is irreparable without replacing or replacing with new feature, which does not have the same visual appearance.

⊗ It is inappropriate to install modern “antiqued” brick for patching historic masonry. Modern brick is much harder and usually does not match the historic appearance.

Wood

In the Muscle Shoals Reservation District, wood is found in trim detail and is not prevalent as masonry materials for exterior wall surface. Wood has played a significant role in the construction of historic buildings and has been utilized in virtually every style and architectural time period. The distinct characteristics of the wood as a building material, includes the scale of the material unit, its texture and finish, all of which contribute to the historic character of a building

Well-planned maintenance is the best means to the preservation of historic buildings. A proper application of paint should help to protect wood surfaces. Common problems that transpire from lack of maintenance are peeling paint, cracked, missing or loose architectural elements, deterioration, rot, and infestation.

In most cases of deteriorated wood siding, wood trim or woodwork can be repaired or replaced with like-kind materials. Complete exterior woodwork, siding, or trim replacement or encapsulation with synthetic siding is rarely necessary and should be avoided whenever possible. The key to preserving wood siding is regular maintenance.

APPROPRIATE TREATMENT OF EXTERIOR WOOD MATERIALS:

- ✓ Retain and repair original wood trim or siding, rather than replaced, whenever possible.
- ✓ Retain wood elements/features that define the overall character of the building. Repair sections of rotted or deteriorated sections with new wood, epoxy consolidates or fillers.
- ✓ Retain joint width and profiles.
- ✓ Replace wood trim, siding, or elements when they have deteriorated beyond repair. Replace it with material of like construction, matching as near as possible in size, shape, texture, profile and color. It could be helpful to take a sample of the historic wood trim or siding to the lumberyard for the best match. Replacement material shall convey the same visual appearance.
- ✓ Replacement of missing elements should be based on physical or pictorial evidence from the actual building. It should not be based on evidence from similar building in the district area.
- ✓ Cleaning exterior building materials only when necessary to halt deterioration. If cleaning is necessary, use the gentlest method possible.
- ✓ Considering removing later covering materials that have not achieved historic significance. When the non-historic trim or siding is removed, repair the original, underlying material. Removal of other materials must be tested to verify that the original material underneath will not be damaged.
- ✓ Photograph and measure existing conditions before beginning work to facilitate accurate duplication.
- ✓ Carefully remove moss, ivy and other vegetation from walls.

INAPPROPRIATE TREATMENT OF EXTERIOR WOOD MATERIALS:

⊗ Covering original wood trim or siding with new materials is inappropriate. Vinyl, aluminum, Hardi-plank siding and Dryvit is inappropriate for historic buildings.

⊗ Historically painted wood trim or siding should not be stripped and stained to create a "natural" wood finish.

⊗ Unpainted pressure-treated wood shall be avoided except for structural members that will be near the ground.

⊗ Removing, radically changing, or covering materials that define the historic character of the building.

⊗ Replacing building materials that can be repaired.

⊗ Over-cleaning exterior building materials to create a new appearance.

⊗ Sandblasting, caustic solutions, and high pressure water blasting is an inappropriate way of cleaning wood surfaces. These methods erode and damage the surface, in addition to increasing deterioration.

⊗ Removing materials that are irreparable without replacing with a new feature, which does not have the same visual appearance.

Synthetic Siding, Dryvit and Fiber Cement Siding

The existing buildings in the Muscle Shoals Reservation District are sheathed in masonry, metal, and wood materials all of which require regular maintenance to maintain its structural integrity and its appearance. Some property owners, concerned with the cost of maintaining historic wood siding, or masonry materials contemplate alternative treatments such as covering or replacing historic wall cladding materials with synthetic siding, of vinyl or aluminum, Dryvit, Hardi-plank siding, or other fiber cement siding.

In almost every circumstance, installation of these twentieth and twentieth-first century cladding materials (vinyl, aluminum, Dryvit, Hardi-plank, or other fiber cement siding) will not solve the problems that property owners face. In almost every circumstance, the installation of these materials will compromise a building's historic integrity.

Architectural Metals

Architectural metal is another type of building material found in the Muscle Shoals Reservation District. Architectural metals can be found in the district as part of a building's architectural features, or as part of the landscape feature. Architectural metal features such as, post, trim, siding, roof, doors, stairs, railings, or signage that is important in defining the overall historic character of the building; and their finishes shall be preserved and retained whenever feasible.

APPROPRIATE TREATMENT OF ARCHITECTURAL METALS

- ✓ Protect and maintain architectural metals from deterioration and corrosion.
- ✓ Clean architectural metals when appropriate; remove corrosion prior to repainting or applying other appropriate protective coatings.
- ✓ Stabilize deteriorated or damaged architectural metals prior to commencing any preservation work.
- ✓ Identify the type of metal prior to undertaking any cleaning.
- ✓ Use the gentlest cleaning method possible.
- ✓ Retain and repair architectural metal when feasible.
- ✓ Retain the original color and texture of the architectural metals.
- ✓ Retain architectural metal elements that are significant in defining the overall character of a building.
- ✓ Match architectural metal with the original size, texture, color, and pattern of units.
- ✓ Photograph and measure existing conditions before beginning work to facilitate accurate duplication.

INAPPROPRIATE TREATMENT OF ARCHITECTURAL METALS

⊗ Replacing historic metal features instead of repairing or replacing only the deteriorated metal.

⊗ Altering architectural metal features, which are important in defining the overall historic character of the building resulting in, diminished character.

⊗ Failing to stabilize deteriorated or damaged architectural metal until additional work is started, thus allowing further damage to occur to the historic building.

⊗ Failing to identify, evaluate, and treat the causes of corrosion and deterioration.

⊗ Applying paint or other coatings to metals that were historically meant to be exposed. For instance, gutters or metal roofs.

⊗ Cleaning when it is inappropriate for the metal.

⊗ Applying cleaning methods, which alter or damage the historic color, texture, and finish of the metal.

⊗ Removing the patina of historic metal.

⊗ Cleaning soft metals such as tin, copper, lead, and zinc with grit blasting which will abrade the surface of the metal.

⊗ Using high-pressure grit blasting or failing to use the gentlest means possible prior to abrasively cleaning cast iron, wrought iron, or steel can cause damage.

Architectural Details

Policy:

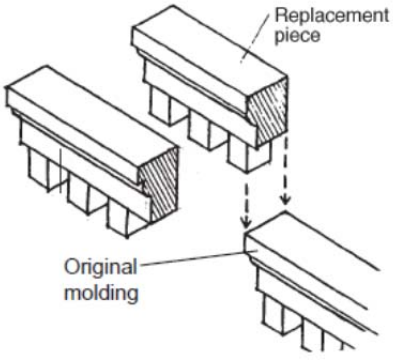
Architectural details help to create a historic building's unique visual character and shall be preserved whenever feasible. For architectural details that are deteriorated beyond repair, it is important their replacement match the original detailing in composition, size, shape, texture, and profile. Replacement of missing elements should be based on physical or pictorial evidence from the actual building. It should not be based on evidence from similar building in the district area.

Architectural elements are appropriate within individual context and not necessarily or always interchangeable from industrial building to industrial building or from one area of the district to another area.

Architectural details are a significant component of a building's character and include trim work and ornamentation. Exterior trim, visually, serves as a framework around areas of a building's wall surface and helps with the transition to elements such as windows, doors, cornices, and entrances. The function of trim is a sealant of siding and roof joints, corner and openings, and providing a weather-tight enclosure for buildings. Trim consists of doorframes, window frames, wood sills, and corner boards. In the category of ornamentation, there are brackets, columns, post or piers, and other details. Historic trimming materials may include wood, cast iron, wrought iron, pressed metal, stone, tile, concrete, brick, or terra cotta.

Architectural detail elements can provide clues to a building's historic time period and style. Elements may be simple in design or very detailed. These elements may also represent craftsmanship that may not be duplicated today.

It is vital to preserve original architectural details; architectural details are an essential element to the integrity of a historic building and its context. If an architectural detail has to be replaced, it is important to remove only those sections that have deteriorated beyond repair. Preservation of the original architectural detail has been always the preferred method over the replacement of a detail or even a partial replacement of a detail even if the replacement is an exact copy of the original detail as the integrity of the building as a historic resource is compromised and diminished once the original architectural detail has been replaced.



An example of appropriate of details

APPROPRIATE TREATMENT OF ARCHITECTURAL DETAILS

- ✓ Retain and preserve architectural details that define the historic character of the building such as walls, brackets, cornices, window architraves, door pediments, steps, columns, post, piers, door surrounds, etc.
- ✓ Retain joint, unit size, profile, texture, tooling, bonding patterns, and coatings.
- ✓ Replace, where necessary deteriorated architectural features with materials, which are similar in composition, size, shape, texture, and profile.
- ✓ Photograph and measure existing conditions before beginning work to facilitate accurate duplication.

INAPPROPRIATE TREATMENT OF ARCHITECTURAL DETAILS

- ⊗ It is inappropriate to add decorative elements/features incompatible with the architectural style of the building or to add elements/features that were not original to the building.
- ⊗ It is inappropriate to remove or radically change the architectural details that define the historic character of a building.
- ⊗ It is inappropriate not to treat causes of deterioration.
- ⊗ It is inappropriate to use a substitute material for replacement that does not convey the visual appearance of the architectural detail or is physically incompatible.

Doors, Entries, Fire scapes and Loading Docks

POLICY:

The character-defining features of a historic door and its distinct materials and placement should be preserved. In addition, a new door shall be in character with the historic building.

Doors provide visual significance and appeal to the composition of individual buildings. Doors provide a threshold to separate the exterior and interior as well as regulating light and air into the building and the passage of people. The historic doors define the character of a building, can identify an architectural style, retain connections to the past, help to define the architectural building period, and can display craftsmanship and durable construction. Historically, most doors were wood and diverse stylistically established upon the building style or design. Doors were designed to be both informal and formal. Various historic doors are notable for their materials, finishes, and placement. If a historic door is replaced with an inappropriate door, it can severely affect the character and feel of a historic building. It is important to avoid radical alterations to a historic door. If the repair of a historic door is not possible, it is appropriate to install a door that is appropriate to the style and design of the building.

Door Features

Significant door features include the door and its frame, the sill, head, jamb and any flanking windows or transoms.

Burglar Doors

Metal burglar doors are inappropriate for historic entrances and doorways and should be restricted to doorways not visible from the public right of way. Metal burglar doors radically alter the character of a historic building and the fabric of the overall historic district. While some burglar doors can be highly decorated, these doors tend to give a negative impression to potential businesses and customers because their existence may imply a high crime area.

Fire Escapes

Fire escapes provide a continuous, unobstructed path of escape from a building for the use in case of a fire. Fire escapes are a significant feature of a historic building.

Loading Docks

A loading dock or loading platform is an elevated platform at the shipping or delivery door of a building, typically at the same height as the floor of a motor truck or railroad car to facilitate loading or unloading. Loading docks are a significant feature of a historic building and their existence represents the industrial heritage of the district.

APPROPRIATE TREATMENT OF DOORS, ENTRIES, FIRE ESCAPES AND LOADING DOCKS

- ✓ Retain and preserve entrances and their functional and decorative features that define the overall historic character of the building such as doors, transoms, columns or post, railings and stairs.
- ✓ Repair historic doors and entrances and retain their general historic appearance.
- ✓ Replace with in-kind an entire entrance or door that is too deteriorated using physical evidence or documentation to guide the new work**.** Preserve the original frame when feasible; it is important to keep the size and configuration of the original door.
- ✓ Preserve loading docks and their associated canopies.
- ✓ Retain oading docks their location, height, width, and length.
- ✓ Preserve fire escapes.
- ✓ Repair historic fire escape.
- ✓ Replace, if repair is not feasible, fire escape to match the original as closely as possible.
- ✓ Photograph and measure existing conditions before beginning work to facilitate accurate duplication.

INAPPROPRIATE TREATMENT OF DOORS, ENTRIES, FIRE ESCAPES AND LOADING DOCKS

- ⊗ Removing or radically changing entrances or replacing entrance doors, which define the overall character of the building.
- ⊗ Adding sidelights, transom windows, or other features where none existed before.
- ⊗ Removing or relocating an entrance because the building has been re-oriented to accommodate a new use.
- ⊗ Installing a new entrance by creating a new opening in a primary elevation.
- ⊗ Installing replacement doors which are more appropriate for residential construction in an industrial style building.
- ⊗ Replacing or removal of historic door and surrounding material when repair and limited replacement of deteriorated areas are appropriate.
- ⊗ Reorienting building entrances so that loading docks are used as primary building entrances.
- ⊗ Replacing or removal of historic fire escape when repair and limited replacement of deteriorated areas are appropriate.

Windows

Policy:

Windows shall be preserved in place whenever feasible. Limited replacement, matching the original configration and material shall be considered when the window or material is damaged beyond repair.

One of the most significant character-defining features of a historic building is the windows. Windows provides a visual significance and appeal to the composition of individual buildings and contributes to the overall scale of a building. Windows provides a separation between the exterior and interior as well as regulating light and air into the building. Historic windows define the character of a building, can identify an architectural style, retain connections to the past, help to define the architectural building period, and can display craftsmanship and durable construction. The windows, the surrounding frame components, which have a significant dimension that cast shadows, also contribute to the character of the historic style. The treatment of historic windows is very important because windows are significant architectural component and affect the character of a historic building.

Windows that are properly maintained can last for centuries. The majority of issues that arise with windows are usually resulting from lack of maintenance. Sometimes, issues occur due to improper treatment, such as the accumulation of layers of paint on the sash may make it difficult to operate a window.

Window Features:

Some key features of a historic window are the size, shape, sash and proportions as well as the number of “lights” or panes into which a window is partitioned. Other significant features of windows are the surrounding casing, the depth and profile of window elements and the materials of which the windows were constructed. Historic window elements had distinct profiles, dimensions, and finishes.

Burglar Windows

Metal burglar windows are inappropriate for historic window openings and should be restricted to window openings not visible from the public right-of-way. Metal burglar windows radically alter the character of a historic building and the fabric of the overall historic district. While

some burglar windows can be highly decorated, these windows tend to give a negative impression to potential businesses and customers because their existence may imply a high crime area.

APPROPRIATE TREATMENT FOR WINDOWS

- ✓ Retain and preserve windows that define the historic character of the building. Features can include the frames, sash, muntins, glazing, heads, sills, hoodmolds, jambs, and moldings.
- ✓ Maintain and protect the metal or wood which comprise the window frame, and muntins.
- ✓ Replace a window in-kind when it is too deteriorated to repair. Preserve the size and proportion of a historic window opening.
- ✓ Repair window frames by patching, splicing, consolidating, or otherwise reinforcing. Replace with in-kind parts that have deteriorated beyond repair or missing.
- ✓ Preserve the position, number, and arrangement of historic windows in a building wall.
- ✓ Preserve the solid-to-void ratio on a building wall. The amount of glass should be retained and not altered, as an altered window will negatively affect the integrity of a building.
- ✓ Windows should be made weather-tight by re-glazing, re-caulking, installing or replacing weatherstripping.
- ✓ Windows boarded up or covered over shall be uncovered to expose the existing window.
- ✓ Replace original windows that has been removed, with one that matches the original, in terms of materials, number of glass panes and size.
- ✓ Photograph and measure existing conditions before beginning work to facilitate accurate duplication.

INAPPROPRIATE TREATMENT FOR WINDOWS

⊗ Radically changing or removing windows that define the overall character of the building.

⊗ Changing the number, location, and size or glazing pattern of windows through cutting new openings, blocking-in windows, and installing replacement windows, which do not fit the opening.

⊗ Using a substitute material for the replacement part that does not convey the visual appearance of the window.

⊗ Installation of burglar bars to windows.

⊗ Replacing or removal of historic window and surrounding material when repair and limited replacement of deteriorated areas are appropriate.

⊗ Installing replacement windows, which are more appropriate for residential or commercial construction in an industrial building.

Cornices

Policy:

Cornices and Cornice Features shall be preserved in place whenever feasible. Limited replacement, matching the original material and details shall be considered when the material is damaged beyond repair.

Cornices are at the top of a building, connecting the side of a building with the roof and providing a visual termination for the wall.

Example of a cornice from one of the buildings located within the Muscle Shoals Reservation District.

APPROPRIATE TREATMENT OF CORNICES AND FRIEZES

✓ Maintain and repair cornice and frieze elements shall be maintained and repaired when necessary, using in-kind replacement materials, and matching decorative details and profiles of the existing original design.

✓ Protect cornices and friezes shall be protected during any repair or cleaning.

INAPPROPRIATE TREATMENT OF CORNICES AND FRIEZES

⊗ Removing cornice and frieze elements is not allowed.

⊗ Adding ornamentation, such as dentils and brackets, shall not be added to the cornice and frieze, unless physical or photographic evidence shows that a building once had these features.

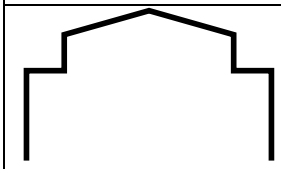
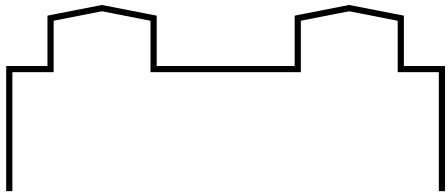
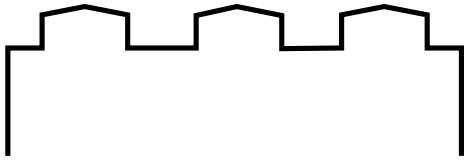
Roof, Roof Forms and Roof Features

Policy:

Roof, Roof Forms, and Roof Features shall be preserved in place whenever feasible. Limited replacement, matching the original material shall be considered when the material is damaged beyond repair.

The roof is a major feature for most historic buildings and can be a character-defining feature. Contributing to the character of a roof is its pitch, materials, size, and orientations. While a roof contributes to the overall character of a building, it also functions as a defense against the elements. The existing building stock has a variety of roof forms as illustrated in the following table.

Roof Forms:

Roof Types	Roof Description
	Gable with a raised roof monitor with a clerestory
	Gable with a raised roof double monitor with a clerestory
	Gable with a raised roof triple monitor with a clerestory
	Flat
	Flat-to-Shed

Vent Stacks: Several buildings in the Muscle Shoals Reservation District feature vent stacks on the roof. A vent stack is designed to allow moisture vapor or other gas from inside a building or building system to escape into the atmosphere. Vent stacks located on the buildings within the district are considered a significant feature of a building as it helps to the define the historic use of a building.

Gutters and Downspouts: Gutters and downspouts are mechanisms for diverting water away from a building. Gutters usually are located along or near the edge of the roof slope to collect rainwater. Some buildings have built-in gutters, which are hidden from view and are installed behind architectural features such as cornices or parapets. Hanging gutters are attached to the building just under the roof slope edge and are half-round. Downspouts are the conductors for rainwater and typically are attached to a building's exterior to handle water down the face of the building to the ground.

APPROPRIATE TREATMENT FOR ROOFS, ROOF FORMS AND ROOF FEATURES

- ✓ Retain and preserve roofs, and their functional and decorative features. Significant characteristics of a roof include its overall historic character and shape; features include chimneys, vent stacks, and roofing materials as well as size, form, texture, and patterning.
- ✓ Preserve the original roof form. Retain the original line and orientation of the roof as seen from the street.
- ✓ Preserve the original historic eave depth. The shadows created by the original overhangs contribute to the building's historic scale.
- ✓ Preserve original roof materials when feasible. Avoid removing original roof materials when material is in good condition.
- ✓ Repair a roof or roof features by using like-kind materials or historic materials.
- ✓ Replace roof using in-kind materials if the roof is too deteriorated to repair.
- ✓ Photograph and measure existing conditions before beginning work to facilitate accurate duplication.
- ✓ Avoid removing or covering historic materials and details of a roof or roof feature.
- ✓ If roof or roof features are too deteriorated to repair, use physical evidence or documentation to help guide the work.
- ✓ Retain and preserve chimneys and use historically appropriate mortar to prevent damage to chimney brick when conducting maintenance and repair work.
- ✓ Retain original brickwork of chimneys.
- ✓ Use historic brick if feasible to replace any deteriorated bricks in chimneys; bricks should match the original in size, shape, texture, and color.

INAPPROPRIATE TREATMENT FOR ROOFS, ROOF FORMS AND ROOF FEATURES

- ⊗ Radically changing, damaging, or destroying roofs, which are important in defining the overall historic character of the building.
- ⊗ Radically changing, damaging, or destroying roof features, which are important in defining the overall historic character of the building.
- ⊗ Removing a major portion of the roof or roof features or materials that can be repaired.
- ⊗ Applying paint or other coatings to roof materials, which have been historically unpainted or uncoated.
- ⊗ Stripping the roof of sound and repairable historic material.
- ⊗ Removing chimney or vent stacks.
- ⊗ Removing a roof feature that cannot be repaired and not replacing it or replacing it with a new feature that does not convey the same visual appearance.
- ⊗ Repointing of brick (chimney) using mortar that is too hard or does not replicate the existing mortar profile.
- ⊗ Covering existing chimneys with a new material.
- ⊗ Creating a false sense of history by adding roof features or by adding architectural details where none previously existed.
- ⊗ Installing mechanical or service equipment in such a way that it damages the historic building materials.
- ⊗ Installing equipment or features that are visible from nearby streets and sidewalks.

Awning and Canopies

Policy:

Existing awnings shall be preserved when feasible.

An awning is a roof-like covering over a window, door, etc., to provide protection against the sun, rain, snow, ice, and wind.

Several of the buildings in the Muscle Shoals Reservation District have awnings. These awnings are part of the overall features of the building and shall be retained.

APPROPRIATE TREATMENT FOR AWNINGS

- ✓ Preserve and maintain existing awnings.
- ✓ Repair existing awnings over replacement when feasible.
- ✓ Replacement materials must be matching to the original materials.

INAPPROPRIATE TREATMENT FOR AWNINGS

⊗ Avoid replacing an existing awning when repair is feasible.

Accessory Buildings

Policy:

Existing accessory buildings shall be preserved when feasible. This may include preserving the building in its present condition, rehabilitating it or executing an adaptive re-use so that the accessory building provides new functions.

Accessory buildings are usually classified as garages, storage buildings, and sheds. Accessory buildings located on individual lots aided in the interpretation of how the lot was historically utilized. Preservation of accessory buildings is strongly encouraged.

APPROPRIATE TREATMENT FOR ACCESSORY BUILDINGS

- ✓ Preserve an existing accessory building with feasible.
- ✓ Preserve the character-defining features such as original wall surface material, roof materials, roof form, historic windows, historic doors, and architectural details.

INAPPROPRIATE TREATMENT FOR ACCESSORY BUILDINGS

- ⊗ Removing of an accessory building when repair is feasible.
- ⊗ Altering the character-defining features of an assessor building to accommodate a new use.

DESIGN GUIDELINES FOR SITE ELEMENTS AND DESIGN

- Site Elements
- Topographic Features
- Historic Infrastructure
  - Rail Lines and Corridors
  - Streetscape
  - Street Landscape
- Utilities
- Parking

Design Guidelines for Site Elements and Design

Site Elements

Policy:

Maintaining and repairing historic site elements when feasible is preferred over replacing those elements.

New site elements shall harmonize, not detract from, historic site elements, the character of the historic building or structure they serve, and the surrounding area.

The historic infrastructure of the Muscle Shoals Reservation includes various site elements that help to represent the overall character of the area. These site elements include but are not limited to: topography, streetscape, sidewalks, curbs, rail lines, rail corridors, and utilities.

With proper maintenance, historic site elements can last for centuries. Routine maintenance of streets, rail lines, rail corridors, sidewalks, curbing, and other site elements are vital to prevent deterioration.

Topographic Features

Topographic features refer to the surface of the land and any natural features of the land. Some areas of the land of the Muscle Shoals Reservation District may be at a higher level than other sections or the land may slope in some areas. The topographic features of the Muscle Shoals Reservation help define the distinctive character of the area. Altering the topographic features, such as through the installation of a privacy wall, or retaining wall, interrupts the visual continuity of the historic setting and detracts from the character of the area.

APPROPRIATE TREATMENT FOR TOPOGRAPHY

- ✓ Maintain the established property lot to help prevent erosion.
- ✓ Match the historic topography of the surrounding property lots established along the sector frontage.
- ✓ New site elements shall function with, rather than alter, character-defining topography when possible.
- ✓ Reduce alterations in topography developing from new elements, such as walkways, driveways, through appropriate design and siting.

INAPPROPRIATE TREATMENT FOR TOPOGRAPHY

- ⊗ Altering the natural lot level or altering the character –defining features that help characterize the public right-of-way.
- ⊗ Excavating raised lots to accommodate added building height or an extra level for construction.

Historic Infrastructure

Policy:

Maintain the existing system to safeguard continuing economic use of properties within the Muscle Shoals Reservation District. Promote compatible re-use of rail spurs and corridors that are no longer in operation, and to maintain a pedestrian oriented public area that is harmonious with the historic setting and respects the integrity of the historic infrastructure.

Infrastructure is the term used to define the essential physical structures that supported the functional operations of the different uses in the Muscle Shoals Reservation District.

The general character and form of the Muscle Shoals Reservation is established by the configuration of a public area network of streets and sidewalks, intermingled with rail infrastructure (rail corridors and rail spurs). Usually buildings are deemed the character-defining feature of an area: a building's location, design, and configuration are defined by the system infrastructure they served and having been served by (street, railway, sidewalk, etc.). An infrastructure system unites sites and buildings to one another within the Muscle Shoals Reservation District establishing the overall spatial association that expresses the character of the area as a whole. Every element of infrastructure its function, materials, location, and dimensions performs a part in creating this combined character of the Muscle Shoals Reservation District.

Railway Corridors and Spurs

The boundaries of the Muscle Shoals Reservation District contain railway corridors, spurs, and tracks. The width of the railway corridors and the association between them and the buildings has endured. These features signify the interconnected relationship of the railroads and the industrial site a vital character-defining element of the district.

Example of existing railway corridors located within the district.

APPROPRIATE TREATMENT FOR RAILWAY CORRIDORS AND SPURS

- ✓ The location and width of existing railroad spurs and corridors shall be preserved in place.
- ✓ When feasible, tracks within existing railroad corridors shall be preserved in place or reinstalled when improvements are made.
- ✓ Incorporate existing railroad tracks into a project design.
- ✓ The adaptive reuse of non-active rail spur or corridors to furnish public green space or additional services for use of the surrounding area is encouraged.

INAPPROPRIATE TREATMENT FOR RAILWAYS CORRIDORS AND SPURS

- ⊗ Railroad corridors shall not be covered.
- ⊗ New buildings, structures, or other objects shall not interrupt the railroad corridor and spurs or decrease the views and access through the corridor.

Examples of inappropriate treatment for railway corridors

Streetscape

Policy:

Retain the traditional character of the industrial streetscape. The streetscape design shall not convey a false sense of history.

The following guidelines identify the development pattern and function of the character of existing streets with the Muscle Shoals Reservation District. Historic street plans contribute to the unique character of the district and shall be preserved. Street plans shape the method in which primary buildings are sited and they also determine the way a secondary building or structure and landscape elements may appear on the site. These guidelines provide assistance on how to retain and reinforce this character as the area transitions from historic industrial uses to more commercial use. Streetscape includes features such as street furnishings (benches, trash receptors, tree grates, and tables) and lighting.

APPROPRIATE TREATMENT FOR STREETSCAPE

- ✓ Streetscapes shall signify their industrial heritage, while creating new design that reflects the current time.
- ✓ The exiting street grid system disrupted by railway corridors shall be preserved.
- ✓ Existing street width and location shall be preserved in place.
- ✓ Original historic street paving materials shall be maintained and preserved when feasible.
- ✓ Improvements to streetscape design shall include conditions for additional pedestrian activity and building access.
- ✓ New streetscape improvements shall draw upon materials utilized traditionally.
- ✓ Improvements shall present a sense of continuity in design.

- ✓ On the streets, or sidewalks, where historic paving materials are not present, traditional concrete street materials are appropriate.

- ✓ Replacement of historic paving materials will be considered only if evidence is provided that the materials are too deteriorated to repair. If the use of historic materials in not technically or economically feasible, a compatible substitute material will be considered.

- ✓ Reconfiguring of public right-of-way to create infrastructure to further pedestrian or other transportation methods are appropriate as long as the historic features are not eliminated, the visual corridor is not interrupted, and the spatial relationships of the district are not affected.

- ✓ New or replacement street furnishings such as street furniture and street lights shall be compatible with the character of the historic district in terms of design, location, materials, scale, and color.

- ✓ A uniform style of streetlights and street furniture shall be utilized.

- ✓ If used street furniture (benches, trash receptors, tree grates, and tables) shall be located in areas of high pedestrian traffic.

- ✓ Street furniture (benches, trash receptors, tree grates, and tables) shall be placed at pedestrian route intersections, outdoor gathering areas, and major building entrances.

- ✓ Street furnishings (benches, trash receptors, tree grates, and tables) may be simple in design, of metal material and compatible with the style of adjacent buildings and outdoor spaces when historic furnishings do not exist.

- ✓ Preserve historic street lighting in place, maintain through regular cleaning, and repair as needed.

- ✓ Use appropriately scaled lighting for pedestrian walkways.

- ✓ If safety lighting or motion sensors are installed, it is optional to install fixtures that turn lights on and off automatically when safety or security is a concern. These fixtures shall be located as discreetly as possible on historic buildings or structures and avoid adding more fixtures than necessary.

INAPPROPRIATE TREATMENT FOR STREETSCAPE

⊗ New buildings or structures shall not interrupt the views or access of the street corridor.

⊗ Any changes to the streetscape shall not convey a false sense of history.

Street Landscape

The historic industrial landscape of the Muscle Shoals Reservation District did not include established parks, street trees, boulevard plantings, or other planned designed green spaces. Nevertheless, these elements are basic features of an urban or commercial neighborhood setting. The industrial landscape does hold a few park-like areas near some of the buildings. The following guidelines do not exclude the establishment of parks or other green spaces, nor do they prescribe the design of the elements. The following proposes guidance on locating such elements so that they can reinforce the development design of the historic district.

APPROPRIATE TREATMENT FOR STREET LANDSCAPE

✓ Street trees shall be positioned within or between the bays of buildings.

✓ Parks, open spaces or green spaces that reinforce the street barrier are encouraged.

INAPPROPRIATE TREATMENT FOR STREET LANDSCAPE

⊗ Street trees shall not be located directly in front of the entrances of historic buildings.

Utilities

Policy:

When adding new mechanical and electrical equipment to historic resources, it is vital to prevent damage to the historic building elements or significant landscapefeatures.

Through the twentieth and twenty-first centuries, technology has changed quickly. Compared to the present, historic buildings were constructed with minimal utilities, electrical, plumbing, and heating/air conditioning. Through the years, as technology progressed, modern conveniences were added and incorporated into historic buildings.

Utility service boxes, telecommunication devices, cables, and conduits are among the assortment of equipment that may be attached to a building that can affect the character of the historic area. Trash and recycling storage areas also are areas of concern. To the highest extent feasible, these devices shall be screened from public view.

APPROPRIATE TREATMENT FOR UTILITIES

- ✓ Locate utilities, mechanical equipment, and associated structures in secondary areas of visual concern and shield from public view with privacy walls, vegetation or other means, in keeping with the character of the historic area. Heating and air conditioning units (HVAC) shall be sited in areas that will require the least possible alteration to the plan, structure, materials, and appearance of the building.

- ✓ Locate utility connections and vents through walls, roofs, or foundations on secondary or tertiary areas of visual concern where they are not visible from public view.

- ✓ If allowed by the utility company, paint meter boxes, vents, other utility connections in colors that blend with the historic building and screen from public view.

- ✓ Install utility services underground when feasible to eliminate overhead lines and poles. Bore utilities under streets, sidewalks, and other landscape features in the historic district to avoid damage to historic landscapes and their elements.

- ✓ Trash and recycling bins shall be stored in an enclosed space in secondary and tertiary zones of visual concern and shielded from public view.

Examples of appropriate trash and recycling storage areas

Example of appropriate placement of electrical meters on a secondary elevation

INAPPROPRIATE TREATMENT FOR UTILITIES

- ⊗ Installing window air conditioning units in the primary area of public view.
- ⊗ Installing satellite dishes of any size in the public view.
- ⊗ Locating utilities, mechanical equipment, trash, or recycling bins and associated structures in the public view or on the primary façade of a building.

Parking

Policy:

New parking areas shall be carefully sited to minimize visual impacts and to maintain a pedestrian-friendly environment.

Parking areas shall be designed with proper siting and screening so as not to detract from the historic character of the district.

APPROPRIATE TREATMENT FOR PARKING

- ✓ Design parking areas to be located at the rear of the site, behind primary buildings to be less obtrusive from the public right-of-way.
- ✓ Parking areas to the side of a building is acceptable when location behind a building is not feasible.
- ✓ If feasible, design parking areas to be accessed by secondary streets rather than primary streets.
- ✓ When feasible use permeable parking surfaces to reduce run-off and flooding.
- ✓ Design parking structures to be similar in scale, materials, mass, and rhythm of the adjacent historic area when new parking structures are needed.

INAPPROPRIATE TREATMENT FOR PARKING

- ⊗ Disrupting the continuity of the streetscape by the addition of a parking area.

Design Guidelines For Americans With Disabilities Act (ADA) Compliance and Handrails

- Americans with Disabilities Act (ADA) Compliance
- Handrails

Design Guidelines for Americans with Disabilities Act (ADA) Compliance and Handrails

Americans with Disabilities Act (ADA) Compliance

Policy:

Property owners shall address accessibility issues while preserving the integrity of the character-defining features of buildings and sites.

The majority of historic buildings and sidewalks were not designed to be accessible to people with disabilities. Appropriate siting and design of accessibility features, such as wheelchair ramps, can minimize the possible visual impacts to historic buildings and the historic district while offering safe and accessible paths that are compliant with ADA requirements.

Where it pertains, property owners of historic properties shall comply to the greatest level feasible with the Americans with Disabilities Act (ADA) provisions.

APPROPRIATE TREATMENT FOR ADA COMPLIANCE

- ✓ Design an accessibility solution that does not modify the historic characteristics of a building.
- ✓ Identify, a historic building's character-defining features, spaces, and finishes, prior to starting accessibility code-required work, so that the work will not cause damage or loss.
- ✓ Minimize negative consequences on the historic character or materials of a building and site when making alterations to historic properties for improved access for persons with disabilities.
- ✓ Preserve significant historic features, while providing a barrier-free access that encourages independence for the disabled to the highest degree feasible.
- ✓ When feasible, utilize a discretely located addition as a means of providing accessibility.
- ✓ When feasible, incorporate minor changes in grade to modify sidewalk or walkway elevation to provide an accessible entry.
- ✓ When ADA access adversely effects the historic character through the main entrance of a commercial building, provide an accessible entrance located as close to the primary entrance as possible.
- ✓ Design ramps and lifts to harmonize with the historic character of the building and be visually unobtrusive, in particular when visible by public right-of-way.
- ✓ When feasible, screen ramps, lifts, or other features related to ADA compliance shall use appropriate landscape materials.
- ✓ Install new ADA curb cuts in historic sidewalks to be uniform with the existing sidewalk color and texture while minimizing any damage to the historic sidewalk.
- ✓ New elevators shall be enclosed by an additional structure compatible with the design of the building.

✓ The use of automatic door openers with push plates is an appropriate alternative to meet ADA door requirements.

INAPPROPRIATE TREATMENT FOR ADA COMPLIANCE

⊗ It is inappropriate to construct a structure to house a new elevator on the primary façade of a building.

⊗ It is inappropriate to modify a building for ADA compliance that will compromise the historic character of a building.

Handrails

Policy:

To avoid conveying a false sense of history, a handrail shall be of simple designe and have as little impact on the historic resources as feasible

A handrail may need to be installed at the entrance to a historic building to ensure accessibility and safety issues. The installation of a handrail shall not detract from the historic character of the building.

APPROPRIATE TREATMENT FOR HANDRAILS

- ✓ Install handrails simple in design.
- ✓ Metal is the appropriate material for handrails on an industrial style building. Wood handrails are more appropriate for residential style buildings.
- ✓ To minimize the visual impact, handrails shall appear predominantly transparent in its design.
- ✓ Preserve the historic handrails when feasible.
- ✓ When current building codes require a higher railing height, design a second handrail above the historic handrail to accomplish a larger overall height without altering the appearance of the historic handrail.
- ✓ The new handrail shall be visually secondary to the historic handrail.

INAPPROPRIATE TREATMENT FOR HANDRAILS

⊗ Wood rails shall not be installed to industrial style buildings.

⊗ Damage to significant architectural features and materials to install handrails is inappropriate.

DESIGN GUIDELINES FOR NEW CONSTRUCTIONS AND ADDITIONS TO EXISTING BUILDINGS

- New Construction
  - Mass and Building Footprint
  - Height
  - Width
  - Scale
  - Building and Roof Form
  - Orientation
  - Rhythm and Setback
  - Solid-to-Void
  - Materials
  - Entrances
  - Windows and Doors
  - Awnings and Canopies
  - New Accessory Buildings

- Additions

DESIGN GUIDELINES FOR NEW CONSTRUCTIONS AND ADDITIONS TO EXISTING BUILDINGS

New Construction

Policy:

Creative solutions that are compatible with the historic character of the surrounding area are strongly recommended, while designs that seek to contrast with the existing context simply for the sake of being different are not recommended. This policy will help to protect the established character of the district, while also allowing new, compatible design.

To construct a new building in a historic district requires sympathetic thought. It is vital to understand that while the historic district conveys a particular sense of time and place associated with its history, it also remains vibrant, with alterations to existing buildings and construction of new buildings occurring over time.

New construction in a historic district shall be in a method that supports the fundamental visual characteristics of the district. However, it does not necessitate new buildings should look old. It is usually discouraged to construct new buildings, which imitate historic styles or building types found in the historic district. Architectural historians would rather be able to examine the evolution of the street and district, distinguishing the visible age of individual buildings by its style and method of construction. An age of a building is deduced by its style or type and categorizing a building in its style in relative chronological order. The capability to interpret the history of a district or street is muddled if new buildings are designed to replicate historic styles.

A new building should convey the basic characteristics of the district while expressing the current design trends. This may be accomplished by utilizing the fundamental methods of a building that comprise a part of the character of a historic district. Such methods are set back, orientation, size, scale, rhythm, directional emphasis, materials, and building elements. When these design methods are arranged in a new building to be comparable to other buildings seen traditionally in the district, the results are visual harmony.

It is achievable to be compatible with the historic context of the historic district while creating a design that is noticeable as being of newer construction and this is achieved by the fundamental design methods more so than the details of individual architectural styles.

APPROPRIATE TREATMENT FOR NEW CONSTRUCTION

✓ Preserve the cohesive ambience of the existing buildings and surrounding areas in the district with compatible, sympathetic, and contemporary construction.

✓ Construct compatible contemporary designs reflective of the time that are not visually overwhelming.

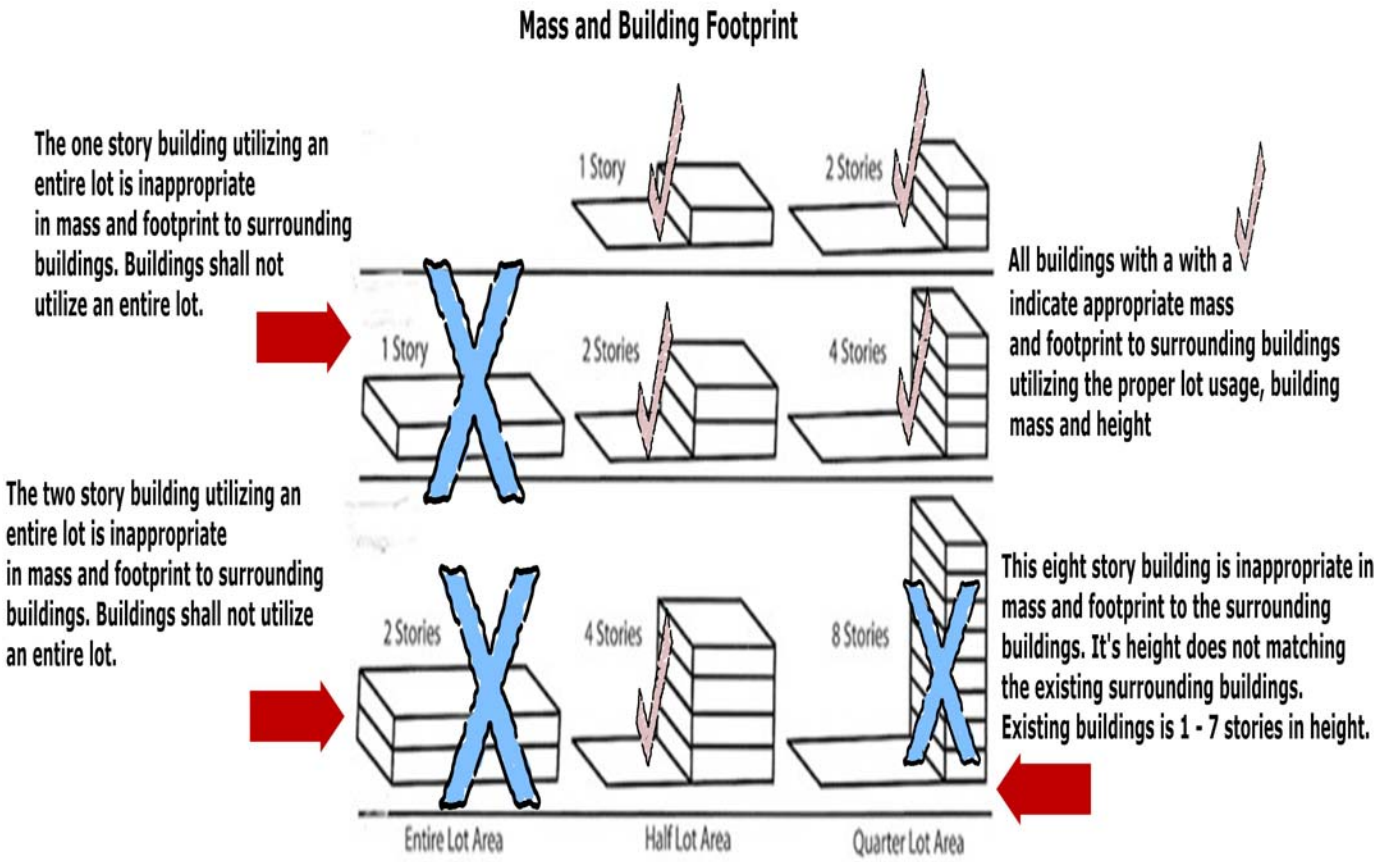
INAPPROPRIATE TREATMENT FOR NEW CONSTRUCTION

⊗ Detracting from the surrounding areas of the historic district.

⊗ Overwhelming the surrounding historic buildings.

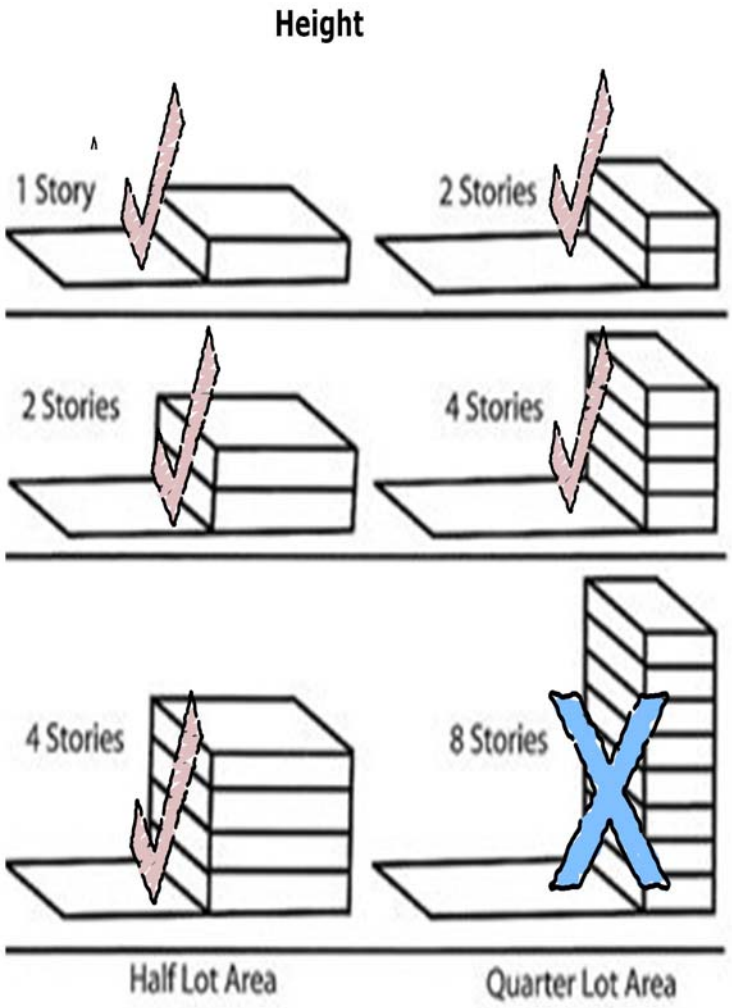
Mass and Building Footprint

New construction in the district that is visible from the public right-of-way shall correlate in mass and footprint to the majority of the existing buildings in the surrounding area.



Height

Similarity in building height contributes to the visual harmony of a historic district. The height of new construction shall be compatible with existing buildings in the district, shall not vary from the average height of adjacent buildings, and shall not be in conflict with existing buildings in the surrounding streetscape.

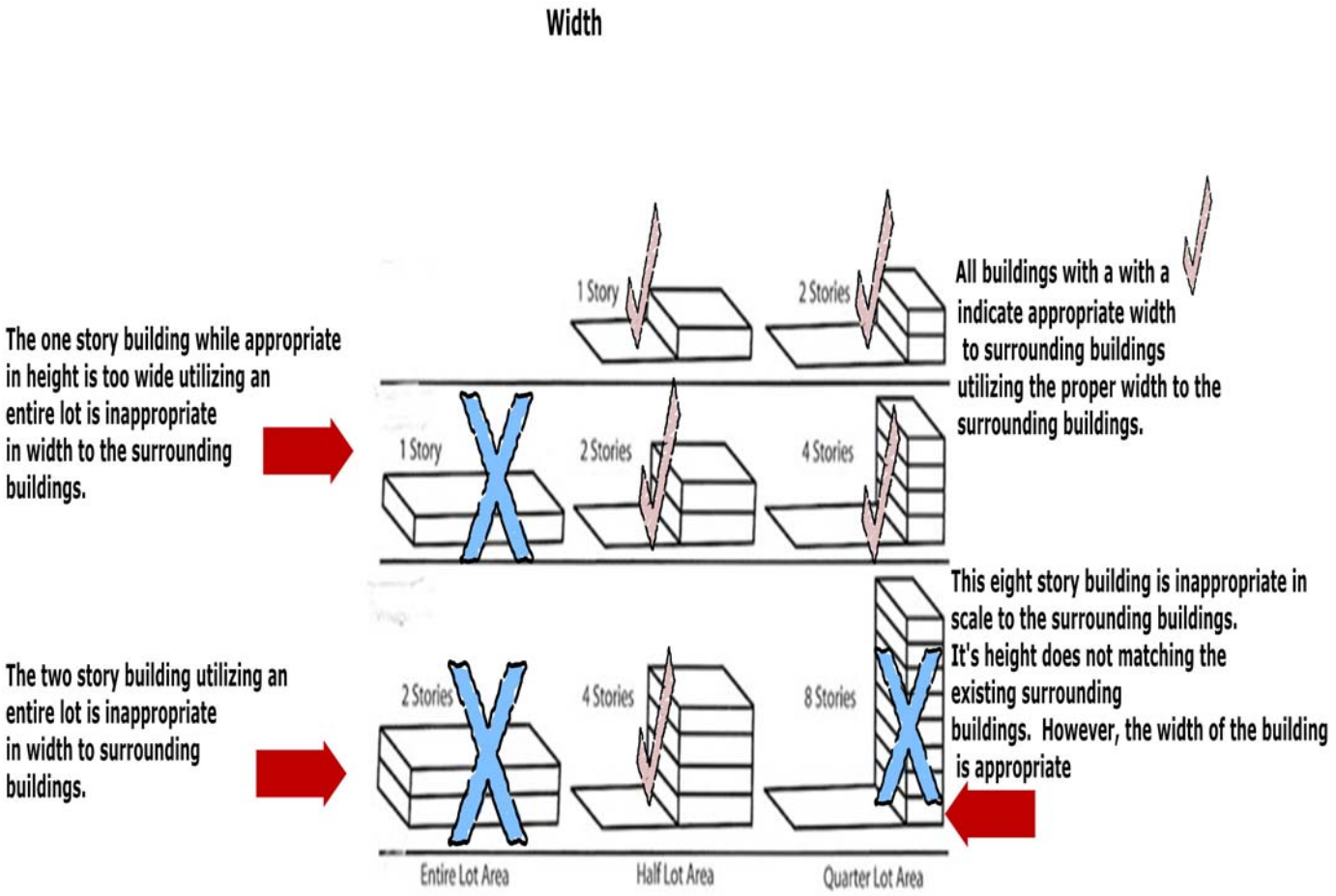


All buildings with a with a indicate appropriate height to the surrounding buildings.

This eight story building is inappropriate in height to the surrounding buildings. It's height does not matching the existing surrounding buildings. Existing building height is 1 - 7 stories

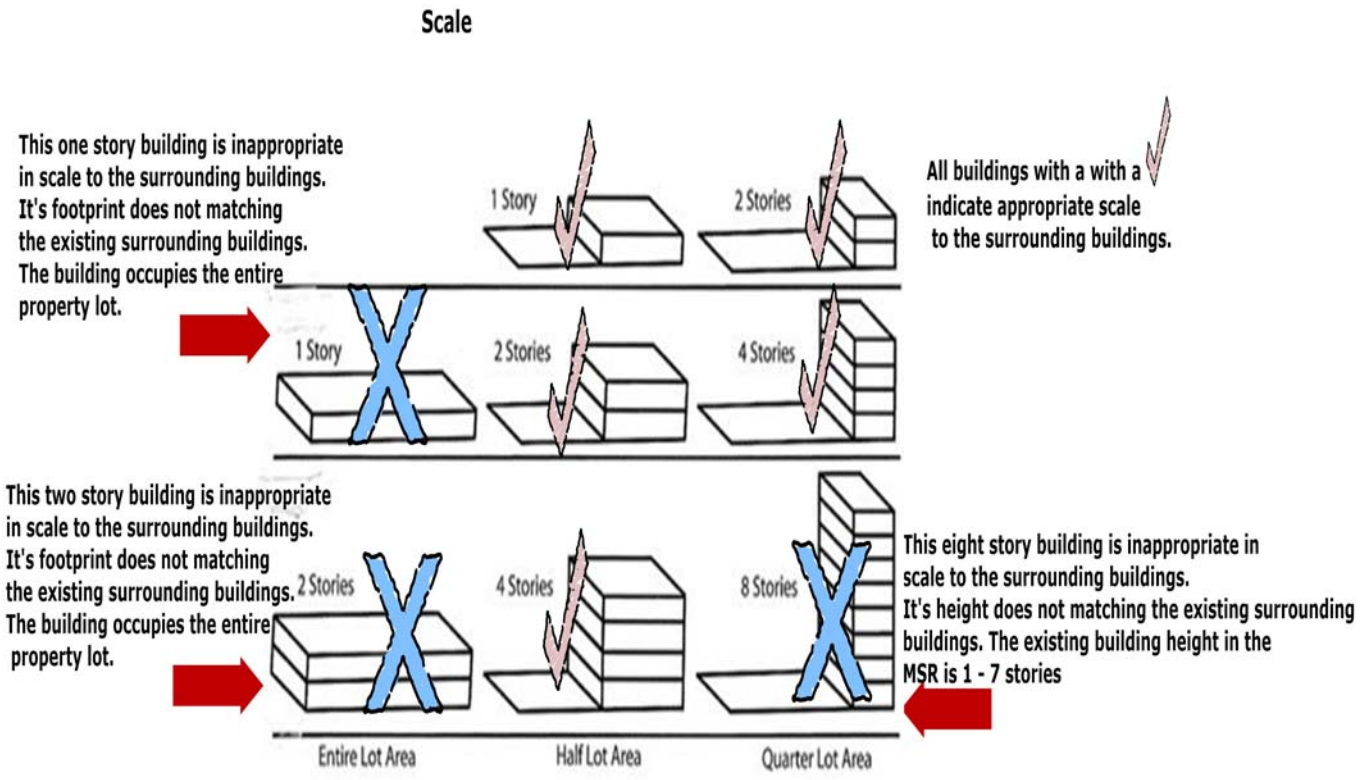
Width

In order to retain a sense of visual harmony in the district, new buildings shall be similar in size to that of the existing buildings in the surrounding area. New construction shall be proportional to the width of the lot and shall not be in conflict with the surrounding buildings.



Scale

Scale is defined as the relationship of the size of the building to neighboring buildings and of a building to its site. The scale may also be defined as the relationship between the size of a building and people. Buildings are said to have a human scale when the building and its details are visible from the sidewalk. The scale of a building can be produced by the height and width and the relationship between the size of a building and the size of a person. The scale of a building becomes massive when the building overwhelms a pedestrian. For instance, a two-story building with a one-story entrance is more human in scale than a two-story building with a two-story entrance, which is massive in scale to a pedestrian.



Building and Roof Form

Visual harmony can also be established by the similarity of building forms. Building form in the district shall be retained; any new buildings shall have basic roof and building forms that are similar to those seen traditionally. While several of the buildings located within the district feature roof monitors, new buildings need not feature a roof monitor, but shall feature the traditional roof forms found in the district, such as, gable, flat, stepped, and flat to-shed. Generally, façade proportions also shall be in harmony with the context.

Within the historic district, roof forms, roof design, roof textures, and materials are important features. When defining the historic district character, the roof pitch is just as significant as the form.

APPROPRIATE TREATMENT FOR BUILDING AND ROOF FORM

- ✓ Utilize forms that correlate to the majority of existing buildings in the surrounding district.
- ✓ Follow the average building and the roof form in the surrounding area of the district.
- ✓ Utilize traditional roofing materials found in the historic district.

INAPPROPRIATE TREATMENT FOR BULDING AND ROOF FORM

- ⊗ New construction shall not be disproportional to the majority of existing buildings in the surrounding district.
- ⊗ New construction shall not break from the average building and roof form.

Orientation

Traditionally, a building's façade is oriented to the street. The orientation of buildings establishes a rhythm in the district and contributes to the overall fabric of the district, which contributes to the sense of visual harmony.

APPROPRIATE TREATMENT FOR ORIENTATION

✓ Oriented in a method that is similar to those seen traditionally in the surrounding district.

INAPPROPRIATE TREATMENT FOR ORIENTATION

⊗ Orienting in a method that breaks from the traditional pattern in the surrounding district.

Rhythm of Spacing and Setback

New construction shall match the rhythm of the historic district. A new building shall follow the spacing and setback patterns established by its surrounding buildings. Setbacks, which are inconsistent with the setback pattern of the existing buildings in the district, are inappropriate.

APPROPRIATE TREATMENT FOR RHYTHM OF SPACING AND SETBACK

✓ Match the prevailing spacing and setback distances between buildings and the property line, street or sidewalk patterns of the surrounding buildings in the district.

INAPPROPRIATE TREATMENT FOR RHYTHM OF SPACING AND SETBACK

⊗ Differing from the prevailing spacing and setback distances between buildings and the property line, street or sidewalk patterns of the surrounding buildings in the district.

Solid-to-Void Ratio

New buildings shall echo the surrounding existing buildings in the ratio of window and door openings to wall surface, also known as solid-to-void ration. The existing buildings in the historic district characteristically and commonly have wall surfaces interrupted by window and door openings. Wall surfaces without window and door openings are insensitive to the district surroundings. The proportion and scale of window and door openings shall be compatible with the surrounding existing buildings. The ratio on a new building, the amount of the façade and elevations seen by the public right-of-way, shall be similar to that of existing buildings within the neighborhood.

APPROPRIATE TREATMENT FOR SOLID-TO-VOID RATIO

✓ Match the ratio of window and door opening to wall surface of the surrounding building in the district.

✓ Match the size and proportion (ratio of width to height) of window and door openings on the façade and elevations seen from the public right-of way to those of the surrounding buildings.

INAPPROPRIATE TREATMENT FOR SOLID-TO-VOID

⊗ Differing from the ratio of windows and door opening to wall surface of the surrounding buildings in the district.

⊗ Diffeingr from the size and proportion (ratio of width to height) of window and door openings on the façade and elevations seen from the public right-of way to those of the surrounding buildings.

Materials

Use materials in new construction that are comparable to those commonly found in the historic district. Some buildings in the district have a combination of various materials contingents on the building type. While new materials may be considered, the materials shall appear similar to those seen traditionally to establish a sense of visual harmony. The majority of the buildings feature hollow clay tile wall surfaces; it is acceptable to use brick as a wall surface material instead of hollow clay tile. An example of an inappropriate building material for the district would be Dryvit or stucco since these building materials were not utilized with the historic buildings in the district.

APPROPRIATE TREATMENT FOR MATERIALS

✓ Choose materials thatare compatible and complement the surrounding buildings in the district.

INAPPROPRIATE TREATMENT FOR MATERIALS

⊗ Choosing new construction materials that are incompatible ordo not complement the surrounding buildings in the district.

Windows and Doors

Existing buildings located in the historic district have distinctive window and door forms and patterns. Windows and door design habitually relate to the architectural style of a building. The similarity of window and door size and location contributes to a sense of visual harmony the district. A new building should retain the basic window and door proportions and placement patterns seen traditionally in the district to retain the sense of visual harmony.

APPROPRIATE TREATMENT FOR WINDOWS AND DOORS

- ✓ Match the size and proportion (ratio of width to height) of window and door openings on the façade and elevations seen from public right-of-way to those of the surrounding buildings.
- ✓ Utilize window types in new construction compatible with those found in the district.
- ✓ Echo the traditional entrance features of the district.

INAPPROPRIATE TREATMENT FOR WINDOWS AND DOORS

- ⊗ Differing from the size and proportion (ratio of width to height) of window and door openings on the façade and elevations seen from public right-of-way to those of the surrounding buildings.
- ⊗ Differing from the traditional entrance features from those found in the district.

Awnings and Canopies

Existing awnings and canopies in the district have a distinctive design and form. A new building shall retain the basic awning proportions and placement patterns seen traditionally in the district to retain the sense of visual harmony.

APPROPRIATE TREATMENT FOR AWNINGS

- ✓ Align awnings and canopies with the architectural features of the building.
- ✓ If applicable, consider the matching depth of adjacent historic awnings and canopies.
- ✓ Install awning and canopy hardware in a method that does not damage the historic building elements or materials. The preferable method is to anchor into the mortar.
- ✓ Select awning and canopy shapes that reflect the door or window openings they are to cover.

INAPPROPRIATE TREATMENT FOR AWNINGS

- ⊗ Obscure building features.
- ⊗ Damaging the building elements or materials when installing an awning.
- ⊗ Installing hardware into the brick wall surface.
- ⊗ Installing awnings and canopies that do not reflect the window or door openings they are to cover.

New Accessory Buildings

A new accessory building construction location is preferable to the rear of the lot or to the side but set back. New construction shall have a similar roof pitch to the existing main building and shall remain subordinate in terms of mass, scale, and height, of the primary building.

APPROPRIATE TREATMENT FOR NEW ACCESSORY BUILDINGS

- ✓ Locate an accessory building to the rear of the lot.
- ✓ Locate an accessory building to the side of the main building if necessary but it shall be set back substantially.
- ✓ Orient accessory building similar to those seen traditionally in the district.

INAPPROPRIATE TREATMENT FOR NEW ACCESSORY BUILDINGS

- ⊗ Locating new accessory building to the front of the lot.
- ⊗ Dominating the existing building in terms of mass, scale, and height.

Additions

Policy:

If a new addition to an existing building is to be constructed, it shall be designed such that the early character is retained. Older additions shall also be considered for preservation.

Over time, many existing buildings have experienced additions, as the need for extra space occurred. In some situations, a property owner would build a wing or small addition.

It is important that new additions be designed in such a method that they preserve the historic character of the primary building. Additions have the capability to make substantial changes to the architectural character of historic buildings. Additions should be considered only after determination that a new use cannot be met without altering significant interior space. New additions shall be added in a way that preserves the character and detailing of the existing building. A new addition does not need to mimic precisely the appearance of the historic building but a new addition shall not be visually disruptive. The design of a new edition shall be visibly differentiated, so the addition states an addition and not as part of the existing building.

APPROPRIATE TREATMENT OF ADDITIONS TO EXISTING BUILDINGS

- ✓ Additions shall be located to the rear of the property or on a secondary elevation. Side additions that do not compete with the primary building and are not highly visible from the public right-of-way are acceptable.
- ✓ Additions shall be compatible with the original building but shall be differentiated from the existing building.
- ✓ New additions shall be designed in a method that if removed in the future, the form and integrity of the existing building will not be impaired.
- ✓ Additions shall be smaller in scale than the primary building.
- ✓ Additions shall be kept simple and appropriate in shape, materials, and details.

INAPPROPRIATE TREATMENT OF ADDITIONS TO EXISTING BUILDINGS

- ⊗ Siting additions on the main façade or at elevations highly visible from the public right-of-way.
- ⊗ Constructing additions that are incompatible with the existing building and cannot be differentiated from the existing building.
- ⊗ Constructing additions that are larger in scale than the primary building.
- ⊗ Constructing additions that are complex and inappropriate in shape, materials, and details.
- ⊗ Constructing additions that if removed in the future will cause harm or destroy the form and integrity of the existing building.

DESIGN GUIDELINES FOR SIGNAGE

- Signage

Design Guidelines for Signage

Signage

Policy:

New signs shall harmonize, not compete, with the character of the historic district.

Historically, signs were attached, painted onto a building elevation, or placed near a building and were designed to complement the overall character of the building while conveying necessary information. New signs shall harmonize and not detract from the character- defining features of the building or damage elements of the historic building. The preservation of historic signs is additionally important as the adaptive reuse of historic buildings and structures ensue over time.

These signage guidelines apply to existing buildings and new construction. The guidelines apply to buildings, as well as the area within the district boundaries.

APPROPRIATE TREATMENT FOR SIGNAGE

- ✓ Ghost signs (faded painted signs on a building's wall surface) or other historic signage characteristic of the building or historic district shall be preserved as a historic building is rehabilitated for alternative uses.
- ✓ New signage shall be designed and based on evidence of historic signs or sign attachment parts within the historic area.
- ✓ Create signs to respect and harmonize with the character of the historic district.
- ✓ Signage shall identify the building's tenant without creating visual clutter or distracting from the building features and the historic district.

- ✓ Signage shall be designed to harmonize with the building's façade, in respect to the building's size, mass, scale, height, as well as the rhythms and sizes of window and door openings.

- ✓ The signage scale (height and width) shall be subordinate to the overall building composition.

- ✓ Free standing signage when placed in front of a building shall be five feet or less in height, the signage scale (height and width) shall be subordinate to the overall building composition

- ✓ Historic signage shall be preserved when feasible.

- ✓ Historic signs shall be repaired and if replacement parts are required, parts shall be historic parts in-kind when deteriorated beyond repair.

- ✓ Signs shall be placed where historically located and reuse sign attachment parts where they exist.

- ✓ Signs shall be designed with materials commonly used for the historic signage in the industrial district. Appropriate material shall be in the metal family.

- ✓ The colors shall be limited to three when designing a sign.

- ✓ Select letter styles and sizes that harmonize with the historic building and the historic district. A company's logo is permitted. The simple style font is appropriate and in keeping with the overall character of the district, whereas "script" style font is inappropriate.

- ✓ Use a directory sign on a building to minimize visual color and promote a uniform appearance.

- ✓ Place freestanding signs near the public right-of-way where they can be easily seen by pedestrians and motorist, but does not obstruct the pedestrian walkway.

- ✓ Freestanding signs shall be no more than five feet in height when located between buildings.

- ✓ Freestanding signs shall use historically compatible materials to support the sign. Historically compatible material is metal. Signs constructed of wood, glass, fiberglass, or plastic are not historically compatible.

- ✓ Retain historic window signage if it reflects a historic building name, owner, or early business/use.

- ✓ Window signage shall be used only on the first level of a building.

- ✓ Window signage shall cover 30 percent or less of a window.

INAPPROPRIATE TREATMENT FOR SIGNAGE

- ⊗ In is inappropriate to erect signs above the roofline or uppermost section of a façade wall or where a sign will damage or conceal architectural details, window and door openings or other important details.

- ⊗ It is inappropriate to obscure the historic building elements with new signage.

- ⊗ It is inappropriate to cause irreversible damage by the installation of signage; signs shall not be installed into the existing brick; install sign into the mortar.

- ⊗ It is inappropriate to use materials not historically used in the industrial district for signage.

- ⊗ Billboard signs shall not be installed.

- ⊗ Large pole signs more commonly used on major thoroughfares are inappropriate for use in the historic district.

- ⊗ Revolving signs shall not be installed.

- ⊗ Roof mounted signs shall not be installed.
- ⊗ Digital and LED signs shall not be installed.
- ⊗ Moored balloons or other floating signs shall not be tethered to the ground, buildings, or structures.
- ⊗ Signs that do not identify a business, service, street or the history of the district shall not be installed within the district.
- ⊗ Freestanding signs shall not disrupt the street views.
- ⊗ Freestanding signs shall not disrupt the public right-of-way.
- ⊗ Freestanding signs shall not be placed in front of an entrance to a building.
- ⊗ Window signage shall not be constructed from opaque materials that obscure views into and out of the windows, either partially or completely.
- ⊗ Paper signs, banners, fliers, or graphic films that adhere to the exterior of window glazing shall not be used.

DEMOLITION, RELOCATION, MOTHBALLING, and ENVIRONMENTAL CONERNS

- Demolition
  - Review Criteria for Demolition
  - Guidelines for Demolition
  - Guidelines for Approval of Demolition
- Relocation of an Existing Building
  - Review Criteria for Relocation
  - Guidelines for Relocation
- Mothballing or Stabilization
  - Guidelines for Mothballing
- Environmental Concerns

DEMOLITION, RELOCATION, AND MOTHBALLING

Demolition

Policy:

Demolition of a building shall only be considered if alternatives for rehabilitations are not feasible and the loss of a building will not adversely affect the integrity of the district.

The buildings in the historic district are irreplaceable. The quality of the buildings' craftsmanship, design, and range of materials is unapproachable by today's conventional, rapid-paced, and mass-produced standards. While the designers, builders, and original owners can no longer touch, appreciate, and use the buildings, the historic resources created by them still remain as tangible proof of the culture, heritage, economic, development, architectural history for the functional and education benefit of future generations . A demolished building is not only irreplaceable - the historic district loses a component of its fabric and significance.

When a historic building is demolished, not only does it shrink the built environment but also it creates unnecessary waste. Demolition is irreversible; all options for saving a threatened historic resource shall be investigated.

Fires and unforeseen catastrophic events occur, and if a building must be removed for legitimate reasons, then these guidelines will form a basis for a new compatible building for the district (see section New Construction).

Demolishing buildings in the commercial district with a party-wall construction may expose adjoining buildings and their materials to harsh, deteriorating exterior conditions.

Review Criteria for Demolition

The following factors shall be considered in the determination of whether or not to permit demolition, completely or in part, of an existing building in the historic district.

1. The historic, architectural or cultural significance of the specific building or property, including, without limitation:

    a. The age of the structure or property;

    b. Whether, and to what extent, the building or structure is associated with a historic person, architect, master craftsman, or with a historic event;

    c. Whether the building or structure is of such old or distinctive design, texture or material that it could not be reproduced, or could be reproduced only with great difficulty; and

    d. The degree to which distinguishing characteristics, qualities, features, or materials remain.

2. The overall condition and structural integrity of the building, as determined by a qualified professional engineer or architect.

3. Whether and to what extent the applicant proposes means, methods, or plans for moving, removing, or demolishing the building or property that preserves portions, features, or materials that are significant to the property's historic, architectural, or cultural value.

4. The effect of the loss of the building on the district.

5. The purpose and necessity of the demolition and whether or not alternatives exist.

6. Whether or not a relocation of the building would be a practical and preferable alternative to demolition.

7. Whether or not the proposed demolition would affect adversely or positively, other historic buildings or the character of the historic district.

8. Whether or not there has been a professional economic and structural feasibility study for rehabilitating or reusing the building and whether or not the finding supports the proposed demolition.

Guidelines for Demolition

1. Demolition of an historic building may be considered only after all preferable alternatives have been exhausted.

2. Buildings that are to be demolished should be documented thoroughly through photographs and measured drawings.

3. There should be a plan in place for the development or maintenance of the lot if demolition is approved.

4. Save significant features of a historic building slated for demolition when efforts to relocate it fail. Important items to save may include:
    - windows, doors, and trim,
    - stairways,
    - posts,
    - ceiling features,
    - decorative interior and exterior metalwork, such as metal ceilings,
    - flooring,
    - hardware and light fixtures,
    - heavy timbers, and
    - bricks, stone, and other masonry elements.

5. Use salvaged elements for repair, maintenance, and rehabilitation projects involving similar buildings within the historic district whenever possible.

Guidelines for Approval of Demolition

Demolition may be approved under the following conditions:

1. Economic hardship has been demonstrated, proven, and no other financial assistance is available.

2. The structural instability or deterioration of a property is demonstrated through reports by a structural engineer or an architect and clearly details the property's physical condition, the reasons why rehabilitation is not feasible, and cost estimates for rehabilitation versus demolition. In addition to this report, there should be a proposal that details future action on the property lot, such as, if a new building will be constructed and proposed period, or if the property lot will remain vacant.

3. Buildings have lost their original architectural integrity and no longer contribute to the overall character of the district.

Relocation of an Existing Building

Policy:

Preservation of a building in its existing location is preferable to its relocation. Relocation of a building shall only be considered if alternatives for rehabilitations (in original location) are not feasible and the loss of a building will not adversely affect the integrity of the district. When relocation is unavoidable, the building, as well as adjacent buildings must be stabilized to protect significant architectural and structural elements.

The relocation of a historic building to another location in the historic district or to the historic district from another location is seldom the most desirable form of preservation. Many of a building's historic associations come from its physical setting and its relationship to other nearby buildings. The relocation of a building disunites those relationships and preserves only the form of a building.

The relocation of a building has significant implications for neighboring building and landscape areas. Moving a building shall be considered only as a last resort when preservation and rehabilitation of a building in its original location and setting are not possible.

Review Criteria for Relocation

1. The public necessity of the proposed move.
2. The public purpose or interest in land or buildings to be protected.
3. The existing character of the setting of the building or area and its surroundings.
4. Whether or not the proposed relocation would have a detrimental effect on the structural soundness of the building, and whether the proposed location is an appropriate setting for the building.
5. Whether or not the proposed relocation would have a negative or positive effect on other sites or buildings within the historic district.

6. Whether or not the proposed relocation would provide new surroundings that would be compatible with the architectural aspects of the building.

7. Whether or not the proposed relocation is the only practical means of saving the building from demolition.

8. Whether or not the building will be relocated to another site within the historic district.

Guidelines for Relocation

1. Move buildings only after all alternatives to retention have been examined.

2. Seek assistance in documenting the building on its original site before undertaking the move.

3. Photograph the building and site thoroughly.

4. Measure the building to produce an accurate drawing for posterity and research purposes.

5. Thoroughly assess the building's structural condition in order to minimize any damage that might occur during the move.

6. Hire a licensed professional building moving contractor experienced in moving historic buildings to undertake the relocation of a historic building.

7. Secure the structure from vandalism and potential weather damage before and after it is moved.

8. Select a setting for a relocated building that is compatible with its character, even if the new site is not included in the historic district.

9. Comply with relevant guidelines governing the siting and design of infill construction when relocating a historic building to another site within the district.

10. Plan the relocation route carefully to:
    - avoid narrow, winding, or steeply inclined roads,
    - comply with height, weight, or size limitations, and
    - identify overhead utilities that might pose clearance problems.

11. Move buildings intact whenever possible. If the structural condition of the building or conditions of the relocation route precludes moving a building as a single unit then partial disassembly into larger workable components is preferable to total disassembly.

12. Protect buildings, buildings, or building elements from damage during the actual move. This may involve, for instance, the boarding up of doors and windows or the provision of additional bracing to prevent racking (a sideways shifting of structural members, causing structural damage).

13. Contact the AHC Office for assistance when considering the relocation of a building that is listed in the NRHP.

14. If the site that the relocated building occupies is to remain vacant for any length of time, maintain the empty lot in a manner consistent with other open spaces in the district.

15. Once a building has been relocated, make every effort to reestablish its historic orientation.

Mothballing or Stabilization

If a building in the district becomes vacant or is abandoned, it shall be secured in order to prevent "demolition by neglect."

Guidelines for Mothballing

1. **Security:** Secure the building against vandalism, break-ins, and natural disasters. Apply temporary coverings for the windows and door openings in such a manner as to not damage historic features or materials.

2. **Stabilization:** structurally stabilize the building as needed, provide, and maintain a weather-tight roof. Temporary roofing may be installed if needed. Discontinue all utilities and remove all flammable materials and debris from the building. Brace exterior walls into structure if needed.

3. **Ventilation:** Provide adequate ventilation to the interior of the building through the use of vents in the window and door coverings. An effective and inexpensive method is to install air duct covers set over pre-cut holes in the plywood.

4. **Pest Control:** The building should be treated to prevent termite infestation and any foundation or eave damage covered with wire screen.

5. **Monitoring:** Periodically monitor the building to insure the effectiveness of the mothballing program.

6. **Vegetation:** Cut back landscaping or remove any bushes, small trees, and vines that will grow into the foundation, damage structural materials or overtake the building. This helps to discourage trespassing.

Environmental Concerns

When dealing with environmental concerns utilize the treatment that has the minimum impact on the historic resource without compromising the mitigation effort.

Property owners shall consider an environmental mitigation plan that has the minimum impact on a historic resource when feasible.

ARCHAEOLOGICAL RESOURCES

- Archaeology
- Identification and Treatment of Archaeological Resources
- Migation Treatment
- Interpretation
- Design Guidelines for Archaeology

Archaeological Resources

Archaeology

Archaeology can provide important information about past inhabitants as well as inform us about the site of previous buildings or outbuildings, the position of walls, or the removal or addition of an existing property. Information derived from archaeological sites provides a better comprehension of historic buildings and the surrounding area. Archaeological resources are significant to the heritage and future preservation of the Muscle Shoals Reservation District. The AHC is available to provide further information and assistance by calling the State Archaeologist.

Archaeological resources are fragile and irreplaceable and should be protected. A site may be left alone and preserved for future investigation. A site can be excavated and documented, as well as be integrated within the landscape area of a development project. Archaeological resources can be adversely affected by any earth moving activities involving demolition, excavation, or fill grading, landscaping, and drilling.

An important objective for the Muscle Shoals Reservation district is to preserve archaeological resources when feasible. This involves consideration of the potential archaeological resources, recognizing them, assessing their significance, and establishing appropriate treatment. The preservation of archaeological resources should begin during the initial phases of project planning and design. These guidelines should be utilized by property owners, developers, design professionals, builders, contractors, and any person involved in private or public improvements

Any improvement project should be undertaken with the understanding that archaeological resources may be encountered and steps should take to address the issue and be integrated into the project.

Any cultural resource work must follow 36CFR and the Alabama regulations and guidelines for archaeology.

Important steps that should be required for addressing archaeological resources are as follows:

- **Perform a background research**
  Do research to determine what has been written or documented about the history and various subjects of the Muscle Shoals Reservation District. This will provide information and suggest potential archaeological resources. Perform research using historic maps, historic photographs, and written documentation.

- **Perform a Phase 1 Survey**
  A Phase 1 Survey involves an Archaeological Resource Inventory (ARI), or an investigation to verify if an archaeological site is existing within a given parcel. This includes an examination of records, maps, photographs, and written documentation. In addition, a qualified archaeologist shall conduct a field survey.

  When a project has the potential to disturb subsurface materials, an ARI may need to be performed.

- **Perform a Phase 2 Assessment**
  A Phase 2 Assessment is completed to identify vital archaeological resources with regard to National Register eligibility. The assessment will verify which resource shall be protected or further evaluated. This assessment will establish the basis for mitigating project impacts, as well as planning for data excavation and recover.

  A Phase 2 Assessment may need to be conducted when the Phase 1 ARI suggests the presence of, or probable presence of, archaeological resources, and development adjacent to those resources cannot be prevented.

- **Establish a Strategy for Treatment**
  A strategy for treatment should be established when vital archaeological resources are identified. It may consist of policies to prevent any impacts and, if not, to mitigate them. In addition, it may include procedures for recording, recovering, curating, or interpreting resources.

Mitigation Treatments

- **Archaeological Resources**
  The preferred mitigation for significant archaeological resources is protection in place through preservation.

- **Archaeological Data Recovery – Excavation**
  The goal of archaeological data recovery excavation is to gather vital archaeological resources from a site to mitigate project- associated adverse effects.

- **Curation of Archaeological Artifacts**
  Significant archaeological resources are removed from a project then curated at a qualified facility.

Interpretation

A mitigation plan could include materials prepared to explain the information obtained from the archaeological resources. This could include publications, exhibits, displays and even the assimilation of resources into site improvements, to assist their understanding on site.

Design Guidelines for Archaeology

- Preserve and maintain all known archaeological resources in their natural or undisturbed setting.
- Investigate the potential for archaeological resources prior to undertaking a project that disturbs the grounds surrounding a property.
- Keep changes in the terrain to a minimum surrounding a historic property or within the historic area.
- Protect known archaeological resources at all times, especially during construction projects.
- Do not use heavy machinery in areas known to have archaeological resources.
- Contact the State Archaeologist at the AHC for information and assistance.
- If disturbance is unavoidable, undertake investigations using a qualified archaeologist who adheres to accepted standards, practices, and methods for resource mitigation and/or recovery.

APPENDICES

- Glossary
- Preservation Briefs
- Preservation Practices
  - Introduction to Historic Preservation and Rehabilitation
  - Incentives for the Rehabilitation of National Register of Historic Places Designated Buildings
  - Federal Tax Incentives
  - Alabama Tax Incentives
  - Secretary of Interior Standard's
  - Apply the Secretary of Interior Standard's
  - Levels of Preservation Efforts: Building Project Categories
  - Project Planning
- Bibliography

APPENDICES

Glossary

A

Adaptive Re-Use: Recycling an old building for a use other than that for which it was originally intended when constructed. Adaptive re-use may entail a sympathetic rehabilitation that retains much of a building's original fabric or character, or it can involve a more extensive remodeling.

Addition: New construction added to an existing building or structure such as an ell, wing, or porch.

Alignment: Alignment is the linear relationship of structures creating a visual line and a sense of continuity along a streetscape.

Alteration: Any act or process that affects any exterior architectural feature including construction, reconstruction, or removal of any building, or building element.

Aluminum Siding. Sheet of exterior wall covering fabricated from aluminum to resemble wood siding.

Appropriate. Suitable for, or compatible with, a property, based on accepted standards and techniques for historic preservation.

Arch. A curved structural member used to span an opening; sometimes an arch can be a pointed structural member.

Architectural Conservation: The method of maintaining and/or repairing the materials of a building or structure to lessen or reverse the physical deterioration such as cleaning, repointing of masonry joints, and reattaching any loose elements.

Architectural Style: The total appearance of the architecture of a building comprised of construction, form, and ornamentation; which may be of part of wide-ranging cultural pattern or a unique individual representation.

Asymmetrical: Not symmetrical, with the parts not arranged correspondingly identical on both sides of a central axis.

Awning: A roof-like cover of canvas or other lightweight material that extends over a doorway, or window to provide protection from the sun or rain.

B

Bay: 1) An opening or division along a face of a building, such as a wall with a centered door flanked by two windows is three bays wide. 2) A part of a building defined by vertical divisions such as adjacent columns or piers.

Beam: A structural member whose prime function is carry to transverse loads, such as a joist, girder, rafter, or purlin.

Bearing wall, structural wall: A wall capable of supporting an imposed load.

Boiler house: A building in which one or more steam or more hot-water boilers and associated equipment is located.

Bond: The pattern in which masonry, predominantly brickwork, is laid to tie together the thickness of the wall.

Bracket: A decorative support feature located under eaves or overhangs.

Brick: A solid or hollow masonry unit of clay or shale molded into a rectangular shape while plastic and then burnt in a kiln.

Building: A more or less enclosed and permanent structure for housing, commerce, industry, etc.

C

Casing: The finished visible framework around a door or window.

Caulking: A soft material compound used to seal joints, cracks, prevent leakage, provide waterproofing, or provide a seal at expansion joints.

Cladding: Any exterior wall covering, including masonry.

Clerestory, clearstory: An upper zone of wall pierced with windows that admit light to the center of a room. In industrial buildings, a series of window openings located on the sidewalls of a monitor that provides light and ventilation.

Coping: The capping member of a wall or parapet.

Corner Board: A corner board is a narrow vertical board placed on the corners of buildings to terminate the wooden clapboards.

Cornice: The uppermost section of an entablature or a decorative treatment of the eaves of a roof. Cornices can be crafted of brick, corbelled masonry, tile, terra cotta, metal or similar materials.

Corrugated metal: Sheet metal, which has been drawn or rolled into parallel ridges and furrows to provide additional mechanical strength; aluminum and galvanized sheet steel are widely used.

Course: A horizontal row of bricks, stones, or other masonry units.

D

Demolition by Neglect: A prolonged lack of significant maintenance results in "demolition by neglect." The preventable demise of a historic building due to deliberate lack of maintenance.

Double monitor: A roof that combines a narrow monitor (providing ventilation) at the ridgeline above a wider one (providing light) that covers approximately a third of the building's width.

Downspout: A vertical pipe that carries water from the roof gutters to the ground.

E

Eaves: The projecting overhang at the lower edge of a roof.

Easement: A deed restriction on a piece of property granting rights to others to use the property; might include restrictions for use or development on the property.

Elevation: Any of the external faces of a building.

F

Façade: The front face or elevation of a building.

Fascia: A projecting flat horizontal member or molding with normal thickness.

Fence: A structural barrier comprised of wood, iron, or other metals used to define, separate, or enclose areas such as yards, gardens, fields, and cemeteries.

Fenestration: The arrangement and design of windows and other exterior openings in a building.

Flashing: Thin metal sheets used to make the intersections of roof planes and roof/wall joints waterproof.

Footprint: The outline of a building's ground plan from a top view; a projected area of a building on a horizontal surface.

Foundation: The lowest section of a building that supports the loads from the superstructure above directly to the earth.

Frame construction/building. A building constructed with wood frame rather than masonry.

Front-gabled: A building that has a gable on its façade.

G

Gable: The triangular end of a wall, located above the eaves. The top of the gable corresponds to the slope of the roof which it abuts against. The gable can be stepped or curved in a scroll shape design.

Gable roof: A roof having a gable at one or both ends; a pitched roof with one downward slope on either side of a central, horizontal ridge.

Garage: A building attached or detached where motor vehicles are kept.

Ghost mark: An outline that shows earlier construction that was removed such as, outlines created by missing windows, doors, plaster, pilasters, and patched holes showing the parts of the building that were demolished.

Green space: Space that is planted with grass, plants, shrubs, or trees. Sometimes, this land is set aside and cannot be built on.

H

Header: A brick lay with the short side exposed, as opposed to a "stretcher."

Hollow tile, structural clay tile: A hollow masonry building unit composed of burnt clay, shale, fireclay, or mixtures thereof, having parallel cells or cores (or both) within a single tile.

I

Industrial area, industrial park: Any area devoted predominantly to manufacturing.

Industrial steel sash: Sash molded of rolled steel units holding fairly small panes of glass, typically combined into large spans with units of operable and fixed sash.

Infill building: New construction where there had been an open lot prior; applies to new construction, such as a new building built in a block or row of existing buildings.

In-kind: In-kind is a term used to denote replacements, which replicate the original element.

Integrity: Authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic period.

L

Light: A section of window; single pane of glass.

Lintel: A horizontal beam over an opening carrying the weight of the wall.

Loading bay: In industrial buildings, an internal loading platform.

Loading dock, loading platform: An elevated platform at the shipping or delivery door of a building; typically at the same height as the floor of a motor truck or railroad car to facilitate loading or unloading.

Loading ramp: An inclined surface of either fixed or adjustable slope to facilitate transfer of objects between a motor truck or railroad car and a shipping or receiving platform.

Louver: A small opening, usually with wood slats, used for ventilating attics or other spaces.

M

Masonry: Brick, block or stone that is secured with mortar.

Massing: A term used to define the overall volume of a building.

Materials: The quality of integrity applying to the physical elements that were combined or deposited in a particular pattern or configuration to form a historic property.

Monitor, monitor roof: A raised section of a roof, typically straddling a ridge; has openings, louvers, or windows along the sides to admit light or air.

Mortar: A mixture of sand, lime, cement, and water used as a binding agent in masonry construction.

Mothballing: When all means of finding a productive use for a historic building have been exhausted or when funds are not currently available to put a deteriorating structure into a useable condition, it may be necessary to close up the building temporarily to protect it from the weather as well as to secure it from vandalism.

Mullion: A heavy vertical divider between windows or doors.

Muntin: A secondary, thin framing member to divide and hold the panes of a glass in a window.

N

National Park Service: A bureau of the U.S. Department of the Interior whose purview includes the historic and cultural resources in the National Park system and the National Historic Preservation Programs.

National Register of Historic Places: The official federal list of districts, sites, buildings, structures and objects significant in American history, architecture, archaeology, engineering, and culture.

O

Ornamentation: Any accessory or detail used to adorn, decorate, or embellish the appearance of an object.

Overhang: The horizontal distance that the upper level/story or roof projects beyond the level immediately below.

P

Parapet: A low protective wall or railing along the edge of a raised platform, terrace, bridge, roof, balcony and above cornices.

Pattern: The rhythm of architectural elements in a space.

Pier: A freestanding support, usually thicker than a column but performing the same function; an upright structure serving as the principle support.

Pitch: Angle of a roof, or the proportion between the height and the span of the roof.

Pointing or "Tuck Pointing:" The process of scraping out failing mortar between bricks back to the stable point and inserting and re-trowelling new mortar that matches the makeup, color, and mixture of the original mortar.

Porch: A roofed entrance.

Portland cement: Strong, inflexible hydraulic cement used to bind mortar.

Preservation: The sustaining of the existing form, integrity, and material of a building or structure and the existing form and vegetation of the site.

Proportion: The relationship between buildings or elements in a building. For example, the combination of elements in one building is said to be proportionate if they are of like size or dimension to those of an adjacent or neighboring structures.

Q

Quoins: Large stones, or rectangular pieces of wood or brick, used to decorate, accentuate, and reinforce the corners of a building.

R

Recess: Receding part or space, such as a cavity in a wall for a door, an alcove, or niche.

Rehabilitation: To repair an existing building to good condition with minimal changes to the building fabric; may include adaptive reuse or restoration; also known as rehab.

Relocation: The process of moving a building or structure to a new location.

Remodel. To alter a building in a way that may or may not be sensitive to the preservation of its significant architectural forms and features.

Renovation: The process of repairing and changing an existing building for modern use to make it functionally equivalent to a new building.

Restoration: The process of returning an existing site, building, structure, or object to its condition at a particular time in its history, using the same construction materials and methods as the original; may include removing later additions and replacing missing period components.

Retaining wall: A brace or freestanding wall that bears against an earthen backing.

Retrofit: The process of installing new mechanical, fire protection, and electrical systems or equipment in an existing building.

Ridge: The horizontal lines at the junction of the upper edges of two sloping roof structures.

Risk assessment: An environmental survey of an existing building to determine the extent of hazardous materials that may be present, such as lead paint, or asbestos.

S

Sandblasting: An abrasive way of cleaning brick, masonry, or wood by directing high-powered jets of sand against the surface.

Sash, window sash: Any framework of a window; may be movable or fixed; may slide in a vertical plane or pivoted.

Set back: A term used to define the distance a building is located from a street or sidewalk; the distance between a building and the property line.

Scale: A term used to define the proportions of a building in relation to its surroundings.

Sense of Place: The general feelings of locality.

Sill: The horizontal exterior member at the bottom of a window or door opening which is usually sloped away from the bottom of the window for drainage of water and overhanging the wall below.

Spalling: A condition in which pieces of masonry split off from the surface, usually caused by weather.

Stabilization: The process of temporarily protecting a historic building until restoration, rehabilitation, renovation can begin; typically includes making the building structurally sound, weather tight, and secure against intrusion.

Street furniture: Street furniture includes all benches, trash receptacles, fountains, bicycle racks, fire hydrants, and street lighting found in public spaces.

Streetscape: The combination of building façades, sidewalks, street furniture, lighting, etc. that define the street.

Stretcher: A brick lay with the long side exposed, as opposed to a "header."

Stringcourse: A projecting band of masonry running horizontally around the exterior of a building, also known as a "belt course".

Style: A given type of architecture made of specific character defining elements.

Surround: An encircling border or decorative frame around a door, window, or other opening.

Symmetry: The exact correspondence of forms of similar size and arrangement of parts, intermediate or opposite sides of a dividing line or plane.

T

Transom: A small operable or fixed window located above a window or door.

V

Vent: A stack designed to allow moisture vapor or other gas from inside a building or building system to escape into the atmosphere.

W

Weatherstrip: A piece of wood, metal, or other material installed around door or window openings to prevent air infiltration and moisture penetration.

Window Wall: A type of curtain wall usually composed of vertical and horizontal metal framing members containing fixed lights, operable windows, or opaque panels, or a combination thereof.

Z

Zoning: Areas divided into geographic zones with different mixtures of allowable use, size, siting, and form of real property. Zoning is typically in conjunction with a zoning code or review of permit applications for developments and variances.

Preservation Briefs

The National Park Service Technical Preservation Services division has assisted homeowners, preservation professionals, organizations, and government agencies by publishing east-to-read guidance briefs on preserving, rehabilitating, and restoring historic buildings.

Below is a list of the 47 Preservation Briefs that are available online at http://www.nps.gov/tps/how-to-preserve/briefs.htm. These may also be purchased in hard copy from the Superintendent of Documents, Government Printing Office at U.S. Government Bookstore. http://www.nps.gov/tps/education/sale-pubs.htm

01: Assessing, Cleaning and Water-Repellent Treatments for Historic Masonry Buildings
02: Repointing Mortar Joints in Historic Masonry Buildings
03: Conserving Energy in Historic Buildings
04: Roofing for Historic Buildings
05: The Preservation of Historic Adobe Buildings
06: Dangers of Abrasive Cleaning to Historic Buildings
07: The Preservation of Historic Glazed Architectural Terra-Cotta
08: Aluminum and Vinyl Siding on Historic Buildings: The Appropriateness of Substitute Materials for Resurfacing Historic Wood Frame Buildings
09: The Repair of Historic Wooded Windows
10: Exterior Paint Problems on Historic Woodwork
11: Rehabilitating Historic Storefronts.
12: Preservation of Historic Pigmented Structure Glass (Vitrolite and Carrara Glass)
13: The Repair, and Thermal Upgrading of Historic Woodwork
14: New Exterior Additions to Historic Buildings: Preservation Concerns
15: Preservation of Historic Concrete: Problems and General Approaches
16: The Use of Substitute Materials on Historic Buildings Exteriors
17: Architectural Character – Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character
18: Rehabilitating Interiors in Historic Buildings – Identifying Character-Defining Elements
19: The Repair and Replacement of Historic Wooden Shingle Roofs
20: The Preservation of Barns
21: Repairing Historic Flat Plaster – Walls and Ceilings
22: The Preservation and Repair of Historic Stucco
23: Preserving Historic Ornamental Plaster
24: Heating, Ventilating, and Cooling Historic Buildings: Problems and Recommended Approaches
25: The Preservation of Historic Signs
26: The Preservation and Repair of Historic Log Buildings
27: The Maintenance and Repair of Architectural Cast Iron
28: Painting Historic Interiors
29: The Repair, Replacement, and Maintenance of Historic Slate Roofs
30: The Preservation and Repair of Historic Clay Tile Roofs
31: Mothballing Historic Buildings
32: Making Historic Properties Accessible
33: The Preservation and Repair of Historic Stained and Leaded Glass

34: Applied Decoration for Historic Interiors: Preserving Historic Composition Ornament
35: Understanding Old Buildings: The Process of Architectural Investigation
36: Protecting Cultural Landscapes: Planning, Treatment and Management of Historic Landscapes
37: Appropriate Methods of Reducing Lead-Paint Hazards in Historic Housing
38: Removing Graffiti from Historic Masonry
39: Holding the Line: Controlling Unwanted Moisture in Historic Buildings
40: Preserving Historic Ceramic Tile Floors
41: The Seismic Retrofit of Historic Buildings: Keeping Preservation in the Forefront
42: The Maintenance, Repair and Replacement of Historic Cast Stone
43: The Preparation and Use of Historic Structure Reports
44: The Use of Awnings on Historic Buildings: Repair, Replacement and New Design
45: Preserving Historic Wooden Porches
46: The Preservation and Reuse of Historic Gas Stations
47: Maintaining the Exterior of Small and Medium Size Historic Buildings

PRESERVATION PRACTICES

Introduction to Historic Preservation and Rehabilitation

Preserving the history of the Muscle Shoals Reservation District through its historic resources plays a part in the surrounding community's unique atmosphere. Historic preservation provides a tangible link with the past, the roots of a community and its people.

Historic properties bestow a community with a sense of identity, and provide a feel of time and place while establishing strong community ties. It is these historic resources that help define the unique character and atmosphere of the Muscle Shoals Reservation District.

Historic buildings represent more than just architecture - it is a heritage - but it cannot be preserved in a climate-controlled environment as museums do with artifacts and paintings. Some historic buildings are preserved in almost museum-like settings like Drayton Hall (Charleston, SC), Biltmore (Asheville, NC) or similar historic sites, but the vast majority of historic buildings have to evolve to endure. Vacant buildings ultimately develop into deteriorated buildings and then a future vacant lot or a parking lot with no reminder of what used to be. Therefore, the majority of work on historic buildings is defined as rehabilitation rather than restoration.

The federal government defines rehabilitation as the "process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property, which are significant to its historic, architectural, and cultural values."

The recipe to a successful rehabilitation is respecting the historic character and fabric of the building and preserving as much of the original historic materials and details as feasible. Any alterations/changes should be easily reversible to permit a future owner to return the building to its original configuration. It is a responsibility and a privilege to own a historic property.

Incentives for the Rehabilitation of National Register of Historic Places Designated Buildings

There are special taxes incentives for the restoration or rehabilitation of historic properties listed individually in the National Register of Historic Places (NRHP) or listed as a contributing resource of a NRHP District. The contributing buildings listed in the in the Muscle Shoals Reservation District or listed as an individual building, are eligible to qualify for the tax incentives for rehabilitation. Questions concerning the eligibility of a building for the NRHP or about historic preservation tax incentive can be addressed by contacting the Alabama Historical Commission (AHC).

Federal Tax Incentives

Federal Historic Rehabilitation Tax Credits

To be eligible for the 20% tax credit:

• The building must be listed individually in the NRHP, or located within a National Register-listed historic district and certified by the National Park Service as contributing to the significance of the district (by contributing to the district's historic character and retaining its historic appearance).

• The project must meet the "substantial rehabilitation test." (This is the cost of rehabilitation must be greater than either the adjusted basis of the property (the purchase price minus land value plus the value of improvements made, minus depreciation already taken) or $5,000, whichever is greater.) In addition, projects must be finished within two years, unless stated as phased.

• Following rehab, the building must be used as an income-producing purpose (offices, stores, rental housing, etc.) for at least 5 years.

• The rehabilitation work itself must be done according to The Secretary of the Interior's Standards for Rehabilitation; these are commonsense guidelines for appropriate and sensitive rehabilitation.

10% Federal Income Tax Credit

To be eligible for the 10% tax credit:

• The building must be built before 1936 and be non-historic.

• A building must meet the physical wall retention test. At least 50% of the building's walls existing before the rehab must remain as external walls, at least 75 % of the external walls must remain in place as either external or internal walls, and 75% of the internal structure must remain in place.

• The project must meet the "substantial rehabilitation test." Generally, projects must be finished within two years.

• The building must be used for non-residential, income-producing purposes for at least five years after the rehabilitation.

If the above criteria are fulfilled, then the 10% rehabilitation tax credit can be claimed as an investment credit on an owner's federal income tax return.

Alabama Tax Incentives

Alabama Property Tax Reduction

Buildings that are A) determined by the AHC as eligible for listing in the National Register; B) individually listed in the National Register; or C) listed as contributing to a National Register historic district may be assessed at 10% of the assessed value for ad valorem tax purposes. This allows all historic property, regardless of use, to receive the lowest assessment rate.

For application of property tax reduction, submit the Ad Valorem Assessment complete with map and photos, to the AHC. Upon receipt of a complete application, AHC staff review documentation and process the application within 30 calendar days.

Owners receive an AHC letter confirming a property's status in the National Register or determining eligibility for listing and for the ad valorem reduction. This letter may be presented to the county tax assessor for reassessment of the property.

This incentive is referenced as the Wallace Property Relief Constitutional Amendment ("Lid Bill") Code of Alabama 40-8-1 Section 2.

Alabama Historic Rehabilitation Tax Credits

There are $20 million in tax credits available each year for this program to owners who rehabilitate residential and commercial property. The AHC will review applications and reserve credits in the order in which they are received. If the AHC receives more than one application on the same day, a lottery will determine the review order. Once the annual tax credit allocation has been reserved, the commission will place later applications on a waiting list.

A tax credit of 25% of qualified rehabilitation expenditures is available for certified historic buildings used for income-producing or residential purposes.

A tax credit of 10% of qualified rehabilitation expenditures is available for pre-1936 non-historic buildings used for income-producing purposes.

Buildings that qualify for the tax credit are historic buildings listed individually in the NRHP or listed as a contributing resource in a NRHP district or eligible for listing in the NRHP.

Projects that are both commercial developments and single-family residential projects may apply for this program.

Project expenditures must exceed 50 percent of the owner's original purchase price or $25,000, whichever is greater.

Work must follow the Secretary of the Interior's Standards for Rehabilitation, which insure that improvements are consistent with the historic character and maintain the historic integrity of the building.

Commercial projects are limited to a reservation of $5,000,000 in tax credits.
Residential projects are limited to a reservation of $50,000 in tax credits.
A total of $20,000,000 in tax credits is reserved each year (January 1 to December 30). Excess tax credits will be carried forward each year.

Secretary of Interior's Standards

The U.S. Secretary of the Interior's Standards for Historic Preservation Projects were initially developed for use in evaluating the appropriateness of the work proposed for properties listed in the NRHP. Revised in 1990, the *U.S. Secretary's Standards for Rehabilitation* are considered the basis of sound preservation practices. The standards allow buildings to be changed to meet contemporary needs, while ensuring that those features that make buildings historically and architecturally distinctive are preserved. The standards have meaningful application to virtually every type of project involving historic resources. Both the Federal Government and the State of Alabama use these standards to evaluate a project's eligibility for historic preservation-based tax credits. The *Secretary's Standards for Rehabilitation* provide the framework of these design guidelines as a means of perpetuating traditional development patterns and will be used by the Architectural Review Board in reviewing applications for Certificates of Appropriateness. These standards are:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old

in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale, and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Applying the Secretary's Standards

The *Standards for Rehabilitation* include basic steps in making recommendations for changes to the historic property. Adhering to these steps during the planning process will help ensure a successful rehabilitation project during the review process.

1. **Identify, Retain, and Preserve** the form, materials, and detailing of the property that defines the character of the historic property.

2. **Protect and Maintain** the character-defining aspects of the historic property with the least intervention possible and before undertaking other work. Protection includes regular maintenance.

3. **Repair** is the step beyond protect and maintain. It includes patching, piecing-in, splicing, and consolidating. Repairing also includes limited in-kind replacement.

4. **Replacement** is the last resort in the preservation process and is appropriate only if the missing feature cannot reasonably be repaired. Replace with the same material, if possible, but a substitute material may be necessary.

5. **Design for Missing Features** should be based on the documented historic appearance of the property. If no documentation exists, a new design is appropriate if it respects the size, scale, and material of the property.

6. **Alterations/Additions to Historic Buildings** are sometimes needed to insure continued use, but alterations/additions should not drastically change, obscure, or destroy character-defining spaces, materials, features, or finishes.

Levels of Preservation Efforts: Building Project Categories

Preservation is defined as taking action to maintain a buildings or structure's existing form through careful maintenance and repair. There are varying methods associated with building preservation from the stabilization of a building restoration. How does a property owner determine the right method of preservation for their building project? Most projects are determined by the condition of the building, the planned use, and the budget amount. Following is a list of the building project categories.

Stabilization - To protect a building from deterioration by making it structurally secure, while maintaining its current form. Stabilization techniques include covering the roof, windows, and doors so that rainwater cannot penetrate and to protect against vandalism; pest control; performing basic structural repairs; removing overgrown vegetation; and other steps to prevent additional deterioration of the property.

Mothballing – To de-active a property for an extended period of time when no funds are available to put a deteriorating structure into usable condition. Mothballing should only be undertaken when careful planning and physical repairs are completed prior to securing the building. Mothballing techniques include securing the building and its component features to reduce vandalism and break-ins; secure or modify utilities and mechanical systems; provide adequate ventilation to the interior; and develop and implement a maintenance/monitoring plan for protection.

The Four Treatments of Buildings

Preservation – The act or process of applying measures to sustain the existing form, integrity, and material of a building or structure, and the existing form.

Rehabilitation - To repair a building or structure and make it usable again while preserving those portions or features of the property that are historically and culturally significant. Rehabilitation usually includes undertaking structural repairs and updating the mechanical systems (electrical system, plumbing, and heating and air conditioning). For example, rehabilitation might include an updated bathroom while retaining the historic woodwork, floors, staircase, and the majority of the floor plan. Rehabilitation is also referred to adaptive re-use.

Restoration – To return a building to its original form and condition as represented by a specified period of time using materials that are as similar as possible to the original materials. Restoration requires detailed research into the history, development, and physical form of the property as well as skilled craftsmanship and attention to detail.

Reconstruction- is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

Project Planning

As a property owner, your building may need rehabilitation for various reasons. The building may not be in the best condition, or it may have been insensitively remodeled or renovated at one time. It could be, as a property owner you may want to make particular changes to enhance your building or to add modern conveniences.

Prior to the rehabilitation of your building, maintenance is vital. When historic buildings are properly maintained, usually extensive rehabilitation is not necessary with the exception of modernization of mechanical systems, updating bathrooms and periodic replacement of items or elements that wear out or deteriorate over time, such as roofs, mortar, wood siding or trim, and paint. Proper maintenance practices help to prolong the life of most elements of a historic building.

The following is a framework of a recognized method for planning and implementing preservation projects. These steps are described in the proposed order:

Step 1 – Inspect and Document the Property and Create a Wish List

A detailed inspection of the property or site will permit for a comprehension of particular problems that may exist, as well as unique circumstances and features that need to be considered. This inspection process should also consider the character of the surrounding area (area of impact), with specific attention given to how the property in question relates to nearby buildings, sites, streetscapes, and landscapes. Create a wish list of what needs to be done and what improvements and/or changes are anticipated, but not considered necessary, to the physical soundness of a property.

Prior to any work carried out, existing conditions of the historic property should be documented through photography and drawings. This is especially important when tax credits are being sought for the rehabilitation of property. Property owners should confer with the AHC if they anticipate applying for the tax credits.

Step 2 – Define the Scope of the Project and Develop a Preliminary Plan

At this point, the property owner must determine the treatment method (preservation, rehabilitation, restoration, or reconstruction) and level of the project to be undertaken. It is advisable to consult with an architect, interior designer, or contractor with historic preservation project experience. A preservation specialist may also be consulted for assistance in defining the key components of the project.

Step 3 – Develop a Master Plan

The Master Plan is the final step in the project planning process. The Master Plan should be a framework of the primary goals of the project and the work needed to accomplish the remaining steps.

Step 4 – Stabilization of the Building

Prior to any work being conducted, the property must be in stable condition to prevent further deterioration. Stabilization, for instance could be to repair a leaking roof or broken windows to prevent the outside elements into the building.

Step 5 – Undertake Structural Repairs

Once the building has been stabilized, any structural damage should be fixed. If the project includes construction of an addition to the building, it should be undertaken only after all structural repair work has been completed.

Step 6 – Undertake Infrastructure Repairs

Repairs and improvements to mechanical systems (i.e., cooling and heating systems, plumbing, and electrical systems) are important to accomplishing the uppermost well-being in any building. Focus on the infrastructure repairs and improvements at the beginning or early on in the project rather than postponing it. Infrastructure projects can be expensive, and it is important to plan this work early in the project schedule.

Step 7 – Undertake Energy Conservation Improvements

Most energy efficiency projects are uncomplicated and not always extremely costly. It is important to consider adding energy conservation project improvements to your project as it can enhance your overall project and be cost effective.

Step 8 – Undertake Cosmetic Work

Finishing work, such as minor siding repairs, exterior painting, and entrance repairs, should be the final steps of a preservation project. While this type of work is usually has the most visual impact, it is vital that all preliminary work such as, stabilization, structural repairs and infrastructure improvements, be completed prior.

Bibliography

General References

Beaumont, Constance E. *Smart States, Better Communities: How State Governments Can Help Citizens Preserve Their Communities*. Washington, DC: National Trust for Historic Preservation, 1996.

Bell, Joseph. *Tomorrow Now: Enriching Our Future by Preserving Our Past*. Denver, CO: Colorado Historical Society, Office of Archaeology and Historic Preservation, 1996.

Bradley, Besty Hunter, *The Works: The Industrial Architecture of the United States*.New York: Oxford University Press, 1999.

Bucher, Ward, A.I.A. *Dictionary of Building Preservation*. New York: John Wiley & Sons, Inc. 1996.

Burden, Ernest. *Illustrated Dictionary of Architecture*. New York: McGraw-Hill, 2002.

Fitch, James Marston. *Historic Preservation: Curatorial Management of the Built World*. Charlottesville, VA: University Press of Virginia, 1990 (reprint).

Hutter, Michael and Ilde Rizzo, editors. *Economic Perspectives on Cultural Heritage*. New York: St. Martin's Press, 1997.

Kunstler, James Howard. *The Geography of Nowhere: The Rise and Decline of America's Man Made Landscape*. New York: Touchstone, 1993.

Kunstler, James Howard. *Home from Nowhere: Remaking our Everyday World for the 21st Century*. New York: Simon & Schuster, 1996.

Maddex, Diane, Ed. *All About Old Buildings: The Whole Preservation Catalog*. Washington, D.C.: National Trust for Historic Preservation, Preservation Press, 1985.

Maddex, Diane and Ellen R. Marsh. *The Brown Book: A Dictionary of Preservation Information*. Washington, D.C.: Preservation Press, 1983.

National Trust for Historic Preservation. *Information: A Preservation Sourcebook*. Washington, D.C.: Preservation Press, 1979-85.

Rypkema, Donovan D. *The Economic Benefits of Historic Preservation: A Community Leader's Guide*. Washington, D.C.: The National Trust for Historic Preservation, 1994.

Slaton, Deborah and Rebecca A. Shiffer, editors. *Preserving the Recent Past*. Washington, DC: Historic Preservation Education Foundation, 1995.

Tyler, Norman. *Historic Preservation: An Introduction to its History, Principles and Practice*. New York: W.W. Norton & Company, 2000.

Weeks, Kay D. and Anne E. Grimmer. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Illustrated Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings*. Washington, D.C.: U.S. Dept. of the Interior, Heritage Conservation and Recreation Service, Technical Preservation Services Division (for sale by the U.S. Government Printing Office), 1996.

Zagars, Julie, editor. *Preservation Yellow Pages: The Complete Information Source for Homeowners, Communities and Professionals*. New York: John Wiley & Sons, 1997, rev. ed.

Preservation Law and Planning

Kanefield, Adina W., editor. *Federal Historic Preservation Case Law, 1966-1996: Thirty Years of the National Historic Preservation Act*. Washington, D.C.: Advisory Council on Historic Preservation, 1996.

King, Thomas F. *Cultural Resource Laws and Practice: An Introductory Guide*. Creek, CA: AltaMira Press, 2012.

White, Bradford J. and Richard J. Roddewig. *Preparing a Historic Preservation Plan*. Chicago, IL: American Planning Association, 1994.

Wright, Russell, Principal Consultant. *A Guide to Delineating Edges of Historic Districts*. Washington, D.C.: National Trust for Historic Preservation, Preservation Press, 1976.

Historic Building Rehabilitation

Bullock, Orin M. *The Restoration Manual: An Illustrated Guide to the Preservation and Restoration of Old Buildings*. New York: 1966, Reprint Van Nostrand Reinhold, 1983.

Jandl, H. Ward, Ed. *The Technology of Historic American Buildings.* Washington, D.C.: Foundation for Preservation Technology, 1984

Litchfield, Michael. *Renovation: A Complete Guide*. New York: John Wiley and Sons, 1982.

National Trust for Historic Preservation, Ed. *Preservation and Conservation: Principles and Practices. Washington, D.C.: for International Centre for the Study of the Preservation and the Restoration of Cultural Property*. Preservation Press, 1976.

Historic Materials Conservation

Chambers, J. Henry. *Cyclical Maintenance for Historic Buildings*. Washington, D.C.: Technical Preservation Services, U.S. Department of the Interior, GPO, 1976.

Gayle, Margot, David W. Look, AIA, and John G. Waite. *Metals in America's Historic Buildings: Uses and Preservation Treatments*. Washington, D.C.: Technical Preservation Service, U.S. Department of the Interior, GPO, 1980.

Adaptive Reuse of Existing Buildings

U.L.I. *Adaptive Use: Development Economics, Process, and Profiles*. Washington, D.C.: Urban Land Institute, 1978.

Chittenden, Betsy, with Jacques Gordon. *Older and Historic Buildings and the Preservation Industry*. Washington, D.C.: Preservation Policy Research Series, National Trust for Historic Preservation, 1984.

Diamonstein, Barbaralee. *Buildings Reborn: New Uses, Old Places*. New York: Harper and Row, 1978.

Schmertz, Mildred F. and Editors of Architectural Record. *New Life for Old Buildings*. New York: McGraw-Hill 1982.