MAIN STREET *West Virginia*

Downtown Property Owners Maintenance Manual

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INTRODUCTION

Main Street West Virginia program leaders prepared this manual to help Main Street communities and property owners maintain their buildings.

Maintenance of older buildings has been a top concern for Main Street West Virginia participants. Property owners could have avoided much of the rehabilitation often required on West Virginia's downtown buildings by regularly and properly maintaining them. Deferred maintenance has caused most of the deterioration, according to the program's design specialists.

This manual will assist property owners in keeping older buildings in proper working condition. An ounce of prevention is truly worth a pound of cure.

The manual introduces property owners to the care and rehabilitation of existing and older buildings. It does not guide a rehabilitation project or provide detailed instructions. Most owners or maintenance workers can perform the simple tasks and recommendations periodically or daily.

Sources of additional information or technical assistance guide the property owner on accomplishing the tasks.

Design assistance requests from Main Street communities in West Virginia processed during the life of the program and the author's more than 26 years' experience in assisting historic property owners yielded the topics covered in this manual. They represent the most common concerns observed.

INSPECTION

The key to proper maintenance is a regular inspection schedule. Periodically inspect all of the building's systems to check for required repairs, identifying trouble spots before they become major problems. Day-to-day living will yield most items but making the inspection a regular, formal activity will encourage the inspector to treat it more seriously and include all important items.

Make the list simple so any of the owners or their representatives can easily use it as a road map for the inspection. It should include simple visual inspection activities a lay person can accomplish including:

- Check the roof for leaks
- Check for clogged gutters
- Check for proper window operation
- Check for flaking and scaling paint
- Check for obvious cracks or building fabric movement

This manual includes a sample inspection form. Modify it for each building.

Inspect on a regular basis. A thorough inspection prior to the winter season and in the spring or early summer should be sufficient. Some items may need more frequent inspection, such as heating system filters.

The checklist should include the inspection period for each item, a box to mark that the item was inspected and a place for inspection date, comments and inspector's initials.

A simple inspection should not take longer than one to one-and-a-half hours. Most of the items will need a visual observation; little physical work is needed. Some needed items include:

- Checklist
- Screwdriver
- Flashlight
- Penknife
- Notepad
- Binoculars (roof)
- Ladder
- Tape measure
- Operator's manual or other literature for equipment

Repair items that require attention as soon as possible. Deferring the repair will only lead to additional deterioration and future cost.

The key to proper maintenance is a regular inspection schedule. A thorough inspection prior to the winter season and in the spring or early summer should be sufficient.

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The inspection should proceed from the exterior to the interior in an orderly fashion.

INSPECTION CHECKLIST

1. GENERAL INFORMATION

Building name _____
Address _____
Contact person _____
Other contact _____
Local general contractor _____
Local HVAC contractor _____
Local electrical contractor _____
Inspection date _____

2. STRUCTURE AND SITES

Source of information relating to structures and sites _____

Site area _____
Name if unique _____
Describe location _____

Building statistics

Approximate area of original construction _____

Footprint _____
Number of stories _____
Approximate area of original construction _____
Addition # _____ Year built _____ SF _____
Roof area _____

2.1 EXTERIOR WALL CONSTRUCTION

North exterior wall

MATERIALS	CONDITION	REPAIR	MAINTENANCE
❑ wood	❑ cracks	❑ major	❑ good
❑ brick	❑ open joints	❑ minor	❑ poor
❑ stone	❑ vegetation		
❑ metal			
❑ stucco			
❑ paint	Comments _____		

East exterior wall

MATERIALS	CONDITION	REPAIR	MAINTENANCE
❑ wood	❑ cracks	❑ major	❑ good
❑ brick	❑ open joints	❑ minor	❑ poor
❑ stone	❑ vegetation		
❑ metal			

South exterior wall

MATERIALS	CONDITION	REPAIR	MAINTENANCE
❑ wood	❑ cracks	❑ major	❑ good
❑ brick	❑ open joints	❑ minor	❑ poor
❑ stone	❑ vegetation		
❑ metal			
❑ stucco			
❑ paint	Comments _____		

West exterior wall

MATERIALS	CONDITION	REPAIR	MAINTENANCE
❑ wood	❑ cracks	❑ major	❑ good
❑ brick	❑ open joints	❑ minor	❑ poor
❑ stone	❑ vegetation		
❑ metal			
❑ stucco			
❑ paint	Comments _____		

Basement wall construction

MATERIALS	CONDITION	REPAIR	MAINTENANCE
❑ stone	❑ excellent	❑ major	❑ good
❑ brick	❑ good	❑ minor	❑ poor
❑ wood	❑ fair		
❑ concrete	❑ poor		
❑ other	Comments _____		

Trim

MATERIALS	CONDITION	REPAIR	MAINTENANCE
❑ wood	❑ excellent	❑ major	❑ good
❑ stone	❑ good	❑ minor	❑ poor
❑ tile	❑ fair		
❑ paint	❑ poor		
❑ stain			
❑ natural	Comments _____		

Windows

Count — Number of wooden _____
Number of metal _____

Type _____
Number of fixed _____
Number of double-hung _____

Glazing
- ❑ single pane
- ❑ insulated
- ❑ good
- ❑ broken

Comments _____

Frame/sash
- ❑ excellent
- ❑ good
- ❑ fair
- ❑ poor

Repair maintenance _____
- ❑ major
- ❑ minor
- ❑ good
- ❑ poor

Comments _____

2.2 Roof construction and other roof elements

Roof deck construction

BEAMS	CONDITION	INSULATION	
❑ wood	❑ good	❑ none	❑ rigid
❑ steel	❑ poor	❑ blown	❑ vapor barrier
❑ concrete	❑ failed	❑ foam	❑ attic cold vent
		❑ blanket	❑ other

Comments _____

Roof covering

MATERIAL		CONDITION
❑ wood	❑ bitumen/stone	❑ good
❑ slate	❑ terra cotta	❑ poor
❑ tile	❑ metal	❑ failed
❑ asphalt	❑ other	

Comments _____

Gutters

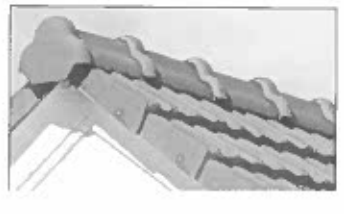
Comments _____

Downspout condition
- ❑ good
- ❑ poor
- ❑ failed

Comments _____

Chimneys

Number _____



Flashing
- ❑ none
- ❑ lead
- ❑ copper
- ❑ galvanized
- ❑ other

Comments _____

Parapets

MATERIALS	CONDITION	HEIGHT
❑ brick	❑ good	
❑ stone	❑ poor	
❑ metal	❑ failed	

Comments _____

Coping

TOP MATERIAL	CONDITION	HEIGHT
❑ brick	❑ good	
❑ stone	❑ poor	
❑ metal	❑ failed	
❑ tile		
❑ slate		

Comments _____

Joints

MATERIAL	CONDITION
❑ none	❑ good
❑ caulk	❑ poor
❑ mortar	❑ failed
❑ other	

Comments _____

Flashing
- ❑ none
- ❑ lead
- ❑ copper
- ❑ galvanized
- ❑ other

Comments _____

Dormers

Number _____

MATERIALS	CONDITION
❑ brick	❑ good
❑ stone	❑ poor
❑ wood	❑ failed
❑ other	

Comments _____

Skylights

Total number _____ Original _____ Replacement _____

Glazing | Condition
- ❑ plate | ❑ good

Frame
- ❑ metal
- ❑ wood
- ❑ other

Condition
- ❑ good
- ❑ poor
- ❑ failed

Comments _____

Cornice and roof soffits

MATERIAL
- ❑ wood
- ❑ metal
- ❑ stone
- ❑ other

HEIGHT _____

CONDITION
- ❑ good
- ❑ poor
- ❑ failed

Comments _____

Rainwater system

LOCATION
- ❑ interior
- ❑ exterior

MATERIALS
- ❑ wood
- ❑ copper
- ❑ aluminum
- ❑ iron
- ❑ galvanized
- ❑ other

Comments _____

2.3 CONSTRUCTION BY FLOOR LEVEL

Floor construction (supporting structure)

MATERIALS
- ❑ earth
- ❑ brick
- ❑ wood frame
- ❑ heavy timber
- ❑ reinforced concrete
- ❑ steel girders and beams
- ❑ other

REPAIR
- ❑ major
- ❑ minor

MAINTENANCE
- ❑ good
- ❑ poor

Comments _____

Floor finish

MATERIAL
- ❑ none
- ❑ paint
- ❑ wood
- ❑ resilient
- ❑ carpet
- ❑ ceramic
- ❑ stone
- ❑ other

CONDITION
- ❑ excellent
- ❑ good
- ❑ fair
- ❑ poor

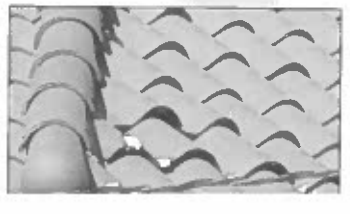
REPAIR
- ❑ major
- ❑ minor

MAINTENANCE
- ❑ good
- ❑ poor

Comments _____

Interior wall construction

MATERIAL CONDITION REPAIR MAINTENANCE



- ❑ tile
- ❑ wallpaper
- ❑ paint
- ❑ other

Comments _____

Ceiling finishes

MATERIAL
- ❑ wood
- ❑ dry wall
- ❑ plaster
- ❑ acoustical tile
- ❑ paint
- ❑ suspended
- ❑ other

CONDITION
- ❑ excellent
- ❑ good
- ❑ fair

REPAIR
- ❑ major
- ❑ minor

MAINTENANCE
- ❑ good
- ❑ poor

Comments _____

Trim

MATERIAL
- ❑ wood
- ❑ stone
- ❑ tile
- ❑ paint
- ❑ stain

CONDITION
- ❑ excellent
- ❑ good
- ❑ fair
- ❑ poor
- ❑ natural

REPAIR
- ❑ major
- ❑ minor

MAINTENANCE
- ❑ good
- ❑ poor

Comments _____

Fireplaces/stoves

Total number _____

Number in use _____

Number covered over _____

MATERIALS
- ❑ brick
- ❑ stone
- ❑ metal
- ❑ other

CONDITION
- ❑ good
- ❑ poor
- ❑ failed

Comments _____

2.4 PLUMBING SYSTEM

WATER SOURCE
- ❑ city utility
- ❑ well

DISTRIBUTION PIPING
- ❑ galvanized
- ❑ plastic
- ❑ copper
- ❑ lead
- ❑ other _____

COLD WATER PIPE INSULATION
- ❑ yes
- ❑ no

other _____

WASTE PIPING
- ❑ plastic
- ❑ copper
- ❑ cast iron

Water heater

Water heater

Sewer

Comments _____

2.5 HVAC System

Ducted air system
- ❑ yes
- ❑ no

if yes
- ❑ gas
- ❑ oil
- ❑ electric

used for
- ❑ heating
- ❑ cooling

Air movement
- ❑ gravity
- ❑ blower

Duct material
- ❑ galvanized
- ❑ sheet metal
- ❑ fiberglass
- ❑ other

Duct insulation
- ❑ yes
- ❑ no

With cooling coil
- ❑ yes
- ❑ no

Thermostat location _____

Filter location
- ❑ at air unit
- ❑ other _____ Filter type _____

Filter age (years) _____

Register locations
- ❑ floor
- ❑ highwall
- ❑ low wall
- ❑ ceiling

Comments _____

Hot water heating
- ❑ yes
- ❑ no
- ❑ gravity
- ❑ hydraulic pump

Boiler
- ❑ cast iron
- ❑ steel

Age of boiler: years _____

Distribution piping
- ❑ galvanized
- ❑ copper
- ❑ other

Radiation
- ❑ radiators
- ❑ fin tube
- ❑ Age: years _____

Comments _____

Steam heating
- ❑ yes
- ❑ no

Age: years _____

Boiler:
- ❑ cast iron
- ❑ steel

Age: years _____

Distribution piping Insulation

Radiation

Comments _____

Electrical resistance heating
- ❑ yes
- ❑ no

Age: years _____

Radiation
- ❑ wall heater
- ❑ radiant wall
- ❑ radiant ceiling

Comments _____

Air-conditioning system
- ❑ partial
- ❑ yes
- ❑ no

Power source
- ❑ electric
- ❑ gas

Type ❑ All components in one unit

Type ❑ split ❑ compressor ❑ condenser

Location _____

Age: years _____

Evaporator location
- ❑ at heating unit
- ❑ other

Compressor age: year _____

Cooling tower
- ❑ yes
- ❑ no

Condensate line location _____

Refrigerant lines: Is one insulated ❑ yes ❑ no

Chilled water distribution ❑ yes ❑ no

Comments _____

Humidifiers
- ❑ yes
- ❑ no

Type
- ❑ stationary pad
- ❑ revolving drum
- ❑ atomizer
- ❑ other _____

Age: years _____

If atomizer, is humidity
- ❑ medium (water)
- ❑ hot (steam)

Comments _____

2.6 Electrical system

Service type
- ❑ overhead

Overload protection
- ❑ fuse

Branch circuits
- ❑ open wires in wood mold
- ❑ knob and tube
- ❑ non-metallic cable/romex
- ❑ metal conduit
- ❑ other _____

Wire type
- ❑ copper
- ❑ aluminum

If knob and tube, condition of insulation
- ❑ good
- ❑ poor
- ❑ failed

Comments _____

MASONRY

Today's buildings primarily consist of two- and three-story brick, stone or concrete block commercial-style buildings. Brick, followed closely by sandstone, is the most common in West Virginia.

Most masonry buildings show some deterioration in the masonry or the masonry joints. Owners often believe that brick and stone are permanent and require no maintenance. Although they are durable, they do require maintenance, inspection and periodic repair. If properly maintained, a masonry building should last forever.

Water infiltration from the roof or gutters or physical damage from insensitive alterations causes most of the deterioration in masonry buildings; very seldom is the material itself the cause. The structural makeup or initial construction mistakes lead to rapid deterioration in some types of sandstone used in West Virginia buildings but most is durable and sound.

CLEANING

Many property owners express concern over the cleanliness of masonry buildings. They look at a brick building and want it cleaned so that it looks brand new. Many downtown structures could use a bath but because West Virginia downtowns have developed over years they should reflect that development. The brick and stone buildings looked brand new and clean for only one or two years after construction. Then the environment took its toll.

Before a cleaning project, determine how clean the building should be. A little bit of character never hurt any building. Removing minor dirt can cause more harm than good.

OBSERVATION

A combination of atmospheric pollutants, consisting of some form of soot, forms the dirt on masonry and appears as dark, almost black areas streaked from water

Airborne dirt causes soot and other atmospheric pollutants, the most identifiable and easily removable soils. Clean large amounts of encrusted dirt, overall dirt or when undertaking an extensive rehabilitation project, not a lightly stained building.

Efflorescence, a deposit of salts and other minerals left by moisture migrating from the masonry, indicates deterioration and damage in the building and is a symptom rather than a problem.

Efflorescence does not harm the building. It sometimes occurs naturally, when masonry contains moisture or when salts or minerals have been introduced, for example, when the building has been tuck-pointed as salts will migrate from the new mortar.

Efflorescence also shows up just after cleaning or paint removal because of the increased water for washing or rinsing the building. The stains will usually disappear on their own through the natural rinsing of rain water.

Efflorescence usually indicates the presence of other problems in the building. Efflorescence near the base of the building indicates rising damp associated with ground drainage. Efflorescence near the top of the building or near gutters indicates deterioration of the gutters or roof flashing, particularly at the parapet level. Efflorescence at the corners of a building indicates a problem with the downspouts or lack thereof.

Vegetation or other plant life on the building indicates an underlying problem. Although it is picturesque and charming to have ivy growing on a

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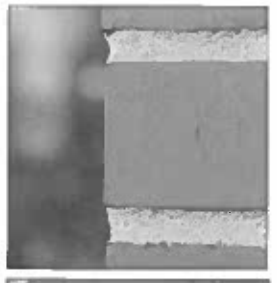
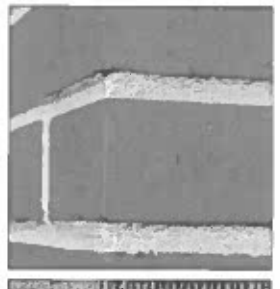
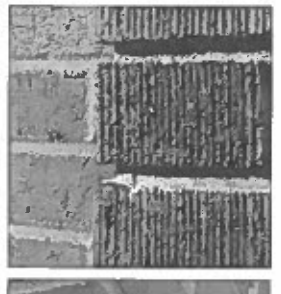
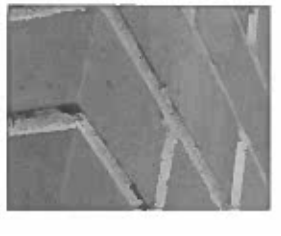






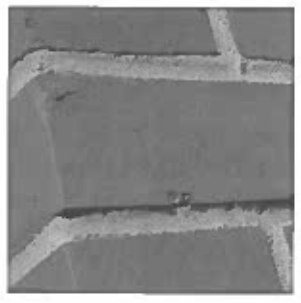


moisture on the face of the wall. At all cost, vegetation should be removed.

Mortar from previous repairs presents a stubborn situation. Hard mortar with a high cement content will be very difficult to remove. Test physical removal methods but they may not be recommended if they damage the masonry. Test using various removal methods before continuing.

RECOMMENDATIONS

Use extreme caution when cleaning buildings. It is much easier to damage a structure with incorrect cleaning than to leave the dirt. Use the gentlest methods possible. Test various types and methods to determine the level of cleanliness preferred.



Simple detergent and garden hose pressure water will remove some soot and atmospheric dirt. Try this first. Let the test sit for a week or two and observe what happens. This may finish the job.

A professional should undertake additional cleaning. This constitutes a more comprehensive program than maintenance. The contractor should prepare a number of test areas for observation using different chemicals and concentrations. Leave these for six weeks before selecting a treatment.

Select chemicals for compatibility with building materials. Protect glass, landscaping and adjacent vehicles.

Remove efflorescence by rinsing with water at low pressure.

Cut vegetation at the base and allow it to die. Remove the dry roots from the face of the building. Repointing may be necessary.

Remove mortar carefully by hand or with dilute solutions of hydrochloric acid, recommended as a last resort and not a treatment for the do-it-yourselfer. Protect adjacent masonry and rinse it continuously. Mortar stubborn enough to require acid removal should probably be left alone, except in the rarest cases. Hiding the mortar would be safer for the building.

masonry units holds the entire building together. Usually it consists of a mixture of sand, cement and lime and acts as a bed for the stone or brick, mechanically and chemically holding it together to form one homogeneous mass.

Very early buildings made use of soft mortar, with little or no cement in the mixture. (Although the ancient Romans used cement for construction, it wasn't used widely in the U.S. and England until the last quarter of the 19th century.) Lime and sand form a very soft mixture easily crumbled or crushed by hand.

Historic masonry buildings deteriorate for several reasons. The combination of low-quality firing techniques and poor quality raw material for manufacturing brick did not always produce great results. Soft mortar also allows mortar to yield when masonry breathes, expanding and contracting in response to the air's moisture content and temperature changes. Using high lime soft mortar gives it a useful self-healing quality: wetting it allows it to re-dissolve and dry in one piece around small cracks.

ANALYSIS

All of this softness, though useful, contributes to mortar's accelerated aging. Rain or other action washes it out. The installation of nailers in mortar joints and flashing, and the effects of continuous concentrated water flow from a broken downspout, for example, also remove mortar. Freeze-thaw cycles that allow water to enter the joint can pop out mortar through freeze expansion.

The most common damage locations include:

- Near downspouts and corners
- At junctions of awning, roofs, etc.
- Around window and door heads
- At the base of the building where

Point masonry at spots of missing or deteriorated mortar; 100 percent joint replacement is not recommended. Rake out unsound joints to a depth of 1/2 to 3/4 inch or to sound material. In other words, remove only what comes out very easily.

Remove mortar by hand so that the worker has control over the tools. Do not use grinders. Even small, 4-inch grinders now available can potentially damage the masonry. Once the operator tires of holding the grinder at exactly a 90-degree angle, the grinder can cut the masonry.

The replacement mortar should match the original in color, strength and characteristics. Hard mortar can damage soft bricks and stones. The mixture should contain lime, sand and a small amount of cement in a ratio similar to the existing mortar. Select sand to match the original in color, size of granules and texture. Use white portland cement and add sand to match the color. To inspect the sand of the existing mortar, crush a sample and put it in water to dissolve the lime, which will leave the sand behind.

Prepare samples of the mortar and the pointing techniques. Allow them to dry and weather to observe the match. Match the joint profile as well. Joint width will have a significant visual and structural effect on the masonry.

ROOFS

As the first line of defense from the elements, roofs take the heaviest beating. Failure of the roof and its associated systems leads to the most deterioration in a historic or older structure. Mostly unseen or hard to get to, the roof is usually the most neglected portion of a structure.

The roof system consists of the supporting roof structure: rafters, trusses, etc.; the roof sheathing system: usually boards or plywood; the roofing material itself: parapet walls, the walls at the edges of a roof; and flashing: the material applied at the corners, plane changes or penetrations through the roof.

not always show up as a waterfall in the bedroom.

It may show up as mildew or dark stains on interior wall and ceiling surfaces or near the edges of the building. Peeling paint and wallpaper also indicate water infiltration at the roof.

On the exterior, damage may appear as water stains on the walls near the top of the building. On wood-sided buildings the stains will look like those seen inside. Peeling and flaking paint also indicates water in the wood, particularly on the cornice or soffit and fascia portions of the building.

Efflorescence on brick or stone, usually near the top of the building, indicates water infiltration on masonry buildings. Look for runoff-shaped streaks and stains from the cornice or other top portions of the walls. The appearance of these white, chalky lines will fade as they progress down the walls. Loose or missing mortar from between bricks or stones also indicates a water problem and calls for repointing, but identify and correct the cause first. Salt deposits indicate water in the walls. Sometimes they are so heavy that they look like chunks of chalk attached to the joints.

Rotted portions of a wooden cornice or rust on metal cornices usually indicate a failed roof system.

Bubbles, cracks and pitting in the mineral or tar surfaces indicate failure in flat or built-up roofs usually found on commercial structures in downtowns. These cracks and holes allow water to enter the system. Look particularly at the joints between layers of roofing. Standing water or puddles indicate potential problems with the sheathing or the roof supporting structure. If no water is visible, check for indications of dried-up puddles, which appear as dry dirt and debris left after the water has evaporated.

METAL

Standing or flat-seam metal commonly covers the roofs of West Virginia's downtown buildings. Although the metal is usu-

Basic installation and repair procedures are similar for all types of metal roofs. The standing seam configuration - sometimes called batten seam - of older, historic metal roofing looks like rows of metal pans running vertically up the roof every two feet or so. The seam is a folded-up portion of the metal skin that connects the sections of metal to form one continuous covering. In a flat-seam roof, the seam is bent over and soldered rather than left standing. Lead-based tern coating acts as a protective skin for the steel pan.

Most metal roofs originated in the 1890 to 1910 era. The more common, contemporary form of metal v-seam roofing became popular around 1920 to 1930. It looks like a series of ribs running vertically and spaced nine inches to a foot apart. The joints overlap and rubber or neoprene grommet nails attach the roofing to the sheathing. A common cause of failure for this type of roof is expansion and contraction of the metal around the nail head grommets, lifting the nails and letting water into the holes. (The metal in a seamed roof isn't penetrated for attachment purposes.)

Rust, pits and holes in the metal indicate deterioration of the roofing itself. Properly cared for, metal roofing can last indefinitely, evidenced by some of the mid-19th century roofs still in service. Keeping the roof painted at all times will help to preserve it.

The application of asphalt-based coating on metal roofs causes major deterioration. Roofing tar or other patch material used to fix leaks or the application of a sealer - most commonly referred to as trailer-roof paint - can react with the metal, causing decay. The thick coating can hold moisture close to the metal causing additional rust. Uncoated metal roofs should never be covered with asphalt-based materials.

Metal roof repairs usually require proper sanding and scraping to achieve a good, paintable surface; priming bare metal with a suitable primer, and then painting. Repainting is a relatively simple task that can be done by anyone. Repainting every five years is a good rule of thumb.

Repair of metal roofs is a job for a professional. Leaks are usually caused by poor soldering or by rust holes. Soldering is a skill that takes years to develop. Rust holes are usually a sign of impending disaster and should be repaired before despair. V-seam metal roofing is available at most supply places and the traditional standing seam is still manufactured. It comes in a number of gauges and materials. The most common is 28-gauge, steel-coated with tern. Another possibility is a heavier or lighter gauge and alternate coatings. The material can be ordered in pre-formed pans with the seams pre-bent and cut to the exact length needed. This eliminates any lap joints in a vertical run. It can also be purchased in 50-foot rolls for on-site bending and cutting to fit the roof. A new innovation is tern-coated stainless steel, which will never deteriorate although it is more expensive than the other steels and is harder to work with. Another recent product is a pre-coated sheet in a variety of colors with a baked-on enamel finish, sometimes guaranteed for 15 years.

SLATE

Slate roofs have been in use for hundreds of years. Slate is a durable material that has a life span of up to 100 years but a more common life span is around 75 to 85 years. Many of the buildings in West Virginia downtowns have slate roofs or portions of slate roofs for decorative purposes.

The most common failure in a slate roof is in the flashing at valleys and in the attachment materials. The individual slates, approximately nine by 15 inches with pre-punched holes at the top, are applied in layers so that no vertical joints overlap between rows.

Shingles are attached with non-rusting nails - copper was used traditionally - because the minerals in slate can react with the steel in standard nails, causing rust and deterioration and leading to missing slates if the nail heads are lost. Check slate roofs for missing, falling or out-of-place slates. The slates themselves are usually in good condition.

An attempt to seal a slate roof from leaks with a coat of paint or asphalt can lead to roof failure. As a natural material, slate breathes and allows moisture to escape. Painting or coating the slate prevents this and causes the slate to deteriorate more rapidly. Painting is also unsightly when slate roofs look like they are turning to powder.

The flashing system - valley and hip flashing, and gutters - on a slate roof often requires major repair, but use material other than aluminum because slate will react with it, causing its deterioration.

Consider also the constant erosion of slate and the effects of this process on painted flashing. Look for this and keep these areas painted.

Remove loose, broken or fallen slates with a slate tool: a long, flat blade with a t-shaped hook on the end and a raised handle used for hammering. Once the slate is removed, install a flat strip of copper using the space between the two slates beneath the missing slate as an attachment location. The strip should be longer than the slate shingle that will be used as a replacement. Slide the new shingle in place, beneath the two slates above it and bend up the extended edge of the copper to hold the new slate in place. Use salvaged slates where possible. Double-check the size and color of the replacement slate before installing it.

Unfortunately, there is no good method for removing paint or other coatings from a slate roof. It is probably best to leave the roof painted, keep the coating in good condition and expect to replace the entire roof when it fails. Only when the original slate is in excellent condition and the historic character warrants it would it be cost-effective to remove coatings, an expensive process that is potentially harmful to the slate.

SHINGLE

Materials for shingle roofs found in West Virginia downtowns include fiberglass or asphalt, wood, metal tile and asbestos. Maintenance and deterioration problems with all of these are similar. Aside from failure of the shingles themselves, the most common failure in the roofing system involves the flashing and gutters.

Repair and treatment and symptoms for metal-shingled roofs are the same as for metal roofs.

It is sometimes difficult to differentiate asbestos shingles from slate. Asbestos roofing was popular in the 1930s and 1940s. In general, asbestos is more uniform, smoother, thinner and lighter or more varied in color than slate. The repair and replacement of asbestos roofing is the same as slate except that non-corrosive nails are not required.

Exercise care in handling asbestos roofing. Generally, do not cut or sand asbestos shingles. Use existing holes; they are pre-punched. Leaving the shingle intact should minimize health risks.

Fiberglass and asphalt shingles are the most common contemporary small-scale and residential roofing with a life span of generally 10 to 15 years. Replace failed shingles when they show the loss of grit or mineral surface; cupped and lifted edges; and tears or rips.

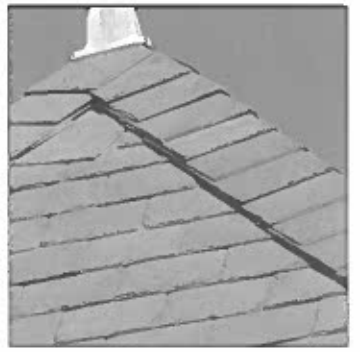
FLAT ROOFS

Within the past 15 years, single-ply membrane roofs have become popular and are good replacements for built-up or roll roofing found on most of the commercial, flat-roofed buildings in West Virginia's downtowns.

Most of the state's historic and older buildings do not have them, though.

A built-up roof consists of a layered series of roofing paper alternating with flooded-on hot asphalt. The asphalt soaks into the paper and the resultant layering forms a solid membrane. Usually there are three to five layers. Sometimes the final coat includes gravel. This type of roof should have a life span of 10 years.

Roll roofing is usually one layer of mineral roll roofing applied so the edges overlap. The edges are sealed with asphalt at the time of installation. Roll roofs should last approximately five



difficult to detect failure and leaks because the point at which a leak appears in or on the building is not necessarily where it originated on the roof. Inspection is also very difficult.

When checking out this type of system, look for cracks in the surface and bubbles in the materials. Pay particular attention to the joints of layers of roll roofing for delamination (splitting). Also look for puddling and low spots in the roof. Patch with asphalt roofing for minor deterioration. Re-coat the roof with a hot mop application. Most importantly, keep the roof membrane continuous and unbroken. Periodic patching may be required for an old roof.

When flat roofs require replacement, the use of one of the new single-ply membrane systems should be investigated. They usually last longer than traditional materials and form a more watertight barrier. The most common form of membrane roofs are modified bitumen, a layered material composed of a rubberized asphalt or bitumen held together with layers of reinforcing material, usually fiberglass. The other common single-ply system uses rubber as the final material. Both systems are heat-fused at the joints and at flashing locations to form a solid single sheet of roof coating.

FLASHING

Flashing seals the roofing to other materials and seals between segments of roofing materials. For example, when a chimney protrudes through a roof, flashing keeps water from running into the break caused by the chimney. Most often flashing is some form of sheet metal attached to the vertical surface of the protrusion to channel water over the roofing and away from the break. This also occurs where two planes of a roof meet, such as in a residential-style hip roof or in a valley.

Most flashing failures will exhibit themselves in water stains and damage on the walls of the building either inside or out-

that are pulled out from the masonry or rotten and deteriorated portions. Many times the flashing will pull itself away from the masonry wall, leaving a gap for water to enter. These gaps must be filled with caulk or mortar or the flashing must be set back into the channel provided for it. This channel is called a reglet. On masonry buildings, the flashing is set into a channel cut into the masonry or between the joints of bricks or stone. Ensure that the flashing is properly regletted in its channel.

The same considerations for coating metal roofing with asphalt apply to flashing unless it was specifically designed for such a coating. Most historic flashing is galvanized steel. Other materials in use are copper, aluminum and lead.

GUTTERS AND DOWNSPOUTS

Look for roof deterioration and associated building damage at the gutter and downspout system. Ninety percent of the buildings investigated show some type of failure at this critical point.

This system takes water accumulated and channeled by the roof away from the building. It may lead the water to a location that is not harmful to the building, such as to a sinkhole, or on ground that slopes away from the building. Most often missing or detached sections of downspouts will allow water to drip onto the face of the building and enter. This is the most serious cause of deterioration in a building.

Look for the same type of damage discussed previously such as white efflorescence on the wall around the downspout location. Evidence of water infiltration on the walls may include missing mortar, damaged masonry, peeling paint, fungus and plants. Gutter problems will exhibit the same type of damage but at the top of the walls and in the roof region.

Keep gutters clean and free of debris

to enter the roof when snow and ice begin to melt. Solutions include heat tape in the gutter to melt the ice, heat tape on the roof itself for up to 24 inches above the gutter to keep ice from forming or heat tape in the downspouts. The tape can be thermostatically controlled to come on when the temperature is below freezing. Snowbirds - small metal t-shaped extensions attached to the roof near the edge - keep ice from sliding down the roof into the gutters or onto the street. A snow board is a continuous metal or wood board raised above the roof about three inches that serves the same purpose.

WINDOWS

The public notices windows first, especially deteriorated windows.

The windows in most historic or older buildings in downtown perform two functions. On the first floor, windows display goods inside the building. On upper floors they bring light and air into the working or living space.

Before efficient man-made light and cooling, windows provided essential light and air to the interior as well as visual and architectural character.

Hermetically sealed environments and manmade lights have led to the notion that windows are superfluous. The conservation ethic, it is hoped, will turn back this train of thought.

Because of their visibility and significance to the architecture of buildings, many consider windows as a structure's character-defining element and closely observe repairs and rehabilitation.

Maintain the original size and configuration of a building's windows. Do not replace them with smaller or larger windows or those that operate in a different manner from the original. If a window contained one sash over one sash, it should retain that configuration in any rehabilitation project.

Use substitute materials if they maintain the same appearance as the original. Wooden window replacements may be metal or wood if the basic shape, configuration and proportions duplicate the original. The new windows should also have the capability to match the original colors.

Older buildings originally had mostly wood-framed and wood sash windows with various sash configurations but the most common was a one-over-one arrangement.

Another common material for historic windows is steel. This occurs mostly in buildings constructed after 1930 and in industrial or warehouse-type structures. Metal windows usually have many smaller panes and operate with some type of hinging arrangements. These are called hopper windows.

Many windows in older buildings have been replaced with newer ones. Discussions in this chapter refer to original windows but the concepts are the same for newer windows.

Window putty is the caulk at the edges of the glass that seals it to the sash. It also acts as a cushion for the glass, allowing the sash to expand and contract without breaking the brittle glass. This material dries out with age and then cracks. Its loss allows water and moisture to get past the glass into the interior of the window and into the sash itself. It also allows the glass to rattle, crack and break.

The sash itself also is prone to deterioration, particularly wood sash, usually along the lower rail, where the sash rests on the windowsill. Water accumulates on the sill and deteriorates the rail. Other deterioration-prone locations on the sash are the lower rail of the upper sash and the corners where the styles or sides of the sash meet the rails. The intersection where muntins, or dividers, in the sash meet rails are also a high deterioration

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Water affects metal windows in the same way with rust as a result.

Another point of deterioration on windows is where the window frames meet the walls of the building. This space must be filled with pliable caulk to seal it from the elements and to allow for movement of the window and wall materials. Over time, caulk dries out and pulls away from the walls allowing water and air to enter the building.

Water also collects on the horizontal windowsills, causing wood decay.

RECOMMENDATIONS

Inspect windows regularly to observe the condition of the glass, glazing and sash components. Replace broken glass as soon as possible with glass that is similar in clarity. Replace glazing periodically, at least as often as it cracks and dries out. Oil the sash prior to installing new putty so that it does not dry out too quickly.

Repair wood sash and sill members with putty and epoxy consolidation if required. Prime and paint periodically.

Treat metal windows likewise, repairing, priming and painting metal components periodically.

Replace or repair the caulk between window frames and walls periodically using a paintable butyl caulk. Remove old, dried caulk and oil the wood so it doesn't dry out new caulk before painting. Do not caulk the space under windowsills on masonry buildings to allow moisture to exit from between the walls.

STORM WINDOWS

A general recommendation is to install storm windows in addition to original windows rather than replace them with new energy-efficient ones.

Storm windows should match the originals in appearance, size and configuration and may be installed on the interior or the exterior.

to remain on interior windowsills will cause damage. Interior storm windows must allow for moisture removal and ventilation of the space between the two window systems.

Exterior storm windows also will trap condensation but the exterior surfaces of the original window are designed to handle water. The sill is usually sloped to drain water away from the building and the frames, etc., are caulked and painted.

In any event, storm windows must have weep holes at the bottom to allow water to escape and air to enter as ventilation. The most common problem with storm windows is the lack of a weep hole or the loss of the hole through incorrect installation. Sometimes installers will caulk over the weep holes. In other cases, the sill fills with dirt and debris, clogging the holes.

RECOMMENDATIONS

Install storm windows on the exterior of existing windows using materials and configurations that match the originals. Install the storm windows with caulk in all locations except at the bottom weep holes. Inspect and clean the storm window sill to remove moisture and debris.

DOORS

Doors help protect and present buildings, letting people in and keeping the elements out. Extremely important to a building's proper function, doors also aid in code compliance for handicapped access and fire exits.

Older buildings usually had wooden doors. Storefront entrances usually had a large glazed section with wood framing called stiles: verticals, rails and horizontals.

Doors for secondary entrances also were wooden and looked like the storefront entrance if located on the front of the building. They seldom looked like residential doors. Secondary doors on the side or rear of the building often had multiple panels.

Older doors usually had brass, brass-plat-

ing the keyhole and knob - added elegance and a sense of invitation to the storefront entrance.

These doors are often replaced with new aluminum storefront systems. Residential- or colonial-style crossbuck doors can add character to a building. The door does not always have to be the building's original one; an Art Deco-style door added to a storefront in the 1940s might have historic significance or beauty worth preserving.

One of the first parts of a building to deteriorate, doors face constant use and abuse: opened and closed; slammed; bumped into by delivery vehicles. At street level, snow, ice, rain, salt and other elements attack doors.

Doors deteriorate most commonly at the hinges along the face of the stile and at the frame near the hinges. Frequent replacement or loose hinges cause wood deterioration. Doors also deteriorate at the bottom, where moisture decays the wood or around the knobs and locks where constant use deteriorates the openings.

Metal doors have similar problems and points of deterioration. The finish on bronze or other copper alloy doors deteriorates due to abrasion and oils from constant use. This shows up as mottled colors or scratches in the metal.

RECOMMENDATIONS

Inspect doors regularly for deterioration. Inspect the hinges to ensure that the screws are tight. If they are stripped, insert a shim into the holes or repair the wood. Inspect knobs, locks, etc., to ensure that they operate freely. Oil as appropriate and tighten screws on the knobs or the escutcheons. Inspect door closures to ensure they operate freely also. Inspect the attachment screws on the closures. Inspect the door itself for mechanical or other deterioration. Look for gouged-out sections of wood or moisture-related decay at the base of the door. Repair these with epoxy or wood splits.

Keep wooden doors painted at all times.

not a bright, new penny appearance. Replace worn-off patina with a new patina finish.

Replace doors with those of the same size and configuration as the originals and do not cut down door openings. Replacing a wooden door with a metal one will work but the metal door should have stiles and rails similar in size and configuration to the original.

If the storefront is painted wood, then the door should probably have a painted finish. Achieve this with a modern method: baked-on enamel finish for aluminum or steel. Aluminum storefronts should have matching doors.

Residential-style doors with small panes of glass or no glass are not appropriate for building entrances but can be used on other, less noticeable elevations.

Modern codes require that doors swing to the outside, allowing for easy emergency exiting. Often an existing door can be modified. The same is true for providing handicapped access to a building. Ramps or wider doors may require replacement or reworking an existing door.

PAINTING

Paint covers wood or metal details and elements on downtown buildings or wood-sided buildings and masonry structures.

Some brick buildings were painted historically as a function of the style of architecture. Paint smoothed the façades of brick federal style and Greek revival style buildings of the middle 19th century. Sometimes paint covered renovations or additions to buildings where new bricks did not match the originals. In both cases, continue to paint rather than remove it.

Moisture causes most building problems, including paint failure. Water from faulty roofs or other places causes paint to flake and peel as does moisture in the building's fabric from inappropriate vapor barriers or insulation. Fix the moisture problem before repainting.

Too many layers of paint can lead to chipping and flaking. Generally, more

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leads to failure. Applying oil or latex paints over each other or over the wrong materials can result in failure. Use the right paint for the job.

Check for most paint problems in moisture-prone areas such as soffits, fascias, around gutters and downspouts, etc. Elsewhere, check for large-scale peeling and flaking. On a masonry building, this indicates moisture migration from insulation or the use of the wrong type of paint. Incorrect paint usage also leads to paint failure on wooden buildings but moisture would more likely be the cause.

Surface preparation is the most important part of the job. Scrape loose or peeling paint and sand the edges for a smooth transition to bare wood. Removing all of the paint is not necessary. If there are too many layers of paint, use chemical or heat-removal techniques to get a good surface. Prime any bare wood with a good oil primer. Use oil-based paint.

Remove any loose or flaking paint on masonry buildings and take care when using metal tools. Use paint specifically formulated for masonry.

Remove chalkiness on masonry or asbestos-type siding with a cleaner such as trisodium sodium phosphate before painting. Use a chalk-reducing primer. Use a germicidal cleaner and primer to kill any fungus before painting.

Remove flaky and peeling paint on metal surfaces. If there is rust, sand or wire brush it to a shiny base. Prime bare metal with a zinc chromate primer. If the metal is not rusty or the paint adheres well, no primer is needed.

Use specially formulated primer for galvanized metal. Clean it with a mild etching solution formulated for galvanizing, prime and paint.

Sand rusty, old or weathered galvanized metal to its bright metal base and use a regular metal primer.

Oils in copper and brass, other oils and pollutants make it tough for paint adhesion. The greenish or brownish color on many copper and alloy storefronts and keep in mind that maintenance will be a full-time job. If that is the goal, clean copper with a mildly acidic solution and coat it immediately with a clear acrylic finish such as Incrylac, an automotive finish. The coating will last three to five years. Coat the polished surface as soon as possible, less than 30 minutes after cleaning.

SITE

Site work maintenance most often involves the removal of harmful vegetation and moisture. Many downtown buildings will not need site work or landscaping because of their urban setting and a lack of side, front and rear yards.

Design and maintain landscaping when necessary so that it does not damage the structure.

Site work damage manifests as deterioration at wall bases - sometimes called rising damp; water or moisture stains, and obvious physical damage caused by vines or vegetation growing on or too close to the building.

Recognize rising damp through damage, deterioration or loss of bricks or mortar on the lower portion of a wall, up to a height of about 24 to 30 inches and clearly delineated by a definite horizontal line. Salts or efflorescence also may appear. Wooden and painted surfaces will show similar stains and deterioration.

Water running off the roof and splashing on the wall when it hits the ground show up as dirt and mud stains on the lower portion of a wall as evidence of inappropriate siting and drainage.

It may look picturesque but vines growing on the wall or in masonry joints can severely damage the building. Leaves hold moisture and cause more damage. Trees and shrubs too close to the building cause similar deterioration because they don't allow the walls or the ground to dry out.

A relatively simple solution to all of these problems exists.

Do not plant trees or shrubs too close to walls. If any exist, remove them or keep them well trimmed. Inspect behind them

remove it from the wall taking care not to pull out mortar or other pieces of the building. Repointing may be required after removal.

Make sure that the ground slopes away from the building. Build up the soil near the walls and slope it away. Fix rising damp by excavating alongside the wall and installing perforated drain tile. Cover the tile with a fabric such as Tyvec to keep gravel from closing the perforations. Connect the tile to a storm sewer, drain it to empty into a gravel dry well or lead it over the hill to a suitable drainage site. Always slope the tiles from the high side of the ground to the low. Fill the excavation with gravel and topsoil sloped away from the building. When inspecting the site, identify which side of the building is higher than the others. This will be the side that has water entering it and tiles should be installed here to drain.

ENERGY CONSERVATION

Most property owners want to upgrade building components for energy efficiency because of reduced energy costs and a more comfortable environment.

Cold is the most obvious effect of energy system deterioration. A continually cold building, drafts and moving air, and rattling windows indicate a problem.

Less evident symptoms of conservation system failure include moisture on the building's interior wall; fungus and black marks on walls and ceilings; moisture on windows and sills; and deterioration of roof sheathing and attic spaces. These indicate insulation or vapor barrier problems.

Proper energy conservation techniques and existing energy systems maintenance can address these problems.

One energy retrofit that has several problems includes blowing in loose insulation into the attic and wall cavities through holes cut into the walls or ceilings. Wall bracing prevents uniform dis-

barrier also leads to problems. Buildings contain moisture especially in bathrooms and kitchens, which travels through the pores in building materials and migrates to the outside through the walls. The moisture encounters cooler air the closer to the exterior it gets, condensing when it reaches a cool enough temperature, the dew point. Condensation is fine on a wall's exterior.

Insulation in the wall moves the location of the dew point, most often to inside the wall where the moisture formed as a result can cause structural damage.

Keep moisture out of the wall in the first place by installing a vapor barrier inside the wall surface. Many blown-in installations do not take this step.

Moisture buildup from ceiling insulation and inadequate ventilation cause the same type of deterioration in attics. Air circulation will remove attic moisture. Otherwise water condensation on roof and ceiling structures will damage them.

To identify insulation-related problems, check for moisture-related deterioration in other building systems. If they are operating correctly and the building has insulation, it is probably the culprit.

RECOMMENDATIONS

Inspect and repair caulking around window and doorframes regularly.

Install storm windows.

Install storm doors similar to the original doors and in the same size and configuration.

Ensure that weather-stripping on doors and windows is in good working order. Repair or replace any that isn't. Use vinyl or metal v-shaped weather seals. Vinyl or rubber door sweeps or weather-stripped thresholds are effective.

Install insulation in the ceiling or attic. Use batt insulation for the easiest correct installation and use a vapor barrier, either foil-faced batts or plastic sheeting. The

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for existing building walls unless the interior surfaces will be removed or furring will be installed with new wall surfaces because the payback period is not cost-effective otherwise. Do not install blown-in insulation without a proper vapor barrier.

Lowering the ceilings for insulation purposes on any floor other than the top floor of a building will not result in any savings.

Install ventilation in the attic equivalent to one square inch of free ventilation space for each 300 square feet of attic space. For the most efficiency, provide ventilation areas at the attic's highest point and introduce fresh air at the lowest point. Using cornice cutouts with louvered plugs allows air to enter the attic. At the top, remove air with ridge roof vents or other mechanical or static vents at the highest point in the roof or gable ends. Attic or gable fans are also an effective method.

Install ventilation in crawl spaces. Install vapor barriers on the floor of the first floor and on the ground to keep moisture from getting into the crawl space.

BUILDING MATERIALS

STRUCTURAL PIGMENTED GLASS

Carara glass, a trade name for a type of glass used as siding, aided in many renovations in the 1940s and 1950s. Also manufactured as Vitrolux and Spandrelux, the plate glass in various colors covered façades using a black mastic adhesive.

It was very popular for Art Deco and Art Moderne style buildings because it provided a clean, shiny, high-tech look. Retain structural pigmented glass storefronts and veneers because of their unique architectural significance.

Glass most commonly deteriorates along the base of the walls, where it is most susceptible to damage from pedestrians, debris and vehicles.

Maintain joint material between panes of glass. Similar to joint mortar for masonry, it deteriorates with time and erodes from the joint. Its loss allows water behind the glass and/or sheets of glass to come in contact with each other and crack. Check for cracks and missing pieces of glass.

RECOMMENDATIONS

Fill missing joints using a butyl caulk compound that matches the glass. Treat small cracks in the glass the same way.

Fill larger cracks and missing pieces with glass, Plexiglass, painted metal or other materials that match the color and reflectivity of the original glass. New plate glass with paint on the interior is sometimes used.

Glass manufacturers make contemporary spandrel panels for replacements. Structural pigmented glass, currently manufactured in Czechoslovakia, is still available in two colors: black and white.

SHEET METAL WORK

West Virginia downtowns feature original pressed metal cornices, details and ornamentation from the late 19th and early 20th centuries, much of it purchased through mail order distributors such as local manufacturing sources such as the Wheeling Steel plant.

In time, they deteriorate through water, rust, the elements, demolition, alteration, etc.

Commonly observed deterioration includes pit holes, rust and the loss of sections of details and elements, especially overhanging brackets and dentils. Many of the original detail elements such as flowers or ornaments were applied separately to a base surface and consequently most susceptible to loss.

Inspect metal cornices for:

- Water infiltration through loss of or deterioration of flashing at the top of the cornice.
- Rust and deterioration through loss of protective paint on the metal, usually most pronounced in the cornice's joints where smaller sections of sheet metal may have been soldered or screwed together.
- Loose sections because the wood backing and attachments to the structure have deteriorated, usually caused by water infiltration.
- Vegetation and plants or debris. Birds and other animal nests cause significant damage.
- Missing sections through loss or physical damage, usually to larger overhanging sections such as brackets at the cornice edge or small blocks or dentils.

REPAIRS

Most repairs will consist of removing vegetation and other dirt and debris; reattach loose sections afterward with sheet metal screws, rivets or soldering and caulk all joints. Leave expansion joints in the cornice or in sections longer than 35-40 feet.

Replace deteriorated wooden backup material using treated wood, marine-grade plywood or naturally resistant wood such as cypress.

original. In most cases galvanized 26-gauge steel or terneplate is acceptable.

To copy decorative elements, experts hammer sheets of steel on a mold. Alternatives include:

- Using a metal replacement from an ornamental metal supplier.
- Hiring a sheet metal fabricator (gutter workers can sometimes do this) to make a copy.
- Reproducing the original from an intact portion of the cornice in fiberglass with epoxy resin using a technique similar to auto body repair systems. A metal worker may be able to assist.
- Using wood to replace flat sections and simple molding profiles. Paint will make the replacement unnoticeable.
- Hiring a proficient carver or artist to use wood for replacing decorative elements.
- Using replacements manufactured from other materials such as extruded or expanded foam with stucco or other coating, cast epoxy or fiberglass.
- Using the original as a casting form, making a mold using rubber com pounds from craft supply stores and casting with epoxy.

STOREFRONTS

As the most visible public portion of downtown commercial buildings, the storefront is the only portion of a building that many people notice. It greets the public and displays the business. Keep this part of the façade in tip-top condition.

Unfortunately, the storefront also gets some of the most severe abuse from insensitive alterations, water and dirt from the street, and physical damage from people and debris on ground level.

Keep the street level free from dirt, accumulated debris and other materials. Check for deterioration at the kick panel areas beneath the windows, generally

Downtown Property Owners Maintenance Manual

for existing building walls unless the interior surfaces will be removed or furring will be installed with new wall surfaces because the payback period is not cost-effective otherwise. Do not install blown-in insulation without a proper vapor barrier.

Lowering the ceilings for insulation purposes on any floor other than the top floor of a building will not result in any savings.

Install ventilation in the attic equivalent to one square inch of free ventilation space for each 300 square feet of attic space. For the most efficiency, provide ventilation areas at the attic's highest point and introduce fresh air at the lowest point. Using cornice cutouts with louvered plugs allows air to enter the attic. At the top, remove air with ridge roof vents or other mechanical or static vents at the highest point in the roof or gable ends. Attic or gable fans are also an effective method.

Install ventilation in crawl spaces. Install vapor barriers on the floor of the first floor and on the ground to keep moisture from getting into the crawl space.

BUILDING MATERIALS

STRUCTURAL PIGMENTED GLASS

Carara glass, a trade name for a type of glass used as siding, aided in many renovations in the 1940s and 1950s. Also manufactured as Vitrolux and Spandrelux, the plate glass in various colors covered façades using a black mastic adhesive.

It was very popular for Art Deco and Art Moderne style buildings because it provided a clean, shiny, high-tech look. Retain structural pigmented glass storefronts and veneers because of their unique architectural significance.

Glass most commonly deteriorates along the base of the walls, where it is most susceptible to damage from pedestrians, debris and vehicles.

Maintain joint material between panes of glass. Similar to joint mortar for masonry, it deteriorates with time and erodes from the joint. Its loss allows water behind the glass and/or sheets of glass to come in contact with each other and crack. Check for cracks and missing pieces of glass.

RECOMMENDATIONS

Fill missing joints using a butyl caulk compound that matches the glass. Treat small cracks in the glass the same way.

Fill larger cracks and missing pieces with glass, Plexiglass, painted metal or other materials that match the color and reflectivity of the original glass. New plate glass with paint on the interior is sometimes used.

Glass manufacturers make contemporary spandrel panels for replacements. Structural pigmented glass, currently manufactured in Czechoslovakia, is still available in two colors: black and white.

SHEET METAL WORK

West Virginia downtowns feature original pressed metal cornices, details and ornamentation from the late 19th and early 20th centuries, much of it purchased through mail order distributors such as local manufacturing sources such as the Wheeling Steel plant.

In time, they deteriorate through water, rust, the elements, demolition, alteration, etc.

Commonly observed deterioration includes pit holes, rust and the loss of sections of details and elements, especially overhanging brackets and dentils. Many of the original detail elements such as flowers or ornaments were applied separately to a base surface and consequently most susceptible to loss.

Inspect metal cornices for:

- Water infiltration through loss of or deterioration of flashing at the top of the cornice.
- Rust and deterioration through loss of protective paint on the metal, usually most pronounced in the cornice's joints where smaller sections of sheet metal may have been soldered or screwed together.
- Loose sections because the wood backing and attachments to the structure have deteriorated, usually caused by water infiltration.
- Vegetation and plants or debris. Birds and other animal nests cause significant damage.
- Missing sections through loss or physical damage, usually to larger overhanging sections such as brackets at the cornice edge or small blocks or dentils.

REPAIRS

Most repairs will consist of removing vegetation and other dirt and debris; reattach loose sections afterward with sheet metal screws, rivets or soldering and caulk all joints. Leave expansion joints in the cornice or in sections longer than 35-40 feet.

Replace deteriorated wooden backup material using treated wood, marine-grade plywood or naturally resistant wood such as cypress.

original. In most cases galvanized 26-gauge steel or terneplate is acceptable.

To copy decorative elements, experts hammer sheets of steel on a mold. Alternatives include:

- Using a metal replacement from an ornamental metal supplier.
- Hiring a sheet metal fabricator (gutter workers can sometimes do this) to make a copy.
- Reproducing the original from an intact portion of the cornice in fiberglass with epoxy resin using a technique similar to auto body repair systems. A metal worker may be able to assist.
- Using wood to replace flat sections and simple molding profiles. Paint will make the replacement unnoticeable.
- Hiring a proficient carver or artist to use wood for replacing decorative elements.
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STOREFRONTS

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Inappropriate covers over existing building materials contribute to decay. Metal and other skins trap moisture against the original façade. Keep these additions in good shape. Caulk any loose or separated joint areas. Keep metal, pressed board and other cladding panels secured to their framing. If they begin to deteriorate, remove them and repair the original rather than the cladding.

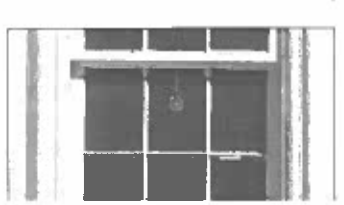
If there are no plans to remove transom area covers, keep them in good condition. Paint them or caulk when necessary.

Keep flooring material on recessed storefront entrances in good condition. Repair ceramic tile or replace it with a similar material rather than cover it with carpeting. Remove any carpeting because it traps moisture against the lower portion of the façade.

Repair doors and door hardware. Replace broken hinges, handles and locks. Oil working hardware regularly. Keep wooden doors painted and repaired, especially on the lower rails.

Pay particular attention to display windowsills. Keep them painted and the lower edges of framing caulked.

Keep wooden storefront framing repaired and painted. Caulk all joints. If it is metal, keep it painted. Keep steel and other metals cleaned and polished. Attach loose window clips, stops or other framing members with proper materials.



FUNGI AND INSECTS

FUNGUS

The unseen force that eats up the structural members of buildings, fungus is most commonly found in basements, crawl spaces and attics where roof water enters.

Fungus requires three items to flourish: food, water and oxygen. The food - wood - and oxygen are readily available and uncontrollable but the last requirement, water, can be controlled.

Brown rot fungus and white rot fungus attack buildings. Brown rot fungus attacks the cellulose in wood's cell wall. The rotted wood shrinks and collapses across the grain. Decayed wood dries out, looks brown and cracks across its grain. White rot attacks the cellulose and lignin and causes decay gradually but steadily. White rotted wood looks bleached and feels spongy.

Look for fungus in the attic, particularly along the outside edges of roof rafters and ceiling joists. Inspect the edges of wood members; exposed end grain is prone to attack. In basements, look in the same locations. Prime fungus locations include the edges of floor joists and beams, where they rest on the walls or other supports. Look for evidence of moisture, in unventilated crawl spaces and near plumbing and downspouts.

On the building's exterior, check the cornices, alongside downspouts, under windows, where additions meet the main walls, etc. Fungus and rot will occur where there is water.

RECOMMENDATIONS

Dry out the area under attack. If it is localized, repair the source of the problem, such as a leaky water pipe or downspout. If it is not localized, provide ventilation to the basement, crawl space or attic.

After removing the moisture, kill the fungus with a chemical preservative such as pentachlorophenol. Because preservatives are toxic, hire a contractor to treat the building after fixing the water problem.

INSECTS

Insects prefer to feed on moist wood. The common wood-attacking pests in West Virginia include termites, carpenter ants and wood-boring beetles.

ANTS

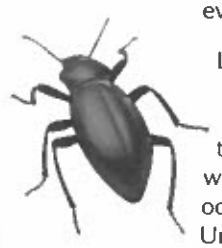
Carpenter ants - large red-brown or black, about 1/4- to 1/2-inch long - burrow into wood to make nests but because they don't feed on it they do not cause extensive structural damage. Check for the powdered wood - frays - they expel in crawl spaces, basements, under porches and in dark places.

TERMITES

Termites cause the most damage. The most common of the three types of termites - dry wood, damp wood and subterranean - is subterranean.

Subterranean termites get moisture from the ground. They will most often attack wood in contact with the Earth and will build tunnels on masonry for shelter while traveling to other wood. Shelter tubes along the sides of the foundation and other structures in basements and crawl spaces are the most obvious sign of termite infestation. The tubes will not be visible if termites have entered from within concrete block or cracks in masonry.

When a colony matures, swarms spin off in the spring and early summer during the day to form new colonies, another sign of termites. After swarming, termites discard their wings. Piles of wings on windowsills indicate an infestation even if no swarm is seen.



Little external evidence of damp wood termites exists other than swarms because the colonies live inside the wood. Dry wood termites occur mostly in southwestern United States.

BEETLES

Wood-boring beetles - powder post beetles - bore into wood pores and lay eggs. They usually infest hardwood paneling

infests softwoods and attacks structural building members in attics and crawl spaces.

The moisture content in wood and air determine whether adults will lay eggs and continue the cycle. The drier the air, the less likely for infestation to continue.

RECOMMENDATIONS

The treatment for insect infestation includes dangerous chemicals. Limit involvement to inspection and identification. Consult a professional for treatment.

MISCELLANEOUS BUILDING ELEMENTS

SIGNS

Particular instructions for sign upkeep include:

- Inspect sign attachment brackets for deterioration and failure.
- Keep brackets, attachments and signs painted and sealed.
- Repair and inspect electrical components.
- Repair light bulbs or other elements, particularly neon.
- When removing a sign, also remove brackets and fill holes in the façade.

AWNINGS

Particular instructions for awning upkeep include:

- Inspect attachment brackets for deterioration and failure.
- Keep brackets, attachments and elements painted and sealed.
- Keep moving parts oiled and in good working condition.
- Repair any evident tears and rips.

SOURCES OF INFORMATION AND ASSISTANCE

ASBESTOS REMOVAL SOURCES

Old House Journal
Oldhousejournal.com
March/April 1987

EPA Region III
Asbestos Coordinator
(215) 597-3160
NESHAP Coordinator
(215) 597-6550

Environmental Health Services
Radiation Toxics & Indoor Air Division
815 Quarrier St., Suite 418
Charleston WV 25301
(304) 558-2981

AWNING SOURCES

2004 Sweet's Catalog File
General Building and Renovation
Section No. 10

The Awning Co.
923 29th St.
Huntington WV 25702
(800) 232-8074
(800) 660-8324

Wheeling Tent & Awning
1417 Chapline St.
Wheeling WV 26003
(304) 232-1450

Valley Awning & Canvas Specialties
515 N. Lincoln St.
Bridgeport OH 43912
(740) 635-9222

City Window & Construction Co.
Route 2, Box 285
Clarksburg WV 26301
(304) 623-2573

BUILDING MATERIAL SOURCES

Clem Labine's Traditional Building
www.traditional-building.com

Old House Journal
Oldhousejournal.com

Preservation Tech Notes
U.S. Department of the Interior
National Park Service

WOOD CARVING

Cumberland Woodcraft Co.
Carlisle PA 17013
(800) 367-1884
www.cumberlandwoodcraft.com

Hull Historical Millwork
Fort Worth TX 76104
(817) 332-1495
www.hullhistorical.com

MILLWORK

Vintage Woodworks
www.vintagewoodworks.com

Architectural Products by Outwater, LLC
www.outwater.com

Select Millwork Co.
www.selectmillwork.com

Timberlane Woodcrafters
www.timberlane.com

METAL

WF Norman Sheet Metal Co.
P.O. Box 323
Nevada MO 64772-0323
(800) 641-4038
www.wfnorman.com

King Architectural Metals
www.kingmetals.com

Follansbee Steel
Follansbee WV 26037
(800) 624-6906

Ornamental Metal Institute of NY
www.ominy.org

PLASTIC OR OTHER REPRODUCTIONS OF HISTORIC METALWORK

National Ornamental & Misc. Metals Assoc. - NOMMA
www.nomma.org

2004 Sweet's Catalog File
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Sections No. 5 & 6

ENERGY CONSERVATION SOURCES

Journal Of Light Construction, Volume 7, Number 11
August 1989

Preservation Brief Number 3
Baird M. Smith, AIA

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Section No. 7

FUNGI/INSECTS SOURCES

Old House Journal
Oldhousejournal.com
May/June 1981

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Section No. 7

INTERIOR FINISHES SOURCES

Preservation Brief Number 18
H. Ward Jandl

2004 Sweet's Catalog
General Building and Renovation
Section No. 9

PLASTER

Blackhawk International
Joe Whipkey
Morgantown WV

Dale Spicer
1200 6th St., W.
Charleston WV 25302
(304) 346-6351

ORNAMENTAL PLASTER

Preservation Brief No. 21
MaryLee MacDonald

Preservation Brief No. 23
David Flaharty

Master of Plaster Finishing Systems
www.masterofplaster.com

MASONRY SOURCES

CLEANING

Moisture Problems in Historic Masonry Walls
Baird M. Smith, AIA

Old Building Owner's Manual
Judith L. Kitchen

Preservation Brief No. 1
Robert C. Mack

A Glossary of Historic Masonry Deterioration Problems and Preservation Treatments
Anne E. Grimmer

Old House Journal
Oldhousejournal.com
February 1987 and January 1981

Preservation Brief No. 6
Anne E. Grimmer

The Secretary of the Interior's Standards
U.S. Department of the Interior
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Cleaning Masonry, Canada Heritage
December 1981

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Preservation Brief No. 2
Robert C. Mack, AIA

The Secretary of the Interior's Standards
U.S. Department of the Interior
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Old House Journal
Oldhousejournal.com
February 1987

MECHANICAL/ ELECTRICAL SOURCES

Journal of Light Construction, Volume 7, Number 11
August 1989

2004 Sweet's Catalog, General Building and Renovation
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LIGHTING

Ball & Ball Lighting
www.ballandball-us.com

Classic Illumination
www.classicillumination.com

Rejuvenation
www.rejuvenation.com

Period Lighting Fixtures
www.periodlighting.com

PAINTING SOURCES

Old House Journal
Oldhousejournal.com
April 1981

Preservation Brief No. 10
Kay D. Weeks & David W. Look, AIA

Preservation Brief No. 13
Sharon C. Park, AIA

Jesse Bowman
High Tech Painting & Construction
Route 4, Box 289A
Clarksburg WV 26301

ROOF SOURCES

Clem Labine's Traditional Building

Old House Journal
Oldhousejournal.com
Preservation Brief No. 4
Sarah M. Sweeter

SLATE ROOFS

American Slate Co.
www.americanslate.com

Durable Slate Co.
www.durableslate.com

Mountain State Slate Roofing
Bob Ruddy
New Milton WV
(304) 873-3569

Eddie Bogen
(740) 927-6564

SHINGLE ROOFS

Old House Journal
Oldhousejournal.com
May/June 1990

Preservation Brief No. 19
Sharon C. Park, AIA

FLASHING

2004 Sweet's Catalog, General Building and Renovation
Section No. 7

Harris Brothers Roofing & Sheet Metal Co.
1518 Hansford St.
Charleston WV
(304) 343-5566

TILE ROOFS

The Tile Man
www.thetileman.com

Tile Roofs
www.tileroofs.com

Henderson-Forbes
Lee Forbes
P.O. Box 6362
Asheville NC 28816
(800) 767-4720
(704) 667-4723

METAL ROOFS

Ralph J. Meyer Co.

Harris Brothers Roofing & Sheet Metal Co.
Roofing & Sheet Metal Work
3101 Smallman St.
Pittsburgh PA 15201
(412) 281-5606

Tri-State Roofing & Sheet Metal Co.
P.O. Box 1231
Charleston, WV 25324
(304) 755-8135

Metro Roofing & Sheet Metal Inc.
P.O. Box 4037
Parkersburg, WV 26104
(304) 485-9150

GUTTERS AND DOWNSPOUTS

Classic Gutter System
www.classicgutters.com

Park City Rain Gutter
www.pcraingutter.com

Old House Journal
Oldhousejournal.com
March/April 1987

SIGN SOURCES AND SIGNMAKERS

2004 Sweet's Catalog, General Building and Renovation
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Gary Boggs
(304) 765-7997

JD Signs Inc.
1140 Airport Road
Fairmont WV 26554
(304) 363-3211

Signs & Designs
215 Rocky Lane
Martinsburg WV
(304) 263-7701

ButchLee Graphics
Mayfield Road
Morgantown WV 26505
(304) 292-5822

SITE SOURCES

2004 Sweet's Catalog, General Building and Renovation
Section No. 2

STOREFRONT SOURCES

Old House Journal
Oldhousejournal.com
July/August 1988

Clem Labine's Traditional Building
www.traditional-building.com

Preservation Brief No. 11
H. Ward Jandl

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WINDOW/DOOR SOURCES

WINDOW

Clem Labine's Traditional Building
September/October 1989
www.traditional-building.com

Old House Journal
Oldhousejournal.com
November 1986

Preservation Brief No. 9
John H. Myers

Preservation Brief No. 13
Sharon C. Park, AIA

The Windows Workbook for Historic Buildings
Historic Preservation Education Foundation 1986

Allied Window
www.alliedwindow.com

Allegheny Restoration Builders
Morgantown WV
(304) 594-2570

DOORS

Clem Labine's Traditional Building
May/June 1990
www.traditional-building.com

Heritage Windows & Door
www.heritagewindowanddoor.com

Jack Wallis Doors
Route 1, Box 22A
Murray KY 42071
(502) 489-2613

GLASS AND SPECIALTY GLAZING

Carvart Glass
Etched Glass
76 Van Dyke St.
Brooklyn, NY 11231
(718) 855-4459

Martina's Stained Glass Studio
3814 1/2 MacCorkle Ave., SE
Charleston WV
(304) 925-2355

Obana-Brown Stained Glass
Stained Glass Restorers
(304) 823-1336

Emerald Stained Glass
Patrick Bell
612 Teel Road
Beckley WV 25801
(304) 255-3072

Cambria Glass
Stained Glass Restorers
Johnstown PA
(814) 535-6181

Dennis Wees
Barnesville, Ohio
Prism glass repair and general glass
(740) 425-2245

Updated January 2004

RESOURCE ORGANIZATIONS

National Trust for Historic Preservation
1785 Massachusetts Ave., NW
Washington D.C. 20036
(202) 588-6202

INTERNET CONNECTIONS FOR HISTORIC PRESERVATION

FEDERAL GOVERNMENT

"Maintenance Tips & Tech Notes"
Advisory Council on Historic Preservation
http://www.achp.gov

National Park Service, Heritage Preservation Services
http://www2.cr.nps.gov

National Register of Historic Places
http://www.cr.nps.gov/nr/

National Center for Preservation Technology and Training
http://www.ncptt.nps.gov

Preservation Tech Briefs
http://www2.cr.nps.gov/tps/briefs/presbhom.htm

Secretary of the Interior's Standards for Rehabilitation
http://www2.cr.nps.gov/tps/tax/brochure2.htm

Library of Congress (Check heading for bills and click on public laws)
http://Thomas.Loc.Gov/

National Archives and Records Administration
http://www.nara.gov

STATE GOVERNMENT

West Virginia State Historic Preservation Office
http://www.wvculture.org/shpo/shpoindex.aspx

Institute for the History of Technology & Industrial Archeology

NONPROFIT AND EDUCATIONAL

National Trust for Historic Preservation
http://www.nationaltrust.org

Preservation Alliance of West Virginia
http://scenicww.org/pawv.html

Preserve/Net Historic Preservation Source
http://www.preservenet.cornell.edu/

Web Site for the History Profession
http://www.oah.org/announce/links.html

Partners for Sacred Places
http://www.sacredplaces.org

New York Landmarks Conservancy
http://www.nylandmarks.org

OTHER

Traditional Building Magazine
www.traditional-building.com

Main Street Morgantown

Forward

MAIN STREET MORGANTOWN, INC. is a non-profit organization that is devoted to the continued revitalization of downtown Morgantown. A group of civic leaders chartered this organization in January 1984, upon returning from a seminar at the National Main Street Center in Washington, D.C. The national Main Street program is housed within the National Trust for Historic Preservation. Through a four-point approach, over 700 towns in over 32 states have an active Main Street program in place to revitalize their downtowns. Main Street Morgantown's foundation is based on the national Main Street program's four points: organization, promotion, economic restructuring, and design.

In July 1990, Morgantown became a state Main Street town and an active member within the West Virginia Main Street program. Its affiliation with the state program has provided the organization with numerous technical and consultant services. Some of those services include a state reconnaissance visit, goals and objectives seminars, resource visits conducted by downtown revitalization professionals, and technical visits.

In September 1990, Main Street Morgantown recruited over sixty volunteers who serve on four committees. These committees are governed by the organization's Board of Directors. Main Street Morgantown employs one staff person and utilizes interns from West Virginia University and West Virginia Career College.

MISSION STATEMENT

Main Street Morgantown, a non-profit organization, is dedicated to the continued revitalization of downtown Morgantown. Because of the presence of the basic institutions of government (City, County, and Federal), education (West Virginia University), finance, and religion; because of the presence of numerous personal and business services; because of the rich historical and architectural traditions associated with the city; and because a city's downtown is the focal point which projects an image of the kind of people who live and work in that city, Main Street Morgantown is dedicated to creating

- an attractive and meaningful physical design of our inner city
- an active promotion of the offerings of downtown businesses and services
- an active restructuring of all facets of downtown interests to pursue, retain and recruit goods, services and culture
- an effective, well-represented organization to meet the goals of Main Street

We recognize the uniqueness of a downtown university campus, and we accept the challenge

DESIGN GUIDELINES FOR MORGANTOWN

The primary goal of the Main Street Morgantown Design Committee is the enhancement of the visual qualities of the downtown by attending to buildings, facades, signage, green space, window displays, pedestrian and vehicular traffic patterns, safety and accessibility. This set of design guidelines has been compiled for the city and county government to follow when making improvements.

Design guidelines cannot regulate growth, control non-exterior changes, nor guarantee professional designs. However, design guidelines can provide a framework for making objective decisions, serve as a teaching tool, enhance the quality of physical change, protect investment values, retain existing architectural character, increase public awareness of architectural quality, and incorporate new construction within the existing architectural context.

These guidelines are available to assist you in making design decisions that will result in a unified and consistent downtown Morgantown. Please contact our office if you are planning any rehabilitation projects or have any questions.

TABLE OF CONTENTS

I. TYPICAL FACADE COMPONENTS & DEFINITIONS

DEFINITIONS OF SOME COMMON ARCHITECTURAL TERMS

Arched window hood: an arched projecting molding.

Bulkhead/kickboard: the panel framing the bottom of the storefront.

Bracket: a decorative projecting member which supports a cornice or window head.

Cornice: a molded projection which crowns or tops a wall.

Dentils: a row of small rectangular blocks forming a molding.

Double-hung window: a window with two sashes that slide up and down.

Facade: the front or face of a building.

Lintel: a horizontal structural element over a window or door opening which supports the wall above.

Mullion: a vertical member dividing a window into sections.

Muntin: a narrow horizontal element dividing a window into sections.

Parapet: a low protective wall at the edge of a roof.

Pediment: a triangular or segmental-curved gable.

Sash: a frame designed to hold the glass in a window.

Sign-board/Fascia: a horizontal band which is part of an entablature often used to advertise a business.

Storefront: the street-level facade of a commercial building, usually having display windows.

Transom window: a small window located above a door or other window which allows natural light into the rear of the storefront.

Window sill: a horizontal structural element at the bottom of an opening.

II.  STOREFRONTS & FACADES

1. Where the original storefront or facade remains, it should be preserved and repaired with as little alteration as possible.

2. Where only part of the original storefront or facade remains, it should be repaired, maintaining historic materials where possible, including the replacement of extensively deteriorating or missing parts with new parts based upon surviving prototypes such as transoms, bulkheads, pilasters or signs.

3. Where the original storefront or facade is completely missing, it is recommended to reconstruct it based upon historical, pictorial and physical documentation, or to design a new storefront or facade which is compatible with the size, scale, materials and color of the existing building:

   Scale: consider the scale and proportion of the existing building in the new storefront or facade design.

   Materials: select construction materials that are appropriate to the given storefront or facade and materials which were available in that era when the building was built.

   Cornice: respect the horizontal separation between the storefront and the upper stories; a cornice or sign board traditionally serve as a frame for the building's sign.

   Frame: maintain the historic relationship between the storefront and the building's facade.

   Entrances: differentiate the entrance to the commercial use on the first floor from the secondary entrance to the upper floors; entrances should be placed where original entrances existed, especially when delineated by architectural detailing.

   Windows: the storefront should be as transparent as possible with the utilization of glass in the doors, transoms and display areas to allow for visibility into and out of the building.

4. Some replacement storefronts or facades have acquired historic significance in their own right and should be retained.

5. Decorative detail should be retained and restored whenever possible.

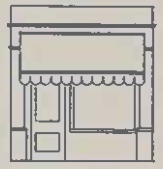
III.  DOORS

1. The original doors should be retained, repaired and refinished; attractive hardware, such as brass door pulls and plates, add visual value to the entrance and should be retained.

2. New and replacement doors should be compatible with the character and design of the building.

3. Where bare aluminum doors are to be retained, they should be primed and painted.

4. Consider using subtle decorations on new and replacement doors; a handsome knob or pull or an attractive molding can make the door special and inviting.

IV.  AWNINGS

1. Consider enclosed side awnings on the upper facade windows and slanted fixed awnings on the storefronts or facade as a unit; when canvas awnings are used on both the upper and lower facades, they should be of compatible color, material and design.

2. The color of all awnings should complement the building.

3. If signs are incorporated into an awning, the message should be simple and clearly identify the storefront business; avoid the use of signs in upper facade awnings.

4. Avoid stock, unpainted metal awnings which are inappropriately related to the character of the building.

5. The use of cloth or canvas awnings over an unarticulated building may help to relate it to the surrounding buildings.

6. The awnings should fit within the window openings.

7. Awnings at street level should not interfere with pedestrian traffic and plantings, and should be compatible with all other existing exteriors.

V.  WINDOWS

Before altering the windows of a building, it is necessary to understand the impact of windows on the building facade. Considerations include:

- the size, shape and pattern of the opening
- the proportions of the frame and sash
- the spacing and rhythm of the windows
- muntin profiles
- type of materials used
- paint color
- type and characteristics of the glass
- related details such as hoods and lintels

1. Retain the original window opening proportions. If the existing ceiling has been lowered, pull the dropped ceiling back into the room, away from the original window.

2. If possible, save and restore the original windows and frames. Replace missing, rotting or broken sash, frames, mullions and muntins with similar material.

3. If the original window openings have been altered, restore them to their original configuration and detail. Avoid blocking or filling window openings which are critical to facade design, and for natural light and ventilation.

4. Avoid storing material directly in front of windows. Wash upper story windows regularly and install suitable window coverings to give the building a finished appearance.

5. Avoid substituting one type of operable sash for another. It is best to keep all windows the same type (casement, sash/double-hung, awning, etc.).

6. Avoid the use of exterior shutters except where clear evidence indicated their historic presence. If shutters are used, they should be functional.

VI.  PUBLIC ART / MONUMENTS

1. Public art or monuments should be located in open spaces, rather than on sidewalks or in parking lots, so that they will not impede pedestrian or vehicular sight lines. Art or monuments can be viewed and appreciated more in larger spaces, such as mini-parks.

2. Public art or monuments should relate visually to the downtown buildings and street improvements, and be constructed of compatible materials.

3. Public art and monuments should be designed and produced professionally.

VII.  EXTERIOR TREATMENTS

1. Wall surfaces that have not been painted should remain unpainted, and those which were originally painted often utilize a soft brick and should remain painted for the protection of the building material.

2. Sandblasting, high-pressure water treatment and other abrasive cleaning methods absolutely should be avoided .

3. Masonry repair should use approved mortar mix and method, including proper routing of existing joints to allow for a good bond and strike profile.

4. Silicone waterproof coating is not an appropriate treatment for an exterior.

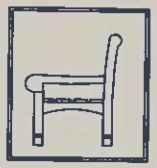
VIII.  NEW CONSTRUCTION & ADDITIONS

1. A new building facade or addition should not attempt to be historic through the use of false historic details. This will only detract from the character of the downtown by compromising what is actually historic.

2. New structures should respect the surrounding buildings with respect to height, setback, spacing, materials, detailing, rhythm and scale.

3. A new structure should reflect the existing rhythm, proportion, scale, massing, decoration and detail of the buildings in the area and their relationship to the site.

4. The type of roof and cornice treatment of the building should utilize material, textures and colors which complement adjacent facades.

IX.  STREET FURNITURE

1. Street furniture is the term used to describe items such as benches, trash receptacles, telephone enclosures, vending boxes planters, light standards, bollards, drinking fountains and similar improvements. These elements should form a coordinated system that can unify the appearance of the downtown area.

2. Street furniture should be integrated into the overall design for the downtown. Their design and color should be compatible with each other and with the downtown lighting. Planters, benches, trash receptacles and telephone booths should be painted to harmonize with existing fixtures.

3. Street furniture should be positioned so that it does not impede or interrupt pedestrian or vehicular traffic.

4. Whenever possible, various street elements should be clustered to eliminate visual clutter in the downtown. Such items as light standards, planters, traffic light standards, and other elements on poles should be installed in clusters to avoid repeating the same element and forming unnecessary pedestrian barriers.

X.  SIDEWALKS & PAVING

1. Sidewalks should have safe and level walking surfaces. Sidewalk areas that have settled should be repaired and/or replaced to provide an even, level and safe surface.

2. Sidewalk areas that are replaced or repaired should be done with material that matches the adjacent material in color, texture, design and tooling whenever possible.

3. Obstacles, such as obsolete sign posts, parking meter standards, etc., should be removed from the sidewalk and post holes repaired. Additionally, where street furnishings or plantings occur, sidewalks should be wide enough to accommodate both those improvements and pedestrian traffic.

4. Where sidewalk patching or replacement previously has occurred and does not match the adjacent material in color, texture, design or tooling, it should be removed and replaced with material that matches whenever possible.

5. Points of potential conflict between vehicles and pedestrians, such as crosswalks, alleys, and parking lots, should be clearly identified by a contrast in color and/or texture and/or material as appropriate.

6. Historic sidewalk paving materials should be retained and repaired rather than replaced.

XI. PLANT MATERIALS

The use of plant materials can be an effective means of unifying the appearance of the downtown area. A coordinated plan of street trees can link diverse architectural elements visually. The creation of expanded green spaces is very important in highly developed areas which have a concentration of buildings and pavement.

1. Effective guidelines must be based upon a master plan for general design treatment for both street trees and massed planting areas.

2. Street trees should be located in accordance with the master plan. The basic objective is to achieve a uniform effect and to enhance the buildings and other elements in the downtown. Trees and other tall plantings should be placed to frame building facades, to break up windowless expanses of wall, and not to block storefronts.

3. New construction should allocate areas fro planting in conjunction with the facade.

4. Off-street parking areas should allocate a minimum of five percent (5%) of the gross area for planting. These planting areas should provide a visual buffer between the parking and the street, as well as shade.

5. Plantings must be located so that they do not interfere with vehicular or pedestrian traffic.

a. street trees should be set back two feet from the curb.

b. street trees should be spaced to coordinate with parking meters and other designated on- street parking spaces.

c. street trees must be pruned sufficiently to allow pedestrian movement under the canopy.

6. The Main Street office will maintain a list of approved plant materials, standard planting details and specifications, and details and specifications for related tree grates and tree guards.

7. Plant materials should be selected from the list of approved materials and in accordance with the master plan. This list is to be based upon the following criteria:

a. plants selected should be tolerant of urban conditions.

b. plants selected should require minimum maintenance.

c. plants selected should be hardy species chosen on the basis of their height, form, color and visual interest. Plant materials should visually complement the building facades and public improvements.

8. Plant materials should be planted in accordance with the approved planting guidelines and specifications.

XII.  SIGNAGE

Signage is a source of information and communication for both residents and visitors to our city. When it is done properly and in a restrained fashion, signage can be both effective and attractive. Large garish signage, which attempts to compete for our attention through "one-up-manship" with existing signage can be disastrous. Uncontrolled increases in size, color and lighting intensity of signage create visual clutter, which is unacceptable.

1. Informational signs and traffic control devices/signs should strive for simplicity, ease of comprehension and high immediate visual impact. All such signage should be uniform and consistent in design and color.

2. Traffic signs and control light standards should be part of the unified system of street furniture downtown.

3. Public information signs should be clustered to eliminate visual clutter. Whenever possible, signs and lights should share the same standard.

4. Traffic and public information signs should use international symbols whenever possible.

5. Special signs are encouraged which identify entrances to the downtown shopping district, or which identify desired historic features of the downtown.

6. Uniform informational signs which indicate the location of public parking lots should be provided at the entries to the downtown.

XIII.  MAINTENANCE

Maintenance is the first step to take in making changes to existing buildings, public spaces, parking lots and streetscapes. It is often deferred maintenance that contributes to the shabby appearance of central business districts. Simple cleaning and repair can transform a building or a block overnight, allowing it to be rediscovered.

1. It is necessary when dealing with the issue of maintenance to determine the party responsible for maintaining the property. Maintenance within a downtown is the responsibility of both the public and private sector, and often can be a coordinated effort. It will be necessary to develop a realistic maintenance program for existing street improvements involving both the public and private sector.

2. No private or public improvements should be made which cannot be maintained. Before any new street improvements are executed, a full maintenance program should be developed with a realistic budget and responsibilities.

3. All property should be cleaned periodically according to materials and method recommended for a particular building. Windows also should be included in the cleaning process.

4. Sidewalks, streets, vacant lots, parking lots, alleys and public spaces should be cleaned on a regular basis.

5. Repairs and/or painting should be done to all facades when needed. It is important that the building facades be well-maintained and have a fresh look, as they are the "windows" of the downtown business community. Awnings, light fixtures or any ornamental fixtures attached to the property should be in good repair.

6. Safety of the pedestrian and motorist should be considered at all times, and provisions need to be made in the maintenance program to provide for their safety. It is crucial that street lights, crosswalk lights, sidewalks, curbs and streets are well maintained.

7. Greenspaces needs to be carefully maintained so that they can mature properly and still provide enjoyment and visual pleasure for our downtown.

XIV.  LIGHTING

There are three kinds of lighting commonly found in downtown areas:
- pedestrian lighting is localized and scaled low.
- street lighting should provide general light for vehicular traffic but should not be expected to function as pedestrian or amenity lighting.
- accent or amenity lighting is focused on buildings or landscape features.

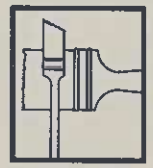
1. Existing lighting standards and bases should be unified by painting them a common color, which should match other street furnishings.

2. Lighting fixture styles should be consistent throughout the downtown area.

3. All electric wiring and conduits should be consolidated and concealed from view whenever possible.

4. Nuisance glare shall be minimized by restricting the direct illumination from outdoor lights only to those areas for which it is intended.

5. All parking lot lighting shall be integrated with the landscaping.

XV.  SURFACE PREPARATION & PAINTING

The quality and durability of any refinishing depends on proper surface preparation and the use of appropriate paints. The following are some general guidelines for renovating surfaces. More detailed information is available from the Main Street office.

1. All surfaces to be painted should be washed.

2. Peeling and blistering paint should be removed by scraping, wire brushing, sanding and/or the use of chemical paint removers.

3. If paint is stripped to bare wood, a primer and two finish coats should be applied.

4. Paints should only be applied to dry surfaces, and joints between wood trim and masonry should be caulked before painting.

5. Sandblasting, high pressure water washing and other abrasive cleaning methods should not be used on historic buildings as they can damage the structure.

6. Generally, stone, terra-cotta, brick or tile should not be painted.

7. Masonry repair, such as repointing, should use an appropriate mortar mix and should include proper routing of existing joints to allow a good bond and striking profile.

XVI. COLOR

When repainting, the following criteria should be considered in selecting colors:

1. The use of the original painting scheme and color palette should be considered.

2. The color palette should be consistent throughout the upper and lower portions of the building facade and should tie building elements (cornice, signs, storefronts, etc.) together.
   Usually a maximum of three colors is recommended.

3. The color palette and paint schemes of adjoining buildings should be compatible.

4. The use of bright primary colors or very dark colors, except where historically appropriate, usually should be avoided as they seldom are compatible with buildings downtown.

5. The application of paint to buildings which historically were not painted should be avoided.

XVII. ACCESSIBILITY

Accessibility for consumers with functional limitations is important in order to increase pedestrian traffic and goodwill. Exterior and interior barriers as well as attitudinal barriers need to be addressed in order to achieve full accessibility.

1. and Exterior physical barriers include things such as: parking, curbs, sidewalk condition obstructions, distance from parking to the building entrance, steps, phone booths, and exterior door width and height.

   Interior physical barriers include things such as: floor surface, interior steps, spaces between aisles, counter height, drinking fountains, restrooms, and telephones.

2. Attitudinal barriers are ways of thinking, feeling, and perceiving individuals with disabilities that may negatively influence the relationship between the office and the consumer. Such barriers often prevent public offices from successfully identifying and meeting consumer needs.

3. In many cases minor modifications can be made at minimal cost to correct physical barriers. Attitudinal barriers can be addressed through training sessions for office members and employees.

4. the to for Public accommodation for all persons with disabilities has been mandated as a result of Americans with Disabilities Act (ADA), signed July 26, 1990. Initial compliance was be achieved by January 26, 1992. Compliance must be reached by January 26, 1993 new construction.

5. For assistance in better understanding current requirements, please contact:

   Division of Rehabilitative Services (DRS)
   112 South High Street
   Morgantown, WV 26505
   (304) 285-3155

   Job Accommodation Network (JAN)
   809 Allen Hall
   PO Box 6123
   West Virginia University