

## Historic Home Maintenance



## Overview and Philosophy

### *The Goal of This Presentation:*

- ☞ To highlight the importance of proactive rather than reactive repairs
- ☞ To illustrate the process of evaluating problems in a historic home, and to reveal their underlying causes
- ☞ To identify some potential hazards and their appropriate mitigation

### *The Why of Historic Home Stewardship:*

“Therefore, when we build, let us think that we build for ever.”

Ruskin, *The Seven Lamps of Architecture*, 1857.

### *The How of Maintenance and Repairs:*

Simply put- “By the Gentlest Means Necessary”

## Secretary of the Interior’s Standards of Rehabilitation

- The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
- Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
- Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
- New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

## What is Predictive Maintenance?

Predictive Maintenance is the planned maintenance of buildings and equipment for the purpose of detecting, analyzing, and correcting problems before failure occurs. In its simplest form, predictive maintenance can be compared to the service schedule of an automobile.

### **Your plan should include:**

- Full initial property review
- Periodic inspection
- Preplanned maintenance activities designed to correct any deficiencies

### **Why Have a Predictive Maintenance Program?**

- Timely routine repairs will lead to fewer large scale repairs.
- When a system fails it will usually damage another part.
- Improved safety and quality conditions.
- Scheduled maintenance is preferable to “Surprise” maintenance.

## Components of Property Review: From the Top Down

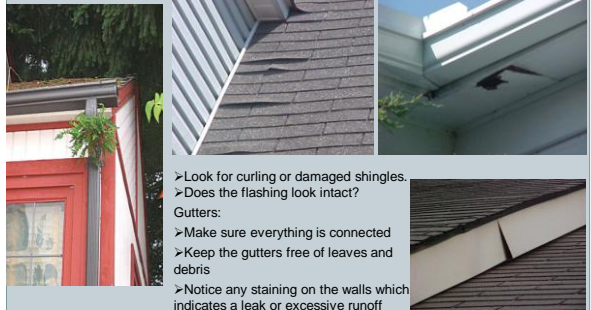
An initial property evaluation should be conducted to identify maintenance issues and to establish priorities

Leaking roof? Top priority

Carpet is showing some age? Low priority

To make sure everything is covered it will be helpful to have a checklist.

## Components of Property Review: Roof System



- > Look for curling or damaged shingles.
- > Does the flashing look intact?
- Gutters:
  - > Make sure everything is connected
  - > Keep the gutters free of leaves and debris
  - > Notice any staining on the walls which indicates a leak or excessive runoff

## Components of Property Review: Masonry



- > The majority of Denver's historic homes are brick or stone
- > It can withstand decades of neglect and can be easily rehabilitated

## Components of Property Review: Masonry

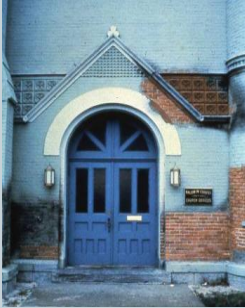


- > Check for water damage, which can erode mortar, brick, and stone
- > Water saturated brick can freeze in winter, which can then spall or fracture
- > Brick near roads or alleys can be damaged by splashing water full of magnesium chloride or other pollutants



## Components of Property Review:

### Masonry



- Do not sandblast your brick– it will damage the surface and cause early failure. If it becomes dirty, it can be cleaned with water and a stiff bristled brush.
- Painted brick is a dangerous game. It is a fashionable choice, but it can trap water against the stone, accelerating decay.
- Painted brick needs to be repainted every 5-10 years.



## Components of Property Review:

### Masonry



- Historic mortar is a "sacrificial layer"
- Repointing extends the life of the masonry
- Qualified professionals can match the mortar for a seamless repair
- Unqualified professionals will leave a mess behind — and can damage your masonry!



## Components of Property Review:

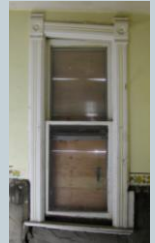
### Windows

- Windows greatly enhance a building's character.
- Replacing historic windows with incompatible modern windows can destroy the look and feel of a building.
- Historic windows have lasted for 100 years – Rehabilitating historic windows is cheaper and more sustainable than replacement, and will help them last another 100.
- In historic districts, window replacement are subject to Design Review.



## Components of Property Review:

### Windows



Common Window problems:

- Paint and putty fail
- Window won't open
- Sash misaligned
- Drafts and leaks

## Components of Property Review: Windows



- >Wood windows can be rehabilitated and repaired
- >Paint and putty should be stripped and reapplied
- >Broken panes can be replaced
- >Interior and Exterior storm windows can provide additional insulation
- >Sash cords, weights, weather stripping can all be replaced



## Components of Property Review: Attic

>The attic space is responsible for ~20% of heat loss in a building. Proper insulation, caulking and sealing can ensure a warmer and more energy efficient home.

>The Department of Energy recommends R-60 in the attic, the equivalent of 19 inches of batten or 22 inches of blown

>How does the insulation look? Is it blown in or batted? Is it dirty?

>Seal all recessed lights, windows, and any other openings to prevent air infiltration.



## Components of Property Review: Living Areas

>Water is one of the main enemies of historic homes. Watch out for signs of water infiltration throughout the house.

>Fix any leaking faucets, make sure drains are not clogged. Seal the edges around the sink, and make sure there is no moisture under the sink.

>Do the pipes go through the walls with or without sealing?

>Is there any discoloration on the walls, floors or ceilings? If so, this is an indication that water is leaking from somewhere, or is condensing. Make sure rooms are well ventilated.



## In the Basement



>Check for water stains on the basement wall, or a mildew smell.

>Does any wood trim look rotted?

>Is your crawlspace or basement insulated? Does it have a proper vapor barrier to prevent condensation from forming?



## Components of Property Review:

### Landscaping

> Landscaping enhances the character of historic homes, but can also cause problems if not well maintained.

> Are there trees near the house?

> Tree roots growing near the foundation can find their way into small cracks, making big cracks. Water can also follow the roots down under the house.

> An ivy covered wall looks romantic, but if leaves grow on the outside wall, they trap moisture against the building, damaging mortar and masonry.

> Does the front or back yard slope toward the foundation? This could cause water to seep into the foundation or under the slab.



## Components of Property Review:

### Landscaping

> Are drains covered by dirt or grass?

> Do the gutter downspouts drain away from the foundation?

> Excess moisture on the exterior will often express via moss or other growth

> Is mud splashed against the foundation or outside wall? If yes, look up to see if the gutters are overflowing before they get to the downspouts.



## Lead-Based Paint in Housing

Year House was Built	Percentage of Houses with Lead Based Paint
Before 1940	86 percent
1940 – 1959	66 percent
1960 – 1978	25 percent
All Housing	35 percent

## How to Determine if Lead-Based Paint is Present

**Paint testing must be performed prior to renovation on all surfaces to be affected by the work, or you must presume the paint is lead-based. Any testing must be performed by the appropriate qualified professional.**

Type of Paint Testing for Renovation	Who can do the testing?
EPA-recognized test kits	Certified Renovators
X-Ray Fluorescence Instruments	Certified lead-based paint inspectors or risk assessors
Paint chip sampling and lab testing	Certified lead based paint inspectors or risk assessors