



CITY OF NEW ORLEANS

Historic District Landmarks Commission

Guidelines for Exterior Maintenance



BUILDING MAINTENANCE

The historic architecture of New Orleans features a well-constructed housing stock of early 19th through mid 20th century buildings. Many of these buildings continue to serve New Orleans residents because they have been maintained by previous and present owners.

A building is typically a family's or business owner's largest single investment. One of the best ways to help a property retain its value in the marketplace is to implement a regular and preventive maintenance schedule. Unlike the buyer of an automobile, a new property owner is not provided with an operator's manual or warranty book outlining a recommended maintenance schedule. As a result, many owners do little or no regular maintenance or repair until a serious problem develops. When the problem is finally noticed, the associated repairs can be significantly more involved and costly to address.

All applicants must obtain a Certificate of Appropriateness (CofA) as well as all necessary permits prior to proceeding with any work. Please review this information during the early stages of planning your project. Familiarity with this material can assist in moving a project quickly through the approval process, saving applicants both time and money. Staff review of all details is required to ensure proposed work is appropriate to the specific property.

Additional *Guidelines* addressing other historic building topics are available at the HDLC office and on its web site at www.nola.gov. For more information, to clarify whether a proposed project requires Historic District Landmarks Commission (HDLC) review, to obtain property ratings or permit applications, please call the HDLC at (504) 658-7040.

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USING THESE GUIDELINES

The first step in using these Guidelines is to understand the rating. The rating corresponds to the historical and/or architectural significance of properties and determines what will be permitted within local Historic Districts or at local Landmarks under the jurisdiction of the HDLC.

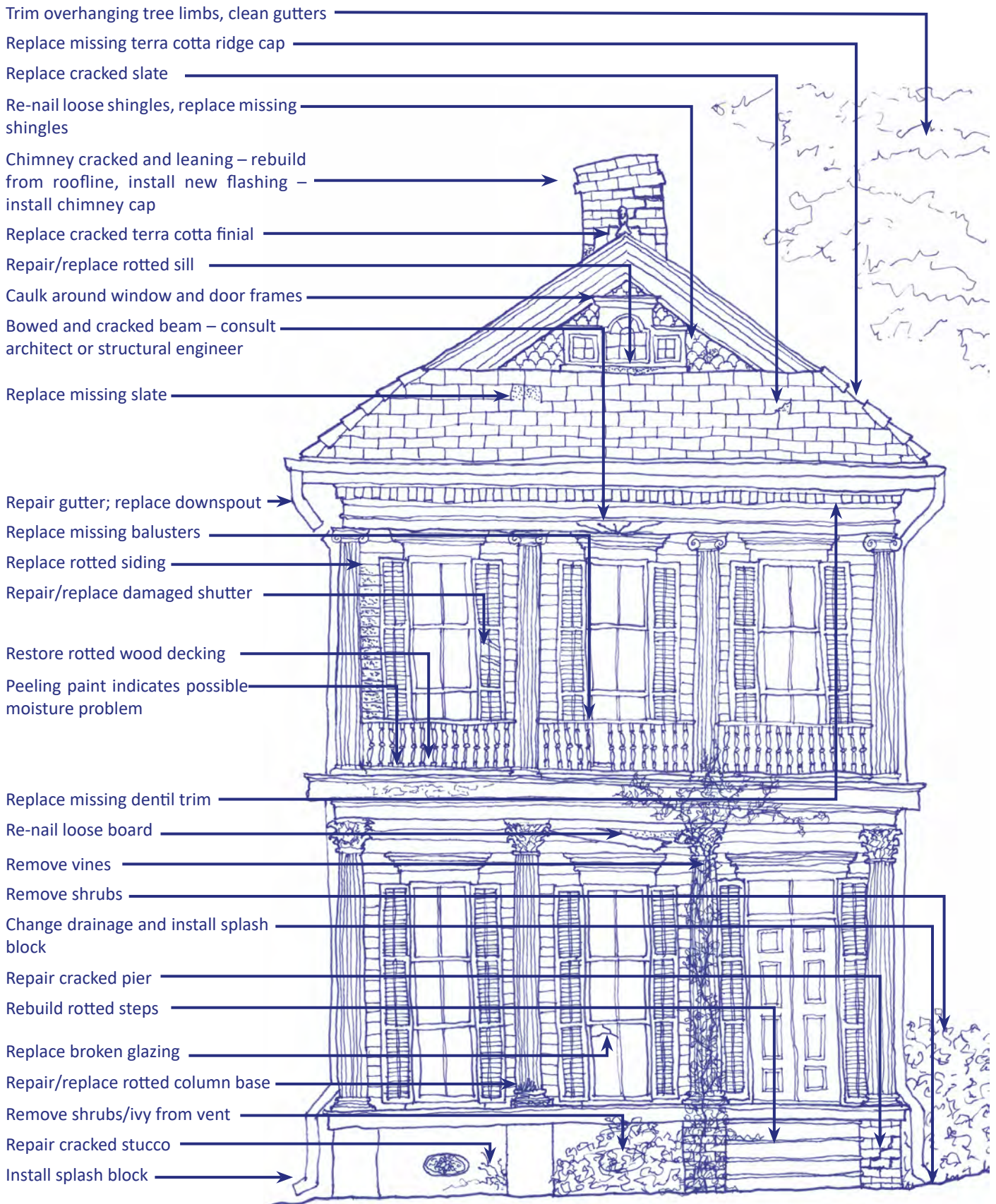
S *Significant Properties – Retain the highest degree of architectural and historical merit.*

C *Contributing Properties – Contribute to the overall District and city character.*

N *Non-Contributing Properties – Do not contribute to the overall District character.*

TYPICAL BUILDING MAINTENANCE NEEDS

The applicant must obtain a Certificate of Appropriateness (CofA) as well as all necessary permits prior to proceeding with any work.





The regular cleaning of gutters and downspouts is one of the most effective preventive maintenance tasks. This gutter is filled with leaves, twigs and debris preventing clear drainage and allowing rain water to overflow the gutter and damage exterior wall surfaces. Gutters and downspouts should be cleaned at least twice each year.

BUILDING ENVELOPE DETERIORATION

The exterior envelope of a building consists of various components that typically include roofing, walls, windows and doors. Each of these building components can be constructed of various materials within the same building envelope, such as a combination of shingle roofing at sloped surfaces and rolled roofing at flat surfaces. Overall, these components of various materials act together as a system to protect both the building and the interior from exterior environmental extremes. Some of the environmental influences affecting the exterior building envelope include:

- Moisture, storm water, humidity and groundwater
- Wind
- Sunlight
- Temperature variations
- Atmospheric chemicals and acid rain
- Insects, birds and rodents
- Vegetation, molds, algae and fungi

All building materials, new or old, will deteriorate over time. Each of the environmental influences listed above, individually and in combination, has the potential to react differently with materials and compromise a building's exterior envelope and cause deterioration. The potential reactions are further complicated by the way the materials are installed, joined together and their relative locations. By implementing a regular maintenance and repair program, the rate of deterioration can be dramatically slowed, allowing New Orleans' historic buildings to last for centuries.

REPAIRS AND REPLACEMENT

Repairs are intended to make a building weather-resistant and structurally sound by concentrating specifically on areas of deterioration. Regular maintenance can minimize the need for repairs. Timely repairs can minimize large repair costs and additional deterioration. As an example, it might be possible to repair an existing wood window rather than incur the much higher expense of purchasing and installing replacement windows.

When repair is not possible, property owners are encouraged to replace in-kind. Although it is tempting to install newer materials such as vinyl siding, many of these materials are not compatible with historic building systems and can lead to costly future repair needs or an ongoing replacement schedule. In the case of vinyl siding, it can trap moisture behind it and within a wall cavity and rot the underlying framing.

REPAIR AND REPLACEMENT GUIDE

THE HDLC RECOMMENDS:

- Non-intrusive repairs, focused at deteriorated areas, stabilizing and protecting the building's important materials and features
- When repair is not possible, replacement in-kind to the greatest extent possible, reproducing by new construction the original feature exactly – using similar techniques to match the original material, size, scale, finish, detailing and texture
- When replacement in-kind is not possible, the use of compatible materials and techniques that convey an appearance similar to the original feature, similar in design, color, texture, finish, and visual quality to the historic elements
- Utilization of recycled and sustainable materials

THE HDLC DISCOURAGES:

- Introducing modern materials that can accelerate and hide deterioration
- Removing or encapsulating decorative building features



Vegetation growing on or close to buildings can trap moisture in wall surfaces by blocking sunlight and reducing air circulation. The roots of climbing vines can also dislodge plaster and mortar from masonry walls, piers and chimneys.



Wood located on or next to a brick or a concrete foundation or pier is more likely to absorb moisture and rot as well as attract termites.

REGULAR MAINTENANCE IS PRESERVATION

Regular maintenance helps to preserve buildings and property, protect real estate values and investments, and keeps New Orleans an attractive place to live, work and visit. Lack of regular upkeep can result in accelerated deterioration of building elements and features. Small openings or unpainted surfaces can allow moisture penetration and eventually rot. In the case of historic buildings, character defining elements that are difficult and costly to replace are often lost due to lack of maintenance. Long-term lack of maintenance can impact a building's structure, resulting in expensive repairs.

It is prudent for property owners to inspect their properties regularly to identify potential problems. If problems are detected early, smaller investments of money may not only improve a property's overall appearance and value, but also can prevent or postpone extensive and costly future repairs. Regular maintenance items typically include painting, and cleaning gutters and downspouts. It is also prudent to inspect the roof for any signs of moisture infiltration, open joints, and cracks or bulges.

MAINTENANCE GUIDE

THE HDLC RECOMMENDS:

- Semi-annual reviews of buildings and structures to identify maintenance and repair needs
- Prolonging the life of original materials on historic structures through regular maintenance
- Avoiding replacement of original materials with modern or substitute materials



Regular review of piers can alert property owners to when joint repointing or repair is needed.

PREVENTIVE MAINTENANCE CHECKLIST

The following pages include preventive maintenance checklists to assist property owners in recording the current condition of their building, as well as keeping track of maintenance tasks as they are performed.

The checklists refer to typical problems associated with various materials and possible recommended actions. The checklist should be modified to address the specific materials found at each property. If a building has serious problems, a more detailed inspection can be performed by a qualified architect or engineer who can recommend an appropriate treatment approach.

It is recommended that owners conduct two yearly property reviews, before winter and in the early spring. The spring review will help identify work that should be completed during the warm weather months while the fall review will assist in identification of weatherization projects needed before winter, as well as the identification of projects to be scheduled for the following year. Areas of deterioration or problems should be photographed during each inspection. Dating of the photographs can help document an ongoing problem's progression and assist in planning future repairs. (Refer to Page 04-14 for information on creating a Maintenance Manual.)

For more specific information regarding the various materials identified, please refer to the *Guidelines* brochures available at the HDLC office or on its web site at www.nola.gov.

TOP 5 SPRING / FALL MAINTENANCE TASKS

Spring and fall reviews can alert property owners to potential problems early before they become costly repairs.

1. Review roof for signs of deterioration
2. Clean and review gutters and downspouts for proper drainage away from building
3. Review condition of exterior woodwork, windows and doors and need for repainting and signs of termite damage or rot
4. Review condition of masonry piers, walls and chimneys including plaster and mortar
5. Remove and/or review behind vegetation growing on or adjacent to buildings



The mineral granules on the asphalt shingles have almost completely worn away. Portions of shingles have broken off and can be found in the gutters and on the ground. Prior patching is evident at the edge of the roof. The top of the roof curves down from the chimney, a possible indication of a structural problem.

ROOFING AND RELATED ROOFING ELEMENTS CHECKLIST

As a general rule, roofing and the associated components should be reviewed every spring and fall, corresponding with the regular cleaning of leaves and debris from gutters and downspouts. In addition, it is best to review the gutters, downspouts and attic areas during a rainstorm to determine whether they are functioning properly. Flat roofs are best reviewed immediately following a rainfall to determine whether standing water or ponding is present. Care should be taken when reviewing or maintaining roofs since they are potentially dangerous, particularly when wet.

If there are questions regarding whether the severity of deterioration warrants replacement of an element, consultation with a professional is recommended. It is usually less costly to fix a small problem than to delay action resulting in more extensive deterioration and repair needs. For further information, please refer to the *Guidelines for Roofing*.

MATERIAL / LIFE SPAN	INSPECTION REVIEW	RECOMMENDED ACTION
Roofing – General	<ul style="list-style-type: none"> • Sagging or bowing of roof ridge, surface or rafters 	<ul style="list-style-type: none"> <input type="checkbox"/> Can indicate significant structural problems – consultation with an architect or structural engineer is recommended, particularly if condition worsens
Slate, Terra Cotta Tile, Concrete Tile or Ridge Tiles 50+ years	<ul style="list-style-type: none"> • Laid on open sheathing or batten strips – verify from attic 	<ul style="list-style-type: none"> <input type="checkbox"/> If not, provide proper ventilation in attic
	<ul style="list-style-type: none"> • Broken or missing slates or tiles • Units delaminating or flaking apart • Slate or tile particles in valleys, gutters and downspouts 	<ul style="list-style-type: none"> <input type="checkbox"/> Replace deteriorated individual units in-kind <input type="checkbox"/> Consider roof replacement when over 20% of units are split, cracked, missing or deteriorate <input type="checkbox"/> Replace deteriorated shingles with visually similar, non-asbestos roof shingle <input type="checkbox"/> Consider roof replacement if deterioration is substantial or prevalent
Asbestos Shingles 30+ years	<ul style="list-style-type: none"> • Nails popping up or deteriorated 	<ul style="list-style-type: none"> <input type="checkbox"/> Re-fasten or replace affected nails
	<ul style="list-style-type: none"> • Moss, mold, algae growing on roof surface • Individual shingles are cracked or uniformly thin from erosion 	<ul style="list-style-type: none"> <input type="checkbox"/> Clean and treat surface to inhibit future growth <input type="checkbox"/> Trim back overhanging tree limbs to allow direct sunlight onto roof surface <input type="checkbox"/> Replace deteriorated shingles with visually similar, non-asbestos roof shingle <input type="checkbox"/> Consider roof replacement if deterioration is substantial or prevalent
Asphalt Shingles 20+ years	<ul style="list-style-type: none"> • Mineral granules in gutters and at the base of downspouts • Mineral granules almost totally worn off single surface • Edges of shingles look worn 	<ul style="list-style-type: none"> <input type="checkbox"/> Replace deteriorated individual shingles in-kind <input type="checkbox"/> Consider roof replacement when over 20% of units are split, cracked, missing or deteriorated
	<ul style="list-style-type: none"> • Nails popping up • Moss or mold forming on roof surface 	<ul style="list-style-type: none"> <input type="checkbox"/> Re-fasten or replace affected nails <input type="checkbox"/> Clean and treat surface to inhibit future growth <input type="checkbox"/> Trim back overhanging tree limbs to allow sunlight to hit roof surface

MATERIAL / LIFE SPAN	INSPECTION REVIEW	RECOMMENDED ACTION
Flat Roofs	<ul style="list-style-type: none"> • Bubbles, separation or cracking of the asphalt or roofing felt • Roof feels loose or spongy underfoot • Water ponding on roof • Mineral granules or gravel worn away • Roofing felt looks dry or cracked 	<ul style="list-style-type: none"> □ Consider patching of seams with compatible materials if area is isolated □ Consider roof replacement if deterioration is substantial or leaking is observed – verify condition of roof substrate
Metal Roofs 60+ years	<ul style="list-style-type: none"> • Substantial number of rust or corrosion spots • Signs of previous tar patch jobs 	<ul style="list-style-type: none"> □ Tin, terne-coated steel and terne coated stainless all need regular repair and painting every 5-10 years and can last for decades if properly maintained □ Consider patching with compatible materials if area of deterioration is isolated □ Consider roof replacement if deterioration is substantial or prevalent
Flashing (Formed sheet metal at joint intersections to prevent moisture penetration)	<ul style="list-style-type: none"> • Loose, corroded, broken or missing flashing • Roofing cement or tar on flashing • Un-caulked openings or gaps at the tops of flashing • Vertical joint does not have both base and counter flashing 	<ul style="list-style-type: none"> □ Consider patching or replacement with compatible materials if area of deterioration is isolated, such as around a chimney □ Consider roof replacement if deterioration is substantial
Roof Projections (Dormer, TV dish, antenna, vent, pipe, skylight, solar or mechanical equipment, lightning rod, cupola, etc.)	<ul style="list-style-type: none"> • Connections around roof projections are not properly flashed and watertight 	<ul style="list-style-type: none"> □ Consider patching with compatible materials if area of deterioration is isolated □ Consider flashing replacement if deterioration is substantial
Chimneys	<ul style="list-style-type: none"> • Flashing around chimney is not watertight • Mortar joints in chimney are open or badly weathered • Masonry or stucco coating is cracked or crumbling • Chimney is leaning 	<ul style="list-style-type: none"> □ Consider patching with compatible materials if area of deterioration is isolated □ Re-point deteriorated or open mortar joints □ Consider replacement if deterioration is substantial - replacement might necessitate chimney rebuilding from the roof surface up - replicate all chimney detailing in reconstruction
	<ul style="list-style-type: none"> • Chimney is not properly capped • Chimney is not properly lined 	<ul style="list-style-type: none"> □ Install an appropriate chimney cap for the building style □ Install a chimney liner if wood-burning fireplaces are used or if masonry inside of flue is crumbling

MATERIAL / LIFE SPAN	INSPECTION REVIEW	RECOMMENDED ACTION
Gutters & Downspouts	<ul style="list-style-type: none"> • Clogged gutters or downspouts 	<ul style="list-style-type: none"> □ Review roof drainage during a rainstorm - water should collect in gutters and flow through downspouts without “spilling over” roof edge □ Clean out debris at least twice each year, in the spring and fall, or more frequently based on debris accumulation □ Install screens over length of gutters and/or strainers over downspout locations
	<ul style="list-style-type: none"> • Rusty, loose, askew or tilting gutters or downspouts • Open or missing seams in hanging gutters • Missing sections 	<ul style="list-style-type: none"> □ Consider repair or patching with compatible materials if area of deterioration is isolated □ Consider gutter or downspout replacement if deterioration is substantial or sections are missing
	<ul style="list-style-type: none"> • Broken seams in metal lining of built-in box gutter 	<ul style="list-style-type: none"> □ Re-solder open joints □ Consider replacement if deterioration is substantial
	<ul style="list-style-type: none"> • Water ponding adjacent to foundation 	<ul style="list-style-type: none"> □ Re-grade area at foundation to direct water away from building □ Verify water exiting from downspouts is directed away from building foundation - install splash blocks or downspout extensions at base of downspouts



The chimney is leaning with several open joints visible. Rebuilding matching existing detailing is recommended.



The downspout is discharging immediately adjacent to the building onto a concrete surface. The bottom of the downspout is crushed, likely resulting in clogging. The storm water splashing onto the concrete surface can saturate the wood wall and masonry foundation. The wood adjacent to the downspout is bare with visible deterioration.

EXTERIOR WOODWORK CHECKLIST

Generally, exterior woodwork should be reviewed every spring and fall. The spring review will alert a property owner to damage that occurred over the winter months and allow for immediate repair. Fall review allows a property to be prepared for winter and planning for spring repair and painting.

If there are questions regarding whether the severity of deterioration warrants replacement of a component or an element, consultation with a professional is recommended. For further information, refer to the *Guidelines for Exterior Woodwork* and *Guidelines for Windows and Doors*.

Portions of the siding are missing or dislodged, exposing the interior wall framing and interior plaster lath to the elements. Openings in walls can allow moisture penetration and result in rotting of structural framing and a path for rodents.



MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
Exterior Walls – General	<ul style="list-style-type: none"> • Exterior walls not plumb or vertically straight • Bulges visible at exterior walls • Door and window frames out-of-square • Siding has wavy surface 	<ul style="list-style-type: none"> □ Can indicate differential or uneven foundation settlement or significant structural problems – consultation with an architect or structural engineer is recommended, particularly if condition worsens
Wood Siding, Shingles & Decorative Woodwork Asbestos Siding (Care should be taken in the handling, removal and disposal of asbestos. Refer to Page 04-16 for more information)	<ul style="list-style-type: none"> • Loose, cracked, missing or open joints at wood siding, shingles or decorative woodwork 	<ul style="list-style-type: none"> □ Could lead to water infiltration and rot – repair or replace in-kind as appropriate □ Apply caulk to open joints – verify compatibility with adjacent materials
	<ul style="list-style-type: none"> • Loose, cracked, missing or open joints at asbestos siding 	<ul style="list-style-type: none"> □ Fill hole or split with grout of Portland cement and water □ Replace damage shingles with non-asbestos shingles to match original
	<ul style="list-style-type: none"> • Thin or worn shingles 	<ul style="list-style-type: none"> □ Attempt patching with compatible materials if area of deterioration is isolated □ Consider replacement in-kind if deterioration is substantial or prevalent
	<ul style="list-style-type: none"> • Open joints around window and door frames • Open joints between dissimilar materials (such as wood siding and gallery roof) 	<ul style="list-style-type: none"> □ Re-caulk, repair or replace deteriorated flashing as appropriate – verify compatibility of caulk with adjacent materials
	<ul style="list-style-type: none"> • Mold, algae or mildew on siding or trim, especially on north side or shady areas 	<ul style="list-style-type: none"> □ Indication of potential moisture problem – verify whether a vapor barrier is present in wall □ Clean and treat surface to inhibit future growth – do not use high pressure water since this could result in more significant problems □ Trim back shrubs and overhanging tree limbs to allow air circulation and sunlight to hit surface
<ul style="list-style-type: none"> • Original siding or trim has been covered with vinyl or aluminum siding 	<ul style="list-style-type: none"> □ Vinyl and aluminum siding and capping can trap moisture and hide rot and damage – if possible, vinyl or aluminum siding and capping should be removed and woodwork inspected for damage and repaired 	

MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
Water & Termite Damage	<ul style="list-style-type: none"> • Signs of dirt veins on exterior walls, particularly near foundation, steps, under galleries, porches, etc. • Wood is soft when stuck with a small blade or ice pick, particularly window sills, galleries, porches, steps, sills and siding (Refer to Guidelines for Exterior Woodwork, Page 06-6 for wood rot) • Wood is located on masonry foundation or pier or within 6 inches of ground • Vegetation, such as shrubs, are located immediately adjacent to foundation • Vines climbing on building 	<ul style="list-style-type: none"> <input type="checkbox"/> Possible indication of termite damage, contact extermination company to determine if active infestation and extent of damage <input type="checkbox"/> Possible indication of wood rot or insect infestation – eliminate source of moisture to control rot and replace defective elements in-kind, contact an extermination company for potential infestation <input type="checkbox"/> Wood on masonry foundation or piers or close to the ground can be a target for rot and termite infestation – review appropriate alternatives and conduct regular inspections <input type="checkbox"/> Retain a pest management company to provide regular inspections <input type="checkbox"/> Vegetation can trap moisture in woodwork by blocking sunlight and air circulation – remove or thin vegetation close to a building or conduct regular inspections for rot behind vegetation <input type="checkbox"/> Climbing vines can trap moisture and dislodge plaster and mortar – remove climbing vines
Windows & Doors (Refer to <i>Guidelines for Windows and Doors</i> for more information)	<ul style="list-style-type: none"> • Windows and doors do not fit or operate properly • Wood rot, particularly at sills and lower rails • Window is not operational • Glass is cracked • Glazing putty is missing, cracked or deteriorated • Screen windows or doors are missing, deteriorated or non-operational 	<ul style="list-style-type: none"> <input type="checkbox"/> Verify whether frame is wracked or out-of-square – possibly an indication of differential or uneven foundation settlement or deteriorated wall framing <input type="checkbox"/> Verify whether windows are painted shut and hardware (including sash cord or chains) is operational <input type="checkbox"/> Repair or selectively replace deteriorated components in-kind <input type="checkbox"/> Following repairs, verify deteriorated areas are well painted and joints caulked <input type="checkbox"/> Verify whether window has been painted shut <input type="checkbox"/> Verify whether sash cords are still attached to sash weights <input type="checkbox"/> Replace glazing to match existing <input type="checkbox"/> Replace glazing putty – verify compatibility with adjacent materials <input type="checkbox"/> Repair or replace deteriorated units as appropriate <input type="checkbox"/> Consider installing interior storm windows and doors – interior installation can minimize potential condensation between the storm and window, reduce drafts, are virtually invisible thus maintaining the exterior appearance of the building
Painting (Refer to Page 04-15 and <i>Guidelines for Exterior Woodwork</i> for more information)	<ul style="list-style-type: none"> • Chalky or dull finish • Paint surface worn • Peeling, curling, crazing and blistering 	<ul style="list-style-type: none"> <input type="checkbox"/> Surface cleaning might be all that is needed <input type="checkbox"/> If repainting, additional preparation might be required <input type="checkbox"/> Wood generally needs repainting every 5 to 8 years <input type="checkbox"/> Possible indication of a moisture problem – review drainage, potential leaks and whether there is a vapor barrier in the wall <input type="checkbox"/> Paint failures near roofs, downspouts, porch and gallery ceilings are often the result of drainage problems



EXTERIOR MASONRY AND STUCCO CHECKLIST

Almost all buildings include some masonry, in some cases as a wall material, but typically as a foundation, pier or chimney. Since masonry is often used as part of the structural system for older buildings, it is critical that it is maintained to prevent serious problems. For the best results, it is recommended that all masonry and stucco repair and cleaning be conducted when the temperature is consistently between 40 and 90 degrees Fahrenheit to minimize potential spalling and problems associated with colder temperatures and shrinkage with warmer temperatures.

If there are questions regarding whether the severity of deterioration warrants replacement of an element, consultation with a professional is recommended. It is usually less costly to fix a small problem than to delay action resulting in more extensive deterioration and repair needs. For further information, please refer to the *Guidelines for Masonry and Stucco*.

Several different color stucco patches are visible suggesting various repair efforts. Repair with lime based stucco, colored and scored to match the historic finish, to protect the soft underlying bricks.

MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
Exterior Walls & Piers – General	<ul style="list-style-type: none"> • Cracks in masonry wall 	<ul style="list-style-type: none"> <input type="checkbox"/> Can indicate differential or uneven foundation settlement or significant structural problems – consultation with an architect or structural engineer is recommended, particularly if condition worsens <input type="checkbox"/> Vertical or diagonal cracks or cracks that split individual bricks or stones tend to represent a more significant problem, such as differential settlement <input type="checkbox"/> Horizontal cracks or hairline cracks limited to mortar joints or individual stones or bricks tend to be less severe <input type="checkbox"/> Monitor and photograph condition after repair during each inspection to see if cracks return
	<ul style="list-style-type: none"> • Bows or bulges in wall plane • Leaning walls 	<ul style="list-style-type: none"> <input type="checkbox"/> Can indicate differential or uneven foundation settlement or significant structural problems – consultation with an architect or structural engineer is recommended, particularly if condition worsens
	<ul style="list-style-type: none"> • Water ponding adjacent to foundation • Vegetation, such as shrubs, are located immediately adjacent to foundation • Vines growing on walls • Damp walls • Moss or algae on masonry surface 	<ul style="list-style-type: none"> <input type="checkbox"/> Verify water exiting from downspout is directed away from building foundation – install splash blocks or downspout extensions at base of downspouts <input type="checkbox"/> Vegetation can trap moisture in masonry by blocking sunlight and air circulation – remove or thin vegetation close to a building or conduct regular inspections for algae and mold behind vegetation, remove vines <input type="checkbox"/> Re-grade area adjacent to foundation to direct ground water away from building <input type="checkbox"/> Clean moss or algae from wall surface with low pressure water, with the possible use of gentle detergent and brushing
	<ul style="list-style-type: none"> • Efflorescence, i.e. water-soluble salts leached out of masonry and deposited on a surface by evaporation, usually as a white, powdery surface 	<ul style="list-style-type: none"> <input type="checkbox"/> Clean efflorescence from wall surface with low pressure water, with the possible use of gentle detergent and a natural bristle brush <input type="checkbox"/> Review area for possible additional sources of moisture

MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
Mortar	<ul style="list-style-type: none"> • Soft and crumbling • Open joints or broken joint bonds 	<ul style="list-style-type: none"> □ Consider patching with compatible mortar if area of deterioration is isolated – mortar should match original in appearance, profile, hardness and composition □ Consider replacement if deterioration is substantial
Stones & Bricks	<ul style="list-style-type: none"> • Spalling, chipping, flaking, cracking or crumbling of surface • Loose or missing stones or bricks 	<ul style="list-style-type: none"> □ Consider patching with compatible materials if area of deterioration is isolated □ Consider replacement if deterioration is substantial
	<ul style="list-style-type: none"> • Pitted surface from sandblasting or pressure wash 	<ul style="list-style-type: none"> □ Masonry with a damaged surface is more likely to absorb moisture leading to accelerated deterioration – consult a professional □ Monitor and photograph condition to see if it continues to deteriorate □ Review adjacent materials and interior finishes for signs of moisture infiltration and rot
Stucco / Plaster	<ul style="list-style-type: none"> • Cracks in surface 	<ul style="list-style-type: none"> □ Consider patching with compatible stucco / plaster if area of deterioration is isolated □ Consider replacement if deterioration is substantial □ Substantial cracks might indicate differential or uneven foundation settlement or severe structural problems – consultation with an architect or structural engineer is recommended, particularly if condition worsens
	<ul style="list-style-type: none"> • Bulges in wall 	<ul style="list-style-type: none"> □ Verify keying of stucco / plaster to lath or underlying substrate – if wall area moves when pushed, stucco/ plaster is not bonded and should be replaced with compatible material to avoid potential surface collapse
Painted Masonry	<ul style="list-style-type: none"> • Chalky or dull finish 	<ul style="list-style-type: none"> □ Additional preparation might be required prior to repainting – preparation dependant on surface
	<ul style="list-style-type: none"> • Peeling, flaking, curling and blistering 	<ul style="list-style-type: none"> □ Possible indication of a moisture problem – review drainage, potential leaks and whether there is a vapor barrier in the wall □ Paint failures near the roof edge, downspouts, gallery and porch ceilings and foundations are often the result of drainage problems
	<ul style="list-style-type: none"> • Paint surface worn 	<ul style="list-style-type: none"> □ Similar to woodwork, painted masonry tends to need repainting every 5 to 8 years with compatible paint



The stucco plaster has not been maintained and the bricks under the porch post are collapsing. The dislodged bricks can lead to structural problems at the porch if not repaired.



PROPERTY CHECKLIST

Exterior maintenance extends beyond a building’s perimeter to include the surrounding property. Seasonal property maintenance includes cutting grass and raking leaves. Larger maintenance issues include water management on the site, trimming trees and regular repairs to metal galleries, fences, walls, walkways and paved surfaces.

The two downspouts at the right of the photograph are discharging directly onto the sidewalk, with some of the water pooling onto the street below. A green algae bloom is visible on the lower door panels suggesting the ongoing presence of moisture.

MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
Water Management	<ul style="list-style-type: none"> • Groundwater directed towards building foundation 	<ul style="list-style-type: none"> <input type="checkbox"/> Re-grade area at foundation to direct ground water away from building
	<ul style="list-style-type: none"> • Water ponding adjacent to foundation 	<ul style="list-style-type: none"> <input type="checkbox"/> Verify water from exiting downspouts is directed away from building foundation – install splash blocks or downspout extensions at base of downspouts
	<ul style="list-style-type: none"> • Vegetation, such as shrubs, are located immediately adjacent to foundation or vines are climbing on buildings 	<ul style="list-style-type: none"> <input type="checkbox"/> Vegetation can trap moisture in wall surfaces by blocking sunlight and reducing air circulation – remove or thin vegetation close to a building or conduct regular inspections for rot, algae, fungus and mold behind vegetation, remove climbing vines
	<ul style="list-style-type: none"> • Tree limbs extend over roof 	<ul style="list-style-type: none"> <input type="checkbox"/> Trim limbs 5 feet away from house – they provide shade from the sun that can lead to the formation of moss, fungus, mold or algae; leaves and debris collect and clog gutters and downspouts; tree limbs have the potential to cause severe damage if they fall during a storm
Metal Galleries, Metal and Wood Fences	<ul style="list-style-type: none"> • Metal galleries • Metal fences 	<ul style="list-style-type: none"> <input type="checkbox"/> Check for rust spots or bare metal – remove rust and prepare for re-painting
	<ul style="list-style-type: none"> • Wood fences 	<ul style="list-style-type: none"> <input type="checkbox"/> Check for deterioration, follow recommendations in the <i>Exterior Woodwork Checklist</i> <input type="checkbox"/> Anticipate repainting or staining every 5 to 8 years
Walkways, Patios & Pavers	<ul style="list-style-type: none"> • Brick, flagstone or concrete pavers cracked or missing 	<ul style="list-style-type: none"> <input type="checkbox"/> Verify the condition of the sub-base and replace deteriorated or missing units in-kind
	<ul style="list-style-type: none"> • Water ponding on paved surface • Subsidence of paved surface 	<ul style="list-style-type: none"> <input type="checkbox"/> Verify the condition of the sub-base and reset individual units to allow appropriate drainage
	<ul style="list-style-type: none"> • Vegetation growing between individual units 	<ul style="list-style-type: none"> <input type="checkbox"/> Some vegetation has a substantial root structure that can dislodge individual paving units – remove vegetation if appropriate
Asphalt Paving & Driveways	<ul style="list-style-type: none"> • Cracked asphalt 	<ul style="list-style-type: none"> <input type="checkbox"/> Seal cracks to minimize potential water infiltration <input type="checkbox"/> Consider sealing or repaving entire surface if cracks are substantial or prevalent
	<ul style="list-style-type: none"> • Water ponding on paved surface • Subsidence of paved surface 	<ul style="list-style-type: none"> <input type="checkbox"/> Verify the condition of the sub-base and patch to allow appropriate drainage

INTERIOR CHECKLIST

Exterior maintenance problems can be most evident at the interior of a building. The areas most likely to demonstrate exterior problems tend to be the least-visited parts of a house, such as the attic and crawlspaces. It is important to remember that attics and crawlspaces tend to be unique spaces with distinct conditions. Attics usually sit directly under roofs which can be highly susceptible to moisture infiltration. Similarly, crawlspaces are also susceptible to moisture and pest infestation and damage. These spaces tend to be unconditioned; without heat, air conditioning and moisture control to the same level as the rest of the building; as a result, problems can fester and become more severe before being noticed.

The dark areas at the top and side of the diagonal wood brace indicate moisture. The end of the diagonal wood framing is rotting. The cause of the moisture infiltration should be addressed and the wood framing repaired.



MATERIAL	INSPECTION REVIEW	RECOMMENDED ACTION
Attic Space	<ul style="list-style-type: none"> Water stains on rafters or roof boards – probably indicated by either a dark patch on the wood or plaster or possibly a white bloom representing salt crystallization 	<ul style="list-style-type: none"> Review during or immediately following a rainstorm to understand whether staining is active or a past problem – pay particular attention to flashing locations around roof penetrations such as vent pipes, chimneys and dormer windows, as well as at valleys and eaves
	<ul style="list-style-type: none"> Mildew on underside of roof structure Dampness in attic space Overheated attic 	<ul style="list-style-type: none"> Verify whether the attic is sufficiently ventilated
	<ul style="list-style-type: none"> Broken or missing collar beams Cracked or sagging rafter 	<ul style="list-style-type: none"> Potential structural problem – consultation with an architect or structural engineer is recommended, particularly if condition worsens
	<ul style="list-style-type: none"> Inadequate insulation at attic floor or between rafters 	<ul style="list-style-type: none"> Install appropriate insulation
Crawlspace	<ul style="list-style-type: none"> Mortar of walls or piers is soft and crumbling Damp or moldy smell Evidence of dampness under first floor framing or around pipes Evidence of wood rot or insect infestation at wood sills on top of foundation walls or first floor joists Periodic flooding 	<ul style="list-style-type: none"> Review for potential moisture infiltration Verify water exiting from downspouts is directed away from building foundation – install splash blocks or downspout extensions at base of downspouts Re-grade area at foundation to direct ground water away from building Verify that foundation vents are clear of debris Check underground water supply and drainage systems for cracked or clogged pipes Re-point areas of deteriorated mortar Apply stucco plaster to brick piers Retain a pest management company to provide regular inspections and contact immediately for potential infestation
	<ul style="list-style-type: none"> Inadequate insulation around pipes, heating and air conditioning ducts 	<ul style="list-style-type: none"> Install appropriate insulation – condensation can form on unheated equipment and pipes



Problems with the downspout have resulted in deterioration of the mortar joints and saturation of the brick wall. Plants (biological growth) are spreading across the surface with roots anchored in the former mortar joints. The prolonged presence of moisture could rust the wall-mounted electrical service box and increase the potential for a fire, as well as compromise the structural integrity of the wall and associated foundations.

MAINTENANCE MANUAL

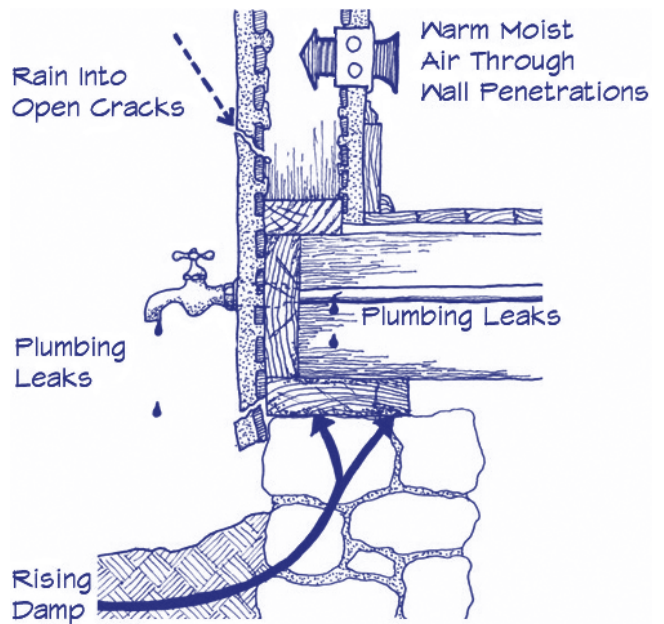
It can be helpful for property owners to develop a maintenance manual to keep track of conditions, problems, maintenance tasks and contractors who performed the work. This outline of conditions will assist property owners in diagnosing problems, prescribing remedies, and tracking the effectiveness of those remedies in a similar manner that a physician tracks a patient's health. The information in the manual generally falls into three categories:

1. **General information** should include the names and telephone numbers for emergency services and repairs, as well as basic information on specific building equipment.
2. **Documentation** information should include historical, construction, alteration and legal information that is specific to the property's past and current conditions.
3. **Inspection and Maintenance Requirements** should include the preventive maintenance checklists and include the items to be inspected; how often inspections occur; and information on particular repair and upkeep techniques of particular components, materials and equipment.

MOISTURE

Typically moisture is the primary agent of decay in a building and it can promote a wide range of deterioration including termite infestation. No matter how "waterproof" a building is, water vapor will find its way into the structure. Moisture saturated building materials can:

- Make wood desirable "food" for insect consumption
- Promote the growth of mold, algae and fungi
- Cause wood and masonry to swell when wet, exerting additional pressures, particularly during freezing temperatures
- Compromise the structural integrity of the building
- Cause chemical reactions that might deteriorate materials by transmitting salts and minerals through walls, particularly in masonry
- Damage or destroy interior finishes and furnishings



Rain and Precipitation can enter the exterior envelope through damaged or cracked surfaces and crevices with adjacent materials including window and door frames.

Rising Damp is the migration of moisture from the soil into the building structure through capillary action. The soil adjacent to the foundation can become saturated through improper drainage from gutters and downspouts and vegetation planted adjacent to the foundation.

Plumbing Leaks include leaking bathroom fixtures, kitchen and laundry appliances, as well as both interior and underground piping.

Condensation occurs when warm moist air from kitchens, bathrooms and laundry facilities comes in contact with cold surfaces and changes to water droplets.

TERMITE PREVENTION CHECKLIST ¹

Do not give termites easy access to the house:

- Eliminate wood to soil contact.
- Install wood siding, door and window frames and latticework at least 6 inches above ground level.
- Support outdoor wood porches and steps on a concrete base extending at least 1 inch above ground level.
- Do not allow any non-structural wood and tree branches to touch a house.

Do not provide termites with moisture:

- Place gutters and slope yard so that surface water drains away from the house.
- Be sure air conditioning condensate drains away from the house.
- Be sure moisture does not enter around windows, doors and siding.
- Repair leaks of roof, gutter, downspouts and plumbing promptly.
- Ensure sufficient clearance between soil and structural wood in crawl space to have adequate cross-ventilation.
- Keep mulched beds and gardens at least 12 inches away from foundation.

Eliminate hidden access to a house:

- Do not fill dirt beneath porches, terraces or steps.
- Do not extend stucco or foam insulation below the ground.
- Do not disturb the chemical barrier after soil treatment. Prevent and fix cracks in concrete walls, piers and slabs.

Minimize the amount of wood available for termites:

- Remove all scrap wood, form boards and grade stakes used in construction.
- Remove wooden debris and cellulose material from under and around the house.
- Replace rotten or destroyed structural wood with properly pressure-treated wood or non-cellulose material.
- Store woodpiles away from the house, and make sure they are raised off the ground.
- Paint or seal all exterior wood.

Inspect your property frequently for termites:

If a property is to be treated, get at least three licensed companies to inspect the property. They will make a diagram of the property showing proposed treatments and give you an estimate. Ask for a copy of the company's bond, insurance and contract. Ask to see copies of the labels and material safety data sheets (MSDS) for the termiticides to be used. With the above information, you are able to compare the services offered and the prices the companies want to charge. Read the contract carefully. Remember, it is a LEGAL contract.

¹From: *A Guide for Integrated Pest Management of Termites*, www.agctr.lsu.edu, Publication 2979. April 2000. Refer to *Guidelines for Exterior Woodwork* for more information.



Regular repainting is one of the best ways to prolong the life of exterior woodwork, windows and doors.

PAINTING

Paint is one of the most common ways to protect exterior materials from the elements. When the painted surface has been compromised, moisture and the elements can infiltrate the underlying material and accelerate potential deterioration.

In general, exterior surfaces should be repainted every 5 to 8 years, with potential touch-ups of high traffic, worn or deteriorated areas. If the frequency of complete repainting is greater, there might be an indication of another problem such as:

- Presence of excessive moisture
- Paint was applied with inadequate surface preparation or under adverse conditions
- Paint is not compatible to underlying material or previously applied paint

For further information regarding painting, including how to determine whether painting is necessary and appropriate preparation techniques please refer to the *Guidelines for Exterior Woodwork*, Page 06-14.

PAINT REMOVAL SAFETY

Paint removal is potentially hazardous work. Keep children and pets clear of work areas. Property owners should consult a professional for work that is unfamiliar or potentially unsafe.

- Always wear safety goggles
- Avoid heat tools – when using, wear appropriate clothing and keep a fire extinguisher nearby
- Paint dust from older buildings can contain lead – wear a dust mask, avoid open food or beverage containers in area of paint removal, and thoroughly clean exposed skin and launder work clothes

SAFETY PRECAUTIONS

Building repair and maintenance can potentially be dangerous work. It is recommended that all manufacturers' recommendations be followed and appropriate safety precautions with ladders, tools, materials and processes be taken. Property owners should consult a professional for work that is unfamiliar or potentially unsafe.

Older buildings can contain dangerous materials such as asbestos, lead and mold that might be uncovered during work. Property owners should hire licensed professionals and familiarize themselves with these materials and their building's conditions before beginning work.

Information about potentially hazardous materials can be found from the following organizations:

Asbestos

Great care should be taken when working with broken asbestos products and during its removal.

US Environmental Protection Agency Hotline

(800) 368-5888 – www.epa.gov/asbestos

Louisiana Department of Environmental Quality

(866) 896-LDEQ

www.deq.louisiana.gov/portal/tabid/2883/Default.aspx

Lead

National Lead Information Clearinghouse

(800) 424-LEAD – www.epa.gov/lead

Louisiana Department of Environmental Quality

(866) 896-LDEQ

www.deq.louisiana.gov/portal/tabid/2883/Default.aspx

City of New Orleans Office of Safety & Permits

(504) 658-7130

Mold

Indoor Air Quality Information Clearinghouse

(800) 483-4318

www.epa.gov/iaq/molds/index.html

For additional questions or information, please contact:

- New Orleans Office of Safety and Permits at (504) 658-7130 for general questions, or
- Your personal physician for health-related concerns.



These asbestos shingles are cracking and wearing. The nail heads are beginning to rust. If replacement is considered, removal and proper disposal should be completed by a licensed contractor.

BUILDING CODES

In the completion of construction projects, The City of New Orleans refers to The International Building Code, Residential Code, and Existing Building Code with local amendments. The intent of the Code is to protect the public health, safety and welfare of citizens against the hazards of inadequate, defective or unsafe conditions. The Code addresses the interior and exterior conditions of buildings, building systems and the surrounding property.

- When completing significant repairs where roof or wall framing is exposed, it is recommended that appropriate shoring and bracing be installed until work is completed.
- The property owner is responsible for complying with all applicable zoning and building codes and obtaining all required approvals and permits prior to commencing with work.
- Property owners are responsible for ensuring that all asbestos removal and disposal is handled in accordance with all applicable regulations and procedures. It is recommended that all asbestos related work be undertaken by a licensed contractor.

HIRING A CONTRACTOR

- All contractors are not necessarily experienced in historic buildings or building materials
- Verify whether contractor is licensed to work in the City of New Orleans
- Request a written estimate detailing the work
- Verify extents of warranty for materials and labor
- Check references, especially from 5 years prior, to understand how well their work has held up
- Hold final payment, such as 25%-30% of project cost, until all work has been completed properly

This material is based upon work assisted by a grant from the Department of the Interior, National Park Service. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the Department of the Interior.

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