

April 29, 2005

EIFS System Evaluation

**Property Address
Any Town USA**

**Report Ordered By:
Sam A. Sample**



I. INTRODUCTION

1.1 PURPOSE: Enclosed is your EIFS Moisture Inspection. The purpose of this moisture inspection is to help assess the condition of the EIFS system by looking for visible installation flaws, inadequate water diversion and sealant failures and conduct moisture testing using electronic moisture testing devices. Please note that the provision of a scope of work for remedial repairs is not the purpose of this inspection. *Further investigation may be needed to determine the extent of water damage, if any, and how best to modify your home to address any moisture problems that may be indicated by this inspection.*

1.2 SCOPE OF INSPECTION: This EIFS System inspection limited to the following:

- A visual examination of the condition of the EIFS, exterior sealants, flashing, windows, doors, roof-to-stucco transitions, parapets, gutters, deck-to-building connections, EIFS terminations and any penetrations through the EIFS.
- Conducting electronic moisture scanning and probing of the building envelope.
- Preparing a report of our observations of potential problem areas and recording any high readings taken.

1.3 LIMITATIONS OF LIABILITY: Because this is a limited inspection, we can make no guarantee, express or implied, that our observations and moisture testing offer conclusive evidence that no installation or moisture problems exist, or that problems found are all-inclusive. This inspection company, its employees and any divisions shall not be liable for non-visual defects, unseen defects, unspecified defects or hidden damage and conditions existing on the subject property and hereby disclaims any liability or responsibility thereof. All parties concerned agree to hold harmless and indemnify HBIS Engineering Inc. involving any liabilities that may result.

1.4 FURTHER TESTING / INVESTIGATION: Our policy is to rely on moisture meter readings as an indicator of relative moisture values between different test spots, not as an absolute value of water content in the substrate. It is difficult to determine if the structural wood of the home has been damaged in areas of high readings without 'probing' and/or removing a core sample of the EIFS to allow for visual inspection. Should we feel that further investigation is needed this will be indicated in the summary section of the report.

1.5 REPAIR FOLLOW-UP AND ANNUAL INSPECTIONS: A repair follow-up inspection should be conducted within six months after completion of any repairs to assess the effectiveness of the modifications. This is extremely important. Annual inspections should also be scheduled to ensure that your EIFS system remains dry. This way any sealant failures, stucco cracks, etc. can be caught and repaired promptly. Testing and maintaining the home on a regular basis is the best way to prevent costly repairs associated with moisture damage. Also, should you decide to sell your home, annual inspections and maintenance documentation will be a valuable selling tool, providing evidence to show that your home has been inspected and maintained on a regular basis by a reputable and qualified firm.

Land America Property Inspections
 535 South Washington Street
 Naperville, IL 60540
 815-751-3828

Project Information

OWNER INFORMATION		BUYER INFORMATION	
Owners	Sam A. Sample	Buyers	N/A
Property Address	Any Town	Buyers Address	
City, State, ZIP	USA	City, State, ZIP	
Phone		Phone	
		Buyers Realtor	
		Realty Company	
		Phone	
PROPERTY INFORMATION		INSPECTION INFORMATION	
Type of Exterior	EIFS	Date of Inspection	April 29, 2005
Manufacturer / Mesh	STO / Yellow	Inspection Company	Land America Inspections
Substrate (if known)	Plywood	Inspector	Chuck Johnson
Age of Property	Built in 1995	Present at Inspection	Owner
Square Footage	3,300	Temperature / Humidity	60 Degrees
Stories	2	Weather Conditions	Overcast
Type(s) of Windows	Wood Casement	Last Rain	Within the last week
Type(s) of Windows	Wood Foxed Pane		

Inspection Test Equipment					
Test Equipment Description		Test Range			Setting
		Low	Medium	High	
A	Tramex Exterior Wet Wall Detector	10 - 20	21-50	51-100	6
B	Delmhorst Moisture Probe Meter	10-15	16-25	26-99	1

Important Note:

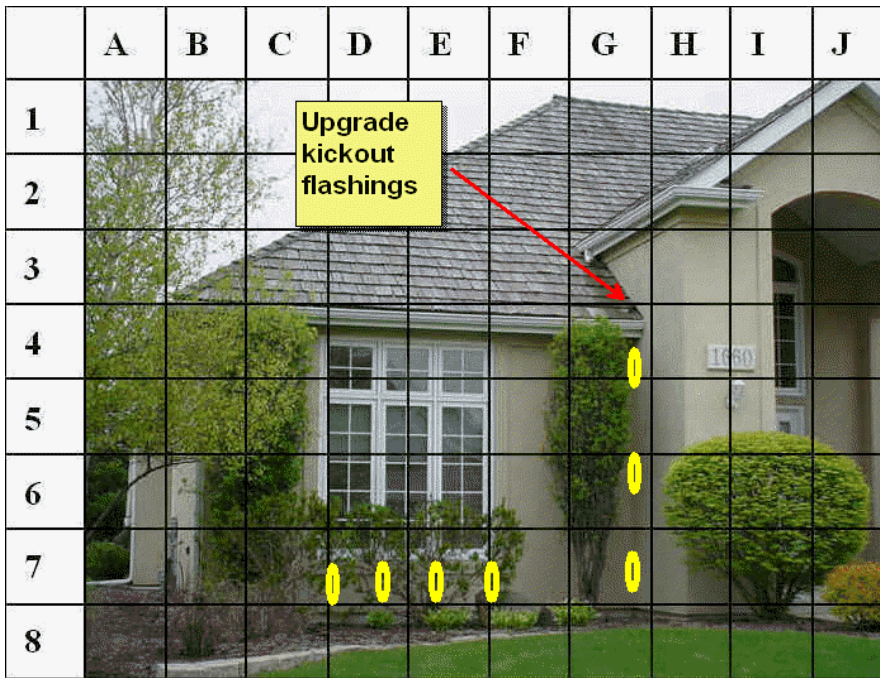
The test equipment is used to help locate problem areas. It must be understood that the test equipment is not an exact science but rather good tools used as indicators of possible problems. At times, because of hidden construction within the wall cavity, the meters get false readings or no readings at all. Some meters will pick up on metals, wiring, unique wall finishes, etc. Positive readings do not always mean there is a problem, nor do negative readings necessarily mean there is not a problem. We do not use the equipment to obtain exact moisture content, but rather to obtain relative readings between suspected problem areas and non problem areas. This information is then used to help determine potential problem areas which may warrant more investigation.

General Observations

Item Description	Adequate	Not Adequate	N/A	Comments
Sealants at window perimeters		X		Existing sealants have failed and need replacing
Mitre joints (bottom corners) of		X		Suggest sealing all window miter or construction joints.
Alarm sensor penetrations at windows			X	
Fixed window units and mullion joints				Suggest sealing all window mullion and construction joints.
Head flashing at top of windows		X		Suggest installing proper head flashing.
Sealants around door perimeter		X		Replace all door perimeter sealants.
Sealants at door threshold details		X		Suggest sealing thresholds to door framing where not present
Head flashing at top of doors		X		Suggest installing proper head flashing.
Penetrations through stucco sealed		X		All penetrations through EIFS should be properly sealed
General appearance		X		Good general appearance
Kickout flashings		X		All primary and secondary kickout flashing locations need to be upgraded to meet current standards.
Roof / soffit / fascia terminations		X		Seal gaps between EIFS and soffit or fascia.
Item Description	Yes	No	N/A	Comments
Cracking evident	X			Repair all EIFS cracking.
Expansion joints / Control joints			X	
Exposed mesh		X		
Impact damage	X			Repair all impact damage.
Rusting aggregates		X		
Flat horizontal surfaces		X		
Delamination / Fasteners		X		
Terminations at roof shingles	X			Termination appear OK in general
Transition joints (stucco to brick, etc.)			X	
Termination below grade (ground level)		X		
Termination below or at slab levels	X			System terminates at or below slab level at front entrance

General Observations Cont.....

Deck Flashing		X		The deck has a diverter flashing installed at it's top attachment. This flashing needs to be resealed. No access under the deck for moisture testing.
Balcony Flashing			X	
Flashing at columns		X		
Sprinkler System	X			Re-aim as needed to prevent wetting and rusting the EIFS and sills
Gutters / Downspouts Sealed		X		All downspout fasteners need to be sealed.
Chimney Cap	X			Seal metal chimney cap(s).
Wood Windows	X			Wood windows need to be kept well sealed and painted to prevent moisture intrusion.
Wood Rot	X			All rotted windows and trim need to be replaced, sealed and painted.



Improper kickout flashings. Replace all to current std.



Gaps at the soffit should be sealed.



Yellow mesh is visible at terminations. (STO system)

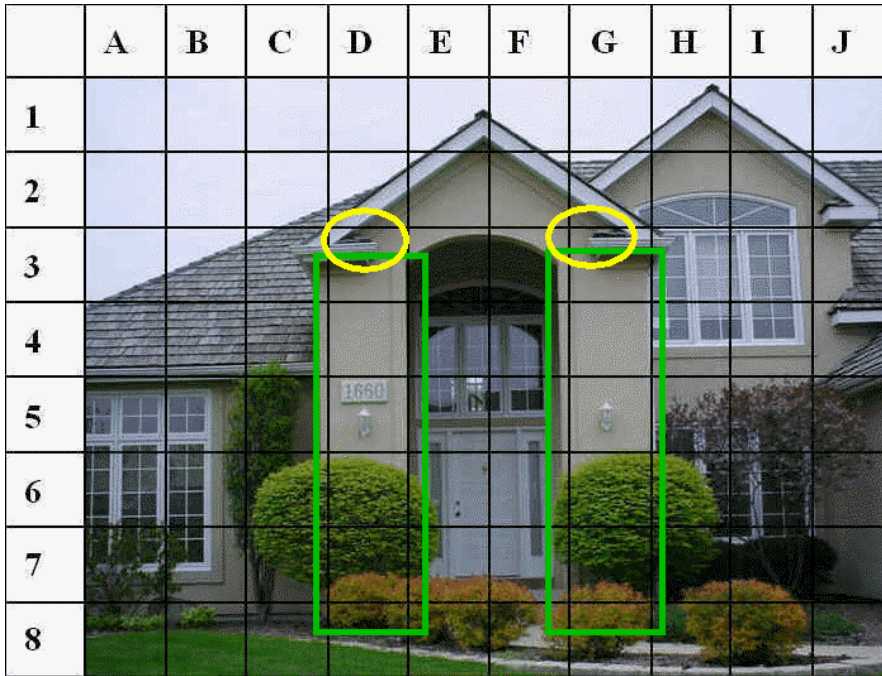


Perimeter sealants have aged and need replacing.



All wood window construction joints need to be sealed.

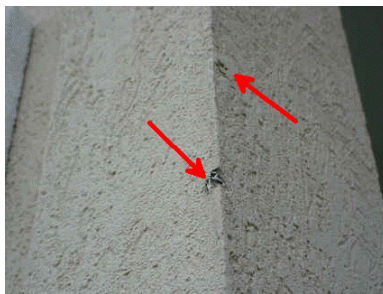
Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations	
D7L	Windows	21	Firm		
D7R	Windows	7.9	Firm		
E7	Windows	8.6	Firm		
F7	Windows	7.9	Firm		
G4	Kickout	6.9	Firm		
G6	Kickout	6.0	Firm		
G7	Kickout	7.1	Firm		



Repair cracking at corners on flat surfaces.



Replace all aged sealants



Repair all damage to EIFS corners.

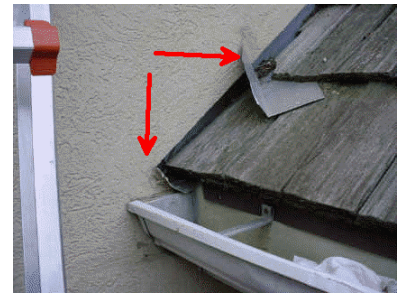
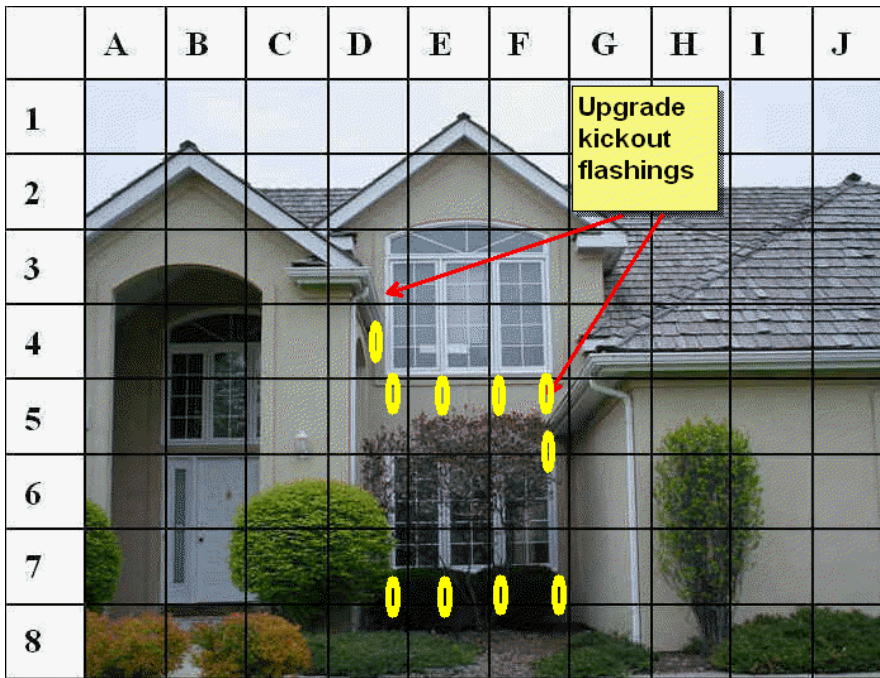


Repair compression cracking at entrance.



Seal or reseal EIFS to dissimilar materials.

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations	
Green boxes	Kickout			Secondary kickout areas scan ok. Recommend proper flashings be installed.	



Improper kickout flashings. Replace all to current std.



Improper and missing kickout flashing. Replace all.



Rotted wood needs to be replaced.



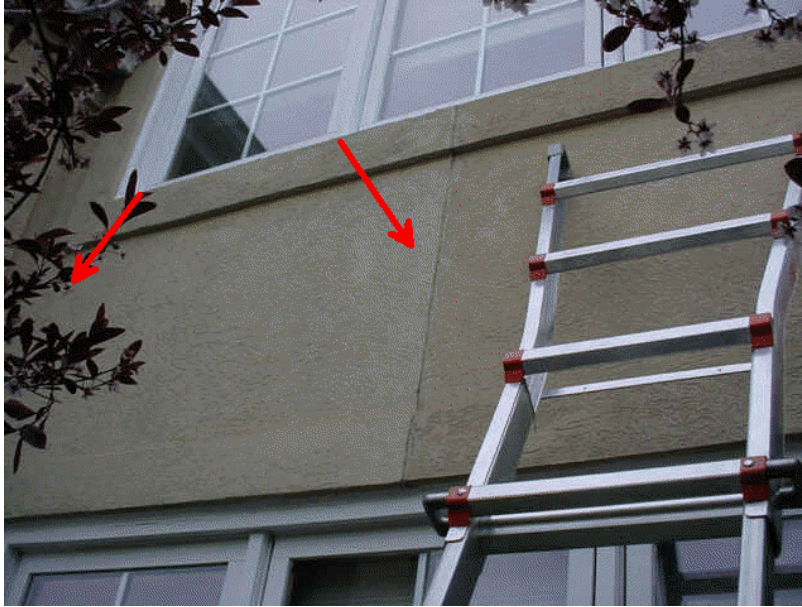
Cracking may be a result of the underlying damage.



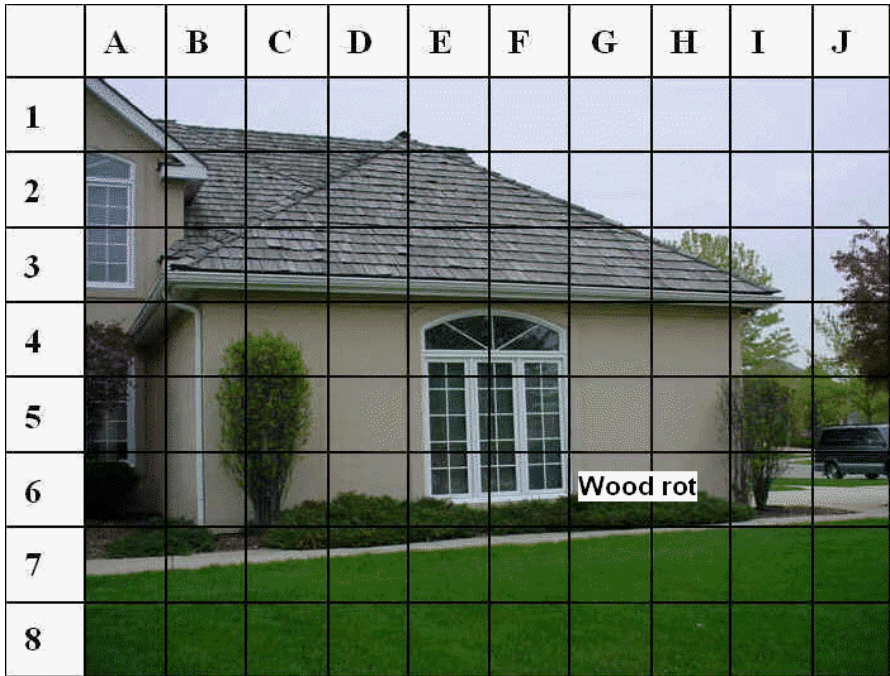
Cracking may be a result of the underlying damage.

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations	
D4	Kickout	40	Soft		
D5	Windows	40	Firm		
E5	Windows	8.6	Firm		
F5L	Windows	9.1	Firm		
F5R	Windows	10.1	Soft		
D7	Windows	40	Soft		
E7	Windows	7.8	Firm		
F7L	Windows	7.7	Firm		
F7R	Windows	8.0	Firm		
F5,6	Kickout	9.6	Firm		

Past repair work.



We noted the past repair work did not replace the finished surfaces to match. In our opinion this is not a professional repair. The left side of this photo is currently in need of repairs again.

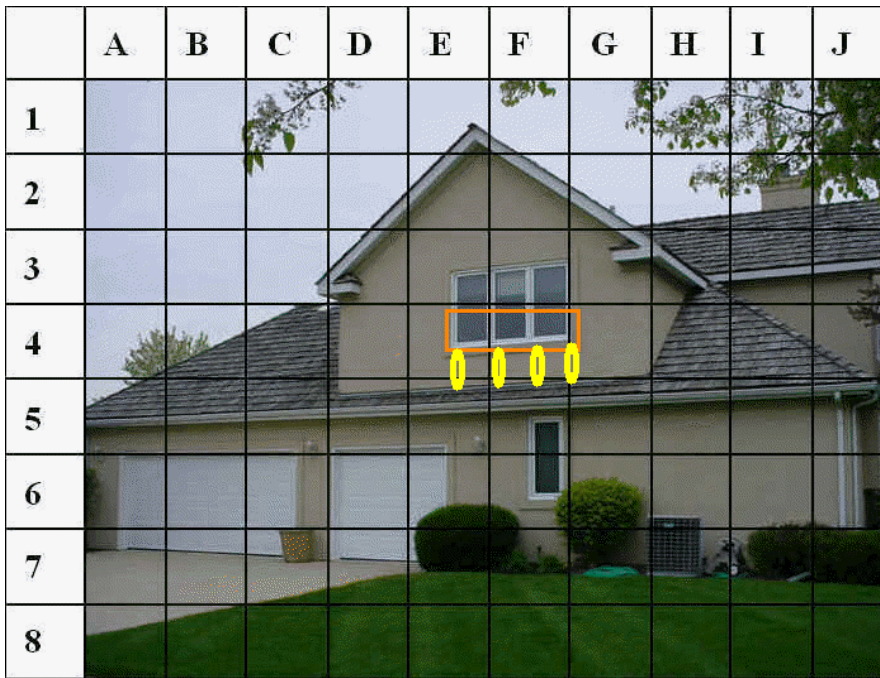


Replace all rotted wood.



All downspout fasteners need to be sealed.

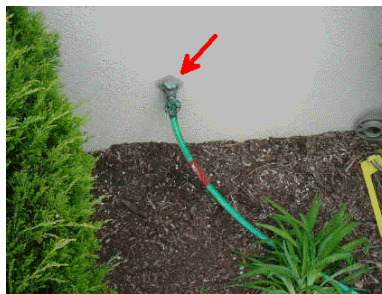
Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
				Window sill is at foundation. No elevated moisture



Light fixtures need to be secured and properly sealed.



Paint hides aged sealants. Time to replace all perimeter sealants.

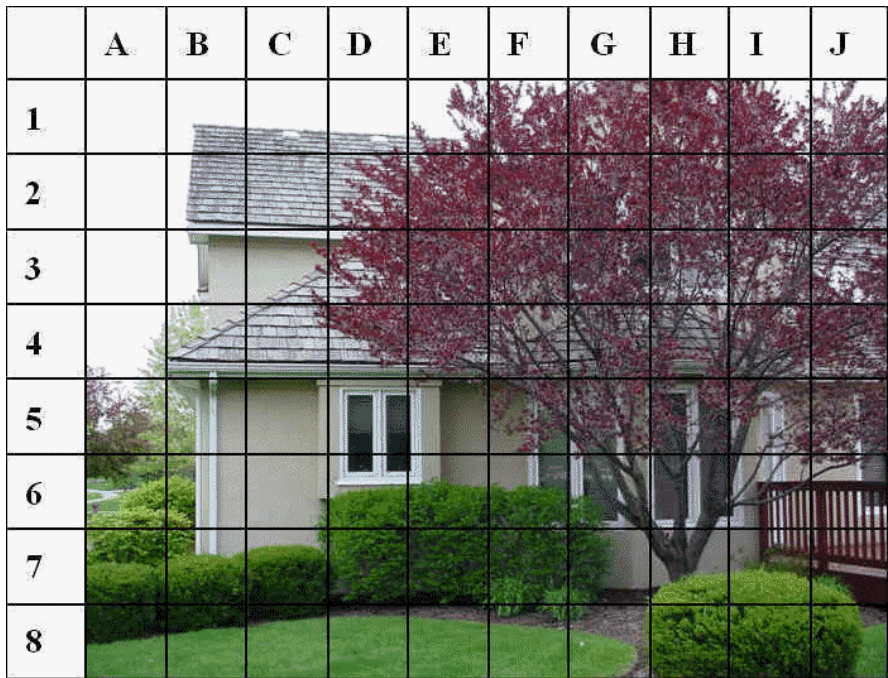


Replace sealants at piping penetrations.



Rotted window sills need to be replaced.

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations	
Orange Box	Windows			Rotted window sill.	
E4	Windows	8.9	Firm		
F4L	Windows	9.1	Firm		
F4R	Windows	9.0	Firm		
G4	Windows	10	Firm		



Sill vent flashing appears properly installed and is functioning.



Window miter joints need to be sealed.



Window mullion joints need to be sealed.

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations	
				No elevated moisture readings found on this elevation. Photo for reference only.	



Inadequate perimeter sealants replace all.



Secondary kickout returns should be installed.



The deck is attached and sealed to the EIFS.

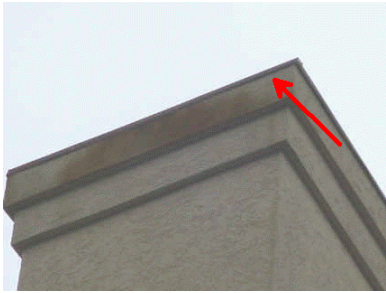
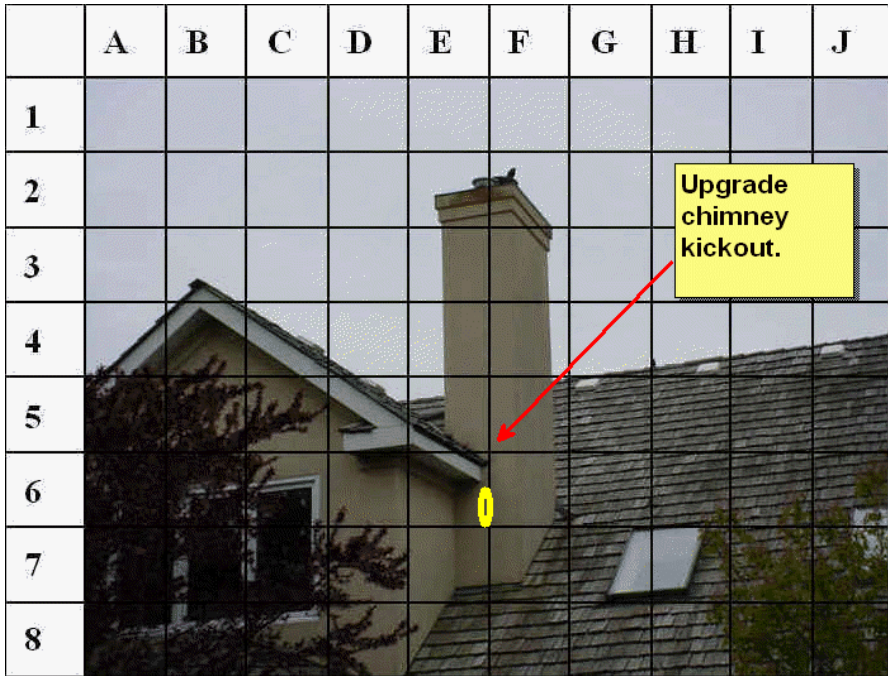


Suggest sealing door thresholds.

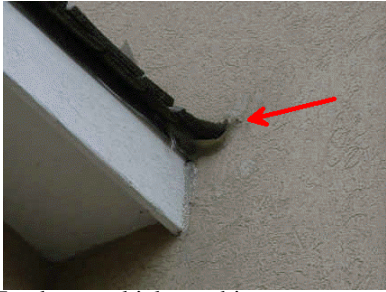


The deck diverter flashing needs to be resealed.

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
				No elevated moisture readings found on this elevation. Photo for reference only.

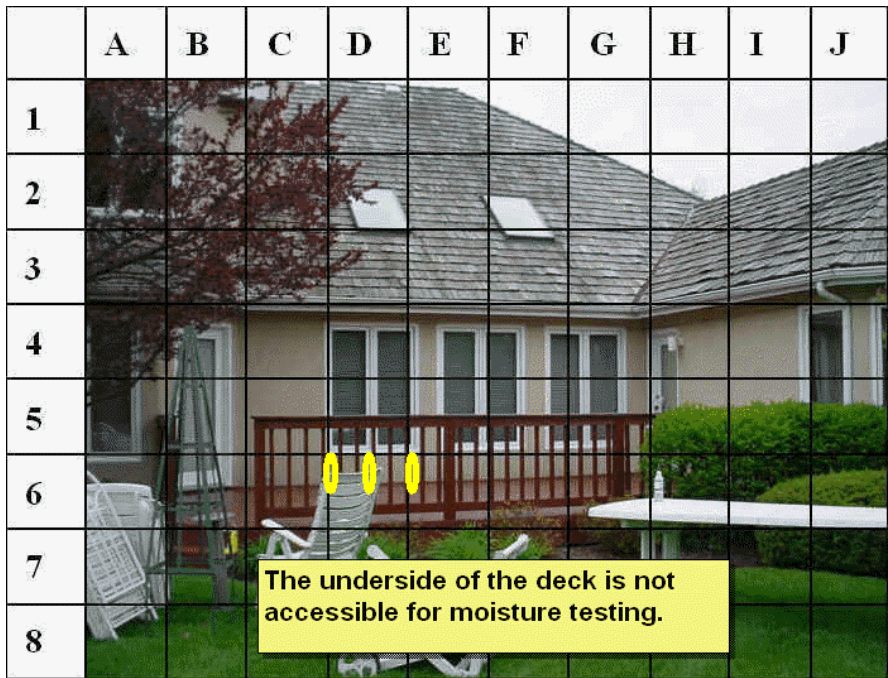


Seal the chimney cap and all it's fasteners.

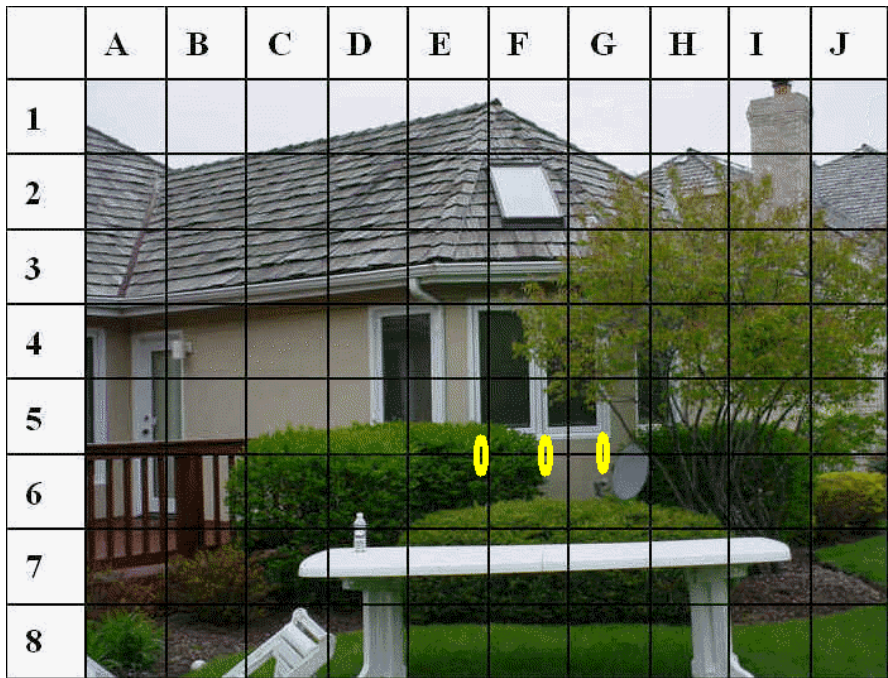


Inadequate kickout chimney flashing. Replace.

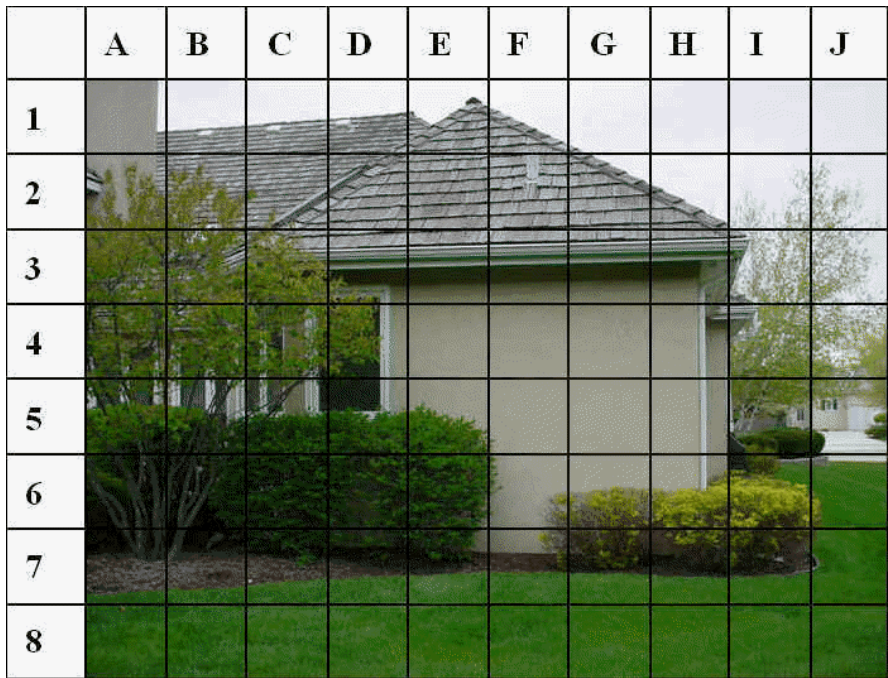
Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
E6	Chimney	22	Firm	



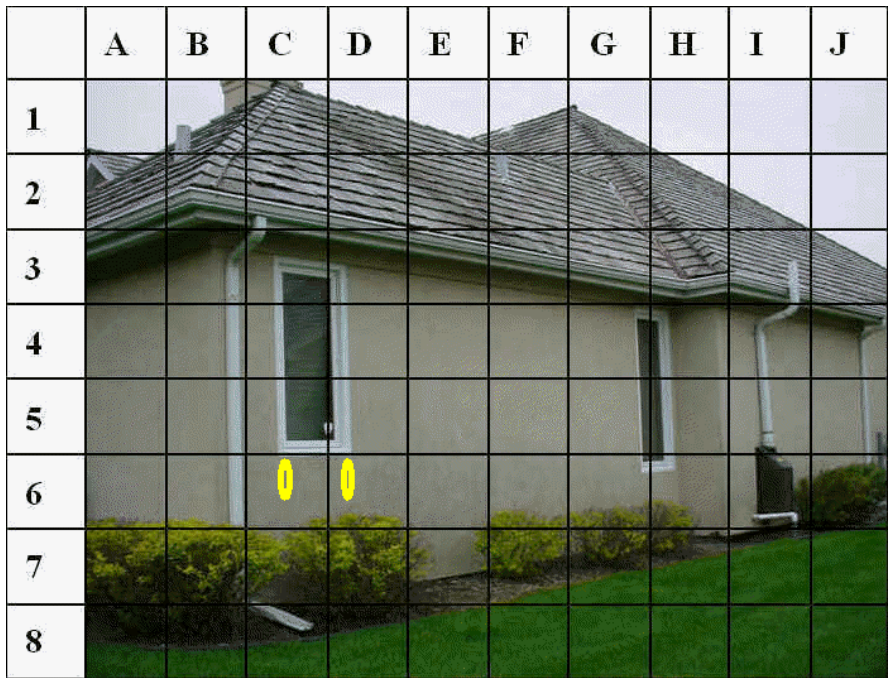
Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
D6L	Windows	6.0	Firm	
D6R	Windows	6.0	Firm	
E6	Windows	6.0	Firm	



Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations	
E5,6	Windows	6.0	Firm		
F5,6	Windows	6.0	Firm		
G5,6	Windows	6.0	Firm		



Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations	
				No elevated moisture readings found on this elevation. Photo for reference only.	



Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations	
C6	Windows	6.0	Firm		
D6	Windows	7.5	Firm		

	A	B	C	D	E	F	G	H	I	J
1										
2										
3										
4										
5										
6										
7										
8										



Repair typical mower damage.



Reseal all utilities.



Gutter is damaged from winter freeze. Repair and seal.

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations	
				No elevated moisture readings found on this elevation. Photo for reference only.	

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Moisture readings < 20% are generally considered to be at ambient levels and are not likely to be of long term concern provided the area remains free from moisture penetration. Moisture reading between 20% and 30% are considered elevated and an investigation should be conducted to determine the source of moisture intrusion. Once the source has been properly remediated a follow up inspection should be conducted 6 months from the time of repair to be certain the repair is functioning.

Moisture readings > 30% may require further investigation by the contractor if the source is not apparent. Further investigation may include core sampling or additional probing to make a an overall determination of the affected area(s).

Areas indicated in this report to have soft or rotted substrate need to be opened up and visually inspected by the repair contractor to determine the extent of underlying damage to the substrate and or framing materials. Once the damage areas are repaired, the siding materials can be replaced and properly finished.

Standard caulking procedure

Caulk or re-caulk any place below the soffit line where stucco meets another material. This may include utility penetrations, light fixtures, vents, downspout fasteners or other types of breaches to the stucco system.

Caulk or re-caulk all doors and windows. For single or double hung windows, seal the tracks on all vertical joints from the head of the window to the sill and along the bottom joint of the track to the sill and at least 6" up the vertical joints behind the track. For casement windows, caulk or re-caulk all exposed joints, including the miter joints of the window.

Great care should be exercised in choosing the appropriate caulk. The manufacturer of your system has recommended specific brands and types of sealant for various applications. Each caulking manufacturer has recommendations about how their particular caulk should be applied. It is important that these guidelines be followed in order to maximize the effectiveness of the caulk and enhance its ability to protect your home.

Elevated moisture

You have areas around that are showing signs of elevated moisture. These areas should be modified according to current industry repair standards and options.

Soft substrate

You have an area or areas where the substrate appeared to be soft when probed. These areas may need to be explored further to determine the extent of damage is present.

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Please note that the moisture readings included in this report are the raw data recorded by the Delmhorst probe meter. Moisture levels are affected by the ambient weather conditions and other factors, and this can result in variations between the readings taken on one day and readings taken in the same area on another day. The readings provided in this report are accurate indicators of the presence of retained moisture at the surface of the substrate or framing wood in the area tested at that given moment in time. These readings are not represented to be the absolute moisture content of the full thickness of the substrate or framing wood.

This report only reports on the condition of the structure at the specific locations indicated. Locations were determined by the inspector according to probable areas of possible moisture intrusion and in accordance with accepted industry standards. No judgment is intended or given for any areas not reported on.

In summary, we found this siding installation and materials to be in need of professional repairs as outlined in this report. These repairs are essential to correcting the current deficiencies and reducing future moisture penetration. We want to emphasize that the EIFS system installed on this home is a barrier system. This system was commonly used prior to 1998 in this area and relies on the cladding system remaining water tight to avoid damage to the substrate. This means that the sealants around all fixtures, penetrations, windows, and doors must remain leak tight. It is recommended that the homeowner have the siding checked annually, by a professional, to help in maintaining the moisture barrier as tight as possible and in reducing long-term damage.

We trust that this report adequately addresses these areas of concern. If you have any questions about any aspect of this report, please call me.

Sincerely,

Charles D. Johnson

Charles D. Johnson
Certified EIFS Inspector
EDI # IL 60