



Moisture Survey Inspection Report

Date of Inspection:

January 1, 2018

For the property located at:

360 Paradise Lane
Paradise City, Washington, 98000

Report prepared for:

Jane Doe



Professional Memberships:



PO Box 121 Edmonds WA 98020-0121 **Office:** 206.778.8042 **Inspector:** 206.255.7659
Website: www.soundexterior.com **Office Email:** info@soundexterior.com **Inspector Email:** doug@soundexterior.com

Project Information

OWNER INFORMATION		BUYER INFORMATION	
Owners	John Smith	Buyers	Jane Doe
Property Address	360 Paradise Lane	Buyers Address	180 Happy Avenue
City, State, ZIP	Paradise City WA 98000	City, State, ZIP	Happy City WA 98999
Phone	360.222.2222	Phone	360.111.1111
Email	jsmith@gmail.com	Email	janed@gmail.com
Listing Agent	Patty Sells	Buyers Agent	Jack Gets
Realty Company	Patty Sells Real Estate	Realty Company	Jack Gets Real Estate
Phone	360.000.000	Phone	360.999.9999
Email	pattysells@gmail.com	Email	jackgets@gmail.com
PROPERTY INFORMATION		INSPECTION INFORMATION	
Type of Exterior Cladding	3/4 Portland Cement Plaster (stucco) w/ EPS plantons	Date of Inspection	January 1, 2018
Stories	3	Inspector	Douglas A Heck
Windows	Vinyl	Present at Inspection	Seller, Buyer
Underlying Substrate	Oriented Strand Board	Temperature	70 degrees
Age of Property	1998	Weather	Cloudy
Square Footage	8,500	Last Rain	Within past week

Inspection Test Equipment				
Test Equipment Description		Test Range		
		Low	Medium	High
A	Tramex Interior Moisture Encounter	10-12	13-18	19-25
B	Tramex Exterior Wet Wall Detector	10 - 20	21-50	51-100
C	Delmhorst Moisture Probe Meter	8-15	16-24	25-40
D	Infrared Camera			

Important Note: Delmhorst Moisture Probe Meter used for inspection.

The test equipment is used to help locate areas of concern. It must be understood that the test equipment is not an exact science but tools used as indicators of possible areas of concern. Due to the possibility 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 an issue, nor do negative readings necessarily mean there is not an issue. We do not use the equipment to obtain exact moisture content, but rather to obtain relative readings between suspected areas of concern and areas of non concern. This information is then used to help determine potential areas which may warrant more investigation.

Summary Checklist

Sealant Joints	Good	Not Adequate	N/A	Comments
Sealant joints at window jambs & sills		X		Sealant joint failure at window perimeters needs to be removed and replaced.
Sealant at window joints/miters			X	Vinyl windows.
Sealant joints at door heads & jambs		X		Sealant joint failure at door heads and jambs need to be removed and replaced.
Sealant at door joints/miters/thresholds			X	
Sealant joints at penetrations & terminations		X		Utility, hose bibs, vents and light penetrations need sealant joint application.
Sealant at expansion and control joint terminations		X		Cracks and terminations at expansion and control joints and need to be sealed.
Accents properly sloped			X	
Sealant joints at soffit and fascia board terminations		X		Roof and fascia terminations need sealant joint application.
Flashings/Diverter	Good	Not Adequate	N/A	Comments
Kickout flashings/roof/wall		X		Flashings at roof terminations need counter cap flashings installed.
Deck flashings		X		Recommend removal and replacement of decks due to lack of proper flashing details and water damaged plywood sheathing.
Other flashings			X	
Chimney cap	X			
Chimney cricket			X	
Window head flashing	X			
Door head flashing	X			
Column flashing			X	
Terminations	Yes	No	N/A	Comments
Stucco terminated above grade	X			
Stucco terminated above concrete	X			
Miscellaneous	Yes	No	N/A	Comments
Evidence of sprinkler overspray		X		
Gutters clean and functioning		X		Gutter at right elevation needs to be re-sloped.
Downspout fasteners sealed			X	Not mandatory.
Cracks and impact damage	X			Hairline cracks at EPS plantons need elastomeric coating application. Areas of impact damage need remediation.
Exterior evidence of pest infestation		X		
Adequate slope of grade away from dwelling	X			
Crawlspace inspection		X		
Property located near body of water		X		

Moisture Survey Inspection Summary

Sound Exterior Inspections, LLC performed a moisture survey inspection on January 1, 2018 of the stucco cladding with EPS plantons installed on the dwelling located at 360 Paradise Lane, Paradise City, Washington at the request of Jane Doe.

Recommendations for remediation

Below are the recommendations for remediation of the stucco cladding based upon findings during inspection and industry standards to protect the dwelling from moisture intrusion.

Deck details

It is recommended that the decks be removed and replaced due to visible water damage at the plywood sheathing, lack of pan flashing installation at the doors, lack of drip flashings at the deck terminations to the fascias, lack of end dam flashings at the deck terminations and lack of flashings at the deck terminations to the stucco cladding.

EPS plantons

The areas where the EPS plantons are delaminating from the stucco cladding need to be re-adhered prior to sealant joint application at the planton perimeters.

Expansion and control joints

The cracks and the terminations at the expansion and control joints need to be sealed.

Gutters

The gutter at the right elevation needs to be re-sloped upon remediation of the soft substrate below to allow for proper water flow.

Hairline cracks

The hairline cracks at the EPS plantons need to be remediated with elastomeric coating application.

Impact damage

It is recommended that the areas of impact damage as indicated in this report be remediated for aesthetic purposes.

Roof terminations

The roof termination at the front left elevation needs further evaluation upon remediation of soft substrate below to determine cause of moisture intrusion and necessary remediation.

The roof flashing at the stucco termination at the right elevation needs to be integrated into the water-resistive barrier.

The roof terminations need counter-cap flashings installed as indicated in this report to protect against moisture intrusion.

Roof valleys

The roof valleys need to be cleared of debris to allow for unobstructed water flow.

Roof tiles

There are broken roof tiles that need to be replaced to protect against moisture intrusion.

Moisture Survey Inspection Summary

Sealant joints

There are areas indicated in this report where sealant joint failure is occurring that need to be removed and replaced as well as areas that require sealant joint application per the industry standards below.

Industry standards recommend a 1/2" working sealant joint consisting of backer rod and sealant. If this cannot be achieved, it is recommend that bond breaker tape and sealant be used to achieve a 1/2" working joint. When sealing windows, great care should be taken to ensure weep holes are not sealed.

Any areas below the roof line where the stucco terminates at another material needs to be sealed. This includes window jambs and sills, door jambs, flashing laps and terminations, light fixtures, utility penetrations, vents, and any other type of penetrations and breaches of the stucco cladding.

Great care should be exercised in choosing the appropriate sealant. Each sealant manufacturer has recommendations about how their particular sealant should be applied. It is important that these guidelines be followed in order to maximize the effectiveness of the sealant and enhance its ability to protect your dwelling.

Soft substrate

There are areas indicated in this report where soft substrate was detected upon probing. These areas need to be removed and explored further to determine extent of damage and necessary remediation.

Conclusion

The purpose of this inspection is to identify as many existing issues with the exterior cladding as possible. All visible and readily accessible areas are inspected and the observations and opinions included in this report are in reference to the components and/or details that are readily accessible. It is not our contention, nor do we imply that an item or component not included in the inspection report is in satisfactory condition, nor do we warrant or guarantee any component or detail.

Intrusive inspections are not always deemed necessary and are not performed unless the inspector recommends, and the buyer requests such an inspection, and written approval is obtained from the current homeowner to conduct such an inspection. Due to the foregoing, hidden defects may be present that cannot be visually observed or detected with testing equipment and it is important that the buyer understand that this inspection is of a limited survey nature and may not reveal the hidden defects that a comprehensive section by section intrusive evaluation of the exterior cladding might reveal, specifically the actual or threatened formation, growth, presence, release or dispersal of any fungi, molds, spores, or mycotoxins of any kind.

Our objective is to focus on likely areas of concern and inform the buyer of the areas that should be monitored as part of regular maintenance and repairs. The buyer is encouraged to discuss the inspection process and/or inspection report with the inspector to have a good understanding of what the inspection covers and what is not possible to inspect in the process as we are not capable of a complete and full understanding of the exterior cladding in the period of time spent inspecting nor do we offer any form of guarantee or warranty for any component or detail.

Moisture Survey Inspection Summary

Testing equipment

Please note that the moisture readings included in this report are the raw data recorded by the Delmhorst Moisture Probe Meter. Moisture probing was conducted at areas determined by the inspector in accordance with probable areas of possible moisture intrusion and accepted industry standards. Moisture levels are affected by the ambient weather conditions and other factors which 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 members in the area tested at that given moment in time. These readings do not represent the absolute moisture content of the full thickness of the substrate or framing members. No judgment is intended or given for any areas not reported on.

Probe Meter Reading Ranges (for typical framing wood):

8% - 15% = Normal

16% - 24% = Elevated, but not typically critical - rot is possible

25% - 30% = High, rot is likely to occur over time

31% and over = Saturated, rot will occur over time

The above suggestions are based on our experience with building envelopes and industry standards. Sound Exterior Inspections, LLC makes no warranty whatsoever for the suggested repair methods. We recognize that there may be more than one way to effectively correct the reported issues. Repair contractors should specify their proposed methods and any applicable warranty.

NOTE: Photo descriptions stating "typical" indicate that all locations with the same detail require the same remediation.

Please contact me directly at 206.255.7659 if you have any questions.

SOUND EXTERIOR INSPECTIONS, LLC

Douglas A. Heck, Inspector

The photographs contained herein are the property of Sound Exterior Inspections, LLC.

Elevations



FRONT



RIGHT

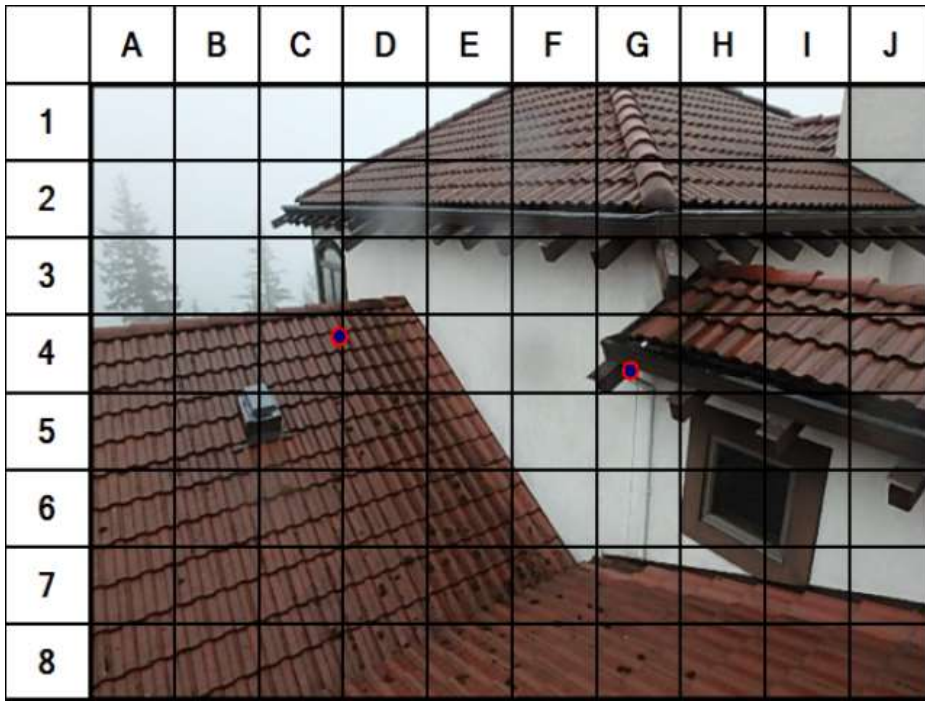


REAR



LEFT

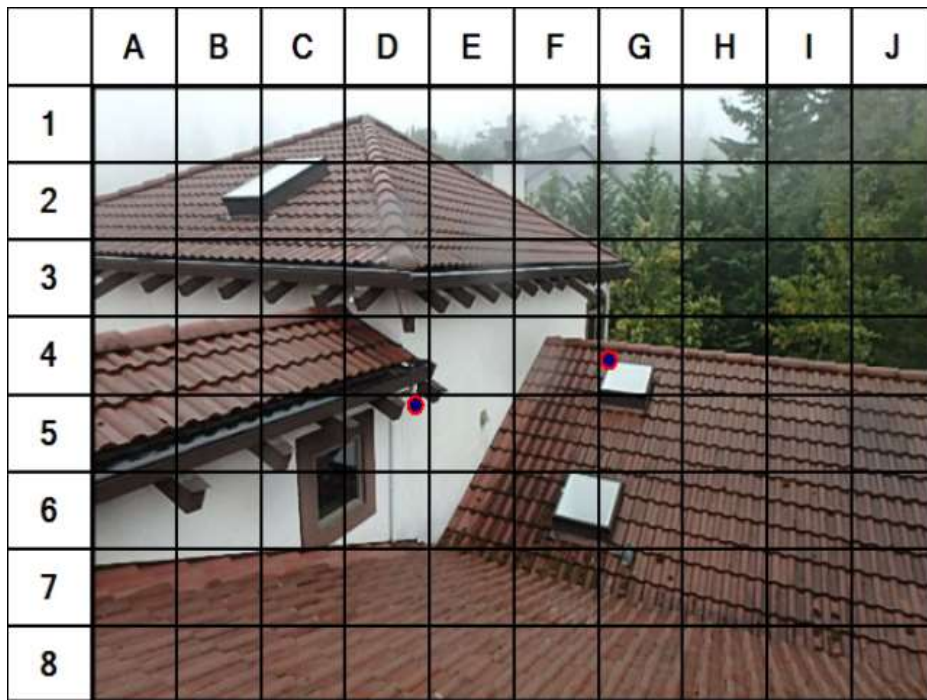
Roof Elevation



Delamination of EPS planton needs to be re-adhered prior to sealant joint application at planton perimeter; typical

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
C4	Windows	12%	Firm	
G4	Roof termination	10%	Firm	

Roof Elevation



Roof and fascia terminations need sealant joint application; typical



Torch down adequately extends behind stucco to protect against moisture intrusion at cut & turned kickout flashing installed at roof termination; typical



Vent penetration needs sealant joint application; typical



Roof valley needs to be cleared of debris to allow for unobstructed water flow; typical



Torch down adequately extends behind stucco to protect against moisture intrusion at cut & turned kickout flashing installed at roof termination; typical

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
D5	Roof termination	11%	Firm	
G4	Windows	10%	Firm	

Roof Elevation Continued

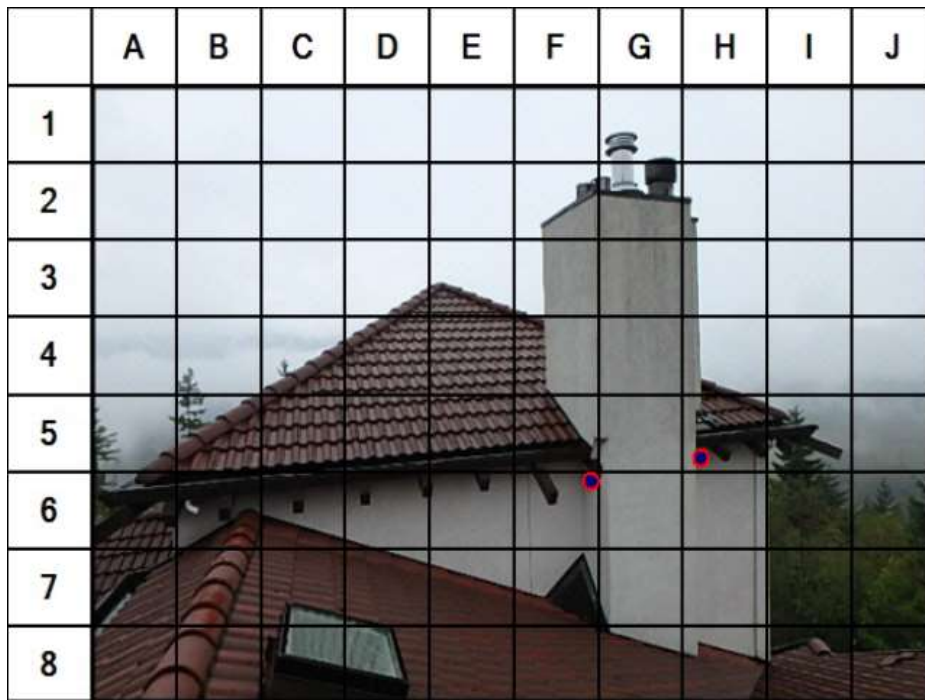


Delamination of EPS planton needs to be re-adhered prior to sealant joint application at planton perimeter; typical



UV damaged sealant joint failing at window perimeter needs to be removed and replaced; typical

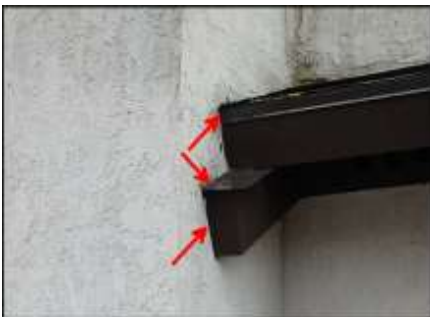
Roof Elevation



Chimney cap adequately extends over stucco to protect against moisture intrusion; typical



Roof and fascia terminations need sealant joint application; typical



Roof and fascia terminations need sealant joint application; typical



Sealant joint failure at vent penetration needs to be removed and replaced; typical



Broken roof tile needs to be replaced; typical

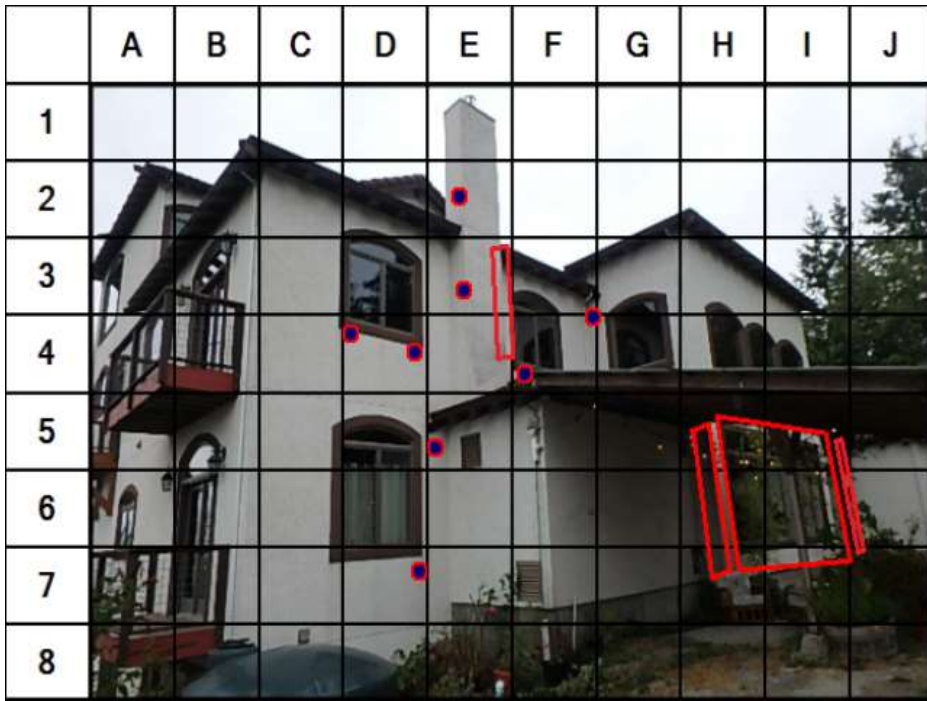
Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
F6-H5	Roof terminations	17%, 14%	Firm	

Roof Elevation Continued



Broken roof tile needs to be replaced; typical

Front Left Elevation



Weep screed installed at base of stucco; typical



Head flashing installed at window; typical



Sealant joint failure at window perimeter needs to be removed and replaced; typical



Sealant joint failure at window perimeter needs to be removed and replaced; typical



Roof termination needs further evaluation to determine necessary remediation upon remediation of soft substrate below (E3)

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
D4	Windows	17%, 15%	Firm	
D7	Windows	17%	Firm	
E2	Chimney	16%	Firm	
E3	Roof termination	17%	Firm	
E5	Roof termination	14%	Firm	
E3-E4	Soft substrate	40%	Soft	Approximate area of soft substrate needs to be removed and replaced.
F4	Windows	10%	Firm	
G4	Roof termination	14%	Firm	
H5-H7	Soft substrate	40%	Soft	Approximate area of soft substrate needs to be removed and replaced.
H5-I7	Soft substrate	26%	Soft	Approximate area of soft substrate needs to be removed and replaced.
J5-J7	Soft substrate	22%	Soft	Approximate area of soft substrate needs to be removed and replaced.

Front Left Elevation Continued



Approximate area of soft substrate below roof termination needs to be removed and replaced (E3-E4)



Torch down roofing to stucco needs sealant joint application; typical



Fascia and beam terminations need sealant joint application; typical



Roof termination needs flashing installation upon remediation of soft substrate below (H5)



Approximate area of soft substrate below roof termination needs to be removed and replaced (H5-H7)



Approximate area of soft substrate at window perimeter needs to be removed and replaced (H5-I7)

Front Left Elevation Continued



Roof and fascia terminations need sealant joint application; typical



Approximate area of soft substrate below roof termination needs to be removed and replaced (I5-J7)



Delamination of EPS planton needs to be re-adhered prior to sealant joint application at planton perimeter; typical

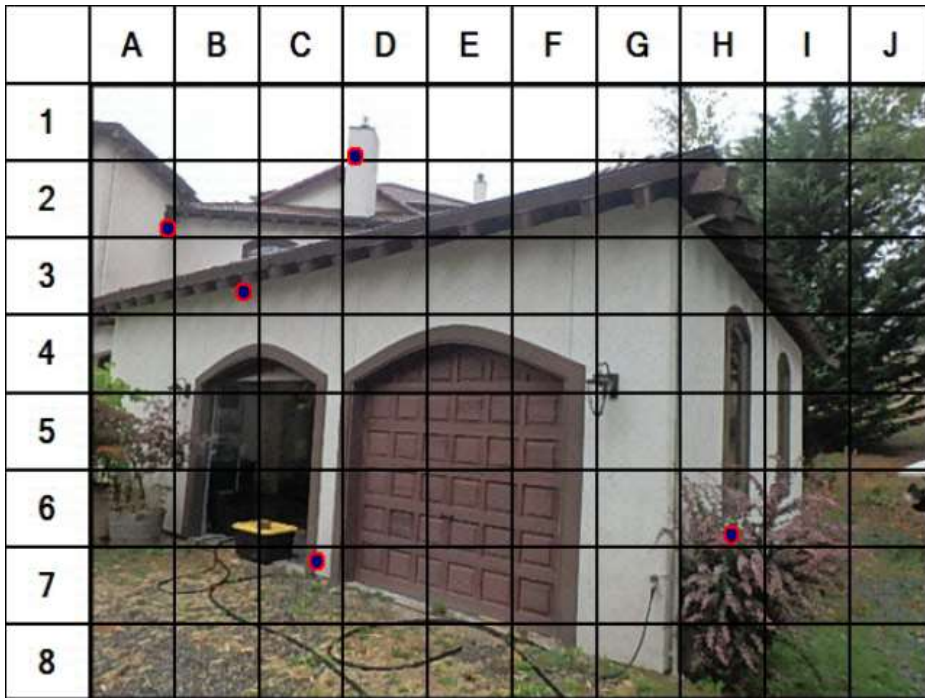


Chimney cap adequately extends over stucco to protect against moisture intrusion; typical



Vent penetrations need sealant joint application (E2)

Front Right Elevation



Stucco properly terminated above concrete at entry to protect against moisture intrusion (A6)



No remediation necessary at concrete poured to base of stucco at entry due installation of rubber flashing to protect against moisture intrusion (A6)



Sealant joint failure at window perimeter needs to be removed and replaced; typical



Sealant joint failure at window perimeter needs to be removed and replaced; typical



Recommend remediation of area of impact damage for aesthetic purposes (C7)

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
A2	Roof termination	14%	Firm	
B3	Windows	18%	Firm	
D1	Chimney cap	10%	Firm	
C7	Garage Doors	9%	Firm	
H6	Windows	11%	Firm	

Front Right Elevation Continued



Light penetration needs sealant joint application; typical



Delamination of EPS planton needs to be re-adhered prior to sealant joint application at planton perimeter; typical



Head flashing installed at garage door per industry standards; typical



Sealant joint performing at garage door jambs; typical

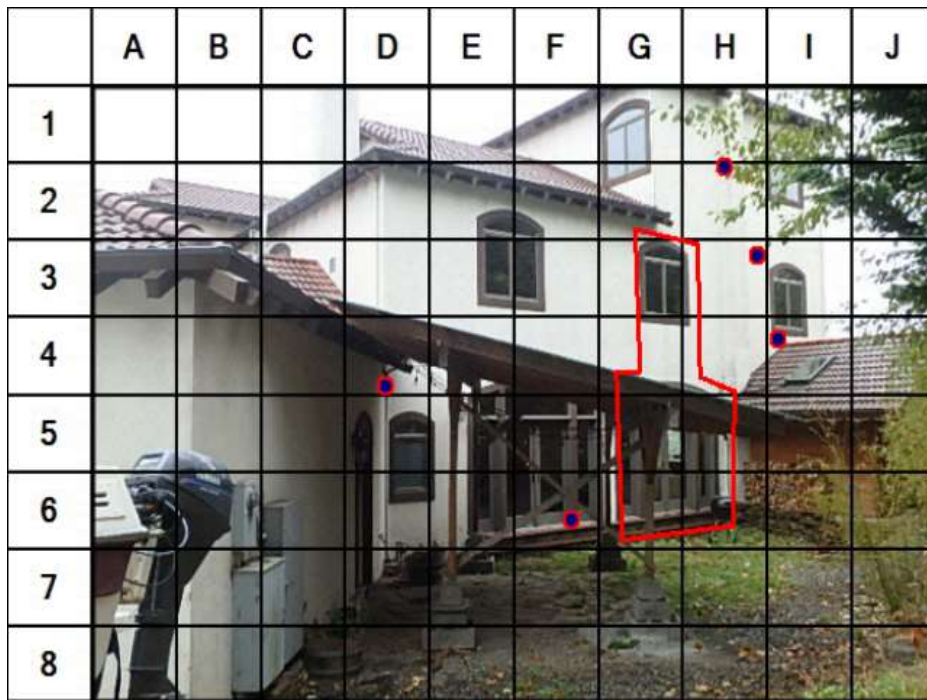


Hose bib penetration needs sealant joint application; typical



Chimney cap adequately extends over stucco to protect against moisture intrusion; typical

Right Elevation



Flashing installed at utility penetration head (B7)



Penetration jambs and sill need sealant joint application; typical



Roof and fascia terminations need sealant joint application; typical



Flashing at roof termination needs counter cap flashing installed; typical



Deflection observed at floor line appears to be due to stucco installation over earthquake strap (D4)

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
D4	Roof termination	16%	Firm	
F6	Doors	14%	Firm	
G2-H6	Soft substrate	40%	Soft	Approximate area of soft substrate needs to be removed and replaced.
H2	Roof termination	14%	Firm	
H3	Field reading	13%	Firm	
I4	Windows	13%	Firm	

Right Elevation Continued



Flashing at roof termination needs counter cap flashing installed; typical



Roof and fascia terminations need sealant joint application; typical



Gutter needs to be re-sloped upon remediation of soft substrate below to allow for unobstructed water flow (E2-G2)



Roof flashing at stucco termination needs to be integrated into water-resistive barrier (H4-I4)



Approximate area of soft substrate below roof termination needs to be removed and replaced (G2-H6)



Light penetration needs sealant joint application; typical

Right Elevation Continued



Roof termination needs sealant joint application; typical



Chimney cap adequately extends over stucco to protect against moisture intrusion; typical

Rear Left Elevation



Deck termination needs end dam flashing installed; typical



Deck to fascia needs drip flashing installed; typical



Deck doors need pan flashings installed; typical



Deck to stucco needs flashing installed; typical



Visible water damaged plywood sheathing at deck needs to be removed and replaced; typical

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
D5	Deck terminations	11%, 10%	Firm	
D6	Soft substrate	12%	Soft	Approximate area of soft substrate needs to be removed and replaced.
D6	Soft substrate	12%	Soft	Approximate area of soft substrate needs to be removed and replaced.
C7	Soft substrate	9%	Soft	Approximate area of soft substrate needs to be removed and replaced.
D7	Soft substrate	10%	Soft	Approximate area of soft substrate needs to be removed and replaced.
D5-D6	Soft substrate	21%	Soft	Approximate area of soft substrate needs to be removed and replaced.

Rear Left Elevation Continued



Roof and fascia terminations need sealant joint application; typical



Approximate area of soft substrate below deck needs to be removed and replaced (D6)



Approximate area of soft substrate below roof termination needs to be removed and replaced (D5-D6)



Approximate area of soft substrate at corner needs to be removed and replaced (D6)



Visible oriented strand board at joint; joint needs sealant joint installed (D6)



Sealant joint failure at window perimeter needs to be removed and replaced; typical

Right Left Elevation Continued



Aged sealant joint needs to be removed and replaced (D6)



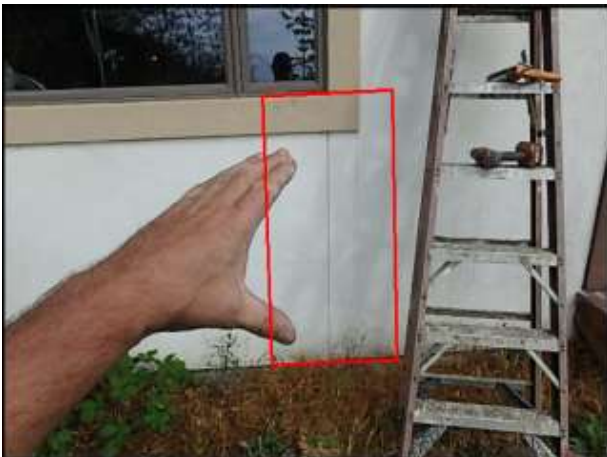
Area of impact damage needs remediation (D6)



Sealant joint failure at door head and jambs needs to be removed and replaced; typical



Approximate area of soft substrate below window needs to be removed and replaced (C7)



Approximate area of soft substrate below window needs to be removed and replaced (D7)



Light penetration needs sealant joint application; typical

Rear Left Elevation Continued



Delamination of EPS planton needs to be re-adhered prior to sealant joint application at planton perimeter; typical



Cracks at expansion and control joints need to be sealed; typical



Control joint termination needs to be sealed; typical

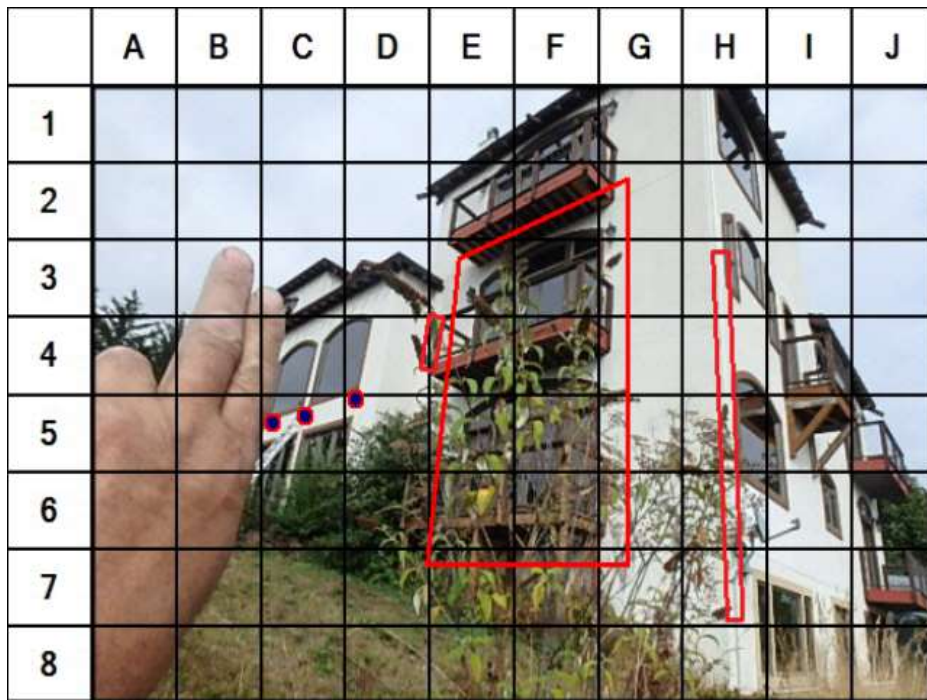


Hairline crack at EPS planton needs elastomeric coating application; typical



Penetrations need to be sealed; typical

Rear Right Elevation



Head flashing installed at window per industry standards; typical



Delamination of EPS planton needs to be re-adhered prior to sealant joint application at planton perimeter; typical



Penetration needs to be sealed; typical



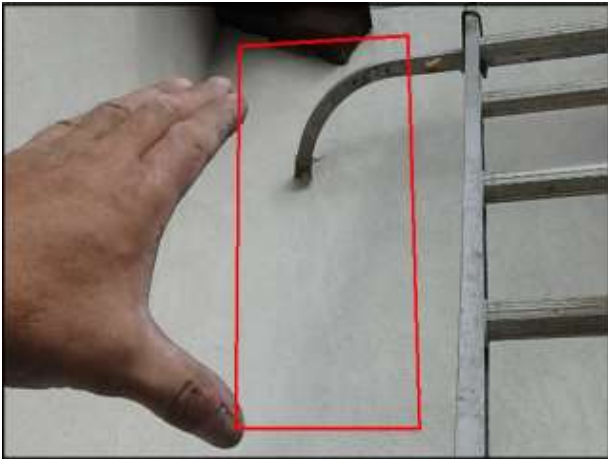
Roof and fascia terminations need sealant joint application; typical



Roof and fascia terminations need sealant joint application; typical

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
C5-D5	Windows	15%, 13%, 13%	Firm	
D4-E4	Soft substrate	17%	Soft	Approximate area of soft substrate needs to be removed and replaced.
E3-G7	Soft substrate	15%	Soft	Approximate area of soft substrate needs to be removed and replaced.
H3-H7	Soft substrate	17%	Soft	Approximate area of soft substrate needs to be removed and replaced.

Rear Right Elevation Continued



Approximate area of soft substrate below roof termination needs to be removed and replaced (D4-E4)



Crack at expansion joint needs to be sealed; typical



Approximate area of soft substrate at decks needs to be removed and replaced (E3-G7)



Deck termination needs end dam flashing installed; typical

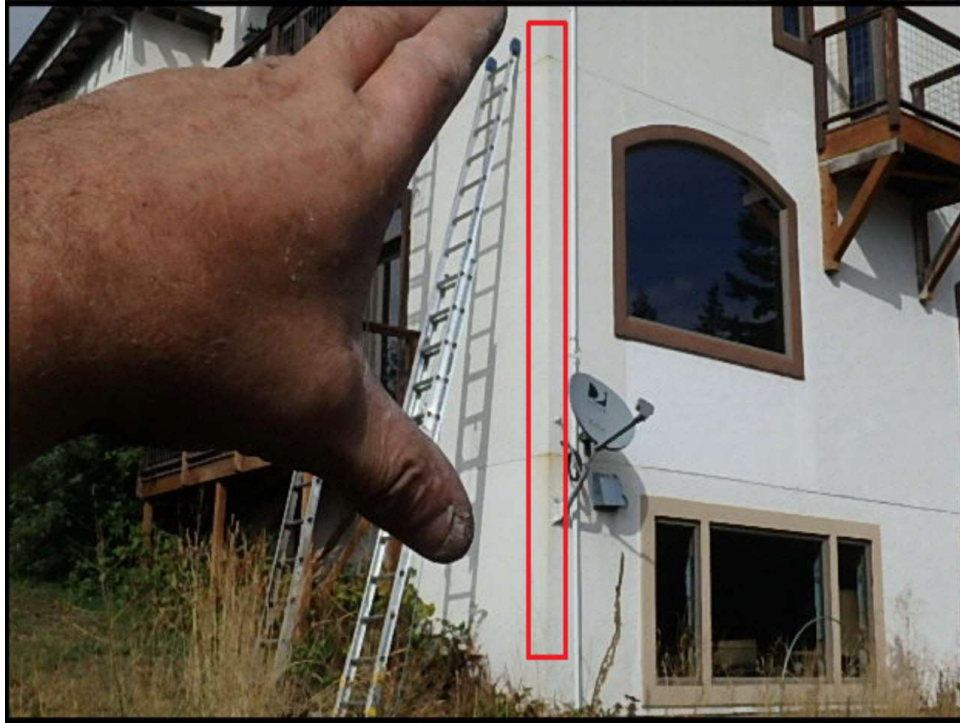


Deck to fascia needs drip flashing installed; typical



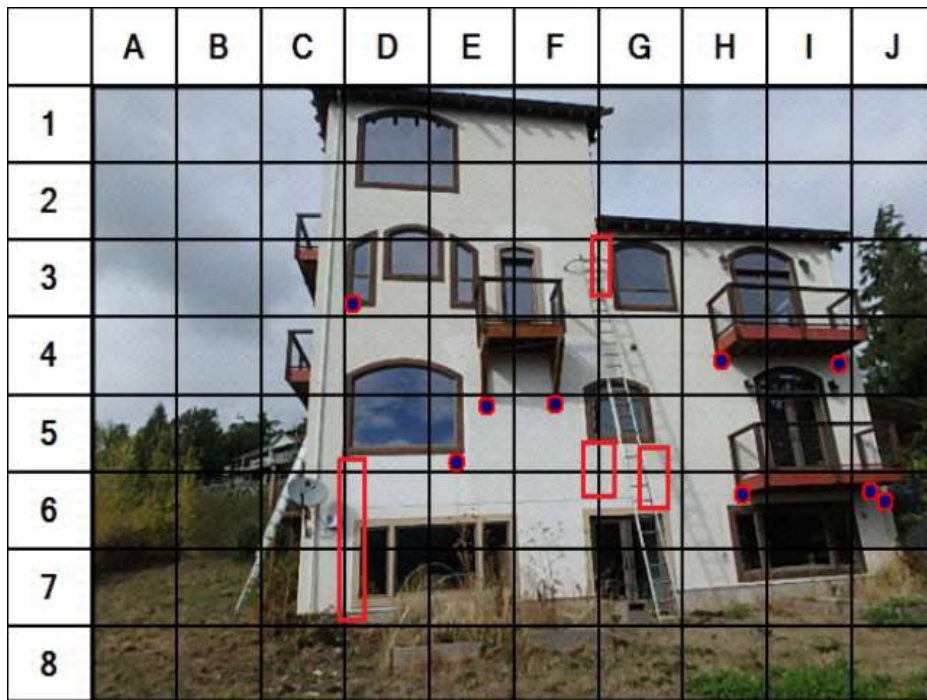
Deck doors need pan flashings installed; typical

Rear Right Elevation Continued



Approximate area of soft substrate at corner needs to be removed and replaced (H3-H7)

Left Elevation



Control joint termination needs to be sealed; typical



Delamination of EPS planton needs to be re-adhered prior to sealant joint application at planton perimeter; typical



Cracks at expansion and control joints need to be sealed; typical



Approximate area of soft substrate at windows needs to be removed and replaced (C5-D7)



Deck terminations need end dam flashings installed (E4, F4)

Grid Location	Item Description	Moisture Readings	Substrate Condition	Observations
D3	Windows	17%	Firm	
C5-D7	Soft substrate	22%	Soft	Approximate area of soft substrate needs to be removed and replaced.
E5	Windows	15%	Firm	
E5-F5	Deck supports	12%, 10%	Firm	
F2-G3	Soft substrate	20%	Soft	Approximate area of soft substrate needs to be removed and replaced.
F5-G6	Soft substrate	22%	Soft	Approximate area of soft substrate needs to be removed and replaced.
G5-G6	Soft substrate	20%	Soft	Approximate area of soft substrate needs to be removed and replaced.
H4-I4	Deck terminations	14%, 12%	Firm	
H6-J6	Deck terminations	10%, 11%	Firm	
J6	Expansion joint	13%	Firm	

Left Elevation Continued



Deck fascia termination needs sealant joint application (E4, F4)



Flashing installed at deck ledger per industry standards (E4-F4)



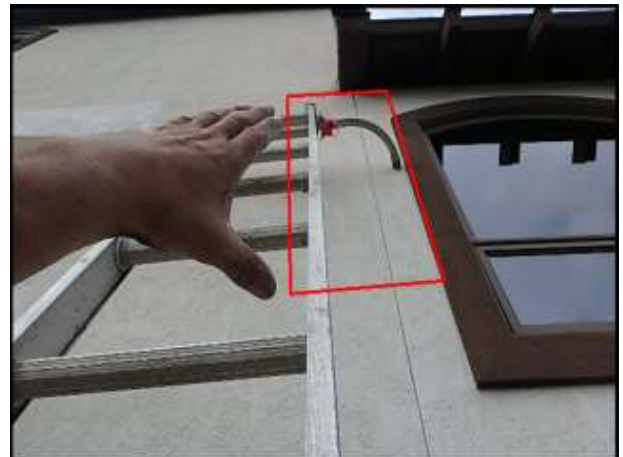
Deck supports need sealant joint application (E4, F4)



Deck ledger to stucco needs sealant joint application (E4-F4)

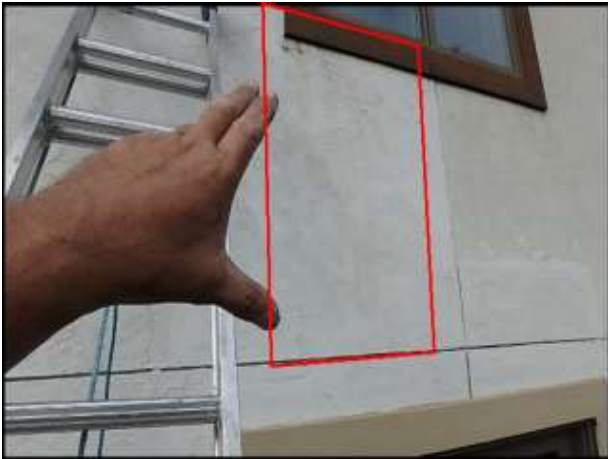


Flashing at roof termination needs counter cap flashing installed; typical

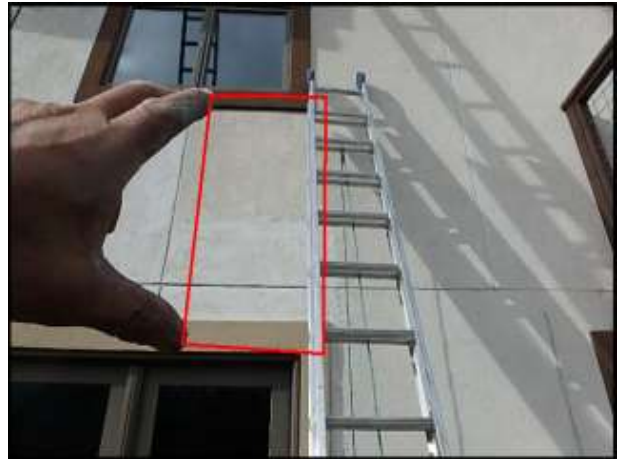


Approximate area of soft substrate below roof termination needs to be removed and replaced (F2-F3)

Left Elevation Continued



Approximate area of soft substrate below window needs to be removed and replaced (F5-G6)



Approximate area of soft substrate below window needs to be removed and replaced (G5-G6)



Deck termination needs end dam flashing installed; typical



Deck termination needs sealant joint application; typical



Deck to stucco needs flashing installed; typical



Deck door needs pan flashings installed; typical

Left Elevation Continued



Hose bib penetration needs sealant joint application; typical