



Stucco Inspection Report

For the Property Located At:

Report Prepared For:

Sample



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INTRODUCTION

I. Overview:

The subject property located at sample was inspected visually and with a thermal imaging camera and invasively tested on: 07/15/21 for: proper stucco installation detail, maintenance details, substrate rigidity, dampness or failure. The Moisture readings were taken in areas where substrate failure is most likely to occur. These readings were taken with a Delmorst BD-2100 moisture meter through 1/4" probe holes which were drilled through the stucco and into the substrate wood (sheathing or studs as appropriate). These readings provide information about the condition of the substrate tested, and evaluation of the measurements is further outlined below. It is important to note that all observations and moisture readings represent the conditions present at the time of the inspection. Additionally, the structure was evaluated for confirmation of current installation details. It is important to note that codes have been updated over the years, and homes built prior to 2003 were constructed under a different set of codes and standards. This report is for the sole use of the person it was prepared for. It should not be used or relied upon by any other person or entity.

Investigation:

Stucco cladding is a multi-layered system of components, such as weather resistive barriers, flashings, sealants, and drainage plains, that all contribute to the durability and performance of the system as a whole. Codes and standards have evolved in reaction to stucco system failures, and I evaluated the structure for the presence (or lack there of) of currently applied standards and ASTM guidelines. Such details include;

1. Weepscreed - Weepscreed was not present on this residence. A weepscreed is a horizontal strip of metal or plastic that isolates the stuccoed house walls from the foundation and allows moisture to be released from behind the stucco system. Weepscreeds also isolate the stucco from the soil and therefore inhibit the wicking effect of moisture into the stucco which may cause moisture damage to the framing.
2. System thickness - The thickness of the system was measured either by core sampling or the removal of an attachment or by moisture probing. The system thickness on this home was found to be a thickness of 1/2". This system thickness is an approximation based on the limited sampling taken. While this typically does not contribute to leakage, thickness is a function of durability and can have an adverse effect on the anticipated longevity of the stucco system. This is typical of homes of this age, and changing it is impractical at this point unless a wall is to be removed and reclad as part of a remedial repair plan. Typical system thickness can vary greatly.
3. Expansion control joints - This home had expansion control joints. Control joints and expansion/contraction joints are installed in a stucco system to relieve stresses caused by this movement. There are number of variables that determine the quantity and configuration of installed control joints in a system including: the type of construction materials to which the



stucco will be applied, the orientation of the construction, and whether the surface is curved or angular. All adhered cladding systems should have control joints and expansion joints to prevent/control cracking, bulging, and delamination. Typically, the stucco is divided by the expansion control joints in to sections that are 144 square feet or less for code compliance.

4. Head Flashing - Head flashing was not installed on the windows and doors. The purpose of a head flashing above a window or door is to allow moisture to escape and prevent potential pockets of high moisture concentration around the windows.

5. Soft/Caulk joints - Soft joints were installed around the windows and doors. All transitions and penetrations should be caulked with a low modulus sealant. The windows should have a proper soft joint installed that creates a 1/4" separation between the window and stucco. This is to allow for the differential expansion and contraction of dissimilar materials and to provide a seal between the cladding and the window. This is also the cause of many hairline cracks we see in stucco around windows and doors, as the system is unable to absorb the movement between the differing materials.

6. Soffit/Fascia/Rake Intersections - The stucco intersection with soffit and fascia/rake boards were not sealed. Stucco industry details require fascia/rake boards to lap over stucco a minimum 1". If stucco is abutted to fascia/rake it should be sealed to prevent moisture intrusion due to wind-driven rain this is especially important in areas where there is a Gable "A" design. Any area or wall that is peaked is more susceptible to moisture infiltration without the proper details.

7. Kickouts - There were no kickout diverters on this residence. Kickout diverters must be either (a) powdercoated aluminum to prevent a chemical reaction with the stucco or (b) a preformed plastic kickout diverter by dryflect or equal. Many stucco-related water intrusion problems result from the lack of installed kickout flashing or improperly installed kickout flashing. Kickout flashing should be installed where a roof line terminates or intersects with a vertical wall. If no kickout diverter flashing is installed or if it is improperly installed, rainwater and/or snow melt can run down the edge of the roof next to the stucco wall and enter behind the stucco at the point where the roof terminates into the stucco. This will allow substantial moisture accumulation that will eventually cause decay and structural deterioration. Properly installed kickout flashing should be installed at all primary and secondary kickout locations

8. Window Pan Flashings: Although it is impossible to view proper window pan flashing details through the scope of this inspection; based on the lack of other visible flashing details window sill flashings are most likely absent. Window pan flashings prevent moisture from entering the building envelope through the base of an installed window. These provide critical protection from a common point of water entry behind the stucco system. Windows must be removed to install pan flashing details that meet current codes.



Understanding Your Inspection Report:

Outlined below are the moisture readings from the testing. Plywood was used on this home, According to the manufacture moisture readings above 15% are an indication that outside moisture is getting behind the moisture resistant barrier and will promote failure of the structure over time.

Conclusions and Repair Suggestions:

A certified stucco contractor should be consulted to follow the remediation guidelines where indicated. As a preventative measure the sealing guidelines should be followed on the entire property; listed below. Stucco Safe recommends during the repair process that phases of the repairs are documented by a certified quality control inspector to ensure quality installation.

Remediation Guidelines:

Areas where moisture readings exceed 19%, or where the substrate tested (S) for soft or (NR) for No Resistance a certified stucco contractor should remediate the area. When designing a remediation scope, the entire building envelope should be addressed from corner to corner and top to bottom to ensure that the points of moisture intrusion have been sealed and the building envelop has not been breached. Partial repairs of elevations are not recommended as this kind of repair has a very high re-failure rate. Although the random sampling of readings have been taken, these are meant to serve as indications of failure in the building envelope and not just a failure in the areas specifically tested. Repair scope should conform with ASTM C1063, C926, IRC 703 and IBC 1401 standards. Stucco Cladding that has been installed prior to 2003, or any stucco without proper caulk joints, weep screed details, and expansion control joints; has a very high rate of failure. This failure is manifested by moisture infiltration through the building envelope and destruction of the substrate and structural framing members.

Sealing Guidelines:

1. Kerf Cut as necessary to install a bond breaking joint around all windows, doors, penetrations and transitions to dissimilar material (except for roofing shingles). This cut should be 1/4 to 3/8 inch in width.
2. Apply a low modulus sealant into bond breaking joints and transitions and all penetrations. A Dow Corning 790 or similar material should be used. Also, remove down spouts and shutters and apply sealant to the fastening systems, prior to their re-attachment.
3. Omitted kickout diverters, or improperly functioning diverters as noted, must be installed and integrated into the building envelope. This applies to both Primary and Secondary locations.
4. Apply a sealant over the surface of the stucco such as Siloxane PD Weather Seal Or an elastomeric paint. This inhibits moisture entry through the stucco.
5. Clear mulch and landscaping as needed, so that there is a minimum 4" gap between the top of the landscape surface and the bottom of the stucco



1.1 PURPOSE: Enclosed is your Stucco Moisture Inspection. The purpose of this moisture inspection is to help assess the condition of the stucco system by looking for visible installation flaws, inadequate water diversion and sealant failures and conduct random moisture readings using electronic moisture scan 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 is a basic, stucco inspection limited to the following:

1. A visual examination of the condition of the stucco, exterior sealants, flashing, windows, doors, roof-to-stucco transitions, parapets, gutters, deck-to-building connections, stucco terminations and any penetrations through the stucco.
2. Conducting of *random* electronic moisture scanning of the building envelope.
3. Preparing a report of our observations of potential problem areas and recording any high readings found.
4. Providing detailed information on typical moisture-related problems in stucco homes to assist you in maintaining the value of your home.

1.3 LIMITATIONS OF LIABILITY: Because this is a limited inspection, we can make no guarantee, express or implied, that our observations and random moisture readings 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 this inspection company 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 your home has been damaged in areas of high readings without 'probing' and/or removing a core sample of the stucco 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 three months after completion of the repairs to assess the effectiveness of the moisture modifications. This is extremely important. Annual inspections should also be scheduled to ensure that your stucco system remains dry. This way any sealant failures, stucco cracks, etc. can be caught and repaired promptly. Testing and maintaining your 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.





Project Information

OWNER INFORMATION		BUYER INFORMATION	
Owners		Buyers	
Property Address		Buyers Address	
City, State, ZIP		City, State, ZIP	
Phone		Phone	
Owner's Email		Buyer's Email	
Owners Realtor		Buyers Realtor	
Realty Company		Realty Company	
Phone		Phone	
FAX		FAX	
Realtor's Email		Realtor's Email	
PROPERTY INFORMATION		INSPECTION INFORMATION	
Type of Exterior	Hard Coat Stucco	Date of Inspection	07/15/21
Substrate (if known)	Plywood	Inspector	Justin Korenkiewicz
Year Built	2009	Present at Inspection	
Square Footage	5,442	Temperature/Humidity	81/77%
Stories	3	Weather Conditions	Sunny
Type of Windows		Last Rain	2 days prior to inspection.

Inspection Test Equipment					
Test Equipment Description		Test Range			Setting
		Low	Medium	High	
A	Tramex Interior Moisture Encounter	10-14	15-18	> 19	2
B	Tramex Exterior Wet Wall Detector	10 - 20	21-50	51-100	4.5
C	Delmorst Moisture Probe Meter	10-14	15-18	> 19	1
D	Structural Resistance Tester (SRT)	>44 = Pass	<44 = Fail	Higher is better	

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.

Typically, the wood in a functioning wall will read between 6%-14%.

Readings from 15%-17% are regarded as Elevated. Water is getting in, but is not likely to cause extensive harm.

All readings above 17% are drilled an additional time and rechecked to set the probe deeper into the substrate. This insures the moisture has saturated the wood.

At 18% and above, it is imperative that we must do something. Unchecked this level of moisture already has, or likely will cause structural damage to the wood sheathing.

At 29% and above, it has extended well beyond sheathing issues and structural framing members have likely been compromised, the extent of which can not be truly assessed until such times as the stucco has been removed.

A notation of "S or soft" means the substrate could be penetrated with the probes. This means it has begun to lose strength.

A notation of "NR" no resistance means the probe hit nothing behind the stucco. This could be the result of the deterioration of the substrate. There may be some there however it is too weak to pick up with the probes.

Front Elevation 1

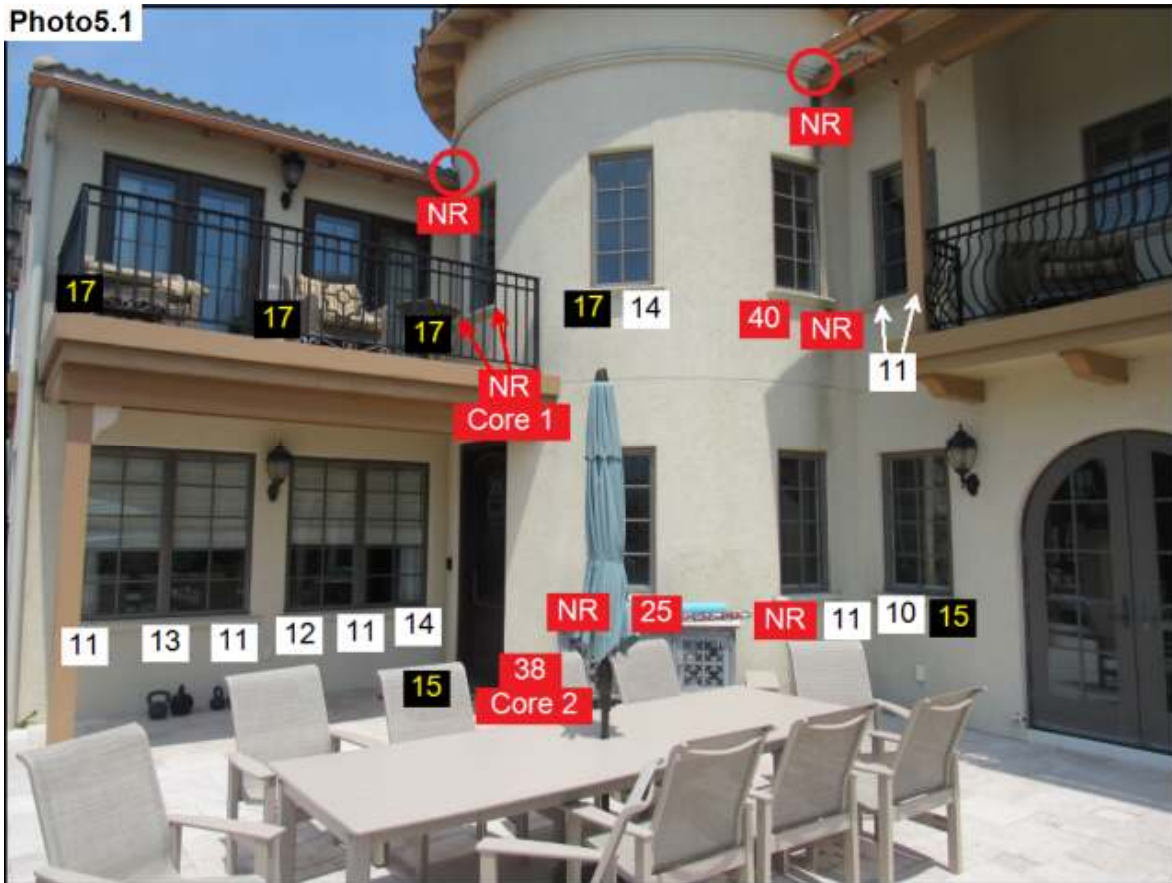
Photo4.1



Item	Item Description	Applies to Entire Bldg	Observations / Comment
	General		Marginal readings were measured on this section.
	Soft Joints/Caulk Details		Soft joints were installed.

Front Elevation 2

Photo5.1



Item	Item Description	Applies to Entire Bldg	Observations / Comment
	General		No resistance readings were measured on this section, consult a certified stucco remediator for repairs.
	Soft Joints/Caulk Details		Soft joints were installed.
	Red Circles		Indicates kickout diverters were not installed.
	Core		Core 1 revealed rotted plywood.
	Core		Core 2 revealed damp plywood.

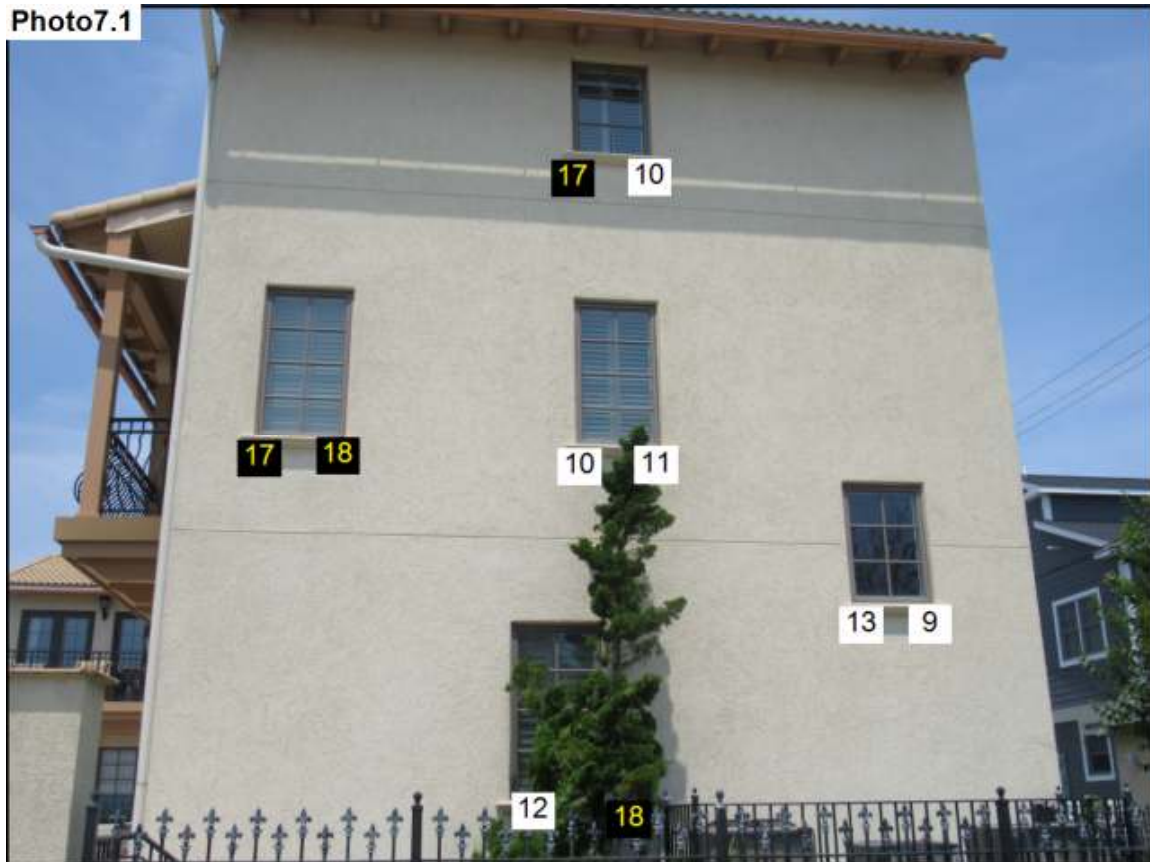
Front Elevation 3

Photo6.1



Item	Item Description	Applies to Entire Bldg	Observations / Comment
	General		Normal readings were measured on this section.
	Soft Joints/Caulk Details		Soft joints were installed.
	RS		Windows are in the roof step flashing, so were not tested.
	NA		Not accessible for testing.

Right Elevation 1



Item	Item Description	Applies to Entire Bldg	Observations / Comment
	General		Marginal readings were measured on this section.
	Soft Joints/Caulk Details		Soft joints were installed.

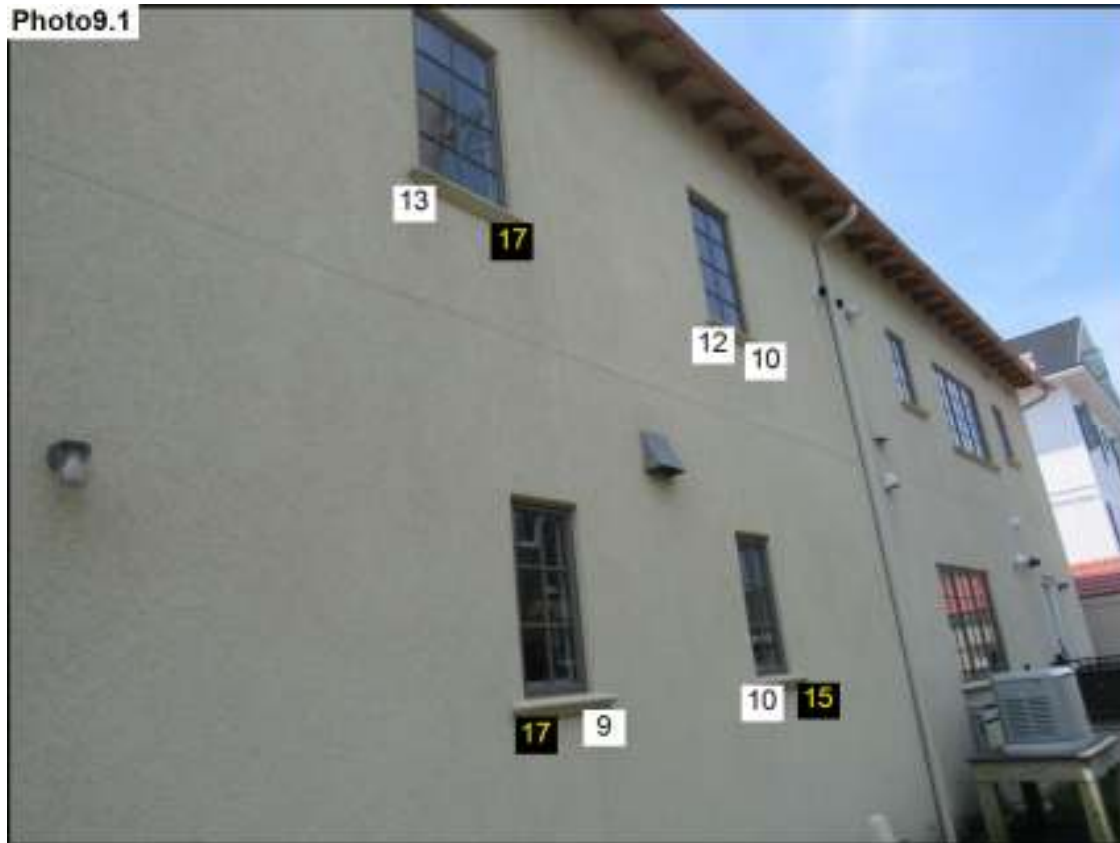
Rear Elevation 1

Photo8.1



Item	Item Description	Applies to Entire Bldg	Observations / Comment
	General		A marginal reading was measured on this section.
	Soft Joints/Caulk Details		Soft joints were installed.
	NA		Window not accessible for testing.

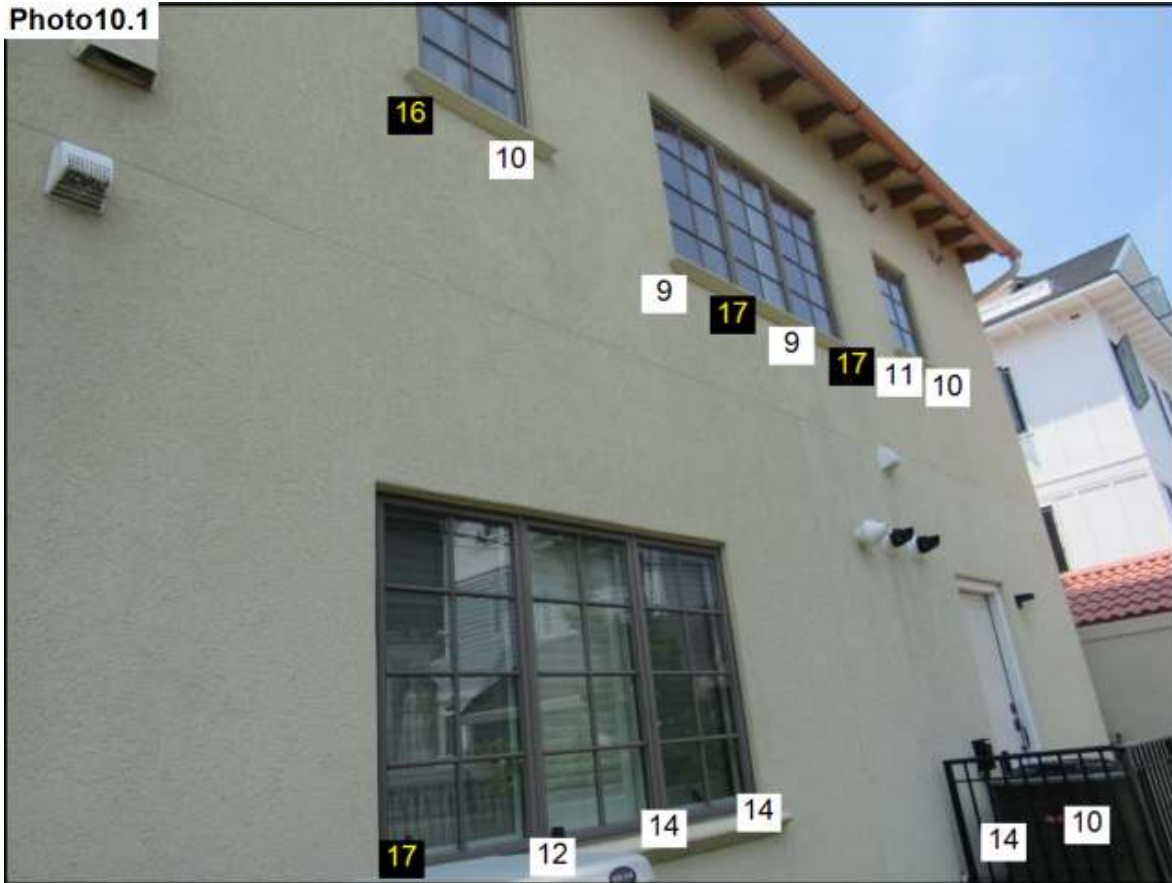
Rear Elevation 2



Item	Item Description	Applies to Entire Bldg	Observations / Comment
	General		Marginal readings were measured on this section.
	Soft Joints/Caulk Details		Soft joints were installed.

Rear Elevation 3

Photo10.1



Item	Item Description	Applies to Entire Bldg	Observations / Comment
	General		Marginal readings were measured on this section.
	Soft Joints/Caulk Details		Soft joints were installed.

Left Elevation 1

Photo11.1



Item	Item Description	Applies to Entire Bldg	Observations / Comment
	General		Marginal readings were measured on this section.
	Soft Joints/Caulk Details		Soft joints were installed.

Left Elevation 2

Photo12.1



Item	Item Description	Applies to Entire Bldg	Observations / Comment
	General		Marginal readings were measured on this section.
	Soft Joints/Caulk Details		Soft joints were installed.

Details

Photo13.1



Soft joints were installed around the doors.

Photo13.2



Head flashing was not installed on the doors.

Photo13.3



Soft joints were installed around the windows.

Photo13.4



Head flashing was not installed on the windows.

Photo13.5



Properly seal all open penetrations.

Photo13.6



Improper termination from stucco to grade, should have a 4" gap.

Details

Photo14.1



Improper termination from stucco to roof, should have a 2" gap.

Photo14.2



Improper termination from stucco to slab, should have a 2" gap.

Photo14.3



Sealant joint was not installed at fascia board.

Photo14.4



Expansion control joints were installed.

Photo14.5



Core 1 revealed rotted plywood.

Photo14.6



Core 2 revealed damp plywood.



3. About Stucco Safe

Stucco Safe is the premier stucco inspection, testing and mold testing company in the Northeastern United States. Our inspectors are highly trained and certified in the investigation of stucco related problems. Stucco Safe prides itself on using the most in depth process available in the marketplace today to identify stucco related issues. Stucco Safe also provides oversight services for remediation projects. When Stucco Safe provides oversight on an approved scope of remediation, Stucco Safe can offer a Stucco Safe Certification for peace of mind on repairs.