



HEDDERMAN SERVICES

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INVASIVE STUCCO INSPECTION

2302 Brun Street
Houston TX 77019

Katharine Heffner

APRIL 27, 2021



Inspector

Phillip Lawlis

TREC#9309 EDI #TX-172

281-355-9911

office@hedderman.com

TABLE OF CONTENTS

1: Hedderman Engineering, Inc.	3
2: Scope Of Inspection	4
3: Introduction	5
4: Project Information	6
5: Probing Process Explanation	7
6: Moisture Probe Analysis 1	8
7: Moisture Probe Analysis 2	9
8: Moisture Probe Analysis 3	10
9: Substrate Integrity	11
10: Condition and Observations	12
11: Additional Information	16
12: Close	17
13: Receipt	18
14: Service Agreement	19

1: HEDDERMAN ENGINEERING, INC.

Information



HEDDERMAN ENGINEERING, INC.

www.heddermanengineering.com Office 281-355-9911 Fax 281-355-9903 office@heddermanengineering.com

04/27/2021

TO: Katharine Heffner

REF: INVASIVE STUCCO INSPECTION

Dear Katharine Heffner:

At your request, a visual and probing moisture stucco inspection of the property located at 2302 Brun Street , Houston TX 77019 by Phillip Lawlis.

Transmitted herewith is the stucco analysis report stating our professional opinions on the current condition of the stucco cladding and substrate materials in tested and/or accessible areas. The scope of our inspection and other important information, particularly in the area of dispute resolution should a question arise, is contained in our Service Agreement, which has been included at the end of this report.

This report was prepared for a buyer or seller in accordance with the clients requirements. The report addresses a single system and the stucco cladding details. While the report may refer to the roof, doors, windows, railings, etc. as these items interact with the cladding, it is not intended as a substitute for a complete standard inspection of the property. Standard inspections performed by a license holder on a TREC report form and/or an engineering inspection company will contain additional information a buyer should consider in making a decision to purchase. While the inspector is a licensed TREC inspector, the type of inspection work being performed is considered specialized and is not regulated by the Texas Real Estate Commission.

Thank you for asking HEDDERMAN STUCCO/HEDDERMAN ENGINEERING, INC. to perform this important inspection work for you. If you have any questions after reviewing this report, please feel free to contact our office.

At your service,

HEDDERMAN STUCCO
Tim Hedderman, President
Texas Firm Number: 7942

2: SCOPE OF INSPECTION

Information

Scope Of Inspection

This is a basic stucco inspection and is limited to the following:

1. A visual examination of the condition of the stucco, exterior sealants, flashings, windows, doors, roof-to-stucco transitions, parapets, gutters, deck-to-building connections, stucco terminations and any penetrations through the stucco.
2. Probing of the substrate behind the stucco by drilling small holes at locations selected by the inspector to determine substrate integrity and to check for moisture intrusion. Only areas safely accessible to the inspector can and/or will be probed. Areas that are not visible and/or readily accessible from a safe vantage point are excluded from the inspection.
3. Conducting of random electronic moisture scanning of the building envelope.
4. Preparing a report of our observation of potential problem areas and recording any high readings found.
5. Providing detailed information on typical moisture-related problems in stucco homes to assist you in maintaining the value of your home.

LIMITATIONS OF LIABILITY:

Because this is a limited inspection, we make no guarantee, express or implied, that our observations and random moisture readings offer conclusive evidence that no installation or moisture problem exist, or that problems found were all inclusive. This inspection company, its employees and any divisions shall not be liable for nonvisible defects, unseen defects, unspecified defects or hidden damage and conditions existing on the subject property and hereby disclaims any liability and responsibility thereof. All parties concerned agree to hold harmless and indemnify this inspection company involving any liabilities that may result.

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.

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, for homeowners who decide to sell their home, annual inspections and maintenance documentation will be a valuable selling tool, providing evidence to show that your home has been inspected and maintained.

3: INTRODUCTION

Information

Introduction

PURPOSE:

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 reading devices. Please note that providing a scope of work for remedial repairs is not the purpose of this inspection. Although this report may include observations of some building code violations, total compliance with codes, specifications, and/or legal requirements is specifically excluded. This also applies to all non-code making bodies, including but not limited to, the Texas Lathing and Plastering Contractors Association and their respective recommendations of building construction details. Further investigation may be needed to determine the extent of water damage, if any, and how to best address any moisture problem that may be indicated by this inspection.

Also excluded from the scope of the inspection are any and all items related to mold and/or all microbial substances. Due to the current limitations of coverage on most homes by the insurance industry in Texas, where damages due to mold and/or other microbial substances may not be covered, we routinely recommend that you have a mold inspection by a qualified professional.

We make no representation regarding the condition of this house other than as contained in this written report. Any verbal discussions concerning this house that were made at the time of the inspection, and not contained in this written report, are not to be relied upon.

It is recommended that you obtain as much history as is available concerning this house. This historical information may include copies of any seller's disclosures, previous inspection or engineering reports, building drawings and/or specifications, bids to perform repair work on the house, knowledge of any drainage problems, receipts from repair work that has been performed, reports performed for or by relocation companies, municipal inspection departments, lenders, insurers, and appraisers. You should attempt to determine whether repairs, renovation, remodeling, additions or other such modifications have taken place at this house.

This report is provided solely for the use of the person to whom this report is addressed, and is in no way intended or authorized to be used by a third party, who may have different requirements, and to whom we have not contracted to perform the inspection. If a third party chooses to use this inspection report, they do so without HEDDERMAN ENGINEERING, INC. permission or authorization, and they do so at their own risk.

4: PROJECT INFORMATION

Information

Property Description at Time of Inspection

Traditional Hardcoat Stucco, Plywood Substrate, OSB Substrate, Slab Foundation, Three Story, Metal Windows, Townhouse

Weather Conditions at Time of Inspection

Weather Conditions - Overcast, 70F-80F degrees, Relatively High Humidity

Orientation - House Facing East

For the purpose of the inspection, North is considered to be the right side of the house.

Inspection Test Equipment For Wood

Delmhorst 2100 Meter, Delmhorst 608 Moisture Pins, Hammer Probe, Hammer Drill, High quality exterior rated sealant, 3/16" Drill bit

Equipment	Test Range	Test Setting
Delmhorst 2100	0-14 Normal	15-17 Elevated
	18-40 High	#1 Wood

Important Note: The test equipment is used to help locate problem areas. It must be understood that the use of test equipment is not an exact science, but rather these proven tools are used to help identify indicators of possible problems. At times, because of hidden obstructions within the wall cavity, the meters will obtain false readings or no readings at all. Some meters will pick up the presence of metals, wiring, unique wall finishes, etc. Positive moisture readings do not always mean there is a problem, nor do negative moisture readings necessarily mean there is not a problem. We do not use the equipment to determine 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 further investigation.

Persons Present During Inspection

Owner

Age of Home - HAR

According to HAR, the house was built in 1997.

5: PROBING PROCESS EXPLANATION

Information

Probing Process

Step by Step Probe Inspection Process

The first part of the invasive stucco inspection is a visually survey of the stucco system. During the visual inspection we identify locations that are known to be susceptible to water intrusion, also taking note of any other areas that appear to be vulnerable to water intrusion or show evidence of water intrusion. These areas are then probed to determine the moisture content of the substrate behind the stucco and the integrity of those materials. After the probing process is complete, we seal up the probe points with a high quality exterior sealant. The sealants we employ are the same type sealants that were used by the builder to seal all openings and penetrations in the stucco system during construction.



Identify location to probe



Drill two small (3/16 - 1/4") probe points for moisture probe access



Take moisture reading with meter



Seal holes with approved exterior caulk

6: MOISTURE PROBE ANALYSIS 1

Information

General: East Elevation



Probe	%	Moisture	Substrate	Note
1	12	Low	Firm	Some minor softness at bottom of wall, probed above and firm
2	11	Low	Firm	
3	11	Low	Firm	
4	12	Low	Firm	
5	11	Low	Firm	
6	12	Low	Firm	Some minor softness at bottom of wall, probed above and firm
7	8	Low	Firm	
8	9	Low	Firm	

7: MOISTURE PROBE ANALYSIS 2

Information

General: North Elevation 1



Probe	%	Moisture	Substrate	Note
1	11	Low	Firm	
2	12	Low	Firm	
3	14	Low	Firm	

8: MOISTURE PROBE ANALYSIS 3

Information

General: North Elevation 2



Probe	%	Moisture	Substrate	Note
1	11	Low	Firm	
2	12	Low	Firm	
3	12	Low	Firm	
4	11	Low	Firm	
5	11	Low	Firm	
6	10	Low	Firm	
7		No Reading	Firm	Substrate firm to touch along bottom of wall

9: SUBSTRATE INTEGRITY

9.1	Substrate Integrity
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Information

Substrate Integrity : Substrate Integrity - No Damage Observed

The substrate was observed to be "firm" at the random areas that were probed during the course of the stucco inspection. Also, no elevated moisture readings were observed in the substrate where we probed at the time of the inspection. It is noted that the moisture readings and substrate conditions that were observed represent our findings at the time of the inspection and are subject to change depending on the maintenance of sealants, paint coating, flashings, and clearance. It is generally recommended that routine maintenance be performed every few years by a professional stucco contractor and that the stucco be checked by a stucco specialist and/or water proofing specialist.

10: CONDITION AND OBSERVATIONS

Information

Stucco Cracks: No Significant Cracks Observed

No significant cracks were observed at the time of the inspection.

Flashings : Details Present

J-flashing, Window head flashing

Metal flashing details are installed in the stucco system to promote proper moisture shed and to allow moisture to drain properly from the stucco system. The following flashing details were present in the stucco system:

Sealants: Sealants - Generally good condition

The sealants in the stucco appeared to be in generally good condition at the time of the inspection, including at windows, doors, ascents, flashings, and wall penetrations. It is stressed that exterior sealants play a key role in preventing water intrusion. It is recommended that all sealants be maintained routinely.



**Control Joints: Control Joints Present**

Control joints are present throughout the house, including below windows and other necessary areas. Control joints are planned breaks in the stucco system which help prevent cracks and/or compressions in the stucco surfaces, and are a good construction detail.

Paint Condition : Stucco Finish Coat / Paint - Acceptable

The stucco finish coat/paint was in generally acceptable condition at the time of the inspection.

Observations

10.2.1 Flashings

NO DRAINAGE RELIEF - NO DAMAGE

An overhanging wall was observed that was enclosed with stucco and the overhanging wall did not have a means for moisture that enters into the wall to drain out. The lack of adequate drainage relief below an overhanging wall can allow moisture to be trapped inside the wall cavity and lead to wood damage, mold growth, and/or other moisture related conditions. When areas were tested no damage or moisture were found and therefore no repairs are recommended at this time. It is recommended that sealants and openings above the areas be maintained.

10.6.1 Metal Accessories Rusted

METAL ACCESSORIES RUSTED

Trim bands

Rust was observed on the metal stucco assemblies. Stucco is constructed with metal accessories, and rust is evidence of excessive moisture in the stucco veneer. It is recommended that a stucco contractor be contacted to repair the rusted accessories and to repair any other secondary damage.

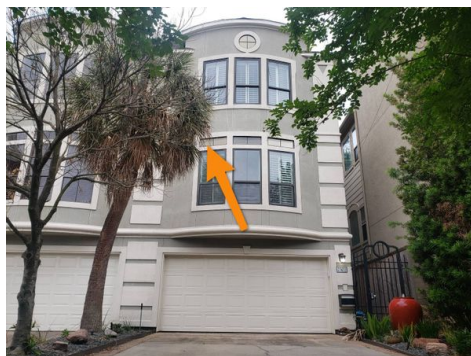
Obtain Cost Estimate



10.7.1 Other Conditions of Note

WINDOW GASKETS

Window gasket was loose and missing at the transom window at the front of the house. Have a window company replace and or seal window as needed.



10.8.1 Paint Condition

MICROBIAL GROWTH PRESENT

Microbial growth / algae was observed on the stucco surface. The substance should be removed and the stucco should be cleaned as necessary.

Obtain Cost Estimate



11: ADDITIONAL INFORMATION

Information

Additional Information

It is recommended that a follow-up inspection be completed in 6 to 8 months after all repairs are completed to ensure that the moisture levels remain within an acceptable level and proper corrections have been made to prevent moisture intrusion and wood rot.

This report only identifies the condition of the structure at the specific locations indicated. The locations of probing were determined by the inspector according to the probable areas that appeared to be vulnerable to moisture intrusion and in accordance with industry standards. Due to the inability to utilize the Tramex Wet Wall Detector on non EIFS systems (i.e., Traditional Hardcoat, etc.) a representative number of windows and various other areas that are prone to water intrusion were tested for elevated moisture by using a probe meter. The recommendations for corrections to prevent moisture intrusion are given in accordance with our best judgment, previous inspection experience, previously witnessed repairs, and knowledge gained from our personal experiences and other knowledgeable persons in the industry. No judgment is intended, or given, for any area that was not tested or reported.

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 in the area tested at that given moment in time. These readings are not represented to be the absolute moisture content of the full depth of the substrate.

These moisture readings are not represented to be the absolute moisture content of the full depth of the substrate. Rather, this documentation is represented as a moisture and wall substrate evaluation of the current conditions. Furthermore, the investigations, opinions, and recommendations reported within this document are not represented as an "inspection" sanctioned by the Texas Real Estate Commission (TREC) even though the inspector is a TREC licensed inspector.

This report was prepared for either the prospective buyers or current owner. Its intended use is to assist in their efforts to identify, and at their discretion, to request action to mitigate potential environmental exposure risks, construction and/or maintenance deficiencies prior to buying or selling this property.

12: CLOSE

Information

Close

Opinions and comments stated in this report are based on the apparent performance of the items included within the scope of the inspection, at the time of the inspection. Performance standards are based on the knowledge gained through the experience and professional studies of the inspector. There is no warranty or guarantee, either expressed or implied, regarding the habitability, future performance, life, merchantability, and/or need for repair of any item inspected.

At your service,
Tim Hedderman
Registered Professional Engineer #51501
Texas Firm Number: 7942



13: RECEIPT

Information



HEDDERMAN ENGINEERING, INC.

www.heddermanengineering.com Office 281-355-9911 Fax 281-355-9903 office@heddermanengineering.com

04/27/2021

TO: Katharine Heffner

REF: Inspection of the property at 2302 Brun Street , Houston TX 77019.

Total cost of inspection: \$650.00

Total Paid: \$650.00

Total Due: - 0 -

14: SERVICE AGREEMENT

Information

HEDDERMAN ENGINEERING, INC.

Office: 281-355-9911 Fax: 281-355-9903

office@heddermanengineering.com www.heddermanengineering.com

Real Estate Inspection Service Agreement

NOTICE: THIS AGREEMENT IS INTENDED TO BE A LEGALLY BINDING CONTRACT - PLEASE READ IT CAREFULLY

NAME OF CLIENT(S): Katharine Heffner

DATE OF INSPECTION: 04/27/2021

PROPERTY ADDRESS: 2302 Brun Street , Houston TX 77019

Purpose of inspection

The purpose of the inspection is to help in assessing the condition of the stucco and substrate material, to visually view the stucco system looking for installation flaws, inadequate water diversions, sealant failures and perform a moisture analysis using a probing method to check moisture levels in the substrate behind the stucco. Although this report may include observations of some building code information, compliance with codes, specifications, and/or legal requirements is specifically excluded. This also applies to all non-code making bodies, including but not limited to, the Texas Lathing and Plastering Contractors Association and their respective recommendations of building construction details. Since building codes change every few years, our inspections are not done with the intention of bringing property into compliance with current code requirements or current standards. Rather, the standard of our inspections is a performance standard to determine if the items inspected are performing adequately at the time of the inspection, or are in need of repairs. It is pointed out that other engineers/inspectors may have contrasting opinions to those given in this report.

It is not within the purpose and/or scope of this report to determine the insurability, habitability, merchantability, future performance, suitability of use, economic life span, and/or issues unnamed in this report. This report is not an insurance policy, neither is it an expressed nor implied warranty and /or guarantee as to future life and/or continued performance of the items inspected. Our inspection and report are intended to express the inspector's perceived impression of the apparent performance of the inspected components and systems viewed on the date of the inspection. Our intent is to reduce your risk associated with this transaction, however we cannot eliminate all risk, nor assume your risk. Any items pointed out as in need of repair or further investigation should be evaluated by a qualified repair specialist or service company

PRIOR TO CLOSING ON THE PROPERTY.

It is recommended that you obtain as much history as is available concerning this property. This historical information may include copies of any seller's disclosures, previous inspection or engineering reports, building drawings and/or specifications, bids to perform repair work on the property, receipts from repair work that has been performed, reports performed for or by relocation companies, municipal inspection departments, lenders, insurers, and appraisers. You should attempt to determine whether repairs, renovations, remodeling, additions or other such activities have taken place at this property.

Scope of inspection

The scope of the inspection includes limited, visual observations at the exterior of the structure, and the attic (if applicable) as viewed only from the areas determined by the inspector to be safely accessible. A visual examination of the condition of the stucco, exterior sealants, flashings, windows, doors, roof-to-stucco transitions, parapets, gutters, deck-to-building connections, stucco terminations and any penetrations through the stucco. The scope also includes conducting of moisture probing of the building envelope at areas the inspector chooses to probe based on inspectors judgement and experience. We will prepare a report of our observation of potential problem areas and record any high moisture readings found. Only those items readily accessible and visible at the time of the inspection will be included in this report. Disassembly or removal of any portion of the structure is beyond the scope of this inspection.

Limitations of Inspection

A visual inspection with probing of the stucco will generally produce a competent assessment of the current condition of the stucco system, provided repairs have not been performed which would cover distress patterns normally produced by problems. Because the inspection procedure is a limited inspection, however an inherent residual risk remains that undiscovered problems exist and/or future problems will develop. We can make no guarantee, express or implied, that our observations and random moisture readings offer conclusive evidence that no installation or moisture problem exist, or that all problems were found. 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 and responsibility thereof. All parties concerned agree to hold harmless and indemnify this inspection company involving any liabilities that may result.

This report is provided solely for the use of the person to whom this report is addressed, and is in no way intended or authorized to be used by a third party, who may have different requirements, and to whom we have not contracted with to perform an inspection. If a third party chooses to use this inspection report, they do so without HEDDERMAN STUCCO/HEDDERMAN ENGINEERING, INC. (HS/HEI) permission or authorization, and they do so at their own risk.

If this inspection is prepared for a buyer or seller in accordance within a real estate transaction it is noted that the inspection addresses a specific system, which is the stucco cladding and details. While our report may refer to the roof, doors, windows, railings, etc. as these items interact with the stucco cladding, it is not intended as a substitute for a complete standard inspection of the property. Standard inspections performed by a licensed Inspector on the TREC report form and/or from an engineering inspection company will contain additional information a buyer should consider in making a decision to purchase. While the inspector may be a licensed TREC inspector, the type of inspection work being performed is considered specialized and is not regulated by the Texas Real Estate Commission.

Dispute Resolution

In the event of a complaint concerning the inspection services provided pursuant to this agreement, Client must notify Hedderman Stucco/Hedderman Engineering Inc. in writing of such complaint within ten (10) business days of the date of Client's actual discovery and thereafter allow a prompt re-inspection of the item relating to the claimed condition. Client further agrees that client and he/she/it's agents, employees or independent contractors will make no alterations, repairs or replacements to the item complained about prior to a re-inspection by HEI as agreed above. You agree that failure to comply with this procedure shall result in your express release of all claims Client may have against HS/HEI, known and unknown, related to the item complained about and any related alleged act or omission by Hedderman Stucco.

Mediation:

In the event a dispute, controversy or claim arising out of or relating to this agreement, the inspection, or the report resulting from these inspection services, and assuming the dispute cannot be settled through direct discussions between the Client and HS/HEI, the parties agree to endeavor first to settle the dispute by mediation before resorting to arbitration. If the mediation does not result in a settlement of the dispute, then any unresolved controversy shall be submitted to binding arbitration, as set forth below. The parties shall share equally the costs of the mediator.

Statute of Limitations

The parties agree that no claim, demand, or action, whether sounding in contract or in tort, may be brought to recover damages against HS/HEI, or its officers, agents, or employees MORE THAN TWO YEARS AND ONE DAY AFTER THE DATE OF THE INSPECTION OR THE DATE ANY PURPORTED CAUSE OF ACTION ARISING OUT OF THE INSPECTION ACCRUES. TIME IS EXPRESSLY OF THE ESSENCE HEREIN. Client understands that this time period may be shorter than otherwise provided by law.

Acceptance of Report

By signing I confirm that I have read, understood, and agree to the above pre-inspection service agreement, and that I agree to be bound by these terms and conditions. In the absence of Client to sign this service agreement prior to or at the time of the inspection, then acceptance of the report and/or payment for the inspection shall constitute agreement with all of the terms of this agreement. The report to be prepared by inspector shall be considered the final and exclusive findings of the inspector regarding the inspection of the property. Client shall not rely on any oral statements made by the inspector prior to issuance of the printed report.

NOTE: IF THE INSPECTION IS CANCELLED LESS THAN ONE FULL BUSINESS DAY BEFORE THE SCHEDULED TIME, THE CLIENT WILL BE CHARGED ½ OF THE ORIGINAL INSPECTION FEE AND AGREES TO PAY SUCH PENALTY FEE.

I HAVE READ AND ACCEPT THIS AGREEMENT