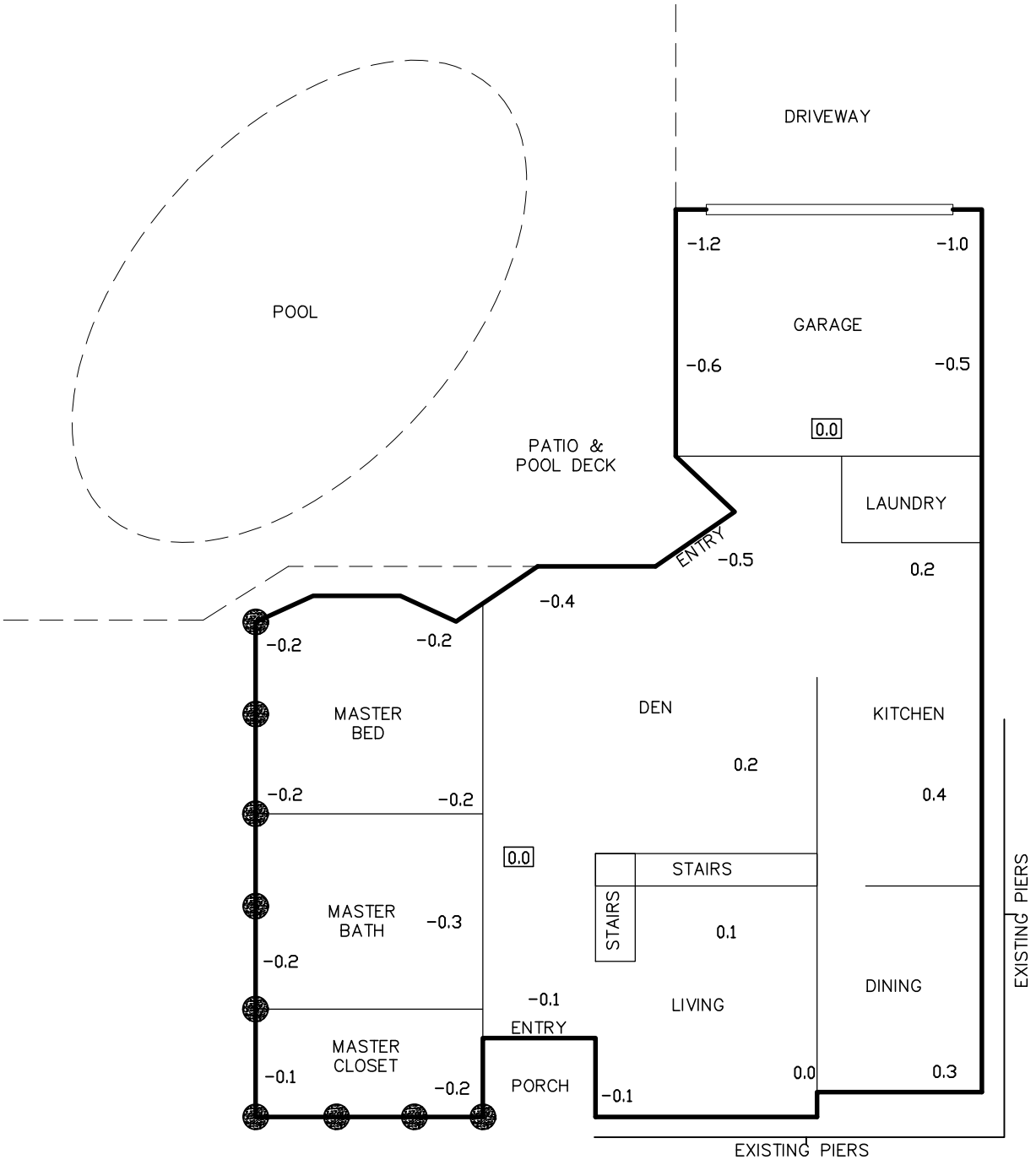


LEGEND

INSTALLED PIERS

A&M ENGINEERING
F-7599
972.968.7123 972.591.4690 (Fax)
www.anm-eng.com

108 Sierra Ct
Allen TX 75013
Post Repair Elevations

DATE	PROJECT NO.
12/29/2025	AM25-1334
SCALE	DRG. #:
N.T.S.	FR3

108 Sierra Ct, Allen - Foundation Repair Proposal/Contract

FROM
Ryan Williams
Stratum Foundation Repair
5100 Eldorado Pkwy
#102-590
Mckinney, TX 75070
stratumfoundationrepair.com

PHONE
214-302-8559

FOR
Ed Luter

EMAIL
Eluter@dcccd.edu

QUOTE NUMBER
15945

DATE
November 19, 2025

EXPIRY DATE
December 19, 2025 at 8:00 PM

Sales Representative Name: Ryan Williams Phone: (972) 757- 7357	
Estimate Form Please see the attached form detailing pier locations. 108 Sierra Ct Allen EF	
Stratum Installation Video http://bit.ly/StratumFoundationRepair	
Stratum Information Packet See attached PDF Stratum Presentation	
Procurement and Administration Procuring Engineering reports, Post Leak Testing, necessary permits and utility locates (811)	1,200.00 x 1 1,200.00
☐ Credit Card Convenience fee Check this option if you will be paying with a credit card. THERE WILL NOT BE AN OPTION TO PAY WITH A CREDIT CARD ON YOUR INVOICE IF YOU DO NOT CHOOSE THIS OPTION.	157.00 x 1 157.00 Not selected
☐ Financing Option Your Estimator has presented you with financing options and you want to finance your project. There are NO DISCOUNTS ON A FINANCED REPAIR. MAKE SURE THAT YOU DESELECT THE CHECK/ACH DISCOUNT FOR THE CORRECT PRICING. If you do not remove the discount for Check/ACH Discount and end up financing your contract price will be automatically changed to the price without the discount. If you are financing your repairs you will need to get approval BEFORE we can schedule your repairs. No repairs with financing will be scheduled until the customer has been approved by the finance company.	Not selected
St1+ (Exterior) St1 Pier System- 1ft of steel pipe then transition to concrete -Exterior. Driven to refusal.	450.00 x 9 4,050.00

Options selected	0 of 2
Total USD	$5,250.00

Special Provisions

Please sign and return prior to calling the office to schedule work. **Full payment is due on the last day of pier installation, the foreman will take your payment before he leaves the home. There will be a $100 administrative/late fee if the invoice is not paid in full on the day of pier installation. If the house is going to be vacant prior arrangements must be made with the office (214-302-8559) for payment to be made on the work day before the crew leaves the site. *PLEASE NOTE: ACH PAYMENTS ARE FREE! CREDIT CARDS WILL BE ASSESSED A 3% CONVENIENCE FEE.** We are not currently accepting cash payments. **Customer is responsible for clearly marking plumbing clean outs in the yard before work is begun so they will not be covered by dirt. No Final reports will be released until payment for work completed has been PAID IN FULL. ALL PIER INSTALLATIONS REQUIRE A FINAL ENGINEERS REPORT FOR WARRANTY VALIDATION. If the final Engineers report is not included in the quote above *the customer is responsible for scheduling, obtaining and submitting to Stratum Foundation Repair the final report from a Structural Engineer including final measurements for warranty validation.**

General Provisions

This price includes mortar and caulk patching in the area of work only with the installation of our ST systems. All material is guaranteed to be as specified, and the above work to be performed in accordance with the drawings and specifications submitted for above work and completed in a workmanlike manner. Any alteration or deviation from above specifications involving extra costs will be executed only upon written order, and will become an extra charge over and above the contract. By signing this agreement you are saying the above prices, specifications and conditions are satisfactory and are hereby accepted. You are also stating that you are the legal owner of the property being repaired as of the date of this agreement. The Company is authorized to do the work as specified. Payments will be made as outlined above. **Any contracts over $10,000 will require a 50% deposit be paid 7 days before the work is scheduled to begin. THERE IS NO WARRANTY IN EFFECT UNTIL THE FINAL INVOICE HAS BEEN PAID IN FULL**

General Conditions

1. The work to be performed under this contract is designed to attempt to return the foundation to as near its original horizontal position as possible. The house will be lifted until, in the sole opinion of Stratum Foundation Repair, herein after referred to as COMPANY, further raising will produce or create unacceptable damage to the foundation or structure. The complete leveling of the affected areas should not be expected. Homes are often built out
of level. In addition, fully leveling structures that have suffered from foundation movement often is not economically reasonable. Some floor slopes and signs of distress may remain in certain areas of the home. Positive drainage and proper moisture content around the perimeter of the home should be maintained, and trees adjacent to the foundation are recommended to be removed or a root barrier installed.

2. The stabilization or stopping of foundation settlement can and may reverse the damage already done to the foundation and structure and can and may cause or create new damage by movement or lack of movement.

3. IT IS ACKNOWLEDGED AND AGREED BY OWNER THAT THE COMPANY is **not** obligated to repair or replace any damage as a result of the work being completed whether it is exposed, concealed, or buried, to the foundation, structure, floors (we do not do any carpet re stretching if carpet needs to be moved, or if carpet needs to be removed or cut the owner has the option to do so before the repairs, The company WILL NOT be responsible for any imperfect carpet cuts), plumbing*, roofing, electrical wiring, other portions of the structure and its systems, sprinkler systems, furniture, fixtures, furnishings, landscaping, vegetation, wood or other decks, spas, or personal property without regard to when or where said damage occurs. **Owner must have these items removed from the excavation area before Stratum arrives to do the repairs or Owner will need to have these systems repaired after the work is completed at their expense.** The company will patch the sprinkler system if cuts need to be made in the lines as a result of pier placement, so long as the issue is discovered **while the crew is on site and the break or damage occurred during Stratum's repairs and the damage was caused by Stratum.** Stratum performs a test on the sprinkler system prior to and after the foundation repairs (assuming homeowner is home to turn on system). It is the responsibility of homeowner to make sure Stratum has access and ability to run the sprinkler system for both pre and post tests. Stratum employees are not professional sprinkler repair technicians, if you are unsure about the sprinkler patches done during the foundation repair process it is the homeowners responsibility to have a professional assess the system and make any further repairs to the system. Stratum does not take any responsibility for the sprinkler system or any patches after we leave the premises, the homeowner will be fully responsible for any issues arising from the sprinkler system after we leave the property on the work day. Please remove all items from the walls in the area to be lifted. Please remove exterior lighting from the work area before the work is to start, we will not be able to replace any exterior lighting. **We will transplant small shrubbery at the point of installation but we cannot guarantee that it survives. Large bushes may have to be removed completely as we do not have the capability to remove and replace large bushes. If bushes and or vegetation are valuable to you please have a landscaper remove them before work is performed and replace them after work is complete.**

4. If spread footings, builders and/or drilled piers are discovered after work has begun and it is necessary to remove or cut them loose from the foundation, an additional fee of $100.00 will be due for each spread footing, builder, or drilled pier that must be removed or cut off from the foundation.

5. If after work has begun, it is discovered that the foundation has been constructed of substandard materials and lacks the structural strength necessary to properly transfer the load imposed by underpinning, there may be an adjustment in the contract price and scope

of work or possibly stoppage of work and cancellation of the contract. Substandard construction is usually not discovered until work has begun and possibly not until a lift is attempted.

6. Owner shall supply COMPANY with water and electricity at owner's expense. **COMPANY must have access to the breaker box at all times and must enter the interior of the dwelling at the time it is lifted.** If no electricity is provided homeowner will be billed an additional $200 to cover the use and expense of a portable generator. If no water is supplied COMPANY will no longer be responsible for compacting the holes properly.

7. Interior pier locations will be determined at the time of installation. If the home is a slab our intention is to install the piers underneath interior grade beams. It is impossible to know where a home's interior grade beams are located, or if they exist at all until they are located on site. Testing the floors for grade beams may cause damage to hard flooring in the test areas. We do try to locate beams with as little damage as possible but flooring may be damaged in test areas and it is possible that flooring in the entire room will have to be replaced after the beams are located, flooring cut and repairs completed. Signing this contract affirms that the owner understands that there will be damage to any hard flooring in repair areas and there is a very real possibility that flooring will have to be replaced in its entirety. If no interior grade beams are located in the area where piers are needed Stratum will install steel angle beams under the slab. The customer will be billed $200/ea if angle beams are installed.

8. Soil excavation- We are replacing existing soil with a large block sitting near the top that will leave extra soil that can't be compacted back into the ground at the same level. In most cases the soil around the area the house was sinking is low to begin with and we are able to slope the soil away from the home at the recommended grade for proper drainage. We will place the extra dirt around your foundation to assure a positive drainage situation. There are also some cases in which the dirt in the compacted holes will shrink depending on the season and how long the soil was sitting out for. You can use the extra soil extra soil left onsite to fill the holes back up to a proper height, **we are not able to come out to fill any holes in the future. If you want the extra soil removed, we can do that, but don't recommend it. We will not bring the soil back, as we take it straight to the dump. We will also not come back to remove extra dirt at a later time.**

9. This contract serves as a model release giving Stratum Foundation Repair the irrevocable right to use the video and/or photographs in all forms, and in all media and in all manners, without any restriction as to changes or alterations, for advertising, trade, promotion, exhibition, or any other lawful purposes. Stratum Foundation Repair can grant use of the images to third parties and all compensation for use and credit for the images remain the property of Stratum Foundation Repair. Client waives any right to inspect or approve the video (s), photograph(s), finished version(s) incorporating the video(s) or photograph(s), or the use to which it may be applied, including written copy that may be created and appear in connection therewith. This release is binding on the Client, their legal representatives, heirs and assigns.

Note: COMPANY requires that all plumbing lines, fresh water and sewer, attached to the home be tested after any foundation work is done. The Owner is responsible for having the tests performed unless testing is included in the repair specifications listed on the front of the agreement. STRATUM DOES NOT PERFORM A PRE WORK LEAK TEST- IF THE OWNER WANTS ONE DONE THEY MUST HAVE IT COMPLETED THEMSELVES. If the test is included in this contract and the owner has been non responsive to the plumbers attempts to schedule the leak test Stratum will not be responsible for refunds of the post leak test and will there will be * NO WARRANTY IN EFFECT * until a complete leak test is performed. *It is the customers responsibility to contact Stratum in the case that they have not heard from the plumber within a week of work completion to schedule the test. It is also the customers responsibility to make sure that sewer cleanouts are marked and accessible to the plumber for the sewer test, to

meet the plumber at the property to test the plumbing and if the plumber does the test without the owner present it is the owners responsibility to request the leak test results from the plumber. Any plumbing leaks detected after the foundation repairs have been completed are the sole responsibility of the Owner and must be repaired within 60 days or the foundation warranty will be voided. To properly test a sewage line, it is necessary to have a working sewage clean out. **If a suitable clean out is not found by the plumber after a reasonable search on the first visit, the test will be deemed not able to test and will be considered completed by the plumber with regards to the leak test included on this contract. A separate sewer leak test will need to be completed and submitted to Stratum by the owner at their expense for warranty validation. If the owner wants to have the test actually completed, they need to have a clean out installed at the Owners expense.**

Lifetime Warranty

It is the intention of the COMPANY to permanently stabilize the settlement of that portion of the foundation covered by this contract (the area where pilings are installed) for the life of the structure that it supports. This warranty applies to only the work performed by COMPANY described as LIFETIME WARRANTY WORK under the terms, provisions and conditions of this contract. This warranty does not cover upheavals. This warranty only applies to our P2, St1, St3 and St10 systems and does not apply to any other services or products. Piers installed by another company and adjusted by Stratum are not included in the Lifetime warranty, there is no warranty on these adjustments.

DIRECTIONS FOR FILING A CLAIM

If you believe you have a warranty claim please provide the following to COMPANY: 1- A leak test showing no current/active leaks performed in the last 30 days. 2- A “Level B” report from a licensed structural engineer. The report must state two things, 1- that the home requires adjustments in the exact locations of COMPANY’S piers, and 2- that the cause of the problem is the piers themselves. There are many causes of settlement and Stratum does not warrant against all of them. The Engineer must state that the piers installed by Stratum have ‘failed’. When working with your Engineer please advise him that you need a cause of settlement stated in his report. Simply showing that the house has settled does not constitute a valid warranty claim.

Once you have obtained all the proper documentation (no warranty claim can be started without ALL the above documentation) please visit the warranty page on our website for information and instructions on how to submit it or send your documentation to warranty@stratumfoundationrepair.com. Please include your name, address and current phone number. Stratum will review the documentation and contact you within 7 business days to let you know if your claim is accepted or denied. If your claim is approved adjustments will be done at the rates listed below. If your claim is denied you may still be eligible to have your piers adjusted at 50% of the original cost.

If you wish to have Stratum inspect the property instead of having a Structural Engineer, then a $200 inspection fee would be required.

Warranty adjustment rates: P2: $100/pier, St1: $0/pier, St3: $0/pier, St10: $0/pier, Any Interior Pier: $200/pier

THIS WARRANTY SHALL BE NULL AND VOID IF:

1. Full payment is not made within 30 days of the specified due date.
2. An additional story is added to the structure or changes of a similar scope are made, without prior written approval of COMPANY, when such changes would affect loads on the foundation.
3. The structure is sited on a fault or is affected by an earthquake.
4. Underground facilities or swimming pools are installed within a horizontal distance from the foundation equal to or less than their depth.
5. The foundation is undermined (i.e. soil slumping, eroding, plumbing leaks, creek beds, excavations, groundwater, improper drainage, etc.)
6. Any accidental or intentional damage, terrorism, fire, flood, windstorm, earthquake or other acts of God.
7. Structure is not reasonably maintained (i.e. proper or controlled watering, etc.)
8. Maintenance recommendations provided by a structural engineer or the COMPANY are not followed.

TRANSFER OF WARRANTY

COMPANY requires the transfer of this warranty to the new homeowner within 30 days of closing at a fee of $225. If the warranty is not transferred to the new owner there WILL NOT be any warranty in effect on the property. Stratum will allow one free transfer within 6 months of foundation work completion. At the time of payment and transfer Stratum will provide the new owners with all documents related to the work completed by this

agreement. This includes, but isn't limited to, this agreement, paid invoice, and engineering reports. COMPANY expects that the new owners continue to implement the maintenance recommendations made by the structural engineer and COMPANY. Ignorance of the terms & conditions laid out by this agreement will not be an acceptable excuse for not following the terms & conditions. COMPANY will provide any owner a maintenance guide to better help them take care of their foundation at the time of the warranty transfer.

Other Conditions

ARBITRATION OF DISPUTES
With the exception of debt collection, the owner and COMPANY agree that any dispute, or lawsuit related in any way to this
agreement or the work related thereto, shall be resolved by mandatory and binding arbitration administered by the American
Arbitration Association (AAA) in accordance with this arbitration agreement and under the commercial arbitration rules of the AAA with the stipulation that in the event of arbitration, the arbitrator shall require the losing party to pay the winning party's costs, including reasonable attorney's fees, and the arbitrator shall be an engineer or builder with experience in building, designing or analyzing residential foundations. Owner and COMPANY agree that, in any arbitration proceeding, COMPANY'S liability shall be limited to the amount paid to the COMPANY by the owner under this contract.

DEBT COLLECTION (INTEREST, PENALTIES & LATE FEES)
The COMPANY can and will utilize all remedies allowed by law when it comes to the collection of unpaid balances. A $50 late fee will be assessed for any payment that is not paid within 1 business day of the last day of installation date and interest will be charged at a rate of 15% per month of the balance due. Any check including electronic checks that are cancelled or not able to be cashed will be charged a bad check fee of $35. Mechanics liens will be filed on any property that work is completed on and not paid within 2 weeks from the date the work is completed. All costs associated with the collection of this debt, court costs, attorneys fees and county filing fees, will be responsibility of the owner.

CANCELLATION / RESCHEDULE POLICY
A customer may cancel/reschedule an agreement with COMPANY at any time by providing a written request by email to stratum@stratumfoundationrepair.com. Any cancellations must be done at least 7 days in advance of the original work date otherwise there is a $500 fee to cancel within 7 days of the original work date. The homeowner will also be responsible for any extra charges incurred on behalf of the project prior to cancellation (example: Initial Engineers report and permit fees). Receipts will be provided upon request.
TERMINATION
The COMPANY may terminate this contract and warranty at any time by paying to the current owner an amount equal to the total payments made under the original contract or a mutually agreed on amount. No changes to this document will be valid unless approved in writing by both parties.

Reviews See all reviews

★★★★★

Stratum just completed my foundation repair, and I can't say enough great things about their teams' prompt responsiveness and professionalism. They

★★★★★

Stratum provided a professional estimate, walked us through all of the information and details. They were upright and professional and the quote

★★★★★

Stratum repaired the foundation of my property in March 2023. They were professional, answered all my questions and did exactly what they said they

kept me informed of everything and everyone to anticipate during the process.…

by Nicole Stewart

was competitive. The actual work was done by a very large team that worked so…

by Michael Muldowney

were going to do, like they said they were going to do it and when they said…

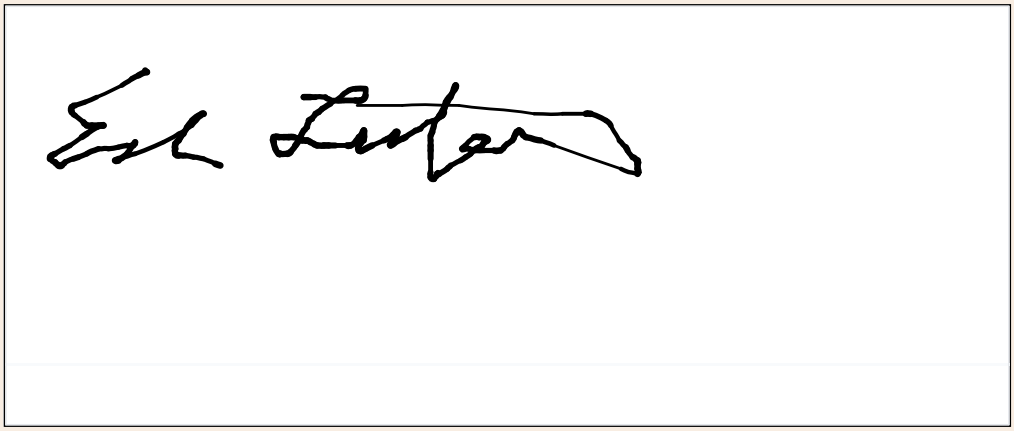
by Liliana Garland

108 Sierra Ct, Allen - Foundation Repair Proposal/Contract

Total USD **$5,250.00** (0 of 2 options selected)

Additional comments

Signature



By clicking Accept Quote, I **Ed Luter** agree to and accept this quote, on November 21, 2025 at 4:31 PM.

ACCEPTED

A&M

ENGINEERING, LLC

December 3, 2025

Attn.: Mr. Ryan Hise
Stratum Foundation Repair

Re: Initial Foundation Evaluation
108 Sierra Ct.
Allen, TX 75013

1.0 Introduction:

This report presents the engineering findings after a foundation evaluation performed at the subject property. The evaluation was conducted in general accordance with the procedural guidelines for a "Level B" investigation as defined by the Texas Section of the American Society of Civil Engineers (ASCE) Guidelines for the Evaluation and Repair of Residential Foundations.[1] The objective was to assess the current condition of the foundation system and review the proposed underpinning strategy by Stratum Foundation Repair. The analysis and recommendations presented herein consider the applicable principles and requirements outlined in the 2021 International Residential Code (IRC), specifically those related to foundation support, stability, and moisture management, as detailed in subsequent sections. All work will meet or exceed the 2021 IRC.

2.0 Scope and Methodology:

The purpose of this observation was to evaluate the foundation and assess the proposed foundation repair by Stratum Foundation Repair. The investigation included a visual reconnaissance of accessible foundation components and superstructure elements exhibiting signs of distress, coupled with a floor elevation survey utilizing a Ziplevel Pro-2000 high-precision altimeter. This assessment constitutes an engineering opinion based on observed conditions and the writer's professional judgment. No geotechnical exploration (soil borings, laboratory testing), hydrostatic pressure testing of plumbing systems, or invasive/destructive testing involving the removal of architectural finishes or structural components was performed. Original construction documents were not available for review. Consequently, this report does not opine on the conformance of the original construction to code requirements at that time, nor does it offer predictive modeling of future foundation performance. Existing finishes, landscaping, and furnishings limited observations.

3.0 Structure Description and Observations:

The subject structure is a two-story, wood-framed residential structure, constructed circa 1994 per Collin County Appraisal District data. The structure features 4 bedrooms, 3 bathrooms, a 2-car garage and brick veneer and siding on the exterior. The roof system is composition roofing. The building is supported by a monolithic concrete slab-on-grade foundation system. For descriptive purposes, the primary elevation is assumed to face north. (Actual orientation of the house may vary).

3.1 Manifestations of Distress:

Visual inspection revealed indicators consistent with differential foundation movement, including:

- Diagonal (shear) cracking in masonry veneer units and associated mortar joints.
- Evidence of localized settlement or soil separation at the foundation perimeter grade beam.
- Separation between windows or door jams and masonry veneer units.
- Sheetrock cracks on walls, doors/window headers and ceilings

Despite these serviceability concerns, the overall structural integrity appears generally maintained for a structure of this age and foundation type in this geographic region.

3.2 Floor Elevation Survey:

Relative floor elevations were recorded across the interior slab surface to the nearest 0.1 inch. Elevation differentials were benchmarked relative to a datum point (0.0 inches) established near the structure's geometric center. The magnitude and distribution of the recorded deviations exceed commonly accepted tolerance criteria for slab-on-grade performance (often compared to deflection limits like L/360, though slab performance is complex), suggesting distortion beyond initial construction variances. These measurements quantify the degree of slab deflection and tilt resulting from post-construction foundation movement.

4.0 Analysis and Conclusions:

The performed survey and damage reconnaissance indicate that the foundation system has experienced differential movement subsequent to original construction.

- **Geotechnical Influence:** The property is situated in a region known for soils with high plasticity, exhibiting significant shrink-swell potential (expansive clays) responsive to variations in soil moisture content (suction). Such moisture-induced volumetric changes are a primary mechanism driving differential foundation movement (heave or settlement) in this area. Minor seasonal movement of adjacent flatwork (driveways, sidewalks) is also typical.
- **Foundation Movement:** Observed distress patterns (location, type, magnitude) and the elevation survey data are consistent with differential foundation movement exceeding typical performance thresholds for slab-on-grade foundations supporting light-frame construction (**cf. IRC Chapter 4 - Foundations**). This movement appears attributable to non-uniform soil volume changes beneath the foundation footprint over time.

5.0 Recommendations:

Based on the evaluation, the following recommendations are provided regarding the proposed repair plan:

1. **Underpinning:** Installation of nine (9) exterior underpinning elements (piers, type as proposed by Stratum) at the approximate exterior locations depicted on the attached repair plan sketch. These elements aim to transfer superstructure loads through problematic near-surface soils to deeper, more competent strata, thereby mitigating future differential settlement in the supported areas and restoring load path continuity.
2. **Pier Placement:** Adhere to the pier locations shown. Permissible field adjustments are limited to: i. Maximum lateral relocation of 2.0 ft to avoid subsurface obstructions, maintaining a maximum center-to-center spacing of 8.0 ft (unless otherwise noted), per common underpinning practice and load distribution principles generally reflected in **IRC R403 (Footings)** regarding load transfer. ii. Piers at corners shall remain within one-half beam depth of the corner to maintain effective support, unless otherwise detailed.
3. **Structure Lifting:** Following pier installation and curing (if applicable), a controlled, incremental lifting operation should attempt maximum practical elevation recovery. The objective is to reduce existing slopes and mitigate superstructure distortion to the extent feasible without inducing secondary damage. Complete planarity (levelness) is generally unachievable. (**IRC R401.1** scope applies to foundations).
4. **Residual Slope:** Acknowledge that foundations often exhibit some initial out-of-levelness (**cf. IRC R506.1** general slab requirements) and that post-movement leveling cannot perfectly restore the original condition. Some residual slope will remain post-repair.
5. **Foundation Maintenance:** Strict adherence to the attached foundation maintenance protocol, particularly regarding moisture management, is crucial for minimizing future soil volume changes and enhancing long-term repair performance.
6. **Plumbing Integrity Test:** Post-underpinning hydrostatic pressure testing of the domestic water supply system and static testing of the drain, waste, and vent (DWV) system is strongly recommended to verify integrity following potential movement during lifting.
7. **Site Drainage & Moisture Control:** Implement and maintain positive surface drainage away from the foundation perimeter to minimize water infiltration into foundation soils. This aligns with **IRC Section R401.3 (Drainage)**, which mandates site grading providing a minimum fall of 6 inches within the first 10 feet from the foundation. Consistent moisture maintenance around the foundation during seasonal variations is also advised.
8. **Vapor Retarder Reinstatement:** In areas where the concrete slab is penetrated for interior access or repair [if applicable], restoration of the sub-slab vapor retarder is mandated by **IRC Section R506.2.3 (Vapor retarder)**. This requires installing a minimum 6-mil (0.15 mm) polyethylene sheeting (or approved equivalent) with joints lapped not less than 6 inches (152 mm), placed directly beneath the concrete repair pour. This barrier is critical for mitigating moisture vapor transmission (via diffusion and capillary action) from the subgrade into the building envelope.

A&M

ENGINEERING, LLC

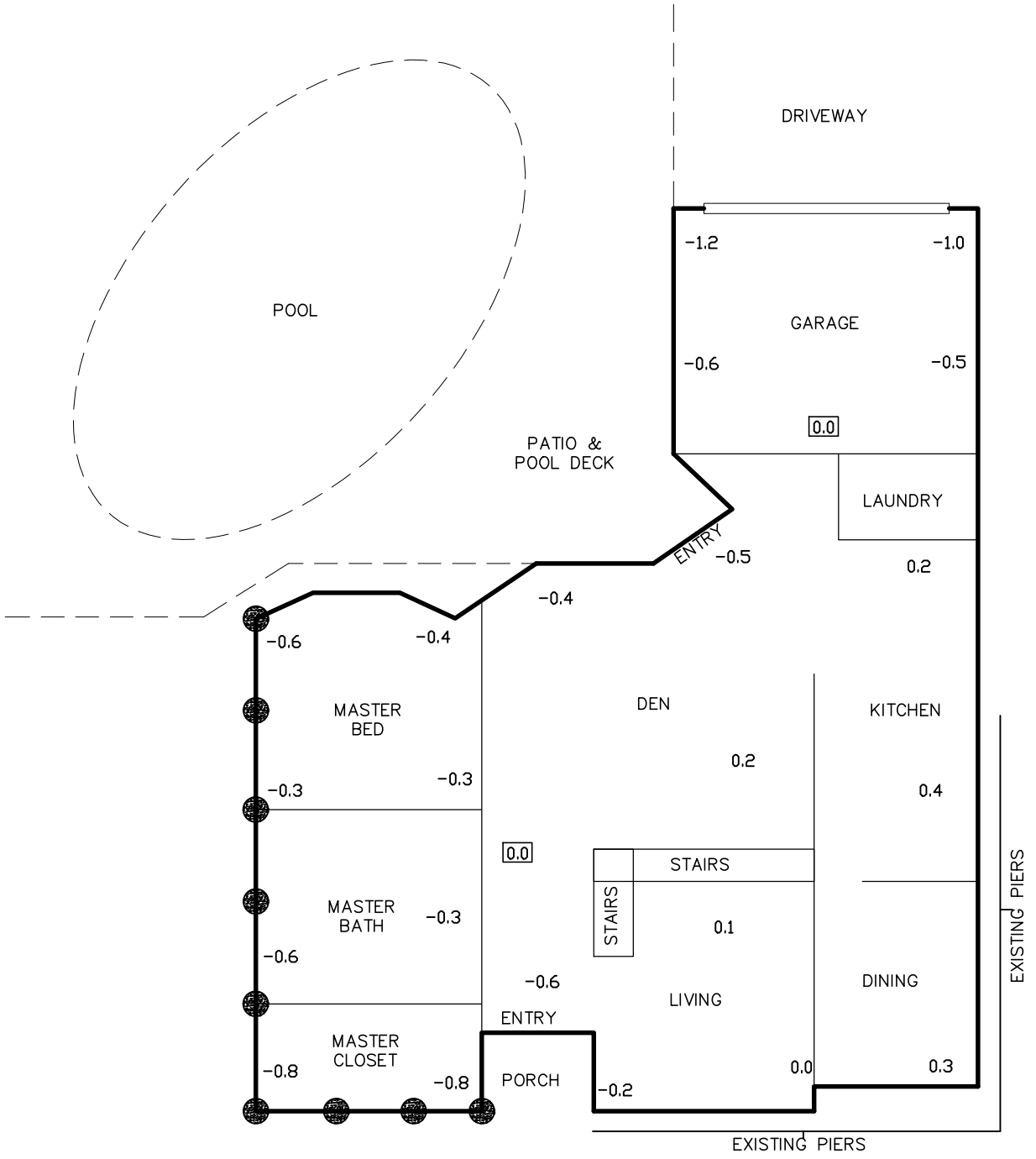
6.0 Limiting Conditions:

This report represents the professional opinion of A&M Engineering, LLC, based upon a limited, non-invasive visual evaluation and the data obtained. It is an assessment of the proposed repair plan's concept and does not constitute an exhaustive repair specification or a warranty against future foundation movement or performance. Determination of original compliance with governing Building Codes (including the 2021 IRC) at the time of construction was outside the scope of this evaluation. A&M Engineering, LLC provides no warranty for the materials or workmanship of the repair contractor. Liability is limited to the fee paid for this specific evaluation. Further engineering services are available upon request at additional cost.

Sincerely,

A&M Engineering, LLC
F-7599

12/03/25



LEGEND

● RECOMMENDED EXTERIOR PIERS

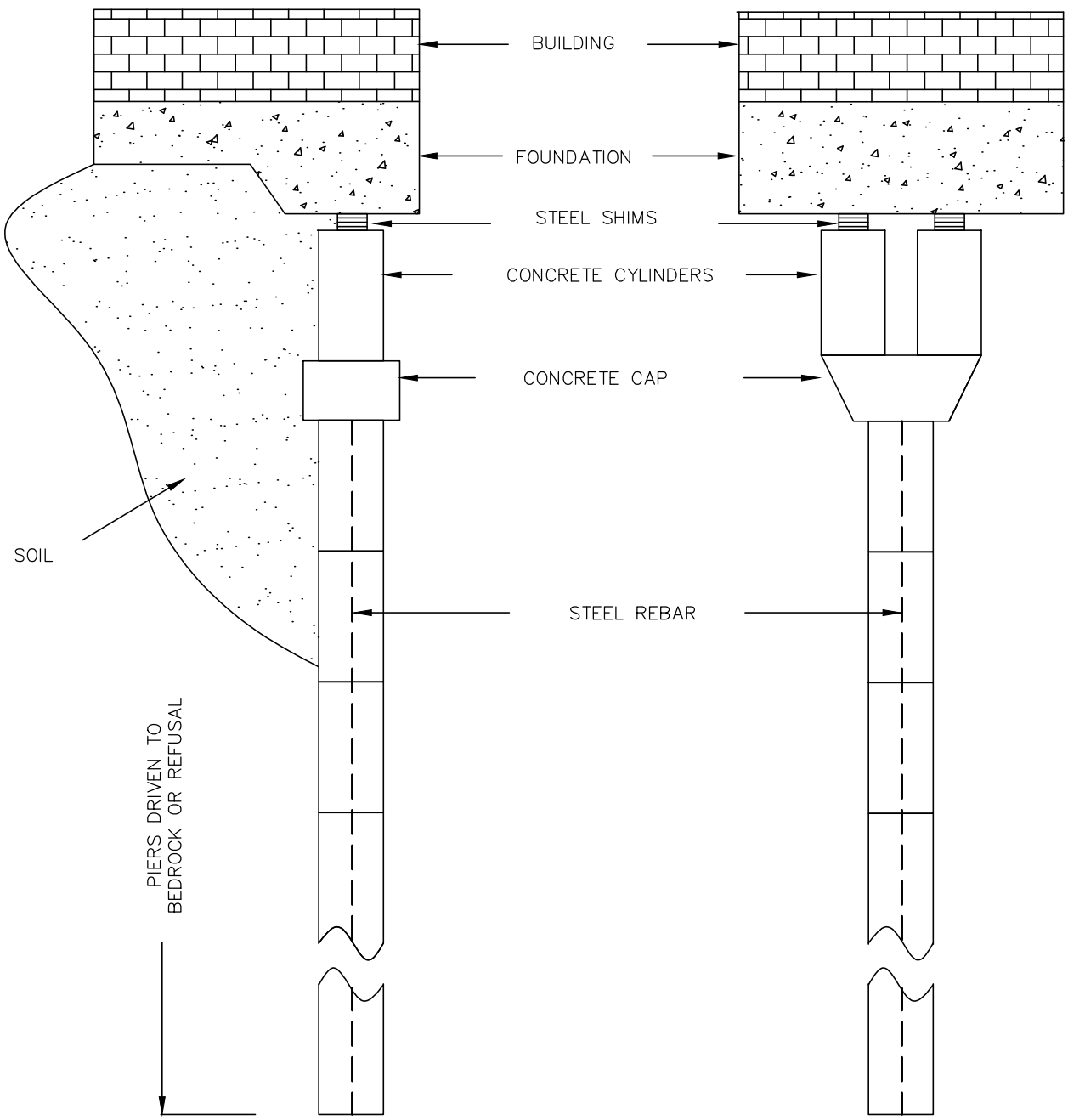
STATE OF TEXAS
COSTA N. MAZIDJI
89922
REGISTERED
PROFESSIONAL ENGINEER

12/03/25

A&M ENGINEERING
F-7599
972.968.7123 972.591.4690 (Fax)
www.anm-eng.com

108 Sierra Ct
Allen TX 75013
Foundation Evaluation

DATE	PROJECT NO.
12/03/2025	AM25-1334
SCALE	DRG. #:
N.T.S.	FR1



12/03/25

A&M ENGINEERING
F-7599
972.968.7123 972.591.4690 (Fax)
www.anm-eng.com

108 Sierra Ct
Allen TX 75013
Pier Detail

DATE	PROJECT NO.
12/03/2025	AM25-1334
SCALE	DRG. #:
N.T.S.	ST1

A & M

ENGINEERING, LLC

Foundation Maintenance Program

Differential movement of building foundations is a common problem in this area because of the highly expansive clay soil and changing weather conditions. As the building ages, it is probable the foundation will continue to experience differential movement, regardless of how well it was constructed or its present condition. This differential movement does not stop as buildings become older; older structures with a history of minimal differential movement have been known to develop foundation problems in a very short time due to changing conditions at the perimeter of the building foundation.

REASON FOR FOUNDATION PROBLEMS

The primary reason for foundation problems is the highly expansive nature of the clay soil on which the building rests. The clay expands or contracts as its moisture content changes with the weather. Depending on the area, the amount of contraction or shrinkage ranges from minimal to upwards of 65% of the total wet volume. The average amount of shrinkage that can be expected in this region is approximately 35%, with wide variation depending on the location. For example, a sample of water-saturated clay will shrink up to an average of 35% when dried completely. This shrinkage accounts for the large cracks that form in the soil after an extended dry period. The more expansive the clay, the larger the cracks.

EFFECT OF PLANTS ON FOUNDATION PERFORMANCE

Because of the highly expansive nature of the soil, trees and other large plants can significantly contribute to differential settlement of a foundation. The roots of trees and large plants consume the moisture from the soil, causing the soil to shrink much faster than other soil areas exposed to the weather. The soil where the moisture is lost more rapidly will sink lower than the surrounding soil, causing evidences and consequences of differential settlement in building structures. Research studies indicate that a tree should be at least as far away from a building as the mature height of the tree to minimize the effect of drying caused by the tree.

EFFECT OF WET SPOTS AT THE SIDE OF A FOUNDATION

Wet spots caused by dripping faucets, leaking drains, air conditioning condensate drains, leaking water pipes, etc., can cause differential settlement at the location where the soil has been kept wet. The foundation may sink into the soil at a wet area while the soil dries and shrinks at other locations because the drying soil allows the foundation to move downward and overload the wet area.

EFFECT OF POOR DRAINAGE AT THE PERIMETER OF A FOUNDATION

Water standing or running alongside a foundation after rains may cause differential settlement of a foundation. If soil grading is such that water runs alongside a foundation during rains, the water will run under the edge of the foundation and carry away soil supporting the foundation. The effect is much more pronounced if the soil was very dry prior to the beginning of the rain. In addition, if water is

allowed to stand alongside a foundation, it will flow below the foundation and dissolve the clay supporting the foundation, carrying it into the cracks that develop in the yard outside the foundation area during extended dry periods. This problem is more severe if the soil in the general area has been very dry, but is less severe if the soil has been maintained moist.

FOUNDATION MAINTENANCE RECOMMENDATIONS

An owner can significantly reduce the rate of differential settlement by observing the following recommendations:

1. Try to maintain constant moisture content in the soil around the foundation. Water the soil evenly and around the entire foundation during extended dry periods. This should prevent a gap from opening between the soil and foundation edge. However, if a gap does appear, water frequently (at least daily) around the entire foundation during extended dry periods (6 to 7 days in the summer). **Do not** apply water directly into the gap. Instead, water 1 to 2 feet away from the foundation edge. Some homeowners choose to install a fully automated foundation watering system to eliminate the need to remember to water. It is best to add water about three times per day to insure that the applied water has time to soak into the soil.
2. Cut and cap the roots of any large trees growing closer to the foundation than the mature height of the trees. The roots from a large tree or several medium size trees can consume more water from the soil than can be added with a watering system. This will limit the consumption of water from the soil below the foundation and may prevent excessive differential settlement and cracks in the structure. It is recommended that a professional tree expert be used to prevent damage to the trees when a tree grows too close to a building to allow cutting and capping of the roots, it is advisable to remove the tree or make special provision for watering the soil below the foundation.
3. Properly grade the soil by filling in low spots and leveling off high spots adjacent to the foundation so that the surface of the soil slopes gradually away from the building. A recommended slope is 1 inch per foot for a distance of 3 to 4 feet from the foundation.
4. Control roof water runoff and help prevent soil erosion by using a gutter and downspout system. This is especially important if a building has no eaves, which overhang the walls or if the eaves are less than 1 foot wide.
5. Water trees and shrubs growing near a building during extended dry periods as they cause shrinking of the soil due to their high water consumption. Keep in mind that moderate to large trees consume 50 to 75 gallons of water from the soil every day.

SUMMARY

Remember: the intent of foundation maintenance is to maintain a constant moisture content in the soil around and below the entire foundation and to prevent soil erosion that can result from water flowing off the roof or other large flat surfaces near the building.

A&M

ENGINEERING, LLC

December 29, 2025

Attn.: Mr. Ryan Hise
Stratum Foundation Repair

Re: Certification of Repair
108 Sierra Ct.
Allen, TX 75013

I hereby certify that on December 29, 2025, a representative of A&M Engineering, LLC inspected the repair to the foundation located at the address referenced above. Exterior piers were installed, the structure has been raised, and the floor slopes were restored to an acceptable degree of deviation. The support piers, as installed, will also help stabilize the area of the foundation where installed and prevent future downward movement in the affected area. This repair meets or exceeds the 2021 IRC requirements.

The complete leveling of the affected areas should not be expected. Homes are often built out of level. In addition, fully leveling structures that have suffered from foundation movement often is not economically reasonable. Some floor slopes and signs of distress such as sticking and out of square doors, and cracks on walls or brick may remain in certain areas of the home. New cracks may appear. Positive drainage and proper moisture content around the perimeter of the home should be maintained, and trees adjacent to the foundation are recommended to be removed.

I hereby certify that the conclusions contained in this report have been, to the best of my knowledge, correctly and completely stated without bias, and based on my observations and experience. No responsibility is assumed for the events that occur after the inspection and submission of this report and no warranty, either expressed or implied, is made. The limit of liability shall be the fee paid for this report.

Please feel free to contact me if you have any questions or need further assistance.

Sincerely,

A&M Engineering, LLC
F-7599

12/30/25

811 S. Central Expressway Suite #541 Richardson, TX 75080
(Fax) 972.591.4690 (Ph.) 972.968.7123 www.anm-eng.com

Invoice # 6169 LT

Eagle Quality Plumbing

"We Soar Above the Rest"

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Tim Schwankl Jr. M-40738

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929 East 41st St Austin, TX 78751 512-936-5200 tsbpe.texas.gov

Phone: 972-523-1611
eaglequalityplumbing.com
801 S. Bridgefarmer Rd,
McKinney, TX 75069
info@eaglequalityplumbing.com

Date: 12/22/25	Address: 108 Sierra Ct.
Contact: Stratum Foundation	City, State, Zip: Allen, TX 75013
Bill To: Ed Luter	Phone/Email:

Water & Sewer Static Test Report Under Home

Type of Test: ___ Pre ✓ Post ___ After Repair Type of Foundation: ✓ Slab ___ Pier & Beam

Domestic Fresh Water System: Water Static Test - 10 minute test.

Type of Pipe: Copper / Poly Water Shut Off Location: ✓ Water Meter ___ House Valve Box

Starting PSI 72 PSI after 1 min. 72 PSI after 5 min. 72 PSI after 10 min. 72

Test showed ___ Leak(s) ✓ No Leak(s)

Recommendations: _____

Sanitary Sewer System: Hydrostatic Sewer Test - 20 minute test.

Cleanouts Present: ✓ Yes ___ No Type of Pipe: 4" PVC

Drop after 1 min. – Drop after 5 min. – Drop after 10 min. – Drop after 20 min. –

Shower Pan Test: Drop after 5 min. _____

Tub Drain Test: Drop after 5min. _____

Test showed ___ Leak(s) ✓ No Leak(s)

Recommendations: _____

SERVICE CHARGE: – DISCOUNT: – AMOUNT DUE: – $45 RETURN CHECK FEE $50 LATE FEE

PAID? YES/NO CHECK #_____ CASH VISA AMEX MASTER CARD DISCOVER APPROVAL #_____

I hereby authorize the work described on this invoice and agree to the terms and conditions as stated on this form. I recognize that old and existing plumbing fixtures and piping may no longer be serviceable and I agree to hold Eagle Quality Plumbing blameless for any damage to those items as a result of any testing or repair efforts. Eagle Quality Plumbing is not responsible for wall repair, floor repair, or landscaping (grass, trees, bushes, or flower-beds) access that is performed during work. Additional costs may be added for any unforeseen issues. I agree to pay for all work, goods, and services received, and hereby further authorize Eagle Quality Plumbing to bill any of my credit card(s) for the goods and/or services being provided. A service charge of 2% per month will be charged on all balances 30 days or more past due. $75 Return Check Fee. $50 Late Fee

I Authorize Work Described Above: Signature X	Above Work is Completed to My Satisfaction: Signature X	Service Tech: Tim

Foundation Repair Association

Foundation Maintenance

By W. Tom Witherspoon, P.E.

A study of failed foundations (ADSC 2000) estimates the cost of foundation repair at over 12.5 billion dollars annually. The most common cause of foundation failure/problems is poor maintenance, which can normally be prevented. Considering that most remedial action will not completely keep a foundation from moving, it becomes even more important that the homeowner complies with the required maintenance procedures to reduce movement and allow the house to function as originally intended. This is just as important after repairs have been complete because the house may move in an area that has not been repaired or is still dependent upon bearing soil stability for continued performance. Since many foundation repair companies require homeowner maintenance as a condition of their warranty agreement, compliance is also good business and one of the best insurance policies available.

The following categories of maintenance are the most common problem areas and should be addressed in a scheduled sequence to reduce movement before and after foundation repairs to minimize distress in the foundation and the structure it supports.

Slope Maintenance

The foundation should have been installed sufficiently above site grades to allow proper post-construction surface drainage. It is the homeowner's responsibility, however, to maintain these positive drainage conditions.

The primary function of good drainage is to prevent ponding near, or intrusion of water, under the structure, which would increase seasonal moisture fluctuations, or migration of water. Much of the damage caused by expansive soils is due to lack of timely maintenance by the homeowner and is in some part preventable.

Under ideal conditions the slab will maintain its original position. Unfortunately soil is not consistent and the moisture content is seldom at an optimum level in the support soil when the slab is constructed. Many slabs are poured on drier than normal soil that later becomes wet from capillary rise of water from below, causing the thin floors to lift. After repeated drying and rewetting of the support soil, small amounts of soil are squeezed from the interface of the concrete base and the soil base to lower the wall into the ground, much like a car tire miring into a rut. If the soil has a high amount of clay content, it will also deform under pressure, much like children's putty during the swelling stage.

Earth Perimeters

The excavated area outside the foundation is usually filled with loose soil fill when a house is constructed. This is usually called the "backfill area". Maintaining a positive slope in the backfill area next to the house is the most critical aspect of slope maintenance. During the first few months or years, this material often settles. In

many cases settlement is severe enough to reverse or flatten the slope next to the foundation. Reverse or negative drainage will cause ponding of water during precipitation or heavy irrigation. Ponding allows an excessive amount of water to percolate into the ground next to the foundation, which may accelerate this settlement. To avoid this, the homeowner should periodically compact the backfill area by tamping with a heavy piece of wood such as a 4"x4". Hand compaction works best after a rain or snow melt has dampened the ground or with the careful addition of small amounts of water by the homeowner such as with a drip line. Additional soil should be added as necessary to maintain a positive slope away from the foundation. This soil should always be clay, not sand, so moisture can be better maintained and water will run off instead of soaking in spotty high concentrations.

The minimum slope requirement should be 5% for the first 5' away from the foundation (3" of drop) and then at a minimum discharge slope of 1% (approximately 1/8" drop for every foot of distance) from that point on. The type of vegetation may dictate a greater slope to avoid over saturation of the critical perimeter soil. Some type of ground cover is recommended, however, to reduce erosion and lower the frequency of slope maintenance work.

Flat Work

One of the beneficial functions of flat work (sidewalks and patios that are not part of the foundation) adjacent to foundations is the prevention of evapotranspiration and fluctuation of water intrusion to the bearing soils. Therefore, every homeowner should conduct a yearly inspection of concrete flat work and do any maintenance necessary to improve drainage and minimize infiltration of water from rain, snow melt and lawn watering. This is especially important during the first five years for a newly built house because this is usually the time of most severe adjustment between the new construction and environment. The process of inspection and maintenance should continue over the years, but, cracking, settling and other problems should become less common.

Because perimeter fill material may not have been compacted in 4" lifts at optimum moisture (as is normally recommended by engineers), settlement is greater along the house. A negative slope may occur that will allow ponding. This concentration of water will allow permeation through cracks in the concrete and oversaturation of perimeter bearing soils. This deeper saturation will often times cause damage to the foundation and/or basement floors. Because evaporation is limited by the flat work, the ponded water may dramatically increase moisture levels at the crucial perimeter beams and/or piers.

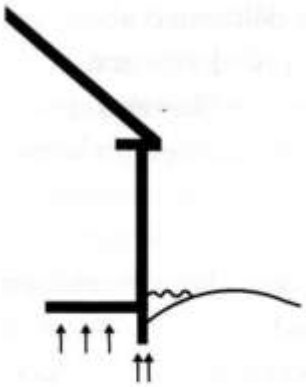
When this tilting of flat work occurs, the concrete should be replaced or mudjacked to reverse the negative slope. If a minimum of 1% slope (again about 1/8" for every foot of distance) is maintained, however, it will only be necessary to seal all cracks and ports of entry to prevent vertical water migration. This will include the perimeter joint around the foundation grade beam. A urethane or other flexible sealant should be used that will allow some movement but prevent water passing below the slab.

Flower Beds

Changing the site by the addition of flower beds, patios, fences, swimming pools, etc., may cause water ponding, which will exacerbate the wet cycles. Therefore, proper drainage considerations during such additions must be made.

Flatwork Settlement

Nurserymen will specify peat, bark, sandy loam and other planting substances, which, in conjunction



Earth Perimeters

Flower Beds Trapping Water

with bed borders, will increase moisture levels above that desirable. Therefore, flower beds must have some provisions for elimination of excess water. This may be in the form of weep holes, drain barriers or other removal systems. The problems created by flower beds are not a popular subject since homeowners will resist good engineering to beautify their house. There should be a balance between vegetation utilized for aesthetic demands and harming moisture equilibrium in the bearing soils.

One of the primary problems in flower bed design is installation of a concrete or steel barrier that will resist normal water run-off. If these barriers are desired, they should have openings cut to allow water passage and avoid over-saturation.

The use of highly permeable materials such as peat, bark, etc., should only be used if topography allows installation of subsurface drainage to collect excess water and discharge it away from the foundation. This will also require installation of an impermeable barrier at the bottom of the flower bed to help collect water for removal by the drain medium.

Shrubs planted in the flower bed should be chosen for their compatibility to the shallow barrier of the bed. Short and very contained root growth will be a plus to proper health and maintenance of the bed vegetation.

In the flower bed, the slope should be a minimum of 5% (5/8" for every foot of distance), unless ample subsurface drainage can be created to discharge water away from the foundation.

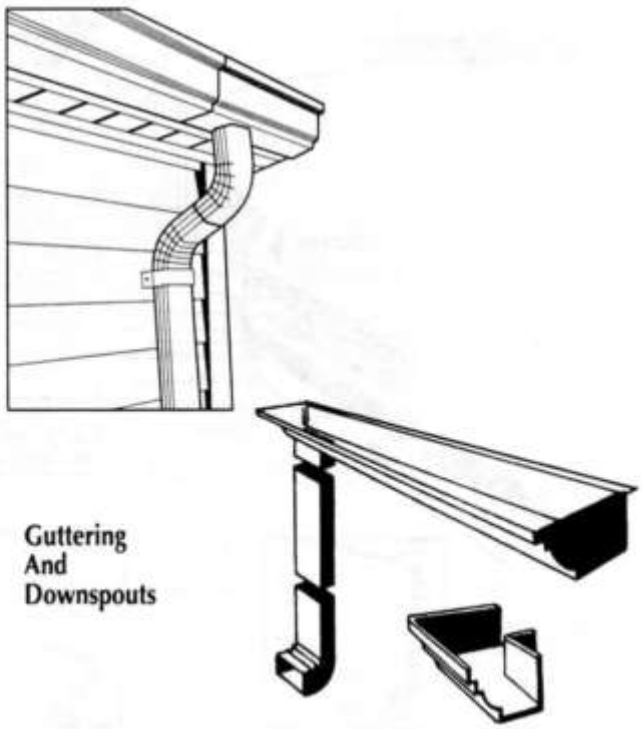
Gutters And Downspouts

Gutters should be inspected twice a year, once in the spring and again in the fall. All debris should be cleaned out and metal gutters checked for rust. If there are trees near the roof, gutters may have to be cleaned out more often.

Check the slope of the gutters, since poor slope causes water to accumulate in low spots, building up debris and accelerating rusting. Slope of the gutters should be a minimum of 1" of fall for each eight feet of length. The gutter can be installed so that it drains in one direction. If, however, any single length of gutter is more than 35' long it should be installed to drain both ways from the center or have downspouts at a spacing of not more than 20' on center.

The easiest way to check the slope of a gutter is to use a garden hose or pour a bucket of water into it and see if the water flows out smoothly or ponds in low spots. The gutter should then be adjusted to remove any high or low spots that prevent the smooth flow of water.

Downspouts should be checked for clogging at the same time the gutters are checked.



Guttering And Downspouts

Clogging often occurs at the elbow where downspout and gutter meet. The elbow can be removed for cleaning, but it may be necessary to use a plumber's snake to clean the downspout. If there is a problem with leaves, a leaf strainer or leaf guard is a good buy as long as neither prevents proper function of the gutter.

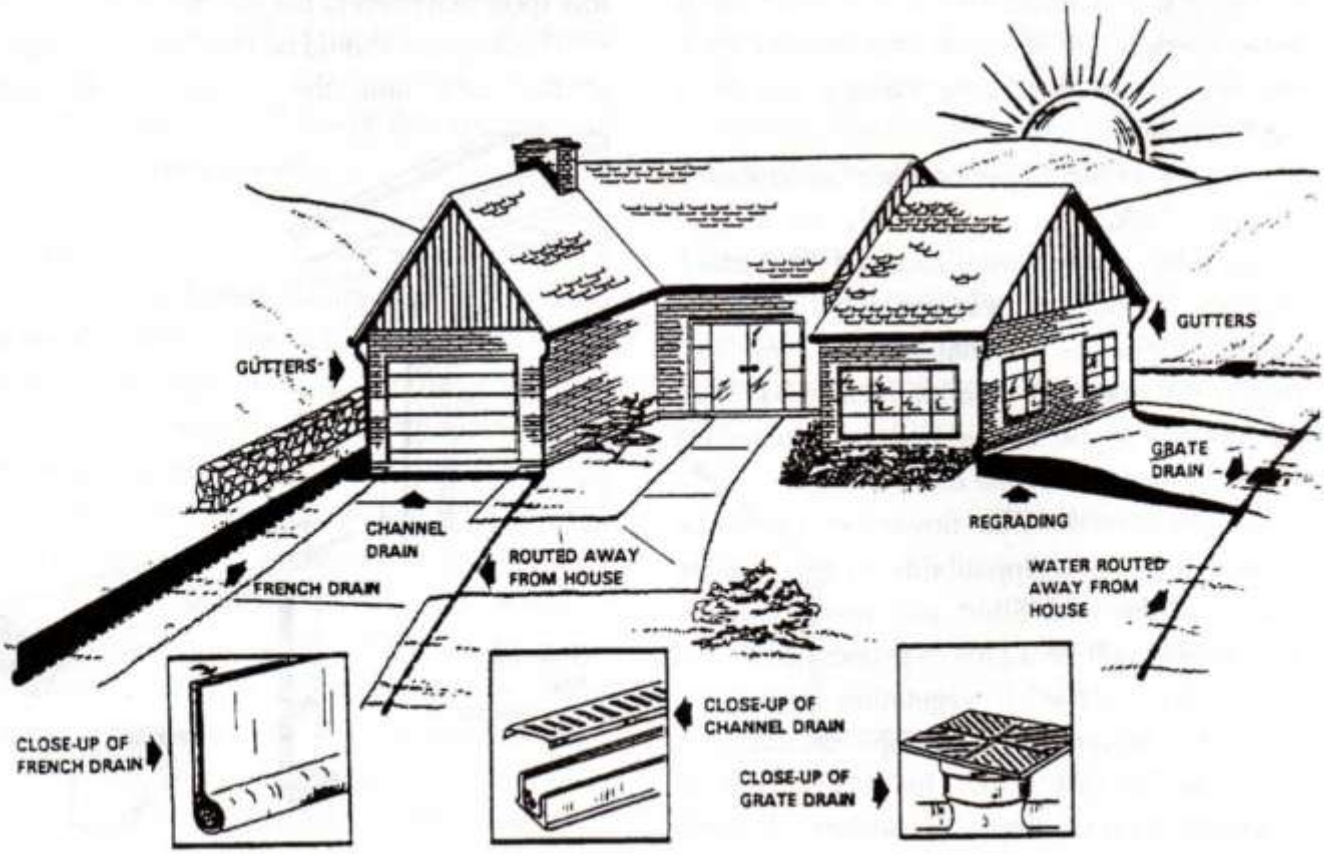
Splash blocks should be long enough and sloped enough to carry all water well away from the foundation and beyond the backfill area. Water should be discharged no closer than 5' from the foundation. Usually it is necessary to add a downspout extension in order to get the water far away from the foundation. It is possible to purchase extensions that have flexible elbows that can be bent up to make it easier to mow the lawn. The extensions should be left down at all times. Special roll-up type downspout sheets (plastic tubes) that attach to the end of the downspout are also available. These plastic tubes extend when filled with water and roll up when empty. If erosion is a possibility, splash blocks can be placed at the discharge point to prevent associated problems.

Because the materials delineated above are readily accessible at most hardware and do-it-yourself stores in a variety of makes and colors, they can add to the aesthetic qualities of a house.

Sub-Surface Drains

Subsurface drains will many times be utilized when topography, vegetation or construction does not make it possible to drain at the surface. These may consist of drain inlet basins, trench drains, funnel drains, etc. If correctly installed, subsurface drains should require little maintenance. The most important thing to remember is to avoid covering or obstructing the drain where it discharges and to maintain adequate slope. It may occasionally be necessary to clean out roots, nests or other debris from inlet basins or discharging ends of the pipe.

Inlet basins should be inspected every 6 months to ensure these do not become clogged with leaves, grass, soil or other debris, which would negate function. The bottom of these inlets normally has a sedimentation basin that requires removal of dirt as fill adds up over



time. It may also be necessary to back wash main lines when discharge becomes a noticeable problem. If problems persist, running of a mechanical snake may be necessary to remove the obstruction.

Settlement problems in a yard will many times crush piping and reduce the discharge flow, which will cause sedimentation to occur and subsequent closure of the drain lines. Damage may also result from the driving of heavy trucks across the surface. In any case, repair will normally require excavation and replacement of the drain line. This may be an even greater possibility if clay tile is used in lieu of heavy duty pvc.

Location of clean-outs and discharge lines will be a plus to locate problems and initiate corrective action. Therefore, a drawing of lines and locations should be made during installation for future reference.

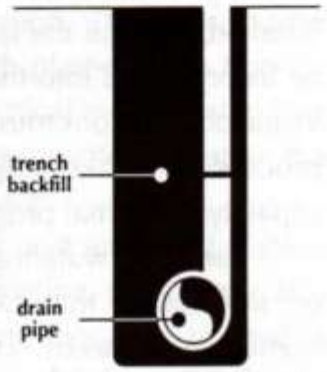
Capillary/French Drains

Capillary drains are installed to intercept and collect moving subsurface water and discharge it away from the structure. Unless the slope allows, this will many times require installation of a deep sump and pump to collect water and discharge it through a shallow drain line.

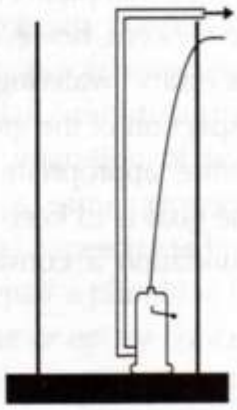
The pumps utilized in this operation may malfunction and unless an alarm system is installed there will be no warning. Therefore, it is advisable that the homeowner inspect the sump at least every 6 months to make sure trash, debris or pump failure has not occurred. If a solid sump well cover is used, there will be less potential for debris, but the homeowner will not be able to view the sump and determine if it is functioning. Therefore, the addition of an alarm is recommended to provide a warning to the homeowner prior to the onset of other problems, such as upheaval or water intrusion into the structure.

Discharge lines should have clean-outs to allow removal of obstructions by use of a snake or by jetting. Because effectiveness of these systems is largely unknown until problems occur, it is wise to also backwash the system from the discharge end and/or at the sump at lease every 2 years. The effectiveness of this backwash will normally be seen by a discharge of debris, which may have clogged the system.

Capillary drains are many times utilized as moisture barriers along the perimeter of a foundation to shed water and stabilize sub slab moisture. This will include extension of an impermeable barrier material under flower beds and up along grade beams. Therefore, it is important for the homeowner to avoid any planting action that may puncture the barrier material. If this damage occurs, it will be necessary to patch the hole with materials that maintain the integrity of the barrier.



French Drain


Sump Pumps

Irrigation/Sprinkler Systems

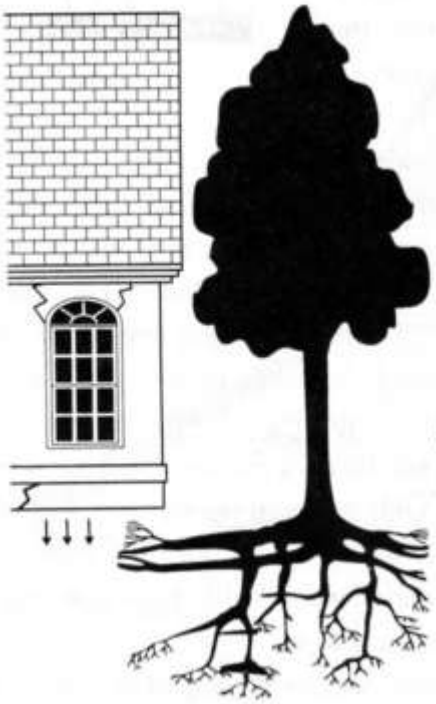
Watering of lawns and house perimeters must be regulated to maintain consistent moisture content under the foundation. Therefore, allowances for shrubs, plants and trees must be regulated for each segment of the yard. It is advisable that watering along foundation perimeters should be on a maintenance basis in corroboration with seasonal needs. This should be in conjunction with plant and tree requirements so that added water will not be siphoned from under the foundation.

Seasonal monitoring will necessitate different

watering for the sides that receive added and hotter sunlight (south and west sides), which increases evaporation. This monitoring will also take into consideration time of day for watering. Most authorities recommend early morning watering so that less evaporation will occur.

It must be understood that overwatering can be just as damaging to the foundation as under watering. If an electronic sprinkler system is installed, each of the factors listed above must be incorporated into the sequence and timing. Visual observations must also be included in the process to make adjustments beyond the capacity of normal programming.

A variety of watering heads and systems are on the market that can be customized to a homeowner's needs. There are bubble sprays, side sprays or angle sprays that discharge from riser heads or pop-ups and can be mixed to provide complete coverage. Where evaporation is a concern, however, a drip system will provide necessary watering very efficiently. A close inspection of the ground surface is necessary to ensure appropriate volumes and consistency. The goal is to keep the soil near and under the foundation a consistent moisture (neither wet and/or muddy nor dry and cracked).



Soil Shrinkage Due To Moisture Removal By Roots

An inspection of the sprinkler system should be performed at least twice a year to determine if zones are functioning properly and if heads are improperly discharging/broken or if leaks have occurred that will provide uneven watering. This will, in the case of electronic watering systems, require running through the system to determine if times, duration and frequency have been maintained.

Vegetation And Trees

Studies from England and the United States have proven conclusively that trees can cause damage to foundation stability and in more severe cases complete foundation failure. Engineering studies map the effect of moisture withdrawal, which can severely damage a slab-on-grade foundation and cause movement in a pier and beam foundation system. Even when the perimeter of slab has been underpinned, the interior slab will often deform as moisture migrates to the perimeter as a result of root capillary action.

Planting of shrubs, flowers and trees should be with the understanding of mature growth. Since additional moisture withdrawal will occur, distance and watering patterns must be planned. If distance away from the foundation cannot be maintained, root barriers may be necessary to reduce and/or eliminate penetration under the slab and subsequent moisture withdrawal during times of drought. The depth of this barrier may vary according to tree or plant root expectations. These barriers, if properly constructed, can also serve as a moisture barrier, which will add stability to moisture contents under the foundation. Several agriculture agencies have material available which provides projected root and moisture requirements for different types of vegetation.

Trees should not be planted closer to the foundation than approximately the mature height of the tree. Some studies also indicate

the tree limbs should not invade the footprint of the house at maturity. There is a variance with different types of trees that will necessitate their planting even further away. If the proper distance cannot be maintained, it may be necessary to install a root barrier to reduce the risk of future problems. Pruning of tree branches so that they do not extend over the structure can also be an effective way to limit root growth under the foundation.

The plants should fit the environment. In areas where droughts frequently occur, it may be necessary to substitute drought resistant plants and trees to incur less action on the foundation and provide easier maintenance of the foliage.

Plumbing Leaks

Leaks in water and sewer lines will change the soil equilibrium under a foundation and can lead to differential movement/damage. Therefore, it is necessary to recognize signs that indicate problems exist.

If sewer lines are frequently stopped-up and roots are observed when clean-out rooters are used, a sewer test should be conducted to determine the presence and location of the break. Repair of a break should be made immediately to avoid damage and future problems.

If abnormal water bills indicate a sudden surge in water usage, wet spots occur that cannot be explained or the owner should hear the sound of water running in a bathroom (note: The bathroom nearest the water supply line will provide the best indication of a water leak), a test of the pressure lines should be conducted. If leaks are found, they should be repaired immediately.

If hot spots occur in the floor or unexplained water should pool, it is a good idea to call a plumber. Catching leaks early will many times avoid extensive foundation damage that may be very difficult to repair.

Plumbing Leak Repairs

Leaks will often occur under a slab-on-grade foundation that require breakout of a segment of the slab to gain entry and repair the plumbing. Care should be taken to perform proper compaction of the soil when repairs have been completed. This will require adequate moisture in the utilized soil and compaction of layers no thicker than 3" to restore soil bearing to as it existed prior to excavation. The vapor barrier should be repaired with plastic and a bonding material to provide a vertical moisture stop from vertical capillary action or water migration that may enter the living space.

Even in the case of post tensioned slabs, a minimum of #3 reinforcing steel bars, at a spacing of 12" on center, should be utilized by drilling into the existing slab horizontally and epoxying the reinforcing steel bars to provide integrity. A bonding agent should be utilized at the edges to provide the necessary bonded joint between existing and newly placed concrete. It is normally advisable to install a moisture shield at the surface to prevent migration of water through the concrete. This same procedure should be employed if it was necessary to break through a grade beam to repair a plumbing line except that non-shrink grout or epoxy concrete should be used to remold the beam.

Reinforcing Steel Exposure

Many times concrete will blister or peel along the grade beam and reveal post tensioning cable ends or conventional reinforcing steel bars. If left unprotected, corrosion will slowly reduce the originally intended strength of these reinforcing steel members. Therefore, it may be necessary to properly clean the steel and remove all bond and then install an epoxy grout or non-shrink grout to build back the beam and protect reinforcement. In more severe situations, it may be necessary to drill and epoxy reinforcement dowels/stirrups to build out the grade beam and provide adequate coverage of the reinforcing steel.

Brick, Rock Or Cladding Cracks

Movement, weathering and freeze damage will often times create cracking in the brick veneer or mortar that will allow passage of moisture into the vulnerable wall material. Because this will often lead to deterioration of wood members, it is advisable to seal these cracks with a urethane, mortar or caulk that will prohibit weathering problems. Where obvious structural problems are visible such a lateral displacement of veneer, lateral shields or other retainers will be required to prevent additional movement damage.

Vent Covers

The original purpose of vent covers is to provide adequate circulation of air under the floor of a pier and beam foundation so that moisture will not build up and cause deterioration of wood members. Although coverage of these vents will save money in reducing heating bills, it will often provide the unwanted environment for wood rot. Therefore, it is not advised that these covers be utilized unless other means of air circulation are available such as a subfloor vent fan(s).

Recent revelations of houses where the growth of bacteria was so invasive and so deadly that the houses could not be salvaged, have led to a new examination of detection and prevention of such growth.

Animal Damage

Dogs, skunks, armadillos, snakes etc. will many times burrow under a slab or pier and beam foundation. This will undermine the bearing soil and may provide entry for water that was not possible prior to the excavation. Therefore, it is necessary to back fill the segment and/or place an impenetrable shield to prevent further entry. It is also important to restore positive drainage to prevent foundation moisture instability.

Termite Damage

Wood should not touch the ground at any place near a foundation. This will only invite termites and provide avenues for their passage to more appetizing segments of the structure. Therefore, the homeowner should take care to avoid laying, placing or constructing wood that engages the ground. This includes removal of any wood pieces that may exist in the crawl space of a pier and beam foundation. When you add moisture to wood on the ground, you provide a perfect environment for growth of termites and other wood eating insects.

Interior Doors

It is a known fact that most slab-on-grade foundations will move differentially, which can cause misalignment of interior doors. Therefore, some flexibility in the fit of the doors will reduce the inconvenience of this movement.

Interior doors should have a minimum 1/8" to 3/16" clearance between the top and side with the frame. This will allow some seasonal movement prior to sticking. It is also a good idea to provide adequate clearance off the carpet or floor to further buffer movement and allow for different heights of carpet and/or flooring.