



zerrecon

Professional Engineering Services
Structural Engineering Inspections
Commercial Building Inspections

Structural Inspection Report

Report Submitted to: Diane Guajardo, diane.guajardo@gmail.com, 513-850-1850

Property Inspected	
Address: 3428 S. 119 th Street, West Allis, WI 53227	
Age Info: built in: Homeowner indicated late 1960s	
Problem Description: ☒ Water ☒ Foundation Structural ☐ Other Structural	
Cracks noted in ☐ Walls ☐ North ☐ South ☐ East ☐ West ☒ Floor ☐ Other	
Inspection Date: 11/14/2018	Report Date: 12/13/2018

Observations
Type of Foundation: Block
Interior Drainage: ☒ Sump pump (2) ☒ Utility drainage ☐ Palmer valve ☒ Positive slope to drains
Height of wall: 88 in floor to ceiling 11 course of block approx. 80 from floor to grade
Exterior Drainage: ☐ Positive drainage slope ☐ No trees/shrubs ☐ Exterior tiling
Roof Drainage System: ☒ Downspouts ☐ Connection to sewer ☐ Downspouts extended

Other Observations:

(Description):

The noted concern is cracking is the presence of a large vertical crack as well as the presence of moisture in the basement. There is also general concern about the condition of the foundation.

See the attached diagram for additional information.

The current owners purchased the home in January of 2018. Shortly after the purchase, wet carpeting was observed in the office in the basement. This office is finished space and includes drywall over the foundation walls (as well as carpeting on the floor). The homeowner indicated that the basement was finished in 1995.

Matt Soiney, PE, President
Edward F. Ellingson, PE, Vice President
Zerrecon, Inc.

34206 Davies Drive Oconomowoc WI 53066

• matt.soiney@zerrecon.com • www.zerrecon.com • 414.771.7140

The carpeting and drywall was removed to reveal a large vertical crack on the south wall of the office. In addition, I observed what appears to be mold on the west office partition wall (below).



The vertical crack was patched. I did observe at least two other older patches to this crack.



The homeowner hired Accurate Basement repair to install new interior drain tile along the southern portion of the basement. A second sump crock and pump were also installed. In addition, the south office wall was excavated, waterproofed, and backfilled with stone.



The north wall is completely covered. Most of the south wall abuts the garage. This portion of the wall is crack free. This wall is off plumb $5/8"$.

The other section of wall abuts exterior soil. I did observe cracks filled with caulk; the patching and paint appears new. This portion of the wall is off plumb $3/8"$.



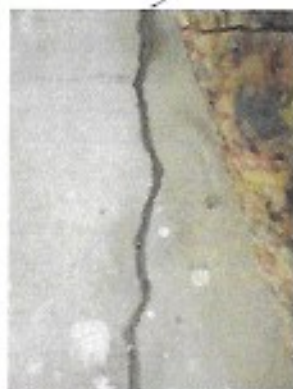
Most of the west wall is also covered. A small area is visible and contains small vertical and step cracks. The wall is tipped out $5/16"$ at this location. A small area at the NW corner is also visible. This area is crack free. The sump pump is located at this corner and was functional at the time of the inspection. The float level is incorrect.



The east wall is mostly covered with the exception of a small area in the mechanical room. This wall contains a step crack and is tipped out $1/4"$.



I did observe large cracks in the floor that appeared to be indicative of settlement. The outward tipping of the walls is also indicative of foundation settlement. I set a LASER level on a tripod took several measurements. The measurements vary by 1 5/8".



Upstairs, I did not see indications of past or ongoing patching of the drywall.

The homeowner provide a letter regarding the replacement of the pool due to poor fill materials—the pool had settled and failed as a result of these poor materials.

On the exterior I did observe areas of flat soil near the house allowing surface water to accumulate near the foundation. I could not observe the grade under the deck.

North

Note the downspout discharging at the foundation wall.



West



East



Opinion/Recommendations

My opinion is that:

1. The fundamental cause of the vertical crack in the office is excess moisture in the soil, and the subsequent expansion, especially frost expansion. This was caused by poor grading near the house, settled concrete, perhaps combined with poor maintenance (such that the gutters became clogged and over-flowed) allowing excess moisture near the house.
2. The steps taken to excavate, waterproof, and backfill the wall with stone will alleviate the pressure on the wall and significantly reduce the likelihood of future cracking and seepage. The new interior drain tile will also manage any water that may get into the basement.
3. The vertical crack has been patched at least three times and was likely patched prior to the finishing of the basement in 1995. Based on the observed appearance of mold, it is my opinion that there has been water infiltration for some time.
4. Elsewhere, steps should be taken to improve grade by adding soil so that surface water can effectively drain away from the house. The desired pitch is 6" over 6'. This will require the removal and reinstallation of the mulch. The north downspout should also be extended away from the house.

5. I consider the visible portions of the foundation walls to be stable at this time. No opinion can be made on the covered portions of the walls.
6. There has been some settlement of the foundation although it is my opinion that it has slowed significantly or stopped altogether. It does appear that the site was filled prior to the construction of the home, and there had been some settlement shortly after construction. The fundamental cause of this problem is that the footings were not adequately sized (initially) for the actual soil conditions. The soil conditions very likely included un-compacted fill material, or of an organic materials. The information regarding the materials found during the pool replacement indicated wood was found in the fill under the pool.
7. Moving forward, attention should be paid to surface drainage so that shrubs, leaf blockage, minor soil settling, disconnected downspouts, and other factors do not inhibit the flow of water away from the house. These are maintenance issues, but are important to watch.

This report is limited to an independent, impartial opinion, and is rendered to a reasonable degree of engineering certainty. This report is intended to help you understand the risks associated with these specific building components. It is not a warranty. My interpretation and opinion is based on what was observed, and therefore what was observable, at the particular point in time that I was there.

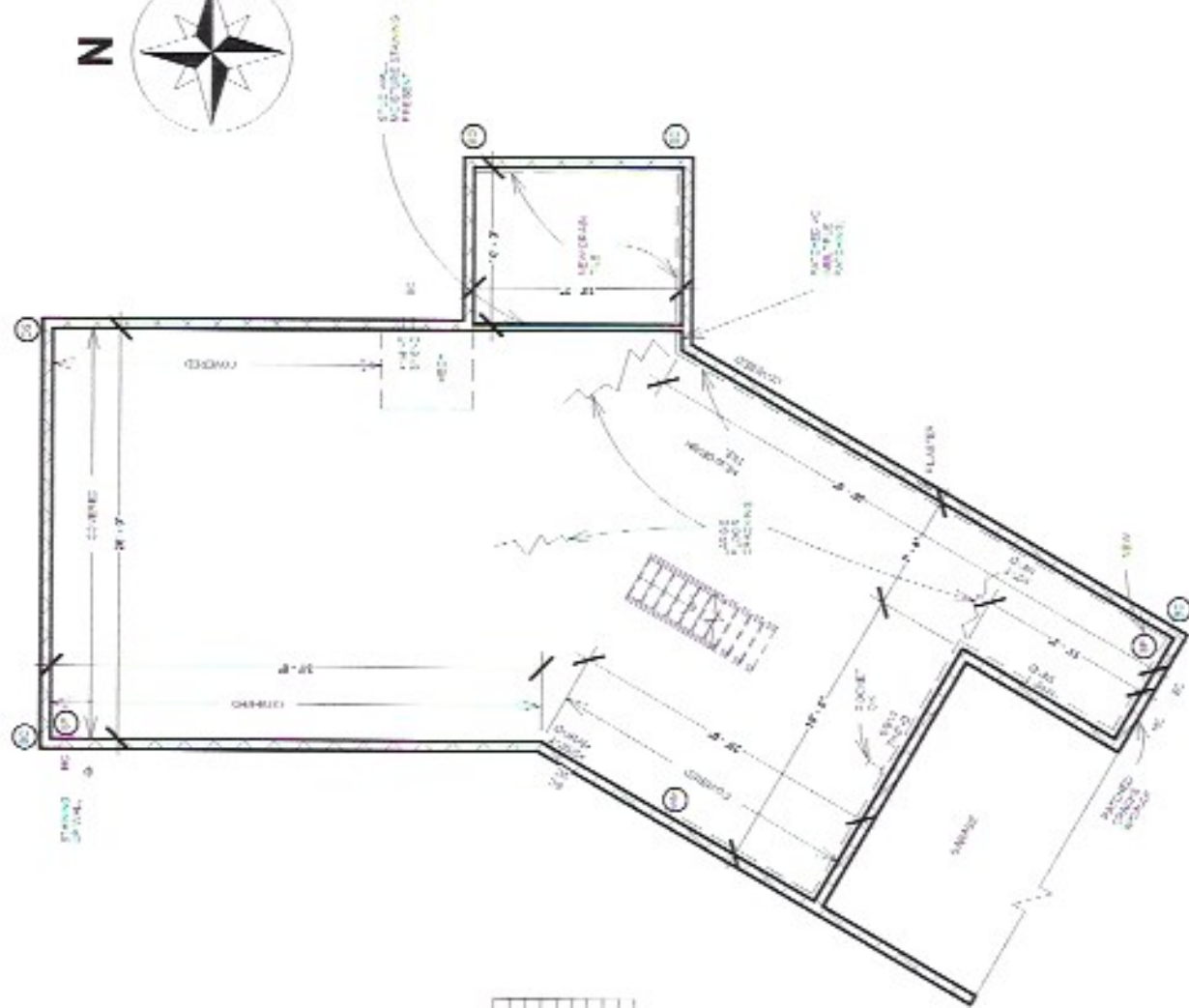
Submitted by:
Zerrecon, Inc.



Matthew E. Soiney, PE
President
WI Professional Engineer 39452-6



N


zerrecon

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 www.zerrecon.com
 Matt.Solney@zerrecon.com

No.	Revision/Issue	Date
Drawn By: DMA		
Checked By: VES		

Enter address here

 34308 Davies Dr
 West Ailsa W

Sheet

A101

SYMBOL	DESCRIPTION
1	WALLS - 12" WALL, 20" WALL, 24" WALL
2	WALLS - 12" WALL, 20" WALL, 24" WALL
3	WALLS - 12" WALL, 20" WALL, 24" WALL
4	WALLS - 12" WALL, 20" WALL, 24" WALL
5	WALLS - 12" WALL, 20" WALL, 24" WALL
6	WALLS - 12" WALL, 20" WALL, 24" WALL
7	WALLS - 12" WALL, 20" WALL, 24" WALL
8	WALLS - 12" WALL, 20" WALL, 24" WALL
9	WALLS - 12" WALL, 20" WALL, 24" WALL
10	WALLS - 12" WALL, 20" WALL, 24" WALL



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Milwaukee, WI 53216

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PO Box 171176
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CONTRACT #2R

Page 1 of 2

☒ DRAIN TILE TEST
☒ INSIDE DRAIN TILE
☒ SUMP PUMP
☒ SUMP AND DRAIN
EXCAVATION
☒ REINFORCEMENT
☒ WALL REPAIR
☒ CRACKS IN WALL
TRENCH

Name: Clete or Diane Gujerdo Res: 414-721-8208
Address: 3428 S. 119th St. Bus:
City, State, Zip: West Allis, WI 53227 Cell: 652-850-1880
Resistor: N/A Phone: ()
Resistor: N/A Phone: ()
Analysis: Email: ajg@ajg.com

Please see attached Analysis and Basement Diagram
All proposed work per State of Wisconsin Uniform Dwelling Code Chapter VI Section 30.00

Age of Bldg: 58 years Refered by: word of mouth

Accurate Basement Repair, LLC, herein after referred to as Contractor, proposes to furnish all materials, permits, labor and equipment necessary to perform the following work which the above named owner has requested; excludes engineering reports.

EXCAVATION

- Approximate linear ft:
☐ Cover down with plywood, excavate shored area to footing, clean excavated walls, patch all exterior cracks (side to footings), clean and flush bleeders in footings; apply Hydrex grade tar mastic sealer, cover sealer with 5 mil vapor barrier, install new 4" exterior drain tile; back fill with stone within 10" to grade, install filter fabric; grade away from foundation walls using top soil.
☐ Stucco exterior walls best as possible
☐ Repair wall cracks interior / exterior per job Function

REINFORCEMENT METHODS

- Wall thickness: 12" No. 4 No. Of courses:
☐ Reinforce walls with vertical steel columns; install approximately 1/2" cantment
☐ Repair cracks with steel mesh and epoxy fill with cement
☐ Repair interior wall cracks

- 1) Install approximately 100' linear feet of interior drain tile per diagram and scope detailed above.
2) Install standard crack, 16 and ProSeries 50000 sump pump with deluxe DPC2 controller, caged dual float switch and 4-year manufacturer's warranty in southwest corner per diagram.
3) Piped sump pump discharge up and over south foundation wall and tie into down spout receiver outside west wall.

INTERIOR DRAIN TILE

- 131 Approximate linear ft:
1) Open basement floor approximately 18" away from walls, trench along side footings and create a gravity flow to sump crack; clean & flush bleeders in footings.
2) Drill 1" weep holes into block hollows below floor level
3) Install channel case drainage system
4) Install new 4" perforated drain tile and cover drain tile with stone. Placement floor and haul away debris. Sweep broom clean.
5) Install 1/2" interior drain tile clean out
6) Install sump crack & sump pump
Discharge: stone Grate

Please see attached Basement Diagram

NOTE: Homeowner is responsible for removal/replacement of shelves, below 4" of finished wall and finished floor within 3' of work area.

NOTE: Homeowner is responsible for removal/replacement of deck stairs currently blocking access to developed receiver in southwest corner. Includes applicable City of West Allis building permits. Homeowner may be required to be present for inspection.

Not included: Removal of personal belongings and any other obstructions not specifically noted / included above - Please see Terms & Conditions 06, 09A, & 09B

TOTAL AMOUNT \$7,827.00 DOWN PAYMENT \$2,499.00 PAY 10 DAYS UPON COMPLETION \$5,327.00

- Homeowner will not over. total payment in 10-15-18.

Contractor agrees for a period of 25 YEARS the repair or replacement of any defective work at no added cost to owner. Contractor is not responsible for any foundation settling and cracking as a result of sub-soil movement. The warranty does not cover dampness, efflorescence or mold growth on basement wall or floor. Warranty is transferable upon change of ownership.

Owner acknowledges that he has read the terms and conditions contained in this agreement, including "customer's right to cancel" and other terms or conditions contained on the reverse side hereof and acknowledges receipt of two copies of this agreement. (one copy if sent electronically)

Starting Date: November, 2010

Completion Date: within 30 days of start of job

Accepted by (sign): [Signature]

SIGN HERE

Date: 12/6/10

Accurate Basement Repair Representative: Kyle Melton

Date: 12/6/10

You, the buyer, may cancel this transaction at any time prior to midnight of the third business day after the date of acceptance. Request a Notice of Cancellation form for an explanation of this right. This includes may be withdrawn by Accurate Basement Repair, LLC, if not accepted within 30 days.

AD
10-22-10

Name: Chris or Diane Gurgard Rec: 414-721-8298
Address: 3428 S. 119th St. Bus:
City, State, Zip: West Allis, WI 53227 Cell: 513-850-1850
Builder: N/A Phone: ()
Realtor: N/A Phone: ()
Analyst: Email: mgurgard@accurate.com

Please see attached Analysis and Basement Diagram

All proposed work per State of Wisconsin Uniform Dwelling Code Chapter VI Section 30.50

Age of Bldg: 50 years Referred by: word of mouth

Accurate Basement Repair, LLC, herein after referred to as Contractor, proposes to furnish all materials/permits, labor and equipment necessary to perform the following work which the above named owner has requested, excludes engineering reports.

EXCAVATION

8. Approximate linear ft.
(21) Cover rebar with plywood; excavate shaded area to footing, clean excavated walls, patch all exterior cracks (grade to footings), clean and flush bleeders in footings; apply below grade tar mastic sealer, cover sealer with 6 mil vinylmem; install new 4" exterior drain tile; back fill with stone within 10" to grade; install filter fabric; grade away from foundation walls using top soil.
(22) ~~Reinforce walls to best as possible~~
(23) Repair wall cracks interior / exterior per job Foreman

REINFORCEMENT METHODS

- Wall thickness: No. of courses:
☐ Reinforce walls with vertical steel columns, install approximately centers
☐ Reinforce walls with steel column and cone fill with concrete
☐ Repair interior wall cracks

- (1) Hand dig, seal and repair cracks on approximately six linear feet of foundation per diagram and scope detailed above.

Crack will be repaired by filling in with mortar and following other steps as listed above

*Kyle Anderson
11-6-18*

INTERIOR DRAIN TILE

- Approximate linear ft.
☐ Open basement floor approximately 10" away from walls; trench along side footings and create a gravity flow to sump crack; clean & flush bleeders in footings.
☐ Drill 1" sweep holes into block follows below floor level.
☐ Install channel cover drain tile system.
☐ Install new 4" perforated drain tile and cover drain tile with stone. Reconnect floor and haul away debris. Sweep drain clean.
☐ Install interior drain tile clean out.
☐ Install sump crack & sump pump.
Discharge: Grade

Please see attached Basement Diagram

NOTE: Homeowner is responsible for removal of deck base within 4' of excavation area prior to start of job.

Includes applicable City of West Allis building permits. Homeowner may be required to be present for inspection.

Not included: Removal of personal belongings and any other obstructions not specifically noted / included above - Please see Terms & Conditions #5, #14, & #15

TOTAL AMOUNT \$2,350.00 DOWN PAYMENT \$700.00 PAY 10 DAYS UPON COMPLETION \$1,650.00

Paid w/ credit card

Contractor agrees for a period of 20 YEARS the repair or replacement of any defective work at no added cost to owner. Contractor is not responsible for any foundation settling and cracking as a result of sub soil movement. The warranty does not cover dampness, efflorescence or mold growth on basement wall or floor. Warranty is transferable upon change of ownership.

Owner acknowledges that he has read the terms and conditions contained in this agreement, including "customer's right to cancel" and other terms or conditions contained on the reverse side hereof and acknowledges receipt of two copies of this agreement (one copy if sent electronically)

Starting Date: November, 2018

Completion Date: within 30 days of start of job

Accepted by (sign): *Ch. Gurgard*

SIGN HERE

Date: 10/6/18

Accurate Basement Repair Representative: Kyle Anderson

Date: 10/6/2018

*210001
10/22/18*



PO Box 371176
Milwaukee, WI 53237

Invoice

Date	Invoice #
11/20/2018	6018

Bill To Chris or Diane Guajardo 3428 S 119th St West Allis, WI 53227	Project Address (if different)
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PAID
12/19/2018

Due Date	REP	Completion Date	Terms
11/30/2018	Mellon	11/14/2018	Net 10 days

Description	Amount
Contract 1: Excavation	2,352.00
Contract 2: Interior Drain Tile Sump Pump & Crock	7,827.00
Interest of 1-1/2% per month (18% annually) will be added to all invoices not paid within 10 days of invoice date.	

Make all checks payable to Accurate Basement Repair, LLC.
Please include copy of invoice with payment.

If you have any questions concerning this invoice please contact
our office.

Office: (414) 744-6900
Fax: (414) 294-2045
E-mail: andrea@accuratebasementrepair.com

Total	\$10,179.00
Payments/Credits	-\$10,179.00
Balance Due	\$0.00

Thank you for your business!

Certificate of Warranty

Contractor agrees for a period of **20 YEARS**, the repair or replacement of any defective work at no added cost to owner. Warranty is automatically transferred upon any change of ownership.

ADDRESS: 3428 S 119th St, West Allis

WARRANTY EXPIRATION DATE: 11/14/2038

Signature:

Charles M. Porter

Accurate Basement Repair Representative

Date:

8/24/18



414-744-6900

www.accuratebasementrepair.com

Owner must maintain proper grading, clean gutters and functioning downspouts. Please see contract, terms and conditions for additional information regarding warranty.