



BUILDING PERMIT

PIN: 0781176038

Permit # RABS-169025-2026

Project Site: 5105 LAURIE DR RALEIGH, 27606

Description: EXIST SFD: ENGINEERED FOUNDATION REPAIR -"INTEELIJACKS" ***NO TRADES***

Project Cost: \$4,500.00

Water Supply: Public

Issued Date: 04/27/2026

Wastewater Type: Public

CONTRACTOR TYPE	NAME	LICENSE #
General Contractor	Groundworks NC, LLC (Tar Heel Basement Systems)	79336 LB

THE APPLICANT AGREES TO COMPLY WITH ALL BUILDING REGULATIONS AND OTHER LAWS APPLICABLE TO THE USE OF THE STRUCTURE AND FACILITIES REFERRED TO HEREIN. THE PERMIT ISSUED FOR WORK SHALL EXPIRE SIX MONTHS AFTER THE DATE OF ISSUANCE IF THE WORK AUTHORIZED HAS NOT BEEN COMMENCED. IF AFTER COMMENCEMENT THE WORK IS DISCONTINUED FOR A PERIOD OF 12 MONTHS, THE PERMIT SHALL EXPIRE. NO WORK AUTHOURIZED BY ANY PERMIT THAT HAS EXPIRED SHALL BE PERFORMED UNTIL A NEW PERMIT HAS BEEN SECURED.

If you question a code call made by your inspector, please discuss it with that inspector first. If you still have questions, please contact the Chief Inspector of that trade.

Chief Building Inspector	Steven King	steven.king@wake.gov	(919) 524-4665
Chief Electrical Inspector	Aden Branch	Steven.Branch@wake.gov	(919) 524-4597
Chief Mechanical and Plumbing Inspector	Ed Savage	Ed.Savage@wake.gov	(919) 524-4639

A copy of our Inspection Appeal Process can be found at
<http://www.wake.gov/inspect/Pages/Wake-County-Inspections-Appeals.aspx>



Wake County

Permits and Inspections

Building Permit Placard

Inspection Office
(919) 856-6222

Inspections Scheduling

<https://wakecountync-energypub.tylerhost.net/apps/SelfService>

NOTE - IT IS UNLAWFUL TO OCCUPY OR TO PERMIT THE OCCUPANCY OF ANY BUILDING FOR WHICH A CERTIFICATE OF OCCUPANCY HAS NOT BEEN ISSUED.

Issue Date: 04/27/2026

Address: 5105 LAURIE DR RALEIGH, 27606

Description: EXIST SFD: ENGINEERED FOUNDATION REPAIR
-"INTEELIJACKS" ***NO TRADES***

CONTRACTORS

General: Groundworks NC, LLC (Tar Heel Basement Systems)

Plumbing:

Mechanical:

Electrical:

(Do Not Remove or Deface This Card)

Building
Permit
Number

RABS-169025-2026

IMPORTANT - Contractor performing work must call in for all inspections. App plans must be on job before work will be inspected.

Note: Display this card in a conspicuous location such as driveway entrance.

REQUIRED INSPECTIONS	APPROVAL	DATE
FOOTING OR MONOLITHIC SLAB		
FOUNDATION (IF NEEDED)		
PLUMBING ROUGH		
MECHANICAL ROUGH		
ELECTRICAL ROUGH		
FRAMING		
INSULATION		
PLUMBING FINAL		
MECHANICAL FINAL		
ELECTRICAL FINAL		
BUILDING FINAL		
OPTIONAL INSPECTIONS		
TEMP CONSTRUCTION POLE		
PLUMBING GROUNDWORK		
MECHANICAL GROUNDWORK		
ELECTRICAL GROUNDWORK		
FOUNDATION FORMWORK		
FOUNDATION WATERPROOFING		
STRUCTURAL SLAB		
FLOOR FRAMING		
TOWNHOME PARTY WALL		
MARRIAGE WALL (MANUFACTURED HOME)		
WATER CONNECTION		
SEWER CONNECTION		

861-E N Dean Road
Auburn, AL 36830
P: 360.566.7343



STRUCTURAL CALCULATIONS
PREPARED FOR
TARHEEL BASEMENT SYSTEMS
FOR
HYLAND RESIDENCE
FOUNDATION REPAIR
5105 LAURIE DR
RALEIGH, NORTH CAROLINA

PROJECT NUMBER: 26.0039.TBR

DATE: March 19, 2026

PROJECT MANAGER: Susan Tagg, P.E.

COA: C-4876





861-E N Dean Road
Auburn, AL 36830
P: 360.566.7343

March 19, 2026

Project No.:26.0039.TBR

Tarheel Basement Systems
3333 Air Park Rd
Fuquay-Varina, North Carolina 27526

RE: Foundation Repair - 5105 Laurie Dr, Raleigh, North Carolina

PROJECT BACKGROUND

Stark Foundations was retained to review, analyze and provide recommendations for the proposed foundation and structural repairs provided by Tarheel Basement Systems for the above-mentioned address. Based on field data (photos, measurements, etc.) provided to Stark Foundations by the contractor, we understand the structure is a single-family residence and the owner wishes to provide additional framing support. It is our understanding (2) Intellijack systems have been recommended by the contractor. A recent field sketch (attached) indicates the proposed locations of repair.

This engineering report is based on the contractor's findings from the initial site inspection and provides professional recommendations for repairs. These recommendations are tailored to the observed conditions, limited to the data collected during the visit, and aligned with standard engineering practices and the intent of applicable building codes.

GEOLOGIC SETTING

The existing structure is located in Raleigh, North Carolina. Based on the information provided by the USDA Web Soil Survey, the general site condition in the area is comprised of sandy loam and the site is relatively flat.

SUMMARY

Based on our scope of work, determining the design load, the design load requirement for the Intellijacks is 3000 lbs, and based on the technical manual for the Intellijack system, this is acceptable as the allowable load is 24100 lbs.

Stark Foundations was not engaged to perform a separate site visit and bears no liability for issues beyond the provided field data. Should site conditions differ from those documented, please notify Stark Foundations promptly to assess any impact on the provided recommendations or structure.

Regards,



Susan Tagg, P.E.
Stark Foundations



PROJECT

Foundation Repair
5105 Laurie Dr
Raleigh, North Carolina

Date: 19-Mar-26
Designed by: MSY

Project No.: 26.0039.TBR

Design Criteria

Code(s):

2018 North Carolina State Building Code
International Building Code (IBC) 2015
International Residential Code (IRC) 2015

Design Loads:

Dead:

Roof = 15 psf
Chimney = 45 psf
Third Floor = 15 psf
Second Floor = 15 psf
First Floor = 15 psf
Walls = 30 psf
8" Foundation Wall = 100 psf
Soil = 110 psf

Live:

Roof (Snow) = 15 psf
Roof Live Load = 20 psf
Third Floor = 40 psf
Second Floor = 40 psf
First Floor = 40 psf

Wind: (not applicable)

Exposure = C

Wind Speed, V = 115 mph

Gust Factor, G = 0.85

Int. Pressure Coefficient, GC_{pi} = -0.18

Ext. Pressure Coefficient, C_p = 0.8

Design Wind Pressure:

where:

$$p_w = q_z (GC_{pi} - GC_{pe})$$

$$q_z = 0.00256 K_z K_{zt} K_d V^2$$

Therefore:

$$q_z = 28.8 \text{ psf}$$

$$p_w = 24.7 \text{ psf}$$

$$\text{Factored Wind Pressure, } p_w = 14.8 \text{ psf (say 15 psf)}$$

Design Load Combo = D + 0.6W
 $w = 0.6$

Height, $h_z = 30 \text{ ft}$

$$K_z = 1$$

$$K_d = 0.85$$

$$K_{zt} = 1$$

Risk Category = II

governs

Soil:
Allow Lateral Bearing Pressure = 100 psf/ft
Active Pressure = 75 psf/ft



PROJECT

Foundation Repair
5105 Laurie Dr
Raleigh, North Carolina

Date: 19-Mar-26
Designed by: MSY

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Intellijack Design - Worst Case

Vertical Design Loads:

Tributary Widths:

Dead:

Roof =	0	ft	----->	0	plf
Third Floor =	0	ft	----->	0	plf
Second Floor =	0	ft	----->	0	plf
First Floor =	10	ft	----->	150	plf
Walls =	0	ft	----->	0	plf
Foundation Wall (height) =	0	ft	----->	0	plf
Soil (height) =	0	ft	----->	0	plf
				$\Sigma DL =$	150 plf

Live:

Roof (live) =	0	ft	----->	0	plf
Third Floor =	0	ft	----->	0	plf
Second Floor =	0	ft	----->	0	plf
First Floor =	10	ft	----->	400	plf
				$\Sigma LL =$	400 plf

Max Pier Spacing or Trib = 4 ft

Pier Working Loads:

$$\begin{aligned} P_{DL} &= 600 \text{ lbs} \\ P_{LL} &= 1600 \text{ lbs} \\ \text{Working Load, } P_{TL} &= 3000 \text{ lbs} \end{aligned} \quad (\text{ASCE 7-16 Load Combo 4 Governs})$$

Pier Type: Intellijack

Intellijack Column: Allowable Compression for system heights up to 9ft = 24.1 kips

Footing Check:

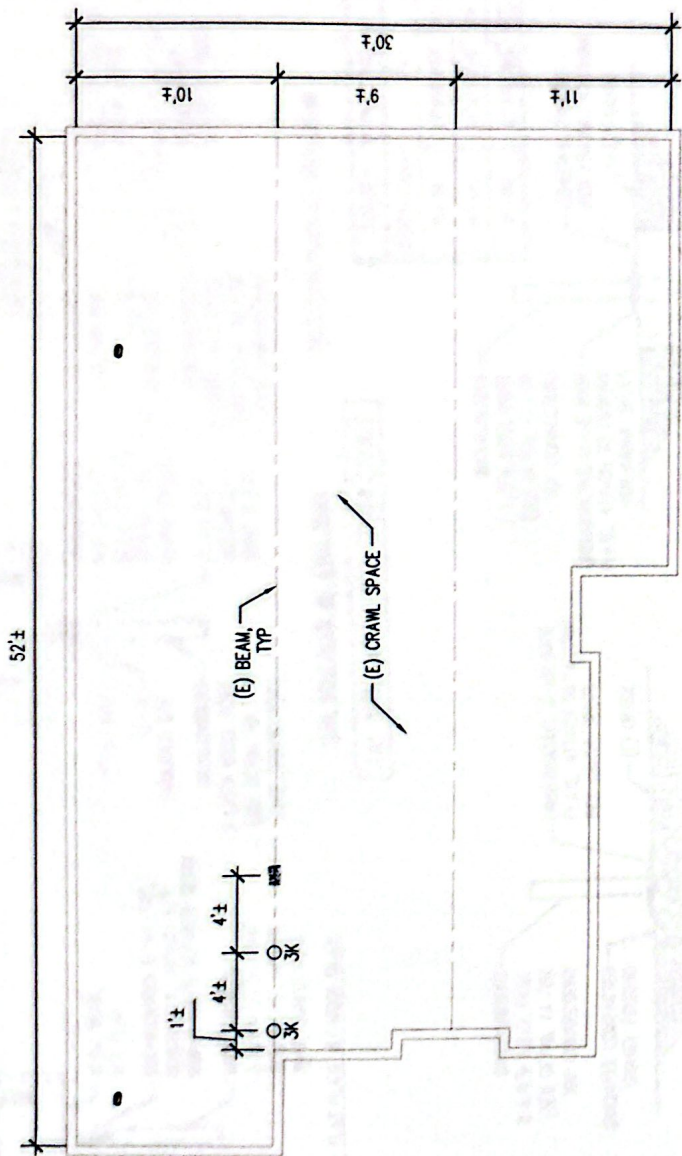
Allowable Bearing Pressure = 1500 psf

Footing Type	Length (in)	Width (in)	Depth (in)	A_{FTG} (ft ²)	Soil Pressure (psf)
CIP Concrete	18	18	10	2.25	1333
Gravel	24	24	12	4	750
Endurocrete IJ-IC	24	24	12	4	750
-	-	-	-	-	-

<1500 psf OK

<1500 psf OK

<1500 psf OK



FRONT OF HOME

LEGEND	
○	INDICATES INTELLIJACK & UNFACTORED DESIGN LOAD (KIPS) SEE DETAIL 1/52.0
■	INDICATES (E) CMU PIER

1 FOUNDATION REPAIR PLAN

SCALE: 1/8"=1'-0"

PLAN NOTES:

1. FIELD VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. NOTIFY STARK FOUNDATIONS OF ANY DISCREPANCIES.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE STRUCTURAL STABILITY OF ALL NEW AND EXISTING STRUCTURES DURING CONSTRUCTION. THIS INCLUDES, BUT NOT LIMITED TO, EXCAVATIONS, COLUMNS, EQUIPMENT LOADS, MATERIAL LOADS, AND OTHERS. BRACING AND SHORING IS TO BE INSTALLED PER THE LATEST OSHA STANDARDS. THE DESIGN AND OBSERVATIONS BY STARK FOUNDATIONS DO NOT INCLUDE INSPECTIONS OF TEMPORARY LOADING AND STABILITY DURING CONSTRUCTION.

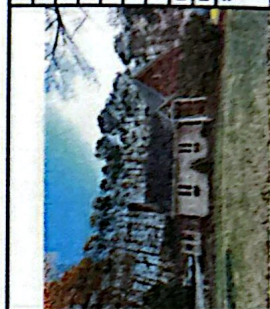
STAMP

PROJECT

FOUNDATION REPAIR
HYLAND RESIDENCE
5105 LAURIE DR
RALEIGH, NC

CLIENT

TAR HEEL
BASEMENT SYSTEMS
3333 AIR PARK RD
FUQUAY-VARINA, NC



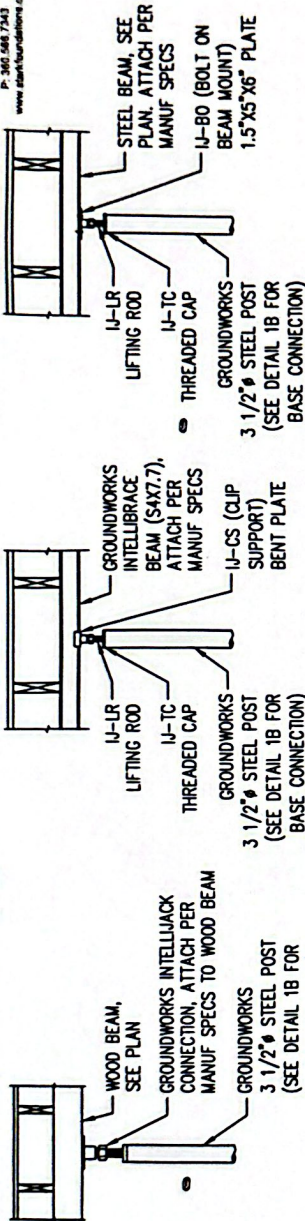
FRONT ELEVATION

FDN REPAIR PLAN

SHEET NUMBER

S1.0

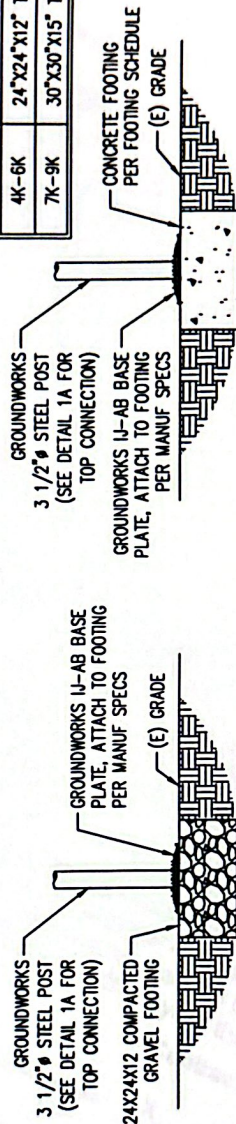
- SUPPLEMENTAL/REPLACE WOOD TO THE SUBMITTAL FILLING TO THE BOTTOM OF THE FOOTING SHALL NOT BE LESS THAN THE FROST DEPTH.
- CAPACITY ASSUMES AN ALLOWABLE SOIL BEARING PRESSURE OF 1500 PSF.
- CONCRETE COMPRESSIVE STRENGTH, $F'_c = 2500$ PSI.
- CONCRETE COMPRESSIVE STRENGTH, $F'_c = 2500$ PSI.
- CONCRETE COMPRESSIVE STRENGTH, $F'_c = 2500$ PSI.



1A.A: FLAT PLATE W/ WOOD BEAM
 1A.B: BENT PLATE W/ STEEL BEAM
 1A.C: FLAT PLATE W/ STEEL BEAM

1A: INTELLIJACK TOP CONNECTIONS

DESIGN LOAD	SIZE
1K-3K	18"x18"x10" THK
4K-6K	24"x24"x12" THK
7K-9K	30"x30"x15" THK



1B.A: BASE PLATE W/ GRAVEL FOOTING
 1B.B: IJ-AB BASE PLATE W/ CONCRETE FOOTING
 1B.C: ENDURO WHEEL W/ GRAVEL FOOTING

1B: INTELLIJACK BASE CONNECTIONS

1 INTELLIJACK DETAIL

SCALE: 3/8"=1'-0"

STAMP

PROJECT



FOUNDATION REPAIR
 HYLAND RESIDENCE
 5105 LAURIE DR
 RALEIGH, NC

CLIENT
 TAR HEEL
 BASEMENT SYSTEMS
 3333 AIR PARK RD



NO	REVISIONS	BY	DATE
ISSUED:	03.19.26	PROJ NO.:	26.0039.TBR
DRAWN BY:	MSY	CHECKED BY:	DS

SHEET TITLE
DETAILS



Raleigh
8005 Knightdale Blvd
Knightdale, NC 27545

Phone: (919) 230-4226

Licensed Contractor
79336

Customer and Account Number
Ethan Hyland

Project Location
5105 Laurie Drive Raleigh, NC 27606

Date
3/10/2026
Phone (Work or Home)
2079999047
E-mail
hylande@gmail.com

PROPOSED PRODUCTS

	QTY
SettleStop IntelliJack (1-3')	2.0
Permit Package A	1.0
Engineering B	1.0
Site Work/Obstruction	1.0

Subtotal	\$4,762.91
Discount	\$238.15
Contract Price	\$4,524.76

This Contract, along with the Terms and Conditions, the Warranties, the Notice of Cancellation, and the Payment Terms form the contract (the "Contract") between the Customer and Groundworks North Carolina, LLC (the "Contractor").

X NA Customer is responsible for removing all personal items from the work area.
X NA Customer assumes responsibility for damages to hidden or unmarked utility lines.
X EST Stabilization is warranted. Contractor can attempt to lift at Customer's request.

X NA A full perimeter drainage system with sump pump was recommended.
X EST Customer is aware of warranty and all addenda.
X NA Customer is responsible for providing all necessary electrical outlets.

Acceptance of Contract - The above prices, specifications, conditions, and separate warranty are satisfactory and hereby accepted. You are authorized to do work as specified. Payment will be made as outlined above or in accordance with the attached addendum. Subject to the Terms and Conditions, Contractor shall endeavor to start work within one hundred fifty (150) days of the date of the Contract and shall endeavor to complete the work within an estimated one hundred twenty (120) days of the start date of the work..

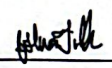
Customer

X _____ 

X _____

Date _____ 3/10/2026

Contractor

X _____ 

Date _____ 3/10/2026

emental Notes Groundworks North Carolina, LLC to:

Product Specifications

- Permit package includes all administration duties and permit fees associated with project.
- Site work and/or obstructions on project.
- Install Intellijack support system to stabilize floor joist or beams as shown. Galvanized steel Intellijack is adjustable and installed with gravel and concrete footing. Lift can be attempted at the customer's request but achievement of any lift or leveling cannot be promised. The customer understands and agrees that attempting lift can cause interior damage and the customer assumes full responsibility for any damage caused by their request for lift. Final location of the Intellijacks are subject to change. Intellijacks come with a 25-year manufacturer's warranty and a 2-year adjustability warranty. See warranty section for full details.
- Engineering package includes all administration duties, engineering documentation and fees associated with project.

Contractor Agrees to

- Attempt to lift the foundation, but is not responsible for cosmetic damages that may occur - Attempt to straighten the foundation wall(s). Stabilization is guaranteed and all attempts will be made to correct walls.

Customer agrees to

- Make final payment to foreman after completion of work.
- Be present during any lift procedure.