

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER PERMIT

NO PERMIT(S) FOR CONSTRUCTION, LOCATION OR RELOCATION ACTIVITY SHALL BE ISSUED UNTIL AN AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION AUTHORIZATION HAS BEEN ISSUED

PERMIT VOID IF NOT IN COMPLIANCE WITH ZONING REGULATIONS AND/OR IF SITE IS ALTERED OR INTENDED USE CHANGED

OPERATIONS PERMIT

PERMIT # WRP-140145-2025 **APPLICATION DATE:** 01/29/2025 **BLDG. PERMIT#:** RBPR-140144-2025
PIN: 1709859212 **RECORDED:** Yes
TOWNSHIP: 02 - Bartons Creek **JURISDICTION:** Wake County **ZONING:** R-40W
APPLICANT: Jordan Smith
2301 Stonehenge Dr Suite 107 **BUSINESS PHONE:**
HOME PHONE: (919) 601-5811
MOBILE PHONE:
HD USE: 101A CONVENTIONAL ONE-FAMILY HOUSE **EXISTING USE:**
SITE ADDRESS: 2008 CADENZA LN
SUBDIVISION: ROSE HALL **LOT:** 13 **ACRES:** 0.92
DIRECTIONS: Left onto Honeycutt Rd from Brassfield Rd and left on Cadenza Ln

Systems defined as either type III-b, III-g with a pump, IV, V or VI, in accordance with the North Carolina administrative code 15A NCAC 18a .1961, table V as adopted by reference in the "Regulations Governing Wastewater Treatment Dispersal Systems in Wake County", requires Wake County Environmental Services to conduct periodic inspections of the system type pursuant to 15A NCAC 18a. 1961 (j). Fees for these inspections will be charged as per the approved Fee Schedule. In addition, all systems are to be operated and maintained as specified in 15A NCAC 18A .1961. This permit is based in part on information provided by the homeowner and/or his/her representative in the application submitted for this permit. The Environmental Health Specialist is not responsible for false or misleading information contained in the application. The environmental health specialist is also not responsible for concealed conditions on the property or for statements in this report that may have resulted from false or misleading statements provided to him/her in the application. Neither Wake County nor the Environmental Health Specialist warrants that the septic tank system will continue to function satisfactorily in the future or that the water supply will remain potable.

OPERATION PERMIT VALID FOR: No Expiration

INSTALLED BY: TRUELOVE, DAVID H - 1243 - IV

PROPRIETARY SYSTEM: PPBPS - Horizontal

PRETREATMENT SYSTEM:

SYSTEM TYPE INSTALLED: III BE

OPERATION PERMIT: STATUS: Issued

ISSUED BY: Bailey Stiles

ISSUED DATE: 07/30/2026

SEPTIC TANK: David Brantley & Sons - STB-323 - 1250 gallons

DATE OF MANUFACTURE:

FILTER: Polylok - PL-68

GREASE TRAP:

DATE OF MANUFACTURE:

FILTER:

DOSING PUMP TANK: Brantley - PT-2124 - 1312 gal - 21.5 gal/in

DATE OF MANUFACTURE:

FILTER:

CC1: 999,811

ETM1: 0

CC2:

ETM2:

RECIRCULATION TANK:

DATE OF MANUFACTURE:

CC1:

ETM1:

CC2:

ETM2:

SEPTIC TANK ELEVATION: 4.60

GREASE TRAP ELEVATION:

DOSING PUMP TANK ELEVATION: 5.30

RECIRCULATION TANK ELEVATION:

DISTRIBUTION DEVICE ELEVATION: 4

INSTALLED TRENCH DEPTH	INSTALLED AGGREGATE DEPTH	INSTALLED TRENCH LENGTH	INSTALLED TRENCH BOTTOM ELEVATION
20	14	80	4.75
20	14	60	4.917
20	14	60	5
20	14	60	5.833
20	14	60	6.33

ACTUAL PRESSURE HEAD: 2

ACTUAL FLOW RATE: 29

ACTUAL DOSE VOLUME: 258

SPECIFIC OPERATION REQUIREMENTS:

- System designed for a 4-bedroom home with a design flow of 480 gallons per day.
- Initial System is Type III B/E using Horizontal PPBPS with pressure manifold distribution and a 0.25 LTAR.
- Maximum trench depth for Initial System is 20" (limiting condition encountered at 36").
- Future Repair System is Type III B/E using Horizontal PPBPS with pressure manifold distribution and a 0.25 LTAR.
- Maximum trench depth for specified LTAR for Repair is 14" (limiting condition is bottom of pit at 38").
- Future Repair System uses at-grade placement and will require imported soil cover at time of installation. This imported soil must cover the entirety of the system area and extend beyond the system area 5 feet on all sides. A minimum of 6" of soil cover is required after settling; additional soil cover beyond 6" may be required to account for settling. Imported soil cover must be approved by Wake County Onsite Water Protection prior to placement. System area must be seeded and strawed for stabilization.
- Site to be served by community well.
- No cutting, grading, alterations, or utilities in septic area.
- Maintain all required setbacks.

ISSUED BY:

Bailey Stiles

DATE: 07/30/2026



LOCATION MAP
1" = 1000'

SITE DATA	
CURRENT OWNER	THOMPSON SMITH VENTURES, LLC
SITE ADDRESS	2008 CADENZA WAY
PIN	1709-85-9212
DEED REFERENCE	D.B. 19668, PG. 941
PLAT REFERENCE	B.M. 2007, PG. 372-374
ZONING	R-40W

IMPERVIOUS AREAS (S.F.)		BUILDING SETBACKS (R-40W)	
HOUSE	4036	FRONT	30'
DRIVE / WALK	1302	REAR	30'
CONC. PATIO	144	SIDE	15'
TOTAL	5482		
MAX.	12829		



Jeremy Taylor



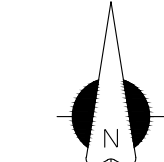
The Site Plan is for permitting purposes only. This shall not be considered a "Boundary Survey" as all property lines may have not been surveyed and monumented. This survey is not to be used for any conveyance or sale of the property.

WAKE COUNTY N.C. P.D.I.
REVISED SITE PLAN

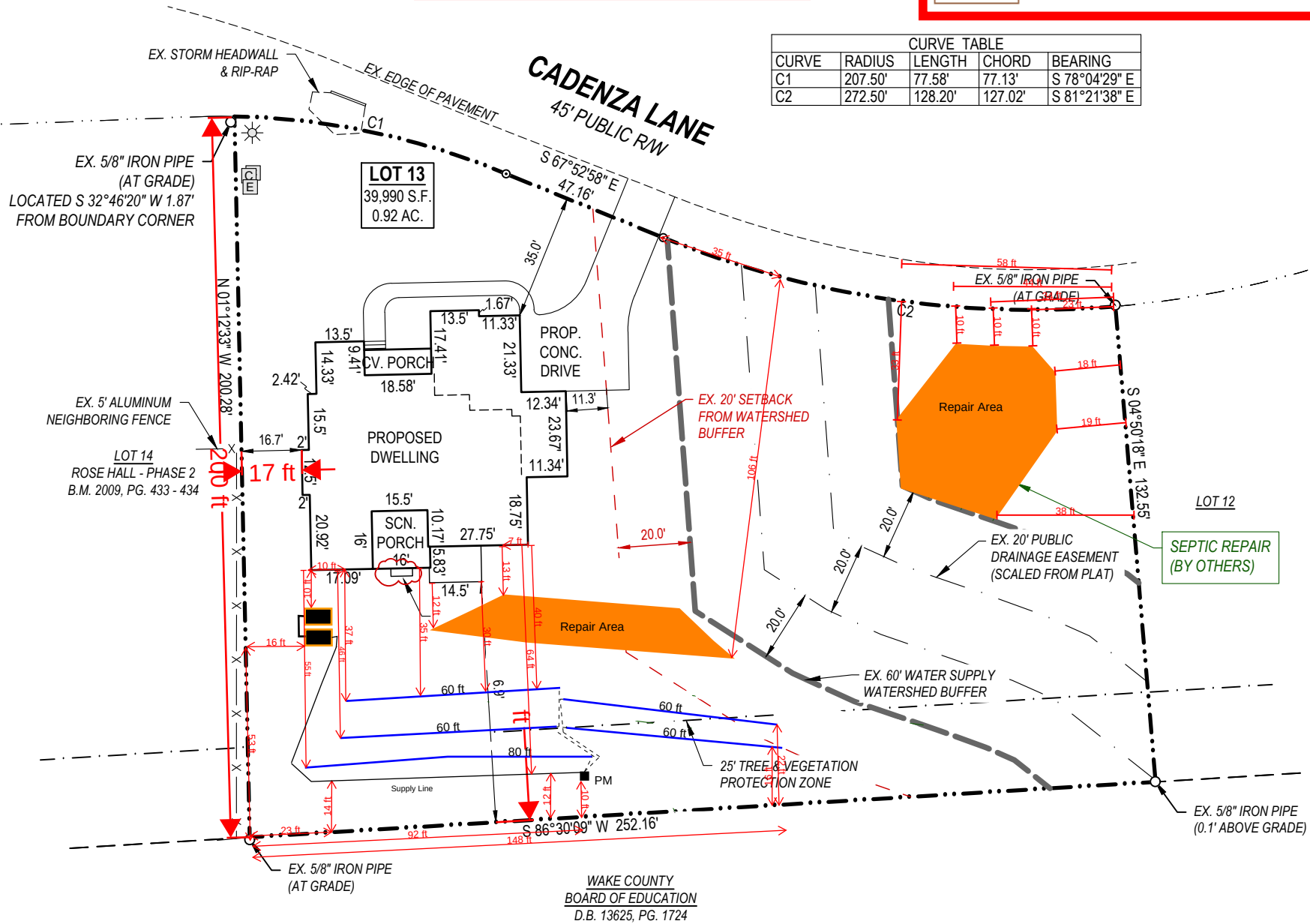
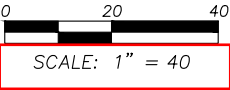


SITE PLAN APPROVED BY
WAKE COUNTY N.C. P.D.I.
Tiya Shields
03/13/2025 7:38:27 PM

CURVE TABLE				
CURVE	RADIUS	LENGTH	CHORD	BEARING
C1	207.50'	77.58'	77.13'	S 78°04'29" E
C2	272.50'	128.20'	127.02'	S 81°21'38" E



B.M. 2007, PG. 372-374



LEGEND:

- Ex. property corner
- Set property corner
- Calculated point
- ⊕ Water Meter
- ⊕ Sanitary Sewer Cleanout
- ⊕ Cable Pedestal
- X— Fence
- W— Water
- SS— Sanitary sewer pipe
- OP— Overhead Power
- B.M. Book of Maps
- D.B. Deed Book
- Pg. Page
- S.F. Square Feet
- Ac. Acres
- ⊕ Power Pedestal

SITE PLAN

LOT 13 - ROSEHALL
BARTON'S CREEK TOWNSHIP
WAKE COUNTY, NORTH CAROLINA

CLIENT

L & L OF RALEIGH
2301 STONEHENGE DR., #107
RALEIGH, NC 27615

REVISIONS

	DATE	REVISION
1	2/12/25	WAKE CO. REVIEW

DATE: 01/21/25

SHEET:

C-01
SITE PLAN



Health & Human Services

☎ 919 856 5700

Onsite Water Protection
P.O. Box 550 • Raleigh, NC 27602
336 Fayetteville St. • Raleigh, NC 27601
wake.gov

4/21/2025

REQUIREMENTS TO COMPLETE YOUR PRESSURE MANIFOLD SYSTEM

Dear Sir/Madam:

Enclosed is your approved pressure manifold installation plan and the "Pressure Manifold Sewage Disposal System Maintenance Information Sheet".

To complete your permit:

System Installation - A contractor **CERTIFIED** by the State of North Carolina to at least a **LEVEL II** certification, and **REGISTERED** in Wake County, must be used to install your system.

A copy of the "Pressure Manifold Sewage Disposal System Maintenance Information Sheet" and a copy of the "Wake County Well and Septic System Owner's Guide", which contain information essential to the long-term performance of this wastewater disposal system, must be forwarded to the owner or user of the system, if other than yourself.

ANY PROPOSED MODIFICATION TO THE APPROVED PLANS MUST BE COORDINATED WITH YOUR SYSTEM DESIGNER

Please call (919) 868-2560 or email alan.alcock@wake.gov if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Alan Alcock".

Alan Alcock, REHS
Environmental Health Manager

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER PERMIT

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Raleigh, NC 27615**BUSINESS PHONE:****HOME PHONE:** (919) 601-5811**MOBILE PHONE:****HD USE:** 101A CONVENTIONAL ONE-FAMILY HOUSE**EXISTING USE:****SITE ADDRESS:** 2008 CADENZA LN**SUBDIVISION:** ROSE HALL**LOT:** 13**ACRES:** 0.92**DIRECTIONS:** Left onto Honeycutt Rd from Brassfield Rd and left on Cadenza Ln

Contractors shall install system on contour. See attached SITE PLAN for wastewater system design and well location. No underground utilities, water lines or sprinklers systems may be located in the original system, or permit areas. A septic tank filter with two risers for access is required. The wastewater system shall not be covered or placed into use until inspected by the Wake County Department of Environmental Services and Operations Permit issued. An Accepted Status System may be used in place of conventional system, if it can be placed in the permitted/authorized trench footprint (except reduction in line length and/or number as allowed for in approval) and the installation in accordance with the accepted system approval, without unauthorized product alteration. If permit required use of an Accepted Status System, substitution with another accepted status system may be made, as long as no changes are necessary in the location of each nitrifications line (including any increase in line length), trench depth or effluent distribution method. If changes are necessary, prior approval by this office is required before system installation. Maximum depth of line is calculated using the downhill side of the trench and includes slope correction.

CONSTRUCTION AUTHORIZATION PERMIT VALID FOR: Five Years**CONSTRUCTION AUTHORIZATION PERMIT: CA STATUS:** Issued**BY:** Alan Alcock**DATE:** 04/21/2025**CA VALID FOR:** Five Years**DESIGN FLOW:** 480 GALLONS**BASEMENT:****BASEMENT FIXTURES:****SEPTIC TANK:** 1200 GALLONS**SEPTIC TANK FILTER:** Yes**DOSING PUMP TANK:** 1200 GALLONS**DOSING PUMP TANK FILTER:****GREASE TRAP:****GREASE TRAP FILTER:****RECIRCULATION PUMP TANK:****RECIRCULATION PUMP TANK FILTER:****PROPOSED SYSTEM:** PPBPS - Horizontal**EXISTING SYSTEM:** No**DRAINFIELD SQ. FT:** 960**AGGREGATE DEPTH:** 14**MAX. TRENCH DEPTH:** 20 INCHES**DISTRIBUTION DEVICE:** PM - Pressure Manifold**TRENCH #:** 5**TRENCH LENGTH:****TRENCH WIDTH:** 36 INCHES**TOTAL TRENCH LENGTH:** 320 FEET

80,60,60,60,60 FEET

CENTER SPACING: 9 FEET**MINIMUM SOIL COVER:** 6 INCHES

PRETREATMENT:
SUBFIELDS #:
PUMP TDH: 18.82 FEET

APPROVAL #:
PUMP DESIGN FLOW: 29.03
ZONE VALVE: No

ASDMS REQUIRED: No
P.E. SIGN OFF/ASBUILT REQUIRED: No

LINE OF CREDIT REQUIRED: No

OPERATOR REQUIRED: No

TRIPARTY AGREEMENT REQUIRED: No

SPECIFIC CONSTRUCTION AUTHORIZATION REQUIREMENTS:

THIS PERMIT IS FOR A FOUR (4) BEDROOM DWELLING (MAXIMUM OCCUPANCY OF 8) WITH 480 GALLONS DAILY FLOW. ALLOWED REDUCTIONS HAVE BEEN TAKEN FOR THE DESIGN OF THE INITIAL AND REPAIR SYSTEM FOR THIS 4 BEDROOM DWELLING. INITIAL SYSTEM IS A PUMP TO PRESSURE MANIFOLD FEEDING 5 UNEQUAL LINE LENGTH HORIZONTAL PPBPS DRAINLINES WITH 20" TRENCH BOTTOM. REPAIR SYSTEM IS A PUMP TO DUAL PRESSURE MANIFOLD FEEDING 6 UNEQUAL LINE LENGTH HORIZONTAL PANEL BLOCK DRAINLINES WITH 14" TRENCH BOTTOM. 1200 GALLON SEPTIC TANK AND 1200 GALLON PUMP TANK REQUIRED. FOUNDATION DRAIN ALLOWED.

THE REPAIR SYSTEM IS PERMITTED AS SHALLOW-PLACEMENT, WHICH WILL REQUIRE IMPORTED SOIL COVER AT THE TIME OF INSTALLATION. THIS IMPORTED SOIL MUST COVER THE ENTIRETY OF THE SYSTEM AREA AND EXTEND BEYOND THE SYSTEM AREA 5 FEET ON ALL SIDES. A MINIMUM OF 6" OF SOIL COVER IS REQUIRED AFTER SETTLING, SO ADDITIONAL SOIL MATERIAL BEYOND 6" MAY BE REQUIRED. IMPORTED SOIL COVER MUST BE APPROVED BY WAKE COUNTY, PRIOR TO PLACEMENT.

WHEN INSTALLING SYSTEM, MAINTAIN ALL REQUIRED SETBACKS. DO NOT DISTURB OR REMOVE ANY SOIL IN INITIAL OR REPAIR AREAS. MUST MAINTAIN REQUIRED EMERGENCY STORAGE IN THE PUMP TANK. A NEMA 4X CONTROL PANEL WITH TWO BREAKERS, TWO POWER SUPPLIES, ELAPSED TIME METER AND CYCLE COUNTER ARE REQUIRED. IF FLAGS ARE MISSING, CONTACT CONSULTANT TO RE-FLAG SYSTEM PRIOR TO INSTALLATION.

THIS SYSTEM MUST BE INSTALLED PER THE APPROVED DESIGN, PLAN AND SPECIFICATIONS. ANY DEVIATION MUST BE APPROVED BY THE DESIGNER AND WAKE COUNTY ONSITE WATER PROTECTION PRIOR TO SYSTEM INSTALLATION. PLEASE CONTACT WAKE COUNTY ONSITE WATER PROTECTION IF ANY QUESTIONS OR PROBLEMS ARISE PRIOR TO INSTALLATION.

Issued By:



Date: 04/21/2025

HOMEOWNER GUIDE FOR UTILIZATION AND MAINTENANCE OF ON-SITE WASTEWATER DISPOSAL SYSTEMS

What is an On-site Wastewater Disposal System?

There are a number of different types of on-site wastewater disposal systems each designed for your specific site conditions. However, there are several system components that are common to most systems. These include the following:

1. **A septic tank** - a concrete tank that is designed to receive wastewater from the house and to provide a degree of pretreatment for the waste, chiefly through removal of some of the solids in the waste. Note that these solids accumulate over time and necessitate periodic pumping of the septic tank. Currently septic tanks are equipped with two access risers (normally constructed of concrete) which are designed to be at least 6 inches above the ground surface to prevent surface and shallow groundwater from entering the septic tank and to provide access for maintenance. **Care must be taken not to damage or cover these risers so that water intervention can be prevented, and the tank can be accessed for maintenance.**
2. **In some installations, a pump tank** - a concrete tank, very similar to the septic tank, which contains a pump along with the associated controls/componentry. The pump tank and pump is designed to receive effluent from the septic tank, and pump the wastewater to a disposal field located at a higher elevation and/or to a pressurized distribution network in the disposal field. **The pump tank also has an access riser which must be protected in a similar manner to that indicated for the septic tank.** Servicing of the pump tank components often necessitates the assistance of a professional such a septic tank installer or Certified Subsurface System Operator. The later is required for operation and maintenance of certain types of systems.
3. **A disposal field** - a series of subsurface trenches and lines that are designed to distribute the wastewater into the soil and provide for the ultimate treatment and disposal of the wastewater. There are numerous variations on the design of the disposal field, related chiefly to the type of system chosen, site constraints, etc. Dependent on the type of disposal system, you may have to maintain a contract with a Certified Subsurface System Operator for operation and maintenance of your wastewater disposal system.

Utilization of Your Wastewater Disposal System

In order to obtain the maximum efficiency and life expectancy from your system, the following simple procedures must be adhered to:

1. **Practice water conservation.** This can include many practical considerations such as not leaving the water running while you brush your teeth, not overfilling the tub, limiting time in the shower, not replacing low flow fixtures with those of higher flows, over rinsing dishes (allow the dishwasher to do its job), immediate repair of any leaking fixtures, running washing machines and dishwashers only when full, etc.

NOTE: Washing machines generate significant volumes of wastewater. As a result, laundry activities should be spread over the week as opposed to accumulating all of laundry until the weekend.

2. **Do not utilize your wastewater disposal system as a trash can by dumping nondegradables down your drains or toilet.** These include cigarette butts, sanitary products, grease, plastics, disposable diapers, etc. Avoid use of garbage disposals. Do not retrofit garbage disposals unless the system is specifically permitted for their use. Also, do not dump harmful chemicals down the drain. These include petroleum products, paint thinner, paint, pesticides, antifreeze, etc.

Maintenance of Your Wastewater Disposal System

Every wastewater disposal system requires maintenance in order to function properly. The specific maintenance required is related to the type of system. The following are general considerations that apply to all systems.

1. **Protect your wastewater disposal system components including the tanks, access risers, disposal field and associated components.** Do not drive or park on any portion of the system. The area over the disposal field should be left undisturbed with the grass cover being maintained as you would your lawn. Location of trees and shrubs on or in close proximity to the disposal field is not recommended since roots may clog or damage your drain lines. Additionally, great care must be exercised when considering the addition of any structure(s) to the site. The location of any appurtenances cannot encroach on the installation or repair areas for your system. It is not recommended that irrigation systems be located in proximity to the disposal system since their construction can cause system damage and/or result in additional hydraulic load on the disposal field.
2. **Protect the system from excess surface and shallow groundwater.** The land surface on and around the wastewater disposal system should be landscaped to shed rainfall and runoff and prevent ponding. Be sure that foundation drains, runoff from roofs and drives, etc. are diverted away from the disposal system.
3. **Regularly have the septic tank/pump tank pumped and cleaned by a permitted septage hauler.** Although the necessary frequency of pumping varies with the

household, most tanks need pumping at a frequency of 3-5 years and at any time solids occupy one-fourth to one-third of the septic tank liquid depth.

Note that all septic tanks being currently installed incorporate an effluent filter within the outlet compartment of the septic tank. This filter is to be cleaned anytime the septic tank is pumped. If plumbing becomes sluggish, this filter should be checked. If filter service is found.

4. **Be alert to warning signs that your system may not be functioning properly.** These include sewage surfacing over the disposal system, sewage backups/slow draining in the house, lush growth over the disposal system, sewage odors, etc.
5. **Do not make or allow repairs to your system unless all necessary permits are obtained from Wake County Onsite Water Protection Division.**
6. **Commercial additives for septic tank systems** - It has generally not been demonstrated that these additives enhance the function of septic systems or reduce the need for tank pumping and other necessary maintenance.
7. **Special maintenance considerations** - As already alluded to, some of the more complex wastewater disposal systems require that you retain/maintain the services of a Certified Wastewater System Operator in order to comply with Laws and Rules and maintain a valid operation permit for your system. In Wake County this maintenance requirement should be recorded with Register of Deeds if applicable.

Where Do I Obtain Information and Assistance?

If you are purchasing a new home, you should request a copy of your wastewater system permit from the builder/seller along with information regarding any special maintenance requirements. You may also obtain information and assistance from the **Wake County Onsite Water Protection Division**, 336 Fayetteville Street, Raleigh, NC 27602. Telephone (919) 856-5700.



PRESSURE MANIFOLD SYSTEMS

A Pressure Manifold System is one of several types of septic systems approved for use in Wake County. The Pressure Manifold System, while somewhat more expensive to install, is a flexible and high-quality method of wastewater disposal. A pump doses a pressure distribution manifold that disperses the effluent evenly to each trench. Dosed systems are more common for larger flows. The manifold can be constructed with different size taps to accommodate different trench lengths. This allows for better utilization of the area on the lot. The pressure manifold can include valves or plugs that permit more control over trench loading or trench resting.

Experience and study have shown that pressure manifold systems require routine maintenance in order to function properly. Items 1, 4 and 6 are also recommended for conventional septic systems. The maintenance schedule frequency is as follows:

<u>System Component</u>	<u>Frequency</u>	<u>Maintenance</u>
1. Septic Tank	6-12 months 1-3 years	Check riser condition (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation. Check and clean septic tank filter. Pump septage when 1/3 to 1/4 of the liquid capacity of the tank is occupied by solids.
2. Pump or Dosing Tank	6-12 months	Check riser conditions (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation. Pump sludge accumulation as required and when septic tank is pumped. Check pump(s), controls, floats, electrical connections, and alarm for proper operation. Wash (hose) sludge accumulation from pump housing.
3. Supply lines (Manifold)	6-12 months	Check for settling, pipe exposure and leakage.
4. Ground Absorption Field	1-4 weeks 6-12 months	Maintain vegetative cover (mow grass and remove weeds and brush). Check for settling, erosion and surfacing of effluent. Check site drainage, eliminate low or settled areas and divert surface or shallow groundwater movement around fields.
5. Pressure Manifold	6-12 months	Flush sludge from pressure manifold (any discharge sludge and effluent is to be treated with a chlorine solution). Check and reset pressure head.
6. General	At all times	Prohibit vehicular or equipment traffic on ground absorption field. Prohibit tillage (gardening) or other soil disturbance over ground absorption field. Practice water conservation to reduce wastewater load on system. Do not permit entry of grease and non-domestic waste to system. Use of a garbage disposal is <u>prohibited</u> . Addition of chemical or biological additives has <u>not</u> been demonstrated to be necessary to maintain proper system function. Prevention of root intervention on lateral lines and trenches may be necessary on certain sites. Surface and groundwater diversion structures must be maintained.

A certified operator may be required.



LOCATION MAP
1" = 1000'

SITE DATA	
CURRENT OWNER	THOMPSON SMITH VENTURES, LLC
SITE ADDRESS	2008 CADENZA WAY
PIN	1709-85-9212
DEED REFERENCE	D.B. 19668, PG. 941
PLAT REFERENCE	B.M. 2007, PG. 372-374
ZONING	R-40W

IMPERVIOUS AREAS (S.F.)		BUILDING SETBACKS (R-40W)	
HOUSE	4036	FRONT	30'
DRIVE / WALK	1302	REAR	30'
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TOTAL	5482		
MAX.	12829		



Jeremy Taylor

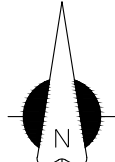


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WAKE COUNTY N.C. P.D.I.
REVISED SITE PLAN



SITE PLAN APPROVED BY
WAKE COUNTY N.C. P.D.I.
Tiya Shields
03/13/2025 7:38:27 PM

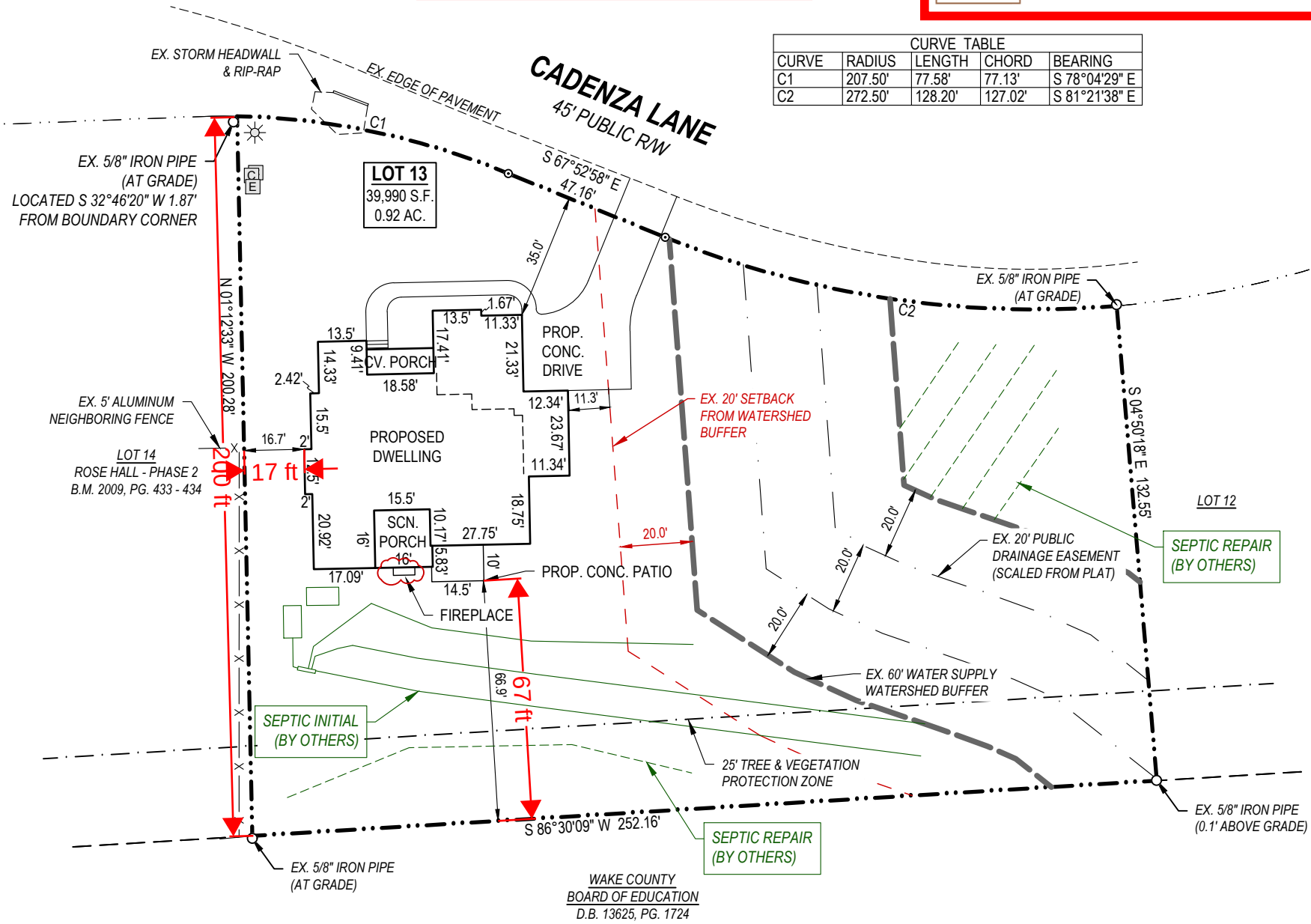


B.M. 2007, PG. 372-374

0 20 40

SCALE: 1" = 40'

CURVE TABLE				
CURVE	RADIUS	LENGTH	CHORD	BEARING
C1	207.50'	77.58'	77.13'	S 78°04'29" E
C2	272.50'	128.20'	127.02'	S 81°21'38" E



LEGEND:

- Ex. property corner
- Set property corner
- Calculated point
- ⊕ Water Meter
- ⊕ Sanitary Sewer Cleanout
- ⊕ Cable Pedestal
- X— Fence
- W— Water
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- B.M. Book of Maps
- D.B. Deed Book
- Pg. Page
- S.F. Square Feet
- Ac. Acres
- ⊕ Power Pedestal

SITE PLAN

LOT 13 - ROSEHALL
BARTON'S CREEK TOWNSHIP
WAKE COUNTY, NORTH CAROLINA

CLIENT

L & L OF RALEIGH
2301 STONEHENGE DR., #107
RALEIGH, NC 27615

REVISIONS

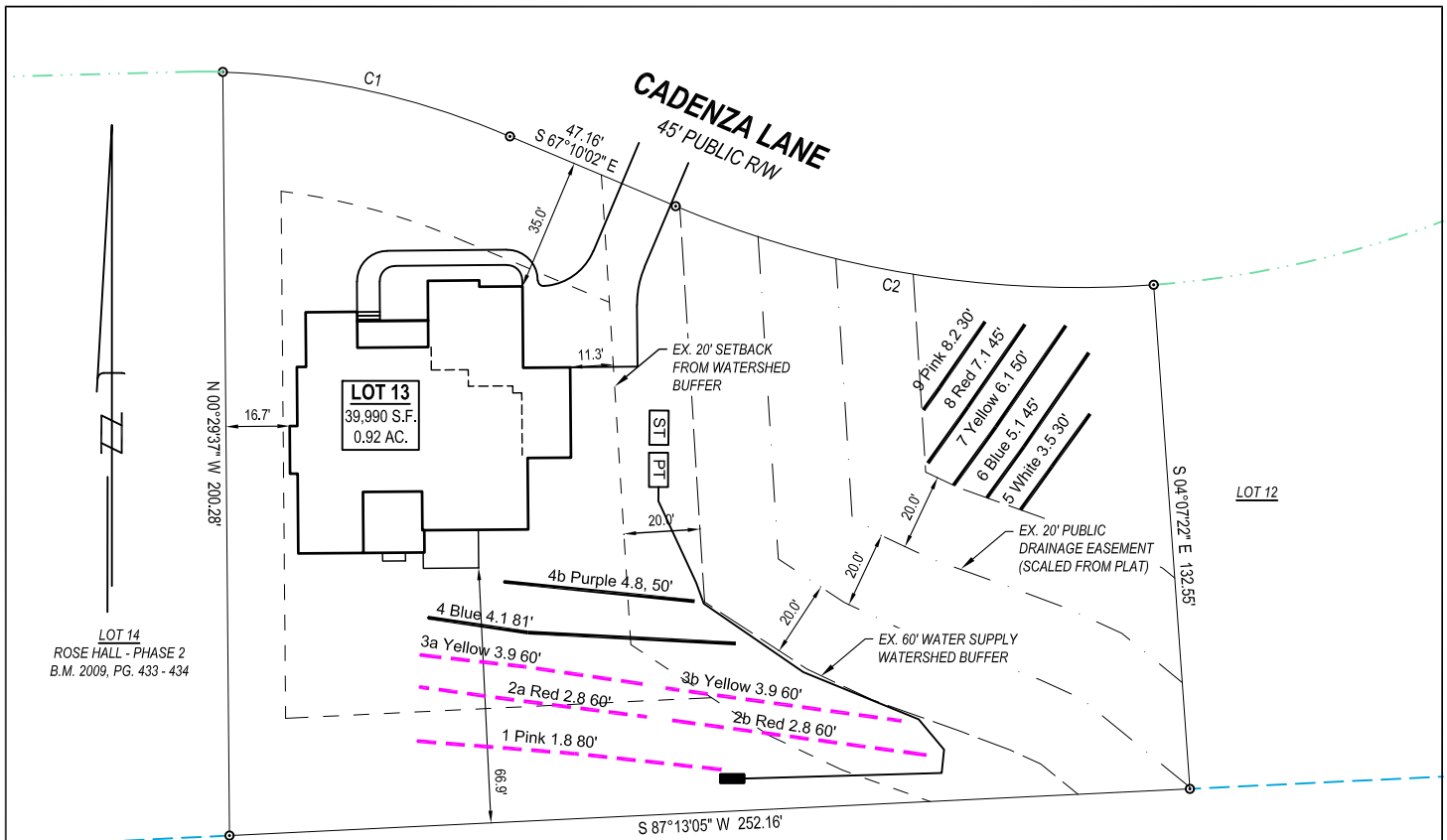
1	2/12/25	WAKE CO. REVIEW

DATE: 01/21/25

SHEET:

C-01
SITE PLAN

CA Part B



WAKE COUNTY
BOARD OF EDUCATION
D.B. 13625, PG. 1724

System: ---
Repair: ---

System: Pressure Manifold
Lines: 1-3, (320')
PPBPS, Horizontal
0.25 Soil LTAR

Repair: Dual Manifolds
Lines: 4-9, (331')
Horizontal PPBPS
0.25 Soil LTAR

- *Keep tanks and drain lines 10' from property lines.
- *Not a survey.
- *Not a guarantee of a septic permit.
- *Keep supply lines >5' from property lines.
- *Some lines are flagged longer in the field than lengths indicate.
- *No grading septic area.

GRAPHIC SCALE
1" = 50'



Central Carolina Soil Consulting, PLLC
1900 South Main Street, Suite 110
Wake Forest, North Carolina 27587
Phone (919)569-6704 Fax (919)569-6703

4-Bedroom Septic Layout
Lot 13, Rose Hall Subdivision
Wake County, North Carolina

Job# : 5103
Drawn By : JH
Date : 01/10/2025
Revision: 3/20/25



**Environmental
Services**

TEL 919 856 7400
FAX 919 856 7407

Water Quality Division
336 Fayetteville St. • P.O. Box 550 • Raleigh, NC 27602
www.wakegov.com/water/

Application Revision Form

Wastewater Permit: WRP-140145-2025 Building Permit: RBPR-140144-2025

Parcel PIN: 1709859212

☒ Change Number of Bedrooms from 5 to 4

☐ Change Applicants Name to _____
Must have account in permit portal

☐ Change Number of Employees _____

☐ Change Basement: Circle one: Yes No Partial (Demonstrate location on attached site plan)

☐ Change project Address _____

☐ Other _____

Applicant Signature: _____

A handwritten signature in blue ink, appearing to read "Jordan V. D.", written over a horizontal line.

Date: _____

4/8/25

Pressure Manifold Design Packet
for
T&J Panel Block, Horizontal

Location of System:

Rose Hall Subdivision, Lot 13
Wake County, North Carolina

System Designed By:

James Rice
Central Carolina Soil Consulting, PLLC
Wake Forest, North Carolina

4/1/2025



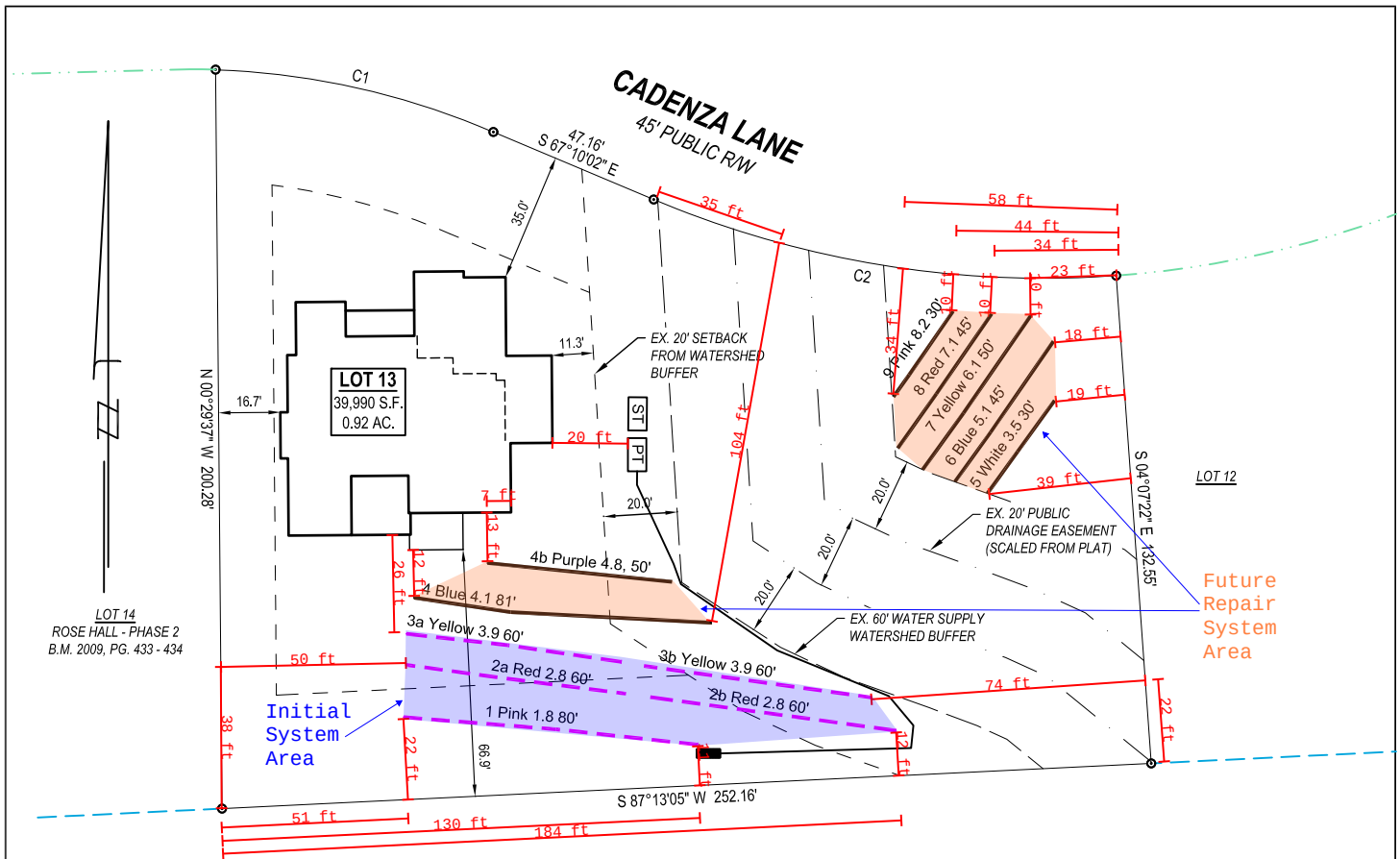
**Department of Health & Human Services
Wake County**

Approved by

A handwritten signature in black ink, appearing to read "Alan Alcock".

Date : 04212025

Review of this document has been made only for conformance with the design concept of the project and approval shall not relieve the designer and/or contractor from responsibility for any errors therein or for furnishing the materials, and equipment of proper dimension, size, quantity, quality and all performance characteristic to meet the requirements and intent of the contract documents.



WAKE COUNTY
BOARD OF EDUCATION
D.B. 13625, PG. 1724

System: ---
Repair: —

System: Pressure Manifold
Lines: 1–3, (320')
PPBPS, Horizontal
0.25 Soil LTAR

Repair: Dual Manifolds
Lines: 4–9, (331')
Horizontal PPBPS
0.25 Soil LTAR

- *Keep tanks and drain lines 10' from property lines.
- *Not a survey.
- *Not a guarantee of a septic permit.
- *Keep supply lines >5' from property lines.
- *Some lines are flagged longer in the field than lengths indicate.
- *No grading septic area.

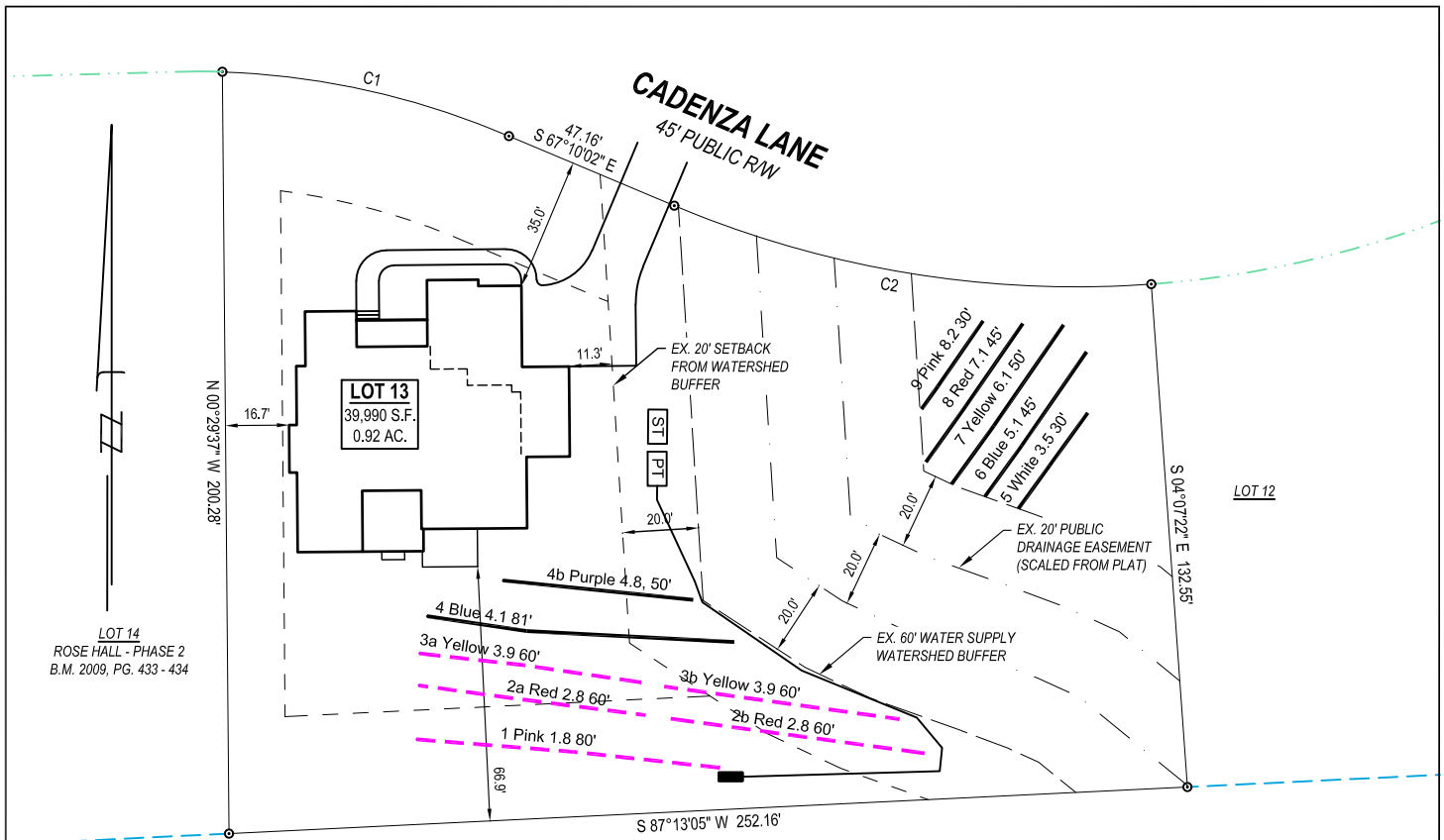
GRAPHIC SCALE
1" = 50'



Central Carolina Soil Consulting, PLLC
1900 South Main Street, Suite 110
Wake Forest, North Carolina 27587
Phone (919)569-6704 Fax (919)569-6703

4-Bedroom Septic Layout
Lot 13, Rose Hall Subdivision
Wake County, North Carolina

Job# : 5103
Drawn By : JH
Date : 01/10/2025
Revision: 3/20/25



WAKE COUNTY
BOARD OF EDUCATION
D.B. 13625, PG. 1724

System: ---
Repair: ---

System: Pressure Manifold
Lines: 1-3, (320')
PPBPS, Horizontal
0.25 Soil LTAR

Repair: Dual Manifolds
Lines: 4-9, (331')
Horizontal PPBPS
0.25 Soil LTAR

- *Keep tanks and drain lines 10' from property lines.
- *Not a survey.
- *Not a guarantee of a septic permit.
- *Keep supply lines >5' from property lines.
- *Some lines are flagged longer in the field than lengths indicate.
- *No grading septic area.

GRAPHIC SCALE
1" = 50'



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4-Bedroom Septic Layout
Lot 13, Rose Hall Subdivision
Wake County, North Carolina

Job# : 5103
Drawn By : JH
Date : 01/10/2025
Revision: 3/20/25

Rose Hall Subdivision, Lot 13

Layout and Design Specifications

Facility Type: Single-Family Dwelling
of Bedrooms: 4
Daily Flow: 480 gal/day
L.T.A.R.: 0.25 gal/day/ft²

Trench Depth: per WC permit inches on the downhill side of the trench
Trench Width: 36 inches
Product Depth: 8 inches
Sand Under Product: 6 inches

Manifold Length: 48 inches
Manifold Diameter: 4 inch SCH 80 PVC
Supply Line Length: 170 feet
Supply Line Diameter: 2 inch SCH 40 PVC
Supply Line Volume: 29.58 gallons

Friction Loss + Fitting Loss: 4.72 feet (supply line length + 70' for fittings in pump tank)
Design Head: 2 feet
Elevation Head: 12.1 feet
Total Head: 18.82 feet

Dose Volume: 266.40 gallons
Drawdown: 13.56 inches @ 19.65 gal/in
Pump Run Time: 9.18 minutes

Control Panel: SJE Rhombus Model 112 (or approved equivalent)
Pump: Zoeller Model 140 Flow-Mate (or approved equivalent)
Septic Tank Effluent Filter: Polylok PL-68 effluent filter (or approved equivalent)

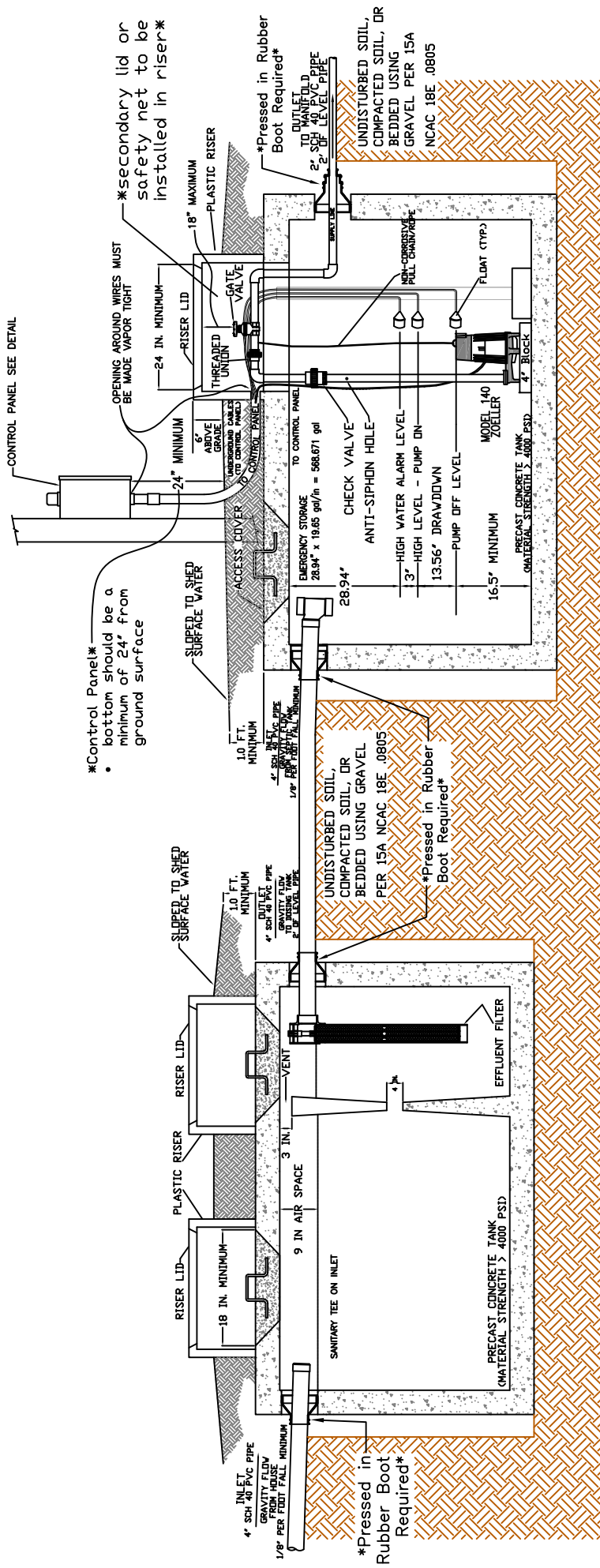
Septic Tank: Brantley 1,250 Gallon ST
Pump Tank: Brantley 1,200 Gallon PT

Total Number of Panels: 74
Panel Block Orientation: Horizontal

Rose Hall 13 T&J Panel Block, Tap Chart (Initial System)

Bench Mark:		is = 100.00 Location of BM:		Elevation Head:		12.10						
Pump tank elev.		7.5	92.50	Pump elev.		87.10	Manifold elevation:		99.20			
line	color	rod read	Elevation	length	hole size	flow/tap	gal/day	trench area	LINE LTAR	# of Panels	Spacing of Panels (in)	Feet of 1.5in PVC
1	Pink	1.80	98.20	80	1/2in SCH 40	7.11	117.56	240	0.4898	18	6.9	68
2a	Red	2.80	97.20	60	1/2in SCH 80	5.48	90.61	180	0.5034	14	5.1	52
2b	Red	2.80	97.20	60	1/2in SCH 80	5.48	90.61	180	0.5034	14	5.1	52
3a	Yellow	3.90	96.10	60	1/2in SCH 80	5.48	90.61	180	0.5034	14	5.1	52
3b	Yellow	3.90	96.10	60	1/2in SCH 80	5.48	90.61	180	0.5034	14	5.1	52

						Total Number of Panels:	74		
	total	feet =	320	gal/min =	29.03	T&J Panel Block Orientation:	Horizontal		
						<u>LTAR =</u>	0.2500		
% of Dose Volume	0	<u>Des. Flow</u>	480			<u>LTAR + %5</u>	0.2625		
Dose Volume	266.40	Pump Run=	16.53			(ltar W/ INOV)	0.5000		
Dose Pump Time	9.18	Tank Gal/IN	19.65			(ltar W/ INOV + 5%)	0.5250		
Drawdown in Inches	13.56								
		Backfill Sand Needed:	54.4 tons			Total Footage of 1.5in PVC:	276		
		backfill sand needed + 5%:	57.12 tons						



NOTES:

- ALL TANKS SHALL BE LEAK TESTED (IN OCCURRENCE TO RULE 15A NCAC 18E .0805) WHEN INSTALLED UNDER THE FOLLOWING CONDITIONS
 - when a Soil Wetness Condition (SWC) is present within four feet of the elevation of the top of a mid-seam pump tank;
 - with advanced pretreatment when required in the RWTS or PIA Approval;
 - when required in the approved plans and specifications for a wastewater system designed by a PE;
 - when the tank is constructed in place; or
 - as required by the authorized agent based upon site or system specific conditions, such as misaligned seams, exposed reinforcement, or damage observed that may have occurred during transport or installation.
- ALL TANKS MUST BE APPROVED FOR USE BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL HEALTH (DEH).
- INVERTS SHOWN ARE APPROXIMATE. THE INSTALLER SHALL FIELD CONFIRM PRIOR TO CONSTRUCTION.
- ALL HARDWARE INSTALLED INSIDE OF TANKS SHALL BE OF STAINLESS STEEL.
- TANK DIMENSIONS VARY BY MANUFACTURER.
- DRAWDOWN WILL VARY WITH TANK DIMENSIONS.
- NO ELECTRICAL SPLICES SHALL BE MADE INSIDE THE PUMP TANK.

ALL tank openings (2 for septic tank, 1 for pump tank) shall have a secondary lid or safety net installed

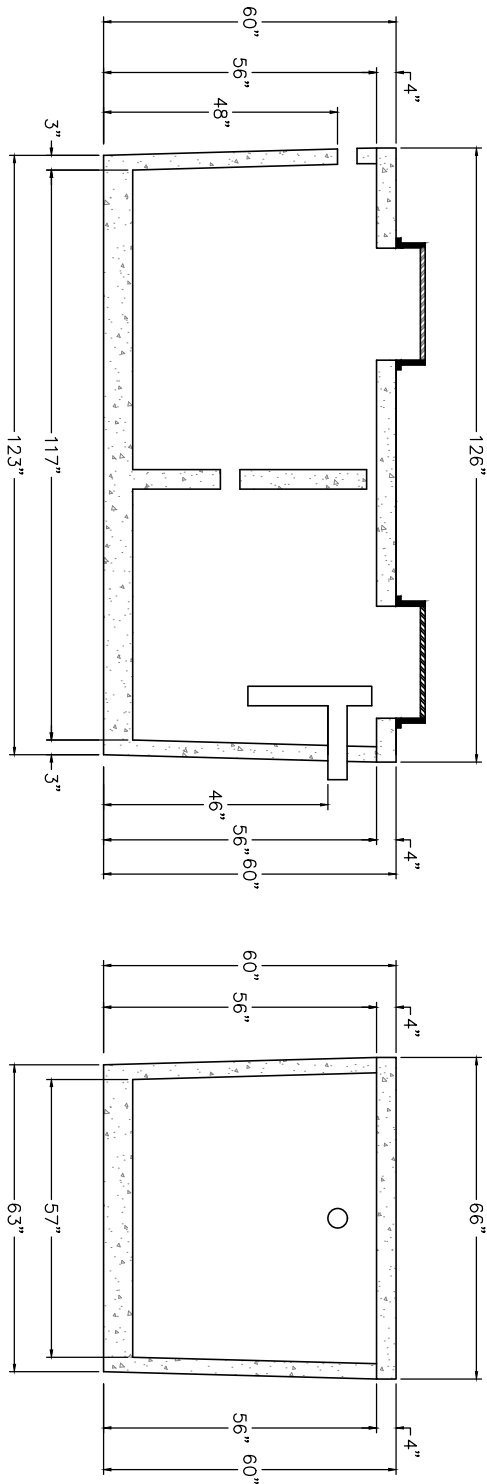
- THE CONTROL PANEL SHALL BE HOUSED IN A NEMA 4X WEATHERPROOF HOUSING.
- THE CONTROL PANEL SHALL INCLUDE:
 - AN INDEPENDENT OVERLOAD PROTECTION, IF NOT INTEGRAL WITH THE PUMP MOTOR
 - CIRCUIT BREAKER(S)
 - A MOTOR CONTRACTOR OR A SOLID-STATE RELAY
 - A HAND-OFF-AUTOMATIC (H-O-A) SWITCH
 - A PUMP RUN LIGHT
 - AN ELAPSED TIME METER
 - AN EVENT COUNTER



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Phone (919)569-6704 Fax (919)569-6703

Septic and Pump Tank Details
Rose Hall Subdivision, Lot 13
Wake County, North Carolina

Job# : 5103
Drawn By : JR
Date : 04/01/2025



1,250 ST 323
NTS

NON TRAFFIC BEARING

DAVID BRANTLEY & SONS
37 Pine Ridge Rd.
Zebulon, NC 27597
Office 252-478-3721
Fax 919-573-0443
tinstaller@gmail.com

PREPARED FOR : David Brantley & Sons
37 Pine Ridge Rd.
Zebulon, NC 27597

DATE : April 11, 2014

CONTACT:
CORY BRANTLEY

REVISION NO.

Original Submittal

Revision 1

Revision 2

Revision 3

Master Set

DATE

April 11, 2014

BRANTLEY TANK MODEL

1,250 ST 323

SHEET NUMBER

1 of 1

PL-68 Filter and Tee

PL-68 is much more than just an effluent filter. The housing can also be used as an inlet baffle (tee) or an outlet baffle. The housing is designed to accept Polylok's snap in gas deflector to deflect gas bubbles away from the tee and to keep the solids in the tank.

Features:

- Offers 68 linear feet of 1/16" filter slots, which significantly extends time between cleaning.
- Accepts 3/4" PVC handle.
- Locks in any 360° position when used with PL-68 Tee.
- PL-68 Housing can be used as an inlet or outlet tee.
- Gasket prevents bypass.

PL-68 Installation:

Ideal for residential waste flows up to 800 gallons per day (GPD). Easily installs in any new or existing 4" outlet tee.

1. Locate the outlet of the septic tank.
2. Remove the tank cover and pump tank if necessary.
3. Glue the filter housing to the outlet pipe, or use a Polylok Extend & Lok if not enough pipe exists.
4. Insert the PL-68 filter into tee.
5. Replace and secure the septic tank cover.

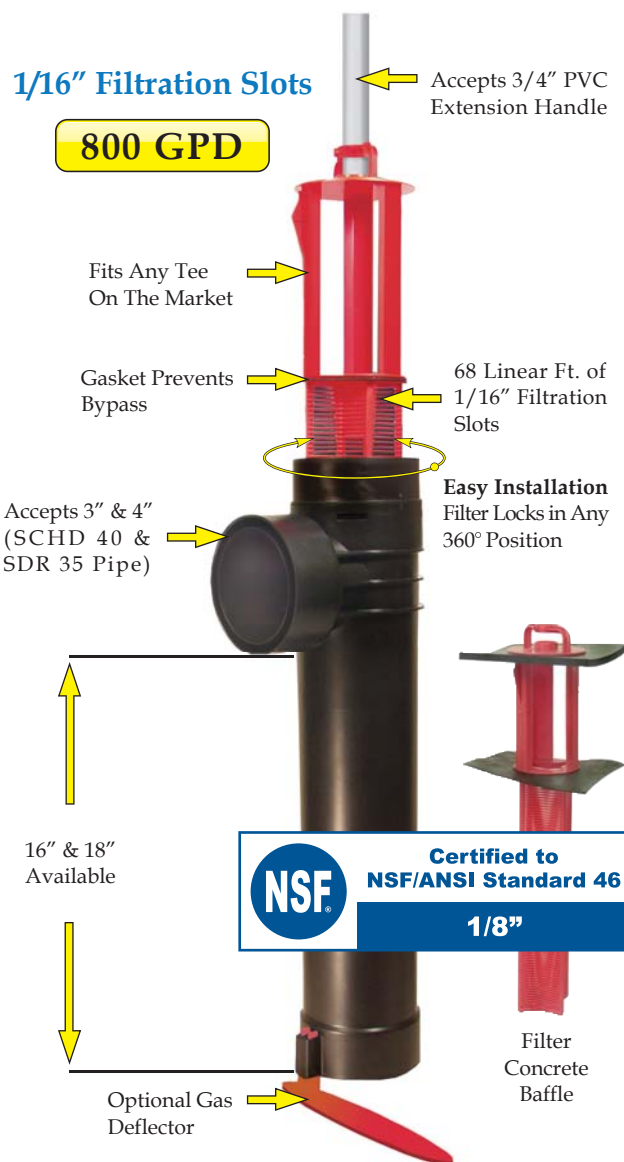
PL-68 Maintenance:

The PL-68 Effluent Filter will operate efficiently for several years under normal conditions before requiring cleaning. It is recommended that the filter be cleaned every time the tank is pumped, or at least every three years.

1. Do not use plumbing when filter is removed.
2. Pull PL-68 out of the tee.
3. Hose off filter over the septic tank. Make sure all solids fall back into septic tank.
4. Insert filter back into tee/housing.

Related Products:

PL-68 Filter Concrete Baffle
Extend & LokTM



Extend & LokTM
Easily installs
into existing tanks.



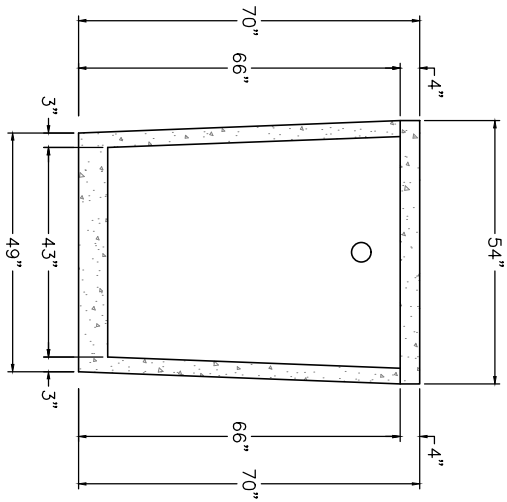
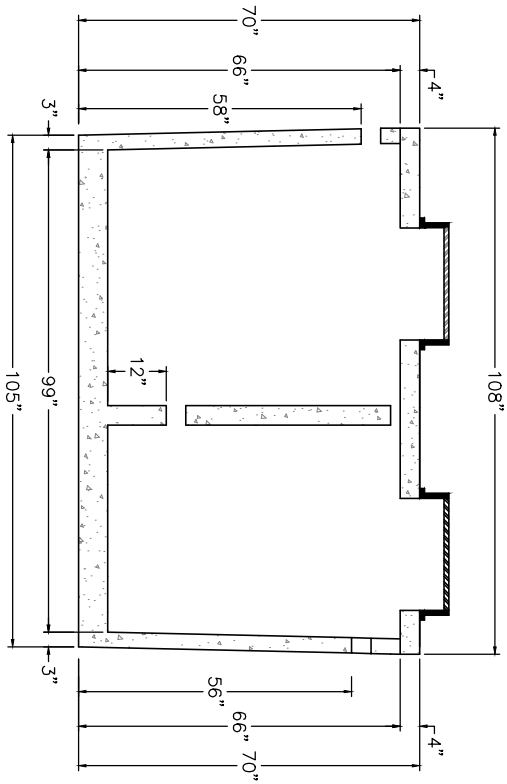
Spacer Bushing
4" SCHD 40
to SDR 35



Spacer Bushing
4" SCHD 40
to 110mm Pipe



2" Extender



1,200 PT 463
NTS

NON TRAFFIC BEARING

DAVID BRANTLEY & SONS
37 Pine Ridge Rd.
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Office 252-478-3721
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BRANTLEY TANK MODEL

1,200 PT 463

SHEET NUMBER

1 of 1

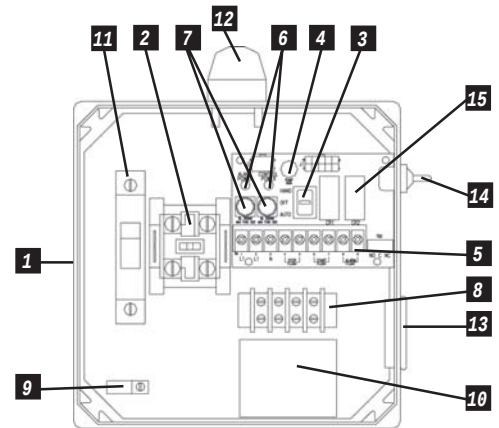
MODEL 112 Control Panel

Single phase, simplex motor contactor control.

The Model 112 control panel provides a reliable means of controlling one 120, 208, or 240 VAC single phase pump in pump chambers, sump pump basins, irrigation systems and lift stations. Two control switches activate a magnetic motor contactor to turn the pump on and off. If an alarm condition occurs, an additional alarm switch activates the audio/visual alarm system.

PANEL COMPONENTS

1. **Enclosure** measures 8 x 8 x 4 inches (20.32 X 20.32 X 10.16 cm). Choice of NEMA 1 (steel for indoor use), or NEMA 4X (ultraviolet stabilized thermoplastic with removable flanges for outdoor or indoor use).
* Options selected may increase enclosure size and change component layout.
2. **Magnetic Motor Contactor** controls pump by switching electrical lines.
3. **HOA Switch** for manual pump control (mounted on circuit board).
4. **Green Pump Run Indicator Light** (mounted on circuit board).
5. **Float Switch Terminal Block** (mounted on circuit board).
6. **Alarm and Control Fuses** (mounted on circuit board).
7. **Alarm and Control Power Indicators** (mounted on circuit board).
8. **Pump Input Power and Pump Connection Terminal Block**
9. **Ground Lug**
10. **Terminal Block Installation Label**
11. **Circuit Breaker** (optional) provides pump disconnect and branch circuit protection.



Model Shown 1121W914X

STANDARD ALARM PACKAGE

12. **Red Alarm Beacon** provides 360° visual check of alarm condition.
Note: NEMA 1 style utilizes a door mounted indicator in lieu of a beacon.
13. **Alarm Horn** provides audio warning of alarm condition (83 to 85 decibel rating).
Note: NEMA 1 style utilizes an internally mounted buzzer in lieu of horn.
14. **Exterior Alarm Test/Normal/Silence Switch** allows horn and light to be tested and horn to be silenced in an alarm condition. Alarm automatically resets once alarm condition has been cleared.
15. **Horn Silence Relay** (mounted on circuit board).

NOTE: other options available.

FEATURES

- Entire control system (panel and switches) is UL Listed to meet and/or exceed industry safety standards
- Dual safety certification for the United States and Canada
- Standard package includes three 20' Sensor Float® control switches
- Complete with step-by-step installation instructions
- Three-year limited warranty



SJE
Rhombus
CONTROLS

PO Box 1708, Detroit Lakes, MN 56502

1-888-DIAL-SJE • 1-218-847-1317

1-218-847-4617 Fax

email: sje@sjerhombus.com

www.sjerhombus.com

SEE BACKSIDE FOR COMPLETE LISTING OF AVAILABLE OPTIONS.

112

1

W

1

2

4

H

3A, 8A, 8C, 15A

MODEL 112**ALARMPACKAGE**

0 = select options or no alarm package

1 = alarm package (includes test/normal/silence switch, fuse, red light, horn & float)

ENCLOSURE RATING

I = Indoor, NEMA 1 (metal)

W = Weatherproof, NEMA 4X (engineered thermoplastic)

STARTING DEVICE

1 = magnetic motor contactor 120/208/240V

9 = magnetic motor contactor 120V only

PUMP FULL LOAD AMPS

0 = 0-7 FLA

1 = 7-15 FLA

2 = 15-20 FLA

3 = 20-30 FLA

PUMP DISCONNECTS

0 = no pump disconnect

1 = pull-out with safety deadfront in a 10"x8" enclosure

4 = circuit breaker 120V (select STARTING DEVICE option 9 above)

120/208/240V (select STARTING DEVICE option 1 above)

FLOAT SWITCH APPLICATION

H or L = pump down or pump up

X = no floats

WITH alarm package

WITHOUT alarm package

OPTIONS *Listed below*

ENCLOSURE UPSIZE - If you selected 3 or more of the ★ options, or one ★★ option, a one-time enclosure upsize fee would apply.

If additional features are required, call the factory for a quote on either a SJE-Rhombus Pro-Line or Engineered Custom control panel.**CODE DESCRIPTION**

- ☐ 1A Red beacon only / no audio
(must select 1E if floats included)
- ☐ 1C Horn only / no visual
(must select 1E if floats included)
- ☐ 1E Alarm float
- ☒ 3A Alarm flasher
- ☐ ★ 3B Manual alarm reset
- ☐ ★ 4A Low level cutout
(select option 4D if floats included)
- ☐ ★ 4B Red low-level indicator & alarm
(must select 4A also)
- ☐ 4D Low-level float
- ☐ ★ 5A Thermal cutout/heat sensor auto
reset (for pumps w/thermal switch leads)
- ☐ ★★ 5E Seal failure circuit & red indicator (2 wire)
- ☐ 6A Auxiliary alarm contact, form C type
- ☒ ★ 8A Elapsed time meter
- ☒ ★ 8C Event (cycle) counter
- ☐ ★★ 9_A Pump overload
specify amperage after number 9 followed by letter "A".
Example: 912A = 12 amp pump.
- ★★ ☐ 0-25 FLA
- ★★ ☐ 25-30 FLA
- ☐ 10E Lockable latch - NEMA 4X
- ☐ 10E Lockable latch - NEMA 1
- ☐ ★ 10F Lightning arrester
- ☐ ★ 10K Anti-condensation heater

CODE DESCRIPTION

- ☐ 11C NEMA 1 alarm panel *must select option 6A*
- ☐ 11D NEMA 4X alarm panel *must select option 6A*
- ☐ ★★ 14B Main disconnect (rotary style, mounted through door)
non-fused
- ★★ ☐ 0-20 FLA (total of both pumps)
- ★★ ☐ 20-30 FLA (total of both pumps)
- ☒ 15A Control / alarm circuit breaker
Does not include the circuit board as in standard.
- ☐ 16A 10' cord in lieu of 20' (per float)
- ☐ 16B 15' cord in lieu of 20' (per float)
- ☐ 16C 30' cord in lieu of 20' (per float)
- ☐ 16D 40' cord in lieu of 20' (per float)
- ☐ 17A SJE SignalMaster® / mounting strap ● (per float)
- ☐ 17B SJE SignalMaster® / externally weighted ● (per float)
- ☐ 17C Sensor Float® / internally weighted ▲ (per float)
- ☐ 17D Sensor Float® / externally weighted ▲ (per float)
- ☐ 17E Sensor Float® Mini / pipe clamp ▲ (per float)
- ☐ 17F Sensor Float® Mini / externally weighted ▲ (per float)
- ☐ 19T TOA (Test/Off/Automatic) switch and pump run light through
door mounted
- ☐ 19U HOA (Hand/Off/Automatic) switch and pump run light through
door mounted
- ☐ 19X Door mounted pump run indicator
- ☐ 21A SJE PumpMaster® in lieu of on/off switches ●
- ☐ 21B SJE PumpMaster® Plus in lieu of on/off switches ●
- ☐ 21C Super Single® in lieu of on/off switches ▲
- ☐ 21D Double Float® in lieu of on/off switches ▲

● Mechanically-activated ▲ Mercury-activated

SAMPLE**MODEL**

112

1

W

9

1

4

H

3A 8A

Alarm Package

Enclosure Rating

Starting Device

Pump Full Load Amps

Pump Disconnect

Float Switch Application

Options: Flasher, Elapsed Time Meter

TECHNICAL DATA SHEET FLOW-MATE SERIES

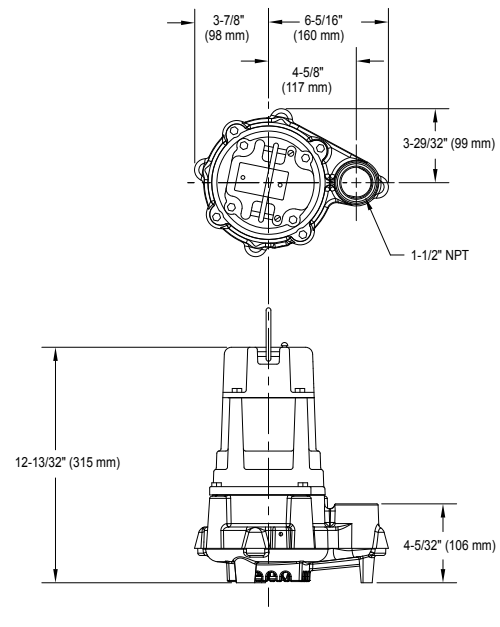
Models 140/4140, 145/4145 Effluent / Dewatering Pumps

PRODUCT SPECIFICATIONS

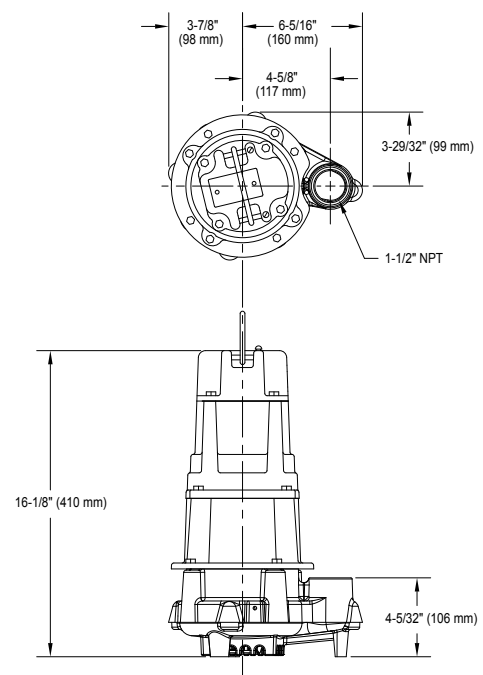
MOTOR	Horse Power	3/4 - 1
	Voltage	115 or 230
	Phase	1 Ph
	Hertz	60 Hz
	RPM	3450
	Type	Permanent split capacitor
	Insulation	Class B
	Amps	6.0 - 13.0
PUMP	Operation	Automatic or nonautomatic
	Discharge Size	1-1/2" NPT
	Solids Handling	1/2" (12 mm), 3/4" (19 mm) spherical solids
	Cord Length	20' (6 m)
	Cord Type	UL listed, neoprene cord
	Max. Head	50' (15.2 m) or 74' (22.6 m)
	Max. Flow Rate	86 GPM (326 LPM) or 61 GPM (232 LPM)
	Max. Operating Temp.	130 °F (54 °C)
	Cooling	Oil filled
	Motor Protection	Auto reset thermal overload
MATERIALS	Cap	Cast iron
	Motor Housing	Cast iron
	Pump Housing	Cast iron
	Base	Cast iron
	Upper Bearing	Sleeve bearing
	Lower Bearing	Ball bearing
	Mechanical Seals	Carbon and ceramic
	Impeller Type	Single vane (145) or non-clogging vortex (140)
	Impeller	Engineered thermoplastic
	Hardware	Stainless steel
	Motor Shaft	JIS S45C steel
	Gasket	Neoprene

NOTE: See model comparison chart for specific details.

SINGLE SEAL



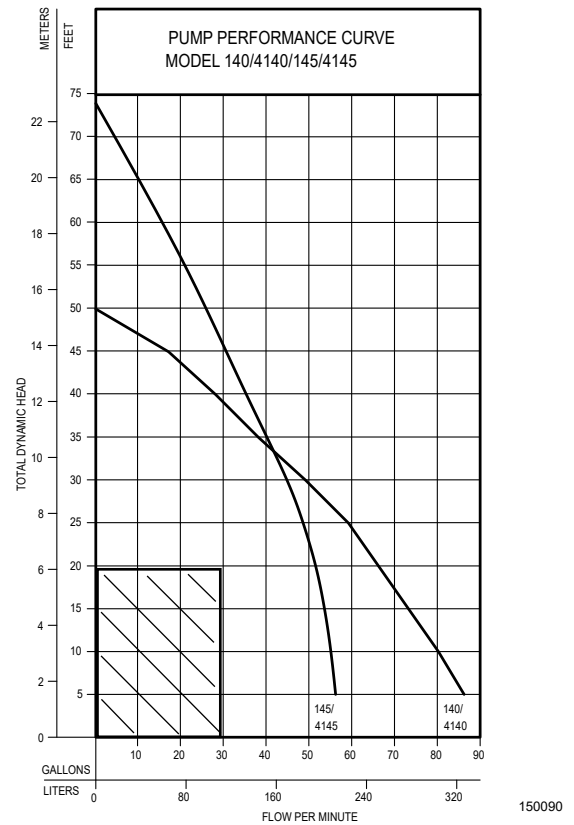
DOUBLE SEAL



SK1524

TOTAL DYNAMIC HEAD FLOW PER MINUTE

MODEL		140/4140		145/4145	
Feet	Meters	Gal.	Liters	Gal.	Liters
5	1.5	86	326	56	212
10	3.0	80	303	55	208
15	4.6	73	276	53	200
20	6.1	66	250	51	193
25	7.6	59	223	48	182
30	9.1	49	185	45	170
40	12.2	28	106	35	132
50	15.2	--	--	26	98
60	18.3	--	--	16	61



Model	MODEL COMPARISON										
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg	Simplex	Duplex
N140	Single	Non	115	1	12.0	1	60	46	21	1 or 2	3
E140	Single	Non	230	1	6.0	1	60	46	21	1 or 2	3
BN140	Single	Auto	115	1	12.0	1	60	47	21	*	---
BE140	Single	Auto	230	1	6.0	1	60	47	21	*	---
E145	Single	Non	230	1	6.0	3/4	60	46	21	1 or 2	3
N145	Single	Non	115	1	13.0	3/4	60	46	21	1 or 2	3
BN145	Single	Auto	115	1	13.0	3/4	60	48	22	*	---
N4140	Double	Non	115	1	12.0	1	60	65	29	*	---
E4140	Double	Non	230	1	6.0	1	60	65	29	1 or 2	3
BN4140	Double	Auto	115	1	12.0	1	60	66	30	*	---
BE4140	Double	Auto	230	1	6.0	1	60	66	30	*	---
N4145	Double	Non	115	1	13.0	3/4	60	64	29	1 or 2	3
BN4145	Double	Auto	115	1	13.0	3/4	60	64	29	*	---

* Single piggyback switch included.

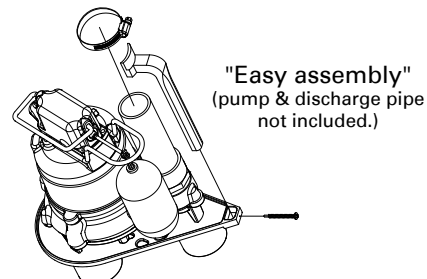
BN and BE models include a 20' (6 m) piggyback variable level pump switch. Additional cord lengths are available in 15' (5 m), 25' (8 m), 35' (11 m) and 50' (15 m). 50' (15 m) cord length is for 230 V only.

SELECTION GUIDE

- For automatic, use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
- See FM1228 for correct model of simplex control panel.
- See FM0712 for correct model of duplex control panel.

OPTIONAL PUMP STAND P/N 10-2421

- Reduces potential clogging by debris
 - Replaces rocks or bricks under the pump
 - Made of durable, noncorrosive ABS
 - Raises pump 2" (5 cm) off bottom of basin
 - Provides the ability to raise intake by adding sections of 1-1/2" or 2" (DN40 or DN50) PVC piping
 - Attaches securely to pump
 - Accommodates sump, dewatering and effluent applications
- NOTE: Make sure float is free from obstruction.

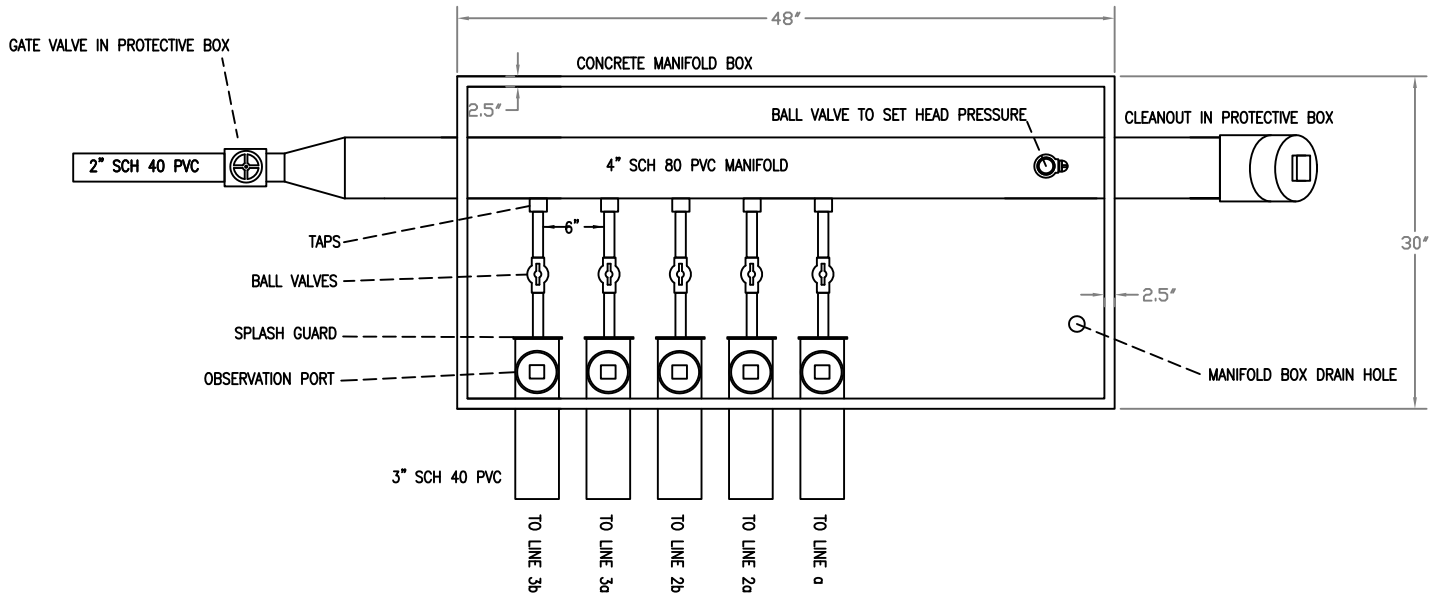


All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

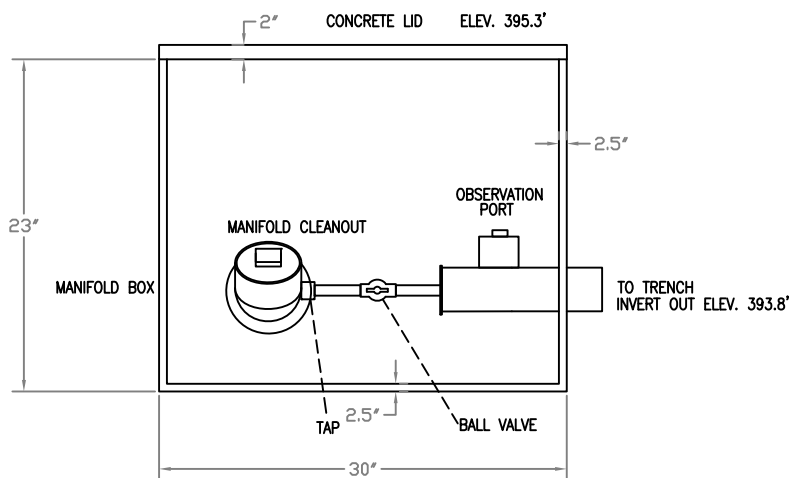
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502-778-2731 | 800-928-7867 | 3649 Cane Run Road | Louisville, KY 40211-1961 | zoellerpump.com

PRESSURE MANIFOLD DETAILS TOP VIEW



PRESSURE MANIFOLD DETAILS END VIEW



TAP SCHEDULE

LINE #	TAP
1	$\frac{1}{2}$ " SCH 40
2a	$\frac{1}{2}$ " SCH 80
2b	$\frac{1}{2}$ " SCH 80
3a	$\frac{1}{2}$ " SCH 80
3b	$\frac{1}{2}$ " SCH 80



Central Carolina Soil Consulting, PLLC
 1900 South Main Street, Suite 110
 Wake Forest, North Carolina 27587
 Phone (919)569-6704 Fax (919)569-6703

Manifold Details
 Rose Hall Subdivision, Lot 13
 Wake County, North Carolina

Job# : 5103
 Drawn By : JR
 Date : 04/01/2025

CAST-A-SEAL 402/402F

PIPE TO MANHOLE & TANK CONNECTOR

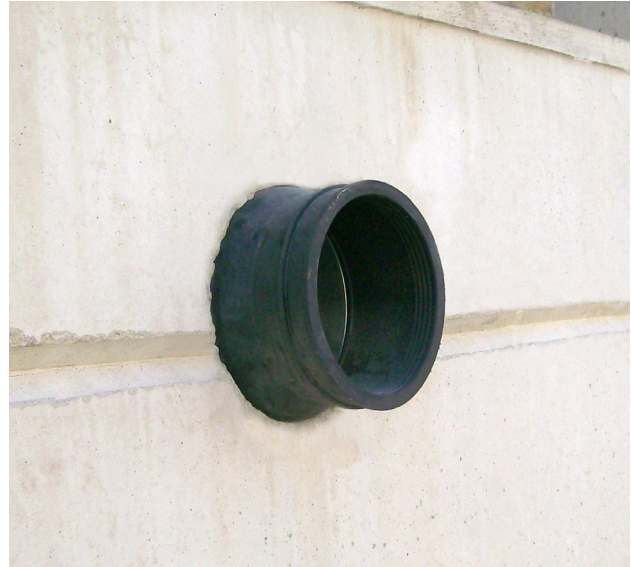
What It Is

The Cast-A-Seal 402/402F is a simple cast-in pipe-to-manhole connector that offers a watertight flexible connector that is cast into the structure when the concrete is poured.

The key lock is integrally cast-in during the production process providing a secure seal for storm water and sanitary collection systems.

How It Works

- The connector is folded into the casting position.
- It is placed on the reusable mandrel and then placed on the form.
- After curing, the mandrel is removed.
- The connector is then simply unfolded at the jobsite.
- Take-up clamps made from series 304 stainless steel with quick adjusting screws secure the connector to the pipe.



Why It's Better

- Durable and reusable mandrel forms.
- Integrally cast into the structure at time of casting.
- Contractor can backfill immediately after pipe insertion.
- The 4" connector is available in either open or closed end face.
- Contractor can save time and money by backfilling immediately.

Where To Use

- Manholes
- Wet wells
- Square pump and lift stations
- Stormwater structures
- On-site treatment structures
- Junction chambers
- Grease interceptors



Press-Seal believes all information is accurate as of its publication date. Information, specifications, and prices are all subject to change without notice. Press-Seal is not responsible for any inadvertent errors. Copyright 2022.

Phone: 800-348-7325
Fax: (260) 436-1908

PRESS-SEAL CORPORATION
Protecting Our Planet's Clean Water Supply
ISO 9001: Registered • Version 02.16.22.11.17

Email: sales@press-seal.com
Web: www.press-seal.com

CAST-A-SEAL 402/402F

SUBMITTAL SPECIFICATIONS

A flexible pipe-to-structure connector shall be employed in the connection of the sanitary sewer pipe to precast structures. The connector shall be Cast-A-Seal® 402/402F as manufactured by Press-Seal Corporation, Fort Wayne, Indiana, or approved equal. The connector shall be the sole element relied on to assure a flexible, watertight seal of the pipe to the precast structure. The connector shall consist of a rubber gasket and an external take-up clamp.

The rubber gasket element shall be constructed solely of synthetic or natural rubber, and shall meet or exceed the physical property requirements of ASTM C 923.

The external take-up clamp shall be constructed of Series 300 non-magnetic stainless steel and shall utilize no welds in its construction. The clamp shall be installed by torquing the adjusting screw using a torque-setting wrench available from the connector manufacturer.

Selection of the proper size connector for the structure and pipe requirement, and installation thereof, shall be in strict conformance with the recommendations of the connector manufacturer. Any dead end pipe stubs installed in connectors shall be restrained from movement per ASTM C 923.

The finished connection shall provide sealing to 13 psi (minimum) and shall accommodate deflection of the pipe to 7 degrees (minimum) without loss of seal.

Vacuum testing shall be conducted in strict conformance with ASTM C 1244 prior to backfill. Other testing shall be conducted in strict conformance with the requirements of the connector manufacturer.

Product Performance

Cast-A-Seal 402/402F meets and/or exceeds all requirements of ASTM C 923, including physical properties of materials and performance testing, including:

- 13 PSI minimum in straight alignment
- 10 PSI at minimum 7° angle
- 10 PSI minimum under shear load of 150 lbs/in. pipe diameter

Cast-A-Seal 402/402F meets and/or exceeds the requirements of the following Standards, Specifications, Codes, and Test Methods:

- IAPMO/ANSI Z1000 Standard for Prefabricated Septic Tanks
- IAPMO/ANSI Z1001 Standard for Prefabricated Gravity Grease Interceptors
- NPCA Best Practices Manual for Precast Concrete On-Site Wastewater Tanks
- NOWRA Model Code Framework
- ASTM C 1227 Standard Specification for Precast Concrete Septic Tanks
- ASTM C 1644 Standard Specification for Resilient Connectors Between Reinforced Concrete On-Site Wastewater Tanks and Pipes (CAS 402)
- ASTM C 1613 Standard Specification for Precast Concrete Grease Interceptor Tanks
- ASTM C 923 - Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals
- ASTM C 1244 Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test
- ASTM C 1478 - Standard Specification for Storm Drain Resilient Connectors Between Reinforced Concrete Storm Sewer Structures, Pipes, and Laterals

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CAST-A-SEAL 402/402F

SELECTION GUIDE

PIPE SIZE	CAST-A-SEAL 402	PIPE O.D. RANGE	WALL THICKNESS*	APPLICATION
1.25" - 2" 31 - 51 mm	452.0250	1.5" - 2.75" 38 - 70 mm	2.5" - 6" 64 - 150 mm	STANDARD
4" 100 mm	452.0450	4.2" - 4.7" 107 - 119 mm	2.5" - 6" 64 - 150 mm	STANDARD
4" 100 mm	452.0402F1	4.2" - 4.7" 107 - 119 mm	2.5" - 4.0" 64 - 102 mm	Closed Face
6" 150 mm	452.0650	6.2" - 6.7" 157 - 170 mm	2.5" - 6" 64 - 150 mm	STANDARD
3" 75 mm	CAS ADAPTER	3.2" - 3.6" 81 - 91 mm	---	Use with 4" CAST-A-SEAL



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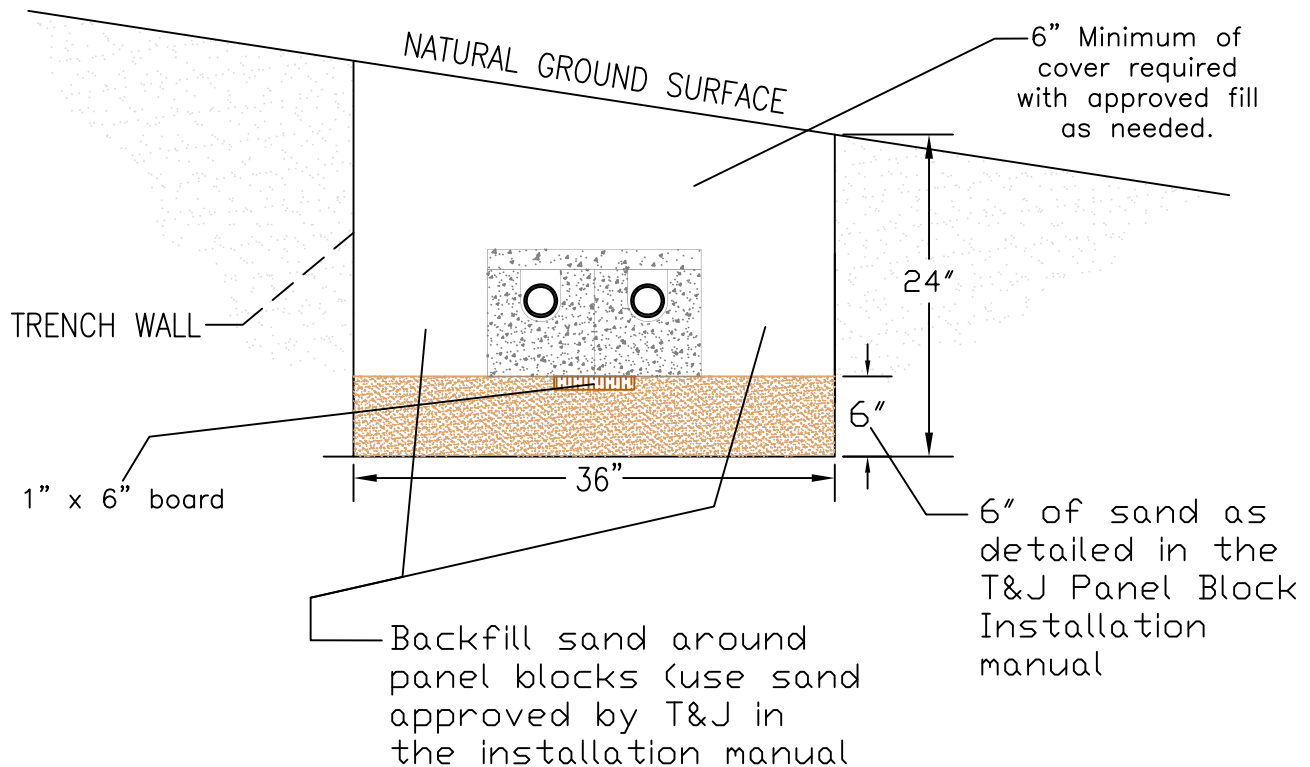
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T&J Panel Block (Horizontal Details)

Example only: Installed trench bottom should match design.



NOTE :

1. T&J Panel Block INSTALLATION SHALL MEET THE REQUIREMENTS INCLUDED IN ITS INSTALLATION MANUAL
2. TRENCH BOTTOM SHALL BE AT LEAST 12" FROM ANY RESTRICTIVE SOIL LAYER
3. THIS IS A GENERIC TRENCH PROFILE, SEE IP & CA PERMITS FOR TRENCH DEPTH.

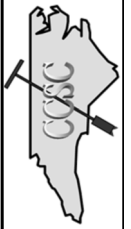
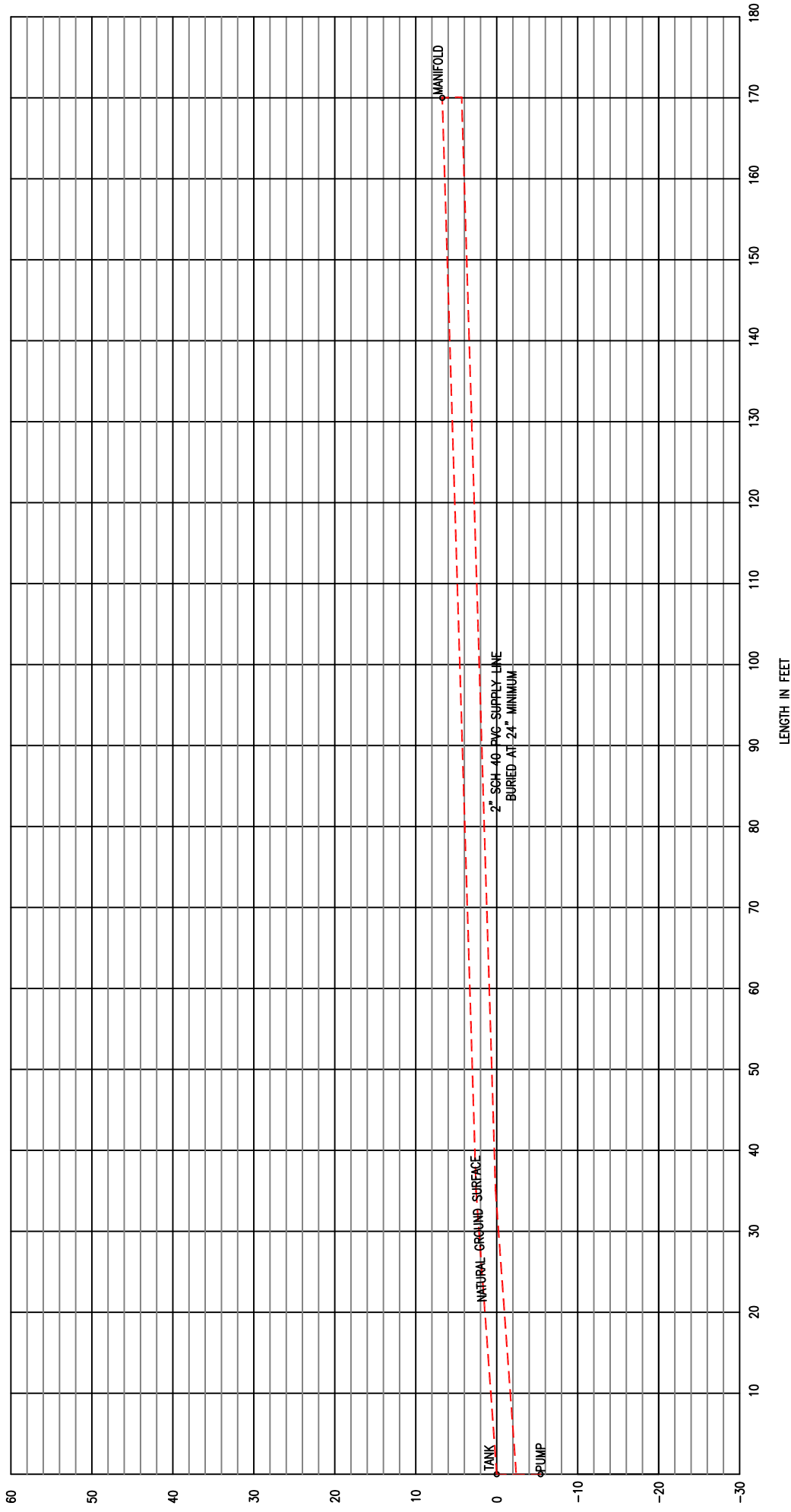


Central Carolina Soil Consulting, PLLC
1900 South Main Street, Suite 110
Wake Forest, North Carolina 27587
Phone (919)569-6704 Fax (919)569-6703

Trench Details
Rose Hall Subdivision, Lot 13
Wake County, North Carolina

Job# : 5103
Drawn By : JR
Date : 04/01/2025

SUPPLY LINE
HYDRAULIC PROFILE



Central Carolina Soil Consulting, PLLC
1900 South Main Street, Suite 110
Wake Forest, North Carolina 27587
Phone (919)569-6704 Fax (919)569-6703

Hydraulic Profile
Rose Hall Subdivision, Lot 13
Wake County, North Carolina

Job# :5103
Drawn By : JR
Date : 04/01/2025

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER PERMIT

NO PERMIT(S) FOR CONSTRUCTION, LOCATION OR RELOCATION ACTIVITY SHALL BE ISSUED UNTIL AN
AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION AUTHORIZATION HAS BEEN ISSUED

***PERMIT VOID IF NOT IN COMPLIANCE WITH ZONING REGULATIONS AND/OR IF SITE IS ALTERED OR
INTENDED USE CHANGED***

IMPROVEMENT PERMIT

PERMIT #: WRP-140145-2025

APPLICATION DATE: 01/29/2025

BLDG. PERMIT #: RBPR-140144-2025

PIN: 1709859212

RECORDED: Yes

TOWNSHIP: 02 - Bartons Creek

JURISDICTION: Wake County

ZONING: R-40W

APPLICANT: Jordan Smith

2301 Stonehenge Dr Suite 107

BUSINESS PHONE:

HOME PHONE: (919) 601-5811

MOBILE PHONE:

HD USE: 101A CONVENTIONAL ONE-FAMILY HOUSE

EXISTING USE:

SITE ADDRESS: 2008 CADENZA LN

SUBDIVISION: ROSE HALL

LOT: 13

ACRES: 0.92

DIRECTIONS: Left onto Honeycutt Rd from Brassfield Rd and left on Cadenza Ln

Permit is subject to revocation if the Site Plan or Plat changes or the intended use changes.

*Maximum depth of line is calculated using the downhill side of the trench and includes slope correction.

IP VALID FOR: Five Years AS PER GS 130A-335 (f)

DESIGNED BY: Central Carolina Soil Consulting

SYSTEM LAYOUT: Private Sector

SITE CLASSIFICATION: Suitable

IP STATUS: Issued

BY: Bailey Stiles

DATE: 07/30/2026

NUMBER OF BEDROOMS: 4

OR TOTAL NUMBER OF OCCUPANTS: 8

PERMITTED DESIGN FLOW: 480 GPD

BASEMENT: No

BASEMENT PLUMBING: No

WASTEWATER STRENGTH: Domestic

SYSTEM TYPE: III BE

LTAR: 0.250

EXISTING SYSTEM UTILIZED: No

PRETREATMENT STRENGTH REQUIRED: None

EASEMENT FOR WW SYSTEM ASSOCIATED WITH PARCEL: No

MAXIMUM TRENCH DEPTH: 20 INCHES

PUMP REQUIRED: Yes

SPECIFIC SYSTEM REQUIREMENTS: - IP reissued by BS on 7/30/26 to account for the variation in the initial system area.

IP originally issued on 4/11/25 by HG.

-System designed for a 4-bedroom home with a design flow of 480 gallons per day.

-Initial System is Type III B/E using Horizontal PPBPS with pressure manifold distribution and a 0.25 LTAR.

-Maximum trench depth for Initial System is 20" (limiting condition encountered at 36").

-Future Repair System is Type III B/E using Horizontal PPBPS with pressure manifold distribution and a 0.25 LTAR.

-Maximum trench depth for specified LTAR for Repair is 14" (limiting condition is bottom of pit at 38").

-Future Repair System uses at-grade placement and will require imported soil cover at time of installation. This imported soil must cover the entirety of the system area and extend beyond the system area 5 feet on all sides. A minimum of 6" of soil cover is required after settling; additional soil cover beyond 6" may be required to account for settling. Imported soil cover must be approved by Wake County Onsite Water Protection prior to placement. System area must be seeded and strawed for stabilization.

-Site to be served by community well.

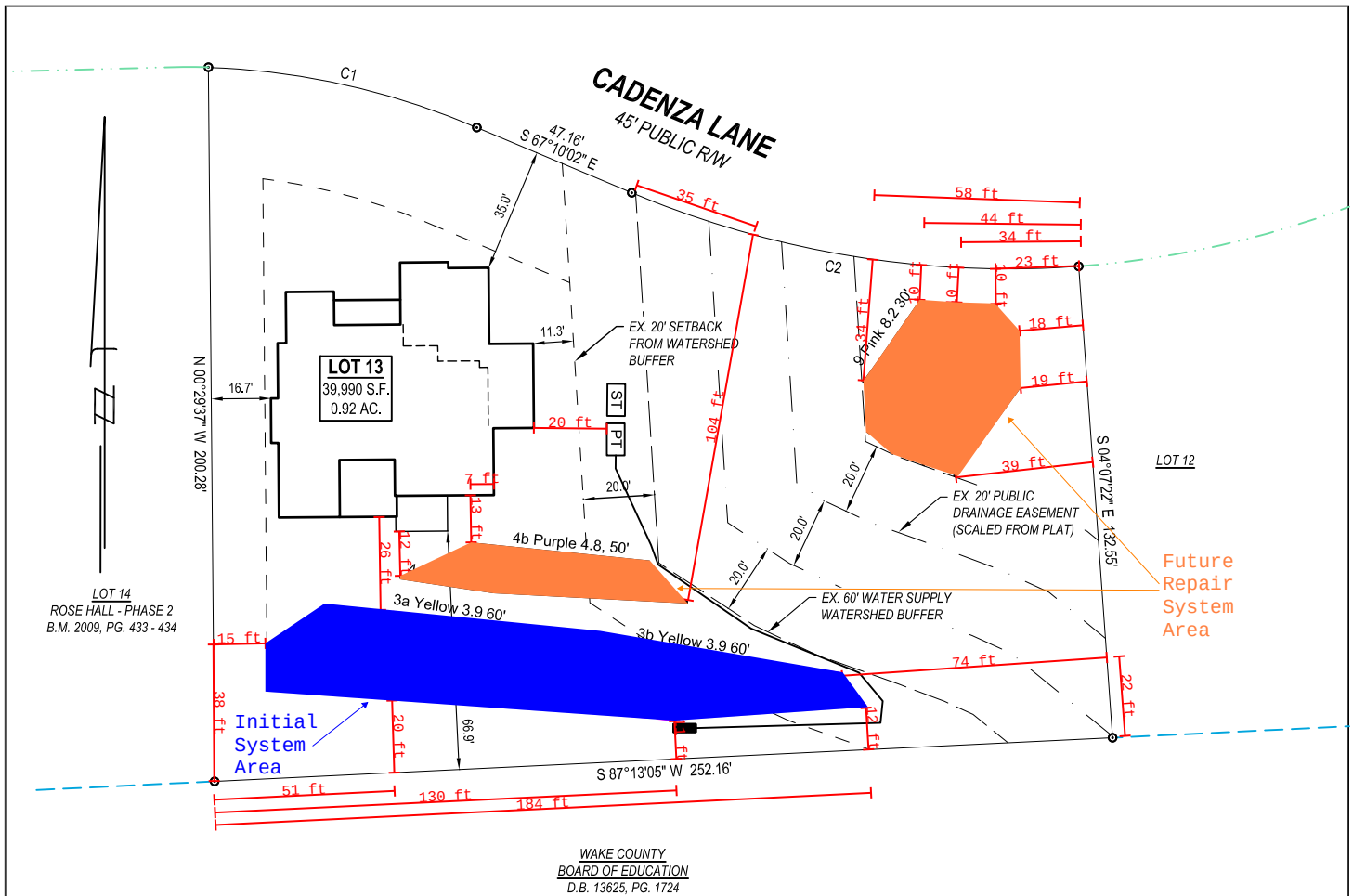
-No cutting, grading, alterations, or utilities in septic area.

-Maintain all required setbacks.

ISSUED BY:

Bailey Stiles

DATE: 07/30/2026



System: ---
Repair: —

System: Pressure Manifold
Lines: 1-3, (320')
PPBPS, Horizontal
0.25 Soil LTAR

Repair: Dual Manifolds
Lines: 4-9, (331')
Horizontal PPBPS
0.25 Soil LTAR

- *Keep tanks and drain lines 10' from property lines.
- *Not a survey.
- *Not a guarantee of a septic permit.
- *Keep supply lines >5' from property lines.
- *Some lines are flagged longer in the field than lengths indicate.
- *No grading septic area.

GRAPHIC SCALE
1" = 50'



Central Carolina Soil Consulting, PLLC
1900 South Main Street, Suite 110
Wake Forest, North Carolina 27587
Phone (919)569-6704 Fax (919)569-6703

4-Bedroom Septic Layout
Lot 13, Rose Hall Subdivision
Wake County, North Carolina

Job# : 5103
Drawn By : JH
Date : 01/10/2025
Revision: 3/20/25



LOCATION MAP
1" = 1000'

SITE DATA	
CURRENT OWNER	THOMPSON SMITH VENTURES, LLC
SITE ADDRESS	2008 CADENZA WAY
PIN	1709-85-9212
DEED REFERENCE	D.B. 19668, PG. 941
PLAT REFERENCE	B.M. 2007, PG. 372-374
ZONING	R-40W

IMPERVIOUS AREAS (S.F.)		BUILDING SETBACKS (R-40W)	
HOUSE	4036	FRONT	30'
DRIVE / WALK	1302	REAR	30'
CONC. PATIO	144	SIDE	15'
TOTAL	5482		
MAX.	12829		



Jeremy Taylor

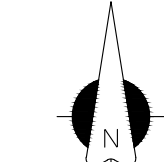


The Site Plan is for permitting purposes only. This shall not be considered a "Boundary Survey" as all property lines may have not been surveyed and monumented. This survey is not to be used for any conveyance or sale of the property.

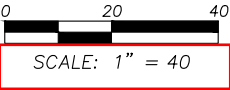
WAKE COUNTY N.C. P.D.I.
REVISED SITE PLAN



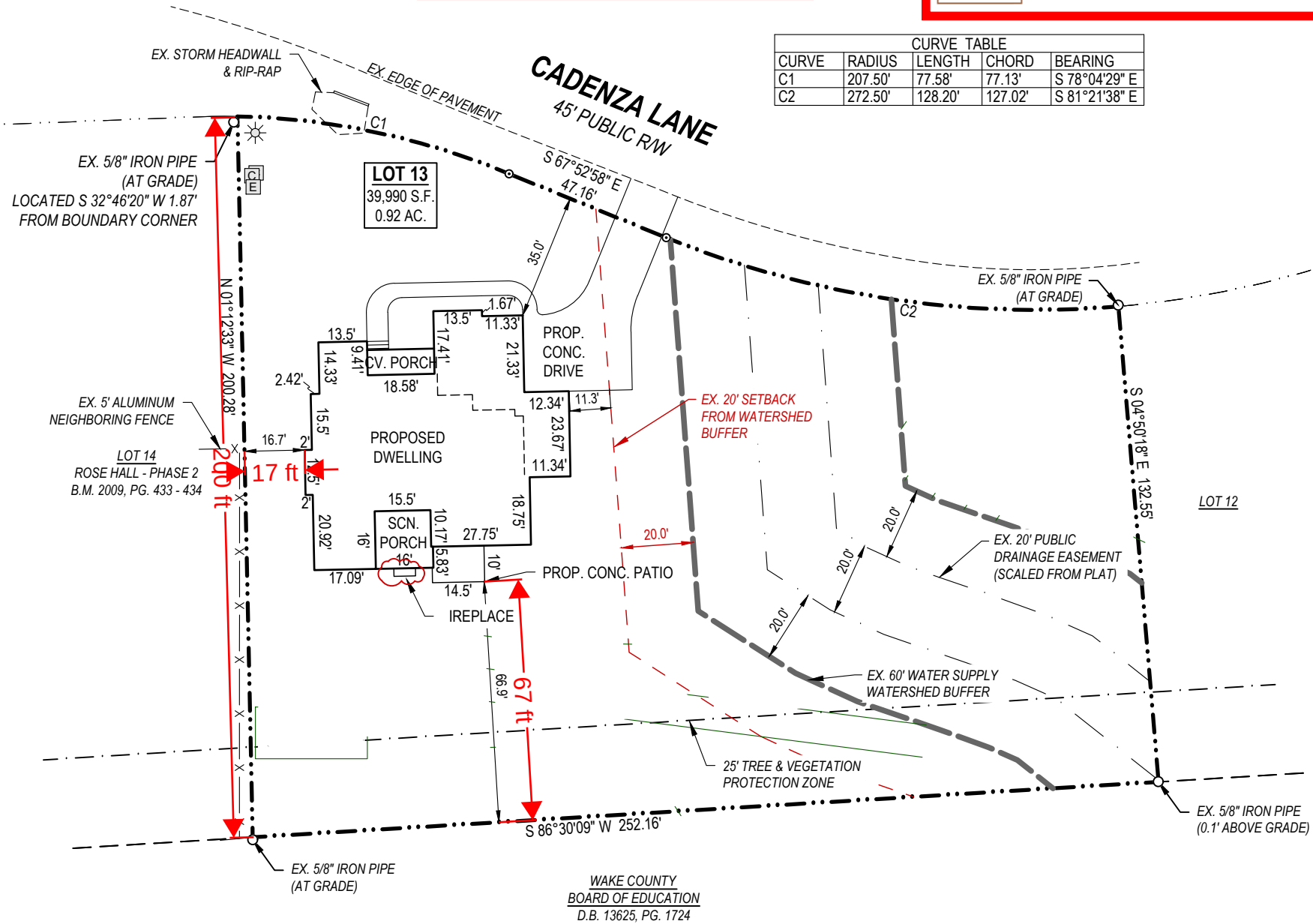
SITE PLAN APPROVED BY
WAKE COUNTY N.C. P.D.I.
Tiya Shields
03/13/2025 7:38:27 PM



B.M. 2007, PG. 372-374



CURVE TABLE				
CURVE	RADIUS	LENGTH	CHORD	BEARING
C1	207.50'	77.58'	77.13'	S 78°04'29" E
C2	272.50'	128.20'	127.02'	S 81°21'38" E



LEGEND:

- Ex. property corner
- Set property corner
- Calculated point
- ⊕ Water Meter
- ⊕ Sanitary Sewer Cleanout
- ⊕ Cable Pedestal
- X— Fence
- W— Water
- SS— Sanitary sewer pipe
- OP— Overhead Power
- B.M. Book of Maps
- D.B. Deed Book
- Pg. Page
- S.F. Square Feet
- Ac. Acres
- ⊕ Power Pedestal

SITE PLAN

LOT 13 - ROSEHALL
BARTON'S CREEK TOWNSHIP
WAKE COUNTY, NORTH CAROLINA

CLIENT

L & L OF RALEIGH
2301 STONEHENGE DR., #107
RALEIGH, NC 27615

REVISIONS

1	2/12/25	WAKE CO. REVIEW

DATE: 01/21/25

SHEET:

C-01
SITE PLAN