

Mitchell Environmental, P.A.

SEPTIC SYSTEM DESIGN

for

HOLLIES PINES- LOT 3

Broadway, Harnett County, North Carolina

Submitted to:

Harnett County Health Department
307 Cornelius Harnett Blvd.
Lillington, NC 27546

Prepared for:

HHHunt Homes
1 Fenton Main Street
Suite 280
Cary, North Carolina 27511

Prepared by:

Adam Aycock, EI

DATE: March 27, 2024

PROJECT NO.: 1922



Harnett County GIS

PID: 139692 0014 91

PIN: 9691-79-1949.000

Account Number: 1500051599

Owner: HHHUNT HOMES RALEIGH-DURHAM LLC

Mailing Address: 11237 NUCKOLS RD GLEN ALLEN, VA 23059-5502

Physical Address: HOLLIES PINES RD BROADWAY, NC 27505 ac

Description: LOT#3 PINEDAROSA 1 MAP#2020-109

Surveyed/Deeded Acreage: 0.97

Calculated Acreage: 0.98

Deed Date: 1662008400000

Deed Book/Page: 4165 - 0651

Plat(Survey) Book/Page: 2020 - 109

Last Sale: 2022 - 9

Sale Price: \$240000

Qualified Code: A

Vacant or Improved: V

Transfer of Split: T

Actual Year Built:

Heated Area : SqFt

Building Count : 0

Building Value: \$0

Parcel Outbuilding Value: \$0

Parcel Land Value: 25250

Market Value: \$25250

Deferred Value: \$0

Total Assessed Value: \$25250

Zoning: RA-30 - 0.98 acres (100.0%)

Zoning Jurisdiction: Harnett County

Wetlands: No

FEMA Flood: Minimal Flood Risk

Within 1mi of Agriculture District: Yes

Elementary School: Boone Trail Elementary

Middle School: Western Harnett Middle

High School: Western Harnett High

Fire Department: Boone Trail

EMS Department: Medic 12, D12 EMS

Law Enforcement: Harnett County Sheriff

Voter Precinct: Boone Trail

County Commissioner : Lewis Weatherspoon

School Board Member: Duncan Jagers



Repair System

PRESSURE MANIFOLD DESIGN

Name: HHHunt Homes

P.I.N. #: 9691-79-1949

D #: N/A

Address: Hollies Pines Road

Subdiv: Hollies Pines

Lot#: 3

of BDR: 4 Daily Flow: 480 gal/day L.T.A.R.: 0.275 gal/day/sq.ft

Septic Tank: 1000 gals (min.) Pump Tank: 1500 gals (min.) Sq. Foot: 882 Stone Depth: N/A
 (Horizontal Panel Block)

Number of Taps: 7 Length of Trenches: 42 ft(See Tap Chart for Details)

Depth of Trenches: see Harnett County permit Manifold Length: 60 in

Manifold Diameter: 4 in sch 80pvc (minimum) Tap Configuration: 6 in spacing 1 side(s) of manifold

Supply Line: length: 110 ft Diameter: 2 in sch 40pvc

Friction Loss + Fitting Loss: 5.92 ft(supply line length + 70' for fittings in pump tank)

Design Head: 2.0 ft Elevation Head: 7.98 ft

Vent Hole Size: 3/16 in Orifice Coefficient of Discharge: 0.60

Orifice Coefficient of Contraction: 0.62 Orifice Coefficient of Velocity: 0.97

Maximum Head Supplied by Selected Pump(s) at Total Design Flowrate: 33 ft

Orifice / Vent Hole Flowrate: 2.38 gpm Head Loss at Orifice / Vent Hole: 2.09 ft

Total Head: 18.00 ft Pump to Deliver: 40.74 gals/min at 18.00 ft head

Dosing Volume: 286.65 gals.

Drawdown: 286.65 gals divided by 25 gals/in = 11.47 inches

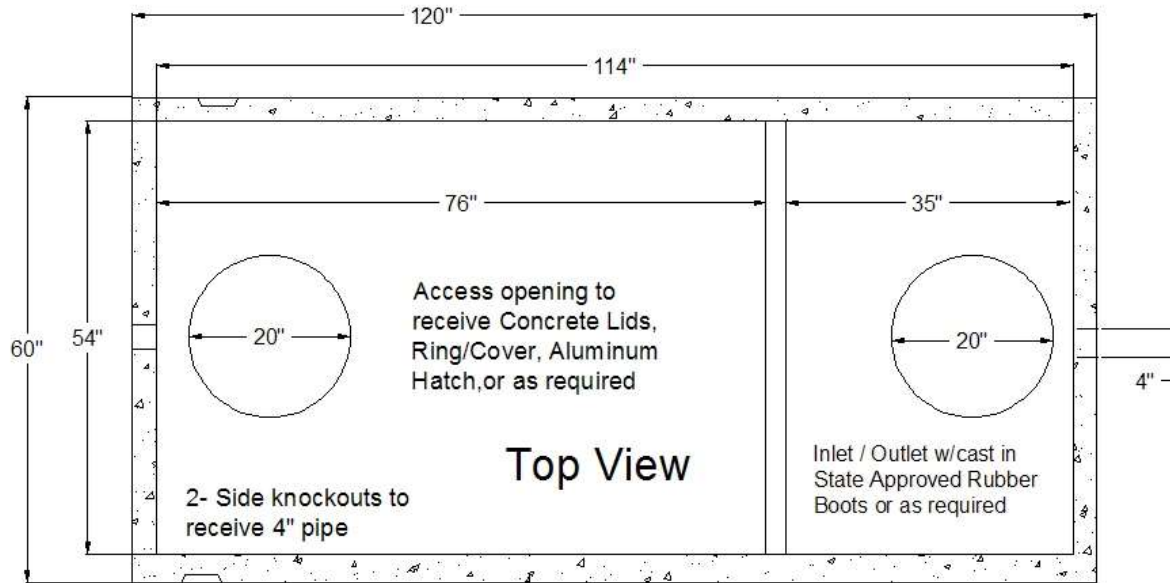
SJE Rhombus Flow Equalization Installer Friendly Series simplex control panel, or equivalent, required
 A septic tank filter, or equal is required.

Possible pumps: Zoeller: 140 Hydromatic: Goulds: Myers:
 Other:

TAP CHART

Bench Mark	<u>14.30</u>	is = 100.00	set at	<u>Back right property corner EIR</u>	Design Head:	<u>2.0</u>			
Pump tank elev.	<u>7</u>	<u>107.30</u>	Pump elev.	<u>102.30</u>	Manifold elev.	<u>110.28</u>			
line	color	rod read	Elevation	length	hole size	flow/tap	gal/day	trench area	LINE LTAR
1a	Purple	5.02	109.28	42	1/2in SCH 80	5.48	68.57	126	0.5442
1b	Purple	5.02	109.28	42	1/2in SCH 80	5.48	68.57	126	0.5442
2a	Lime + 4'	6.11	108.19	42	1/2in SCH 80	5.48	68.57	126	0.5442
2b	Lime + 4'	6.11	108.19	42	1/2in SCH 80	5.48	68.57	126	0.5442
10a	Blue - 4'	16.70	97.60	42	1/2in SCH 80	5.48	68.57	126	0.5442
10b	Blue - 4'	16.70	97.60	42	1/2in SCH 80	5.48	68.57	126	0.5442
11	Pink	18.38	95.92	42	1/2in SCH 80	5.48	68.57	126	0.5442
		total	feet =	294	gal/min =	38.4	LTAR =	0.2750	
% of Pipe Vol.	<u>150</u>	Des. Flow	<u>480.00</u>				(Itar + 5%)	<u>0.2888</u>	
Dose Volume	<u>286.65</u>	Pump Run=	<u>12.51</u>				(Itar W/ HPB)	<u>0.5500</u>	
Dose Pump Time	<u>7.47</u>	Tank Gal/IN	<u>25</u>				(Itar + 5%)	<u>0.5775</u>	
Drawdown in Inches	<u>11.47</u>	Elev. Head	<u>7.98</u>						
Supply Line Length	<u>110</u>								

Comments: Staked on 12' centers



STB - 345 - Top Seam

Approval Date: 12 - 09 - 99

Liquid Capacity 1007 Gallons

Non Traffic Rated

Reinforcing Schedule: # 3 Grade 60 Rebar

4500 PSI Concrete w/ State Approved Structural Fiber

Est. Weight: 8,200 lbs.

Manufactured By:

GARNERS

Septic Tanks, Inc.

Eddie Garner, President

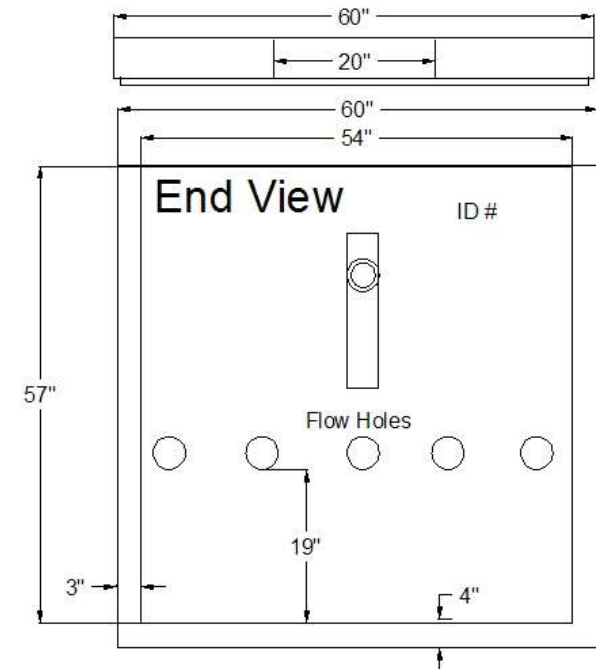
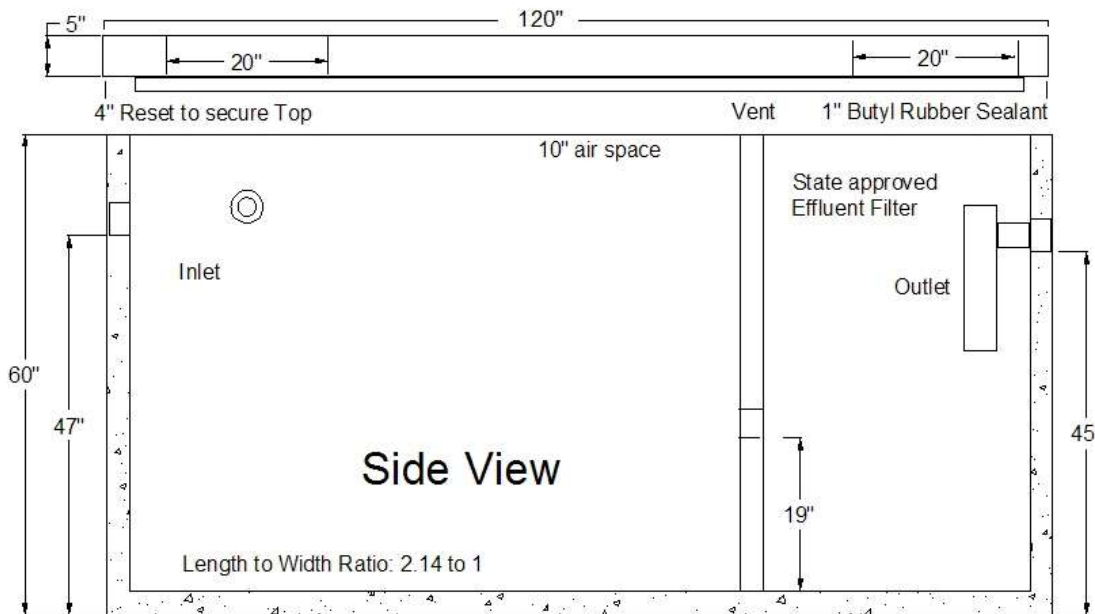
919-718-5181

121 Stanton Hill Road

Carthage, NC 28327

Fax 919-775-2229

Eddie@garnersseptic tanks.com



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.

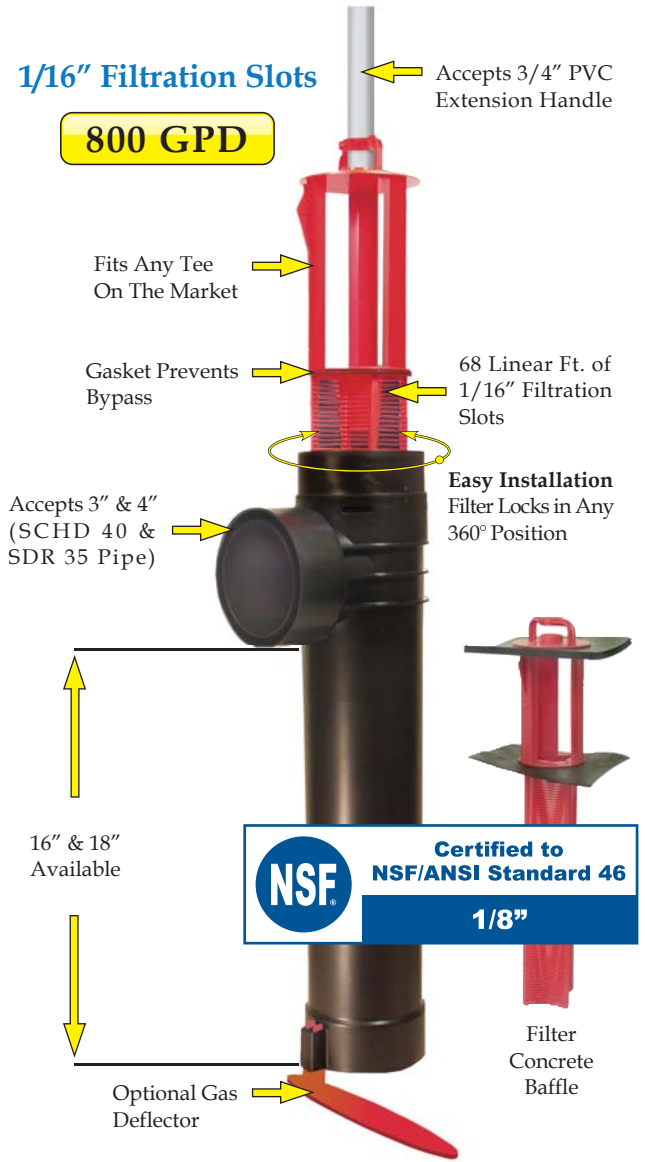
PL-68 Maintenance:

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 & Lok™



Extend & Lok™
 Easily installs into existing tanks.



Spacer Bushing
 4” SCHD 40 to SDR 35

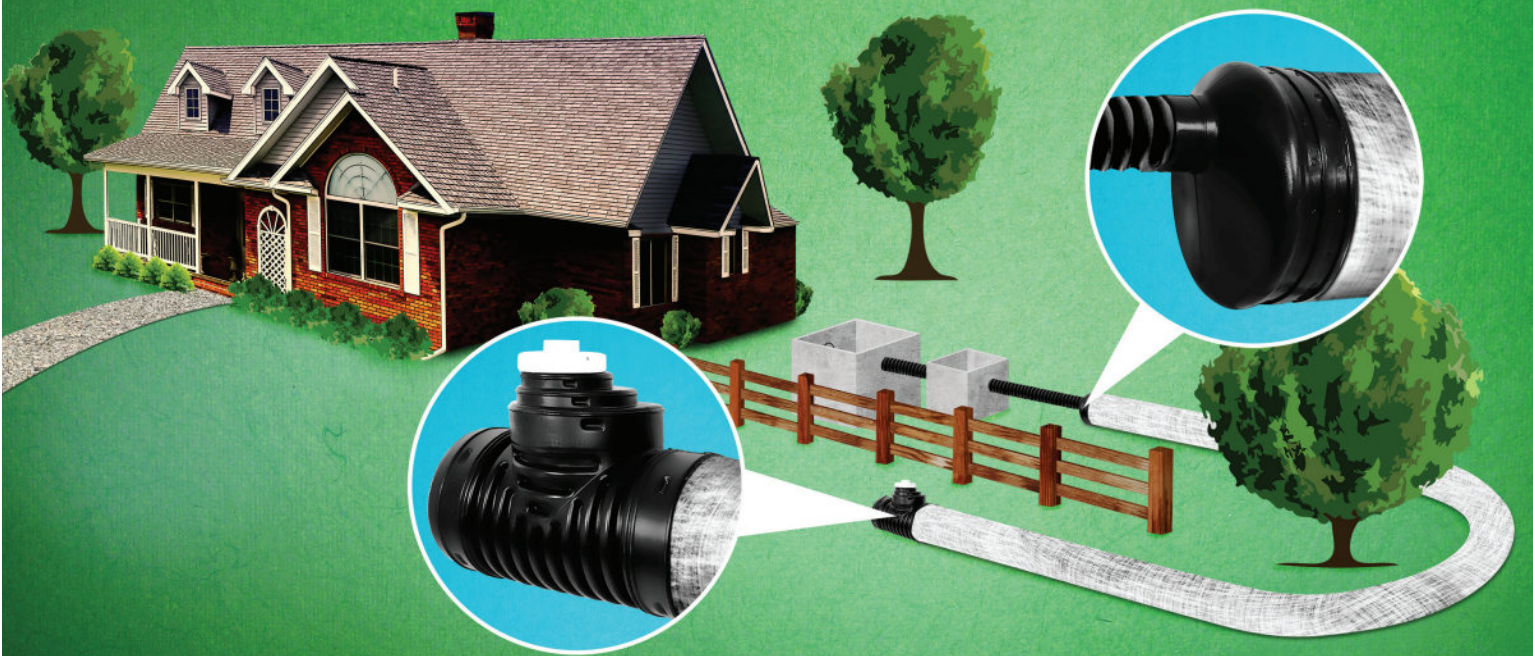


Spacer Bushing
 4” SCHD 40 to 110mm Pipe



2” Extender

Crumpler's No-Rock™ Fabric Wrapped Large Diameter (LDP) Septic Pipe



Crumpler Plastic Pipe, Inc.

Manufacturers of Corrugated Plastic Drainage Pipe

Phone 910-525-4046 / (800) 334-5071

Post Office Box 2068

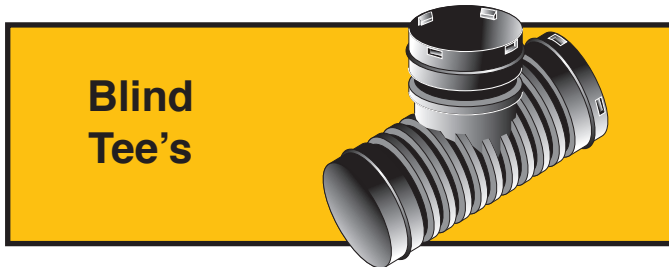
Roseboro, North Carolina 28382

Web Site: www.cpp-pipe.com





Crumpler's No-Rock™ Fabric Wrapped Large Diameter (LDP) Septic Pipe

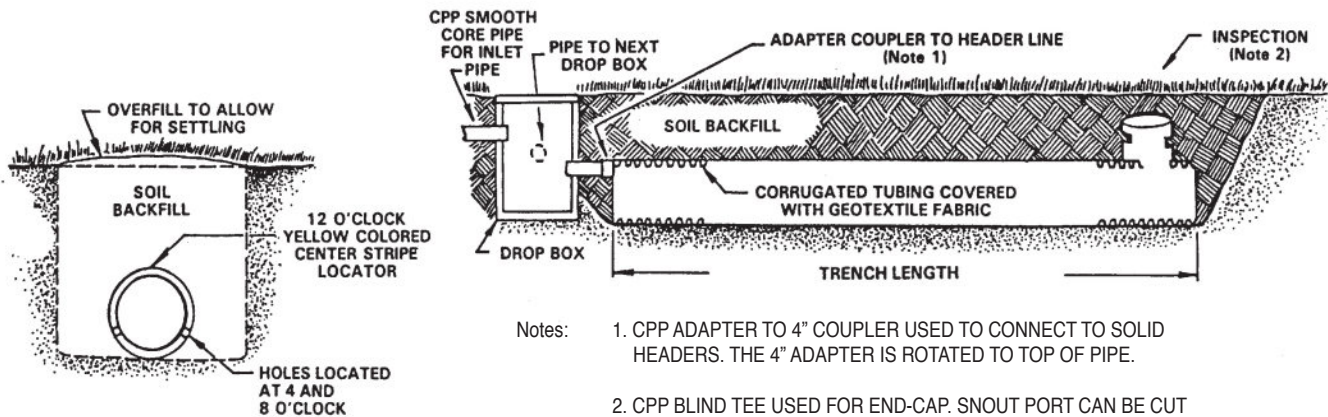


Blind Tee's



Snap Combo End Cap/4'' Reducer/Adapter

CPP Gravelless LDP Trench Construction Details



- Notes:
1. CPP ADAPTER TO 4" COUPLER USED TO CONNECT TO SOLID HEADERS. THE 4" ADAPTER IS ROTATED TO TOP OF PIPE.
 2. CPP BLIND TEE USED FOR END-CAP. SNOUT PORT CAN BE CUT OUT FOR INSTALLING A CLEAN OUT ADAPTER THAT ALLOWS FOR POST INSTALLATION INSPECTION.

	TYPE	SIZE	PART NO.	PACKAGE DESCRIPTION	PRICE
		8"	0830020B	CRUMPLER'S NO-ROCK™ SEPTIC - 20 ft. with filter wrap	
		10"	1030020B	CRUMPLER'S NO-ROCK™ SEPTIC - 20 ft. with filter wrap	

Large diameter (LDP) CPP GRAVELLESS septic tank trench systems use a filter wrap that allows for the installation of septic treatment pipes without gravel. The advantage in using CPP NO-ROCK is evident in areas where there is a shortage of inexpensive quality rock or where the shape and topography of a lot hinder the access of heavy construction equipment. Less equipment use means more trees can be saved,



less lot grading is needed, and thus fuel and labor are saved. Additionally, narrow trenches for 8" and 10" CPP pipes create a reduced OC (On-Center) Spacing between parallel septic trenches. An 8" CPP pipe can fit in a 10" wide trench and a 10" CPP pipe in a 12" wide trench. Thus Lot space is saved for other uses.

- Eliminates Rock
- Saves On Lot Grading
- Saves Trees On Lot
- Saves on Installation Labor
- Saves Fuel
- Increases Lot Value



Crumpler's No-Rock™ Fabric Wrapped Large Diameter (LDP) Septic Pipe



	TYPE	SIZE	PART NO.	PACKAGE DESCRIPTION	PRICE
			8"	0830020B	CRUMPLER'S NO-ROCK™ SEPTIC - 20 ft. with filter wrap
		10"	1030020B	CRUMPLER'S NO-ROCK™ SEPTIC - 20 ft. with filter wrap	

Large diameter GRAVELLESS septic tank trench systems were developed as an alternative to 4" pipe systems in gravel-filled trenches for use in soils that most conventional 4" gravel would be allowed in. Organic Iron Ochre soils, however, are unsuitable for Filter Enclosed Gravelless Septic Pipes. The advantage in using the large diameter systems is evident in areas where there is a shortage of inexpensive quality rock, or where the shape and topography of a lot hinder the access of heavy construction equipment. The use of small trenchers for digging narrow trenches means more trees can be saved, less grading is needed, and thus fuel and labor are saved.

Crumpler's NO-ROCK™ septic systems include using either an 8" or a 10" corrugated HDPE pipe enclosed in a polypropylene filter wrap. ASTM-F-481 septic installation specification should be reviewed prior to installation. **Most states allow GRAVELLESS large diameter systems to be substituted for conventional systems in ANY SOIL TYPE deemed acceptable for a**

conventional system. One should check with local septic inspectors for locally approved soils.

Crumpler's NO-ROCK™ septic system may be substituted for any conventional 4" pipe gravel trench system utilizing distribution devices, serial distribution, hillside or stepdowns. However, it should not be substituted for bed systems. It should also be limited to domestic sewage, and not used where there will be large amounts of grease or oil such as in restaurants unless designed by an engineer.

The 8" size pipe will equal to 2-foot wide conventional trench; and the 10" size will equal a 2.5 foot wide trench. To determine the required linear footage of either pipe size, first determine the square footage by dividing the design sewage flow by the appropriate soil's long term application rate. Then divide this total square footage area figure by either 2 feet (for 8") or 2.5 feet (for 10") to establish the linear footage amount. Per chart below, on center (oc) spacing will be determined by actual trench width.

Example: A 3-bedroom house on a loam soil
0.6 gpd/ft² = loam soil's long term application rate.

3BR x 120 gpd = 360 gpd
360 gpd ÷ 0.6 gpd/ft² = 600 ft.

600 ft² ÷ 2ft = 300 linear ft of 8" or
600 ft² ÷ 2.5 ft = 240 linear ft of 10"
600 ft² ÷ 3 ft = 200 ft for conventional 4" gravel

SUGGESTED INSTALLATION OF STANDARDS

Nitrification trench bottom minimum width for 8"	10"
Nitrification trench bottom minimum width for 10"	12"
Nitrification line center spacing on 8"	5' oc
Nitrification line center spacing on 10"	6' oc
Nitrification trench bottom minimum depth	18"
Nitrification trench bottom maximum depth (24" preferred)	36"
Nitrification trench bottom slope	level to 1" per 100 ft
Nitrification line minimum cover	6"
Nitrification line maximum cover (12" preferred)	24"

To eliminate voids and clods under pipes 15" - 18" trenches is recommended unless sand backfill is used.

The corrugated pipe used shall comply with ASTM-F-667. Also the installer should be careful to note that the filter wrap is light

sensitive, and should not be exposed to sunlight for extended periods of time. The installer should also take care during installation to avoid tearing of the filter material. The protective plastic wrap that protects the filter should be disposed of off site.

WEB SITE: www.cpp-pipe.com / E-Mail: cppsales@cpp-pipe.com

(800) 334-5071

TOLL FREE USA/CANADA

OUR PIPE IS LABORATORY TESTED

(910) 525-5801

24 HOUR FAX SERVICE



Slope Correction Table



NOTE: Add the inches from Slope Table to the MSD¹ to determine the RSD²

PERCENT SLOPE	10" Trench	12" Trench	18" Trench	24" Trench	36" Trench
6	0.6	0.7	1.1	1.4	2.2
12	1.2	1.4	2.2	2.9	4.3
18	1.8	2.2	3.2	4.3	6.5
24	2.4	2.9	4.3	5.8	8.6
30	3	3.6	5.4	7.2	10.8
36	3.6	4.3	6.5	8.6	13.0
42	4.2	5.0	7.6	10.1	15.1
48	4.8	5.8	8.6	11.5	17.3
54	5.4	6.5	9.7	13.0	19.4
60	6	7.2	10.8	14.4	21.6

NOTE: For sloping sites a calculation of the additional required soil depth is necessary using the table above or the following formula: $RSD = MSD + (TW \times .S)$

Where; RSD = Required Soil Depth (inches),

MSD - Min. Soil Depth (Min. Soil Cover + Ht. of Sys. + Min. Separation) (in)

TW = Trench Width (inches), &

.S = Percent Slope (.00)

Example: Assume site for septic system dispersal field has a slope of 28% and the trench bottom is required to be 12 inches above a site limitation, such as, weathered rock or perched water table. Also, assume that the proposed site has a usable or acceptable soil depth of 38 inches. Further, a minimum soil cover of 6 inches is required over the dispersal system.

Trial 1: Conventional trench (36 inches wide, 12 inches gravel, 6 inches over) would require a usable soil depth of 40 inches. [40 inches RSD - 30 inches MSD + (36 inches TW x .28 S)] Thus, a conventional or 36 inch wide trench is unsuitable at this site.

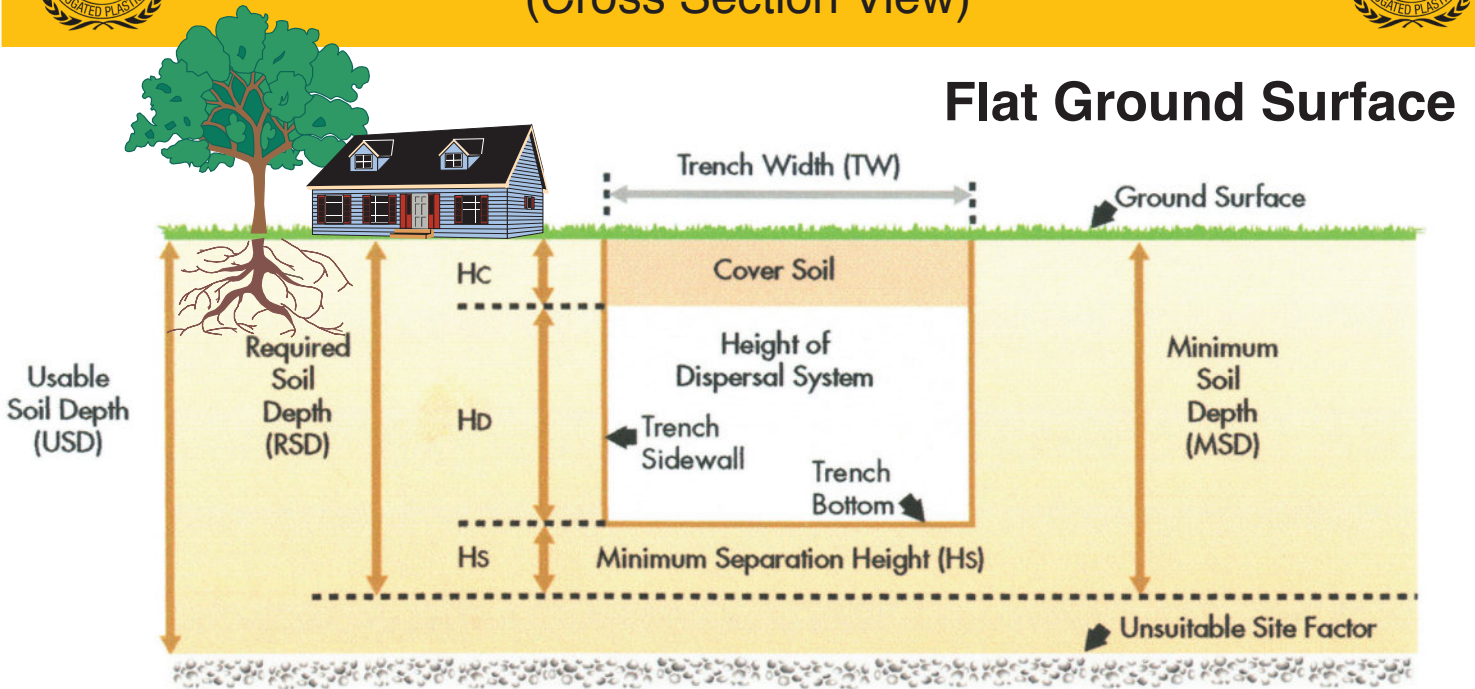
Trial 2: Crumpler NO ROCK™ 8 inch ID (10 in. OD) installed in a 12 inch wide trench would require a usable soil depth of 31.4 inches. [31.4 RSD = 28 inches MSD + (12 inches TW x .28 S)] Therefore, site is acceptable for Crumpler 8 in. NO ROCK™.

Trial 3: Crumpler NO ROCK™ 10 inch ID (12 in. OD) installed in an 18 inch wide trench would require a usable soil depth of 35 inches. [35 inches RSD = 30 inches MSD + (18 inches TW x .28 S)] Therefore, site is acceptable for Crumpler 10 inch NO ROCK™.

¹ MSD is the minimum soil depth at 0% slope and is the sum of the min. separation distance between trench bottom and limiting horizon (typ. 12 in), plus the system height, plus the min. soil cover (typ. 6 in.).

² RSD is the required soil depth to install a trench on a sloping site with the added inches to meet the minimum separation distance on the uphill side of the trench.

Septic Effluent Disposal Trenches on Sloping Sites (Cross Section View)



$MSD = H_c + H_d + H_s$
 $MSD = RSD$ on Flat Sites

Not To Scale

FIGURE 1

Sloping ground Surface

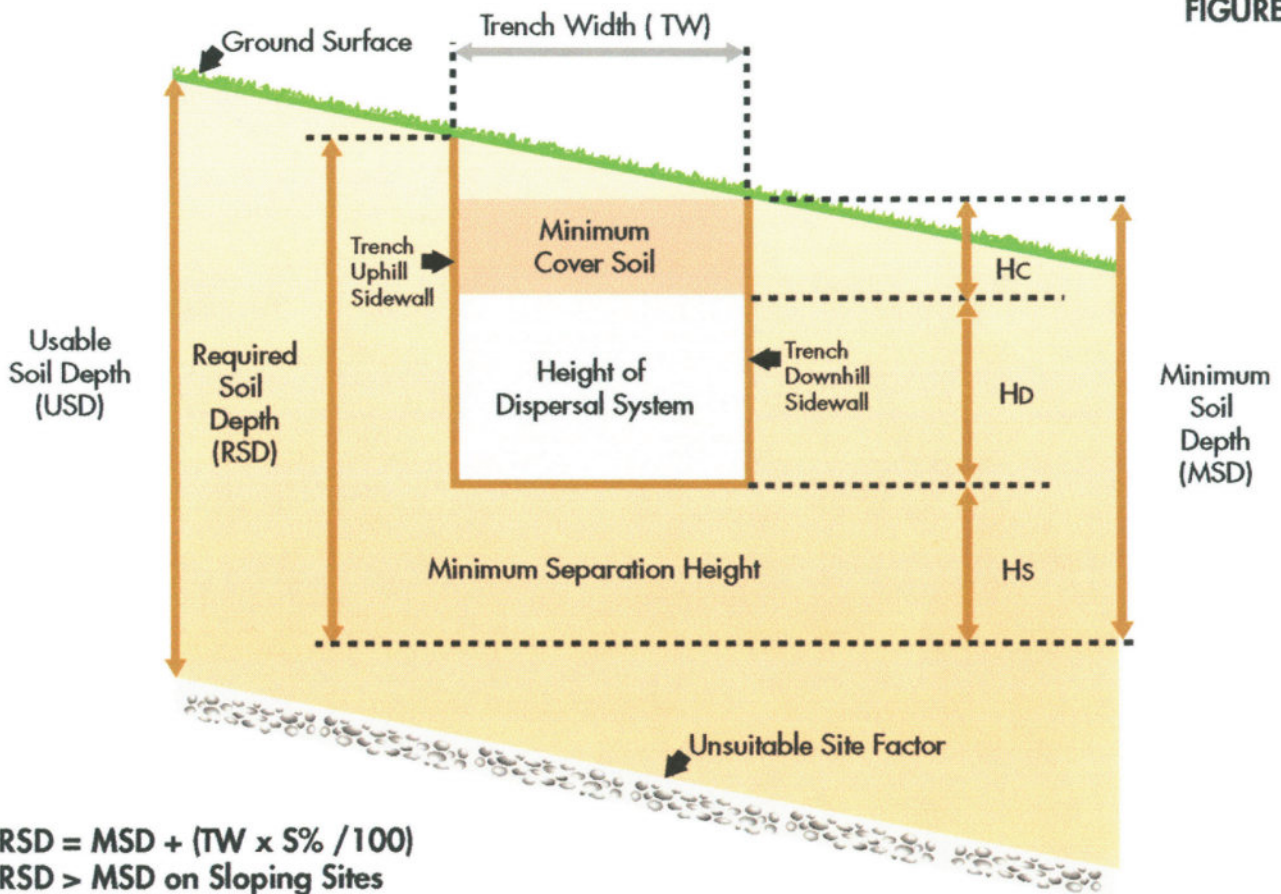
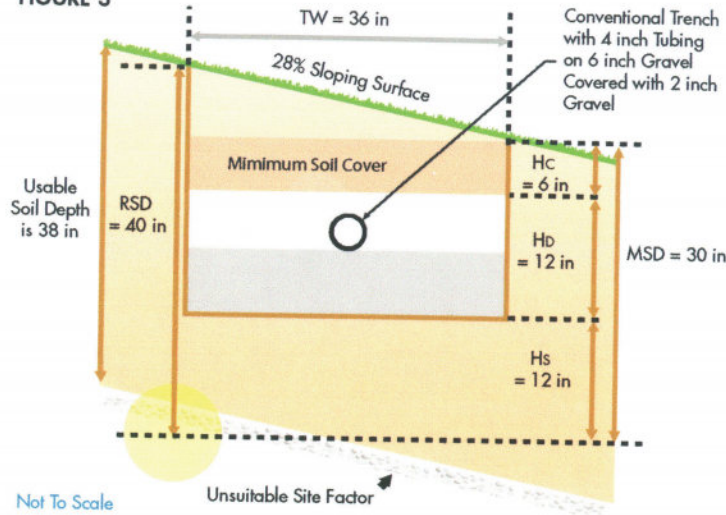


FIGURE 2

$RSD = MSD + (TW \times 5\% / 100)$
 $RSD > MSD$ on Sloping Sites
 $USD \geq RSD$

Not To Scale

FIGURE 3



Septic Effluent Disposal Trenches on Sloping Sites (Cross Section) Trial No. 1

Site has 28% slope and soil is 38 inches deep

- Trial No. 1:** Use 36 inch wide conventional trench system
- MSD** = 6 in + 12 in + 12 in = 30 inches
- RSD** = 30 in (36 in x 28%/100) = 40 inches
- RSD (40 in) > USD (38 in)**

Proposed System **Unsuitable** for Slope

Septic Effluent Disposal Trenches on Sloping Sites (Cross Section) Trial No. 2

Site has 28% slope and soil is 38 inches deep

- Trial No. 2:** Use CPP 8 inch NO-ROCK™ with 12 inch wide trench.
- MSD** = 6 in + 10 in + 12 in = 28 inches
- RSD** = 30 in (12 in x 28%/100) = 31.4 inches
- USD (38 in) > RSD (31.4 in)**

Proposed **CPP 8 inch NO-ROCK™** **Suitable** for Slope

FIGURE 4

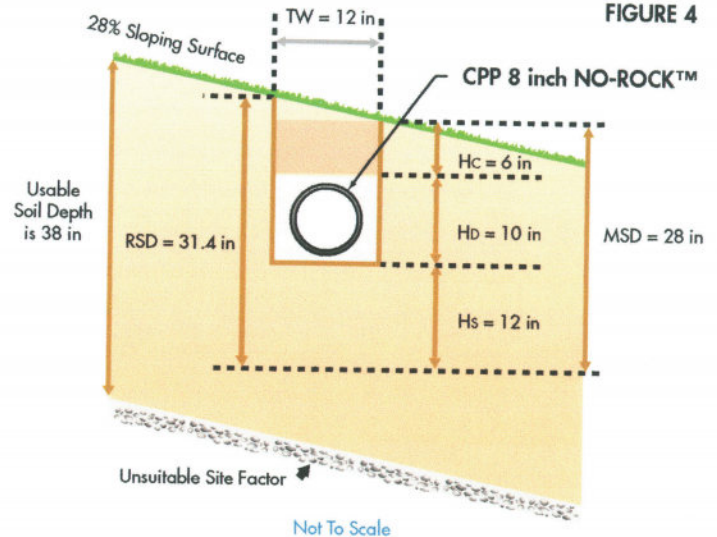
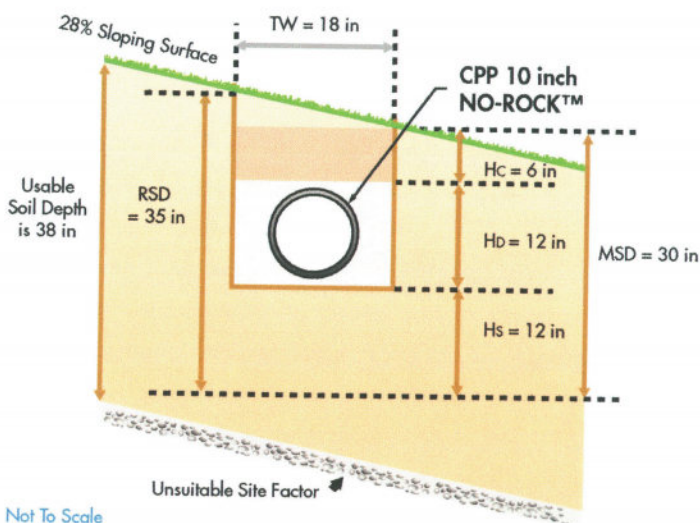


FIGURE 5



Septic Effluent Disposal Trenches on Sloping Sites (Cross Section) Trial No. 3

Site has 28% slope and soil is 38 inches deep

- Trial No. 3:** Use CPP 10 inch NO-ROCK™ with 18 inch wide trench.
- MSD** = 6 in + 12 in + 12 in = 30 inches
- RSD** = 30 in (18 in x 28%/100) = 35 inches
- USD (38 in) > RSD (35 in)**

Proposed **CPP 10 inch NO-ROCK™** **Suitable** for Slope

Not To Scale



Crumpler's No-Rock™ Fabric Wrapped Large Diameter (LDP) Septic Pipe



1
NC State University layout of CPP No-Rock Septic at the Ed Booth field Learning Lab.



2
Laser Level adjustment setting prior to trenching sequence.



3
Laser Level check of trench depth grade and bag encased protected pipe moved onto trench site. The plastic bags protect the filter wrap from extended storage UV deterioration and natural handling abuses.



4
Protective plastic bags removed just prior to trench placement.



5
Protective plastic bags removed from the site for disposal elsewhere.



6
Trenching complete, and ready for Side-Wall rake prep sequence.



7
CPP No-Rock Septic pipes allow for narrow trenches that offer a closer OC spacing, which requires a reduced land area foot print compared to conventional 3-foot wide trenches.



8
A Blind Tee with a screw off Clean Out Plug is placed at the end of each individual line. This allows for a line inspection.



9
Final cover sequence begins.



10
Narrow trenches allow for faster, less cumbersome of equipment about the site during the final cover phase, and this saves equipment time on the job.

To Spec (HDPE) Corrugated Plastic Pipe Spec as:

ASTM General Construction

CPP-ASTM-F-677 (3" - 24")
CPP-ASTM-F-2306 (12" - 60")
CPP-ASTM-F-2648 (2"-60")

AASHTO Highway Construction

CPP-AASHTO-M-252 (3" - 10")
CPP-AASHTO-M-294 (12" - 60")

OUR PIPE IS LABORATORY TESTED



PHONE 910-525-4046 / (800) 334-5071
24 HR. FAX SERVICE (800) CPP-PIPE

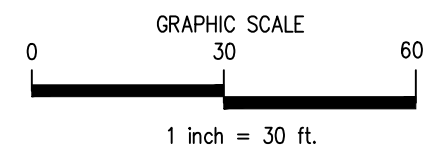
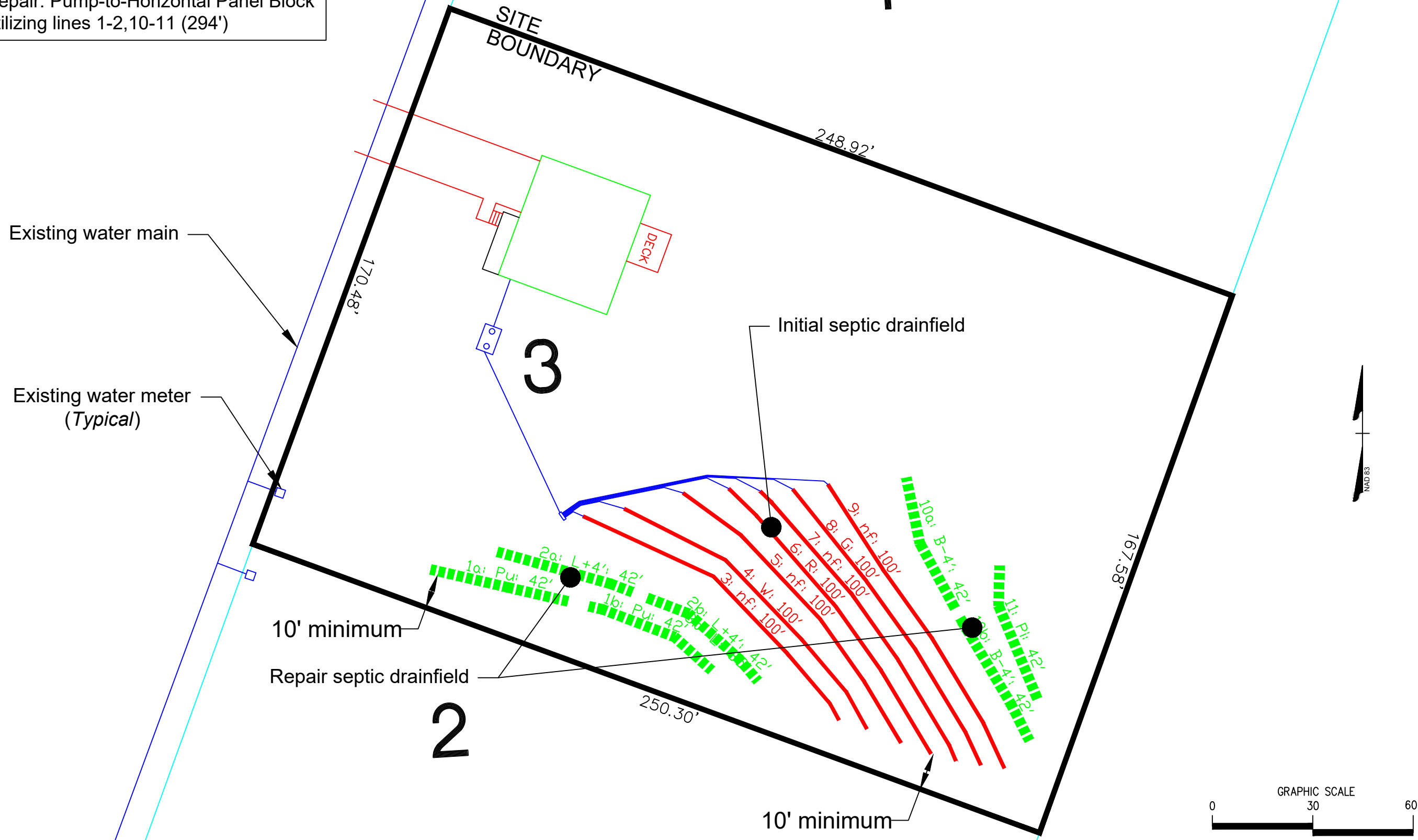
WEB SITE: www.cpp-pipe.com

The East Coast's Largest Producer Under One Roof

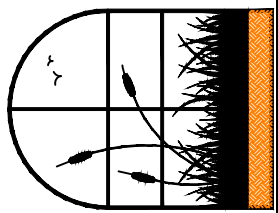


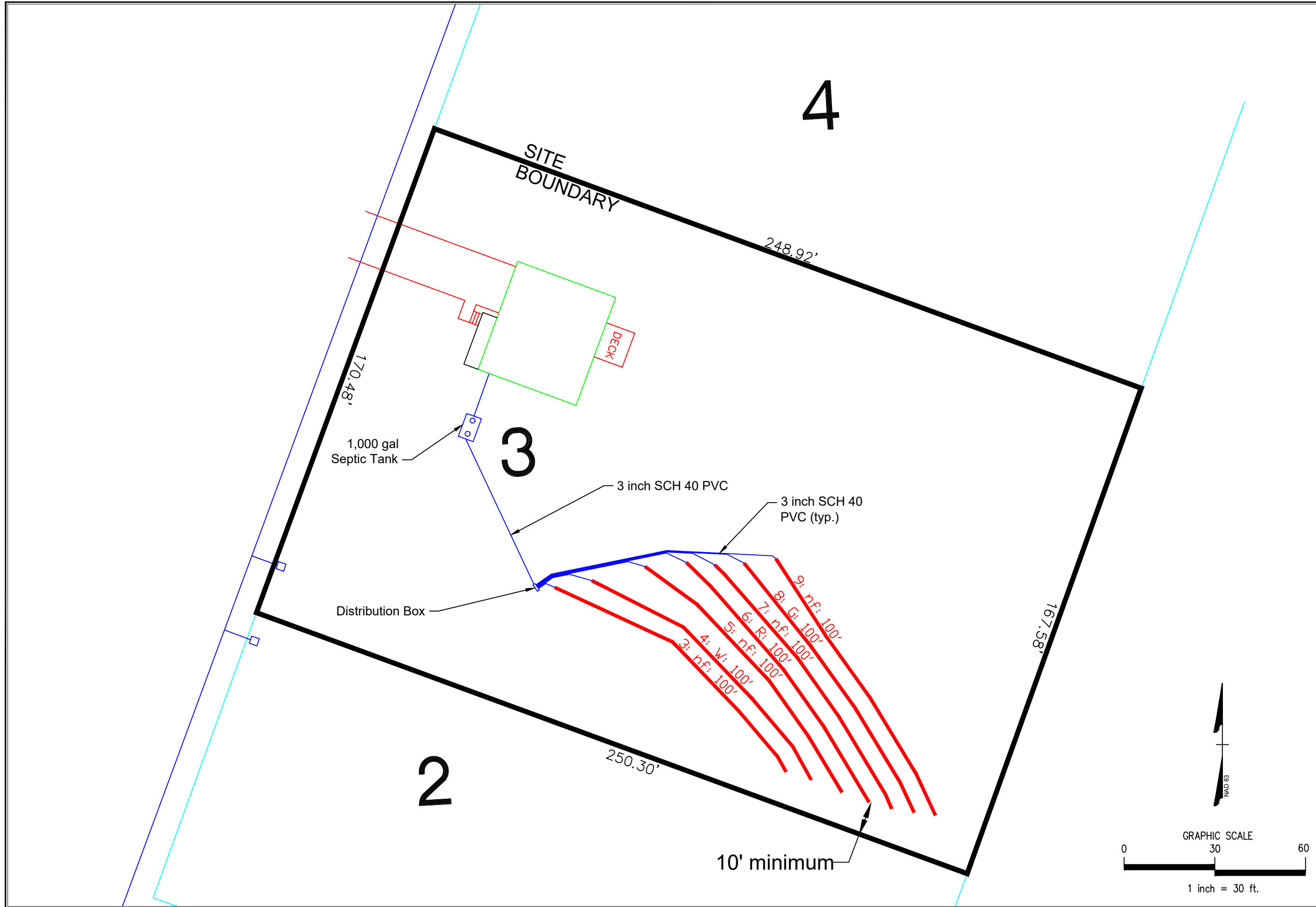
4-Bedroom
 Initial LTAR: 0.275 gpd/ft²
 Initial: Gravity-to-10" Large Diameter Pipe utilizing lines 3-9 (700')
 Repair LTAR: 0.275 gpd/ft²
 Repair: Pump-to-Horizontal Panel Block utilizing lines 1-2,10-11 (294')

Notes:
 -No soil cuts within 20 feet of septic trenches.
 -No swales within 30 feet of septic trenches unless approved, in writing, by Engineer.

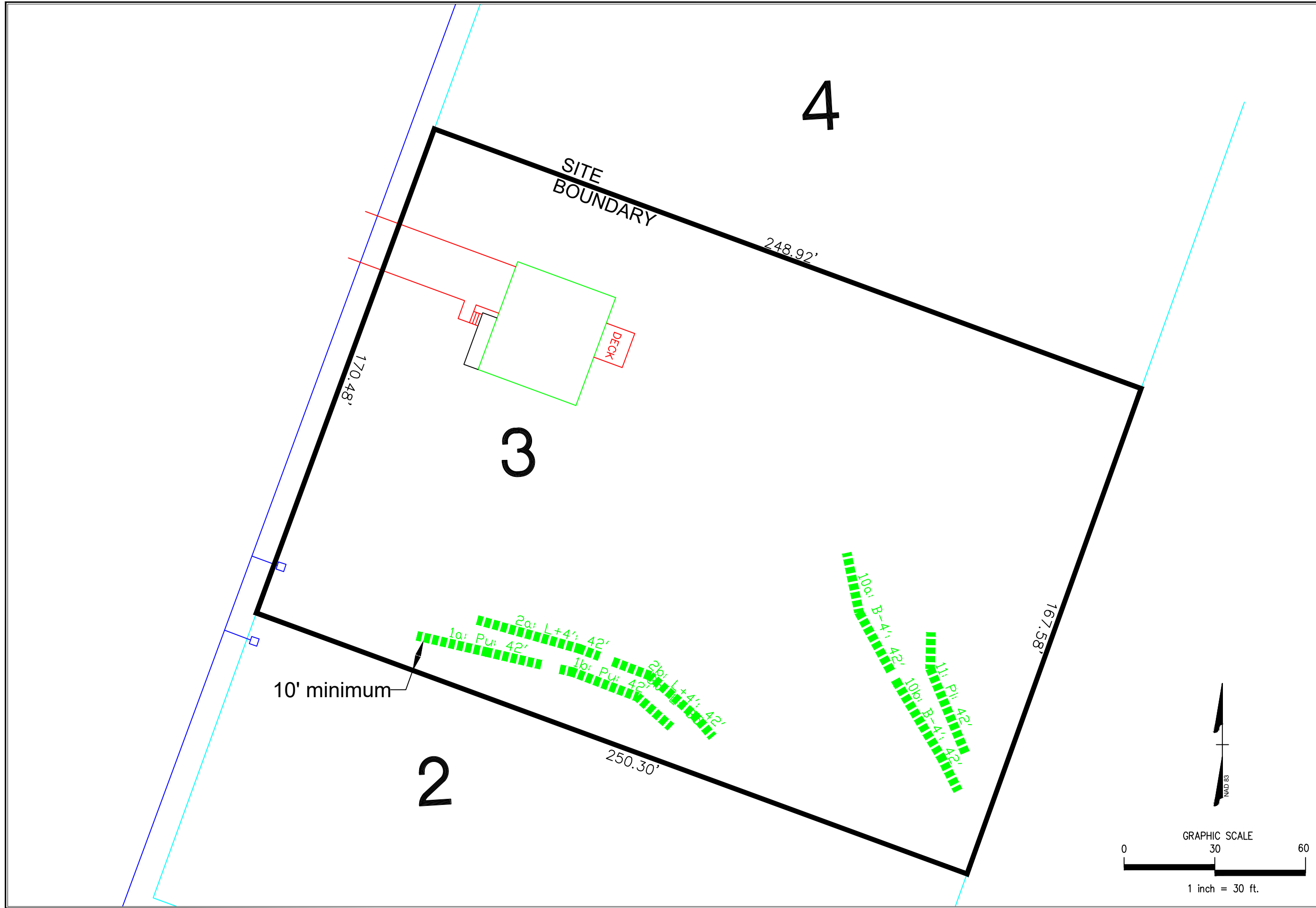


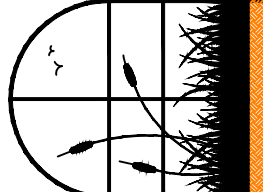
MITCHELL ENVIRONMENTAL, PA C-2917 1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526		PREPARED FOR : HHunt Homes of Raleigh 1401 Sunday Drive, Suite 109 Raleigh, NC 27607	REVISION NO. Original Submittal Revision 1 Revision 2 Revision 3 Master Set	DATE March 27, 2024 --- --- ---	SHEET NUMBER 1 of 5
DATE : March 27, 2024 DESIGNER CONTACT: ADAM AYCOCK, EI DRAWN BY: ADAM AYCOCK, EI		Hobbies Pines Lot 3 Overall Septic			

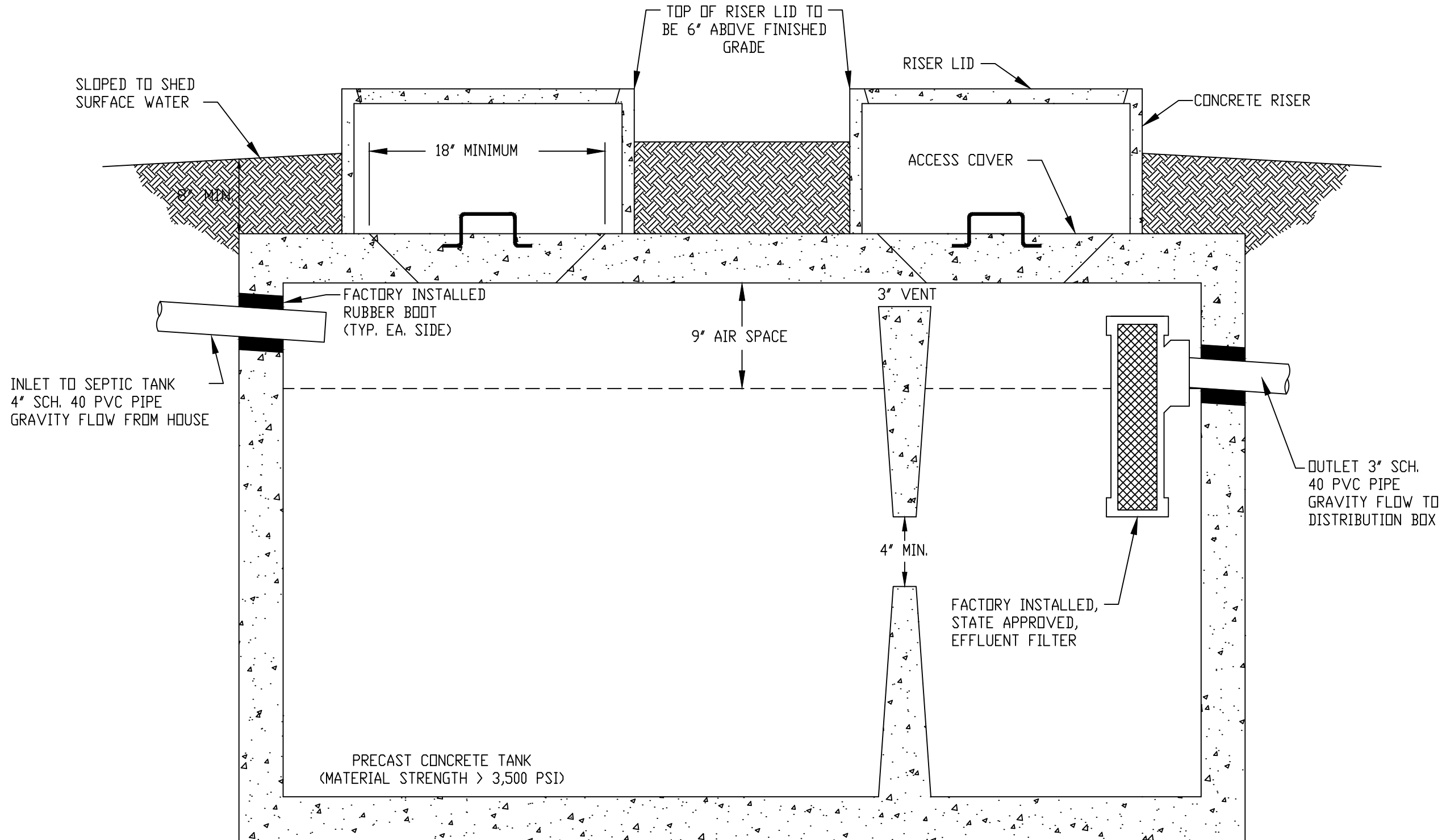




MITCHELL ENVIRONMENTAL, PA C-2917 1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526		PREPARED FOR : HHHunt Homes of Raleigh 1401 Sunday Drive, Suite 109 Raleigh, NC 27607		REVISION NO. Original Submittal		DATE March 27, 2024		SHEET NUMBER 2 of 5	
		DATE : March 27, 2024		Revision 1		---		---	
		DESIGNER CONTACT: ADAM AYCOCK, EI		Revision 2		---		---	
		DRAWN BY: ADAM AYCOCK, EI		Revision 3		---		---	
				Master Set		---		Hollies Pines Lot 3 Initial Nitrification Field	



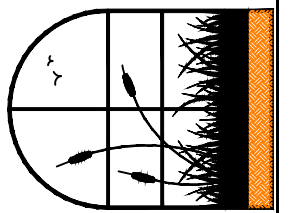
	MITCHELL ENVIRONMENTAL, PA C-2917		PREPARED FOR : HHunt Homes of Raleigh 1401 Sunday Drive, Suite 109 Raleigh, NC 27607		REVISION NO. Original Submittal	DATE March 27, 2024	SHEET NUMBER 3 of 7
	1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526		DATE : March 27, 2024 DESIGNER CONTACT: ADAM AYCOCK, EI DRAWN BY: ADAM AYCOCK, EI	Revision 1 Revision 2 Revision 3 Master Set	----- ----- ----- -----	Hollies Pines Lot 3 Repair Nitrification Field	



1,000 GALLON SEPTIC TANK

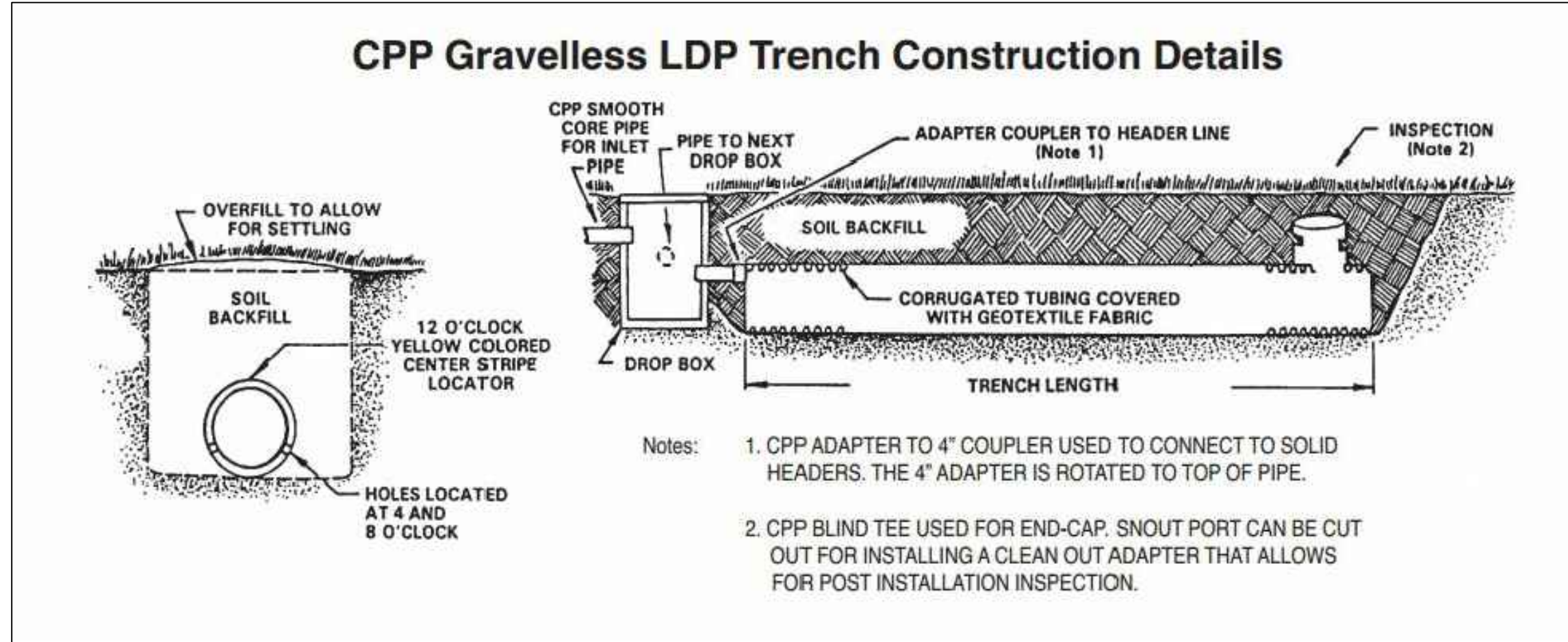
SEPTIC TANK DETAIL
N.T.S.

SHEET NUMBER		4 of 5	
PREPARED FOR : HHI Hunt Homes of Raleigh 1401 Sunday Drive, Suite 109 Raleigh, NC 27607		DATE : March 27, 2024	
DESIGNER CONTACT : ADAM AYCOCK, EI	REVISION NO. : Original Submittal	DATE : March 27, 2024	REVISION : Revision 1
DRAWN BY : ADAM AYCOCK, EI	REVISION NO. : Revision 2	DATE : March 27, 2024	REVISION : Revision 2
	REVISION NO. : Revision 3	DATE : March 27, 2024	REVISION : Revision 3
	REVISION NO. : Master Set	DATE : March 27, 2024	REVISION : Master Set
MITCHELL ENVIRONMENTAL, PA C-2917 1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526		Hollies Pines Lot 3 Septic Tank Detail	



Trench Width = 12 Inches (minimum)

Trench Depth = see Harnett County permit



SHEET NUMBER		5 of 5	
Hollies Pines Lot 3 Trench Detail			
REVISION NO.	DATE	REVISION NO.	DATE
Original Submittal	March 27, 2024	Revision 1	---
		Revision 2	---
		Revision 3	---
		Master Set	---
PREPARED FOR :	HHunt Homes of Raleigh 1401 Sunday Drive, Suite 109 Raleigh, NC 27607	DATE :	March 27, 2024
DESIGNER CONTACT:	CRUMPLER PLASTIC PIPE	DRAWN BY:	CRUMPLER PLASTIC PIPE
MITCHELL ENVIRONMENTAL, PA C-2917		1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526	

