

Harnett County Department of Public Health Improvement Permit

A building permit cannot be issued with only an Improvement Permit

H+H CONSTRUCTORS
 ISSUED TO: McKee Homes LLC PROPERTY LOCATION: 305 Country Side Dr
 SUBDIVISION Oakmont LOT # 89
 NEW REPAIR EXPANSION
 Type of Structure: SFD (36'x56') 62
 Proposed Wastewater System Type: Pump 10"LDP
 Projected Daily Flow: 480 GPD
 Number of bedrooms: 4 Number of Occupants: 8 max
 Basement Yes No
 Pump Required: Yes No May be required based on final location and elevations of facilities
 Type of Water Supply: Community Public Well Distance from well _____ feet
 Permit valid for: Five years No expiration
 Permit conditions: _____

Authorized State Agent: ~~RENS~~ Date: 10/7/21 SEE ATTACHED SITE SKETCH
 The issuance of this permit by the Health Department in no way guarantees the issuance of other permits. The permit holder is responsible for checking with appropriate governing bodies in meeting their requirements. This site is subject to revocation if the site plan, plat, or the intended use changes. The Improvement Permit shall not be affected by a change in ownership of the site. This permit is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to conditions of this permit.

Construction Authorization (Required for Building Permit)

The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, .1958, and .1959 are incorporated by references into this permit and shall be met. Systems shall be installed in accordance with the attached system layout.

H+H CONSTRUCTORS
 ISSUED TO: McKee Homes LLC PROPERTY LOCATION: 305 County Side Dr
 SUBDIVISION Oakmont LOT # 89
 Facility Type: SFD (36'x56') 62 New Expansion Repair
 Basement? Yes No Basement Fixtures? Yes No
 Type of Wastewater System** Pump to 10"LDP (Initial) Wastewater Flow: 480 GPD
 (See note below, if applicable)

TS-II Subsurface Drip (Repair)

Installation Requirements/Conditions
 Number of trenches 3
 Septic Tank Size 1200 gallons Exact length of each trench Varies feet Trench Spacing: 6 Feet on Center
 Pump Tank Size 1200 gallons Trenches shall be installed on contour at a Soil Cover: 6 inches MIN
 Maximum Trench Depth of: 10 inches (Maximum soil cover shall not exceed 36" above the trench bottom)
 (Trench bottoms shall be level to +/- 1/4" in all directions)
 Pump Requirements: _____ ft. TDH vs. _____ GPM _____ inches below pipe
 Aggregate Depth: _____ inches above pipe _____ inches total

Conditions: See attached design for all other specifications. Call HCHD with any questions.

**WATER LINES (INCLUDING IRRIGATION) MUST BE 10FT. FROM ANY PART OF SEPTIC SYSTEM OR REPAIR AREA.
NO UTILITIES ALLOWED IN INITIAL OR REPAIR DRAIN FIELD AREA.**

***If applicable: I understand the system type specified is different from the type specified on the application. I accept the specifications of this permit.*

Owner/Legal Representative Signature: _____ Date: _____

This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes. The Construction Authorization shall not be transferred when there is a change in ownership of the site. This Construction Authorization is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit. SEE ATTACHED SITE SKETCH

Authorized State Agent: ~~RENS~~ Date: 10/7/21
 Construction Authorization Expiration Date: 10/7/26

Mitchell Environmental, P.A.

SEPTIC SYSTEM DESIGN

for

OAKMONT SUBDIVISION- LOT 89

Lillington, Harnett County, North Carolina

Submitted to:

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

Prepared for:

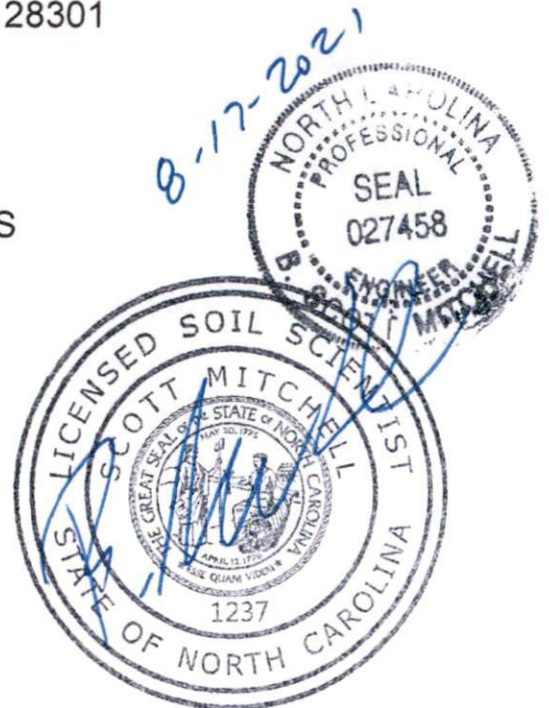
McKee Homes, LLC
109 Hay Street, Suite 301
Fayetteville, North Carolina 28301

Prepared by:

Scott Mitchell, PE, LSS
Adam Aycock, EI

DATE: August 17, 2021

PROJECT NO.: 1318



Initial System

PRESSURE MANIFOLD DESIGN

Name: Oakmont Development Partners P.I.N. #: _____ D #: N/A
 Address: _____ Subdiv: Oakmont Lot#: 89
 # of BDR: 4 Daily Flow: 480 gal/day L.T.A.R.: 0.350 gal/day/sq.ft
 Septic Tank: 1200 gals (min.) Pump Tank: 1200 gals (min.) Sq. Foot: 554 Stone Depth: N/A
 (Large Diam)
 Number of Taps: 3 Length of Trenches: Varies ft(See Tap Chart for Details)
 Depth of Trenches: see Harnett County Permit Manifold Length: 36 in
 Manifold Diameter: 4 in sch 80pvc (minimum) Tap Configuration: 6 in spacing 1 side(s) of manifold
 Supply Line: length: 10 ft Diameter: 1.5 in sch 40pvc
 Friction Loss + Fitting Loss: 2.65 ft(supply line length + 70' for fittings in pump tank)
 Design Head: 2.0 ft Elevation Head: 4.47 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: 15 ft
 Orifice / Vent Hole Flowrate: 1.61 gpm Head Loss at Orifice / Vent Hole: 0.95 ft
 Total Head: 10.08 ft Pump to Deliver: 19.68 gals/min at 10.08 ft head
 Dosing Volume: 237.67 gals.
 Drawdown: 237.67 gals divided by 19 gals/in = 12.51 inches

SJE Rhombus Installer Friendly Series simplex control panel, or equivalent, required
 A septic tank filter, or equal is required.
 Possible pumps: Hydromatic: _____ Goulds: _____ Myers: _____
 Zoeller: 53 Other: _____

TAP CHART

Bench Mark	<u>5</u>	is = 100.00	set at		Design Head:	<u>2.0</u>			
Pump tank elev.	<u>2</u>	<u>103.00</u>		Pump elev.	<u>98.00</u>	Manifold elev.	<u>102.47</u>		
line	color	rod read	Elevation	length	hole size	flow/tap	gal/day	trench area	LINE LTAR
9 & 10	B & nf	3.53	101.47	218	1/2in SCH 40	7.11	188.87	218	0.8664
11 & 12	nf & nf	5.64	99.36	168	1/2in SCH 80	5.48	145.57	168	0.8665
13 & 14	nf & Y	8.02	96.98	168	1/2in SCH 80	5.48	145.57	168	0.8665
		total	feet =	<u>554</u>	gal/min =	<u>18.1</u>		LTAR =	<u>0.3500</u>
% of Pipe Vol.	<u>66</u>			Des. Flow	<u>480.00</u>			(Itar + 5%)	<u>0.3675</u>
Dose Volume	<u>237.67</u>			Pump Run=	<u>26.56</u>			(Itar W/ LDP 2.5 Equivalency Factor)	<u>0.8750</u>
Dose Pump Time	<u>13.15</u>			Tank Gal/IN	<u>19</u>			(Itar W/ LDP 2.5 Equivalency Factor + 5%)	<u>0.9188</u>
Drawdown in Inches	<u>12.51</u>			Elev. Head	<u>4.47</u>				
Supply Line Length	<u>10</u>								

Comments: 10" Large Diameter Pipe in 12" wide trenches, on 6' center-to-center trench spacing

Field Staking Worksheet

County:
Site Address:

Harnett
Oakmont
Lillington, NC

Permit #:
Date:
Parcel #:
MEPA Project #: 1318
Lot #: 89

Reference Location: EG @ Back corner Lot 97/98

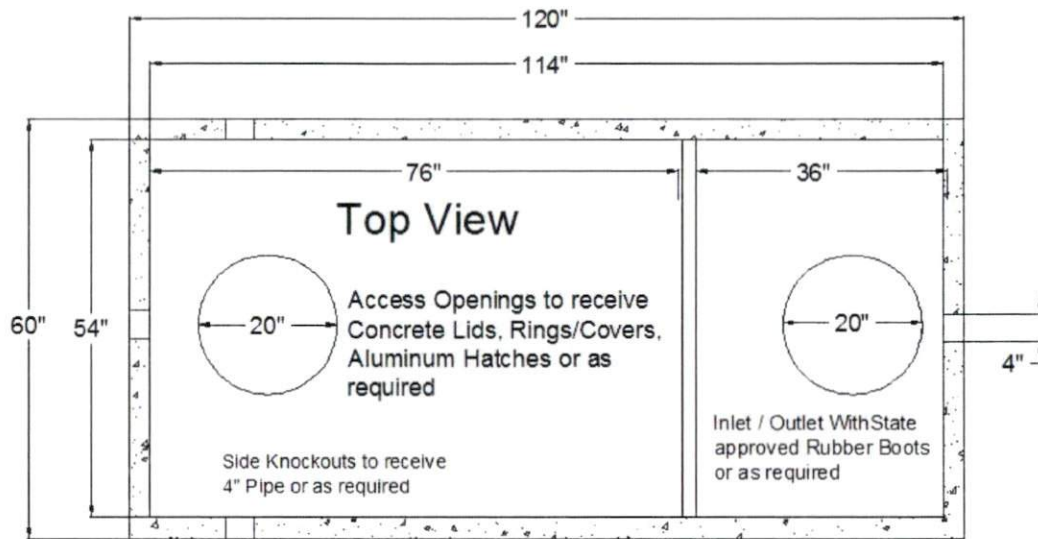
Reference Rod Read: 4.91 ft Reference Elevation: 100.00 ft

Drip Lateral Field Staking Table:

Color	Rod Read (ft)	Length (ft)	Relative Elevation (ft)		
nf	0.52	37	104.39	215	Zone 1 826
nf	0.8	40	104.11		
nf	1.06	43	103.85		
nf	1.36	46	103.55		
nf	1.58	49	103.33		
1 Red	1.84	52	103.07	291	
nf	2.16	55	102.75		
nf	2.49	58	102.42		
nf	2.81	62	102.10		
2 Purple	3.14	64	101.77		
nf	3.46	64	101.45	320	
nf	3.80	64	101.11		
nf	4.15	64	100.76		
nf	4.48	64	100.43		
nf	4.85	64	100.06		
3 Orange	5.20	83	99.71	259	Zone 2 860
nf	5.56	86	99.35		
nf	5.93	90	98.98		
nf	6.29	94	98.62		
nf	6.65	97	98.26		
4 Lime	7.03	101	97.88	292	
nf	7.36	102	97.55		
nf	7.69	103	97.22		
nf	8.02	104	96.89		
nf					

Field Subtotal: 1686

4 bedroom
LTAR= 0.15 gpd/ft²
Subsurface Drip (*Perc-Rite, aerobic*) with TS-II Pretreatment (*Advantex AX20-RTUV*)
Staked on 10' centers



STB - 346 - Top Seam

Date: 12-09-99

Liquid Capacity 1250 Gallons

Non Traffic Rated

Reinforcing Schedule: # 3 Grade 60 Rebar

4500 PSI Concrete w/ State Approved Structural Fiber

2.85 yds. Est. Weight 11,500 lbs.

Manufactured By:

GARNERS

Septic Tanks, Inc.

Eddie Garner, President

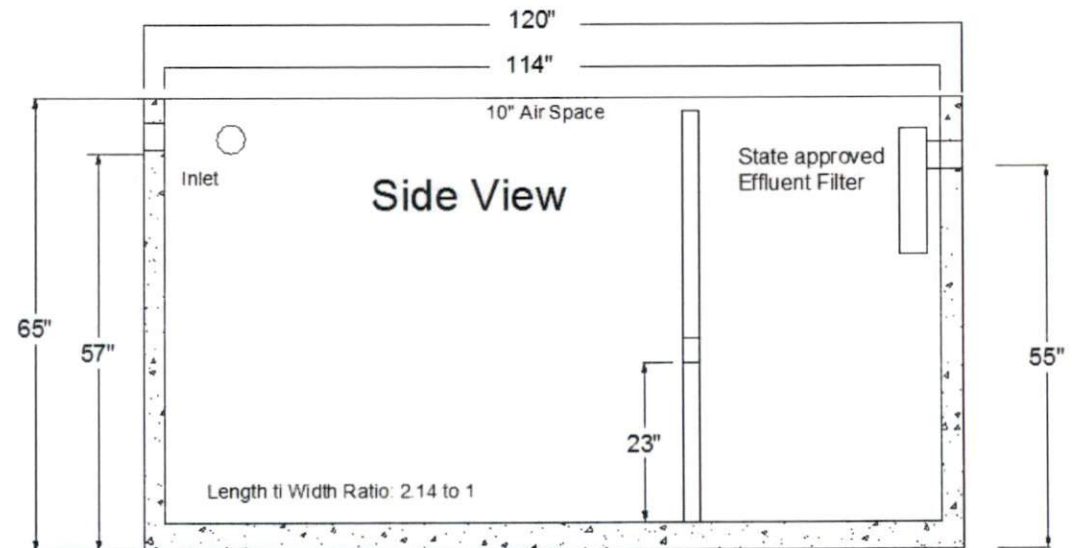
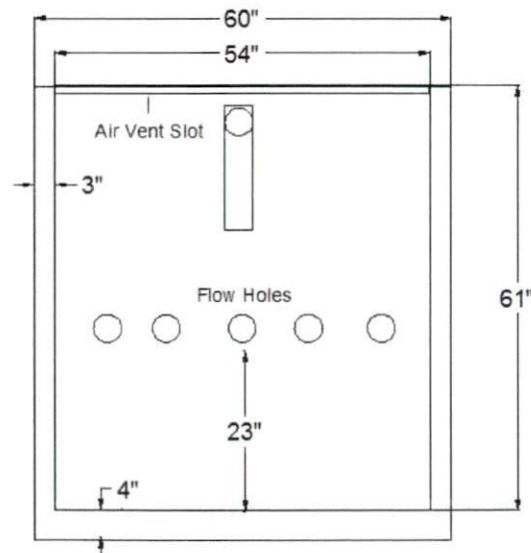
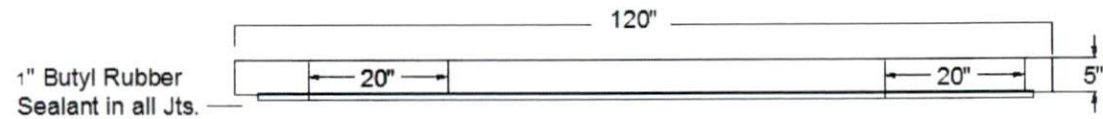
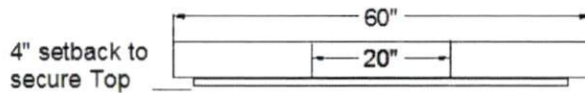
919-718-5181

121 Stanton Hill Road

Carthage, NC 28327

Fax 919-775-2229

Eddie@garnersseptic tanks.com



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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

Your Peace of Mind is Our Top Priority®

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.



PUMP COMPANY

Zoeller Family of Water Solutions™

SECTION: 2.15.020

FM2778

0515

Supersedes

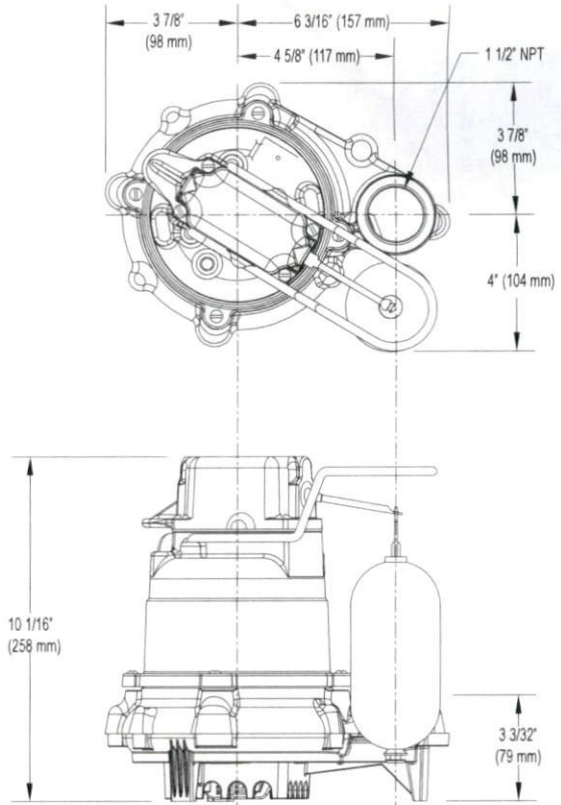
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TECHNICAL DATA SHEET MIGHTY-MATE SERIES

Cast Iron Models 53, 57 and Bronze Models 55, 59 Submersible Effluent / Dewatering Pumps

PRODUCT SPECIFICATIONS

MOTOR	Horse Power	3/10
	Voltage	115 or 230
	Phase	1 Ph
	Hertz	60 Hz
	RPM	1550
	Type	Shaded pole
	Insulation	Class B
	Amps	4.8 - 9.7
PUMP	Operation	Automatic or nonautomatic
	Auto On/Off Points	7-1/4" (18.4 cm) / 3" (7.6 cm)
	Discharge Size	1-1/2" NPT
	Solids Handling	1/2" (12 mm) spherical solids
	Cord Length	9' (3 m) automatic, 15' (5 m) nonautomatic
	Cord Type	UL listed, 3-wire, grounded plug
	Max. Head	19.25' (5.9 m)
	Max. Flow Rate	43 GPM (163 LPM)
	Max. Operating Temp.	130° F (54° C)
	Cooling	Oil filled
	Motor Protection	Auto reset thermal overload
MATERIALS	Cap	Cast iron or bronze
	Motor Housing	Cast iron or bronze
	Pump Housing	Cast iron or bronze
	Base	Cast iron, bronze or engineered thermoplastic
	Upper Bearing	Sleeve bearing
	Lower Bearing	Sleeve bearing
	Mechanical Seals	Carbon and ceramic
	Impeller Type	Non-clogging vortex
	Impeller	Plastic, cast iron or bronze
	Hardware	Stainless steel
	Motor Shaft	AISI 1215 cold rolled steel
Gasket	Neoprene	



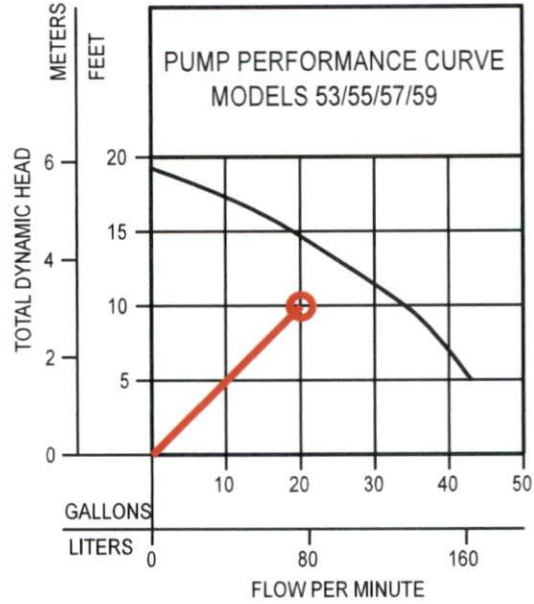
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NOTE: See model comparison chart for specific details.



**TOTAL DYNAMIC HEAD
FLOW PER MINUTE**

MODEL		53/55/57/59	
Feet	Meters	Gal.	Liters
5	1.5	43	163
10	3.0	34	129
15	4.6	19	72
Shut-off Head:		19.25 ft.(5.9m)	



009897

Model	MODEL COMPARISON										
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg	Simplex	Duplex
M53/M55	Single	Auto	115	1	9.7	3/10	60	23	10	1	---
N53/N55	Single	Non	115	1	9.7	3/10	60	23	10	2	3 & 4
* BN53	Single	Auto	115	1	9.7	3/10	60	25	11	*	---
* BE53/BE57	Single	Auto	230	1	4.8	3/10	60	24 / 30	11 / 13	*	---
D53	Single	Auto	230	1	4.8	3/10	60	23	10	1	---
E53/E55	Single	Non	230	1	4.8	3/10	60	22	10	2	3 & 4
M57/M59	Single	Auto	115	1	9.7	3/10	60	29 / 33	13 / 15	1	---
N57/N59	Single	Non	115	1	9.7	3/10	60	28 / 29	12 / 13	2	3 & 4
* BN57	Single	Auto	115	1	9.7	3/10	60	30	13	*	---
D57/D59	Single	Auto	230	1	4.8	3/10	60	30 / 33	13 / 15	1	---
E57/E59	Single	Non	230	1	4.8	3/10	60	28 / 29	12 / 13	2	3 & 4
E59	Single	Non	230	1	4.8	3/10	60	29	13	2	3 & 4

* Single piggyback switch included.

SPECIAL MODEL FEATURES

Additional cord lengths are available in 15' (5 m), 25' (8 m) and 35' (11 m). 50' (15 m) cord lengths available for 230 V units only.

BE and BN models include a piggyback variable level pump switch.

Model 53: cast iron switch case, motor and pump housing, a plastic impeller and base. Model 57: all cast iron construction with a cast iron impeller. Model 55: bronze switch case, motor and pump housing, a plastic impeller and base. Model 59: bronze construction with a bronze impeller.

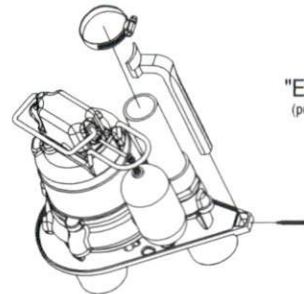
Optional pump stand (P/N 10-2421).

SELECTION GUIDE

1. Integral float-operated mechanical switch, no external control required.
2. Single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
3. See FM0712 for correct model of Electrical Alternator.
4. Variable level control switch 10-0743 used as a control activator with electrical alternator with electrical alternator (3) or (4) float system.

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 1½" 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.



"Easy assembly"
(pump & discharge pipe
not included.)

CAUTION 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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9/1/01



MITCHELL ENVIRONMENTAL, PA
C-2911
 1501 LAKESTONE VILLAGE LANE
 SUITE 205
 FUQUAY VARINA, NC 27526


PREPARED FOR : Oakmont Development Partners
 109 Hoy Street, Suite 301
 Fayetteville, NC 28301
 DATE : August 17, 2021
 ENGINEER AND SOIL SCIENTIST CONTACT:
 SCOTT MITCHELL, PE, LSS
 DRAWN BY:
 ADAM AYCOCK, EI

REVISION NO.	DATE
Original Submittal	November 23, 2020
Revision 1	August 17, 2021
Revision 2	-----
Revision 3	-----
Master Set	-----

SHEET NUMBER
1 of 7
Oakmont Lot 89 Overall Septic


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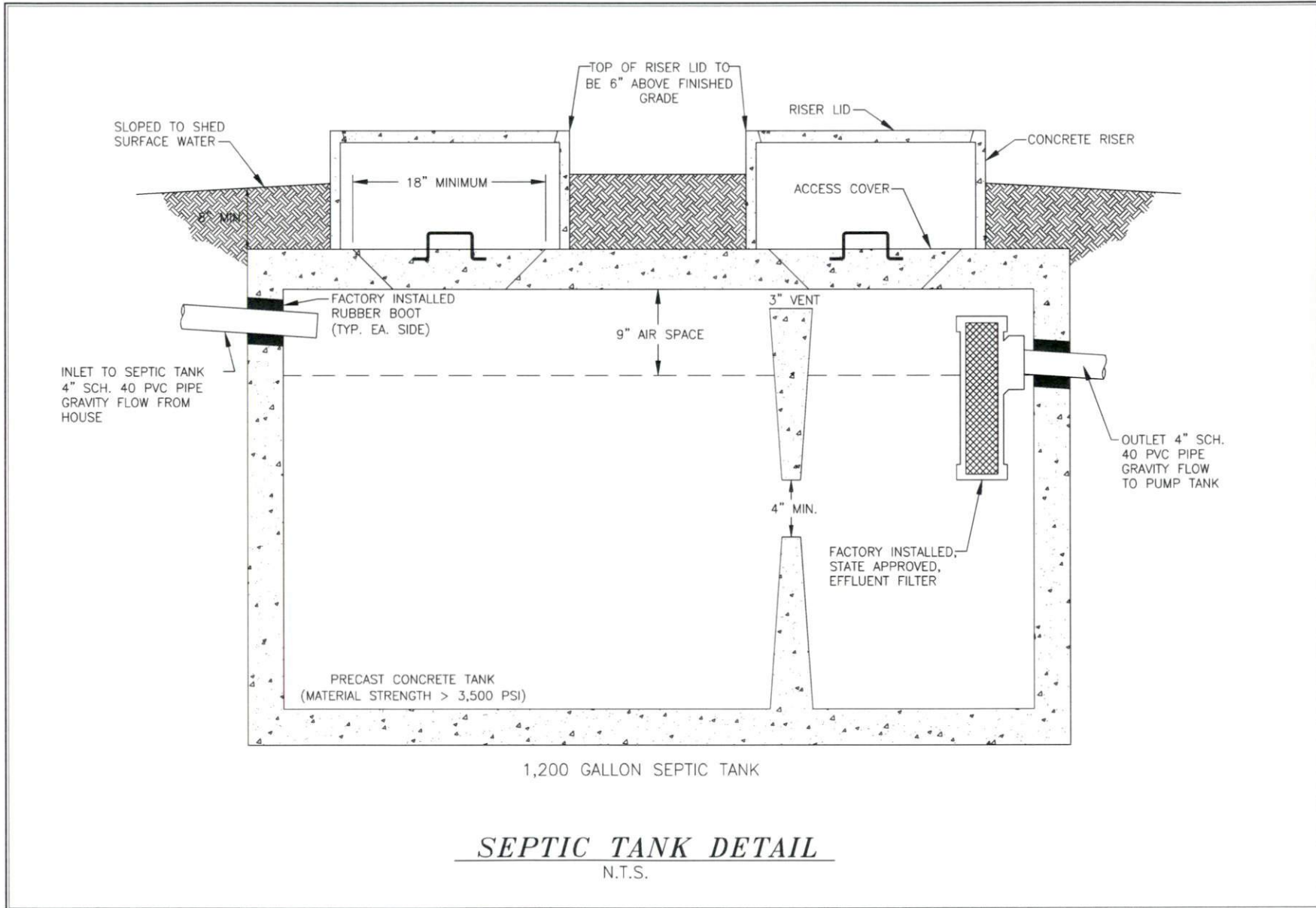


 <p>MITCHELL ENVIRONMENTAL, PA C-2911</p> <p>1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526</p>	<p>PREPARED FOR: Oakmont Development Partners 109 Hay Street, Suite 301 Fayetteville, NC 28301</p>	<p>REVISION NO.</p>	<p>DATE</p>	<p>SHEET NUMBER</p> <p>2 of 7</p> <p>Oakmont Lot 89 Initial Nitrification Field</p>
	<p>DATE: November 20, 2020</p>	<p>Original Submittal</p>	<p>November 20, 2020</p>	
	<p>DESIGNER CONTACT: ADAM AYCOCK, EI</p>	<p>Revision 1</p>	<p>-----</p>	
	<p>DRAWN BY: ADAM AYCOCK, EI</p>	<p>Revision 2</p>	<p>-----</p>	
		<p>Revision 3</p>	<p>-----</p>	
	<p>Master Set</p>	<p>-----</p>		

9/1/21



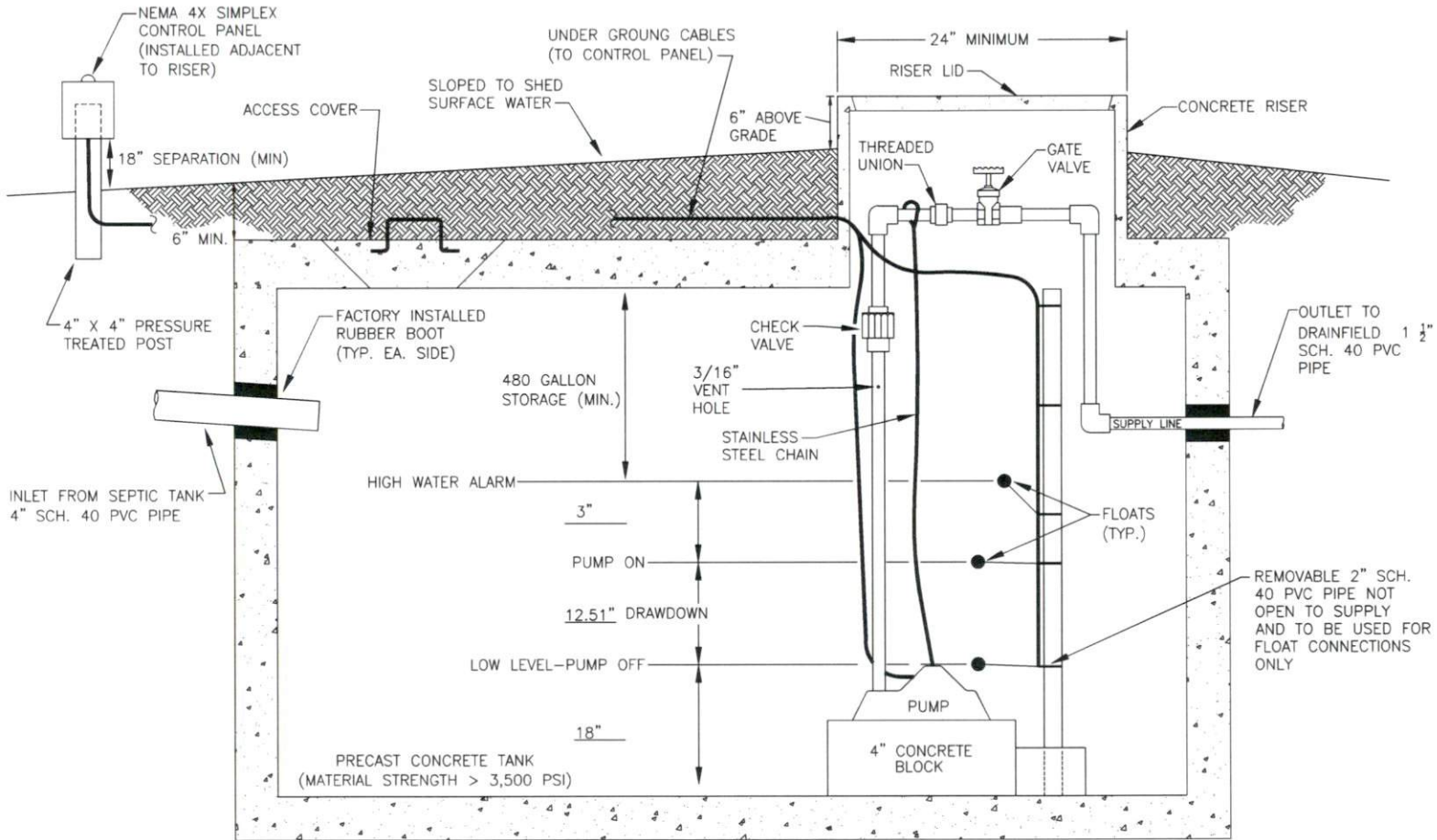
 <p>MITCHELL ENVIRONMENTAL, PA C-2911</p> <p>1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526</p>	PREPARED FOR : Oakmont Development Partners 109 Hay Street, Suite 301 Fayetteville, NC 28301	REVISION NO. Original Submittal	DATE November 20, 2020	SHEET NUMBER 3 of 7 Oakmont Lot 89 Repair Nitrification Field
	DATE : August 17, 2021	Revision 1	August 17, 2021	
	ENGINEER AND SOIL SCIENTIST CONTACT: SCOTT MITCHELL, PE, LSS	Revision 2	-----	
	DRAWN BY: ADAM AYCOCK, EI	Revision 3	-----	
		Master Set	-----	



MITCHELL ENVIRONMENTAL, PA C-2911 1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526		SHEET NUMBER 4 of 7 Oakmont Lot 89 Septic Tank Detail
PREPARED FOR: Odium Development Partners 109 Hoy Street, Suite 301 Fayetteville, NC 28301	REVISION NO. Original Submittal Revision 1 Revision 2 Revision 3 Master Set	DATE November 20, 2020
DATE: November 20, 2020 DESIGNER CONTACT: ADAM AYCOCK, E.I. DRAWN BY: ADAM AYCOCK, E.I.		

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* DRAWDOWN SPECIFIED 19.0 GALLONS PER INCH



1,200 GALLON PUMP TANK

PUMP TANK DETAIL

N.T.S.

SHEET NUMBER
5 of 7
Oakmont
Lot 89
Pump Tank Detail

DATE	November 20, 2020
REVISION NO.	Original / Submittal
	Revision 1
	Revision 2
	Revision 3
	Master Set
DESIGNED FOR	Osmond Development Partners 109 Hoy Street, Suite 301 Fayetteville, NC 28501
DATE	November 20, 2020
DESIGNER CONTACT	ADAM AYCOCK, EI
DRAWN BY	ADAM AYCOCK, EI

MITCHELL ENVIRONMENTAL, PA
C-2911
1501 LAKESTONE VILLAGE LANE
SUITE 205
FUQUAY VARINA, NC 27526



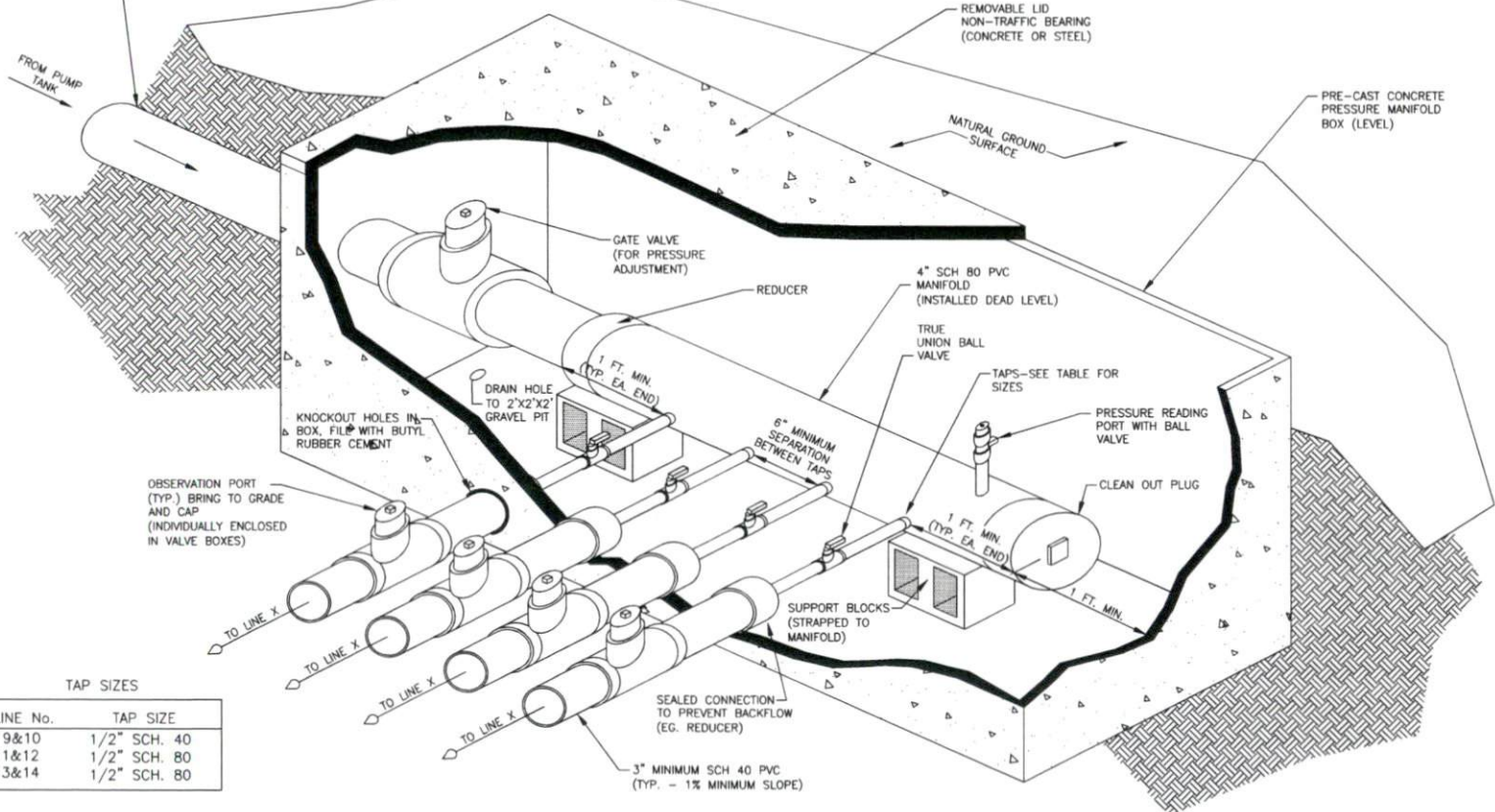
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**PRESSURE MANIFOLD DETAIL
FOR OAKMONT LOT 89 INITIAL SEPTIC SYSTEM**
N.T.S.

NOTE: MANIFOLD MAY NEED TO BE FLIPPED SO THAT SUPPLY LINE ENTRANCE AND CLEANOUTS ARE REVERSED. SEE SITE PLAN.

NOTE: THE NUMBER OF TAPS MAY VARY FROM LOT TO LOT. SEE DESIGN SHEET FOR NUMBER OF TAPS.

1 1/2" SCH 40 PVC SUPPLY LINE



TAP SIZES

LINE No.	TAP SIZE
9&10	1/2" SCH. 40
11&12	1/2" SCH. 80
13&14	1/2" SCH. 80

SHEET NUMBER
6 of 7
Oakmont
Lot 89
Pressure Manifold Detail

REVISION NO.	DATE
Original	November 20, 2020
Revision 1	
Revision 2	
Revision 3	
Master Set	

Prepared For: **Diamond Development Partners**
109 Hay Street, Suite 301
Fayetteville, NC 28501

DATE: November 20, 2020

DESIGNER CONTACT: **ADAM AYCOCK, EI**

DRAWN BY: **ADAM AYCOCK, EI**

MITCHELL ENVIRONMENTAL, PA
C-2977

1501 LAKESTONE VILLAGE LANE
SUITE 205
FUQUAY VARINA, NC 27526



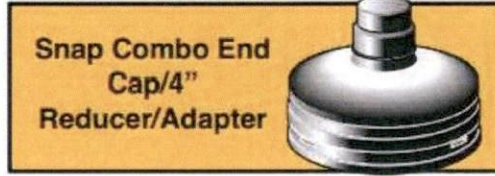
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Crumpler's No-Rock™ Fabric Wrapped Large Diameter (LDP) Septic Pipe

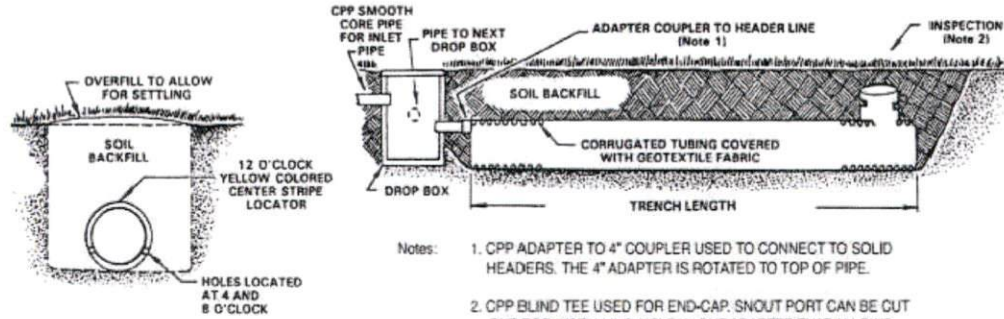


Blind Tee's



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	

MITCHELL ENVIRONMENTAL, PA
C-2911
1501 LAKESTONE VILLAGE LANE
SUITE 205
FUQUAY VARINA, NC 27526

PREPARED FOR: Belmont Development Partners
109 Hoy Street, Suite 301
Fayetteville, NC 28501

DESIGNER CONTACT:
ADAM ATODOK, EI

DRAWN BY:
CRUMPLER PLASTIC PIPE

DATE: November 20, 2020

REVISION NO. DATE

Original Submittal	November 20, 2020
Revision 1	
Revision 2	
Revision 3	
Master Set	

SHEET NUMBER
7 of 7

Oakmont
Lot 89
Trench Detail

1/5/20