S&EC

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Attached is a proposed design for a Pressure Manifold Septic System for a 3 bedroom single family residence on lot 29 Wheatfield in Iredell County, North Carolina.

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PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT

Owner:	Corinthian Builders
Address:	
Phone:	
County:	Iredell
Location:	Wheatfield Lot 29
Source of Wastewater Flow:	3 bedroom home
Estimated Daily Wastewater Production:	360 gpd
System Flow:	30.57

Design Specifications

Drainfield Size:	315
Soil Loading Rate:	0.300
Depth of Gravel in Trench:	NA
Gravel Size:	N/A
Trench Depth:	24
Trench Width:	36 in.
Septic Tank Size:	1000
Pump Tank Size:	1000
Estimated Supply Line Length:	108
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	19.80
Dosing Volume:	164.55
Supply Manifold:	*4* in. SCH 80 PVC
Supply Manifold Length:	3.5 Ft.
Supply Manifold Volume:	2.08
Recommended Float Controls:	SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel:	SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel.
Pressure Head:	2 ft.
Friction Head:	2.00
Estimated elevation Head:	7.40
Total Dynamic Head:	13.11
Threaded Union:	In Tank
Gate Valves:	1 in Tank 1 at Pressure Manifold
Check Valves:	In Tank
Anti-Siphon Hole:	no
Recommended Pump:	Myers Model ME50 or County Approved Effluent Rated Pump Capable of Delivering ~13 ft.of Head at ~31 gpm Total Flow

Wheatfield
PRESSURE MANIFOLD DESIGN

DESIGN FLOW:	360
SOIL APPLICATION RATE:	0.3 gpd/ft.^{2}
TOTAL AREA TRENCH BOTTOM:	945
TOTAL LATERAL LENGTH:	315
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	300
SUPPLY LINE LENGTH:	108
TOTAL DYNAMIC HEAD:	13.11
MANIFOLD SIZE:	*4* in.SCH 80 PVC
DOSING VOLUME:	164.55
PUMP TANK DRAW DOWN*:	7.8
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	1000
RECOMMENDED PUMP:	Myers Model ME50 or County Approved Effluent Rated Pump Capable of Delivering ~13 ft.of Head at ~31 gpm Total Flow

**Pump tank draw down based on a volume basis of 21 gallons per inch. Draw down may vary among pump tank manufacturers.*

Wheatfield Lot 29

Project No. 5-1862

LAYOUT FOR 3 BEDROOM HOME

March-08

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH
TBM		3.0			100.00	
INSTR. 1			103.00			
			System			
1	Blue			4.20	98.80	55
2	Orange			4.50	98.50	85
3	Red			4.80	98.20	120
4a	Yellow			5.00	98.00	55
					Total	**315**
4b	Yellow			5.00	98.00	30
5a	Pink			5.30	97.70	45
5b	Pink			5.30	97.70	45
6a	Red			5.70	97.30	40
6b	Red			5.70	97.30	40
					Total	**200**

	LINE LENGTH	SYSTEM TYPE	Innovative Type	DISTRIBUTION	Trench Depth	Soil LTAR
SYSTEM	315	Innovative	25%	Pressure Manifold	24	0.3
REPAIR	200	PPBPS	50%	Low Pressure	30	0.3

Notes:

**TBM top of back left property stake

**Nitrification lines are demonstrated on contour via colored pin flags

**BS, HI, and FS indicate rod readings

**Repair lines longer than 70' will be center distributed

Wheatfield Lot 29

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	gpd	Trench Area	Line LTAR
1	Blue	98.5	**55**	SCH 80 1/2	**5.48**	64.53	165	**0.39**
2	Orange	98	**85**	SCH 40 1/2	**7.11**	83.73	255	**0.33**
3	Red	97.5	**120**	SCH 40 3/4	**12.5**	147.20	360	**0.41**
4a	Yellow	97	**55**	SCH 80 1/2	**5.48**	64.53	165	**0.39**
	total	**feet =**	**315**	**gal/min =**	**30.57**			
			Des. Flow	**360**				
			Pump Run=	**11.78**				
			soil LTAR	**0.3**				
			Innovative LTAR	**0.40**				
			Innovative +5%	**0.42**				

3/4 Sch 80

Wheatfield lot 29
Repair
Design Specifications

Line #	Color	# Panels	# Holes/ Panel	Line Length	Hole Size	Line Head	Line Flow
4b	Yellow	7	1	30	5/32"	3	3.5
5a	Pink	10	1	45	5/32"	3	5
5b	Pink	10	1	45	5/32"	3	5
6a	Red	9	1	40	5/32"	3	4.5
6b	Red	9	1	40	5/32"	3	4.5
	Total	**45**		**200**			**22.5**

Lines Longer than 70 will be center distributed