

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***

CONSTRUCTION AUTHORIZATION PERMIT

PERMIT # WRP-112005-2023

APPLICATION DATE: 10/12/2023

BLDG. PERMIT#: RBPR-148857-2025

PIN: 2706464159

RECORDED: Yes

TOWNSHIP: 09 - Little River

JURISDICTION: Wake County

ZONING: R-30

APPLICANT: MB Homes Construction, INC
401 Wait AVE
Wake Forest, NC 27587

BUSINESS PHONE: (919) 278-7308

HOME PHONE:

MOBILE PHONE: (919) 633-0687

HD USE: 101A CONVENTIONAL ONE-FAMILY HOUSE

EXISTING USE:

SITE ADDRESS: 1104 TOBACCO ROW CT

SUBDIVISION: WAKEFIELD MEADOWS PH 5

LOT: 8

ACRES: 0.75

DIRECTIONS: 96HWY east, Left Proctor, Left Shephard, Left into Wakefield Meadows

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: Patrick Downing

DATE: 06/26/2025

CA VALID FOR: Five Years

DESIGN FLOW: 480 GALLONS

BASEMENT: No

BASEMENT FIXTURES: No

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:

DRAINFIELD SQ. FT: 960

AGGREGATE DEPTH: 14

MAX. TRENCH DEPTH: 20 INCHES

DISTRIBUTION DEVICE: PM - Pressure Manifold

TRENCH #: 4

TRENCH LENGTH: 80,80,80,80
FEET

TRENCH WIDTH: 36 INCHES

TOTAL TRENCH LENGTH: 320 FEET

CENTER SPACING: 8 FEET

MINIMUM SOIL COVER: 6 INCHES

PRETREATMENT:
SUBFIELDS #:
PUMP TDH: 9.7 FEET

APPROVAL #:
PUMP DESIGN FLOW: 28.44
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:

- System designed for 4-bedroom residence with 480 gals per day.
- Future Repair is a Type IIIBE (horizontal – PPBPS) 50% reduction system with a max trench depth of 20” and a 0.25 LTAR.
- Depth to limiting soil condition is 34” for Initial and Repair area.
- Site serviced by private well water.
- Any deviation from accepted design must be approved by Wake County prior to system installation.
- Maintain all required setbacks.
- All property lines must be fully marked at time of install or reinspection required.
- Please contact Patrick Downing – (919) 594-3069 with any questions prior to or during install.

NOTE: This permit is issued for a pump system. If installer determines that gravity-fall can be achieved to the distribution device, a pump system will not be required.

Issued By:



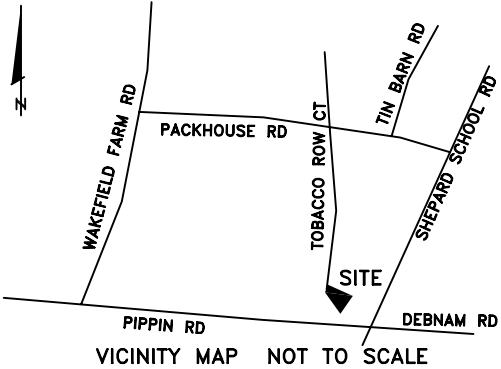
Date: 06/26/2025

Book of maps 2008 Vol. Page 360 Book Page County WAKE

Block Lot 8 Subdivision WAKEFIELD MEADOWS PHASE 5

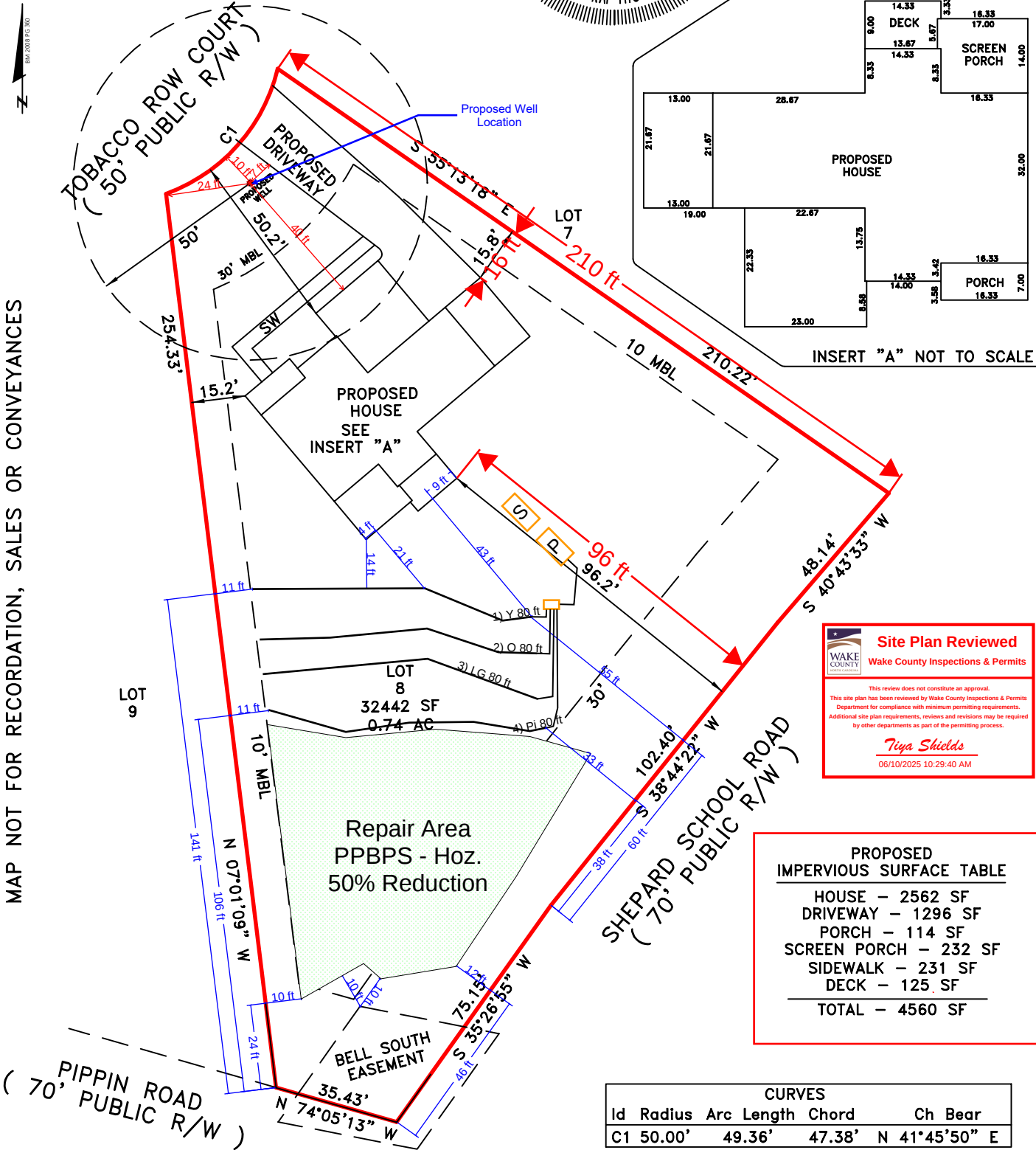
EIP=Existing Iron Pipe NIP=New Iron Pipe

SCALE 1"=40'



I, Jackie Ray Thomason, PLS, certify
That the survey is of an existing parcel or parcels of land:
and that this plat was drawn under my supervision from an actual
survey made under my supervision deed description recorded in
Book MAP 2008 Page 360; that the boundaries not surveyed are
clearly indicated as shown from information found in
Book Page ; that the ratio of precision as calculated
is 1: 10,880 + , Witness my original signature, registration
number and seal this 23 day of MAY, A.D., 2025.

SEAL
L-3076
Jackie Ray Thomason, PLS, -3076
LAND SURVEYOR
JACKIE RAY THOMASON



MAP NOT FOR RECORDATION, SALES OR CONVEYANCES

PIN#: 2706464159 ZONING: R-30

Drawn By JRT Surveyed By Date 05-23-25 Dwg.# JB4827

PLOT PLAN FOR:
MATT BALDWIN HOMES

1104 TOBACCO ROW COURT

ZEBULON, NC 27597

JACK R. THOMASON, PLS
4969 US HWY 401 SOUTH
YOUNGSVILLE, NC 27596
PHONE: 919-556-3307

WAKE COUNTY ONSITE WATER PROTECTION

RESIDENTIAL PRESSURE MANI-TEE DESIGN

Permit # WRP-112005-2024 Address: 1104 Tobacco Row Ct
 # of BDR: 4 Daily Flow: 480 gal/day Product PPBPS-Horizontal
 L.T.A.R.: 0.25 gal/day/sq.ft Aggregate Depth: 12
 Septic Tank: 1200 gals Pump Tank: 1200 gals Sq. Foot: 960
 Number of Taps: 4 Length of Trenches: 80 ft(See Tap Chart for Details)
 Depth of Trenches: 20 in Manifold Length: 42 in
 Mani-tee Diameter: 2in sch 40pvc Tap Configuration: 6 in spacing 1 side(s) of manifold
 Supply Line: length: 20 ft Diameter: 2 in sch 40pvc
 (Friction + Fitting) Loss: 1.70 ft Elevation Head: 6 ft
 (supply line length + 70' for fittings in pump tank)
 Design Head 2 ft Total Head: 9.70 ft
 Pump to Deliver: 28.44 gals/min at 9.70 ft head Dosing Volume: 259 gals
 Drawdown: 259 gals divided by 20 gals/in = 13.0 inches
 Simplex Control Panel required; elapsed time meter and cycle counter required; Floats to be determined by type of pump tank used. A septic tank filter is required.

TAP CHART

Bench Mark 4 is = 100.0 set at South house corner Design Head: 2
 Pump tank elev. 4 100.00 Pump elev 95.00 Manifold elev. 99.75

line	color	rod read	Elevation	length	hole size	flow/tap	gal/day	trench area	LINE LTAR	# of Panels (PPBPS)	Spacing of Panels (in)
1	Yellow	5.25	98.75	80	1/2in SCH 40	7.11	120.00	240	0.5000	18	7.2
2	Orange	5.83	98.17	80	1/2in SCH 40	7.11	120.00	240	0.5000	18	7.2
3	Lime Green	6.25	97.75	80	1/2in SCH 40	7.11	120.00	240	0.5000	18	7.2
4	Pink	7.00	97.00	80	1/2in SCH 40	7.11	120.00	240	0.5000	18	7.2
Total feet =				320	gal/min =		28.44	LTAR =		0.2500	
Feet Required =				320	Velocity =		2.72	(ltar + 5%)		0.2625	
Total # of Panels (PPBPS)		72	Des. Flow		480	(ltar w/50% red)		0.5000			
% of Dose Vol.		0	Pump Run=		16.88	(ltar + 5%)		0.5250			
Dose Volume		259	Tank Gal/IN		20						
Dose Pump Time		9.11	Elev. Head		6						
Drawdown in Inches		12.96									
Supply Line Length		20									

Comments:

Hydraulic Profile

Mani-tee Elevation 99.75 20
 Pump tank elev. 100.00 0
 Pump elev. 95.00 0

WAKE COUNTY ONSITE WATER PROTECTION PRESSURE MANIFOLD DESIGN - REPAIR SYSTEM

of BDR: 4 **Daily Flow:** 480 gal/day **L.T.A.R.:** 0.2500 gal/day/sq.ft

Septic Tank: 1200 gals **Pump Tank:** 1200 gals **Sq. Foot:** 1020 **System Type:** PPBPS-Horizontal

Number of Taps: 4 **Length of Trenches:** 340 **ft(See Tap Chart for Details)**

Depth of Trenches: 20 in **Manifold Length:** 42 in

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

Supply Line: length: 50 ft **Diameter:** 2 in sch 40pvc

Friction Loss + Fitting Loss: 4.23 ft(supply line length + 70' for fittings in pump tank)

Design Head: 2 ft **Elevation Head:** 6 ft

Total Head: 12.23 ft **Pump to Deliver:** 39.81 gals/min at 12.23 ft head

Dosing Volume: 281 gals,

Drawdown: 281 gals divided by 20 gals/in = 14.0 inches

Simplex Control Panel required; elapsed time meter and cycle counter required; Floats to be determined by type of pump tank used. A septic tank filter is required.

TAP CHART

Benchmark	4	is = 100.00	set at	h house corner			Design Head:	2			
Pump tank elev.	4		100.00	Pump ele	95.00		Manifold elev.	97.75	LINE	# of Panels	Change in
line	color	rod read	Elevation	length	hole size	flow/tap	gal/day	trench area	LTAR	(PPBPS)	Spacing of Panels (in)
5	Orange	7.25	96.75	85	3/4in SCH 80	10.1	121.78	255	0.4776	20	4.5
6	White	7.50	96.50	80	3/4in SCH 80	10.1	121.78	240	0.5074	18	7.2
7	Yellow	7.67	96.33	75	1/2in SCH 40	7.11	85.73	225	0.3810	17	6.8
8a	Lime Green	7.75	96.25	100	3/4in SCH 40	12.5	150.72	300	0.5024	23	6.2
8b	White		104.00			0	0.00	0	#DIV/0!	0	0
			104.00			0	0.00	0	#DIV/0!	0	0
			104.00			0	0.00	0	#DIV/0!	0	0
			104.00			0	0.00	0	#DIV/0!	0	0
			104.00			0	0.00	0	#DIV/0!	0	0
			104.00			0	0.00	0	#DIV/0!	0	0
			Total Feet =	340	gal/min =	39.81	<u>LTAR =</u>		0.2500		
			Feet Required =	320	Velocity =	3.81	(ltar + 5%)		0.2625		
Total # of Panels (PPBPS)		78	<u>Des. Flow</u>		480	(ltar w/50% red)		0.5000			
% of Dose Vol.		0	Pump Run		12.06	(ltar + 5%)		0.5250			

Total # of Panels (PPBPS)

% of Dose Vol.

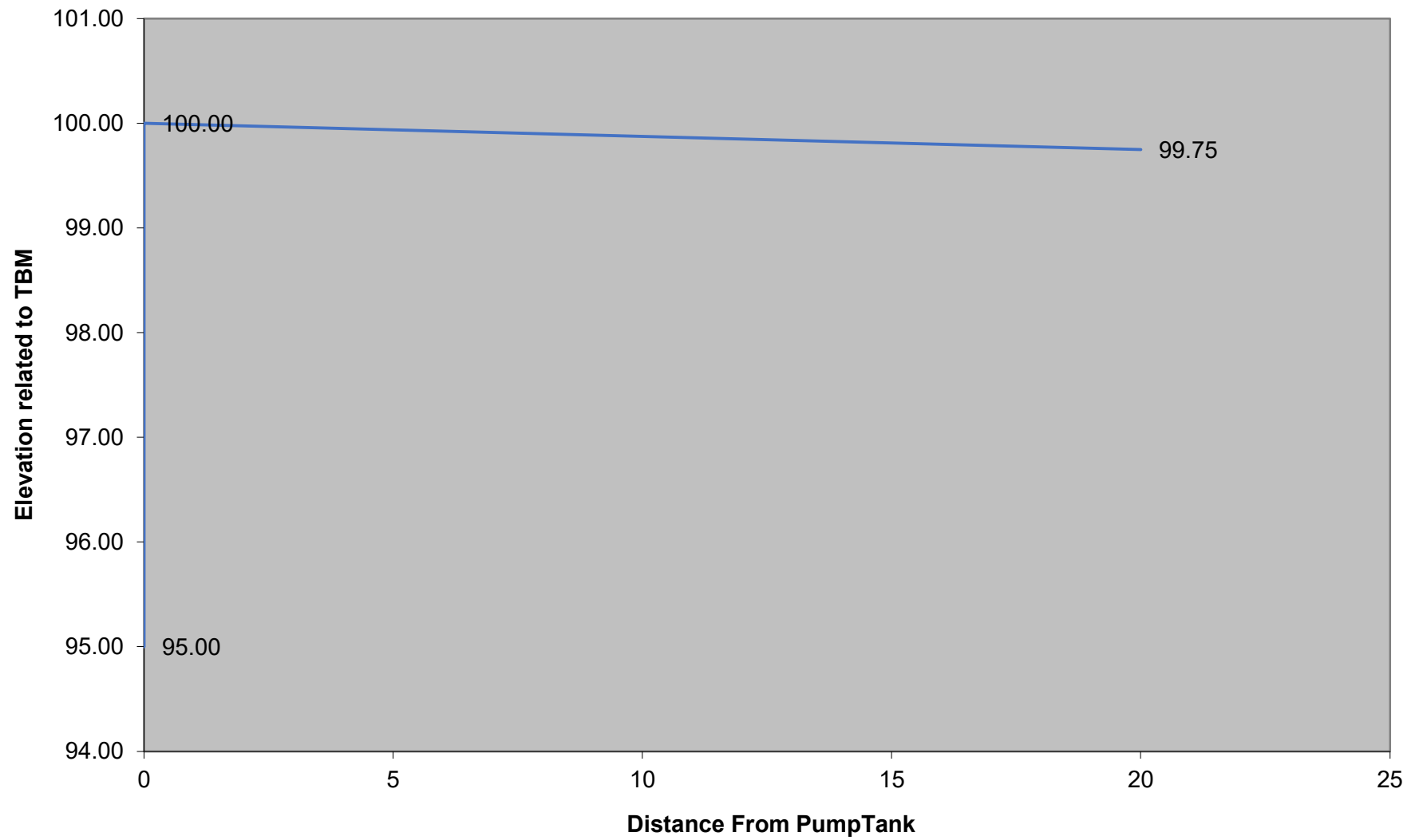
Dose Volume

Dose Pump Time

Drawdown in Inches

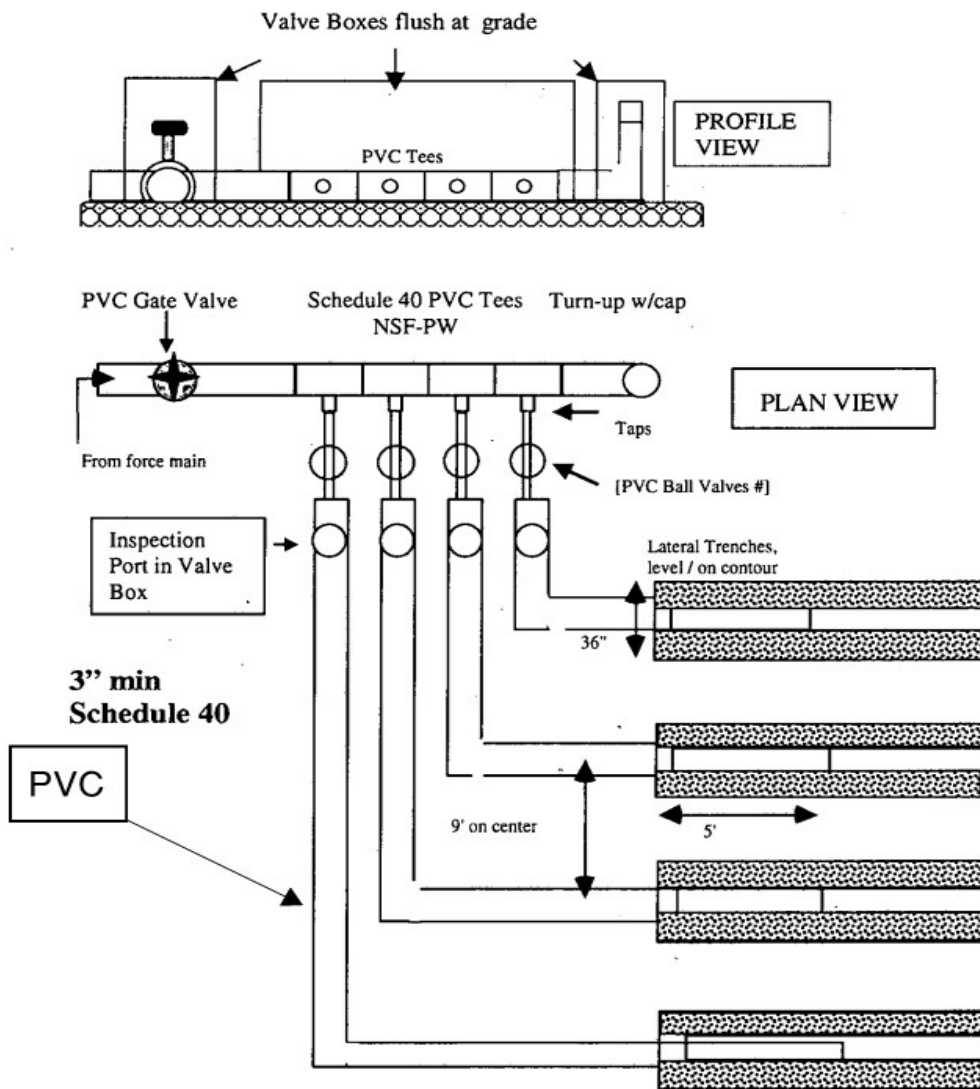
Comments:

Hydraulic Profile



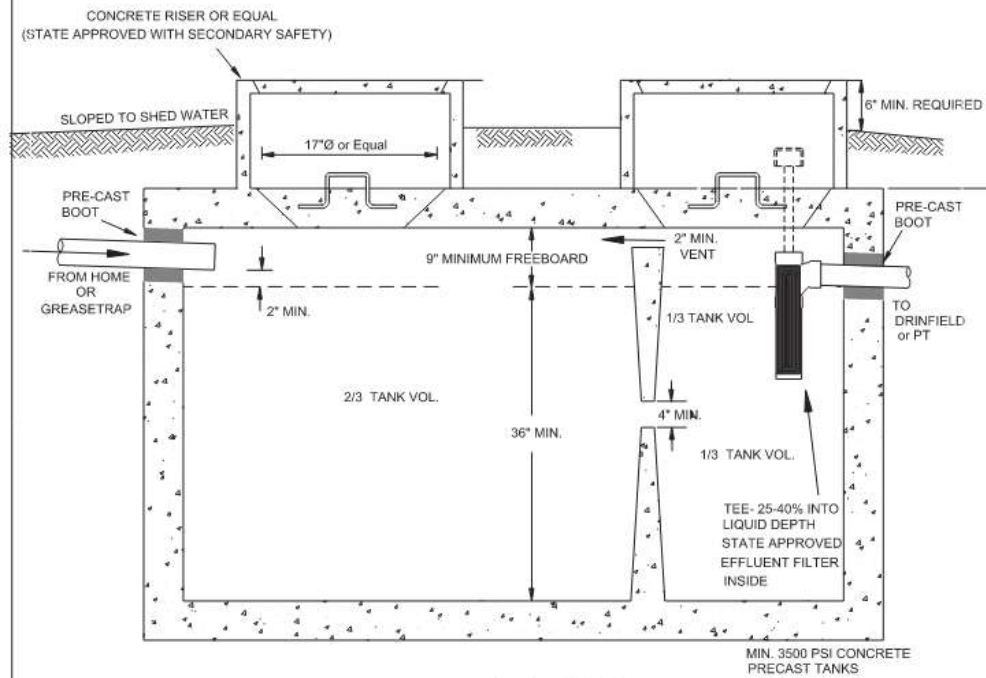
Taps	1/2in SCH 40	1/2in SCH 40	1/2in SCH 40	1/2in SCH 40
Flow	7.11	7.11	7.11	7.11

Wake County Mani-Tee Design



*** Manifold sizing may need to be altered after installer layout. The installer must layout the system prior to the pre-construction conference ***

**WAKE COUNTY SEPTIC TANK DETAIL (SCHEMATIC)
(NOT TO SCALE)**



1200 Gallon (Min.)

**STATE APPROVED SEPTIC TANK WITH A STB NUMBER
(TRAFFIC RATED TANK REQUIRED FOR > 3' BURIAL)**



SEPTIC TANK DETAIL
N/A
Onsite Water Protection

Designed	ICD	Date	10/23/2018	File Name	Pressure Manifold Detail
Revision	0	N/A		Drawing No.	1/1
Approved	ICD	10/23/2018		Sheet 1	of 1
No Scale					

PUMP CURVE AND SPECIFICATIONS

Pump and Control Panel Specification Required:

Pump:

Pump to be UL or equal listed

TDH and Pumping rate calcs & curve

Dose volume

3 floats system in a float tree or bracket of non-corrosive material

Highwater alarm within 6" from "on" float

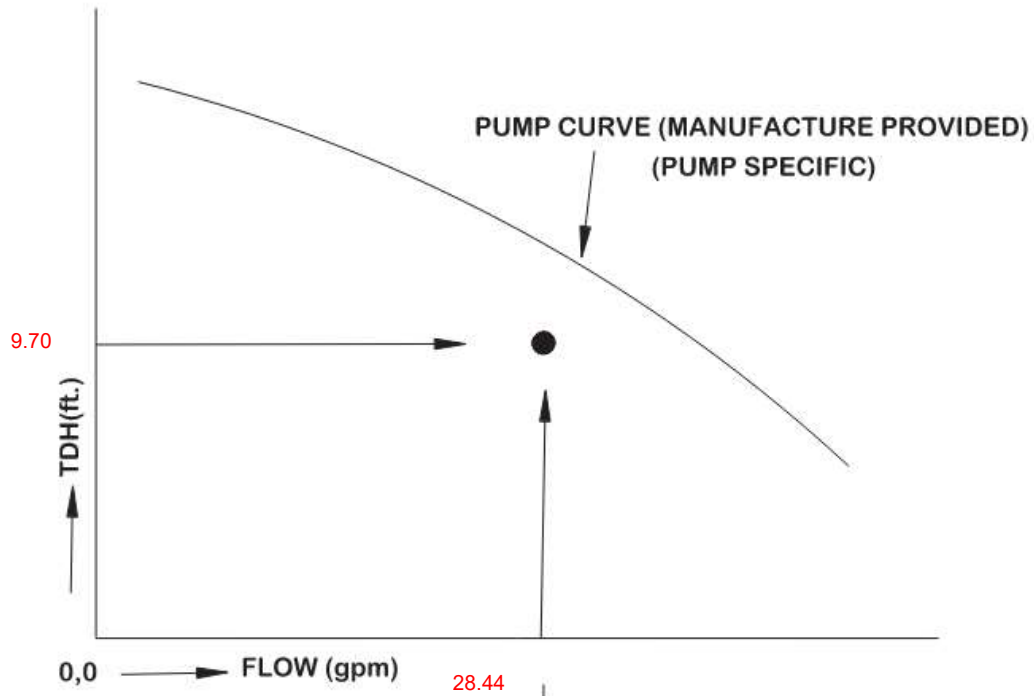
Off float at min. 12' from bottom of tank or to submerge pump

(Manufacture may certify/specify pumps suitability taller than 12" if unsubmerged)

Supply Line Profile when variation in ground profile of more than 5'

Effluent Pump should handle min. 1/2 "solids"

Gate valve, true union disconnect and connection inside tank reachable within 18" from riser top



Control Panel Specifications:

Installed within 2 ft. and

min. 18" above final grade to bottom of panel box

HOA switch provided

NEMA 4X box

Cycle counter & elapsed time meter

Alarm (audible/visible)

Separate circuits for alarm and pumps

High voltage protection

Pump Pull Rope/chain (non-corrosive)

All duct sealed, no splices or junction boxes inside tanks

3/16th inch hole between Check valve (in vertical pipe) and pump



PUMP CURVE AND SPECS.

N/A

Onsite Water Protection

Designed		Date	File Name
ICD		10/23/2018	Pressure Manifold Detail
Revision			Drawing No.
0		N/A	1/1
Approved			Sheet 1 of 1
ICD		10/23/2018	
No Scale			

Minimum Panel Requirements

The following items will be considered the minimum for all pump systems:

1. It must be a NEMA 4X Box.
2. It must use a HOA (Hand, Off, Auto) switch to control the pump. No more use of piggyback plugs!
3. It must have a motor contactor to prevent high voltage electricity in the water at all times.
4. It must have an audible and visual alarm.
5. **All Pressure Manifold and LPP Systems must have an elapsed time meter and cycle counter installed in the panel.**
6. It must have 2 separate power supplies, wired from the fuse panel at the house.
7. All panels must have 2 circuit breakers installed in the panel to allow for disconnecting of power, so that the pump or switches maybe serviced.
8. Panels and pumps are to be wired at the time of our inspection. Power must be supplied by use of generators or from the house temporary meter, if the builder applied for it and has had all required inspections and the temporary meter has been set. **We will no longer inspect any system that has been hot wired from the temporary power pole or jumped through the house wiring without a meter being set.**

Pressure Manifolds

1. A float tree or hanging floats must be used.
2. A Simplex Control Panel with a Hand - Off - Auto switch and alarm in a NEMA - 4X box is required. See the plans or CA comments for further details on the panel.
3. 2 separate power supplies are needed. Try to look and make sure they have not used a 120V only panel with a 240V pump.
4. The taps and pipes for the taps must be of the same material! If it is a sch80 tap (usually gray plastic) then the tap, pipe and valve (the valve can be sch40pvc if there is an adequate amount of sch80 pipe used) must be constructed of sch80pvc. The same goes for sch40 taps, you cannot use sch80 pieces with the sch40.
5. The taps must go directly to the 3" pipe; no elbows can be used in the tap connections.
6. All of the tap must be the same size or larger. 3/4" pipe cannot have a 1/2" valve, but a 1/2" pipe could have a 3/4" valve, if at there is at least 6" total 1/2" pipe used.
7. Should the wrong size or material be used in the tap itself, the flow to the line can be corrected by using an adequate amount of the proper pipe material and size. The amount of pipe needed to control the flow is dependent on the size pipe/tap. If 1/2" pipe is needed, then at least 6" of total pipe is needed. A 3/4" size requires at least 9" of pipe to be used. A 1" size needs 12" of total pipe length to control the flow.