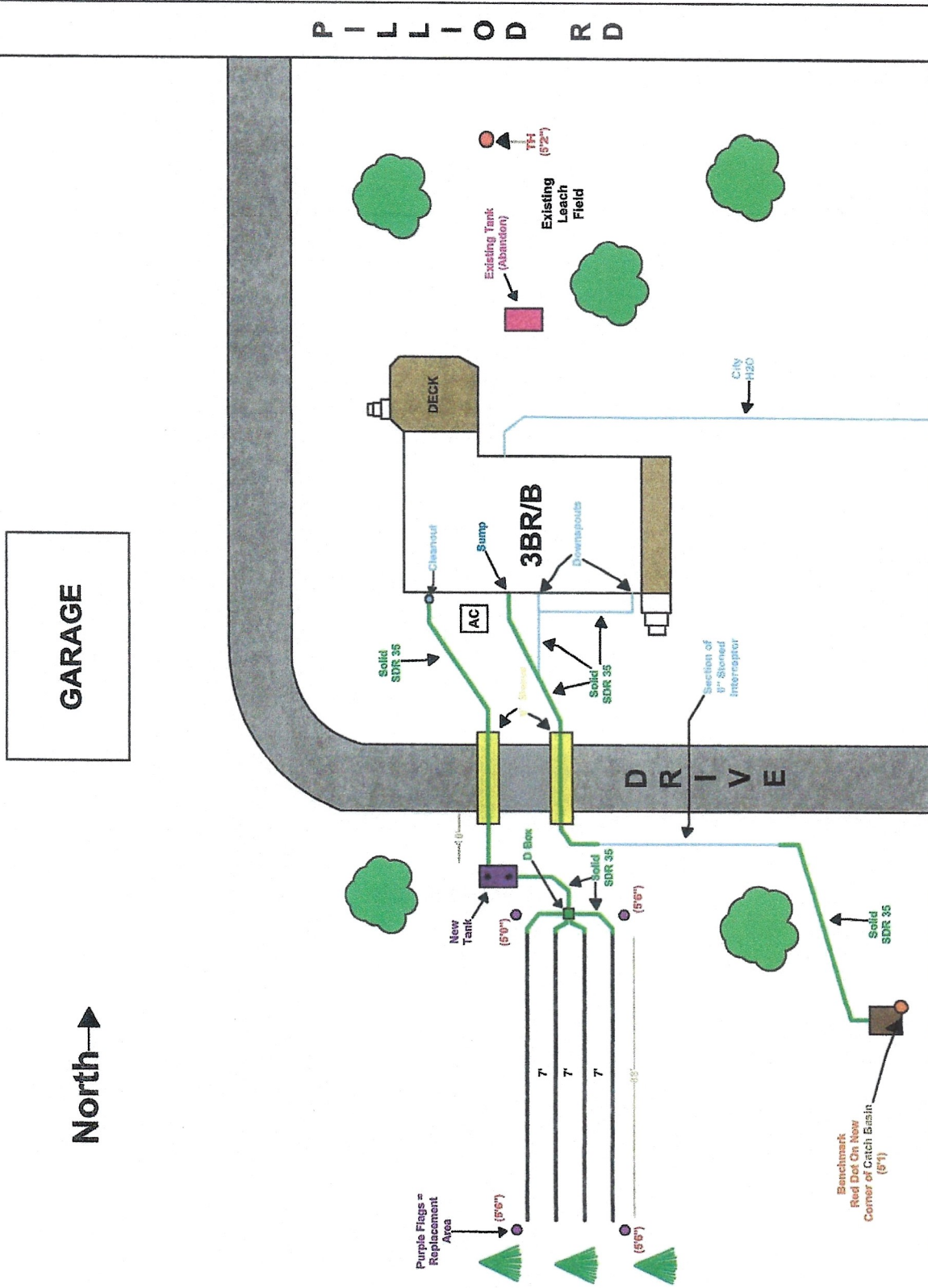
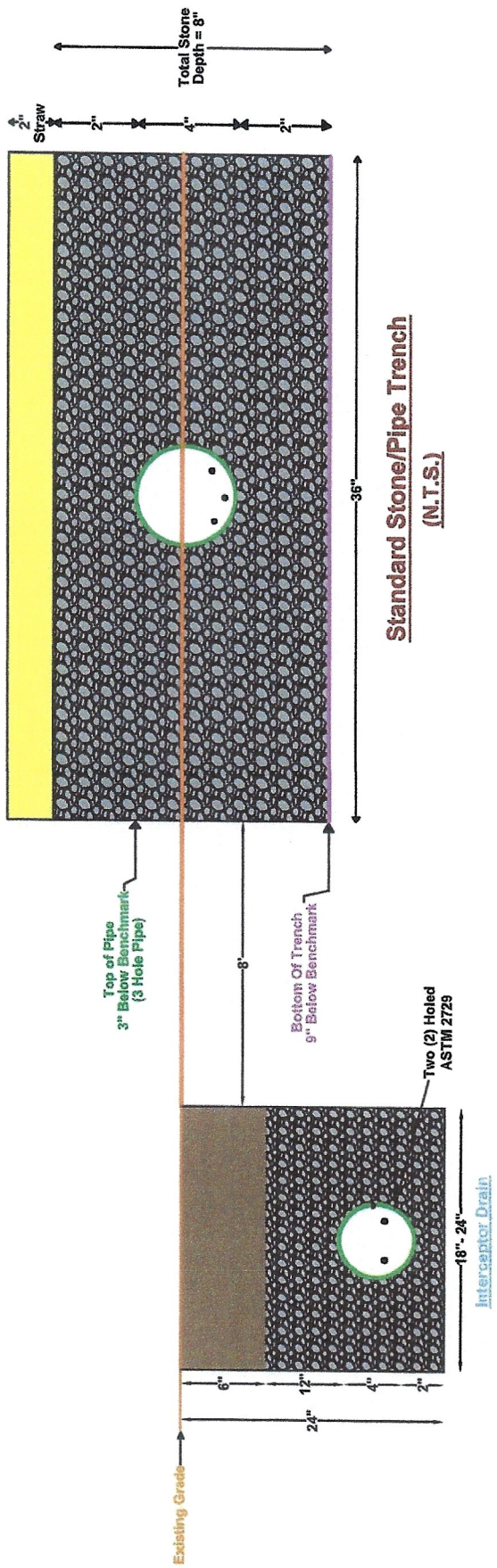
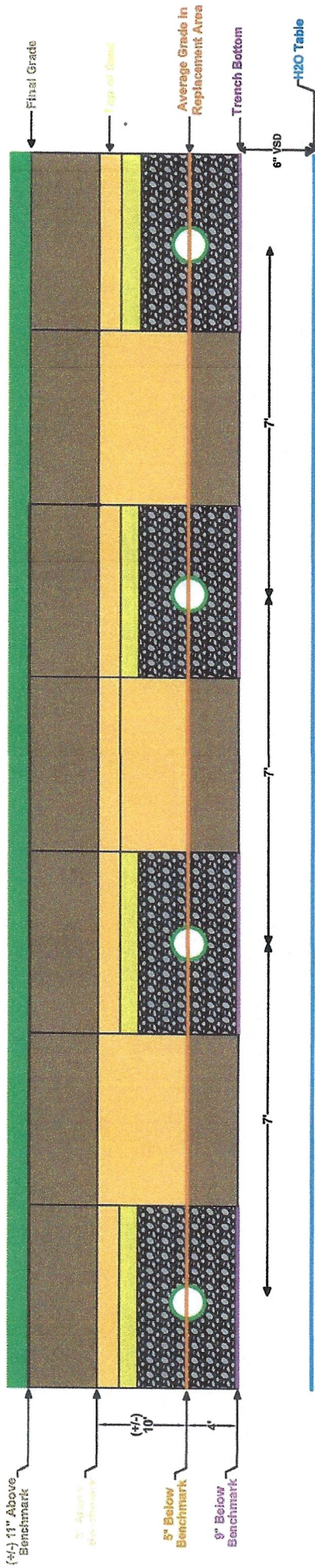

Design Specifics for Septic Replacement – 2116 Albion Road - 3 BR/B (Springfield Township – Lucas County)

1. STS Rules 3701-29 of the OAC shall be followed.
2. Contact OUPS (#811) prior to installing septic system.
3. LHD, installer &/or designer must discuss any questions, changes or concerns prior to/during installation of the septic system.
4. Make sure that all gray/black water (laundry, utility sinks etc.) is being discharged into the main sewer line and that all clear water (sump, downspouts etc.) is rerouted away from the main sewer line as required.
5. Raise and reroute the plumbing and set new **septic tank** high enough based on bench mark and required elevations on septic design to accommodate for the needed fall and required depth of trenches specified. *[NOTE: If for some reason the required trench depth cannot be achieved by raising/rerouting the plumbing, a lift station and septic design revision may be required].*
6. Line from the house to tank must be **SDR 35 or SCH 40** and must maintain 1/8" – 1/4" per foot. The section of line under the driveway must be sleeved through a section of **6" SCH 40** *[NOTE: Be sure to seal area at each end of 6" pipe with foam sealant or hole plug (bentonite) to prevent dirt from infiltrating into the line].* Install an exterior clean-out (prefer a slide on style cover – not threaded). Properly bed pipe in firmly packed 310's/411's except for the first three (3) feet of sanitary line exiting the house outside the foundation and the sleeved section of line under the driveway which **must** be bedded in leach field stone to prevent settling. Remainder of line to tank must be bedded as previously specified).
7. Install a new 1500-gallon **septic tank** in an east to west direction as shown. Tank must be *state approved* with inlet and outlet risers that are flush with grade. Install tank with leach field stone on bottom of excavation and 1/3 of the way up and backfill with firmly packed 411's/310's except for areas under inlet and outlet pipes which will be bedded in leach field stone to prevent lines from settling. Install a 4" to 6" sanitary conversion tee on the tank **inlet** (cut 6" below the flow line) if a precast baffle is not precast in the tank and install a 4" OR 6" **outlet tee** (cut 18" below the flow line) with the required effluent filter.
8. **Existing tank** must be pumped and properly abandoned and proper documentation submitted to the TLCHD.
9. System design based on utilizing a standard 4" perforated three (3) holed pipe **[ASTM 2729 or SDR 35]** with a total of 8" of clean leach field stone (3/4" – 1 1/2"). See trench detail for specifics. *If possible, depending on the new tank placement and elevation, the leach field pipe can be raised and up to allow for a total stone depth of 12"; 6" of stone below and 2" above the 4" pipe.*
10. **Bench Mark** is the **red dot** on the northeast corner of the concrete catch basin. The required 6" VSD from the bottom of the leaching trenches to the perched water table will be maintained along the entire length of contour. Approved fill material (+/-) 10" total [meeting the standards established under OAC 3701-29-15 (O) (5) (a) – silt loam, loam, sand, loamy sand or sand loam texture] will be required to level off the leach field area **prior to** installation of leach field.
11. **Top of fill:** 5" above the benchmark; **Top of pipe** in the leaching trenches: 3" below the benchmark; **Bottom of the leaching trench:** 9" below the benchmark. *[NOTE: The grade at location of the TH is 1" below the benchmark however since the location of the leach field has been changed, the average grade in that location is 5" below the benchmark so the depth into the in-situ soil will be adjusted accordingly as shown on the trench detail].*
12. **SDR 35** is required from the tank to the distribution box. Maintain between 1/2" to 1" of fall per 10' of run length.
13. The leaching trenches will cut on the average of 4" into the existing in-situ soil. Eight inches (8") of coarse aggregate (stone sized between 3/4" – 1 1/2") will be installed; 2" below and 2" above the perforated distribution pipe (see previous NOTE regarding the stone depth).
14. Install leach field as follows: Trench length: 88'; Total number of runs: 4; Initial trench depth (with fill): 14"; Trench width of 36"; Space trenches 7' on center. **Straw trenches heavily immediately after stoning.** The **final grade** after the system is installed, backfilled and graded will be (+/-) 11" above the bench mark for a total trench depth of 20".
15. The lines exiting the **distribution box** will be **SDR 35** and shall be at the same elevation. Obtain a distribution box designed to handle the system design as shown. A cap with a handle or an elbow is required to allow one (1) 88' run of the system to "rest" at all times. Bed distribution box and solid lines to each perforated leaching tile in firmly packed 310's/411's not stone. *Bottom only of distribution box can be bedded in stone to prevent settling.*
16. Maintain the following distances from any area of the HSTS including the tank: at least 10' from all property lines/easements, house, garage, road right of way, **city water line**, all hardscapes (driveway, sidewalks etc.) and 8' from the newly proposed **sump/downspouts and interceptor discharge**. The sump line which is currently discharging on top of the ground will be rerouted into 4" SDR 35 along with the **downspouts** located on the south side of the house. The section of line under the driveway must be sleeved through a section of **6" SCH 40** and sealed as previously specified.
17. Install a small section of **stoned interceptor** as shown. This will prevent water from pooling in the lower area near the north end of the replacement area due to the required change in the topography. The interceptor drain should be approximately 24" deep and 18" - 24" wide depending on the grade. Use **two-holed ASTM 2729** pipe for the section of stoned interceptor. Lines entering/exiting the new yard catch basins must **solid SDR 35** and must be properly bedded as previously specified. Line from the sump/downspouts/interceptor will discharge into the **catch basin** near the road. A "permit to connect" will be required to be obtained from the Lucas County Engineers office (419-213- 2860).
18. Plant grass ASAP after system is backfilled.

Septic Design Proposal

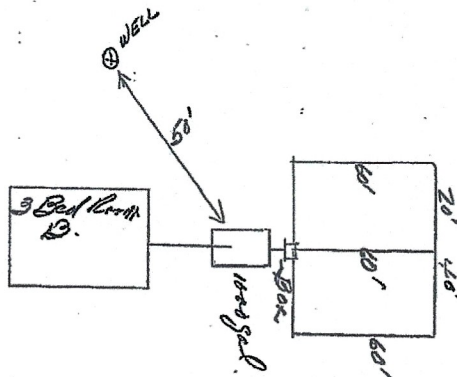


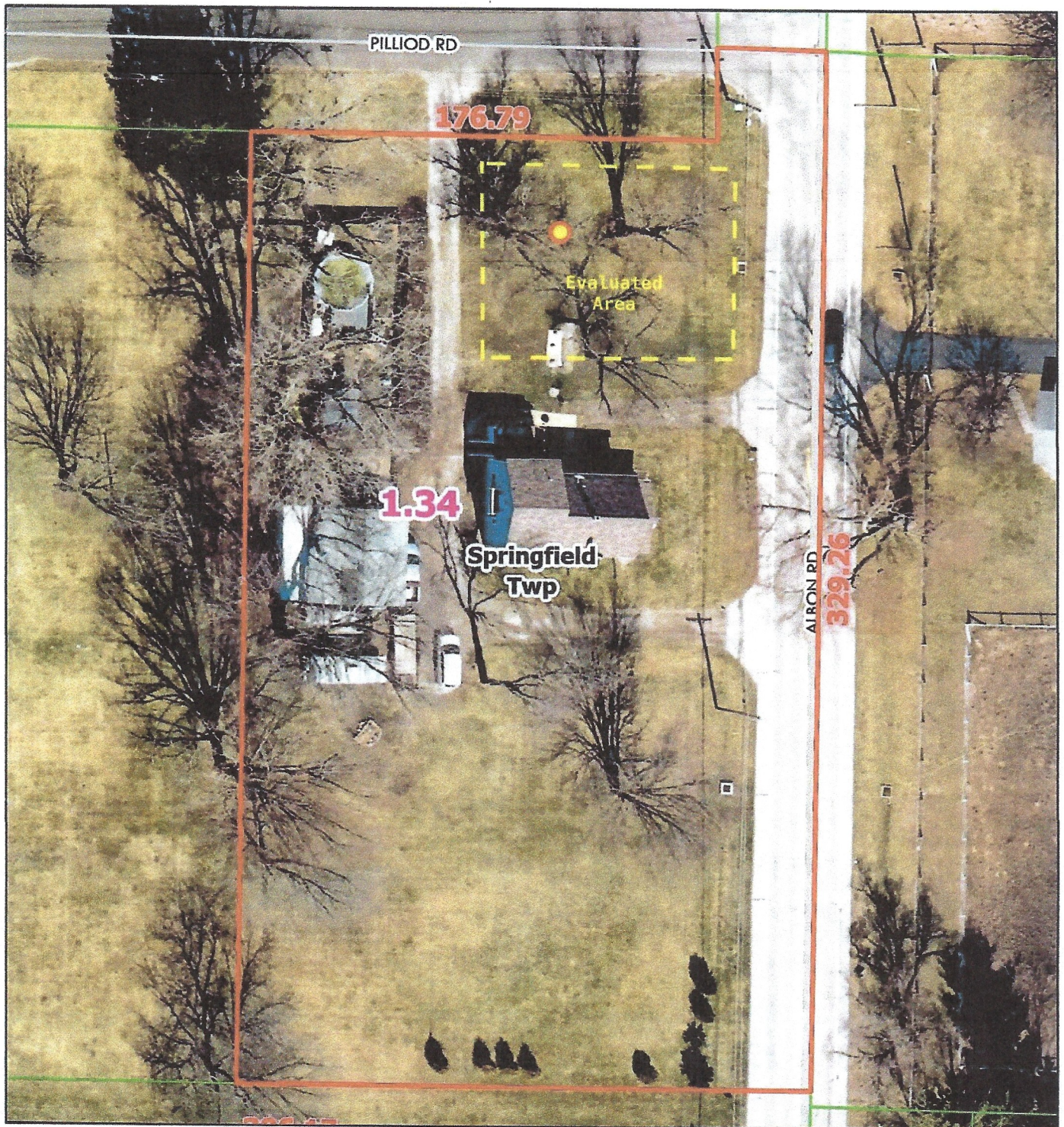
Leach Field - Trench Detail



TOWNSHIP: Springfield LOT NO. _____
VILLAGE: _____ SECTION: _____
SUB-DIVISION: _____
OWNER: Roman Barysh ADDRESS: 2116 Albion RD
BUSINESS: S B R
WATER SUPPLY: Well ☒ City ☐
SEWAGE DISPOSAL UNIT: Septic Tank Size: 1000 gal
SECONDARY TREATMENT: Tile Disposal Field: 300' of 24" trench
Sub-Surface Filter: _____
Other: _____
REMARKS:
Contractor: John Helminich
Size of Lot: 5 AC.
Permit No.: D-352
Date of Inspection: ch. 12-1-66 - mk.

65-22724





May 27, 2025

Soil Evaluation for Septic System

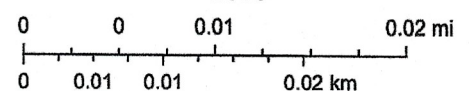
**2116 Albon Road
Holland, Ohio 43528**

1 inch = 43 feet

● = soil test hole



1:518



Lucas County Auditor's Office, GIS Dept., Lucas County Auditor's Office, GIS Department, Lucas County Auditor's Office, GIS Dept.; US Census Bureau, Lucas County Auditor's Office, GIS Department; Lucas County Engineer's Tax Map Department, Lucas County EMA, Lucas County Auditor's Office

R. Scharf

Leaching Trench Design Calculations FOR REPLACEMENT LEACH FIELD

Information from soil evaluation	
Hydraulic Linear Loading Rate (gpd/ft)	3.3
Soil Infiltration Loading Rates (gpd/ft ²)	0.6
Number of Bedrooms	3
Depth to limiting layer (PSWT) @ TH	14 inches
Width of Trenches (inches)	36
*Max. Trench Width Allowed: New-24" Replacement-36"	

Property Information	
Contractor	BRAD'S SEPTIC & SEWER SERVICE
Address	2116 ALBION ROAD
Township	SPRINGFIELD (LUCAS)
New	Replacement X

Overview of System Requirements	
Number of Trenches	3
Length of Trenches	110
Width of Trenches (feet)	3
Total Linear Feet	330
Distance Between Trenches (center)	7 foot
Drainage	TBD

Daily Design Flow	
(120 gpd) X (Number of Bedrooms)	360 gpd
120 gpd	

Minimum Absorption Area	
Daily Design Flow / Soil Infiltration Loading Rate	0.6 = 600 ft ²
360 /	

Minimum Length of Leach Lines	
Daily Design FI / Hydraulic Linear Loading Rate	109.090909 ft
360 / 3.3 =	
Minimum Length of Leach Lines Rounded To Next Whole Number	110 ft

Additional Area Required for 25% Resting	
Minimum Absorption Area X 0.25	150 ft ²
600 X 0.25 =	

Total Length of Leach Lines	
Minimum Absorption Area / Width of the Trench	250 ft
750 / 3 =	

Total Absorption Area	
Minimum Absorption Area + 25% Resting	750 ft ²
600 + 150 =	

Number of Trenches	
Total Length / Trench Length	2.29166667
250 / 109.090909 =	
Round Number of trenches to next whole number	3 Trenches

Number of Trenches to Maintain Total Absorption Area	
Trench Length X Trench Width = Absorption Area Per Trench	330 ft ²
110 X 3 =	
Min. Absorption Area / Absorption Area Per Trench	1.81818182 Trenches
600 / 330 =	
Add 125% absorption area for resting / absorption area per trench	2 Trenches in use at all times
150 / 330 =	
	0.45454545
	1 Trench(es) to rest at all times

Minimum Absorption Area Width	
Min. Absorption Area / Min. Absorption Area Length	6.81818182 ft
750 / 110 =	

If Replacement System:	
Up to 20% can be cut in the length of the leach lines. BUT...the Total surface area must be maintained.	
Total Surface Area =	750 ft ²
Original Calculated Length =	110 ft.
20% of Original Calculated Length =	22 ft.
Reduced Length =	88 ft.
Trench Length X Trench Width = Absorption Area Per Trench	264 ft ²
88 X 3 =	
Min. Required Absorption Area / Absorption Area Per Trench = Number of trenches in use at all times	2.27272727 Trenches
600 / 264 =	
	3 Trenches in use at all times
Add 125% absorption area for resting / absorption area per trench = Number of trenches to rest	0.56818182
150 / 264 =	
	1 Trench(es) to rest at all times

** CHAMBERS ONLY ** with * 25% Reduction *	
Number of Trenches to Maintain Total Absorption Area	
Minimum Absorption Area * 25% = Reduction for Chamber System	150 ft ²
600 * 0.25 =	
25% Reduction for Chamber System	450
Minimum Absorption Area - 25% Reduction = New Min. Absorption Area for Chamber System	150 = 450 ft ²
600 - 450 =	
Additional Area Required for 25% Resting	112.5 ft ²
Minimum Absorption Area X 0.25	112.5
450 X 0.25 =	
Total Absorption Area for Chambers	562.5 ft ²
Minimum Absorption Area + 25% Resting	562.5 ft ²
450 + 112.5 =	
NEW Min. Absorption Area / Absorption Area Per Trench	1.36363636 Trenches
450 / 330 =	
Add 125% absorption area for resting / absorption area per trench	2 Trenches in use at all times
112.5 / 330 =	
	0.34090909
	1 Trench(es) to rest at all times

** CHAMBERS ONLY ** (Replacement)	
[Up to 20% can be cut in the length of the leach lines. BUT...the Total surface area must be maintained]	
Chambers Total Surface Area =	450 ft ²
Original Calculated Length =	110 ft.
20% of Original Calculated Length =	22 ft.
Reduced Length =	88 ft.
Trench Length X Trench Width = Absorption Area Per Trench	264 ft ²
88 X 3 =	
Min. Required Absorption Area / Absorption Area Per Trench = Number of trenches in use at all times	1.70454545 Trenches
450 / 264 =	
	2 Trenches in use at all times
Add 125% absorption area for resting / absorption area per trench = Number of trenches to rest	0.42619636
112.5 / 264 =	
	1 Trench(es) to rest at all times

General Operation & Maintenance Procedures For Your New Septic System

Maintaining Your Septic System:

1. Maintenance of a septic system can save a lot of money and significantly prolong the life of the system.
2. Sound septic system operation and maintenance practices include:
 - Conserving water
 - Being careful that nothing harmful is disposed through the system
 - Annual inspections on the system
 - Pumping of the septic tank as needed depending on the size of the tank and the number of people in the home (see attached chart).

Pumping your septic tank is probably the single most important thing you can do to protect your system. If the buildup of solids in the tank becomes too high and solids move from the tank to the drain field (leach field), this could clog and strain the system to the point where a new system will need to be installed. Contact a company that is licensed and bonded by the Ohio Department of Health and is registered by the local health department. A list of registered septic haulers (pumpers) can be obtained from the health department.

4. Alternate your leaching trenches as required. All of the septic systems that utilize a standard leach field for treatment that were installed after 2015 require that 25% of the system "rest" for a period of up to one (1) year. An elbow, cap, speed leveler and/or cap with a handle will enable you to perform this task manually. Your local health department can assist you with further explanation of this procedure as needed.

Use Water Wisely:

1. Water conservation is very important for septic systems because continual saturation of the soils in the drain (leach) field can affect the quality of the soil and its ability to remove parasites, bacteria, viruses, and other pollutants naturally from the wastewater. The most effective way to conserve water around the house is to take stock of how it is going to waste. Immediately repair any leaking faucets or running toilets, and use washing machines and dishwashers only when full.
2. Additional ways to conserve water are the following:
 - Avoid letting water run while washing hands and brushing teeth.
 - Avoid taking long showers and install water-saving features in faucets and showers heads. These devices can reduce water use up to 50 percent. Low flush toilets use one to two gallons per flush compared to three to five gallons used by conventional toilets. Using a toilet dam or putting a container filled with rocks in the toilet tank can reduce water use by 25 percent.
 - Avoid overtaxing your system by using a lot of water in a short period of time. For example, space out activities requiring heavy water use (like laundry) over several days.
 - Divert roof drains, surface water drains, sump pumps and water softener discharge away from the drain field.

Know What Not to Flush:

1. What you put in your septic system greatly affects its ability to do its job. As a general rule of thumb, do not dispose of anything in your septic system that you can easily put in the trash. Your system is not a garbage disposal! When excess materials go down the drain, solids build up in the septic tank and need pumped out.
2. The **"DO NOT FLUSH ITEMS"** INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
 - Food scraps
 - Coffee grinds
 - Grease and cooking oils
 - Plastics

- Paper towels and wipes of any kind (baby, feminine hygiene, disinfecting etc.)
 - Feminine hygiene products (tampons, sanitary napkins etc.)
 - Cigarette Butts
 - Disposable diapers
 - Condoms
 - Contraceptives
 - Kitty litter
3. Garbage disposals are not recommended and can increase the amount of solids up to 50% in a septic tank. Most of what goes into a disposal (vegetable/fruit rinds/peelings, fat, bones etc.) is non biodegradable material which does not break down.

Avoid Hazardous Chemicals:

To avoid disrupting or permanently damaging your septic system, do not use or dispose of the following hazardous household chemicals:

- Paints
- Varnishes
- Thinners
- Waste oil
- Photographic solutions
- Pesticides
- Prescription medications

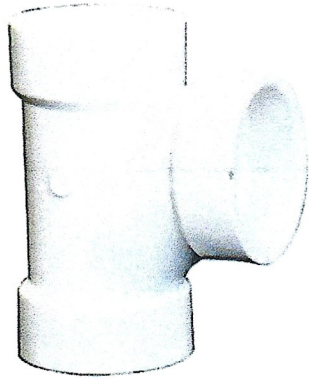
These items can destroy helpful bacteria and the biological digestion-taking place within your system and can even cause pollution of the groundwater.

Protect Your System:

It is important to protect your system from potential damage:

- Do not plant anything but grass over or near your septic system. Roots from some shrubs and trees can cause damage by plugging or even rupturing the drainage pipe.
- Do not allow anyone to drive or operate heavy machinery over any part of the system.
- Never build a structure or any addition over or install an aboveground swimming pool over the septic tank or leach field.

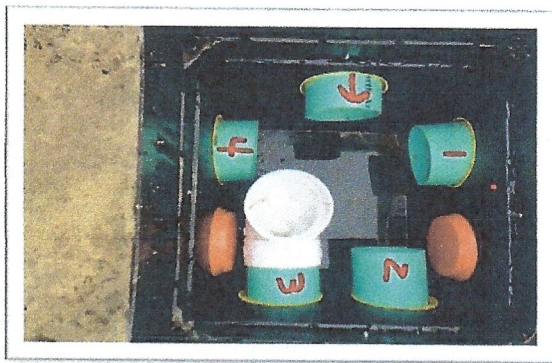
Estimated Septic Tank Pumping Frequencies in Years										
Tank Size (Gals)	Household Size (number of people)									
	1	2	3	4	5	6	7	8	9	10
500	5.8	2.6	1.3	1.0	0.7	0.4	0.3	0.2	0.1	—
750	9.1	4.2	2.6	1.8	1.3	1.0	0.7	0.6	0.4	0.3
900	11.0	5.2	3.3	2.3	1.7	1.3	1.0	0.8	0.7	0.5
1000	12.4	5.9	3.7	2.6	2.0	1.3	1.2	1.0	0.8	0.7
1250	15.6	7.5	4.8	3.4	2.6	2.0	1.7	1.4	1.2	1.0
1500	18.9	9.1	5.9	4.2	3.3	2.6	2.1	1.8	1.5	1.3
1750	22.1	10.7	6.9	5.0	3.9	3.1	2.6	2.2	1.9	1.6
2000	25.4	12.4	8.0	5.9	4.5	3.7	3.1	2.6	2.2	2.0
2250	28.6	14.0	9.1	6.7	5.2	4.2	3.5	3.0	2.6	2.3
2500	31.9	15.6	10.2	7.5	5.9	4.8	4.0	4.0	3.0	2.6



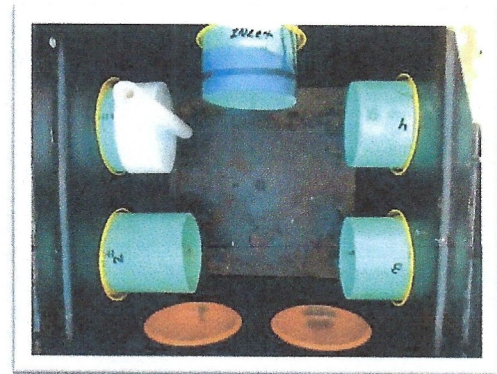
4" to 6" sanitary inlet tee



Poly Lock Distribution Box (Recommended)



Distribution Box with "Elbow" Style Divertor



Distribution Box with "Cap with Handle"



4" & 6" (Recommended) Effluent Outlet Filters