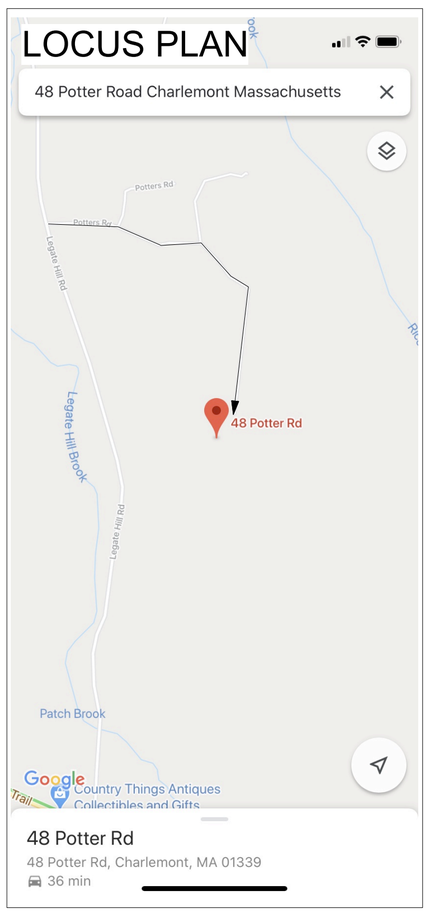
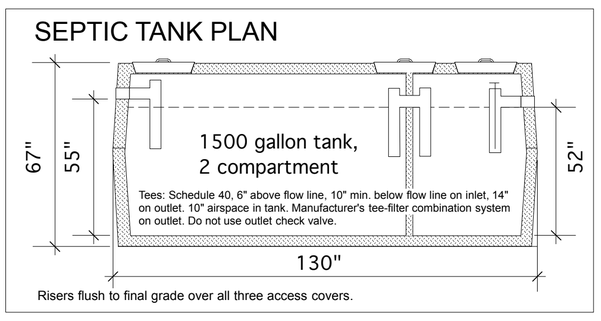
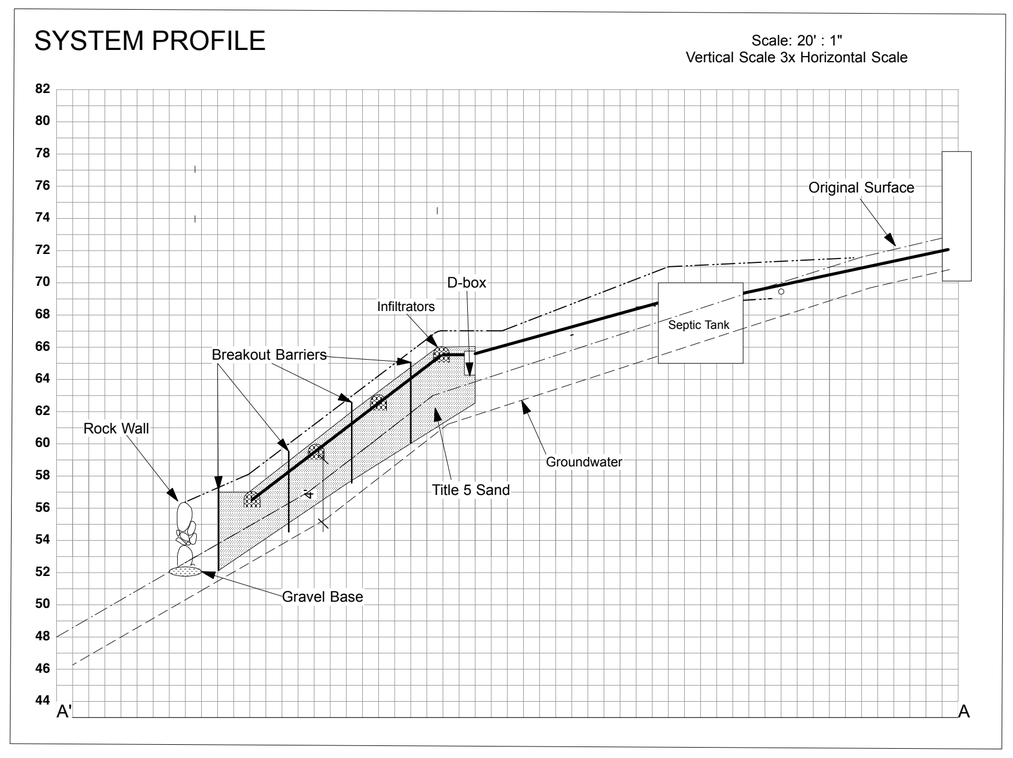
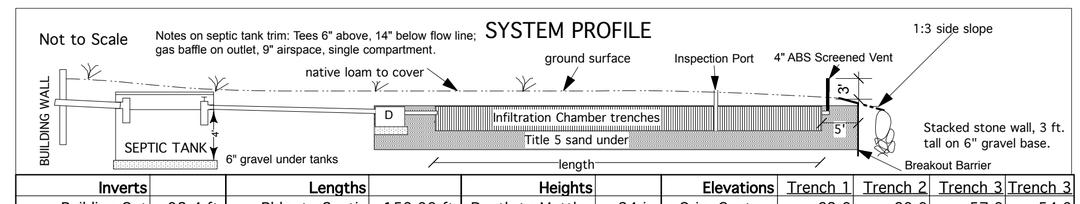






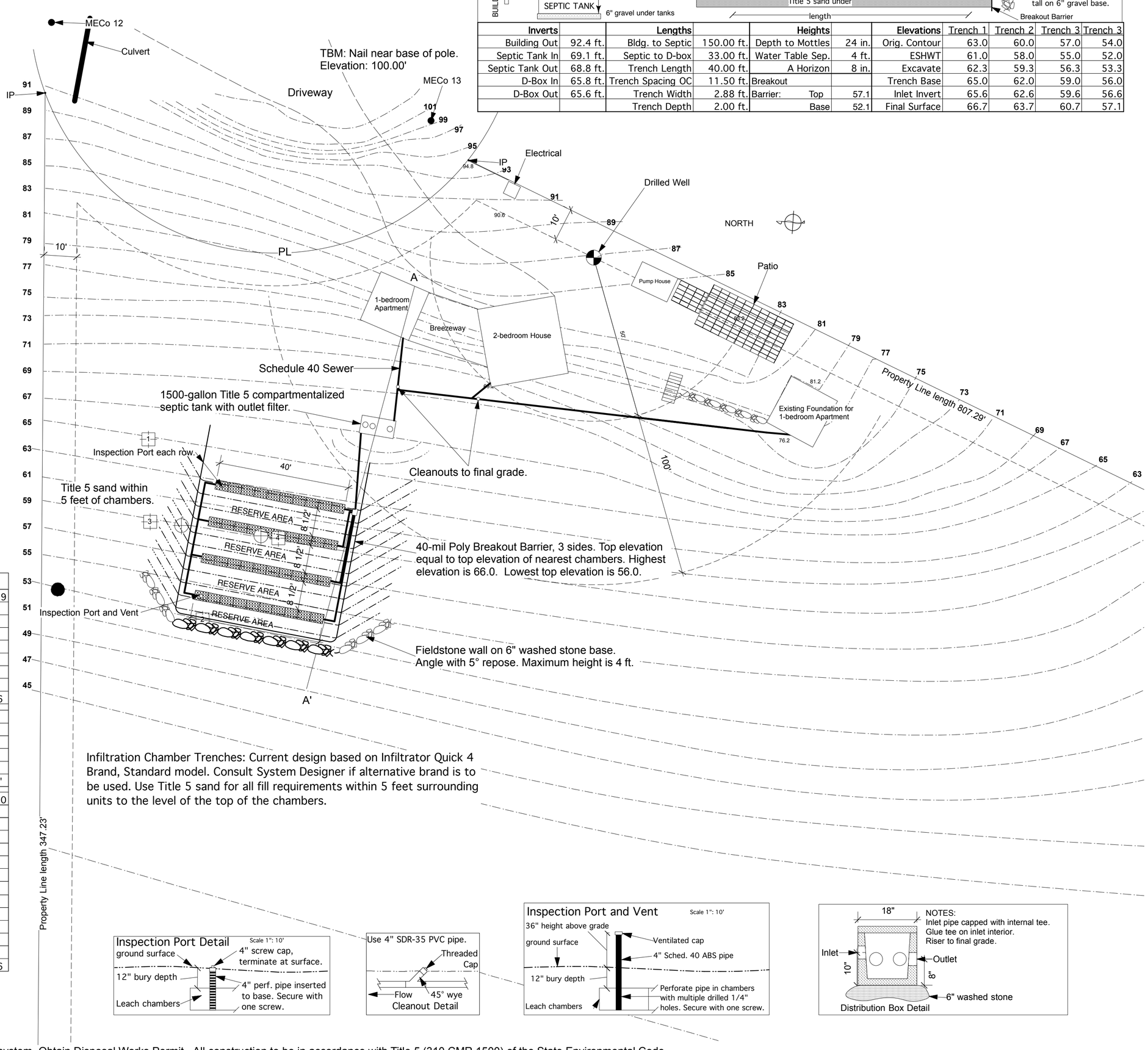


Inverts		Lengths		Heights		Elevations	Trench 1	Trench 2	Trench 3	Trench 3
Building Out	92.4 ft.	Bldg. to Septic	150.00 ft.	Depth to Mottles	24 in.	Orig. Contour	63.0	60.0	57.0	54.0
Septic Tank In	69.1 ft.	Septic to D-box	33.00 ft.	Water Table Sep.	4 ft.	ESHWT	61.0	58.0	55.0	52.0
Septic Tank Out	68.8 ft.	Trench Length	40.00 ft.	A Horizon	8 in.	Excavate	62.3	59.3	56.3	53.3
D-Box In	65.8 ft.	Trench Spacing OC	11.50 ft.	Breakout		Trench Base	65.0	62.0	59.0	56.0
D-Box Out	65.6 ft.	Trench Width	2.88 ft.	Barrier: Top	57.1	Inlet Invert	65.6	62.6	59.6	56.6
		Trench Depth	2.00 ft.	Base	52.1	Final Surface	66.7	63.7	60.7	57.1

Perc Tests		11/10/20
Conducted By:		Thomas Leue
Witness:		Lisa Danek Burke
Test Number	1	2
Depth of Perc Test	33 in.	42 in.
Start Soak	9:24	9:49
End Soak	9:39	10:14
12" level	9:39	10:14
9" level	10:25	10:39
6" level	11:40	11:16
Time 9"- 6"	75 min.	37 min.
Rate per inch	25 min/in	12 min/in

SYSTEM CALCULATIONS		*Leach Trenches*
Single family home	4	bedrooms
Sewage At Code Rate	440	gallons per day
Garbage Grinder not to be installed at this location.		
Septic Tank Capacity	1500	gallons
Septic Tank Greater than 200% daily flow		
Measured Perc Rate	25	min. per inch
Design Perc Rate	25	min. per inch
Soil Type	Class II	
Loading Rate	0.40	gallons/sq.ft./day
Leaching Area Required	1100.0	square feet
Brand of Infiltration Chamber:	Infiltrator	
Model Used:	Quick 4 Standard	
Length of Chamber:	48	in.
Width of Chamber:	34	in.
Invert height:	8	in.
Overall height:	12	in.
Rated Size Each:	27.8	square feet
# Chambers required:	39.6	
# Chambers provided:	40	
# of Trenches:	4	
# Chambers per Trench:	10	
Total Trench Length:	40	feet
Effective Leaching Area:	1112.0	square feet
Effective leaching Capacity:	444.8	gallons per day

Soil Observation Results						
Conducted By			Christian Boysen		Conducted	8/24/99
Witnessed By:			Alan Booth			
		Test Pit 1				
Depths		Soil Horizon	Color	Texture	Structure	ESHWT
0 to	5	Ap	10YR 4/4	FSL	Granular	
5 to	21	Bw	10YR 5/6	FSL	Massive	
21 to	72	C1	2.5Y 5/4	FSL	Firm	29"
72 to	124	C2	2.5Y 4.5/4	FSL	Massive	
2% stones and gravel						7.5YR 5/6
		Test Pit 2				
Depths		Soil Horizon	Color	Texture	Structure	ESHWT
0 to	5	Ap	10YR 4/4	FSL	Granular	
5 to	24	Bw	10YR 5/6	FSL	Massive	
24 to	80	C1	2.5Y 5/4	FSL	Firm	24"
80 to	104	C2	2.5Y 4.5/4	FSL	Massive	2.5Y 6/3"
Conducted By			Thomas Leue		Conducted	11/10/20
Witnessed By:			Lisa Danek Burke			
		Test Pit 3				
Depths		Soil Horizon	Color	Texture	Structure	ESHWT
0 to	6	Ap	10YR 4/4	FSL	Granular	
6 to	24	Bw	10YR 5/6	FSL	Platy	
24 to	88	Cd	2.5Y 5/4	FSL	Firm	26"
		Test Pit 4				
Depths		Soil Horizon	Color	Texture	Structure	ESHWT
0 to	8	Ap	10YR 4/4	FSL	Granular	
8 to	18	Bw	10YR 5/6	FSL	Platy	
18 to	94	Cd	2.5Y 5/4	FSL	Firm	25"
15% stones and gravel						7.5YR 5/6



SYSTEM REQUIREMENTS AND SPECIFICATIONS

1. General
   Board of Health approval required before licensed contractor installs system. Obtain Disposal Works Permit. All construction to be in accordance with Title 5 (310 CMR 1500) of the State Environmental Code.
   Contractor responsible for verifying all dimensions, elevations and conditions. Contact System Designer immediately if discrepancies are found. Alternatives to these specifications should be discussed with the System Designer, Tom Leue, in advance at (800) 285-4533.
   Property lines are approximate, based on best available information. Any required tree cutting is the responsibility of the Contractor. All wells within 150' of system are shown on the drawing.
   This septic system is not designed for a garbage grinder in the kitchen, do not connect one to the system or all implied warranties are voided.
   The contractor selected is required to be certified in this technology before completion of the work. Arrangements for on-site Manufacturer's training can usually be made by arrangements with the company representative Eric Daniels at 800-444-1359.
2. Septic Tank
   The septic tank for this project is to be Title 5 compliant. Install an outlet filter. Install plastic risers with sealed plastic covers to the final surface over all three access holes.
3. Piping
   All piping from greywater and blackwater sources to be connected to building sewer in the basement. All piping from the septic tank to the end of the system shall be 4" diameter, SDR-35 or better, except as noted on the drawings. Joints are to be sealed water tight. Place magnetic detectable warning tape pre-printed "Sewer Pipe Below" or similar wording approximately 6" above all new piping and other components installed on this project, other than leaching pads. Two feet out of distribution box pipe to be set dead level.
4. Leaching Facilities
   All leaching facilities to be of the size, location and brand shown on the drawings. Do not substitue brands without notifying System Designer in advance to see if it affects systems size and design. All fill materials within 6" of the leaching pads to be C-33 certified sand. All other fill within five feet horizontal of the leaching pads to be certified Title 5 sand. Do not excavate outside of the footprint of infiltration pads at the specified depth.
5. Certified Sand
   Sand characteristics to be documented. Supplier provided Title-5 Sand Analysis shall be less than one year old. Sand suppliers shall ensure that the analysis provided to the Septic Installer is representative by following a written Quality Assurance Plan (QAP) which documents the method(s) used to ensure that a sample report represents the actual material being supplied for use. The System Designer may analyze a sample of the sand on-site to confirm Title 5 specifications.
6. Inspection
   A minimum of two site inspections by the System Designer are required. Notify System Designer (800-285-4533) at least 24 hours in advance of completion of excavation and before addition of sand to certify site preparation. Notify System Designer at least 24 hours in advance of completion of system construction and prior to backfill for final inspection. The System Designer shall verify the system was installed as designed and authorize the final grading. The Contractor responsible for notifying the local Board of Health for a final inspection. If the System Designer finds the system is not ready for inspection after being called, or if serious deficiencies are discovered, the System Designer must be notified to return to the job site when it is complete. There will be a charge to the Installer of $50 for each return trip, payable directly to the System Designer at the time of the reinspection. Inspection and project closeout forms are usually generated within 24 hours of final inspection by the System Designer, when all other requirements are met. Signed Certificate of Compliance forms and As-built Drawings are sent to the Installer for a signature and date. One set of forms are then returned to the System Designer for final processing. The second set of forms are for the Contractor to keep as his project record.
7. Final Grading
   At conclusion of work, loam and seed all disturbed areas to perennial grass mixture. Added loam may be required for adequate grass growth. Mulch slopes with hay, burlap or netting to minimize erosion. Surface over leaching facility shall be pitched so as to shed rainwater. Also pitch surface over all tanks to shed rainwater from any exposed covers. Do not allow surface water to puddle over any tank or component. Systems built late in the year, where the grass cover does not have a chance to establish itself, requires the contractor to return after spring thaw and resurface final grades and add grass seed cover as required to equalize and stabilize all disturbed areas.

CONSTRUCTION NOTES

1. Board of Health approval required before licensed contractor installs system. Obtain Disposal Works Permit.
2. Notify System Designer at least 24 hours in advance of completion of excavation and before addition of sand to certify site preparation.
3. Notify System Designer at least 24 hours in advance of completion of system construction and prior to backfill for final inspection.
4. All construction to be in accordance with Title 5 of the State Environmental Code.
5. At conclusion of work, loam and seed all disturbed areas to perennial grass mixture. Added loam may be required for adequate grass growth.
6. Contractor responsible for verifying all dimensions, elevations and conditions. Contact System Designer immediately if discrepancies are found.
7. Property lines are approximate, based on best available information.
8. Any required tree cutting is the responsibility of the Contractor.
9. System not designed for a garbage grinder. Do not connect one to the system.
10. All drain pipes from greywater and blackwater sources are to be connected to the building sewer in the basement.
11. All wells within 150' of system are shown on the drawing.

INSTALLATION INSTRUCTIONS FOR TRENCH SYSTEMS

1. Excavate and level 3' wide trenches to depth of excavation.
2. Prepare trench bottom and sides in accordance with 310 CMR 15.00. Rake sidewalls and bottom infiltrative surfaces to eliminate smearing. Spread Title 5 sand as a base as required to level surface.
3. Snap chamber end with integral splash plate into inlet end of first Infiltrator chamber with splash plate extending into chamber. Secure end plate with two or more stainless screws.
4. Place first unit in the inlet end of trench with interlocks downstream.
5. Run distribution pipe through inlet opening in end plate but not beyond splash plate. A single screw to be used to hold in place. Pipe does not normally run the length of system.
6. Connect Infiltration chambers together, fully engaging interlocks to form desired trench length. Be sure to check trench grade with a level or surveying equipment. Secure sections with three or more screws each.
7. Screw closed end plate in downstream end of last chamber.
8. Fill side wall area to top of slots with native soil. "Walk " fill into place to give proper support of sides, THIS IS VERY IMPORTANT TO ACHIEVE FULL STRENGTH
9. Backfill to a minimum of 12" cover after compaction and settling for H-10 chambers and 18" for H-20 chambers. Avoid large rocks in the backfill material. CAUTION - Avoid vehicular traffic on system during construction since soil has not settled. This is particularly important in sand, since loose sand offers very little structural support.

0 SCALE BAR 60 FT

3.631 Acres
Book 7574 Page 166

Plan to Construct New Septic System	Date: 8/3/2020	Owner: Colleen Champ, Thorne Palmer 48 Potter Road Charlemont MA 01339	COMMONWEALTH OF MASSACHUSETTS THOMAS S. LEUE #1172 REGISTERED SANITARIAN	HOMESTEAD INC. Thomas S. Leue R.S.
Scale: 1 : 20' Except as Noted	Revision Date: 11/10/2020			1664 Cape St. Williamsburg, MA 01096 [413] 628-4533