

WARNING - It is a violation of the New York State Education Law Section 7209.2, for any person, unless acting under the direction of a Professional Engineer or exempt Land Surveyor to alter this document in any way. If altered, the altering Professional shall comply with the requirements of the New York State Education Law Section 7209.2.

**SEPTIC SYSTEM LIMITATIONS**

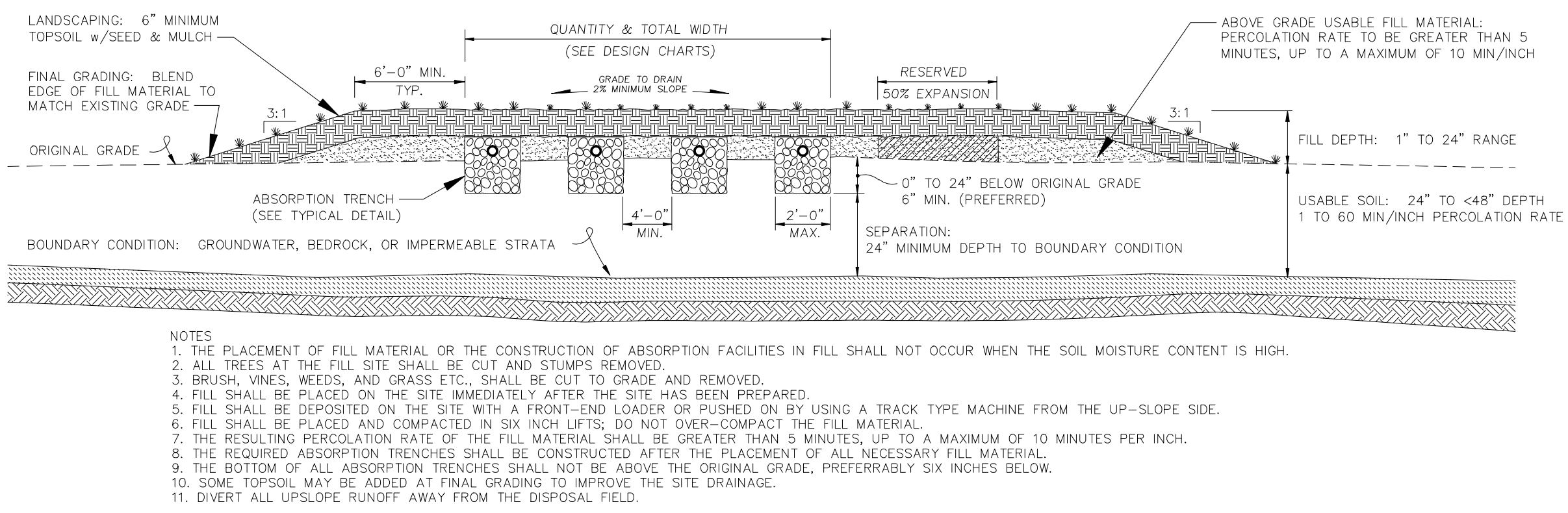
- The best designed and installed septic disposal system will eventually fail to function properly without adequate maintenance. Inadequate septic tank maintenance can result in clogging of the tank and sewage back-up into the home and/or sewage overflow onto the ground surface. The failure to periodically clean a septic tank commonly results in clogging of the soil that surrounds the absorption trench by overflowing solids not removed by the septic tank.
- This set of design plans and details is intended to provide subsurface sewage disposal for a typical single family dwelling. No additions involving living or sleeping areas may be added to the dwellings without the approval of the Code Enforcement Officer and the system redesigned by a licensed Professional Engineer. The seal and signature on any drawing specifically excludes certification for future expansion or field replacement.
- No garbage grinders allowed unless installed as initial construction of the house, and the septic tank size increased by 250 gallons.
- No sump pump, water softener backwash, spas, hot tubs, whirlpools, or condensate waste shall be drained into the system.
- The dwelling shall have water saving fixtures, including but not limited to: 2 gpm shower heads, low water use toilets, and sink restrictors.
- Observe water conservation practices.
- Septic tanks shall be inspected annually to determine the scum and sludge accumulation by the homeowner or a qualified septic hauler. The amount of build-up noted at each inspection shall be recorded and maintained in a record book. The septic tank shall be pumped whenever the bottom of the scum layer is within three inches of the bottom of the outlet baffle or tee, or the top of the sludge is within ten inches of the bottom of the outlet baffle or tee. The pump-out clearances also apply to any chamber in multi-compartment tanks and to any tanks in series (i.e. pump out all tanks/chambers as soon as any tank or chamber falls the minimum clearance). Most tanks should be pumped out every two to five years.
- When septic tank is pumped, the septic tank inlet connection, baffles/tees, house sewer connection, tank outlet connection, and pump pit (if present) shall be inspected. Any baffle or tee that have deteriorated and no longer perform as designed must be replaced. Cracked or broken lines must be repaired or replaced.
- Any company employed to clean and service the septic tank and system, must be a permitted septic hauler, with valid standing with the New York State Department of Environmental Conservation office. Septic tanks should not be washed or disinfected after being pumped out.
- Septic tank additives shall not be used in the septic system. Additives are unnecessary for the proper operation of household systems and may cause the sludge and scum in the septic tank to be discharged into the absorption field, resulting in premature failure.
- Do not dispose of excess household grease and fat in the septic system.
- Whenever septic tanks are to be abandoned (i.e. when public sewers are installed to handle household wastes), the tanks shall be pumped out and refilled with soil to prevent future collapse.
- Do not pour or dump chemical cleaners (i.e. ammonia) in the sinks or toilets.
- Do not discharge roof drains, or allow stormwater runoff to collect on the absorption field area.
- No vehicle parking or traffic shall be allowed on any portion of the sewage disposal system.
- The sewage disposal system is designed for domestic wastewater only, with the design of the absorption field on the projected flows. Any use of the dwelling that has a greater discharge of wastewater flow than designed will require a redesign of the disposal system by a licensed Professional Engineer.
- The stamp seal and signature of the design engineer is for the intended use only, and any change of use invalidates the seal.
- The effluent filter shall be checked and cleaned if necessary during each inspection of the septic tank. A record of filter cleaning is recommended so to better monitor the amount of solids trapped in the filter cartridge.

**SEPTIC SYSTEM GENERAL NOTES**

- There shall be no change on these plans in advance of, or during construction, without prior written approval of the design engineer.
- The workmanship, construction practice, material standards, and inspection requirements shall comply with the latest edition(s) of the following:
  - New York State Department of Health
    - "Rural Water Supply", 10 NYCRR APPENDIX 5-B, 1966, reprinted 1992;
    - "Individual Residential Wastewater Treatment Systems Design Handbook", 1996;
  - Local town, village, or city sanitation ordinances.
- The following inspections of the septic system by a licensed Professional Engineer shall include:
  - Fill material, at borrow pit or source of origin (perc. test may be required);
  - Fill material, in-place and finish graded;
  - Prior to backfill of piping, tanks, pits, well seals, etc.;
  - Upon final grading of site.
- Any modifications to the septic system design shall be performed by a licensed Professional Engineer.
- The installation contractor shall prepare the "as-built" sketch which has accurate dimensional distances to each of the septic system components, as measured from at least two different physical landmarks (i.e. foundation corners, well cap, boundary markers, etc.). This record information shall be furnished to the home owner, town, or other municipal officer, as required, and prior to occupancy of the dwelling.
- The septic system designs are typical size requirements for the number of bedrooms listed in the design charts, and are based on established design flows and preliminary soil percolation rates determined in the field. The installation contractor shall immediately notify the design engineer of any field conditions which deviate from the information as shown on the approved plans.
- The septic system designs shown were sized in accordance with the New York State Department of Health standards, and local regulatory codes, as applicable.
- The home owner is referred to the Health Department publication (Note 2, paragraph A.2 listed above) for the recommended procedures in system operations and maintenance.
- The design engineer shall be relieved of liability if the home owner fails to maintain the septic system in accordance with the Health Department guidelines and/or the limitations listed on this plan, causes to exceed the design flows, or modifies the system in any way.
- The home owner shall immediately notify the Health Department if the septic system has failed.

**SEPTIC SYSTEM CONSTRUCTION NOTES**

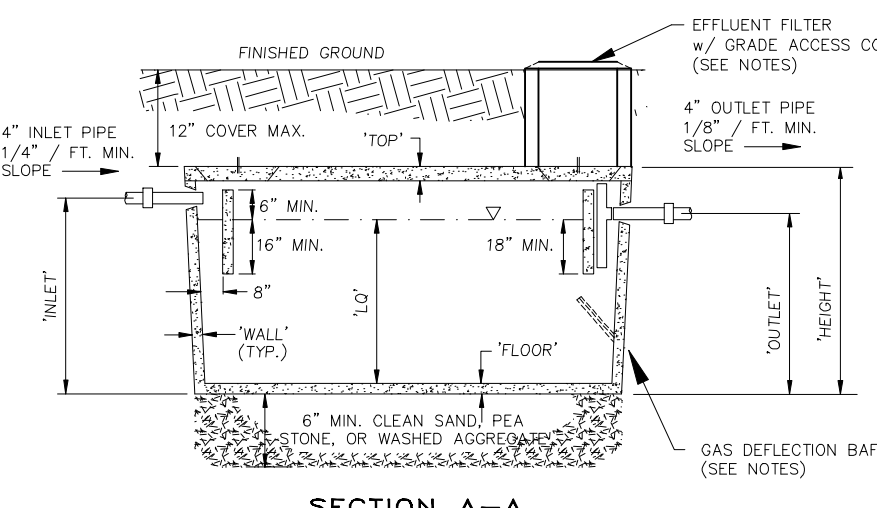
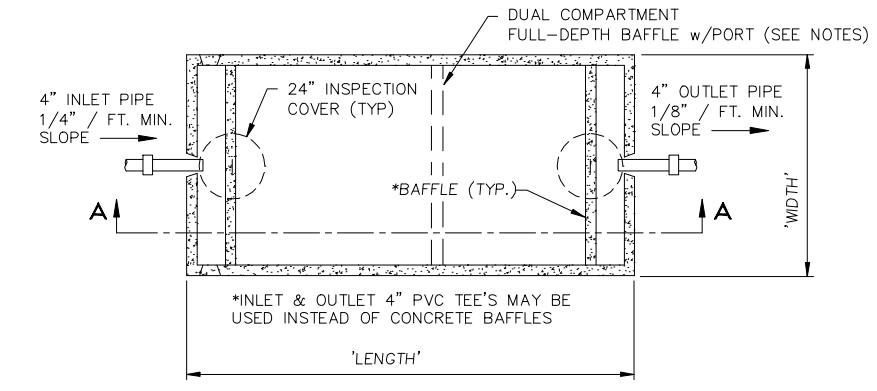
- The installation contractor shall notify the Code Enforcement Officer and/or the design engineer prior to work, to review the installation details and inspection procedures.
- There shall be no construction of sanitary facilities (septic systems) within 100 feet of a classified wetland or water body.
- No roof, footing, floor, condensate, cooling water, softener backwash or any other drains shall be connected to the septic system.
- Fill material to be clean, loamy sand, with a stabilized in-place percolation rate to be no less than 1 inch in 5 minutes, nor greater than 1 inch in 10 minutes. All imported materials to be approved in writing by a licensed Professional Engineer prior to delivery to the site.
- Piping material specifications:
  - House to septic tank: 4" PVC schedule 40 solid pipe with watertight joints, minimum slope of 1/4" per foot;
  - Septic tank to distribution box or effluent pump pit: 4" PVC schedule 40 solid pipe with watertight joints, minimum slope of 1/8" per foot;
  - Where installed, effluent pump pit to distribution box: 1 1/2" PVC schedule 80 solid pipe with pressure rated watertight joints, pitched on reverse slope to drain into pump pit;
  - Distribution box to septic field absorption trench: 4" PVC sdr-35 solid pipe, minimum slope of 1/8" per foot;
  - Septic field absorption trench: 4" PVC sdr-35 perforated pipe, maximum slope of 1/16" per foot, cap all ends.
- Septic tank specifications:
  - Tank to be installed level on a 6" minimum layer of compacted gravel or stone;
  - Precast concrete tank, dimensions and features as shown;
  - Inlet baffle or 4" PVC tee to extend 16" minimum below flow line, 6" above flow line;
  - Outlet baffle or 4" PVC tee to extend 18" minimum below flow line, 6" above flow line;
  - Free air space above tees to be 3" minimum to top of tank.
  - Where installed, 4" plastic effluent filter cartridge with wooden handle extension to grade.
  - Grade access covers to be 24" integrated plastic or cast-iron cover, securely attached to tank.
- Distribution box specifications:
  - Box to be installed level on a 12" minimum layer of compacted gravel or stone;
  - Precast concrete box, dimensions and features as shown;
  - Outlet speed levelers to be installed in the distribution box and adjusted to equalize the flow to each lateral.
- A permeable geotextile or non-woven filter fabric to be installed over the absorption trench areas to prevent the infiltration of soil into the aggregate.



5 TYPICAL SHALLOW ABSORPTION TRENCH

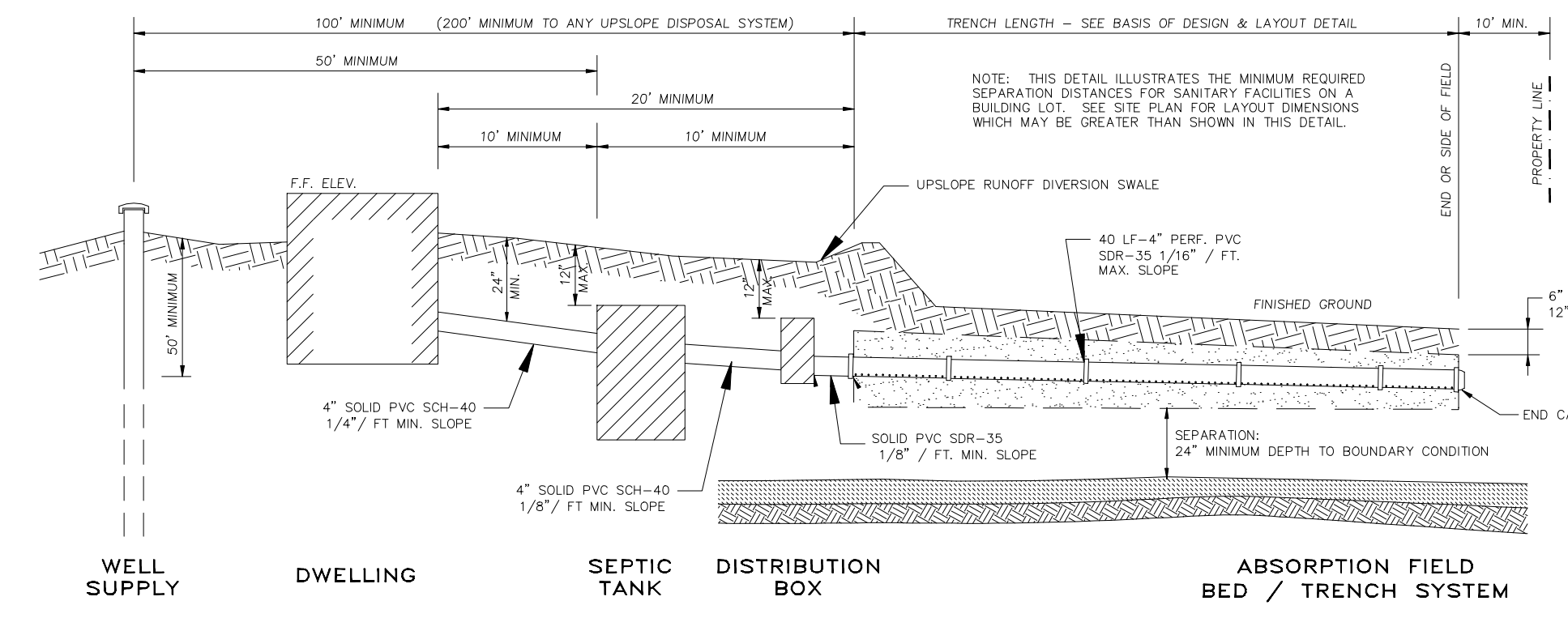
SEPTIC TANK CAPACITY			
NUMBER OF BEDROOMS	DESIGN FLOW	MINIMUM TANK CAPACITY & LIQUID SURFACE AREA W/O GARBAGE GRINDER	I/F GARBAGE GRINDER
2	220 GPD	1,000 27 S.F.	1,250 * 34 S.F.
3	330 GPD	1,000 27 S.F.	1,250 * 34 S.F.
4	440 GPD	1,250 34 S.F.	1,500 * 40 S.F.

- NOTES**
- WHEN GARBAGE GRINDERS ARE INSTALLED AT THE TIME OF HOUSE CONSTRUCTION, A GAS DEFLECTION Baffle AND A DUAL COMPARTMENT SEPTIC TANK, OR TWO TANKS IN SERIES, SHALL BE PROVIDED TO MINIMIZE THE SOLIDS CARRYOVER TO THE ABSORPTION AREA (DISPOSAL FIELD).
  - 3" MINIMUM ELEVATION DROP THROUGH STRUCTURE FROM INLET TO OUTLET.
  - TANK SIZE REQUIREMENTS FOR MORE THAN SIX BEDROOMS (EQUIVALENT DAILY FLOW SHALL BE CALCULATED BY ADDING 200 GALLONS AND SEVEN SQUARE FEET OF SURFACE AREA FOR EACH ADDITIONAL BEDROOM. A GARBAGE GRINDER SHALL BE CONSIDERED EQUIVALENT TO AN ADDITIONAL BEDROOM FOR DETERMINING TANK SIZE. A HOT TUB/SPA SHOULD BE CONSIDERED EQUIVALENT TO AN ADDITIONAL BEDROOM FOR DETERMINING TANK SIZE.
  - EFFLUENT FILTER: "POLY-LOCK" BRAND OR SIMILAR PRODUCT SHALL BE INSTALLED TO THE SEPTIC TANK OUTLET. EFFLUENT FILTERS WHEN PROPERLY MAINTAINED CAN EXTEND THE USEFUL LIFE OF THE TREATMENT SYSTEM. ALL SYSTEMS ARE SUSCEPTIBLE TO CLOGGING BY SOLIDS CARRYOVER, LEADING TO PREMATURE FAILURE. A GRADE ACCESS COVER SHALL BE PROVIDED FOR PERIODIC INSPECTION & CLEANING OF THE EFFLUENT FILTER DEVICE.
  - OPTIONAL TANK: POLYETHYLENE TANK PRODUCTS MAY BE INSTALLED AS SUBSTITUTION FOR THE CONVENTIONAL PRECAST CONCRETE TANK SHOWN IN THIS DETAIL. THE POLYETHYLENE PRODUCT SHALL COMPLY WITH NYSDOH STANDARDS IN GALLON CAPACITY, RATINGS, LIQUID SURFACE AREA, AND LIQUID DEPTH. A DATA SHEET OF THE PRODUCT SUBSTITUTION SHALL BE SUBMITTED IN ADVANCE TO THE ENGINEER FOR REVIEW AND APPROVAL, ALONG WITH CORPORATE DOCUMENTATION OF NYSDOH REVIEW. ALL OTHER SPECIFICATIONS APPLY, INCLUDING EFFLUENT FILTER.

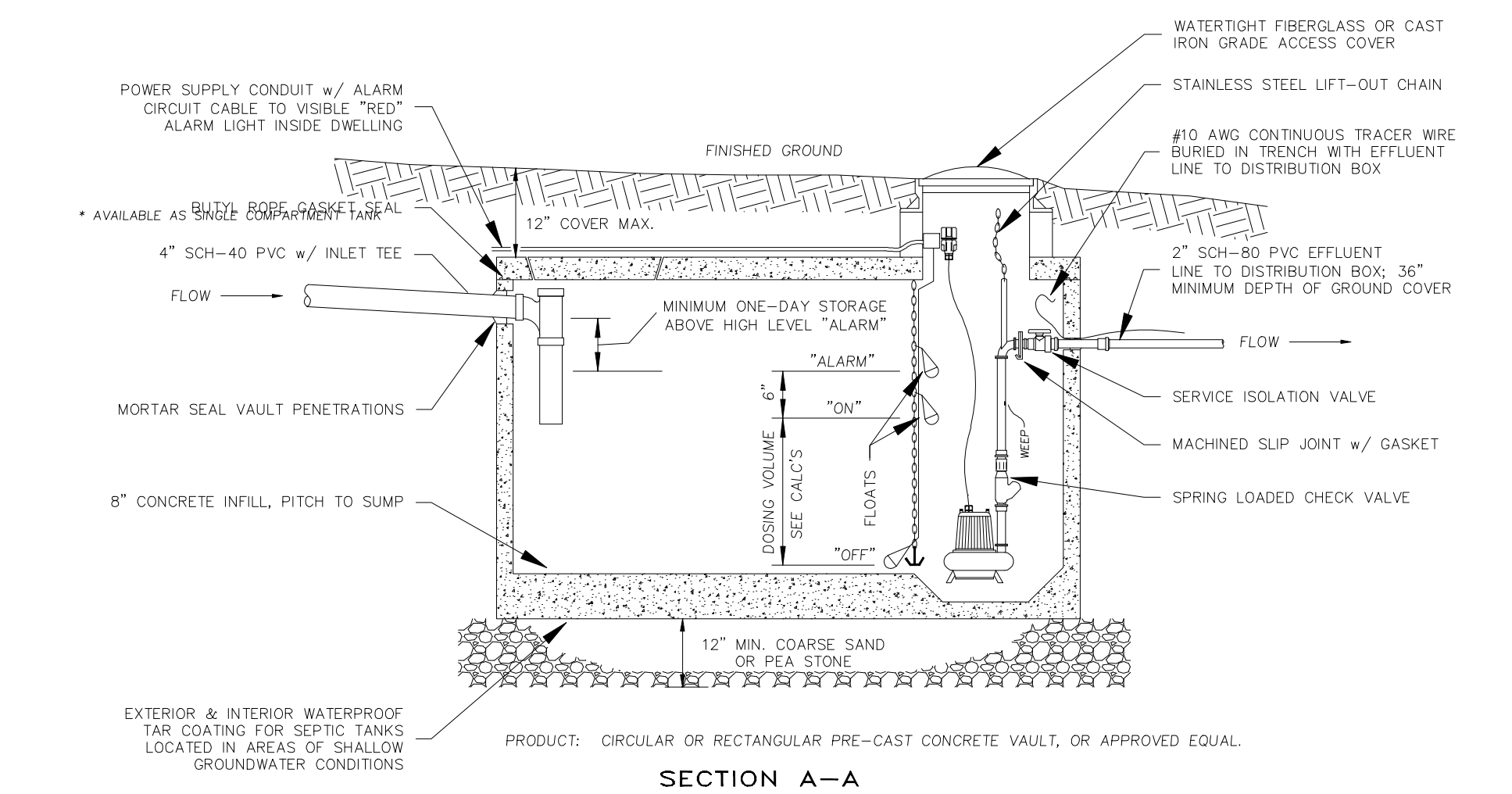


SEPTIC TANK DIMENSIONS							
TANK CAPACITY	LENGTH	WIDTH	INLET	OUTLET	HEIGHT	WALL	FLOOR
1,000	8'-8 1/2"	5'-0 1/2"	4'-0"	4'-6"	5'-6"	3"	4"
1,250	10'-2"	5'-3"	4'-0"	4'-6"	5'-6"	3"	4"
1,500	11'-0"	6'-0"	5'-1"	4'-10"	6'-3"	6"	4"

3 SEPTIC TANK DETAIL

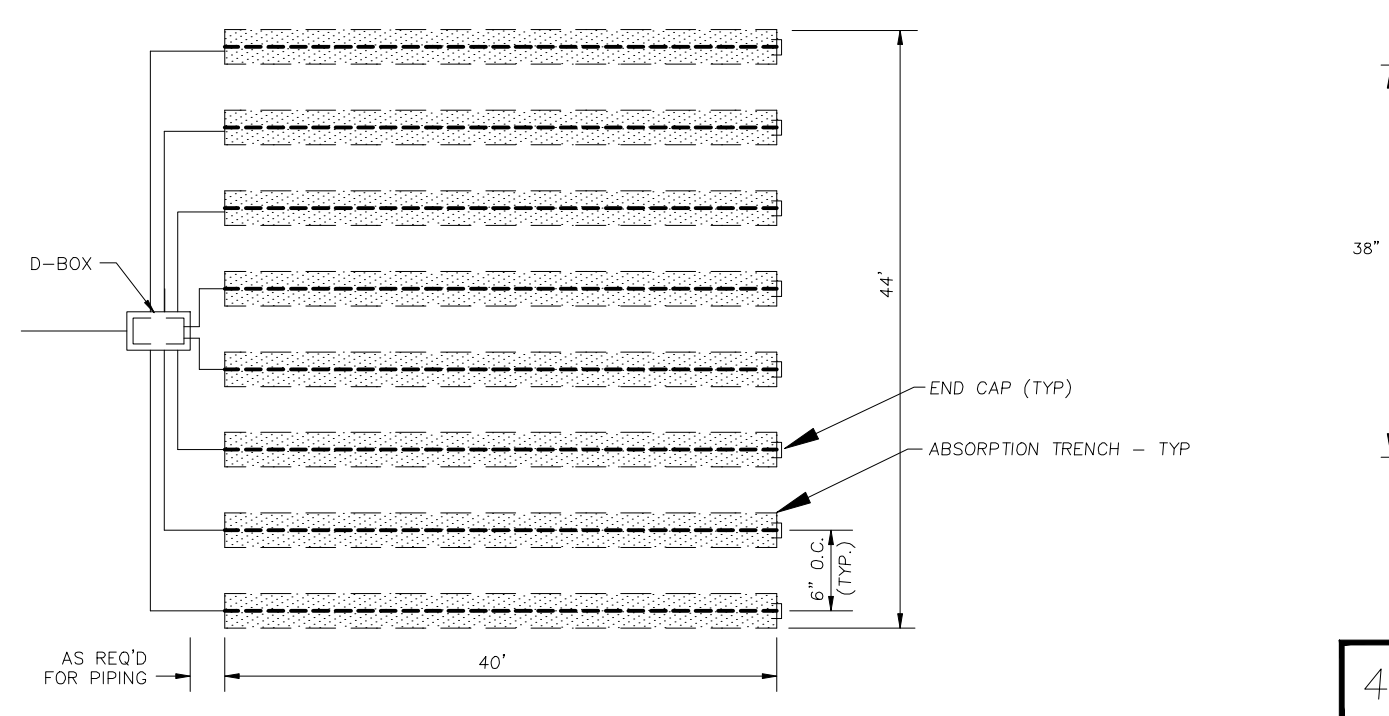


6 SANITARY FACILITIES - SCHEMATIC DETAIL

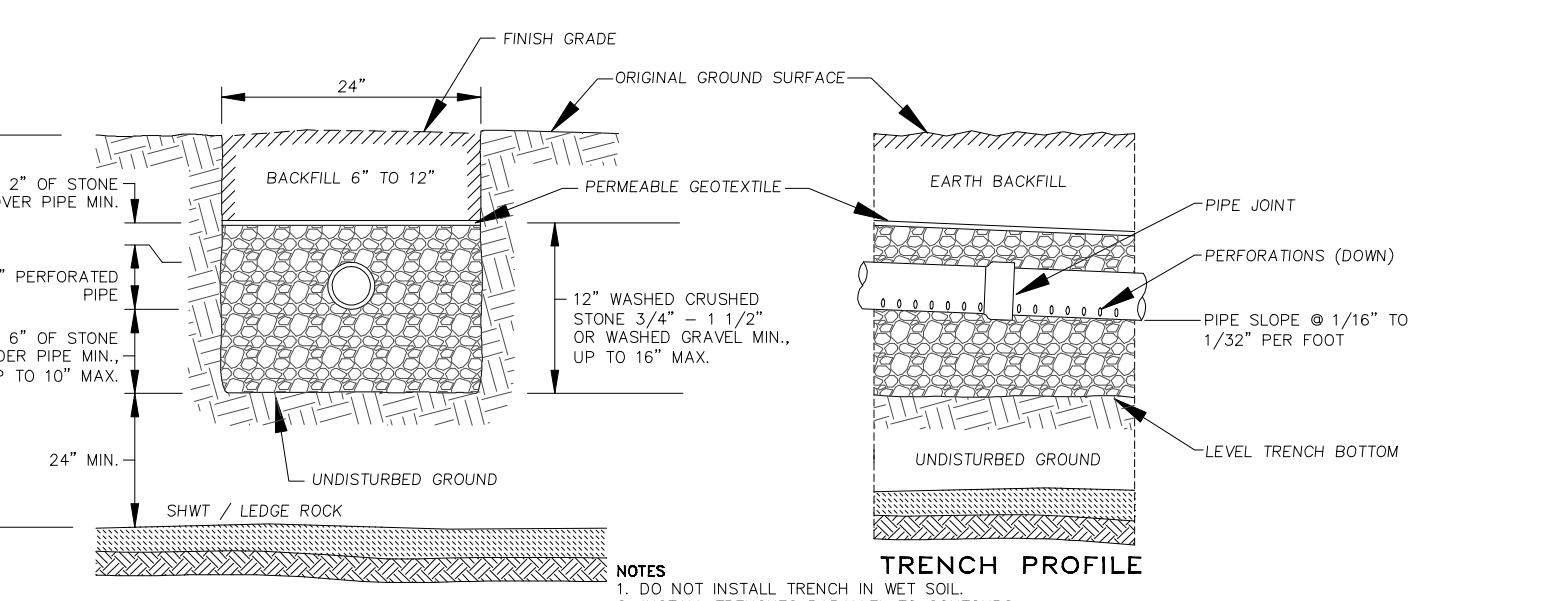


- GENERAL NOTES & SPECIFICATIONS**
- PUMP DISCHARGE LINE TO BE SLOPED BACK TO PUMP PIT.
  - PUMP MOTOR CONTROLS TO BE ENCLOSED IN A SINGLE PANEL, ON A DEDICATED ELECTRICAL CIRCUIT.
  - ANTI-FLOTTATION STRUCTURAL BALLAST MAY BE REQUIRED IN AREAS OF SHALLOW GROUNDWATER CONDITIONS, WITH CALCULATIONS TO BE PREPARED BY A NEW YORK STATE LICENSED PROFESSIONAL ENGINEER.
  - PIPING & VALVES TO BE SCHEDULE 80 PVC PLASTIC INSIDE THE PUMP PIT ENCLOSURE.
  - HIGH LEVEL ALARM LIGHT TO BE INSTALLED IN A VISIBLE LOCATION INSIDE THE DWELLING, WIRED FROM A SEPARATE ELECTRICAL CIRCUIT THAN THE PUMP MOTOR CONTROLLERS.
  - PUMP APPLICATION CRITERIA IS BASED ON A MINIMUM CLEANSING VELOCITY OF 2.0 FPS IN THE FORCE MAIN.
  - SEE BASIS OF DESIGN FOR PUMP SPECIFICATIONS, DISCHARGE RATE, AND TOTAL DYNAMIC HEAD. CONTRACTOR TO SUBMIT A PRODUCT DATA SHEET FOR ENGINEER REVIEW AND APPROVAL PRIOR TO INSTALLATION.

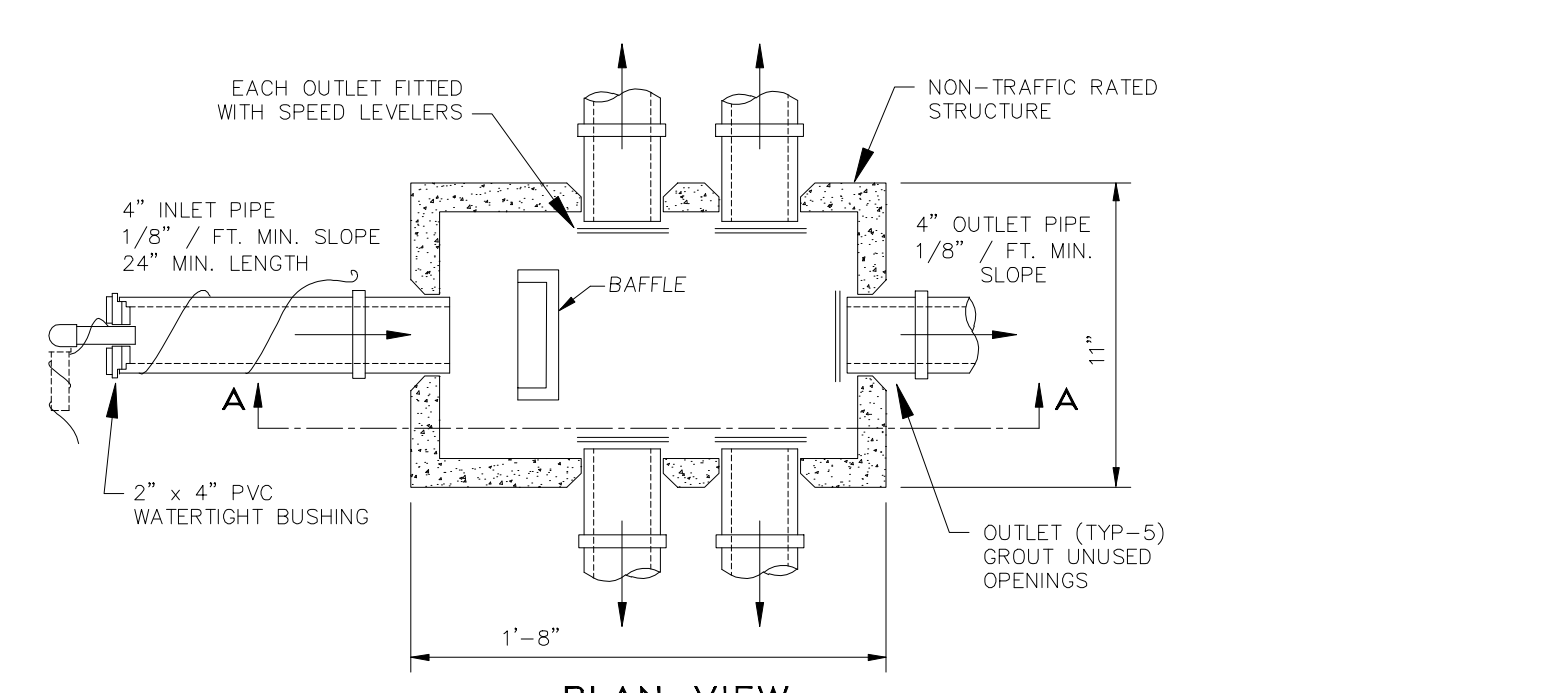
7 EFFLUENT PUMP PIT DETAIL (IF NEEDED) AUTOMATIC DOSING SYSTEM



1 ABSORPTION TRENCH LAYOUT DETAIL



4 ABSORPTION TRENCH DETAIL - TYPICAL



2 No.2 DISTRIBUTION BOX DETAIL

BASIS OF DESIGN	BASIS OF DESIGN	SOILS
Laundry Unit = 580 gpd/laundry unit Shallow Absorption trenches Percolation rate = 6min-00sec., Actual 3.15/24 Application Rate 1.00 gal/day/s.f. Use Q = 580 gpd for each Unit 580 x 1 = 580 gpd A = 580 gpd L = 580 sf / 2 sf / ft L = 290 ft trench required 8 LATERALS @ 37 = 296 LF PROPOSED	5 Camping Units x 1 bedroom = 5 bedrooms Shallow Absorption trenches Percolation rate = 6min-00sec., Actual 3.15/24 Application Rate 1.00 gal/day/s.f. Use Q = 110 gpd for each Unit 110 x 5 = 550 gpd A = 550 gpd L = 550 sf / 2 sf / ft L = 275 ft trench required 8 LATERALS @ 40 = 320 LF PROPOSED	<b>TEST PIT RESULTS:</b> AS PERFORMED BY JEFF MANCINI MIKE MUSIC, ON MARCH 15, 2024 TEST PIT NO. 4 0-5" SANDY LOAM (2" FOREST DEBRIS, 5-75" BROWN LOAMY SAND, ROOTS TO 6" NO WATER, NO MOTTLING PERCOLATION TEST PERFORMED MARCH 15, 2024

PERCOLATION TEST		
RUN NUMBER	PERCOLATION HOLE (PT)	
1	24" DEEP	24" DEEP
2	2min-30sec.	1min-45sec.
3	3min-08sec.	3min-20sec.
4	4min-45sec.	5min-40sec.
5	6min-15sec.	6min-00sec.
6	6min-00sec.	6min-10sec.
STABILIZED PERC. RATE = 6min/00 sec.		

Date	Checked By	Drawn By	Revision Description	Revision Number

Designed By	TW
Drawn By	MCJ
Checked By	TW
Approved By	
Filename	
Project No.	24-412
Project Date	4.1.24



**Fox Head Trail Campgrounds**  
 195 Mott Road  
 Town of Moreau, Saratoga County NY  
**On-Site Sewage Disposal System**  
**Details & Notes**