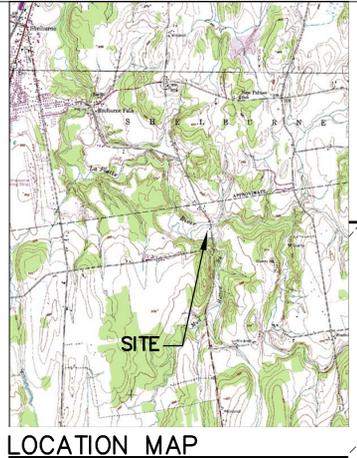
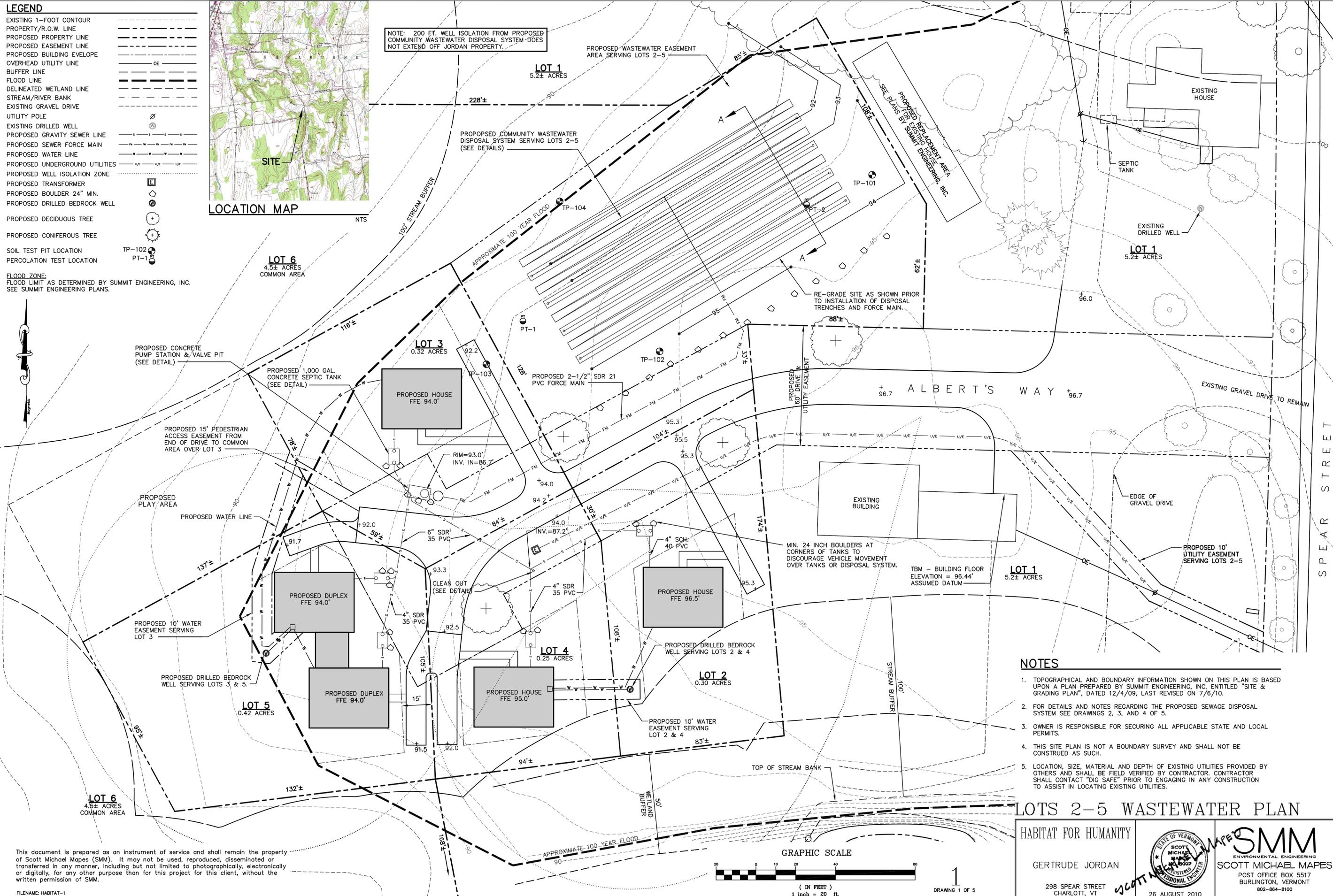


LEGEND

- EXISTING 1-FOOT CONTOUR
- PROPERTY/R.O.W. LINE
- PROPOSED PROPERTY LINE
- PROPOSED EASEMENT LINE
- PROPOSED BUILDING ENVELOPE
- OVERHEAD UTILITY LINE
- UTILITY POLE
- EXISTING DRILLED WELL
- PROPOSED GRAVITY SEWER LINE
- PROPOSED SEWER FORCE MAIN
- PROPOSED WATER LINE
- PROPOSED UNDERGROUND UTILITIES
- PROPOSED WELL ISOLATION ZONE
- PROPOSED TRANSFORMER
- PROPOSED BOULDER 24" MIN.
- PROPOSED DRILLED BEDROCK WELL
- PROPOSED DECIDUOUS TREE
- PROPOSED CONIFEROUS TREE
- SOIL TEST PIT LOCATION
- PERCOLATION TEST LOCATION
- FLOOD_ZONE:
FLOOD LIMIT AS DETERMINED BY SUMMIT ENGINEERING, INC.
SEE SUMMIT ENGINEERING PLANS.



NOTE: 200 FT. WELL ISOLATION FROM PROPOSED COMMUNITY WASTEWATER DISPOSAL SYSTEM DOES NOT EXTEND OFF JORDAN PROPERTY.

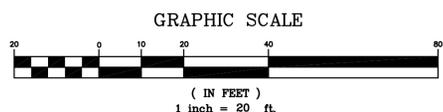


- NOTES**
1. TOPOGRAPHICAL AND BOUNDARY INFORMATION SHOWN ON THIS PLAN IS BASED UPON A PLAN PREPARED BY SUMMIT ENGINEERING, INC. ENTITLED "SITE & GRADING PLAN", DATED 12/4/09, LAST REVISED ON 7/6/10.
 2. FOR DETAILS AND NOTES REGARDING THE PROPOSED SEWAGE DISPOSAL SYSTEM SEE DRAWINGS 2, 3, AND 4 OF 5.
 3. OWNER IS RESPONSIBLE FOR SECURING ALL APPLICABLE STATE AND LOCAL PERMITS.
 4. THIS SITE PLAN IS NOT A BOUNDARY SURVEY AND SHALL NOT BE CONSTRUED AS SUCH.
 5. LOCATION, SIZE, MATERIAL AND DEPTH OF EXISTING UTILITIES PROVIDED BY OTHERS AND SHALL BE FIELD VERIFIED BY CONTRACTOR. CONTRACTOR SHALL CONTACT "DIG SAFE" PRIOR TO ENGAGING IN ANY CONSTRUCTION TO ASSIST IN LOCATING EXISTING UTILITIES.

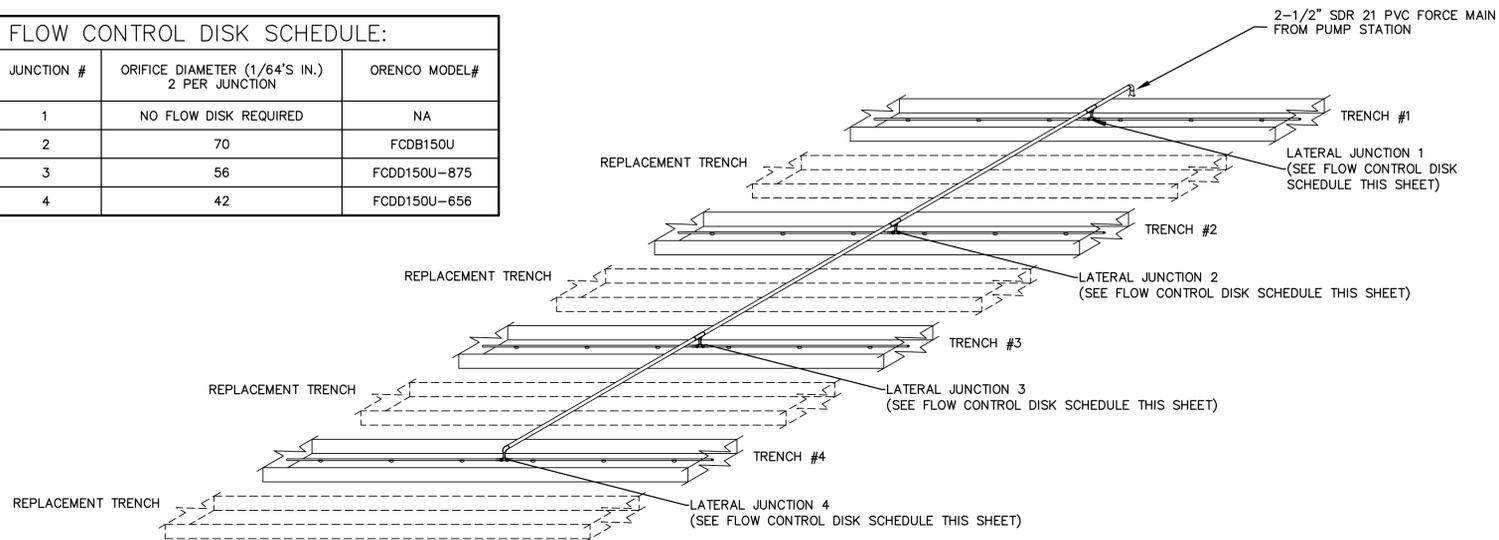
LOTS 2-5 WASTEWATER PLAN

| | | |
|---|--|---|
| HABITAT FOR HUMANITY GERTRUDE JORDAN 298 SPEAR STREET CHARLOTT, VT | | SMM ENVIRONMENTAL ENGINEERING SCOTT MICHAEL MAPES POST OFFICE BOX 5517 BURLINGTON, VERMONT 802-864-8100 |
|---|--|---|

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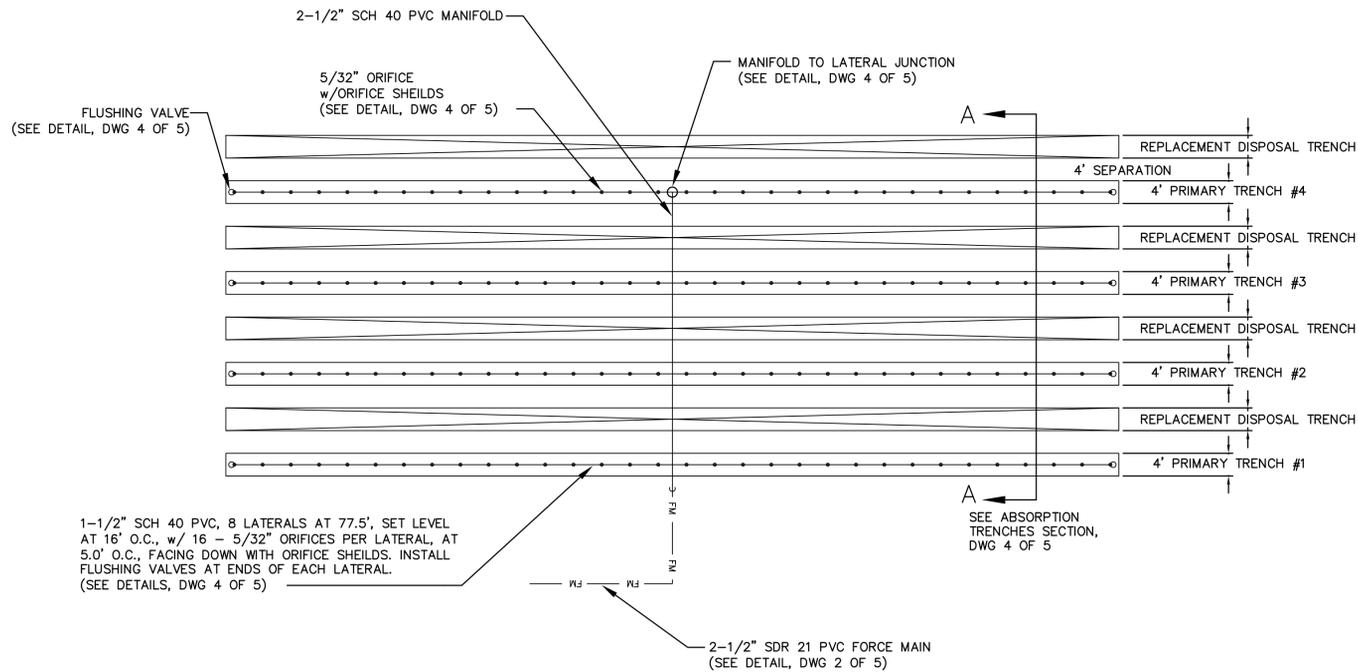


| FLOW CONTROL DISK SCHEDULE: | | |
|-----------------------------|---|---------------|
| JUNCTION # | ORIFICE DIAMETER (1/64'S IN.) 2 PER JUNCTION | ORENCO MODEL# |
| 1 | NO FLOW DISK REQUIRED | NA |
| 2 | 70 | FCDB150U |
| 3 | 56 | FCDD150U-875 |
| 4 | 42 | FCDD150U-656 |



LOTS 2-5 COMMUNITY SEWAGE DISPOSAL SYSTEM
ISOMETRIC VIEW DETAIL

NTS



LOTS 2-5 COMMUNITY SEWAGE DISPOSAL SYSTEM
LATERAL NETWORK DETAIL

NTS

LATERAL NETWORK INSTALLATION:

- USE 1-1/2" SCH. 40 PVC WITH 5/32" ORIFICE AT INVERT OF ALL LATERALS.
- USE 4 TRENCHES, EACH 158' LONG X 4' WIDE.
- USE 8 LATERALS, EACH 77.5' LONG WITH LATERALS SET LEVEL AND PLACED AT ORIGINAL GRADE WITH 18" MIN. OF CRUSHED STONE KEYED INTO NATIVE SOIL.
- EACH LATERAL SHALL HAVE (16) 5/32" ORIFICES, SPACED 5' O.C.
- INSTALL FLUSHING VALVES AT EACH END OF ALL LATERALS.
- FROM FORCE MAIN CONNECTION, PROVIDE POSITIVE SLOPE BACK TO PUMP STATION.
- INSTALL LATERAL ABSORPTION TRENCHES IN ACCORDANCE WITH NOTES AND DETAILS PROVIDED ON DWG 4 OF 5.

NOTICE TO PROPERTY OWNER:

- The information shown on these plans represent the results of a field survey and testing program intended to produce a system design in compliance with local and state guidelines.
- Prior to engaging a contractor or commencing construction, the owner is encouraged to study this information and/or solicit information from the project engineer. The proper functioning of the completed system is dependent upon careful attention to the details and notes provided. Modifications to the design and specifications or omissions of construction procedures may lead to premature failure and render the system uncertifiable, in either case the designing engineer cannot be held responsible for subsequent problems.
- The owner is encouraged to seek professional assistance in monitoring and certifying compliance with the approved plans. As specified in the above construction notes, the owner or contractor is responsible for coordinating the schedule of construction and construction supervision.
- The owner/contractor is responsible for assuring proper certification testing and inspections are carried out in accordance with the notes and details provided on these drawings.
- Before commencing construction all applicable state and local permits must be secured by the owner. This is the responsibility of the owner not the project engineer.
- This office will not certify any construction of systems depicted on these drawings unless:
 - prior to all construction arrangements are made with this office to provide such certification services;
 - construction is completed in strict adherence with the approved project plans;
 - all changes to these plans, whether or not independently observable by the Engineer, are to be reported to the Engineer by the Contractor for a suitability determination; and,
 - all changes to the approved project plans have been authorized by this office and approved by all appropriate reviewing agencies.

SOIL TEST PIT DATA:

These test pits were excavated on Nov. 9, 2009 by backhoe (R. Fisher Excavating). Soils were logged by Craig D. Heindel (Heindel & Noyes). Also present briefly, viewed some of the pits: Spencer Harris (Town of Charlotte).

Abbreviations: GW = Groundwater; RMFs = Redoximorphic features (mottles, unless otherwise noted); SHWT = Seasonal high water table; NGWTD = No groundwater to depth; NBRTD = No bedrock to depth.

Shallowest Limiting Condition(s) for wastewater disposal: Identified in **bold italics**.

TP-101

- 0 - 10" Loose dark brown organic-rich loam (mixed A & B horizons); Tan-brown medium gravel with matrix of compact loamy med. sand & pebbles, strong granular structure; no RMFs;
- 10" - 4.0' Tan-brown medium gravel with matrix of compact loamy med. sand & pebbles, strong granular structure; no RMFs;
- 4.0' - 5.3' Tan-grey medium gravel with matrix of looser loamy med. sand & pebbles, lower silt content than above, strong granular structure; no RMFs;
- 5.3' - 7.0' Tan medium sand, denser with depth, strong granular structure, **RMFs (mottles) at 6.0'**.
NGWTD.
NBRTD.

TP-102

- 0 - 4" Crushed stone (greenhouse base);
- 4" - 3.3' Tan-brown medium gravel with matrix of compact loamy med. sand & pebbles, strong granular structure; no RMFs;
- 3.3' - 4.2' Tan-red medium sand; granular, strong grade, no RMFs;
- 4.2' - 6.8' Loose grey-tan medium gravel, no RMFs.
NGWTD.
NBRTD.
No WW-limiting conditions to depth.

TP-103

- 0 - 20" Loose dark brown organic-rich loam (mixed A & B horizons); Tan-brown medium gravel with matrix of compact loamy med. sand & pebbles, strong granular structure; no RMFs;
- 20" - 3.8' Tan-grey medium gravel with matrix of looser loamy med. sand & pebbles, strong granular structure; no RMFs;
- 3.8' - 5.3' Tan medium sand, loose at top then denser with depth, strong granular structure, **RMFs (mottles) throughout**; Groundwater at 6.7'
- 5.3' - 7.1' NBRTD.

TP-104

- 0 - 6" Loose dark brown organic-rich loam (mixed A & B horizons); Tan-brown loamy sand & pebbles, somewhat compact, strong granular structure; no RMFs;
- 10" - 4.0' Tan-grey medium to coarse sand & pebbles, strong granular structure;
- 4.0' - 5.3' **RMFs (mottles) at 5.4'**.
NGWTD.
NBRTD.

SEWAGE DISPOSAL SYSTEM DESIGN CRITERIA:

DESIGN FLOW: The design of this sewage disposal system is for 5-units (max. 3-BR each), with a total daily design flow of:
5-Units, 3-bedrooms each = 1,575 GPD
Employ pressurized in ground absorption trench sewage disposal system based upon 1,575 gallons per day with an application rate of 0.47 GPD/SF, based upon a percolation rate of 40.6 minuts/inch. Place leach line invert at existing grade with no more than 18" of crushed stone below lateral invert.

PERCOLATION TEST RESULTS:

PT #1 = 40.6 MIN/IN.
PT #2 = 57.2 MIN/IN.

SYSTEM DESIGN:

Use an absorption trench design with an application rate of 0.47 GPD/SF based upon the second slowest percolation rate.
1,575 divided by 0.47 = 3,351.06 SF
Use 18" of crushed stone below pipe invert.
3,351.06 SF x 75% divided by 4 = 628.3 LF
628.3 LF divided by 4 = 157.075 FT
Use 4 trenches 4' wide by 158' long (2,528 SF). Place pipe invert at existing grade.
Area/orifice check: 2,528 sf/128 orifices = 19.75 sf/orifice

RESIDENTIAL (5-UNITS AT 3-BR EACH):

Use new 1,000 gallon concrete Septic Tanks w/ internal effluent filter and risers to grade by Camp Precast or approved equivalent. See details drawing.

EFFLUENT FILTER SIZING CRITERIA:

$A_s = C_f (Q_{gpd})(MTBC)$

WHERE:

A_s = Filter surface area required (sq. ft.)
 C_f = Filter coefficient (sq. ft./gpd * yr)
 Q_{gpd} = Average daily flow in gallons (gpd)

$A_s = 0.002 (Q_{gpd})(MTBC)$
(for calculations based on projected daily sewage flows)
 $A_s = 0.002 (420)(5)$
4.2 sq. ft. = 0.002 (420)(5)

For filter cleaning every 5 years, use internal effluent filter with 1/16" filtration to meet 4.2 sq. ft. of filter area or approved equivalent.

ELEVATIONS REQUIREMENTS:

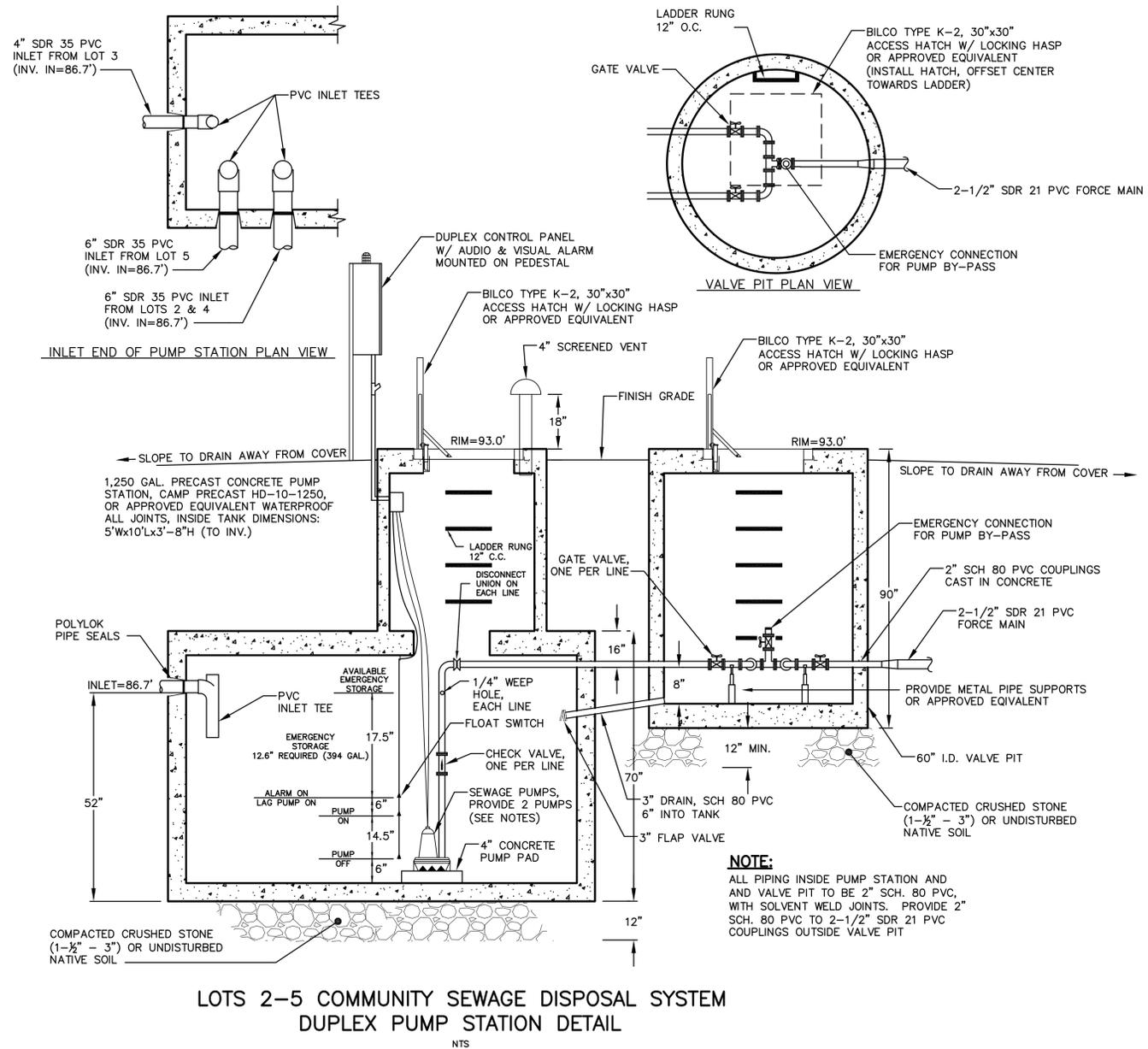
Contact engineer with any changes or discrepancies. All changes these elevation requirements shall be reviewed and approved by the design engineer prior to backfilling and in any event before the completion of construction. Maintain a 1/4" per foot minimum slope on all sewer service lines and provide minimum of 18" of cover entire system. Note, additional fill may be required around building site and foundation and insulation may be required around and above piping network. Consult design engineer for insulation requirements.

ABSORPTION TRENCH CONSTRUCTION NOTES:

- Prior to excavating the disposal trenches the site will need to be re-graded as shown on the Site Plan, Dwg 1 of 4.
- When the trenches have been excavated, the sides and bottom shall be raked to scarify any smeared soil surfaces. Construction equipment not needed to construct the system should be kept off the area to be utilized for the absorption trench system to prevent undesirable compaction of the soils. Construction shall not be initiated when the soil moisture content is high. (if a fragment of soil occurring approximately 9" below the surface can easily be rolled into wire, the soil moisture content is too high for construction purposes).
- A minimum of 18" crushed stone shall be placed in the bottom of the trench beneath invert of 1-1/2" PVC pipe. The bottom of the trench shall extend 18" below ground surface on the downhill edge. The distribution lines are to be laid at grade.
- The distribution line shall be carefully placed on the bedding at a uniform slope and covered with at least 4" of stone (6" of crushed stone above and 18" of crushed stone below PVC pipe invert).
- Each 1-1/2" PVC distribution lateral shall have (16) 5/32" orifices with orifice shields. The first orifice on each lateral shall be 2.5 ft. from manifold, the remaining orifices on each lateral shall be spaced 5.0 ft. on center. All orifices on each lateral shall be facing down to promote lateral drainage. Install flushing valves at end of each lateral.
- All construction shall strictly conform to Chapter 1 of the Environmental Protection Rules. Upon the discovery of any discrepancies, the owner and contractor shall cease construction and bring such discrepancy to the attention of the project engineer for resolution.

LOTS 2-5 WASTEWATER DESIGN NOTES & DETAILS

| | | |
|----------------------------------|----------------|---|
| HABITAT FOR HUMANITY | | |
| GERTRUDE JORDAN | | SCOTT MICHAEL MAPES |
| 298 SPEAR STREET CHARLOTT, VT | 26 AUGUST 2010 | POST OFFICE BOX 5517 BURLINGTON, VERMONT 802-864-8100 |



LOTS 2-5 COMMUNITY SEWAGE DISPOSAL SYSTEM
 DUPLEX PUMP STATION DETAIL
 NTS

DUPLEX PUMP SYSTEM SPECIFICATIONS

ELECTRICAL EQUIPMENT: ELECTRICAL SYSTEMS AND COMPONENTS (E.G., MOTORS, LIGHTS, CABLES, CONDUITS, SWITCHBOXES, CONTROL CIRCUITS, ETC.) IN RAW SEWAGE WET WELLS, OR IN ENCLOSED OR PARTIALLY ENCLOSED SPACES WHERE HAZARDOUS CONCENTRATIONS OF FLAMMABLE GASES OR VAPORS MAY BE PRESENT SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE R, CURRENT EDITION, REQUIREMENTS FOR CLASS I, GROUP D DIVISION 1 LOCATIONS. IN ADDITION, EQUIPMENT LOCATED IN THE WET WELL SHALL BE SUITABLE FOR USE UNDER CORROSIVE CONDITIONS. EACH FLEXIBLE CABLE SHALL BE PROVIDED WITH WATERTIGHT SEAL AND SEPARATE STRAIN RELIEF. A FUSED DISCONNECT SWITCH LOCATED ABOVE GROUND SHALL BE PROVIDED FOR ALL PUMPING STATIONS. WHEN SUCH EQUIPMENT IS EXPOSED TO WEATHER, IT SHALL MEET OR EXCEED THE REQUIREMENTS OF WEATHERPROOF EQUIPMENT AS SPECIFIED BY THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA). STANDARD 3R SHALL BE USED AS A MINIMUM AND IS SPECIFIED IN PUBLICATION #250-1979, "ENCLOSURES FOR ELECTRICAL EQUIPMENT - 1,000 VOLT MAXIMUM." SEE APPENDIX 5-A FOR THE ADDRESS. A SPECIAL PUMP CAN BE PROVIDED TO MEET HIGHER CONDITIONS.

| DUPLEX PUMP STATION | | | | |
|---------------------|-------|--|---------|-------|
| FLOW | HEAD | PUMPS | VOLTAGE | PHASE |
| 61.5 g.p.m. | 27.6' | HYDROMATIC 1/2 HP SKH50 PUMPS OR APPROVED EQUIVALENT | 230 V. | 1Ø |

MAINTENANCE:

- The disposal system depicted on these drawings is for the disposal of domestic wastes only. Do not use this system to dispose of household hazardous products or wastes. It is recommended that non-toxic, non-hazardous, environmentally safe household cleaning products and detergents be used. Check manufacturer's label & warnings prior to use and/or disposal.
- Owner shall routinely inspect the pump station or siphon chamber, in the case of a dosed system, or distribution box, in the case of a gravity feed system on a regular basis to monitor proper operation.
- The septage accumulation shall be pumped out of the septic tank every three to five years. The septic tank and effluent filter shall be inspected annually. Follow manufacturer's directions for general maintenance and cleaning of effluent filter.
- This system is designed for a specific flow. It is the sole responsibility of the Owner to assure adherence to this flow. Exceedence of this flow may cause premature failure.
- This system shall be operated at all times in conformance with these design notes and all manufacturer specifications. The Owner/Permit holder shall for the life of the system contract with an authorized service entity to provide operation and service maintenance. It is the sole responsibility of the owner/permit holder to contract such services.
- Do not connect garbage disposals to this sewage disposal system.
- Do not connect water system softener backwash to this sewage disposal system.

DUPLEX PUMP STATION DOSE & FLOAT SWITCH DATA

- 1,250 GALLON 5' X 10' HEAVY DUTY PUMP STATION BY CAMP OR APPROVED EQUIVALENT WITH MIN. 6" WALLS ON ALL SIDES
- INSIDE TANK DIMENSIONS
 10'-0" L
 5'-0" W
 3'-8" H (TO INLET INV.)
- 50 CF X 7.48 = 374.02 GAL./FT OF HEIGHT, OR 31.16 GAL./INCH

PUMP STATION/FLOAT SWITCH CONSTANTS:

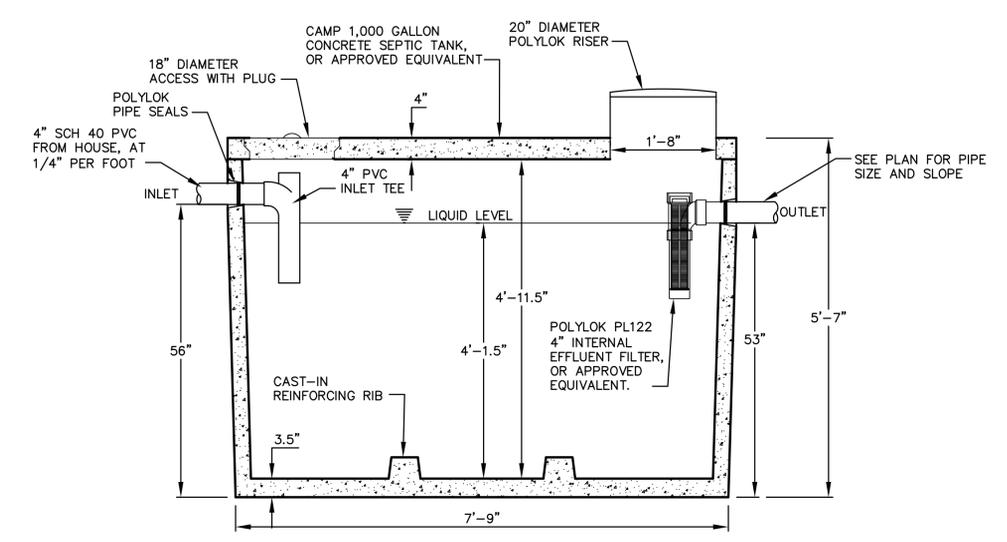
- SET PUMP OFF @ 6" OFF TANK BOTTOM
- SET ALARM @ 26.5" OFF TANK BOTTOM
- ADDITIONAL 17.5" ABOVE ALARM PROVIDES 544 GAL. WHICH ACCOMMODATES THE 4 HOURS, 394 GALLONS OF EMERGENCY STORAGE REQUIREMENT OF DESIGN FLOW OF 1,575 GAL./DAY.
- ADD 59 GAL./DOSE TO ACCOUNT FOR FORCE MAIN DRAIN BACK VOLUME
 2-1/2" SDR 21 PVC FORCE MAIN = 0.276 GAL./FT X 215 FT = 59.3 GAL.
- 5 UNITS = 1,575 GPD
- DOSE FREQUENCY: $\frac{1,575 \text{ GPD}}{4} = 393.75 \text{ GAL./DOSE OR 4 TIMES A DAY}$
- DOSE VOLUME: $373.75 \text{ GAL.} + 59.3 \text{ GAL.} = \frac{433 \text{ GAL./DOSE}}{1.21'} = 14.5"$
- SET PUMP ON @ 20.5" FROM TANK BOTTOM
- USE S.J. ELECTRO SYSTEMS OR APPROVED EQUIVALENT, FLOAT SWITCHES, ALARM & PUMP CONTROLS - PROVIDE BOTH AUDIO AND VISUAL ALARM

SEPTIC TANK DATA

- (1) 1,000 GALLON CONCRETE SEPTIC TANK BY CAMP OR APPROVED EQUIVALENT WITH MIN. 3" WALLS
- 5000 PSI CONCRETE @ 28 DAYS
- REINFORCED TO MEET H-10 LOADING
- LOW PRESSURE SEALS DESIGNED TO ACCEPT UP TO 4" C.I. OR PVC PIPE
- MONOLITHIC CONSTRUCTION
- OUTLET BAFFLE, USE INTERNAL EFFLUENT FILTER; A 4" FILTER WITH 1/16" FILTRATION TO MEET 2.8 SQ. FT. OF FILTER AREA OR APPROVED EQUIVALENT

TANKAGE FABRICATION AND INSTALLATION

- ALL CONCRETE STRUCTURES ARE TO BE FREE FROM CRACKS OR LIFT HOLES PRIOR TO BACKFILLING AND SHALL BE OF WATER TIGHT CONSTRUCTION.
- ONLY TANKS WITH MONOLITHIC BASES ARE TO BE UTILIZED.
- TANKS ARE TO BE PLACED ON 12" OF 3/4" - 1 1/2" CRUSHED STONE ON COMPACTED NATIVE SOIL, ACHIEVE 95% COMPACTION.
- ALL 4" PIPE OPENINGS TO UTILIZE POLYLOK SEALS OR APPROVED EQUIVALENT.
- OWNER/CONTRACTOR MAY ELECT TO USE ANY TANK AND/OR TANK MATERIAL DEEMED COMPLIANT WITH THE EPR'S.



RESIDENTIAL SEPTIC TANK DETAIL
 NTS

LOTS 2-5 WASTEWATER DETAILS

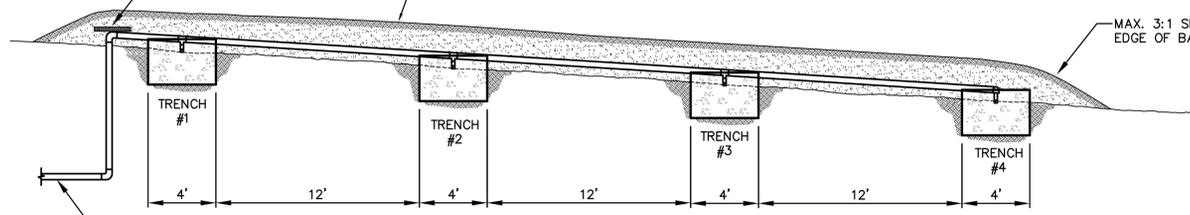
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| HABITAT FOR HUMANITY | | |
| GERTRUDE JORDAN | | |
| 298 SPEAR STREET CHARLOTT, VT | 26 AUGUST 2010 | SCOTT MICHAEL MAPES ENVIRONMENTAL ENGINEERING SCOTT MICHAEL MAPES POST OFFICE BOX 5517 BURLINGTON, VERMONT 802-864-8100 |

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PROVIDE 2" THICK RIGID INSULATION OVER FORCE MAIN AND MANIFOLD CONNECTION. COVER WITH 12" FILL MATERIAL.

BACKFILL WITH NATIVE SANDY SOIL FREE OF STUMPS AND DEBRIS WITH THE TOP 4" FINISHED WITH TOPSOIL, MULCH AND SEED.

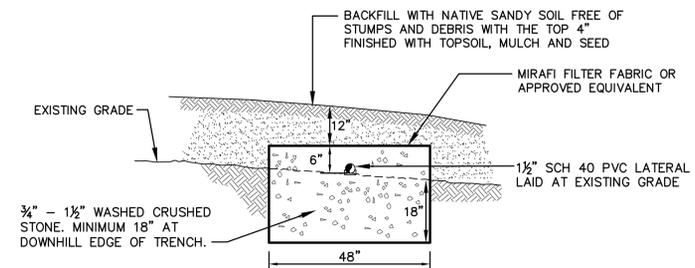
MAX. 3:1 SLOPE AT EDGE OF BACKFILL



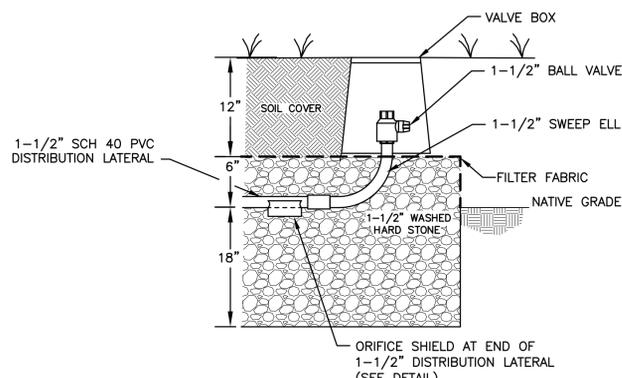
ABSORPTION TRENCHES SECTION A-A
NTS

IMPORTANT:

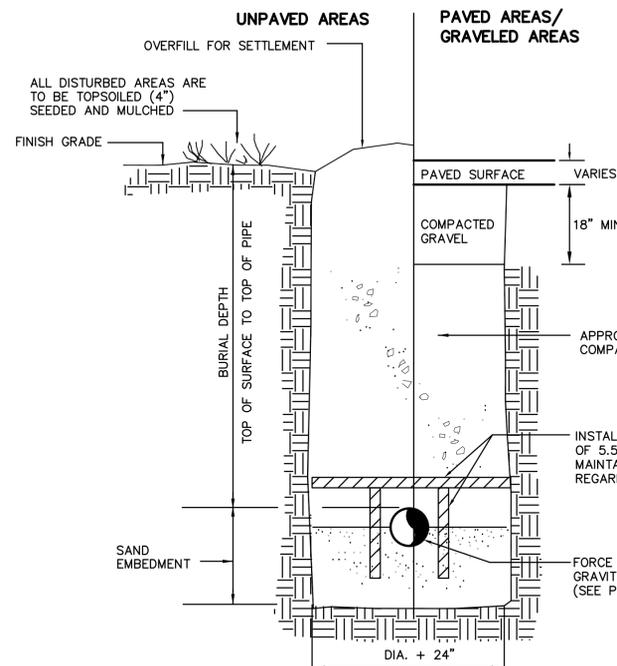
1. CRUSHED STONE SHALL BE WASHED AND FREE OF FINES.
2. STONE LESS THAN 3/4" IN SIZE IS UNACCEPTABLE.
3. LIMESTONE IS UNACCEPTABLE.
4. NON-COMPLIANCE WITH ITEMS 1-3 WILL RENDER THE SYSTEM NON-CERTIFIABLE.



ABSORPTION TRENCH DETAIL
NTS



FLUSHING VALVE DETAIL
NTS



SEWER TRENCH DETAIL
NTS

BURIAL DEPTH NOTES:

1. FORCE MAIN
SEWERS WITH A BURIAL DEPTH OF LESS THAN 5.5' SHALL BE PROTECTED AGAINST FREEZING BY INSTALLATION OF 3" (OR 2 - 1 1/2" LAYERS) THICK STYROFOAM SM RIGID INSULATING SHEETS BY DOW CHEMICAL CO., OR APPROVED EQUIVALENT, WITH A MIN. WIDTH OF 3'. THE SHEETS SHALL BE PLACED 6" ABOVE THE CROWN OF THE SEWER AFTER COMPACTION OF THE 6" LIFT IMMEDIATELY ABOVE CROWN. INSULATION SHALL MEET ASTM D1621-73 OR CURRENT REFERENCE.
2. STREET WORK AND RESTORATION
CONSULT TO TOWN SELECTBOARD AND/OR ROAD COMMISSIONER TO DETERMINE PAVE, REPAVE AND TRENCHING SPECIFICATIONS.

SEWER FORCE MAIN TESTING:

Upon completion of construction of a force main, the line shall be Pressure and leakage tested in accordance with the following procedures.

Pressure test:

All newly laid pipe or any valved section thereof shall be subjected to a hydrostatic pressure of at least 1.5 times the highest working pressure in the section.

Test pressures shall:

1. Not be less than 50 psi at the highest point along the test section.
2. Not exceed pipe or thrust restraint design pressures.
3. Be of at least a two hour duration.
4. Not vary by more than +/- 5 psi.
5. Not exceed twice the rated pressure of the valves when the pressure boundary of the test section includes closed gate valves.

Pressurization - Each valved section of pipe shall be filled with water slowly and the specified test pressure, based on the elevation of the lowest point of the line or section under test and corrected to the elevation of the test gauge, shall be applied by means of a pump connected to the pipe.

Air removal - Before applying the specified test pressure, air shall be expelled completely from the pipe and valves.
Examination - All exposed pipe, fittings, valves, and joints shall be examined carefully during the test. Any damaged or defective pipe, fittings, or valves, that are discovered following the pressure test shall be repaired or replaced with sound material and the test shall be repeated.

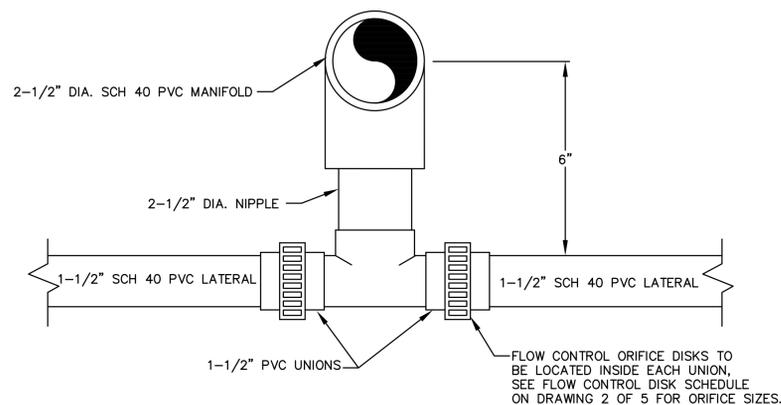
Leakage test:

A leakage test shall be conducted concurrently with the pressure test. Leakage defined. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof, to maintain pressure within 5 psi of the specified test pressure after the air in the pipeline has been expelled and the pipe has been filled with water.

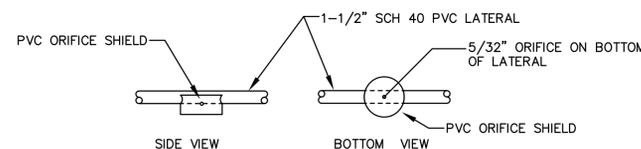
Allowable leakage - No pipe installation will be accepted if the leakage is greater than that determined by the following formula:

$$L = \frac{(N)(D)\sqrt{P}}{7400}$$

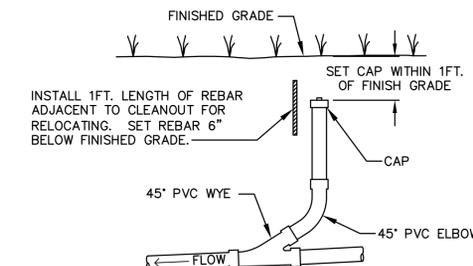
L is the allowable leakage, in gallons per hour;
N is the number of joints in the length of pipeline tested;
D is the nominal diameter of the pipe, in inches;
P is the average test pressure during the leakage test in pounds per square inch gage.



MANIFOLD TO LATERAL JUNCTION
NTS



STANDARD ORIFICE SHIELD DETAIL
NTS



CLEAN OUT DETAIL
NTS

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FILENAME: HABITAT-1

LOTS 2-5 WASTEWATER DETAILS

| | | |
|----------------------------------|----------------|--|
| HABITAT FOR HUMANITY | | |
| GERTRUDE JORDAN | | |
| 298 SPEAR STREET CHARLOTT, VT | 26 AUGUST 2010 | |

WATER SUPPLY

The drilled bedrock wells are to be located as show on the site plan. Locations for drilled bedrock wells on any lots created in the future must meet the requirements of the EPR's, Vermont's Water Supply Rule, Chapter 21, Appendix A, Part 11.4, including the following minimum isolation distances:

| Source of Contamination | Isolation Distance |
|------------------------------|--------------------|
| Septic Tanks & Pump Stations | 50 feet |
| Sewer Lines & Force Mains | 50 feet |
| Buildings | 10 feet |
| Driveways | 15 feet |

Maintain a 25 foot isolation distance between water service lines and subsurface wastewater piping and related tanks.

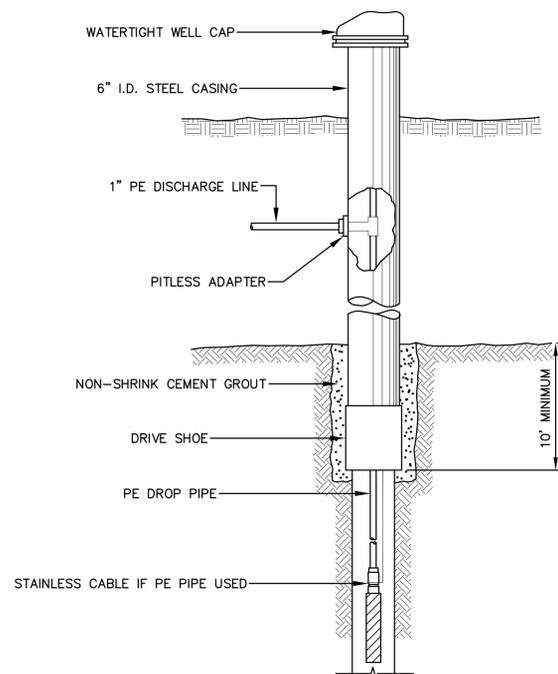
Based on a design flow of 3 bedrooms, at 2 occupants/BR x 70 GPD/OCC for the first 3 BR, the Average Day Demand (ADD) is 420 GPD. The Maximum Day Demand (MDD) is calculated by dividing the ADD by not more than 720 minutes. The resulting flow rate is expressed in gallons per minute and equals the minimum well yield allowable without requiring additional storage. The MDD is:

$$420 \text{ GPD} / 720 \text{ Min.} = 0.58 \text{ gallons per minute}$$

Note, however, where wells yield less than the assumed Instantaneous Peak Demand of 5 gpm (assumed IPD for residential well), then some additional storage may be required. To determine storage requirements, contact Engineer with well driller's well log data, estimated and/or tested well yield. Employ conventional water saving plumbing fixtures in all proposed dwellings.

DRILLED BEDROCK WELL:

1. Drilled bedrock well shall be installed in accordance with Chapter 21 of the Environmental Protection Regulations.
2. Drilled bedrock well shall not be deemed ready for use until adequate quantity and quality of water is demonstrated.
3. Water supply line and supply pump are to be sized in accordance with well yield data and well driller's report.
4. Well locations compliant with EPR's and well symbol scales 3.2' but are 6" dia. steel casing with well cap. EPR compliant locations satisfies isolation and setback requirement only and does not assure requisite quality and/or quality.



**DRILLED BEDROCK WELL DETAIL
LOTS 2-5**

NTS

LOTS 2-5 WATER SUPPLY NOTES & DETAILS

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| <p>HABITAT FOR HUMANITY GERTRUDE JORDAN 298 SPEAR STREET CHARLOTT, VT</p> |  <p>SCOTT MICHAEL MAPES 26 AUGUST 2010</p> | <p>SMM ENVIRONMENTAL ENGINEERING SCOTT MICHAEL MAPES POST OFFICE BOX 5517 BURLINGTON, VERMONT 802-864-8100</p> |
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