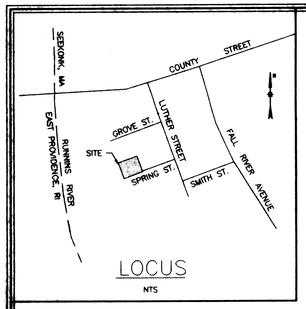
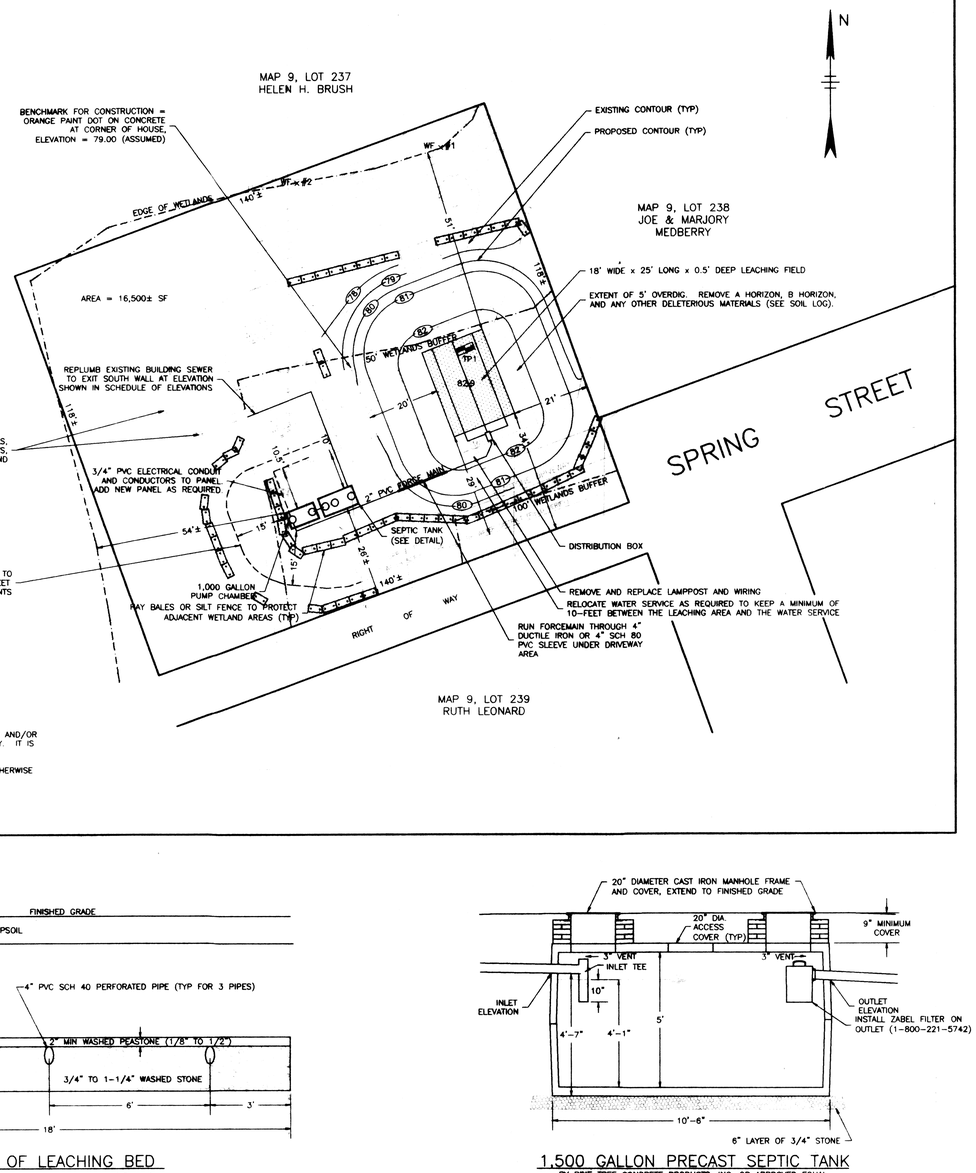




NOTES:

1. PROPERTY LINE INFORMATION WAS TAKEN FROM THE RECORDED DEED AND/OR EXISTING PLANS. THIS PLAN IS FOR SEPTIC SYSTEM CONSTRUCTION ONLY. IT IS NOT A CERTIFIED PROPERTY LINE PLAN.

2. PROPOSED CONTOURS SHALL MATCH EXISTING CONTOURS UNLESS OTHERWISE SHOWN.

SCALE: 1" = 20'

DEEP OBSERVATION HOLE LOG 1

	Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling (inches)	Other (Structure, Stones, Boulders, Consistency, % Gravel)
78.9						
77.8	0 to 13	A	SANDY LOAM	10YR 3/2	NONE OBSERVED	TOPSOIL
76.2	13 to 26	B	SANDY LOAM	10YR 5/8	NONE OBSERVED	SUBSOIL
	26 to 120	C	M SAND	5Y 6/3	NONE OBSERVED	SOME F-C SAND, SOME F-C GRAVEL, LOOSE
68.9	BOTTOM OF TEST PIT EXCAVATION					
	GROUNDWATER OBSERVED AT 78" PERC RATE = 2 MPI, SHELF AT 48"					

NOTES:

1. SOIL EVALUATION WAS CONDUCTED ON JUNE 23, 1999 BY DAVID OBERLANDER, BDO ENGINEERING.
2. USE PERCOLATION RATE OF 2 MINUTES PER INCH.
3. WITNESS FOR THE SOIL TESTING WAS MR. HAROLD CHENEVERT, JR.
4. ADJUSTED GROUNDWATER ELEVATION = 75.20 FEET PER FRIMPTER METHOD.

SCHEDULE OF ELEVATIONS*

LOCATION	ELEVATION	FINISHED GRADE ABOVE STRUCTURE
TOP OF SILL	79.0±	
BASEMENT FLOOR	73.0±	
INVERT OF PIPE AT FOUNDATION	74.38	77.6
INVERT AT SEPTIC TANK INLET	74.17	78.0
INVERT AT SEPTIC TANK OUTLET	73.92	
INVERT AT PUMP CHAMBER INLET	73.83	77.2
HIGH WATER ALARM SET POINT	71.30	
PUMP ON SET POINT	70.80	
PUMP OFF SET POINT	70.50	
FLOOR OF PUMP CHAMBER	69.50	
INVERT AT PUMP CHAMBER OUTLET	73.67	
INVERT AT DISTRIBUTION BOX INLET	81.08	82.5
INVERT AT DISTRIBUTION BOX OUTLET	80.91	
INVERT AT START OF LEACHING PIPE	80.88	82.6
INVERT AT END OF LEACHING PIPE	80.75	82.6
BOTTOM OF STONE	80.25	
BREAKOUT ELEVATION	81.40	--

*CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

DESIGN CRITERIA

DESIGN CONDITIONS:
EXISTING THREE BEDROOM HOUSE
NO GARBAGE GRINDER.

DESIGN FLOW:
BASED ON 110 GALLONS PER DAY PER BEDROOM
DESIGN FLOW = 3 * 110 = 330 GALLONS PER DAY

SEPTIC TANK CAPACITY:
MINIMUM 200% OF DESIGN FLOW OR 1,500 GALLONS
DESIGN FLOW * 200% = 330 * 2 = 660 GALLONS
660 < 1,500 THEREFORE USE 1,500 GALLON TANK W/ GAS DEFLECTOR

LEACHING AREA REQUIREMENTS:
NOT DESIGNED FOR GARBAGE GRINDER
THEREFORE USE 1.0 * 330 = 330 GPD FOR DESIGN
SELECT LEACHING FIELD DUE TO HIGH GROUNDWATER TABLE
PERCOLATION RATE FOR DESIGN = 2 MINUTES PER INCH
SOIL CLASS I
LONG TERM ACCEPTANCE RATE = 0.74 GALLONS PER DAY PER SQUARE FOOT
REQUIRED AREA = 330 / 0.74 = 446 SQUARE FEET
SELECT LEACHING FIELD--18-FEET WIDE x 25-FEET LONG x 0.5-FEET DEEP
BOTTOM AREA = 18 * 25 = 450 SQUARE FEET
SIDEWALL AREA = 0 SQUARE FEET
TOTAL AREA = 450 + 0 = 450 SQUARE FEET
LEACHING CAPACITY = 450 * 0.74 = 333 GALLONS PER DAY

NOTES AND SPECIFICATIONS

GENERAL

1. COMPONENTS SHALL NOT BE BACKFILLED OR CONCEALED UNTIL INSPECTION AND APPROVAL IS OBTAINED FROM THE BOARD OF HEALTH AND THE OWNER.

2. BOTH THE CONTRACTOR AND THE DESIGNER MUST CERTIFY CONSTRUCTION AND PREPARE AS-BUILT PLANS SHOWING BOTH LOCATIONS AND ELEVATIONS. CONTRACTOR SHALL COORDINATE HIS WORK WITH THE DESIGNER TO ALLOW INSPECTION AND COLLECTION OF ELEVATIONS AND LOCATION MEASUREMENTS.

3. VEHICULAR TRAFFIC, PARKING OF ANY VEHICLES, STOCKPILING MATERIALS, AND STORAGE OF EQUIPMENT OVER THE LEACHING AREA IS PROHIBITED AT ALL TIMES.

4. SYSTEM AREA SHALL BE STAKED AND FLAGGED BY THE CONTRACTOR FROM THE START OF WORK UNTIL THE CERTIFICATE OF COMPLIANCE IS ISSUED BY THE BOARD OF HEALTH.

5. THE EXISTING HOUSE IS SERVED BY TOWN WATER, CONTRACTOR SHALL VERIFY LOCATION OF SERVICE AND NOTIFY ENGINEER OF ANY DISCREPANCIES.

6. THE BENCHMARK FOR CONSTRUCTION IS SHOWN ON THE SITE PLAN. SITE ELEVATIONS REFER TO APPROXIMATE USGS NOVD DATUM.

7. ALL SETBACKS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF 310CMR15.000 (TITLE 5) AND ANY ADDITIONAL REQUIREMENTS OF THE TOWN. EXCEPT AS ADJUSTED BY VARIANCES.

8. CONTRACTOR SHALL HAVE EXISTING CESSPOOL(S) OR SEPTIC TANK(S) PUMPED PRIOR TO DEMOLISHING THE EXISTING SYSTEM. CONTRACTOR IS RESPONSIBLE FOR ALL DISPOSAL COSTS RELATED TO THE DEMOLITION OF EXISTING SYSTEM INCLUDING DISPOSAL OF ANY CONTAMINATED SOIL.

SEPTIC TANK

1. SEPTIC TANK SHALL BE WATERTIGHT, WITH CAPACITY AS SHOWN ON TANK DETAIL.

2. TANK SHALL BE SET ON SUITABLE BASE WITH 6" BED OF 3/4" STONE.

3. INSIDE LENGTH TO WIDTH RATIO SHALL BE A MINIMUM OF 1.5 TO 1.

4. TANK SHALL BE CONSTRUCTED OF REINFORCED PRECAST CONCRETE AND SHALL HAVE MANUFACTURER'S QUALITY CONTROL SEAL AFFIXED THEREON.

5. THE OUTLET OF THE SEPTIC TANK SHALL BE EQUIPPED WITH GAS BAFFLE.

DISTRIBUTION BOX

1. DISTRIBUTION BOX SHALL BE WATERTIGHT PRECAST CONCRETE WITH AN INFLUENT BAFFLE (OR TEE), REMOVABLE COVER, AND SUFFICIENT OUTLETS (ONE PER LEACHING PIPE). PLUG UNUSED OUTLETS.

2. A MINIMUM 6 INCH SUMP SHALL BE PROVIDED. INVERTS AS SHOWN ON SCHEDULE OF ELEVATIONS.

3. DISTRIBUTION BOX SHALL BE SET ON 3/4" STONE BASE AND SET LEVEL. CHECK BY FILLING DISTRIBUTION BOX WITH WATER AND VERIFYING THAT ALL OUTLETS ARE AT THE SAME ELEVATION. ADJUST AS NECESSARY.

4. DIMENSIONS OF DISTRIBUTION BOX SHALL BE AS REQUIRED TO ACCOMMODATE THE REQUIRED NUMBER OF OUTLET PIPES (SEE SITE PLAN FOR NUMBER OF OUTLETS REQUIRED).

LEACHING AREA

1. CONTRACTOR SHALL STRIP AND STOCKPILE TOPSOIL (A HORIZON), SUBSOIL (B HORIZON), AND ANY OTHER UNSUITABLE MATERIAL. EXCAVATED MATERIAL SHALL REMAIN ON SITE AND BE USED AS REQUIRED FOR FINAL GRADING. EXCESS MATERIAL NOT NEEDED ON SITE SHALL BE DISPOSED OF BY THE CONTRACTOR.

2. STONE USED IN LEACHING SYSTEM SHALL CONSIST OF DOUBLE WASHED 3/4" TO 1-1/2" STONE FREE OF DUST, IRON, SILT, AND OTHER DELETERIOUS MATERIAL.

3. SMEARED OR COMPACTED SURFACES OF THE LEACHING EXCAVATION SHALL BE SCARIFIED PRIOR TO PLACEMENT OF THE STONE.

4. LEACHING PIPE SHALL BE SCHEDULE 40 PVC WITH SOLVENT WELDED JOINTS. HOLES SHALL BE 3/8 INCH TO 5/8 INCH DIAMETER SPACED AT LEAST EVERY SIX INCHES.

5. LEACHING STONE SHALL BE COVERED WITH A 2-INCH LAYER OF DOUBLE WASHED PEASTONE FROM 1/8 INCH TO 1/2 INCH. STONE SHALL BE FREE OF DUST, FINES, IRON, SILT, AND OTHER DELETERIOUS MATERIAL.

6. CONTRACTOR SHALL PROVIDE CERTIFIED TITLE 5 FILL MATERIAL AS REQUIRED TO REPLACE TOPSOIL, SUBSOIL, CONTAMINATED SOIL, AND OTHER UNSUITABLE MATERIAL IF FOUND IN THE LEACHING AREA.

PUMPING EQUIPMENT

1. THE PUMP CHAMBER ELEVATIONS HAVE BEEN CALCULATED BASED ON A 1,000 GALLON PRECAST CONCRETE TANK WITH INSIDE DIMENSIONS OF 8 FEET LONG BY 4.5 FEET WIDE. USE OF A PUMP CHAMBER WITH DIFFERENT DIMENSIONS WILL REQUIRE RECALCULATION OF THE LEVEL SWITCH ELEVATIONS. THE PUMP CHAMBER IS A STANDARD 1,000 GALLON SEPTIC TANK AS MANUFACTURED BY BENSON ENTERPRISES, NORTH EASTON, MA.

2. PUMP SHALL BE A FLOOR MOUNTED SUBMERSIBLE SEWAGE PUMP, WEIL MODEL 2424 OR APPROVED EQUAL. PUMP SHALL DISCHARGE 25 GALLONS PER MINUTE AT A TOTAL DYNAMIC HEAD OF 13 FEET. PUMP MOTOR SHALL BE 0.5 HORSEPOWER, 1750 RPM, SINGLE PHASE.

3. CONTROLS SHALL CONSIST OF A SIMPLEX CONTROL PANEL LOCATED INSIDE THE HOUSE AS DIRECTED BY THE HOMEOWNER. CONTROLS SHALL BE MOUNTED IN A NEMA 1 ENCLOSURE. INCLUDE ALL CABLES, CONDUIT, THREE TETHERED LEVEL SWITCHES (PUMP OFF, PUMP ON, AND HIGH WATER ALARM), HIGH LEVEL ALARM WITH BUZZER AND LIGHT, AND ALL OTHER ELECTRICAL APPURTENANCES REQUIRED TO MAKE A COMPLETE AND WORKING INSTALLATION IN ACCORDANCE WITH TITLE 5 AND ALL OTHER APPLICABLE STATE AND LOCAL CODES AND REGULATIONS. THE ALARM SHALL BE POWERED BY A CIRCUIT SEPARATE FROM THE CIRCUIT TO THE PUMP.

4. DISCHARGE PIPING AND APPURTENANCES SHALL BE PVC SDR 21 OR STRONGER FOR ALL DISCHARGE PIPING, FITTINGS, CHECK VALVES, GATE VALVES, AND OTHER APPURTENANCES. FURNISH AND INSTALL ALL APPURTENANCES REQUIRED FOR A COMPLETE AND WORKING INSTALLATION IN ACCORDANCE WITH TITLE 5.

5. ALL WIRING AND SPECIFICATIONS SHALL BE ACCORDING TO STATE AND LOCAL CODE. WHERE THERE IS A CONFLICT BETWEEN THESE PLANS AND THE CODE, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.

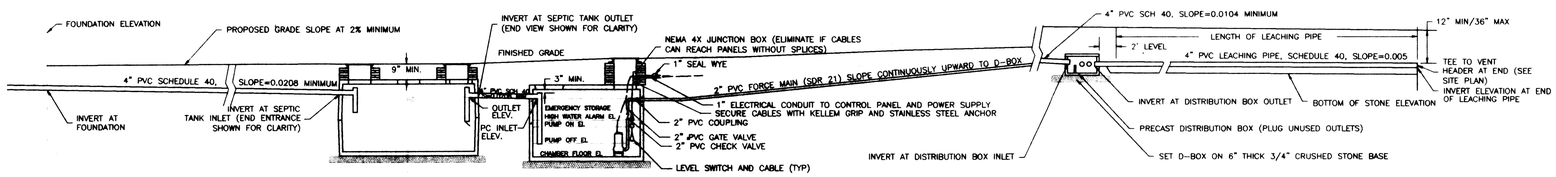
6. THE PUMP, PUMP MOTOR, CONTROLS, AND LEVEL SWITCHES SHALL BE SUPPLIED BY THE PUMP MANUFACTURER TO INSURE COMPATIBILITY OF ALL COMPONENTS. THE SPECIFIED PUMP IS AVAILABLE FROM T.J. FARREL SALES CORPORATION, STOUGHTON, MA 617-344-1988. OTHER PUMPING SYSTEMS MAY BE ACCEPTED UPON REVIEW OF THE MANUFACTURER'S LITERATURE.

DETAIL OF LEACHING BED

APPROXIMATE HORIZONTAL SCALE: 3/8" = 1'
APPROXIMATE VERTICAL SCALE: 3/4" = 1'

1,500 GALLON PRECAST SEPTIC TANK

BY PINE TREE CONCRETE PRODUCTS, INC. OR APPROVED EQUAL
APPROXIMATE SCALE: 3/8"=1'



1,500 GALLON PRECAST SEPTIC TANK

1,000 GALLON PRECAST PUMP CHAMBER
BY BENSON ENTERPRISES, N. EASTON, MA OR APPROVED EQUAL
INSIDE DIMENSIONS: 8' LONG x 4.5' WIDE

PROFILE OF PUMPED SYSTEM

NOT TO SCALE

RECONSTRUCTION OF EXISTING SUBSURFACE DISPOSAL SYSTEM AT 27 SPRING STREET, SEEKONK, MA

ASSESSOR'S MAP 9, LOT 244

DATE: JULY 7, 1999
REVISED: JULY 13, 1999 TO SHOW ACTUAL LOCATION OF WATER SERVICE AND MAINTAIN 15-FEET MINIMUM SEPARATION BETWEEN PROPOSED SEPTIC SYSTEM AND RELOCATED WATER SERVICE

SCALE: AS SHOWN

BDO ENGINEERING
planning-design-construction

DAVID A. OBERLANDER No. 35179 REGISTERED PROFESSIONAL ENGINEER

PREPARED FOR: KEN OLSON, HOMEOWNER'S ADVAN.
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