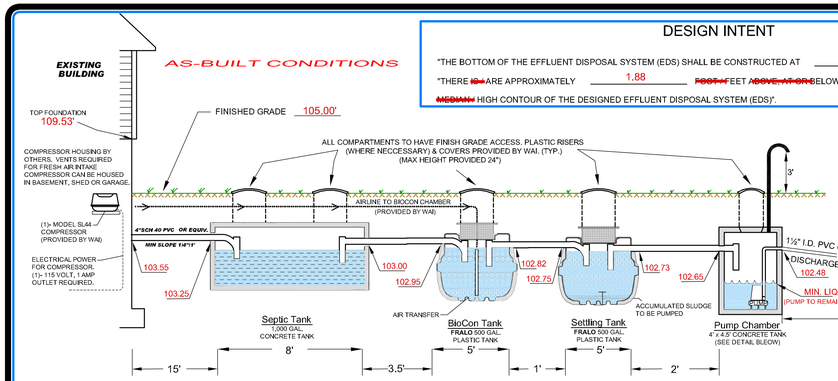
# ADVANCED ENVIRO-SEPTIC MUST BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS

## DESIGN INTENT

"THE BOTTOM OF THE EFFLUENT DISPOSAL SYSTEM (EDS) SHALL BE CONSTRUCTED AT 107.12 ELEVATION."

"THERE ~~IS~~ ARE APPROXIMATELY 1.88 ~~FOOT~~ FEET ~~ABOVE~~ AT OR BELOW EXISTING GROUND ON THE ~~MEDIAN~~ HIGH CONTOUR OF THE DESIGNED EFFLUENT DISPOSAL SYSTEM (EDS)".

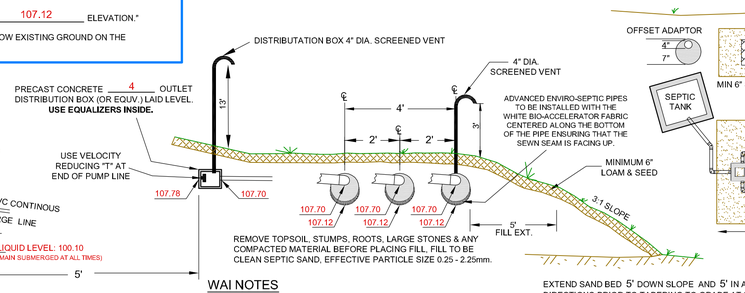
## AS-BUILT CONDITIONS




## PROFILE OF CLEAN SOLUTION DISPOSAL SYSTEM

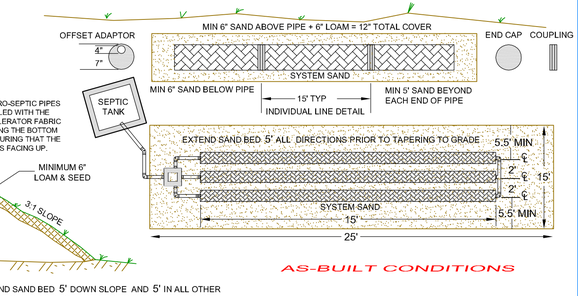
NOT TO SCALE

## ADVANCED ENVIRO-SEPTIC LEACHING SYSTEM




### WAI NOTES

1. SEPTIC/SETTLING COMPARTMENTS MUST BE PUMPED EVERY 2-3 YEARS. MORE FREQUENT PUMPING MAY BE REQUIRED DEPENDING ON USE.
2. TANK IS NOT SUITABLE FOR DRIVE ON USE. HEAVY DUTY AND H-20 MODELS AVAILABLE.
3. CONTRACTOR TO VERIFY TANK DIMENSIONS PRIOR TO SETTING.
4. PUMP TO BE PROVIDED BY CONTRACTOR TO MEET SITE CONDITIONS. PUMP TO BE PLACED ON CONCRETE BLOCKS AND TO HAVE OFF, ON, AND ALARM FLOATS WITH HIGH WATER ALARM. PUMP AND ALARM TO BE ON SEPERATE CIRCUITS. WIRING TO BE PROVIDED BY SITE CONTRACTOR OR HOME OWNER.
5. PLASTIC RISERS WILL BE PROVIDED TO SUIT SITE (UP TO 24" DEPTH).

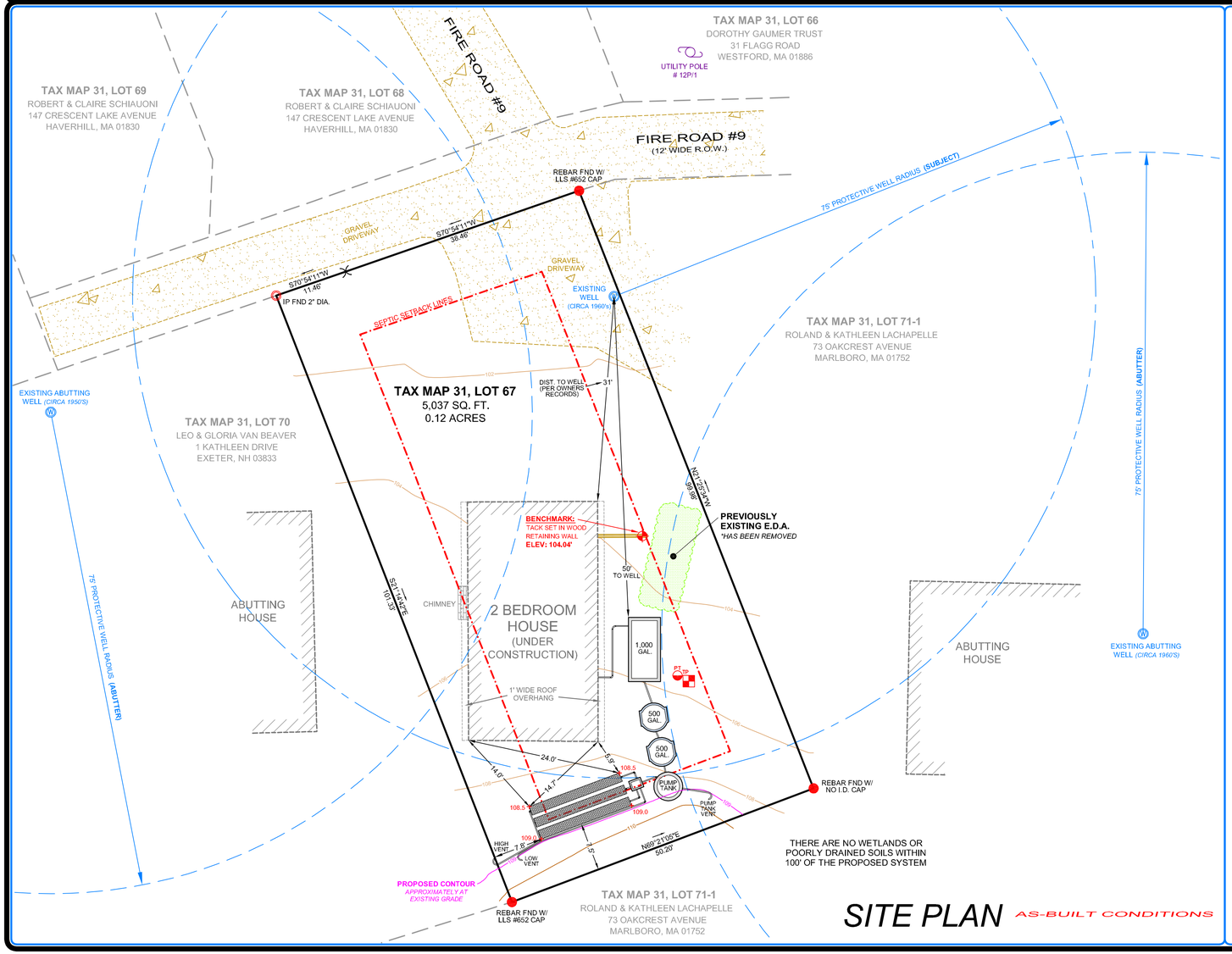



EXTEND SAND BED 5' DOWN SLOPE AND 5' IN ALL OTHER DIRECTIONS PRIOR TO TAPERING TO GRADE AT 3:1 SLOPE.

AS-BUILT CONDITIONS

## PROFILE OF E.D.A.

NOT TO SCALE




## SITE PLAN

AS-BUILT CONDITIONS

1 ½" I.D. PCV GRAVITY FLOW SEPTIC TANK & PUMP CHAMBER, FORCE MAIN TO **DISTRIBUTION BOX**.

FLOW CALCULATIONS: ..... **300** GPD / **7** CYCLED PER DAY = **42.9** GPD
DRAINBACK: ..... **5'** LENGTH OF FORCE MAIN * 0.0918 GPF (1 ½" I.D. PIPE) = **0.5** GPF
TOTAL GALLONS PER CYCLE: ..... (GPD + GPF) = **43.4** GPC

FLOAT CALCULATIONS: ..... **43.4** GPC / **7.48** (GAL / FT) = **5.8021** CFPC
SURFACE AREA OF PUMP CHAMBER: ..... **110'** PER VERTICAL FOOT
PUMP OFF TO PUMP ON ELEV. DIFF: ..... **14.7861** CFPC / **18.9582** S.F.SAPC = **0.78'**
PUMP OFF ELEV: **100.10'** + 0.34' = PUMP ON ELEV: **100.44'** + .25' = ALARM ON ELEV: **100.69'**

STATIC HEAD CALCULATION:
FORCE MAIN OUTLET ELEV: **107.16'** - PUMP OFF ELEV: **100.10'** = **7.06** STATIC HEAD

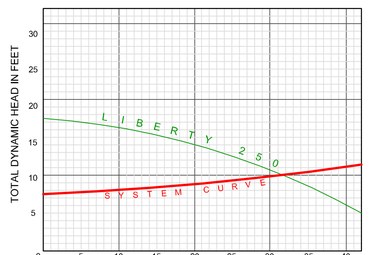
TOTAL DYNAMIC HEAD CALC.: EQUIV. LEN. * QUANTITY * 0.125 (1 ½" I.D. PIPE) = TOTAL FITTING EQUIV LEN.

| FITTING | EQUIV. LENGTH | QUANTITY | TOTAL FITTINGS EQUIV LEN. |
|---|---|---|---|
| CHECK VALVE | 135 Ø | 1 | 16.875' |
| UNION | 3 Ø | 1 | 0.375' |
| 90° ELBOW | 30 Ø | 1 | 3.750' |
| 45° ELBOW | 15 Ø | 1 | 1.875' |
| SHUT OFF VALVE | 3 Ø | 1 | 0.375' |
| "T" FLOW FROM BRANCH | 60 Ø | 1 | 7.500' |

TOTAL FITTINGS EQUIV LEN.: ..... **30.750'**
+ TOTAL LENGTH OF FORCE MAIN: ..... **5.000'**
= TOTAL EQUIVALENT LENGTH OF FORCE MAIN (L)..... **35.750'**

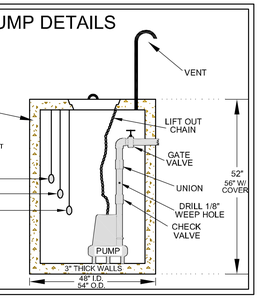
| GPM | (V)ELOCITY FT/S | (H)EAD LOSS PER 100' OF PIPE | HEAD LOSS (PER 100' OF (L)) (L)/100*(H) | HEAD LOSS DUE TO (G)RAVITY | (H)+(G) + | STATIC HEAD = | TOTAL DYNAMIC HEAD |
|---|---|---|---|---|---|---|---|
| 10 | 1.58 | 0.834 | 0.30 | 0.04 | 0.34 | 7.06 | 7.40 |
| 15 | 2.37 | 1.74 | 0.62 | 0.09 | 0.71 | 7.06 | 7.77 |
| 20 | 3.16 | 2.96 | 1.06 | 0.16 | 1.22 | 7.06 | 8.28 |
| 25 | 3.94 | 4.46 | 1.59 | 0.24 | 1.83 | 7.06 | 8.89 |
| 30 | 4.73 | 6.27 | 2.24 | 0.35 | 2.59 | 7.06 | 9.65 |
| 35 | 5.52 | 8.40 | 3.00 | 0.47 | 3.47 | 7.06 | 10.53 |
| 40 | 6.30 | 10.70 | 3.82 | 0.62 | 4.44 | 7.06 | 11.50 |
| 45 | 7.09 | 13.58 | 4.85 | 0.78 | 5.63 | 7.06 | 12.69 |
| 50 | 7.88 | 16.50 | 5.90 | 0.96 | 6.86 | 7.06 | 13.92 |
| 60 | 9.47 | 23.60 | 8.44 | 1.39 | 9.83 | 7.06 | 16.89 |

PUMP PERFORMANCE CURVE & SYSTEM DYNAMIC HEAD CURVE CHART




PUMP INFORMATION
MAKE: ..... LIBERTY 250
MODEL: ..... 250 SERIES
HP: ..... 1/3
VOLTS: ..... 115
RUN TIME: ..1 MIN. 22 SEC
GPM: ..... 32 +/-
HEAD: ..... 10 +/-

PUMP DETAILS




## WATER SUPPLY DATA

MUNICIPAL ___ WELL ON LOT ✓
COMMUNITY ___ OTHER ___

## LEACHING AREA REQUIREMENTS

( Env-Wq Table 1016-1)

**2** BEDROOMS, OR **300** GPD = **75** SQUARE FEET MIN. E.D.A. REQUIRED.
**3** ROWS x **15'** LENGTH = **45** LINEAR FEET OF ADVVANCED ENVIRO-SEPTIC PIPE PROVIDED.

## SOILS DATA

**STRAFFORD** COUNTY SOILS SURVEY
SOIL TYPE: **HdB - HOLLIS - CHARLETON**
SHEET: **21**

## PERCOLATION TEST DATA

DATE CONDUCTED: **3/1/2011**
DEPTH OF TEST: **38"**
RATE ONE INCH PER **12** MINUTES

## TEST PIT LOG

DATE CONDUCTED: **3/1/2011**

| | |
|---|---|
| 30" | SNOW COVER |
| 0"-8" | FROZEN TURF & LOAM |
| 8"-30" | MIXED FILL & RUBBLE |
| 30"-48" | DARK REDDISH BROWN, 5YR3/4, LOAMY FINE SAND, SAND, GRANULAR, FRIABLE. |
| 48"-60" | YELLOWISH BROWN, 10YR5/6, LOAMY FINE SAND, GRANULAR, FRIABLE, COMMON REDOX AT 56". |
| 60" | NO OBSERVED WATER, NO REFUSAL E.S.H.W.T. AT 54" |

## PLAN REVISIONS

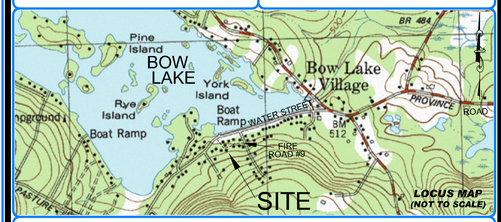
**10/25/2011** - AS-BUILT CONDITIONS OF TANKS & E.D.A. REPLACED EXISTING PLASTIC TANK WITH CONCRETE TANK. ADDED REVSION NOTES.

## SUBDIVISION STATUS

SUBDIVISION NAME: GEORGE M. FOSS
SUBDIVISION LOT #: 1A
SUBDIVISION APPROVAL #: NONE
EXEMPT ✓ REASON: PRE 67
TAX MAP AND LOT #: MAP 31, LOT 67
DATE LOT WAS CREATED: JULY 17, 1936
DISTANCE TO SURFACE WATER: >250'
DEED REF.: S.C.R.D. 3694-0925

## GENERAL NOTES

1. ELEVATIONS REFER TO **ASSUMED** DATUM SEE BENCHMARKS AS LOCATED ON PLAN.
2. FINISH GRADING TO BE DONE IN ACCORDANCE WITH SITE PLAN.
3. ALL CONSTRUCTION IS TO CONFORM WITH NEW HAMPSHIRE DEPT. OF ENVIRONMENTAL SERVICES STANDARDS.
4. GEOMETRES BLUE HILLS LLC WILL NOT BE RESPONSIBLE FOR THE PERFORMANCE OF THIS SYSTEM IF NOT CONSTRUCTED AS SHOWN, PROPERLY MAINTAINED OR IF UNSUITABLE WASTE IS DISPOSED OF IN THE SYSTEM. ANY ALTERATIONS MUST BE APPROVED IN WRITING BY GEOMETRES BLUE HILLS LLC. THIS FIRM WILL NOT BE RESPONSIBLE FOR FAILURE DUE TO OVERLOADING OR NORMAL AGING.
5. FOR PROPER PERFORMANCE, THE SEPTIC TANK(S) SHALL BE INSPECTED AT LEAST ONCE A YEAR AND WHEN THE TOTAL DEPTH OF SCUM AND SOLIDS EXCEEDS 1/3 OF THE LIQUID DEPTH OF THE TANK, THE TANK SHALL BE PUMPED.
6. THIS PLAN IS PREPARED FOR SUBSURFACE DISPOSAL SYSTEM DESIGN STANDARDS ONLY, IT IS NOT A BOUNDARY SURVEY, LIABILITY FOR ACTIONS UNDERTAKEN IN RELIANCE UPON THIS PLAN INSOFAR AS THEY RELATE TO THE SETBACKS FROM PROPERTY OR RIGHT OF WAY LINES, RESTS SPECIFICALLY WITH THE INSTALLER OR OWNER.
7. THE INSTALLER SHALL NOTIFY THE DESIGNER PROMPTLY IF FIELD CONDITIONS VARY MATERIALLY FROM THOSE SHOWN HEREON.
8. ALL JOINTS SHALL BE SEALED WITH APPROVED SEALANTS. ROOFING TAR IS NOT SUITABLE.
9. IN THE EVENT OF SYSTEM FAILURE, THE SYSTEM MAY HAVE TO BE REBUILT IN PLACE.
10. ENVIRO-SEPTIC WASTEWATER TREATMENT SYSTEMS ARE APPROVED BY NHDES AS ITA IN ACCORDANCE WITH PART ENV-WS 1024. THE SYSTEM IS DESIGNED IN ACCORDANCE WITH THE ENVIRO-SEPTIC & SIMPLE SEPTIC LEACHING SYSTEM DESIGN AND INSTALLATION MANUAL AND THE ENVIRO-SEPTIC WASTE TREATMENT SYSTEM DESIGN AND INSTALLATION MANUAL N.H. STATE ATTACHMENT.




# AMENDED SUBSURFACE DISPOSAL SYSTEM

PREPARED FOR

## ROBERT C. & MADELINE E. HALE

**10 FIRE ROAD #9 (OFF WATER STREET)**
**STRAFFORD, NH 03884**

NEW HAMPSHIRE Designer of Subsurface Disposal Systems ★★★ Randy R. Orvis No. 158 Department of Environmental Services

I CERTIFY THAT THE SUBSURFACE DISPOSAL SYSTEM PROPOSED ON THIS PLAN IS IN COMPLIANCE WITH ALL THE CURRENT LOCAL REGULATIONS AND ORDINANCES OF THE TOWN OF **STRAFFORD** IN EFFECT THE DATE OF THIS PLAN.

DATE

RANDY R. ORVIS, DESIGNER # 158

**CONSTRUCTION APPROVAL NUMBER: CA2011103768**

**DATE: 3/02/2011** **SCALE: 1" = 10'** **PLAN #: SS 2005**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