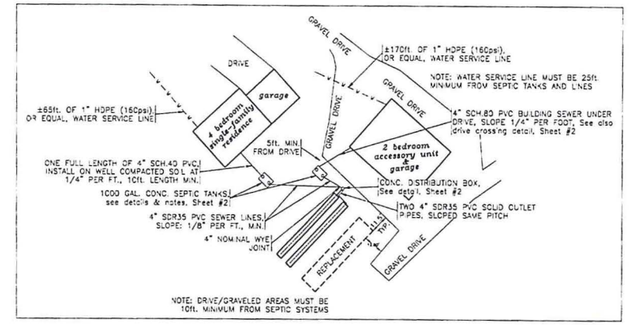
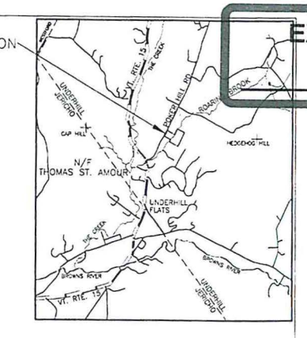
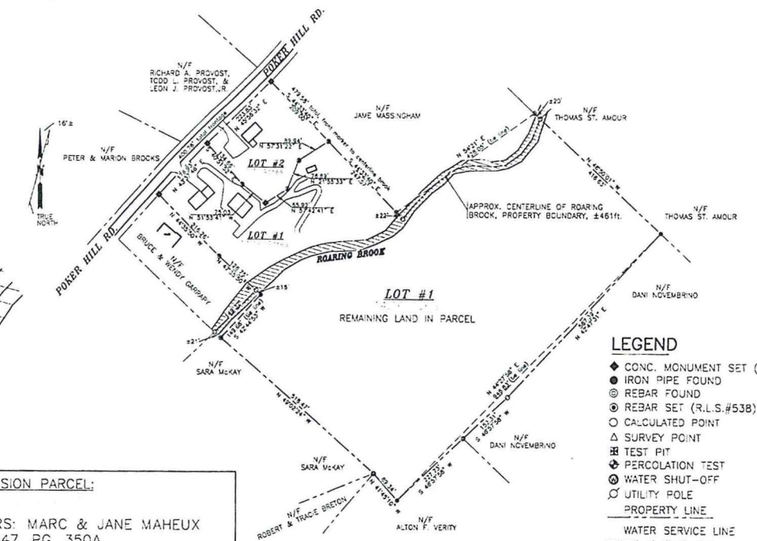
EXHIBIT X



SEPTIC DETAIL

SCALE------1" = 40'





SUBDIVISION PARCEL:

OWNERS: MARC & JANE MAHEUX
VOL. 147, PG. 350A
PARCEL I.D. #PH038

SITE PLAN

N.T.S.

Drinking Water and Groundwater Protection Division

THIS IS SUBJECT TO PROVISIONS OR CONDITIONS LISTED IN PERMIT

Permit Number: WW-4-4126

Dated: 10/21/2013

Received

LEGEND

- ◆ CONC. MONUMENT SET (R.L.S.#538)
- ● IRON PIPE FOUND
- ◎ REBAR FOUND
- ⊙ REBAR SET (R.L.S.#538)
- ○ CALCULATED POINT
- △ SURVEY POINT
- ⊞ TEST PIT
- ⊕ PERCOLATION TEST
- ⊗ WATER SHUT-OFF
- ∅ UTILITY POLE
- PROPERTY LINE
- WATER SERVICE LINE
- MUNICIPAL WATER MAIN
- SEPTIC SHIELD
- AERIAL UTILITIES
- FENCELINE

" I hereby certify that the design-related information submittted with this application is true and correct, and that, in the exercise of my reasonable professional judgement, the design included in this application for a permit complies with Vermont Wastewater system and Potable Water Supply Rules and the Vermont Water Supply Rules."

STATE OF VERMONT — DAVID A. TUDHOPE — LICENSED PROFESSIONAL ENGINEER

STATE OF VERMONT — DAVID A. TUDHOPE — NO 230 — CERTIFIED SITE TECHNICIAN TYPE B

WW-4-4126

23 SEPTEMBER, 2013

40 0 20 40 80 160

LOT #2: REPLACEMENT SEPTIC SYSTEM DESIGN:

Perc. test 3 & 4 = 2.5min./in.

CONDITIONS & REQUIREMENTS:

FOUR (4) BEDROOM SINGLE-FAMILY RESIDENCE.
(140gpd/bed'rm X 3 bed'rm.) + 70gpd X 1bed'rm = 490gpd
Q= 3/SQ.RT.2.5 = 1.897gpd/sf., USE MAX. Q = 1.500gpd/sf.
490gpd/1.500gpd/sf = 327sf. OF ABSORPTION AREA REQUIRED.
USE 12" OF CRUSHED STONE BELOW DISTRIBUTION PIPES.

USE TWO (2) TRENCHES 4' X 41'.

SYSTEM SIZE CHECK:
(2) X 4' X 41' = 328sf. ABSORPTION AREA AVAILABLE.
328sf. AVAILABLE => 327sf. REQUIRED.

LOT #1 SEPTIC SYSTEM DESIGN:

Perc. test 1 = 2.0min./in. and Perc. test 2 = 3.0min./in.

CONDITIONS & REQUIREMENTS:

4 BEDROOM SINGLE-FAMILY RESIDENCE AND 2 BEDROOM ACCESSORY UNIT.
(140gpd/bed'rm X 4 bed'rm.) + (140gpd/bed'rm. X 2 bed'rm.) = 840gpd
Q= 3/SQ.RT.3.0 = 1.732gpd/sf., USE MAX. Q = 1.500gpd/sf.
840gpd/1.500gpd/sf = 560sf. OF ABSORPTION AREA REQUIRED.
USE 18" OF CRUSHED STONE BELOW DISTRIBUTION PIPES.
560sf X 0.75(% reduction) = 420sf. OF ABSORPTION AREA REQUIRED.

USE TWO (2) TRENCHES 4' X 53'.

SYSTEM SIZE CHECK:
(2) X 4' X 53' = 424sf. ABSORPTION AREA AVAILABLE.
424sf. AVAILABLE => 420sf. REQUIRED.

REPLACEMENT SEPTIC:
THE REPLACEMENT SYSTEM DESIGN IS THE SAME AS THE PRIMARY.
(2) TRENCHES 4' X 53' WITH 18" STONE BELOW DISTRIBUTION PIPES.

SEPTIC PLAN

SCALE------1" = 40'

LOT #1
14.16 Acres

TEST PITS 1 - 3
DUG 5 SEPTEMBER, 2012
DAVID A. TUDHOPE, R.L.S. & SITE TECH B
DOUGLAS CORNEILLE, ASSIST.
MARK MAHEUX, EXCAVATOR & OWNER

TP 1 (±SAME LOCATION AS TP A)
0-5" DISTURBED FILL
5"-27"GREY COARSE SAND LOOSE.
27"-37" BRN. VF SAND LOOSE.
37"-86" GREY MED. SAND LOOSE.
ESHWT NTD TO DEPTH

TP 2
0-5" DISTURBED FIEL
5"-29"GREY-BRN. FINE SANDY LOAM LOOSE.
29"-39" GREY-BRN. MED. SAND LOOSE.
39"-58" DRK. YELLOW BRN. VERY FINE SAND FRM IN PLACE (FRIABLE)
58"-90" GREY-BRN MED. SAND LOOSE
ESHWT NTD TO DEPTH

TP 3
0-56" GREY-BRN GRAVELLY COBBLED MED. SAND LOOSE(ROOTS)
56"-80"GREY MED. SAND LOOSE.
27"-37" BRN. VERY FINE SAND LOOSE.
37"-85" GREY MED. SAND LOOSE.
ESHWT NTD TO DEPTH

TEST PITS 4 &5
DUG 21 MAY, 2013
DAVID A. TUDHOPE, R.L.S. & SITE TECH B
MARK MAHEUX, EXCAVATOR & OWNER

TP 4
0-10" DRK. BRN. FINE SANDY LOAM LOOSE.
10"-36" YELLOW-BRN. VERY FINE SANDY LOAM MED. FIRM-IN-PLACE/FRIABLE.
36"-82" GREY-BRN. COARSE GRAVELLY SAND MED. FIRM-IN-PLACE/FRIABLE.
ESHWT NTD TO DEPTH

TP 5 (±SAME LOCATION AS TP B)
0-4" DRK. BRN. FINE SANDY LOAM LOOSE.
4"-16" LIGHT BRN. COARSE SAND LOOSE.
16"-32" YELLOW-BRN. VERY FINE SAND LOOSE.
32"-84" GREY COARSE SAND LOOSE.
ESHWT NTD TO DEPTH

TEST PITS A & B
DUG 11 JUNE, 2013
DOLORES ECKERT, ASSIST. REG. ENGR.
DAVID A. TUDHOPE, R.L.S. & SITE TECH B
DOUGLAS CORNEILLE, ASSIST.
MARK MAHEUX, EXCAVATOR & OWNER

TP A
0-3" BRN. FINE SANDY LOAM LOOSE.
3"-70"GREY/BRN. COARSE GRAVELLY SAND COBBLES LOOSE.
ESHWT NTD TO DEPTH

TP B
0-7" GREYISH SANDY LOAM LOOSE.
7"-29"YELLOW-BRN. VERY FINE SAND LOOSE.
29"-76" GREY-BRN. COARSE SAND LOOSE.
ESHWT NTD TO DEPTH

DAVID A. TUDHOPE
74 CAYUGA COURT
BURLINGTON, VERMONT 05408
TELE.: (802) 862-9360
dtudhope@aol.com
REGISTERED LAND SURVEYOR 538
SITE TECHNICIAN B # 230

SUBDIVISION PLAN

DRAWN D.A.T.	DATE 08/09/13	Prepared for: Marc & Jane Maheux
APPROVED	DATE	38 Poker Hill Rd. Underhill, Vermont
SCALE 1" = 40'	SHEET 1	PROJECT NO. 759