

Martin residence solar pool heating

1. Narrative
 - a. The proposed solar hot water system functions when glycol (anti-freeze) is heated in the solar collectors when the sun is shining. Said glycol is pumped through a heat exchanger which, in turn, extracts the heat energy and delivers it to the pool water.
 - b. The system will comprise 8 'ground mounted' solar hot water collectors and associated racking. The 'balance of system' equipment (piping, heat exchanger, controller etc.) is underground or located in the existing pool house.
2. Visible components (the collector and racking)
 - a. The 8 solar collector are to be mounted on the South East end of the pool and will occupy a footprint of 17' 6" (on the roughly East/West Axis) by 17'.

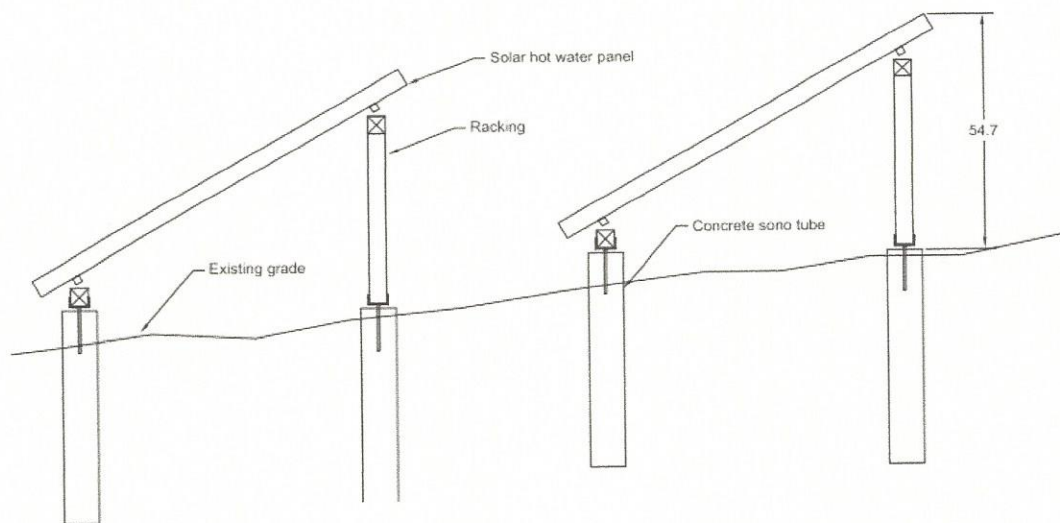


- b. The collectors are mounted on racking which in turn is set in a series of 12 small 8" sono tube concrete piers. The angle of the collectors will be 30 degrees above horizontal. The picture below shows one bank of four of the proposed collectors whereas the Martin system will have 2 such banks.



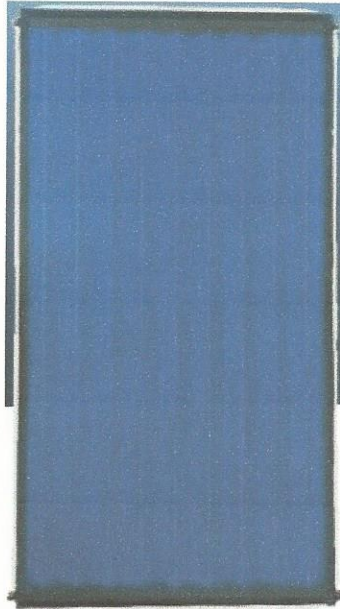
- c. Detail

Martin, solar thermal racking
side elevation



NEW ENGLAND SOLAR hotwater

3. Collector specification



Specifications			
	FPW30	FPW25	FPW18
Dimensions	96" X 48" X 3 1/2"	78 1/2" X 48" X 3 1/2"	75 1/8" X 36 1/2" X 3 1/2"
Weight	115 lbs	97 lbs	75 lbs
Gross Area	31.94 ft ²	26.0 ft ²	19.27 ft ²
Aperture Area	29.28 ft ²	24.1 ft ²	17.44 ft ²
Absorption	95%	95%	95%
Emissivity	4%	4%	4%
Volume	1.4 Gallons	0.8 Gallons	0.6 Gallons
Maximum Operating Pressure	145 PSI	145 PSI	145 PSI
Flow Rate	0.38 GPM min, 0.6 GPM nominal, 1 GPM max	0.3 GPM min, 0.5 GPM nominal, 0.8 GPM max	0.22 GPM min, 0.35 GPM nominal, 0.60 GPM Max
Construction			
Frame	Electrostatic Painted Aluminum		
Sealing Material	EPDM & Silicone		
Absorber Material	Copper		
Absorber Coating	TiNOx		
Tube Material	Copper		
Weld Method	Ultrasonic		
Glass	Low Iron Tempered		
Glass Thickness	3/16"		
Insulation	Rock Wool		
Ratings			
SRCC Certification Number	FPW30	FPW25	FPW18
Eta0	0.698	0.702	0.688
A1	3.2113	3.2682	3.2654
A2	0.00570	0.00571	0.00560



Proposed solar pool heating array;
(8) Kingspan FPW30 collectors approx
17' 6" x 17' total

LOCUS MAP SCALE: 1" = 1500'

ASSESSOR'S MAP 9 BLOCK 1 LOT 1
 ZONING: R-A & HOVEY'S POND
 WATERSHED OVERLAY DISTRICT
 NOT IN A CONSERVANCY DISTRICT
 SHOWN ON THE BOXFORD ZONING MAP.

REFERENCES:
 REED - PL. BK. 245 PL. 81
 PLANS - PL. BK. 299 PL. 74

LEGEND & SYMBOLS

- L.C.D. LAND COURT DISK
- D.H. DRILL HOLE
- I.P. IRON PIPE
- S.P.K. SPIKE
- F.D. FOUND
- P.F. POLE
- P.M.C. POLE MANCHER
- S.T. STONE WALL
- INDICATES WETLANDS

SCALE: 1" = 60'

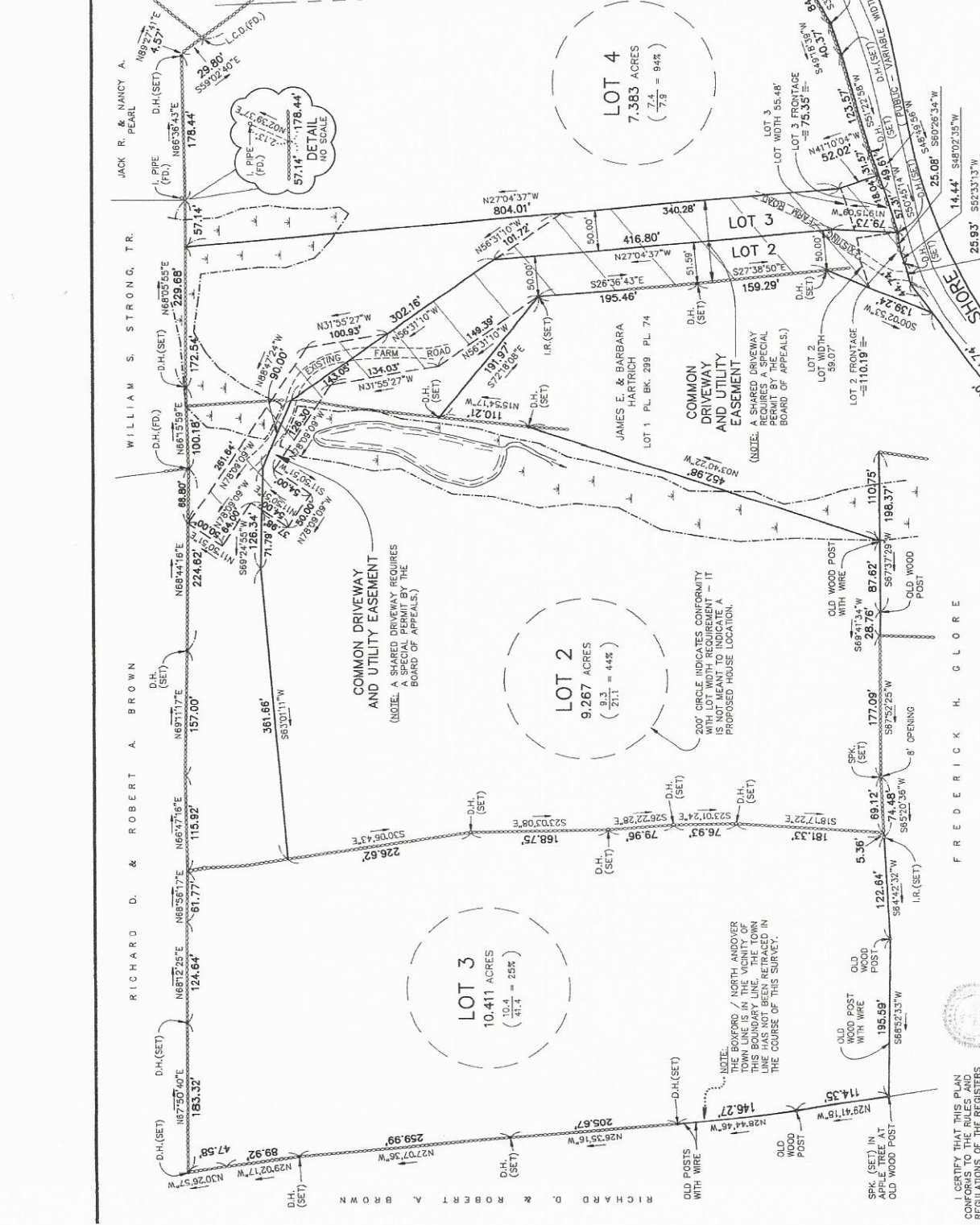
0 30 60 120 180 240
 FEET
 METERS

PLAN OF LAND
 IN
BOXFORD, MA

PROPERTY OF
**RUTH C. NASON, TRUSTEE OF
 THE STONE HOUSE FARM REALTY TRUST #3**

SEP. 30, 1998
 SCALE: 1" = 60'

DONOHOE AND PARKHURST, INC.
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NOTICE:
 ALL ROADS IN THE TOWN OF BOXFORD ARE DESIGNATED AS "SCENIC ROADS" (MASS. GENERAL LAW CHAPTER 40A SECTION 19C) AND ARE TO REMAIN OPEN TO ALL TRAFFIC. STONE WALLS LOCATED ADJACENT TO A ROAD, OR THE REMOVAL OF TREES LOCATED WITHIN THE ROAD DEDICATION ARE PROHIBITED WITHOUT WRITTEN CONSENT OF THE PLANNING BOARD.

IN THE OPINION OF THE BOXFORD PLANNING BOARD, THIS SUBDIVISION IS A FEASIBLE EXTENSION TO BLOCK 1 OF A DEAD END STREET. THESE LOTS SHALL NOT BE HEREAFTER SUBJACENT TO SECTION 19B.4, SUBPARAGRAPH 42 OF THE BOXFORD ZONING BYLAW.

BOXFORD, MA
 PLANNING BOARD
 APPROVAL UNDER THE SUBDIVISION CONTROL LAW NOT REQUIRED.

Ruth C. Nason
Robert C. Nason
Robert C. Nason

SEP. 30, 1998
Robert C. Nason
 DATE

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERERS OF DEEDS.
SEP. 30, 1998
Robert C. Nason

FOR REGISTRY USE ONLY
PLAN BOOK 355 PLAN 57
 REGISTERED IN THE OFFICE OF THE REGISTERERS OF DEEDS
 RECORDED: **JUNE 24, 1999**
 WITH DEED: **Ruth C. Nason**
 TR. 24. TO George B. Nason
 STATE: **MA 01861 P. 572**
 AMT: **100.00**
Robert C. Nason
 Register of Deeds