

DEPARTMENT OF INSPECTIONS,
 LICENSES & PERMITS
 3430 COURT HOUSE DRIVE
 ELLICOTT CITY, MD 21043
 PERMITS (410) 313-2455
 INSPECTIONS (410) 313-1850

**HOWARD COUNTY
 RESIDENTIAL
 HEATING-VENTILATION-AIR
 CONDITIONING AND
 REFRIGERATION PERMIT
 APPLICATION**

HVACR PERMIT # M19000954
 BUILDING PERMIT #

BUILDING ADDRESS: SUITE/APT:
4233 DANCING SUNBEAM CT.
 SUBDIVISION: ELLIOTT CITY MD. 21042
 CENSUS TRACT: SECTION: AREA:
 LOT: TAX MAP: PARCEL:
 BLOCK: ZONE:
 PROPERTY ID: MAP COORDINATES:
 TYPE OF IMPROVEMENTS: USE:

OWNERS NAME: Leonardo Silvestri
 ADDRESS: 4233 DANCING SUNBEAM CT.
 CITY: ELLIOTT CITY,
 STATE: MD. ZIP CODE: 21042
 HOME PHONE: 443-790-8514 WORK PHONE:

	<u>CHECK ONE</u>	<u>HOW MANY</u>
SINGLE FAMILY DWELLING	<input checked="" type="checkbox"/>	<u>1</u> ZONES
SINGLE FAMILY TOWNHOUSE	<input type="checkbox"/>	<u> </u> ZONES
MULTI-FAMILY / HOTEL/MOTEL	<input type="checkbox"/>	<u> </u> ROOMS
ASSISTED LIVING HOMES (16 OR FEWER RESIDENTS)	<input type="checkbox"/>	<u> </u> ROOMS

COMPANY NAME: WATERVALE HEATING & A.C.
 LICENSEE NAME: Joseph opdyke
 ADDRESS: 2116 WATERVALE RD.
 CITY: FALLSTON
 STATE: MD ZIP CODE: 21047
 PHONE: 410-879-0292 HVACR LICENSE NO: 7629

- New**
- Heating and Air Conditioning
 - Geo Thermal System
 - Heating System Only
 - Ductless Mini Splits
 - Other Work (Describe):
 - Thru The Wall Systems
- Replacement**
- Heating
 - Air Conditioning
 - Heating and Air Conditioning
- Additions and Alterations**
- Heating
 - Air Conditioning
 - Heating and Air Conditioning
- WATERVALE NSV042
 3 1/2 TON REPLACEMENT,
 VENTIL BONES BY MILLER.*

****Replacement Geo Thermal Systems are not required; However, if a tax credit is being sought a permit is required****

Zones

Permit Fee = # of Zones x \$40 = 40
 Technology Fee (10% of Permit Fee) = 4
 Plus Application Fee \$50.00
 Total Fees Due = 94.00

Rooms

Permit Fee = # of Rooms x \$80 =
 Technology Fee (10% of Permit Fee) =
 Plus Application Fee \$50 \$50.00
 Total Fees Due =

I HAVE CAREFULLY EXAMINED AND READ THIS APPLICATION AND KNOW IT IS TRUE AND CORRECT. THE WORK DESCRIBED HEREIN WILL BE PERFORMED BY A STATE HVACR LICENSED PERSON(S), AND ALL WORK WILL BE PERFORMED IN COMPLIANCE WITH APPLICABLE CODES AND STANDARDS OF HOWARD COUNTY THE STATE OF MARYLAND.

SIGNATURE OF LICENSEE: Joseph F. Opdyke DATE: 11-1-19
 PRINT NAME OF LICENSEE: Joseph F. Opdyke
 Email Address: watervalegeo@gmail.com

Validation

Check Number: 25698
 Cash:
 Receipt Number: 57714

Approved Septic System Plan
Howard County Health Department
RECEIVED
 Signature: [Signature] Date: NOV 04 2019
 LICENSES & PERMITS DIVISION

Make check payable to: DIRECTOR OF FINANCE OF HOWARD COUNTY

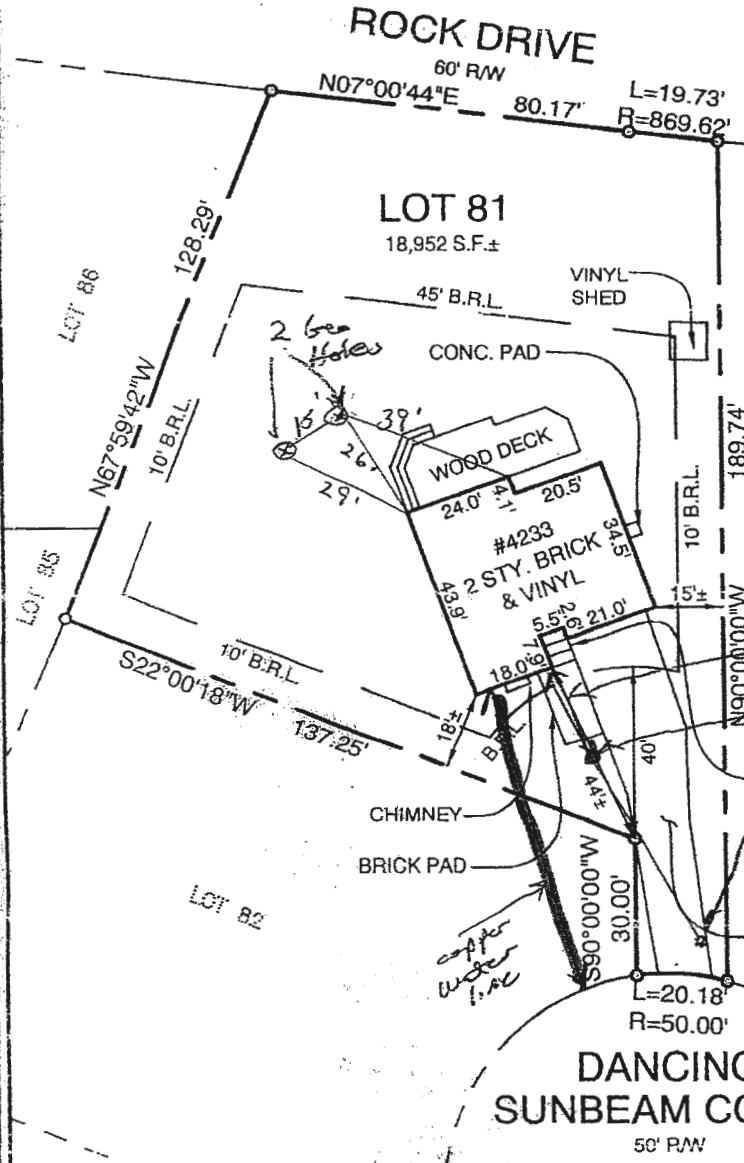
119000854

PLAT NO. 4425



NOTES:

1. THIS PLAT IS A BENEFIT TO THE CONSUMER ONLY INsofar AS IT IS REQUIRED BY A LENDER OR A TITLE INSURANCE COMPANY OR ITS AGENTS IN CONNECTION WITH CONTEMPLATED TRANSFER, FINANCING OR REFINANCING PURPOSES. THIS PLAT IS NOT TO BE RELIED UPON FOR THE ESTABLISHMENT OR LOCATION OF FENCES, GARAGES, BUILDINGS OR OTHER EXISTING OR FUTURE STRUCTURES. THIS PLAT DOES NOT PROVIDE FOR THE ACCURATE IDENTIFICATION OF PROPERTY BOUNDARY LINES, BUT SUCH IDENTIFICATION MAY NOT BE REQUIRED FOR THE TRANSFER OF TITLE OR FOR SECURING FINANCING OR REFINANCING.
2. THE +/- SETBACK ACCURACY IS 1 FOOT.
3. THIS PLAN OR PLAT IS NOT INTENDED TO SHOW ALL MATTERS RELATED TO THE PROPERTY SHOWN HEREON.
4. B.R.L. = BUILDING RESTRICTION LINE



well permit approved, flags staked by driller 10/21/12 (ST)



LOCATION DRAWING
 4233 DANCING SUNBEAM COURT
 LOT 81
DORSEY HALL
 SECTION 1, AREA 3
 ELECTION DISTRICT NO. 2
 HOWARD COUNTY, MARYLAND

THIS LOT DOES NOT APPEAR TO LIE WITHIN THE 100 YEAR FLOOD PLAIN AS SHOWN ON THE F.E.M.A. FLOOD HAZARD MAP 240044-0034-B AS REVISED DECEMBER 4, 1986.

CERTIFICATION

I HEREBY CERTIFY THAT I WAS IN RESPONSIBLE CHARGE OVER THE PREPARATION OF THIS LOCATION DRAWING AND THE SURVEY WORK REFLECTED IN IT, IS IN COMPLIANCE WITH REQUIREMENTS SET FORTH IN THE CODE OF MARYLAND TITLE 9, SUBTITLE 13, CHAPTER 06, REGULATION 12, AND THE POSITION OF EXISTING IMPROVEMENTS AS SHOWN HEREON, ARE CORRECT, TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Michael D. Adcock

MICHAEL D. ADCOCK
PROFESSIONAL LAND SURVEYOR
NO. 21257, EXPIRATION DATE: 06-16-2013

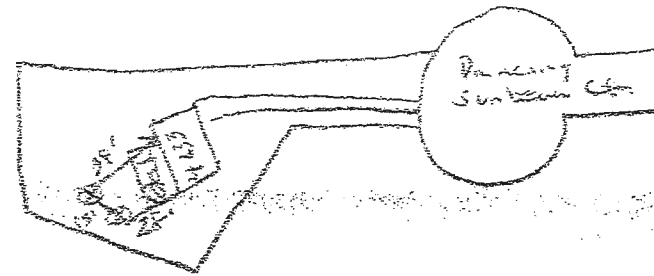
Sill · Adcock & Associates · LLC

Engineers · Surveyors · Planners
3300 North Ridge Road, Suite 160
Ellicott City, Maryland 21043
Phone: 443.325.7682 Fax: 443.325.7685
Email: mike@saaland.com

REFERENCE:

PLAT NO. 4425
DATE: OCTOBER 2, 2012
SCALE: 1"=40'
FILE NO.: 12-003-083

M19000754

B 1		SEQUENCE NO. (MDE USE ONLY) 51189	STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL please type		STATE PERMIT NUMBER 40-18-0121 fill in this form completely 79
Date Received (APA) 10/15/19 8 MM DD YY 13 OWNER INFORMATION 15 Last Name: Silvestri, Owner: Leonardo First Name: 34 36 4233 Dancing Sunbeam Ct. Street or RFD 55 Ellicott City Md 21042 57 Town 70 State 72 Zip 76			B 3 LOCATION OF WELL Howard 8 COUNTY 21 Dorsey Hill 23 SUBDIVISION 42 SECTION 44 46 LOT 81 48 50 Colombia 52 NEAREST TOWN 71		
DRILLER INFORMATION David Kelly MW D 304 Driller's Name 76 License No. 81 Jones Well Drilling Firm Name 3700 Howard Terraville Md 21084 Address David Kelly 10/15/19 Signature Date			B 4 SOURCES OF DRILLING WATER 1. potabile well 2. 3. 4233 Dancing Sunbeam Ct. 11 STREET ADDRESS 30 ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX) NORTH N WEST W EAST E SOUTH S 34 140 37 DISTANCE FROM ROAD FT ENTER FT OR MI 38 39 TAX MAP: 0024 BLK: 0021 PARCEL 197		
B 2 WELL INFORMATION APPROX. PUMPING RATE (GAL. PER MIN.) 8 12 AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) 14 20			NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL Howard County 13 COUNTY NAME COUNTY NO. STATE SIGNATURE INSERT S 41 DATE ISSUED 10/15/2019 43 MM DD YY 48 CO SIGNATURE EXP. DATE		
USE FOR WATER (CIRCLE APPROPRIATE BOX) 22 <input type="checkbox"/> DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION <input type="checkbox"/> FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION) <input type="checkbox"/> INDUSTRIAL, COMMERCIAL, DEWATERING <input type="checkbox"/> PUBLIC WATER SUPPLY WELL <input type="checkbox"/> TEST, OBSERVATION, MONITORING <input type="checkbox"/> OPEN LOOP GEOTHERMAL <input checked="" type="checkbox"/> CLOSED LOOP GEOTHERMAL 2 holes			PROPOSED LOCATION OF WELL ON LOT SHOW PERMANENT STRUCTURES SUCH AS BUILDINGS, SEPTIC SYSTEM, ROADS AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCE MEASUREMENTS TO WELL 		
APPROXIMATE DEPTH OF WELL 280 FEET APPROXIMATE DIAMETER OF WELL 6 INCH NEAREST INCH BOF He. Co. 10/31/19 15 30 AIR He. Co. notification 10/28/19 8:30 for 10/27/19 37 CAE Miss U 19745882 by 10/28 othe.			REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX) 39 <input checked="" type="checkbox"/> THIS WELL WILL NOT REPLACE AN EXISTING WELL <input type="checkbox"/> THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED <input type="checkbox"/> THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS <input type="checkbox"/> THIS WELL WILL DEEPEM AN EXISTING WELL PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) 41 52		
Not to be filled in by driller (MDE OR COUNTY USE ONLY) APPROP. PERMIT NUMBER G PERMIT No. 40-18-0121 70 71 72 73 74 75 76 77 78 79			Pursuant to § 10-624 of the State Govt. Article of the Maryland Code, personal info requested on this form is used in processing this form pursuant to COMAR 26.04.04. Failure to provide the info may result in this form not being processed. You have the right to inspect, amend, or correct this form. The Maryland Department of the Environment is subject to the Maryland Public Information Act. This form may be made available on the Internet via MDE's website and is subject to inspection or copying, in whole or in part, by the public and other governmental agencies, if not protected by federal or State Law.		
SPECIAL CONDITIONS NOTE: APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED					

M19000954

HVAC Load Calculations

for

Leonardo Silvestri
4233 Dancing Sunbeam, Ct.
Elliott City, 21042



RHVAC RESIDENTIAL
HVAC LOADS

Prepared By:

Watervale Heating & A.C.
2116 Watervale, Rd.
Fallston, Md. 21047
410-879-0292
Monday, October 28, 2019

Project Report

General Project Information

Project Title:
 Project Date: Monday, October 28, 2019
 Client Name: Leonardo Silvestri
 Client Address: 4233 Dancing Sunbeam, Ct.
 Client City: Elliott City, 21042
 Client Phone: 443-790-8514
 Company Name: Watervale Heating & A.C.
 Company Address: 2116 Watervale, Rd.
 Company City: Fallston, Md. 21047
 Company Phone: 410-879-0292

Design Data

Reference City: Baltimore, Maryland
 Daily Temperature Range: Medium
 Latitude: 39 Degrees
 Elevation: 148 ft.
 Altitude Factor: 0.995
 Elevation Sensible Adj. Factor: 1.000
 Elevation Total Adj. Factor: 1.000
 Elevation Heating Adj. Factor: 1.000
 Elevation Heating Adj. Factor: 1.000

	Outdoor Dry Bulb	Outdoor Wet Bulb	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	5	0	30	72	29
Summer:	95	75	50	75	34

Check Figures

Total Building Supply CFM:	1,085	CFM Per Square ft.:	0.258
Square ft. of Room Area:	4,200	Square ft. Per Ton:	1,592
Volume (ft ³) of Cond. Space:	33,600	Air Turnover Rate (per hour):	1.9

Building Loads

Total Heating Required With Outside Air:	42,435 Btuh	42.435 MBH
Total Sensible Gain:	23,748 Btuh	91 %
Total Latent Gain:	2,289 Btuh	9 %
Total Cooling Required With Outside Air:	26,037 Btuh	2.17 Tons (Based On Sensible + Latent)
		2.64 Tons (Based On 75% Sensible Capacity)

Notes

Calculations are based on 8th edition of ACCA Manual J.
 All computed results are estimates as building use and weather may vary.
 Be sure to select a unit that meets both sensible and latent loads.

Load Preview Report

Scope	Has VFD	Net Ton	Rec Ton	Ill Ton	Area	Sen Gain	Tot Gain	Net Gain	Sen Loss	Sys Htg CFM	Sys Cig CFM	Sys A/C CFM	Duct Size
Building		2.17	2.64	1,592	4,200	23,748	2,289	26,037	42,435	554	1,085	1,085	
System 1	Yes	2.17	2.64	1,592	4,200	23,748	2,289	26,037	42,435	554	1,085	1,085	12x16
Zone 1					2,100	3,025	451	3,476	14,021	183	138	138	5x5
1-Basement					2,100	3,025	451	3,476	14,021	183	138	138	1-7
Zone 2					2,100	22,660	1,838	24,498	28,414	371	1,036	1,036	12x15
2-First Floor					2,100	22,660	1,838	24,498	28,414	371	1,036	1,036	9-6
Sum of room airflows may be greater than system airflow because system has multiple zones.													

Detailed Room Loads - Room 1 - Basement (Peak Fenestration Gain Procedure)

General

Room is in zone 1, which peaks at 10 am

Calculation Mode:	Htg. & clg.	Occurrences:	1
Room Length:	60.0 ft.	System Number:	1
Room Width:	35.0 ft.	Zone Number:	1
Area:	2,100.0 sq.ft.	Supply Air:	138 CFM
Ceiling Height:	8.0 ft.	Supply Air Changes:	0.5 AC/hr
Volume:	16,800.0 cu.ft.	Required Vent.:	0 CFM
Number of Registers:	1	Actual Winter Vent.:	0 CFM
Runout Air:	0 CFM	Percent of Supply.:	0 %
Runout Duct Size:	7 in.	Actual Summer Vent.:	0 CFM
Runout Air Velocity:	517 ft./min.	Percent of Supply:	0 %
Runout Air Velocity:	517 ft./min.	Actual Winter Infil.:	39 CFM
Actual Loss:	0.138 in.wg./100 ft.	Actual Summer Infil.:	19 CFM

Item Description	Area Quantity	U Value	Htg HTM	Sen Loss	Clg HTM	Lat Gain	Sen Gain
E -Wall-12B-0sw 35 X 8	265	0.097	6.5	1,722	2.8	0	748
N -Wall-15A-15s3fc-6 60 X 8	480	0.056	3.7	1,793	0.2	0	108
W -Wall-15A11-0fcw-4 35 X 8	280	0.057	4.9	1,360	0.8	0	218
S -Wall-15A-8sfoc-6 60 X 8	480	0.057	4.6	2,203	0.5	0	226
E -Gls-1D-cw-o shgc-0.56 0%S	15	0.570	38.2	573	86.6	0	1,299
Floor-21A-24 35 X 60	2100	0.025	1.7	3,518	0.0	0	0

Subtotals for Structure:				11,169		0	2,599
Infil.: Win.: 38.9, Sum.: 19.5	660		4.321	2,852	0.645	451	426
Room Totals:				14,021		451	3,025

Detailed Room Loads - Room 2 - First Floor (Peak Fenestration Gain Procedure)

General

Room is in zone 2, which peaks at 4 pm

Calculation Mode:	Htg. & clg.	Occurrences:	1
Room Length:	60.0 ft.	System Number:	1
Room Width:	35.0 ft.	Zone Number:	2
Area:	2,100.0 sq.ft.	Supply Air:	1,036 CFM
Ceiling Height:	8.0 ft.	Supply Air Changes:	3.7 AC/hr
Volume:	16,800.0 cu.ft.	Required Vent.:	0 CFM
Number of Registers:	9	Actual Winter Vent.:	0 CFM
Runout Air:	0 CFM	Percent of Supply.:	0 %
Runout Duct Size:	6 in.	Actual Summer Vent.:	0 CFM
Runout Air Velocity:	586 ft./min.	Percent of Supply:	0 %
Runout Air Velocity:	586 ft./min.	Actual Winter Infil.:	90 CFM
Actual Loss:	0.218 in.wg./100 ft.	Actual Summer Infil.:	45 CFM

Item Description	Area Quantity	U Value	Htg HTM	Sen Loss	Clg HTM	Lat Gain	Sen Gain
E -Wall-12B-0sw 35 X 8	235	0.097	6.5	1,527	2.8	0	663
N -Wall-12B-0sw 60 X 8	424	0.097	6.5	2,756	2.8	0	1,197
W -Wall-12B-0sw 35 X 8	238	0.097	6.5	1,547	2.8	0	672
S -Wall-12B-0sw 60 X 8	399	0.097	6.5	2,593	2.8	0	1,126
S -Door-11J 6 X 7	42	0.600	40.2	1,688	18.6	0	781
W -Gls-1D-cw-o shgc-0.56 0%S	42	0.570	38.2	1,604	90.7	0	3,808
N -Gls-1D-cw-o shgc-0.56 0%S	56	0.570	38.2	2,139	29.2	0	1,635
E -Gls-1D-cw-o shgc-0.56 0%S	45	0.570	38.2	1,719	46.1	0	2,073
S -Gls-1D-cw-o shgc-0.56 0%S	39	0.570	38.2	1,489	57.7	0	2,250
UP-Ceil-16A-28 60 X 35	2100	0.034	2.3	4,784	2.6	0	5,355
Subtotals for Structure:				21,846		0	19,560
Infil.: Win.: 89.6, Sum.: 44.8	1,520		4.321	6,568	0.645	1,038	980
People: 200 lat/per, 230 sen/per:	4					800	920
Equipment:						0	1,200
Room Totals:				28,414		1,838	22,660