

Load Short Form

MAIN HOUSE AC 2

WebReps LLC.

Job: East Northview Avenue
Date:
By: Craig C Brooks
Plan: East Northview Avenue

1880 82nd Avenue Suite # 203, Vero Beach, FL 32966 Phone: 800-810-3280 Fax: 888 971 2999 Email: manualj@webrepshvac.com Web: www.webrepshvac.com

Project Information

For: Anyone, Heating and Cooling
Any, Anywhere, AZ

Design Information

	Htg	Clg	Infiltration	
Outside db (°F)	34	108	Method	Simplified
Inside db (°F)	74	75	Construction quality	Semi-tight
Design TD (°F)	40	34	Fireplaces	1 (Semi-tight)
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	15	-20		

HEATING EQUIPMENT

Make Trane
Trade TRANE
Model S8X1C080M5PT***
AHRI ref 202865481

Efficiency 80 AFUE
Heating input 80000 Btuh
Heating output 66000 Btuh
Temperature rise 45 °F
Actual air flow 1383 cfm
Air flow factor 0.053 cfm/Btuh
Static pressure 0.60 in H2O
Space thermostat

COOLING EQUIPMENT

Make Trane
Trade TRANE
Cond 5TTR4042A1
Coil 5TXCC009AS3+S8X1C080M5PTC
AHRI ref 215558920

Efficiency 11.7 EER2, 14.3 SEER2
Sensible cooling 31540 Btuh
Latent cooling 9960 Btuh
Total cooling 41500 Btuh
Actual air flow 1383 cfm
Air flow factor 0.054 cfm/Btuh
Static pressure 0.60 in H2O
Load sensible heat ratio 0.76

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
LIVING ROOM	419	5931	4719	314	253
HALL CL	15	0	0	0	0
ENTRY	54	1172	1044	62	56
DINING ROOM	209	2775	4362	147	234
BEDROOM 2	179	3444	2636	183	141
BED 2 CL	28	0	0	0	0
BEDROOM 3	222	4038	2911	214	156
BATHROOM 3	48	730	377	39	20
CLOSET 3	25	0	0	0	0
BATH 2	83	1108	922	59	49
PANTRY	26	84	466	4	25
HALL	94	0	0	0	0
BREAKFAST	110	1462	2825	77	152
KITCHEN	348	4984	5442	264	292

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

BUTLERS PANTRY	43	363	87	19	5
MAIIN HOUSE AC 2	1902	26090	25790	1383	1383
Other equip loads		4782	4257		
Equip. @ 1.00 RSM			30048		
Latent cooling			9411		
TOTALS	1902	30872	39458	1383	1383

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Design TD (°F)	40	34	Fireplaces	1 (Semi-tight)
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	15	-20		

HEATING EQUIPMENT

Make Trane
Trade TRANE
Model S8X1A040M3PS***
AHRI ref 202408074

Efficiency 80 AFUE
Heating input 40000 Btuh
Heating output 33000 Btuh
Temperature rise 53 °F
Actual air flow 590 cfm
Air flow factor 0.041 cfm/Btuh
Static pressure 0.60 in H2O
Space thermostat

COOLING EQUIPMENT

Make Trane
Trade TRANE
Cond 4TTR3018N1
Coil 4TXCA002DS3+S8X1A040M3PSC
AHRI ref 209662645

Efficiency 11.7 EER2, 13.4 SEER2
Sensible cooling 13452 Btuh
Latent cooling 4248 Btuh
Total cooling 17700 Btuh
Actual air flow 590 cfm
Air flow factor 0.057 cfm/Btuh
Static pressure 0.60 in H2O
Load sensible heat ratio 0.76

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
MASTER BEDROOM	295	6753	5452	278	313
MASTER BATH	191	2970	2266	122	130
VESTIBULE	65	0	0	0	0
WC	30	397	162	16	9
PWDR	34	565	62	23	4
HALL 2	38	0	0	0	0
MUD ROOM	69	1009	437	42	25
LAUNDRY ROOM	111	1706	1498	70	86
MASTER CLOSET	94	943	414	39	24

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MASTERAC 1	928	14344	9498	590	590
Other equip loads		2921	3223		
Equip. @ 1.00 RSM			12721		
Latent cooling			4111		
TOTALS	928	17265	16832	590	590

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Project Information

For: Anyone, Heating and Cooling
Any, Anywhere, AZ

Notes: East Northview Avenue, Phoenix, AZ 85020

Design Information

Weather: Phoenix Sky Harbor, AZ, US

Winter Design Conditions

Outside db	34 °F
Inside db	74 °F
Design TD	40 °F

Ventilation Method ASHRAE 62.2-2019

Heating Summary

Structure	21522 Btuh
Ducts (R-6.0)	4568 Btuh
Central vent (72 cfm)	3046 Btuh
Outside air	
Humidification	1736 Btuh
Piping	0 Btuh
Equipment load	30872 Btuh

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	1 (Semi-tight)

	Heating	Cooling
Area (ft²)	1902	1902
Volume (ft³)	16472	16472
Air changes/hour	0.22	0.10
Equiv. AVF (cfm)	60	26

Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	S8X1C080M5PT***
AHRI ref	202865481

Efficiency	80 AFUE
Heating input	80000 Btuh
Heating output	66000 Btuh
Temperature rise	45 °F
Actual air flow	1383 cfm
Air flow factor	0.053 cfm/Btuh
Static pressure	0.60 in H2O
Space thermostat	

Summer Design Conditions

Outside db	108 °F
Inside db	75 °F
Design TD	34 °F
Daily range	M
Relative humidity	50 %
Moisture difference	-20 gr/lb

Sensible Cooling Equipment Load Sizing

Structure	21944 Btuh
Ducts (R-6.0)	3847 Btuh
Central vent (72 cfm)	2551 Btuh
Outside air	
Blower	1706 Btuh
Use manufacturer's data	y
Rate/swing multiplier	1.00
Equipment sensible load	30048 Btuh

Latent Cooling Equipment Load Sizing

Structure	10659 Btuh
Ducts	-316 Btuh
Central vent (72 cfm)	-933 Btuh
Outside air	
Equipment latent load	9411 Btuh

Equipment Total Load (Sen+Lat)	39458 Btuh
Req. total capacity at 0.76 SHR	3.3 ton

Cooling Equipment Summary

Make	Trane
Trade	TRANE
Cond	5TTR4042A1
Coil	5TXCC009AS3+S8X1C080M5PTC
AHRI ref	215558920

Efficiency	11.7 EER2, 14.3 SEER2
Sensible cooling	31540 Btuh
Latent cooling	9960 Btuh
Total cooling	41500 Btuh
Actual air flow	1383 cfm
Air flow factor	0.054 cfm/Btuh
Static pressure	0.60 in H2O
Load sensible heat ratio	0.76

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Project Information

For: Anyone, Heating and Cooling
Any, Anywhere, AZ

Notes: East Northview Avenue, Phoenix, AZ 85020

Design Information

Weather: Phoenix Sky Harbor, AZ, US

Winter Design Conditions

Outside db	34 °F
Inside db	74 °F
Design TD	40 °F

Ventilation Method ASHRAE 62.2-2019

Summer Design Conditions

Outside db	108 °F
Inside db	75 °F
Design TD	34 °F
Daily range	M
Relative humidity	50 %
Moisture difference	-20 gr/lb

Heating Summary

Structure	12795 Btuh
Ducts (R-6.0)	1549 Btuh
Central vent (43 cfm)	1811 Btuh
Outside air	
Humidification	1110 Btuh
Piping	0 Btuh
Equipment load	17265 Btuh

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	1 (Semi-tight)

	Heating	Cooling
Area (ft²)	928	928
Volume (ft³)	8309	8309
Air changes/hour	0.32	0.14
Equiv. AVF (cfm)	44	19

Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	S8X1A040M3PS***
AHRI ref	202408074

Efficiency	80 AFUE
Heating input	40000 Btuh
Heating output	33000 Btuh
Temperature rise	53 °F
Actual air flow	590 cfm
Air flow factor	0.041 cfm/Btuh
Static pressure	0.60 in H2O
Space thermostat	

Sensible Cooling Equipment Load Sizing

Structure	8211 Btuh
Ducts (R-6.0)	1287 Btuh
Central vent (43 cfm)	1516 Btuh
Outside air	
Blower	1706 Btuh
Use manufacturer's data	y
Rate/swing multiplier	1.00
Equipment sensible load	12721 Btuh

Latent Cooling Equipment Load Sizing

Structure	4752 Btuh
Ducts	-87 Btuh
Central vent (43 cfm)	-555 Btuh
Outside air	
Equipment latent load	4111 Btuh

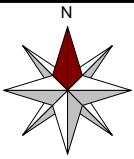
Equipment Total Load (Sen+Lat)	16832 Btuh
Req. total capacity at 0.76 SHR	1.4 ton

Cooling Equipment Summary

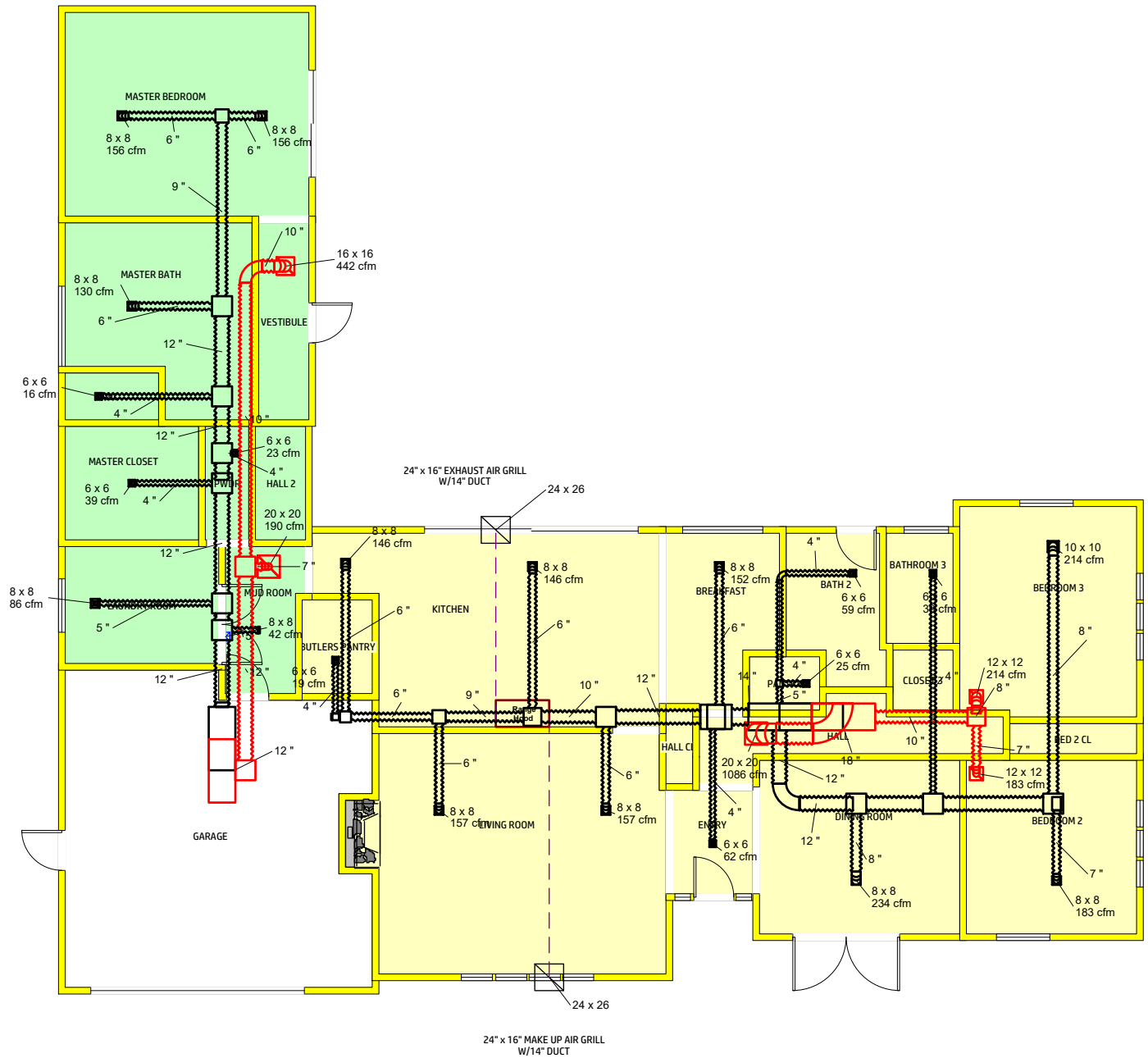
Make	Trane
Trade	TRANE
Cond	4TTR3018N1
Coil	4TXCA002DS3+S8X1A040M3PSC
AHRI ref	209662645

Efficiency	11.7 EER2, 13.4 SEER2
Sensible cooling	13452 Btuh
Latent cooling	4248 Btuh
Total cooling	17700 Btuh
Actual air flow	590 cfm
Air flow factor	0.057 cfm/Btuh
Static pressure	0.60 in H2O
Load sensible heat ratio	0.76

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



FIRST FLOOR



Job #: East Northview Avenue
Performed by Craig C Brooks for:
Anyone
Any
Anywhere, AZ

WebReps LLC.
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Duct System Summary

MAIN HOUSE AC 2

WebReps LLC.

Job: East Northview Avenue
Date:
By: Craig C Brooks
Plan: East Northview Avenue

1880 82nd Avenue Suite # 203, Vero Beach, FL 32966 Phone: 800-810-3280 Fax: 888 971 2999 Email: manualj@webrepshvac.com Web: www.webrepshvac.com

Project Information

For: Anyone, Heating and Cooling
Any, Anywhere, AZ

	Heating	Cooling
External static pressure	0.60 in H2O	0.60 in H2O
Pressure losses	0.23 in H2O	0.23 in H2O
Available static pressure	0.37 in H2O	0.37 in H2O
Supply / return available pressure	0.297 / 0.073 in H2O	0.297 / 0.073 in H2O
Lowest friction rate	0.055 in/100ft	0.055 in/100ft
Actual air flow	1383 cfm	1383 cfm
Total effective length (TEL)	677 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
BATH 2	h 1108	59	49	0.164	4.0	0x0	VIFx	16.2	165.0	st3
BATHROOM 3	h 730	39	20	0.114	4.0	0x0	VIFx	35.2	225.0	st6
BEDROOM 2	h 3444	183	141	0.090	7.0	0x0	VIFx	33.0	295.0	st6
BEDROOM 3	h 4038	214	156	0.090	8.0	0x0	VIFx	46.2	285.0	st6
BREAKFAST	c 2825	77	152	0.174	6.0	0x0	VIFx	15.8	155.0	st4
BUTLERS PANTRY-A	h 363	19	5	0.055	4.0	0x0	VIFx	37.5	505.0	st4D
DINING ROOM	c 4362	147	234	0.162	8.0	0x0	VIFx	18.0	165.0	st6
ENTRY	h 1172	62	56	0.129	4.0	0x0	VIFx	14.5	215.0	st4
KITCHEN	c 2721	132	146	0.077	6.0	0x0	VIFx	29.8	355.0	st4B
KITCHEN-A	c 2721	132	146	0.055	6.0	0x0	VIFx	44.0	495.0	st4D
LIVING ROOM	h 2965	157	127	0.065	6.0	0x0	VIFx	32.5	425.0	st4C
LIVING ROOM-A	h 2965	157	127	0.097	6.0	0x0	VIFx	20.0	285.0	st4A
PANTRY-A	c 466	4	25	0.186	4.0	0x0	VIFx	4.5	155.0	st3

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st6	PeakAVF	582	552	0.090	742	12.0	0 x 0	VinFlx	st2
st2	PeakAVF	582	552	0.090	742	12.0	0 x 0	VinFlx	
st3	PeakAVF	63	74	0.164	546	5.0	0 x 0	VinFlx	
st4	PeakAVF	737	757	0.055	708	14.0	0 x 0	VinFlx	
st4A	PeakAVF	598	550	0.055	761	12.0	0 x 0	VinFlx	st4
st4B	PeakAVF	441	423	0.055	808	10.0	0 x 0	VinFlx	st4A
st4C	PeakAVF	309	277	0.055	698	9.0	0 x 0	VinFlx	st4B
st4D	PeakAVF	151	151	0.055	771	6.0	0 x 0	VinFlx	st4C

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb6	0x 0	214	156	131.5	0.056	613	8.0	0x 0		VIFx	rt2
rb7	0x 0	183	141	134.2	0.055	683	7.0	0x 0		VIFx	rt2
rb2	0x 0	986	1086	77.8	0.094	614	18.0	0x 0		VIFx	

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt2	PeakAVF	397	297	0.055	727	10.0	0 x 0	VinFlx	

Duct System Summary

MASTER AC 1

WebReps LLC.

Job: East Northview Avenue
Date:
By: Craig C Brooks
Plan: East Northview Avenue

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Project Information

For: Anyone, Heating and Cooling
Any, Anywhere, AZ

	Heating	Cooling
External static pressure	0.60 in H2O	0.60 in H2O
Pressure losses	0.23 in H2O	0.23 in H2O
Available static pressure	0.37 in H2O	0.37 in H2O
Supply / return available pressure	0.261 / 0.109 in H2O	0.261 / 0.109 in H2O
Lowest friction rate	0.043 in/100ft	0.043 in/100ft
Actual air flow	590 cfm	590 cfm
Total effective length (TEL)	859 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
LAUNDRY ROOM	c 1498	70	86	0.112	5.0	0x0	VIFx	17.2	215.0	st1
MASTER BATH	c 2266	122	130	0.050	6.0	0x0	VIFx	36.8	485.0	st1C
MASTER BEDROOM	c 2726	139	156	0.043	6.0	0x0	VIFx	51.8	555.0	st1D
MASTER BEDROOM-A	c 2726	139	156	0.043	6.0	0x0	VIFx	47.2	555.0	st1D
MASTER CLOSET	h 943	39	24	0.085	4.0	0x0	VIFx	23.5	285.0	st1A
MUD ROOM	h 437	42	25	0	0	0x0	VIFx	0	0	
PWDR	h 565	23	4	0.072	4.0	0x0	VIFx	20.0	345.0	st1A
WC	h 397	16	9	0.058	4.0	0x0	VIFx	32.5	415.0	st1B

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1	PeakAVF	548	565	0.043	719	12.0	0 x 0	VinIFlx	
st1A	PeakAVF	478	479	0.043	610	12.0	0 x 0	VinIFlx	st1
st1B	PeakAVF	416	452	0.043	575	12.0	0 x 0	VinIFlx	st1A
st1C	PeakAVF	400	442	0.043	563	12.0	0 x 0	VinIFlx	st1B
st1D	PeakAVF	278	313	0.043	707	9.0	0 x 0	VinIFlx	st1C

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x0	400	442	252.5	0.043	811	10.0	0x 0		VIFx	rt4A
rb3	0x0	190	148	198.8	0.055	711	7.0	0x 0		VIFx	rt4

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt4A	PeakAVF	400	442	0.043	811	10.0	0 x 0	VinFlx	rt4
rt4	PeakAVF	590	590	0.043	751	12.0	0 x 0	VinFlx	rt1
rt1	PeakAVF	590	590	0.043	751	12.0	0 x 0	VinFlx	