

Load Short Form

System #1

New Age Dimensions, LLC.

Job: McDaniel Residence
 Date: 11/9/2022
 By: Dakota Cross
 Plan: Manual J & D

14080 S.E. 122nd Lane Road, Ocklawaha, FL 32179 Phone: (352) 288 - 0686 Fax: (352) 288 - 0684 Email: john.newage@gmail.com

Project Information

For: Touchstone Heating & Air, Inc.
 490 S.E. 3rd Avenue, Lake Butler, FL 32054
 Phone: (386) 496 - 3467 Fax: (386) 496 - 3147

Design Information

	Htg	Clg	Infiltration	
Outside db (°F)	33	92	Method	Simplified
Inside db (°F)	68	75	Construction quality	Average
Design TD (°F)	35	17	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	29	47		

HEATING EQUIPMENT

Make York
 Trade YORK
 Model YZT48B21
 AHRI ref 209551791

Efficiency 9.5 HSPF

Heating input
 Heating output 44500 Btuh @ 47°F
 Temperature rise 25 °F
 Actual air flow 1600 cfm
 Air flow factor 0.044 cfm/Btuh
 Static pressure 0.51 in H2O
 Space thermostat
 Capacity balance point = 32 °F

Backup:
 Input = 10 kW, Output = 34121 Btuh, 100 AFUE

COOLING EQUIPMENT

Make York
 Trade YORK
 Cond YZT48B21
 Coil AV600CT
 AHRI ref 209551791

Efficiency 12.5 EER, 16 SEER

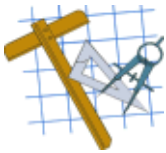
Sensible cooling 31850 Btuh
 Latent cooling 13650 Btuh
 Total cooling 45500 Btuh
 Actual air flow 1600 cfm
 Air flow factor 0.046 cfm/Btuh
 Static pressure 0.51 in H2O
 Load sensible heat ratio 0.82

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Bedroom #2	172	4511	3247	199	149
Bathrm #2	68	1198	964	53	44
Bedroom #3	172	4498	3734	199	172
Foyer	59	1067	646	47	30
Dinette	64	432	229	19	11
Pantry	55	1667	1306	74	60
Kitchen	266	3995	4193	176	193
Great Room	311	4661	7176	206	330
Dining	184	281	1534	12	70
Mudroom	138	976	1746	43	80
Laundry	123	2753	2525	121	116
Mstr WIC	119	1067	352	47	16
Mstr Bathrm	150	3110	1192	137	55
Mstr Bedroom	274	2596	3509	115	161

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

Sitting	132	3442	2475	152	114
System #1	2286	36258	34830	1600	1600
Other equip loads		5716	2822		
Equip. @ 0.97 RSM			36522		
Latent cooling			8505		
TOTALS	2286	41973	45027	1600	1600

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



Load Short Form

System #2

New Age Dimensions, LLC.

Job: McDaniel Residence
 Date: 11/9/2022
 By: Dakota Cross
 Plan: Manual J & D

14080 S.E. 122nd Lane Road, Ocklawaha, FL 32179 Phone: (352) 288 - 0686 Fax: (352) 288 - 0684 Email: john.newage@gmail.com

Project Information

For: Touchstone Heating & Air, Inc.
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 Phone: (386) 496 - 3467 Fax: (386) 496 - 3147

Design Information

	Htg	Clg	Infiltration	
Outside db (°F)	33	92	Method	Simplified
Inside db (°F)	68	75	Construction quality	Average
Design TD (°F)	35	17	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	29	47		

HEATING EQUIPMENT

Make York
 Trade YORK
 Model YZT36B21
 AHRI ref 202349386

Efficiency 9.5 HSPF
 Heating input
 Heating output 31800 Btuh @ 47°F
 Temperature rise 24 °F
 Actual air flow 1200 cfm
 Air flow factor 0.054 cfm/Btuh
 Static pressure 0.51 in H2O
 Space thermostat
 Capacity balance point = 25 °F

Backup:

Input = 10 kW, Output = 34121 Btuh, 100 AFUE

COOLING EQUIPMENT

Make York
 Trade YORK
 Cond YZT36B21
 Coil AV360CT
 AHRI ref 202349386

Efficiency 13.0 EER, 17 SEER
 Sensible cooling 24220 Btuh
 Latent cooling 10380 Btuh
 Total cooling 34600 Btuh
 Actual air flow 1200 cfm
 Air flow factor 0.045 cfm/Btuh
 Static pressure 0.51 in H2O
 Load sensible heat ratio 0.86

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Bedroom #4	156	2860	3160	153	142
Bedroom #5	163	3188	3766	171	169
1/2 Bath	42	65	100	4	4
1/2 Bath #2	39	78	102	4	5
Shwr	33	51	79	3	4
Mech	143	1593	3199	85	143
Bonus Room	854	11749	12374	629	554
Landing	235	2823	4007	151	179

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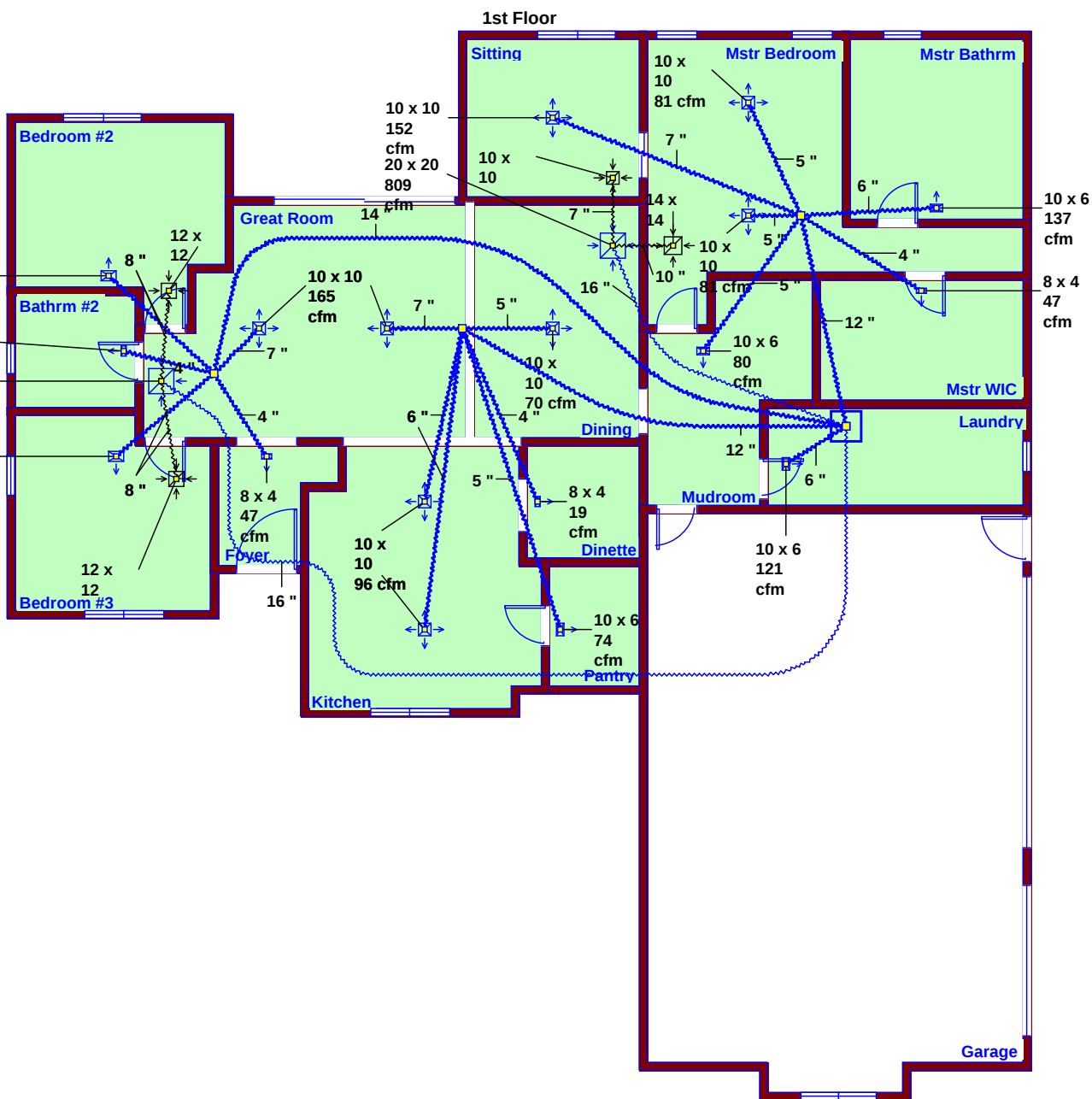
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System #2	1664	22409	26785	1200	1200
Other equip loads		0	1707		
Equip. @ 0.97 RSM			27637		
Latent cooling			4501		
TOTALS	1664	22409	32138	1200	1200

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



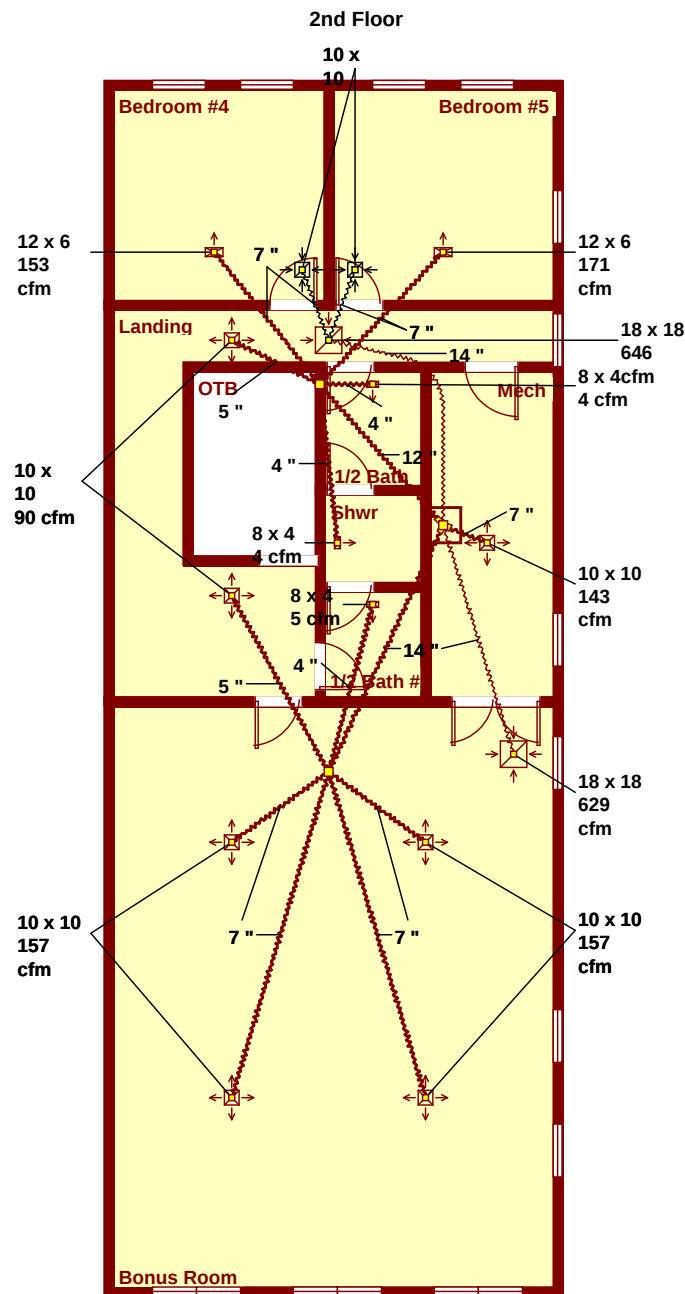
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Job #: McDaniel Residence
Performed by Dakota Cross for:

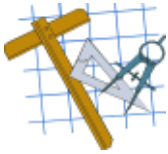
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Manual S Compliance Report

System #1

New Age Dimensions, LLC.

Job: McDaniel Residence
Date: 11/9/2022
By: Dakota Cross
Plan: Manual J & D

14080 S.E. 122nd Lane Road, Ocklawaha, FL 32179 Phone: (352) 288 - 0686 Fax: (352) 288 - 0684 Email: john.newage@gmail.com

Project Information

For: Touchstone Heating & Air, Inc.
490 S.E. 3rd Avenue, Lake Butler, FL 32054
Phone: (386) 496 - 3467 Fax: (386) 496 - 3147

Cooling Equipment

Design Conditions

Outdoor design DB:	92.0°F	Sensible gain:	37652	Btuh	Entering coil DB:	79.0°F
Outdoor design WB:	76.3°F	Latent gain:	8505	Btuh	Entering coil WB:	64.6°F
Indoor design DB:	75.0°F	Total gain:	46157	Btuh		
Indoor RH:	50%	Estimated airflow:	1600	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	York	Model:	YZT48B21+AV600CT
Actual airflow:	1600	cfm	
Sensible capacity:	31850	Btuh	85% of load
Latent capacity:	13650	Btuh	160% of load
Total capacity:	45500	Btuh	99% of load SHR: 70%

Heating Equipment

Design Conditions

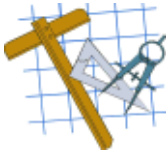
Outdoor design DB:	33.4°F	Heat loss:	41973	Btuh	Entering coil DB:	63.6°F
Indoor design DB:	68.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	York	Model:	YZT48B21+AV600CT
Actual airflow:	1600	cfm	
Output capacity:	44500	Btuh	106% of load
Supplemental heat required:	0	Btuh	
Capacity balance:	32	°F	
Economic balance:	-99	°F	

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	1600	cfm	
Output capacity:	10.0	kW	81% of load Temp. rise: 20 °F

Meets all requirements of ACCA Manual S.



Manual S Compliance Report

System #2

New Age Dimensions, LLC.

Job: McDaniel Residence
Date: 11/9/2022
By: Dakota Cross
Plan: Manual J & D

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Project Information

For: Touchstone Heating & Air, Inc.
490 S.E. 3rd Avenue, Lake Butler, FL 32054
Phone: (386) 496 - 3467 Fax: (386) 496 - 3147

Cooling Equipment

Design Conditions

Outdoor design DB:	92.0°F	Sensible gain:	28492	Btuh	Entering coil DB:	78.4°F
Outdoor design WB:	76.3°F	Latent gain:	4501	Btuh	Entering coil WB:	64.0°F
Indoor design DB:	75.0°F	Total gain:	32993	Btuh		
Indoor RH:	50%	Estimated airflow:	1200	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	York	Model:	YZT36B21+AV360CT
Actual airflow:	1200	cfm	
Sensible capacity:	24220	Btuh	85% of load
Latent capacity:	10380	Btuh	231% of load
Total capacity:	34600	Btuh	105% of load SHR: 70%

Heating Equipment

Design Conditions

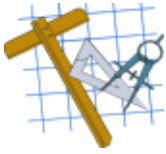
Outdoor design DB:	33.4°F	Heat loss:	22409	Btuh	Entering coil DB:	67.1°F
Indoor design DB:	68.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	York	Model:	YZT36B21+AV360CT
Actual airflow:	1200	cfm	
Output capacity:	31800	Btuh	142% of load
Supplemental heat required:	0	Btuh	
Capacity balance:	25	°F	
Economic balance:	-99	°F	

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	1200	cfm	
Output capacity:	10.0	kW	152% of load Temp. rise: 26 °F

Meets all requirements of ACCA Manual S.



Duct System Summary

System #1

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Project Information

For: Touchstone Heating & Air, Inc.
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 Phone: (386) 496 - 3467 Fax: (386) 496 - 3147

	Heating	Cooling
External static pressure	0.51 in H ₂ O	0.51 in H ₂ O
Pressure losses	0.18 in H ₂ O	0.18 in H ₂ O
Available static pressure	0.33 in H ₂ O	0.33 in H ₂ O
Supply / return available pressure	0.189 / 0.141 in H ₂ O	0.189 / 0.141 in H ₂ O
Lowest friction rate	0.880 in/100ft	0.880 in/100ft
Actual air flow	1600 cfm	1600 cfm
Total effective length (TEL)	408 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
Bathrm #2	h 1198	53	44	0.880	4.0	0x0	VIFx	59.8	170.0	st1
Bedroom #2	h 4511	199	149	0.880	8.0	0x0	VIFx	63.2	170.0	st1
Bedroom #3	h 4498	199	172	0.880	8.0	0x0	VIFx	62.1	170.0	st1
Dinette	h 432	19	11	0.880	4.0	0x0	VIFx	39.7	160.0	st2
Dining	c 1534	12	70	0.880	5.0	0x0	VIFx	33.2	160.0	st2
Foyer	h 1067	47	30	0.880	4.0	0x0	VIFx	60.1	170.0	st1
Great Room	c 3588	103	165	0.880	7.0	0x0	VIFx	32.2	160.0	st2
Great Room-A	c 3588	103	165	0.880	7.0	0x0	VIFx	57.8	170.0	st1
Kitchen	c 2097	88	96	0.880	6.0	0x0	VIFx	39.0	160.0	st2
Kitchen-A	c 2097	88	96	0.880	6.0	0x0	VIFx	47.4	160.0	st2
Laundry	h 2753	121	116	0.880	6.0	0x0	VIFx	4.7	95.0	
Mstr Bathrm	h 3110	137	55	0.880	6.0	0x0	VIFx	23.3	155.0	st3
Mstr Bedroom	c 1755	57	81	0.880	5.0	0x0	VIFx	22.6	155.0	st3
Mstr Bedroom-A	c 1755	57	81	0.880	5.0	0x0	VIFx	17.8	155.0	st3
Mstr WIC	h 1067	47	16	0.880	4.0	0x0	VIFx	23.8	155.0	st3
Mudroom	c 1746	43	80	0.880	5.0	0x0	VIFx	25.4	155.0	st3
Pantry	h 1667	74	60	0.880	5.0	0x0	VIFx	48.2	160.0	st2
Sitting	h 3442	152	114	0.880	7.0	0x0	VIFx	32.1	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
st1	Peak AVF	600	560	0.880	562	14.0	0 x 0	VinIFlx	
st2	Peak AVF	384	498	0.880	635	12.0	0 x 0	VinIFlx	
st3	Peak AVF	494	426	0.880	629	12.0	0 x 0	VinIFlx	

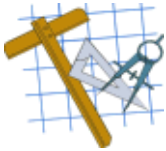
Return Branch Detail Table

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
rb3	20x 19	809	779	96.4	0.880	579	16.0	0x 0		VIFx	rst13
rb2	20x 19	791	821	174.4	0.880	588	16.0	0x 0		VIFx	rst12

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rst12	Peak AVF	791	821	0.880	588	16.0	0 x 0	VinIFlx	
rst13	Peak AVF	809	779	0.880	579	16.0	0 x 0	VinIFlx	





Duct System Summary

System #2

New Age Dimensions, LLC.

Job: McDaniel Residence
 Date: 11/9/2022
 By: Dakota Cross
 Plan: Manual J & D

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Project Information

For: Touchstone Heating & Air, Inc.
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 Phone: (386) 496 - 3467 Fax: (386) 496 - 3147

	Heating	Cooling
External static pressure	0.51 in H ₂ O	0.51 in H ₂ O
Pressure losses	0.18 in H ₂ O	0.18 in H ₂ O
Available static pressure	0.33 in H ₂ O	0.33 in H ₂ O
Supply / return available pressure	0.223 / 0.107 in H ₂ O	0.223 / 0.107 in H ₂ O
Lowest friction rate	0.880 in/100ft	0.880 in/100ft
Actual air flow	1200 cfm	1200 cfm
Total effective length (TEL)	280 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
1/2 Bath	c 100	4	4	0.880	4.0	0x0	VIFx	13.6	155.0	st4
1/2 Bath #2	c 102	4	5	0.880	4.0	0x0	VIFx	25.3	155.0	st5
Bedroom #4	h 2860	153	142	0.880	7.0	0x0	VIFx	20.2	155.0	st4
Bedroom #5	h 3188	171	169	0.880	7.0	0x0	VIFx	20.9	155.0	st4
Bonus Room	h 2937	157	139	0.880	7.0	0x0	VIFx	22.2	155.0	st5
Bonus Room-A	h 2937	157	139	0.880	7.0	0x0	VIFx	22.2	155.0	st5
Bonus Room-B	h 2937	157	139	0.880	7.0	0x0	VIFx	34.7	155.0	st5
Bonus Room-C	h 2937	157	139	0.880	7.0	0x0	VIFx	34.7	155.0	st5
Landing	c 2003	76	90	0.880	5.0	0x0	VIFx	16.2	155.0	st4
Landing-A	c 2003	76	90	0.880	5.0	0x0	VIFx	26.8	155.0	st5
Mech	c 3199	85	143	0.880	7.0	0x0	VIFx	2.7	95.0	
Shwr	c 79	3	4	0.880	4.0	0x0	VIFx	19.7	155.0	st4

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st4	Peak AVF	406	408	0.880	520	12.0	0 x 0	VinIFlx	
st5	Peak AVF	709	649	0.880	663	14.0	0 x 0	VinIFlx	



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
rb4	18x 16	629	554	73.6	0.880	589	14.0	0x 0		VIFx	
rb1	18x 17	571	646	90.7	0.880	604	14.0	0x 0		VIFx	rst14

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rst14	Peak AVF	571	646	0.880	604	14.0	0 x 0	VinIFlx	

