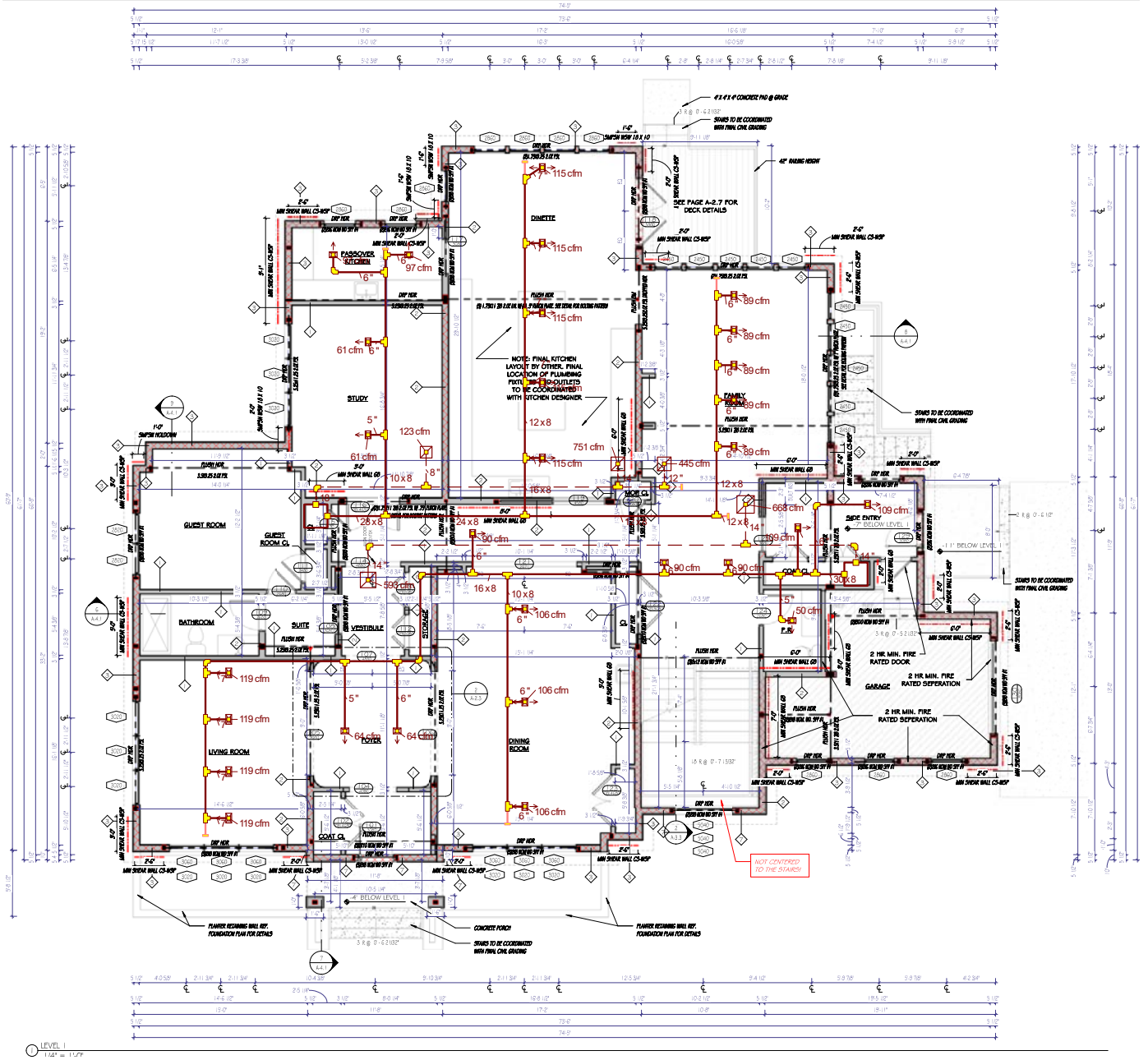






First Floor



LEVEL 1  
1/4" = 1'-0"

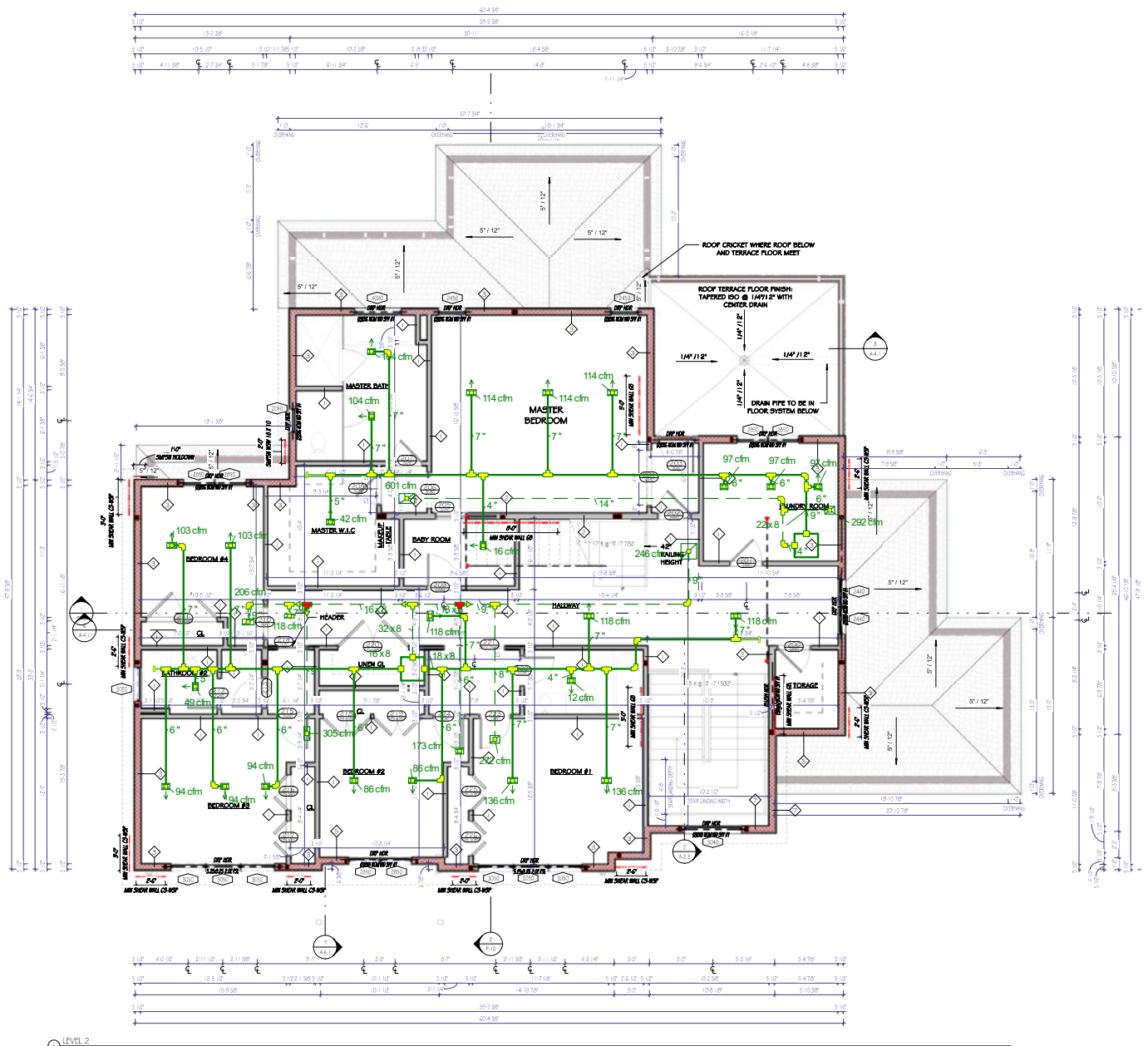
Job #:  
Performed for:  
Manual J Express

Manual J Express  
2 Grant Ave  
Lakewood, NJ 08701  
Phone: 732-731-9836  
manualjexpress@gmail.com

Scale: 1 : 163  
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Second Floor



LEVEL 2

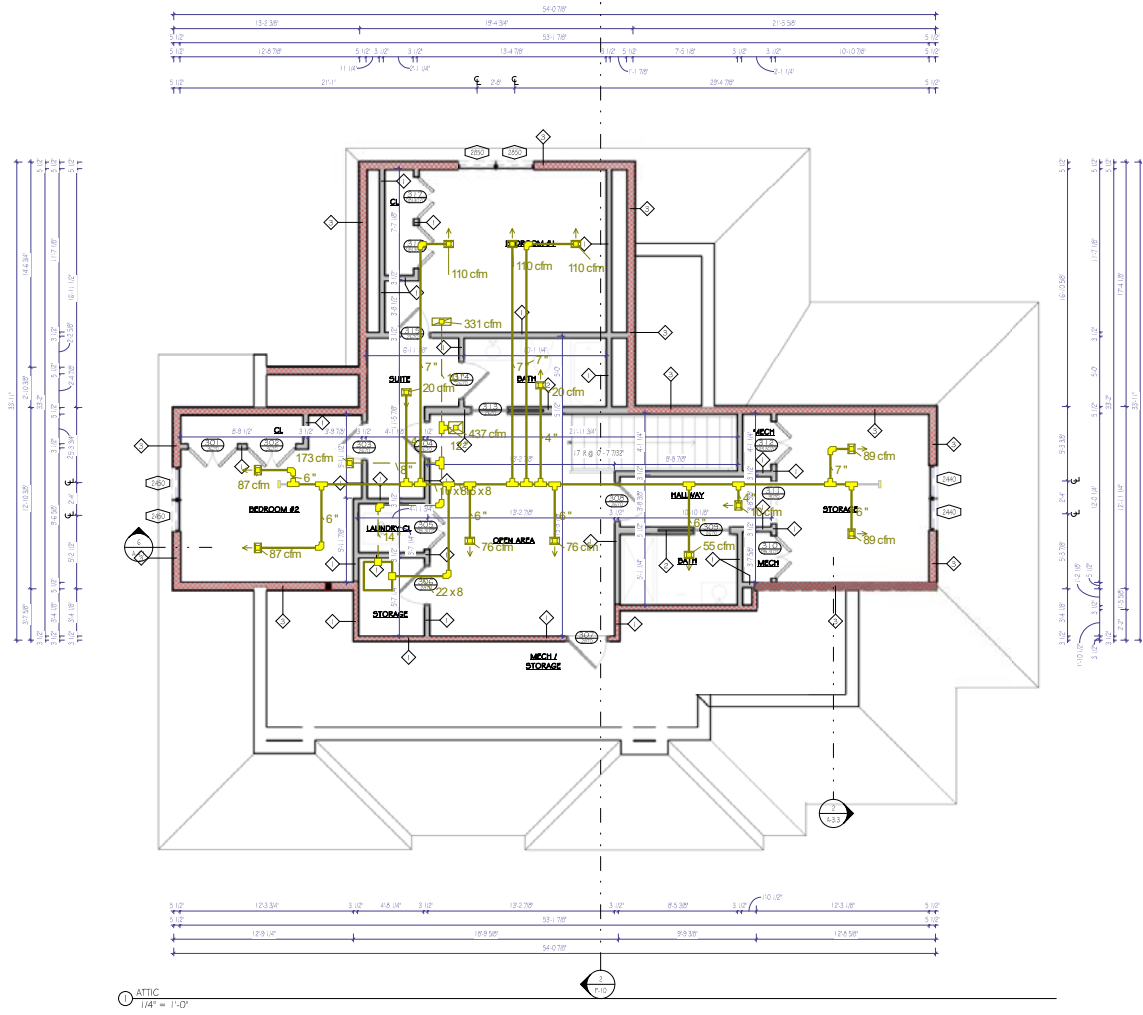
**Job #:**  
**Performed for:**  
Manual J Express

**Manual J Express**  
2 Grant Ave  
Lakewood, NJ 08701  
Phone: 732-731-9836  
manualjexpress@gmail.com

**Scale: 1 : 163**  
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**Job #:**  
**Performed for:**  
 Manual J Express

**Manual J Express**  
 2 Grant Ave  
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 Phone: 732-731-9836  
 manualjexpress@gmail.com

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 ...urt-Feb-05-2024 - Manual JDS.rup



# Duct System Summary

## AHU 01

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

## Project Information

For: Manual J Express

SAMPLE

	Heating	Cooling
External static pressure	0.65 in H2O	0.65 in H2O
Pressure losses	0.31 in H2O	0.31 in H2O
Available static pressure	0.34 in H2O	0.34 in H2O
Supply / return available pressure	0.233 / 0.107 in H2O	0.233 / 0.107 in H2O
Lowest friction rate	0.066 in/100ft	0.066 in/100ft
Actual air flow	1200 cfm	1200 cfm
Total effective length (TEL)	512 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
Dining Room	c 1436	82	106	0.095	6.0	0x0	ShMt	50.5	195.0	st55
Dining Room-A	c 1436	82	106	0.094	6.0	0x0	ShMt	41.5	205.0	st55
Dining Room-B	c 1436	82	106	0.094	6.0	0x0	ShMt	33.5	215.0	st55
Foyer/Vestibule	h 805	64	14	0.077	5.0	0x0	ShMt	56.5	245.0	st56
Foyer/Vestibule-A	h 805	64	14	0.076	6.0	0x0	ShMt	52.0	255.0	st56
Hallway 1	c 1216	77	90	0.132	6.0	0x0	ShMt	16.5	160.0	st6
Hallway 1-A	c 1216	77	90	0.097	<b>6.0</b>	<b>0x0</b>	ShMt	35.5	205.0	st56
Hallway 1-B	c 1216	77	90	0.132	6.0	0x0	ShMt	11.0	165.0	st6
Living Room	c 1613	82	119	0.069	7.0	0x0	ShMt	74.0	265.0	st56
Living Room-A	c 1613	82	119	0.070	7.0	0x0	ShMt	78.0	255.0	st56
Living Room-B	c 1613	82	119	0.068	7.0	0x0	ShMt	69.5	275.0	st56
Living Room-C	c 1613	82	119	0.066	7.0	0x0	ShMt	65.5	285.0	st56
P.R	h 628	50	9	0.119	5.0	0x0	ShMt	10.5	185.0	st6
Side Entry	h 1373	109	51	0.127	<b>8.0</b>	<b>8x0</b>	ShMt	8.0	175.0	st6
Side Entry-A	h 1373	109	51	0.118	6.0	0x0	ShMt	13.0	185.0	st6

## Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st56	Peak AVF	532	593	0.066	667	12.3	8 x 16	ShtMetl	st6
st55	Peak AVF	245	317	0.094	571	9.1	8 x 10	ShtMetl	st6
st6	Peak AVF	1200	1200	0.066	720	16.0	8 x 30	ShtMetl	

*Bold/italic values have been manually overridden*



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Court-Feb-05-2024 - Manual JDS.rup Calc = MJ8 Front Door faces: N

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## 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
rb2	0x0	532	593	161.5	0.066	555	<b>14.0</b>	<i>0</i> x <i>0</i>		ShMt	rt6
rb9	0x0	668	607	149.5	0.072	625	14.0	0x 0		ShMt	rt6

## Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt6	PeakAVF	1200	1200	0.066	1123	<b>14.0</b>	<i>0</i> x <i>0</i>	ShtMetl	

*Bold/italic values have been manually overridden*





# Duct System Summary

## AHU 02

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

### Project Information

For: Manual J Express  
SAMPLE

	Heating	Cooling
External static pressure	0.80 in H2O	0.80 in H2O
Pressure losses	0.31 in H2O	0.31 in H2O
Available static pressure	0.49 in H2O	0.49 in H2O
Supply / return available pressure	0.296 / 0.194 in H2O	0.296 / 0.194 in H2O
Lowest friction rate	0.074 in/100ft	0.074 in/100ft
Actual air flow	1200 cfm	1200 cfm
Total effective length (TEL)	665 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
Family Room	h 1075	89	84	0.074	6.0	0x0	ShMt	41.0	360.0	st53
Family Room-A	h 1075	89	84	0.074	6.0	0x0	ShMt	45.0	355.0	st53
Family Room-B	h 1075	89	84	0.075	6.0	0x0	ShMt	48.0	345.0	st53
Family Room-C	h 1075	89	84	0.077	6.0	0x0	ShMt	51.0	335.0	st53
Family Room-D	h 1075	89	84	0.078	6.0	0x0	ShMt	54.0	325.0	st53
Kitchen/Dinette	c 1114	88	115	0.094	7.0	0x0	ShMt	23.5	290.0	st50
Kitchen/Dinette-A	c 1114	88	115	0.077	7.0	0x0	ShMt	30.0	355.0	st49
Kitchen/Dinette-B	c 1114	88	115	0.078	7.0	0x0	ShMt	36.0	345.0	st49
Kitchen/Dinette-C	c 1114	88	115	0.078	7.0	0x0	ShMt	42.0	335.0	st49
Kitchen/Dinette-D	c 1114	88	115	0.079	7.0	0x0	ShMt	47.8	325.0	st49
Passover Kitchen	h 1170	97	89	0.102	6.0	0x0	ShMt	29.5	260.0	st47
Passover Kitchen-A	h 1170	97	89	0.095	6.0	0x0	ShMt	32.0	280.0	st47
Study	h 742	61	16	0.124	5.0	0x0	ShMt	13.5	225.0	st47
Study-A	h 742	61	16	0.120	<b>6.0</b>	<b>0x0</b>	ShMt	21.5	225.0	st47

*Bold/italic values have been manually overridden*



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## Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st47	Peak AVF	316	209	0.095	569	9.1	8 x 10	ShtMetl	st5
st5	Peak AVF	1200	1200	0.074	771	15.7	8 x 28	ShtMetl	
st48	Peak AVF	884	991	0.074	743	14.6	8 x 24	ShtMetl	st5
st51	Peak AVF	439	573	0.077	645	11.8	8 x 16	ShtMetl	st48
st49	Peak AVF	351	459	0.077	688	10.9	8 x 12	ShtMetl	st51
st50	Peak AVF	88	115	0.094	429	<b>7.0</b>	<b>0 x 0</b>	ShtMetl	st51
st52	Peak AVF	445	418	0.074	667	10.8	8 x 12	ShtMetl	st48
st53	Peak AVF	445	418	0.074	667	10.8	8 x 12	ShtMetl	st52

## 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
rb32	0x0	123	31	114.0	0.170	352	<b>8.0</b>	<b>0x 0</b>		ShMt	rt5
rb3	0x0	633	751	194.5	0.100	702	14.0	0x 0		ShMt	rt5
rb8	0x0	445	418	263.5	0.074	566	12.0	0x 0		ShMt	rt5

## Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt5	Peak AVF	1200	1200	0.074	679	18.0	0 x 0	ShtMetl	

*Bold/italic values have been manually overridden*





# Duct System Summary

## AHU 03

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

### Project Information

For: Manual J Express

	Heating	Cooling
External static pressure	0.55 in H2O	0.55 in H2O
Pressure losses	0.31 in H2O	0.31 in H2O
Available static pressure	0.24 in H2O	0.24 in H2O
Supply / return available pressure	0.155 / 0.085 in H2O	0.155 / 0.085 in H2O
Lowest friction rate	0.067 in/100ft	0.067 in/100ft
Actual air flow	800 cfm	800 cfm
Total effective length (TEL)		360 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
Baby Room	c 132	8	16	0.069	4.0	0x0	ShMt	38.5	185.0	st4
Laundry Room	c 824	66	97	0.076	6.0	0x0	ShMt	9.0	195.0	st4
Laundry Room-A	c 824	66	97	0.075	6.0	0x0	ShMt	13.0	195.0	st4
Laundry Room-B	c 824	66	97	0.107	6.0	0x0	ShMt	5.0	140.0	st4
Master Bath	h 1343	104	67	0.075	7.0	0x0	ShMt	47.0	160.0	st4
Master Bath-A	h 1343	104	67	0.067	7.0	0x0	ShMt	52.5	180.0	st4
Master Bedroom	h 1463	114	107	0.068	7.0	0x0	ShMt	34.0	195.0	st4
Master Bedroom-A	h 1463	114	107	0.070	7.0	0x0	ShMt	40.5	180.0	st4
Master Bedroom-B	h 1463	114	107	0.069	7.0	0x0	ShMt	28.5	195.0	st4
Master W.I.C	h 546	42	36	0.078	5.0	0x0	ShMt	49.5	150.0	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	800	800	0.067	655	13.7	8 x 22	ShtMetl	

## 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
rb14	0x0	199	292	98.0	0.087	662	9.0	0x 0		ShMt	rt4
rb15	0x0	601	508	127.0	0.067	562	14.0	0x 0		ShMt	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
rt4	PeakAVF	800	800	0.067	748	14.0	0 x 0	ShtMetl	



# Duct System Summary

## AHU 04

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

## Project Information

For: Manual J Express

	Heating	Cooling
External static pressure	0.60 in H2O	0.60 in H2O
Pressure losses	0.31 in H2O	0.31 in H2O
Available static pressure	0.29 in H2O	0.29 in H2O
Supply / return available pressure	0.143 / 0.147 in H2O	0.143 / 0.147 in H2O
Lowest friction rate	0.069 in/100ft	0.069 in/100ft
Actual air flow	1200 cfm	1200 cfm
Total effective length (TEL)	420 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
Bathroom	c 143	9	12	0.082	4.0	0x0	ShMt	13.5	160.0	st7
Bathroom 2	h 674	49	22	0.084	5.0	0x0	ShMt	19.0	150.0	st8
Bedroom 1	c 1567	100	136	0.078	7.0	0x0	ShMt	17.0	165.0	st7
Bedroom 1-A	c 1567	100	136	0.087	7.0	0x0	ShMt	25.0	140.0	st7
Bedroom 2	c 995	65	86	0.072	6.0	0x0	ShMt	13.5	185.0	st7
Bedroom 2-A	c 995	65	86	0.076	6.0	0x0	ShMt	13.5	175.0	st8
Bedroom 3	c 1086	84	94	0.072	6.0	0x0	ShMt	27.0	170.0	st8
Bedroom 3-A	c 1086	84	94	0.089	6.0	0x0	ShMt	30.0	130.0	st8
Bedroom 3-B	c 1086	84	94	0.069	6.0	0x0	ShMt	21.5	185.0	st8
Bedroom 4	h 1418	103	85	0.075	7.0	0x0	ShMt	30.0	160.0	st8
Bedroom 4-A	h 1418	103	85	0.075	7.0	0x0	ShMt	25.0	165.0	st8
Hallway 2	h 1630	118	89	0.073	7.0	0x0	ShMt	11.0	185.0	st7
Hallway 2-A	h 1630	118	89	0.071	7.0	0x0	ShMt	31.0	170.0	st7
Hallway 2-B	h 1630	118	89	0.085	7.0	0x0	ShMt	18.5	150.0	st7

## Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st7	Peak AVF	629	639	0.071	639	12.5	8 x 18	ShtMetl	
st8	Peak AVF	571	561	0.069	643	12.0	8 x 16	ShtMetl	



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## 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
rsb8	0x0	200	272	213.0	0.069	780	<b>8.0</b>	<i>0 x 0</i>		ShMt	rt10A
rsb9	0x0	129	173	126.0	0.117	881	<b>6.0</b>	<i>0 x 0</i>		ShMt	rt10
rb1	0x0	118	89	186.0	0.079	443	7.0	0x 0		ShMt	rt11A
rb5	0x0	301	305	204.5	0.072	690	<b>9.0</b>	<i>0 x 0</i>		ShMt	rt11
rsb14	0x0	206	169	190.0	0.077	466	<b>9.0</b>	<i>0 x 0</i>		ShMt	rt11A
rb4	0x0	246	191	182.5	0.081	556	9.0	0x 0		ShMt	rt10A

## Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt10A	PeakAVF	446	464	0.069	1049	<b>9.0</b>	<i>0 x 0</i>	ShtMetl	rt10
rt10	PeakAVF	575	637	0.069	637	12.5	8 x 18	ShtMetl	rt7
rt11A	PeakAVF	325	259	0.077	735	<b>9.0</b>	<i>0 x 0</i>	ShtMetl	rt11
rt11	PeakAVF	625	563	0.072	703	12.3	8 x 16	ShtMetl	rt7
rt7	PeakAVF	1200	1200	0.069	675	15.9	8 x 32	ShtMetl	

*Bold/italic values have been manually overridden*





# Duct System Summary

## AHU 05

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

## Project Information

For: Manual J Express

	Heating	Cooling
External static pressure	0.60 in H2O	0.60 in H2O
Pressure losses	0.31 in H2O	0.31 in H2O
Available static pressure	0.29 in H2O	0.29 in H2O
Supply / return available pressure	0.196 / 0.094 in H2O	0.196 / 0.094 in H2O
Lowest friction rate	0.056 in/100ft	0.056 in/100ft
Actual air flow	800 cfm	800 cfm
Total effective length (TEL)	516 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 1	h 435	20	12	0.056	4.0	0x0	ShMt	24.0	325.0	st35
Bath 2	h 1204	55	34	0.057	6.0	0x0	ShMt	32.5	310.0	st35
Bedroom 01	c 608	63	110	0.067	7.0	0x0	ShMt	32.0	260.0	st35
Bedroom 01-A	c 608	63	110	0.066	7.0	0x0	ShMt	31.5	265.0	st36
Bedroom 01-B	c 608	63	110	0.067	7.0	0x0	ShMt	36.5	255.0	st35
Bedroom 02	h 1885	87	63	0.079	6.0	0x0	ShMt	25.0	225.0	st36
Bedroom 02-A	h 1885	87	63	0.075	6.0	0x0	ShMt	28.5	235.0	st36
Hallway 3	h 224	10	7	0.059	4.0	0x0	ShMt	32.5	300.0	st35
Open Area	h 1665	76	56	0.058	6.0	0x0	ShMt	22.0	315.0	st35
Open Area-A	h 1665	76	56	0.071	6.0	0x0	ShMt	16.0	260.0	st35
Storage	h 1945	89	84	0.061	6.0	0x0	ShMt	42.5	280.0	st35
Storage-A	h 1945	89	84	0.057	7.0	0x0	ShMt	41.5	300.0	st35
Suite 1	h 435	20	12	0.077	4.0	0x0	ShMt	20.0	235.0	st36

## Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st3	Peak AVF	800	800	0.056	655	14.2	8 x 22	ShtMetl	
st35	Peak AVF	544	552	0.056	621	12.4	8 x 16	ShtMetl	st3
st36	Peak AVF	256	248	0.066	461	9.0	8 x 10	ShtMetl	st3

## 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
rsb17	0x0	173	126	118.0	0.079	496	<b>8.0</b>	<b>0x 0</b>		ShMt	rt3
rsb15	0x0	189	331	166.5	0.056	608	10.0	0x 0		ShMt	rt3
rb6	0x0	437	343	160.0	0.059	557	12.0	0x 0		ShMt	rt3

## Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt3	PeakAVF	800	800	0.056	748	14.0	0 x 0	ShtMetl	

*Bold/italic values have been manually overridden*





# Duct System Summary

## AHU 06

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

## Project Information

For: Manual J Express

	Heating	Cooling
External static pressure	0.60 in H2O	0.60 in H2O
Pressure losses	0.31 in H2O	0.31 in H2O
Available static pressure	0.29 in H2O	0.29 in H2O
Supply / return available pressure	0.174 / 0.116 in H2O	0.174 / 0.116 in H2O
Lowest friction rate	0.062 in/100ft	0.062 in/100ft
Actual air flow	800 cfm	800 cfm
Total effective length (TEL)	466 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
Guest	h 1412	71	63	0.070	6.0	0x0	ShMt	22.0	225.0	st21
Guest Bath	h 349	17	8	0.065	4.0	0x0	ShMt	36.0	230.0	st21
Guest Bed	h 1380	69	26	0.066	6.0	0x0	ShMt	46.5	215.0	st21
Guest Bed-A	h 1380	69	26	0.071	6.0	0x0	ShMt	41.5	205.0	st21
Hall/G-Suite	h 471	24	14	0.067	4.0	0x0	ShMt	20.0	240.0	st21
Kitchen	c 893	58	90	0.063	<b>7.0</b>	<b>0x0</b>	ShMt	35.0	240.0	st22
Kitchen-A	c 893	58	90	0.066	<b>7.0</b>	<b>0x0</b>	ShMt	37.5	225.0	st22
Kitchen-B	c 893	58	90	0.062	<b>7.0</b>	<b>0x0</b>	ShMt	29.0	250.0	st22
Main Living	c 1028	19	104	0.066	7.0	0x0	ShMt	22.0	240.0	st22
Main Living-A	c 1028	19	104	0.064	7.0	0x0	ShMt	20.0	250.0	st22
Mast Bath	h 1414	71	32	0.073	6.0	0x0	ShMt	44.5	195.0	st22
Mast Bed/WIC	h 1268	63	38	0.073	6.0	0x0	ShMt	34.0	205.0	st22
Mast Bed/WIC-A	h 1268	63	38	0.067	6.0	0x0	ShMt	36.1	225.0	st22
Side Entry	h 1398	70	38	0.072	6.0	0x0	ShMt	27.5	215.0	st21
Side Entry-A	h 1398	70	38	0.066	6.0	0x0	ShMt	23.0	240.0	st21

## Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st21	Peak AVF	389	213	0.065	584	10.5	8 x 12	ShtMetl	st2
st22	Peak AVF	411	587	0.062	587	12.4	8 x 18	ShtMetl	st2
st2	Peak AVF	800	800	0.062	655	13.9	8 x 22	ShtMetl	

*Bold/italic values have been manually overridden*



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## 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
rb7	0x0	138	51	159.5	0.073	516	7.0	0x 0		ShMt	rt8
rb13	0x0	71	63	156.5	0.074	360	6.0	0x 0		ShMt	rt8
rb27	0x0	197	108	186.5	0.062	447	9.0	0x 0		ShMt	rt9
rb11	0x0	394	577	164.5	0.071	735	12.0	0x 0		ShMt	rt9

## Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt8	Peak AVF	209	115	0.073	382	<b>10.0</b>	<b>0 x 0</b>	ShtMetl	rt2
rt2	Peak AVF	800	800	0.062	748	14.0	0 x 0	ShtMetl	
rt9	Peak AVF	591	685	0.062	641	14.0	0 x 0	ShtMetl	rt2

*Bold/italic values have been manually overridden*







# Duct System Summary

## AHU 07

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

## Project Information

For: Manual J Express

	Heating	Cooling
External static pressure	0.70 in H2O	0.70 in H2O
Pressure losses	0.31 in H2O	0.31 in H2O
Available static pressure	0.39 in H2O	0.39 in H2O
Supply / return available pressure	0.274 / 0.116 in H2O	0.274 / 0.116 in H2O
Lowest friction rate	0.067 in/100ft	0.067 in/100ft
Actual air flow	800 cfm	800 cfm
Total effective length (TEL)	583 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
Bathroom 1	c 56	6	8	0.103	4.0	0x0	ShMt	26.5	240.0	st11
Bedroom	c 746	75	107	0.105	6.0	0x0	ShMt	46.5	215.0	st11
Bedroom-A	c 746	75	107	0.111	6.0	0x0	ShMt	53.0	195.0	st11
Laundry/Linen	h 400	20	7	0.099	4.0	0x0	ShMt	36.5	240.0	st11
Play Room	h 1793	91	88	0.104	6.0	0x0	ShMt	37.5	225.0	st11
Play Room-A	h 1793	91	88	0.102	6.0	0x0	ShMt	27.5	240.0	st11
Play Room-B	h 1793	91	88	0.105	6.0	0x0	ShMt	46.5	215.0	st11
Play Room-C	h 1793	91	88	0.106	6.0	0x0	ShMt	19.0	240.0	st11
Play Room-D	h 1793	91	88	0.113	6.0	0x0	ShMt	17.0	225.0	st12
Powder	c 56	4	8	0.103	4.0	0x0	ShMt	35.0	230.0	st11
St/Stair	h 1499	76	58	0.085	6.0	0x0	ShMt	22.0	300.0	st12
St/Stair-A	h 1499	76	58	0.067	6.0	0x0	ShMt	24.5	385.0	st12
Toy CL	h 253	13	9	0.107	4.0	0x0	ShMt	16.5	240.0	st11

## Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st11	Peak AVF	557	596	0.099	766	11.4	8 x 14	ShtMetl	st1
st12	Peak AVF	243	204	0.067	546	8.8	8 x 8	ShtMetl	st1
st1	Peak AVF	800	800	0.067	655	13.7	8 x 22	ShtMetl	



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## 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
rb31	0x0	26	15	131.5	0.088	300	4.0	0x 0		ShMt	rt1
rsb2	0x0	150	214	173.0	0.067	484	9.0	0x 0		ShMt	rt1A
rb12	0x0	623	571	170.0	0.068	583	14.0	0x 0		ShMt	rt1

## Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt1A	Peak AVF	150	214	0.067	613	<b>8.0</b>	<b>0 x 0</b>	ShtMetl	rt1
rt1	Peak AVF	800	800	0.067	748	14.0	0 x 0	ShtMetl	

*Bold/italic values have been manually overridden*





# Duct System Summary

## Mini Split

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

## Project Information

For: Manual J Express

	<b>Heating</b>	<b>Cooling</b>
External static pressure	0 in H2O	0 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0 in H2O	0 in H2O
Supply / return available pressure	0.000 / 0.000 in H2O	0.000 / 0.000 in H2O
Lowest friction rate	0 in/100ft	0 in/100ft
Actual air flow	0 cfm	0 cfm
Total effective length (TEL)		0 ft





# Duct system multi orientation report

## AHU 01

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

## Project Information

For: Manual J Express

Group 1: ( N ) Group 2: ( NE, SE, SW, NW ) Group 3: ( E ) Group 4: ( S ) Group 5: ( W )

Duct Name	(N)			(NE)			(E)			(SE)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>												
Dining Room	84 c	8x6	6	96 c	8x6	6	102 c	8x6	6	87 c	8x6	6
Dining Room-A	84 c	8x6	6	96 c	8x6	6	102 c	8x6	6	87 c	8x6	6
Dining Room-B	84 c	8x6	6	96 c	8x6	6	102 c	8x6	6	87 c	8x6	6
Foyer/Vestibule	64 h	8x6	5	64 h	8x6	5	64 h	8x6	5	64 h	8x6	5
Foyer/Vestibule-A	64 h	8x6	6	64 h	8x6	6	64 h	8x6	6	64 h	8x6	6
Hallway 1	77 h	8x6	5	81 c	8x6	5	87 c	8x6	6	77 h	8x6	5
Hallway 1-A	77 h	8x6	6	81 c	8x6	6	87 c	8x6	6	77 h	8x6	6
Hallway 1-B	77 h	8x6	5	81 c	8x6	5	87 c	8x6	6	77 h	8x6	5
Living Room	144 c	10x6	8	127 c	10x6	7	119 c	10x6	7	135 c	10x6	7
Living Room-A	144 c	10x6	7	127 c	10x6	7	119 c	10x6	7	135 c	10x6	7
Living Room-B	144 c	10x6	8	127 c	10x6	7	119 c	10x6	7	135 c	10x6	7
Living Room-C	144 c	10x6	8	127 c	10x6	7	119 c	10x6	7	135 c	10x6	7
P.R	50 h	8x6	5	50 h	8x6	5	50 h	8x6	5	50 h	8x6	5
Side Entry	109 h	8x6	0x8	109 h	8x6	0x8	109 h	8x6	0x8	109 h	8x6	0x8
Side Entry-A	109 h	8x6	6	109 h	8x6	6	109 h	8x6	6	109 h	8x6	6
<b>Supply Trunks</b>												
st56	692 c		18x8	626 c		18x8	594 c		16x8	651 c		18x8
st55	252 c		8x8	287 c		8x8	307 c		8x8	260 c		8x8
st6	1200 c		30x8	1200 c		30x8	1200 c		30x8	1200 c		30x8
<b>Return Branches</b>												
rb2	692 c	16x16	14	626 c	16x16	14	594 c	16x16	14	651 c	16x16	14
rb9	668 h	18x18	14	668 h	18x18	14	668 h	18x18	14	668 h	18x18	14
<b>Return Trunks</b>												
rt6	1200 c		14	1200 c		14	1200 c		14	1200 c		14
<b>Friction Rates</b>												
Heating FR	0.066			0.066			0.066			0.066		
Cooling FR	0.066			0.066			0.066			0.066		



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# Project Information

For: Manual J Express

Duct Name	(S)			(SW)			(W)			(NW)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>												
Dining Room	82 h	8x6	6	94 c	8x6	6	106 c	8x6	6	98 c	8x6	6
Dining Room-A	82 h	8x6	6	94 c	8x6	6	106 c	8x6	6	98 c	8x6	6
Dining Room-B	82 h	8x6	6	94 c	8x6	6	106 c	8x6	6	98 c	8x6	6
Foyer/Vestibule	64 h	8x6	5	64 h	8x6	5	64 h	8x6	5	64 h	8x6	5
Foyer/Vestibule-A	64 h	8x6	6	64 h	8x6	6	64 h	8x6	6	64 h	8x6	6
Hallway 1	77 h	8x6	5	80 c	8x6	5	90 c	8x6	6	83 c	8x6	5
Hallway 1-A	77 h	8x6	6	80 c	8x6	6	90 c	8x6	6	83 c	8x6	6
Hallway 1-B	77 h	8x6	5	80 c	8x6	5	90 c	8x6	6	83 c	8x6	5
Living Room	172 c	10x6	8	128 c	10x6	7	119 c	10x6	7	130 c	10x6	7
Living Room-A	172 c	10x6	8	128 c	10x6	7	119 c	10x6	7	130 c	10x6	7
Living Room-B	172 c	10x6	8	128 c	10x6	7	119 c	10x6	7	130 c	10x6	7
Living Room-C	172 c	10x6	8	128 c	10x6	7	119 c	10x6	7	130 c	10x6	7
P.R	50 h	8x6	5	50 h	8x6	5	50 h	8x6	5	50 h	8x6	5
Side Entry	109 h	8x6	0x8	109 h	8x6	0x8	109 h	8x6	0x8	109 h	8x6	0x8
Side Entry-A	109 h	8x6	6	109 h	8x6	6	109 h	8x6	6	109 h	8x6	6
<b>Supply Trunks</b>												
st56	791 c		22x8	628 c		18x8	593 c		16x8	636 c		18x8
st55	245 h		8x8	283 c		8x8	317 c		10x8	293 c		8x8
st6	1200 c		30x8	1200 c		30x8	1200 c		30x8	1200 c		30x8
<b>Return Branches</b>												
rb2	791 c	16x16	14	628 c	16x16	14	593 c	16x16	14	636 c	16x16	14
rb9	668 h	18x18	14	668 h	18x18	14	668 h	18x18	14	668 h	18x18	14
<b>Return Trunks</b>												
rt6	1200 c		14	1200 c		14	1200 c		14	1200 c		14
<b>Friction Rates</b>												
Heating FR	0.066			0.066			0.066			0.066		
Cooling FR	0.066			0.066			0.066			0.066		



# Project Information

For: Manual J Express

Duct Name	Largest			Smallest		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>						
Dining Room	106 c	8x6	6	82 h	8x6	6
Dining Room-A	106 c	8x6	6	82 h	8x6	6
Dining Room-B	106 c	8x6	6	82 h	8x6	6
Foyer/Vestibule	64 h	8x6	5	64 h	8x6	5
Foyer/Vestibule-A	64 h	8x6	6	64 h	8x6	6
Hallway 1	90 c	8x6	6	77 h	8x6	5
Hallway 1-A	90 c	8x6	6	77 h	8x6	6
Hallway 1-B	90 c	8x6	6	77 h	8x6	5
Living Room	172 c	10x6	8	119 c	10x6	7
Living Room-A	172 c	10x6	8	119 c	10x6	7
Living Room-B	172 c	10x6	8	119 c	10x6	7
Living Room-C	172 c	10x6	8	119 c	10x6	7
P.R	50 h	8x6	5	50 h	8x6	5
Side Entry	109 h	8x6	0x8	109 h	8x6	0x8
Side Entry-A	109 h	8x6	6	109 h	8x6	6
<b>Supply Trunks</b>						
st56	791 c		22x8	593 c		16x8
st55	317 c		10x8	245 h		8x8
st6	1200 c		30x8	1200 c		30x8
<b>Return Branches</b>						
rb2	791 c	16x16	14	593 c	16x16	14
rb9	668 h	18x18	14	668 h	18x18	14
<b>Return Trunks</b>						
rt6	1200 c		14	1200 c		14
<b>Friction Rates</b>						
Heating FR	0.066			0.066		
Cooling FR	0.066			0.066		



## Background Color Legend

### Yellow background

Duct Size - duct size is smaller than the largest duct size in the row

Reg Size - register size is smaller than the largest register size in the row

Reg CFM - register design cfm is larger than 150 CFM

Friction Rate - friction rate is outside ACCA Manual-D recommended range (0.06 - 0.18)

### Pink background column header

Largest cooling load orientation



# Duct system multi orientation report

## AHU 02

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

## Project Information

For: Manual J Express

Group 1: ( N, SE, S, NW) Group 2: (NE, E) Group 3: (SW) Group 4: ( W)

Duct Name	(N)			(NE)			(E)			(SE)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>												
Family Room	95 c	8x6	6	89 h	8x6	6	89 h	8x6	6	95 c	8x6	6
Family Room-A	95 c	8x6	6	89 h	8x6	6	89 h	8x6	6	95 c	8x6	6
Family Room-B	95 c	8x6	6	89 h	8x6	6	89 h	8x6	6	95 c	8x6	6
Family Room-C	95 c	8x6	6	89 h	8x6	6	89 h	8x6	6	95 c	8x6	6
Family Room-D	95 c	8x6	6	89 h	8x6	6	89 h	8x6	6	95 c	8x6	6
Kitchen/Dinette	99 c	8x6	6	114 c	8x6	6	113 c	8x6	6	101 c	8x6	6
Kitchen/Dinette-A	99 c	8x6	6	114 c	8x6	7	113 c	8x6	7	101 c	8x6	6
Kitchen/Dinette-B	99 c	8x6	6	114 c	8x6	7	113 c	8x6	7	101 c	8x6	6
Kitchen/Dinette-C	99 c	8x6	6	114 c	8x6	7	113 c	8x6	7	101 c	8x6	6
Kitchen/Dinette-D	99 c	8x6	6	114 c	8x6	7	113 c	8x6	7	101 c	8x6	6
Passover Kitchen	97 h	8x6	6	97 h	8x6	6	97 h	8x6	6	97 h	8x6	6
Passover Kitchen-A	97 h	8x6	6	97 h	8x6	6	97 h	8x6	6	97 h	8x6	6
Study	72 c	8x6	5	61 h	8x6	5	61 h	8x6	5	61 h	8x6	5
Study-A	72 c	8x6	6	61 h	8x6	6	61 h	8x6	6	61 h	8x6	6
<b>Supply Trunks</b>												
st47	316 h		10x8	316 h		10x8	316 h		10x8	316 h		10x8
st5	1200 c		28x8	1200 c		28x8	1200 c		28x8	1200 c		28x8
st48	969 c		24x8	961 c		24x8	973 c		24x8	980 c		24x8
st51	493 c		14x8	568 c		16x8	564 c		16x8	503 c		14x8
st49	395 c		12x8	455 c		12x8	451 c		12x8	402 c		12x8
st50	99 c		7	114 c		7	113 c		7	101 c		7
st52	476 c		14x8	445 h		12x8	445 h		12x8	477 c		14x8
st53	476 c		14x8	445 h		12x8	445 h		12x8	477 c		14x8
<b>Return Branches</b>												
rb32	144 c	12x12	8	123 h	12x12	8	123 h	12x12	8	123 h	12x12	8
rb3	633 h	14x14	14	719 c	14x14	14	739 c	14x14	14	652 c	14x14	14
rb8	476 c	14x14	12	445 h	14x14	12	445 h	14x14	12	477 c	14x14	12
<b>Return Trunks</b>												
rt5	1200 c		18	1200 c		18	1200 c		18	1200 c		18
<b>Friction Rates</b>												
Heating FR	0.074			0.074			0.074			0.074		
Cooling FR	0.074			0.074			0.074			0.074		



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# Project Information

For: Manual J Express

Duct Name	(S)			(SW)			(W)			(NW)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>												
Family Room	95 c	8x6	6	89 h	8x6	6	89 h	8x6	6	95 c	8x6	6
Family Room-A	95 c	8x6	6	89 h	8x6	6	89 h	8x6	6	95 c	8x6	6
Family Room-B	95 c	8x6	6	89 h	8x6	6	89 h	8x6	6	95 c	8x6	6
Family Room-C	95 c	8x6	6	89 h	8x6	6	89 h	8x6	6	95 c	8x6	6
Family Room-D	95 c	8x6	6	89 h	8x6	6	89 h	8x6	6	95 c	8x6	6
Kitchen/Dinette	99 c	8x6	6	109 c	8x6	6	115 c	8x6	7	102 c	8x6	6
Kitchen/Dinette-A	99 c	8x6	6	109 c	8x6	7	115 c	8x6	7	102 c	8x6	6
Kitchen/Dinette-B	99 c	8x6	6	109 c	8x6	7	115 c	8x6	7	102 c	8x6	6
Kitchen/Dinette-C	99 c	8x6	6	109 c	8x6	7	115 c	8x6	7	102 c	8x6	6
Kitchen/Dinette-D	99 c	8x6	6	109 c	8x6	7	115 c	8x6	7	102 c	8x6	6
Passover Kitchen	97 h	8x6	6	97 h	8x6	6	97 h	8x6	6	97 h	8x6	6
Passover Kitchen-A	97 h	8x6	6	97 h	8x6	6	97 h	8x6	6	97 h	8x6	6
Study	61 h	8x6	5	61 h	8x6	5	61 h	8x6	5	61 h	8x6	5
Study-A	61 h	8x6	6	61 h	8x6	6	61 h	8x6	6	61 h	8x6	6
<b>Supply Trunks</b>												
st47	316 h		10x8	316 h		10x8	316 h		10x8	316 h		10x8
st5	1200 c		28x8	1200 c		28x8	1200 c		28x8	1200 c		28x8
st48	971 c		24x8	979 c		24x8	991 c		24x8	984 c		24x8
st51	496 c		14x8	546 c		14x8	573 c		16x8	510 c		14x8
st49	396 c		12x8	437 c		12x8	459 c		12x8	408 c		12x8
st50	99 c		7	109 c		7	115 c		7	102 c		7
st52	476 c		14x8	445 h		12x8	445 h		12x8	474 c		14x8
st53	476 c		14x8	445 h		12x8	445 h		12x8	474 c		14x8
<b>Return Branches</b>												
rb32	123 h	12x12	8	123 h	12x12	8	123 h	12x12	8	123 h	12x12	8
rb3	633 h	14x14	14	701 c	14x14	14	751 c	14x14	14	643 c	14x14	14
rb8	476 c	14x14	12	445 h	14x14	12	445 h	14x14	12	474 c	14x14	12
<b>Return Trunks</b>												
rt5	1200 c		18	1200 c		18	1200 c		18	1200 c		18
<b>Friction Rates</b>												
Heating FR	0.074			0.074			0.074			0.074		
Cooling FR	0.074			0.074			0.074			0.074		



# Project Information

For: Manual J Express

Duct Name	Largest			Smallest		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>						
Family Room	95 c	8x6	6	89 h	8x6	6
Family Room-A	95 c	8x6	6	89 h	8x6	6
Family Room-B	95 c	8x6	6	89 h	8x6	6
Family Room-C	95 c	8x6	6	89 h	8x6	6
Family Room-D	95 c	8x6	6	89 h	8x6	6
Kitchen/Dinette	115 c	8x6	7	99 c	8x6	6
Kitchen/Dinette-A	115 c	8x6	7	99 c	8x6	6
Kitchen/Dinette-B	115 c	8x6	7	99 c	8x6	6
Kitchen/Dinette-C	115 c	8x6	7	99 c	8x6	6
Kitchen/Dinette-D	115 c	8x6	7	99 c	8x6	6
Passover Kitchen	97 h	8x6	6	97 h	8x6	6
Passover Kitchen-A	97 h	8x6	6	97 h	8x6	6
Study	72 c	8x6	5	61 h	8x6	5
Study-A	72 c	8x6	6	61 h	8x6	6
<b>Supply Trunks</b>						
st47	316 h		10x8	316 h		10x8
st5	1200 c		28x8	1200 c		28x8
st48	991 c		24x8	961 c		24x8
st51	573 c		16x8	493 c		14x8
st49	459 c		12x8	395 c		12x8
st50	115 c		7	99 c		7
st52	477 c		14x8	445 h		12x8
st53	477 c		14x8	445 h		12x8
<b>Return Branches</b>						
rb32	144 c	12x12	8	123 h	12x12	8
rb3	751 c	14x14	14	633 h	14x14	14
rb8	477 c	14x14	12	445 h	14x14	12
<b>Return Trunks</b>						
rt5	1200 c		18	1200 c		18
<b>Friction Rates</b>						
Heating FR	0.074			0.074		
Cooling FR	0.074			0.074		



## Background Color Legend

### Yellow background

Duct Size - duct size is smaller than the largest duct size in the row

Reg Size - register size is smaller than the largest register size in the row

Reg CFM - register design cfm is larger than 150 CFM

Friction Rate - friction rate is outside ACCA Manual-D recommended range (0.06 - 0.18)

### Pink background column header

Largest cooling load orientation



**wrightsoft**<sup>®</sup>  
A Mittek® / Berkshire Hathaway Company

Right-Suite® Universal 2023 23.0.04 RSU61951

Court-Feb-05-2024 - Manual JDS.rup Calc = MJ8 Front Door faces: N

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# Duct system multi orientation report

## AHU 03

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

## Project Information

For: Manual J Express

### Group 1: ( N ) Group 2: (NE, E, SE, S, SW, W, NW)

Duct Name	(N)			(NE)			(E)			(SE)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches												
Baby Room	23 c	8x6	4	16 c	8x6	4	15 c	8x6	4	16 c	8x6	4
Laundry Room	75 c	8x6	6	91 c	8x6	6	99 c	8x6	6	96 c	8x6	6
Laundry Room-A	75 c	8x6	6	91 c	8x6	6	99 c	8x6	6	96 c	8x6	6
Laundry Room-B	75 c	8x6	5	91 c	8x6	6	99 c	8x6	6	96 c	8x6	6
Master Bath	104 h	8x6	7	104 h	8x6	7	104 h	8x6	7	104 h	8x6	7
Master Bath-A	104 h	8x6	7	104 h	8x6	7	104 h	8x6	7	104 h	8x6	7
Master Bedroom	114 h	10x6	7	114 h	10x6	7	114 h	10x6	7	114 h	10x6	7
Master Bedroom-A	114 h	10x6	7	114 h	10x6	7	114 h	10x6	7	114 h	10x6	7
Master Bedroom-B	114 h	10x6	7	114 h	10x6	7	114 h	10x6	7	114 h	10x6	7
Master W.I.C	52 c	8x6	5	42 h	8x6	5	42 h	8x6	5	42 h	8x6	5
Supply Trunks												
st4	800 c		22x8	800 c		22x8	800 c		22x8	800 c		22x8
Return Branches												
rb14	226 c	10x8	8	273 c	10x8	9	296 c	10x8	9	287 c	10x8	9
rb15	601 h	16x10	14	601 h	16x10	14	601 h	16x10	14	601 h	16x10	14
Return Trunks												
rt4	800 c		14	800 c		14	800 c		14	800 c		14
Friction Rates												
Heating FR	0.067			0.067			0.067			0.067		
Cooling FR	0.067			0.067			0.067			0.067		



# Project Information

For: Manual J Express

Duct Name	(S)			(SW)			(W)			(NW)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>												
Baby Room	19 c	8x6	4	16 c	8x6	4	16 c	8x6	4	18 c	8x6	4
Laundry Room	87 c	8x6	6	94 c	8x6	6	97 c	8x6	6	88 c	8x6	6
Laundry Room-A	87 c	8x6	6	94 c	8x6	6	97 c	8x6	6	88 c	8x6	6
Laundry Room-B	87 c	8x6	6	94 c	8x6	6	97 c	8x6	6	88 c	8x6	6
Master Bath	104 h	8x6	7	104 h	8x6	7	104 h	8x6	7	104 h	8x6	7
Master Bath-A	104 h	8x6	7	104 h	8x6	7	104 h	8x6	7	104 h	8x6	7
Master Bedroom	114 h	10x6	7	114 h	10x6	7	114 h	10x6	7	114 h	10x6	7
Master Bedroom-A	114 h	10x6	7	114 h	10x6	7	114 h	10x6	7	114 h	10x6	7
Master Bedroom-B	114 h	10x6	7	114 h	10x6	7	114 h	10x6	7	114 h	10x6	7
Master W.I.C	45 c	8x6	5	42 h	8x6	5	42 h	8x6	5	42 h	8x6	5
<b>Supply Trunks</b>												
st4	800 c		22x8	800 c		22x8	800 c		22x8	800 c		22x8
<b>Return Branches</b>												
rb14	260 c	10x8	9	282 c	10x8	9	292 c	10x8	9	264 c	10x8	9
rb15	601 h	16x10	14	601 h	16x10	14	601 h	16x10	14	601 h	16x10	14
<b>Return Trunks</b>												
rt4	800 c		14	800 c		14	800 c		14	800 c		14
<b>Friction Rates</b>												
Heating FR	0.067			0.067			0.067			0.067		
Cooling FR	0.067			0.067			0.067			0.067		



# Project Information

For: Manual J Express

Duct Name	Largest			Smallest		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>						
Baby Room	23 c	8x6	4	15 c	8x6	4
Laundry Room	99 c	8x6	6	75 c	8x6	6
Laundry Room-A	99 c	8x6	6	75 c	8x6	6
Laundry Room-B	99 c	8x6	6	75 c	8x6	5
Master Bath	104 h	8x6	7	104 h	8x6	7
Master Bath-A	104 h	8x6	7	104 h	8x6	7
Master Bedroom	114 h	10x6	7	114 h	10x6	7
Master Bedroom-A	114 h	10x6	7	114 h	10x6	7
Master Bedroom-B	114 h	10x6	7	114 h	10x6	7
Master W.I.C	52 c	8x6	5	42 h	8x6	5
<b>Supply Trunks</b>						
st4	800 c		22x8	800 c		22x8
<b>Return Branches</b>						
rb14	296 c	10x8	9	226 c	10x8	8
rb15	601 h	16x10	14	601 h	16x10	14
<b>Return Trunks</b>						
rt4	800 c		14	800 c		14
<b>Friction Rates</b>						
Heating FR	0.067			0.067		
Cooling FR	0.067			0.067		



## Background Color Legend

### Yellow background

Duct Size - duct size is smaller than the largest duct size in the row

Reg Size - register size is smaller than the largest register size in the row

Reg CFM - register design cfm is larger than 150 CFM

Friction Rate - friction rate is outside ACCA Manual-D recommended range (0.06 - 0.18)

### Pink background column header

Largest cooling load orientation



# Duct system multi orientation report

## AHU 04

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

## Project Information

For: Manual J Express

Group 1: ( N, NW) Group 2: (NE, SW) Group 3: ( E) Group 4: (SE) Group 5: ( S) Group 6: ( W)

Duct Name	(N)			(NE)			(E)			(SE)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches												
Bathroom	19 c	8x6	4	14 c	8x6	4	13 c	8x6	4	16 c	8x6	4
Bathroom 2	65 c	8x6	5	49 h	8x6	5	49 h	8x6	5	53 c	8x6	5
Bedroom 1	113 c	10x6	7	127 c	10x6	7	130 c	10x6	7	110 c	10x6	7
Bedroom 1-A	113 c	10x6	7	127 c	10x6	7	130 c	10x6	7	110 c	10x6	6
Bedroom 2	75 c	8x6	6	81 c	8x6	6	83 c	8x6	6	72 c	8x6	6
Bedroom 2-A	75 c	8x6	6	81 c	8x6	6	83 c	8x6	6	72 c	8x6	6
Bedroom 3	84 h	8x6	6	88 c	8x6	6	90 c	8x6	6	84 h	8x6	6
Bedroom 3-A	84 h	8x6	6	88 c	8x6	6	90 c	8x6	6	84 h	8x6	6
Bedroom 3-B	84 h	8x6	6	88 c	8x6	6	90 c	8x6	6	84 h	8x6	6
Bedroom 4	103 h	10x6	7	103 h	10x6	7	103 h	10x6	7	103 h	10x6	7
Bedroom 4-A	103 h	10x6	7	103 h	10x6	7	103 h	10x6	7	103 h	10x6	7
Hallway 2	128 c	10x6	7	118 h	10x6	7	118 h	10x6	7	118 h	10x6	7
Hallway 2-A	128 c	10x6	7	118 h	10x6	7	118 h	10x6	7	118 h	10x6	7
Hallway 2-B	128 c	10x6	7	118 h	10x6	7	118 h	10x6	7	118 h	10x6	7
Supply Trunks												
st7	703 c		18x8	650 c		18x8	629 h		16x8	639 c		18x8
st8	571 h		16x8	571 h		16x8	575 c		16x8	571 h		16x8
Return Branches												
rsb8	227 c	10x8	8	253 c	10x8	8	260 c	10x8	8	220 c	10x8	8
rsb9	150 c	8x6	6	162 c	8x6	6	166 c	8x6	6	144 c	8x6	6
rb1	128 c	10x4	7	118 h	10x4	7	118 h	10x4	7	118 h	10x4	7
rb5	308 c	14x6	9	308 c	14x6	9	301 h	14x6	9	301 h	14x6	9
rsb14	206 h	12x6	9	206 h	12x6	9	206 h	12x6	9	206 h	12x6	9
rb4	274 c	16x16	9	246 h	16x16	9	246 h	16x16	9	246 h	16x16	9
Return Trunks												
rt10A	501 c		9	468 c		9	452 c		9	456 c		9
rt10	651 c		18x8	631 c		16x8	618 c		16x8	600 c		16x8
rt11A	325 h		9	325 h		9	325 h		9	325 h		9
rt11	625 h		18x8	625 h		16x8	625 h		16x8	625 h		16x8
rt7	1200 c		32x8	1200 c		32x8	1200 c		32x8	1200 c		32x8
Friction Rates												
Heating FR	0.067			0.071			0.069			0.071		
Cooling FR	0.067			0.071			0.069			0.071		



Right-Suite® Universal 2023 23.0.04 RSU61951

Court-Feb-05-2024 - Manual JDS.rup Calc = MJ8 Front Door faces: N

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# Project Information

For: Manual J Express

Duct Name	(S)			(SW)			(W)			(NW)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>												
Bathroom	22 c	8x6	4	14 c	8x6	4	12 c	8x6	4	14 c	8x6	4
Bathroom 2	70 c	8x6	6	49 h	8x6	5	49 h	8x6	5	49 h	8x6	5
Bedroom 1	100 h	10x6	6	121 c	10x6	7	136 c	10x6	7	130 c	10x6	7
Bedroom 1-A	100 h	10x6	6	121 c	10x6	7	136 c	10x6	7	130 c	10x6	7
Bedroom 2	65 h	8x6	6	78 c	8x6	6	86 c	8x6	6	83 c	8x6	6
Bedroom 2-A	65 h	8x6	5	78 c	8x6	6	86 c	8x6	6	83 c	8x6	6
Bedroom 3	84 h	8x6	6	85 c	8x6	6	94 c	8x6	6	91 c	8x6	6
Bedroom 3-A	84 h	8x6	6	85 c	8x6	6	94 c	8x6	6	91 c	8x6	6
Bedroom 3-B	84 h	8x6	6	85 c	8x6	6	94 c	8x6	6	91 c	8x6	6
Bedroom 4	105 c	10x6	7	103 h	10x6	7	103 h	10x6	7	103 h	10x6	7
Bedroom 4-A	105 c	10x6	7	103 h	10x6	7	103 h	10x6	7	103 h	10x6	7
Hallway 2	151 c	10x6	7	118 h	10x6	7	118 h	10x6	7	118 h	10x6	7
Hallway 2-A	151 c	10x6	7	118 h	10x6	7	118 h	10x6	7	118 h	10x6	7
Hallway 2-B	151 c	10x6	7	118 h	10x6	7	118 h	10x6	7	118 h	10x6	7
<b>Supply Trunks</b>												
st7	688 c		18x8	668 c		18x8	639 c		18x8	654 c		18x8
st8	571 h		16x8	571 h		16x8	571 h		16x8	571 h		16x8
<b>Return Branches</b>												
rsb8	200 h	10x8	8	242 c	10x8	8	272 c	10x8	8	260 c	10x8	8
rsb9	129 h	8x6	6	156 c	8x6	6	173 c	8x6	6	167 c	8x6	6
rb1	151 c	10x4	7	118 h	10x4	7	118 h	10x4	7	118 h	10x4	7
rb5	301 h	14x6	9	301 h	14x6	9	305 c	14x6	9	313 c	14x6	9
rsb14	210 c	12x6	9	206 h	12x6	9	206 h	12x6	9	206 h	12x6	9
rb4	323 c	16x16	10	246 h	16x16	9	246 h	16x16	9	246 h	16x16	9
<b>Return Trunks</b>												
rt10A	482 c		9	479 c		9	464 c		9	472 c		9
rt10	593 c		16x8	635 c		16x8	637 c		18x8	639 c		18x8
rt11A	360 c		9	325 h		9	325 h		9	325 h		9
rt11	625 h		16x8	625 h		16x8	625 h		16x8	625 h		18x8
rt7	1200 c		32x8	1200 c		32x8	1200 c		32x8	1200 c		32x8
<b>Friction Rates</b>												
Heating FR	0.073			0.071			0.069			0.067		
Cooling FR	0.073			0.071			0.069			0.067		



# Project Information

For: Manual J Express

Duct Name	Largest			Smallest		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>						
Bathroom	22 c	8x6	4	12 c	8x6	4
Bathroom 2	70 c	8x6	6	49 h	8x6	5
Bedroom 1	136 c	10x6	7	100 h	10x6	6
Bedroom 1-A	136 c	10x6	7	100 h	10x6	6
Bedroom 2	86 c	8x6	6	65 h	8x6	6
Bedroom 2-A	86 c	8x6	6	65 h	8x6	5
Bedroom 3	94 c	8x6	6	84 h	8x6	6
Bedroom 3-A	94 c	8x6	6	84 h	8x6	6
Bedroom 3-B	94 c	8x6	6	84 h	8x6	6
Bedroom 4	105 c	10x6	7	103 h	10x6	7
Bedroom 4-A	105 c	10x6	7	103 h	10x6	7
Hallway 2	151 c	10x6	7	118 h	10x6	7
Hallway 2-A	151 c	10x6	7	118 h	10x6	7
Hallway 2-B	151 c	10x6	7	118 h	10x6	7
<b>Supply Trunks</b>						
st7	703 c		18x8	629 h		16x8
st8	575 c		16x8	571 h		16x8
<b>Return Branches</b>						
rsb8	272 c	10x8	8	200 h	10x8	8
rsb9	173 c	8x6	6	129 h	8x6	6
rb1	151 c	10x4	7	118 h	10x4	7
rb5	313 c	14x6	9	301 h	14x6	9
rsb14	210 c	12x6	9	206 h	12x6	9
rb4	323 c	16x16	10	246 h	16x16	9
<b>Return Trunks</b>						
rt10A	501 c		9	452 c		9
rt10	651 c		18x8	593 c		16x8
rt11A	360 c		9	325 h		9
rt11	625 h		18x8	625 h		16x8
rt7	1200 c		32x8	1200 c		32x8
<b>Friction Rates</b>						
Heating FR	0.073			0.067		
Cooling FR	0.073			0.067		



## Background Color Legend

### Yellow background

Duct Size - duct size is smaller than the largest duct size in the row

Reg Size - register size is smaller than the largest register size in the row

Reg CFM - register design cfm is larger than 150 CFM

Friction Rate - friction rate is outside ACCA Manual-D recommended range (0.06 - 0.18)

### Pink background column header

Largest cooling load orientation



# Duct system multi orientation report

## AHU 05

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

## Project Information

For: Manual J Express

Group 1: ( N, S) Group 2: (NE) Group 3: ( E, W) Group 4: (SE) Group 5: (SW) Group 6: (NW)

Duct Name	(N)			(NE)			(E)			(SE)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches												
Bath 1	20 h	8x6	4	20 h	8x6	4	20 h	8x6	4	20 h	8x6	4
Bath 2	55 h	8x6	5	55 h	8x6	5	55 h	8x6	6	55 h	8x6	5
Bedroom 01	63 h	8x6	6	86 c	8x6	6	115 c	8x6	7	87 c	8x6	6
Bedroom 01-A	63 h	8x6	6	86 c	8x6	6	115 c	8x6	7	87 c	8x6	6
Bedroom 01-B	63 h	8x6	6	86 c	8x6	6	115 c	8x6	7	87 c	8x6	6
Bedroom 02	137 c	8x6	7	114 c	8x6	7	87 h	8x6	6	104 c	8x6	6
Bedroom 02-A	137 c	8x6	7	114 c	8x6	7	87 h	8x6	6	104 c	8x6	6
Hallway 3	10 h	8x6	4	10 h	8x6	4	10 h	8x6	4	10 h	8x6	4
Open Area	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6
Open Area-A	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6
Storage	117 c	8x6	7	89 h	8x6	6	89 h	8x6	6	93 c	8x6	6
Storage-A	117 c	8x6	7	89 h	8x6	7	89 h	8x6	7	93 c	8x6	7
Suite 1	20 h	8x6	4	20 h	8x6	4	20 h	8x6	4	20 h	8x6	4
Supply Trunks												
st3	800 c		22x8	800 c		22x8	800 c		22x8	800 c		22x8
st35	544 h		16x8	544 h		16x8	544 h		16x8	544 h		16x8
st36	327 c		10x8	324 c		10x8	288 c		10x8	306 c		10x8
Return Branches												
rsb17	273 c	8x6	8	228 c	8x6	8	173 h	8x6	8	209 c	8x6	8
rsb15	189 h	16x6	8	258 c	16x6	10	344 c	16x6	10	262 c	16x6	10
rb6	437 h	12x10	12	437 h	12x10	12	437 h	12x10	12	437 h	12x10	12
Return Trunks												
rt3	800 c		14	800 c		14	800 c		14	800 c		14
Friction Rates												
Heating FR	0.060			0.058			0.056			0.060		
Cooling FR	0.060			0.058			0.056			0.060		



Right-Suite® Universal 2023 23.0.04 RSU61951

Court-Feb-05-2024 - Manual JDS.rup Calc = MJ8 Front Door faces: N

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# Project Information

For: Manual J Express

Duct Name	(S)			(SW)			(W)			(NW)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>												
Bath 1	20 h	8x6	4	20 h	8x6	4	20 h	8x6	4	20 h	8x6	4
Bath 2	55 h	8x6	5	55 h	8x6	5	55 h	8x6	6	55 h	8x6	5
Bedroom 01	63 h	8x6	6	91 c	8x6	6	110 c	8x6	7	72 c	8x6	6
Bedroom 01-A	63 h	8x6	6	91 c	8x6	6	110 c	8x6	7	72 c	8x6	6
Bedroom 01-B	63 h	8x6	6	91 c	8x6	6	110 c	8x6	7	72 c	8x6	6
Bedroom 02	115 c	8x6	7	87 h	8x6	6	87 h	8x6	6	105 c	8x6	6
Bedroom 02-A	115 c	8x6	7	87 h	8x6	6	87 h	8x6	6	105 c	8x6	7
Hallway 3	10 h	8x6	4	10 h	8x6	4	10 h	8x6	4	10 h	8x6	4
Open Area	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6
Open Area-A	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6
Storage	117 c	8x6	7	106 c	8x6	7	89 h	8x6	6	109 c	8x6	7
Storage-A	117 c	8x6	7	106 c	8x6	7	89 h	8x6	7	109 c	8x6	7
Suite 1	20 h	8x6	4	20 h	8x6	4	20 h	8x6	4	20 h	8x6	4
<b>Supply Trunks</b>												
st3	800 c		22x8	800 c		22x8	800 c		22x8	800 c		22x8
st35	544 h		16x8	544 h		16x8	552 c		16x8	544 h		16x8
st36	302 c		10x8	263 c		8x8	256 h		10x8	292 c		10x8
<b>Return Branches</b>												
rsb17	230 c	8x6	8	173 h	8x6	8	173 h	8x6	8	210 c	8x6	8
rsb15	189 h	16x6	8	273 c	16x6	10	331 c	16x6	10	215 c	16x6	9
rb6	437 h	12x10	12	437 h	12x10	12	437 h	12x10	12	437 h	12x10	12
<b>Return Trunks</b>												
r3	800 c		14	800 c		14	800 c		14	800 c		14
<b>Friction Rates</b>												
Heating FR	0.060			0.060			0.056			0.060		
Cooling FR	0.060			0.060			0.056			0.060		



# Project Information

For: Manual J Express

Duct Name	Largest			Smallest		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>						
Bath 1	20 h	8x6	4	20 h	8x6	4
Bath 2	55 h	8x6	6	55 h	8x6	5
Bedroom 01	115 c	8x6	7	63 h	8x6	6
Bedroom 01-A	115 c	8x6	7	63 h	8x6	6
Bedroom 01-B	115 c	8x6	7	63 h	8x6	6
Bedroom 02	137 c	8x6	7	87 h	8x6	6
Bedroom 02-A	137 c	8x6	7	87 h	8x6	6
Hallway 3	10 h	8x6	4	10 h	8x6	4
Open Area	76 h	8x6	6	76 h	8x6	6
Open Area-A	76 h	8x6	6	76 h	8x6	6
Storage	117 c	8x6	7	89 h	8x6	6
Storage-A	117 c	8x6	7	89 h	8x6	7
Suite 1	20 h	8x6	4	20 h	8x6	4
<b>Supply Trunks</b>						
st3	800 c		22x8	800 c		22x8
st35	552 c		16x8	544 h		16x8
st36	327 c		10x8	256 h		8x8
<b>Return Branches</b>						
rsb17	273 c	8x6	8	173 h	8x6	8
rsb15	344 c	16x6	10	189 h	16x6	8
rb6	437 h	12x10	12	437 h	12x10	12
<b>Return Trunks</b>						
r3	800 c		14	800 c		14
<b>Friction Rates</b>						
Heating FR	0.060			0.056		
Cooling FR	0.060			0.056		



## Background Color Legend

### Yellow background

Duct Size - duct size is smaller than the largest duct size in the row

Reg Size - register size is smaller than the largest register size in the row

Reg CFM - register design cfm is larger than 150 CFM

Friction Rate - friction rate is outside ACCA Manual-D recommended range (0.06 - 0.18)

### Pink background column header

Largest cooling load orientation



# Duct system multi orientation report

## AHU 06

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

## Project Information

For: Manual J Express

Group 1: ( N, S, SW, NW) Group 2: (NE, E, SE, W)

Duct Name	(N)			(NE)			(E)			(SE)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches												
Guest	85 c	8x6	6	71 h	8x6	6	71 h	8x6	6	72 c	8x6	6
Guest Bath	17 h	8x6	4	17 h	8x6	4	17 h	8x6	4	17 h	8x6	4
Guest Bed	69 h	8x6	6	69 h	8x6	6	69 h	8x6	6	69 h	8x6	6
Guest Bed-A	69 h	8x6	6	69 h	8x6	6	69 h	8x6	6	69 h	8x6	6
Hall/G-Suite	24 h	8x6	4	24 h	8x6	4	24 h	8x6	4	24 h	8x6	4
Kitchen	65 c	8x6	7	80 c	8x6	7	91 c	8x6	7	82 c	8x6	7
Kitchen-A	65 c	8x6	7	80 c	8x6	7	91 c	8x6	7	82 c	8x6	7
Kitchen-B	65 c	8x6	7	80 c	8x6	7	91 c	8x6	7	82 c	8x6	7
Main Living	99 c	10x6	7	98 c	10x6	7	101 c	10x6	7	97 c	10x6	7
Main Living-A	99 c	10x6	7	98 c	10x6	7	101 c	10x6	7	97 c	10x6	7
Mast Bath	71 h	8x6	6	71 h	8x6	6	71 h	8x6	6	71 h	8x6	6
Mast Bed/WIC	73 c	8x6	6	64 c	8x6	6	63 h	8x6	6	63 h	8x6	6
Mast Bed/WIC-A	73 c	8x6	6	64 c	8x6	6	63 h	8x6	6	63 h	8x6	6
Side Entry.	70 h	8x6	6	70 h	8x6	6	70 h	8x6	6	70 h	8x6	6
Side Entry-A	70 h	8x6	6	70 h	8x6	6	70 h	8x6	6	70 h	8x6	6
Supply Trunks												
st21	389 h		12x8	389 h		12x8	389 h		12x8	389 h		12x8
st22	572 c		16x8	593 c		18x8	611 c		18x8	589 c		18x8
st2	800 c		22x8	800 c		22x8	800 c		22x8	800 c		22x8
Return Branches												
rb7	138 h	8x6	7	138 h	8x6	7	138 h	8x6	7	138 h	8x6	7
rb13	85 c	8x6	6	71 h	8x6	6	71 h	8x6	6	72 c	8x6	6
rb27	197 h	10x10	9	197 h	10x10	9	197 h	10x10	9	197 h	10x10	9
rb11	489 c	16x10	12	527 c	16x10	12	570 c	16x10	12	531 c	16x10	12
Return Trunks												
rt8	209 h		10	209 h		10	209 h		10	209 h		10
rt2	800 c		14	800 c		14	800 c		14	800 c		14
rt9	666 c		14	686 c		14	706 c		14	680 c		14
Friction Rates												
Heating FR	0.062			0.062			0.062			0.062		
Cooling FR	0.062			0.062			0.062			0.062		





# Project Information

For: Manual J Express

Duct Name	(S)			(SW)			(W)			(NW)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>												
Guest	90 c	8x6	6	80 c	8x6	6	71 h	8x6	6	75 c	8x6	6
Guest Bath	17 h	8x6	4	17 h	8x6	4	17 h	8x6	4	17 h	8x6	4
Guest Bed	69 h	8x6	6	69 h	8x6	6	69 h	8x6	6	69 h	8x6	6
Guest Bed-A	69 h	8x6	6	69 h	8x6	6	69 h	8x6	6	69 h	8x6	6
Hall/G-Suite	24 h	8x6	4	24 h	8x6	4	24 h	8x6	4	24 h	8x6	4
Kitchen	73 c	8x6	7	81 c	8x6	7	90 c	8x6	7	78 c	8x6	7
Kitchen-A	73 c	8x6	7	81 c	8x6	7	90 c	8x6	7	78 c	8x6	7
Kitchen-B	73 c	8x6	7	81 c	8x6	7	90 c	8x6	7	78 c	8x6	7
Main Living	96 c	10x6	7	98 c	10x6	7	104 c	10x6	7	99 c	10x6	7
Main Living-A	96 c	10x6	7	98 c	10x6	7	104 c	10x6	7	99 c	10x6	7
Mast Bath	71 h	8x6	6	71 h	8x6	6	71 h	8x6	6	71 h	8x6	6
Mast Bed/WIC	66 c	8x6	6	63 h	8x6	6	63 h	8x6	6	63 h	8x6	6
Mast Bed/WIC-A	66 c	8x6	6	63 h	8x6	6	63 h	8x6	6	63 h	8x6	6
Side Entry.	70 h	8x6	6	70 h	8x6	6	70 h	8x6	6	70 h	8x6	6
Side Entry.-A	70 h	8x6	6	70 h	8x6	6	70 h	8x6	6	70 h	8x6	6
<b>Supply Trunks</b>												
st21	389 h		12x8	389 h		12x8	389 h		12x8	389 h		12x8
st22	572 c		16x8	580 c		16x8	587 c		18x8	583 c		16x8
st2	800 c		22x8	800 c		22x8	800 c		22x8	800 c		22x8
<b>Return Branches</b>												
rb7	138 h	8x6	7	138 h	8x6	7	138 h	8x6	7	138 h	8x6	7
rb13	90 c	8x6	6	80 c	8x6	6	71 h	8x6	6	75 c	8x6	6
rb27	197 h	10x10	9	197 h	10x10	9	197 h	10x10	9	197 h	10x10	9
rb11	501 c	16x10	12	531 c	16x10	12	577 c	16x10	12	525 c	16x10	12
<b>Return Trunks</b>												
rt8	209 h		10	209 h		10	209 h		10	209 h		10
rt2	800 c		14	800 c		14	800 c		14	800 c		14
rt9	663 c		14	672 c		14	685 c		14	676 c		14
<b>Friction Rates</b>												
Heating FR	0.062			0.062			0.062			0.062		
Cooling FR	0.062			0.062			0.062			0.062		



# Project Information

For: Manual J Express

Duct Name	Largest			Smallest		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>						
Guest	90 c	8x6	6	71 h	8x6	6
Guest Bath	17 h	8x6	4	17 h	8x6	4
Guest Bed	69 h	8x6	6	69 h	8x6	6
Guest Bed-A	69 h	8x6	6	69 h	8x6	6
Hall/G-Suite	24 h	8x6	4	24 h	8x6	4
Kitchen	91 c	8x6	7	65 c	8x6	7
Kitchen-A	91 c	8x6	7	65 c	8x6	7
Kitchen-B	91 c	8x6	7	65 c	8x6	7
Main Living	104 c	10x6	7	96 c	10x6	7
Main Living-A	104 c	10x6	7	96 c	10x6	7
Mast Bath	71 h	8x6	6	71 h	8x6	6
Mast Bed/WIC	73 c	8x6	6	63 h	8x6	6
Mast Bed/WIC-A	73 c	8x6	6	63 h	8x6	6
Side Entry.	70 h	8x6	6	70 h	8x6	6
Side Entry.-A	70 h	8x6	6	70 h	8x6	6
<b>Supply Trunks</b>						
st21	389 h		12x8	389 h		12x8
st22	611 c		18x8	572 c		16x8
st2	800 c		22x8	800 c		22x8
<b>Return Branches</b>						
rb7	138 h	8x6	7	138 h	8x6	7
rb13	90 c	8x6	6	71 h	8x6	6
rb27	197 h	10x10	9	197 h	10x10	9
rb11	577 c	16x10	12	489 c	16x10	12
<b>Return Trunks</b>						
rt8	209 h		10	209 h		10
rt2	800 c		14	800 c		14
rt9	706 c		14	663 c		14
<b>Friction Rates</b>						
Heating FR	0.062			0.062		
Cooling FR	0.062			0.062		



## Background Color Legend

### Yellow background

Duct Size - duct size is smaller than the largest duct size in the row

Reg Size - register size is smaller than the largest register size in the row

Reg CFM - register design cfm is larger than 150 CFM

Friction Rate - friction rate is outside ACCA Manual-D recommended range (0.06 - 0.18)

### Pink background column header

Largest cooling load orientation



# Duct system multi orientation report

## AHU 07

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

## Project Information

For: Manual J Express

Group 1: ( N, S) Group 2: (NE, SE, SW, NW) Group 3: ( E, W)

Duct Name	(N)			(NE)			(E)			(SE)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
Supply Branches												
Bathroom 1	7 c	8x6	4	7 c	8x6	4	7 c	8x6	4	7 c	8x6	4
Bedroom	75 h	10x6	6	83 c	10x6	6	104 c	10x6	6	90 c	10x6	6
Bedroom-A	75 h	10x6	5	83 c	10x6	6	104 c	10x6	6	90 c	10x6	6
Laundry/Linen	20 h	8x6	4	20 h	8x6	4	20 h	8x6	4	20 h	8x6	4
Play Room	112 c	8x6	6	101 c	8x6	6	92 c	8x6	6	98 c	8x6	6
Play Room-A	112 c	8x6	6	101 c	8x6	6	92 c	8x6	6	98 c	8x6	6
Play Room-B	112 c	8x6	6	101 c	8x6	6	92 c	8x6	6	98 c	8x6	6
Play Room-C	112 c	8x6	6	101 c	8x6	6	92 c	8x6	6	98 c	8x6	6
Play Room-D	112 c	8x6	6	101 c	8x6	6	92 c	8x6	6	98 c	8x6	6
Powder	7 c	8x6	4	7 c	8x6	4	7 c	8x6	4	7 c	8x6	4
St/Stair	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6
St/Stair-A	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6
Toy CL	13 h	8x6	4	13 h	8x6	4	13 h	8x6	4	13 h	8x6	4
Supply Trunks												
st11	584 c		14x8	598 c		14x8	603 c		14x8	600 c		14x8
st12	243 h		8x8	243 h		8x8	243 h		8x8	243 h		8x8
st1	800 c		22x8	800 c		22x8	800 c		22x8	800 c		22x8
Return Branches												
rb31	26 h	10x10	4	26 h	10x10	4	26 h	10x10	4	26 h	10x10	4
rsb2	150 h	8x8	7	166 c	8x8	8	208 c	8x8	9	179 c	8x8	8
rb12	681 c	18x18	14	623 h	18x18	14	623 h	18x18	14	623 h	18x18	14
Return Trunks												
rt1A	150 h		8	166 c		8	208 c		8	179 c		8
rt1	800 c		14	800 c		14	800 c		14	800 c		14
Friction Rates												
Heating FR	0.063			0.063			0.067			0.063		
Cooling FR	0.063			0.063			0.067			0.063		



Right-Suite® Universal 2023 23.0.04 RSU61951

Court-Feb-05-2024 - Manual JDS.rup Calc = MJ8 Front Door faces: N

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# Project Information

For: Manual J Express

Duct Name	(S)			(SW)			(W)			(NW)		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>												
Bathroom 1	7 c	8x6	4	7 c	8x6	4	8 c	8x6	4	7 c	8x6	4
Bedroom	75 h	10x6	6	89 c	10x6	6	107 c	10x6	6	81 c	10x6	6
Bedroom-A	75 h	10x6	5	89 c	10x6	6	107 c	10x6	6	81 c	10x6	6
Laundry/Linen	20 h	8x6	4	20 h	8x6	4	20 h	8x6	4	20 h	8x6	4
Play Room	105 c	8x6	6	97 c	8x6	6	91 h	8x6	6	101 c	8x6	6
Play Room-A	105 c	8x6	6	97 c	8x6	6	91 h	8x6	6	101 c	8x6	6
Play Room-B	105 c	8x6	6	97 c	8x6	6	91 h	8x6	6	101 c	8x6	6
Play Room-C	105 c	8x6	6	97 c	8x6	6	91 h	8x6	6	101 c	8x6	6
Play Room-D	105 c	8x6	6	97 c	8x6	6	91 h	8x6	6	101 c	8x6	6
Powder	7 c	8x6	4	7 c	8x6	4	8 c	8x6	4	7 c	8x6	4
St/Stair	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6
St/Stair-A	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6	76 h	8x6	6
Toy CL	13 h	8x6	4	13 h	8x6	4	13 h	8x6	4	13 h	8x6	4
<b>Supply Trunks</b>												
st11	593 c		14x8	596 c		14x8	596 c		14x8	594 c		14x8
st12	243 h		8x8	243 h		8x8	243 h		8x8	243 h		8x8
st1	800 c		22x8	800 c		22x8	800 c		22x8	800 c		22x8
<b>Return Branches</b>												
rb31	26 h	10x10	4	26 h	10x10	4	26 h	10x10	4	26 h	10x10	4
rsb2	150 h	8x8	7	178 c	8x8	8	214 c	8x8	9	162 c	8x8	8
rb12	643 c	18x18	14	623 h	18x18	14	623 h	18x18	14	625 c	18x18	14
<b>Return Trunks</b>												
rt1A	150 h		8	178 c		8	214 c		8	162 c		8
rt1	800 c		14	800 c		14	800 c		14	800 c		14
<b>Friction Rates</b>												
Heating FR	0.063			0.063			0.067			0.063		
Cooling FR	0.063			0.063			0.067			0.063		



# Project Information

For: Manual J Express

Duct Name	Largest			Smallest		
	Reg CFM	Reg Size	Duct Size	Reg CFM	Reg Size	Duct Size
<b>Supply Branches</b>						
Bathroom 1	8 c	8x6	4	7 c	8x6	4
Bedroom	107 c	10x6	6	75 h	10x6	6
Bedroom-A	107 c	10x6	6	75 h	10x6	5
Laundry/Linen	20 h	8x6	4	20 h	8x6	4
Play Room	112 c	8x6	6	91 h	8x6	6
Play Room-A	112 c	8x6	6	91 h	8x6	6
Play Room-B	112 c	8x6	6	91 h	8x6	6
Play Room-C	112 c	8x6	6	91 h	8x6	6
Play Room-D	112 c	8x6	6	91 h	8x6	6
Powder	8 c	8x6	4	7 c	8x6	4
St/Stair	76 h	8x6	6	76 h	8x6	6
St/Stair-A	76 h	8x6	6	76 h	8x6	6
Toy CL	13 h	8x6	4	13 h	8x6	4
<b>Supply Trunks</b>						
st11	603 c		14x8	584 c		14x8
st12	243 h		8x8	243 h		8x8
st1	800 c		22x8	800 c		22x8
<b>Return Branches</b>						
rb31	26 h	10x10	4	26 h	10x10	4
rsb2	214 c	8x8	9	150 h	8x8	7
rb12	681 c	18x18	14	623 h	18x18	14
<b>Return Trunks</b>						
rt1A	214 c		8	150 h		8
rt1	800 c		14	800 c		14
<b>Friction Rates</b>						
Heating FR	0.067			0.063		
Cooling FR	0.067			0.063		



## Background Color Legend

### Yellow background

Duct Size - duct size is smaller than the largest duct size in the row

Reg Size - register size is smaller than the largest register size in the row

Reg CFM - register design cfm is larger than 150 CFM

Friction Rate - friction rate is outside ACCA Manual-D recommended range (0.06 - 0.18)

### Pink background column header

Largest cooling load orientation



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Court-Feb-05-2024 - Manual JDS.rup Calc = MJ8 Front Door faces: N

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# Static Pressure and Friction Rate

## AHU 01

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

### Project Information

For: Manual J Express

### Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.65	0.65
Pressure losses		
Coil	0.07	0.07
Heat exchanger	0.05	0.05
Supply diffusers	0.03	0.03
Return grilles	0.03	0.03
Filter	0.10	0.10
Humidifier	0	0
Balancing damper	0.03	0.03
Other device	0	0
Available static pressure	0.34	0.34

### Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	2	3
Measured length of trunk	64	44
Equivalent length of fittings	285	115
Total length	351	162
Total effective length		512

### Friction Rate

	Heating (in/100ft)		Cooling (in/100ft)	
Supply Ducts	0.066	OK	0.066	OK
Return Ducts	0.066	OK	0.066	OK

### Fitting Equivalent Length Details

Supply 4AD=60, 2A3=65, 8B3=20, 8B3=20, 8B3=20, 9K=65, 1C=35: TotalEL=285

Return 6M=20, 8AE=10, 8B3=20, 6CB=25, 5D=40: TotalEL=115







# Static Pressure and Friction Rate

## AHU 02

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

## Project Information

For: Manual J Express

## Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.80	0.80
Pressure losses		
Coil	0.07	0.07
Heat exchanger	0.05	0.05
Supply diffusers	0.03	0.03
Return grilles	0.03	0.03
Filter	0.10	0.10
Humidifier	0	0
Balancing damper	0.03	0.03
Other device	0	0
Available static pressure	0.49	0.49

## Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	2	2
Measured length of trunk	40	32
Equivalent length of fittings	360	230
Total length	401	264
Total effective length		665

## Friction Rate

	Heating (in/100ft)		Cooling (in/100ft)	
Supply Ducts	0.074	OK	0.074	OK
Return Ducts	0.074	OK	0.074	OK

## Fitting Equivalent Length Details

Supply	4AD=60, 2A4=70, 9K=65, 9K=65, 9K=65, 1C=35: TotalIEL=360
Return	6M=20, 6C6=115, 6CB=25, 8B3=20, 6CA=10, 5A=40: TotalIEL=230



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# Static Pressure and Friction Rate

## AHU 03

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

### Project Information

For: Manual J Express

### Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.55	0.55
Pressure losses		
Coil	0.07	0.07
Heat exchanger	0.05	0.05
Supply diffusers	0.03	0.03
Return grilles	0.03	0.03
Filter	0.10	0.10
Humidifier	0	0
Balancing damper	0.03	0.03
Other device	0	0
Available static pressure	0.24	0.24

### Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	12	32
Measured length of trunk	41	5
Equivalent length of fittings	180	90
Total length	233	127
Total effective length		360

### Friction Rate

	Heating (in/100ft)		Cooling (in/100ft)	
Supply Ducts	0.067	OK	0.067	OK
Return Ducts	0.067	OK	0.067	OK

### Fitting Equivalent Length Details

Supply 4AD=60, 8AE=10, 2A2=55, 8B3=20, 1C=35: TotalEL=180

Return 6M=20, 8AE=10, 8AE=10, 6CA=10, 5D=40: TotalEL=90



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# Static Pressure and Friction Rate

## AHU 04

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

### Project Information

For: Manual J Express

### Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.60	0.60
Pressure losses		
Coil	0.07	0.07
Heat exchanger	0.05	0.05
Supply diffusers	0.03	0.03
Return grilles	0.03	0.03
Filter	0.10	0.10
Humidifier	0	0
Balancing damper	0.03	0.03
Other device	0	0
Available static pressure	0.29	0.29

### Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	11	12
Measured length of trunk	11	12
Equivalent length of fittings	185	190
Total length	207	213
Total effective length		420

### Friction Rate

	Heating (in/100ft)		Cooling (in/100ft)	
Supply Ducts	0.069	OK	0.069	OK
Return Ducts	0.069	OK	0.069	OK

### Fitting Equivalent Length Details

Supply	4AD=60, 8AE=10, 2A5=80, 1C=35: TotalEL=185
Return	6M=20, 6C3=50, 6CB=25, 12F1=20, 6CA=10, 5A=40, 6CB=25: TotalEL=190



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# Static Pressure and Friction Rate

## AHU 05

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

### Project Information

For: Manual J Express

### Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.60	0.60
Pressure losses		
Coil	0.07	0.07
Heat exchanger	0.05	0.05
Supply diffusers	0.03	0.03
Return grilles	0.03	0.03
Filter	0.10	0.10
Humidifier	0	0
Balancing damper	0.03	0.03
Other device	0	0
Available static pressure	0.29	0.29

### Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	7	8
Measured length of trunk	17	14
Equivalent length of fittings	325	145
Total length	349	167
Total effective length		516

### Friction Rate

	Heating (in/100ft)		Cooling (in/100ft)	
Supply Ducts	0.056	< 0.06	0.056	< 0.06
Return Ducts	0.056	< 0.06	0.056	< 0.06

### Fitting Equivalent Length Details

Supply	4AD=60, 2A5=80, 9K=65, 9K=65, 8B3=20, 1C=35: TotalEL=325
Return	6M=20, 6C2=30, 6CB=25, 8AE=10, 6CA=10, 8AE=10, 5A=40: TotalEL=145



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# Static Pressure and Friction Rate

## AHU 06

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

### Project Information

For: Manual J Express

### Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.60	0.60
Pressure losses		
Coil	0.07	0.07
Heat exchanger	0.05	0.05
Supply diffusers	0.03	0.03
Return grilles	0.03	0.03
Filter	0.10	0.10
Humidifier	0	0
Balancing damper	0.03	0.03
Other device	0	0
Available static pressure	0.29	0.29

### Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	17	17
Measured length of trunk	12	20
Equivalent length of fittings	250	150
Total length	279	187
Total effective length		466

### Friction Rate

	Heating (in/100ft)		Cooling (in/100ft)	
Supply Ducts	0.062	OK	0.062	OK
Return Ducts	0.062	OK	0.062	OK

### Fitting Equivalent Length Details

Supply	4AD=60, 8AE=10, 2A5=80, 9K=65, 1C=35: TotalEL=250
Return	6M=20, 8AE=10, 6C1=10, 6CB=25, 8B3=20, 6CB=25, 5A=40: TotalEL=150



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# Static Pressure and Friction Rate

## AHU 07

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

### Project Information

For: Manual J Express

### Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.70	0.70
Pressure losses		
Coil	0.07	0.07
Heat exchanger	0.05	0.05
Supply diffusers	0.03	0.03
Return grilles	0.03	0.03
Filter	0.10	0.10
Humidifier	0	0
Balancing damper	0.03	0.03
Other device	0	0
Available static pressure	0.39	0.39

### Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	10	6
Measured length of trunk	15	32
Equivalent length of fittings	385	135
Total length	410	173
Total effective length		583

### Friction Rate

	Heating (in/100ft)		Cooling (in/100ft)	
Supply Ducts	0.067	OK	0.067	OK
Return Ducts	0.067	OK	0.067	OK

### Fitting Equivalent Length Details

Supply 4AD=60, 8B3=20, 8AE=10, 9K=65, 9K=65, 9K=65, 9K=65, 1C=35: TotalEL=385

Return 6M=20, 8AE=10, 12A1=20, 8AE=10, 6CA=10, 5D=40, 6CB=25: TotalEL=135



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# Static Pressure and Friction Rate

## Mini Split

### Manual J Express

Job:  
Date: Feb 05, 2024  
By:

2 Grant Ave, Lakewood, NJ 08701 Phone: 732-731-9836 Email: manualjexpress@gmail.com

### Project Information

For: Manual J Express

### Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0	0
Pressure losses		
Coil	0	0
Heat exchanger	0	0
Supply diffusers	0	0
Return grilles	0	0
Filter	0	0
Humidifier	0	0
Balancing damper	0	0
Other device	0	0
Available static pressure	0	0

### Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	0	0
Measured length of trunk	0	0
Equivalent length of fittings	0	0
Total length	0	0
Total effective length	0	0

### Friction Rate

	Heating (in/100ft)		Cooling (in/100ft)	
Supply Ducts	0	none	0	none
Return Ducts	0	none	0	none

### Fitting Equivalent Length Details

Supply	TotalEL=0
Return	TotalEL=0

