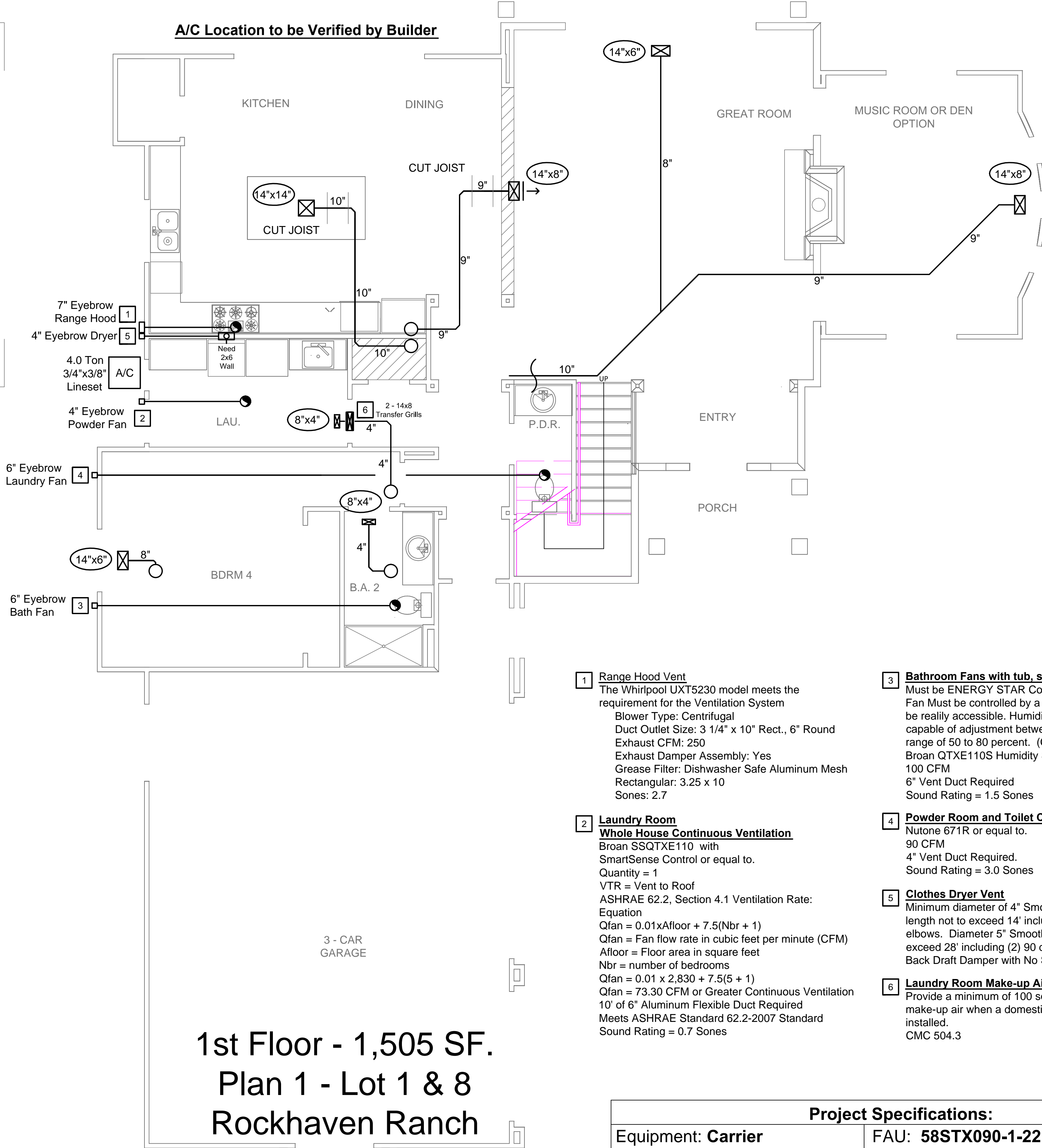


**2nd Floor - 1,325 SF.**  
**Plan 1 - Lot 1 & 8**  
**Rockhaven Ranch**



**1st Floor - 1,505 SF.**  
**Plan 1 - Lot 1 & 8**  
**Rockhaven Ranch**

- 1** **Range Hood Vent**  
 The Whirlpool UXT5230 model meets the requirement for the Ventilation System  
 Blower Type: Centrifugal  
 Duct Outlet Size: 3 1/4" x 10" Rect., 6" Round  
 Exhaust CFM: 250  
 Exhaust Damper Assembly: Yes  
 Grease Filter: Dishwasher Safe Aluminum Mesh  
 Rectangular: 3.25 x 10  
 Sones: 2.7
- 2** **Laundry Room**  
**Whole House Continuous Ventilation**  
 Broan SSQTXE110 with SmartSense Control or equal to.  
 Quantity = 1  
 VTR = Vent to Roof  
 ASHRAE 62.2, Section 4.1 Ventilation Rate: Equation  
 $Q_{fan} = 0.01 \times A_{floor} + 7.5(N_{br} + 1)$   
 $Q_{fan}$  = Fan flow rate in cubic feet per minute (CFM)  
 $A_{floor}$  = Floor area in square feet  
 $N_{br}$  = number of bedrooms  
 $Q_{fan} = 0.01 \times 2,830 + 7.5(5 + 1)$   
 $Q_{fan} = 73.30$  CFM or Greater Continuous Ventilation  
 10' of 6" Aluminum Flexible Duct Required  
 Meets ASHRAE Standard 62.2-2007 Standard  
 Sound Rating = 0.7 Sones
- 3** **Bathroom Fans with tub, shower, or combination**  
 Must be ENERGY STAR Compliant.  
 Fan Must be controlled by a humidistat which shall be readily accessible. Humidistat controls shall be capable of adjustment between a relative humidity range of 50 to 80 percent. (CGBC 4.506)  
 Broan QTXE110S Humidity Sensing Fan or equal to. 100 CFM  
 6" Vent Duct Required  
 Sound Rating = 1.5 Sones
- 4** **Powder Room and Toilet Closet Fans**  
 Nutone 671R or equal to.  
 90 CFM  
 4" Vent Duct Required.  
 Sound Rating = 3.0 Sones
- 5** **Clothes Dryer Vent**  
 Minimum diameter of 4" Smooth Metal Duct. Total length not to exceed 14' including (2) 90 degree elbows. Diameter 5" Smooth Metal Duct not to exceed 28' including (2) 90 degree elbows.  
 Back Draft Damper with No Screen. UMC 504.3.2
- 6** **Laundry Room Make-up Air**  
 Provide a minimum of 100 square inches for make-up air when a domestic clothes dryer is installed.  
 CMC 504.3

Project Specifications:		
Equipment: <b>Carrier</b>	FAU: <b>58STX090-1-22</b>	
Tonnage: <b>4.0 w/ Zone Controls</b>	AFUE: <b>80.0%</b>	
SEER: <b>14.0</b>	Coil: <b>PL48H210</b>	
EER: <b>12.2</b>		
R-Value: <b>6.0 Flex Duct</b>	Cond.: <b>CA15NA048</b>	
Refrigerant: <b>R-410a</b>		
Duct Testing: <b>Yes</b>	T-Stat: <b>Honeywell Pro4000</b>	Registers: <b>3-Way Stamped White</b>
Refrigerant Testing: <b>Yes</b>		

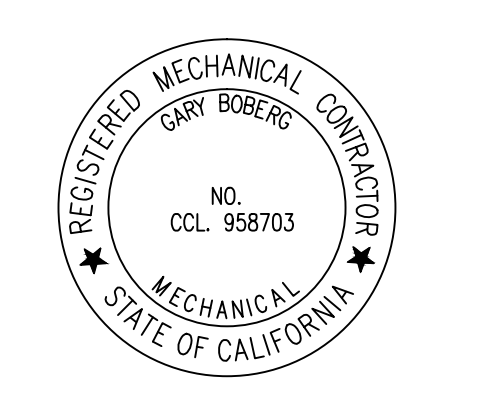
Mechanical Specifications
Need at least 30" of clearance in front of FAU for service accessibility.
Attic access to be 30"x30" with 30" of headroom.
FAU is to be located within 20' of attic access.
Secondary drain pan needs to be installed with all coils.
Nylon zip-ties and approved duct tape to be installed at all metal to flex duct connections.
Glen coat duct sealant to be applied to supply cans, return air cans, plenums and start collars.
Flex duct to be hung every 4' with 1 1/2" approved hanger strap.

Covering of Duct Openings (CGBC 4.504.1)
Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system.

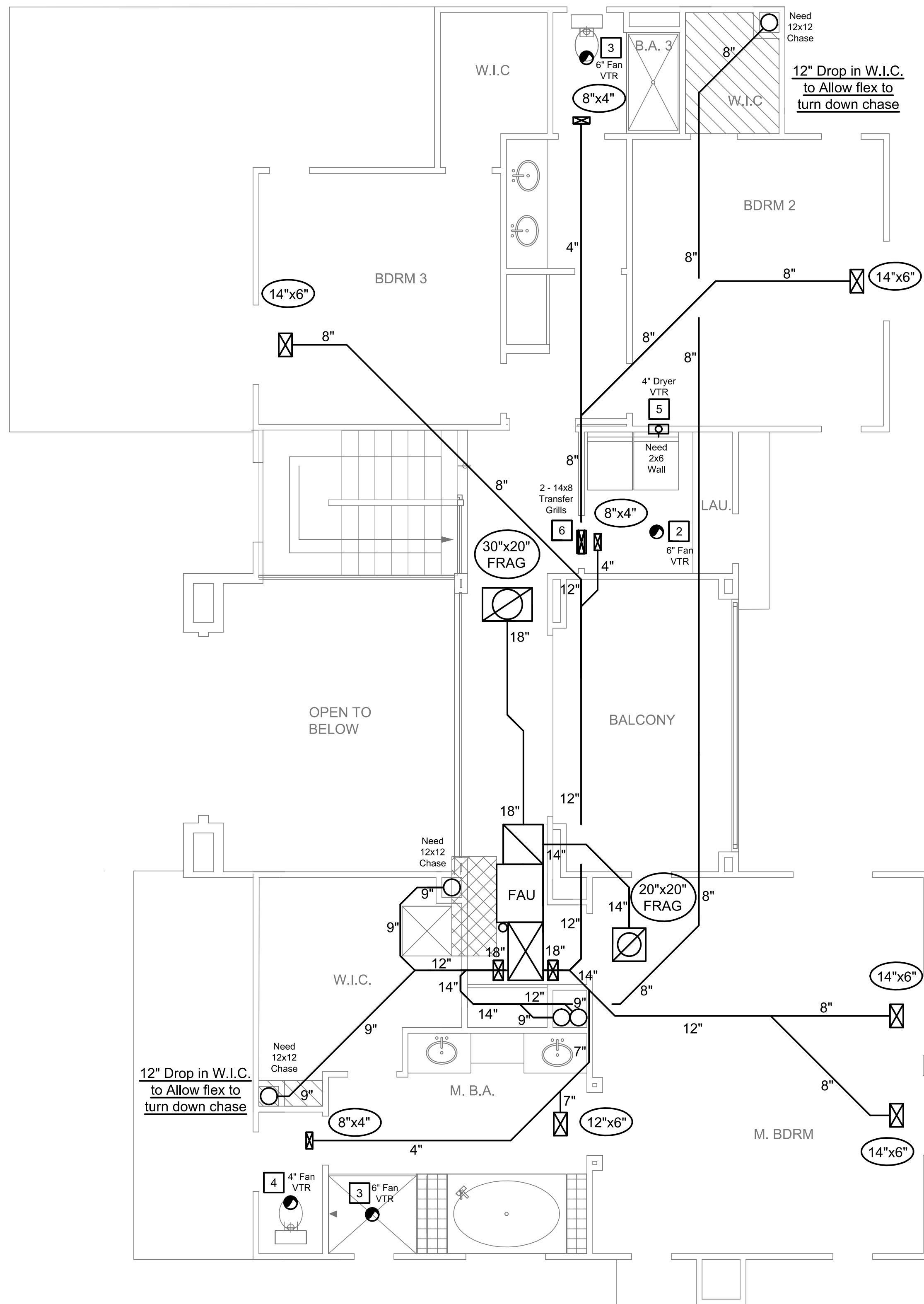
Heating and Air-Conditioning System Design (CGBC 4.507.2)
Heating and air-conditioning systems are sized, designed and have their equipment selected using the following methods:
1. The heat loss and heat gain is established according to ACCA Manual J.
2. Duct systems are sized according to ACCA Manual D.
3. Select heating and cooling equipment according to ACCA Manual S.

**M&O Investments**  
**Rockhaven Ranch**  
**Plan 1 - Lot 1 & 8 - 2,830 SF. Total**  
**El Cajon, Ca.**

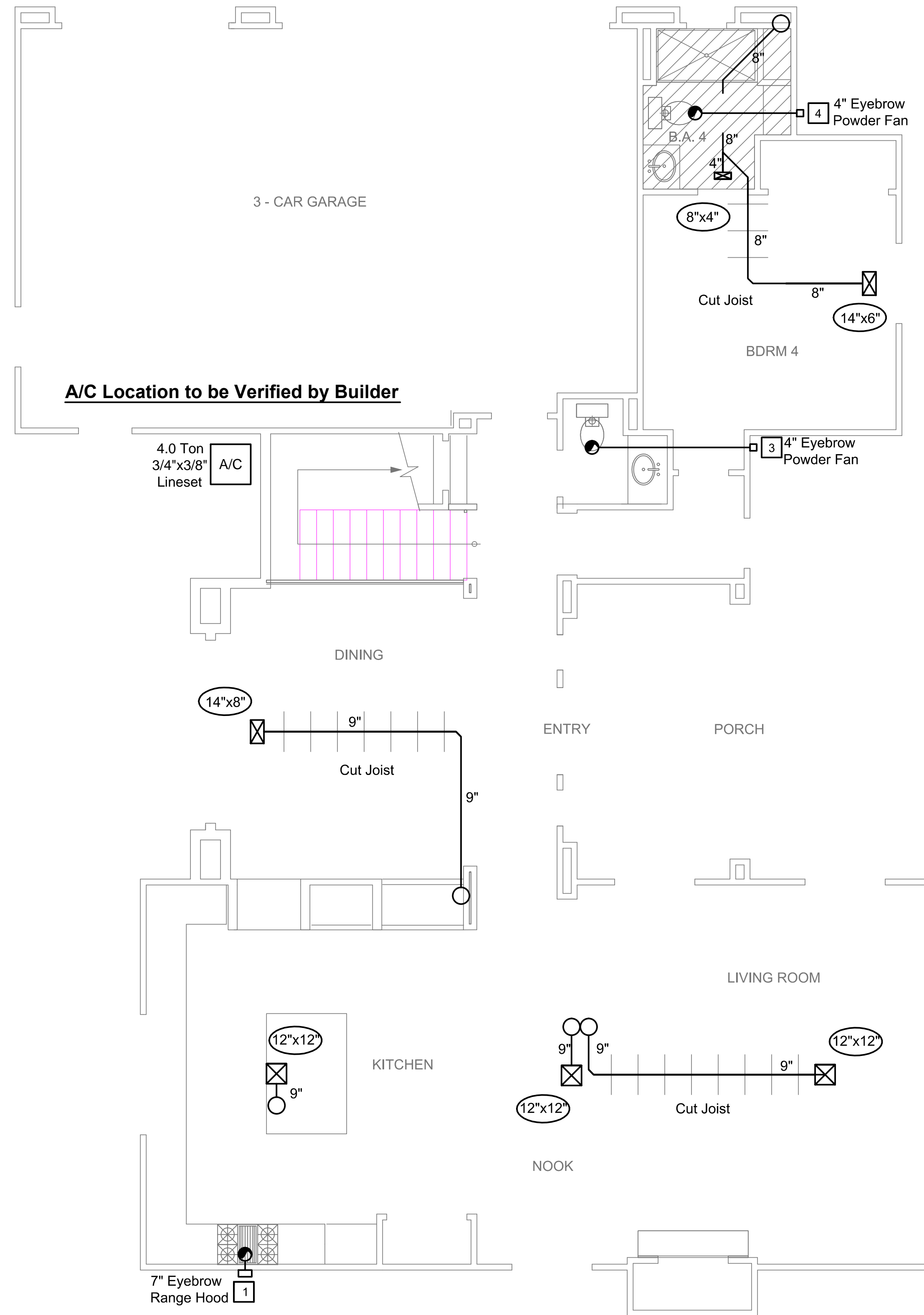
Revisions		
No.	Date	Description
1	2/12/15	Updated Plans
Produced By		
Reviewed By		
Scale: Not	Date: 2/03/2015	
Job Name	Rockhaven	



Sheet 1  
 of 5 Sheets  
**M.1**



2nd Floor -1,596 SF  
Plan 2A - Lot 5  
Rockhaven Ranch



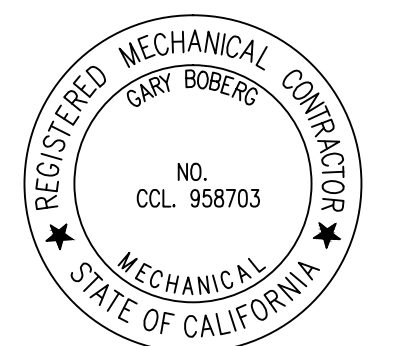
1st Floor -1,474 SF  
Plan 2A - Lot 5  
Rockhaven Ranch

- 1 Range Hood Vent**  
The Whirlpool UXT5230 model meets the requirement for the Ventilation System  
Blower Type: Centrifugal  
Duct Outlet Size: 3 1/4" x 10" Rect., 6" Round  
Exhaust CFM: 250  
Exhaust Damper Assembly: Yes  
Grease Filter: Dishwasher Safe Aluminum Mesh  
Rectangular: 3.25 x 10  
Sones: 2.7
- 2 Laundry Room Whole House Continuous Ventilation**  
Broan SSQTXE110 with SmartSense Control or equal to.  
Quantity = 1  
VTR = Vent to Roof  
ASHRAE 62.2, Section 4.1 Ventilation Rate:  
Equation  
Qfan = 0.01xAffloor + 7.5(Nbr + 1)  
Qfan = Fan flow rate in cubic feet per minute (CFM)  
Affloor = Floor area in square feet  
Nbr = number of bedrooms  
Qfan = 0.01 x 3,070 + 7.5(4 + 1)  
Qfan = 68.20 CFM or Greater Continuous Ventilation  
10' of 6" Aluminum Flexible Duct Required  
Meets ASHRAE Standard 62.2-2007 Standard  
Sound Rating = 0.7 Sones
- 3 Bathroom Fans with tub, shower, or combination**  
Must be ENERGY STAR Compliant.  
Fan Must be controlled by a humidistat which shall be readily accessible. Humidistat controls shall be capable of adjustment between a relative humidity range of 50 to 80 percent. (CGBC 4.506)  
Broan QTXE110S Humidity Sensing Fan or equal to.  
100 CFM  
6" Vent Duct Required  
Sound Rating = 1.5 Sones
- 4 Powder Room and Toilet Closet Fans**  
Nutone 671R or equal to.  
90 CFM  
4" Vent Duct Required.  
Sound Rating = 3.0 Sones
- 5 Clothes Dryer Vent**  
Minimum diameter of 4" Smooth Metal Duct. Total length not to exceed 14' including (2) 90 degree elbows. Diameter 5" Smooth Metal Duct not to exceed 28' including (2) 90 degree elbows.  
Back Draft Damper with No Screen. UMC 504.3.2
- 6 Laundry Room Make-up Air**  
Provide a minimum of 100 square inches for make-up air when a domestic clothes dryer is installed.  
CMC 504.3

**M&O Investments**  
**Rockhaven Ranch**  
**Plan 2A - Lot 5 - 3,070 SF. Total**  
El Cajon, Ca

**Revisions**

No.	Date	Description
1	2/12/15	Updated Plans
Produced By		
Reviewed By		
Scale: Not	Date: 02/04/15	
Job Name	Rockhaven	



**Mechanical Specifications**

Need at least 30" of clearance in front of FAU for service accessibility.
Attic access to be 30"x30" with 30" of headroom.
FAU is to be located within 20' of attic access.
Secondary drain pan needs to be installed with all coils.
Nylon zip-ties and approved duct tape to be installed at all metal to flex duct connections.
Glen coat duct sealant to be applied to supply cans, return air cans, plenums and start collars.
Flex duct to be hung every 4' with 1 1/2" approved hanger strap.

**Covering of Duct Openings (CGBC 4.504.1)**

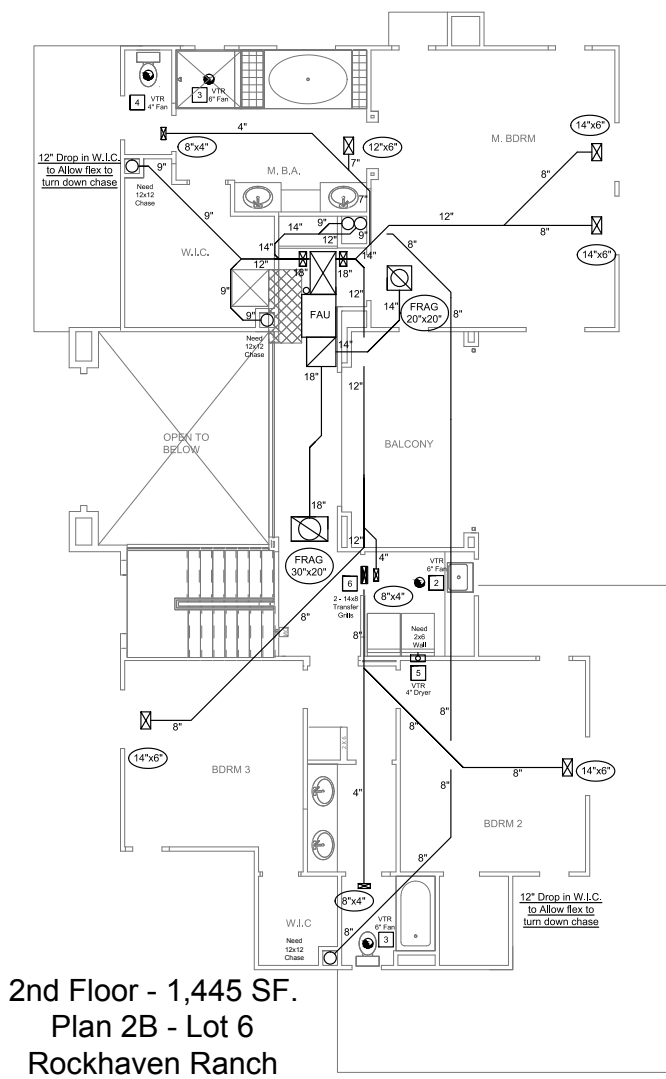
Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system.

**Heating and Air-Conditioning System Design (CGBC 4.507.2)**

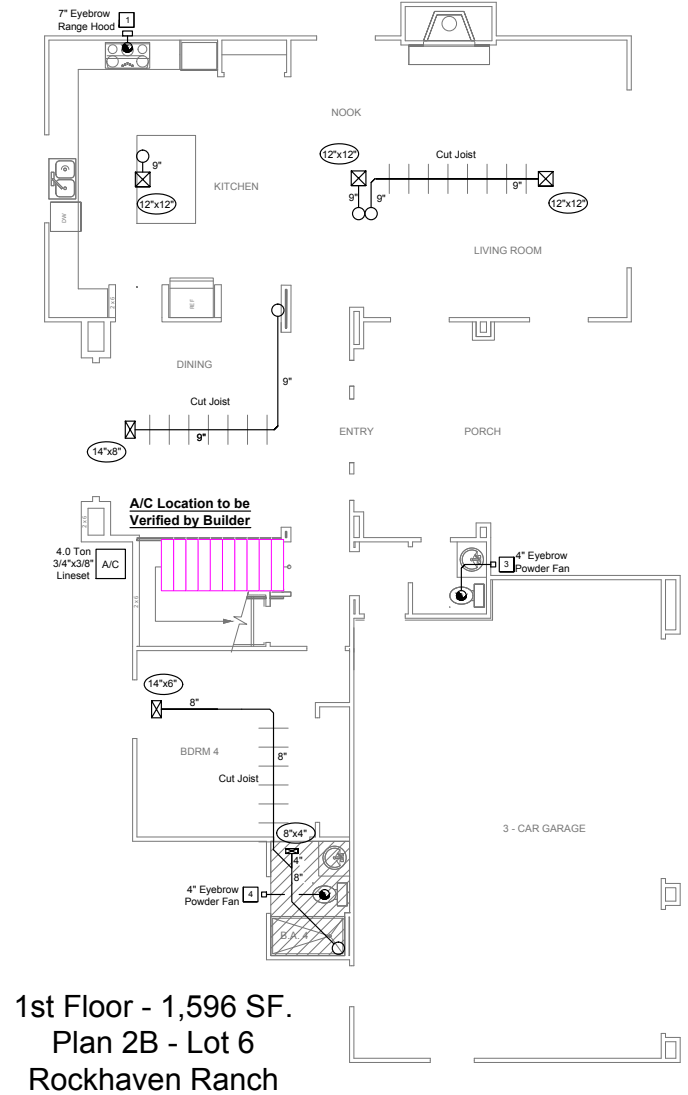
Heating and air-conditioning systems are sized, designed and have their equipment selected using the following methods:  
1. The heat loss and heat gain is established according to ACCA Manual J.  
2. Duct systems are sized according to ACCA Manual D.  
3. Select heating and cooling equipment according to ACCA Manual S.

**Project Specifications:**

Equipment: <b>Carrier</b>	FAU: <b>58STX090-1-22</b>	
Tonnage: <b>4.0 w/ Zone Controls</b>	AFUE: <b>80.0%</b>	
SEER: <b>14.0</b>	Coil: <b>PL48H210</b>	
EER: <b>12.2</b>		
R-Value: <b>6.0 Flex Duct</b>	Cond.: <b>CA15NA048</b>	
Refrigerant: <b>R-410a</b>		
Duct Testing: <b>Yes</b>	T-Stat: <b>Honeywell Pro4000</b>	Registers: <b>3-Way Stamped White</b>
Refrigerant Testing: <b>Yes</b>		



2nd Floor - 1,445 SF.  
 Plan 2B - Lot 6  
 Rockhaven Ranch



1st Floor - 1,596 SF.  
 Plan 2B - Lot 6  
 Rockhaven Ranch

- 1 Range Hood Vent  
 The Whirlpool UXT5230 model meets the requirement for the Ventilation System  
 Blower Type: Centrifugal  
 Duct Outlet Size: 3 1/4" x 10" Rect., 6" Round  
 Exhaust CFM: 250  
 Exhaust Damper Assembly: Yes  
 Grease Filter: Dishwasher Safe Aluminum Mesh  
 Rectangular: 3.25 x 10  
 Sones: 2.7
- 2 Laundry Room  
**Whole House Continuous Ventilation**  
 Broan SSQTXE110 with SmartSense Control or equal to.  
 Quantity = 1  
 VTR = Vent to Roof  
 ASHRAE 62.2, Section 4.1 Ventilation Rate:  
 Equation  
 Qfan = 0.01xAffloor + 7.5(Nbr + 1)  
 Qfan = Fan flow rate in cubic feet per minute (CFM)  
 Affloor = Floor area in square feet  
 Nbr = number of bedrooms  
 Qfan = 0.01 x 3,041 + 7.5(4 + 1)  
 Qfan = 67.91 CFM or Greater Continuous Ventilation  
 10" of 6" Aluminum Flexible Duct Required  
 Meets ASHRAE Standard 62.2-2007 Standard  
 Sound Rating = 0.7 Sones
- 3 Bathroom Fans with tub, shower, or combination  
 Must be ENERGY STAR Compliant.  
 Fan Must be controlled by a humidistat which shall be readily accessible. Humidistat controls shall be capable of adjustment between a relative humidity range of 50 to 80 percent. (CGBC 4.506)  
 Broan QTXE110S Humidity Sensing Fan or equal to.  
 100 CFM  
 8" Vent Duct Required  
 Sound Rating = 1.5 Sones
- 4 Powder Room and Toilet Closet Fans  
 Nutone 671R or equal to.  
 90 CFM  
 4" Vent Duct Required.  
 Sound Rating = 3.0 Sones
- 5 Clothes Dryer Vent  
 Minimum diameter of 4" Smooth Metal Duct. Total length not to exceed 14' including (2) 90 degree elbows. Diameter 5" Smooth Metal Duct not to exceed 28' including (2) 90 degree elbows.  
 Back Draft Damper with No Screen. UMC 504.3.2
- 6 Laundry Room Make-up Air  
 Provide a minimum of 100 square inches for make-up air when a domestic clothes dryer is installed.  
 CMC 504.3

**Revisions**

No.	Date	Description
1	2/12/15	Updated Plans

Produced By \_\_\_\_\_  
 Reviewed By \_\_\_\_\_  
 Scale: Not \_\_\_\_\_ Date: 02/04/15  
 Job Name \_\_\_\_\_ Rockhaven

Mechanical Specifications
Need at least 30" of clearance in front of FAU for service accessibility.
Attic access to be 30"x30" with 30" of headroom.
FAU is to be located within 20' of attic access.
Secondary drain pan needs to be installed with all coils.
Nylon zip-ties and approved duct tape to be installed at all metal to flex duct connections.
Glen coat duct sealant to be applied to supply cans, return air cans, plenums and start collars.
Flex duct to be hung every 4' with 1/2" approved hanger strap.

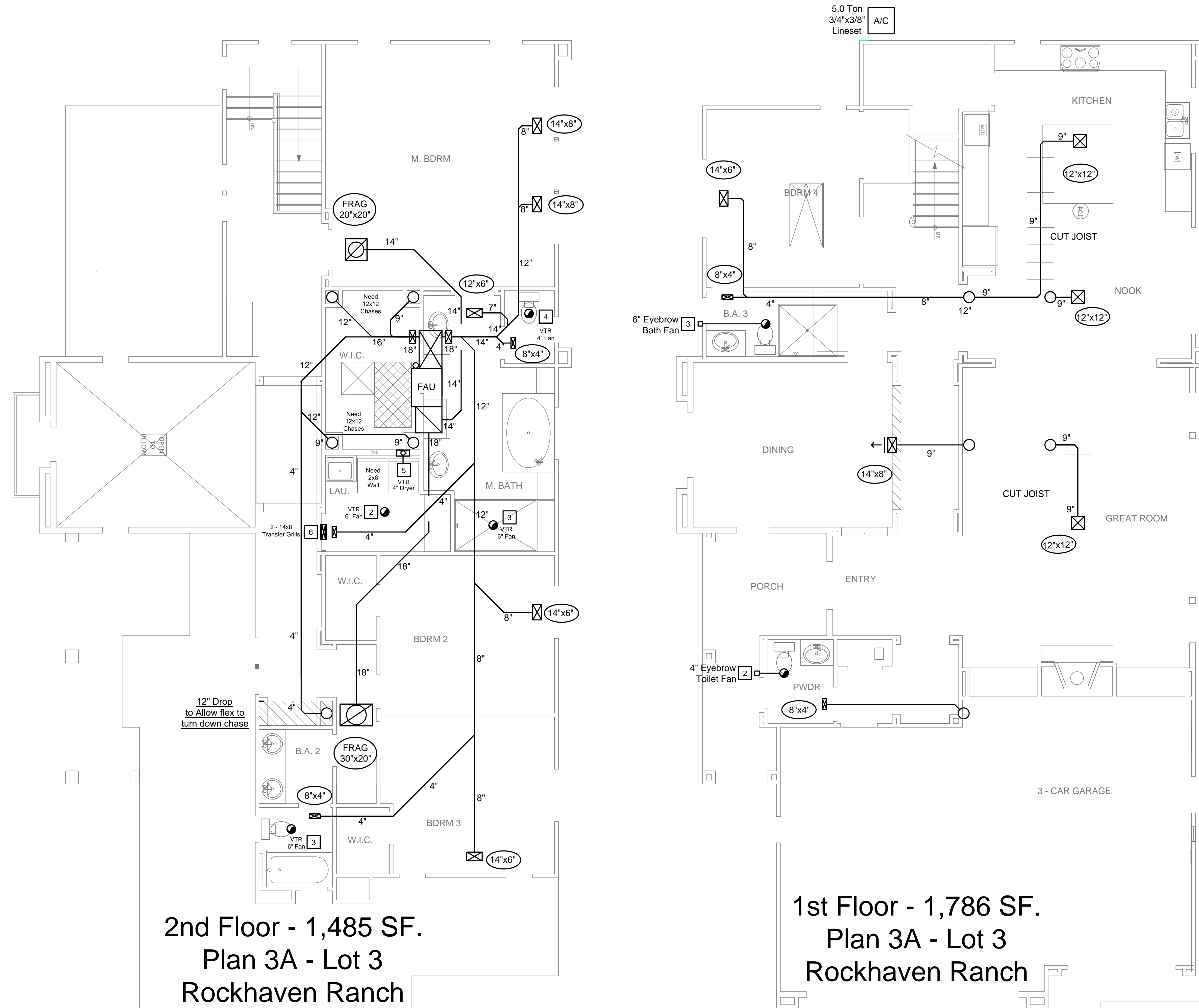
Covering of Duct Openings (CGBC 4.504.1)
Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system.

Heating and Air-Conditioning System Design (CGBC 4.507.2)
Heating and air-conditioning systems are sized, designed and have their equipment selected using the following methods: 1. The heat loss and heat gain is established according to ACCA Manual J. 2. Duct systems are sized according to ACCA Manual D. 3. Select heating and cooling equipment according to ACCA Manual S.

Project Specifications:		
Equipment: Carrier	FAU: 58STX090-1-22	
Tonnage: 4.0 w/ Zone Controls	AFUE: 80.0%	
SEER: 14.0	Coil: PL48H210	
EER: 12.2	Cond.: CA15NA048	
R-Value: 6.0 Flex Duct		
Refrigerant: R-410a		
Duct Testing: Yes	T-Stat: Honeywell Pro4000	Registers: 3-Way Stamped White
Refrigerant Testing: Yes		

Sheet **3**  
 of 5 Sheets

M.3



**2nd Floor - 1,485 SF.  
Plan 3A - Lot 3  
Rockhaven Ranch**

**1st Floor - 1,786 SF.  
Plan 3A - Lot 3  
Rockhaven Ranch**

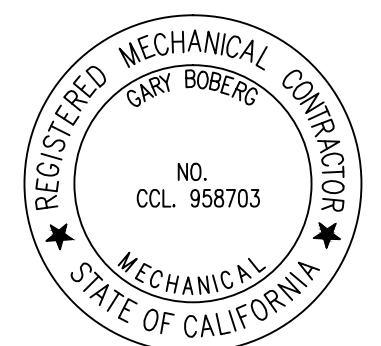
- 1 Range Hood Vent**  
The Whirlpool UXT5230 model meets the requirement for the Ventilation System  
Blower Type: Centrifugal  
Duct Outlet Size: 3 1/4" x 10" Rect., 6" Round  
Exhaust CFM: 250  
Exhaust Damper Assembly: Yes  
Grease Filter: Dishwasher Safe Aluminum Mesh  
Rectangular: 3.25 x 10  
Sones: 2.7
- 2 Laundry Room Whole House Continuous Ventilation**  
Broan SSQTXE110 with SmartSense Control or equal to.  
Quantity = 1  
VTR = Vent to Roof  
ASHRAE 62.2, Section 4.1 Ventilation Rate:  
Equation  
Qfan = 0.01xAffloor + 7.5(Nbr + 1)  
Qfan = Fan flow rate in cubic feet per minute (CFM)  
Affloor = Floor area in square feet  
Nbr = number of bedrooms  
Qfan = 0.01 x 3,271 + 7.5(4 + 1)  
Qfan = 70.21 CFM or Greater Continuous Ventilation  
10' of 6" Aluminum Flexible Duct Required  
Meets ASHRAE Standard 62.2-2007 Standard  
Sound Rating = 0.7 Sones
- 3 Bathroom Fans with tub, shower, or combination**  
Must be ENERGY STAR Compliant.  
Fan Must be controlled by a humidistat which shall be readily accessible. Humidistat controls shall be capable of adjustment between a relative humidity range of 50 to 80 percent. (CGBC 4.506)  
Broan QTXE110S Humidity Sensing Fan or equal to.  
100 CFM  
6" Vent Duct Required  
Sound Rating = 1.5 Sones
- 4 Powder Room and Toilet Closet Fans**  
Nutone 671R or equal to.  
90 CFM  
4" Vent Duct Required.  
Sound Rating = 3.0 Sones
- 5 Clothes Dryer Vent**  
Minimum diameter of 4" Smooth Metal Duct. Total length not to exceed 14' including (2) 90 degree elbows. Diameter 5" Smooth Metal Duct not to exceed 28' including (2) 90 degree elbows.  
Back Draft Damper with No Screen. UMC 504.3.2
- 6 Laundry Room Make-up Air**  
Provide a minimum of 100 square inches for make-up air when a domestic clothes dryer is installed.  
CMC 504.3

**M&O Investments**  
**Rockhaven Ranch**  
**Plan 3A - Lot 3 - 3,271 SF. Total**  
El Cajon, Ca.

**Revisions**

No.	Date	Description
1	2/12/15	Updated Plans

**Produced By**  
**Reviewed By**  
**Scale: Not**      **Date: 2/03/2015**  
**Job Name**      **Rockhaven**



Sheet **4**  
of **5** Sheets

**M.4**

Project Specifications:		
Equipment: <b>Carrier</b>	FAU: <b>58STX110-1-22</b>	
Tonnage: <b>5.0 w/ Zone Controls</b>	AFUE: <b>80.0%</b>	
SEER: <b>14.0</b>	Coil: <b>PL60H210</b>	
EER: <b>12.2</b>		
R-Value: <b>6.0 Flex Duct</b>	Cond.: <b>CA15NA060</b>	
Refrigerant: <b>R-410a</b>		
Duct Testing: <b>Yes</b>	T-Stat: <b>Honeywell Pro4000</b>	Registers: <b>3-Way Stamped White</b>
Refrigerant Testing: <b>Yes</b>		

**Mechanical Specifications**  
Need at least 30" of clearance in front of FAU for service accessibility.  
Attic access to be 30"x30" with 30" of headroom.  
FAU is to be located within 20' of attic access.  
Secondary drain pan needs to be installed with all coils.  
Nylon zip-ties and approved duct tape to be installed at all metal to flex duct connections.  
Glen coat duct sealant to be applied to supply cans, return air cans, plenums and start collars.  
Flex duct to be hung every 4' with 1 1/2" approved hanger strap.

**Covering of Duct Openings (CGBC 4.504.1)**  
Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system.

**Heating and Air-Conditioning System Design (CGBC 4.507.2)**  
Heating and air-conditioning systems are sized, designed and have their equipment selected using the following methods:  
1. The heat loss and heat gain is established according to ACCA Manual J.  
2. Duct systems are sized according to ACCA Manual D.  
3. Select heating and cooling equipment according to ACCA Manual S.

**M&O Investments**  
**Rockhaven Ranch**  
**Plan 3B - Lot 4 - 3,271 SF. Total**  
El Cajon, Ca.

**Revisions**

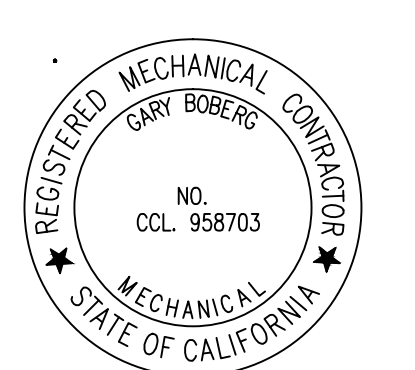
No.	Date	Description
1	2/12/15	Updated Plans

Produced By

Reviewed By

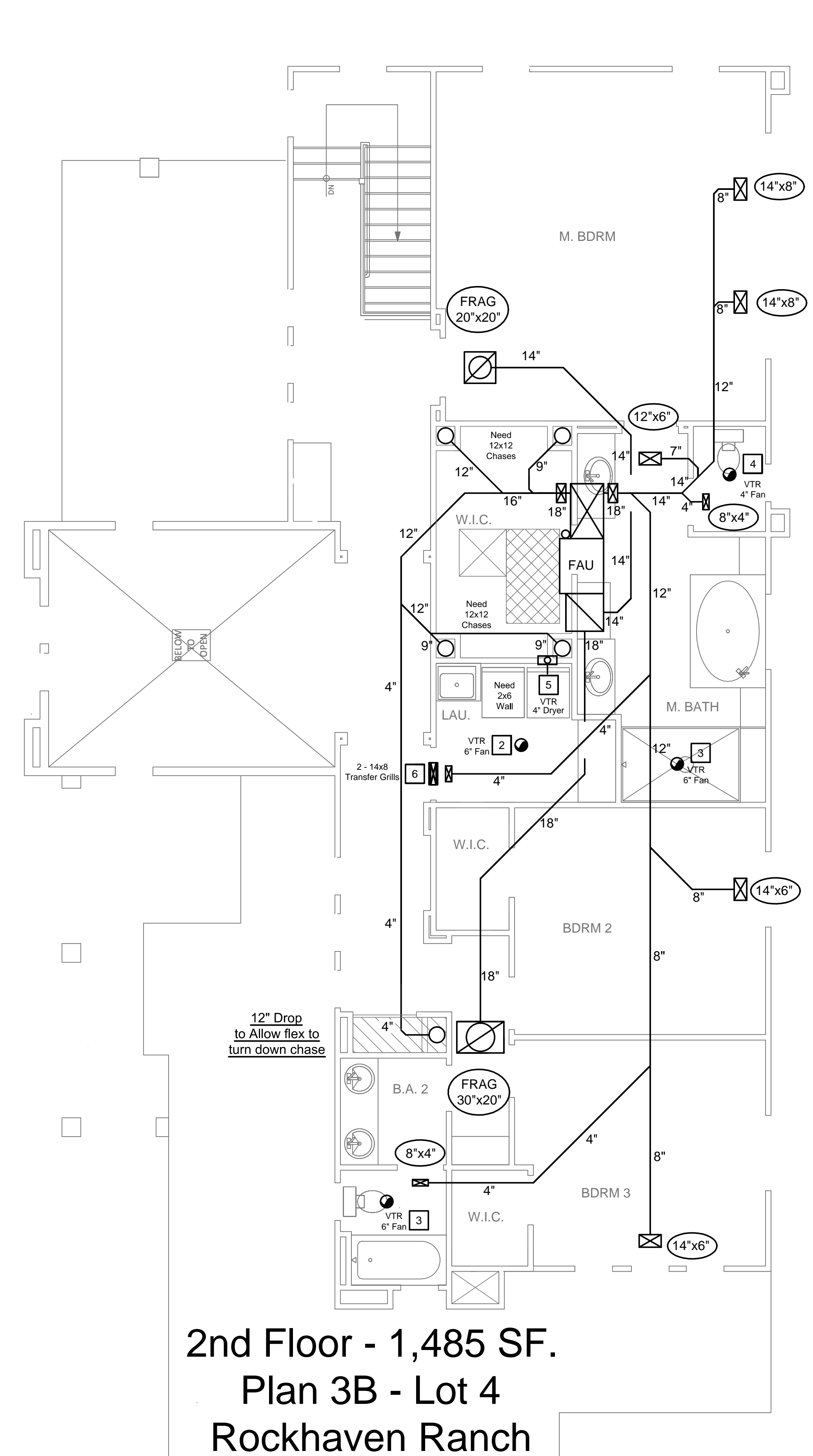
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Job Name Rockhaven

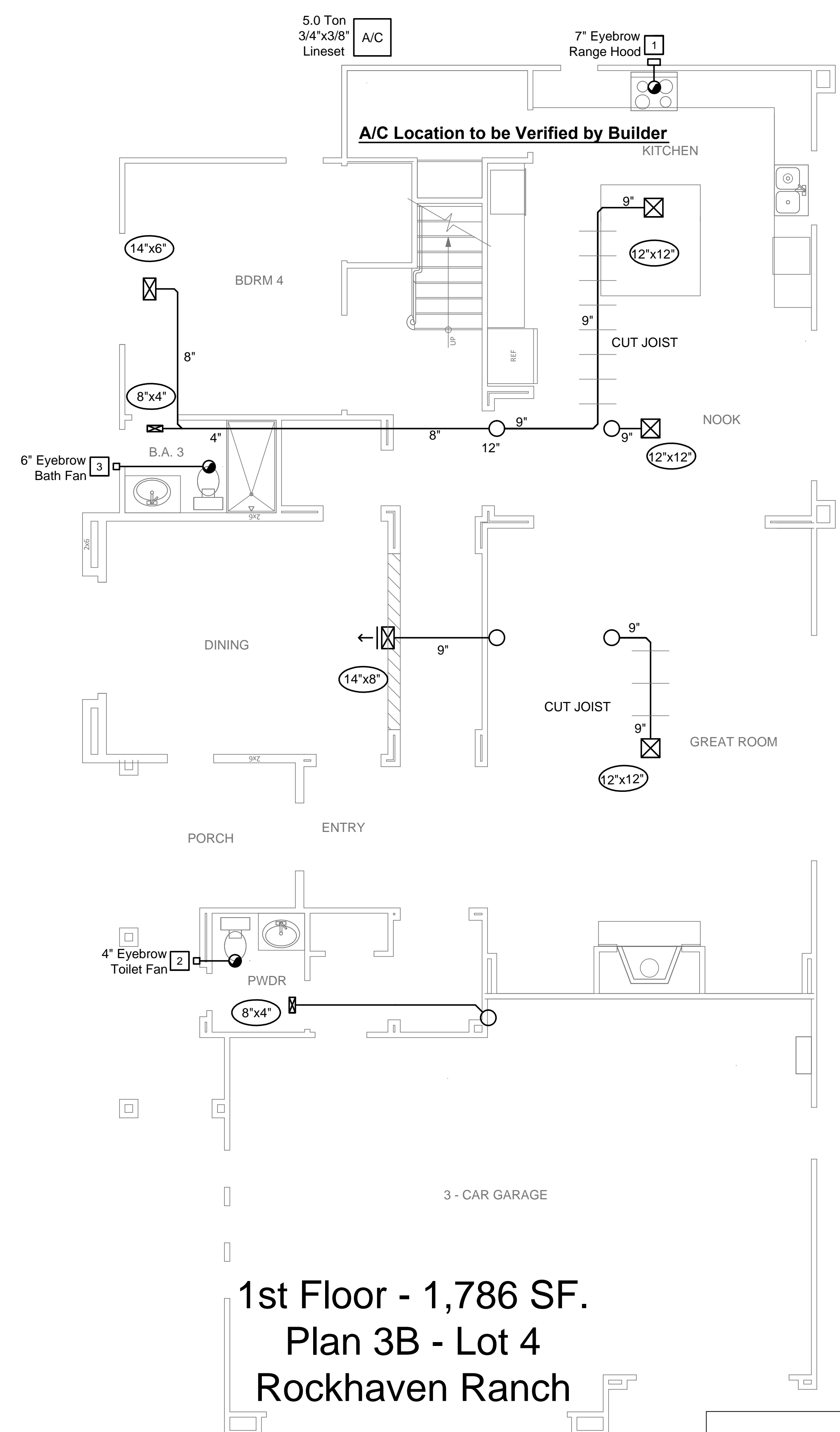


Sheet 5  
of 5 Sheets

**M.5**



**2nd Floor - 1,485 SF.**  
**Plan 3B - Lot 4**  
**Rockhaven Ranch**



**1st Floor - 1,786 SF.**  
**Plan 3B - Lot 4**  
**Rockhaven Ranch**

- 1 Range Hood Vent**  
The Whirlpool UXT5230 model meets the requirement for the Ventilation System  
Blower Type: Centrifugal  
Duct Outlet Size: 3 1/4" x 10" Rect., 6" Round  
Exhaust CFM: 250  
Exhaust Damper Assembly: Yes  
Grease Filter: Dishwasher Safe Aluminum Mesh  
Rectangular: 3.25 x 10  
Sones: 2.7
- 2 Laundry Room Whole House Continuous Ventilation**  
Broan SSQTXE110 with SmartSense Control or equal to.  
Quantity = 1  
VTR = Vent to Roof  
ASHRAE 62.2, Section 4.1 Ventilation Rate:  
Equation  
Qfan = 0.01xAffloor + 7.5(Nbr + 1)  
Qfan = Fan flow rate in cubic feet per minute (CFM)  
Affloor = Floor area in square feet  
Nbr = number of bedrooms  
Qfan = 0.01 x 3,271 + 7.5(4 + 1)  
Qfan = 70.21 CFM or Greater Continuous Ventilation  
10' of 6" Aluminum Flexible Duct Required  
Meets ASHRAE Standard 62.2-2007 Standard  
Sound Rating = 0.7 Sones
- 3 Bathroom Fans with tub, shower, or combination**  
Must be ENERGY STAR Compliant.  
Fan Must be controlled by a humidistat which shall be readily accessible. Humidistat controls shall be capable of adjustment between a relative humidity range of 50 to 80 percent. (CGBC 4.506)  
Broan QTXE110S Humidity Sensing Fan or equal to.  
100 CFM  
6" Vent Duct Required  
Sound Rating = 1.5 Sones
- 4 Powder Room and Toilet Closet Fans**  
Nutone 671R or equal to.  
90 CFM  
4" Vent Duct Required.  
Sound Rating = 3.0 Sones
- 5 Clothes Dryer Vent**  
Minimum diameter of 4" Smooth Metal Duct. Total length not to exceed 14' including (2) 90 degree elbows. Diameter 5" Smooth Metal Duct not to exceed 28' including (2) 90 degree elbows. Back Draft Damper with No Screen. UMC 504.3.2
- 6 Laundry Room Make-up Air**  
Provide a minimum of 100 square inches for make-up air when a domestic clothes dryer is installed.  
CMC 504.3

**Mechanical Specifications**

Need at least 30" of clearance in front of FAU for service accessibility.  
Attic access to be 30"x30" with 30" of headroom.  
FAU is to be located within 20' of attic access.  
Secondary drain pan needs to be installed with all coils.  
Nylon zip-ties and approved duct tape to be installed at all metal to flex duct connections.  
Glen coat duct sealant to be applied to supply cans, return air cans, plenums and start collars.  
Flex duct to be hung every 4' with 1 1/2" approved hanger strap.

**Covering of Duct Openings (CGBC 4.504.1)**

Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system.

**Heating and Air-Conditioning System Design (CGBC 4.507.2)**

Heating and air-conditioning systems are sized, designed and have their equipment selected using the following methods:

- The heat loss and heat gain is established according to ACCA Manual J.
- Duct systems are sized according to ACCA Manual D.
- Select heating and cooling equipment according to ACCA Manual S.

**Project Specifications:**

Equipment: Carrier	FAU: 58STX110-1-22
Tonnage: 5.0 w/ Zone Controls	AFUE: 80.0%
SEER: 14.0	Coil: PL60H210
EER: 12.2	
R-Value: 6.0 Flex Duct	Cond.: CA15NA060
Refrigerant: R-410a	
Duct Testing: Yes	T-Stat: Honeywell Pro4000
Refrigerant Testing: Yes	Registers: 3-Way Stamped White