CARSON CITY PURCHASING & CONTRACTS 201 North Carson Street Suite 11 Carson City, NV 89701 775-283-7137 / FAX 887-2107

http://www.carson.org/Index.aspx?page=998

NOTICE TO CONTRACTORS - BID # 1415-143

BID TITLE "Carson City Animal Services Facility" Labor Commissioner PWP# CC-2015-116 Engineer's Estimate: \$3,350,000

August 24, 2015

Addendum No. 3

Please make the following additions/changes to the above referenced project.

- 1. The date, time and place for receiving bids remains unchanged.
- 2. Make the following changes in the plans and bid documents as outlined below:

Question 1: Is there any wall tile on the South wall between canine hold #149 & run #117?Or better yet can we get a drawing showing where the tile starts and stops on the full South wall?

Answer:

The exterior tile locations are shown in the typical detailed reference plan E1/I105 as called out on the main reference floor plan, sheet I102.

Question 2: Sheet A602 Room 104

On finish schedule its denoted as (Building Owner Storage)
On Plans - it's a hallway and the Building Owner storage is Room 120
Please confirm what room needs Rubber Base.... 104 or 120?

Answer:

If you look at the current plan on A101, 104 is a public hall and 120 is also a hall that comes off of public hall 116. The only storage place labeled on the plan is room 156: Mechanical Storage. If you look at sheet I101 at the room finish schedule, the only place there is rubber base is the Mechanical Storage room which has base B2. All the other rooms have tile or the epoxy flashcove base.

Question 3: On Addendum #1, Sht A202 it references item 6.266. This item is not shown on

the plans

Answer: See A103 for location of decorative wood beams in Adoption

Lobby #102, A304 and G1/A503 ro4 beam sections and details.

Question 4: On addendum #1, Sht A202 it references item 9.513. This item is not called out on plans

Answer: See I103, I104 for finishes on the front surface of the reception desk.

Question 5: On Sheet C103 there is a shaded area saying "replace ac paving". Could you please clarify? Are we to add base? Thickness? Etc.

Answer: See pavement patch detail on C110

Question 6: I understand you overexcavated & built a pad. Am I correct in assuming you went the required distance below the footing and 5' beyond the building dimensions?

Answer: Yes

Question 7: Can you provide a copy of the soils report. I only have a "preliminary" from the last bid.

Answer: Original soils report is the final. A copy can be email to you. Request a copy from LTadman@carson.org

Question 8: It appears the pad was held down 12" BFF. We are to install 4" of base & 4" of concrete. Please clarify your intent for the remaining 4 "?

Answer: FF height is 4633.00. Finish pad grade is 4632.25 which equals 9". This is made up of 4" base, vapor barrier, 1" sand over vapor barrier, 4" concrete.

Question 9: The specification calls for a Notifier AFP-200 FACP. This panel is no longer manufactured by Notifier. The current line of Notifier panel that would be comparable would be either the Notifier NFS-320 or the NFS-640 both cut sheets are provided for your review. It would also help to understand the minimum requirements that are being required by this panel as well. The specification alludes to an automatic fire alarm control system with full smoke coverage. The minimuim standards for a Class "B" occupancy with this occupant load is a sprinkler monitoring system that would monitor the duct detection as well. Please verify what would be the minimum requirements for this project. If the requirement is to only be a sprinkler monitoring system then both of these panels would be far in excess of what would be needed. A possible solution panel for a sprinkler monitoring system would be the Notifier *FireWarden – 50 which is specifically designed to provide addressable* coverage for a system of this size. If the system does require full smoke coverage the FireWarden 100 should also be considered as it would more than cover this buildings requirement. I have attached cut sheets for these panels as well.

Answer: Provide the minimum standard for a Carson City Fire Annunciation System. The fire alarm system would be a

Notification system to meet minimum required code for this type of facility and as required by local Authority having jurisdiction.

Does that statement eliminate the Fire Alarm Spec?

Answer: Yes, eliminate Section 16722

Are there additional requirements being required over and above the minimum code requirements?

Answer: No, must meet Carson City Fire Department minimum code requirements.

Question 10: Are any Non-Proprietary Fire Alarm System substitutions acceptable? The specified Notifier AFP-200 is an older Proprietary FACP and I am wondering why this panel? This panel will limit Carson City's choices of quality Fire Alarm vendors dramatically.

Is the specification for "Chime/Strobes" correct instead of Horn/Strobes?

Sure about Indicating circuits Style Z (class A) and Initiating circuits Style D (class A)?

Answer: See addendum #2 for requirements of design build Fire Annuciation System. Disregard specification Section 16722

Question 11: Are the Plastic Tub Table Enclosures part of our quote or O.F.C.I.? If it is expected to be us, could you provide a manufacturer and item number?

Are the cabinets below a part of the Tub Tables, or are the p-lam cabinets we need to quote also?

Answer: The tub tables are stand-alone S.S. units, OFCI. No cabinets.

Question 11: Are there any Division 17 specifications for voice/data structured cabling? NO Are we to include voice and data cabling in this project? Yes

If there are no Division 17 specs, and we are to include voice/data cabling, here are a list of questions:

Should we include Cat5e or Cat6 cabling? CAT6, with two port face plates, one data, one voice as located on E103

Is there a specific cable manufacturer we should use? No Do we include a rack in the server room? If so, wall-mount or floor-mount? No

The data cables should terminate on patch panels, but will the voice cables also terminate on patch panels or 66-type connecting blocks or 110A wiring blocks? Patch panels

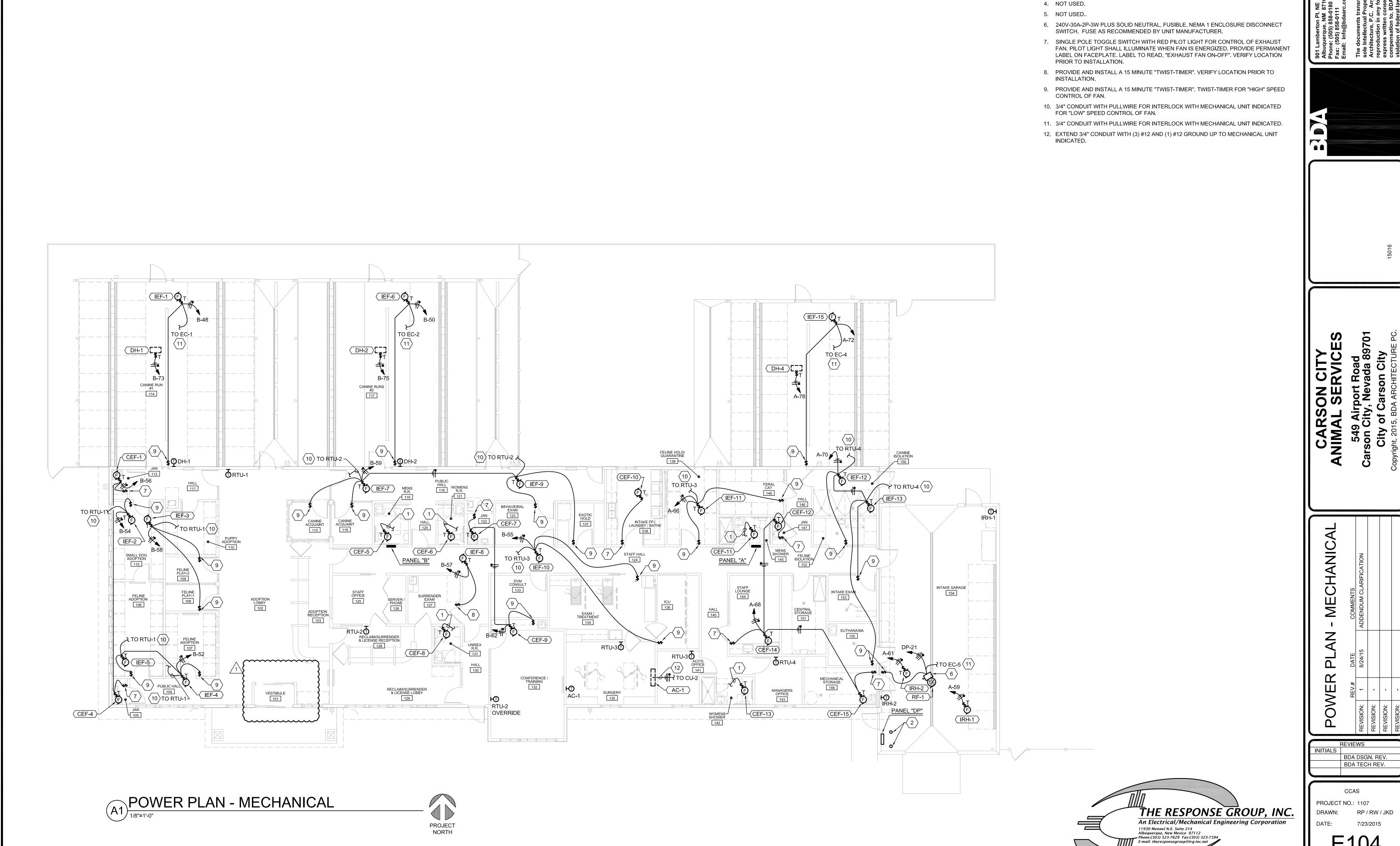
Is there backbone cabling included in this project or will the Service Provider bring facilities directly to the server room? Brought to server room by provider. Clarification 1: Modify & Replace Sheets E104, E201, M101 and M602, note the following:

Remove both Electric Baseboard heaters. Modify associated power.

Revise RTU-1 and RTU-3 model numbers. Modify associated ductwork as shown on M101 along with associated power on electrical sheets. Approx. savings for these changes are \$20,000.

Clarification 2: E105 Delete keynote 3 on E105.

End of Addendum No. 3



KEYED NOTES

NOT USED.

RELATED ROOM LIGHT SWITCH.

1. EXHAUST FAN SHALL CONNECT TO LIGHTING CIRCUIT AND BE CONTROLLED BY

E104

KEYED NOTES (

VOLTAGE: 120/208V-3Ø-4W

60A | 5532 | 1 | 9,900

40A 3288 7 6576 3288 9

30A | 1820 | 13 | 1820

1144 | 23

225A | 22,114 | 37 | 44077

TOTAL LOAD (VA) 73,581 76,551 69,890

1P | · |31|

/ 21,977 39

3P 20,483 41

TOTAL CONNECTED (KVA): 220.0 ESTIMATED DEMAND (KVA):

5532 3

3P | 5532 | 5

3P 3288 11

2P 1820

20A | 1144 | 2

BRKR LOAD CCT LOAD (VA) CCT LOAD (VA) BRKR

PANEL: "DP"

DESCRIPTION

SOURCE:.

UNIT RTU-1

UNIT RTU-2

SPARE

SPARE

SPACE ONLY

SPACE ONLY

PANEL "A"

UNIT RF-1

UNIT CU-1 / AC-1

- 1. 4" CONDUIT WITH PULLCORD. VERIFY EXACT SIZE AND TERMINATION REQUIREMENTS WITH NEVADA ENERGY UTILITY PRIOR TO INSTALLATION.
- 2. CONCRETE PAD AND METER ENCLOSURE PER NEVADA ENERGY UTILITY REQUIREMENTS.
- 3. RAINTIGHT PULLBOX FOR FUTURE DISCONNECT SWITCH ASSOCIATED WITH PORTABLE ENGINE GENERATOR.
- 4. (2) 4" CONDUITS EACH WITH (4) #600 KCMIL AND (1) #2/0 GROUND.
- 5. (4) #4/0 AND (1) #2 GROUND IN 2 1/2" CONDUIT.
- 6. PAD MOUNT TRANSFORMER BY UTILITY COMPANY.
- 7. PROVIDE AND INSTALL A 24" X 36" X 8" PULLBOX FOR INSTALLATION OF A FUTURE AUTOMATIC TRANSFER SWITCH. EXTEND CONDUCTORS THROUGH PULLBOX TO PANEL "DP" AND STUB CONDUIT PER NOTE 9 TO AN EXTERIOR PULLBOX FOR FUTURE EXTENSION TO PORTABLE ENGINE-GENERATOR.
- 8. PORTABLE ENGINE GENERATOR BY OWNER.

MAINS: <u>800A</u>

9,900 6 4368 3P

6576 12 3288 3P

1144 | 24 |

2 | 4368 | 50A

8 3288 40A

4 4368 / \} UNIT RTU-3

10 3288 / \> UNIT RTU-4

20A

36 1P SPACE ONLY

38 | 21,933 | 225A

48369 40 26,392 / PANEL "B"

42016 42 21,533 3P

SKIRTS: N/A FEED: BOTTOM MAIN BREAKER: MOUNTING: SURFACE

- 9. (2)4" CONDUITS WITH PULLCORD FROM INTERIOR PULLBOX TO EXTERIOR PULLBOX
- 10. (2) 4" CONDUITS EACH WITH (4) #600 KCMIL AND (1) #2/0 GROUND, PLUS (2) 4" EMPTY CONDUITS WITH PULLCORDS.

AIC: 22,000

DESCRIPTION

DOOR-IN-DOOR

GROUND BUS

THE RESPONSE GROUP, INC.

An Electrical/Mechanical Engineering Corporation

11930 Menaul N.E. Suite 214 Albuquerque, New Mexico 87112

Phone:(505) 323-7629 Fax:(505) 323-759-E-mail: theresponsegroup@trg-inc.net

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49 Airport Road n City, Nevada 89701 tv of Carson City

$\geq \Box$	ER RIS PANEL	WER RISER DIAGRAM ID PANEL SCHEDULES
3EV.#	DATE	COMMENTS
_	8/24/15	ADDENDUM CLARIFICATION
1		
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		RE	RE	RE	L
	REVIE	WS			
TIALS					
	BDA	DSG	N. R	EV.	
	BDA	TEC	H RE	٧.	

dil
CCAS
PROJECT NO.: 1107
DRAWN: RP/RW/JKD
DATE: 7/23/2015

7/23/2015 E201

PANEL: "B" SOURCE: PANEL "DP"	/OLTAGE: <u>120/208V-3Ø-4W</u> SKIRTS: <u>N/A</u> FEED: <u>TOP</u>			MAINS: <u>225A</u> MAIN BREAKER: <u>225A/3</u> F						
DESCRIPTION	BRKR	LOAD (VA)	CCT NO.	ØA	OAD (VA) ØB		CCT NO.	LOAD (VA)	BRKR	DESCRIPTION
LIGHTS	20A/1P	520	1	1494			2	974	20A/1P	LIGHTS
LIGHTS	20A/1P	520	3		1389		4	869	20A/1P	LIGHTS
LIGHTS	20A/1P	520	5			1290	6	770	20A/1P	LIGHTS
LIGHTS	20A/1P	473	7	1505			8	1032	20A/1P	LIGHTS
EXAM LIGHTS	20A/1P	1000	9		1900		10	900	20A/1P	RECEPTACLES
EXAM LIGHTS	20A/1P	1000	11			1360	12	360	20A/1P	RECEPTACLES
RECEPTACLES	20A/1P	720	13	1080			14	360	20A/1P	RECEPTACLES
RECEPTACLES	20A/1P	720	15		1620		16	900	20A/1P	RECEPTACLES
RECEPTACLES	20A/1P	720	17			1080	18	360	20A/1P	RECEPTACLES
RECEPTACLES	20A/1P	720	19	1080			20	360	20A/1P	RECEPTACLES
RECEPTACLES	20A/1P	900	21		1800		22	900	20A/1P	RECEPTACLES
RECEPTACLES	20A/1P	720	23				24	540	20A/1P	RECEPTACLES
RECEPTACLES	20A/1P	1080	25	1440			26	360	20A/1P	RECEPTACLES
SPARE	20A/1P		27		900		28	900	20A/1P	RECEPTACLES
RECEPTACLES	20A/1P	360	29			1860	30	1500	20A/1P	RECEPTACLES
SPARE	20A/1P		31	720			32	720	20A/1P	RECEPTACLES
SPARE	20A/1P		33		1500		34	1500	20A/1P	RECEPTACLES
SPARE	20A/1P		35				36	1200	20A/1P	RECEPTACLES
SPARE	20A/1P		37				38		20A/1P	SPARE
SPARE	20A/1P		39				40	•	20A/1P	SPARE
RECEPTACLES - ON ROOF	20A/1P	360	41			360	42	•	20A/1P	SPARE
	30A	2375	43	3095			44	720	20A/1P	RECEPTACLES
CLOTHES DRYER {	2P	2375	45		2375		46		20A/1P	SPARE
SPARE	20A/1P	~~~	47			1176	$\overline{}$	1176	20A/1P	UNIT IEF-1
UNIT EC-1	20A/1P	1656	49	2832			50	1176	20A/1P	UNIT IEF-6
UNIT EC-2	20A/1P	1656	51		2880		52	1224	20A/1P	UNITS IEF-4 / IEF-5
SPARE	20A/1P		_			696		696	20A/1P	UNIT IEF-2
UNIT IEF-10	20A/1P	1176	55	1434			56	258	20A/1P	EXHAUST FANS
UNIT IEF-8	20A/1P	528	57		1224		58	696	20A/1P	UNIT IEF-3
UNIT IEF-7 / IEF-9	20A/1P	1056	59			1056	-	•	20A/1P	SPARE
COPIER	20A/1P	1500	61	1629			62	129	20A/1P	EXHAUST FANS
	20A	1440	63		2880		64	1440	20A	
CLOTHES WASHER	/	1440	65			2880	66	1440	/ /	CLOTHES WASHER
(FUTURE)	3P	1440	67	2880			68	1440	3P	(FUTURE)
CLOTHES DRYER	20A	1248	69		2496		70	1248	20A	CLOTHES DRYER
(FUTURE)	2P	1248	71			2496	72	1248	2P	(FUTURE)
UNIT DH-1	20A-1P	228	73	<i>228</i>			74		1P	SPACE ONLY
UNIT DH-2	20A-1P	228	75		228		76		1P	SPACE ONLY
SPACE ONLY	1P		77				78		1P	SPACE ONLY
SPACE ONLY	1P	•	79				80		1P	SPACE ONLY
SPACE ONLY	1P	•	81				82		1P	SPACE ONLY
SPACE ONLY	1P		83				84	•	1P	SPACE ONLY
	TOTA			04.000	26,392	21,533		<u> </u>		

LOAD SUMMARY - PANEL A								
DESCRIPTION								
PANELBOARD "A" ESTIMATED DEMAND PER NEC 220								
MECHANICAL UNITS (10.6 KVA CONN)	10.6	KVA						
DRYER (9.5 KVA CONN) AT 100%	9.5	KVA						
RECEPTACLES (38.1 KVA CONN) FIRST 10 KVA AT 100% REMAINING AT 50% LIGHTING (6.4 KVA CONN) AT 100%	14.1	KVA KVA						
TOTAL ESTIMATED LOAD:	50.6	KVA						
140 AMPERES AT 208Y/120V-3Ø-4W								
MINIMUM SERVICE CAPACITY =125% x TOTAL ESTIMATED LOAD	63.2	KVA						
175 AMPERES AT 208Y/120V-3Ø-4W								
∴ MINIMUM RECOMMENDED SERVICE SIZE =	225	AMPS						

TOTAL CONNECTED (KVA): 64.6 ESTIMATED DEMAND (KVA):

VOLTAGE: <u>120/208V-3Ø-4W</u>

|20A/1P| 633 |1| 991

|20A/1P| 470 |7| 870

|20A/1P| 470 |3

| 20A/1P | 686 | 5

| 20A/1P | 1200 | 29

20A/1P 540 3

20A/1P 540 35

20A/1P | 1500 | 39

20A/1P 1500 41

20A/1P 500 45

20A/1P 800 47

| 20A/1P | 800 | 57

| 20A/1P | 312 | 59 |

| 20A/1P | 1656 | 63

| 20A/1P | 1656 | 65

20A/1P | 1000 | 69

20A/1P 720 31 2220

20A/1P 900 |37 | 1980

20A/1P 1000 43 1540

30A | 2375 | 49 | 3095

| 20A/1P | 312 | 61 | 312

| 20A/1P | · | 67 | 291

| 20A/1P | 800 | 73 | 1000 |

TOTAL LOAD (VA) 22,114 21,977 20,483

20A/1P

RECEPTACLES - PARKING | 20A/1P | 600 | 17

RECEPTACLES - PARKING | 20A/1P | 600 | 2

RECEPTACLES - PARKING | 20A/1P | 600 | 23

RECEPTACLES - PARKING | 20A/1P | 600 | 27

IRRIGATION CONTROLLER | 20A/1P | 500 | 71

RECEPTACLES - PARKING | 20A/1P | 600 | 19 | 1776

RECEPTACLES - PARKING | 20A/1P | 600 | 25 | 1320 |

SKIRTS: N/A FEED: TOP

1460

BRKR LOAD CCT LOAD (VA) NO. ØA ØB ØC

PANEL: "A"

LIGHTS

LIGHTS

LIGHTS

LIGHTS

SPARE

SPARE

SPARE

SPARE

FREEZER

RECEPTACLES

RECEPTACLES

RECEPTACLES

RECEPTACLES

RECEPTACLES

RECEPTACLES

DISHWASHER

U.C. REFRIGERATOR

CLOTHES WASHER

CLOTHES DRYER

CLOTHES DRYER

UNIT IRH-1

UNIT IRH-2

UNIT EC-5

UNIT EC-4

DISHWASHER

CLOTHES WASHER

CLOTHES DRYER

SPACE ONLY

SPACE ONLY

SPACE ONLY

SPARE

CLOTHES WASHER

SOURCE: PANEL "DP"

DESCRIPTION

____ MAINS: 225A

CCT LOAD BRKR (VA)

LOAD SUMMARY - PANEL B									
DESCRIPTION									
PANELBOARD "B" ESTIMATED DEMAND PER NEC 220									
MECHANICAL UNITS (15.0 KVA CONN)	15.0	KVA							
DRYER (9.8 KVA CONN) AT 100%	9.8	KVA							
RECEPTACLES (37.5 KVA CONN) FIRST 10 KVA AT 100% REMAINING AT 50% LIGHTING (7.6 KVA CONN) AT 100%	13.8	KVA KVA KVA							
TOTAL ESTIMATED LOAD:	56.2	KVA							
156 AMPERES AT 208Y/120V-3Ø-4W									
MINIMUM SERVICE CAPACITY =125% x TOTAL ESTIMATED LOAD	70	KVA							
194 AMPERES AT 208Y/120V-3Ø-4W									
∴ MINIMUM RECOMMENDED SERVICE SIZE =	225	AMP							

DOOR-IN-DOOR GROUND BUS

POWER RISER DIAGRAM

NOT TO SCALE

MAIN BREAKER: 225A/3P MOUNTING: RECESSED

2 358 20A/1P LIGHTS - BLDG EXTERIOR

4 | 990 | 20A/1P | LIGHTS - BLDG EXTERIOR

8 400 20A/1P LIGHTS - MONUMENT SIGN

886 | 6 | 200 | 20A/1P | LIGHTS - BLDS SIGN

· | 20A/1P | SPARE

1776 | 18 | 1176 | 20A/1P | OVERHEAD DOOR

| 1320 | 24 | | 720 | 20A/1P | RECEPTACLES

1920 | 30 | 720 | 20A/1P | RECEPTACLES

1740 | 36 | 1200 | 20A/1P | REFRIGERATOR

2040 42 540 20A/1P RECEPTACLES

1700 48 900 20A/1P RECEPTACLES

3095 | 54 |

2224

526 | 12 | 526 | 20A/1P | LIGHTS - PARKING LOT

14 1008 20A/1P GATE CONTROLLER

16 1008 20A/1P GATE CONTROLLER

1176 | 20A/1P | OVERHEAD DOOR

900 20A/1P RECEPTACLES

26 720 20A/1P RECEPTACLES

28 | 720 | 20A/1P | RECEPTACLES

32 | 1500 | 20A/1P | RECEPTACLES

34 | 1500 | 20A/1P | RECEPTACLES

38 | 1080 | 20A/1P | RECEPTACLES

44 540 20A/1P RECEPTACLES

46 | 900 | 20A/1P | RECEPTACLES

50 | 720 | 20A/1P | RECEPTACLES

58 | 200 | 20A/1P | TIME CLOCK

· | 20A/1P | SPARE

2352 | 66 | 696 | 20A/1P | UNIT IEF-11

1676 | 72 | 1176 | 20A/1P | UNIT IEF-15

2603 | 78 | 228 | 20A/1P | UNIT DH-4

64 272 20A/1P LIGHTS - STREET

68 291 20A/1P EXHAUST FANS

74 | 200 | 20A/1P | RECEPTACLES

70 | 1224 | 20A/1P | UNITS IEF-12 & IEF-13

76 | 1052 | 20A/1P | LIGHTS - PARKING LOT

1P SPACE ONLY

1P SPACE ONLY

· 1P SPACE ONLY

540 20A/1P WATER HEATER 720 20A/1P RECEPTACLES

852 | 60 | 540 | 20A/1P | RECEPTACLES - ON ROOF

500 20A/1P MEDICAL GAS BUZZER

40 1080 20A/1P RECEPTACLES

AIC: 10,000

DESCRIPTION

LOAD SUMMARY - PANEL DP								
DESCRIPTION								
PANELBOARD "DP" ESTIMATED DEMAND PER NEC 220								
MECHANICAL UNITS (83.0 KVA CONN)	83.0	KVA						
PANEL "A"	50.6	KVA						
PANEL "B"	56.2	KVA						
TOTAL ESTIMATED LOAD:	189.8	KVA						
527 AMPERES AT 208Y/120V-3Ø-4W								
MINIMUM SERVICE CAPACITY =125% x TOTAL ESTIMATED LOAD	237.3	KVA						
659 AMPERES AT 208Y/120V-3Ø-4W								

	LOAD SUMMARY - PANE	EL B	
	DESCRIPTION		
	PANELBOARD "B" ESTIMATED DEMAND PER NEC 220		
/A /A	MECHANICAL UNITS (15.0 KVA CONN) DRYER (9.8 KVA CONN) AT 100%	, , , ,	KVA KVA
/A /A /A	RECEPTACLES (37.5 KVA CONN) FIRST 10 KVA AT 100% REMAINING AT 50% LIGHTING (7.6 KVA CONN) AT 100%	13.8	KVA KVA
/A	TOTAL ESTIMATED LOAD:	56.2	KVA
	156 AMPERES AT 208Y/120V-3Ø-4W MINIMUM SERVICE CAPACITY		
/A	=125% x TOTAL ESTIMATED LOAD 194 AMPERES AT 208Y/120V-3Ø-4W	70	KVA
//PS	· MINIMUM RECOMMENDED SERVICE SIZE =	225	AMPS

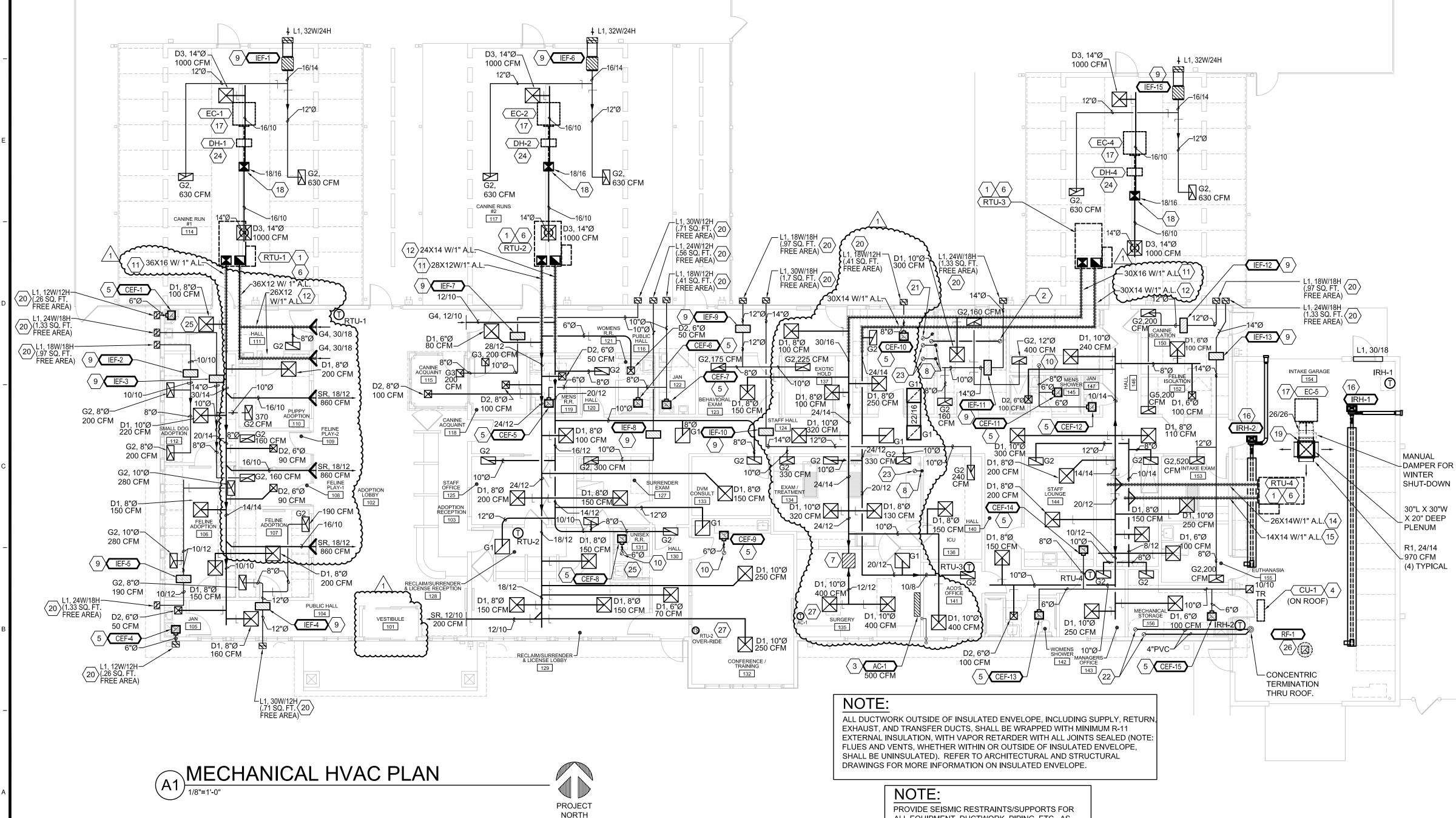
KEYED NOTES CONTINUED

- 18. PROVIDE A ROOF OPENING APPROXIMATELY 2" LARGER ALL-SIDES OF SUPPLY DUCT, EXTEND DUCT AS SIZED ON PLAN DOWN THRU ROOF CURB AND ROUTE AS
- 19. PROVIDE A ROOF OPENING APPROXIMATELY 2" LARGER ALL-SIDES OF SUPPLY DUCT, EXTEND DUCT AS SIZED ON PLAN DOWN THRU ROOF CURB AND CONNECT TO TOP OF 30"Lx30"Wx20"D SUPPLY AIR PLENUM. PROVIDE SIDEWALL SUPPLY REGISTERS AS SIZED ON PLAN ON ALL 4 SIDES OF SUPPLY PLENUM.
- 20. EXTEND EXHAUST DUCT TO EXTERIOR SOFFIT LOUVER (TYPE L1, DIMENSIONS AND FREE AREA AS INDICATED). PROVIDE ALL TRANSITIONS AS REQUIRED. INSTALL ABOVE DOG RUN ROOF. COORDINATE EXACT LOCATION AND INSTALLATION HEIGHT WITH ARCHITECT PRIOR TO INSTALLATION. WALL PENETRATION SHALL BE SEALED WEATHERTIGHT AS REQUIRED. REFER TO CEILING MOUNTED EXHAUST FAN W/SOFFIT GRILLE DETAIL.
- 21. EXTEND DRYER VENT FROM FUTURE COMMERCIAL DOUBLE STACKED CLOTHES DRYER UP THRU ROOF. TERMINATE WITH GOOSENECK WITH BIRDSCREEN ELBOWED DOWN TOWARD ROOF. SECURE BIRDSCREEN TO GOOSENECK WITH METAL HOSE CLAMP. PROVIDE SHEET METAL CAP ON END OF DRYER VENT WITHIN SPACE. VERIFY EXACT VENT SIZE REQUIRED WITH DRYER MANUFACTURER - EFFECTIVE VENT LENGTH SHALL NOT EXCEED LENGTH ALLOWED BY DRYER MANUFACTURER. PROVIDE ALL REQUIRED CLEARANCES TO COMBUSTIBLES. ROOF PENETRATION SHALL BE SEALED WEATHERTIGHT AS REQUIRED. INSTALL DRYER VENT PER REQUIREMENTS OF THE UNIFORM MECHANICAL CODE.
- 22. CONNECT 4" PVC INTAKE AND VENT PIPING TO DIRECT VENT CONDENSING WATER HEATER. ROUTE 4" PVC PIPING AS SHOWN TO GARAGE AND RISE THRU ROOF WITH CONCENTRIC VENT TERMINATION KIT PER MANUFACTURERS REQUIREMENTS. MAINTAIN 10'-0" FROM ANY MECHANICAL INTAKES. SEAL ROOF PENETRATION
- 23. EXTEND DRYER VENT FROM CLOTHES DRYER UP THRU ROOF. TERMINATE WITH GOOSENECK WITH BIRDSCREEN ELBOWED DOWN TOWARD ROOF. SECURE BIRDSCREEN TO GOOSENECK WITH METAL HOSE CLAMP. VERIFY EXACT VENT SIZE REQUIRED WITH DRYER MANUFACTURER - EFFECTIVE VENT LENGTH SHALL NOT EXCEED LENGTH ALLOWED BY DRYER MANUFACTURER. PROVIDE ALL REQUIRED CLEARANCES TO COMBUSTIBLES. ROOF PENETRATION SHALL BE SEALED WEATHERTIGHT AS REQUIRED. INSTALL DRYER VENT PER REQUIREMENTS OF THE UNIFORM MECHANICAL CODE.
- 24. PROVIDE DUCT MOUNTED GAS FIRED FURNACE UNIT. INSTALL FURNACE UNIT ON EQUIPMENT SUPPORT (THY CURB) SUPPORTS AND PER MANUFACTURE'S REQUIREMENTS, PROVIDE DUCT TRANSITIONS AS REQUIRED TO INLET AND FROM OUTLET OF FURNACE OPENINGS, REFER TO EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
- 25. UNDER CUT DOOR 3/4" FOR TRANSFER AIR. COORDINATE WITH G.C. AND ARCHITECT.

ALL EQUIPMENT, DUCTWORK, PIPING, ETC., AS

REQUIRED BY LOCAL AND STATE CODES.

- 26. PROVIDE ROOF MOUNTED EXHAUST FAN AND ROOF CURB. PROVIDE DUCT TRANSITION FROM FAN OPENING TO DUCT SIZE SHOWN, TRANSITION IN ROOF CURB. EXTEND DUCT DOWN THRU ROOF, COORDINATE WITH STRUCTURE, REFER TO DETAIL AND EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION, RELIEF FAN (RF-1) SHALL BE INTERLOCKED WITH EC-5. CONTRACTOR SHALL PROVIDE RELIEF FAN (RF-1) WITH AN OVERRIDE WALL SWITCH.
- 27. PROVIDE A WALL MOUNTED OVER-RIDE TEMPERATURE SENSOR WIRED BACK TO THERMIDISTAT SERVING RTU-2. WHEN ROOM IS OCCUPIED THEN REMOTE



GENERAL NOTES

A. REFER TO SHEET M501 FOR MECHANICAL DETAILS.

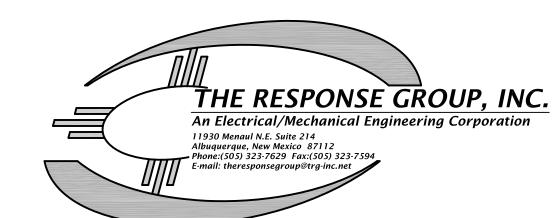
B. REFER TO SHEET M601 AND M602 MECHANICAL SCHEDULES AND GENERAL NOTES.

KEYED NOTES

- 1. PROVIDE ROOFTOP UNIT AND FACTORY ROOF CURB. ENSURE CURB IS INSTALLED LEVEL FOR PROPER CONDENSATE DRAINAGE FROM UNIT. PROVIDE FLEXIBLE CONNECTORS ON THE SUPPLY AND RETURN AIR DUCT CONNECTIONS AND TRANSITION TO DUCT SIZES SHOWN. EXTEND DUCTS THRU ROOF. COORDINATE WITH STRUCTURE. REFER TO MECHANICAL DETAILS AND EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
- 2. PROVIDE COMBUSTION AIR DUCT FOR FUTURE COMMERCIAL DRYER INSTALLATION. EXTEND DUCT UP THRU ROOF AND TERMINATE WITH ROOF JACK, STORM COLLAR AND ALL-WEATHER CAP. VERIFY EXACT COMBUSTION AIR DUCT SIZE REQUIRED WITH MANUFACTURER.
- 3. PROVIDE DUCTLESS SPLIT COOLING UNIT. INSTALL UNIT LEVEL ON WALL FOR PROPER CONDENSATE DRAINAGE. COORDINATE WITH ROOM EQUIPMENT AND CONDITIONS. UNIT CONDENSATE LINE SIZED PER MANUFACTURER, PUMPED TO ABOVE CEILING, DROPPING DOWN IN WALL AND TERMINATING ELBOWED DOWN TO DRAIN 18" A.F.G.. ROUTE DRAIN IN COPPER PIPING PROPERLY SECURED TO WALL. COORDINATE WITH PLUMBING CONTRACTOR. PROVIDE LIQUID AND VAPOR PIPING. SIZE PIPING, TRAP, AND SLOPE REFRIGERANT LINES PER MAUNFACTURER'S INSTRUCTIONS. CONTRACTOR TO COORDINATE SHORTEST ROUTING TO ASSOCIATED REMOTE CONDENSING UNIT. PROVIDE ALL VALVES AND ACCESSORIES FOR A COMPLETE AND OPERATIONAL SYSTEM. REFER TO EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
- 4. PROVIDE REMOTE CONDENSING UNIT AND EQUIPMENT SUPPORT RAILS ON ROOF. INSTALL UNIT LEVEL. PROVIDE LIQUID AND VAPOR PIPING. SIZE PIPING, SUPPORT, TRAP, AND SLOPE REFRIGERANT LINES PER MANUFACTURER'S INSTRUCTIONS. PROVIDE INSULATION WITH UV PROTECTANT ON VAPOR LINE. EXTEND REFRIGERANT PIPING THRU ROOF THRU PORTALS PLUS "ALUM-FLASH" BASE WITH CAP. SEAL ROOF PENETRATION WEATHERTIGHT. CONTRACTOR TO COORDINATE SHORTEST ROUTING TO FAN COIL UNIT BELOW. PROVIDE CONTROL WIRING BETWEEN CONDENSING UNIT AND FAN COIL UNIT AND ALL CONTROL COMPONENTS, PROVIDE ALL VALVES AND ACCESSORIES AS REQUIRED BY MANUFACTURER FOR A COMPLETE AND OPERATIONAL SYSTEM. INSTALL CONDENSING UNIT MAINTAINING MANUFACTURER'S REQUIRED CLEARANCES.
- 5. PROVIDE CEILING MOUNTED EXHAUST FAN. SUPPORT FAN FROM STRUCTURE WITH 1" X 18 GAUGE GALVANIZED SHEET METAL SUPPORT STRAPS. INSTALL STRAPS AT FAN CORNERS AND PERPENDICULAR TO STRUCTURE. CEILING FAN INTALLED IN A LAY-IN TYPE CEILING SHALL BE CENTERED IN TILE AND SUPPORTED FROM STRUCTURE. TRANSITION FROM FAN DISCHARGE TO DUCT SIZE SHOWN AND EXTEND THRU WALL OR UP THRU ROOF.PROVIDE A WALL CAP WITH BAROMETRIC DAMPER AND SCREEN OR FACTORY ROOF CAP. INTERLOCK OPERATION OF EXHAUST FAN PER NOTES ON EQUIPMENT SCHEDULE. REFER TO DETAILS AND EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
- 6. INSTALL PETAIRAPY PPR-360 DOUBLE LAMP SYSTEM IN UNIT (DESIGNED TO DISINFECT AIR AND SURFACE) AND PPC-16 (ODOR CONTROL TIO2 MESH TUBE-12PCS), SAFETY SWITCH, VIEWPORT. CONTRACTOR SHALL COORDINATE EXACT LOCATION AND INSTALLATION WITH PETAIRAPY INSTRUCTION. PPR-UNITS MUST BE PLACED ON THE SUPPLY SIDE OF THE COOLING COIL.
- 7. FILTER ASSEMBLY EQUAL TO FARR 3P GLIDE/PACK FILTER RACK WITH 12" DEEP, 95% RIGA-FLO 200 FILTER. 24" WIDE, 12" HIGH, 200 FPM FACE VELOCITY AT 650 CFM, 0.25" INITIAL PRESSURE DROP, 0.75" FINAL PRESSURE DROP. PROVIDE ALL DUCT TRANSITIONS AT INLET AND OUTLET OF FILTER ASSEMBLY AS REQUIRED.
- 8. PROVIDE DRYER VENT ENCLOSURE (DRYERBOX MODEL 425) IN WALL AS REQUIRED TO ALLOW SHORT RADIUS VENT CONNECTION TO CLOTHES DRYER. COORDINATE EXACT MOUNTING HEIGHT REQUIRED WITH DRYER VENT OUTLET.
- 9. PROVIDE IN-LINE EXHAUST FAN. SUPPORT FAN FROM STRUCTURE WITH 3/8" ROD AND SPRING ISO PER DETAIL. IN-LINE FAN INTALLED IN A CEILING SPACE AND SUPPORTED FROM STRUCTURE. TRANSITION FROM FAN DISCHARGE TO DUCT SIZE SHOWN AND EXTEND THRU WALL TO WALL LOUVER. COORDINATE WITH STRUCTURE. PROVIDE A STORM COLLAR, AND ALL-WEATHER CAP. INTERLOCK OPERATION OF EXHAUST FAN PER NOTES ON EQUIPMENT SCHEDULE. REFER TO DETAILS AND EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
- 10.EXTEND EXHAUST DUCT OF SIZE INDICATED UP THROUGH ROOF AND TERMINATE WITH ROOF CAP PER MANUFACTURES REQUIREMENTS. PROVIDE ALL TRANSITIONS AS REQUIRED. SEAL ROOF PENETRATION WEATHER TIGHT.
- 11.EXTEND ACOUSTICALLY LINED SUPPLY DUCT OF SIZE INDICATED UP THROUGH ROOF AND CONNECT TO ROOFTOP UNIT. PROVIDE ALL TRANSITIONS AS REQUIRED. COORDINATE ROUTING WITH STRUCTURAL.
- 12.EXTEND RETURN DUCT OF SIZE INDICATED UP THROUGH ROOF AND CONNECT TO ROOFTOP UNIT. PROVIDE ALL TRANSITIONS AS REQUIRED. COORDINATE ROUTING WITH STRUCTURAL

13.NOT USED.

- 14.EXTEND ACOUSTICALLY LINED SUPPLY DUCT OF SIZE INDICATED FROM ROOFTOP UNIT ON ROOF, THRU WALL AND INTO ATTIC AREA OF BUILDING, ROUTE DUCTWORK IN TRUSS SPACE AND PROVIDE ADDITIONAL DUCT INSULATION FOR DUCTWORK ROUTED IN ATTIC AREA. SUPPORT DUCTWORK ON ROOF AS DETAILED. PROVIDE ALL TRANSITIONS AS REQUIRED. COORDINATE ROUTING WITH ARCHITECT.
- 15.EXTEND ACOUSTICALLY LINED RETURN DUCT OF SIZE INDICATED FROM ROOFTOP UNIT, ON ROOF, THRU WALL AND INTO ATTIC AREA OF BUILDING. ROUTE DUCTWORK IN TRUSS SPACE AND PROVIDE ADDITIONAL DUCT INSULATION FOR DUCTWORK ROUTED IN ATTIC AREA. SUPPORT DUCTWORK ON ROOF AS DETAILED. PROVIDE ALL TRANSITIONS AS REQUIRED. COORDINATE ROUTING WITH ARCHITECT.
- 16.INSTALL INFRARED TUBE HEATER PER CODE AND MANUFACTURERS REQUIREMENTS. COORDINATE MINIMUM MOUNTING HEIGHTS AND MOUNT AS HIGH AS POSSIBLE. MAINTAIN CLEARANCES TO COMBUSTIBLES. ROUTE DIRECT VENT TO EXTERIOR OF BUILDING AND PROVIDE WITH TERMINATION WALL KIT PER MANUFACTURERS REQUIREMENTS.
- 17.PROVIDE AN EVAPORATIVE COOLER. INSTALL EVAPORATIVE COOLER ON EQUIPMENT SUPPORT STAND. PROVIDE FLEXIBLE CONNECTOR ON COOLER DISCHARGE DUCT CONNECTION AND TRANSITION TO DUCT SIZE SHOWN. EXTEND DUCT THRU ROOF. PROVIDE DUCT THRU ROOF CURB FOR ROOF PENETRATION. COORDINATE WITH STRUCTURE. FOR EVAP COOLER (EC-5) SUPPORT DUCTWORK ON ROOF AND PROVIDE A MANUAL LOCKING QUADRANT TYPE "WINTER" SHUT-OFF DAMPER IN DUCT ON ROOF. PROVIDE SHEET METAL SUN GUARD OVER FLEX CONNECTOR. REFER TO DETAILS AND EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.



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REVIEWS BDA DSGN. REV. BDA TECH REV.

CCAS PROJECT NO.: 1107

DRAWN DATE:

	AIR COOLED CONDENSING UNIT SCHEDULE												
MARK	SERVES	TOTAL COOLING CAPACITY (BTUH)	OUTSIDE AIR TEMP °F	EER	ELI VOLT/PHASE	ELECTRICAL DATA DLT/PHASE FAN MOTOR MCA MOCP			APPROX. WT. (LBS.)	MANUFACTURER AND MODEL#			
CU-1	AC-1	21,500	95	12.5	208/1	0.4 FLA	17.5	20	178	DAIKIN RXS24LVJU			

GENERAL: MITSUBISHI AND LG ARE CONSIDERED EQUIVALENT UNITS

1. SIZE AND INSTALL REFRIGERANT PIPING BETWEEN CONDENSING UNITS AND ASSOCIATED AIR CONDITIONING UNITS ACCORDING

TO MANUFACTURER'S REQUIREMENTS. PIPING SHALL NOT EXCEED LENGTH ALLOWED BY MANUFACTURER. 2. ACCESSORIES: HIGH AND LOW AMBIENT CONTROLS, WINTER START CONTROL, WIND BAFFLES, TIME DELAY RELAY, CYCLE PROTECTOR,

TXV, LOW AND HIGH PRESSURE SWITCHES. 3. PROVIDE CRANKCASE HEATER AND/OR FILTER DRIER IF RECOMMENDED BY MANUFACTURER.

4. ALL CONDENSING UNIT CONTROL WIRING SHALL BE PROVIDED AND INSTALLED BY MECHANICAL DIVISION.

5. EER RATING LISTED IS FOR CONDENSING UNIT PAIRED WITH ASSOCIATED AIR CONDITIONING OR AIR HANDLING UNIT.

6. PROVIDE ALL SERVICE AND OPERATIONAL CLEARANCES AS REQUIRED, INCLUDING ALL CLEARANCES REQUIRED BY NEC ARTICLE 110.

7. LOW AMBINET CONTROLS DOWN TO ZERO DEGREES F.

8. FURNISH 7 YEAR COMPRESSOR AND 1 YEAR PARTS AND SERVICE WARRANTY

	DUCTLESS SPLIT INDOOR AC UNIT SCHEDULE											
MARK	SERVES	MAX. CFM	ENT. DB/WB (°F)	TOTAL COOLING CAPACITY (BTUH)	SENSIBLE COOLING CAPACITY (BTUH)	ELECTRICAL DATA VOLT/PHASE MCA		APPROX. WT. (LBS.)	MANUFACTURER AND MODEL#			
AC-1	TELECOM 104	640	80/67	21,500	19,000	208/1	0.57	46	DAIKIN FTXS24LVJU			

NOTES:

1. PROVIDE ALL SERVICE AND OPERATIONAL CLEARANCES AS REQUIRED, INCLUDING ALL CLEARANCES REQUIRED BY NEC ARTICLE 110.

2. ELECTRICAL CONTRACTOR SHALL EXTEND LINE VOLTAGE ELECTRICAL SERVICE TO AC UNIT FROM CONDENSING UNIT. INDOOR AC UNIT POWERED THRU OUTDOOR UNIT.

ACCESSORIES:

1. WALL MOUNTED ELECTRONIC PROGRAMMABLE THERMOSTAT.

2. CLEANABLE FACTORY FILTERS. 3. CONDENSATE PUMP.

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} _┐	ags	Model Number		Design	Outside Air	Design	Gross Total	Gross Sensible	Cooling	Cooling Entering	Cooling Leaving	Cooling Leaving	Ambient	Reheat	Cooling LDB	Input Heating	Output Heating Capacity	Heating	Heating			St	SEER Unit Operating	Elevation
}	-		Nominal Size (Ton)	Airflow (cfm)	(cfm)	ESP (in)	Capacity (MBH)	Capacity (MBH)	Entering DB (F)	WB (F)	Unit DB (F)	Unit WB (F)	Temp (F)	Capacity (MBH)	with reheat (F)	Capacity (MBH)	@ 4500 ft (MBH)	EAT (F)	LAT (F)	V/Hz/Ph	MCA M	OP /E	EER Weight (lbs)	(ft)
} [RTU-1	YHC120E	10	4000	2000	0.6	114	108	90	65	55.7	55	95	0	N/A	250	200	40	90	208/60/3	46	60	12.4 1600	4500
{ F	RTU-2	YHC060E	5	2200	550	0.6	61.24	45.01	80	65	59.77	56.31	95	0	N/A	130	85	50	94	208/60/3	27.4	40	14.2 950	4500
} F	RTU-3	YHC092E	7.5	3000	1500	1.0	90	84	90	65	55	55	95	0	N/A	160	132	40	94	208/60/3	42	50	12.6 1300	4500
} [RTU-4	YHC060E	5	2500	550	0.6	61.24	45.01	80	65	59.77	56.31	95	0	N/A	130	85	50	94	208/60/3	27.4	40	14.2 950	4500

NOTES:

1. ROOFTOP UNIT INDOOR FANS SHALL BE STANDARD MOTOR AND DRIVE WITH BELT DRIVE AND SHALL RUN CONTINUOUSLY DURING BUILDING OPERATION.

1. ROOFTOP UNIT INDOOR FANS SHALL BE STANDARD MOTOR AND DRIVE WITH BELT DRIVE AND SHALL RUN CONTINUOUSLY DURING BUILDING OPERATION.

2. EXTERNAL STATIC PRESSURE DOES NOT INCLUDE ANY PRESSURE DROP ASSOCIATED WITH ROOFTOP UNIT ACCESSORIES. 3. PROVIDE ALL SERVICE AND OPERATIONAL CLEARANCES AS REQUIRED, INCLUDING ALL CLEARANCES REQUIRED BY NEC ARTICLE 110.

4. SET MINIMUM OUTSIDE AIR AS SPECIFIED ABOVE. OUTSIDE AIR DAMPER SHALL FULLY CLOSE ON UNIT SHUTDOWN.

5. SMOKE DETECTORS SHALL BE INSTALLED IN SUPPLY AND RETURN SIDES OF RTU-1 THRU RTU-4 BY MECHANICAL DIVISION. DETECTORS TO BE PROVIDED BY ELECTRICAL DIVISION, WIRED TO BUILDING FIRE ALARM SYSTEM BY ELECTRICAL DIVISION, AND WIRED TO UNIT BY ELECTRICAL DIVISION TO SHUT UNIT DOWN UPON SENSING SMOKE. COORDINATE INSTALLATION IN UNIT WITH UNIT MANUFACTURER.

6. PROVIDE ALL UNITS WITH STAINLESS STEEL HEAT EXCHANGER

7. PROVIDE ALL UNITS WITH DRY BULB ECONOMIZER 8. PROVIDE ALL UNITS WITH HIGH ALTITUDE KIT

1. 14" HIGH FACTORY-FABRICATED MICROMETL INSULATED ROOF CURB, SLOPED TO MATCH PITCH OF ROOF TO ALLOW UNIT TO SIT LEVEL.

2. MICROMETL ECONOMIZER WITH FULLY MODULATING CENTRIFUGAL POWER EXHAUST, FACTORY-WIRED TO ALLOW SINGLE-POINT POWER CONNECTION TO ROOFTOP UNIT. MCA/MOCP LISTED IN SCHEDULE DOES NOT INCLUDE POWER EXHAUST ELECTRICAL LOAD. PROVIDE WITH DUCT PRESSURE SENSOR. 3. COMPRESSOR SHORT CYCLE PROTECTION.

4. ELECTRONIC PROGRAMMABLE THERMOSTAT WITH AUTO HEAT/COOL SWITCHOVER, TIME-OF-DAY SCHEDULING, AND KEYPAD LOCKOUT CAPABILITY. ALL CONTROL WIRING SHALL BE PROVIDED AND INSTALLED BY MECHANICAL DIVISION.

5. 2" 30% EFFICIENT FILTERS EQUAL TO FARR 30/30. (2 SETS)

6. CONDENSER COIL HAIL GUARD ASSEMBLY.

DUCT FURNACE SCHEDULE														
MARK	SERVICE	CFM	SP (IN WC)	POWER SUPPLY	FLA		G DATA SITE OUTPUT (MBH)	EFFICIENCY	WEIGHT (LBS)	MANUFACTURER AND MODEL #				
DH-1	EC-1	1,340	0.2	115V/1Ø	1.9	150	98.4	80%	260	MODINE HFP-150				
(DH-2)	EC-2	1,340	0.2	115V/1Ø	1.9	150	98.4	80%	260	MODINE HFP-150				
(DH-3)	NOT USED													
DH-4	EC-4	1,340	0.2	115V/1Ø	1.9	150	98.4	80%	260	MODINE HFP-150				

1. INSTALL UNITS ON THY CURBS. INSTALL PER MANUFACTURER'S REQUIREMENTS. PROVIDE DUCT TRANSITIONS AS REQUIRED.

2. PROVIDE ALL REQUIRED SERVICE AND OPERATIONAL CLEARANCES, INCLUDING ALL REQUIRED CLEARANCES TO COMBUSTIBLES AND ALL CLEARANCES REQUIRED BY NEC ARTICLE 110.

3. PROVIDE ALL CONTROL WIRING BETWEEN DUCT FURNACES AND ASSOCIATED CONTROL COMPONENTS (THERMOSTATS, HUMIDISTATS, SENSORS, ETC.)
CONTROLS SHALL BE THE RESPONSIBILITY OF MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL PROVIDE A COMPLETE INSTALLATION INCLUDING ALL REQUIRED COMPONENTS NECESSARY TO ACHIEVE AN OPERATIONAL SYSTEM.

ACCESSORIES:

1. ELECTRONIC SPARK IGNITED SAFETY PILOT.

2. ELECTRONIC GAS MODULATION (20%-100%) 3. CONTROL RELAYS AS REQUIRED TO ALLOW HEATING CONTROL BY THERMOSTAT.

4. TWO SEPARATELY ADJUSTABLE DISCHARGE TEMPERATURE SENSORS.

5. 24-VOLT TRANSFORMER. 6. COMBUSTION AIR/VENT RAIN HOODS.

7. DRAIN FLANGE, STAINLESS STEEL HEAT EXCHANGER, AND STAINLESS STEEL BURNERS.

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BDA TECH REV.

PROJECT NO.: 1107 DRAWN: MAR/CMB

DATE: 7/23/2015