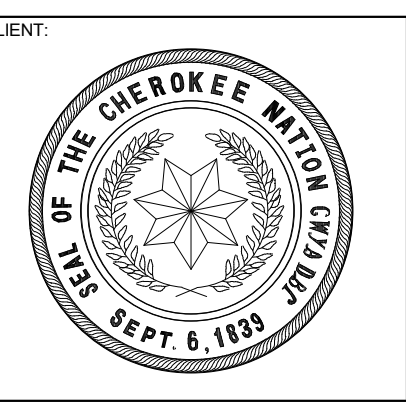
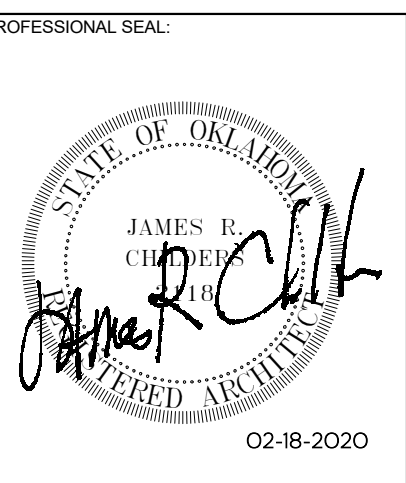


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WILMA P. MANKILLER HEALTH CENTER
EXPANSION
STILWELL, OKLAHOMA

KEY PLAN:

PROJECT PHASE:

BID PACKAGE 02

#	DATE	REVISIONS
1	1/19/20	BID PACKAGE 02 - ADD 01
2	2/19/2020	BID PACKAGE 02 - ADD 04

DATE: 12-06-19 JOB NUMBER: 18-01.01

SHEET NUMBER: G0.02

COVER / INDEX

WILMA P. MANKILLER HEALTH CENTER EXPANSION

BID PACKAGE 02

(CIVIL / ARCHITECTURAL / STRUCTURAL / MEP)

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EQ1.21	EQUIPMENT PLAN LEVEL 02 SECTOR 01	
Grand total: 228		



1836 SOUTH BALTIMORE AVE.
TULSA, OK 74119
(539) 664-4618

MECHANICAL / ELECTRICAL / PLUMBING ENGINEER



3902 UNIVERSITY BOULEVARD
DURANT, OK 74701
(580) 931-9045

CIVIL ENGINEER



4700 LINCOLN ROAD NE, SUITE 102
ALBUQUERQUE, NM 87109
(505) 344-4080

STRUCTURAL ENGINEER



808 TRAVIS STREET, SUITE 200
HOUSTON, TX 77002
(281) 589-5900

FIRE PROTECTION / LIFE SAFETY

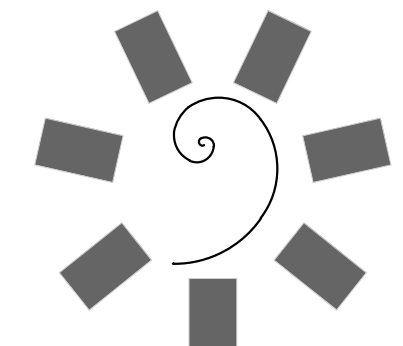


Interior Logistics
1316 E 35TH PLACE, SUITE 100
TULSA, OK 74105
(918) 382-9120

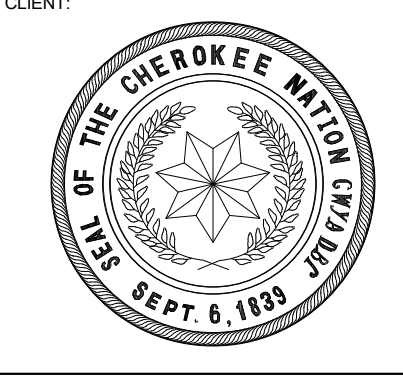
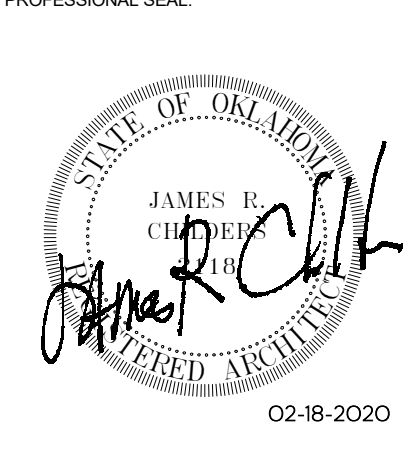
EQUIPMENT PLANNER

GENERAL NOTES - FLOOR PLAN

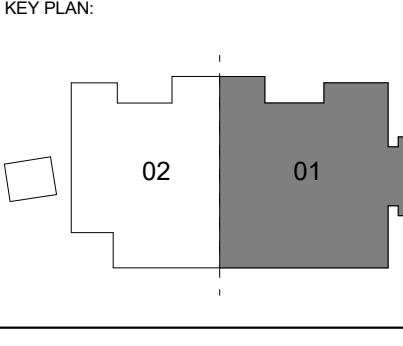
1. INTERIOR DIMENSIONS ARE TO THE FACE OF DRYWALL OR FINISH.
2. ALL EXTERIOR DIMENSIONS ARE TO THE FACE OF EXTERIOR SHEATHING, UNLESS OTHERWISE NOTED.
3. REFER TO SHEET A2 FOR SERIES FOR EXTERIOR ELEVATIONS.
4. REFER TO SHEET A6.01 - A6.02 FOR PARTITION TYPES AND FRAMING DETAILS.
5. REFER TO SHEET A6.10 FOR DOOR SCHEDULE.
6. REFER TO SHEET A6.20 SERIES FOR TOILET & ACCESSORY INFORMATION.
7. REFER TO SHEET A8 SERIES FOR MILLWORK AND INTERIOR ELEVATIONS.



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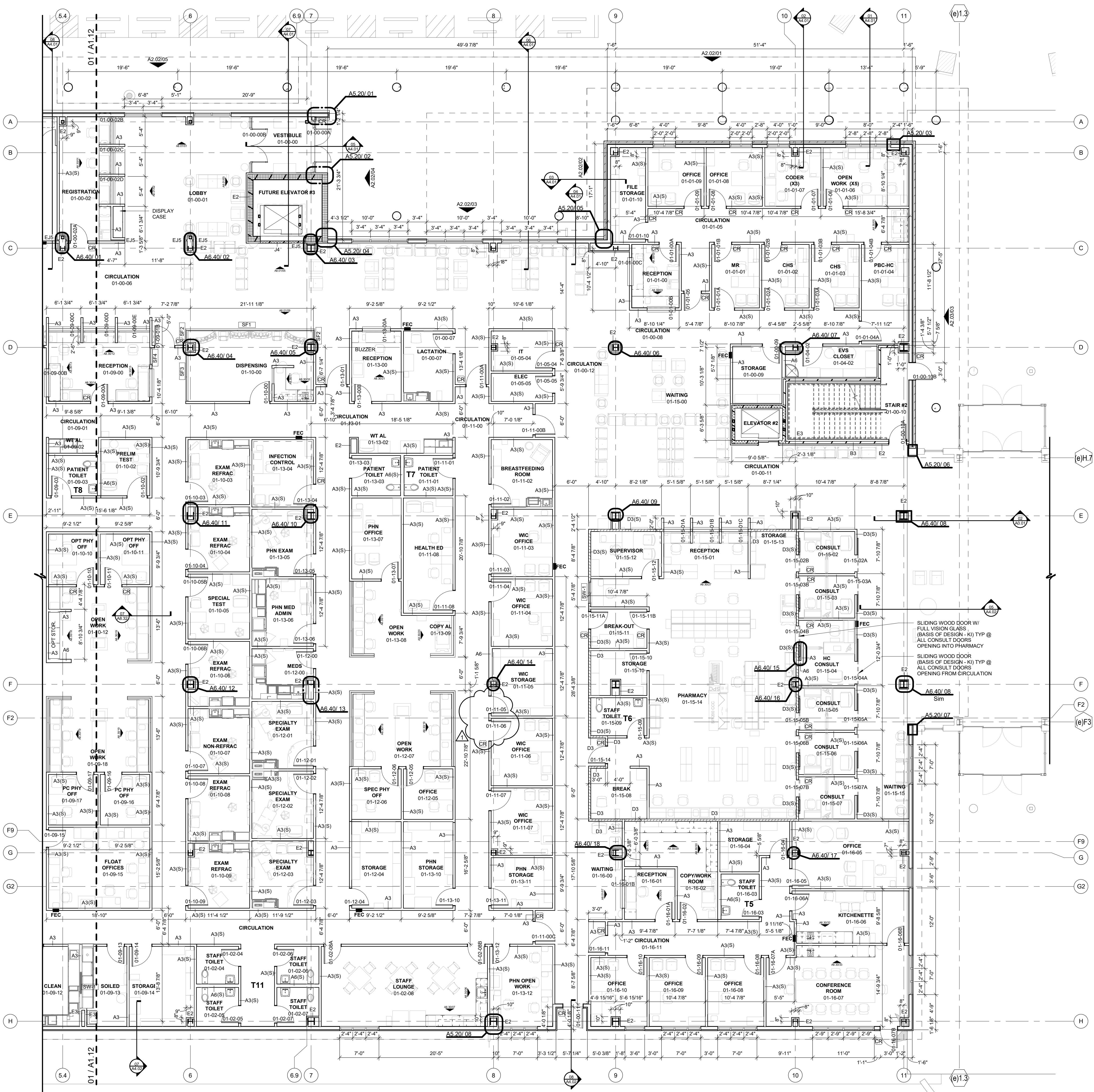
PROJECT PHASE:
BID PACKAGE 02

#	DATE	REVISIONS	DESCRIPTION
1	2/18/2020	BID PACKAGE 02 - ADD 04	

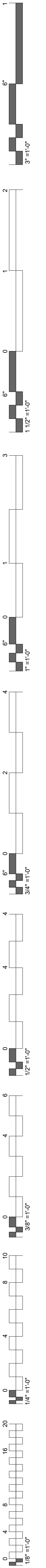
DATE: 12-06-19 JOB NUMBER: 18-01.01

SHEET NUMBER: A1.11

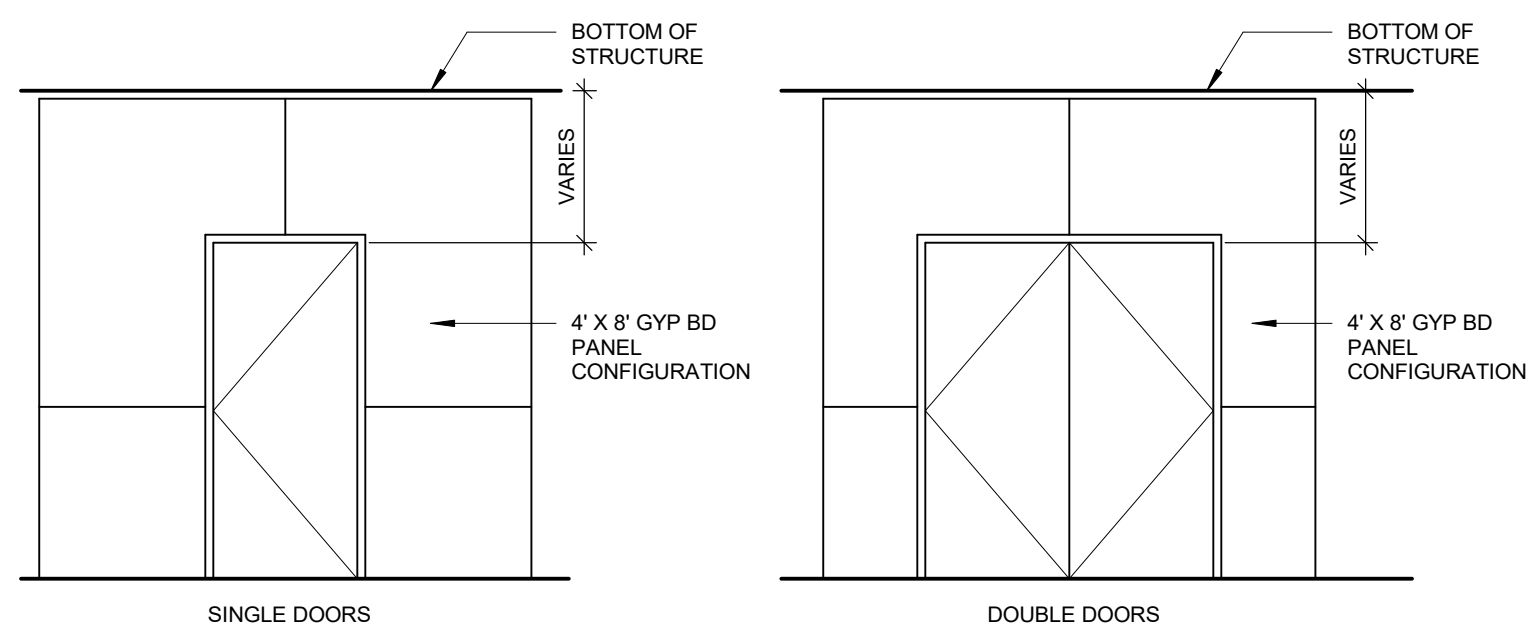
FLOOR PLAN LEVEL 01 SECTOR 01



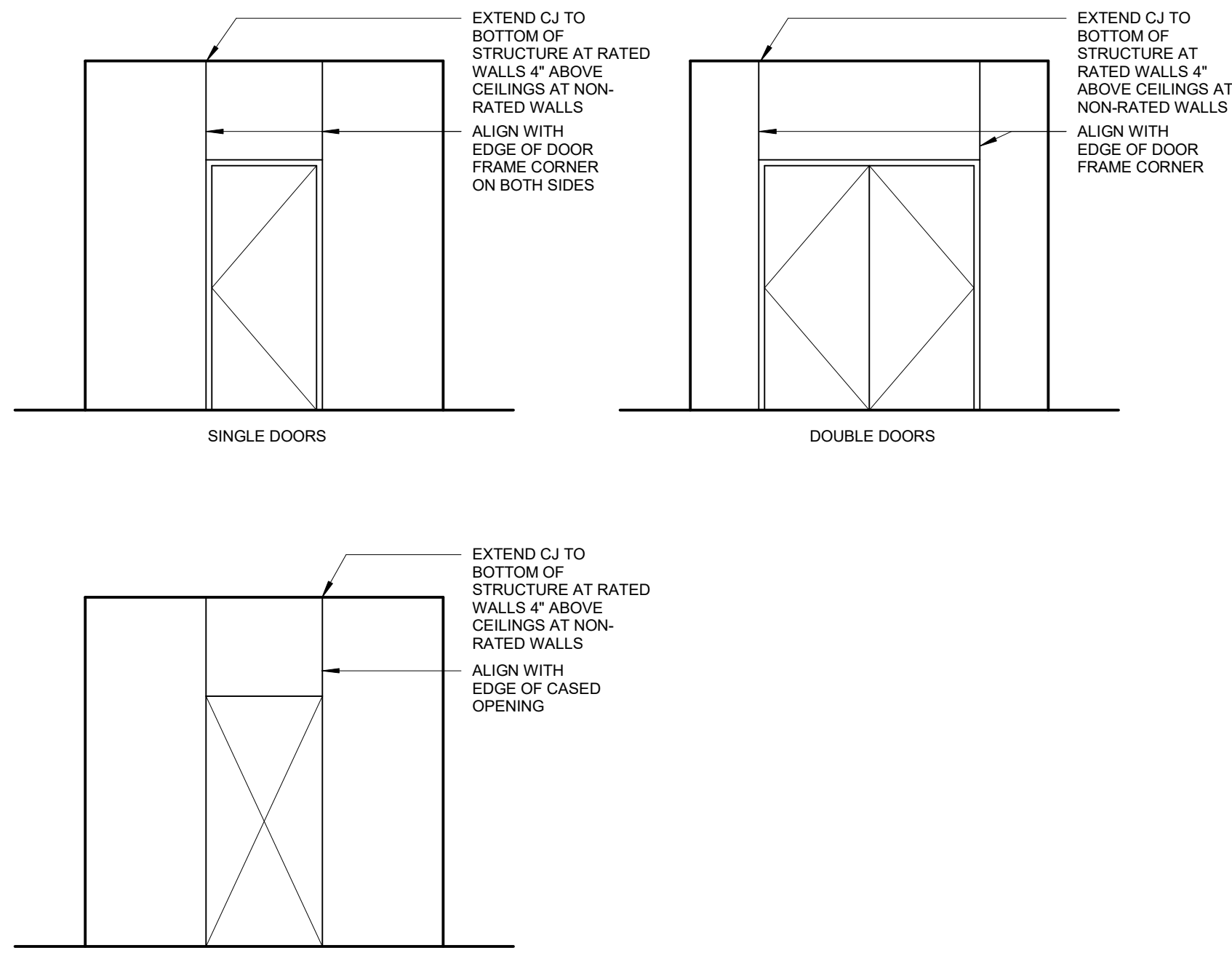
01 FLOOR PLAN LEVEL 01 SECTOR 01
1/8" = 1'-0"



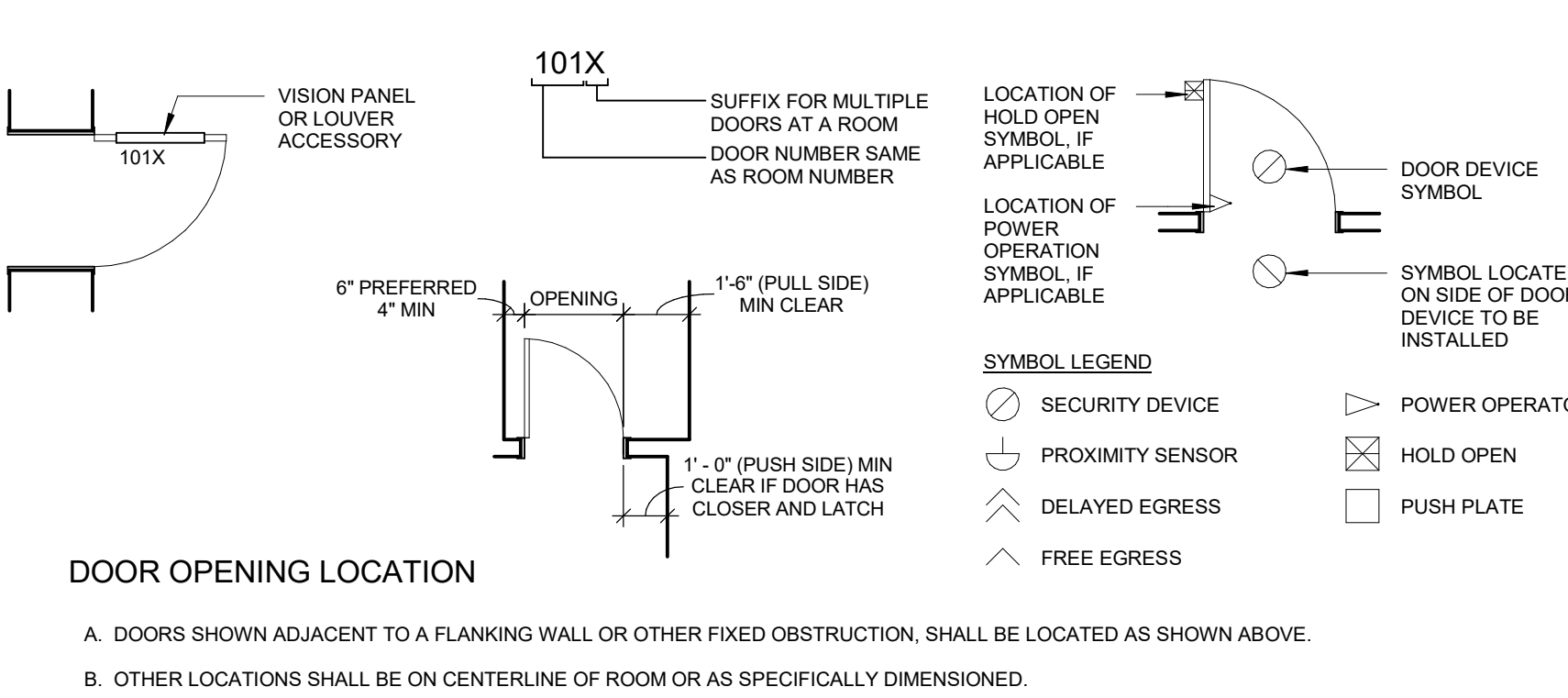
GYPSUM BD CONFIGURATION AT DOORS



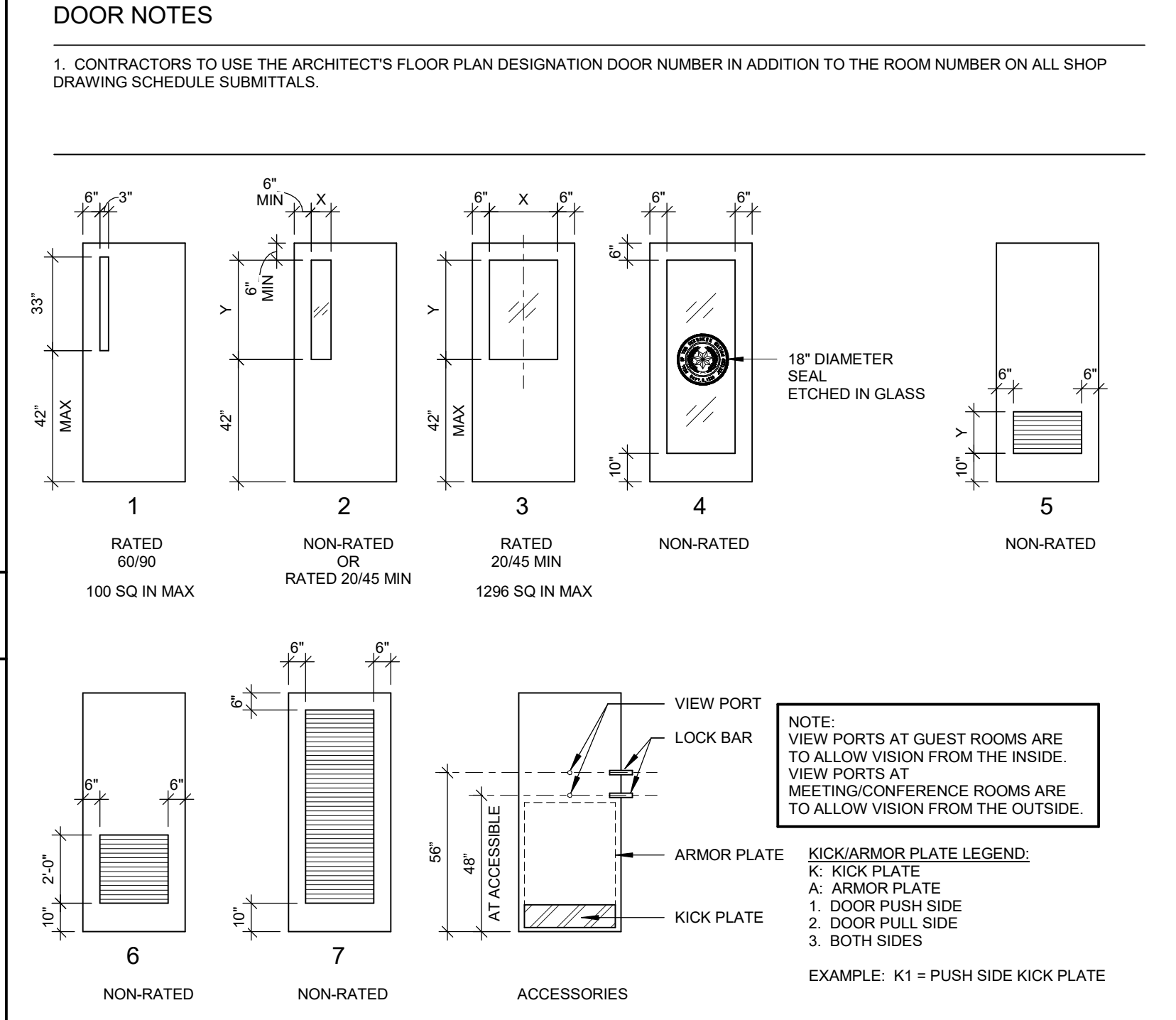
CONTROL JOINT AT DOOR FRAMES



DOOR PLAN DESIGNATION

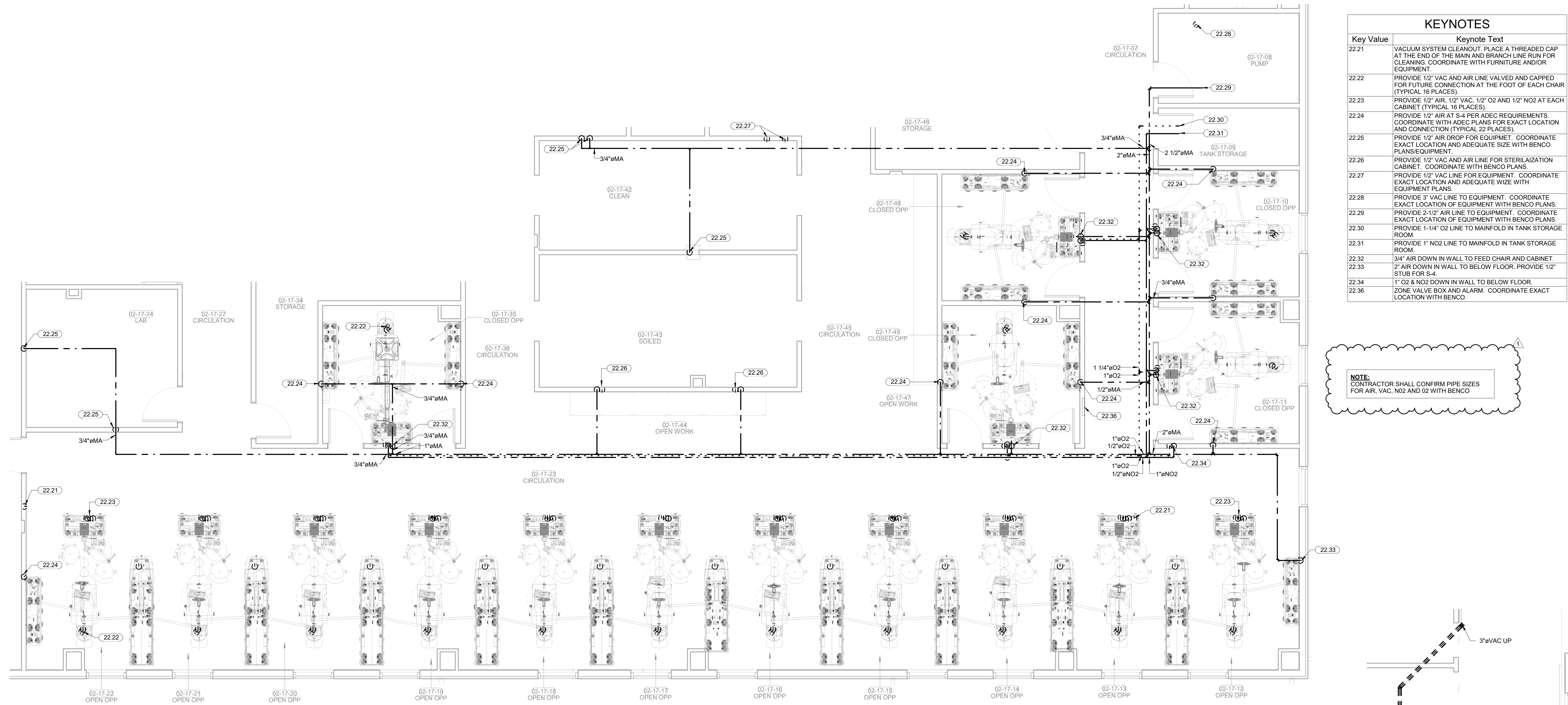
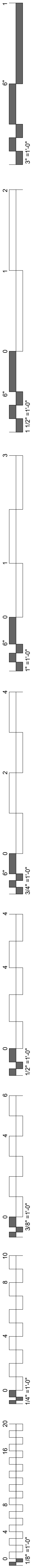


VISION PANELS / LOUVERS / ACCESSORIES

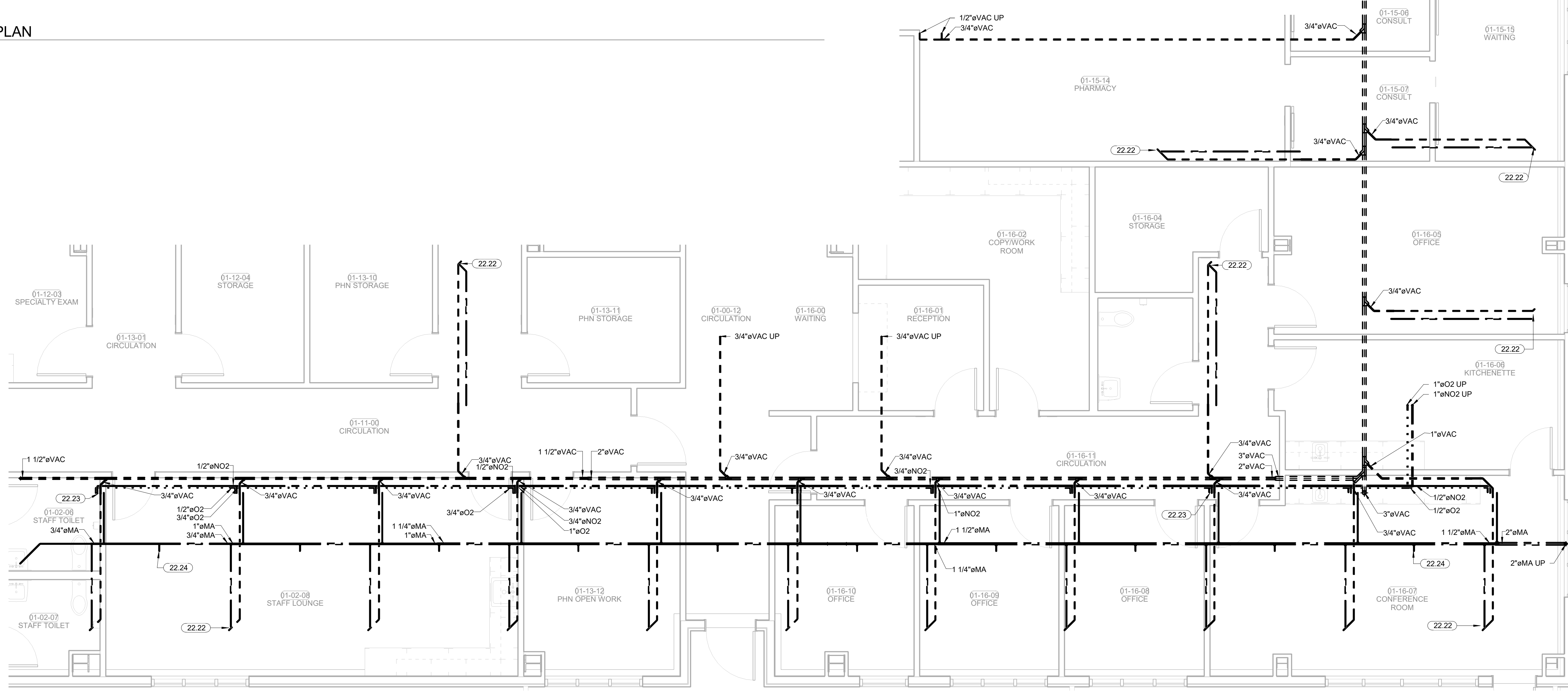


DOOR SCHEDULE

DOOR/REVISION	DOOR NUMBER	WIDTH	HEIGHT	DOOR TYPE	FRAME TYPE	MATERIALS AND FINISHES		VISION PANEL & LOUVER TYPE	POWER OPERATOR	HOLD OPEN	DOOR CONTROL A	DOOR CONTROL B	FIRE RATING	HARDWARE	COMMENTS
						DOOR MATERIAL	FRAME MATERIAL								
LEVEL 01															
-	01-00-00A	6'-0"	7'-1 1/2"	C2	ALGL	AL	-	-	-	-	CR	-	-	-	C714A
-	01-00-00B	6'-0"	7'-1 1/2"	C2	ALGL	AL	-	-	-	-	-	-	-	-	809AV
-	01-00-02A	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	CR	-	-	-	C207
-	01-00-02B	4'-11 1/8"	5'-6"	P	AL	AL	X	-	-	-	-	-	-	-	002
-	01-00-02C	4'-11 1/8"	5'-6"	P	AL	AL	X	-	-	-	-	-	-	-	002
-	01-00-02D	4'-11 1/8"	5'-6"	P	AL	AL	X	-	-	-	-	-	-	-	002
-	01-00-07	3'-6"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	301W
-	01-00-07A	3'-6"	7'-0"	P	AL	AL	X	-	-	-	-	-	-	-	002
2	01-00-09	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	C201
-	01-00-10A	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	731R
-	01-00-10B	3'-0"	7'-0"	A1	1	HM	HM	-	-	-	CR	-	-	-	45 C715
-	01-00-11	3'-6"	7'-0"	A1	1	HM	HM	-	-	-	CR	-	-	-	C715
-	01-01-03	3'-6"	7'-0"	A1	1	HM	HM	-	-	-	CR	-	-	-	C715
-	01-01-04	3'-6"	7'-0"	A1	1	HM	HM	-	-	-	CR	-	-	-	C715
-	01-01-00A	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	CR	-	-	-	C201C
-	01-01-00B	3'-0"	7'-0"	P	AL	AL	X	-	-	-	-	-	-	-	002
-	01-01-00C	3'-0"	7'-0"	P	AL	AL	X	-	-	-	-	-	-	-	002
-	01-01-01A	3'-6"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	803W
-	01-01-01B	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	803W
-	01-01-02A	3'-6"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	503W
-	01-01-02B	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	CR	-	-	-	C201
-	01-01-03A	3'-6"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	803W
-	01-01-03B	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	CR	-	-	-	C201
-	01-01-04A	3'-6"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	803W
-	01-01-04B	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	CR	-	-	-	C201
-	01-01-05	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	CR	-	-	-	C715
-	01-01-06	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	CR	-	-	-	C201
-	01-01-07	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	CR	-	-	-	C201
-	01-01-08	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	CR	-	-	-	C201
-	01-01-09	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	CR	-	-	-	C201
-	01-01-10	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	CR	-	-	-	C201
-	01-02-01	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	501
-	01-02-02	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	301
-	01-02-03	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	301
-	01-02-04	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	301
-	01-02-05	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	301
-	01-02-06	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	301
-	01-02-07	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	301
-	01-02-08A	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	501
-	01-02-08B	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	501
-	01-04-01	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	CR	-	-	-	C205
-	01-04-02	3'-6"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	207W
-	01-04-03	3'-6"	7'-0"	A1	1	WD	HM	-	-	-	CR	-	-	-	C201W
-	01-04-04	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	103
-	01-04-05	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-06	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-07	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-08	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-09	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-10	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-11	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-12	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-13	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-14	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-15	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-16	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-17	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-18	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-19	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-20	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-21	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-22	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-23	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-24	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-25	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-26	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-27	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-28	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-29	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-30	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-31	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-32	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-33	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-34	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-35	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-36	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-37	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-38	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-39	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-40	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-41	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-42	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-43	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-44	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-45	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-46	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-47	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-48	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-49	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-50	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-51	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-52	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-53	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-54	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-55	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-56	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-57	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-58	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-59	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-60	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-61	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-62	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-63	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-64	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-65	3'-0"	7'-0"	A1	1	WD	HM	-	-	-	-	-	-	-	801W
-	01-04-66	3'-0"	7'-0"	A1	1	WD	HM	-	-</						



ENLARGED MED GAS LEVEL O2 SECTOR 01 PLAN
1/4" = 1'-0"

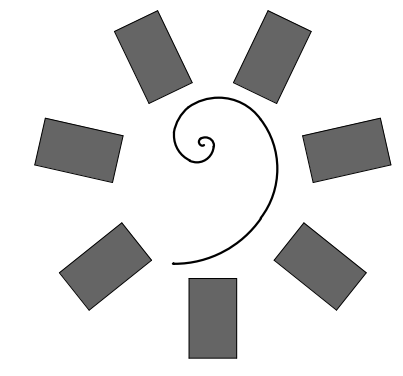


ENLARGED MED GAS SUPPLY PLAN - FIRST FLOOR
1/4" = 1'-0"

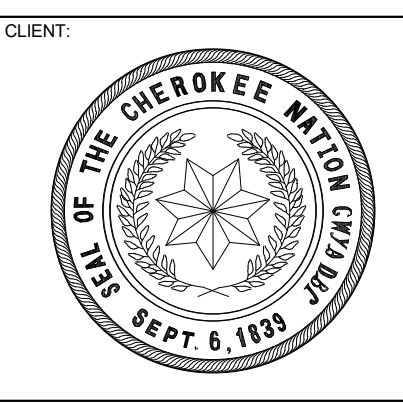
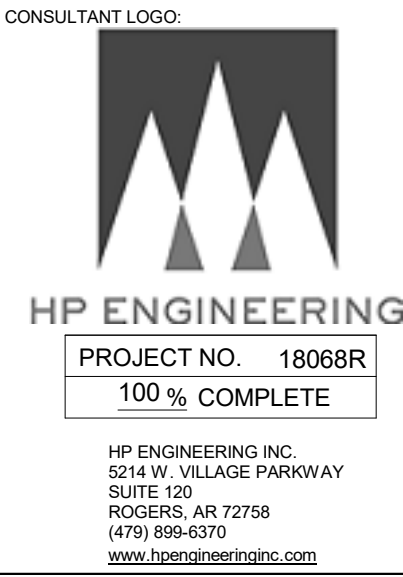
KEYNOTES

Key Value	Keynote Text
22.21	VACUUM SYSTEM CLEANOUT. PLACE A THREADED CAP AT THE END OF THE MAIN AND BRANCH LINE RUN FOR CLEANING. COORDINATE WITH FURNITURE AND/OR EQUIPMENT.
22.22	PROVIDE 1/2" VAC AND AIR LINE VALVED AND CAPPED FOR FUTURE CONNECTION AT THE FOOT OF EACH CHAIR (TYPICAL 16 PLACES).
22.23	PROVIDE 1/2" AIR, 1/2" VAC, 1/2" O2 AND 1/2" NO2 AT EACH CABINET (TYPICAL 16 PLACES).
22.24	PROVIDE 1/2" AIR AT S-4 PER ADEC REQUIREMENTS. COORDINATE WITH ADEC PLANS FOR EXACT LOCATION AND CONNECTION (TYPICAL 22 PLACES).
22.25	PROVIDE 1/2" AIR DROP FOR EQUIP. COORDINATE EXACT LOCATION AND ADEQUATE SIZE WITH Benco PLANS/EQUIPMENT.
22.26	PROVIDE 1/2" VAC AND AIR LINE FOR STERILIZATION CABINET. COORDINATE WITH Benco PLANS.
22.27	PROVIDE 1/2" VAC LINE FOR EQUIPMENT. COORDINATE EXACT LOCATION AND ADEQUATE WIZE WITH EQUIPMENT PLANS.
22.28	PROVIDE 3" VAC LINE TO EQUIPMENT. COORDINATE EXACT LOCATION OF EQUIPMENT WITH Benco PLANS.
22.29	PROVIDE 2-1/2" AIR LINE TO EQUIPMENT. COORDINATE EXACT LOCATION OF EQUIPMENT WITH Benco PLANS.
22.30	PROVIDE 1-1/4" O2 LINE TO MAINFOLD IN TANK STORAGE ROOM.
22.31	PROVIDE 1" NO2 LINE TO MAINFOLD IN TANK STORAGE ROOM.
22.32	3/4" AIR DOWN IN WALL TO FEED CHAIR AND CABINET.
22.33	2" AIR DOWN IN WALL TO BELOW FLOOR. PROVIDE 1/2" STUB FOR S-4.
22.34	1" O2 & NO2 DOWN IN WALL TO BELOW FLOOR.
22.36	ZONE VALVE BOX AND ALARM. COORDINATE EXACT LOCATION WITH Benco.

NOTE:
CONTRACTOR SHALL CONFIRM PIPE SIZES FOR AIR, VAC, NO2 AND O2 WITH Benco



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**WILMA P. MANKILLER HEALTH CENTER
EXPANSION**
STILWELL, OKLAHOMA

KEY PLAN:

PROJECT PHASE:
BID PACKAGE 02

#	DATE	REVISIONS	DESCRIPTION
1	2/18/20	BID PACKAGE 02 - ADD 04	

DATE: 12-06-19 JOB NUMBER: 18-01.01

SHEET NUMBER: P3.17

ENLARGED MED GAS SUPPLY PLANS

EXPANSION TANK SCHEDULE

TAG	DESCRIPTION	MFR	MODEL	ASME CONSTRUCTION (YES/NO)	CAPACITY (GALLONS)	ACCEPTANCE (GALLONS)	INITIAL TANK PRESSURE (PSIG)	NOTES
ET-1	HEATING WATER EXPANSION TANK	ARMSTRONG	A200-L	YES	30	30	12	35% ETHYLENE GLYCOL
ET-2	CHILLED WATER EXPANSION TANK	ARMSTRONG	A300-L	YES	50	50	12	35% ETHYLENE GLYCOL

PUMP SCHEDULE

TAG	MFR	MODEL	TYPE	SERVICE	GPM	SYSTEM HEAD (FT)	MAX HP	VOLTS / PHASE	NOTES
CHWP-1	GRUNDFOS	HYDRO MPCE 3CRE64-2-2	TRIPLEX	CHILLED WATER	620	150	(3) 20	460 / 3	SEE BELOW
HWP-1	GRUNDFOS	HYDRO MPCE 3CRE20-2	TRIPLEX	HEATING WATER	230	100	(3) 5	460 / 3	SEE BELOW

GENERAL NOTES APPLICABLE TO ALL UNITS:

- PUMPS TO BE FURNISHED WITH INTEGRAL MOTOR VFD'S
- PUMPS TO BE VERTICAL, MULTI-STAGE WITH SPLIT COUPLING
- PUMPS TO HAVE LIFETIME ALIGNMENT GUARANTEE
- SLIGHT AND DISCHARGE HEADERS TO BE 3/16" STAINLESS STEEL
- PUMP BASEPLATE SHALL BE 304 STAINLESS STEEL
- ON-BOARD PUMP CONTROLLER SHALL CASCADE AND SEQUENCE PUMPS FOR MAXIMUM EFFICIENCY
- PUMP CURVES SHALL BE PROGRAMMED INTO CONTROLLER
- ENTIRE SYSTEM (PUMPS, VFD'S, CONTROLLER) SHALL BE MADE BY A SINGLE MANUFACTURER
- PUMPS TO BE OPERATED IN PARALLEL CONTROL
- EACH SMD MOUNTED SYSTEM SHALL INCLUDE ALL PIPE, VALVES AND FITTINGS, AND OFFER SINGLE POINT CONNECTIONS
- FURNISH EACH SYSTEM WITH BACNET INTERFACE CARD
- SYSTEM DESIGNED FOR 2 PUMPS TO HANDLE FULL LOAD WITH 3RD PUMP AS BACKUP
- FURNISH EACH SYSTEM WITH DIFFERENTIAL PRESSURE TRANSDUCERS
- SCCR 100K

AIR DEVICE SCHEDULE

TAG	DESCRIPTION	MFR	MODEL	FACE SIZE	FRAME SIZE	NECK SIZE	MATERIAL/ FINISH	MAX FLOW
CD-1	CEILING DIFFUSER, LOUVERED FACE, ADJUSTABLE	PRICE	AMD	9x9	12x12	6	ALUMINUM/ WHITE	100 CFM
CD-2	CEILING DIFFUSER, LOUVERED FACE, ADJUSTABLE	PRICE	AMD	18X18	24X24	8	ALUMINUM/ WHITE	200 CFM
CD-3	CEILING DIFFUSER, LOUVERED FACE, ADJUSTABLE	PRICE	AMD	18x18	24x24	10	ALUMINUM/ WHITE	350 CFM
CD-4	CEILING DIFFUSER, LOUVERED FACE, ADJUSTABLE	PRICE	AMD	18x18	24x24	12	ALUMINUM/ WHITE	475 CFM
EAG-1	EGG CRATE EXHAUST GRILLE	PRICE	80	12X12	14X14	N/A	ALUMINUM/ WHITE	500 CFM
EAG-2	EGG CRATE EXHAUST GRILLE	PRICE	80	22X22	24X24	N/A	ALUMINUM/ WHITE	1000 CFM
LR-1	LINEAR 1" SLOT RETURN WITH SDA PLENUM	PRICE	SDR	1", 1 SLOT	60"	N/A	ALUMINUM/ REF ARCH	200 CFM
LS-1	LINEAR 1" SLOT DIFFUSER WITH SDA PLENUM, 1 SLOT	PRICE	SDS	1", 1 SLOT	48"	N/A	ALUMINUM/ REF ARCH	150 CFM
LS-2	LINEAR 1" SLOT DIFFUSER WITH SDA PLENUM, 1 SLOT	PRICE	SDS	1", 1 SLOT	60"	N/A	ALUMINUM/ REF ARCH	200 CFM
LS-3	LINEAR 1" SLOT DIFFUSER WITH SDA PLENUM, 2 SLOT	PRICE	SDS	1", 2 SLOTS	60"	N/A	ALUMINUM/ REF ARCH	400 CFM
LS-4	LINEAR 1" SLOT DIFFUSER WITH SDA PLENUM, 1 SLOT	PRICE	SDS	1", 1 SLOT	24"	N/A	ALUMINUM/ REF ARCH	100 CFM
LV-1	WIND DRIVEN RAIN LOUVER	GREENHECK	EVH-501	12X14	N/A	N/A	ALUMINUM/ WHITE	150 CFM
LV-2	WIND DRIVEN RAIN LOUVER	GREENHECK	EVH-501	22X26	N/A	N/A	ALUMINUM/ REF ARCH	1300 CFM
RAG-1	EGG CRATE RETURN GRILLE	PRICE	80	22x22	24x24	REF PLANS	ALUMINUM/ WHITE	2500 CFM
STG-1	SPACING BLADES PARALLEL TO LONG DIMENSION	PRICE	630	8x8	10x8	N/A	ALUMINUM/ WHITE	250 CFM
STG-2	SPACING BLADES PARALLEL TO LONG DIMENSION	PRICE	630	8x8	10x10	N/A	ALUMINUM/ WHITE	300 CFM
TG-1	TRAP	PRICE	630	14X14	16X16	N/A	ALUMINUM/ WHITE	672 CFM

GENERAL NOTES APPLICABLE TO ALL UNITS:

- COORDINATE AIR DEVICE DEFLECTION ADJUSTMENTS WITH THE MECHANICAL ENGINEER DURING AIR BALANCE.
- PROVIDE 2" FACTORY FIBERGLASS WRAP ON ALL SUPPLY DIFFUSERS WITH BACKSIDE NOT EXPOSED TO SPACE.
- FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR.
- ALL AIR DEVICES ARE 4-WAY THROW UNLESS OTHERWISE NOTED IN SCHEDULES OR WITH FLOW ARROWS ON DRAWINGS.
- REFER TO SPECIFICATIONS FOR APPROVED ALTERNATES.
- BRANCH DUCT SIZE SHALL BE SAME AS NOTED DIFFUSER NECK SIZE UNLESS NOTED OTHERWISE. PROVIDE TRANSITION WHERE DUCT SIZE DIFFERS FROM NECK SIZE.
- WHERE FINISH AND COLOR ARE NOTED TO BE SELECTED BY ARCHITECT/OOWNER, THIS CONTRACTOR SHALL PROVIDE A COLOR PALETTE SAMPLE FOR FINAL APPROVAL WITH THE SUBMITTALS.
- COORDINATE WITH ARCHITECT'S REFLECTED CEILING PLAN TO PROVIDE APPROPRIATE FRAME TYPE AND MOUNTING ACCESSORIES.
- EQUALS PER SPECIFICATIONS.

EXHAUST FAN SCHEDULE

TAG	DESCRIPTION	MFR	MODEL	DRIVE	FLOW	ESP	RPM	VOLTS / PH	POWER	CONTROL TYPE	ACCESSORIES
EF-1	CABINET EXHAUST FAN	GREENHECK	SP-A125	DIRECT	75	0.25	1100	120/1	21 W	WALL SWITCH	A, F, G, I
EF-2	CABINET EXHAUST FAN	GREENHECK	SP-A125	DIRECT	75	0.25	1100	120/1	21 W	WALL SWITCH	A, F, G, I
EF-3	CABINET EXHAUST FAN	GREENHECK	SP-A125	DIRECT	75	0.25	1100	120/1	21 W	WALL SWITCH	A, F, G, I
EF-4	CABINET EXHAUST FAN	GREENHECK	SP-A125	DIRECT	75	0.25	1100	120/1	21 W	WALL SWITCH	A, F, G, I
EF-5	RECTANGULAR INLINE DUCT FAN	GREENHECK	SQ-120-VG	DIRECT	1300	1	1854	120/1	1/2 HP	CONTINUOUS, BAS	A, G, H
EF-6	RECTANGULAR INLINE DUCT FAN	GREENHECK	SQ-97-VG	DIRECT	150	0.8	1494	120/1	1/4 HP	CONTINUOUS, BAS	A, G, H
EF-7	DOWNBLAST EXHAUST FAN	GREENHECK	G-090-VG	DIRECT	300	0.25	1058	120/1	1/10 HP	WALL SWITCH	B
EF-8	DOWNBLAST EXHAUST FAN	GREENHECK	G-143-VG	DIRECT	1250	0.6	1133	120/1	1/2 HP	CONTINUOUS, BAS	B
EF-9	CABINET EXHAUST FAN	GREENHECK	SP-A125	DIRECT	75	0.25	1100	120/1	21 W	WALL SWITCH	A, F, G, I
EF-10	RECTANGULAR INLINE DUCT FAN	GREENHECK	SQ-90-VG	DIRECT	250	0.3	1194	120/1	1/10	T-STAT	A, D, H

GENERAL NOTES APPLICABLE TO ALL UNITS:

- PROVIDE PRE-WIRED FACTORY MOUNTED INTEGRAL DISCONNECT DEVICE (NEMA 3R FOR EXTERIOR).
- PROVIDE VARIABLE SPEED CONTROLLER FACTORY INSTALLED IF AVAILABLE ON ALL DIRECT DRIVE FANS FOR FAN BALANCING.
- PROVIDE BELT TENSIONER ON ALL BELT DRIVE FANS.
- PROVIDE VARIABLE FREQUENCY DRIVE SCHEDULE FOR VARIABLE FREQUENCY.
- PROVIDE SPUN ALUMINUM VENT CAP. COOK MODEL "PP" WITH ROOF CURB.
- PROVIDE MANUFACTURER'S BRICK VENT. COLOR TO BE SELECTED BY ARCHITECT.
- PROVIDE MANUFACTURER'S WHITE ALUMINUM GRILLE.
- PROVIDE BIRD SCREEN.
- PROVIDE ISOLATOR KIT.
- PROVIDE MANUFACTURER'S WALL CAP.
- PROVIDE GREASE COLLECTION CUP.

NOTES

A. PROVIDE BACKDRAFT DAMPER

B. PROVIDE MOTORIZED DAMPER WITH TIME DELAY FAN START. MECHANICAL CONTRACTOR RESPONSIBLE FOR INSTALLING FAN, ROOF CURB, BACK DRAFT DAMPER, AND ALL INTERNAL POWER AND CONTROL WIRING AS REQUIRED TO PROVIDE FULLY OPERATIONAL FAN AND DAMPER.

C. PROVIDE WITH VARIABLE FREQUENCY DRIVE SAME SIZE AS LISTED MOTOR HORSE POWER. PROVIDE WITH INVERTER DUTY (NEMA I MG1 PART 31), MOTOR-MOUNTED GROUNDING RING. REFER TO VARIABLE FREQUENCY DRIVE SCHEDULE FOR MORE INFORMATION.

D. PROVIDE SPUN ALUMINUM VENT CAP. COOK MODEL "PP" WITH ROOF CURB.

E. PROVIDE MANUFACTURER'S BRICK VENT. COLOR TO BE SELECTED BY ARCHITECT.

F. PROVIDE MANUFACTURER'S WHITE ALUMINUM GRILLE.

G. PROVIDE BIRD SCREEN.

H. PROVIDE ISOLATOR KIT.

I. PROVIDE MANUFACTURER'S WALL CAP.

J. PROVIDE GREASE COLLECTION CUP.

ROOFTOP CHILLED WATER VAV AIR HANDLING UNIT WITH HOT WATER HEAT

TAG	DESCRIPTION	MFR	MODEL	DRIVE TYPE	FAN HP	CFM	ESP (IN-WG)	TSP (IN-WG)	RPM	FAN HP	CFM	ESP (IN-WG)	TSP (IN-WG)	RPM	FLUID	CAPACITY (MBH)	EAT / LAT AREA (SQ FT)	FACE VELOCITY (FPM)	MAX FACE VELOCITY (FPM)	MAX APD (IN-WG)	HEAT ROWS	FINS / FT	GPM	MAX WPD (FT)	ENT / LVG WATER TEMP (°F)	FLUID	SENS / TOT CAP (MBH)	EAT DB / WB (°F)	LAT DB / AREA (SQ FT)	FACE VELOCITY (FPM)	MAX FACE VELOCITY (FPM)	MAX APD (IN-WG)	ROWS	GPM	MAX WPD (FT)	EWT / LWT (°F)	OA CFM	PRIMARY AIR FILTERS	PRE-AIR FILTER	CIRCUIT #1 - SINGLE POINT POWER	CIRCUIT #2 - UV LIGHTS	CIRCUIT #3 - LIGHTS & SWITCH	CIRCUIT #4 - RECEPTACLE	WEIGHT (LB)	NOTES					
AHU-1	ROOFTOP MULTI-ZONE	TRANE	CSAA035	DIRECT	(4) 10	17500	3	6.91	2842	(4) 3.5	17500	2	2.66	2180	35% ETHYLENE GLYCOL	569.36	35 / 65	32.63	536	0.078	1	81	62.74	7.46	180 / 160	35% ETHYLENE GLYCOL	567.50 / 837.34	80 / 67	51.10 / 51	33.53	522	1.325	8	196.3	29.84	45 / 55	4175	(12) MERV 8 / (12) MERV 13	(12) MERV 5	75.2	78.70	90	3.85	15	3.26	15	10	15	11500	1-18
AHU-2	ROOFTOP MULTI-ZONE	TRANE	CSAA021	DIRECT	(4) 10	10500	3	6.21	3738	(4) 2.5	10500	2	2.66	2717	35% ETHYLENE GLYCOL	341.62	35 / 65.89	19.83	529	0.078	1	80	35.12	2.91	180 / 160	35% ETHYLENE GLYCOL	332.18 / 497.27	80 / 67	51.30 / 51.20	20.81	505	1.179	8	116.57	12.35	45 / 55	2750	(7) MERV 13 / (7) MERV 8	(7) MERV 5	52	54.05	60	1.93	15	3.26	15	10	15	7500	1-17
AHU-3	ROOFTOP MULTI-ZONE	TRANE	CSAA035	DIRECT	(4) 10	17500	3	6.89	2842	(4) 3.5	17500	2	2.66	2180	35% ETHYLENE GLYCOL	569.36	35 / 65	32.63	536	0.078	1	81	62.74	7.46	180 / 160	35% ETHYLENE GLYCOL	567.50 / 837.34	80 / 67	51.10 / 51	33.53	522	1.325	8	196.3	29.84	45 / 55	4175	(12) MERV 8 / (12) MERV 13	(12) MERV 5	75.2	78.70	90	3.85	15	3.26	15	10	15	11500	1-17
AHU-4	ROOFTOP MULTI-ZONE	TRANE	CSAA021	DIRECT	(4) 10	10500	3	6.91	3738	(4) 2.5	10500	2	2.66	2717	35% ETHYLENE GLYCOL	341.62	35 / 65.89	19.83	529	0.078	1	80	35.12	2.91	180 / 160	35% ETHYLENE GLYCOL	332.18 / 497.27	80 / 67	51.30 / 51.20	20.81	505	1.179	8	116.57	12.35	45 / 55	2500	(7) MERV 13 / (7) MERV 8	(7) MERV 5	52	54.05	60	1.93	15	3.26	15	10	15	7500	1-17

GENERAL NOTES APPLICABLE TO ALL UNITS:

- PROVIDE STANDARD ROOF CURB.
- PROVIDE THROUGH THE BASE ELECTRICAL.
- PROVIDE UNIT MOUNTED CONVENIENCE OUTLET.
- E.C. TO PROVIDE DISCONNECT SWITCH.
- PROVIDE BACNET INTERFACE.
- PROVIDE 0-100% ECONOMIZER.
- PROVIDE OUTSIDE AIRFLOW MONITOR.
- PROVIDE STAINLESS STEEL DRAIN PAN.
- PROVIDE DOUBLE WALL CONSTRUCTION.
- PROVIDE PHASE LOSS MONITORING THROUGH BAS.
- INTERNAL DRIVE FAN AND MOTOR ASSEMBLIES TO BE INTERNALLY ISOLATED FROM THE UNIT CASING WITH 2" DEFLECTION SPRING ISOLATORS.
- PROVIDE WITH HYDRONIC PIPING HOUSING.
- PROVIDE 2X2 FAN ARRAY FOR SUPPLY AND EXHAUST.
- PROVIDE FACTORY MOUNTED VFD'S. PROVIDE 1 VFD PER SUPPLY FAN (QTY. 4). PROVIDE 1 VFD TO SERVE ALL EXHAUST FANS (QTY. 1).
- PROVIDE WITH SINGLE POINT POWER.
- PROVIDE WITH UV LIGHTS.
- PROVIDE WITH 5 YEAR FACTORY WARRANTY
- SCCR 50K ON AHU NOTED

ACCEPTABLE MANUFACTURERS

A. DAIKIN NORTH AMERICA

B. YORK-KA JOHNSON CONTROL COMPANY

C. TRANE

D. AACN

GENERAL NOTE:
ALL RECTANGULAR DUCT SIZES SHOWN ARE THE OUTSIDE METAL DIMENSIONS. DUCT DIMENSIONS ALREADY HAVE ALLOWANCES FOR THE INSULATION LINER WHERE APPLICABLE IN THE RECTANGULAR DUCTS. AT DUAL WALL DUCTS, THE DIMENSION SHOWN IS THE OUTSIDE METAL DUCT SIZE AND ALREADY HAS ALLOWANCES FOR THE INSULATION THICKNESS.

NOTE: NO LINED DUCT IN KITCHEN

MECHANICAL DUCTWORK & INSULATION SCHEDULE

SERVICE	DUCT TYPE	INSULATION TYPE	INSULATION THICKNESS
ALL RUNOUTS TO SUPPLY DIFFUSERS AND RETURN GRILLES CONCEALED ABOVE CEILING	ROUND WRAPPED OR RECTANGULAR LINED, AS INDICATED ON PLANS.	FIBERGLASS WRAP OR MATTE FACED FIBERGLASS LINER	2" WRAP OR 1-1/2" LINER, R VALUE=6.0
ALL SUPPLY AIR DIFFUSERS (BACKSIDE NOT EXPOSED TO SPACE)	N/A	FIBERGLASS WRAP	2" WRAP, R VALUE=6.0
FRESH AIR SUPPLY DUCT	ROUND WRAPPED OR RECTANGULAR LINED, AS INDICATED ON PLANS.	FIBERGLASS WRAP OR MATTE FACED FIBERGLASS LINER, N/A IF UNCONDITIONED SPACE	2" WRAP OR 1-1/2" LINER, R VALUE=6.0
FRESH AIR EXHAUST DUCT	ROUND WRAPPED OR RECTANGULAR LINED, AS INDICATED ON PLANS.	FIBERGLASS WRAP OR MATTE FACED FIBERGLASS LINER, N/A IF UNCONDITIONED SPACE	2" WRAP OR 1-1/2" LINER, R VALUE=6.0
RESTROOM EXHAUST DUCT	ROUND WRAPPED OR RECTANGULAR LINED, AS INDICATED ON PLANS.	FIBERGLASS WRAP OR MATTE FACED FIBERGLASS LINER	2" WRAP OR 1-1/2" LINER, R VALUE=6.0
ALL MEDIUM PRESSURE CONSTANT VOLUME AND VAV SUPPLY AIR DUCT FOR FIRST 20' FROM AIR HANDLER OR PACKAGED UNIT	DOUBLE WALL SPIRAL WITH PERFORATED METAL LINER	FIBERGLASS EQUAL TO UNITED MCGILL ACOUSTIC - K27	1-1/2", R VALUE=6.0
ALL MEDIUM PRESSURE CONSTANT VOLUME AND VAV SUPPLY AIR DUCT BEYOND 20' FROM AIR HANDLER OR PACKAGED UNIT	ROUND WRAPPED OR RECTANGULAR LINED, AS INDICATED ON PLANS.	FIBERGLASS WRAP OR MATTE FACED FIBERGLASS LINER	2" WRAP OR 1-1/2" LINER, R VALUE=6.0
FUMEHOOD EXHAUST DUCT	304 STAINLESS STEEL SEALED WITH MASTIC JOINT SEALER	FIBERGLASS WRAP	1-1/2", R VALUE=6.0
FLAMMABLE STORAGE EXHAUST DUCT	EXPLOSION PROOF AND CORROSION PROOF WELDED 304 STAINLESS STEEL	FIBERGLASS WRAP	1-1/2", R VALUE=6.0
ALL SUPPLY AND RETURN DUCT SERVING SOUND SENSITIVE ROOMS	DOUBLE WALL SPIRAL WITH PERFORATED METAL LINER	FIBERGLASS EQUAL TO UNITED MCGILL ACOUSTIC - K27	1-1/2", R VALUE=6.0
GREASE DUCT	16 GAUGE, CARBON STEEL WELDED AIR TIGHT AT ALL JOINTS AND SEAMS. MECHANICAL FASTENERS SHALL NOT PENETRATE DUCT WALL	THERMAL CERAMICS FIREMASTER UL LISTED FOR ZERO CLEARANCE TO COMBUSTIBLES	3"

HYDRONIC ACCESSORIES SCHEDULE

TAG	DESCRIPTION	MFR	MODEL	TANK MIXTURE	TANK VOLUME (GALLONS)	PRESSURE RANGE (PSI)	MAKE-UP CAPACITY (GPM @ PSI)	HP	VOLT/PH	ACCESSORIES
CPF-1	CHEMICAL FEEDER WITH PUMP	GRUNDFOS	GMPD-23050	35% GLYCOL	50	10-70	1.8 @ 70	1/3	120/1	1-7
CPF-2	CHEMICAL FEEDER WITH PUMP	GRUNDFOS	GMPD-23050	35% GLYCOL	50	10-70	1.8 @ 70	1/3	120/1	1-7

ACCESSORIES:

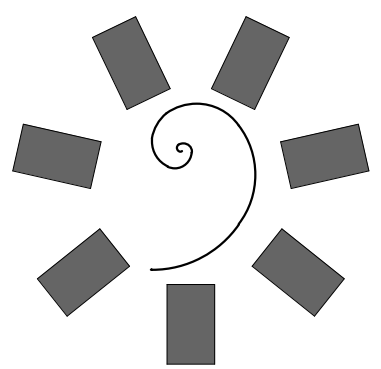
- PROTECTIVE LOW WATER CUT-OFF ALARM.
- HCM CONTROLS
- 1/3 HP BRASS ROTARY VANE PUMP
- MAGNETIC STARTER
- PRESSURE TANK WITH PRESSURE CONTROLS
- PROVIDE WITH PRESSURE GAUGES, PRESSURE REDUCING VALVE AND SYSTEM ISOLATION VALVES.
- PROVIDE 110V SIGNAL FOR A REMOTE ALARM.

AIR SEPARATOR SCHEDULE

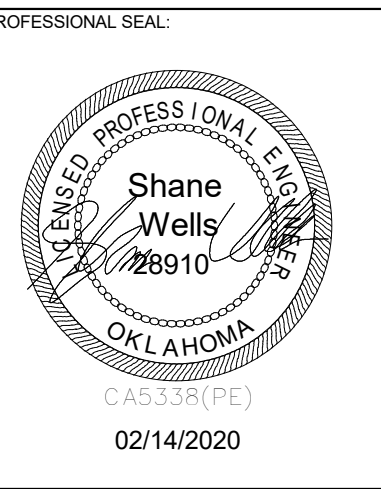
MARK	SERVES	MFR	MODEL	VOLUME (GAL)	WPD (FT)	WEIGHT (LB)	ACCESSORIES
AS-1	HEATING WATER SYSTEM	SPIROTHERM	VDT 600 FA	19.8	3	260	STEEL MESH STRAINER
AS-2	CHILLED WATER SYSTEM	SPIROTHERM	VDT 600 FA	19.8	3	260	STEEL MESH STRAINER

GENERAL MECHANICAL NOTES

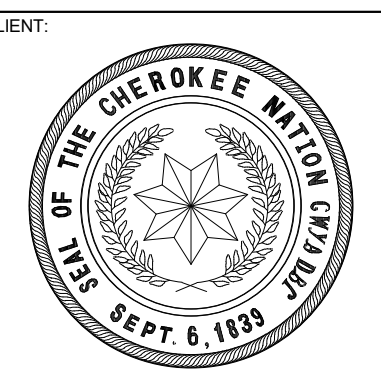
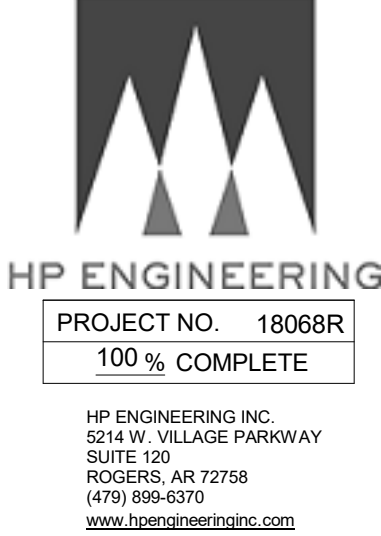
- SUBMISSION OF PROPOSAL IN CONNECTION WITH THIS WORK SHALL IMPLY THAT THE BIDDER HAS EXAMINED THE JOB SITE UNDER WHICH HE WILL BE OBLIGATED TO OPERATE SHOULD HE BE AWARDED THE WORK UNDER THIS CONTRACT. NO EXTRA CHARGE WILL BE ALLOWED FOR FAILURE OF ANY BIDDER TO EXAMINE THE SITE PRIOR TO BID.
- RECTANGULAR DUCT SIZES SHOWN ARE THE OUTSIDE METAL DIMENSIONS. DUCT DIMENSIONS ALREADY HAVE ALLOWANCES FOR THE INSULATION LINER WHERE APPLICABLE IN THE RECTANGULAR DUCTS. AT DUAL WALL DUCTS, THE DIMENSION SHOWN IS THE OUTSIDE METAL DUCT SIZE AND ALREADY HAVE ALLOWANCES FOR THE INSULATION THICKNESS.
- ALL WORK SHALL CONFORM TO LOCAL AND STATE AND LOCAL CODES, RULES, REGULATIONS, AND ORDINANCES WHICH SHALL TAKE PRECEDENCE OVER THE PLANS IF CONFLICTS EXIST BETWEEN THEM.
- THE DRAWINGS INDICATE THE GENERAL LAYOUT REQUIREMENTS FOR EQUIPMENT, FIXTURES, PIPING, DUCTWORK, ETC. FINAL LAYOUT SHALL BE MODIFIED TO FIT ACTUAL SITE CONDITIONS.
- COORDINATE ALL WORK WITH THE OWNER AND ALL OTHER CONTRACTORS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RIGGING, HANDLING, AND PROTECTION OF MATERIALS. PROVIDE LABOR TO RECEIVE UNLOAD, STORE, PROTECT, AND TRANSFER TO POINT OF INSTALLATION OF ANY OWNER-FURNISHED ITEMS.
- IN CASES OF EQUIPMENT SUBSTITUTION, CONTRACTOR IS RESPONSIBLE FOR VERIFYING THAT ALL SYSTEMS AND COMPONENTS WILL FIT PROPERLY PRIOR TO FABRICATION OR ORDERING. INSTALLED DUCTS MAY BE RESIZED BY THE CONTRACTOR TO FIT FIELD CONDITIONS AS LONG AS THE INSTALLED DUCTS SHALL HAVE EQUAL FRICTION LOSS TO THOSE SHOWN. RECTANGULAR DUCTS SHALL NOT BE CHANGED TO ROUND DUCTS. PROVIDE COMPLETE SHEET METAL SHOP DRAWINGS TO ENGINEER SHOWING ACTUAL DUCT SIZES, ARRANGEMENTS, AND UNIT LOCATIONS TO BE INSTALLED. THIS SHALL BE DONE PRIOR TO FABRICATION OR INSTALLATION.
- INSTALL ACOUSTIC TURNING VANES IN ELBOWS IN RECTANGULAR DUCTS 20" AND LARGER. INSTALL RADIUS TYPE ELBOWS IN RECTANGULAR DUCTS SMALLER THAN 20".
- USE 45 DEGREE TAKE-OFF FITTINGS AT ALL ROUND SUPPLY BRANCH TAKEOFFS. PROVIDE BALANCE DAMPERS AT ALL SUPPLY DUCT RUNOUTS TO GRILLES. LOCATE AS FAR AS POSSIBLE FROM GRILLES IN AN ACCESSIBLE LOCATION. PROVIDE ACCESS PANELS IN SOLID WALLS AND CEILINGS FOR BALANCING DAMPERS.
- USE FLEX DUCTS FOR FINAL CONNECTION TO ALL CEILING DIFFUSERS, AND WHERE NECESSARY, SIDEWALL DIFFUSERS, AND LIMIT TO 6' MAX LENGTHS.
- PROVIDE A COMPLETE AND OPERATING MECHANICAL SYSTEM, INCLUDING ALL INCIDENTAL ITEMS AND CONNECTIONS NECESSARY FOR PROPER OPERATION OR CUSTOMARILY INCLUDED, EVEN THOUGH EACH AND EVERY ITEM MAY NOT BE INDICATED.
- THE MECHANICAL INSTALLATION SHALL BE SAFE, RELIABLE, ENERGY EFFICIENT AND EASILY MAINTAINED WITH ADEQUATE PROVISIONS ALLOWED FOR ACCESS TO EQUIPMENT.
- THE MECHANICAL SYSTEM SHALL OPERATE QUIETLY WITH NOISE LEVELS BELOW THE CRITERIA RECOMMENDED FOR THE APPLICATION BY ASHRAE. PROVIDE CORRECTIVE ACTION AS REQUIRED TO REDUCE OBJECTIONABLE NOISE OR VIBRATION.
- UNDOOR DOORS 3/4 INCH WHERE NO RETURN NOR EXHAUST GRILLE IS SHOWN TO ALLOW FOR AIR TRANSFER (DO NOT UNDERCUT FRIEDDOORS).
- REFER TO ARCH. PLANS AND DETAILS FOR EXACT LOCATION OF ALL WALL AND CEILING MOUNTED DEVICES. ADJUST LOCATION OF SIDEWALL DEVICES AS NECESSARY TO AVOID INTERFERENCE WITH MOLDING OR OTHER ELECTRICAL DEVICES.
- WHERE CONDUIT, CABLES, DUCTWORK OR PIPING PASSES THROUGH FIRE-RATED FLOORS OR WALLS, THE SLEEVES SHALL BE COMPLETELY SEALED WITH A FIRE STOP MATERIAL THAT IS LISTED AND ACCEPTED BY LOCAL AUTHORITIES HAVING JURISDICTION (AHJ) AS BEING SUITABLE FOR THIS SERVICE SUCH AS DOWN CORNING CORP. SILICONE ELASTOMER, RTV FOAM, OR SIMILAR MATERIAL TO MAINTAIN FIRE RATING OF THE WALL OR FLOOR.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING AND BEAM PENETRATIONS AS IT RELATES TO HIS WORK.
- CONTRACTOR SHALL NOT INSTALL ANY MAINTENANCE ITEMS ABOVE HARD CEILING. THIS SHALL INCLUDE VALVES, DAMPERS OR ANY OTHER ITEMS THAT REQUIRE ACCESS AFTER CONSTRUCTION IS COMPLETED. IF INSTALLATION ABOVE A HARD CEILING OF THESE ITEMS CANNOT BE AVOIDED, THEN PROVIDE CEILING ACCESS DOORS EQUAL TO ACUDOR MODEL FW-505 WHERE REQUIRED. AT FIRE-RATED WALLS, USE EQUIVALENT OF ACUDOR MODEL FB-5060. MINIMUM SIZE SHALL BE 12"x12". USE 18"x18" WHEN PERSONNEL ACCESS IS REQUIRED.
- PROVIDE AN INSULATED BACK ON ALL THERMOSTATS AND TEMPERATURE SENSORS THAT ARE MOUNTED ON CMU OR HOLLOW WALLS. PROVIDE SHALLOW DEVICE EXTENSION BOX BEHIND T-STATS AND SENSORS ON MASONRY WALLS IN COMM



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CONSULTANT LOGO



**WILMA P. MANKILLER HEALTH CENTER
EXPANSION**
STILWELL, OKLAHOMA

KEY PLAN

PROJECT PHASE
BID PACKAGE 02

#	DATE	REVISIONS	DESCRIPTION
1	1/19/20		BID PACKAGE 02 - ADD 01
2	2/18/20		BID PACKAGE 02 - ADD 04

DATE: 12-06-19 JOB NUMBER: 18-01.01

SHEET NUMBER: M1.02

MECHANICAL SCHEDULES

DUCT SILENCER SCHEDULE

TAG	MANUF.	MODEL	FLOW DIRECTION	AIRFLOW (CFM)	LENGTH (IN)	FACE DIMENSION			FACE VELOCITY (FPM)	SILENCER PD IN WG	PD W/ SYSTEM EFFECTS IN WG	MINIMUM DYNAMIC INSERTION LOSS (dB)								NOTES
						WIDTH (IN)	HEIGHT (IN)	DEPTH (IN)				63	125	250	500	1K	2K	4K	8K	
SL-AHU-1R	VIBRO-ACOUSTICS	RED-HV-FB-L24517	RETURN	17500	72	34	64	-1125	0.12	0.3	9	12	17	28	26	20	17	A,B,C,E		
SL-AHU-1S	VIBRO-ACOUSTICS	RED-UHV-F3-L24517	SUPPLY	17500	108	26	60	+1569	0.16	0.32	8	18	20	32	43	37	27	A,B,C,D		
SL-AHU-2R	VIBRO-ACOUSTICS	RED-HV-FB-L24517	RETURN	10500	72	38	42	-947	0.13	0.26	6	12	20	28	36	28	23	A,B,C,E		
SL-AHU-2S	VIBRO-ACOUSTICS	EXRED-HV-F7-L24517	SUPPLY	10500	60	24(36)	40	+1575	0.26	0.26	6	9	16	21	33	35	27	A,B,C,D,F		
SL-AHU-3R	VIBRO-ACOUSTICS	RED-UHV-FB-L24517	RETURN	17500	72	34	64	-1125	0.07	0.17	7	10	11	24	24	19	17	A,B,C,E		
SL-AHU-3S	VIBRO-ACOUSTICS	DEXRED-UHV-FX-L24517	SUPPLY	17500	144	26(32)	60	+1569	0.11	0.24	11	23	24	34	47	39	29	A,B,C,G,D		
SL-AHU-4R	VIBRO-ACOUSTICS	RED-HV-FB-L24517	RETURN	10500	96	30	42	-1000	0.09	0.09	9	15	22	30	31	30	21	A,B,C,E		
SL-AHU-4S	VIBRO-ACOUSTICS	EXRED-HV-F7-L24517	SUPPLY	10500	48	24(36)	40	+1575	0.2	0.26	6	7	12	18	27	24	20	A,B,C,D,H		

GENERAL NOTES APPLICABLE TO ALL:
 1. LENGTH SHOWN FOR ELBOW SILENCER IS CENTERLINE LENGTH
 2. VELOCITY SHOWN IS + (FORWARD FLOW) OR - (REVERSE FLOW) AS DEFINED BY ASTM E477-13.
 3. PRESSURE DROP, DYNAMIC INSERTION LOSS AND SELF GENERATED NOISE PER ASTM E477-13.
 4. MAXIMUM PRESSURE DROP WITH SYSTEM EFFECTS + SILENCER PRESSURE DROP PER ASTM E477-13 + SYSTEM EFFECTS FOR NEARBY DUCT ELEMENTS.
 NOTES:
 A. RED = RECTANGULAR ELBOW DISSIPATIVE. EXRED ELBOW DISSIPATIVE
 B. HTL CASING
 C. ELBOW SILENCER
 D. CASING TO BE HTELEQUIVALENT TO 10 GAUGE DUCT WALL TO CONTROL BREAKOUT.
 E. CASING TO BE HTL EQUIVALENT TO 12 GAUGE DUCT WALL TO CONTROL BREAKOUT.
 F. DUCT DIMENSION 24"X40", OUTSIDE CASING DIMENSION 30"X40".
 G. DOUBLE ELBOW SILENCER WITH EXTENDED WIDTH. DUCT DIMENSION 26"X60", OUTSIDE CASING DIMENSION 32"X60".
 H. EXTENDED WIDTH SILENCER. DUCT DIMENSION 24"X40", OUTSIDE CASING DIMENSION 36"X40".

MINI SPLIT AIR CONDITIONER SCHEDULE

INDOOR UNIT	OUTDOOR UNIT	DESCRIPTION	MFR	MODEL (INDOOR/OUTDOOR)	CFM	SEER	COOLING CAPACITY (BTU/HR)	HEATING CAPACITY (BTU/HR)	VOLTS / PH	MCA	MOCP	NOTES
MAC-01	MCU-01	COOLING ONLY DX SYSTEM	mitsubishi	PKA-A12HA7/PUY-A12NKA7	335	20.8	12,000	-	208-230/1	14 A	15 A	A,B,C
MAC-02	MCU-02	COOLING ONLY DX SYSTEM	mitsubishi	PKA-A12HA7/PUY-A12NKA7	335	20.8	12,000	-	208-230/1	14 A	15 A	A,B,C
MAC-03	MCU-03	COOLING ONLY DX SYSTEM	mitsubishi	PKA-A12HA7/PUY-A12NKA7	335	20.8	12,000	-	208-230/1	14 A	15 A	A,B,C
MAC-04	MCU-04	COOLING ONLY DX SYSTEM	mitsubishi	PKA-A18HA7/PUY-A18NKA7	335	18.5	18,000	-	208-230/1	14 A	15 A	A,B,C
MAC-05	MCU-05	COOLING ONLY DX SYSTEM	mitsubishi	PKA-A18HA7/PUY-A18NKA7	335	18.5	18,000	-	208-230/1	14 A	15 A	A,B,C
MAC-06	MCU-06	HEAT PUMP DX SYSTEM	mitsubishi	PKA-A24HA7/PUZ-A24NKA7	635	21.4	24,000	28000	208-230/1	19 A	25 A	A,B
MAC-07	MCU-07	HEAT PUMP DX SYSTEM	mitsubishi	PKA-A12HA7/PUZ-A12NKA7	335	20.8	12,000	18000	208-230/1	14 A	15 A	A,B
MAC-08	MCU-08	HEAT PUMP DX SYSTEM	mitsubishi	PKA-A24HA7/PUZ-A24NKA7	635	21.4	24,000	28000	208-230/1	19 A	25 A	A,B
MAC-09	MCU-09	HEAT PUMP DX SYSTEM	mitsubishi	PKA-A18HA7/PUZ-A18NKA7	335	18.5	18,000	22000	208-230/1	14 A	15 A	A,B
MAC-11	MCU-11	COOLING ONLY DX SYSTEM	mitsubishi	PKA-A36HA7/PUY-A36NKA7	810	18.8	36,000	-	208-230/1	28 A	30 A	A,B,C
MAC-13	MCU-13	HEAT PUMP DX SYSTEM	mitsubishi	PKA-A18HA7/PUZ-A18NKA7	335	18.5	18,000	22000	208-230/1	14 A	15 A	A,B

GENERAL NOTES APPLICABLE TO ALL UNITS:
 1. MAC & MCU COMPRISE A SINGLE AIR-CONDITIONING SPLIT SYSTEM AND INCLUDE MICROPROCESSOR CONTROLS, PROVIDE WALL MOUNT FOR WIRELESS REMOTE. ON/OFF 24-HOUR TIMER AND WASHABLE AIR FILTER.
 NOTES:
 A. PROVIDE WITH PROGRAMMABLE THERMOSTAT.
 B. PROVIDE WITH CONDENSATE PUMP- ASPEN MODEL MINI-TANK.
 C. LOW AMBIENT COOLING-100% NOMINAL CAPACITY AT 5 F.

GAS UNIT HEATER SCHEDULE

TAG	DESCRIPTION	MFR	MODEL	MBH	FAN HP	FLA	VOLTS / PH	WEIGHT	CONTROL TYPE
GUH-1	GAS UNIT HEATER WITH SEPARATED COMBUSTION	TRANE	GTNE003ATA	30	1/20	3	120/1	60 LB	THERMOSTAT
GUH-2	GAS UNIT HEATER WITH SEPARATED COMBUSTION	TRANE	GTNE003ATA	30	1/20	3	120/1	60 LB	THERMOSTAT

GENERAL NOTES APPLICABLE TO ALL UNITS:
 1. SINGLE STAGE, DIRECT SPARK IGNITION.
 2. PROVIDE WITH 30 DEGREE DOWN DISCHARGE NOZZLE.
 3. PROVIDE WITH CONCENTRIC VENT KIT.
 4. PROVIDE WITH WALL MOUNTED THERMOSTAT.
 5. SUPPORT FROM STRUCTURE PER MFR RECOMMENDATIONS.
 6. E.C. TO PROVIDE DISCONNECT SWITCH.

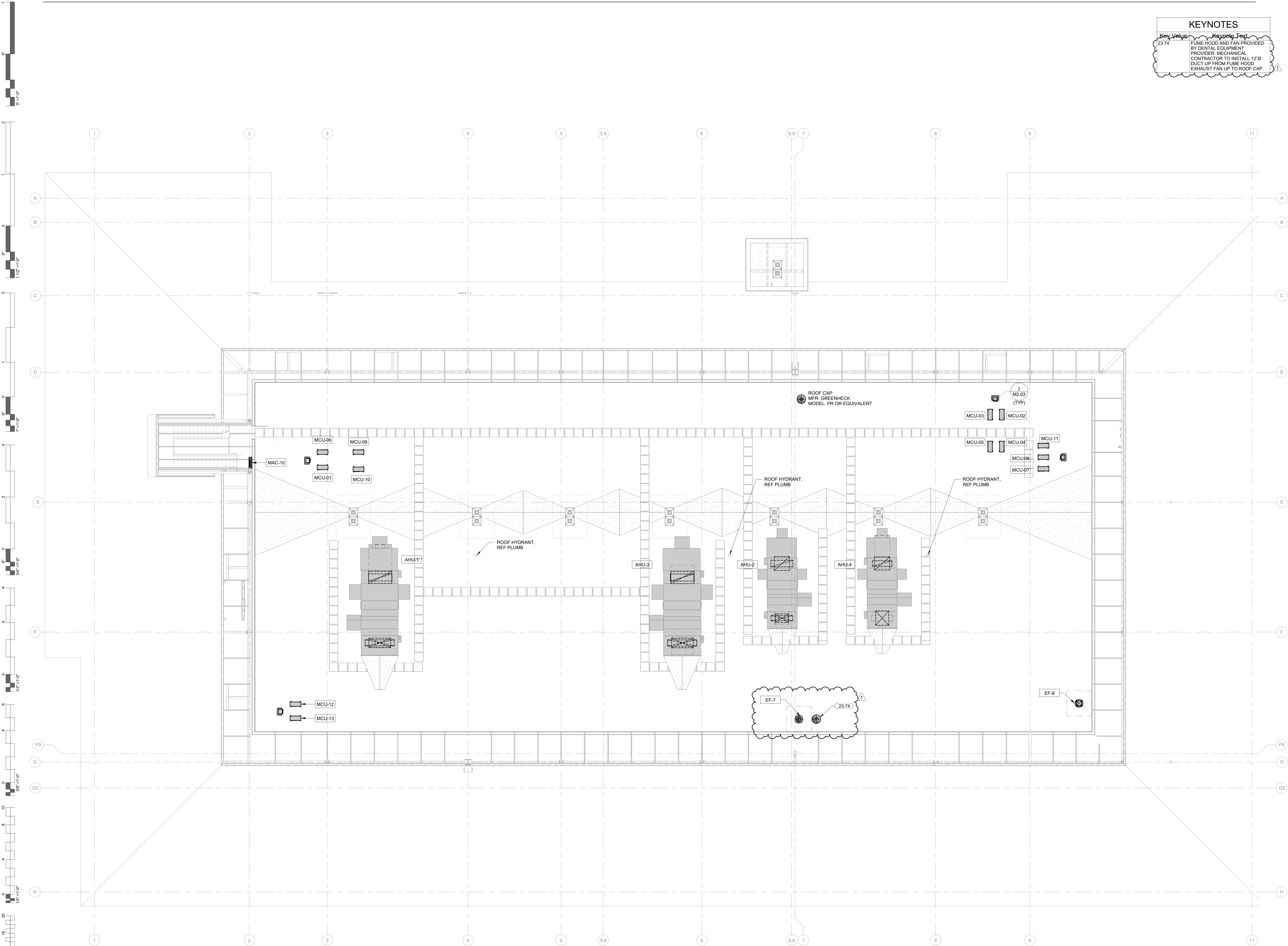
AHU - 03 VAV BOX WITH HOT WATER REHEAT SCHEDULE

TAG	DESCRIPTION	MFR	MODEL	VALVE SIZE (IN.)	COOLING				HEATING							VOLTS / PH	WEIGHT (LBS.)	NOTES	
					DESIGN COOLING CFM	MINIMUM COOLING CFM	APD @ DESIGN FLOW (IN. WG)	INLET VELOCITY (FPM)	VALVE AIRFLOW (CFM)	EAT (°F)	LAT (°F)	COIL CAPACITY (MBH)	EWT (°F)	DELTA TEMP (°F)	NO. OF ROWS				COIL FLOW (GPM)
VAV-3.01	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	06	6	460	140	0.37	2343	140	55	90°F	6.89	180	40	1	0.5	24 / 1	24	A,C,D,E
VAV-3.02	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF10	10	1230	540	0.33	2255	540	55	90°F	19.79	180	40	1	1	24 / 1	34	A,C,D,E
VAV-3.03	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF10	10	1300	400	0.36	2384	400	55	90°F	16.66	180	40	1	0.9	24 / 1	34	B,C,D,E
VAV-3.04	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF08	8	720	400	0.27	2063	400	55	90°F	13.13	180	40	1	0.7	24 / 1	25	A,C,D,E
VAV-3.05	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF10	10	1200	500	0.32	2200	500	55	90°F	18.93	180	40	1	1	24 / 1	34	A,C,D,E
VAV-3.06	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF10	10	1250	530	0.34	2292	530	55	90°F	19.58	180	40	1	1	24 / 1	34	B,C,D,E
VAV-3.07	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF06	6	430	240	0.33	2190	240	55	90°F	8.58	180	40	1	0.5	24 / 1	24	A,C,D,E
VAV-3.08	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF14	14	2500	1350	0.22	2339	1350	55	90°F	43.38	180	40	1	2.2	24 / 1	53	A,C,D,E
VAV-3.09	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF10	10	1250	700	0.34	2292	700	55	90°F	23.03	180	40	1	1.2	24 / 1	34	A,C,D,E
VAV-3.10	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF10	10	1400	550	0.41	2567	550	55	90°F	20	180	40	1	1	24 / 1	34	B,C,D,E
VAV-3.11	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF08	8	560	300	0.41	2200	300	55	90°F	16.07	180	40	1	0.5	24 / 1	24	A,C,D,E

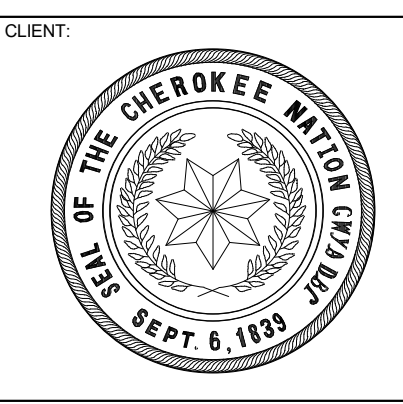
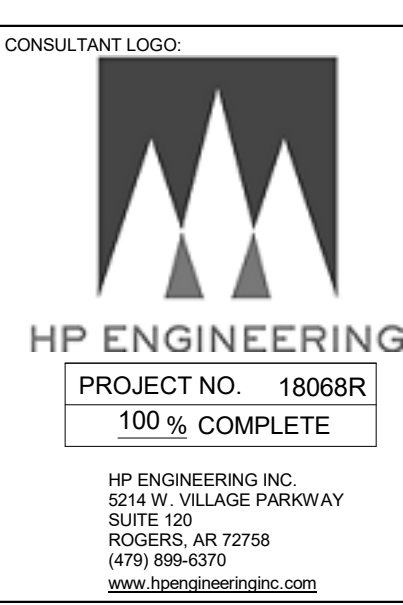
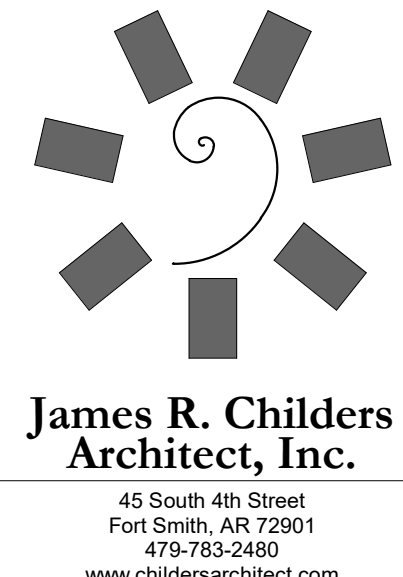
GENERAL NOTES APPLICABLE TO ALL UNITS:
 1. DDC PROPORTIONAL HOT WATER VALVE
 2. PROVIDE WITH FACTORY DISCONNECT
 3. PROVIDE WITH POWER FUSE
 4. PROVIDE WITH FACTORY MOUNTED 120V TO 24 V TRANSFORMER
 5. DOUBLE WALL CONSTRUCTION
 A. PROVIDE 2-WAY VALVE ON HOT WATER COIL
 B. PROVIDE 3-WAY VALVE ON HOT WATER COIL
 C. PROVIDE FACTORY MOUNTED AND PRE-PROGRAMMED, PRESSURE INDEPENDENT, BACKNET DDC CONTROLLER WITH AIRFLOW MEASUREMENT AND WIRELESS COMMUNICATION RECEIVER
 D. PROVIDE WITH WIRELESS ZONE TEMPERATURE SENSOR
 E. PROVIDE WITH FACTORY WIRED AND TAGGED HOT WATER VALVE AND PIPING PACKAGE...

AHU - 01 VAV BOX WITH HOT WATER REHEAT SCHEDULE

TAG	DESCRIPTION	MFR	MODEL	VALVE SIZE (IN.)	COOLING				HEATING							VOLTS / PH	WEIGHT (LBS.)	NOTES	
					DESIGN COOLING CFM	MINIMUM COOLING CFM	APD @ DESIGN FLOW (IN. WG)	INLET VELOCITY (FPM)	VALVE AIRFLOW (CFM)	EAT (°F)	LAT (°F)	COIL CAPACITY (MBH)	EWT (°F)	DELTA TEMP (°F)	NO. OF ROWS				COIL FLOW (GPM)
VAV-1.01	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF12	12	1600	1600	0.31	2037	500	55	90°F	18.42	180	40	1	1.02	24 / 1	43	A,C,D,E
VAV-1.02	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF08	8	600	120	0.08	2017	120	55	90°F	5.79	180	40	1	0.5	24 / 1	24	A,C,D,E
VAV-1.03	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF10	10	1300	1300	0.36	2384	400	55	90°F	15.3	180	40	1	0.85	24 / 1	34	A,C,D,E
VAV-1.04	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF06	6	250	150	0.03	1719	125	55	90°F	4.83	180	40	1	0.5	24 / 1	24	A,C,D,E
VAV-1.05	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF04	4	100	100	0.02	1146	75	55	90°F	4.83	180	40	1	0.5	24 / 1	24	A,C,D,E
VAV-1.06	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF06	6	200	200	0.28	2037	200	55	90°F	6.95	180	40	1	0.5	24 / 1	24	A,C,D,E
VAV-1.07	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF06	6	400	400	0.28	2037	260	55	90°F	7.61	180	40	1	0.5	24 / 1	24	A,C,D,E
VAV-1.08	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF08	8	600	600	0.2	1719	440	55	90°F	11.95	180	40	1	0.66	24 / 1	24	A,C,D,E
VAV-1.09	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF05	5	120	30	0.02	1300	30	55	90°F	3.64	180	40	1	0.5	24 / 1	24	A,C,D,E
VAV-1.10	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF10	10	110	110	0.34	2292	35	55	90°F	14.76	180	40	1	0.8	24 / 1	34	A,C,D,E
VAV-1.11	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF04	4	1250	1250	0.02	1261	375	55	90°F	3.39	180	40	1	0.5	24 / 1	24	A,C,D,E
VAV-1.12	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF05	5	120	120	0.07	1833	40	55	90°F	5.08	180	40	1	0.5	24 / 1	24	A,C,D,E
VAV-1.13	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF08	8	800	800	0.33	2292	650	55	90°F	17.45	180	40	1	0.9	24 / 1	24	A,C,D,E
VAV-1.14	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF04	4	110	110	0.02	1261	35	55	90°F	3.39	180	40	1	0.5	24 / 1	24	A,C,D,E
VAV-1.15	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF06	6	360	360	0.23	1833	360	55	90°F	8.45	180	40	1	0.6	24 / 1	24	A,C,D,E
VAV-1.16	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF05	5	330	330	0.11	2420	100	55	90°F	5.41	180	40	1	0.5	24 / 1	24	A,C,D,E
VAV-1.17A	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF12	12	1750	1750	0.36	2228	700	55	90°F	22.38	180	40	1	1.3	24 / 1	43	A,C,D,E
VAV-1.17B	SINGLE DUCT VAV TERMINAL UNIT W/ HOT WATER REHEAT	TRANE	VCWF12</																



Key Note	Key Note Text
23.74	FUME HOOD AND FAN PROVIDED BY DENTAL EQUIPMENT PROVIDER. MECHANICAL CONTRACTOR TO INSTALL 12" Ø DUCT UP FROM FUME HOOD EXHAUST FAN UP TO ROOF CAP.



**WILMA P. MANKILLER HEALTH CENTER
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 STILLWELL, OKLAHOMA

#	DATE	REVISIONS	DESCRIPTION
1	2/18/20	BID PACKAGE 02 - ADD 04	

PROJECT PHASE:
BID PACKAGE 02

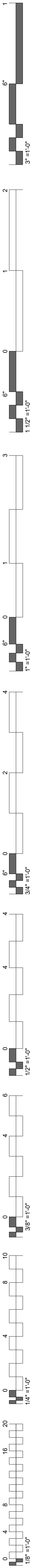
#	DATE	REVISIONS	DESCRIPTION
1	2/18/20	BID PACKAGE 02 - ADD 04	

DATE: 12-06-19 JOB NUMBER: 18-01.01

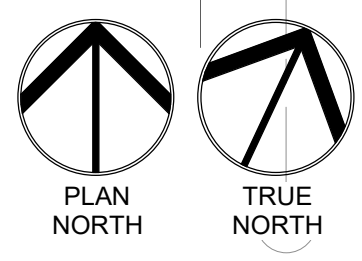
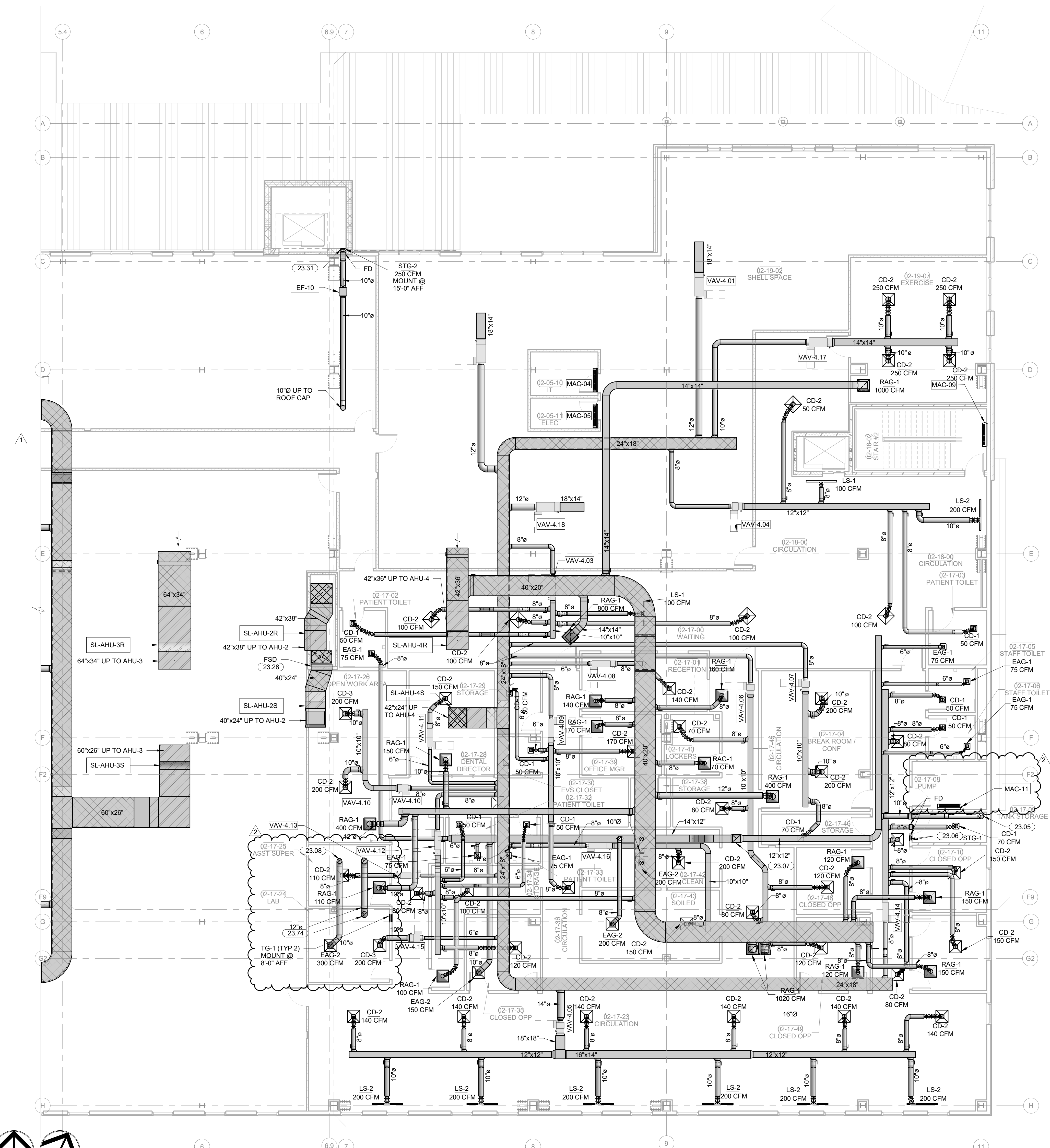
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M4.03

**OVERALL MECH
 ROOF PLAN**

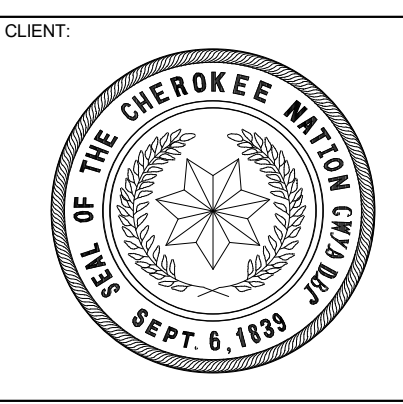
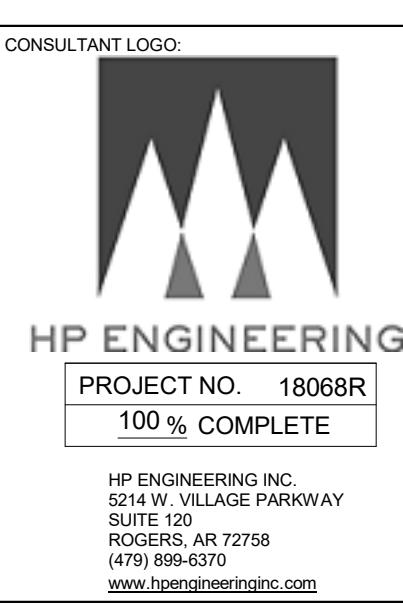
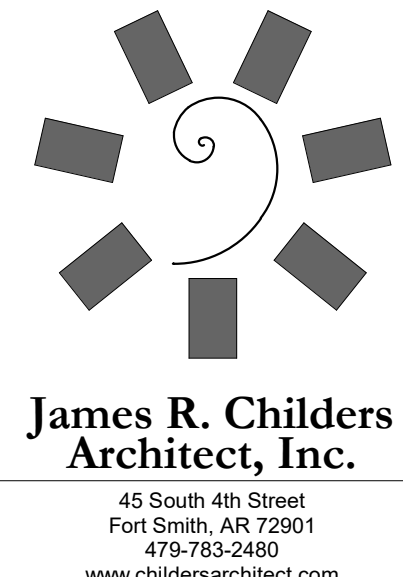
OVERALL MECH ROOF PLAN
 1/8" = 1'-0"
 PLAN NORTH TRUE NORTH



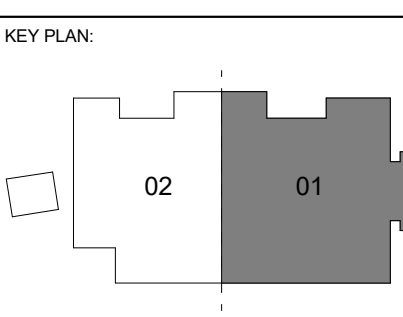
KEYNOTES	
23.05	ROUTE 10" Ø DUCT DOWN TO 1'-0" AFF WITH WIRE MESH.
23.06	MOUNT TRANSFER GRILLE 8'-0" AFF.
23.07	ROUTE 14"x16" DUCT UP TO EF-8.
23.08	ROUTE 10" Ø DUCT UP TO EF-7.
23.28	PROVIDE MULTI-SECTION FIRE AND SMOKE DAMPER'S, RUSKIN FSD-60 OR EQUIVALENT, WHERE INDICATED AT SHAFT WALL PENETRATIONS TO MAINTAIN 1-2 HOUR RATING OF SHAFT WALL. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCE ON BOTH SIDES OF DUCTS TO ACCOMMODATE FSD ACTUATORS. ACTUATORS SHALL BE TANDEM MOUNTED (ON SAME SIDE OF DUCT) ONLY WHERE SPACE CONSTRAINTS DO NOT ALLOW ACTUATORS TO BE MOUNTED ON BOTH SIDES OF DUCT.
23.31	INSTALL STG-2 WITH FIRE DAMPER IN ELEVATOR SHAFT. COORDINATE EXACT THERMOSTAT LOCATION WITH ELEVATOR SUPPLIER. PROVIDER MECHANICAL CONTRACTOR TO INSTALL 12" Ø DUCT UP FROM FUME HOOD EXHAUST FAN UP TO ROOF CAP.
23.74	FUME HOOD AND FAN PROVIDED BY DENTAL EQUIPMENT PROVIDER. MECHANICAL CONTRACTOR TO INSTALL 12" Ø DUCT UP FROM FUME HOOD EXHAUST FAN UP TO ROOF CAP.



1 ENLARGED MECHANICAL PLAN LEVEL 02 SECTOR 01
1/8" = 1'-0"



WILMA P. MANKILLER HEALTH CENTER
EXPANSION
STILWELL, OKLAHOMA

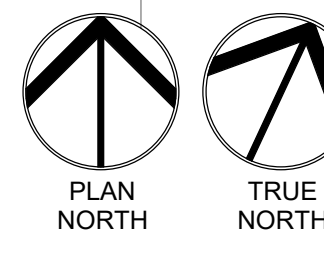
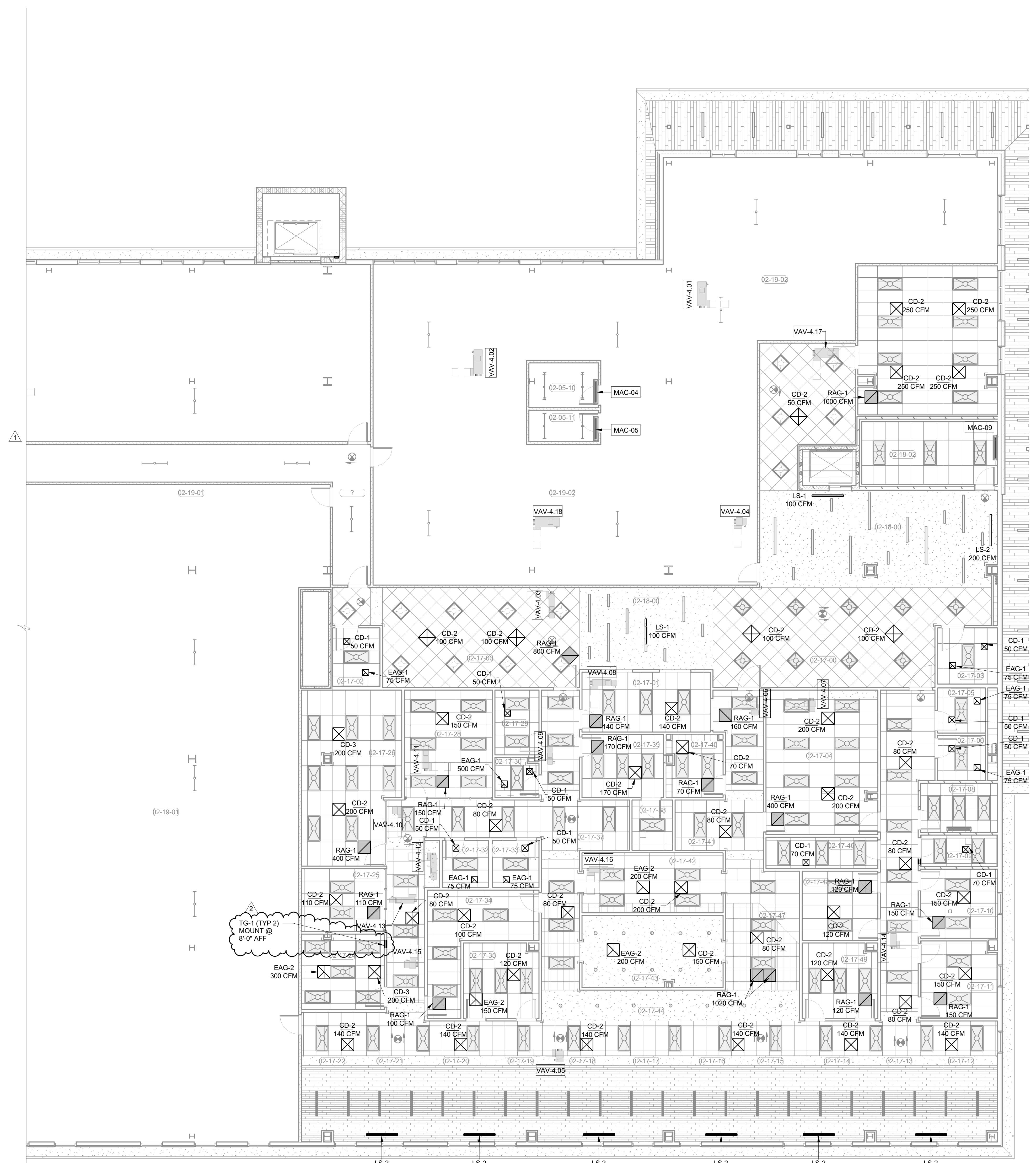
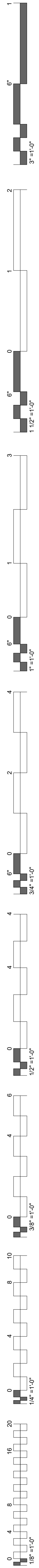


PROJECT PHASE	
BID PACKAGE 02	

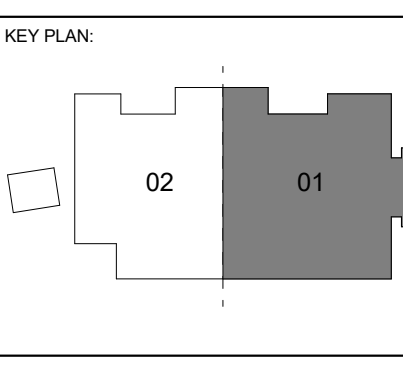
#	DATE	REVISIONS	DESCRIPTION
1	1/19/20	BID PACKAGE 02 - ADD 01	
2	2/18/20	BID PACKAGE 02 - ADD 04	

DATE: 12-06-19	JOB NUMBER: 18-01.01
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SHEET NUMBER:
M5.03
MECH PLAN
LEVEL 02
SECTOR 01



1 ENLARGED MECHANICAL CEILING PLAN LEVEL 02 SECTOR 01
1/8" = 1'-0"

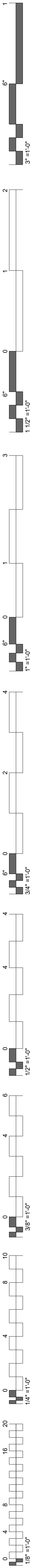


PROJECT PHASE:
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#	DATE	REVISIONS / DESCRIPTION
1	1/19/20	BID PACKAGE 02 - ADD 01
2	2/18/20	BID PACKAGE 02 - ADD 04

DATE: 12-06-19 JOB NUMBER: 18-01.01

SHEET NUMBER:
M6.05
 MECH CEILING
 PLAN LEVEL 02
 SECTOR 01



KEYNOTES

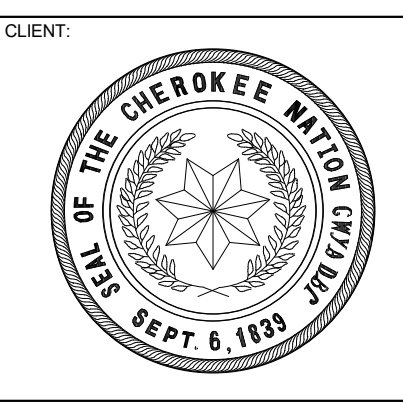
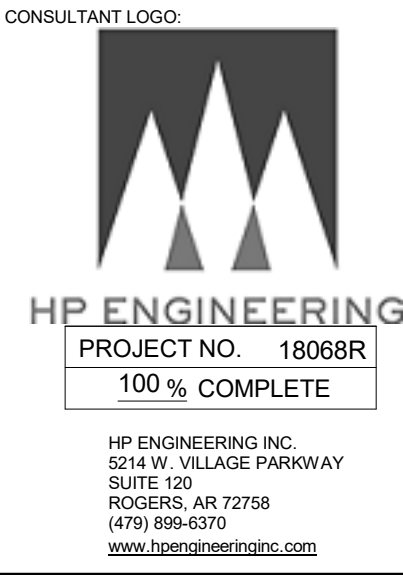
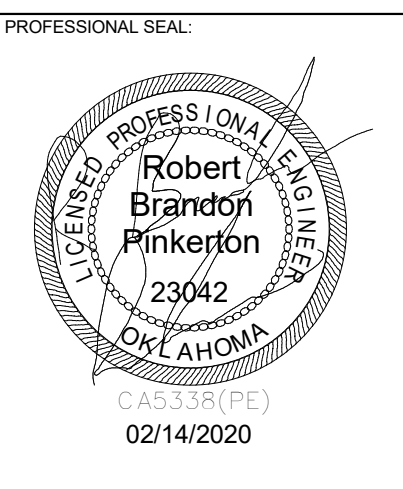
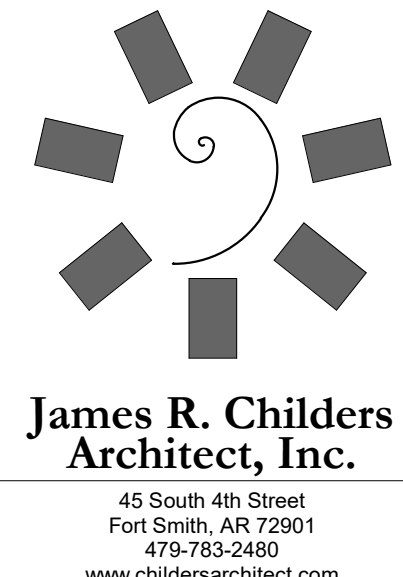
- 26.26 *43 1/2" XRAY
- 26.27 *48" EXPOSURE BUTTON, PROVIDE 1" CONDUIT TO ACCESSIBLE CEILING SPACE.
- 26.28 *43 1/2" REMOTE STATION, PROVIDE 1" CONDUIT TO ACCESSIBLE CEILING SPACE.
- 26.29 REFER TO DETAIL 4 ON SHEET Q3.2 FOR INSTALLATION HEIGHTS AND COORDINATION.
- 26.30 REFER TO DETAIL 5 ON SHEET Q3.2 FOR INSTALLATION HEIGHTS AND COORDINATION.
- 26.31 EXPOSURE BUTTON, COORDINATE MOUNTING HEIGHT WITH DENTAL EQUIPMENT PROVIDER.
- 26.32 REMOTE STATION AND XRAY, COORDINATE MOUNTING HEIGHT WITH DETAL EQUIPMENT PROVIDER.
- 26.33 REFER TO DETAIL 1 SHEET Q3.2 FOR INSTALLATION HEIGHTS AND COORDINATION.
- 26.35 HOSPITAL GRADE RECEPTACLE
- 26.36 REFER TO DETAIL 6 SHEET Q3.2 FOR INSTALLATION HEIGHTS AND COORDINATION.
- 26.37 REFER TO DETAIL 3 SHEET Q3.2 FOR INSTALLATION HEIGHTS AND COORDINATION.
- 26.42 MED GAS ALARM, COORDINATE POWER REQUIREMENTS WITH BENCO PLANS. PROVIDE ALL NECESSARY CABLE AND CIRCUITS FOR PROPER OPERATION.
- 26.46 LOCATE ELEVATOR SERVICE GFCI INSIDE OF ELEVATOR CONTROL CABINET COORDINATE LOCATION WITH ELEVATOR INSTALLER PRIOR TO ROUGH IN.
- 26.56 COORDINATE BENCO ABOVE CEILING EXHAUST FAN CONTROLS AND LOCATION WITH BENCO INSTALLER PRIOR TO ROUGH IN.

POWER PLAN NOTES

COORDINATE MOUNTING HEIGHTS FOR POWER ASSOCIATED WITH TV OUTLETS WITH ARCHITECT PRIOR TO ROUGH-IN.
 E.G. SHALL COORDINATE ALL EQUIPMENT WITH THE I/O DESIGN DRAWINGS TO ENSURE PLACEMENT OF EQUIPMENT WORKS AS DESIGNED.
 GROUNDING OF RECEPTACLES AND FIXED ELECTRICAL EQUIPMENT IN PATIENT CARE SPACES SHALL COMPLY WITH NEC 517.13.

DENTAL EQUIPMENT NOTES

VERIFY LOCATION AND ELECTRICAL REQUIREMENTS OF ALL DENTAL EQUIPMENT WITH DENTAL EQUIPMENT PROVIDER PRIOR TO ROUGH-IN.
 SEE Q SHEETS FOR ADDITIONAL ELECTRICAL REQUIREMENTS.



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 EXPANSION**
 STILLWELL, OKLAHOMA

KEY PLAN

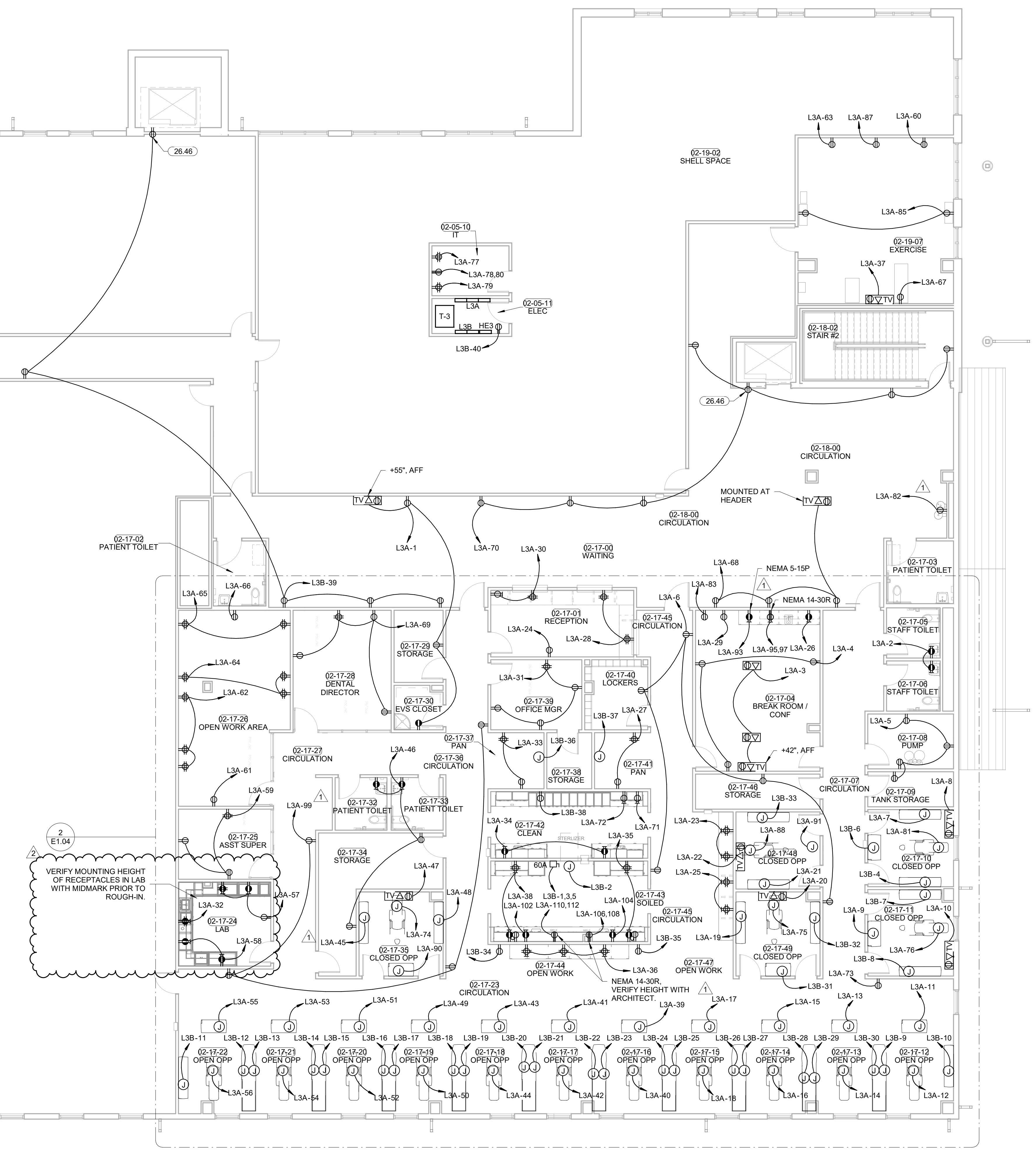
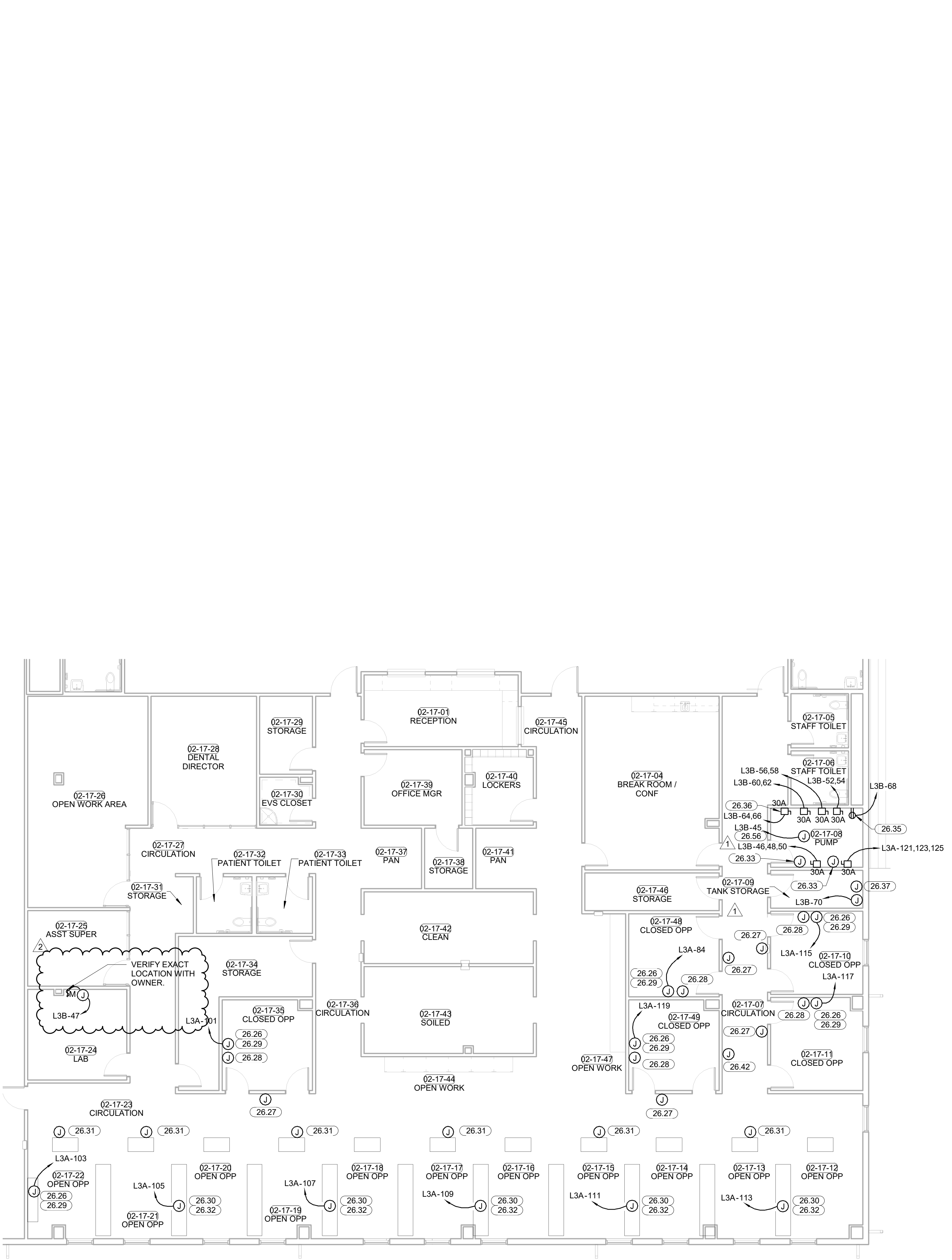
PROJECT PHASE
 BID PACKAGE 02

#	DATE	REVISIONS	DESCRIPTION
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2	2/18/20	BID PACKAGE 02 - ADD 04	

DATE: 12-06-19 JOB NUMBER: 18-01.01

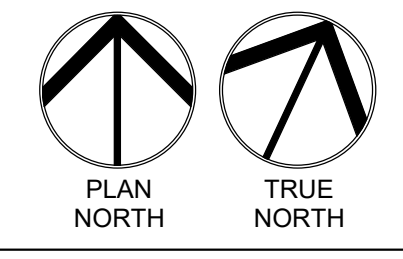
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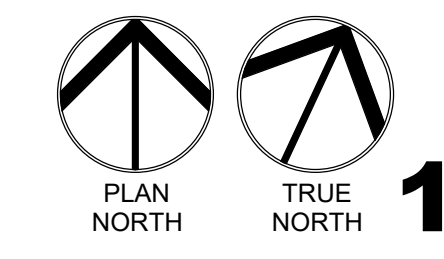
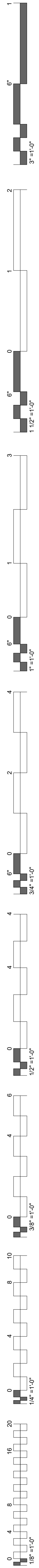
POWER PLAN LEVEL 02 SECTOR 01



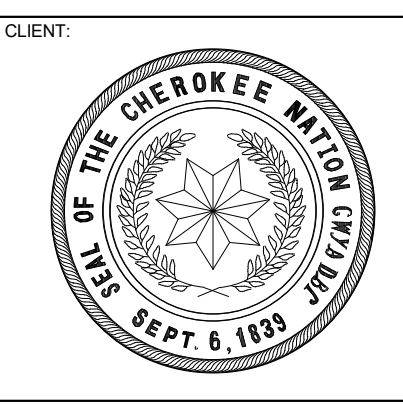
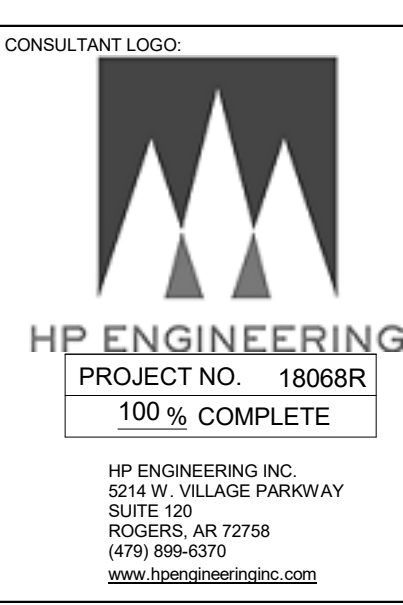
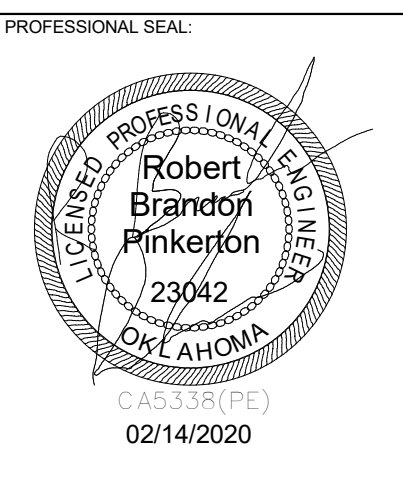
2 POWER PLAN LEVEL 02 SECTOR 01 - BENCO DENTAL POWER
 1/8" = 1'-0"

1 POWER PLAN LEVEL 02 SECTOR 01
 1/8" = 1'-0"

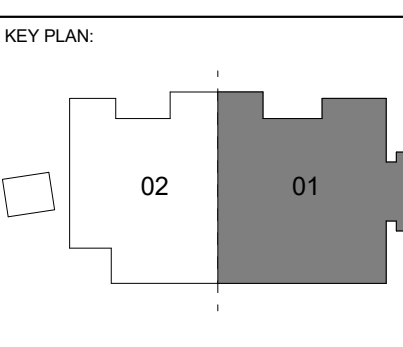




1 SYSTEMS PLAN LEVEL 01 SECTOR 01
1/8" = 1'-0"



**WILMA P. MANKILLER HEALTH CENTER
EXPANSION**
STILWELL, OKLAHOMA



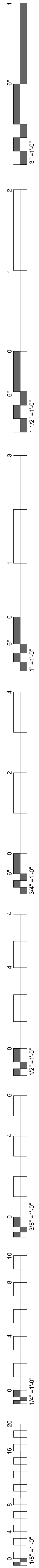
PROJECT PHASE:
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#	DATE	REVISIONS DESCRIPTION
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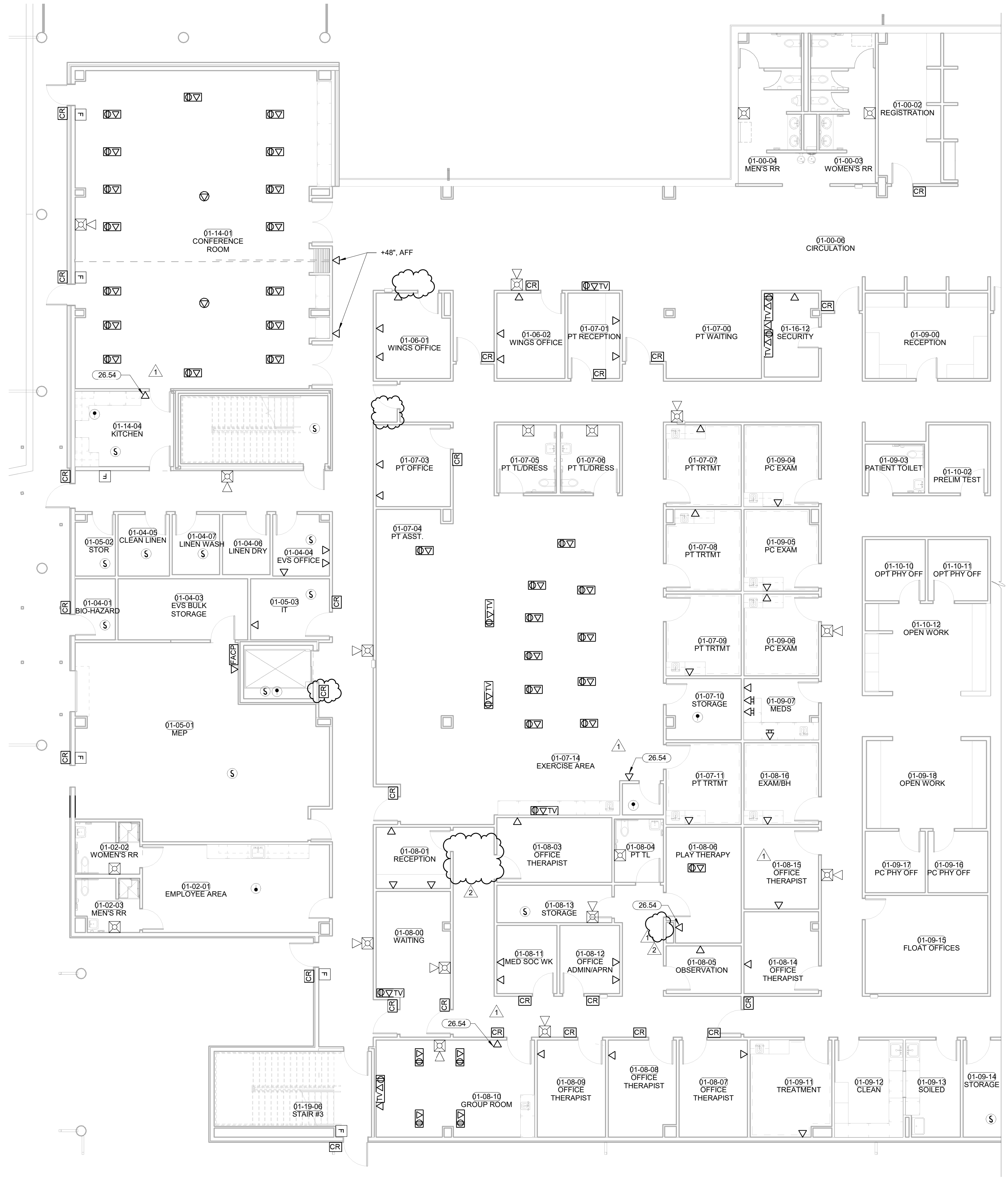
DATE: 12-06-19
JOB NUMBER: 18-01.01

SHEET NUMBER:
E1.20

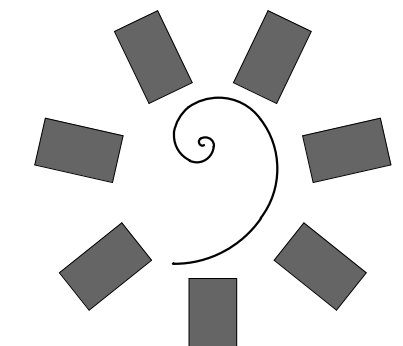
**SYSTEMS PLAN
LEVEL 01
SECTOR 01**



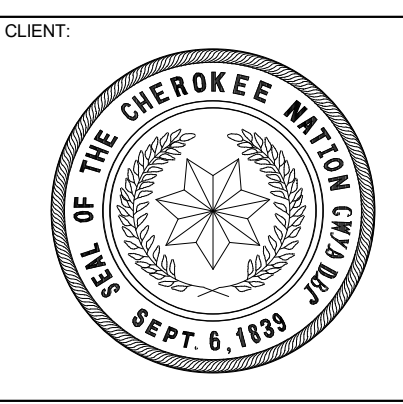
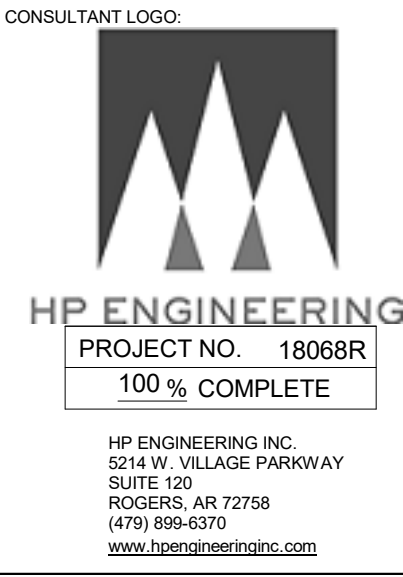
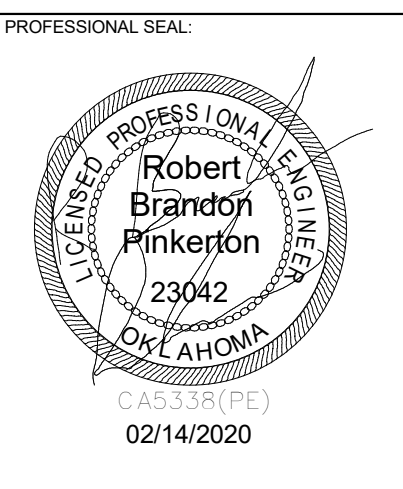
KEYNOTES
 26.54 WALL-MOUNTED TELEPHONE TO BE SPECIFIED BY OWNER.
 MOUNT AT +48" UNLESS DIRECTED OTHERWISE BY OWNER.



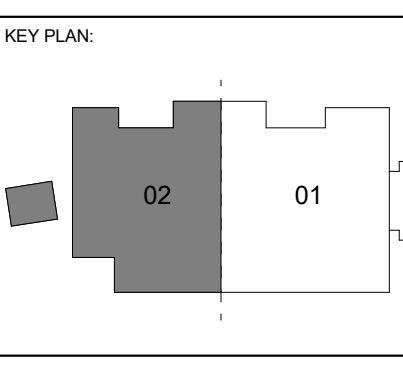
PLAN NORTH TRUE NORTH
1 SYSTEMS PLAN LEVEL 01 SECTOR 02
 1/8" = 1'-0"



James R. Childers Architect, Inc.
 45 South 4th Street
 Fort Smith, AR 72901
 479-783-2450
 www.childersarchitect.com



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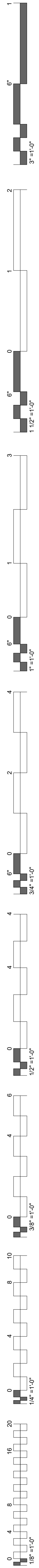


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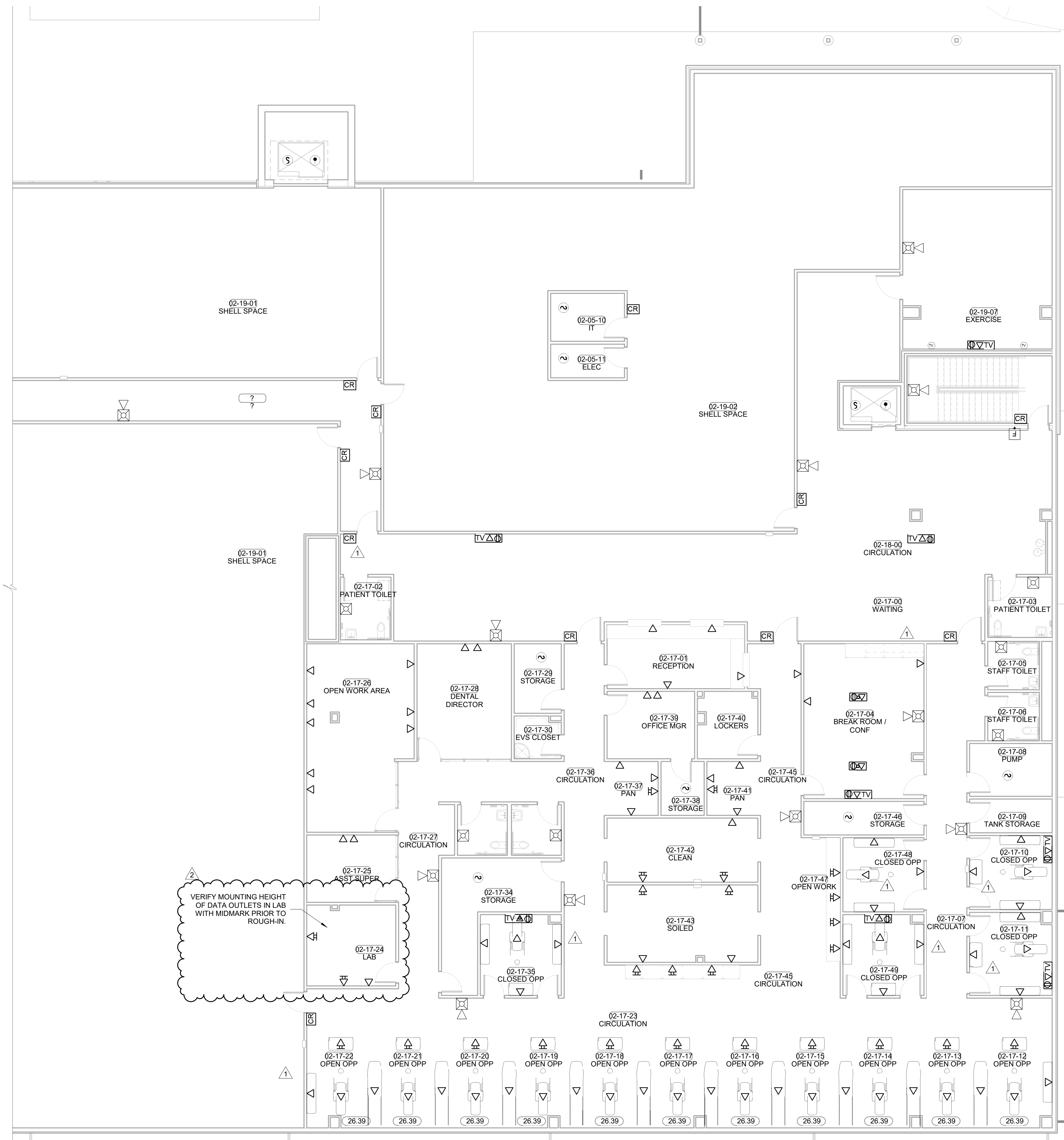
#	DATE	REVISIONS / DESCRIPTION
1	1/19/20	BID PACKAGE 02 - ADD 01
2	2/18/20	BID PACKAGE 02 - ADD 04

DATE: 12-06-19 JOB NUMBER: 18-01.01

SHEET NUMBER:
E1.21
**SYSTEMS PLAN
 LEVEL 01
 SECTOR 02**

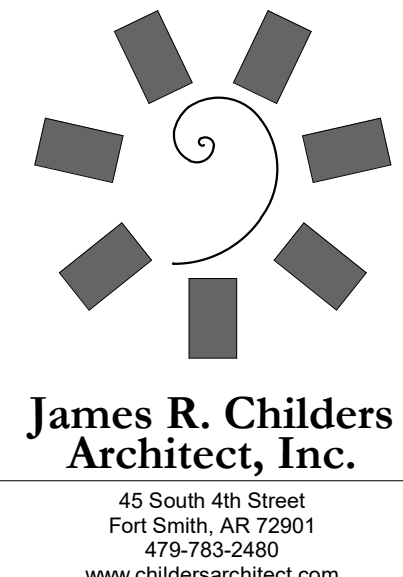


KEYNOTES
 26.39 REFER TO ADEC DRAWINGS AND PROVIDE A CONTINUOUS CONDUIT PATH AS DRAWN IN THE ADEC PLAN.



VERIFY MOUNTING HEIGHT OF DATA OUTLETS IN LAB WITH MIDMARK PRIOR TO ROUGH-IN.

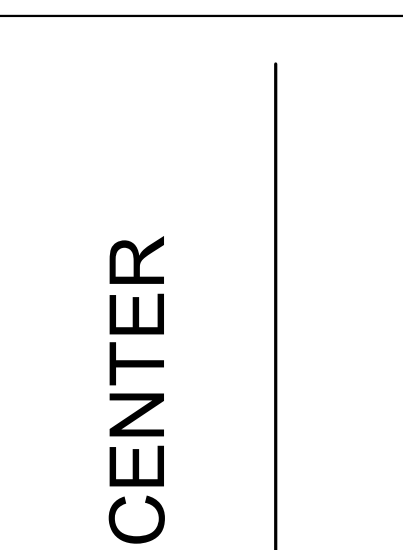
PLAN NORTH TRUE NORTH
1 SYSTEMS PLAN LEVEL 02 SECTOR 01
 1/8" = 1'-0"



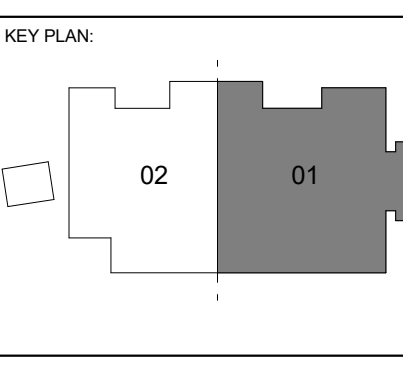
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Robert Pinkerton
 23042
 ARCHITECT
 OKLAHOMA
 02/14/2020

CONSULTANT LOGO
HP ENGINEERING
 PROJECT NO. 18068R
 100% COMPLETE
 HP ENGINEERING INC.
 5214 W. BELLE PARKWAY
 SUITE 100
 ROGERS, AR 72768
 (479) 899-8370
 www.hpengineering.com



CLIENT:
WILMA P. MANKILLER HEALTH CENTER
EXPANSION
 STILLWELL, OKLAHOMA



PROJECT PHASE:
 BID PACKAGE 02

#	DATE	REVISIONS / DESCRIPTION
1	1/18/20	BID PACKAGE 02 - ADD 01
2	2/18/20	BID PACKAGE 02 - ADD 04

DATE: 12-06-19 JOB NUMBER: 18-01.01

SHEET NUMBER:
E1.22

SYSTEMS PLAN
LEVEL 02
SECTOR 01

Branch Panel: L1A

Location: MEP 01-05-01
Supply From: T1
Mounting: SURFACE
Enclosure: NEMA 1

NEW

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: (7) FULLY RATED
Main Type: MCB
Mains Rating: 300 A

Notes:

Table with columns: CKT, Load Name, CB, P, Wire, A, B, C, Wire, P, CB, Load Name, CKT. Lists electrical loads and their specifications for Branch Panel L1A.

Summary table for Branch Panel L1A showing Load Classification, Connected Load, Demand Factor, Estimated Demand, and Panel Totals.

Branch Panel: L2A

Location: ELEC 01-05-05
Supply From: T-2
Mounting: SURFACE
Enclosure: NEMA 1

NEW

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: (7) FULLY RATED
Main Type: MCB
Mains Rating: 225 A

Notes:

Table with columns: CKT, Load Name, CB, P, Wire, A, B, C, Wire, P, CB, Load Name, CKT. Lists electrical loads and their specifications for Branch Panel L2A.

Summary table for Branch Panel L2A showing Load Classification, Connected Load, Demand Factor, Estimated Demand, and Panel Totals.

Branch Panel: L3A

Location: ELEC 02-05-11
Supply From: T-3
Mounting: SURFACE
Enclosure: NEMA 1

NEW

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: (7) FULLY RATED
Main Type: MCB
Mains Rating: 300 A

Notes:

Table with columns: CKT, Load Name, CB, P, Wire, A, B, C, Wire, P, CB, Load Name, CKT. Lists electrical loads and their specifications for Branch Panel L3A.

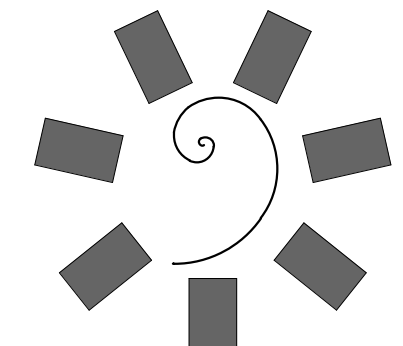
Summary table for Branch Panel L3A showing Load Classification, Connected Load, Demand Factor, Estimated Demand, and Panel Totals.

PANELBOARD NOTES (#)

- 1. TERMINATE GROUND ON ISOLATED GROUND BUS.
2. INSTALL LOCKING DEVICE FURNISHED WITH PANELBOARD (LOCK-OFF FOR MAINTENANCE).
3. INSTALL LOCKING DEVICE FURNISHED WITH PANELBOARD (LOCK-ON FOR CRITICAL LOAD).
4. GFI BREAKER FOR PERSONNEL PROTECTION (5mA).
5. GFI BREAKER FOR EQUIPMENT PROTECTION (30mA).
6. CONDUCTOR SIZE SHOWN IN PANEL SCHEDULE HAS BEEN INCREASED FOR VOLTAGE DROP. SIZE EQUIPMENT GROUND PROPORTIONALLY PER NEC. REFERENCE GROUND WIRE SIZING CHART.
7. REFER TO ONE-LINE DIAGRAM FOR AVAILABLE FAULT CURRENT FOR INTERRUPT RATINGS.
8. REFER TO ONE-LINE DIAGRAM FOR WIRE SIZES.
9. FACTORY WIRE TO LOAD.
10. HIRU CONTROLLER. REFER TO LIGHTING CONTROLLER DETAIL.
11. ADD CIRCUIT BREAKER TO EXISTING PANEL.

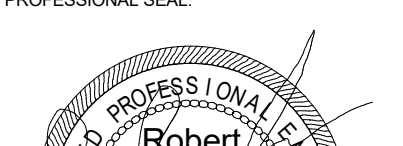
EQUIPMENT GROUNDING CONDUCTOR SIZING CHART

Table showing equipment grounding conductor sizing based on BRKR AMPS and WIRE SIZE.



James R. Childers Architect, Inc.

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THE CHEROKEE NATION
EST. 1828

WILMA P. MANKILLER HEALTH CENTER EXPANSION
STILWELL, OKLAHOMA

Branch Panel: L1B

Location: MEP 01-05-01
Supply From: T1
Mounting: SURFACE
Enclosure: NEMA 1

NEW

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: (7) FULLY RATED
Main Type: MCB
Mains Rating: 300 A

Notes:

Table with columns: CKT, Load Name, CB, P, Wire, A, B, C, Wire, P, CB, Load Name, CKT. Lists electrical loads and their specifications for Branch Panel L1B.

Summary table for Branch Panel L1B showing Load Classification, Connected Load, Demand Factor, Estimated Demand, and Panel Totals.

Branch Panel: L2B

Location: ELEC 01-05-05
Supply From: T-2
Mounting: SURFACE
Enclosure: NEMA 1

NEW

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: (7) FULLY RATED
Main Type: MCB
Mains Rating: 175 A

Notes:

Table with columns: CKT, Load Name, CB, P, Wire, A, B, C, Wire, P, CB, Load Name, CKT. Lists electrical loads and their specifications for Branch Panel L2B.

Summary table for Branch Panel L2B showing Load Classification, Connected Load, Demand Factor, Estimated Demand, and Panel Totals.

Branch Panel: L3B

Location: ELEC 02-05-11
Supply From: T-3
Mounting: SURFACE
Enclosure: NEMA 1

NEW

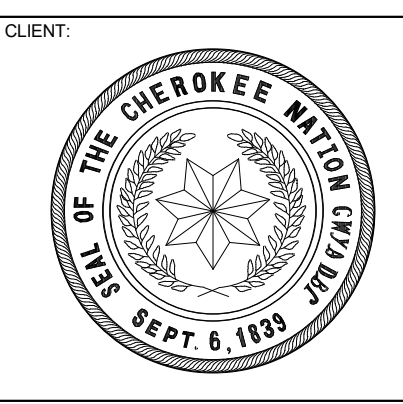
Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: (7) FULLY RATED
Main Type: MCB
Mains Rating: 225 A

Notes:

Table with columns: CKT, Load Name, CB, P, Wire, A, B, C, Wire, P, CB, Load Name, CKT. Lists electrical loads and their specifications for Branch Panel L3B.

Summary table for Branch Panel L3B showing Load Classification, Connected Load, Demand Factor, Estimated Demand, and Panel Totals.



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WILMA P. MANKILLER HEALTH CENTER EXPANSION
STILWELL, OKLAHOMA

PROJECT PHASE: BID PACKAGE 02

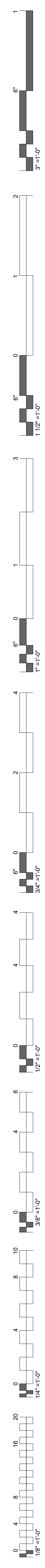
Table with columns: #, DATE, REVISIONS, DESCRIPTION. Lists project revisions.

DATE: 12-06-19
JOB NUMBER: 18-01-01

SHEET NUMBER:

E3.03

PANEL SCHEDULES



Branch Panel: L4A **NEW**
 Location: ELEC 02-05-12
 Supply From: T4
 Mounting: SURFACE
 Enclosure: NEMA 1

Volts: 120/208 Wye
 Phases: 3
 Wires: 4

A.I.C. Rating: (7) FULLY RATED
 Mains Type: MCB
 Mains Rating: 200 A

Notes:

CKT	Load Name	CB	P	Wire	A	B	C	Wire	P	CB	Load Name	CKT		
1	AHU-1 UV	15	1		462	1456				2	15	MCU-01	2	
3	AHU-1 GFCl	15	1			360	1456			2	15	MCU-02	4	
5	AHU-1 LIGHTING	15	1			391	1456			2	15	MCU-02	6	
7	AHU-2 UV	15	1		232	1456				2	15	MCU-03	8	
9	AHU-2 LIGHTING	15	1			391	1456			2	15	MCU-03	10	
11	AHU-2 GFCl	15	1			180	1456			2	15	MCU-05	12	
13	AHU-3 UV	15	1		462	1456				2	15	MCU-04	14	
15	AHU-3 GFCl	15	1			1200	1456			2	15	MCU-06	16	
17	AHU-3 LIGHTING	15	1			391	1456			2	15	MCU-06	18	
19	AHU-4 UV	15	1		232	1456				2	15	MCU-08	20	
21	AHU-4 GFCl	15	1			391	1976			#10	2	25	MCU-06	22
23	AHU-4 LIGHTING	15	1			180	1976			#10	2	25	MCU-08	24
25	SPARE	20	1	--	0	1456				2	15	MCU-07	26	
27	SECTOR 2 SERVICE	20	1	--		1440	1456			2	15	MCU-08	28	
29	ELEVATOR CAB LIGHTS	20	1	--		200	1976			#10	2	25	MCU-09	30
31	SPARE	20	1	--	0	1976				#10	2	25	MCU-10	32
33	ROOF MAINTENANCE RECEPTACLE	20	1	--		180	1456			2	15	MCU-09	34	
35	SPARE	20	1	--		0	1456			2	15	MCU-09	36	
37	SPARE	20	1	--	0	1976				#10	2	25	MCU-10	38
39	SPARE	--	--	--	0	1976				2	25	MCU-10	40	
41	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	42
43	SPARE	--	--	--	0	1976				#10	2	25	MCU-11	44
45	SPARE	--	--	--	0	1976				#10	2	25	MCU-11	46
47	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	48
49	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	50
51	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	52
53	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	54
55	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	56
57	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	58
59	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	60
61	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	62
63	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	64
65	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	66
67	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	68
69	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	70
71	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	72
73	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	74
75	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	76
77	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	78
79	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	80
81	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	82
83	SPARE	--	--	--	0	0	0			#10	2	25	MCU-11	84
Total Load:					14586 VA	17170 VA	11118 VA							
Total Amps:					126 A	146 A	93 A							

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Hvac	36192 VA	100.00%	36192 VA	
Power	200 VA	100.00%	200 VA	Total Conn. Load: 42894 VA
Receptacle	3640 VA	100.00%	3640 VA	Total Est. Demand: 43822 VA
Lighting - Exterior	2952 VA	125.00%	3690 VA	Total Conn. Current: 119 A
				Total Est. Demand: 121 A

Branch Panel: HE4 **NEW**
 Location: ELEC 02-05-12
 Supply From: HE1
 Mounting: SURFACE
 Enclosure: NEMA 1

Volts: 480/277 Wye
 Phases: 3
 Wires: 4

A.I.C. Rating: (7) FULLY RATED
 Mains Type: MLO
 Mains Rating: 100 A

Notes:

CKT	Load Name	CB	P	Wire	A	B	C	Wire	P	CB	Load Name	CKT	
1	SPARE	20	1	--	0	0				1	20	SPARE	2
3	SPARE	20	1	--	0	0				1	20	SPARE	4
5	SPARE	20	1	--	0	0				1	20	SPARE	6
7	SPARE	20	1	--	0	0				1	20	SPARE	8
9	SPARE	--	--	--	0	0				--	--	SPARE	10
11	SPARE	--	--	--	0	0				--	--	SPARE	12
13	SPARE	--	--	--	0	0				--	--	SPARE	14
15	SPARE	--	--	--	0	0				--	--	SPARE	16
17	SPARE	--	--	--	0	0				--	--	SPARE	18
19	SPARE	--	--	--	0	0				--	--	SPARE	20
21	SPARE	--	--	--	0	0				--	--	SPARE	22
23	SPARE	--	--	--	0	0				--	--	SPARE	24
25	SPARE	--	--	--	0	0				--	--	SPARE	26
27	SPARE	--	--	--	0	0				--	--	SPARE	28
29	SPARE	--	--	--	0	0				--	--	SPARE	30
31	SPARE	--	--	--	0	0				--	--	SPARE	32
33	SPARE	--	--	--	0	0				--	--	SPARE	34
35	SPARE	--	--	--	0	0				--	--	SPARE	36
37	SPARE	--	--	--	0	0				--	--	SPARE	38
39	SPARE	--	--	--	0	0				--	--	SPARE	40
41	SPARE	--	--	--	0	0				--	--	SPARE	42
Total Load:					0 VA	0 VA	0 VA						
Total Amps:					0 A	0 A	0 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
				Total Conn. Load: 0 VA
				Total Est. Demand: 0 VA
				Total Conn. Current: 0 A
				Total Est. Demand: 0 A

Branch Panel: L4B **NEW**
 Location: ELEC 02-05-12
 Supply From:
 Mounting: SURFACE
 Enclosure: NEMA 1

Volts: 120/208 Wye
 Phases: 3
 Wires: 4

A.I.C. Rating: (7) FULLY RATED
 Mains Type: MCB
 Mains Rating: 200 A

Notes:

CKT	Load Name	CB	P	Wire	A	B	C	Wire	P	CB	Load Name	CKT	
1	MCU-12	15	2		1456	500				1	20	EF-8	2
3	EF-7	15	1			1456	1456			2	15	MCU-13	4
5	SPARE	20	1	--	0	0				1	20	SPARE	6
7	SPARE	20	1	--	0	0				1	20	SPARE	8
9	SPARE	20	1	--	0	0				1	20	SPARE	10
11	SPARE	20	1	--	0	0				1	20	SPARE	12
13	SPARE	20	1	--	0	0				1	20	SPARE	14
15	SPARE	20	1	--	0	0				1	20	SPARE	16
17	SPARE	20	1	--	0	0				1	20	SPARE	18
19	SPARE	20	1	--	0	0				1	20	SPARE	20
21	SPARE	20	1	--	0	0				1	20	SPARE	22
23	SPARE	20	1	--	0	0				1	20	SPARE	24
25	SPARE	20	1	--	0	0				1	20	SPARE	26
27	SPARE	20	1	--	0	0				1	20	SPARE	28
29	SPARE	20	1	--	0	0				1	20	SPARE	30
31	SPARE	20	1	--	0	0				1	20	SPARE	32
33	SPARE	20	1	--	0	0				1	20	SPARE	34
35	SPARE	--	--	--	0	0				--	--	SPARE	36
37	SPARE	--	--	--	0	0				--	--	SPARE	38
39	SPARE	--	--	--	0	0				--	--	SPARE	40
41	SPARE	--	--	--	0	0				--	--	SPARE	42
43	SPARE	--	--	--	0	0				--	--	SPARE	44
45	SPARE	--	--	--	0	0				--	--	SPARE	46
47	SPARE	--	--	--	0	0				--	--	SPARE	48
49	SPARE	--	--	--	0	0				--	--	SPARE	50
51	SPARE	--	--	--	0	0				--	--	SPARE	52
53	SPARE	--	--	--	0	0				--	--	SPARE	54
55	SPARE	--	--	--	0	0				--	--	SPARE	56
57	SPARE	--	--	--	0	0				--	--	SPARE	58
59	SPARE	--	--	--	0	0				--	--	SPARE	60
61	SPARE	--	--	--	0	0				--	--	SPARE	62
63	SPARE	--	--	--	0	0				--	--	SPARE	64
65	SPARE	--	--	--	0	0				--	--	SPARE	66
67	SPARE	--	--	--	0	0				--	--	SPARE	68
69	SPARE	--	--	--	0	0				--	--	SPARE	70
71	SPARE	--	--	--	0	0				--	--	SPARE	72
73	SPARE	--	--	--	0	0				--	--	SPARE	74
75	SPARE	--	--	--	0	0				--	--	SPARE	76
77	SPARE	--	--	--	0	0				--	--	SPARE	78
79	SPARE	--	--	--	0	0				--	--	SPARE	80
81	SPARE	--	--	--	0	0				--	--	SPARE	82
83	SPARE	--	--	--	0	0				--	--	SPARE	84
Total Load:					1956 VA	2912 VA	1984 VA						
Total Amps:					16 A	24 A	17 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Hvac	5824 VA	100.00%	5824 VA	
Power	1028 VA	100.00%	1028 VA	Total Conn. Load: 6852 VA
				Total Est. Demand: 6852 VA
				Total Conn. Current: 19 A
				Total Est. Demand: 19 A

PANELBOARD NOTES (#)

1. TERMINATE GROUND ON ISOLATED GROUND BUS.
2. INSTALL LOCKING DEVICE FURNISHED WITH PANELBOARD (LOCK-OFF FOR MAINTENANCE).
3. INSTALL LOCKING DEVICE FURNISHED WITH PANELBOARD (LOCK-ON FOR CRITICAL LOAD).
4. GFI BREAKER FOR PERSONNEL PROTECTION (5mA).
5. GFI BREAKER FOR EQUIPMENT PROTECTION (30mA).
6. CONDUCTOR SIZE SHOWN IN PANEL SCHEDULE HAS BEEN INCREASED FOR VOLTAGE DROP. SIZE EQUIPMENT GROUND PROPORTIONALLY PER NEG. REFERENCE GROUND WIRE SIZING CHART.
7. REFER TO ONE-LINE DIAGRAM FOR AVAILABLE FAULT CURRENT FOR INTERRUPT RATINGS.
8. REFER TO ONE-LINE DIAGRAM FOR WIRE SIZES.
9. FACTORY WIRING TO LOAD.
10. THRU CONTROLLER. REFER TO LIGHTING CONTROLLER DETAIL.
11. ADD CIRCUIT BREAKER TO EXISTING PANEL.

EQUIPMENT GROUNDING CONDUCTOR SIZING CHART

BKR/ AMPS	WIRE SIZE						
	PHASE	GROUND	12	10	8	6	4
15-20	PHASE	12	10	8	6	4	
	GROUND	10	8	6	4	3	
25-30	PHASE	10	8	6	4	3	
	GROUND	8	6	4	3		
35							