

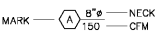
FURNACE/CONDENSING UNIT SCHEDULE

FURNACE UNIT NO.	TRANE MODEL NO.	INDOOR FAN			HEATING DATA			COOLING		POWER				CONDENSER UNIT NO.	TRANE MODEL NO.	CAPACITY TONS	OUTDOOR FAN			ELECTRICAL		REFRIGERANT PIPING		WEIGHT LBS	NOTES	
		TOTAL CFM	OA CFM	HP	S.P. (IN WC)	MBH INPUT	MBH OUTPUT	AFUE %	TOTAL MBH	SEER	VOLTS	PH	MCA				MOCP	# OF FANS	RPM	HP	VOLTS	MCA	MOP			LIQU.
F-1	S9X1B040U3PSBA	800	100	1/2	0.50	40	38.8	96.0	18.0	13.0	115	1	8.8	15	CJ-1	4TTB3024	2.0	1	825	1/8	208/1	12.0	20	3/8"	5/8"	169
F-2,3,4,5,7,8,9	S9X1C100U9PSBA	1600	200	1	0.50	100	97	95.0	48.0	13.0	115	1	13.3	15	CJ-2,3,4,5,7,8,9	4TTB3048J	4.0	1	835	1/5	208/1	27	45	3/8"	7/8"	250
F-6	S9X1D120U5PSBA	1950	250	1	0.50	120	116.4	95.0	60.0	13.0	115	1	14.1	15	CJ-6	4TTB3060D	5.0	1	835	1/5	208/1	32	50	3/8"	7/8"	250

- FURNACE ACCESSORIES:
- DISCONNECT SWITCH.
  - PROGRAMMABLE THERMOSTAT.
  - HOUSEKEEPING PAD
  - LIQUID/SUCTION LINE KIT TO COND UNIT
  - PROVIDE HANGING KIT
- CONDENSING UNIT ACCESSORIES:
- PROVIDE CONCRETE PAD.
  - PROVIDE FACTORY INSTALLED HIGH AND LOW PRESSURE SWITCHES AND THERMAL EXPANSION VALVE.
  - PROVIDE LIQUID LINE SOLENOID VALVE.
  - PROVIDE DISCONNECT SWITCH
  - PROVIDE LOW AMBIENT CONTROL WITH WINTER START-UP KIT.

AIR DEVICE SCHEDULE

MARK	TYPE	STYLE	FACE	BASIS OF DESIGN
A	SUPPLY	DUCT MTD	12"x8"	TITUS 300RL
A1	SUPPLY	DUCT MTD	10"x8"	TITUS 300RL
B	RETURN	DUCT MTD	24"x24"	TITUS 350FL
C	TRANSFER	SURFACE	14"x8"	TITUS 350FL
D	SUPPLY	CEILING MTD	24"x24"	TITUS TMS
E	RETURN	CEILING MTD	24"x24"	TITUS 350FL
F	RETURN	CEILING MTD	12"x24"	TITUS 350FL

- MARK  NECK 8"ø 150 CFM
- FINISH TO MATCH ARCHITECTURAL.
  - OPTIONAL VOLUME DAMPER ON ALL DIFFUSERS MOUNTED IN GYPSUM CEILING OR SOFFITS.
  - PROVIDE ALL REQUIRED MOUNTING FRAMES AND HARDWARE.

SPLIT SYSTEM AIR-CONDITIONING UNITS

MARK	SERVICE	COOLING CAPACITY		HEATING CAPACITY		INDOOR UNIT						OUTDOOR UNIT			MODEL	NOTES		
		TOTAL (BTUH)	(T DB/WB)	TOTAL (BTUH)	KW	CFM	ESP (IN WC)	WATTS	OA CFM	POWER	MCA	MOP	SEER	POWER			MCA	MOP
ACU-1/ CU-A	FLV ROOM	18000	80/67	-	-	425	0	30	0	208/1	1.0	15	15	208/1	1.3	20	MITSUBISHI PKA-A1B1A W/ PUY-A1B1A3 COND.	1.2,3,4,5,6











- ACCESSORIES:
- MICROPROCESSOR CONTROL.
  - LOW AMBIENT CONTROL (OT) WITH REQUIRED OPTIONS.
  - WINTER START KIT.
  - DISCONNECT SWITCH.
  - LOW VOLTAGE WALL MOUNTED T-STAT.
  - PROVIDE CONDENSATE PUMP.

ELECTRIC HEATER SCHEDULE

MARK	SERVICE	TYPE	CFM	POWER	AMPS	HEAT K.W.	STEPS	MODEL	ACC
EW1-1	STARWELL	WALL	100	208/1	14.5	3.0	1	QMARK CW13404	1,2,3,4
EW1-2	STARWELL	WALL	100	208/1	14.5	3.0	1	QMARK CW13404	1,2,3,4
EW1-3	SPRINK. RM	WALL	100	208/1	14.5	3.0	1	QMARK CW13404	1,2,3,4

- ACCESSORIES:
- INTEGRAL TAMPER PROOF THERMOSTAT.
  - SECURITY COVER.
  - SURFACE MOUNTING FRAME KIT.
  - FACTORY MOUNTED DISCONNECT SWITCH.

MECHANICAL LEGEND

	SUPPLY DIFFUSER	AFF	AFF	DIFFUSER
	RETURN AIR GRILLE	RAG	RAG	GRILLE
	EXHAUST FAN	CFM	CFM	PER MINUTE
	RETURN AIR DUCTWORK	SAR	SAR	SUPPLY AIR REGISTER
	SUPPLY AIR DUCTWORK	RAG	RAG	RETURN AIR GRILLE
	CONDENSATE	NK	NK	NECK
	BALANCE/VOLUME DAMPER	GC	GC	GENERAL CONTRACTOR
	THERMOSTAT	OBVD	OBVD	OPPOSITE BLADE VOLUME DAMPER
	UNDERCUT DOOR (5/4")	HVAC	HVAC	HEATING VENTILATING AND AIR CONDITIONING
	DETAIL NUMBER	MC	MC	MECHANICAL CONTRACTOR

GENERAL HVAC NOTES

- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF SUPPLY DIFFUSERS, RETURN GRILLES AND EXHAUST GRILLES.
- CONTRACTOR SHALL MAINTAIN A MIN. OF 10 FEET CLEARANCE BETWEEN OUTSIDE AIR INTAKES AND EXHAUSTS, PLUMBING VENTS, ETC.
- CONTRACTOR SHALL MAINTAIN RECOMMENDED CLEARANCES FOR MAINTENANCE, OPERATION, ETC. ON ALL MECHANICAL EQUIPMENT.
- INSULATED FLEXIBLE SUPPLY AIR DUCT MAY BE USED UP TO 5'-0" FROM SUPPLY DIFFUSERS.
- CONTRACTOR SHALL COORDINATE ALL HVAC WORK WITH OTHER TRADES, ELECTRICAL, PLUMBING, STRUCTURAL, ETC.
- ALL WORK SHALL BE IN FULL COMPLIANCE WITH ALL STATE AND LOCAL CODES AND REGULATIONS.
- HVAC EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL COORDINATE FINAL LOCATION OF THERMOSTATS WITH OWNER.
- CONDENSATE PIPING SHALL BE PITCHED AT 1/8" PER FOOT SLOPE.
- PROVIDE ACCESS IN FRONT OF FAN COIL FOR MAINTENANCE AND IN COMPLIANCE WITH ALL CODES INCLUDING NEC AS WELL AS MANUFACTURERS RECOMMENDATIONS.

HVAC SPECIFICATIONS

NOTE: MANUFACTURERS' NAMES ON WHICH THIS SPECIFICATION IS BASED INDICATE THE MINIMUM QUALITY OF PRODUCT REQUIRED. SUBSTITUTION MAY BE MADE TO THOSE SPECIFIED IF DEEMED EQUIVALENT BY THE OWNER'S REPRESENTATIVE. ALL WORK AND PRODUCTS SHALL MEET THE REQUIREMENTS OF GOVERNING CODES.

- ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH ALL APPLICABLE STATE AND LOCAL CODES.
- SEE ARCHITECTURAL GENERAL AND SPECIAL CONDITIONS. ALL CONDITION REQUIREMENTS SHALL APPLY UNLESS OTHERWISE NOTED.
- ALL WORK SHALL BE PERFORMED AS INDICATED ON DRAWINGS UNLESS FIELD CONDITIONS REQUIRE MINOR CHANGES BE MADE. MINOR CHANGES SHALL BE MADE WITH NO ADDITIONAL COST.
- ALL WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF THE WORK BY THE OWNER.
- CONTRACTOR SHALL PREPARE AND SUBMIT AS-BUILT DRAWINGS TO THE OWNER AND THE LANDLORD. AS-BUILT DRAWINGS SHALL INDICATE THE ACTUAL MANUFACTURER OF THE EQUIPMENT THAT WAS INSTALLED, THE EXACT LOCATION OF THE EQUIPMENT AND PERTINENT CAPACITIES FOR HEATING, COOLING, ELECTRICAL, ETC.
- DEFICIENCIES AND NON-CONFORMING ITEMS SHALL BE CORRECTED BY THE CONTRACTOR. FAILURE TO CORRECT SUCH ITEMS SHALL PERMIT THE OWNER TO CORRECT SAME AT A COST TO THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL PERMITS AND PAYING FOR SAME. HE SHALL INCLUDE IN HIS BID CHARGES FOR ALL FEES ASSOCIATED WITH THE CONSTRUCTION OF THE SPACE INCLUDING BUT NOT LIMITED TO LOCAL, COUNTY, OR STATE SERVICE CHARGES AND PERMIT FEES.
- THE SCOPE OF WORK OF THIS CONTRACT INCLUDES, BUT SHALL NOT BE LIMITED TO:
  - PROVIDE AND INSTALL ALL EQUIPMENT, ACCESSORIES, CONTROL DEVICES, ACCESSORIES, MATERIAL AND LABOR.
  - PROVIDE AND INSTALL ALL DUCTWORK, INSULATION, AIR DEVICES, DUCT ACCESSORIES, MATERIAL AND LABOR.
  - PROVIDE AND INSTALL PIPING, FITTINGS, VALVES, INSULATION, ACCESSORIES, MATERIAL AND LABOR.
  - PROVIDE AND INSTALL ALL TOILET EXHAUST SYSTEMS INDICATED.
  - CLEAN, TEST AND ADJUST INTO SERVICE ALL SYSTEMS SPECIFIED.
  - PROVIDE BALANCE REPORT PREPARED BY AN INDEPENDENT AABC OR NEBB CERTIFIED AIR BALANCE CONTRACTOR.
- WARRANTY WORK AND MATERIALS HEREIN SPECIFIED FOR A PERIOD OF ONE YEAR.
  - ALL MATERIALS SHALL BE NEW AND OF RECOGNIZED COMMERCIAL QUALITY. USED MATERIALS WILL NOT BE PERMITTED.
  - DUCTWORK SHALL BE GALVANIZED SHEET METAL, FABRICATED AND INSTALLED IN STRICT ACCORDANCE WITH THE LATEST EDITION OF SMACNA - "HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE". DUCTWORK 18" WIDTH AND LARGER SHALL BE CROSS-BROKEN OR RIBBED AND STIFFENED SO THAT IT WILL NOT "BREATHE", RATTLE, VIBRATE OR SAG. FLEXIBLE DUCTWORK SHALL BE FLAT METAL SPIRAL WITH FLAME RESISTANCE PER NFPA AND NFPA STANDARDS. DUCTS SHALL HAVE INTEGRAL INSULATION 1" THICK, 3/4 LB. DENSITY GLASS FIBER ENCLOSED IN A VINYL VAPOR BARRIER. MINIMUM R VALUE = 5. SECURE INSULATED JACKET TO DUCT TAKEOFFS AND DIFFUSER COLLARS. MAXIMUM LENGTH OF FLEXIBLE DUCT IS 5'-0". ALL FLEX DUCT SHALL BE FULLY STRETCHED OUT TO REDUCE AIR RESISTANCE. CONNECTIONS TO FITTINGS OR AIR DEVICES SHALL BE MADE WITH TWO (2) STAINLESS STEEL BANDS. THE INNER LINER SHALL BE CLAMPED TIGHT WITH THE FIRST BAND, THEN THE INSULATION AND VAPOR-PROOF JACKET PULLED TO BE TIGHT AGAINST THE DUCT FITTING OR AIR DEVICE AND SECURED WITH THE SECOND BAND. INSTALLATION SHALL BE AS RECOMMENDED BY THE DUCT MANUFACTURER AND SMACNA. SUPPORT THE FLEXIBLE DUCT WITH ADEQUATE HANGERS TO RELIEVE STRAIN ON ANY FITTING, UNNECESSARY BENDS, SAGS, TWISTS, ETC., WILL NOT BE ALLOWED.
  - DUCT INSULATION INSULATE SUPPLY AND RETURN AIR DUCTWORK WITH MINIMUM R-8 FOR NON-CONDITIONED SPACE AND MIN R-6 FOR OUTSIDE DUCTS IN ACCORDANCE WITH THE STATE ENERGY CONSERVATION CODE. PROVIDE VAPOR BARRIER. LINED DUCT SHALL BE LINED WITH 1" THICK COATED FIBERGLASS BOARD EQUAL TO JOHNS MANVILLE "PERMACOTE" INSULATION. SHALL BE PER SMACNA STANDARDS AND MANUFACTURER'S INSTRUCTIONS. LINED DUCTWORK SHALL BE USED WHERE INDICATED ON DRAWINGS. ALL DUCT INSULATION SHALL BE UL LABELED FOR FIRE AND SMOKE RATINGS. DUCT INSULATION SHALL BE EQUAL TO PRODUCTS MANUFACTURED BY CERTAINTED AND SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
  - AIR DEVICES CEILING DIFFUSERS SHALL HAVE A FRAME STYLE COMPATIBLE WITH THE TYPE OF CEILING USED. THE DIFFUSER FACE SIZE OR FACE PLATE SIZE SHALL BE OF THE SAME NOMINAL SIZE AS THE CEILING MODULE. DIFFUSERS SHALL HAVE HIGH ANTI-SMOUDGE CHARACTERISTICS. REFER TO AIR DEVICE SCHEDULE.

- CONDENSATE DRAIN PIPING SHALL BE TYPE PVC WITH GULLED JOINTS AND PVC FITTINGS.
- EQUIPMENT HVAC EQUIPMENT SHALL BE AS SCHEDULED ON THE DRAWINGS AND/OR SPECIFIED HEREIN. EQUIVALENT EQUIPMENT AND/OR COMPONENTS THEREOF MAY BE SUBSTITUTED FOR SPECIFIED EQUIPMENT ONLY AS APPROVED BY THE OWNER AND/OR THE PROJECT ENGINEER.
- EXECUTION
  - GENERAL ACCESSIBILITY - ALL EQUIPMENT SHALL BE INSTALLED IN SUCH A MANNER THAT ALL COMPONENTS REQUIRING ACCESS ARE LOCATED AND INSTALLED THAT THEY MAY BE SERVICED, REPAIR, TESTED, OR RECALIBRATED, ETC., BY SERVICE PEOPLE WITH NORMAL SERVICE TOOLS AND EQUIPMENT. WORK BY OTHER TRADES - FOR THE WORK REQUIRED BY OTHER TRADES FOR CHANGES MADE BY THE CONTRACTOR IN TYPE OR SIZE OF EQUIPMENT PURCHASED, ANY CUTTING, PATCHING, FURRING, PAINTING, FINISHING OR PLUMBING WORK SHALL BE DONE BY THE TRADES CONTRACTOR AT THE CONTRACTOR'S EXPENSE. EARLY START-UP - THIS CONTRACTOR SHALL ENSURE THAT ALL MECHANICAL EQUIPMENT CONNECTS WITH ELECTRICAL POWER AS EARLY AS POSSIBLE THAT BALANCING AND TESTING CAN BE AT THE EARLIEST DATE AVAILABLE. CLEANING AND FINISHING - THOROUGHLY CLEAN ALL EQUIPMENT TO REMOVE ALL OILS, GREASE, ETC., FROM THE AREA. MAKE ANY NECESSARY CORRECTIONS OR REPAIR/REPLACE ANY DAMAGED MATERIALS OR EQUIPMENT. LEAVE FINISHES IN A THOROUGHLY CLEAN AND PROPERLY FINISHED MANNER. ANY FINISHED SURFACES THAT HAVE BEEN SCRATCHED OR DISCLOSED SHALL BE TOUCHED UP OR REPAINTED OR REPLACED PRIOR TO PROJECT CLOSEOUT. ALL METAL ITEMS INSIDE THE BUILDING SUBJECT TO RUSTING, AND ALL FERROUS METAL EXPOSED TO THE WEATHER SHALL BE GIVEN ONE COAT OF RUST PREVENTIVE PRIMER AS SOON AS INSTALLED.
  - EQUIPMENT INSTALLATION ALL EQUIPMENT AND RELATED PIPING, DUCTWORK, CONTROL WIRING AND ACCESSORIES SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO BUILDING LINES AND, IF INSTALLED WITHIN THE BUILDING ENVELOPE, SHALL BE INSTALLED AS HIGH AS POSSIBLE TO ALLOW THE MAXIMUM AMOUNT OF HEADROOM EQUIPMENT THAT REQUIRES ROUTINE MAINTENANCE SUCH AS FILTER REPLACEMENT SHALL BE INSTALLED AND ARRANGED TO BE ACCESSIBLE. PROVIDE ACCESS PANEL(S) AS REQUIRED AND/OR AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER. ALL EQUIPMENT SHALL BE INSTALLED WITH THE REQUIRED CLEARANCES AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER OR AS REQUIRED BY GOVERNING CODES, WHICHEVER IS GREATER.
  - DUCTWORK LOW PRESSURE DUCTWORK AND FITTINGS SHALL BE MADE TIGHT FOR MINIMUM AIR LEAKAGE. DUCT TAPE SHALL NOT BE USED TO SEAL JOINTS, TO MAKE TRANSITIONS OR FOR ANY OTHER REASON ON THE OUTSIDE OF WRAPPED INSULATION. INSTALL DUCTWORK AS HIGH AS POSSIBLE. PROVIDE TURNING VANES AT ALL CHANGES IN DIRECTION. PROVIDE VAND TEES AT BRANCH CONNECTIONS SERVING SERVING MORE THAN ONE DIFFUSER. PROVIDE VOLUME CONTROL DAMPERS AND BALANCING DEVICES AS REQUIRED TO DISTRIBUTE THE AIR AND AS INDICATED ON THE DRAWINGS. NOTE: DUCT DIMENSIONS INDICATED ON THE DRAWINGS ARE INSIDE CLEAR OR FREE AREA DIMENSIONS. CONTRACTOR SHALL MAKE ALLOWANCE FOR INTERNAL DUCT LINER (WHERE SPECIFIED) WHEN ORDERING PRE-FABRICATED DUCTWORK OR WHEN FABRICATING DUCTS IN THE FIELD.
  - AIR DEVICES INSTALL ALL GRILLES AND DIFFUSERS TO BE FLUSH WITH THE PENETRATED SURFACE AND LEVEL OR STRAIGHT WITH WITH SURROUNDING FEATURES. ALL CEILING MOUNTED AIR DEVICES SHALL BE LOCATED IN THE CEILING TILE INDICATED ON THE DRAWINGS. SUPPORT CEILING MOUNTED GRILLES AND DIFFUSERS AT THE PROPER HEIGHT TO HOLD IT SNUG AGAINST THE CEILING.
  - INSTALL ROOF MOUNTED EQUIPMENT SUPPORT RAILS OR ROOF CURB AS REQUIRED FOR THE JOB CONDITIONS AND AS RECOMMENDED BY THE MANUFACTURER FOR THE INSTALLATION OF ROOF MOUNTED EQUIPMENT. ALL ROOF PENETRATIONS FOR POWER AND CONTROL WIRING CONDUITS AND GAS, CONDENSATE, OR REFRIGERANT PIPING SHALL BE MADE WITH WATERPROOF PIPE SLEEVES OR CURB(S).
  - THIS CONTRACTOR SHALL ENGAGE THE SERVICES OF AN AABC OR NEBB CERTIFIED AIR BALANCE CONTRACTOR TO ADJUST AND COMPLETELY BALANCE THE INSTALLED SYSTEM(S) TO THE DESIGN AIR QUANTITIES. CONTRACTOR SHALL PROVIDE THE OWNER AND THE LANDLORD A COPY OF THE CERTIFIED AIR BALANCE REPORT SHOWING DESIGN AND MEASURED AIR QUANTITIES, STATIC PRESSURES, FAN MOTOR RPM AND MOTOR CURRENT. DEVIATION BETWEEN DESIGN AND MEASURED QUANTITIES SHALL NOT BE GREATER THAN 10%. ALL MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A MINIMUM PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THIS CONTRACTOR'S EXPENSE. FOR THE SAME PERIOD, THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE PREMISES BY DEFECTS IN HIS WORKMANSHIP OR WORK AND/OR EQUIPMENT INSTALLED BY OTHERS UNDER HIS CONTRACT.



LIFE STORAGE, INC.

Life Storage #497

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ISSUE	DATE	REVISIONS
2	11/02/2021	ISSUED FOR CLIENT REVIEW
3	10/04/2021	ISSUED FOR BID

NOTES AND SCHEDULES

DRAWN BY: KVID  
SCALE: AS NOTED  
DATE: 14SEP2020  
JOB NUMBER: 3771

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10/16/2021 10:00 AM