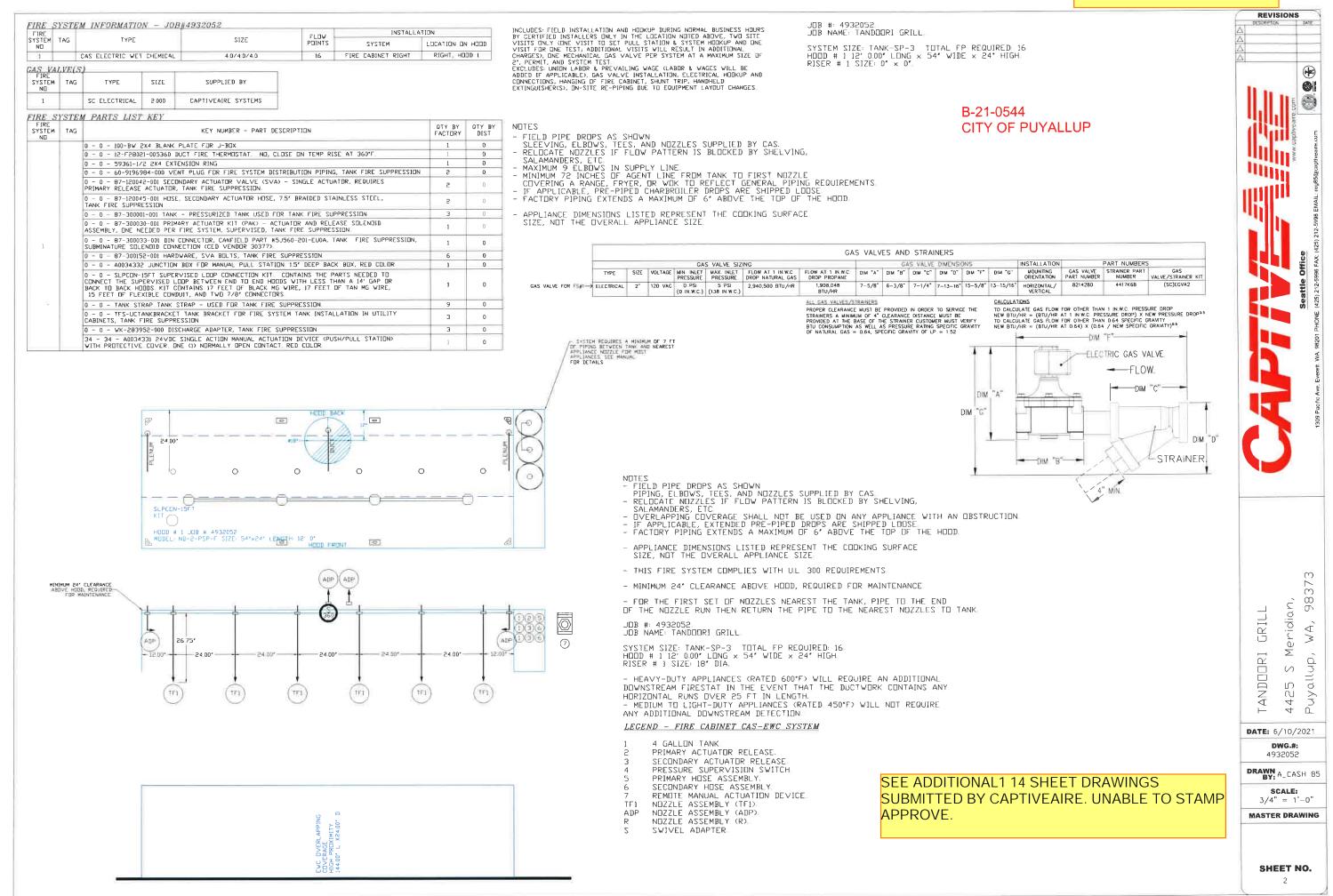
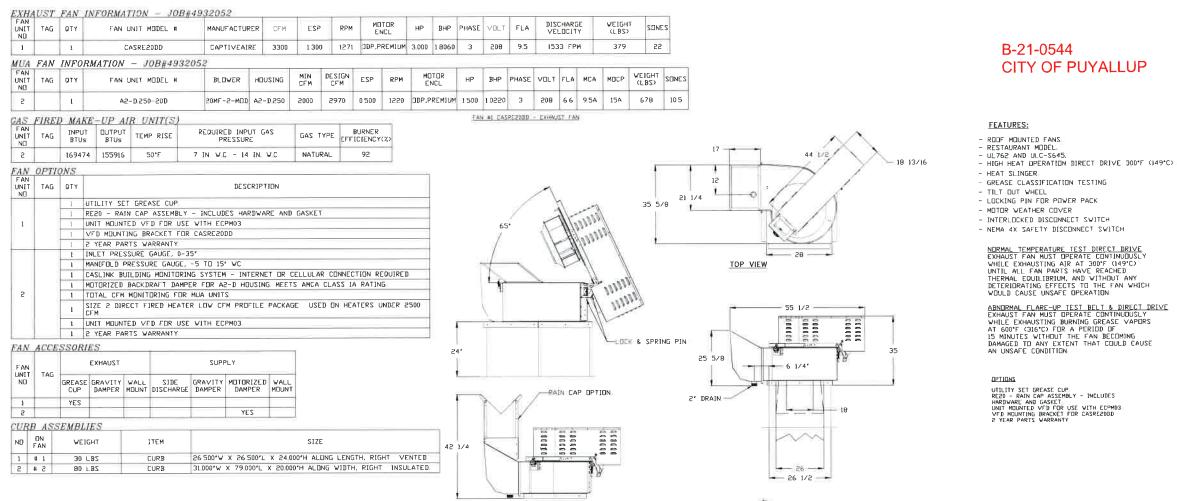


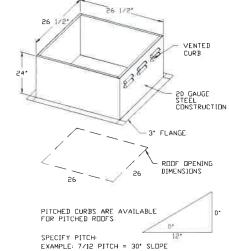
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SEE ADDITIONAL1 14 SHEET DRAWINGS SUBMITTED BY CAPTIVEAIRE. UNABLE TO STAMP APPROVE.

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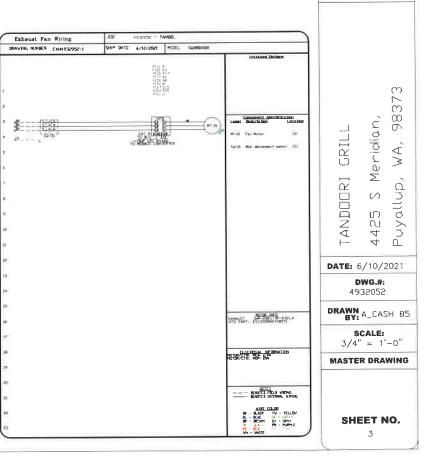
REVISIONS

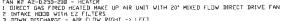
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CITY OF PUYALLUP





TAN NE A2-D25D-20D - HEATER 1 DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 20' MIXED FLOW DIRECT DRIVE FAN 2 INTAKE HODD WITH 42 FLITERS 3 DDWN DISCHARGE - AIR FLOW RIGHT -> LEFT 4 GAS PRESSURE GAUGE. -STOL HIS INCHES WC. 25' DIAMETER, 1/4' THREAD SIZE 5 GAS PRESSURE GAUGE. -STOL HIS INCHES WC. 25' DIAMETER, 1/4' THREAD SIZE. 5 GAS PRESSURE GAUGE. -STOL HIS INCHES WC. 25' DIAMETER, 1/4' THREAD SIZE. 5 GAS PRESSURE GAUGE. -STOL HIS INCHES WC. 25' DIAMETER, 1/4' THREAD SIZE. 5 GAS PRESSURE GAUGE. -STOL HIS INCHES WC. 25' DIAMETER, 1/4' THREAD SIZE. 5 GAS PRESSURE GAUGE. -STOL HIS INCHES WC. 25' DIAMETER, 1/4' THREAD SIZE. 5 GAS PRESSURE GAUGE. -STOL HIS INCHES WC. 25' DIAMETER, 1/4' THREAD SIZE. 5 GAS PRESSURE GAUGE. -STOL HIS INCHES WC. 25' DIAMETER, 1/4' THREAD SIZE. 5 GAS PRESSURE GAUGE. -STOL HIS INCHES WC. 25' DIAMETER, 1/4' THREAD SIZE. 7 MOTORIZED BACK DRAFT DAMPER 25/5' X 4' HOR SIZE 2 STOLADER DE ANDULAR HEATER WITS W/EXTENDED SHAFT, STANDARD 8 GAUMARZED DRAWN UNITEN WAS WITS. USES */ IS PRESSURE TRANSDUCER, RIVET NUTS. 1/4' AIRFLOW TUBING AND 9USH 9 ROWTLE DIAMITURING PAR HUA UNITS. USES */ IS PRESSURE TRANSDUCER, RIVET NUTS. 1/4' AIRFLOW TUBING AND 9USH 9 ROWTLE DIAMITURING WC ROUTS USIES PRESSURE TRANSDUCER, RIVET NUTS. 1/4' AIRFLOW TUBING AND 9USH 10 UNIT MOUNTED VTD FOR USE VITH ECPMON 10 UNIT MOUNTED VTD FOR USE VITH ECPMON 12 YEAR PARTS VARRANTY.

(FT))

THE FLOW THE STANDARD STANDARD TO HEET SMACHA STANDARDS A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DUMNSTREAM OF UNIT DISCHARGE AS DUTLINED IN AMCA PUBLICATION 201 VMEN USING RECTANGULAR DUCTUDEK, ELBOWS MUST BE RADIUS THRAIT, RADIUS BACK VITH TURNING VANES FLEXIBLE DUCTUDEK AND SQUARE THRAIT/SQUARE BACK ELBOWS SAULD NOT BE USED ANY TRANSITION AND/OR TURNS IN THE DUCTUDEK VILL CAUSE SYSTEM FFFCT SYSTEM EFFECT VILL DRASTICALITY INCREASE TAILC PRESSARE AND REDUCE AIRFLOW DU NOT RELIT DN MNIT DE SUPPORT DUCT IN ANY VAY FAILURE TO PROFEN SIGNED UDTUDEK MAY GAUGE SATEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 20' X 20'

SEE ADDITIONAL1 14 SHEET DRAWINGS SUBMITTED BY CAPTIVEAIRE. UNABLE TO STAMP APPROVE.

Television of the

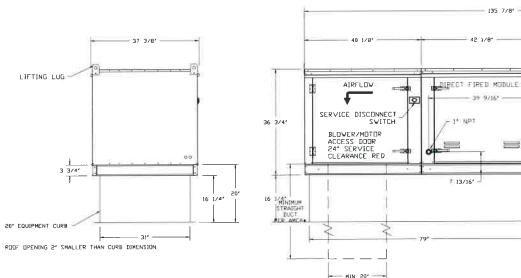
Halfa Colline

WINTER TEMPERATURE = 25°F. TEMP RISE = 50°F. BTUS CALCULATED D°F. ACTUAL A(R DENSITY. DUPPUT BIUS AT ALTITUDE D°F.0. FT. = 159640 INPUT BTUS AT ALTITUDE D°F.00. FT. = 172444 DUTPUT BTUS AT ALTITUDE D°F.400 FT. = 155916. INPUT BTUS AT ALTITUDE D°F.400 FT. = 169474. 8 5/16* CURB DUTER WALL DISCHARGE OPENING 1 -e AIRFLOV 18 3/4* 6 1/8" FLEX CONDUIT FOR FIELD WIRING

135 7/8

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SUPPLY SIDE HEATER INFORMATION



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NGEMENT

MD1ES + 2 S4 and S5 tay be repara 721 NTBUENS

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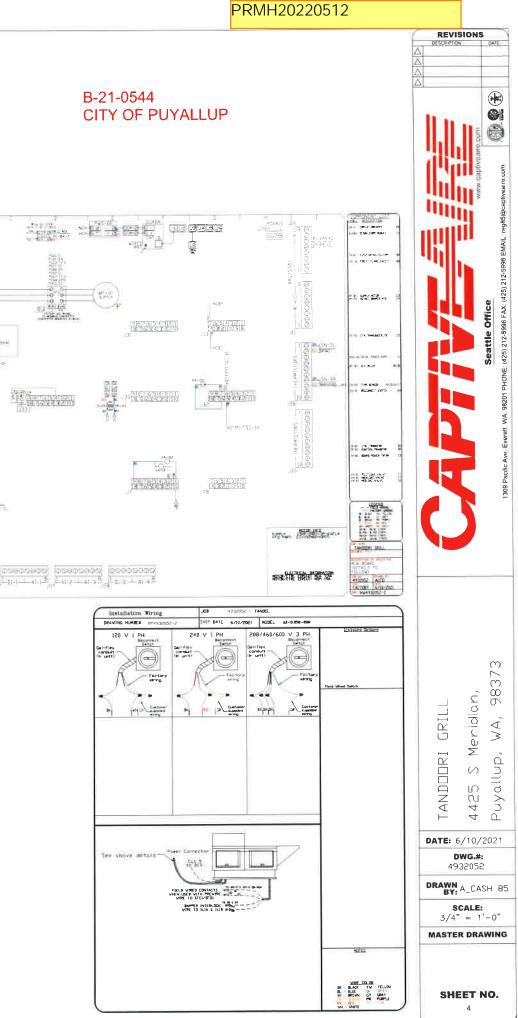
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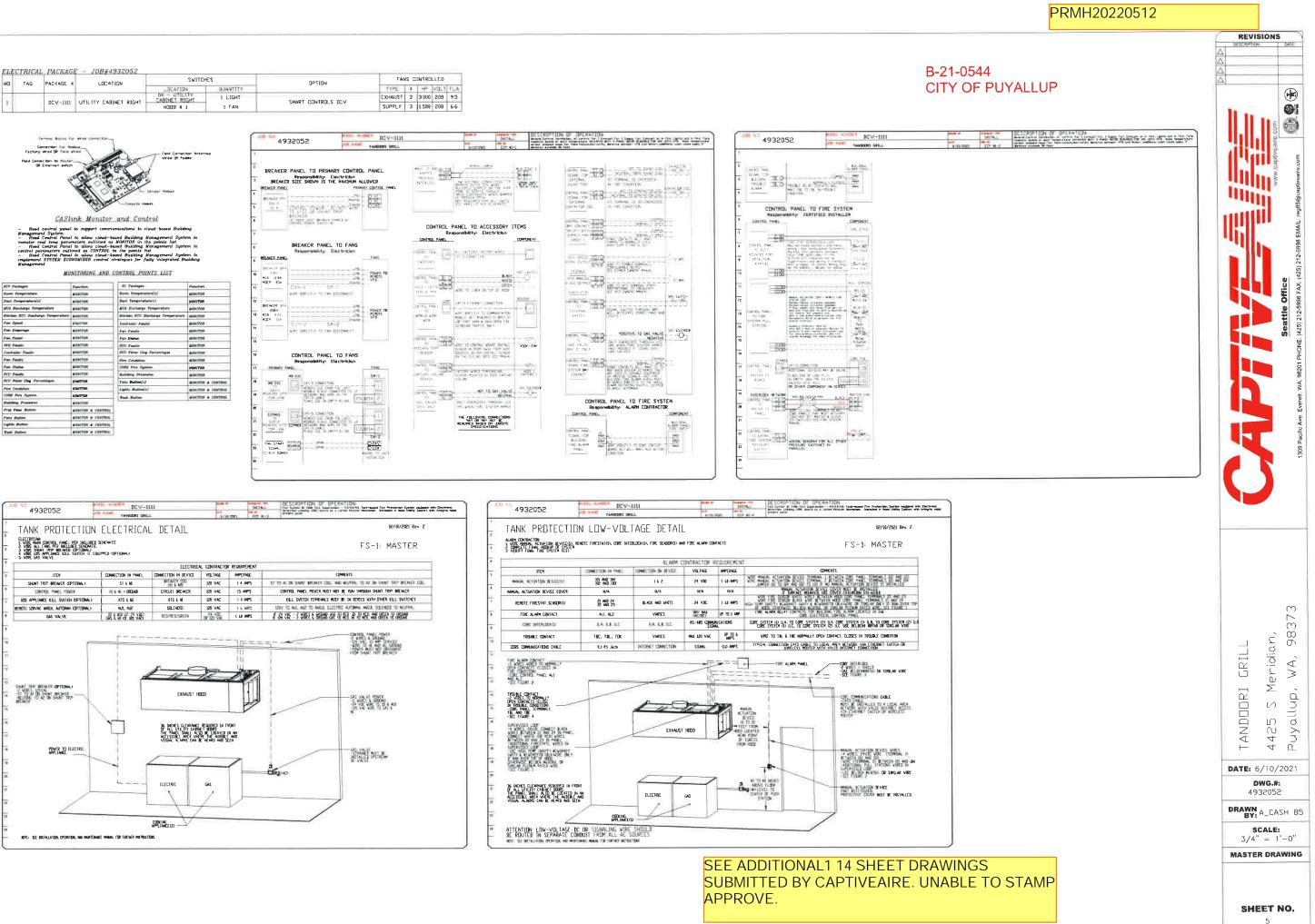
EMECT FIFED PROFILE FLAT SPECIFICATIONS INTEGET FIRED RENERS SHALL HAVE PATENTED US PATENT NO. US6629923RD, SELT-ADJUSTING PROFILE PLATES DESIGNED TO ENGLIGE PROFILE ALL VILOETTY AND PRESSURE DREP ALRUIS THE BANKER PROFILE NATION OF USAND OF CARDAD PROFILE CO. NATION OF USAND OF USAND OF USAND OF USAND MITS SHALL BE ODFILMED VILOETTY READERSON OF USAND OF USAND OF USAND OF USAND OF USAND MITS SHALL BE ODFILMED VILOETTY READERSON OF USAND MITS SHALL BE ODFILMED VILOETTU READERSON OF USAND OF USAND

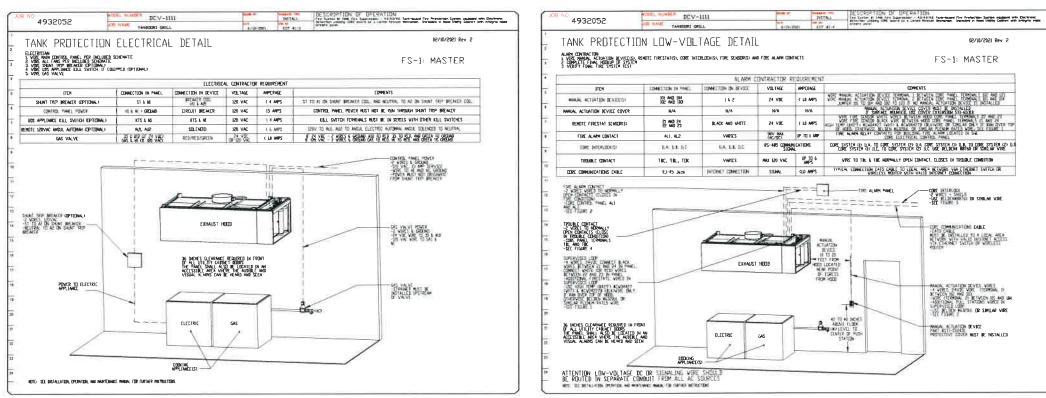
APPLICATION SPENDE DRAFD RUNNER PROFILE PLATES ARE ENGINEERED TO AUTOMATICALLY REACT TO THE MONENTUM OF A PRESH AIR STREAM VIHIOUT HE NEED FOR ANY MOTORS OR ACTUATORS TO MECHANICALLY ADJUST TAU VITH HINS FERTURE, ALL DE UNITS ARE DESIGNED FOR DEMAND CONTROL VENTLATION GOOV REQUIREMENTS

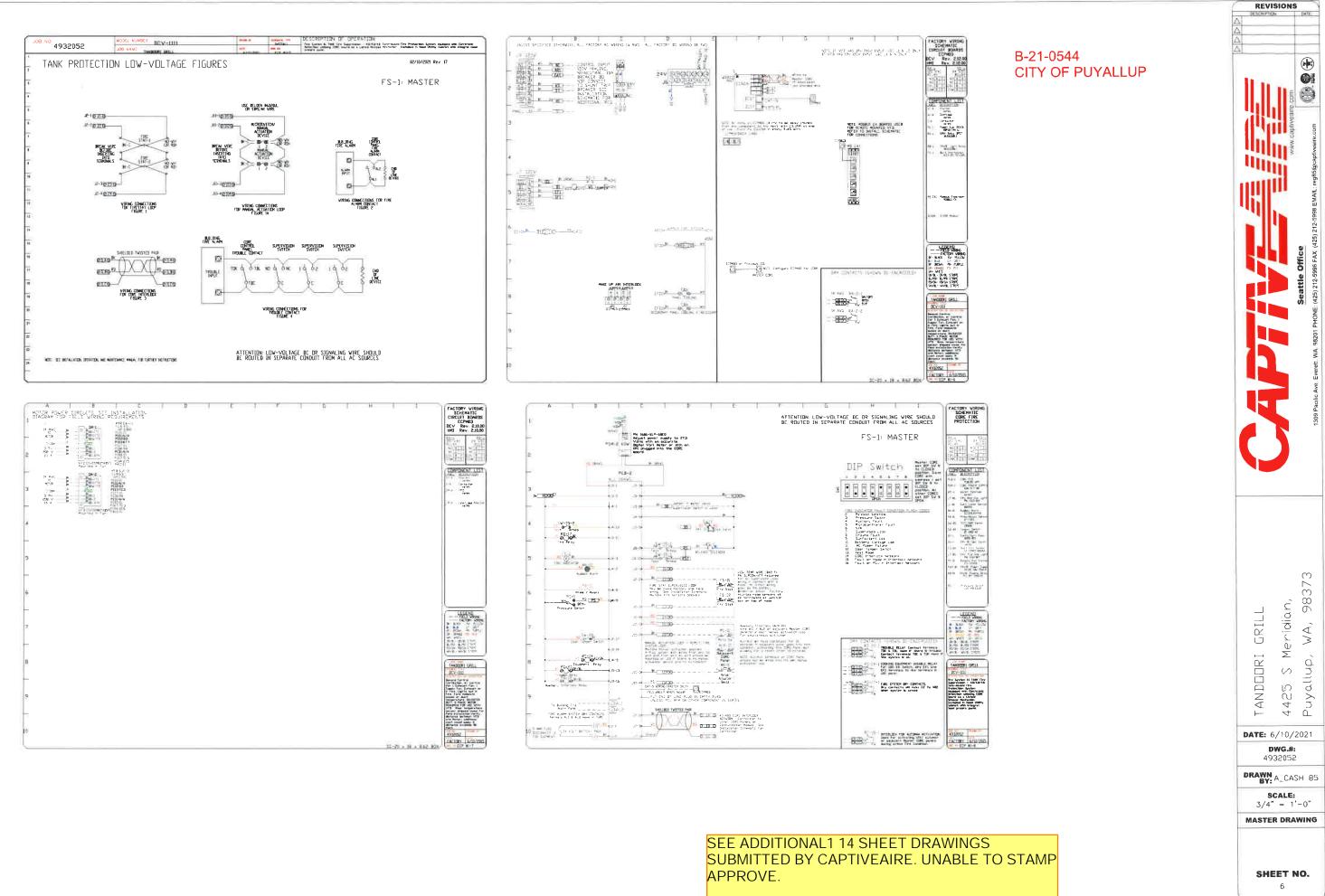
CRECIFICATIONS ALL POOTLE PLATE ASSEMBLIES SHALL BE INCLUDED IN THE DF UNIT'S ETL LISTING AND COMPLY VITH COMBINED SAFETY STAMADES AMSI 2034 AND ESA 37 (WON-RECERCULATING DF HEATERS) AND ANSI 20310 (RECIRCULATING DF HEATERS)

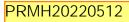


ю	TAG	PACKAGE *	LOCATION	SMITCHES		OPTION	FANS CONTROLLED			
	180			LOCATION	QUANTITY	ST FIER	TIPE		HP VJ	LT FLA
2			UTILITY CABINET RIGHT	04 - UTILITY CABINET RIGHT	1 LIGHT	SMART CONTROLS DOV	EXHAUST	3	3 000 50	9.5
-1 I		DCV-1111		HODD N 3	1 FAN		SUPPLY	3 1	1 500 20	8 66



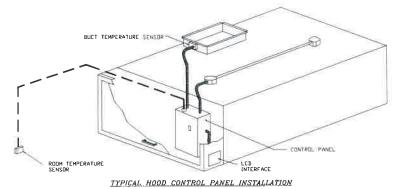






- DEMAND CONTROL VENTILATION HOLD CONTROL PANEL SPECIFICATIONS: CONTROLS SHALL BE LISTED BY ETL (UL 508A) AND SHALL COMPLY WITH DEMAND VENTILATION SYSTEM TURNDOWN REQUIREMENTS DUTLINED IN JECC 40328 (2015)
- THE CONTROL ENCLOSURE SHALL BE NEMA I RATED AND LISTED FOR INSTALLATION INSIDE OF THE EXHAUST HODD UTILITY CABINET. THE CONTROL ENCLOSURE MAY BE CONSTRUCTED OF STAINLESS STEEL OR PAINTED STEEL
- TEMPERATURE PROBE(S) LOCATED IN THE EXHAUST DUCT RISER(S) SHALL BE CONSTRUCTED OF STAINLESS STEEL
- A DIGITAL CONTROLLER SHALL BE PROVIDED TO ACTIVATE THE HODD EXHAUST FANS DYNAMICALLY BASED ON A FIXED DIFFERENTIAL BETWEEN THE AMBIENT AND DUCT TEMPERATURES SENSORS. THIS FUNCTION SHALL MEET THE REQUIREMENTS OF IMC 507.1.1
- A DIGITAL CONTROLLER SHALL PROVIDE ADJUSTABLE HYSTERESIS SETTINGS TO PREVENT CYCLING OF THE FANS AFTER THE COOKING APPLIANCES HAVE BEEN TURNED OFF AND/OR THE HEAT IN THE EXHAUST SYSTEM IS REDUCED
- A DIGITAL CONTROLLER SHALL PROVIDE AN ADJUSTABLE MINIMUM FAN RUN-TIME SETTING TO PREVENT FAN CYCLING
- VARIABLE FREQUENCY DRIVES (VFDS) SHALL BE PROVIDED FOR FANS AS REQUIRED. THE DIGITAL CONTROLLER SHALL MODULATE THE VFDS BETWEEN A MINIMUM SETPOINT AND A MAXIMUM SETPOINT ON DEMAND. THE DUCT TEMPERATURE SENSOR INPUT(S) TO THE DIGITAL CONTROLLER SHALL BE USED TO CALCULATE THE SPEED REFERENCE SIGNAL
- THE VFD SPEED RANGE OF OPERATION SHALL BE FROM 0% TO 100% FOR THE SYSTEM, WITH THE ACTUAL MINIMUM SPEED SET AS REQUIRED TO MEET MINIMUM VENTILATION REQUIREMENTS.
- AN INTERNAL ALGORITHM TO THE DIGITAL CONTROLLER SHALL MODULATE SUPPLY FAN VED SPEED PROPORTIONAL TO ALL EXHAUST FANS THAT ARE LOCATED IN THE SAME FAN GROUP AS THE SUPPLY FAN
- THE SYSTEM SHALL OPERATE IN PREP MODE DURING LIGHT COOKING LOAD OR COOL DOWN MODE WHEN SUFFICIENT HEAT REMAINS UNDERNEATH THE HOUDE SYSTEM AFTER COUNING DERATIONS HAVE COMPLETED, DERATION DURING EITHER OF THESE PERIODS VILL DISABLE THE SUPPLY FANS AND PROVIDE AN EXHAUST FAN SPEED THAT IS EQUAL TO THE MINIMUM VENTILATION REQUIREMENT.
- A DIGITAL CONTROLLER SHALL DISABLE THE SUPPLY FAN(S), ACTIVATE THE EXHAUST FAN(S), ACTIVATE HE APPLIANCE SHUNT TRIP, AND DISABLE AN ELECTRIC GAS VALVE AUTOMATICALLY WHEN FIRE CONDITION IS DETECTED ON A COVERED HOOD
- A DIGITAL CONTROLLER SHALL ALLOW FOR EXTERNAL BMS FAN CONTROL VIA DRY CONTACT (EXTERNAL CONTROL SHALL NOT OVERRIDE FAN OPERATION LOGIC AS REQUIRED BY CODE).
- AN LCD INTERFACE SHALL BE PROVIDED WITH THE FOLLOWING FEATURES:

- A LCD INTERFACE SHALL BE PROVIDED WITH THE FOLLOWING FEATURES: DW/DF PUSH BUTTON FAN & LIGHT SWITCH ACTIVATION INTEGRATED GAS VALVE RESET FOR ELECTRONIC GAS VALVES (NO RESET RELAY REQUIRED) VFD FAULT DISPLAY WITH AUDIBLE & VISUAL ALARM NOTIFICATION DUCT TEMPERATURE SENSOR FAILURE DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION MIS-WIRED DUCT TEMPERATURE SENSOR DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION A SINGLE LDW VDLTAGE CAT-S RJ4S WIRING CONNECTION. AN ENERGY SAVINGS INDICATOR THAT UTILIZES MEASURED KWH FROM THE VFDS.



SEQUENCE OF OPERATIONS: THE HOOD CONTROL PANEL IS CAPABLE OF OPERATING IN ONE OR MORE OF THE FOLLOWING STATES AT ANY GIVEN TIME

AUTOMATIC: THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OF FYHAUST DUCT COULD FOR THE REMOVERATURE AT THE HOOD CAVITY OF FYHAUST DUCT COULD FOR THE REMOVERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OR EXHAUST DUCT COLLAR FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC, THESE TERMS REFER TO WHETHER A VARIABLE ZUBE CAN BE CONFIGURED AS STAILD OF DINAMIC THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE. IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS 'DYNAMIC', THESE WILL MODULATE WITHIN A USER-DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL. PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS 'STATIC', FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS DUTLINED IN IECC 40328.

MANUAL: THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.

- SCHEDULE: A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY. THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RU AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE DURING THIS TIME. DURING UNDCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA DEFSET TO PREVENT UNIVERDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED RUN
- $\underline{\text{DTHER}}$ the system operates based on the input from an external source (DDC, BMS DR Hard-vired interlock).
- EIRE: UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON DR CONTINUE TO TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICIAN FUEL GAS WILL SHUT DFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM

SYSTEM DESIGN VERIFICATION (SDV)

IF ORDERED, CAS SERVICE WILL PERFORM A SYSTEM DESIGN VERIFICATION (SDV) ONCE ALL EQUIPMENT HAS HAD A COMPLETE START UP PER THE OPERATION AND INSTALLATION MANUAL: TYPICALLY, THE SDV WILL BE PERFORMED AFTER ALL INSPECTIONS ARE COMPLETE.

ANY FIELD RELATED DISCREPANCIES THAT ARE DISCOVERED DURING THE SDV WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND CORRESPONDING TRADES ON SITE THESE ISSUES WILL BE DOCUMENTED AND FORWARDED TO THE APPROPRIATE SALES OFFICE. IF CAS SERVICE HAS TO RESOLVE A DISCREPANCY THAT IS A FIELD ISSUE, THE GENERAL CONTRACTOR WILL BE NOTIFIED AND BILLED FOR THE WORK. SHOULD A RETURN TRIP BE REQUIRED DUE TO ANY FIELD RELATED DISCREPANCY THAT CANNOT BE RESOLVED DURING THE SDV, THERE WILL BE ADDITIONAL TRIP CHARGES.

DURING THE SDV, CAS SERVICE WILL ADDRESS ANY DISCREPANCY THAT IS THE FAULT OF THE MANUFACTURER. SHOULD A RETURN TRIP BE REQUIRED, THE GENERAL CONTRACTOR AND APPROPRIATE SALES OFFICE WILL BE NOTIFIED, THERE WILL BE NO ADDITIONAL CHARGES FOR MANUFACTURER DISCREPANCIES

SEE ADDITIONAL1 14 SHEET DRAWINGS SUBMITTED BY CAPTIVEAIRE, UNABLE TO STAMP APPROVE.

PRMH20220512

B-21-0544 **CITY OF PUYALLUP**



TAG	PART #	DEM	GPM	ZONE D	OVEREDBY	SP	WEIGHT	VELOCITY	DTY	DESCRIPTION
P1	DW1830DWASY-2R-S	3300				-0.0455	21.94	1867_42	1	DOUBLE WALL DUCT - 18' INNER 30 DUCT - 2 LAYERS REDUCED CLEARANCE - 22' STAINLESS STEEL DUTER SHELL
P2	DW1830DWASY-2R-S	3300				-0.0305	21.94	1967.42	1	DDUBLE WALL DUCT - 18' INNER 30 DUCT - 2 LAYERS REDUCED CLEARANCE - 22' STAINLESS STEEL DUTER SHELL
P3	DW1835DWLT~2R-S	3300				-0.0109	57.50	1867.42	Ĵ.	DOUBLE WALL DUCT - 18' INNER DUCT, 35' LONG - 2 LAYERS REDUCED CLEARANCE - 22' STAINLESS STEEL DUTER SHELL
P4	DW1847DWAJD-2R-S	3300				-0 0142	107 98	1867 42	ä	DOUBLE WALL ADJUSTABLE DUCT - 18' INNER DUCT - 2 LAYERS REDUCED CLEARANCE - 22' STAINLESS STEEL DUTER SHELL. MIN LENGTH = 11' / MAX LENGTH = 405' / ADJUSTMENT = 305' / ADJUSTABLE SECTION MAY NEED TO BE CUT. INCLUDES SINGLE AND DOUBLE WALL 'V' CLAMPS.
P5 ASSEMBLED W/P6	DW184550DWLTTP-2R-S	3300				-0 014	75 96	1867 42	Ĩ	DOUBLE WALL DUCT - 10' INNER DUCT, 45.5' LONG - 2 LAYERS REDUCED CLEARANCE - 22' STAINLESS STEEL OUTER SHELL - USED WITH TRANSITION PLATE
P6 ASSEMBLED W/P5	DW2610TP	3300					10.58	1867 42	4	DUCT TO CURB TRANSITION, 26-1/2" CURB TO 18" DUCT, 16 GA ALUMINIZED USED ON BDU18 & 20
SYSTEM AT P6						-12652	0.00		0	
	3M-2000PLUS						0 80		г	DUCT - 3M FIRE BARRIER 2000 PLUS SILICONE - USED AS SEALANT TO SEAL DUCT JOINTS
	DW18DWCLASY-2R-S						8 70		5	DUCT - 10' DUCT - 22' DOUBLE 'V' CLAMP - 2R INSULATION & SINGLE 'V' CLAMP INCLUDED - REDUCED CLEARANCE
TOTAL WEIGHT							314 70		1	

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW

- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE ENTIRE INSTALLATION AND OPERATION MANUAL

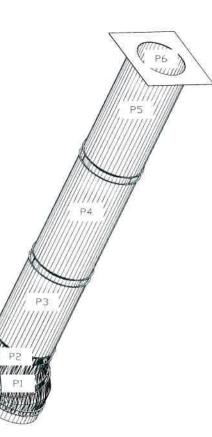
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16' PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR

- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16' PER LINEAR FOOT

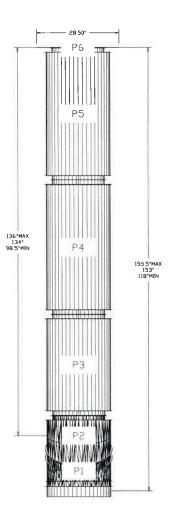
HOR	IZONTAL
DUCT DIAMETER	SUPPORT SPACING (FT
5'	7'
6'	7'
7'	7
θ,	7
10*	7
15.	7
14"	7'
t6*	7'
18*	5*
20*	5′
221	5'
24*	5'
26'	5'
28'	5
30"	5"
32'	5
34'	5
36'	5

VERTICAL									
TYPE	WALL SUPPORT (FT)	CURB SUPPORT (FT)	FLOOR SUPPORT (FT)						
2R & 2R HT (5"-16")	20'	24'	24'						
2R (18')	18	24'	24						
3R & 3Z (5'-24')	10'	24'	24*						
32 (26* -36*)	10'	50,	50,						

DO NOT LEAK TEST USING SMOKE BOMBS CONTAINING CHLORINES/CHLORIDES, CONSULT WITH CAPTIVEAIRE FOR PROPER LEAK TESTING METHODS.



DUCTWORK #1 FRONT VIEW



DUCTWORK #1 TOP VIEW



SEE ADDITIONAL1 14 SHEET DRAWINGS SUBMITTED BY CAPTIVEAIRE. UNABLE TO STAMP APPROVE.

