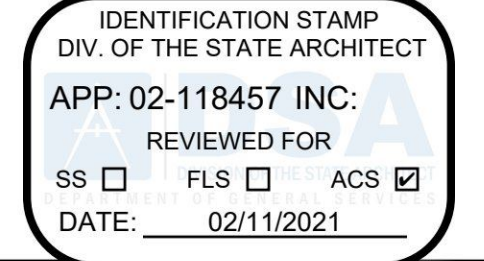


NEW WORK KEYNOTES (CONT.):

- 38 AIR CURTAIN FOR REFERENCE ONLY. SEE KITCHEN PLAN K2.1 FOR MORE INFORMATION.
- 39 16"x4" STAINLESS STEEL DUCT DOWN TO DISH MACHINE VENT COLLAR. TRANSITION AS REQUIRED TO FIT DISH MACHINE VENT COLLAR.

NEW WORK KEYNOTES:

- 1 ANCHOR NEW HVAC UNIT TO CONCRETE PAD.
- 2 INSTALL NEW SMOKE DETECTOR IN UNIT'S SUPPLY AIR DUCTWORK. SMOKE DETECTOR SHALL SHUTDOWN UNIT UPON DETECTION OF SMOKE. PROVIDE WITH WEATHER COVER.
- 3 ZONE TEMPERATURE SENSOR MOUNTED 72" ABOVE FINISH FLOOR. PROVIDE VENTED ENCLOSURE WITH LOCKABLE COVERS
- 4 PROGRAMMABLE THERMOSTAT. MOUNT TOP OF THERMOSTAT 48" AFF. PROVIDE WITH LOCKABLE COVERS.
- 5 REFRIGERATION EQUIPMENT. FOR REFERENCE ONLY. SEE K5.1 AND K5.2 FOR MORE INFORMATION.
- 6 20"x18" GREASE EXHAUST DUCT UP TO EF-2. SEE SHEET M3.1 FOR CONTINUATION. SEE GENERAL NOTE 1 THIS SHEET FOR SLOPE REQUIREMENT.
- 7 23"x20" GREASE EXHAUST DUCT UP TO EF-1. SEE SHEET M3.1 FOR CONTINUATION. SEE GENERAL NOTE 1 THIS SHEET FOR SLOPE REQUIREMENT.
- 8 12"x12" EXHAUST DUCT UP TO EF-3. SEE SHEET M3.1 FOR CONTINUATION.
- 9 GREASE EXHAUST AIR DUCT WRAPPED IN 2-HOUR RATED GREASE DUCT WRAP BY 3M MANUFACTURER OR EQUAL. CSFM LISTING NUMBER 2440-0941.112. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDELINES.
- 10 EXHAUST DUCT FROM DISHWASHER HOOD COLLAR ALL WAY TO EF-3 EXHAUST OPENING SHALL BE MADE OF STAINLESS STEEL DUE TO MOISTURE. SLOPE EXHAUST DUCT AT 1% TOWARDS DISHWASHER EXHAUST HOOD COLLAR.
- 11 TIME CLOCK MOUNTED ON THE WALL. MOUNT TOP OF TIME CLOCK AT 48"A.F.F. PROVIDE WITH LOCKABLE COVERS.
- 12 12"x8" GREASE EXHAUST AIR DUCT DOWN TO HOOD COLLAR OPENING OF HOOD 52A. PROVIDE REQUIRED TRANSITION TO FIT HOOD COLLAR OPENING.
- 13 23"x12" GREASE EXHAUST AIR DUCT DOWN TO HOOD COLLAR OPENING OF HOOD 52B. PROVIDE REQUIRED TRANSITION TO FIT HOOD COLLAR OPENING.
- 14 24"x12" GREASE EXHAUST AIR DUCT DOWN TO HOOD COLLAR OPENING OF HOOD 71A. PROVIDE REQUIRED TRANSITION TO FIT HOOD COLLAR OPENING.
- 15 15"x12" GREASE EXHAUST AIR DUCT DOWN TO HOOD COLLAR OPENING OF HOOD 71B. PROVIDE REQUIRED TRANSITION TO FIT HOOD COLLAR OPENING.
- 16 PROVIDE 20"x20" SECURITY ACCESS DOOR WITH LOCKING DEVICE TO SERVICE THE EXHAUST FAN.
- 17 30"x18" SUPPLY AIR DUCT FROM AC-1 UP AGAINST THE WALL TO ABOVE THE CEILING HEIGHT. SEE 2/A4.1 KEYNOTE 23.03 FOR REFERENCE. PROVIDE WITH EXTERNAL DUCT INSULATION.
- 18 30"x18" RETURN AIR DUCT FROM AC-1 UP AGAINST THE WALL TO ABOVE THE CEILING HEIGHT. SEE 2/A4.1 KEYNOTE 23.03 FOR REFERENCE. PROVIDE WITH EXTERNAL DUCT INSULATION.
- 19 40"x24" SUPPLY AIR DUCT FROM AC-2 UP AGAINST THE WALL TO ABOVE THE CEILING HEIGHT. SEE 2/A4.1 KEYNOTE 23.03 FOR REFERENCE. PROVIDE WITH EXTERNAL DUCT INSULATION.
- 20 40"x24" RETURN AIR DUCT FROM AC-2 UP AGAINST THE WALL TO ABOVE THE CEILING HEIGHT. SEE 2/A4.1 KEYNOTE 23.03 FOR REFERENCE. PROVIDE WITH EXTERNAL DUCT INSULATION.
- 21 40"x24" MAKE UP AIR DUCT FROM MUA-1 UP AGAINST THE WALL TO ABOVE THE CEILING HEIGHT. SEE 2/A4.1 KEYNOTE 23.03 FOR REFERENCE. PROVIDE WITH EXTERNAL DUCT INSULATION.
- 22 12"x10" EXHAUST WALL LOUVER INSTALLED ABOVE THE CEILING FOR EF-4 AND EF-6. PROVIDE WITH BIRDSCREEN ON THE OUTSIDE OF THE LOUVER.
- 23 12"x10" EXHAUST WALL LOUVER INSTALLED ABOVE THE CEILING FOR EF-5. PROVIDE WITH BIRDSCREEN ON THE OUTSIDE OF THE LOUVER.
- 24 12"x10" MUA DUCT DOWN TO HOOD 52A MUA PLENUM OPENING. PROVIDE WITH MANUAL VOLUME DAMPER TO BE BALANCED TO 896 CFM.
- 25 28"x12" MUA DUCT DOWN TO HOOD 52B MUA PLENUM OPENING. PROVIDE WITH MANUAL VOLUME DAMPER TO BE BALANCED TO 2536 CFM.
- 26 20"x12" MUA DUCT DOWN TO HOOD 71B MUA PLENUM OPENING. PROVIDE WITH MANUAL VOLUME DAMPER TO BE BALANCED TO 1723 CFM.
- 27 32"x12" MUA DUCT DOWN TO HOOD 71A MUA PLENUM OPENING. PROVIDE WITH MANUAL VOLUME DAMPER TO BE BALANCED TO 2759 CFM.
- 28 PROVIDE AND INSTALL 14"x14" CLEAN OUT ACCESS.
- 29 LOCATION OF VFD CABINET ENCLOSURE FOR REFERENCE ONLY. SEE KITCHEN PLAN K6.4 FOR MORE INFORMATION.
- 30 MARVEL CONTROL PANEL FOR REFERENCE ONLY. SEE KITCHEN K2.2 ITEM 17, K2.1 FOR EXACT LOCATION, AND K6.4 FOR MORE INFORMATION AND RECOMMENDED MOUNTING HEIGHT.
- 31 HOOD ROOM TEMPERATURE SENSOR PROVIDED BY HOOD MANUFACTURER AND INSTALLED WIRED BY CONTROLS/ELECTRICAL CONTRACTOR. SEE SPACE TEMPERATURE SENSOR DETAIL ON K6.4 FOR MORE INFORMATION AND RECOMMENDED MOUNTING HEIGHT. PROVIDE WITH LOCKABLE COVERS.
- 32 OPEN END EXHAUST AIR DUCT. PROVIDE WITH 12"x10" BELL MOUTH OPENING WITH BIRD SCREEN.
- 33 THERMOSTAT FOR EF-6. MOUNT TOP OF THERMOSTAT AT 48" ABOVE FINISH FLOOR. PROVIDE WITH LOCKABLE COVERS.
- 34 LOUVERED DOORS. SEE ARCHITECTURAL PLAN FOR SIZE AND LOCATION. PROVIDE BIRDSCREEN ON THE EXTERIOR AND INTERIOR SIDE OF THE LOUVERS.
- 35 ZONE TEMPERATURE SENSOR MOUNTED 80" ABOVE FINISH FLOOR. PROVIDE VENTED ENCLOSURE WITH LOCKABLE COVERS
- 36 SEE 2/M2.2 FOR HOOD VENTILATION SYSTEM SEQUENCE OF OPERATION. REFER TO KITCHEN PLAN K6.4 FOR MARVEL CONTROL PANEL DIAGRAM AND INFORMATION
- 37 MAKE UP AIR UNIT (MUA-1) REMOTE CONTROL PANEL. REFER TO MANUFACTURER'S INSTALLATION GUIDELINES FOR WIRING DIAGRAM. MOUNT BOTTOM OF CONTROL PANEL AT 48" A.F.F. PROVIDE WITH LOCKABLE COVERS.



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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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Issue No.	Date	Description
1	02/08/2019	DESIGN DEVELOPMENT
2	11/19/2019	90% WORKING DRAWINGS
3	04/10/2020	95% WORKING DRAWINGS
4	06/01/2020	100% WORKING DRAWINGS AHJ REVIEW
5	08/25/2020	AHJ RESUBMITTAL
6	01/05/2021	SFM RESUBMITTAL

Project
ISHI CONSERVATION CAMP, REPLACE KITCHEN
0000000004673

Supervisor	Designed	Drawn	Checked

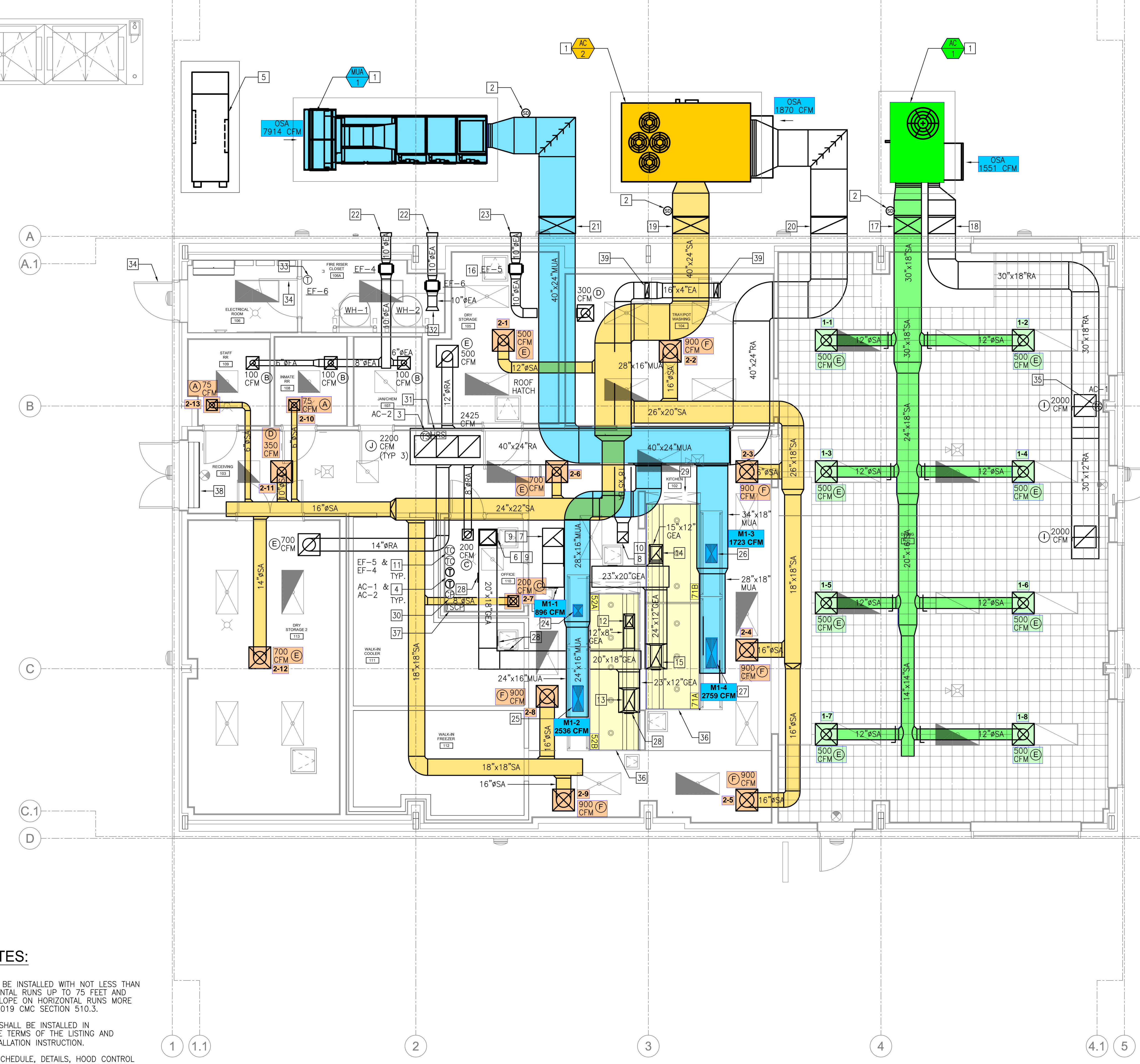
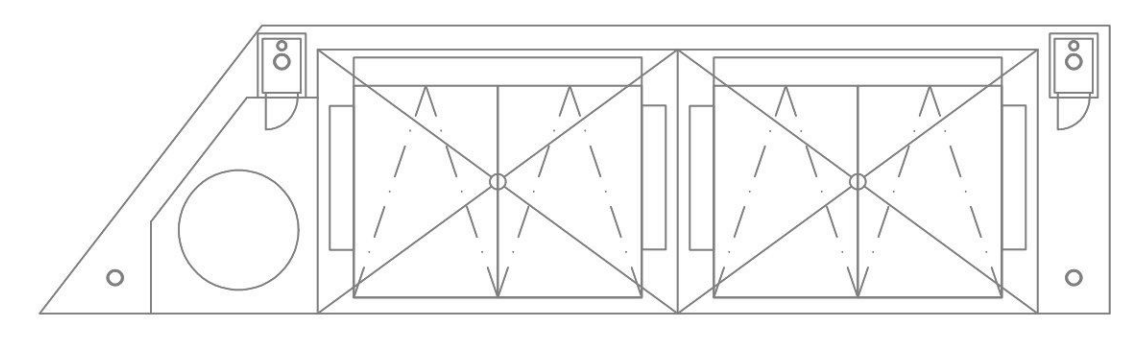
File Date: 01/08/2021
Vault File Number: -

Sheet Title
MECHANICAL FLOOR PLAN

DSA Building Number: -
Work Order: -

Reference North:

Sheet Scale: As Noted
Sheet Number: **M2.1**

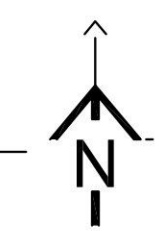


GENERAL NOTES:

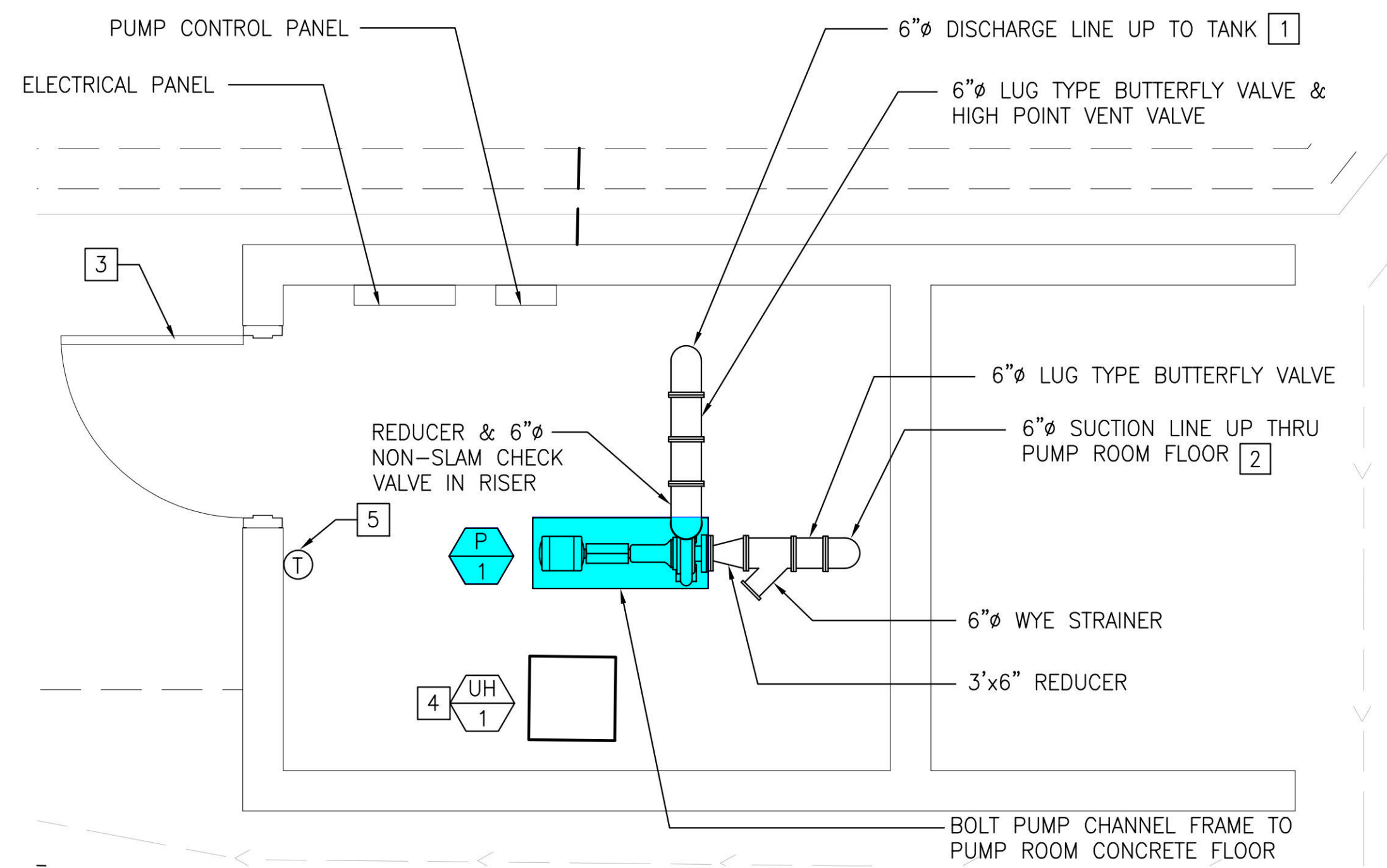
- 1. GREASE DUCTS SHALL BE INSTALLED WITH NOT LESS THAN 2% SLOPE ON HORIZONTAL RUNS UP TO 75 FEET AND NOT LESS THAN 1% SLOPE ON HORIZONTAL RUNS MORE THAN 75 FEET. PER 2019 CMC SECTION 510.3.
- 2. LISTED GREASE DUCT SHALL BE INSTALLED IN ACCORDANCE WITH THE TERMS OF THE LISTING AND MANUFACTURER'S INSTALLATION INSTRUCTION.
- 3. FOR EXHAUST HOOD SCHEDULE, DETAILS, HOOD CONTROL PANEL, HOOD EQUIPMENT VFD, MECHANICAL GAS VALVE, AND WIRING DIAGRAM INFORMATION SEE KITCHEN PLAN SHEETS K6.2 THRU K6.4

MECHANICAL FLOOR PLAN

SCALE: 0 1 2 4 FEET 8
1/4" = 1'-0"



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SCALE: 1/4"=1'-0"
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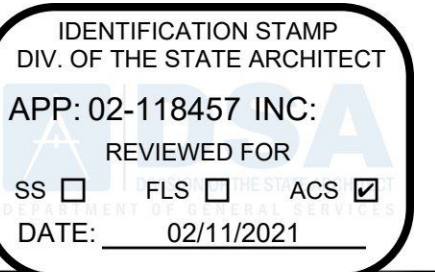
1 ENLARGED MECHANICAL PUMP HOUSE FLOOR PLAN
SCALE: 0 1 2 3 FEET 4
1/2" = 1'-0"

NEW WORK KEYNOTES:

- FOR CONTINUATION AND CONNECTION TO 6" FIRE WATER FOR THE DISCHARGE PUMP, SEE CIVIL SHEET C4.1A, C4.4, AND C8.1.
- FOR CONTINUATION AND CONNECTION TO 6" FIRE WATER FOR THE SUCTION PUMP, SEE CIVIL SHEET C4.1A AND C4.4.
- HI/LO LOUVERED DOOR, SEE ARCHITECTURAL FOR SIZE. PROVIDE BIRDSCREEN ON THE EXTERIOR AND INTERIORS SIDE OF THE LOUVERS.
- PROVIDE AND INSTALL ELECTRIC UNIT HEATER (UH-1). REFER TO ARCHITECTURAL DETAIL 8/A8.3 FOR MOUNTING REQUIREMENT PRIOR TO INSTALLATION.
- THERMOSTAT MOUNTED ON THE WALL. INSTALL TOP OF THERMOSTAT 48" ABOVE FINISH FLOOR. PROVIDE WITH LOCKING COVERS.

GENERAL NOTES:

- CONTRACTOR SHALL PREPARE AND SUBMIT SEQUENCE OF OPERATION SUBMITTAL COMPLETE WITH PUMP CONTROL PANEL, WIRING DIAGRAM AND COMPONENTS FOR A COMPLETE OPERATIONAL SYSTEM OF THE PUMP SYSTEM FOR APPROVAL.
- REFER TO CIVIL PLAN C8.1 FOR TANK DETAIL INFORMATION FOR REFERENCE.
- REFER TO CIVIL PLAN 7/C8.2 FOR SEQUENCE OF OPERATION OF PUMP.
- CONTROL CONTRACTOR TO PUT A SUBMITTAL TOGETHER FOR REVIEW OF WIRING DIAGRAM FOR THE OPERATION OF PUMP (P-1). PROVIDE THE REQUIRED COMPONENTS AND CONNECTION FOR PUMP TO OPERATE BASED ON WATER SENSOR LEVEL ON 7/C8.2.



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Supervisor	Designed	Drawn	Checked

File Date: 01/08/2021
Vault File Number: -

Sheet Title
ENLARGED MECHANICAL PUMPHOUSE PLAN

DSA Building Number: -
Work Order: -

Reference North:
Sheet Scale: As Noted
Sheet Number: **M2.2**

SEQUENCE OF OPERATION FOR EF-3 :

- DISH MACHINE CONTROL BOX: INTERLOCK WITH EF-3.
- THE EXHAUST FAN (EF-3) WILL RUN WHEN ENABLED VIA INTERLOCK WHEN THE DISH MACHINE IS OPERATING.
- INTERLOCK EXHAUST FAN THROUGH THE DISH MACHINE CONTROL BOX. THE CONTROL BOX HAS A DEDICATED EXTERNAL VENTILATION CONTACTOR FOR INTERLOCK CONNECTION. SEE DISH MACHINE WIRING DIAGRAM PROVIDED WITH THE EQUIPMENT FOR INTERLOCK REQUIREMENTS.

3 DISH MACHINE VENTILATION SYSTEM SEQUENCE OF OPERATIONS
SCALE: NO SCALE

M.A.R.V.E.L. Sequence of Operations

Overview
A sequence of operations is a series of steps required to perform a given task. The DCV system uses the following sequence of operations to control the exhaust hood operation.

Sequence of Operations

Startup & Shutdown

Operation Step	Details
Startup	<ul style="list-style-type: none"> Turns exhaust system on. Can be started by: <ul style="list-style-type: none"> 24/7 pre-programmed schedule. The building management system or via an internet connection remotely. Using a locally mounted on/off switch. Reaching a pre-determined IR Index or duct temperature level. Pressing the override button. After startup, enters Idle mode. Minimum Run Time A hood that becomes active will always run the exhaust fan for a minimum of 15 minutes before shutting the exhaust fan down. This is done prevent the possibility of an exhaust fan being forced to start and stop frequently.
Shutdown	<ul style="list-style-type: none"> Turns system off. Can be shutdown by any of the parameters listed in the Startup step (above) except the override button.
Idle Mode	<ul style="list-style-type: none"> System starts up in Idle mode (after startup). Pending until signs of cooking activity sensed from IRIS™ sensor(s). Minimal exhaust flow captures any appliance-generated heat. Default is 40% of design air flow or as adjusted to meet requirements. After idle mode, enters Cooking.
Vent Mode	<ul style="list-style-type: none"> Vent Mode is enabled when a hood or hoods are in Cook Mode and the design exhaust airflow of that hood(s) does not reach the minimum turn down of the system's exhaust fan. In Vent Mode previously designated Relief Hoods' dampers will open to allow the exhaust fan to operate at its minimum turn down rate to avoid damage to the fan motor. The relief hood(s) exhaust airflow will make up the difference between the active hood exhaust cfm and the cfm required to meet the exhaust fan's minimum turn down set point.
Cooking Mode	<ul style="list-style-type: none"> System moves into cooking mode when an IRIS™ sensor detects cooking activities under the hood. Exhaust fan speed increased to design air flow and balancing dampers (if present) adjusts the airflow in the hood to design level to assure sufficient capture and containment. Air flow in the hood is maintained for a predetermined cooking time before returning to the Idle mode. <p>NOTE: If during this time more cooking activities are detected, the cooking timer will be restarted.</p>

M.A.R.V.E.L. Installation Operation & Maintenance Manual 14



Operation Step	Details
Override Mode	<ul style="list-style-type: none"> Used to override pre programmed operation. Two modes: <ol style="list-style-type: none"> Press and hold for 1 second to accelerate the exhaust rate to 100% of the design air flow for a pre-programmed period of time (default 5 minutes). Press and hold for 3 seconds to accelerate the exhaust rate to 100% of the design air flow for a pre-programmed period of time (default 1 hour.) Starts the hood if it has been overridden by a schedule or an off state.
Fire Mode	<ul style="list-style-type: none"> If a fire signal is detected in the kitchen, the system triggers a fire alarm and stops the make-up air fan. The exhaust fan will either stop or continue running depending on the local fire code requirements.
Off Mode	<ul style="list-style-type: none"> Exhaust and make-up air fans stop when no appliances are operating (e.g., turned off and cooled down).
Airflow Reporting and Replacement Air Control	<ul style="list-style-type: none"> System continuously monitors exhaust airflow at each hood and generates a signal 0 to 10 V proportional to total exhaust airflow as fraction of total design. 0 V - system is off; 7 V - system operates at 70% of design airflow, etc. This signal is used to control Replacement air to maintain building pressurization.
Alarm and Fault Conditions	<ul style="list-style-type: none"> System constantly monitors various parameters. If any unusual or abnormal condition is detected, an alarm is activated. An alarm indicator can include: <ul style="list-style-type: none"> Indication on HMI (Touch Screen). Email or text message sent to a computer or a mobile device, pager, visual display on a computer screen or through a SCADA interface.

GENERAL NOTES:

- REFER TO KEYNOTE 36 ON M2.1 FOR REFERENCE.

M.A.R.V.E.L. Installation Operation & Maintenance Manual 15



2 HOOD VENTILATION SYSTEM SEQUENCE OF OPERATIONS
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