

CITY AND BOROUGH OF JUNEAU

DIMOND PARK AQUATIC CENTER

WHIRLPOOL HVAC AND AHU-1 UPGRADES

CBJ CONTRACT No. BE 17-185

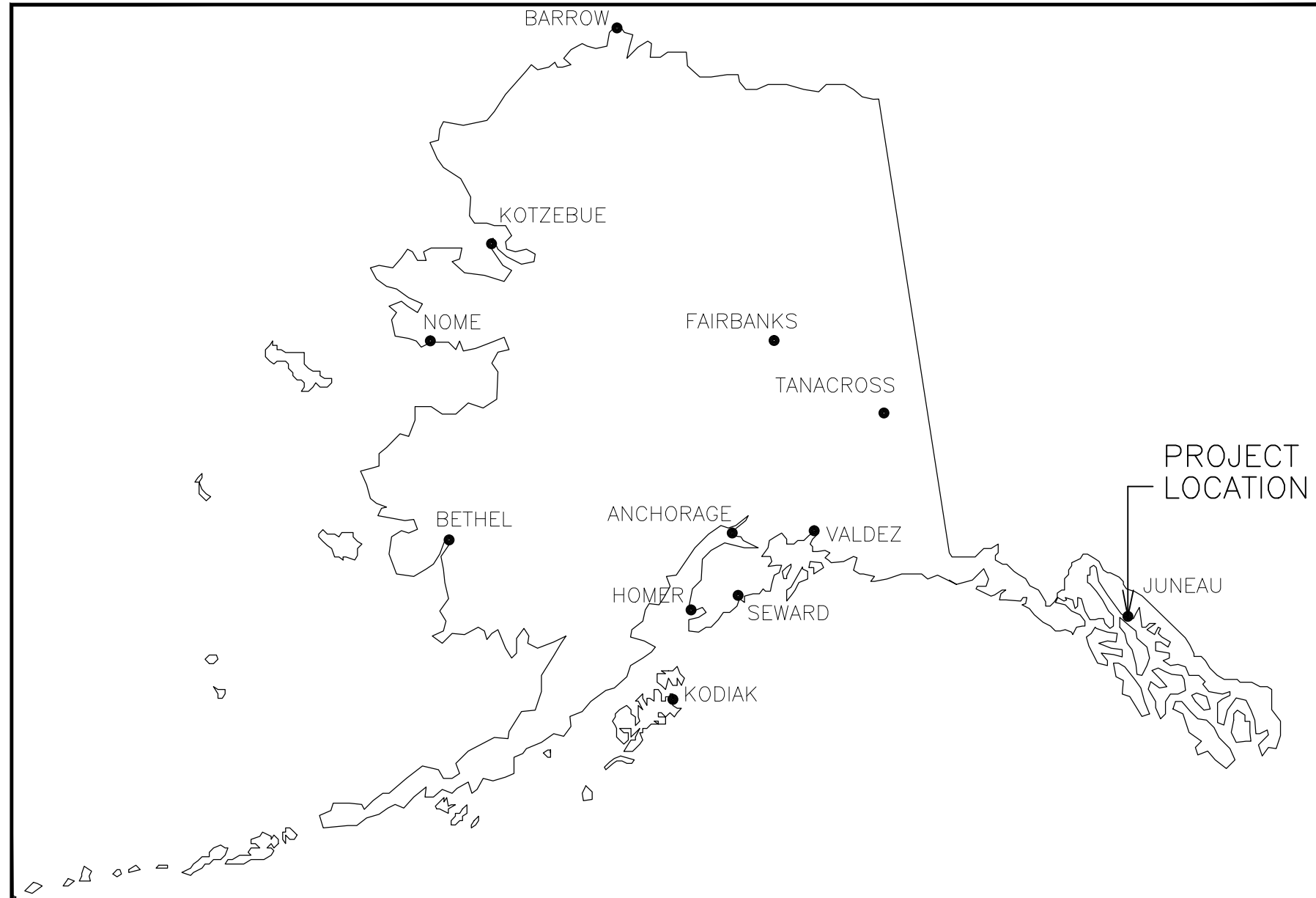
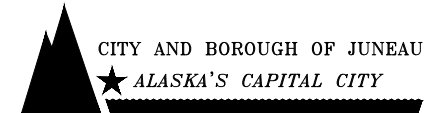
3045 DIMOND PARK LOOP,

JUNEAU, AK 99801

ISSUED FOR CONSTRUCTION

FEBRUARY 2017

PREPARED BY:



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SCOPE OF WORK:

THE SCOPE OF WORK INCLUDES:

1. PROVIDE AND INSTALL CUSTOM FABRICATED DRAIN PANS IN OUTSIDE AIR, MIXED AIR DISCHARGE, AND EXHAUST AIR COMPARTMENTS OF AIR HANDLING UNIT, AHU-1(E). PROVIDE AND INSTALL ALL ASSOCIATED CONDENSATE PIPING.
2. PROVIDE AND INSTALL HIGH PRESSURE DUCT SEALANT AT ALL POSSIBLE LEAKAGE POINTS BETWEEN COMPARTMENTS IN AIR HANDLING UNIT, AHU-1(E).
3. PROVIDE ALL ELECTRICAL SUPPORT REQUIRED TO POWER MECHANICAL EQUIPMENT.
4. VERIFY AND SEAL ALL CONDUITS AT AIR HANDLING UNIT, AHU-1(E). CONDUITS TO BE WATER TIGHT. CONDUIT TO BE UPGRADED AND REPLACED AS NECESSARY.
5. ADDITIVE ALTERNATE 1 – REPLACE ALL OF THE EXISTING AHU-1(E) COMPARTMENT LIGHTING FIXTURES.

File: J:\JobsData\20701.03_Cb1_Dimond_Aquatic_Center_Ahu-1_Upgrade\00_CADD\01_Working_Sht\06_Mechanical\20701.03_Mechanical_Legends_Abbreviations_& Schedules.dwg PLOT DATE: 2/17/2017 11:00 AM

PIPING LEGEND			HVAC/DUCTWORK LEGEND			HVAC/DUCTWORK LEGEND (CONTINUED)			LOGIC LEGEND	
EXISTING	DEMO	PROPOSED	EXISTING	DEMO	PROPOSED	EXISTING	DEMO	PROPOSED		
PIPING SYMBOL LEGEND										

ABBREVIATIONS													
AD	ACCESS DOOR	CAP	CAPACITY	DN	DOWN	HC-X	HEATING COIL DESIGNATOR	NTS	NOT TO SCALE	S.P.	STATIC PRESSURE		
AFF	ABOVE FINISHED FLOOR	CFM	CUBIC FEET PER MINUTE	(E)	EXISTING	HD	HEAD	OC	ON CENTER	T/A	TRANSFER AIR		
AHAP	AS HIGH AS POSSIBLE	COND	CONDENSATE	E/A	EXHAUST AIR	HR	HEATING RETURN	OSA	OUTSIDE AIR	TEMP	TEMPERATURE		
AHU-X	AIR HANDLING UNIT DESIGNATOR	CONN	CONNECTION	EF-X	EXHAUST FAN DESIGNATOR	HS	HEATING SUPPLY	PD	PRESSURE DROP	TSP	TOTAL STATIC PRESSURE		
AL	ALUMINUM	CONT	CONTINUED	ESP	EXTERNAL STATIC PRESSURE	HWR	HEATING WATER RETURN	PH	PHASE	T'STAT	THERMOSTAT		
AMP	AMPERES	CR	CONDENSATE RETURN	F	FARENHEIT	HWS	HEATING WATER SUPPLY	PSI	POUNDS PER SQUARE INCH	TYP	TYPICAL		
APD	AIR PRESSURE DROP	CU	COPPER	FCO	FLOOR CLEANOUT	HP	HORSEPOWER	R/A	RETURN AIR	UL	UNDERWRITERS LABORATORIES		
ARCH	ARCHITECTURAL	DA	MOTOR OPERATED DAMPER	FLA	FULL LOAD AMPS	IN	INCHES	RF	RETURN FAN	UPC	UNIFORM PLUMBING CODE		
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	DEG	DEGREE	FS-X	FLOOR SINK DESIGNATOR	L-X	LOUVER DESIGNATOR	RG	RETURN GRILLE	W/	WITH		
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	DIA/Ø	DIAMETER	FT	FEET	MAX	MAXIMUM	S/A	SUPPLY AIR	W/O	WITHOUT		
BDD	BACKDRAFT DAMPER	DIM	DIMENSION	GA	GAUGE	MIN	MINIMUM	SF	SUPPLY FAN	WPD	WATER PRESSURE DROP		

LOUVER SCHEDULE							
SYMBOL	MANUFACTURER	MODEL	SERVICE	MATERIAL	FINISH	SIZE (IN)	REMARKS
L-1	RUSKIN	ELF6375DX	INTAKE	ALUMINUM	KYNAR	12 X 12	STATIONARY, DRAINABLE LOUVER, COLOR TO MATCH EXISTING, FINAL COLOR SELECTION TO BE APPROVED BY OWNER

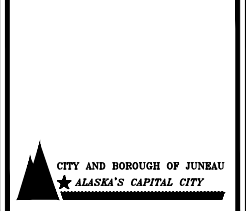
AIR HANDLER SCHEDULE (EXISTING)													
SYMBOL	MANUFACTURER	AREA SERVED	SUPPLY AIRFLOW (CFM)		RETURN AIRFLOW (CFM)		SUPPLY S.P. (INCHES WATER)		RETURN S.P. (INCHES WATER)		MOTOR HP		REMARKS
			MAX	MIN	MAX	MIN	TSP	ESP	TSP	ESP	SUPPLY	RETURN	
AHU-1(E)	SCOTT SPRINGFIELD	POOL AREA	47,570	24,000	48,670	24,500	3.95	1.10	3.675	1.15	75	75	EXISTING AIR HANDLING UNIT, SHOWN FOR INFORMATION ONLY

PUMP SCHEDULE									
SYMBOL	MANUFACTURER	MODEL	SERVICE	PUMPED MEDIUM	GPM	TOTAL HEAD (FT)	HP	MOTOR DATA (VOLTS/PH)	REMARKS
CP-A	GRUNDFOS	UPS 26-150 SF	COMPARTMENT #2	WATER	15	12	1/2	115/1	TRANSFER PUMP TO BE PROVIDE WITH EXTERNAL LEVEL PROBES, AUTOMATIC START AND STOP OPERATION. WET PARTS OF PUMP SUITABLE FOR EXPOSURE TO CHLORINE
CP-B	GRUNDFOS	UPS 26-150 SF	COMPARTMENT #8	WATER	27	10	1/2	115/1	TRANSFER PUMP TO BE PROVIDE WITH EXTERNAL LEVEL PROBES, AUTOMATIC START AND STOP OPERATION. WET PARTS OF PUMP SUITABLE FOR EXPOSURE TO CHLORINE
CP-C	GRUNDFOS	UPS 26-150 SF	COMPARTMENT #9	WATER	27	10	1/2	115/1	TRASNFER PUMP TO BE PROVIDE WITH EXTERNAL LEVEL PROBES, AUTOMATIC START AND STOP OPERATION. WET PARTS OF PUMP SUITABLE FOR EXPOSURE TO CHLORINE



REVISION			
REV	DATE	DESCRIPTION	BY
0	02/2017	ISSUED FOR CONSTRUCTION	TLM

REVISION			
REV	DATE	DESCRIPTION	BY



SCALE	HOR. N/A VER. N/A
DESIGNED BY	TLM
DRAWN BY	WTP
CHECKED BY	TLM
APPROVED BY	TLM

PROJECT NO: 20701.03 DIMOND PARK AQUATIC CENTER WHIRLPOOL HVAC AND AHU-1 UPGRADES LEGENDS, ABBREVIATIONS, AND SCHEDULES CITY AND BOROUGH OF JUNEAU, AK	STATUS: ISSUED FOR CONSTRUCTION DATE: 02/2017
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PROJECT NO. 20701.03
CITY GRID
WATER GRID
SEWER GRID
SHEET M001
OF 12

File: J:\JobData\20701.03_Cb\Dimond Aquatic Center_Ahu-1 Upgrades\00_CADD\01_Working_Set\06_Mechanical\20701.03_Mechanical_Specifications.dwg PLOT DATE: 2/17/2017 1:57 PM

GENERAL:

THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM AS-BUILT DRAWINGS AND A NON-DESTRUCTIVE WALK THROUGH OF THE FACILITY. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS SCHEDULED FOR DEMOLITION PRIOR TO START OF WORK.

PLANS – THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM. THE DRAWINGS ARE PARTLY DIAGRAMMATIC, NOT NECESSARILY SHOWING ALL OFFSETS OR EXACT LOCATIONS OF PIPING AND DUCTS, UNLESS SPECIFICALLY DIMENSIONED.

PERMITS – OWNER SHALL SECURE AND PAY FOR GENERAL PERMIT. ALL OTHER PERMITS AND FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN.

CODE – ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE INTERNATIONAL BUILDING CODE (IBC), INTERNATIONAL MECHANICAL (IMC), UNIFORM PLUMBING CODE (UPC) AND THE NATIONAL ELECTRICAL CODE (NEC) AS AMENDED BY THE STATE OF ALASKA AND THE CITY AND BOROUGH OF JUNEAU (CBJ). SHEET METAL WORK SHALL BE DONE IN ACCORDANCE WITH SMACNA STANDARDS.

INSURANCE – WORKER'S COMPENSATION INSURANCE, AND GENERAL LIABILITY INSURANCE AT ALL TIMES WHILE WORKING ON THIS PROJECT.

ELECTRICAL WORK – ALL ELECTRICAL WORK IS TO BE PERFORMED BY A LICENSED ELECTRICIAN. IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, NEC.

EQUIPMENT SUBSTITUTIONS – ALL EQUIPMENT LISTED IS REPRESENTATIVE OF THE STANDARD OF QUALITY AND PERFORMANCE REQUIRED, OR EQUAL SUBSTITUTIONS WILL BE CONSIDERED IF THE SUBSTITUTE CATALOG CUTS ARE SUBMITTED AND ARE SHOWN TO BE EQUAL OR BETTER QUALITY, INCLUDING EFFICIENCY OF PERFORMANCE, SIZE AND WEIGHT.

OPERATION AND MAINTENANCE MANUAL – PROVIDE THE OWNER WITH AN OPERATING AND MAINTENANCE MANUAL, TO INCLUDE WARRANTY DOCUMENTS OPERATION AND MAINTENANCE DATA FINAL AS-BUILT TUBING LAYOUT DRAWINGS CONTROL DRAWINGS AND OTHER INFORMATION AS REQUIRED BY DIVISION 01 SPECIFICATIONS.

WARRANTY – ALL WORK PERFORMED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM ACCEPTANCE. ANY FAULTY MATERIALS OR WORKMANSHIP SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER DURING THE GUARANTEE PERIOD.

MATERIALS – ALL MATERIALS OTHER THAN OWNER SUPPLIED SHALL BE NEW AND UNUSED, INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND IN THE BEST PRACTICE OF THE CRAFT. OBTAIN OWNER'S APPROVAL OF ALL PRODUCTS PRIOR TO ORDERING OR INSTALLING ANY PART OF ANY SYSTEM.

SUBMITTALS – ELECTRONIC SUBMITTALS ARE PREFERRED. BOOKLET IS ACCEPTABLE. THE DATA SHALL BE ARRANGED AND INDEXED IN THE SAME ORDER AS THE SCHEDULE SHEETS. IF BOOKLET FORM ARE SUBMITTED PROVIDE THREE (3) COPIES. PROVIDE SUBMITTALS AS ONE COMPLETE PACKAGE. INCOMPLETE SUBMITTALS WILL NOT BE REVIEWED. REQUIRED SUBMITTALS INCLUDE: DUCT SEALANT, DRAIN PAN CONSTRUCTION AND SHOP DRAWINGS, CONTROL DAMPER, THERMOSTAT, LOUVER, PIPE, AND FITTINGS.

ACCESS – PROVIDE WORKABLE ACCESS TO ALL SERVICEABLE AND/OR OPERABLE EQUIPMENT.

SCHEDULE: ALL WORK TO BE COORDINATED WITH OWNER. WORK TO BE SCHEDULED TO MINIMIZE DOWN TIME OF AIR HANDLER AHU-1(E) TO FULLEST EXTENT POSSIBLE. COORDINATE WORK TO BE DONE DURING ANNUAL SPRING MAINTENANCE SHUT DOWN OF UNIT. COORDINATE WITH OWNER FOR ACTUAL TIMES OF SPRING SHUT DOWN SCHEDULE PRIOR TO START OF WORK.

EQUIPMENT INSTALLATION – INSTALL ALL EQUIPMENT WHERE NOTED ON THE DRAWINGS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. PROVIDE MISCELLANEOUS APPURTENANCES, ACCESSORIES, SUPPORTS AND CONTROL CONNECTIONS REQUIRED FOR COMPLETE AND OPERATING SYSTEMS. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES.

TRAINING – INSTRUCT THE OWNER'S PERSONNEL IN THE OPERATION, CARE AND MAINTENANCE OF ALL SYSTEMS AND EQUIPMENT PROVIDED. PROVIDE A MINIMUM OF ONE (1) HOUR OF ON SITE INSTRUCTION TO THE OWNER DESIGNATED PERSONNEL.

SEISMIC RESTRAINT – ALL PIPING, AND EQUIPMENT INSTALLED UNDER THIS PROJECT SHALL BE SEISMICALLY RATED AND RESTRAINED FOR A SEISMIC EVENT IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE INTERNATIONAL BUILDING CODE AND ASCE 7. SEISMIC CATEGORY D, COMPONENT IMPORTANCE FACTOR 1.0.

PENETRATIONS OF FIRE BARRIERS – PENETRATIONS SHALL BE PROTECTED BY AN APPROVED FIRESTOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH ASTM E199 OR ASTM E814. SYSTEMS SHALL HAVE AN F RATING NOT LESS THAN THE REQUIRED FIRE-RESISTANCE RATING OF THE ASSEMBLY BEING PENETRATED.

INSTALL FIRESTOPPING IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

PIPE IDENTIFICATION – FACTORY FABRICATED PLASTIC PIPE MARKERS, FLEXIBLE, SEMI- RIGID PLASTIC, PREFORMED TO FIT AROUND PIPE OR PIPE COVERING; MINIMUM INFORMATION INDICATING FLOW DIRECTION ARROW AND FLUID BEING CONVEYED, CONFORMING WITH ASME A13.1.

AT ALL TIMES DURING THE COURSE OF THE WORK, THE CONTRACTOR SHALL KEEP THE SITE CLEAN AND FREE OF UNNECESSARY MATERIALS AND DEBRIS. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE OWNER, CLEAR ANY DESIGNATED AREAS OR AREA OF MATERIALS AND DEBRIS. AFTER COMPLETION OF ANY PORTION OF THE WORK, THE CONTRACTOR SHALL REMOVE FROM THE SITE ALL TOOLS AND MACHINERY AND ALL DEBRIS OCCASIONED BY THE WORK, LEAVING THE SITE FREE OF ALL OBSTRUCTIONS AND HINDRANCES.

TESTING – ALL SYSTEMS TO BE TESTED TO THE OWNERS SATISFACTION. MAKE SYSTEM ADJUSTMENTS AS NECESSARY TO ENSURE SYSTEM ARE FULLY OPERATIONAL.

INSULATION

INSULATION – RIGID FIBER BOARD – ASTM C612 TYPE IB, 'K' VALUE OF 0.23 AT 75°F, 3.0 LB./CU. FT. DENSITY. 0.00035 INCH FOIL SCRIM FACING. MINIMUM THERMAL RESISTANCE SHALL BE R=4.3. CERTAINTED CERTAPRO CB 300 OR EQUAL.

DUCTWORK AND ACCESSORIES

LOW AND MEDIUM PRESSURE DUCTWORK – FABRICATE AND SUPPORT IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS AND ASHRAE HANDBOOKS, EXCEPT AS INDICATED.

DUCTWORK – PROVIDE GALVANIZED SHEET METAL RECTANGULAR DUCTWORK CALLED OUT ON THE PLANS. SEAL ALL DUCT SEAMS AND JOINTS AIRTIGHT. ALL SHEET METAL WORK TO BE CONSTRUCTED, INSTALLED, TESTED AND BALANCED IN ACCORDANCE WITH SMACNA STANDARDS. SUPPORT LOW AND MEDIUM PRESSURE DUCTWORK PER SMACNA GUIDELINES.

HIGH PRESSURE DUCT SEALANT: SEALANT TO CREATE A PERMANENT FLEXIBLE SEAL SUITABLE FOR USE IN LOW, MEDIUM, AND MEDIUM PRESSURE APPLICATIONS. DUCT SEALANT TO BE HYBRID POLYURETHANE, NSF R2 LISTED, WATER AND SALT SPRAY RESISTANT, UV RESISTANT, NON TOXIC, LOW VOC CONTENT. 24 HOUR CURE TIME. 3M ADHESIVE SEALANT 740UV.

ALL COMPARTMENTS IN AIR HANDLING UNIT, AHU-1(E), CLEANED OF SCALE BUILDUP AND CORROSION.

PRIOR TO TO APPLICATION OF SEALANT, AHU-1(E) COMPARTMENTS TO BE CLEAN, DRY, AND FREE OF DIRT, DEBRIS, AND CORROSION.

CONTRACTOR TO DOCUMENT AND VERIFY ALL MANUFACTURER REQUIRED CURING TIMES AND APPLICATION TEMPERATURES ARE MAINTAINED.

VOLUME DAMPER – FABRICATE IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS. INSTALL VOLUME DAMPERS WHERE SHOWN ON THE DRAWINGS.

DUCT ACCESS DOORS – FABRICATE DUCT ACCESS DOORS IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

SPIRAL ROUND DUCT – DIAMETERS LESS THAN 6" SHALL BE 24 GAUGE GALVANIZED STEEL DUCT. DIAMETERS 6" AND LARGER SHALL BE 22 GAUGE GALVANIZED STEEL DUCT. ALL FITTINGS TO BE PROVIDED WITH SMOOTH OBSTRUCTION FREE INTERIOR, FABRICATED A MINIMUM OF 2 GAUGES HEAVIER THEN DUCT GAUGES AND BE PROVIDED WITH ALL SEAMS WELDED SOLID. ALL JOINTS ARE TO BE SEALED AIRTIGHT.

CONTROL DAMPERS – OUTSIDE AIR DUCT: FABRICATE IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS. GALVANIZED STEEL 16 GAUGE FRAME. GALVANIZED STEEL 14 GAUGE BLADE. CLOSED CELL NEOPRENE FOAM DAMPER SEAL SHALL PERFORM TO CLASS 1A LEAKAGE STANDARDS AT 1" W.G. RUSKIN CD60 OR EQUAL. PROVIDE WITH BELIMO ACTUATOR, 120V, 60HZ, SPRING RETURN ACTUATOR SET TO FAIL OPEN, DIRECT COUPLED. BELIMO AFBUP OR EQUAL.

INSTALL DAMPERS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. PROVIDE CONTROL DAMPERS AT LOCATIONS INDICATED.

FILTER RACK – FABRICATE IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS. HINGED DOOR, ACCOMMODATES STANDARD FILTERS, SIZE 12X12X1.

FILTER CARTRIDGE – CARDBOARD FRAME, STANDARD PLEAT STYLE, COTTON-POLYESTER MEDIA, 14 PLEATS PER FOOT, MERV 8 EFFICIENCY. FILTER SIZE 12X12X1. FILTRETTE 300 MERV 8 DUST REDUCTION 12X12X1 MANUFACTURED BY 3M OR EQUAL.

PIPING

DRAIN PIPING, ABOVE GRADE – STAINLESS STEEL PIPE: ASTM A312, SCHEDULE 40. FITTINGS: ASTM A312. JOINTS: THREADED OR AWS D1.1 WELDED.

REAM PIPE AND TUBE ALL CUT ENDS AND THOROUGHLY CLEAN PIPE ENDS AND FITTINGS FOR SOLDERING. REMOVE ALL BURRS, KEEP OPEN ENDS OF PIPE FREE FROM SCALE AND DIRT. PROTECT WITH TEMPORARY CAPS OR PLUGS.

PIPING SUPPORTS AND HANGERS – SIZED AND SPACED IN ACCORDANCE WITH THE UPC AND NFPA 31. INSTALLED AS PER THE MANUFACTURERS INSTRUCTIONS.

UNIONS, AND FLANGES – DIELECTRIC CONNECTIONS: UNION WITH GALVANIZED OR PLATED STEEL THREADED END, COPPER SOLDER END, WATER IMPERVIOUS ISOLATION BARRIER.

FLANGES – CLASS 150, SLIP-ON STAINLESS STEEL FLANGES.

VALVES

SWING CHECK VALVES – UP TO 2 INCHES: CLASS 150, STAINLESS STEEL DISC, SWING TYPE, FLANGED ENDS.

PLUMBING SPECIALTIES

DRAIN PAN: DRAIN PAN TO BE FABRICATED TO FIT OVER EXISTING FLOOR WITH 3" DEPTH MINIMUM. DRAIN PAN TO BE EPOXY COATED TYPE 316 STAINLESS STEEL, MINIMUM 18 GAUGE. PAN TO BE WELDED WATER TIGHT WITH CONTINUOUS 0.05" FILLET WELD AT LAP SEAM. ALL WELDS TO BE GROUND SMOOTH. DRAIN TO SLOPE 1/8" PER FOOT TO DRAIN CONNECTION TO PREVENT ACCUMULATION OF STANDING WATER. DRAIN PAN TO BE INSULATED.

CONTRACTOR TO CONFIRM ALL DIMENSIONS PRIOR TO FABRICATION OF DRAIN PANS.

EPOXY SEALANT: MAXIMUM OPERATING TEMPERATURE OF 300°F. 5000 HOURS CORROSION RESISTANCE. 24 HOUR CURING TIME. 3M SCOTCHKOTE EPOXY HT LINING HTX 517 OR APPROVED EQUAL.

ALL LEAKAGE POINTS BETWEEN COMPARTMENTS TO BE SEALED WITH EPOXY SEALANT PRIOR TO INSTALLATION. COAT ALL EXPOSED COMPARTMENT WALLS AND DRAIN PAN TO FULLEST EXTENT POSSIBLE.

ALL EDGES OF DRAIN PAN TO BE SEALED WATERTIGHT TO PREVENT LEAKAGE AND CONDENSATION BENEATH PAN. AHU-1(E) TO BE SHUT DOWN DURING INSTALLATION ALL COMPARTMENTS SURFACES TO BE CLEAN, DRY, AND FREE OF ALL DIRT AND CORROSION PRIOR TO INSTALLATION OF DRAIN PANS. CONTRACTOR TO DOCUMENT AND VERIFY PROPER CURING TIMES AND APPLICATION TEMPERATURES ARE MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

PUMPS

IN-LINE CIRCULATORS – MAINTENANCE FREE, SELF-LUBRICATED, 3 SPEED, INDUSTRIAL/COMMERCIAL SINGLE STAGE DIRECT DRIVE CIRCULATOR. STAINLESS STEEL PUMP HOUSING, TYPE 304 STAINLESS STEEL IMPELLER, UPPER AND LOWER RADIAL BEARING TO BE OXIDE CERAMIC TUNGSTEN CARBIDE SHAFT BEARING SURFACES STAINLESS STEEL WITH 430F SHAFT.

DDC CONTROLS

MODIFICATIONS TO THE EXISTING DDC SYSTEM IN THE FACILITY SHALL BE PROVIDED BY THE LOCAL OFFICES OR SIEMENS BUILDING TECHNOLOGIES IN ACCORDANCE WITH CITY AND BOROUGH OF JUNEAU DESIGN STANDARDS. NO SUBSTITUTIONS ARE ALLOWED. CONTACT SIEMENS DIRECTLY AT (907) 563-2242.

INSTRUMENTATION

THERMOSTAT – WALL MOUNTED LINE VOLTAGE THERMOSTAT. SPST SWITCH ACTION TO CLOSE ON RISE. CONTROL RANGE: 30°F TO 110°F. 120 VAC 16.0 FLA. UL OR CSA LISTED. HONEYWELL MODEL T4054A OR APPROVED EQUAL.

DOOR BOTTOM SWEEP AND THRESHOLD

FACE MOUNTED DOOR BOTTOM SWEEP WITH NYLON BRUSH. PEMKO MODEL 18137_NB OR APPROVED EQUAL.

STAINLESS STEEL SADDLE TYPE THRESHOLD. PEMKO MODEL 175SS OR APPROVED EQUAL.

SEQUENCE OF OPERATIONS

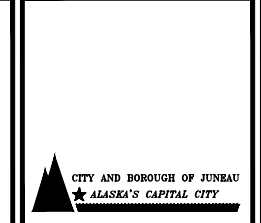
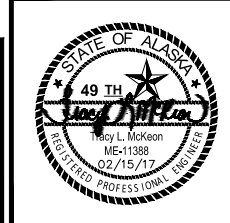
WHIRLPOOL MECHANICAL INTAKE DAMPER: CONTROL DAMPER TO BE NORMALLY CLOSED. WHEN TEMPERATURE IN SPACE EXCEEDS SETPOINT, 75°F (ADJUSTABLE), INTAKE CONTROL DAMPER TO OPEN TO SATISFY COOLING. PROVIDE A 5F DEAD BAND. WHEN COOLING IS SATISFIED, CONTROL DAMPER TO CLOSE.

DRAIN PUMPS (CP-A, CP-B, CP-C) : DRAIN PUMP IS TO BE ENABLED WHEN HIGH WATER LEVEL IS DETECTED BY THE HIGH WATER LEVEL PROBE. DRAIN PUMP IS TO BE DISABLED WHEN LOW WATER LEVEL IS DETECTED BY THE LOW WATER LEVEL PROBE.



REVISION			
REV	DATE	DESCRIPTION	BY
0	02/2017	ISSUED FOR CONSTRUCTION	TLM
1	02/2017	REVIEW COMMENT CHANGES	TLM

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SCALE	HOR. N/A VER. N/A
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**DIMOND PARK AQUATIC CENTER WHIRLPOOL
HVAC AND AHU-1 UPGRADES**

MECHANICAL SPECIFICATIONS

CITY AND BOROUGH OF JUNEAU, AK

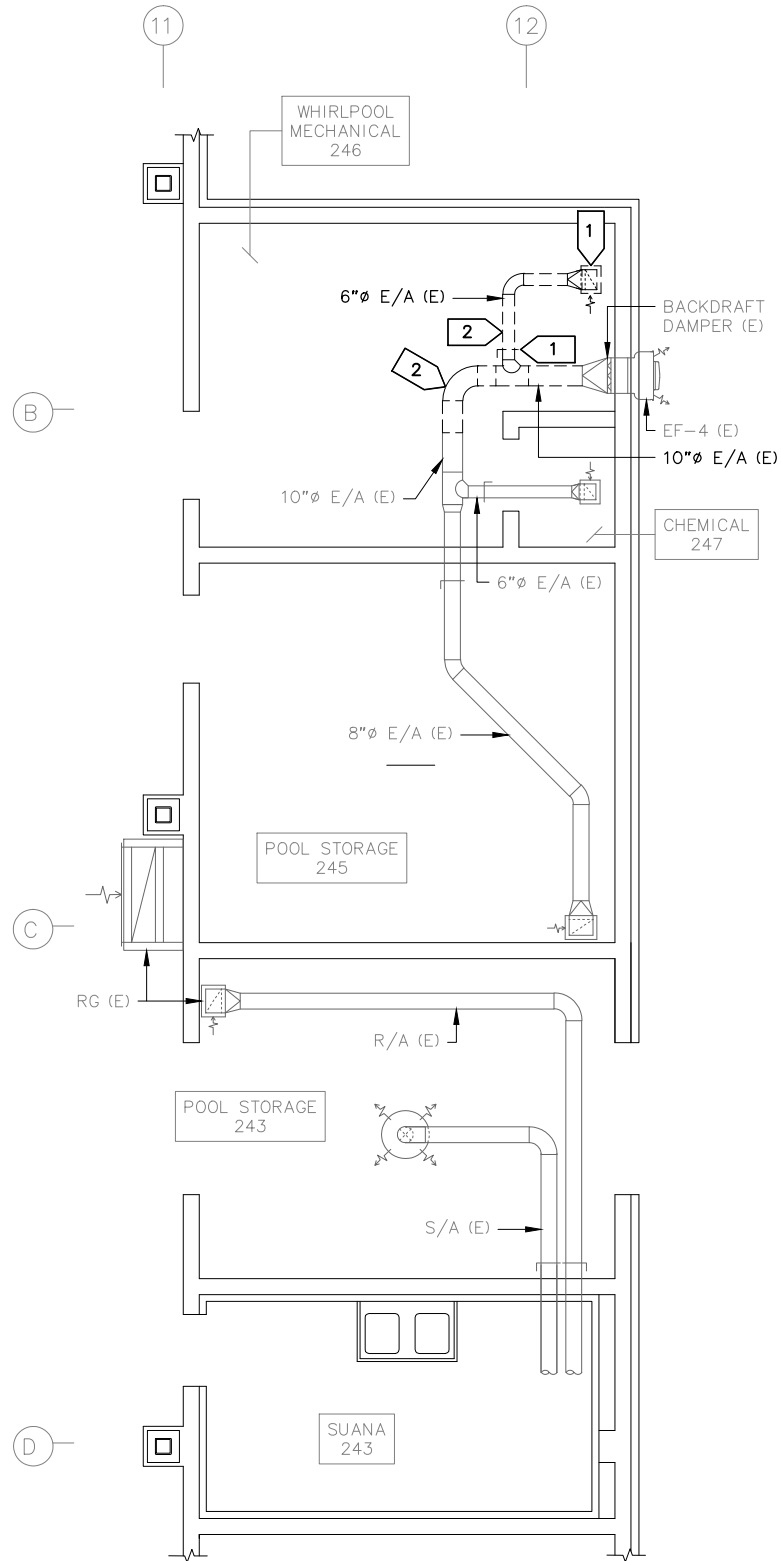
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PROJECT NO.	20701.03
CITY GRID	
WATER GRID	
SEWER GRID	
SHEET OF	M002 12

File: J:\JobsData\20701.03_Cb\Dimond Aquatic Center Ahu-1 Upgrades\00_CADD\01_Working_Sets\06_Mechanical\20701.03_Mechanical_Enlarged_Floor_Plan.dwg PLOT DATE: 2/17/2017 11:02 AM

SHEET DEMOLITION NOTES:

- 1 SALVAGE EXISTING DIFFUSER AND VOLUME DAMPER FOR RE-INSTALLATION DURING REMODEL. SEE 3/M601 FOR EXHIBIT PHOTO.
- 2 DEMOLISH EXISTING DUCT AND APPURTENANCES TO EXTENT SHOWN.

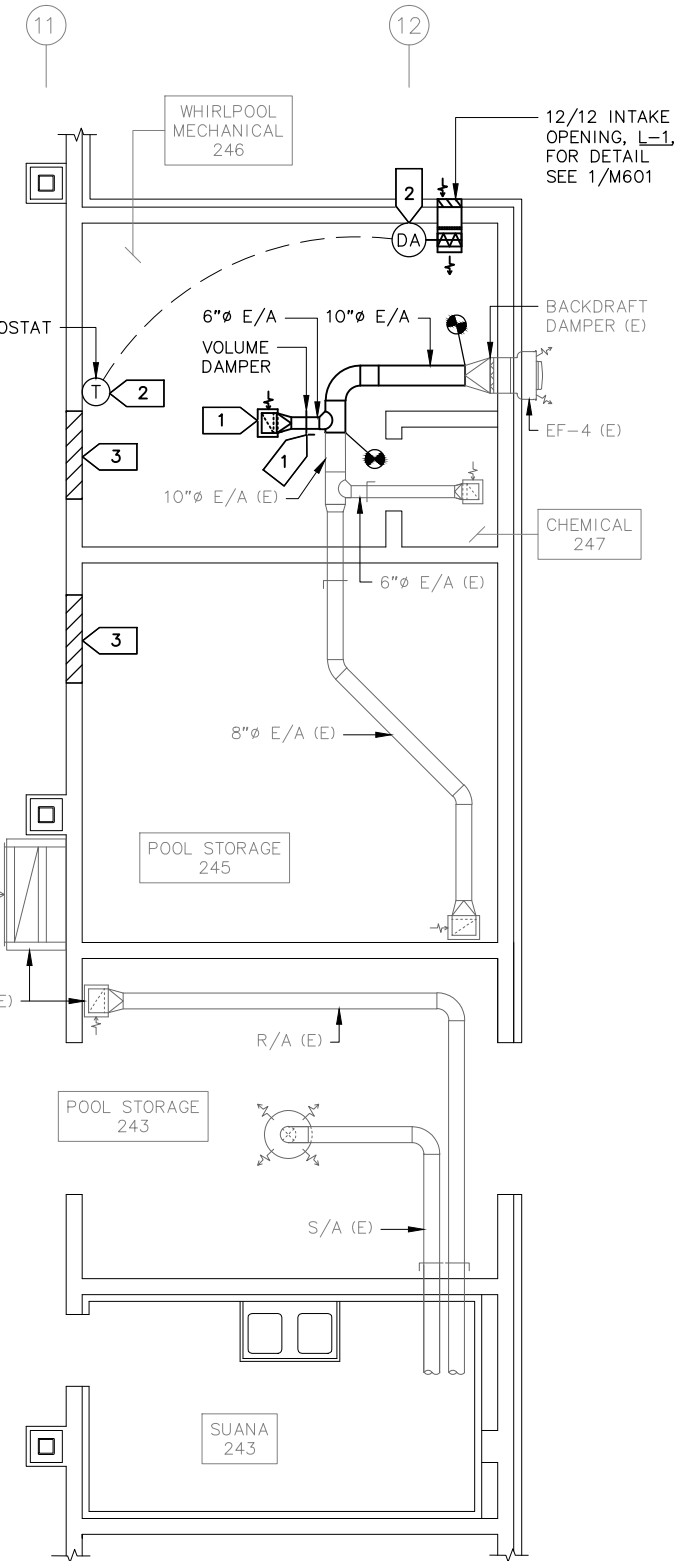


GENERAL NOTES:

1. INFORMATION SHOWN ON THE DRAWINGS IS TAKEN FROM A NON-DESTRUCTIVE WALK THROUGH OF THE FACILITY AND AS-BUILT DRAWINGS. THERE IS NO GUARANTEE TO THE ACCURACY OF THE INFORMATION SHOWN. CONTRACTOR SHALL FIELD VERIFY ALL ITEMS SCHEDULED FOR THE DEMOLITION PRIOR TO STARTING WORK.
2. THE OWNER SHALL HAVE THE FIRST RIGHT OF REFUSAL ON ALL SALVAGEABLE MATERIAL AND EQUIPMENT. THE CONTRACTOR SHALL DELIVER SALVAGED MATERIALS TO A PRE-DETERMINED LOCATION COORDINATED WITH CITY AND BOROUGH OF JUNEAU PROJECT MANAGER.
3. WORK WILL INCLUDE DEMOLITION AND REMODEL WORK OF THE BUILDING WHILE THE BUILDING IS CLOSED FOR SPRING BREAK SHUTDOWN AND ANNUAL MAINTENANCE. COORDINATE ALL ACTIVITIES WITH OWNER MAINTENANCE SCHEDULE.

1 **ENLARGED MECHANICAL PLAN - WHIRLPOOL DEMOLITION**

SCALE: 1/8" = 1'-0"

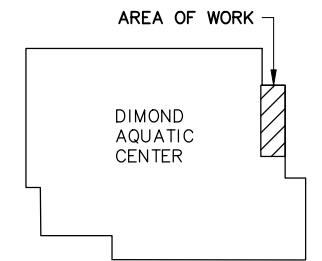


SHEET REMODEL NOTES:

- 1 RE-INSTALL SALVAGED DIFFUSER AND VOLUME DAMPER. DO NOT BLOCK ACCESS TO ACTUATOR VALVE THIS LOCATION. SEE 2/M601 FOR EXHIBIT PHOTO.
- 2 INTERLOCK THERMOSTAT AND CONTROL DAMPER.
- 3 SEAL UNDERCUT DOOR WITH DOOR BOTTOM SWEEP AND THRESHOLD TO PREVENT TRANSFER OF AIR FROM POOL.
- 4. MECHANICAL DRAWINGS ARE GENERALLY DIAGRAMMATIC, CONTRACTOR TO FIELD LOCATE ALL DUCT, MECHANICAL EQUIPMENT, AND ASSOCIATED APPURTENANCES TO AVOID CONFLICTS TO ALL EXISTING EQUIPMENT, PIPING, LIGHTING AND ELECTRICAL CLEARANCES.

2 **ENLARGED MECHANICAL PLAN - WHIRLPOOL REMODEL**

SCALE: 1/8" = 1'-0"



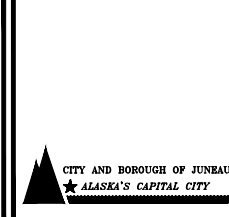
KEY MAP
NOT TO SCALE



3940 ARCTIC BLVD. SUITE 300
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL882-AK

REVISION			
REV	DATE	DESCRIPTION	BY
0	02/2017	ISSUED FOR CONSTRUCTION	TLM
1	02/2017	REVIEW COMMENT CHANGES	TLM

REVISION			
REV	DATE	DESCRIPTION	BY



SCALE	HOR. PER PLANS VER. N/A
DESIGNED BY	TLM
DRAWN BY	WTP
CHECKED BY	TLM
APPROVED BY	TLM

PROJECT NO: 20701.03

DIMOND PARK AQUATIC CENTER WHIRLPOOL
HVAC AND AHU-1 UPGRADES

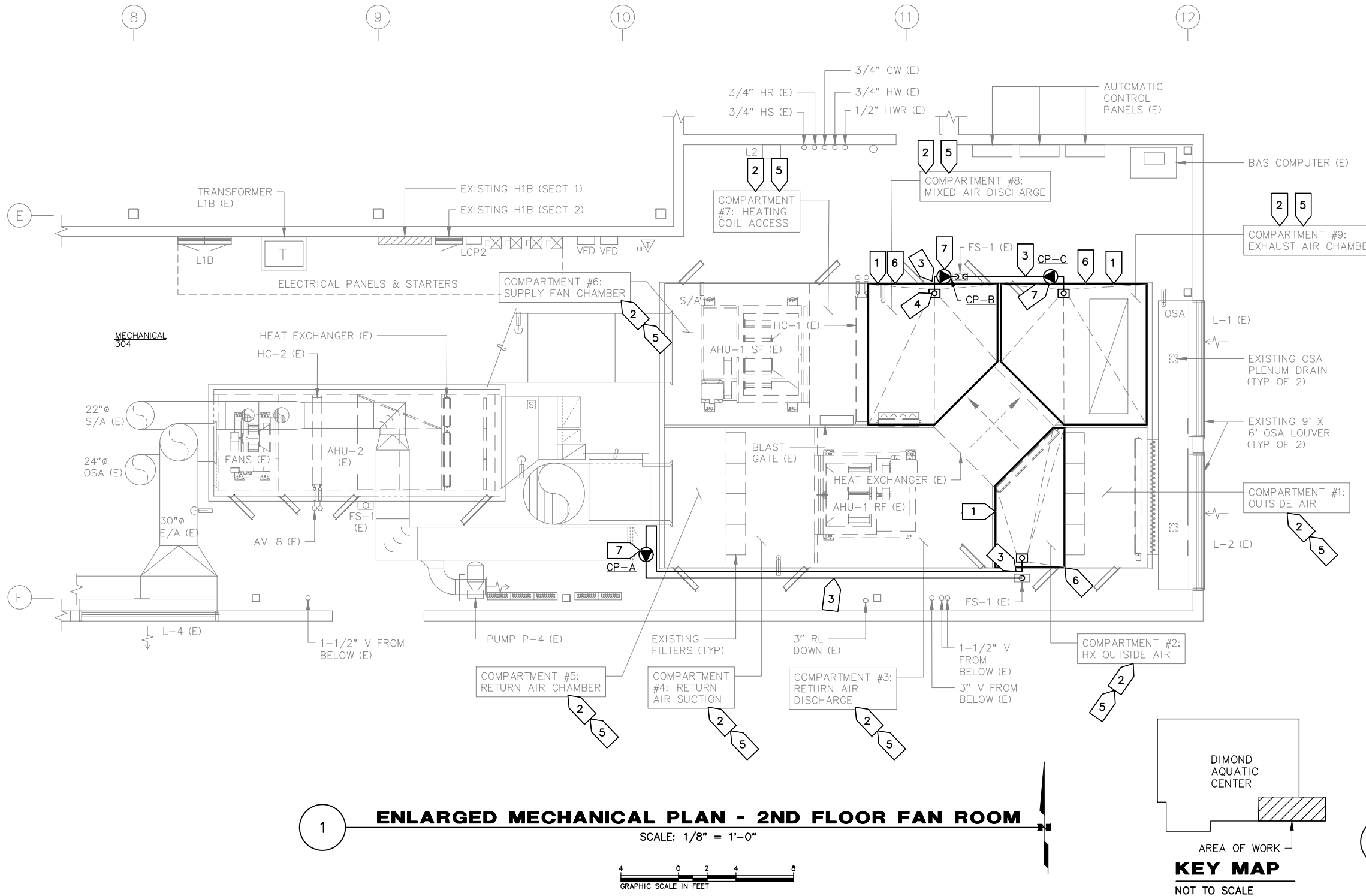
MECHANICAL ENLARGED PLANS - WHIRLPOOL

CITY AND BOROUGH OF JUNEAU, AK

STATUS: ISSUED FOR CONSTRUCTION DATE: 02/2017

PROJECT NO.	20701.03
CITY GRID	
WATER GRID	
SEWER GRID	
SHEET	M400
OF	12

File: J:\jobdata\20701.03 Cb\Dimond Aquatic Center Ahu-1 Upgrades\00 CADD\01 Working Set\06 Mechanical\20701.03_Mechanical Enlarged Plan - Air Handling.dwg PLOT DATE: 2/17/2017 11:02 AM



1 ENLARGED MECHANICAL PLAN - 2ND FLOOR FAN ROOM
SCALE: 1/8" = 1'-0"
GRAPHIC SCALE IN FEET

- GENERAL NOTES:**
- MECHANICAL DRAWINGS ARE GENERALLY DIAGRAMMATIC, CONTRACTOR TO FIELD LOCATE ALL PIPING, MECHANICAL EQUIPMENT, AND ASSOCIATED APPURTENANCES TO AVOID CONFLICTS TO ALL EXISTING EQUIPMENT, PIPING, AND ELECTRICAL CLEARANCES.
- SHEET NOTES:**
- CUSTOM FABRICATED NEW DRAIN PAN TO BE INSTALLED, FOR DETAIL SEE 1/M602.
 - ALL COMPARTMENTS (#1 - #9) TO BE CLEAN OF SCALED BUILDUP AND CORROSION. EXISTING WALLS FLOORS AND WALL ARE 304 STAINLESS STEEL.
 - ROUTE 1-1/2" DRAINAGE PIPING THROUGH BASE CHANNEL TO DRAIN PUMPS, FOR DETAIL SEE 2/M602.
 - DEMOLISHED 1-1/4" (E) DRAIN PIPING AND INSTALL NEW 1-1/2" DRAIN PIPING TO PUMP, CP-B.
 - REMOVE EXISTING DUCT SEALANT IN ALL COMPARTMENTS. AFTER COMPARTMENTS ARE CLEANED OF ALL SCALED BUILDUP AND CORROSION APPLY NEW HIGH PRESSURE SEALANT IN ACCORDANCE WITH MANUFACTURER'S APPLICATION INSTRUCTIONS AT ALL SEAMS AND PENETRATIONS.
 - APPLY NEW HIGH PRESSURE EPOXY SEALANT, 3M ADHESIVE SEALANT 740UV, TO WALLS OF AHU-1(E) IN COMPARTMENTS #2, #8, AND #9.
 - INSTALL NEW PUMPS, CP-A, CP-B, AND CP-C, AT THIS LOCATION. PUMPS ARE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - FOR DRAIN PAN DETAIL SEE 1/M602.
 - FOR DRAIN PIPING DETAIL SEE 2/M602.

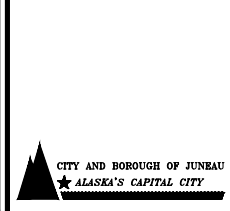


2 EXHIBIT PHOTO - EXISTING FLOOR SINK COMPARTMENT #2
SCALE: NOT TO SCALE



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0	02/2017	ISSUED FOR CONSTRUCTION	TLM
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REV	DATE	DESCRIPTION	BY

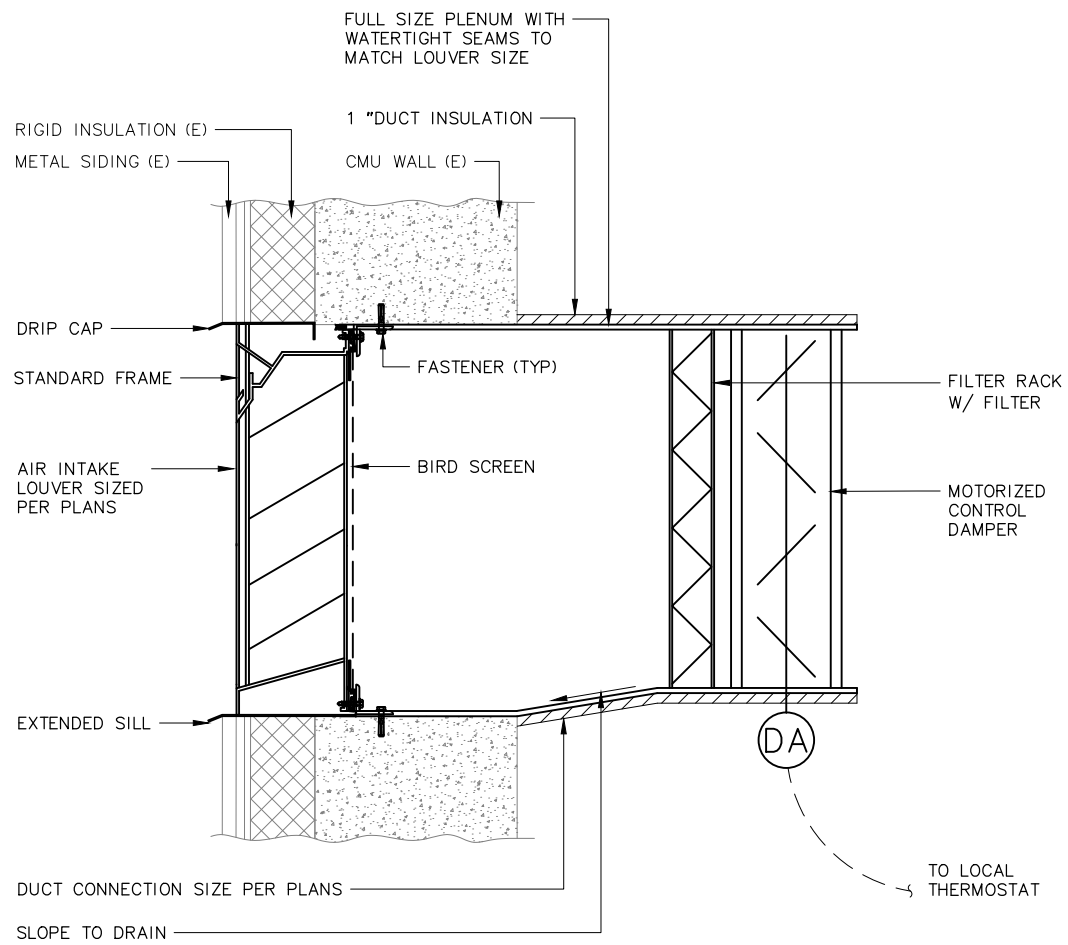


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DESIGNED BY	TLM
DRAWN BY	WTP
CHECKED BY	TLM
APPROVED BY	TLM

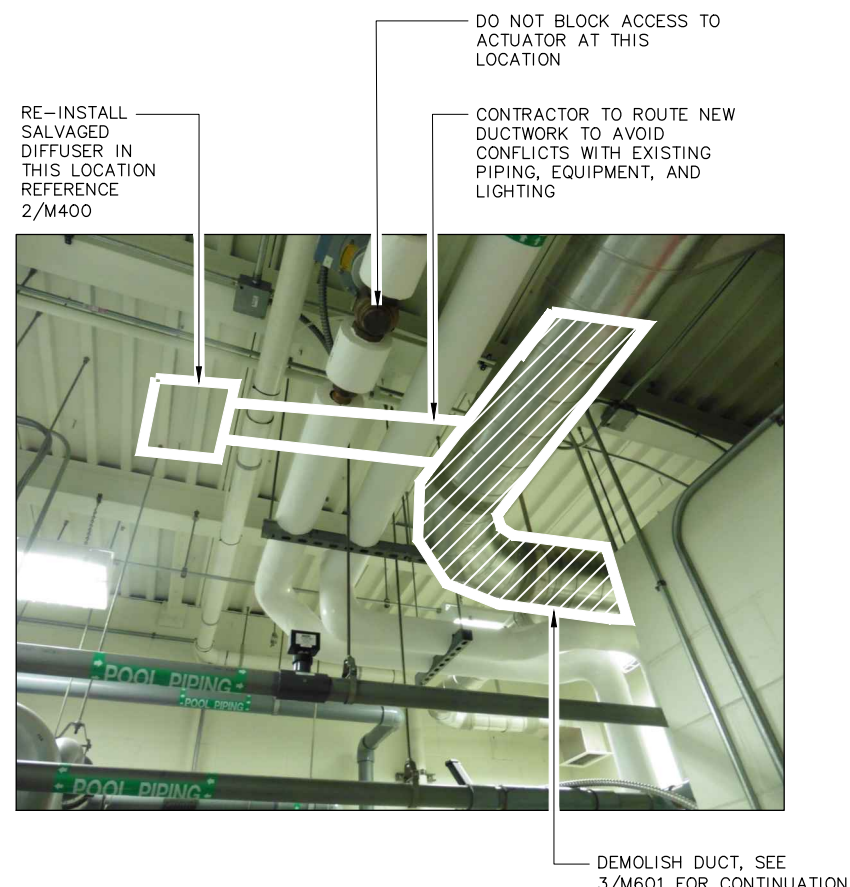
PROJECT NO: 20701.03
DIMOND PARK AQUATIC CENTER WHIRLPOOL
HVAC AND AHU-1 UPGRADES
MECHANICAL ENLARGED PLAN - AHU-1(E)
CITY AND BOROUGH OF JUNEAU, AK
STATUS: ISSUED FOR CONSTRUCTION DATE: 02/2017

PROJECT NO.	20701.03
CITY GRID	
WATER GRID	
SEWER GRID	
SHEET	M500
OF	12

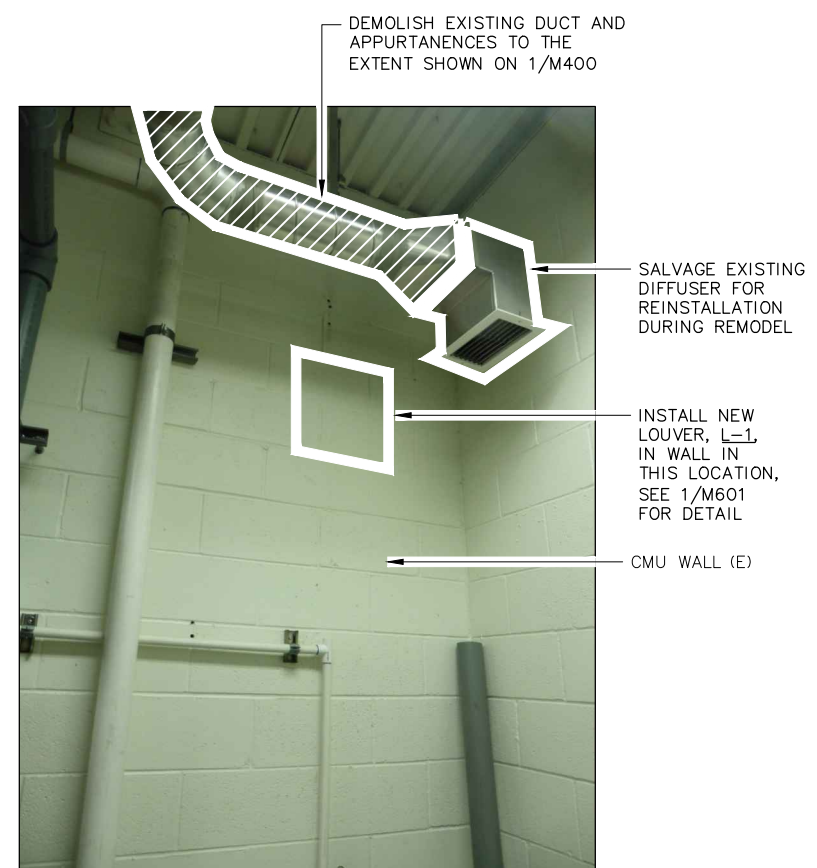
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1 **LOUVER DETAIL**
SCALE: NOT TO SCALE



2 **EXHIBIT PHOTO**
SCALE: NOT TO SCALE

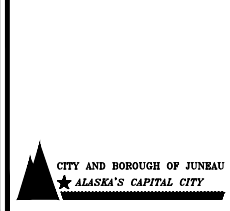


3 **EXHIBIT PHOTO**
SCALE: NOT TO SCALE



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0	02/2017	ISSUED FOR CONSTRUCTION	TLM

REVISION			
REV	DATE	DESCRIPTION	BY

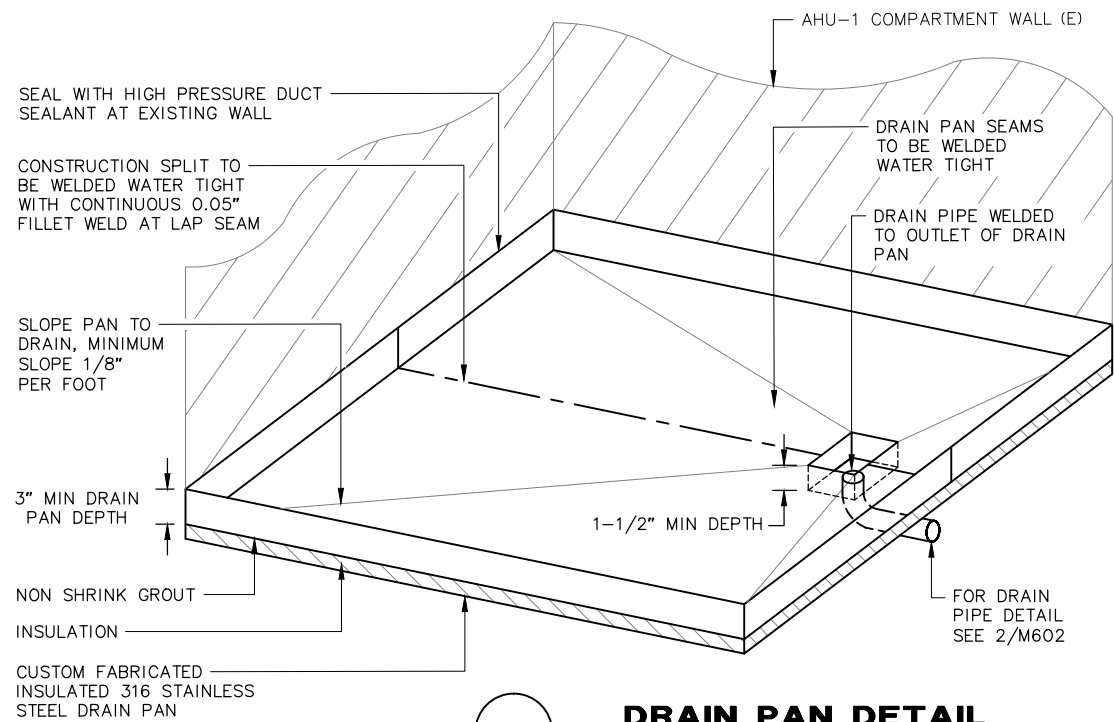


SCALE	HOR. N/A VER. N/A
DESIGNED BY	TLM
DRAWN BY	WTP
CHECKED BY	TLM
APPROVED BY	TLM

PROJECT NO: 20701.03
**DIMOND PARK AQUATIC CENTER WHIRLPOOL
 HVAC AND AHU-1 UPGRADES**
MECHANICAL DETAILS AND PHOTOS – WHIRLPOOL
 CITY AND BOROUGH OF JUNEAU, AK
 STATUS: ISSUED FOR CONSTRUCTION DATE: 02/2017

PROJECT NO.	20701.03
CITY GRID	
WATER GRID	
SEWER GRID	
SHEET	M601
OF	12

File: J:\JobsData\20701.03_CbJ_Diamond_Aquatic_Center_Ahu-1_Upgrade\00_CADD\01_Working_Sett\06_Mechanical\20701.03_Mechanical_Details.dwg PLOT DATE: 2/17/2017 11:03 AM

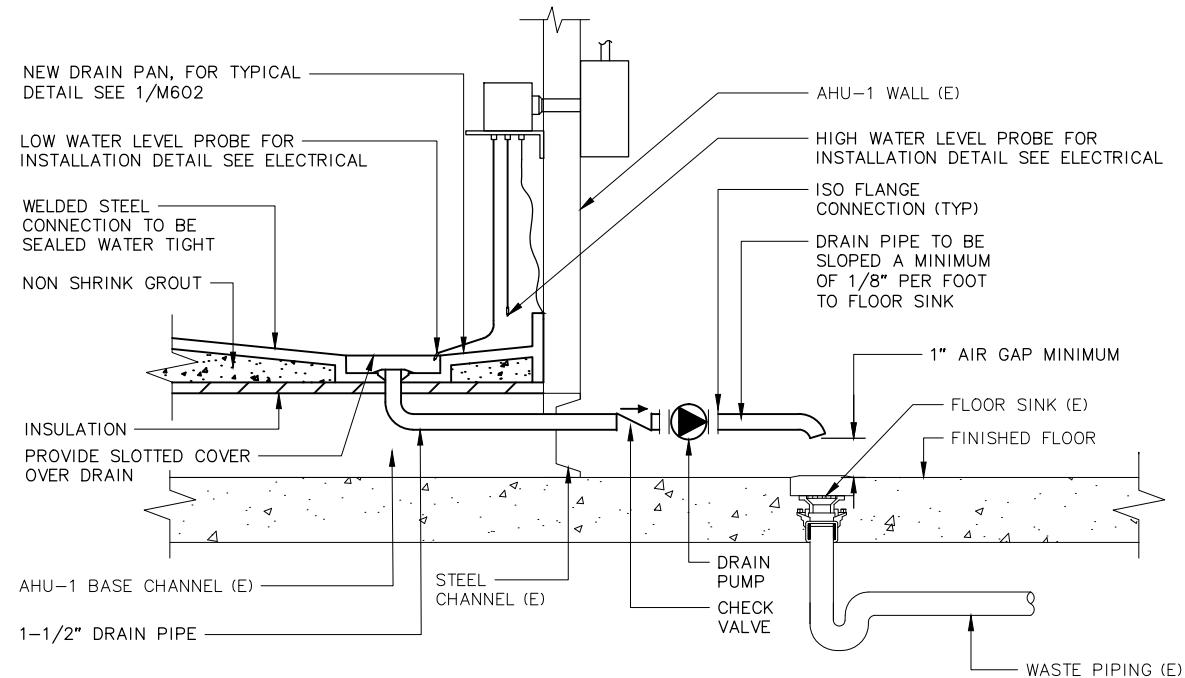


1 DRAIN PAN DETAIL

SCALE: NOT TO SCALE

DETAIL NOTES:

1. PRIOR TO INSTALLATION OF DRAIN PAN, SEAL COMPARTMENT TO PREVENT TRANSFER OF AIR AND DEBRIS DURING INSTALLATION.
2. WATER TEST PAN FOR LEAKS AFTER INSTALLATION. TEST IS TO BE PERFORMED BY PLUGGING THE DRAIN PAN OUTLET AND FILLING THE PAN WITH WATER TO A DEPTH OF 1". AFTER A PERIOD OF 1 HOUR, THE WATER LEVEL IN THE PAN IS TO BE VERIFIED TO CONFIRM THAT NO LEAKAGE HAS OCCURED.
3. THIS IS A TYPICAL DETAIL. SHOP DRAWING DOES NOT DETAIL ACTUAL CONSTRUCTION OF DRAIN PAN FOR EACH COMPARTMENT. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OF DRAIN PAN.



2 DRAIN PIPING DETAIL

SCALE: NOT TO SCALE

COMPARTMENT FLOOR TO BE CLEAN, DRY, AND FREE OF CORROSION PRIOR TO INSTALL OF DRAIN PAN

REMOVE EXISTING DUCT SEALANT, APPLY NEW HIGH PRESSURE DUCT SEALANT AFTER COMPARTMENT IS CLEANED OF ALL SCALED BUILDUP AND CORROSION AT ALL SEAMS AND PENETRATIONS



3 EXHIBIT PHOTO - COMPARTMENT #2 HX OUTSIDE AIR

SCALE: NOT TO SCALE

DEMOLISH 1-1/4" (E) DRAIN PIPING AND INSTALL NEW 1-1/2" DRAIN PIPING TO PUMP, CP-B.



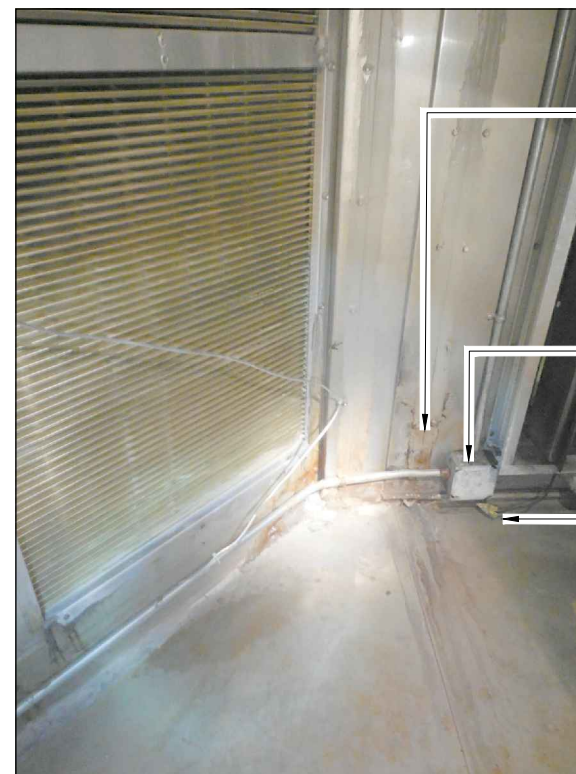
4 EXHIBIT PHOTO - COMPARTMENT #8 MIXED AIR DISCHARGE

SCALE: NOT TO SCALE

REMOVE EXISTING DUCT SEALANT, APPLY NEW HIGH PRESSURE DUCT SEALANT AFTER COMPARTMENT IS CLEANED OF ALL SCALED BUILDUP AND CORROSION AT ALL SEAMS AND PENETRATIONS

EXISTING ELECTRICAL TO BE RELOCATED AS NEEDED FOR INSTALL OF NEW DRAIN PAN

COMPARTMENT FLOOR TO BE CLEAN, DRY, AND FREE OF CORROSION PRIOR TO INSTALL OF DRAIN PAN



5 EXHIBIT PHOTO - COMPARTMENT #8 MIXED AIR DISCHARGE

SCALE: NOT TO SCALE



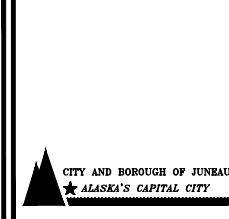
6 EXHIBIT PHOTO - COMPARTMENT #9 EXHAUST AIR

SCALE: NOT TO SCALE



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REV	DATE	DESCRIPTION	BY



SCALE	HOR. N/A VER. N/A
DESIGNED BY	TLM
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APPROVED BY	TLM

PROJECT NO: 20701.03

DIMOND PARK AQUATIC CENTER WHIRLPOOL
HVAC AND AHU-1 UPGRADES















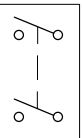

MECHANICAL DETAILS AND PHOTOS - AHU-1(E)

CITY AND BOROUGH OF JUNEAU, AK

STATUS: ISSUED FOR CONSTRUCTION DATE: 02/2017

PROJECT NO.	20701.03
CITY GRID	
WATER GRID	
SEWER GRID	
SHEET	M602
OF	12

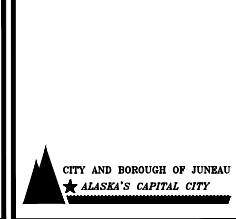
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ELECTRICAL LEGEND	ABBREVIATIONS	SCOPE	SPECIFICATIONS
 BUS  EXPOSED CONDUIT  CONDUIT/CABLE RUN UNDERGROUND OR IN CONCRETE  HOMERUN TO PANEL "X", CIRCUITS NO. Y AND Z CONDUIT RUNS NOT DEFINED ARE 1/2" C with 3#12.  GROUND  FLEXIBLE CONDUIT, SEE SPECIFICATION FOR TYPE  SHEET NOTE "X"  PANELBOARD  CONTROL PANEL  JUNCTION BOX OR FITTING  SINGLE POLE SWITCH 120/277V 20A  WALL MOUNTED FIXTURE  DAMPER ACTUATOR  SINGLE PHASE MOTOR WITH HORSEPOWER INDICATED  2-POLE SNAP SWITCH  CIRCUIT BREAKER, RATING (IN AMPS) AS NOTED	<p>A AMPERE AFF ABOVE FINISH FLOOR AHU AIR HANDLING UNIT AIC AMPERES INTERRUPTING CAPACITY ATS AUTOMATIC TRANSFER SWITCH AVEC ARCTIC VILLAGE ELECTRIC COMPANY BCP BOILER CONTROL PANEL BCU BARE COPPER BLDG BUILDING C CONDUCTOR C CONDUIT CIRC CIRCULATION CP CONTROL PANEL CP CIRCULATION PUMP CT CURRENT TRANSFORMER DA DAMPER ACTUATOR DHW DOMESTIC HOT WATER DWG DRAWING EA EACH EF EXHAUST FAN EMT ELECTRICAL METALLIC TUBING ENT ELECTRICAL NON-METALLIC TUBING EOL END OF LINE RESISTOR F FRACTIONAL HORSEPOWER MOTORS FACP FIRE ALARM CONTROL PANEL FC FOOT CANDLE FMC FLEXIBLE METAL CONDUIT FVNR FULL VOLTAGE NON-REVERSING, THERMAL MAGNETIC OCP G GROUND CONDUCTOR GFI GROUND FAULT INTERRUPTING GP GLYCOL PUMP H HOT CONDUCTOR HBP HIGH BOOST PUMP HE HEAT EXCHANGER HOA HAND OFF AUTO HP HORSEPOWER HPS HIGH PRESSURE SODIUM KVA KILO-VOLT-AMPERES KW KILOWATT LCP LOCAL CONTROL PANEL LTFMC LIQUID TIGHT FLEXIBLE METAL CONDUIT LTFNC LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT LTG LIGHTING MCC MOTOR CONTROL CENTER MCM THOUSAND CIRCULAR MILLS MCP MAGNETIC ONLY CIRCUIT PROTECTOR MDP MAIN DISTRIBUTION PANEL MV MOTORIZED VALVE N NEUTRAL CONDUCTOR NEC NFPA 70 NATIONAL ELECTRICAL CODE NEMA NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION NFPA A NATIONAL FIRE PROTECTION AGENCY NMC NON METALLIC CABLE OCP OVERCURRENT PROTECTION P POLE RCP RECEPTACLE RM ROOM RMC RIGID METAL CONDUIT, GALVANIZED SL SWITCH LEG SP SEWAGE PUMP SS STAINLESS STEEL TWSH TWISTED/SHIELDED TYP TYPICAL U/G UNDERGROUND UON UNLESS OTHERWISE NOTED V VOLTS VAC VACANCY VFD VARIABLE FREQUENCY DRIVE WP WEATHER PROOF WTP WATER TREATMENT PLANT XFMR TRANSFORMER</p>	<p>DESIGN INTENT IS TO REPLACE THE EXISTING CONDUIT SYSTEM WITH CORROSION RESISTANT WIRING METHODS, SEAL ALL PENETRATIONS AND POSSIBLE CROSS CONNECTIONS WITHIN THE CONDUIT SYSTEM AND REMOVE THE CONDENSATION COLLECTING IN THE AHU COMPARTMENT BASINS.</p> <p>1. <u>DEMOLITION</u> - DISCONNECT AND REMOVE ALL EXISTING CONDUIT AND CONDUCTORS FROM WITHIN THE AHU COMPARTMENTS SERVING THE LIGHTING AND DAMPER CIRCUITS. PRIOR TO DISCONNECTING, CONTRACTOR SHALL TEST THE OPERATION OF THE DAMPER MOTORS WITHIN ALL OF THE AHU COMPARTMENTS. CONTRACTOR SHALL PREPARE AS-BUILT SKETCHES BEFORE REMOVING DAMPER ACTUATOR (DA) CIRCUITS. CONTRACTOR WILL BE RESPONSIBLE FOR RE-CONNECTING DAMPER AND LIGHTING CIRCUITS REMOVED AND RE-SERVING ALL OF THE ITEMS DISCONNECTED DURING DEMOLITION</p> <p>2. <u>LIGHTING</u> - INTERCEPT AND TAP EXISTING LIGHTING CIRCUIT AT LOCATION OUTSIDE OF THE COMPARTMENTS AS SHOWN. RE-INSTALL LIGHTING CIRCUIT WITH NEW ROUTING AROUND EXTERIOR OF THE COMPARTMENTS WITH PENETRATION FROM EXTERIOR J-BOX INTO FIXTURE BASE IN COMPARTMENT. SEAL PENETRATION WITH WATER TIGHT SEALANT.</p> <p>3. ADDITIVE ALTERNATE 1 - REPLACE ALL OF THE EXISTING AHU-1(E) COMPARTMENT LIGHTING FIXTURES.</p> <p>4. NEW TRANSFER PUMPING - PROVIDE POWER SUPPLY POINT USING UNIT SUBSTATION PANEL. PROVIDE TRANSFER PUMPING SYSTEM CONSISTING OF LEVEL SENSORS, PUMP CONTROL PANEL AND PUMPS AS SHOWN. PUMP CONTROL SENSORS WILL REQUIRE CUSTOM INSTALLATION WITH RELATIVELY SMALL TOLERANCES. CONTRACTOR TO ANTICIPATE AND ALLOW FOR ADDITIONAL TIME FOR ADJUSTMENT OF SENSOR PROBES.</p> <p>5. UPON COMPLETION OF THE PUMPING INSTALLATION, DEMONSTRATE THE OPERATION OF THE CONTROLS IN THE PRESENCE OF THE OWNER.</p> <p>6. AFTER OPERATION HAS BEEN DEMONSTRATED AND APPROVED, PROVIDE 1 HOUR OF TRAINING ON THE OPERATION OF THE CONTROLS AND REVIEW THE LOGIC AND SEQUENCE OF A PUMPING CYCLE.</p>	<p>INSTALLATION: ALL WIRING SHALL BE PERFORMED BY ALASKA LICENSED JOURNEYMEN ELECTRICIANS UNDER THE SUPERVISION OF AN ELECTRICAL ADMINISTRATOR IN ACCORDANCE WITH THE LATEST ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE AND ANY LEGALLY ADOPTED LOCAL AMENDMENTS.</p> <p>SUBMITTALS: SUBMIT FOR REVIEW AND ACCEPTANCE ALL MATERIALS PROPOSED TO BE USED ON THIS PROJECT. ONLY MATERIAL THAT HAS BEEN APPROVED IN WRITING SHALL BE EMPLOYED.</p> <p>TESTING: PRIOR TO DEMOLITION, ALL OPERABLE COMPONENTS (I.E.: DAMPER ACTUATORS, LIGHTS) SHALL BE TESTED AND VERIFIED AS OPERATIONAL. CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL OPERATIONAL COMPONENTS BACK TO THEIR ORIGINAL STATUS UPON COMPLETION. THIS IS THE BASIS FOR SUBSTANTIAL COMPLETION.</p> <p>MATERIALS: ALL MATERIALS PROVIDED UNDER THIS CONTRACT SHALL BE LISTED OR LABELED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS AND NEC.</p> <p><u>CONDUCTORS:</u></p> <p>POWER - #12AWG, CU COPPER CLASS B STRANDING THHN/THWN INSULATION. CONTROL - 1PR #16 TWISTED. SHIELDED, COPPER CONDUCTORS PLENUM RATED.</p> <p><u>CONDUIT</u></p> <p>SS 304 STAINLESS STEEL RIGID AND FLEXIBLE CONDUIT AND FITTINGS SHALL BE USED WITHIN COMPARTMENTS AND FOR ALL COMPARTMENT WALL PENETRATIONS. GIBSON STAINLESS OR EQUAL</p> <p>EMT WITH COMPRESSION FITTINGS AND INSULATED THROAT CONNECTORS FOR USE OUTSIDE OF COMPARTMENTS. AMERICAN CONDUIT OR APPROVED EQUAL.</p> <p><u>BOXES</u> - STAINLESS STEEL DEVICE BOXES (BLANK) INSIDE COMPARTMENTS. GIBSON STAINLESS OR APPROVED EQUAL.</p> <p>CAST ALUMINUM OUTSIDE OF COMPARTMENTS. BELL OR EQUAL.</p> <p>SEAL ALL COMPARTMENT WALL PENETRATIONS WITH NON-HARDENING SEALANT. POLYWATER FST OR EQUAL</p> <p><u>ADDITIVE ALTERNATE 1</u></p> <p><u>LIGHT FIXTURE</u></p> <p>RIG-A-LITE, BRASS INCANDESCENT, VAPOR TIGHT, CORROSION RESISTANT, PENDANT MOUNT STYLE, 120V, 150W MAX WITH GLASS GLOBE AND WIRE GUARD. #BVP15I-12-HR-G-P. MOUNT FIXTURE HORIZONTALLY ON RIGID NIPPLE FROM EXTERNAL JUNCTION BOX. PROVIDE SUPPORT IF REQUIRED TO TAKE THE STRAIN OFF OF THE CONDUIT AND BOX. COORDINATE STAINLESS BACK BOX AND CONDUIT REQUIREMENTS PROVIDE NIPPLE MATCHED TO FIXTURE OR REDUCING BUSHING AS REQUIRED. PROVIDE 60W A19 EXTENDED DUTY BULB. SEAL NIPPLE PENETRATING THE COMPARTMENT WALL.</p>



REVISION			
REV	DATE	DESCRIPTION	BY
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REV	DATE	DESCRIPTION	BY



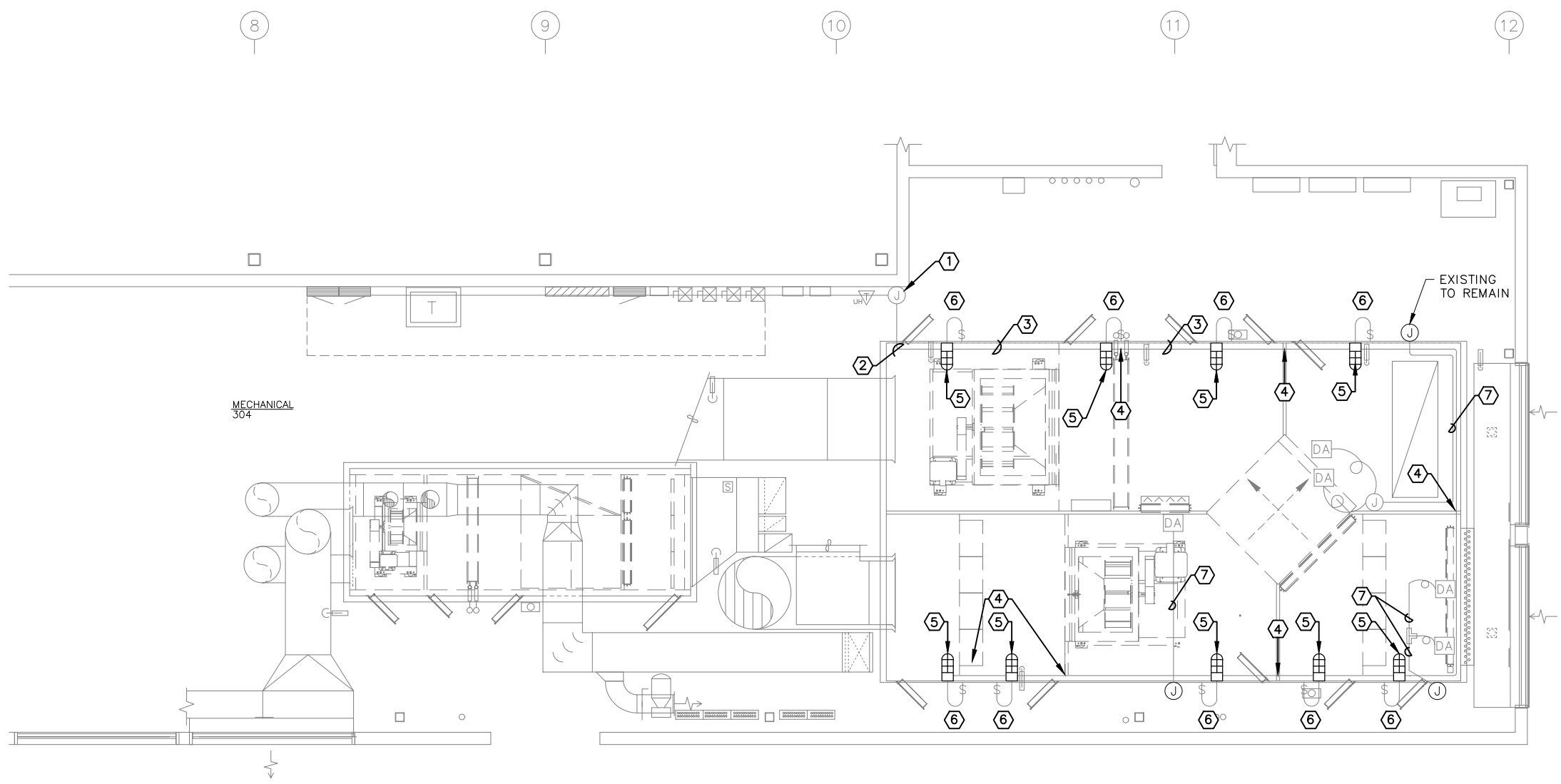
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DESIGNED BY	WMM
DRAWN BY	JIM
CHECKED BY	WMM
APPROVED BY	WMM

PROJECT NO: 20701.03	DIMOND PARK AQUATIC CENTER WHIRLPOOL HVAC AND AHU-1 UPGRADES
LEGENDS, ABBREVIATIONS, AND SCHEDULES	
CITY AND BOROUGH OF JUNEAU, AK	
STATUS: ISSUED FOR CONSTRUCTION	DATE: 02/2017

PROJECT NO.	20701.03
CITY GRID	
WATER GRID	
SEWER GRID	
SHEET	E001
OF	12

File: .t:\jobdata\20701.03_Cb\Dimond Aquatic Center Ahu-1 Upgrades\00_CADD\01_Working_Set\03_Electrical\20701.03_Electrical Enlarged Floor Plan - AHU.dwg PLOT DATE: 2/17/2017 11:04 AM

- NOTES:**
- ① INTERCEPT EXISTING LIGHTING CIRCUIT IN THIS LOCATION, DEMOLITION PROCEEDS BEYOND THIS POINT. PIGTAIL LIGHTING CIRCUIT. SEE E402 FOR CONTINUATION OF LIGHTING.
 - ② DISCONNECT/REMOVE THIS PART OF BRANCH CIRCUIT LEADING TO FIRST FIXTURE.
 - ③ DISCONNECT/REMOVE BRANCH CIRCUIT FROM COMPARTMENT INTERIORS.
 - ④ AT WALLS BETWEEN COMPARTMENTS, CUT CONDUIT AND REINFORCE SEALING BETWEEN INTERSTITIAL SPACE. SEAL CONDUIT WITH SPECIFIED SEALANT.
 - ⑤ ADD ALT 1: REMOVE EXISTING FIXTURES.
 - ⑥ EXISTING SWITCH AND EXTERNAL CONDUIT CONDUCTORS TO REMAIN.
 - ⑦ AS-BUILT ALL TERMINATIONS FOR DAMPER POWER AND CONTROL THEN DISCONNECT AND REMOVE CONDUIT/CONDUCTORS WITHIN COMPARTMENT. EXTERIOR J-BOX TO REMAIN. SEE E402 FOR NEW INSTALLATION.

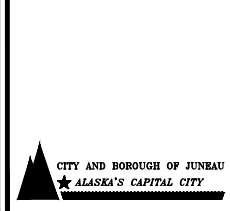


1 ELECTRICAL DEMOLITION PLAN - 2ND FLOOR FAN ROOM
 SCALE: 1/8" = 1'-0"
 GRAPHIC SCALE IN FEET



REVISION			
REV	DATE	DESCRIPTION	BY
0	02/2017	ISSUED FOR CONSTRUCTION	WMM
1	02/2017	REVIEW COMMENTS	JJ

REVISION			
REV	DATE	DESCRIPTION	BY



SCALE	HOR. PER PLANS VER. N/A
DESIGNED BY	WMM
DRAWN BY	JIM
CHECKED BY	WMM
APPROVED BY	WMM

PROJECT NO: 20701.03

**DIMOND PARK AQUATIC CENTER WHIRLPOOL
HVAC AND AHU-1 UPGRADES**

ELECTRICAL DEMOLITION

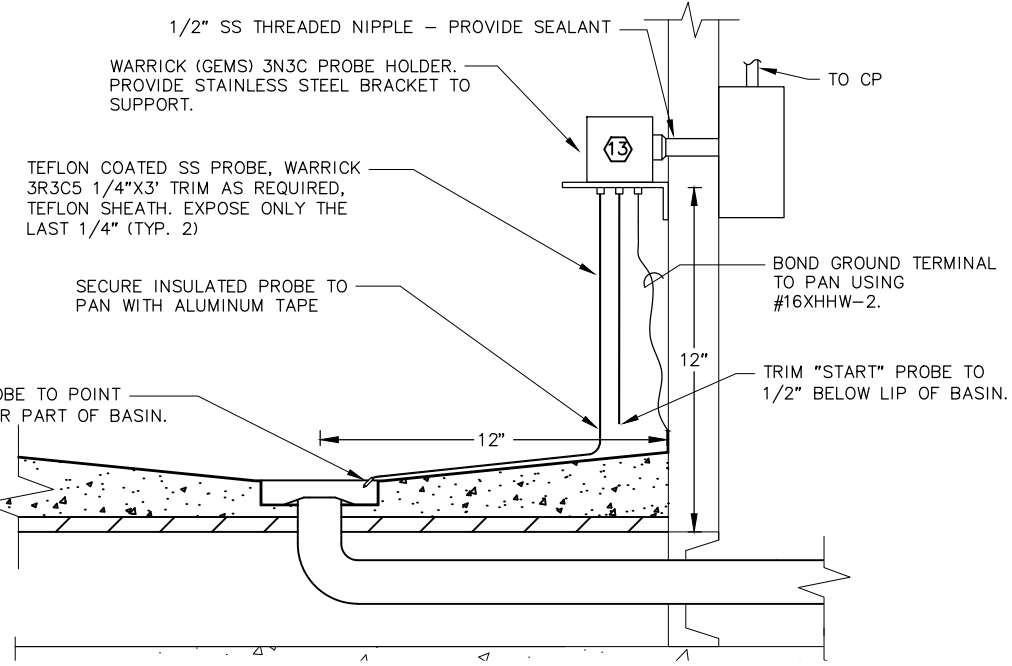
CITY AND BOROUGH OF JUNEAU, AK

STATUS: ISSUED FOR CONSTRUCTION DATE: 02/2017

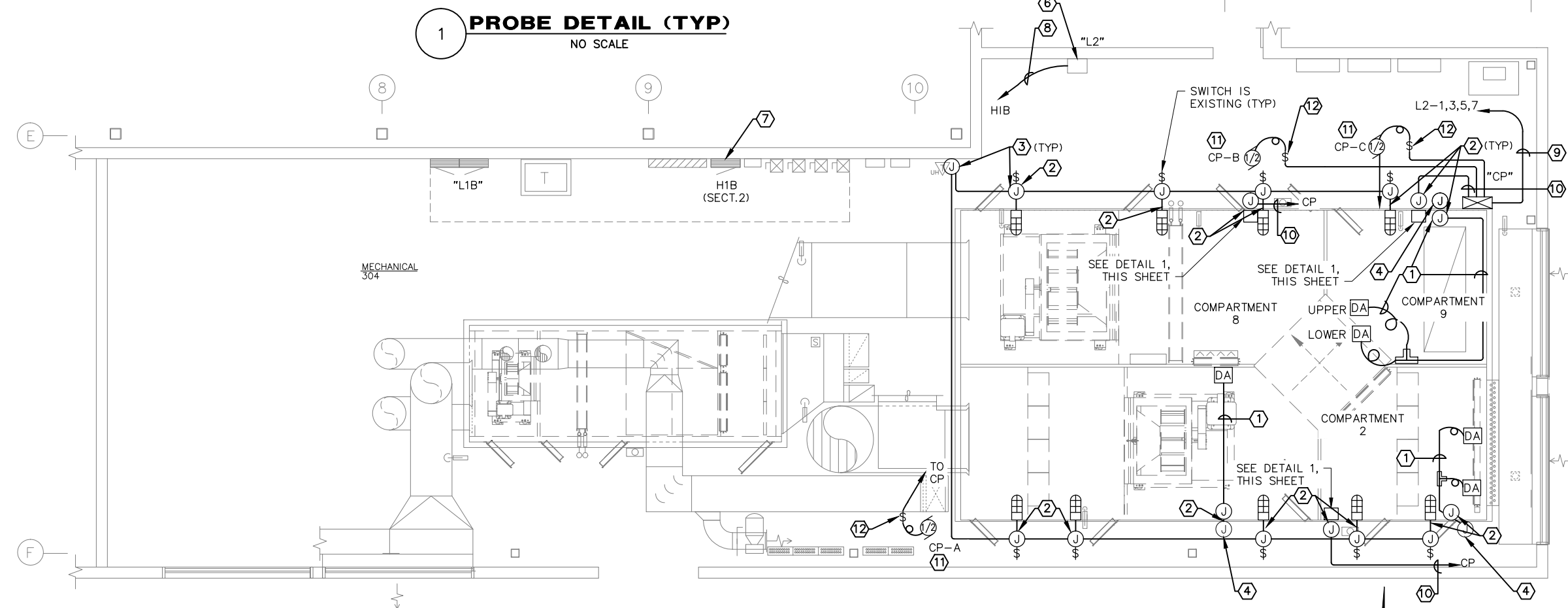
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CITY GRID	
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SHEET	E401
OF	12

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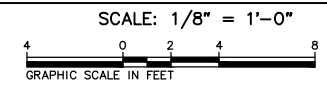
BUILDING LOAD ANALYSIS:
 12 MONTH PEAK LOADING = 630KW,
 630KW x 1.25 = 787.5KVA = 947.3A,
 STRUCTURE HAS 3000A SERVICE.
 ALTHOUGH H1B IS ON 1200A FEEDER,
 THERE IS SUFFICIENT CAPACITY TO
 ADD (3) 1.2KVA INTERMITTENT SHORT
 CYCLE (10-30s) LOADS.



1 PROBE DETAIL (TYP)
NO SCALE



2 ENLARGED ELECTRICAL PLAN - 2ND FLOOR FAN ROOM



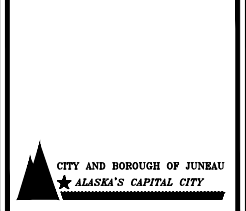
PANEL L2 SCHEDULE									
7.5 kVA Unit Substation Served from H1B			120/240VAC			1-PHASE, 3 WIRE		40A MAINS	
M-305			40A MCB			SURF/NEMA 3R SS		18,000 AIC	
POLE	AMP TRIP	LOAD DESCRIPTION	POLE kVA	A PHASE	B PHASE	POLE kVA	LOAD DESCRIPTION	AMP TRIP	POLE
1	15/2	Transfer Pump CP-A	0.6	1.2	1.2	0.6	Transfer Pump CP-C	15/2	2
3			0.6			0.6			4
5	15/2	Transfer Pump CP-B	0.6	0.8	0.2	0.2	Drain Control Panel CP	15/1	6
7			0.6		0.6		Space		8
9		Space		0.0			Space		10
Square D 7440 MPZB7540FSS or equal			2.0	1.8				TOTAL kVA = 3.8	
									AMPS = 15.8

- NOTES:**
- PROVIDE 1/2 RIGID STAINLESS CONDUIT. REPLACING ALL EMT & GRC SERVING LOUVER DAMPERS. RE-WIRE DAMPERS PER AS-BUILT GENERATED DURING DEMOLITION. PROVIDE NEW STAINLESS J-BOX AT PENETRATION IN COMPARTMENT. FOR BID PURPOSES PROVIDE (2) 1PR#16TWSH IN EACH CONDUIT RUN.
 - SEAL ALL CONDUITS PENETRATING COMPARTMENT WITH PRESSURE RATED SEALANT. SEAL INTERSTITIAL SPACE AROUND CONDUIT.
 - PROVIDE JUNCTION BOX AND 1/2"C, 3#12 (H, N, G) FROM TAP SERVING ALL LIGHT FIXTURES. SEE NOTE 1.
 - EXISTING CONTROL J-BOX.
 - ADD ALT 1: PROVIDE NEW LIGHT FIXTURE SEE SPECIFICATION.
 - 7.5KVA UNIT SUBSTATION ACME PANEL TRAN ZONE CENTER PT06115007LS. MOUNT SUCH THAT PANEL DOOR IS AT 78" WHEN OPEN. BOND SEPARATELY DERIVED SYSTEM TO SYSTEM GROUND.
 - PROVIDE 2P, 480V, 30A BREAKER IN H1B SECT.2.
 - 3/4"EMT, 2#10 (2H), 1#6(G).
 - 3/4"EMT, 9#12 (4H, 4N, G).
 - 1/2"C, 3#16 (G, (2) SIGNAL).
 - SEE MECHANICAL FOR PUMP LOCATION. LOCATE DISCONNECT ON COMPARTMENT WALL ABOVE.
 - 2-POLE HP RATED SNAP SWITCH, DEVICE BOX AND STAINLESS STEEL COVER. PROVIDE LABEL: CP-X DISCONNECT
 - AFTER PROBES HAVE BEEN INSTALLED AND TESTED, INSULATE ALL EXPOSED METALLIC PORTIONS OF THE CONNECTIONS AT THE PROBE HOLDER AND AT THE GROUND BONDING POINT. PLASTI-DIP LIQUID TAPE OR EQUAL.



REV	DATE	DESCRIPTION	BY
0	02/2017	ISSUED FOR CONSTRUCTION	WMM
1	02/2017	REVIEW COMMENTS	JJ

REV	DATE	DESCRIPTION	BY

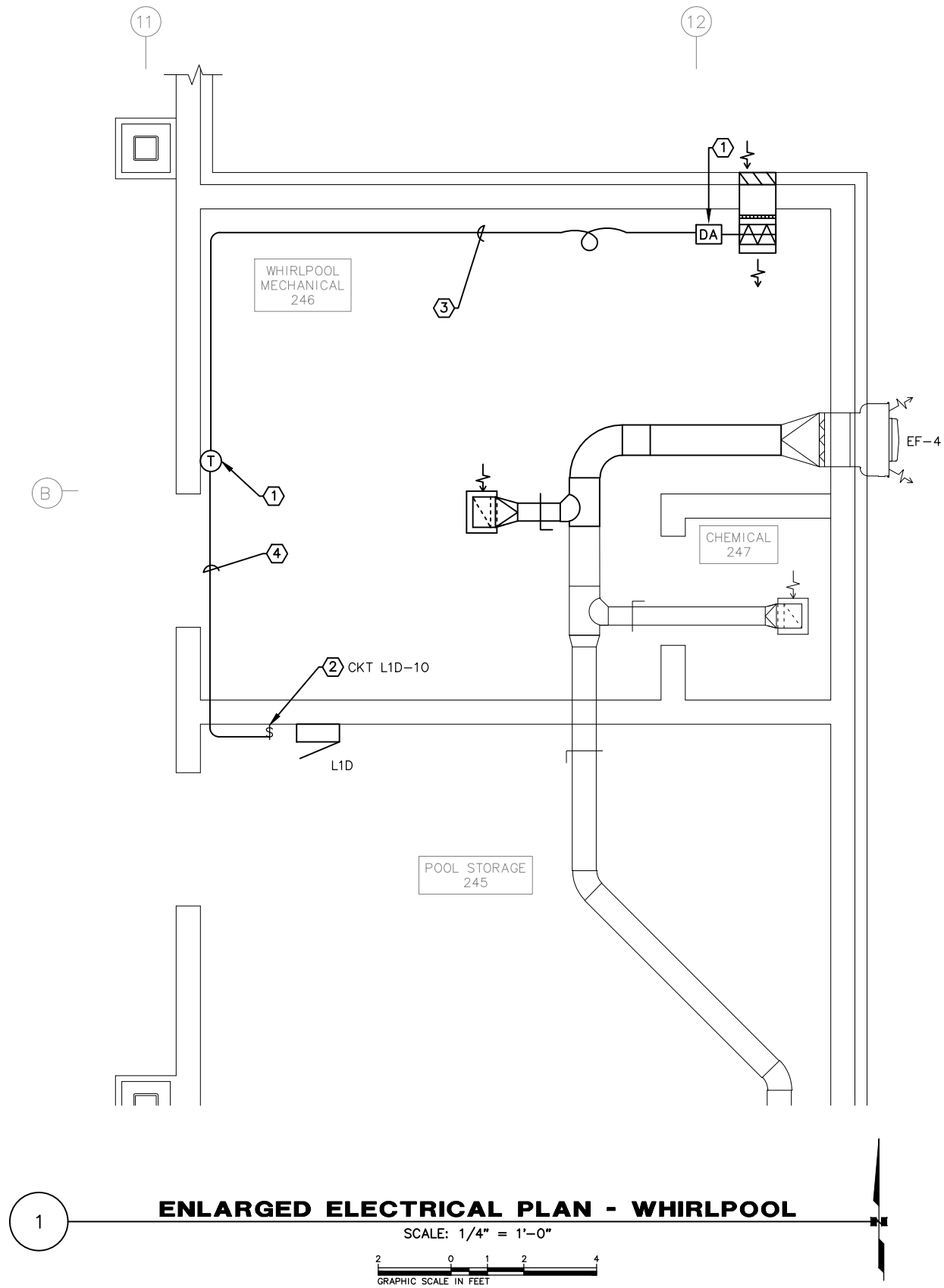


SCALE	HOR. PER PLANS	VER. N/A
DESIGNED BY	WMM	
DRAWN BY	JIM	
CHECKED BY	WMM	
APPROVED BY	WMM	

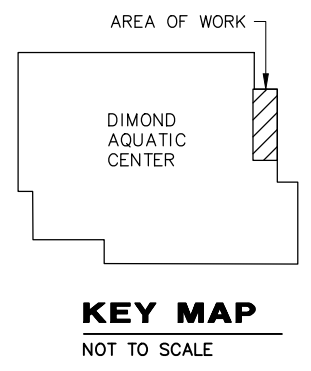
PROJECT NO: 20701.03
 DIMOND PARK AQUATIC CENTER WHIRLPOOL
 HVAC AND AHU-1 UPGRADES
ELECTRICAL ENLARGED PLAN - AHU-1(E)
 CITY AND BOROUGH OF JUNEAU, AK
 STATUS: ISSUED FOR CONSTRUCTION DATE: 02/2017

PROJECT NO.	20701.03
CITY GRID	
WATER GRID	
SEWER GRID	
SHEET	E402
OF	12

File: J:\JobsData\20701.03_Cb\Dimond Aquatic Center Ahu-1 Upgrades\00_CADD\01_Working_Sets\03_Electrical\20701.03_Electrical Enlarged Floor Plan - Whirlpool.dwg PLOT DATE: 2/17/2017 11:05 AM



- NOTES:
- ① 120V DAMPER ACTUATOR AND THERMOSTAT, SEE MECHANICAL.
 - ② INTERCEPT 120V POWER FOR TO EF-4 AT WALL SWITCH. RUN CIRCUIT TO ACTUATOR VIA THERMOSTAT. SEE MECHANICAL FOR OPERATION.
 - ③ 1/2" EMT, 3#12 (N, G, SWITCH LEG)
 - ④ 1/2"C, 3#12 (H, N, G)

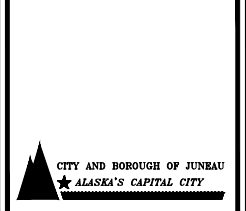


1 ENLARGED ELECTRICAL PLAN - WHIRLPOOL
SCALE: 1/4" = 1'-0"
GRAPHIC SCALE IN FEET



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REV	DATE	DESCRIPTION	BY
0	02/2017	ISSUED FOR CONSTRUCTION	WMM

REVISION			
REV	DATE	DESCRIPTION	BY



SCALE	HOR. PER PLANS VER. N/A
DESIGNED BY	WMM
DRAWN BY	JIM
CHECKED BY	WMM
APPROVED BY	WMM

PROJECT NO: 20701.03

DIMOND PARK AQUATIC CENTER WHIRLPOOL
HVAC AND AHU-1 UPGRADES

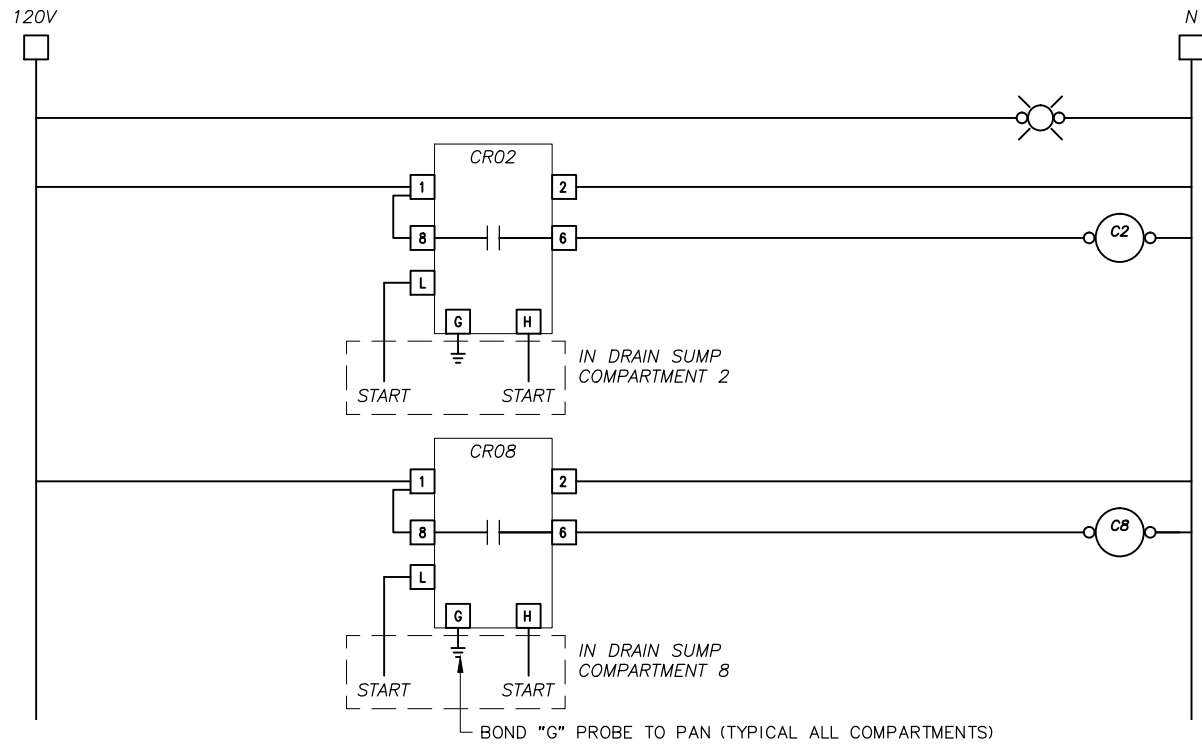
ELECTRICAL ENLARGED PLAN - WHIRLPOOL

CITY AND BOROUGH OF JUNEAU, AK

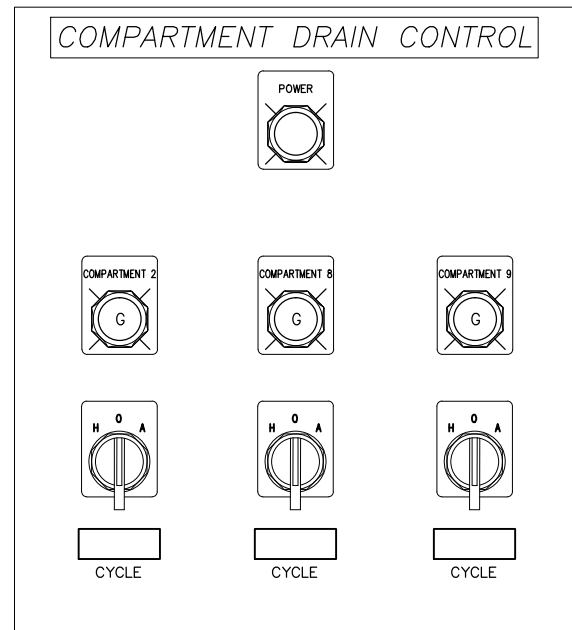
STATUS: ISSUED FOR CONSTRUCTION DATE: 02/2017

PROJECT NO.	20701.03
CITY GRID	
WATER GRID	
SEWER GRID	
SHEET	E403
OF	12

File: J:\JobsData\20701.03_Cb\Dimond Aquatic Center_Ahu-1 Upgrades\00_CADD\01_Working_Sets\03_Electrical\20701.03_Electrical_Sump_Controls.dwg PLOT DATE: 2/17/2017 11:06 AM



NOTE: PANEL ASSEMBLY MUST BE UL OR ETL LISTED.

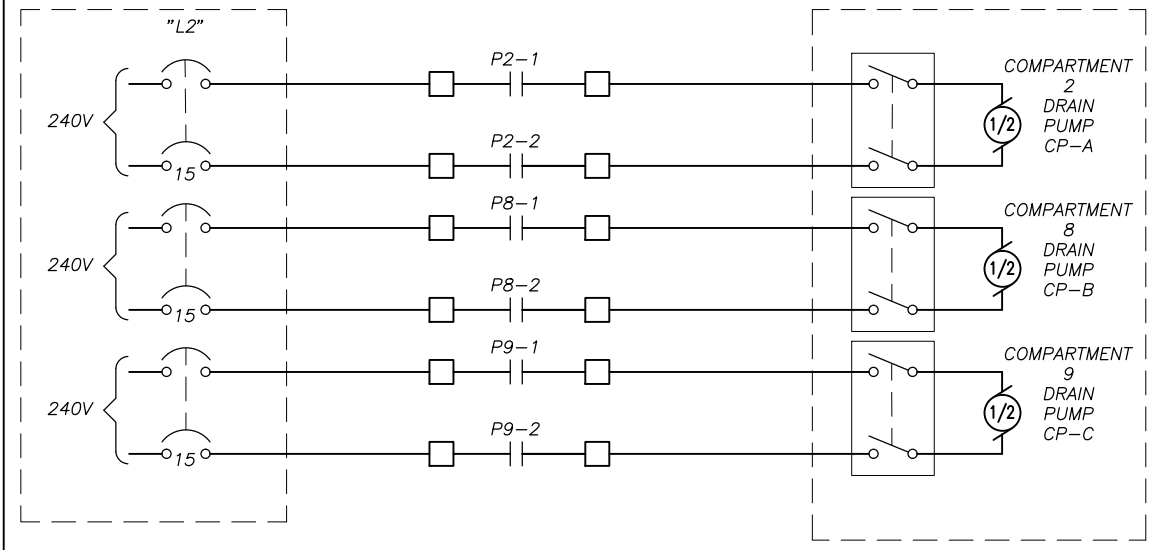
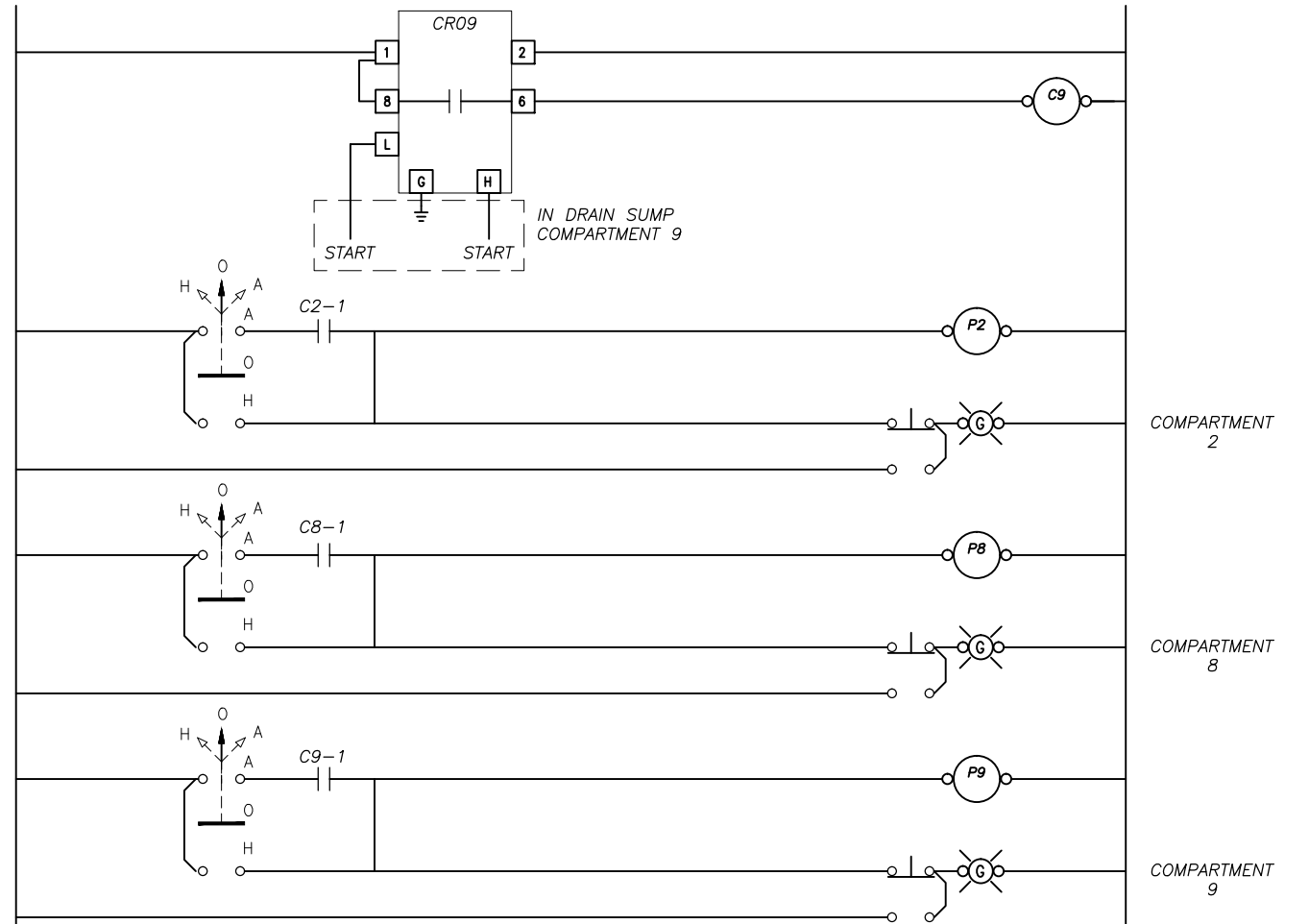


NARRATIVE:

IN HAND, PUMPS RUN CONTINUOUS. IN AUTO, PUMPS RUN WHEN HIGH PROBE IS IMMERSSED, AND STOP WHEN LOW PROBE IS EXPOSED.

PANEL IS NEMA 4X NON METALLIC, HOFFMAN OR EQUAL.

- TERMINAL BLOCK 20A RATED
- ⊗ 120V, LED, WHITE, ALLEN BRADLEY 800T QS-H10W
- ⊙ 120V, LED, GREEN, ALLEN BRADLEY 800T QS-H10G
- C1, C8, C9-120 COIL, 2PDT ALLEN BRADLEY 700-HF32A1W700-HN116
- P1, P8, P9-120V COIL, 2PDT, 1HP RATED ALLEN BRADLEY 700-P200A1
- ⊞ CONDUCTANCE RELAY WARRICK (GEMS) 16MA-1-A-0-1-1 WITH 8-PIN (TUBE) OCTAL SOCKET DIN RAIL MOUNT

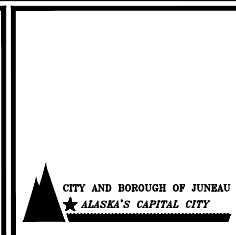


1 CONTROL PANEL LAYOUT
SCALE: NOT TO SCALE



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REV	DATE	DESCRIPTION	BY



SCALE	HOR. PER PLANS
	VER. N/A
DESIGNED BY	WMM
DRAWN BY	JIM
CHECKED BY	WMM
APPROVED BY	WMM

PROJECT NO: 20701.03
**DIMOND PARK AQUATIC CENTER WHIRLPOOL
 HVAC AND AHU-1 UPGRADES
 ELECTRICAL COMPARTMENT
 DRAIN CONTROL PANEL CP**
 CITY AND BOROUGH OF JUNEAU, AK

STATUS: ISSUED FOR CONSTRUCTION DATE: 02/2017

PROJECT NO.	20701.03
CITY GRID	
WATER GRID	
SEWER GRID	
SHEET	E501
OF	12