



HIGHLANDS COUNTY BOARD OF COUNTY
COMMISSIONERS (HCBCC)
PURCHASING DIVISION
600 S. Commerce Ave
Sebring, FL 33870
(863) 402-6500

DATE: May 11, 2023

BID NO. ITB 22-013-LKD ADDENDUM No. 2

Project.: Traffic Operations Building

The following represents clarification, additions, deletions, and/or modifications to the above referenced solicitation. This addendum shall hereafter be regarded as part of the solicitation. Items not referenced herein remain unchanged. Words, phrases or sentences with a strikethrough represent deletions to the original solicitation. Underlined words and bolded, phrases or sentences represent additions to the original solicitation, as applicable.

Questions and Answers

Q1	What is the collateral load that should be included for the Pre-Engineered Metal Building?
A1	10 PSF.
Q2	The riser diagram on print E201 does not show a generator disconnect but print E401 does, which is correct?
A2	Generator exterior manual disconnect not required. The disconnect will be removed from Drawing E401.
Q3	Sheet E201 shows panel SB located in the future storage barn. What do they want done with that panel/ circuit? Do they want the conduit stubbed out of the slab so they can finish it later or do they want the panel mounted on a concrete post next to the future barn?
A3	Mount to concrete post.
Q4	The location of the generator EPO button is not shown on the prints. Where do they want it located?
A4	Mount the EPO next to the ATS.
Q5	Sheet E201 shows a shunt trip breaker in the generator but print E501 the spec sheet calls for a standard breaker, which is correct?
A5	The remote stop EPO Option will shut down the generator and disconnect conductors which requires a shunt-trip breaker.

Q6	Sheet E201 note 3 states conduit to run a remote monitoring panel in room 113 but the remote monitoring panel is not drawn on the prints. Where do they want it located in room 113.
A6	Mount to the left side of Panel 'DP'.
Q7	Does the gate opener need any control wiring run to it?
A7	Data cabling shall be provided and installed by the Owner. Contractor shall provide 1" diameter data conduit from gate controller to building data backboard.
Q8	Sheet E301 room 120 covered storage shows a standard switch and note #4. Note 4 states switch shall override off (5) type G light fixtures. I want to clarify that this is what they want because the outside lights are controlled by the lighting control panel. If the control panel turns on the outside lights they will only turn on if the switch is on. If the switch is off then the light will not come on when the control panel turns the circuit on. Also if they want to turn on the lights in the middle of the day the lights will not turn on.
A8	The (5) type 'G' fixtures under covered storage shall now be connected to the <u>unswitched</u> leg exterior lighting circuit. All (5) fixtures shall now have motion sensor option #MSWL20. Remove wall mounted override switch (note #4).
Q9	The Specifications call for a flagpole, but the civil and architectural plans do not show one. Please advise.
A9	Delete the flagpole from the specifications.
Q10	Will Star Building Systems be an acceptable manufacturer for metal building systems in addition to those listed in Specification 13125, Part 2.01 A? I have attached specification data for Star Building Systems.
A10	We take no exception to this manufacturer.
Q11	Can a specification be provided for Shower stall and fixtures at Shower 107?
A11	Shower spec has been added to the Plumbing Fixture Schedule on P-300 (attached).
Q12	On Mechanical Pages- No equipment tonnage info provided. Please advise.
A12	"Nominal Tons" has been added to the schedule for AHU-1 on M-200 (attached).
Q13	On Mechanical Pages- No zoning info provided. Please advise.
A13	We typically do not schedule VVT zone dampers. Their size is based on their connecting ductwork. Please see the VVT Detail on M-200 for more information.
Q14	On Mechanical Pages- No cfm requirements or register specs provided. Please advise.
A14	In the Air Distribution Schedule on M-100, the Legend notes that the third row of each air device tag lists the CFM. We did miss identifying the return CFM for Open Office 112. This has been corrected on drawing sheet M100.
Q15	2.02, D4 - Cabinet backs and unfinished surfaces need one coat of aluminum paint, is this required?
A15	Aluminum paint is not required.

Q16	2.01, C3 - Cabinet interiors to be pressure infused laminate, is this cabinet liner?
A16	Yes.
Q17	2.02, C - Cabinet concealed backs to be a minimum of 1/2" stock, can this be 1/4" stock?
A17	No. ½" thick material shall be used for cabinet backs.
Q18	2.02, C5 - Drawer bottoms shall be 1/4" hardboard, can this be 1/4" plywood?
A18	Yes.
Q19	Could you please confirm Specification 13125, Part 2.05 – A calling for MBCI 16" LokSeam wall panels? This is typically a roof panel. MBCI PBR is a panel typically used on metal building system walls.
A19	The PBR panel is acceptable as long as the installation can satisfy the wind and impact requirements.
Q20	Specification 13125, Part 1.03 – B, 8 calls for deflection requirement of Metal Building System to be L/240. Is this just for C channel / wall girt bracing masonry wall or does it apply to all deflections of the metal building system?
A20	This would be specified by the building manufacturer and would need to be verified on their drawings as to what assumptions they designed to. We have not received the PEMB drawings – Anchor bolt drawings and reactions should be submitted to Grindley Williams Engineering so that we can review the reactions to finalize the foundation design.
Attachments:	Drawing sheets M100, M200 and P300.

HVAC GENERAL NOTES

- WORK SHALL COMPLY WITH APPLICABLE NATIONAL, STATE, AND LOCAL CODES INCLUDING:
 - 2020 FLORIDA BUILDING CODE (2018 IBC WITH AMENDMENTS)
 - 2020 FLORIDA MECHANICAL CODE (2018 IMC WITH AMENDMENTS)
 - 2020 FLORIDA ENERGY CONSERVATION CODE (2018 IECC WITH AMENDMENTS)
 - ALL APPLICABLE NFPA CODES
- DEFINITIONS: "FURNISH" SHALL MEAN TO PURCHASE AND LOCATE AN ITEM ON THE JOBSITE. "INSTALL" SHALL MEAN TO PHYSICALLY INSTALL AN ITEM, AND TO CONNECT ALL REQUIRED SERVICES TO MAKE THAT ITEM FULLY FUNCTIONAL. "PROVIDE" SHALL MEAN TO BOTH FURNISH AND INSTALL AN ITEM.
- TEST AND BALANCE (T&B) SHALL BE PERFORMED BY A TEST AND BALANCE AGENCY WHICH IS A MEMBER OF AABC OR NEBB, AND APPROVED BY THE ENGINEER. THE MECHANICAL CONTRACTOR SHALL HAVE ALL SYSTEMS FULLY INSTALLED AND OPERATIONAL, WITH CLEAN FILTERS PRIOR TO TEST AND BALANCE. TEST AND BALANCE SHALL BE PERFORMED WITH ALL EQUIPMENT RUNNING SIMULTANEOUSLY. THE TEST AND BALANCE COMPANY SHALL VERIFY THAT ALL DAMPERS ARE FULLY OPEN BEFORE ANY BALANCING. A T&B REPORT SHALL BE SUBMITTED TO THE ENGINEER, WHICH SHALL INCLUDE THE FOLLOWING:
 - ALL AIR FLOW RESULTS FOR ALL AIR DISTRIBUTION DEVICES
 - AIR FLOWS FOR TOTAL SUPPLY AIR, OUTSIDE AIR AND EXHAUST.
 - ANY DIFFERENCES BETWEEN AS-BUILT CONDITIONS AND THE MECHANICAL PLANS THAT MAY AFFECT SYSTEM PERFORMANCE OR BALANCING
 - MEASUREMENT OF UNIT COOLING AND HEATING CAPACITY INCLUDING COIL ENTERING AIR AND LEAVING AIR DRY BULB AND WET BULB, AND OUTSIDE AIR DRY BULB AT THE CONDENSERS.
 - VERIFICATION OF ALL CONTROLS TO FUNCTION IN COMPLIANCE WITH THE MECHANICAL PLANS INCLUDING INTERLOCK OF FANS AND OUTSIDE AIR DAMPERS.

HVAC EQUIPMENT

- CARRIER IS THE BASE-BID MANUFACTURER FOR THE AIR CONDITIONING EQUIPMENT. TRANE IS AN APPROVED ALTERNATE MANUFACTURER. IF TRANE IS USED, IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE ALL ELECTRICAL AND SERVICE CLEARANCE DIFFERENCES FROM THE BASIS OF DESIGN.
- ALL AIR CONDITIONING UNITS SHALL INCLUDE A ONE YEAR UNIT WARRANTY AND AN EXTENDED 4-YEAR COMPRESSOR WARRANTY.
- ALL ELECTRICAL EQUIPMENT SHALL BE UL LISTED.
- ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE CONDITIONS OF THE LISTING AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- THE AIR CONDITIONING EQUIPMENT SHALL BE OPERATED DURING CONSTRUCTION WITH THROWAWAY FILTERS. FILTERS SHALL BE CHANGED DURING CONSTRUCTION IF THEY BECOME RESTRICTIVE OF AIRFLOW FOR NORMAL OPERATION. PROVIDE 30% PLEATED MEDIA FILTERS, JUST PRIOR TO TEST AND BALANCE.
- THE MECHANICAL SUBCONTRACTOR SHALL PREPARE PLANS SHOWING THE LOCATIONS AND SIZES OF ALL WALL PENETRATIONS AND ROOF OPENINGS, FOR USE BY THE GENERAL CONTRACTOR.
- SUBMITTALS SHALL BE REVIEWED BY THE ELECTRICAL SUBCONTRACTOR, FOR IMPACT ON THE ELECTRICAL, PRIOR TO ORDERING EQUIPMENT. ANY SUBSTITUTED EQUIPMENT SHALL BE PROTECTED BY EITHER FUSES OR AN HACR BREAKER.
- UNITS SHALL BE CLEANED, ALL SCRATCHES SHALL BE PAINTED OVER WITH FACTORY PAINT TO MATCH UNIT, ALL CONDENSER COILS SHALL BE COMBED OUT, AND ALL PANELS AND SCREWS SHALL BE RE-INSTALLED AT COMPLETION OF THE PROJECT.

HVAC CONTROLS

- THERMOSTATS SHALL BE DIGITAL, 7-DAY PROGRAMMABLE WITH 4 MODES PER DAY.
- THERMOSTATS SERVING ELECTRIC HEATERS SHALL HAVE THE STAGES OF CAPACITY NOTED ON THE SCHEDULE.
- ALL THERMOSTATS SHALL BE MOUNTED 48" AFF.
- LOW VOLTAGE (24V) CONTROL WIRING SHALL BE PROVIDED BY THE MECHANICAL SUBCONTRACTOR, WHO SHALL SUBCONTRACT WITH THE ELECTRICAL SUBCONTRACTOR TO PROVIDE CONDUIT FOR ALL CONTROL WIRING, AS COORDINATED WITH THE MECHANICAL SUBCONTRACTOR. ALL CONDUIT SHALL BE RUN SQUARE WITH BUILDING LINES.
- LINE VOLTAGE (120V AND HIGHER) CONTROL AND POWER WIRING AND CONDUIT SHALL BE PROVIDED BY THE ELECTRICAL SUBCONTRACTOR.
- THE ELECTRICAL SUBCONTRACTOR SHALL PROVIDE ALL DISCONNECT SWITCHES.
- PROVIDE SMOKE DETECTORS, APC MODEL#SL-2000 IN THE SUPPLY DUCTS OF EACH AHU (ABOVE 5-TONS), APC MODEL# SL-2000. PROVIDE A REMOTE TEST STATION FOR EACH DETECTOR, APC MODEL# MS-RH/KA/P/A/T WITH TEST/RESET, ALARM SIREN, ALARM LED, FAULT LED AND PILOT LED. MOUNT ON WALL JUST OUTSIDE OF MECHANICAL ROOM DOOR. SMOKE DETECTORS SHALL SHUT OFF POWER TO THE ROOFTOP UNIT UPON THE DETECTION OF SMOKE.

OUTSIDE AIR CONTROLS

- THE CONTRACTOR SHALL PROVIDE A TIME CLOCK FOR EACH AIR HANDLER. THE TIME CLOCK SHALL BE PROGRAMMED, PER COORDINATION WITH THE OWNER, TO CLOSE THE OUTSIDE AIR DAMPERS DURING ALL UNOCCUPIED HOURS.

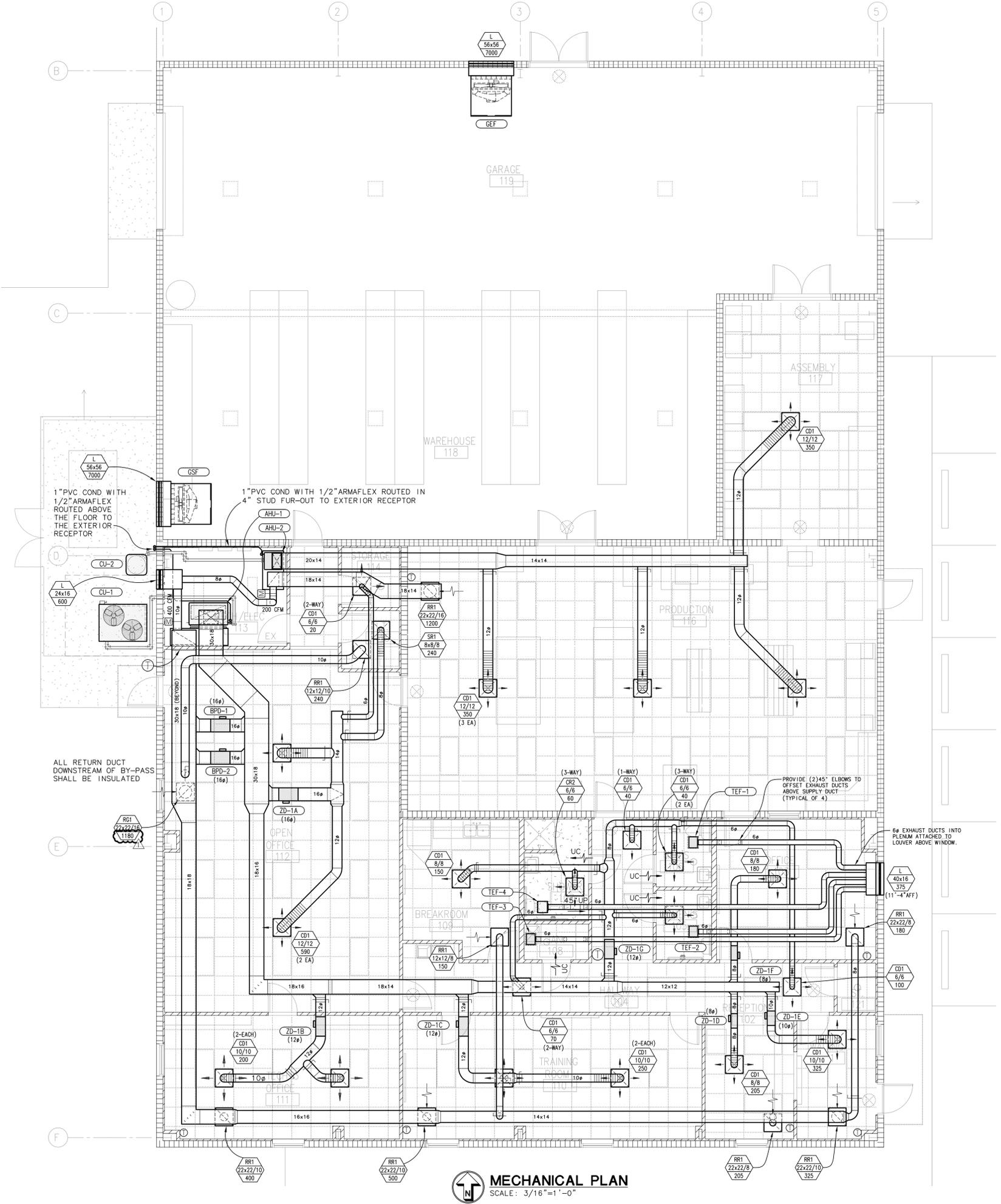
AIR DISTRIBUTION SCHEDULE

TAG	DEVICE	METALAIRES MODEL #	MOUNTING FRAME	DESCRIPTION
CD1	CEILING REGISTER	5750	LAY-IN	PANEL DIFFUSER, FLUSH MOUNT STYLE BUTTERFLY DAMPER.
CR2	CEILING REGISTER	5750	SURFACE	PANEL DIFFUSER, FLUSH MOUNT STYLE BUTTERFLY DAMPER.
RR1	RETURN REGISTER	RH	LAY-IN	FIXED LOUVER, 45° DEFLECTION, OPPOSED BLADE BALANCING DAMPER
L	WALL LOUVER	-	WALL	FLORIDA PRODUCT APPROVED DRAINABLE STATIONARY VERTICAL BLADE LOUVERS COMPLIANT WITH FLORIDA & MIAMI-DADE REQUIREMENTS: <ul style="list-style-type: none"> AIR PERFORMANCE, WATER PENETRATION & WIND DRIVEN RAIN (AMCA 500-L & TAS 100A) WIND BORNE DEBRIS & MISSILE IMPACT (AMCA 540 & TAS 201) UNIFORM STATIC AIR PRESSURE (TAS 202) CYCLIC WIND LOADING (TAS 203) FIELD FABRICATE PLENUM TO DRAIN OVER FACTORY EXTENDED SILL. COLOR SHALL BE ANODIZED ALUMINUM. IF LOUVER IS INSTALLED IN SIDING, THEN THE COLOR OF THE LOUVER SHALL MATCH THE COLOR OF THE SIDING IT IS INSTALLED IN.

LEGEND
TYPE OF AIR DISTRIBUTION
NECK SIZE / RUNOUT SIZE
CFM AIRFLOW

NOTES:

- ALL AIR DISTRIBUTION SHALL INCLUDE: ALUMINUM CONSTRUCTION AND OFF-WHITE COLOR.
- APPROVED MANUFACTURERS: METALAIRES & TITUS
- MATCH RUN-OUT SIZE TO NECK SIZE IF NOT NOTED.



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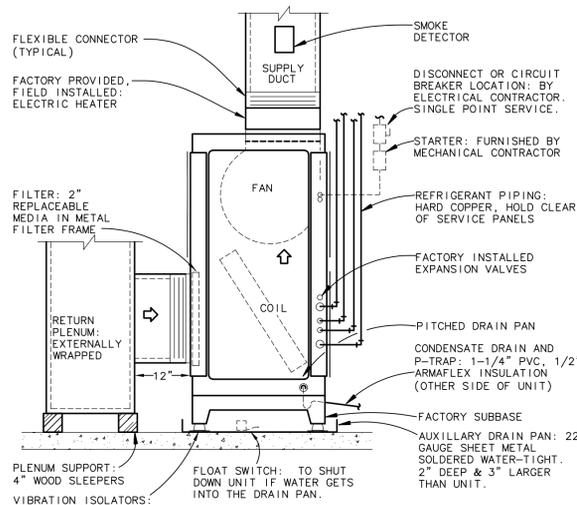


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BID DOCUMENTS
 Highlands County Board of County Commissioners
 New Traffic Operations Building
 4490 Kenilworth Blvd.
 Sebring, FL
 MECHANICAL PLAN

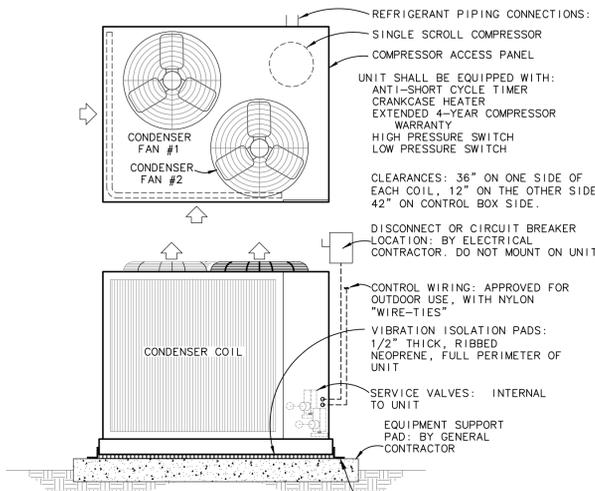
REVISIONS
AS1#1 05/09/23
CONSTRUCTION 03/29/2023
APPROVAL
REVIEW
CHECKED BY
M100
19058

MECHANICAL PLAN
 SCALE: 3/16"=1'-0"



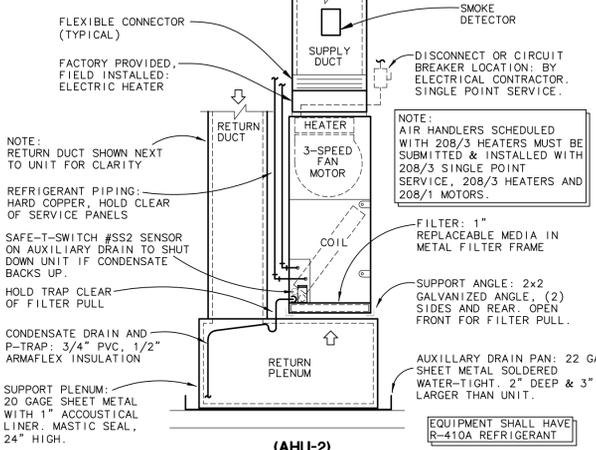
AIR HANDLING UNIT DETAIL

DESIGNATION AREA SERVED	AHU-1 PERIMETER OFFICES
CARRIER MODEL NUMBER	40RUA12
WEIGHT - LBS	425
NOMINAL TONS	10
SENSIBLE CAPACITY - MBH (GROSS AT ARI CONDITIONS)	116.6
ELECTRIC HEAT - KW @ 240	10.0
ELECTRIC HEATER VOLTAGE	208/3
HEATER AMPS	20.8
FAN BRAKE HORSEPOWER	2.4
SUPPLY AIR CFM	3500
OUTSIDE AIR CFM	400
EXTERNAL STATIC PRESSURE	0.8
FAN MOTOR VOLTAGE	208/3
FAN MOTOR FLA	7.1
SPEED - RPM	879
MINIMUM CIRCUIT AMPS	34.9
FUSE/CIRCUIT BREAKER AMPS	35
REFRIGERANT PIPING SIZES:	
LIQUID	1-1/8"
SUCTION	5/8"



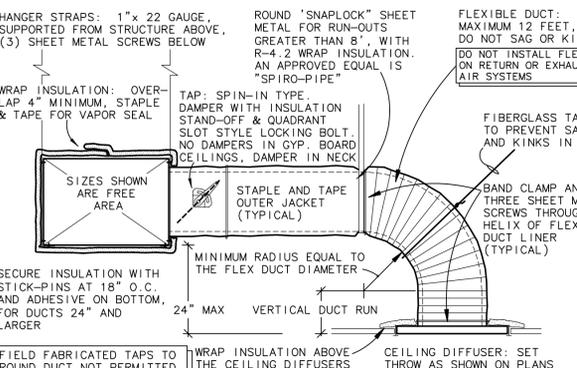
CONDENSING UNIT DETAIL

DESIGNATION AREA SERVED	CU-1 INTERIOR OFFICES
CARRIER MODEL NUMBER	38AUZ012
WEIGHT - LBS	353
NOMINAL TONS	10
CAPACITY - TOTAL MBH (ARI)	116.6
AMBIENT TEMPERATURE - °F	92
ELECTRICAL VOLTAGE	208/3
COMPRESSOR - (QTY) RLA	(1) 25.2
CONDENSER FAN FLA (#1/#2)	1.5/1.5
MINIMUM CIRCUIT AMPS	39.0
FUSE/CIRCUIT BREAKER AMPS	60
CONDENSING UNIT EER:	10.3
CONDENSING UNIT IEER:	12.9
REFRIGERANT PIPING SIZES:	
LIQUID	1-1/8"
SUCTION (0-75 FT)	5/8"



AIR HANDLING UNIT DETAIL (AHU-2)

UNIT DESIGNATION AREA SERVED	AHU-2 INTERIOR OFFICES
CARRIER MODEL NUMBER	FV4CNB005L00
WEIGHT - LBS	100
NOMINAL TONS	4
CAPACITY - TOTAL MBH	41.77
CAPACITY - SENS MBH	36.09
ELECTRIC HEAT - KW @ 240	9.0
ELECTRIC HEATER VOLTAGE	208/3
HEATER AMPS	18.8
CFM - SUPPLY	1400
CFM - OUTSIDE AIR	200
EXTERNAL STATIC PRESSURE	3/4"
FAN HORSEPOWER	1/2
FAN MOTOR VOLTAGE	208/1
FAN MOTOR FLA	4.3
SINGLE POINT VOLTAGE	208/3
MINIMUM CIRCUIT AMPS	32.0
MAXIMUM FUSE AMPS	35

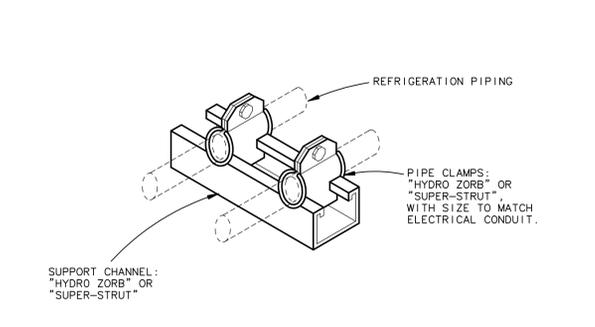


SHEET METAL DUCT DETAIL

- SHEET METAL DUCTS SHALL BE FABRICATED & INSTALLED PER THE LATEST EDITION OF SMACNA, AND THE FLORIDA ENERGY CODE (SECTIONS 503.8 AND 503.9)
- ALTERNATE INTERPRETATIONS OF SMACNA DUCT MATERIAL, HANGERS AND REINFORCEMENTS ARE SUBJECT TO ENGINEER APPROVAL, AND REQUIRE SEPARATE SUBMITTAL OF THE ALTERNATES.
- FLEXIBLE DUCT CONNECTORS SHALL BE PROVIDED AT CONNECTIONS TO ALL EQUIPMENT.
- RECTANGULAR ELBOWS SHALL BE SQUARE NECK (SAME IN & OUT DIMENSIONS) WITH 2" DOUBLE THICKNESS TURNING VANES.
- OFFSETS SHALL NOT REDUCE THE FREE AREA, AND SHALL NOT EXCEED 30" UNLESS OTHERWISE SPECIFIED.
- TRANSITIONS SHALL NOT EXCEED 1:3 RATIO (4" TRANSITION PER FOOT SINGLE SIDED TRANSITION, AND 8" PER FOOT DOUBLE SIDED TRANSITION).
- INSULATION SHALL BE NFPA 90 APPROVED, WITH ALUMINUM FOIL FACING AND A MINIMUM INSTALLED R-VALUE OF 4.2. RETURN AIR, OUTSIDE AIR, AND EXHAUST DUCTWORK SHALL NOT BE INSULATED.
- ROUND DUCT CONNECTIONS SHALL BE SPIN-IN TYPE, WITH DAMPER AND HANDLE. SPRAY PAINT LOCATIONS OF HANDLES.
- FLEXIBLE DUCT SHALL INCLUDE AN INNER POLYETHYLENE LINER, A SPRING HELIX, BLANKET INSULATION WITH A MINIMUM INSTALLED R-VALUE OF 4.2, A FOIL OUTER VAPOR BARRIER, AND BE UL-181 APPROVED.
- ALL TAPE SHALL BE FASSON 0810 (NO SUBSTITUTIONS), SMACNA APPROVED.
- COMPLETELY SEAL ALL SUPPLY, RETURN, EXHAUST AND OUTSIDE AIR DUCTS WITH RCD #6 MASTIC OR "HARDCAST" MASTIC TAPE. (NO SUBSTITUTIONS)

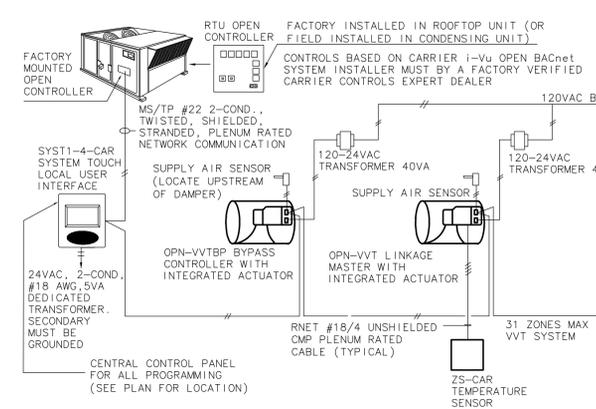
RETURN, OUTSIDE AIR, AND EXHAUST DUCTS DO NOT NEED TO BE INSULATED. INSULATION IS ONLY REQUIRED FOR SUPPLY DUCTWORK.

FIELD FABRICATED TAPS TO ROUND DUCT NOT PERMITTED



REFRIGERANT PIPING DETAIL

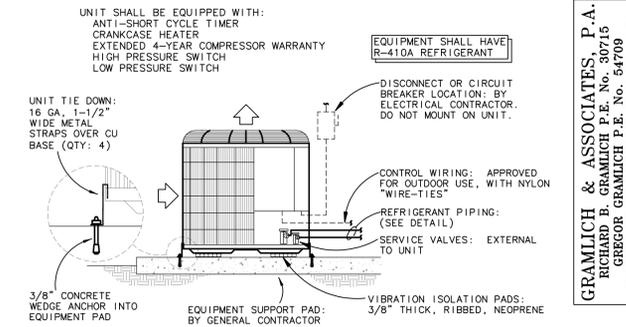
- ALL REFRIGERANT PIPING ABOVE THE FLOOR SHALL BE HARD COPPER, ACR TYPE "L", WITH LONG RADIUS ELBOWS AND WROUGHT FITTINGS. PIPING BELOW THE FLOOR SHALL BE SOFT COPPER.
- TRAPS SHALL BE SINGLE PIECE, WROUGHT COPPER.
- INSULATE SUCTION LINES FULL LENGTH WITH ARMAFLEX INSULATION. THICKNESS SHALL BE 1/2" UP THROUGH 7/8" SUCTION LINE SIZE, WITH 3/4" THICKNESS FOR 1-1/8" SUCTION LINES & ABOVE. ALL INSULATION SHALL BE ASTM E84 APPROVED (FLAME SPREAD OF 25, SMOKE DENSITY OF 50).
- INSULATION SHALL NOT BE SPLIT DURING INSTALLATION.
- ALL INSULATION THAT IS EXPOSED TO THE OUTDOORS, SHALL BE WRAPPED WITH A PROTECTIVE ALUMINUM JACKET.
- ROUTING OF ALL REFRIGERANT PIPING SHALL BE "SQUARE WITH" BUILDING LINES. HORIZONTAL PIPING SHALL BE SLOPED AT THE RATE OF (1) INCH FOR EACH (10) FEET, TOWARD THE COMPRESSOR.
- SUPPORT OF THE REFRIGERANT PIPING AT THE COMPRESSORS, CONDENSERS, AND AIR HANDLING UNITS SHALL BE AS SHOWN ABOVE.
- SUPPORT OF THE REFRIGERANT PIPING, IN CEILING PLENUMS, SHALL BE WITH STRAP HANGERS, SHEET METAL "SADDLES", WITH 3/4" INSULATION TO ELIMINATE ANY METAL-TO-METAL CONTACT.
- BRAZE ALL REFRIGERANT PIPING WITH A FLOW OF DRY NITROGEN DURING THE BRAZING OPERATIONS.
- SOLDER SHALL BE 15% SILVER "SIL-FOS" OR EQUAL.
- CHANGE FILTER-DRYER CORES AFTER 30 DAYS OF OPERATION. SAVE CORES FOR INSPECTION BY TEST & BALANCE, OR BY OWNERS REPRESENTATIVE INSPECTION.
- REFRIGERANT PIPING, AND EXPANSION VALVES, FOR 6 TON AND SMALLER, TO BE SIZED BY EQUIPMENT MANUFACTURER.



VARIABLE VOLUME/TEMPERATURE (VVT) DETAIL

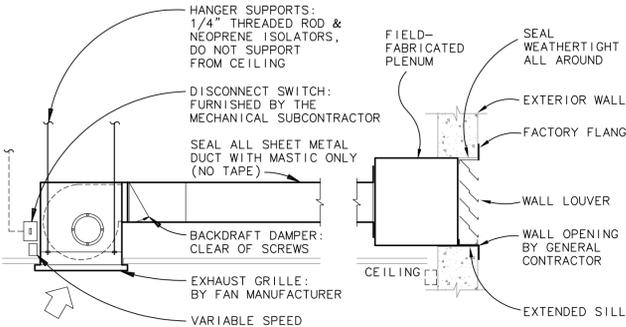
- NOTES:
- SYSTEM COMPONENTS ARE BASED ON CARRIER.
 - ALL LOW VOLTAGE WIRING AND COMMUNICATIONS WIRING SHALL BE BY THE MECHANICAL CONTRACTOR. WIRING SHALL BE BY THE ELECTRICAL CONTRACTOR.
 - ALL DAMPERS SHALL BE PROVIDED WITH A FACTORY CONTROL TRANSFORMER. SYSTEM ZONE DAMPERS SHALL OPERATE UNDER PRESSURE DEPENDENT CONTROL WHICH SHALL BE MOUNTED AND WIRED BY THE ELECTRICAL CONTRACTOR. TRANSFORMERS SHALL BE LOCATED IMMEDIATELY ADJACENT TO THE DAMPERS SERVED.
 - THE "SYSTEM TOUCH" SHALL BE MOUNTED 4'-0" AFF AND LOCATED AS SHOWN ON PLANS. ALL SENSORS SHALL BE LOCATED AT 5'6" AFF AND LOCATED AS SHOWN ON PLANS.
 - THE OPEN CONTROLLER PACKAGE SHALL BE COMPATIBLE WITH THE PARTICULAR STAGES OF HEATING AND COOLING AS SHOWN ON THE EQUIPMENT SCHEDULE.
 - BYPASS DAMPER(S) SHALL BE SIZED AT MAXIMUM 1200 FPM FOR RELIEF OF 300 CFM/TON FOR PROPER AIR FLOW OVER THE COOLING COIL. IF MULTIPLE DAMPERS ARE REQUIRED, THEY SHALL BE WIRED TOGETHER TO ACT AS A SINGLE DAMPER.
 - COMMUNICATED BUS AND SENSOR WIRING MUST BE SEPARATE FROM AC POWER WIRING.
 - LOCATED SAT IN DUCT DOWNSTREAM OF CCT ZONE TERMINAL AND UPSTREAM OF CCT BYPASS TERMINAL
 - ALL DAMPERS SHALL BE SIZED ACCORDING TO THE FOLLOWING SCHEDULE:

CARRIER MODEL NO.	SIZE (IN)	CFM (Ø800 FPM)	CFM (Ø1200 FPM)
ZD-06	6	160	240
ZD-08	8	280	420
ZD-10	10	440	660
ZD-12	12	630	950
ZD-14	14	850	1275
ZD-16	16	1125	1675
RD0810	8x10	410	610
RD0814	8x14	560	825
RD0818	8x18	725	1075
RD0824	8x24	925	1375



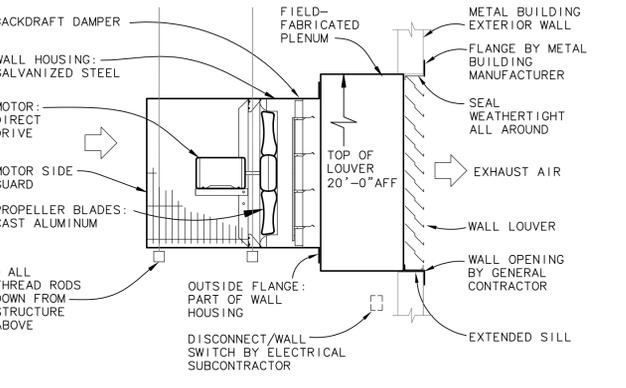
CONDENSING UNIT DETAIL

DESIGNATION AREA SERVED	CU-2 INTERIOR OFFICES
CARRIER MODEL NUMBER	CA16PW048
WEIGHT - LBS	275
NOMINAL TONS	4
CAPACITY - TOTAL MBH	41.77
AMBIENT TEMPERATURE - °F	92
ELECTRICAL VOLTAGE	208/3
COMPRESSOR RLA (1) EA	13.8
CONDENSER FAN FLA (1) EA	2.8
MINIMUM CIRCUIT AMPS	20.1
FUSE/CIRCUIT BREAKER AMPS	30
EER:	13.0
SYSTEM SEER:	16.1
REFRIGERANT PIPING SIZES:	
LIQUID	3/8"
SUCTION (0-80 FT)	7/8"



CEILING FAN DETAIL

DESIGNATION AREA SERVED	TEF-1 TOILET	TEF-2 TOILET	TEF-3 JANITOR	TEF-4 SHOWER
GREENHECK MODEL NUMBER	SP-110-VG	SP-110-VG	SP-110-VG	SP-A200
WEIGHT - LBS	12	12	12	12
FAN CAPACITY - CFM	75	75	75	150
STATIC PRESSURE "WG	0.375	0.375	0.375	0.375
RPM	866	866	866	802
SONES	2.5	2.5	2.5	2.0
MOTOR HORSEPOWER	8 W	8 W	8 W	36 W
MOTOR VOLTAGE/PHASE	115/1	115/1	115/1	115/1
CONTROL VOLTAGE/PHASE	120/1	120/1	120/1	120/1
INTERLOCK WITH:	LIGHTS	LIGHTS	LIGHTS	LIGHTS



WALL FAN DETAIL

DESIGNATION AREA SERVED	GEF GARAGE EXHAUST	GSF GARAGE SUPPLY
GREENHECK MODEL NUMBER	AER-E42C-605-VG1H20	AER-S42C-605-VG
WEIGHT - LBS	498	498
CFM	7000	7000
STATIC PRESSURE "WG	0.375	0.375
RPM	711	709
SONES	22	22
WALL OPENING (SQUARE)	51-1/4"	51-1/4"
MOTOR HORSEPOWER	2	2
MOTOR VOLTAGE/PHASE	208/3	208/3
MOTOR AMPS	9.7	9.7
CONTROL VOLTAGE/PHASE	120/1	120/1
INTERLOCK WITH:	WALL SWITCH	WALL SWITCH

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BID DOCUMENTS
Highlands County Board of County Commissioners
New Traffic Operations Building
4490 Kenilworth Blvd.
Sebring, FL
MECHANICAL DETAILS & SCHEDULES

AS1#1	05/09/23
REVISIONS	
CONSTRUCTION	03/29/2023
APPROVAL	
REVIEW	
CHECKED BY	
M200	
19058	

PLUMBING FIXTURE SCHEDULE

TOILET FIXTURES					
MARK	DESIGNATION & SPECIFICATION	COLD WATER	HOT WATER	TRAP/WASTE	VENT
WC-HCL	WATER CLOSET: ADA, LEFT HAND TRIP LEVER AMERICAN STANDARD "CADET 3" 215AA.004 FLOOR MOUNTED, 1.6 GPF, GRAVITY FLUSH, VITREOUS CHINA, 3" FLAPPER VALVE, 2-1/8" GLAZED TRAPWAY, 12" ROUGH ELONGATED, 16-1/2" HIGH BOWL, SIPHON JET, WATER SAVER. SEAT: OLSONITE #10 HEAVY DUTY, OPEN FRONT, LESS COVER	1/2"	-	3"	2"
WC-HCR	WATER CLOSET: ADA, RIGHT HAND TRIP LEVER AMERICAN STANDARD "CADET 3" 4188A.005 FLOOR MOUNTED, 1.6 GPF, GRAVITY FLUSH, VITREOUS CHINA, 3" FLAPPER VALVE, 2-1/8" GLAZED TRAPWAY, 12" ROUGH ELONGATED, 16-1/2" HIGH BOWL, SIPHON JET, WATER SAVER. SEAT: OLSONITE #10 HEAVY DUTY, OPEN FRONT, LESS COVER	1/2"	-	3"	2"
LAV-HC	LAVATORY HANDICAP: AMERICAN STANDARD "LUCERNE" 0355.012 WALL HUNG TYPE, 20-1/2"x18-1/4" VITREOUS CHINA, FOR CONCEALED ARM SUPPORT, 0.5 GPM FLOW RESTRICTOR, AERATOR AND CP SUPPLIES WITH STOPS, CP ESCUTCHEONS, CP GRID DRAIN, CP TRAP WITH INTEGRAL CLEANOUT, HANDI-CAP OFFSET TAILPIECE. LAV GUARD: TRUEBRO 103E-2 INSULATION KIT. TRIM: SINGLE LEVER, SINGLE HOLE FAUCET. ZURN ZB2200-XL-3M WITH GRID STRAINER DRAIN AND 0.5 GPM VANDAL RESISTANT PRESSURE COMPENSATING AERATOR, LESS POP-UP DRAIN AND HOLE. PROVIDE WITH WATTS LFUSG-B-SC-M2, ASSE 1070, MIXING VALVE WITH 3/8" COMPRESSION FITTINGS. SET FOR 110F, MIN 0.25 GPM. CARRIER: ZURN Z-1231, MOUNT RIM AT HANDICAP HEIGHT.	1/2"	1/2"	1-1/4"	2"
FD-T	FLOOR DRAIN - TOILETS ZURN ZN-415-P 6" ADJUSTABLE DURA-COATED CAST IRON BODY, TYPE "N" DURA-COAT CAST IRON STRAINER, FLOSHED NICKLE BRONZE COVER WITH FLASHING MEMBRANE CLAMPING DEVICE AND TRAP PRIMER CONNECTION.	-	-	3"	2"
TP-1	TRAP PRIMER: JR SMITH 2698 OR 2698-ADA WATER SAVER TYPE, CP BRONZE, 1/2" PIPING AND ESCUTCHEON PLATES. ROUTE PRIMER PIPING IN WALL TO FLOOR DRAIN. OFFSET DRAIN TO LEFT PER MANUFACTURER'S INSTRUCTION FOR USE ON HANDICAP TOILETS AND USE 2698-ADA	-	-	-	-
SH-HC	SHOWER AQUATIC F1364P FIBERGLASS BARRIER-FREE WITH ACRYLIC SURFACE, CENTER DRAIN AND 1/2" THRESHOLD. PROVIDE WITH FOLD-DOWN SEAT AND GRAB BARS. TRIM DELTA R10700-UNWS (VALVE) DELTA T17TH325 (TRIM KIT) PRESSURE BALANCING MIXING VALVE WITH INTEGRAL VOLUME CONTROL AND ADJUSTABLE STOP SCREW TO LIMIT HANDLE TURN, INTEGRAL CHECK STOPS, INLINE VACUUM BREAKER, SINGLE BLADE LEVER HANDLE. WALL/ HAND SHOWER WITH FLEXIBLE METAL HOSE, WALL CONNECTION AND FLANGE, WITH SLIDE BAR FOR HAND SHOWER. 1.5 GPM SHOWER HEAD.	1/2"	1/2"	2"	2"

SINKS					
MARK	DESIGNATION & SPECIFICATION	COLD WATER	HOT WATER	TRAP/WASTE	VENT
DCS	DOUBLE COMPARTMENT SINK: ELKAY "LUSTERTONE" LR-3322 COUNTER-TOP TYPE. DOUBLE COMPARTMENT, 33 X 22 X 8", 18 GAGE, 304 STAINLESS STEEL, WITH DROPPED LEDGE & RAISED FAUCET DECK. TRIM: T&S B-2731 SINGLE LEVER SWIVEL SPOUT FAUCET AND AERATOR, MCQUIRE 2165 CP SUPPLIES WITH STOPS, CP ESCUTCHEONS, MCQUIRE 8912 1-1/2" CP TRAP AND BASKET & STRAINER.	1/2"	1/2"	1-1/2"	2"
MSB	MOP SERVICE BASIN: AMERICAN STANDARD 7741.00 ENAMEL CAST IRON 28"x 28"x 13" CORNER MODEL. TRIM: T & S FAUCET B-0665-BSTR, HOSE BRACKET B-0654 AND MOP HANGER. HEAVY GAGE 304 STAINLESS STEEL SPLASH GUARDS BOTH SIDES 24" TALL (MIN).	1/2"	1/2"	3"	2"

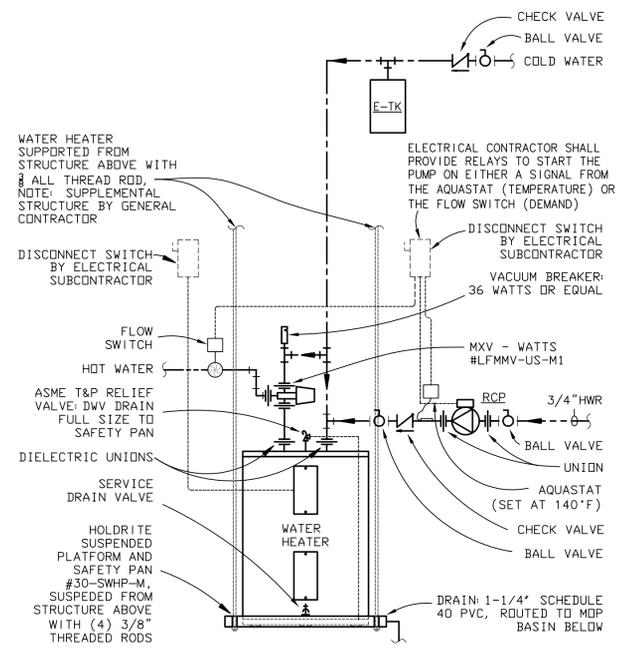
WATER COOLERS					
MARK	DESIGNATION & SPECIFICATION	COLD WATER	HOT WATER	TRAP/WASTE	VENT
EW-C-HC	ELECTRIC WATER COOLER-SPLIT LEVEL ELKAY LZSTLWSSP 8.0 GPH @ 50F, 5 AMPS, 120/1V ADA AND UL APPROVED. WALL MOUNT, SPLIT LEVEL DOUBLE BASIN MODEL WITH TOUCH PADS ON FRONT / SIDES, FACTORY INSTALLED WATER FILTER, & ENHANCED "EZ H2O" BOTTLE FILLING STATION. CP SUPPLIES WITH STOPS, CP ESCUTCHEONS, CP GRID DRAIN, 1-1/4" PLASTIC TRAP CARRIER: ZURN Z-1225-BL, BI-LEVEL.	1/2"	-	1-1/4"	2"

WATER HEATERS					
MARK	DESIGNATION & SPECIFICATION	COLD WATER	HOT WATER	TRAP/WASTE	VENT
EW-H-20	ELECTRIC WATER HEATER: A.O. SMITH EJOCT-20 FOAM INSULATED, SIDE CONNECTED, 20 GALLON, 2500 WATT, VOLTAGE: 120, 20.8A, SINGLE PHASE.	3/4"	3/4"	-	-
MXV	THERMOSTATIC MIXING VALVE WATTS LFMMV-US-M1 3/4" SWEAT CONNECTION, WITH UNIONS LEAD FREE, WITH BUILT IN CHECKS AND INTEGRAL FILTER WASHERS. SET AT 120 DEGREES F	3/4"	3/4"	-	-
RCP	RECIRCULATING PUMP GRUNDFOS UPS26-150SF STAINLESS STEEL 10 GPM AT 34 THD, 1/3 HP, FLANGE CONNECTION. PROVIDE WITH GRISWOLD MODEL #3521, 5.0 GPM AUTOMATIC FLOW CONTROL WITH A JOHNSON CONTROL ADJUSTABLE THERMOSTATIC CONTROL MODEL A19DAC-1C TO MAINTAIN 140 DEGREE HOT WATER RETURN. PROVIDE WITH IN-LINE FLOW SWITCH PER DETAIL P201.	-	-	-	-
E-TK	EXPANSION TANK AMTROL ST SERIES THERMAL-X-TROL MODEL ST-5, 3/4" CONNECTION, MAX. WORKING PRESSURE 150 PSI., TOTAL VOLUME GALLON 2.0	-	3/4"	-	-

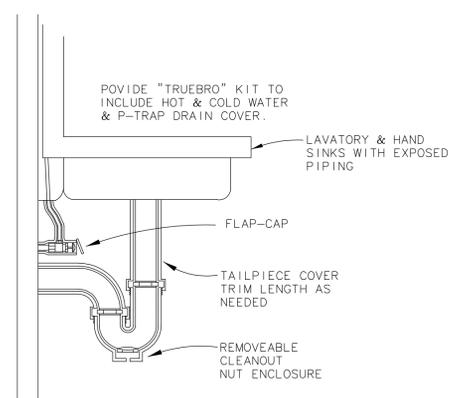
SANITARY AND WASTE DRAINAGE					
MARK	DESIGNATION & SPECIFICATION	COLD WATER	HOT WATER	TRAP/WASTE	VENT
WCO	WALL CLEANOUT ZURN ZS-1469 STAINLESS STEEL ACCESS COVER WITH 1/4-20 SCREW TO CLEANOUT PLUG INSTALL 18" AFF. PROVIDE PVC PLUG.	-	-	MATCH PIPE	-
GCO	GRADE CLEANOUT ZURN ZB-1400-HD EXTERIOR, ADJUSTABLE CLEANOUT, DUCO COATED, CI BODY, ABS TAPERED PLUG WITH GASKET. HEAVY DUTY TOP.	-	-	MATCH PIPE	-
FCO	FLOOR CLEANOUT ZURN ZN-1400-VP INTERIOR, FLOOR TYPE. ABS TAPERED PLUG WITH GASKET SEAL & NICKEL BRONZE TOP. "C.O." CAST IN THE TOP. SPANNER WRENCH REMOVAL	-	-	MATCH PIPE	-

MISCELLANEOUS					
MARK	DESIGNATION & SPECIFICATION	COLD WATER	HOT WATER	TRAP/WASTE	VENT
CAD	COMPRESSED AIR DROP SITE BUILT PER DETAIL SHEET P300	-	-	-	-
HB	HOSE BIBB: WOODFORD #24C-3/4 VACUUM BREAKER-BACKFLOW PROTECTED, WITH EXPOSED SWEAT COPPER CONNECTION, MILD CLIMATE.	3/4"	-	-	-
IMB	ICE MAKER BOX WATER-TITE PRODUCT #88080 FLUSH MOUNTED WITH SINGLE VALVE AND HAMMER ARRESTOR	1/2"	-	-	-
CB	CATCH BASIN HANCOR 0909SD2 BASIN/0902SDDI GRATE TWO-HOLE CATCH BASIN FOR 3" PVC PIPE. DUCTILE IRON BAR GRATE. PLUG UNUSED OPENING.	-	-	NOTED	-
AAV	AIR ADMITTANCE VALVE STUDDOR #20395 OR #20396 1-1/4" OR 1-1/2" TRAP VENT AS REQUIRED, INSTALLED ACCORDING TO MANUFACTURER'S APPROVED INSTALLATION INSTRUCTIONS.	-	-	-	-

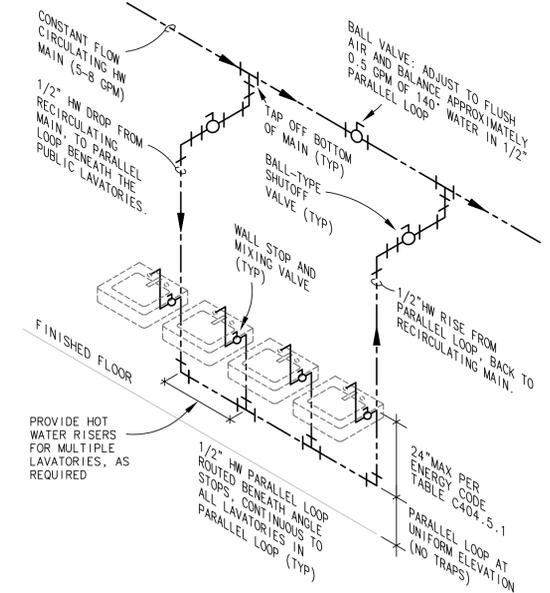
NOTES:
1. APPROVED MANUFACTURERS OF FIXTURES ARE AMERICAN STANDARD, KOHLER AND TOTO.
2. APPROVED MANUFACTURERS OF FAUCETS ARE AMERICAN STANDARD, SLOAN, DELTA, T & S AND CHICAGO.
3. APPROVED MANUFACTURERS OF FLOOR DRAINS AND CLEANOUTS ARE JR.SMITH, JOASM, ZURN AND WATTS.
4. APPROVED MANUFACTURERS OF WATER COOLER IS ELKAY, OASIS AND HAWS.
5. APPROVED MANUFACTURERS OF THE WATER HEATERS ARE A.O.SMITH, STATE, RHEEM AND RUUD.
6. ALL SUPPLIES SHALL BE PROVIDED WITH CHROME PLATED ANGLE STOPS AND TUBING EQUAL TO EASTMAN, BRASS-CRAFT OR EQUAL.



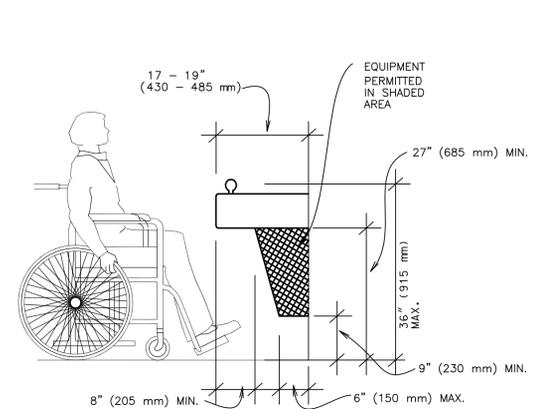
WATER HEATER DETAIL



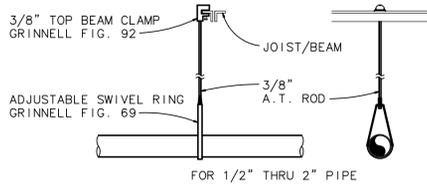
WASTE ARM AND WATER SUPPLY PROTECTION



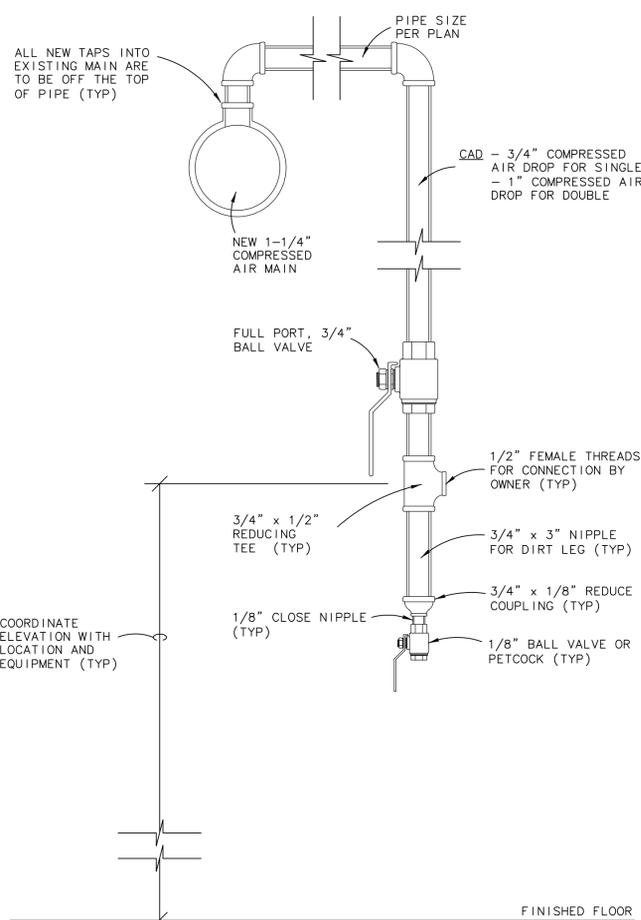
PARALLEL HOT WATER LOOP DETAIL



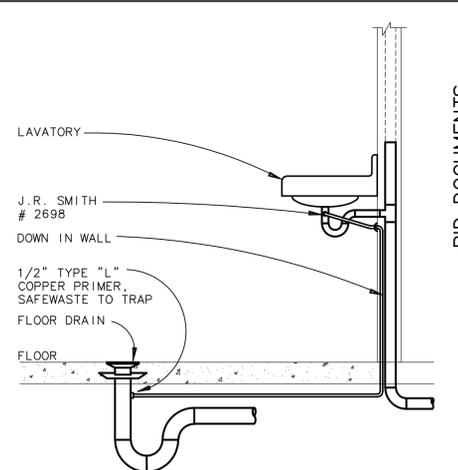
HANDICAPPED ELECTRIC WATER COOLER MOUNTING



TYPICAL PIPE HANGER DETAIL



TYPICAL COMPRESSED AIR DROP (CAD)



FLOOR DRAIN TRAP PRIMER DETAIL (SINGLE PRIMER)

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