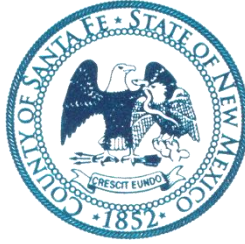


Henry P. Roybal
Commissioner, District 1

Anna Hansen
Commissioner, District 2

Robert A. Anaya
Commissioner, District 3



Anna T. Hamilton
Commissioner, District 4

Ed Moreno
Commissioner, District 5

Katherine Miller
County Manager

August 25, 2017

SANTA FE COUNTY
IFB# 2018-0020-PW/KE
KITCHEN REMODEL AT
SANTA FE MOUNTAIN CENTER

ADDENDUM #1

Dear Proponents,

This addendum is issued to reflect the following immediately. It shall be the responsibility of interested Offerors to adhere to any changes or revisions to the IFB as identified in this Addendum No. 1. This documentation shall become permanent and made part of the departmental files.

ATTACHMENT: MECHANICAL DRAWINGS

On August 21, 2017 Santa Fe County uploaded documents for the IFB mentioned above. The Mechanical Drawings were inadvertently left out of the package. Please find these documents now attached.

Please add this Addendum #1 to the original bid documents and refer to bid documents, hereto as such. This and all subsequent addenda will become part of any resulting contract documents and have effects as if original issued. All other unaffected sections will have their original interpretation and remain in full force and effect.

Bidders are reminded that any questions or need for clarification must be addressed to Karen K. Emery, Senior Procurement Specialist at kkemery@santafecountynm.gov.

MECHANICAL/PLUMBING LEGEND		
SYMBOL	DESCRIPTION	PIPING SYMBOLS
DUCTWORK SYMBOLS		
	SECTION THROUGH RECTANGULAR SUPPLY DUCT	FLOW - IN DIRECTION OF ARROW
	SECTION THROUGH RECTANGULAR EXHAUST OR RETURN DUCT	PITCH DOWN - IN DIRECTION OF ARROW
	SECTION THROUGH ROUND DUCT, SUPPLY OR EXHAUST AS NOTED	VALVE IN RISER (TYPE AS SPECIFIED OR NOTED)
	CEILING SUPPLY AIR DIFFUSER	RISER DOWN (ELBOW)
	RETURN AIR GRILLE OR EXHAUST REGISTER	RISER UP (ELBOW)
	SIDEWALL SUPPLY REGISTER AT WALL	RISE OR DROP
	FLEXIBLE DUCT, SIZE AS SHOWN	BRANCH - TOP CONNECTION
	HAND (VOLUME) DAMPER IN DUCT	BRANCH - BOTTOM CONNECTION
	RECTANGULAR-TO-ROUND TRANSITION	VALVE IN RISE
	VERTICAL FIRE DAMPER IN DUCT AT FIRE PARTITION	GATE VALVE
	HORIZONTAL FIRE DAMPER AT FLOOR PENETRATION	BUTTERFLY VALVE
	ACCESS DOOR	BALL VALVE
	KEYED NOTE	CHECK VALVE
CONTROLS SYMBOLS		
	THERMOSTAT	2-WAY CONTROL VALVE
	DAMPER MOTOR	3-WAY CONTROL VALVE
	IONIZATION SMOKE DETECTOR	CONCENTRIC REDUCER
	FREEZESTAT	FLEXIBLE CONNECTION
	TEMPERATURE SENSOR	FLEXIBLE CONNECTION
	HUMIDITY SENSOR	FLEXIBLE CONNECTION
	DEW POINT SENSOR	FLANGE CONNECTION
	STATIC PRESSURE SENSOR	PRESSURE REDUCING VALVE (PRV)
	FLOW SWITCH	SOLENOID VALVE
PIPING SYMBOLS		
	EXISTING PIPING	BALANCING VALVE
	HWR - HOT WATER RETURN	UNION
	HWS - HOT WATER SUPPLY	STRAINER
	CHR - CHILLED WATER RETURN	PRESSURE GAUGE
	CHS - CHILLED WATER SUPPLY	AIR VENT
	CTR - COOLING TOWER WATER SUPPLY	T&P RELIEF VALVE
	CTS - COOLING TOWER WATER RETURN	THERMOMETER
	CD - CONDENSATE	FLOW SWITCH
	VENT	NEEDLE VALVE
	RFS - REFRIGERANT SUCTION	HOSE BIBB
	RFL - REFRIGERANT LIQUID	DEMOLITION
	CA - COMPRESSED AIR	T&P PLUG
	G - GAS LINE	PIPE ANCHOR
	SAS - SANITARY SEWER	PIPE GUIDE
		BALANCING VALVE WITH PRESSURE PORTS (CIRCUIT SETTER)

MECHANICAL/PLUMBING ABBREVIATIONS			
ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
AFF	ABOVE FINISHED FLOOR	J-BOX	JUNCTION BOX
AFG	ABOVE FINISHED GRADE	LAT	LEAVING AIR TEMPERATURE
AHJ	AUTHORITY HAVING JURISDICTION	LDBT	LEAVING DRY BULB TEMPERATURE
ARCH	ARCHITECT	LWBT	LEAVING WET BULB TEMPERATURE
CIC	COOLING COIL	LWT	LEAVING WATER TEMPERATURE
CFH	CUBIC FEET PER HOUR	MAT	MIXED AIR TEMPERATURE
CFM	CUBIC FEET PER MINUTE	MBH	THOUSAND BTU PER HOUR
CL	CENTERLINE	MCA	MINIMUM CIRCUIT AMPACITY
CLG	CEILING	MH	MANHOLE
CO	CARBON MONOXIDE	MISC	MISCELLANEOUS
CO	CLEANOUT	MOCP	MAXIMUM OVERCURRENT PROTECTION
COTG	CLEANOUT TO GRADE	NC	NOISE CRITERIA
CO2	CARBON DIOXIDE	NEC	NATIONAL ELECTRICAL CODE
CU	CONDENSING UNIT	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CW	COLD WATER	NTS	NOT TO SCALE
DB	DRY BULB	OA	OUTSIDE AIR
DDC	DIRECT DIGITAL CONTROLS	OFD	OVERFLOW DRAIN
DEG F	DEGREES FAHRENHEIT	PC	PLUMBING CONTRACTOR
DS	DOWNSPOUT	PPM	PARTS PER MILLION
DWH	DOMESTIC WATER HEATER	PRV	PRESSURE REDUCING VALVE
EC	ELECTRICAL CONTRACTOR	PSI	POUNDS PER SQUARE INCH
EDBT	ENTERING DRY BULB TEMPERATURE	QA	QUALITY ASSURANCE
EF	EXHAUST FAN	QC	QUALITY CONTROL
EL	ELEVATION	R	RADIUS
ETC	ET CETERA	RA	RETURN AIR
EWBT	ENTERING WET BULB TEMPERATURE	RAT	RETURN AIR TEMPERATURE
EWT	ENTERING WATER TEMPERATURE	RD	ROOF DRAIN
FCO	FLOOR CLEAN-OUT	RH	RELATIVE HUMIDITY
FD	FLOOR DRAIN	RM	ROOM
FDC	FIRE DEPARTMENT CONNECTION	RPM	REVOLUTIONS PER MINUTE
FIN FLR	FINISHED FLOOR	RTU	ROOF TOP UNIT
FH	FIRE HYDRANT	RV	RELIEF VALVE
FPHB	FREEZE-PROOF HOSE BIBB	SA	SUPPLY AIR
FPM	FEET PER MINUTE	SD	STORM DRAIN
FPWH	FREEZE-PROOF WALL HYDRANT	SF	SQUARE FOOT
FS	FLOOR SINK	SHR	SHOWER
GALV	GALVANIZED	SS	SANITARY SEWER
GAS	NATURAL GAS	SS	SERVICE SINK
GC	GENERAL CONTRACTOR	SUB	SUBSTITUTE
GCO	GRADE CLEANOUT	TP	TRAP PRIMER
GPD	GALLONS PER DAY	TSTAT	THERMOSTAT
GPM	GALLONS PER MINUTE	TYP	TYPICAL
GT	GREASE TRAP	UNO	UNLESS NOTED OTHERWISE
HB	HOSE BIBB	UR	URINAL
HC	HEATING COIL	V	VENT
HD	HEAVY DUTY	VIF	VERIFY IN FIELD
HT	HEIGHT	VOLT	VOLTAGE
HW	HOT WATER	W/	WITH
HWR	HOT WATER RETURN	W/O	WITHOUT
HWS	HOT WATER SUPPLY	WB	WET BULB
IBC	INTERNATIONAL BUILDING CODE	WC	WATER CLOSET
IO	INPUT/OUTPUT	WCO	WALL CLEAN-OUT
J-BOX	JUNCTION BOX	WHA	WATER HAMMER ARRESTOR

GENERAL MECHANICAL AND PLUMBING NOTES:

1. ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS TO PREVENT VOIDING OF WARRANTY. REFER TO EXISTING ROOF WARRANTY WHEN PERFORMING WORK ON ROOF AND FOLLOW WARRANTY REQUIREMENTS.

2. PLANS SHOW AIR DEVICES IN COORDINATION WITH REFLECTED CEILING PLANS. ARCHITECT MAY CHANGE CEILING TYPES WITHOUT NOTICE. VERIFY CEILING TYPES BEFORE ORDERING AIR DEVICES. IN HARD CEILINGS AND WALLS, PROVIDE ACCESS PANELS TO FULLY ACCESS AND SERVICE ALL ISOLATION VALVES, FIRE/SMOKE DAMPERS, BALANCING DAMPERS, CONTROL DEVICES, AND ALL OTHER DEVICES THAT REQUIRE MAINTENANCE.

3. PROVIDE SOUND ELBOW FOR ALL CEILING RETURN/TRANSFER AIR GRILLES AS SHOWN IN DETAIL SHEET, UNLESS SHOWN WITH A DIFFERENT DUCT CONFIGURATION. USE NO MORE THAN 5 FT OF FLEXIBLE DUCT LENGTHS. ALL OTHER DUCTWORK SHALL BE RIGID METAL, PER SPECIFICATIONS. SEE DUCT CONSTRUCTION SCHEDULE AND SPECIFICATIONS FOR SPECIFIC AND GENERAL MATERIALS AND REQUIREMENTS. ALL RECTANGULAR SQUARE ELBOWS SHALL BE PROVIDED WITH INTERNAL TURNING VANES. INSTALL FLEXIBLE DUCT CONNECTIONS BETWEEN DUCTWORK AND ANY EQUIPMENT CONTAINING A MOTOR (NO EXCEPTIONS). DUCT DIMENSIONS ARE INSIDE DIMENSIONS. INCREASE SIZE OF DUCTS IF ACOUSTIC LINING IS SCHEDULED OR SPECIFIED. DO NOT INSTALL THERMOSTATS ON EXTERIOR WALLS.

4. ALL MATERIALS ON PLANS ARE NEW, UNLESS INDICATED OTHERWISE. OWNER HAS FIRST RIGHT OF REFUSAL OF ANY AND ALL EQUIPMENT AND MATERIALS. ANY EQUIPMENT OR MATERIAL REQUIRING SERVICE SHALL BE INSTALLED 10FT FROM EDGE OF ROOF OR PARAPETS.

5. SUPPORT ALL PIPING, DUCTS, EQUIPMENT ON ROOF USING FLASHED AND COUNTER FLASHED CURB. LENGTH OF CURB SHALL REACH ALL STRUCTURAL MEMBERS UNDER UNIT PLUS ONE ON EACH SIDE. REPAIR DISTURBED AREAS TO A LIKE CONDITION. INSTALL ALL EQUIPMENT BASE/CURB LEVELED. PROVIDE COMPENSATION WHERE SURFACES ARE OUT OF LEVEL, SUCH AS SLOPE ON ROOFS.

6. DRAWINGS ARE CONSIDERED SCHEMATIC IN NATURE. PROVIDE REQUIRED FITTINGS AND OFFSETS FOR A COMPLETELY OPERATIONAL INSTALLATION. EQUIVALENT DUCT MAY BE SUBSTITUTED IN ACCORDANCE TO SAMCNA, PRIOR APPROVAL IS REQUIRED FROM OWNER INSTALLATION. ALL DUCTWORK SHALL BE CONSTRUCTED TO MEET SAMCNA STANDARDS.

7. ALL BACKDRAFT DAMPERS SHALL BE COUNTERBALANCED TYPE WITH ADJUSTABLE WEIGHTS AND VINYL SEALS, UNLESS NOTED, SIMILAR TO RUSKIN CBD2. MINIMUM DAMPER PERFORMANCE SHALL INCLUDE A BLADE REACTION AT 0.01" W.G. AND A MAXIMUM LEAKAGE OF 15 CFM/SF AT 1" W.G. MOTORIZED OUTDOOR AIR DAMPERS SHALL BE RATED AT 4 CFM/SF AT 1.0" W.G. WHEN TESTED IN ACCORDANCE TO AMCA. MANUFACTURER'S INSTALLATION INSTRUCTIONS MUST BE AVAILABLE AT THE JOB SITE FOR ALL FIRE AND SMOKE DAMPERS AT THE TIME OF ROUGH-IN INSPECTION.

8. ALL MATERIAL ABOVE THE CEILING WHERE WHERE THIS SPACE IS USED AS A RETURN AIR PLENUM MUST BE NON-COMBUSTIBLE, ALL LOW VOLTAGE/ COMMUNICATIONS CABLE MUST BE PLENUM RATED AND ALL ELECTRICAL WIRING MUST BE IN A PLENUM RATED SHEATH OR CONDUIT. ALL PVC PIMPING MUST BE ENCASED IN AN APPROVED INSULATION WITH FLAME AND SMOKE SPREAD RATING OF 25/50.

9. WITHOUT EXCEPTION, ELIMINATION OF ANY PIPING INSULATION FOR HANGERS IS NOT ACCEPTABLE. PROVIDE INSERTS, AS SPECIFIED, FOR THE PLACEMENT OF PIPING SUPPORT. CRUSHING OF INSULATION IS NOT ACCEPTABLE. SEE SPECIFICATIONS. FOR ALL ABOVE GROUND PIPING LOCATED OUTSIDE BUILDING, PROVIDE ALUMINUM JACKET OVER WATER PROOF INSULATION.

10. ALL PIPING SHALL BE ADEQUATELY SUPPORTED FROM THE BUILDING STRUCTURE TO PREVENT SAGGING, POCKETING, SWAYING OR DISPLACEMENT BY MEANS OF HANGERS AND SUPPORTS. PIPING IS NOT TO BE SUPPORTED BY EQUIPMENT. PROVIDE DIELECTRIC UNIONS BETWEEN DISSIMILAR MATERIALS. PROVIDE MANUAL AIR VENTS AND CAPPED HOSE-END DRAINS WITH ISOLATION VALVE AT PIPING HIGH AND LOW POINTS. WELD PIPE IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS. WELDERS SHALL BE CERTIFIED FOR TYPE OF WELD BEING PERFORMED. FLUSH OUT PIPING AND REMOVE CONTROL DEVICES BEFORE PERFORMING PRESSURE TEST. DO NOT USE PIPING SYSTEM VALVES TO ISOLATE SECTIONS WHERE TEST PRESSURE EXCEEDS VALVE PRESSURE RATING. PRESSURIZE PIPING AT 100 PSIG. IF LEAKAGE IS OBSERVED OR IF TEMPERATURE COMPENSATED PRESSURE DROP EXCEEDS 1% OF TEST PRESSURE, REPAIR LEAKS AND RETEST. DO NOT USE AIR PRESSURE TO TEST PLASTIC PIPE. PROVIDE SUPPORT UNDER ELBOWS ON PUMP SUCTION AND DISCHARGE LINES. ALL STRAINERS SHALL BE FURNISHED WITH A "ROUGHING" SCREEN AND TWO (2) SCREENS FOR NORMAL OPERATION. INSTALL STRAINER WITH ROUGHING SCREEN AND OPERATE SYSTEM FOR 24 HOURS MINIMUM (RUN DOMESTIC WATER SYSTEMS AT MAX FLOW FOR A MINIMUM OF ONE HALF (1/2) HOUR. REMOVE ROUGHING SCREEN AND INSTALL NORMAL SCREEN, AFTER TWO WEEKS OF NORMAL OPERATION INSTALL NEW NORMAL SCREEN.

11. AFTER INSTALLATION OF SYSTEM, PERFORM AN OPERATIONAL TEST IN THE PRESENCE OF THE OWNER, ARCHITECT, OR ENGINEER. THIS TEST WILL CONSIST OF SUCCESSFULLY DEMONSTRATING: APPEARANCE OF INSTALLATION, FUNCTION OF ALL CONTROLS, THE CONTROLS SHALL BE OPERATED IN THE FOLLOWING MODES IN EACH ZONE: OCCUPIED/UNOCCUPIED. IF THE TEST IS NOT SUCCESSFUL IN THE OPINION OF THE ARCHITECT OR ENGINEER, DEFICIENCIES WILL BE REMEDIATED AND THE SYSTEM WILL BE E-TESTED UNTIL THE TEST IS SUCCESSFUL.

12. WHERE NEW MECHANICAL SYSTEMS ARE USED FOR TEMPORARY VENTILATION OR CLIMATE CONTROL, MECHANICAL EQUIPMENT INSTALLER SHALL BE PROVIDE CONSTRUCTION FILTERS, MAINTAIN EQUIPMENT, AND CLEAN, ADJUST AND PUT IN NEW CONDITION BEFORE BUILDING OCCUPANCY. PARTS AND LABOR WARRANTY SHALL NOT BE CONSIDERED TO START UNTIL ACCEPTANCE OF THE SYSTEM BY OWNER.



2/16/2017

R² ARCHITECTURAL DESIGN
730 SAN MATEO BLVD SE, SUITE 1
ALBUQUERQUE, NEW MEXICO 87108
TEL: 505.792.6224 FAX: 888.892.5814

EH	NY	2/13/17	AS SHOWN
DRAWN BY:	CHECKED BY:	DATE:	SCALE:

SANTA FE MOUNTAIN CENTER
1160 PARKWAY DRIVE SUITES A & B
SANTA FE, NM

MECHANICAL GENERAL INFORMATION

-SHEET-

M001

2012.19 / LAGUNA DENTAL PLUMBING PIPING 22 1006 - 1
PLUMBING PIPING

PART 1 GENERAL
1.01 SECTION INCLUDES
 A. PIPE, PIPE FITTINGS, VALVES, AND CONNECTIONS FOR PIPING SYSTEMS.
1.03 SUBMITTALS
 A. SEE SECTION 01 3000 - ADMINISTRATIVE REQUIREMENTS, FOR SUBMITTAL PROCEDURES.
 B. PRODUCT DATA: PROVIDE DATA ON PIPE MATERIALS, PIPE FITTINGS, VALVES, AND ACCESSORIES. PROVIDE MANUFACTURERS CATALOG INFORMATION, INDICATE VALVE DATA AND RATINGS.
1.04 QUALITY ASSURANCE
 A. PERFORM WORK IN ACCORDANCE WITH STATE OF NM, STANDARDS.
 1. MAINTAIN ONE COPY ON PROJECT SITE.
 B. VALVES: MANUFACTURER'S NAME AND PRESSURE RATING MARKED ON VALVE BODY.
 C. WELDING MATERIALS AND PROCEDURES: CONFORM TO ASME (BPV IX) AND APPLICABLE STATE LABOR REGULATIONS.
 D. WELDER QUALIFICATIONS: CERTIFIED IN ACCORDANCE WITH ASME (BPV IX).
 E. IDENTIFY PIPE WITH MARKING INCLUDING SIZE, ASTM MATERIAL CLASSIFICATION, ASTM SPECIFICATION, POTABLE WATER CERTIFICATION, WATER PRESSURE RATING.

1.05 REGULATORY REQUIREMENTS
 A. PERFORM WORK IN ACCORDANCE WITH STATE OF NM PLUMBING CODE.
 B. CONFORM TO APPLICABLE CODE FOR INSTALLATION OF BACKFLOW PREVENTION DEVICES.
 C. PROVIDE CERTIFICATE OF COMPLIANCE FROM AUTHORITY HAVING JURISDICTION INDICATING APPROVAL OF INSTALLATION OF BACKFLOW PREVENTION DEVICES.
1.07 FIELD CONDITIONS
 A. DO NOT INSTALL UNDERGROUND PIPING WHEN BEDDING IS WET OR FROZEN.

PART 2 PRODUCTS

2.01 SANITARY SEWER PIPING, BURIED WITHIN 5 FEET OF BUILDING
 A. CAST IRON PIPE: ASTM A 74 EXTRA HEAVY WEIGHT.
 1. FITTINGS: CAST IRON.
 2. JOINTS: HUB-AND-SPIGOT, CISPI HSN COMPRESSION TYPE WITH ASTM C 564 NEOPRENE GASKETS OR LEAD AND OAKUM.
 B. PVC PIPE: ASTM D 2665 OR ASTM D 3034.
 1. FITTINGS: PVC.
 2. JOINTS: SOLVENT WELDED, WITH ASTM D 2564 SOLVENT CEMENT.

2.02 SANITARY SEWER PIPING, ABOVE GRADE
 A. CAST IRON PIPE: ASTM A 74, SERVICE WEIGHT.
 1. FITTINGS: CAST IRON.
 2. JOINT SEALS: ASTM C 564 NEOPRENE GASKETS, OR LEAD AND OAKUM.
 B. CAST IRON PIPE: CISPI 301, HURLESS, SERVICE WEIGHT.
 1. FITTINGS: CAST IRON.
 2. JOINTS: CISPI 310, NEOPRENE GASKETS AND STAINLESS STEEL CLAMP-AND-SHIELD ASSEMBLIES.

2.03 WATER PIPING, BURIED WITHIN 5 FEET OF BUILDING
 A. COPPER PIPE: ASTM B 42, ANNEALED.
 1. FITTINGS: ASME B16.18, CAST COPPER ALLOY OR ASME B16.22 WROUGHT COPPER AND BRONZE.
 2. JOINTS: ASTM B 32, ALLOY SN65 SOLDER.
 B. STEEL PIPE: ASTM A 53A 53M SCHEDULE 40 BLACK.
 1. FITTINGS: ASTM A 234A 234M, WROUGHT STEEL WELDING TYPE.
 2. JOINTS: ASME B31.1, WELDED.
 3. JACKET: AWWA C105/A21.5 POLYETHYLENE JACKET OR DOUBLE LAYER, HALF-LAPPED 10 MIL POLYETHYLENE TAPE.

2.04 WATER PIPING, ABOVE GRADE
 A. COPPER TUBE: ASTM B 88 (ASTM B 88M), TYPE L (B), DRAWN (H).
 1. FITTINGS: ASME B16.18, CAST COPPER ALLOY OR ASME B16.22, WROUGHT COPPER AND BRONZE.
 2. JOINTS: ASTM B 32, ALLOY SN65 SOLDER.
2.05 CONDENSATE
 A. COPPER TUBE: ASTM B 88 (ASTM B 88M), TYPE L (B).
 1. FITTINGS: ASME B16.29, WROUGHT COPPER, OR ASME B16.32, SOVENT.
 2. JOINTS: ASTM B 32, ALLOY SN65 SOLDER.

2.06 NATURAL GAS PIPING, BURIED WITHIN 5 FEET OF BUILDING
 A. STEEL PIPE: ASTM A 53A 53M SCHEDULE 40 BLACK.
 1. FITTINGS: ASTM A 234A 234M, WROUGHT STEEL WELDING TYPE.
 2. JOINTS: ASME B31.1, WELDED.
 3. JACKET: AWWA C105/A21.5 POLYETHYLENE JACKET OR DOUBLE LAYER, HALF-LAPPED 10 MIL POLYETHYLENE TAPE.

2.07 NATURAL GAS PIPING, ABOVE GRADE
 A. STEEL PIPE: ASTM A 53A 53M SCHEDULE 40 BLACK.
 1. FITTINGS: ASME B16.3, MALLEABLE IRON, OR ASTM A 234A 234M, WROUGHT STEEL WELDING TYPE.
 2. JOINTS: NFPA 54, THREADED OR WELDED TO ASME B31.1.

2.08 FLANGES, UNIONS, AND COUPLINGS
 A. UNIONS FOR PIPE SIZES 3 INCHES AND UNDER:
 1. FERROUS PIPE: CLASS 150 MALLEABLE IRON THREADED UNIONS.
 2. COPPER TUBE AND PIPE: CLASS 150 BRONZE UNIONS WITH SOLDERED JOINTS.
 B. FLANGES FOR PIPE SIZE OVER 1 INCH:
 1. FERROUS PIPE: CLASS 150 MALLEABLE IRON THREADED OR FORGED STEEL SLIP-ON FLANGES, PREFORMED NEOPRENE GASKETS.
 2. COPPER TUBE AND PIPE: CLASS 150 SLIP-ON BRONZE FLANGES, PREFORMED NEOPRENE GASKETS.

2.09 PIPE HANGERS AND SUPPORTS
 A. PLUMBING PIPING - DRAIN, WASTE, AND VENT:
 1. CONFORM TO MSS SP-69.
 2. HANGERS FOR PIPE SIZES 1/2 INCH TO 1-1/2 INCHES: MALLEABLE IRON, ADJUSTABLE SWIVEL, SPLIT RING.
 3. HANGERS FOR PIPE SIZES 2 INCHES AND OVER: CARBON STEEL, ADJUSTABLE, CLEVIS.
 4. MULTIPLE OR TRAPEZE HANGERS: STEEL CHANNELS WITH WELDED SPACERS AND HANGER RODS.
 5. WALL SUPPORT FOR PIPE SIZES TO 3 INCHES: CAST IRON HOOK.
 6. WALL SUPPORT FOR PIPE SIZES 4 INCHES AND OVER: WELDED STEEL BRACKET AND WROUGHT STEEL CLAMP.
 7. VERTICAL SUPPORT: STEEL RISER CLAMP.
 8. FLOOR SUPPORT: CAST IRON ADJUSTABLE PIPE SADDLE, LOCK NUT, NIPPLE, FLOOR FLANGE, AND CONCRETE PIER OR STEEL SUPPORT.
 9. COPPER PIPE SUPPORT: CARBON STEEL RING, ADJUSTABLE, COPPER PLATED.
 B. PLUMBING PIPING - WATER:
 1. CONFORM TO ASME B31.9.
 2. HANGERS FOR PIPE SIZES 1/2 INCH TO 1-1/2 INCHES: MALLEABLE IRON, ADJUSTABLE SWIVEL, SPLIT RING.
 3. HANGERS FOR COLD PIPE SIZES 2 INCHES AND OVER: CARBON STEEL, ADJUSTABLE, CLEVIS.
 4. HANGERS FOR HOT PIPE SIZES 2 INCHES TO 4 INCHES: CARBON STEEL, ADJUSTABLE, CLEVIS.
 5. HANGERS FOR HOT PIPE SIZES 6 INCHES AND OVER: ADJUSTABLE STEEL YOKE, CAST IRON PIPE ROLL, DOUBLE HANGER.
 6. MULTIPLE OR TRAPEZE HANGERS: STEEL CHANNELS WITH WELDED SUPPORTS OR SPACERS AND HANGER RODS.
 7. MULTIPLE OR TRAPEZE HANGERS FOR HOT PIPE SIZES 6 INCHES AND OVER: STEEL CHANNELS WITH WELDED SUPPORTS OR SPACERS AND HANGER RODS, CAST IRON ROLL.
 8. WALL SUPPORT FOR PIPE SIZES TO 3 INCHES: CAST IRON HOOK.
 9. WALL SUPPORT FOR PIPE SIZES 4 INCHES AND OVER: WELDED STEEL BRACKET AND WROUGHT STEEL CLAMP.
 10. WALL SUPPORT FOR HOT PIPE SIZES 6 INCHES AND OVER: WELDED STEEL BRACKET AND WROUGHT STEEL CLAMP WITH ADJUSTABLE STEEL YOKE AND CAST IRON PIPE ROLL.
 11. VERTICAL SUPPORT: STEEL RISER CLAMP.
 12. FLOOR SUPPORT FOR COLD PIPE: CAST IRON ADJUSTABLE PIPE SADDLE, LOCK NUT, NIPPLE, FLOOR FLANGE, AND CONCRETE PIER OR STEEL SUPPORT.
 13. FLOOR SUPPORT FOR HOT PIPE SIZES TO 4 INCHES: CAST IRON ADJUSTABLE PIPE SADDLE, LOCK NUT, NIPPLE, FLOOR FLANGE, AND CONCRETE PIER OR STEEL SUPPORT.
 14. FLOOR SUPPORT FOR HOT PIPE SIZES 6 INCHES AND OVER: ADJUSTABLE CAST IRON PIPE ROLL AND STAND, STEEL SCREWS, AND CONCRETE PIER OR STEEL SUPPORT.
 15. COPPER PIPE SUPPORT: CARBON STEEL RING, ADJUSTABLE, COPPER PLATED.

2.10 GATE VALVES
 A. UP TO AND INCLUDING 3 INCHES:

1. MSS SP-80, CLASS 125, BRONZE BODY, BRONZE TRIM, RISING STEM, HANDWHEEL, INSIDE SCREW, SOLID WEDGE DISC, SOLDER ENDS.
 B. 2 INCHES AND LARGER:
 1. MSS SP-70, CLASS 125, IRON BODY, BRONZE TRIM, OUTSIDE SCREW AND YOKE, HANDWHEEL, SOLID WEDGE DISC, FLANGED ENDS. PROVIDE CHAIN-WHEEL OPERATORS FOR VALVES 6 INCHES AND LARGER MOUNTED OVER 8 FEET ABOVE FLOOR.
2.11 GLOBE VALVES
 A. UP TO AND INCLUDING 3 INCHES:
 1. MSS SP-80, CLASS 125, BRONZE BODY, BRONZE TRIM, HANDWHEEL, BRONZE DISC, SOLDER ENDS.
2.12 BALL VALVES
 A. CONSTRUCTION, 4 INCHES AND SMALLER: MSS SP-110, CLASS 150, 400 PSI CWP, BRONZE, TWO PIECE BODY, CHROME PLATED BRASS BALL, REGULAR PORT, TEFLON SEATS AND STUFFING BOX RING, BLOW-OUT PROOF STEM, LEVER HANDLE WITH BALANCING STOPS, SOLDER ENDS WITH UNION.
2.13 FLOW CONTROLS
 A. CONSTRUCTION: CLASS 125, BRASS OR BRONZE BODY WITH UNION ON INLET AND OUTLET, TEMPERATURE AND PRESSURE TEST PLUG ON INLET AND OUTLET, BLOWDOWN/BACKFLUSH DRAIN.
 B. CALIBRATION: CONTROL FLOW WITHIN 5 PERCENT OF SELECTED RATING, OVER OPERATING PRESSURE RANGE OF 10 TIMES MINIMUM PRESSURE REQUIRED FOR CONTROL, MAXIMUM MINIMUM PRESSURE 3.5 PSI PSI.
2.14 SWING CHECK VALVES
 A. UP TO 2 INCHES:
 1. MSS SP-80, CLASS 125, BRONZE BODY AND CAP, BRONZE SWING DISC WITH RUBBER SEAT, SOLDER ENDS.
2.15 SPRING LOADED CHECK VALVES
 A. CLASS 125, IRON BODY, BRONZE TRIM, STAINLESS STEEL SPRINGS, BRONZE DISC, BUNA N SEALS, WAFER STYLE ENDS.
2.16 WATER PRESSURE REDUCING VALVES
 A. UP TO 2 INCHES:
 1. MSS SP-80, BRONZE BODY, STAINLESS STEEL AND THERMOPLASTIC INTERNAL PARTS, FABRIC REINFORCED DIAPHRAGM, STRAINER, THREADED SINGLE UNION ENDS.
 B. OVER 2 INCHES:
 1. MSS SP-85, CAST IRON BODY, BRONZE FITTED, ELASTOMERIC DIAPHRAGM AND SEAT DISC, FLANGED.
 C. PROVIDE A WATER PRESSURE REDUCING VALVE AND/OR STATION WHEN THE WATER PRESSURE ENTERING THE BUILDING IS 70 PSIG OR GREATER.
2.17 RELIEF VALVES
 A. PRESSURE RELIEF:
 1. AGA Z21.22 CERTIFIED, BRONZE BODY, TEFLON SEAT, STEEL STEM AND SPRINGS, AUTOMATIC, DIRECT PRESSURE ACTUATED.
 B. TEMPERATURE AND PRESSURE RELIEF:
 1. AGA Z21.22 CERTIFIED, BRONZE BODY, TEFLON SEAT, STAINLESS STEEL STEM AND SPRINGS, AUTOMATIC, DIRECT PRESSURE ACTUATED, TEMPERATURE RELIEF, MAXIMUM 210 DEGREES F, CAPACITY ASME (BPV IV) CERTIFIED AND LABELLED.
2.18 STRAINERS
 A. SIZE 2 INCH AND UNDER:
 1. THREADED BRASS BODY FOR 175 PSI CWP, Y PATTERN WITH 1/32 INCH STAINLESS STEEL PERFORATED SCREEN.
 2. CLASS 150, THREADED BRONZE BODY 300 PSI CWP, Y PATTERN WITH 1/32 INCH STAINLESS STEEL PERFORATED SCREEN.
 B. SIZE 1-1/2 INCH TO 1 INCH:
 1. CLASS 125, FLANGED IRON BODY, Y PATTERN WITH 1/16 INCH STAINLESS STEEL PERFORATED SCREEN.

END OF SECTION

2012.19 / LAGUNA DENTAL PLUMBING PIPING SPECIALTIES 22 1006 - 1
PLUMBING PIPING SPECIALTIES

PART 1 GENERAL

1.01 SECTION INCLUDES
 A. ROOF AND FLOOR DRAINS.
 B. CLEANOUTS.
 C. HOSE BIBBS.
 D. HYDRANTS.
 E. BACKFLOW PREVENTERS.
 F. WATER HAMMER ARRESTORS.
1.02 REFERENCE STANDARDS
 A. ASSE 1011 - HOSE CONNECTION VACUUM BREAKERS; AMERICAN SOCIETY OF SANITARY ENGINEERING; 2004 (ANSI/ASSE 1011).
1.03 QUALITY ASSURANCE
 A. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH NOT LESS THAN THREE YEARS DOCUMENTED EXPERIENCE.
1.04 DELIVERY, STORAGE, AND HANDLING
 A. ACCEPT SPECIALTIES ON SITE IN ORIGINAL FACTORY PACKAGING. INSPECT FOR DAMAGE.
PART 2 PRODUCTS

2.01 DRAINS
 A. AREA DRAINS:
 B. SHOWER DRAIN (SD-1):
 1. ASME A112.8.3, LAQUERED CAST IRON TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEEP HOLES, REVERSIBLE CLAMPING COLLAR, AND 8" ROUND, ADJUSTABLE NICKEL-BRONZE STRAINER WITH VANDAL PROOF SCREWS, PROVIDE WITH PRO-SET TRAP GUARD.
 2. MODEL V-11000 SERIES AS MANUFACTURED BY WADE; OR APPROVED EQUAL.
2.02 CLEANOUTS
 A. CLEANOUTS AT EXTERIOR SURFACED AREAS (CO-1):
 1. ROUND CAST NICKEL BRONZE ACCESS FRAME AND NON-SKID COVER.
 B. CLEANOUTS AT EXTERIOR UNSURFACED AREAS (CO-2):
 1. LINE TYPE WITH LAQUERED CAST IRON BODY AND ROUND EPOXY COATED GASKETED COVER.
 C. CLEANOUTS AT INTERIOR FINISHED FLOOR AREAS (CO-3):
 1. LAQUERED CAST IRON BODY WITH ANCHOR FLANGE, REVERSIBLE CLAMPING COLLAR, THREADED TOP ASSEMBLY, AND ROUND GASKETED SCORED COVER IN SERVICE AREAS AND ROUND GASKETED DEPRESSIONED COVER TO ACCEPT FLOOR FINISH IN FINISHED FLOOR AREAS.
 D. CLEANOUTS AT INTERIOR FINISHED WALL AREAS (CO-4):
 1. LINE TYPE WITH LAQUERED CAST IRON BODY AND ROUND EPOXY COATED GASKETED COVER, AND ROUND STAINLESS STEEL ACCESS COVER SECURED WITH MACHINE SCREW.
 E. CLEANOUTS AT INTERIOR UNFINISHED ACCESSIBLE AREAS (CO-5): CALKED OR THREADED TYPE. PROVIDE BOLTED STACK CLEANOUTS ON VERTICAL RAINWATER LEADERS.

2.03 HOSE BIBBS

A. INTERIOR HOSE BIBBS:
 1. BRONZE OR BRASS WITH INTEGRAL MOUNTING FLANGE, REPLACEABLE HEXAGONAL DISC, HOSE THREAD SPOUT, CHROME PLATED WHERE EXPOSED WITH HANDWHEEL, INTEGRAL VACUUM BREAKER IN CONFORMANCE WITH ASSE 1011.

2.04 HYDRANTS

A. WALL HYDRANTS:
 1. FPWH: WALL HYDRANT, RECESSED; ANSI/ASSE 1019-B; NON-FREEZE (EVEN WITH HOSE CONNECTED), SELF-DRAINING TYPE WITH NICKEL-BRONZE RECESSED BOX, 3/4-INCH HOSE THREAD SPOUT, 3/4-INCH INLET, KEY OPERATED, LOCKSHIELD AND REMOVABLE KEY, AND INTEGRAL VACUUM BREAKER.
 2. MODEL 6519 MANUFACTURED BY J.R. SMITH; OR APPROVED EQUAL.

2.05 REFRIGERATOR VALVE AND RECESSED BOX

2.06 BACKFLOW PREVENTERS
 A. REDUCED PRESSURE BACKFLOW PREVENTERS:
 1. ASSE 1013; BRONZE BODY WITH BRONZE INTERNAL PARTS AND STAINLESS STEEL SPRINGS; TWO INDEPENDENTLY OPERATING, SPRING LOADED CHECK VALVES; DIAPHRAGM TYPE DIFFERENTIAL PRESSURE RELIEF VALVE LOCATED BETWEEN CHECK VALVES; THIRD CHECK VALVE THAT OPENS UNDER BACK PRESSURE IN CASE OF DIAPHRAGM FAILURE; NON-THREADED VENT OUTLET; ASSEMBLED WITH TWO GATE VALVES, STRAINER, AND FOUR TEST COCKS.

2.07 WATER HAMMER ARRESTORS

A. USE GROOVED MECHANICAL COUPLINGS AND FASTENERS ONLY IN ACCESSIBLE LOCATIONS.
 B. INSTALL UNIONS DOWNSTREAM OF VALVES AND AT EQUIPMENT OR APPARATUS CONNECTIONS.
 C. INSTALL GLOBE VALVES FOR THROTTLING, BYPASS, OR MANUAL FLOW CONTROL SERVICES.
 D. PROVIDE PLUG VALVES IN NATURAL GAS SYSTEMS FOR SHUT-OFF SERVICE.
 E. PROVIDE FLOW CONTROLS IN WATER RECIRCULATING SYSTEMS WHERE INDICATED.
3.05 TOLERANCES
 A. DRAINAGE PIPING: ESTABLISH INVERT ELEVATIONS WITHIN 1/2 INCH VERTICALLY OF LOCATION INDICATED AND SLOPE TO DRAIN AT MINIMUM OF 1/8 INCH PER FOOT SLOPE.
3.06 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM
 A. PRIOR TO STARTING WORK, VERIFY SYSTEM IS COMPLETE, FLUSHED AND CLEAN.
 B. ENSURE PH OF WATER TO BE TREATED IS BETWEEN 7.4 AND 7.6 BY ADDING ALKALI (CAUSTIC SODA OR SODA ASH) OR ACID (HYDROCHLORIC).
 C. INJECT DISINFECTANT, FREE CHLORINE IN LIQUID, POWDER, TABLET OR GAS FORM, THROUGHOUT SYSTEM TO OBTAIN 50 TO 80 MG/L RESIDUAL.
 D. BLEED WATER FROM OUTLETS TO ENSURE DISTRIBUTION AND TEST FOR DISINFECTANT RESIDUAL AT MINIMUM 15 PERCENT OF OUTLETS.
 E. MAINTAIN DISINFECTANT IN SYSTEM FOR 24 HOURS.
 F. IF FINAL DISINFECTANT RESIDUAL TESTS LESS THAN 25 MG/L, REPEAT TREATMENT.
 G. FLUSH DISINFECTANT FROM SYSTEM UNTIL RESIDUAL EQUAL TO THAT OF INCOMING WATER OR 1.0 MG/L.
 H. TAKE SAMPLES NO SOONER THAN 24 HOURS AFTER FLUSHING, FROM 10 PERCENT OF OUTLETS AND FROM WATER ENTRY, AND ANALYZE IN ACCORDANCE WITH AWWA C651.

3.07 SERVICE CONNECTIONS

A. PROVIDE NEW SANITARY SEWER SERVICES. BEFORE COMMENCING WORK CHECK INVERT ELEVATIONS REQUIRED FOR SEWER CONNECTIONS, CONFIRM INVERTS AND ENSURE THAT THESE CAN BE PROPERLY CONNECTED WITH SLOPE FOR DRAINAGE AND COVER TO AVOID FREEZING.
 B. PROVIDE NEW WATER SERVICE COMPLETE WITH APPROVED REDUCED PRESSURE BACKFLOW PREVENTER AND WATER METER WITH BY-PASS

VALVES, PRESSURE REDUCING VALVE, AND SAND STRAINER.
 C. PROVIDE NEW GAS SERVICE COMPLETE WITH GAS METER AND REGULATORS, GAS SERVICE DISTRIBUTION PIPING TO HAVE INITIAL MINIMUM PRESSURE OF 7 INCH WG.
 D. CONTRACTOR SHALL GET PRICES FROM UTILITY PROVIDERS FOR NEW SERVICES TO THE BUILDING. THESE PRICES SHALL BE INCLUDED IN THE BID. CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE NEW UTILITY SERVICE CONNECTION, START-UP, AND ANY COORDINATION REQUIRED.
3.08 SCHEDULES
 A. PIPE HANGER SPACING:
 1. METAL PIPING:
 a. PIPE SIZE: 1/2 INCHES TO 1-1/4 INCHES:
 1) MAXIMUM HANGER SPACING: 6.5 FT.
 2) HANGER ROD DIAMETER: 3/8 INCHES.
 b. PIPE SIZE: 1-1/2 INCHES TO 2 INCHES:
 1) MAXIMUM HANGER SPACING: 10 FT.
 2) HANGER ROD DIAMETER: 3/8 INCH.
 c. PIPE SIZE: 2-1/2 INCHES TO 3 INCHES:
 1) MAXIMUM HANGER SPACING: 10 FT.
 2) HANGER ROD DIAMETER: 1/2 INCH.
 d. PIPE SIZE: 4 INCHES TO 6 INCHES.

END OF SECTION

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PLUMBING PIPING SPECIALTIES

PART 1 GENERAL

1.01 SECTION INCLUDES
 A. ROOF AND FLOOR DRAINS.
 B. CLEANOUTS.
 C. HOSE BIBBS.
 D. HYDRANTS.
 E. BACKFLOW PREVENTERS.
 F. WATER HAMMER ARRESTORS.
1.02 REFERENCE STANDARDS
 A. ASSE 1011 - HOSE CONNECTION VACUUM BREAKERS; AMERICAN SOCIETY OF SANITARY ENGINEERING; 2004 (ANSI/ASSE 1011).
1.03 QUALITY ASSURANCE
 A. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH NOT LESS THAN THREE YEARS DOCUMENTED EXPERIENCE.
1.04 DELIVERY, STORAGE, AND HANDLING
 A. ACCEPT SPECIALTIES ON SITE IN ORIGINAL FACTORY PACKAGING. INSPECT FOR DAMAGE.
PART 2 PRODUCTS

2.01 DRAINS
 A. AREA DRAINS:
 B. SHOWER DRAIN (SD-1):
 1. ASME A112.8.3, LAQUERED CAST IRON TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEEP HOLES, REVERSIBLE CLAMPING COLLAR, AND 8" ROUND, ADJUSTABLE NICKEL-BRONZE STRAINER WITH VANDAL PROOF SCREWS, PROVIDE WITH PRO-SET TRAP GUARD.
 2. MODEL V-11000 SERIES AS MANUFACTURED BY WADE; OR APPROVED EQUAL.
2.02 CLEANOUTS
 A. CLEANOUTS AT EXTERIOR SURFACED AREAS (CO-1):
 1. ROUND CAST NICKEL BRONZE ACCESS FRAME AND NON-SKID COVER.
 B. CLEANOUTS AT EXTERIOR UNSURFACED AREAS (CO-2):
 1. LINE TYPE WITH LAQUERED CAST IRON BODY AND ROUND EPOXY COATED GASKETED COVER.
 C. CLEANOUTS AT INTERIOR FINISHED FLOOR AREAS (CO-3):
 1. LAQUERED CAST IRON BODY WITH ANCHOR FLANGE, REVERSIBLE CLAMPING COLLAR, THREADED TOP ASSEMBLY, AND ROUND GASKETED SCORED COVER IN SERVICE AREAS AND ROUND GASKETED DEPRESSIONED COVER TO ACCEPT FLOOR FINISH IN FINISHED FLOOR AREAS.
 D. CLEANOUTS AT INTERIOR FINISHED WALL AREAS (CO-4):
 1. LINE TYPE WITH LAQUERED CAST IRON BODY AND ROUND EPOXY COATED GASKETED COVER, AND ROUND STAINLESS STEEL ACCESS COVER SECURED WITH MACHINE SCREW.
 E. CLEANOUTS AT INTERIOR UNFINISHED ACCESSIBLE AREAS (CO-5): CALKED OR THREADED TYPE. PROVIDE BOLTED STACK CLEANOUTS ON VERTICAL RAINWATER LEADERS.

2.03 HOSE BIBBS

A. INTERIOR HOSE BIBBS:
 1. BRONZE OR BRASS WITH INTEGRAL MOUNTING FLANGE, REPLACEABLE HEXAGONAL DISC, HOSE THREAD SPOUT, CHROME PLATED WHERE EXPOSED WITH HANDWHEEL, INTEGRAL VACUUM BREAKER IN CONFORMANCE WITH ASSE 1011.

2.04 HYDRANTS

A. WALL HYDRANTS:
 1. FPWH: WALL HYDRANT, RECESSED; ANSI/ASSE 1019-B; NON-FREEZE (EVEN WITH HOSE CONNECTED), SELF-DRAINING TYPE WITH NICKEL-BRONZE RECESSED BOX, 3/4-INCH HOSE THREAD SPOUT, 3/4-INCH INLET, KEY OPERATED, LOCKSHIELD AND REMOVABLE KEY, AND INTEGRAL VACUUM BREAKER.
 2. MODEL 6519 MANUFACTURED BY J.R. SMITH; OR APPROVED EQUAL.

2.05 REFRIGERATOR VALVE AND RECESSED BOX

2.06 BACKFLOW PREVENTERS
 A. REDUCED PRESSURE BACKFLOW PREVENTERS:
 1. ASSE 1013; BRONZE BODY WITH BRONZE INTERNAL PARTS AND STAINLESS STEEL SPRINGS; TWO INDEPENDENTLY OPERATING, SPRING LOADED CHECK VALVES; DIAPHRAGM TYPE DIFFERENTIAL PRESSURE RELIEF VALVE LOCATED BETWEEN CHECK VALVES; THIRD CHECK VALVE THAT OPENS UNDER BACK PRESSURE IN CASE OF DIAPHRAGM FAILURE; NON-THREADED VENT OUTLET; ASSEMBLED WITH TWO GATE VALVES, STRAINER, AND FOUR TEST COCKS.

2.07 WATER HAMMER ARRESTORS

A. USE GROOVED MECHANICAL COUPLINGS AND FASTENERS ONLY IN ACCESSIBLE LOCATIONS.
 B. INSTALL UNIONS DOWNSTREAM OF VALVES AND AT EQUIPMENT OR APPARATUS CONNECTIONS.
 C. INSTALL GLOBE VALVES FOR THROTTLING, BYPASS, OR MANUAL FLOW CONTROL SERVICES.
 D. PROVIDE PLUG VALVES IN NATURAL GAS SYSTEMS FOR SHUT-OFF SERVICE.
 E. PROVIDE FLOW CONTROLS IN WATER RECIRCULATING SYSTEMS WHERE INDICATED.
3.05 TOLERANCES
 A. DRAINAGE PIPING: ESTABLISH INVERT ELEVATIONS WITHIN 1/2 INCH VERTICALLY OF LOCATION INDICATED AND SLOPE TO DRAIN AT MINIMUM OF 1/8 INCH PER FOOT SLOPE.
3.06 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM
 A. PRIOR TO STARTING WORK, VERIFY SYSTEM IS COMPLETE, FLUSHED AND CLEAN.
 B. ENSURE PH OF WATER TO BE TREATED IS BETWEEN 7.4 AND 7.6 BY ADDING ALKALI (CAUSTIC SODA OR SODA ASH) OR ACID (HYDROCHLORIC).
 C. INJECT DISINFECTANT, FREE CHLORINE IN LIQUID, POWDER, TABLET OR GAS FORM, THROUGHOUT SYSTEM TO OBTAIN 50 TO 80 MG/L RESIDUAL.
 D. BLEED WATER FROM OUTLETS TO ENSURE DISTRIBUTION AND TEST FOR DISINFECTANT RESIDUAL AT MINIMUM 15 PERCENT OF OUTLETS.
 E. MAINTAIN DISINFECTANT IN SYSTEM FOR 24 HOURS.
 F. IF FINAL DISINFECTANT RESIDUAL TESTS LESS THAN 25 MG/L, REPEAT TREATMENT.
 G. FLUSH DISINFECTANT FROM SYSTEM UNTIL RESIDUAL EQUAL TO THAT OF INCOMING WATER OR 1.0 MG/L.
 H. TAKE SAMPLES NO SOONER THAN 24 HOURS AFTER FLUSHING, FROM 10 PERCENT OF OUTLETS AND FROM WATER ENTRY, AND ANALYZE IN ACCORDANCE WITH AWWA C651.

3.07 SERVICE CONNECTIONS

A. PROVIDE NEW SANITARY SEWER SERVICES. BEFORE COMMENCING WORK CHECK INVERT ELEVATIONS REQUIRED FOR SEWER CONNECTIONS, CONFIRM INVERTS AND ENSURE THAT THESE CAN BE PROPERLY CONNECTED WITH SLOPE FOR DRAINAGE AND COVER TO AVOID FREEZING.
 B. PROVIDE NEW WATER SERVICE COMPLETE WITH APPROVED REDUCED PRESSURE BACKFLOW PREVENTER AND WATER METER WITH BY-PASS

1.03 REFERENCE STANDARDS
 A. ANSI Z24.2 - AMERICAN NATIONAL STANDARD FOR PLASTIC BATHTUB AND SHOWER UNITS; 2008.
 B. ASME A112.18.1 - PLUMBING SUPPLY FITTINGS; THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS; 2005.
 C. ASME A112.19.2 - VITREOUS CHINA PLUMBING FIXTURES AND HYDRAULIC REQUIREMENTS FOR WATER CLOSETS AND URINALS; THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS; 2008.
 D. ASME A112.19.14 - SIX LITER WATER CLOSETS EQUIPPED WITH DUAL FLUSHING DEVICE; 2008.
 E. ISSFA-2 - CLASSIFICATION AND STANDARDS FOR SOLID SURFACING MATERIAL; INTERNATIONAL SOLID SURFACE FABRICATORS ASSOCIATION; 2001 (2002).
 F. NEMA LD 3 - HIGH-PRESSURE DECORATIVE LAMINATES; 2005.
1.04 SUBMITTALS
 A. SEE SECTION 01 3000 - ADMINISTRATIVE REQUIREMENTS, FOR SUBMITTAL PROCEDURES.
 B. PRODUCT DATA: PROVIDE CATALOG ILLUSTRATIONS OF FIXTURES, SIZES, ROUGH-IN DIMENSIONS, UTILITY SIZES, TRIM, AND FINISHES.
 C. WATERLESS URINALS: SUBMIT RECOMMENDED FREQUENCY OF MAINTENANCE AND PARTS REPLACEMENT, METHODS OF CLEANING, SOURCES OF REPLACEMENT SUPPLIES AND PARTS.
 D. WARRANTY: SUBMIT MANUFACTURER WARRANTY AND ENSURE FORMS HAVE BEEN COMPLETED IN OWNER'S NAME AND REGISTERED WITH MANUFACTURER.
1.05 QUALITY ASSURANCE
 A. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE TYPE OF PRODUCTS SPECIFIED IN THIS SECTION, WITH MINIMUM THREE YEARS OF DOCUMENTED EXPERIENCE.
1.06 REGULATORY REQUIREMENTS
 A. PRODUCTS REQUIRING ELECTRICAL CONNECTION: LISTED AND CLASSIFIED BY UNDERWRITERS LABORATORIES INC., AS SUITABLE FOR THE PURPOSE SPECIFIED AND INDICATED.
1.07 DELIVERY, STORAGE, AND HANDLING
 A. ACCEPT FIXTURES ON SITE IN FACTORY PACKAGING. INSPECT FOR DAMAGE.
 B. PROTECT INSTALLED FIXTURES FROM DAMAGE BY SECURING AREAS AND BY LEAVING FACTORY PACKAGING IN PLACE TO PROTECT FIXTURES AND PREVENT USE.
1.08 WARRANTY
 A. SEE SECTION 01 7800 - CLOSEOUT SUBMITTALS, FOR ADDITIONAL WARRANTY REQUIREMENTS.
 B. PROVIDE FIVE YEAR MANUFACTURER WARRANTY FOR ELECTRIC WATER COOLER.
PART 2 PRODUCTS

2.01 FLUSH VALVE WATER CLOSETS
 A. WATER CLOSETS: VITREOUS CHINA, ASME A112.19.2, ELONGATED RIM, FLOOR MOUNTED, SIPHON JET FLUSH ACTION, CHINA BOLT PACKS.
 1. FLUSH VOLUME: 1.6 GALLON, MAXIMUM.
 2. FLUSH VALVE: EXPOSED (TOP SPUD).
 3. FLUSH OPERATION: MANUAL, OSCILLATING HANDLE.
 B. FLUSH VALVES: ASME A112.18.1, DIAPHRAGM TYPE, COMPLETE WITH VACUUM BREAKER STOPS AND ACCESSORIES.
 1. EXPOSED TYPE: CHROME PLATED, ESCUTOHEON, INTEGRAL SCREWDRIVER STOP.
2.02 2.03 NA

2.04 LAVATORIES- SEE EQUIPMENT SCHEDULE

2.05 ELECTRIC WATER COOLERS

A. WATER COOLER: ELECTRIC, MECHANICALLY REFRIGERATED, SURFACE HANDICAPPED MOUNTED, STAINLESS STEEL, TOP VINYL ON STEEL BODY, ELEVATED ANTI-SQUIRT BUBBLER WITH STREAM GUARD, AUTOMATIC STREAM REGULATOR, PUSH BUTTON, MOUNTING BRACKET; INTEGRAL AIR COOLED CONDENSER AND STAINLESS STEEL GRILLE.
 1. ELECTRICAL: 115 V, 60 HERTZ COMPRESSOR, 6 FOOT CORD AND PLUG FOR CONNECTION TO ELECTRIC WIRING SYSTEM INCLUDING GROUNDING CONNECTOR.
2.07 SERVICE SINKS
 A. TRIM: ASME A112.18.1 EXPOSED WALL TYPE SUPPLY WITH CROSS HANDLES, SPOUT WALL BRACE, VACUUM BREAKER, HOSE END SPOUT, STRAINERS, ECCENTRIC ADJUSTABLE INLETS, INTEGRAL SCREWDRIVER STOPS WITH COVERING CAPS AND ADJUSTABLE THREADED WALL FLANGES.
 B. ACCESSORIES:
 1. 5 FEET OF 1/2 INCH DIAMETER PLAIN END REINFORCED PLASTIC HOSE.
 2. HOSE CLAMP HANGER.
 3. MOP HANGER.

PART 3 EXECUTION

3.01 EXAMINATION
 A. VERIFY THAT WALLS AND FLOOR FINISHES ARE PREPARED AND READY FOR INSTALLATION OF FIXTURES.
 B. VERIFY THAT ELECTRIC POWER IS AVAILABLE AND OF THE CORRECT CHARACTERISTICS.
 C. CONFIRM THAT MILLWORK IS CONSTRUCTED WITH ADEQUATE PROVISION FOR THE INSTALLATION OF COUNTER TOP LAVATORIES AND SINKS.
3.02 PREPARATION
 A. ROUGH-IN FIXTURE PIPING CONNECTIONS IN ACCORDANCE WITH MINIMUM SIZES INDICATED IN FIXTURE ROUGH-IN SCHEDULE FOR PARTICULAR FIXTURES.
3.03 INSTALLATION
 A. INSTALL EACH FIXTURE WITH TRAP, EASILY REMOVABLE FOR SERVICING AND CLEANING.
 B. PROVIDE CHROME PLATED RIGID OR FLEXIBLE SUPPLIES TO FIXTURES WITH LOOSE KEY STOPS, REDUCERS, AND ESCUTOHEONS.
 C. INSTALL COMPONENTS LEVEL AND PLUMB.
 D. INSTALL AND SECURE FIXTURES IN PLACE WITH WALL SUPPORTS AND BOLTS.
 E. SEAL FIXTURES TO WALL AND FLOOR SURFACES WITH SEALANT AS SPECIFIED IN SECTION 07 9005, COLOR TO MATCH FIXTURE.
 F. SOLIDLY ATTACH WATER CLOSETS TO FLOOR WITH LAG SCREWS. LEAD FLASHING IS NOT INTENDED HOLD FIXTURE IN PLACE.

3.04 INTERFACE WITH WORK OF OTHER SECTIONS

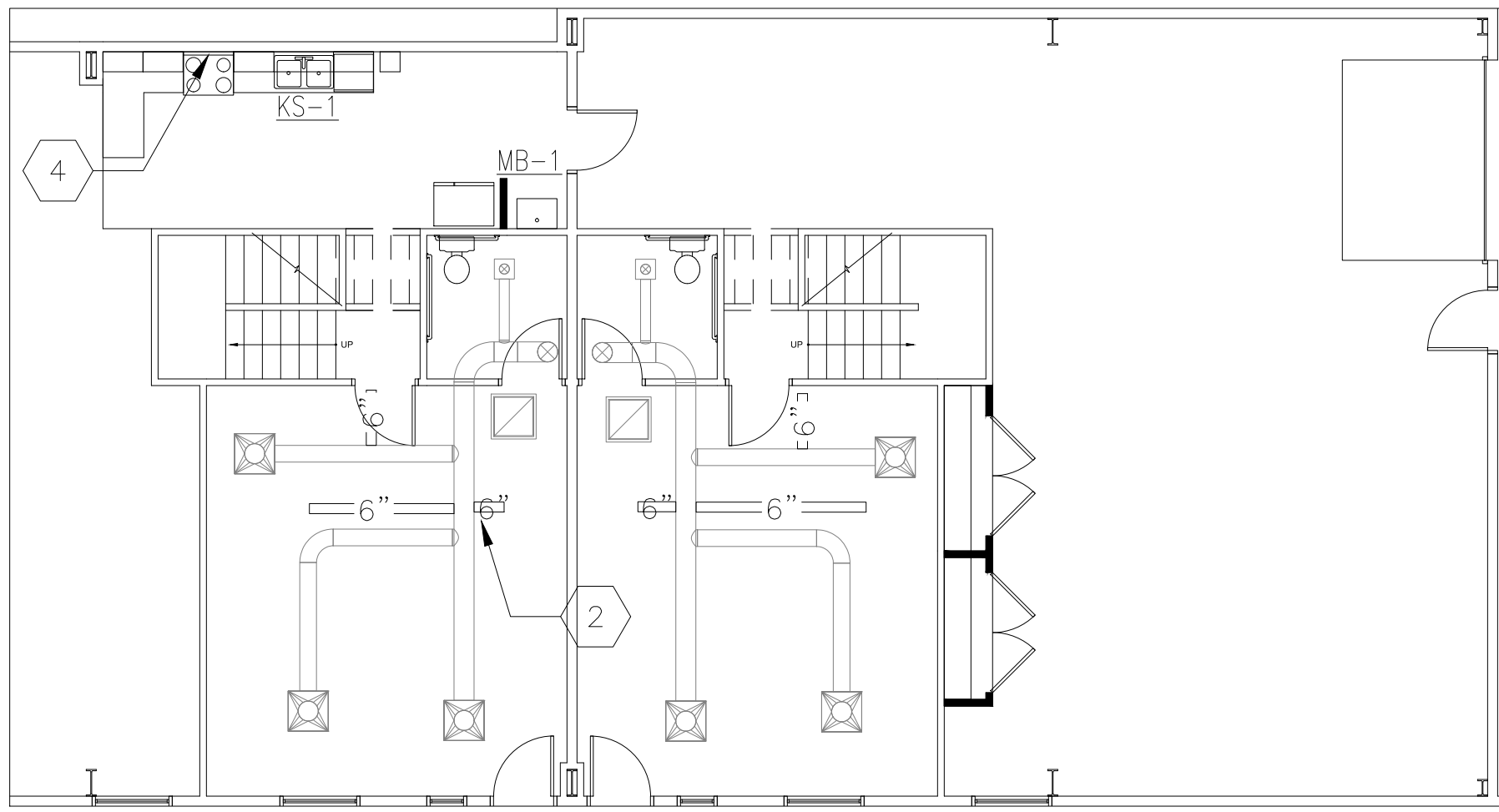
A. REVIEW MILLWORK SHOP DRAWINGS. CONFIRM LOCATION AND SIZE OF FIXTURES AND OPENINGS BEFORE ROUGH-IN AND INSTALLATION.
3.05 ADJUSTING
 A. ADJUST STOPS OR VALVES FOR INTENDED WATER FLOW RATE TO FIXTURES WITHOUT SPLASHING, NOISE, OR OVERFLOW.
3.06 CLEANING
 A. CLEAN PLUMBING FIXTURES AND EQUIPMENT.
3.07 PROTECTION
 A. PROTECT INSTALLED PRODUCTS FROM DAMAGE DUE TO SUBSEQUENT CONSTRUCTION OPERATIONS.
 B. DO NOT PERMIT USE OF FIXTURES BY CONSTRUCTION PERSONNEL.
 C. REPAIR OR REPLACE DAMAGED PRODUCTS BEFORE DATE OF SUBSTANTIAL COMPLETION.

END OF SECTION

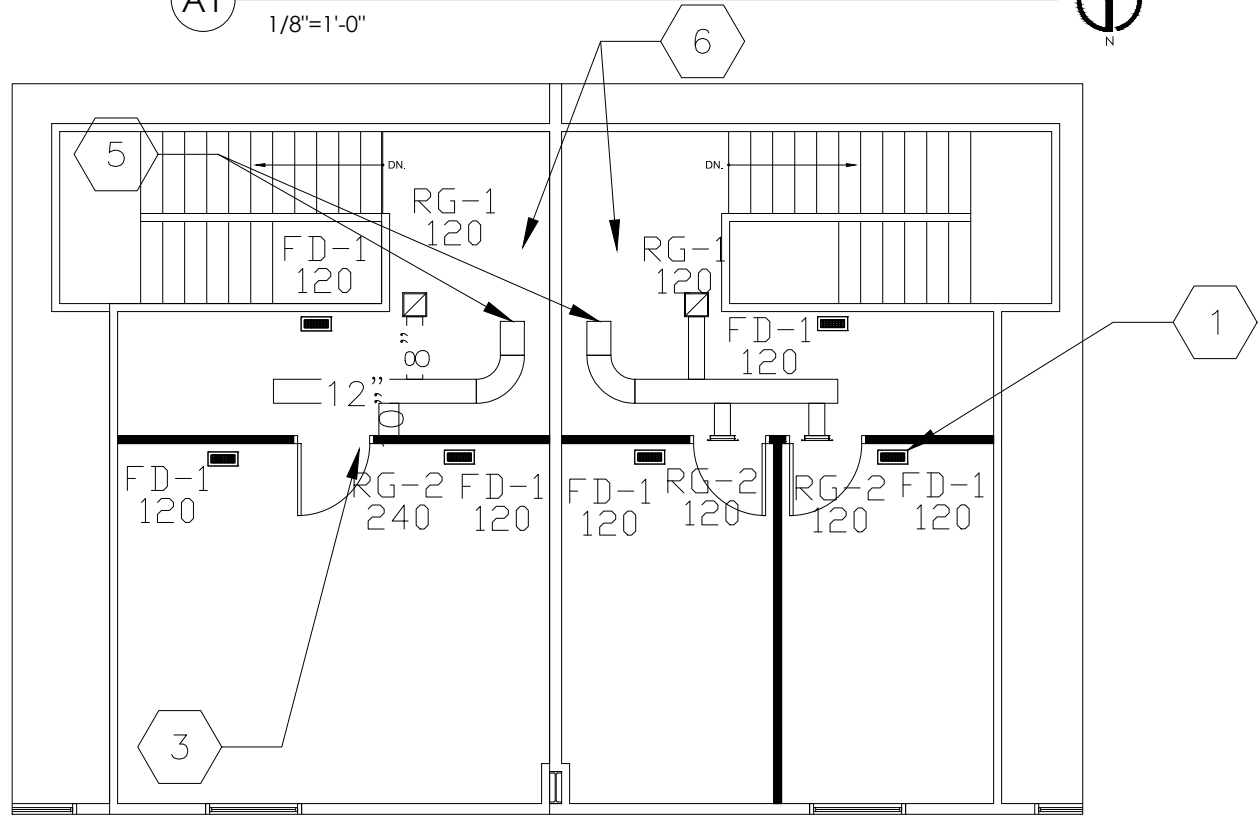
2012.19 / LAGUNA DENTAL PLUMBING FIXTURES 22 4000 - 3
PLUMBING FIXTURES

PART 1 - GENERAL

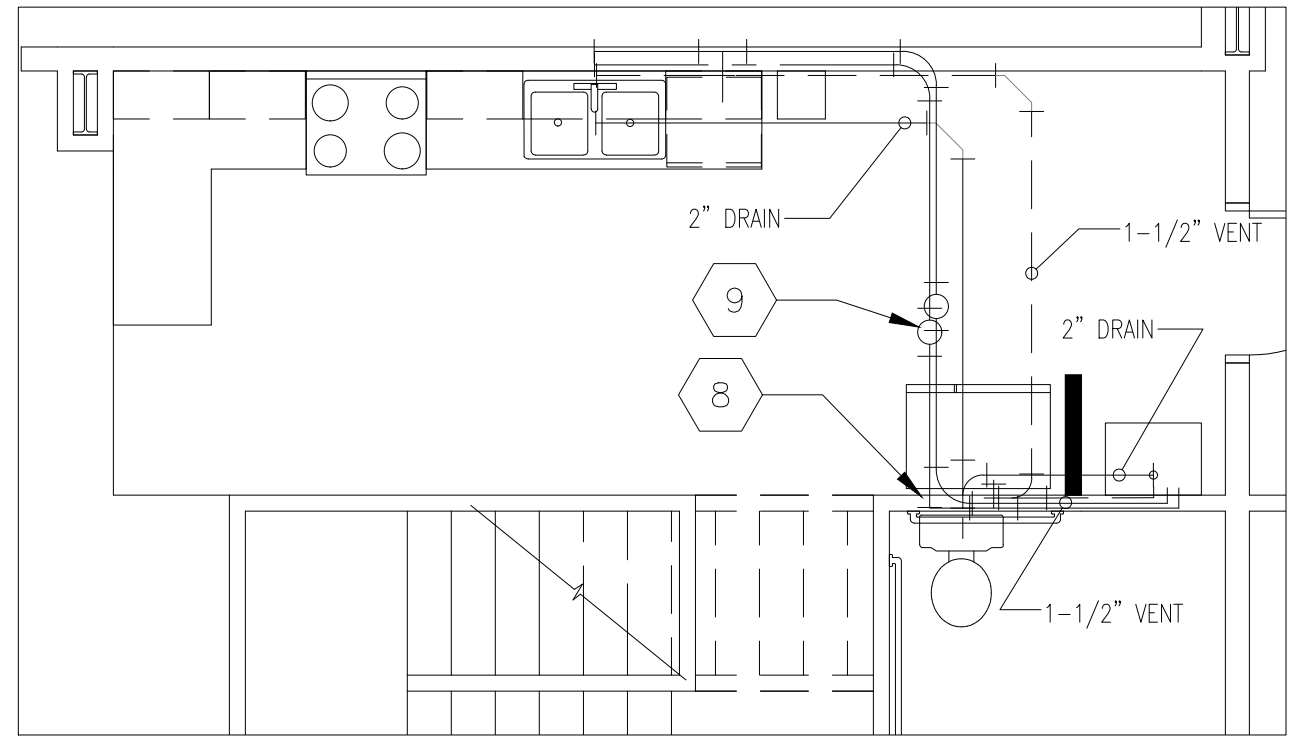
1.01 SECTION INCLUDES
 A. WATER CLOSETS.
 B. FLUSH WATER CLOSETS.
 C. URINALS.
 D. LAVATORIES.
 E. SINKS.
 F. SERVICE SINKS.
 G. ELECTRIC WATER COOLERS.
1.02 RELATED REQUIREMENTS
 A. SECTION 07 9005 - JOINT SEALERS: SEAL FIXTURES TO WALLS AND FLO



A1 MAIN LEVEL FLOOR PLAN
1/8"=1'-0"



A2 UPPER LEVEL FLOOR PLAN
1/8"=1'-0"



T2 KITCHENETTE
SCALE: 1/4"= 1'-0"

GENERAL SHEET NOTES

1. PROTECT ITEMS TO REMAIN. IF DAMAGED REPLACE WITH LIKE.
 2. OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL DEMO ITEMS. IF NOT WANTED BY OWNER, CONTRACTOR TO DISPOSE.
- KEYED NOTES:**
1. FLOOR DIFFUSERS. TYPICAL.
 2. NEW SUPPLY DUCTWORK ABOVE CEILING SERVING FLOOR REGISTERS ABOVE. PROVIDE BALANCING DAMPERS AT TAKEOFF.
 3. NEW RETURN GRILLE MOUNTED IN WALL. TYPICAL.
 4. PROVIDE DUCT THROUGH WALL FOR NEW VENT HOOD. SIZE TO MATCH HOOD OUTLET.
 5. CONNECT NEW RETURN DUCT TO EXISTING. INSTALL DUCT BELOW ROOF INSULATION.
 6. ADJUST SUPPLY AIRFLOW FOR EXISTING FURNACE TO 850 CFM. ADJUST VENTILATION AIR TO 110 CFM. PROVIDE NEW 6" COMBUSTION AIR DUCT UP TO GOOSENECK ON ROOF.
 7. NOT USED.
 8. CONNECT NEW SANITARY TO EXISTING. CONNECT NEW VENT TO EXISTING.
 9. 3/4" DHW AND 3/4" DCW ROUTED TO WATER HEATER CLOSET AND CONNECTED.



2/16/2017

R² ARCHITECTURAL DESIGN
730 SAN MATEO BLVD SE, SUITE 1
ALBUQUERQUE, NEW MEXICO 87108
TEL: 505.792.6224 FAX: 888.892.5814

EH	NY	2/13/17	AS SHOWN
DRAWN BY:	CHECKED BY:	DATE:	SCALE:

SANTA FE MOUNTAIN CENTER
1160 PARKWAY DRIVE SUITES A & B
SANTA FE, NM

MECHANICAL FLOOR PLAN

-SHEET-

M101

VENTILATION AIR SUPPLY PER ASHRAE 62.1

AZ = FLOOR AREA OF ZONE (SQ FT)
 PZ = ZONE POPULATION
 RP = PEOPLE OUTDOOR RATE FROM TABLE 6.1, CFM/PERSON
 RA = AREA OUTDOOR RATE FROM TABLE 6.1, CFM/SQ FT
 EZ = ZONE AIR DISTRIBUTION EFFECTIVENESS, TABLE 6.2
 VOZ = (PZ*RP + AZ*RA)/EZ, OUTDOOR AIRFLOW TO THE ZONE CORRECTED FOR ZONE AIR DISTRIBUTION EFFECTIVENESS, CFM
 VPZ = PRIMARY AIRFLOW TO ZONE FROM AIR HANDLER
 VPZM = MINIMUM PRIMARY AIRFLOW TO ZONE FROM AIR HANDLER, CFM. IN CAV VPZM = VPZ
 ZP = PRIMARY OUTDOOR AIR FRACTION, VOZ/VPZM
 VOT = SUM OF VOZ, CAV ONLY, CFM

SYSTEM NAME	ZONE NAME	SPACE TYPE	ZONE DISTRIBUTION	DEFAULT ZONE POP (#/1000 SF)	AZ	PZ	RP	RA	PZ*RP	AZ*RA	EZ	VOZ	VPZ	VPZM	ZP
FUR-1	104 OFFICE	Office space	Ceiling supply of warm air at least 15°F above space temperature and ceiling return	5	504	2.52	5	0.06	12.6	30.24	0.8	53.55	400	400	0.1339
FUR-1	201 NEW OFFICE 1	Office space	Floor supply of warm air and ceiling return	5	135	0.675	5	0.06	3.375	8.1	0.7	16.393	120	120	0.1366
FUR-1	202 NEW OFFICE 2	Office space	Floor supply of warm air and ceiling return	5	135	0.675	5	0.06	3.375	8.1	0.7	16.393	120	120	0.1366
FUR-1	206 HALL CLOSET STAIRS	Corridors	Floor supply of warm air and ceiling return	0	234	0	0	0.06	0	14.04	0.7	20.057	210	210	0.0955
				VOT											
				FUR-1		106.39									

106 CFM REQUIRED FOR FUR-1 PER ASHRAE 62.1

SYSTEM NAME	ZONE NAME	SPACE TYPE	ZONE DISTRIBUTION	DEFAULT ZONE POP (#/1000 SF)	AZ	PZ	RP	RA	PZ*RP	AZ*RA	EZ	VOZ	VPZ	VPZM	ZP
FUR-2	103 OFFICE	Office space	Ceiling supply of warm air at least 15°F above space temperature and ceiling return	5	504	2.52	5	0.06	12.6	30.24	0.8	53.55	400	400	0.1339
FUR-2	203 NEW OFFICE 3	Office space	Floor supply of warm air and ceiling return	5	135	0.675	5	0.06	3.375	8.1	0.7	16.393	120	120	0.1366
FUR-2	204 NEW OFFICE 4	Office space	Floor supply of warm air and ceiling return	5	135	0.675	5	0.06	3.375	8.1	0.7	16.393	120	120	0.1366
FUR-2	207 HALL CLOSET STAIRS	Corridors	Floor supply of warm air and ceiling return	0	234	0	0	0.06	0	14.04	0.7	20.057	210	210	0.0955
				VOT											
				FUR-2		106.39									

106 CFM REQUIRED FOR FUR-2 PER ASHRAE 62.1

AIR DISTRIBUTION									
TAG	MANUFACTURER	MODEL	MOUNTING	FACE SIZE	NECK SIZE	CFM	PD MAX (IN. W.G.)	NC (MAX)	NOTES
FD-1	KRUEGER	1850	FLOOR MATCH	5X12	5X12	120	0.05	25	
RG-1	KRUEGER	EGC	CEILING	12X12	10X10	<250	0.05	25	DAMPER
RG-2	KRUEGER	S80	WALL	12X6	12X6	120	0.05	25	DAMPER

PLUMBING FIXTURE SCHEDULE									
MARK	FIXTURE DESCRIPTION	MANUFACTURER & MODEL #	FITTINGS	ROUGH-IN SCHEDULE					REMARKS
				CW	HW	W	IDW	V	
KS-1	SS DROP-IN KITCHEN SINK, ADA	AMERICAN STANDARD/ 7502.103 CULINAIRE 33	AMERICAN STANDARD/ 6310	1/2"	1/2"	2"	-	2"	FURNISH WITH ALL FITTINGS FOR A COMPLETE OPERATIONAL SYSTEM
	SERVICE SINK	FIAT - FL7 MODED STONE STANDING SINK	FIAT - 830 AA (FAUCET) FIAT - MSG 2424, 832 AA, & 889 CC						20x24 MOLDED STONE SERVICE SINK WITH WALL-MOUNTED SERVICE FAUCET WITH VACUUM BREAKER AND CROSS-HANDLES. PROVIDE WITH STAINLESS STEEL WALL-GUARDS, HOSE, HOSE-CLAMP, AND MOP HANGER.
MB-1				3/4"	3/4"	3"	-	2"	

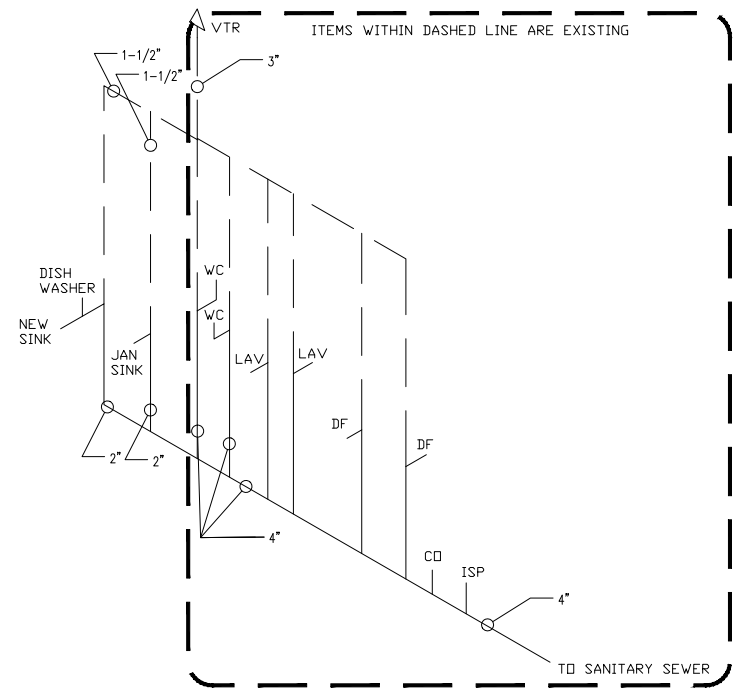


R² ARCHITECTURAL DESIGN
 730 SAN MATEO BLVD SE, SUITE 1
 ALBUQUERQUE, NEW MEXICO 87108
 TEL: 505.792.6224 FAX: 888.892.5814

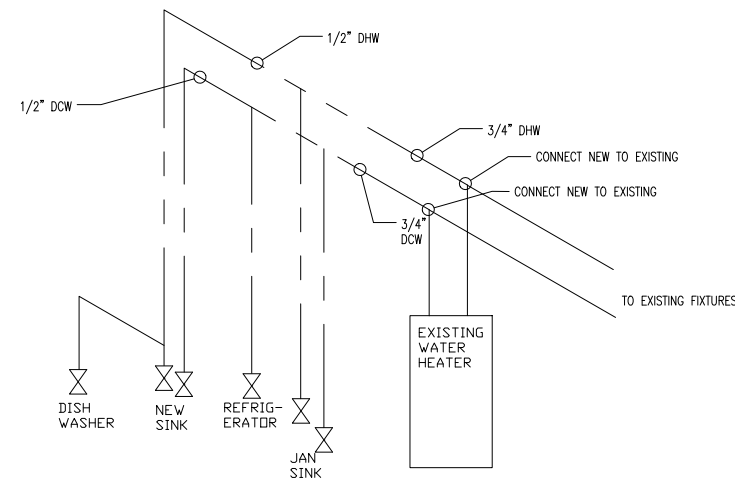
EH	NY	2/13/17	AS SHOWN
DRAWN BY:	CHECKED BY:	DATE:	SCALE:

SANTA FE MOUNTAIN CENTER
 1160 PARKWAY DRIVE SUITES A & B
 SANTA FE, NM
 MECHANICAL DIAGRAMS

-SHEET-
M601



1 SANITARY ISOMETRIC
 NOT TO SCALE



2 PLUMBING ISOMETRIC
 NOT TO SCALE