FINISHES

SECTION 092400 – PORTLAND CEMENT PLASTERING

1.1 SUBMITTALS
A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
B. SAMPLES FOR VERIFICATION: FOR EACH TYPE OF FACTORY-PREPARED FINISH COAT INDICATED; 12 BY 12 INCHES (305 BY 305 MM), AND PREPARED ON RIGID BACKING.

1.2 MATERIALS
A. METAL LATH:
1. EXPANDED-METAL LATH: SELF-FURRING DIAMOND-MESH WITH HOT-DIP GALVANIZED-ZINC COATING.
2. WELDED-WIRE LATH: SELF-FURRING.
3. PAPER BACKING: PROVIDE AT EXTERIOR LOCATIONS.
B. ACCESSORIES:
1. FOUNDATION WEEP SCREED: HOT-DIP GALVANIZED STEEL SHEET.
2. CORNERITE: FABRICATED FROM METAL LATH WITH HOT-DIP GALVANIZED-ZINC COATING.
3. EXTERNAL-OUTSIDE-CORNER REINFORCEMENT: FABRICATED FROM METAL LATH WITH HOT-DIP GALVANIZED-ZINC COATING.
4. CASING BEADS: FABRICATED FROM ZINC OR ZINC-COATED (GALVANIZED) STEEL; SQUARE-EDGED STYLE; WITH EXPANDED FLANGES.
5. CONTROL JOINTS: FABRICATED FROM ZINC OR ZINC-COATED (GALVANIZED) STEEL; ONE-PIECE-TYPE, FOLDED PAIR OF UNPERFORATED SCREEDS IN M-SHAPED CONFIGURATION; WITH PERFORATED FLANGES AND REMOVABLE PROTECTIVE TAPE ON PLASTER FACE OF CONTROL JOINT.
6. EXPANSION JOINTS: FABRICATED FROM ZINC OR ZINC-COATED (GALVANIZED) STEEL; FOLDED PAIR OF UNPERFORATED SCREEDS IN M-SHAPED CONFIGURATION; WITH EXPANDED FLANGES.
7. TWO-PIECE EXPANSION JOINTS: FABRICATED FROM ZINC OR ZINC-COATED (GALVANIZED) STEEL; FORMED TO PRODUCE SLIP-JOINT AND SQUARE-EDGED REVEAL THAT IS ADJUSTABLE FROM 1/4 TO 5/8 INCH (6 TO 16 MM) WIDE; WITH PERFORATED FLANGES.
C. FIBER FOR BASE COAT: ALKALINE-RESISTANT GLASS OR POLYPROPYLENE FIBERS, 1/2 INCH(13 MM) LONG, FREE OF CONTAMINANTS, MANUFACTURED FOR USE IN CEMENT PLASTER.
D. WIRE: ASTM A 641/A 641M, CLASS 1 ZINC COATING, SOFT TEMPER, NOT LESS THAN 0.0475-INCH (1.21-MM) DIAMETER UNLESS OTHERWISE INDICATED.
E. PLASTER MATERIALS: PORTLAND CEMENT WITH SAND AGGREGATE.
F. COLORANTS FOR JOB-MIXED FINISH COATS: COLORFAST MINERAL PIGMENTS THAT PRODUCE FINISH PLASTER COLOR.
G. PLASTER MIXES: ASTM C 926.

1.3 INSTALLATION:
A. PLASTER FINISH COATS: APPLY TO PROVIDE SMOOTH TEXTURED FINISH.
B. CONTROL JOINTS:
1. DESIGN AND LOCATION OF CONTROL JOINTS SHALL BE DETERMINED BY THE PROJECT DESIGN PROFESSIONAL IN ACCORDANCE WITH ASTM C 1063 AND INDICATED ON THE CONTRACT DRAWINGS. AS A MINIMUM, CONTROL JOINTS SHALL BE LOCATED AT THE FOLLOWING LOCATIONS:
a. CORNERS OF OPENINGS
b. SUCH THAT MONOLITHIC WALL AREAS DO NOT EXCEED 144 FT^2
c. LENGTH TO WIDTH RATIOS OF WALL AREAS SHALL NOT EXCEED 2.5:1
d. MAXIMUM SPACING OF CONTROL JOINTS SHALL NOT EXCEED 18 FT

END OF SECTION 092400

FINISHES

SECTION 099113 - EXTERIOR PAINTING

1.1 SUMMARY
A. SURFACE PREPARATION AND THE APPLICATION OF PAINT SYSTEMS ON EXTERIOR SUBSTRATES.

1.2 SUBMITTALS
A. SAMPLES FOR VERIFICATION:
1. FOR EACH NON-STANDARD LATEX TOPCOAT COLOR AND GLOSS INDICATED.
2. FOR EACH TYPE OF NON-STANDARD PAINT SYSTEM AND IN EACH COLOR.
A ND GLOSS OF TOPCOAT INDICATED.

1.3 EXTERIOR PAINTING SCHEDULE
A. CONCRETE SUBSTRATES, NONTRAFFIC SURFACES:
1. LATEX SYSTEM:
a. PRIME COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.
b. TOPCOAT: LATEX, EXTERIOR (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).
B. CLAY-MASONRY SUBSTRATES:
1. LATEX SYSTEM:
a. PRIME COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.
b. TOPCOAT: LATEX, EXTERIOR (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).
C. CMU SUBSTRATES:
1. LATEX SYSTEM:
a. PRIME COAT: BLOCK FILLER, LATEX, INTERIOR/EXTERIOR.
b. TOPCOAT: LATEX, EXTERIOR (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).
D. STEEL SUBSTRATES:
1. WATER-BASED LIGHT INDUSTRIAL COATING SYSTEM:
a. PRIME COAT: PRIMER, ALKYD, ANTI-CORROSIVE FOR METAL.
b. TOPCOAT: LIGHT INDUSTRIAL COATING, EXTERIOR, WATER BASED (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).
E. GALVANIZED-METAL SUBSTRATES:
1. LATEX SYSTEM:
a. PRIME COAT: PRIMER, GALVANIZED, WATER BASED.
b. TOPCOAT: LATEX, EXTERIOR (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).
F. ALUMINUM SUBSTRATES:
1. LATEX SYSTEM:
a. PRIME COAT: PRIMER, QUICK DRY, FOR ALUMINUM.
b. TOPCOAT: LATEX, EXTERIOR (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).
G. WOOD, NONTRAFFIC SURFACES:
1. LATEX SYSTEM:
a. PRIME COAT: PRIMER, LATEX FOR EXTERIOR WOOD.
b. TOPCOAT: LATEX, EXTERIOR (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).
H. WOOD, TRAFFIC SURFACES:
1. LATEX SYSTEM:
a. PRIME COAT: PRIMER, LATEX FOR EXTERIOR WOOD.
b. TOPCOAT: INTERIOR/EXTERIOR LATEX FLOOR AND PORCH (LOW GLOSS).
1) WITH ADDITIVE TO INCREASE SKID RESISTANCE OF PAINTED SURFACE.
I. PORTLAND CEMENT PLASTER SUBSTRATES:
1. LATEX SYSTEM:
a. PRIME COAT: LATEX, EXTERIOR, MATCHING TOPCOAT.
b. TOPCOAT: LATEX, EXTERIOR (GLOSS LEVEL AS INDICATED IN PAINT SCHEDULE).

END OF SECTION 099113

PLUMBING

SECTION 220516 - EXPANSION FITTINGS AND LOOPS FOR PLUMBING PIPING

1.1 REQUIREMENTS
A. PROVIDE FOR EXPANSION OF PLUMBING PIPING IN ACCORDANCE WITH INDUSTRY STANDARDS AND GOOD INSTALLATION PRACTICES.

END OF SECTION 220516

PLUMBING

SECTION 220517 - SLEEVES AND SLEEVE SEALS FOR PLUMBING PIPING

1.1 SLEEVE-SEAL SYSTEMS
A. FIELD-ASSEMBLED, MODULAR SEALING-ELEMENT UNIT FOR FILLING ANNULAR SPACE BETWEEN PIPING AND SLEEVE.
1. SEALING ELEMENTS: EPDM RUBBER.
2. PRESSURE PLATES: CARBON STEEL.
3. CONNECTING BOLTS AND NUTS: CARBON STEEL WITH CORROSION-RESISTANT COATING.

1.2 SLEEVE-SEAL FITTINGS
A. MANUFACTURED PLASTIC, SLEEVE-TYPE, PLASTIC OR RUBBER WATERSTOP ASSEMBLY MADE FOR IMBEDDING IN CONCRETE SLAB OR WALL.

1.3 GROUT
A. NONSHRINK, FACTORY PACKAGED.

1.4 SLEEVE AND SLEEVE-SEAL SCHEDULE
A. EXTERIOR CONCRETE WALLS ABOVE GRADE:
1. PIPING SMALLER THAN NPS 6 (DN 150): CAST-IRON WALL SLEEVES.
B. EXTERIOR CONCRETE WALLS BELOW GRADE:
1. PIPING SMALLER THAN NPS 6 (DN 150): CAST-IRON WALL SLEEVES WITH SLEEVE-SEAL SYSTEM.
C. CONCRETE SLABS-ON-GRADE:
1. PIPING SMALLER THAN NPS 6 (DN 150): CAST-IRON WALL SLEEVES WITH SLEEVE-SEAL SYSTEM.
D. INTERIOR PARTITIONS:
1. PIPING SMALLER THAN NPS 6 (DN 150): GALVANIZED-STEEL-PIPE SLEEVES.

END OF SECTION 220517

PLUMBING

SECTION SECTION 220519 - METERS AND GAGES FOR PLUMBING PIPING

1.1 PRODUCTS
A. LIQUID-IN-GLASS THERMOMETERS:
1. COMPACT-STYLE, LIQUID-IN-GLASS THERMOMETERS:
a. CASE: CAST ALUMINUM; 6-INCH (152-MM) SIZE.
b. CASE FORM: BACK ANGLE.
c. TUBE: GLASS WITH MAGNIFYING LENS AND BLUE ORGANIC LIQUID.
d. TUBE BACKGROUND: NONREFLECTIVE ALUMINUM WITH ETCHED SCALE IN DEG F (DEG C).
B. THERMOWELLS:
1. MATERIAL FOR USE WITH COPPER TUBING: CNR.
2. MATERIAL FOR USE WITH STEEL PIPING: CSA.
3. TYPE: STEPPED SHANK UNLESS STRAIGHT OR TAPERED SHANK IS INDICATED.
4. HEAT-TRANSFER MEDIUM: MIXTURE OF GRAPHITE AND GLYCERIN.
C. PRESSURE GAGES:
1. DIRECT-MOUNTED, METAL-CASE, DIAL-TYPE PRESSURE GAGES:
a. CASE: OPEN-FRONT, PRESSURE RELIEF TYPE (S); CAST ALUMINUM OR DRAWN STEEL; 4-1/2-INCH (114-MM) DIAMETER.
b. PRESSURE-ELEMENT ASSEMBLY: BOURDON TUBE UNLESS OTHERWISE INDICATED.
c. PRESSURE CONNECTION: BRASS, WITH NPS 1/4 (DN 8), ASME B1.20.1 PIPE THREADS AND BOTTOM-OUTLET TYPE UNLESS BACK-OUTLET TYPE IS INDICATED.
d. DIAL: NONREFLECTIVE ALUMINUM WITH ETCHED SCALE IN PSI (KPA).
e. WINDOW: GLASS.
f. RING: METAL.
g. ACCURACY: GRADE A, PLUS OR MINUS 1 PERCENT OF MIDDLE HALF OF SCALE RANGE.
D. GAGE ATTACHMENTS:
1. SNUBBERS: BRASS; WITH NPS 1/4 (DN 8), AND PISTON-TYPE SURGE-DAMPENING DEVICE. INCLUDE EXTENSION FOR USE ON INSULATED PIPING.
2. VALVES: BRASS BALL, WITH NPS 1/4 (DN 8), PIPE THREADS.

END OF SECTION 220519

PLUMBING

SECTION 220523 - GENERAL DUTY VALVES FOR PLUMBING PIPING

1.1 DOMESTIC HOT- AND COLD-WATER VALVES
A. PIPE NPS 2 (DN 50) AND SMALLER:
1. TWO-PIECE, BRASS BALL VALVES WITH FULL PORT, BRASS TRIM, AND LEAD FREE.
2. THREE-PIECE, BRASS BALL VALVES WITH FULL PORT, BRASS TRIM, AND LEAD FREE.
3. BRONZE SWING CHECK VALVES, CLASS 125, BRONZE DISC WITH THREADED END CONNECTIONS, AND LEAD FREE.
4. BRONZE GATE VALVES, CLASS 125, NRS WITH THREADED ENDS, AND LEAD FREE.

END OF SECTION 220523

PLUMBING

SECTION 220529 - HANGERS AND SUPPORTS FOR PLUMBING PIPING

1.1 COMPONENTS
A. METAL PIPE HANGERS AND SUPPORTS: FACTORY FABRICATED WITH GALVANIZED COATING, NON-METALLIC COATED FOR HANGERS IN DIRECT CONTACT WITH COPPER TUBING.
B. THERMAL-HANGER SHIELD INSERTS: ASTM C 552, TYPE II CELLULAR GLASS.
C. FASTENER SYSTEMS: POWDER-ACTUATED FASTENERS.
D. PIPE POSITIONING SYSTEMS: IAPMO PS 42, POSITIONING SYSTEM OF METAL BRACKETS, CLIPS, AND STRAPS.
E. SUPPORTS FOR PEX PIPING SHALL BE MANUFACTURER APPROVED.

END OF SECTION 220529

PLUMBING

SECTION 220553 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

1.1 PRODUCTS
A. EQUIPMENT LABELS: METAL.
B. WARNING SIGNS AND LABELS: 1/16 INCH (1.6 MM) THICK AND NOT LESS THAN 2-1/2 BY 3/4 INCH (64 BY 19 MM) SIZE WITH FASTENERS. LETTER SIZE NOT LESS THAN 1/4 INCH(6.4 MM) FOR NAME OF UNITS IF VIEWING DISTANCE IS LESS THAN 24 INCHES (600 MM), 1/2 INCH (13 MM) FOR VIEWING DISTANCES UP TO 72 INCHES (1830 MM), AND PROPORTIONATELY LARGER LETTERING FOR GREATER VIEWING DISTANCES. INCLUDE SECONDARY LETTERING TWO-THIRDS TO THREE-QUARTERS THE SIZE OF PRINCIPAL LETTERING.
C. PIPE LABELS: PRETENSIONED. LETTER SIZE NOT LESS THAN 1/2 INCH (13 MM) FOR VIEWING DISTANCES UP TO 72 INCHES (1830 MM) AND PROPORTIONATELY LARGER LETTERING FOR GREATER VIEWING DISTANCES.
D. STENCILS: ALUMINUM. LETTER SIZE NOT LESS THAN 1/2 INCH (13 MM) FOR VIEWING DISTANCES UP TO 72 INCHES (1830 MM) AND PROPORTIONATELY LARGER LETTERING FOR GREATER VIEWING DISTANCES.
E. VALVE TAGS: BRASS, 0.032-INCH (0.8-MM) MINIMUM THICKNESS.
F. WARNING TAGS: 3 BY 5-1/4 INCHES (75 BY 133 MM) MINIMUM; BRASS GROMMET AND WIRE FASTENERS.

END OF SECTION 220553

PLUMBING

SECTION 220719 - PLUMBING PIPING INSULATION

1.1 QUALITY ASSURANCE
A. SURFACE-BURNING CHARACTERISTICS: FLAME-SPREAD INDEX OF 25, AND SMOKE-DEVELOPED INDEX OF 50 FOR INSULATION INSTALLED INDOORS; ACCORDING TO ASTM E 84.

1.2 PIPING INSULATION SCHEDULE, GENERAL
A. ITEMS NOT INSULATED: UNLESS OTHERWISE INDICATED, DO NOT INSTALL INSULATION ON THE FOLLOWING:
1. DRAINAGE PIPING LOCATED IN CRAWL SPACES.
2. BELOW-GRADE DRAINAGE PIPING.
3. CHROME-PLATED PIPES AND FITTINGS UNLESS THERE IS A POTENTIAL FOR PERSONNEL INJURY.

1.3 INDOOR PIPING INSULATION SCHEDULE
A. DOMESTIC COLD WATER: FLEXIBLE ELASTOMERIC, MINERAL-FIBER, PREFORMED PIPE INSULATION, TYPE I OR PHENOLIC.
B. DOMESTIC HOT AND RECIRCULATED HOT WATER: FLEXIBLE ELASTOMERIC, MINERAL-FIBER, PREFORMED PIPE INSULATION, TYPE I OR PHENOLIC.
C. STORMWATER AND OVERFLOW: 1/2" MINIMUM, CELLULAR GLASS, FLEXIBLE ELASTOMERIC, MINERAL-FIBER, PREFORMED PIPE INSULATION, TYPE I, PHENOLIC OR POLYOLEFIN.
D. ROOF DRAIN AND OVERFLOW DRAIN BODIES: 1/2" MINIMUM, CELLULAR GLASS, FLEXIBLE ELASTOMERIC, MINERAL-FIBER, PREFORMED PIPE INSULATION, TYPE I, PHENOLIC OR POLYOLEFIN.
E. HOT SERVICE DRAINS: CELLULAR GLASS OR MINERAL-FIBER, PREFORMED PIPE, TYPE I OR II.
F. ICE BIN DRAIN: INSULATE DRAIN LINES WITH 1/2" (13MM) THICK SELF-SEALING, SECTIONAL, CLOSED CELL FOAM.
G. DOMESTIC COLD AND HOT WATER IN CASEWORK AND BAR AREAS: FLEXIBLE ELASTOMERIC, MINERAL-FIBER, PREFORMED PIPE INSULATION, TYPE I OR PHENOLIC.

1.4 OUTDOOR, ABOVEGROUND PIPING INSULATION SCHEDULE
A. DOMESTIC WATER PIPING: FLEXIBLE ELASTOMERIC, MINERAL-FIBER, PREFORMED PIPE INSULATION, TYPE I OR PHENOLIC.

1.5 INDOOR, FIELD-APPLIED JACKET SCHEDULE
A. PIPING, CONCEALED: ALUMINUM.
B. PIPING, EXPOSED: ALUMINUM.

END OF SECTION 220719

PLUMBING

SECTION 221116 - DOMESTIC WATER PIPING

1.1 INFORMATIONAL SUBMITTALS
A. SYSTEM PURGING AND DISINFECTING ACTIVITIES REPORT.
B. FIELD QUALITY-CONTROL REPORTS.

1.2 FIELD CONDITIONS
A. INTERRUPTION OF EXISTING WATER SERVICE: DO NOT INTERRUPT WATER SERVICE TO FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY WATER SERVICE ACCORDING TO REQUIREMENTS INDICATED:
1. NOTIFY CONSTRUCTION MANAGER NO FEWER THAN TWO DAYS IN ADVANCE OF PROPOSED INTERRUPTION OF WATER SERVICE.
2. DO NOT INTERRUPT WATER SERVICE WITHOUT CONSTRUCTION MANAGER'S WRITTEN PERMISSION.

1.3 PIPING MATERIALS
A. POTABLE-WATER PIPING AND COMPONENTS SHALL COMPLY WITH NSF 14 AND NSF 61 ANNEX G. PLASTIC PIPING COMPONENTS SHALL BE MARKED WITH "NSF-PW".

1.4 UNDER-BUILDING-SLAB, DOMESTIC WATER, BUILDING SERVICE PIPING
A. PIPE NPS 3 (DN 80) AND SMALLER:
1. SOFT COPPER TUBE; WROUGHT-COPPER; AND BRAZED JOINTS.
2. OTHER APPROVED PIPING WHEN SOIL IS CORROSIVE.

1.5 UNDER-BUILDING-SLAB, DOMESTIC WATER PIPING
A. PIPE NPS 2 (DN 50) AND SMALLER:
1. HARD COPPER TUBE; WROUGHT-COPPER; AND BRAZED JOINTS.
2. OTHER APPROVED PIPING WHEN SOIL IS CORROSIVE.

1.6 ABOVE GROUND DOMESTIC WATER PIPING
A. PIPE NPS 2 (DN 50) AND SMALLER:
1. HARD COPPER TUBE; WROUGHT-COPPER; SOLDER-JOINT FITTINGS; AND SOLDERED JOINTS WITH NON-LEAD, NON-ANTIMONY SOLDER.

END OF SECTION 221116

PLUMBING

SECTION 221119 - DOMESTIC WATER PIPING SPECIALTIES

1.1 QUALITY ASSURANCE
A. QUALITY STANDARDS: NSF 14 AND NSF 61.

1.2 PRODUCTS
A. BACKFLOW PREVENTERS:
1. REDUCED-PRESSURE-PRINCIPLE BACKFLOW PREVENTERS:
a. BODY: BRONZE FOR NPS 2 (DN 50) AND SMALLER.
b. END CONNECTIONS: THREADED FOR NPS 2 (DN 50) AND SMALLER.
c. CONFIGURATION: HORIZONTAL, STRAIGHT THROUGH.
2. DOUBLE-CHECK BACKFLOW-PREVENTION ASSEMBLIES:
a. BODY: BRONZE FOR NPS 2 (DN 50) AND SMALLER.
b. END CONNECTIONS: THREADED FOR NPS 2 (DN 50) AND SMALLER.
c. CONFIGURATION: HORIZONTAL, STRAIGHT THROUGH.
3. HOSE-CONNECTION BACKFLOW PREVENTERS.
B. WATER PRESSURE-REDUCING VALVES:
1. WATER REGULATORS:
a. BODY: BRONZE FOR NPS 2 (DN 50) AND SMALLER.
b. VALVES FOR BOOSTER HEATER WATER SUPPLY: INCLUDE INTEGRAL BYPASS.
c. END CONNECTIONS: THREADED FOR NPS 2 (DN 50) AND SMALLER
C. STRAINERS FOR DOMESTIC WATER PIPING:
1. BODY: BRONZE FOR NPS 2 (DN 50) AND SMALLER; CAST IRON WITH INTERIOR LINING AND EPOXY COATING FOR NPS 2-1/2 (DN 65) AND LARGER.
2. CONNECTIONS: THREADED FOR NPS 2 (DN 50) AND SMALLER; FLANGED FOR NPS 2-1/2 (DN 65) AND LARGER.
3. SCREEN: STAINLESS STEEL WITH ROUND PERFORATIONS UNLESS OTHERWISE INDICATED.
4. DRAIN: PIPE PLUG.
D. WALL HYDRANTS:
1. NONFREEZE WALL HYDRANTS:
a. OUTLET: CONCEALED.
b. FINISH: CHROME PLATED.
2. NONFREEZE, HOT- AND COLD-WATER WALL HYDRANTS:
a. OUTLET: CONCEALED.
b. FINISH: CHROME PLATED.
3. MODERATE-CLIMATE WALL HYDRANTS:
a. OUTLET: CONCEALED.
b. FINISH: CHROME PLATED.
4. VACUUM BREAKER WALL HYDRANTS:LOOSE KEY.
E. POST HYDRANTS:
1. NONFREEZE, DRAINING-TYPE POST HYDRANTS.
2. NONFREEZE, NONDRAINING-TYPE POST HYDRANTS.
3. FREEZE-RESISTANT SANITARY YARD HYDRANTS: ZINC-PLATED STEEL CANISTER.
F. DRAIN VALVES: BALL-VALVE TYPE.

END OF SECTION 221119

PLUMBING

SECTION 221316 - SANITARY WASTE AND VENT PIPING

1.1 PROJECT CONDITIONS
A. INTERRUPTION OF EXISTING SANITARY WASTE SERVICE: DO NOT INTERRUPT SERVICE TO FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY SERVICE ACCORDING TO REQUIREMENTS INDICATED:
1. NOTIFY CONSTRUCTION MANAGER NO FEWER THAN TWO DAYS IN ADVANCE OF PROPOSED INTERRUPTION OF SANITARY WASTE SERVICE.
2. DO NOT PROCEED WITH INTERRUPTION OF SANITARY WASTE SERVICE WITHOUT CONSTRUCTION MANAGER'S WRITTEN PERMISSION.

1.2 MATERIALS
A. HUB-AND-SPIGOT, SERVICE- CLASS, SCHEDULE 40 PVC SOIL PIPE AND FITTINGS BELOW GRADE WHERE REQUIRED BY LOCAL CODE.
B. HUBLESS, SCHEDULE 40 PVC SOIL PIPE AND CISPI, HUBLESS PIPING COUPLINGS.
C. SOLID-WALL SCHEDULE 40 ABS PIPE WITH ABS SOCKET FITTINGS MAY BE USED ABOVE AND BELOW GRADE IF ALLOWED BY LOCAL CODE.
D. UNSHIELDED, NONPRESSUREPRESSURE TRANSITION COUPLINGS.
E. FLANGE DIELECTRIC FITTINGS.
F. PE-FILM ENCASEMENT FOR UNDERGROUND METAL PIPING.
G. SCHEDULE 40 PVC PIPE WITH PVC SOCKET FITTING MAY BE USED BELOW GRADE IF ALLOWED BY LOCAL AUTHORITY.

1.3 ADHESIVES
A. ADHESIVES SHALL NOT EXCEED A VOC CONTENT OF 510G/L FOR PVC AND 325 G/L FOR ABS.

END OF SECTION 221316

PLUMBING

SECTION 221319 - SANITARY WASTE PIPING SPECIALTIES

1.1 QUALITY ASSURANCE
A. QUALITY STANDARD FOR PLASTIC PIPING: NSF 14.

1.3 PRODUCTS
A. CLEANOUTS:
1. EXPOSED: COUNTERSUNK, BRASS CLOSURE PLUG.
2. CERAMIC TILE AND CARPETED FLOORS: SQUARE, ADJUSTABLE WITH NICKEL BRONZE TOP.
3. RESILIENT (VINYL) FLOOR: SQUARE, ADJUSTABLE, NICKEL BRONZE TOP WITH COMPATIBLE FLANGE.
B. THROUGH-PENETRATION FIRESTOP ASSEMBLIES: LISTED AND LABELED ASSEMBLY OF SLEEVE AND STACK FITTING WITH FIRESTOPPING PLUG.
C. MISCELLANEOUS SANITARY DRAINAGE PIPING SPECIALTIES:
1. COUNTERFLASHING-TYPE, SCHEDULE 40 PVC STACK FLASHING FITTINGS.
2. SCHEDULE 40 PVC BODY VENT CAPS.
3. FROST-RESISTANT VENT TERMINALS.
4. EXPANSION JOINTS.

END OF SECTION 221319

HEATING, VENTILATING AND AIR CONDITIONING

SECTION 230548 - VIBRATION AND SEISMIC CONTROLS FOR HVAC

1.1 COMPONENTS
A. VIBRATION ISOLATORS:
1. OPEN-SPRING ISOLATORS: FREESTANDING, LATERALLY STABLE.
2. PIPE-RISER RESILIENT SUPPORT: ALL-DIRECTIONAL, ACOUSTICAL PIPE ANCHOR.
3. RESILIENT PIPE GUIDES.
4. RESTRAINED-AIR-SPRING ISOLATORS: FREESTANDING, SINGLE OR MULTIPLE, COMPRESSED-AIR BELLOWS WITH VERTICAL-LIMIT STOP RESTRAINT.
5. ELASTOMERIC HANGERS.
6. SPRING HANGERS: COMBINATION COIL-SPRING AND ELASTOMERIC-INSERT HANGERS WITH SPRING AND INSERT IN COMPRESSION AND WITH VERTICAL-LIMIT STOP.
B. VIBRATION ISOLATION EQUIPMENT BASES:
1. STEEL BASE: FACTORY-FABRICATED, WELDED, STRUCTURAL-STEEL BASES AND RAILS.
2. INERTIA BASE: FACTORY-FABRICATED, WELDED, STRUCTURAL-STEEL BASES AND RAILS READY FOR FIELD-APPLIED, CAST-IN-PLACE CONCRETE.

1.2 FIELD QUALITY CONTROL
A. TESTING: BY CONTRACTOR.

END OF SECTION 230548

HEATING, VENTILATING AND AIR CONDITIONING

SECTION 230713 - DUCT INSULATION

1.1 QUALITY ASSURANCE
A. SURFACE-BURNING CHARACTERISTICS: FLAME-SPREAD INDEX OF 25, AND SMOKE-DEVELOPED INDEX OF 50 FOR INSULATION INSTALLED INDOORS; OR 75, AND SMOKE-DEVELOPED INDEX OF 150 FOR INSULATION INSTALLED OUTDOORS; ACCORDING TO ASTM E 84.
B. ADHESIVES: VOC CONTENT OF 50 G/L OR LESS FOR INDOOR APPLICATIONS.
C. MINIMUM INSULATION VALUE OF R-6.

1.2 DUCT INSULATION SCHEDULE, GENERAL
A. PLENUMS AND DUCTS REQUIRING INSULATION:
1. INDOOR, CONCEALED SUPPLY AND OUTDOOR AIR.
2. INDOOR, EXPOSED SUPPLY (WHERE POSSIBILITY OF CONDENSATION).
3. INDOOR, CONCEALED RETURN LOCATED IN UNCONDITIONED SPACE.
4. INDOOR, EXPOSED RETURN LOCATED IN UNCONDITIONED SPACE.
B. ITEMS NOT INSULATED:
1. METAL DUCTS WITH DUCT LINER OF SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE AND ASHRAE/IESNA 90.1.
2. FACTORY-INSULATED FLEXIBLE DUCTS.
3. FACTORY-INSULATED PLENUMS AND CASINGS.
4. FLEXIBLE CONNECTORS.
5. VIBRATION-CONTROL DEVICES.
6. FACTORY-INSULATED ACCESS PANELS AND DOORS.

1.3 INDOOR DUCT AND PLENUM INSULATION SCHEDULE
A. CONCEALED, RECTANGULAR, SUPPLY-AIR DUCT INSULATION: MINERAL-FIBER BLANKET.
B. CONCEALED, RECTANGULAR, RETURN-AIR DUCT INSULATION: MINERAL-FIBER BLANKET.
C. CONCEALED, SUPPLY-AIR PLENUM INSULATION: MINERAL-FIBER BLANKET.
D. CONCEALED, RETURN-AIR PLENUM INSULATION: MINERAL-FIBER BLANKET.
E. EXPOSED, RECTANGULAR, SUPPLY-AIR DUCT INSULATION: MINERAL-FIBER BOARD.
F. EXPOSED, RECTANGULAR, RETURN-AIR DUCT INSULATION: MINERAL-FIBER BOARD.

END OF SECTION 230713

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REV.	DATE	DESCRIPTION

STATE OF GEORGIA
MARK S. SALOPEK
08/27/2021

MARIETTA HWY & I-575
5068 MARIETTA HIGHWAY
CANTON, GA 30114

SPECIFICATIONS

	DATE
ISSUED FOR CONSTRUCTION	
BID	

PROJECT MANAGER	DESIGNER
AK	DB

JOB NO.
2020379.07

G0012