PLUMBING SPECIFICATIONS

Provide all plumbing items indicated on the drawings, described herein or otherwise required for a complete and proper installation, including:
A. Plumbing fixtures, fittings and equipment.
B. Hot and cold water systems.
C. Drain waste and vent piping systems.
D. Indirect waste piping, including all valves, traps, piping and accessories for all equipment. Size per equipment requirements.

Comply with all applicable codes, standards and ordinances, including requirements of the Georgia State Minimum Standard Plumbing Code (2012 International Plumbing Code with all Georgia State Amendments) and the DOJ 2010 ADA Standards for Accessible Design.

The contractor should not attempt to precisely scale dimensions from these drawings to obtain construction dimensions and clearance. The contractor shall verify all actual dimensions and clearances. Although these plans are diagrammatic in nature, they shall be followed as closely as site conditions, new construction, and work by other trades shall permit. Deviations from these drawings, which are required to conform to the available space or to actual building construction, shall be made at no additional cost to the owner.

The submission of a bid or proposal will be construed a evidence that the contractor has familiarized himself with the plans and building site. Claims made subsequent to the proposal for materials and/or labor due to difficulties encountered will not be recognized unless these difficulties could not have been foreseen, even though proper examination had been made.

Fabrication or ordering of any material or equipment prior to verification of site conditions shall be done at the contractor's risk.

All equipment and material shall be new and of first quality. Equipment and material shall be the same or equal to the basis of design listed on these drawings.

Coordinate with all trades and verify all equipment rough-in items and locations with the equipment supplier or contractor. All re-work and corrections required due to lack of coordination shall be the contractor's responsibility, and done at no cost to the owner.

Submit shop drawings and material data submittals to the engineer for approval before installation. No substitutions shall be allowed without prior approval by the engineer. Product data for piping, insulation, valves, specialties and all fixtures and equipment scheduled and specified here. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.

All equipment and flue materials shall be U.L. listed.

Installation shall comply with manufacturer requirements including all clearances recommended for proper operation of service. All serviceable parts shall be readily accessible.

Below ground sanitary drain and vent piping shall be solid-wall ASTM D2665 schedule 40 PVC. Install underground, PVC plastic drainage piping according to ASTM D2321. Above ground sanitary drain, roof drainage, overflow roof drainage, and vent piping shall be cellular-core ASTM F891 schedule 40 PVC. Install aboveground PVC piping according to ASTM D 2665. All aboveground piping shall be adequately supported. Sanitary drain and vent piping shall have PVC Socket Fittings (ASTM D 2665, made to ASTM D 3311, drain, waste, and vent patterns and to fit Schedule 40 pipe). Slope at 1/8 inch per foot continuously toward public sewer.

All above ground domestic water distribution piping shall be ASTM D 2846, SDR11, schedule 40 CPVC with socket fittings. All piping shall be adequately supported. Disinfect all domestic water piping after installation. All underground domestic water distribution piping shall be ASTM D 1785 schedule 40 PVC with ASTM D 2466 PVC socket fittings.

Insulate all (CW & HW) domestic water piping in crawl space and and in exterior walls with 3/4" flexible elastomeric. Flexible Elastomeric Insulation shall be closed-cell, sponge- or expanded-rubber materials. Comply with ASTM C 534, Type I for tubular materials.

HW & CW Valves: Use pipe size valves, as shown below:
A. Ball: Watts #B-6000 or B-6001.
B. Check: Watts #600 or #601S.

Balancing valves shall confirmed to MSS SP-110 for two-piece, copper-alloy ball valves. Balancing valves shall be copper alloy, memory-stop type, chrome-plated brass ball, replaceable seats & seals, vinyl-covered steel handle with memory-setting device.

Fixture tailpieces, wall escutcheon, and traps for lavatories and sinks shall be brass tubing, semi-cast, or cast iron: All brass tubing shall be 17 gage, chrome plated. Excemption: If the fixture tailpieces and traps are located in cabinets, the tailpiece & trap shall be PVC. Grid drains for public lavatories. Basket strainers for break room sinks.

Water Hammer Arresters shall comply with standard ASSE 1010, metal bellows type or copper piston type.

Lavatory Supports shall be type II, lavatory carrier with concealed arms and tie rod for wall-mounting, lavatory-type fixture. Include steel uprights with feet. For accessible-fixture support include rectangular steel uprights.

Thermometers shall comply with standard ASME B40.200.

Lavatory/ Sink supply fittings: NSF Standard: Comply with NSF/ANSI 61 Annex G, "Drinking Water System Components - Health Effects," for supply-fitting materials that will be in contact with potable water. Standard: ASME A112.18.1/CSA B125.1. Supply Stops: Chrome-plated-brass, one-quarter-turn, ball-type valve with inlet connection matching supply piping. Wheel handle operation. Risers: Chrome-plated, soft-copper flexible tube for exposed applications and ASME A112.18.6, braided- or corrugated-stainless-steel, flexible hose for conceal behind cabinet applications.

Provide ADA Supply and Drain Protective Shielding Guards on ADA fixtures that piping is exposed. Supply and Drain Protective Shielding Guards shall comply with ICC A117.1 and Americans with Disabilities Act (ADA) requirements. Manufactured plastic wraps shall cover hot and cold water supplies, trap, and drain piping.

All pipe hangers, clamps and channels shall be adequately sized to carry pipe loads and prevent sagging.

All other materials not specifically described but required for a complete and proper installation of work of this section, shall be new, first quality of their respective kinds, and as selected by the contractor subject to acceptance by the engineer.

Lay out the plumbing system in careful coordination with the drawings, determining proper elevations for all components of the system and using only the minimum number of bends to produce a satisfactorily functioning system. Follow the general layout shown on the drawings in all cases except where other work may interfere. Unless shown otherwise, lay out all pipes to fall within partition, wall floor, or roof cavities, and to not require furring other than as shown on the drawings.

Do not cut into or reduce the size of any load-carrying member without the prior approval of the architect. Install all pipes to clear all beams and obstructions.

Permanently close and make weatherproof any openings or penetrations of the building envelope made for plumbing systems. All wall and floor penetrations shall be sleeved. All exterior wall or foundation wall penetrations shall use a mechanical seal.

Coordinate all roof penetrations with architectural plans and building and roofing trades.

Provide shut-off balls valves and unions at all water connections to equipment and appliances.

Isolate all dissimilar metals with "EPCO" dielectric unions, except for brass or bronze valves with steel pipe.

Protect the potable water supply against backflow and siphonage from equipment, fixtures, etc., using approved backflow and anti-siphon devices.

Thoroughly clean all piping and equipment. Removing all dirt, rust, oil, and plaster.

Test Sanitary drainage piping by plugging all openings and filling with water to a height equal to a 10 foot head. Allow to stand one hour or longer as required. Repair leaking joints and then re-test.

No work shall be covered until it has been inspected and accepted by the local authority and the engineer.

Test water lines at 100 PSIG. Retain for 24 hours, repair all leaks and retest.

The entire system shall be warranted for a period of one (1) year beginning with Owner's acceptance of the work. All labor and materials necessary to repair or replace the system, or portions thereof, during that time shall be warranted for a period of one (1) year from the repair or replacement.

Install piping in concealed locations, unless otherwise indicated and except in equipment rooms, and service areas. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal. Install piping to permit valve servicing. Install piping at indicated slopes. Install piping free of sags and bends. Install fittings for changes in direction and branch connections. Install piping to allow application of insulation. Select system components with pressure rating equal to or greater than system operating pressure. Install escutcheons for penetrations of walls, ceilings, and floors. Verify final equipment locations for roughing-in.

Confirm that millwork is constructed with adequate provision for the installation of counter top lavatories and sinks.

Seal fixtures to wall and floor surfaces with sealant, color to match fixture.

All vents thru roof (VTR) shall be offset a minimum of 10'-0" from all outside air intakes.

Approved manufactures: (Items submitted shall be approved by architect and engineer. Architect and engineer reserve the right to reject any item substituted for basis of design item for any reason.)

China Fixtures: American Standard, Kohler, Toto, Zurn, Sloan
Faucets: Delta, T&S Brass, Chicago Faucets, Zurn, Kohler, Grohe, Moen, Speakman, Symmons
Supplies & Traps: Engineered Brass CO., Mcguire, Charlotte Pipe, Brasscraft, IPS, Watts, Zurn
Floor Drains & Cleanouts: Zurn, Jay R Smith, Proset, Watts, Mifab, Wade, Josam, Sioux Chief, Oatey
Water Heaters: A.O. Smith, Lochinar, Bradford White, State, Vaughn
Toilet Seats: Bemis, Centoco, Church Seats, Olsonite, Beneke, Zurn, Mainline
Stainless Steel Sinks: Dayton, Elkay, Just, Kohler, Moen, Sterling, Just
ADA Protective Shielding Pipe Covers: Engineered Brass, McGuire, Plumberex, TRUEBRO, Zurn, Oatey
Fixture Supports: MIFAB, Jay R. Smith, Wade, Watts, Zurn
Mixing Valves: Armstrong, Leonard, Powers, Symmons, Lawler
Wall Hydrants/ Hose Bibbs: MIFAB, Jay R. Smith, Wade, Watts, Woodford, Zurn
Expansion Tanks: AMTROL, State, Watts, Wilkins
Water Hammer Arresters: AMTROL, Josam, MIFAB, PPP, Sioux Chief, Jay R. Smith, Wade, Watts, Zurn
Outlet Boxes: Acorn, IPS, Oatey
Brass Valves: American, Crane, Watts, Apollo
Circulation Pumps: Armstrong, Bell & Gossett, Grundfos, TACO

FIXTURE AND EQUIPMENT SCHEDULE

#	FIXTURE TYPE	WASTE		WATER SUPPLY		WATER FIX. CONN.		MODEL NUMBER
		BELOW FLOOR	FIXTURE CONN.	COLD	HOT	COLD	HOT	
WC1	WATER CLOSET	3"	3"	1/2"		3/8"		AMERICAN STANDARD 215A.A.104 WATER CLOSET. BEMIS 1655SSCT SEAT
WC2	ADA WATER CLOSET	3"	3"	1/2"		3/8"		AMERICAN STANDARD 215A.A.104 WATER CLOSET. BEMIS 1655SSCT SEAT
LAV1	WALL HUNG LAVATORY	2"	1-1/4"	1/2"	1/2"	1/2"	1/2"	AMERICAN STANDARD 0476.028 LAVATORY. MOEN 8430F05 FAUCET.
LAV2	ADA WALL HUNG LAVATORY	2"	1-1/4"	1/2"	1/2"	1/2"	1/2"	AMERICAN STANDARD 0476.028 LAVATORY. MOEN 8430F05 FAUCET.
SHR	SHOWER	2"	2"	1/2"	1/2"	1/2"	1/2"	MOEN 8375 SHOWER SYSTEM.
SNK	TWO COMPARTMENT SINK	2"	1-1/2"	1/2"	1/2"	1/2"	1/2"	DAYTON DSE23321 SINK. MOEN 7594 FAUCET.
FD	FLOOR DRAIN WITH WATERLESS TRAP PRIMER	2"	2"					SIOUX CHIEF 842-2-P-NR FLOOR DRAIN. RECTORSEAL "SURESEAL PLUS" WATERLESS TRAP PRIMER.
HD	HUB DRAIN	2"	2"					PROSET TG24HD.
OB	ICE MAKER OUTLET BOX WITH WATER HAMMER ARRESTOR			1/2"		1/2"		WATER TITE AB9701HA.
FCO	FLOOR CLEANOUT	SEE DWGS	SEE DWGS					SIOUX CHIEF 852-P-N[illegible]
MV	THERMOSTATIC MIXING VALVE			3/4"	3/4"	1/2"	1/2"	LAWLER 61-10.
HB	HOSE BIBB			3/4"		3/4"		WOODFORD 27.
DP	WATER HEATER DRAIN PAN	2"	2"					WATER TITE [illegible]2426
CO	CLEANOUT	SEE DWGS	SEE DWGS					PVC CLEANOUT.

LEGEND

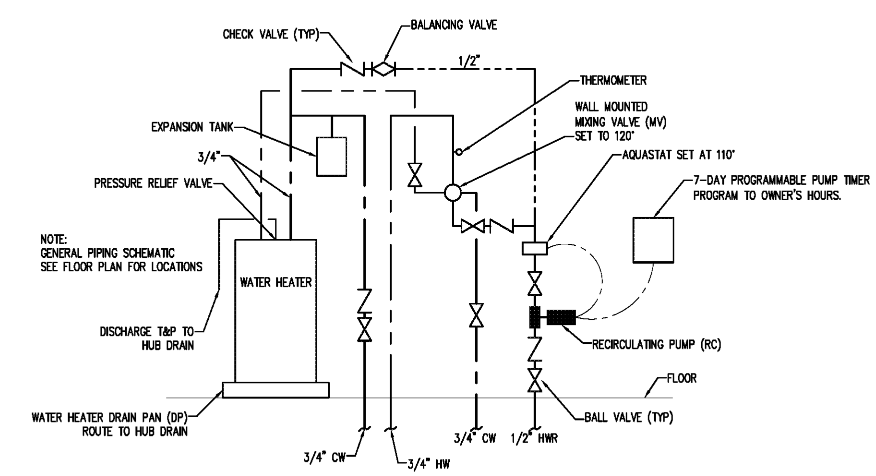
Symbol	Description	Abbreviation	Meaning
— - — - —	COLD WATER	(TYP)	TYPICAL
— - - — - -	HOT WATER	C.T.	COUNTER-TOP
— - - - —	HOT WATER RETURN	DN	DOWN
— — — —	SEWER VENT	CONN	CONNECTION
———	SEWER	NTS	NOT TO SCALE
(valve symbol)	SHUTOFF VALVE	V	VENT
(check symbol)	CHECK VALVE	FFE	FINISHED FLOOR ELEVATION
(pipe up symbol)	PIPE UP	FLR	FLR
(pipe down symbol)	PIPE DOWN	VTR	VENT THRU ROOF
PDI-B (H)	PDI UNIT WATER HAMMER ARRESTOR	AFF	ABOVE FINISHED FLOOR
(balancing symbol)	BALANCING VALVE	CW	COLD WATER
		HW	HOT WATER
		HWR	HOT WATER RETURN
		B.F.F.	BELOW FINISH FLOOR
		CV	CLOSED VALVE
		DWGS.	DRAWINGS

WATER HEATER & TANK SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	TYPE	GPH @100° RISE	GALLON	KW
WH	A.O. SMITH	ENT-50	ELECTRIC	18	50	4.5
ET	ZURN/WILKINS	XT-8	EXPANSION TANK		2.1	

PUMP SCHEDULE

MARK	PUMP TYPE	BASIS OF DESIGN MANUFACTURER	MODEL NUMBER	RPM	HP	GPM	FEET HEAD	*ELECTRICAL	
								VOLTS	PHASE
RC	RECIRCULATION	TACO	003	3250	1/40	0.14	1.10	115	1



WATER HEATER PIPING SCHEMATIC
SCALE: N.T.S.

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A NEW RANGER STATION AT CLAYSTONE PARK FOR MACON-BIBB COUNTY
MOSLEY DIXON ROAD MACON, GEORGIA

Revisions:

Sheet Title:
RANGER STATION PLUMBING SPECIFICATIONS & SCHEDULES

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