

PART 1 General

1.1 RELATED SECTIONS

- .1 Section 21 05 01, Mechanical General Provisions.
- .2 Section 21 05 05, Basic Materials and Methods.

1.2 APPROVED 'SUBSTITUTES' AND 'ALTERNATES'

- .1 Where a Manufacturer's name, make, model, and/or size is specified, it is for the purpose of setting a standard of quality, performance, capacity, appearance and/or serviceability, and is acceptable without qualification. Manufacturers listed as acceptable 'Substitutes' have been deemed by the Consultant as capable of producing equipment and/or material of comparable quality, performance and approximate dimensions, and can be used in the preparation of the tender. Where no substitutes are indicated, provide the exact make specified or provide the necessary documents for review.
- .2 'Substitute' equipment and material is deemed to be interchangeable with that specified, with little or no revisions required to the design intent and/or other items, equipment or connections.
- .3 'Alternate' equipment and material is deemed to be acceptable but which will require major revisions to the design intent and/or other items, equipment or connections.
- .4 Requests for approval of additional 'Substitutes' or 'Alternates' must be submitted not less than ten (10) days prior to closing date of the tender, and submissions must bear proof of acceptance by the Consultant if used in the tender. Requests shall include all performance, capacity, appearance, weight, connections, power and wiring requirements, etc required for the Consultant to make a complete evaluation.
- .5 Assume full responsibility for ensuring that, when providing accepted 'Substitutes' and/or 'Alternates', all space, weight, connections, power and wiring requirements, etc. are considered and adjusted costs are included in the tender. The Mechanical systems have been designed based on the equipment/materials of the specified manufacturer(s). The onus shall be on the Subcontractor (along with his sub-sub-contractor and the supplier) to ensure that 'Substitute' or 'Alternate' equipment/materials will meet the required performance and electrical characteristics, as well as fit properly into the allotted space, including allowance for required access and servicing. Any additional costs incurred as a result of modifications to the system(s) or the room layout, or modifications required by other trades, shall be borne by the Subcontractor (along with his sub-sub-contractor and the supplier) and shall be deemed to be included in the tender price.
- .6 Bidders must base their price on specified manufacturers or approved 'Substitutes'. 'Alternates', when allowed, must be listed separately, with the amount to be added or subtracted for each substitution. If in the preparation of the tender, this Subcontractor neglects to name the manufacturer of an accepted 'Alternate', it will be understood that specified or 'Substitute' equipment will be provided.

- .7 If, in the opinion of the Consultant, 'Substitute' equipment/material submitted for review as Shop Drawings is not satisfactory, satisfactory equipment/material of the specified or an accepted 'Substitute' manufacturer must be re-submitted.
- .8 If, in the opinion of the Consultant, 'Alternate' equipment/material submitted for review as Shop Drawings is not satisfactory, satisfactory equipment/material of the specified or an accepted 'Substitute' manufacturer must be re-submitted.

1.3 APPROVED 'SUBSTITUTES'

- .1 The following is the list of pre-approved 'Substitutes':
 - .1 Access Doors: Lehage;Milcor; Acudor; Mifab;
 - .2 Air Vents: Hamlet and Garneau; Bell and Gossett; Dole;
Maid-O-Mist; Armstrong; Braukman;
 - .3 Back Flow Preventors: Conbraco; Beeco; Febco; Watts;
Kunkle; Taylor; Consolidated;
Fisher; Singer; Crosby-Ashton;
Boylston; Lonergan; Masoneilan;
Wilkins
 - .4 Chemical Treatment: Bird Archer; Calgon;
Dearborne; Mogul; Drew Chemical;
 - .5 Cleanouts: Ancon; Smith; Zurn; Mifab;
 - .6 Domestic Water Heaters
(Tank type): Ruud/Rheem; AO Smith;
John Woods; Jetglass/BradfordWhite;
 - .7 Expansion Fittings & Loops Flex-Hose
 - .8 Expansion Tanks: Taco; Bell & Gossett; Hamlet & Garneau;
Amtrol; Calefactio; Armstrong;
Flexicon; Wessels;
 - .9 Faucet & Fountain Supplies Brasscraft
 - .10 Insulation (General): Manson; Knauf;
 - .11 Insulation (Traps): TrapWrap (Brocar); LavGuard (TrueBro);
 - .12 Level and Flow Switches: Magnetrol;
 - .13 Plumbing Fixtures, Drains and Brass:

- .1 Drinking Fountains: Oasis; Haws; Halsey Taylor;
Crane; Franke; Elkay
- .2 Electronic Faucets: Cambridge; Kohler; DMP Electronics;
Zurn; Chicago; Sloan; Delta;
- .3 Emergency Showers
and Eyewashes: Guardian; Haws; Bradley
- .4 Floor Drains,
Grease Traps
and Fixture Carriers: Ancon; Smith; Zurn/Watts; Mifab;
- .5 Mixing Valves: Leonard; Powers/Crane;
- .6 Mixing Valves (point-of-use): Delta Commercial
- .7 Plumbing Brass: Delta; Waltec; Symmons; Crane;
Zurn; Emco; Sloan; PricePfister;
Leonard; Mifab; Smith; Moen;
Cambridge; Powers;
- .8 Plumbing Fixtures (General): Crane; Kohler; American Standard;
Toto; Caroma
- .9 Plumbing Fixtures (Specialty): Fiat; Bradley; Metcraft;
- .10 Showers and Tubs: Hytec; Fiat; Mirolin;
Venco/Structural Glass;
- .11 Stainless Steel Sinks: Steel Queen; KIL/Aristaline;
Franke; Architectural Metals;
- .12 Toilet Seats; Olsonite; Centoco; Bemis;
- .14 Pressure Gauges: Taylor; Weiss; Marshalltown;
Ashcroft; Duro; Lunkenheimer;
Trerice; Ametek; Marsh; Winters;
- .15 Pressure Relief Valves,
Pressure Regulating Valves: Conbraco; Beeco; Febco; Watts;
Kunkle; Taylor; Consolidated; Zurn;
Fisher; Singer; Crosby-Ashton;
Boylston; Lonergan; Masoneilan; Wilkins

.16	Pumps (Circulating):	Armstrong; Grundfos; Bell and Gossett; Darling; Taco;
.17	Pumps (Domestic):	Armstrong; Grundfos; Bell and Gossett; Wilo; Taco;
.18	Pumps (Domestic Booster):	Armstrong; Bell and Gossett; Wilo;
.19	Pumps (Sump and Sewage):	Armstrong; Grundfos; Bell and Gossett; Grinder; Myers; Hydromatic; Goulds; Barnes; Zoeller; Liberty; Little Giant
.20	Pumps (Condensate):	Armstrong; Sterling; Aspen
.21	P-traps & Grid Drains	Delta
.22	Sanitary Safety Covers	Oatey Dearborn
.23	Shock Absorbers:	Smith; Zurn;
.24	Sound and Vibration Isolation:	Vibron; Airmaster; Amber-Booth; Kinetics; Vibro-Acoustics; SVC Ind.;
.25	Strainers:	Armstrong; Crane; Mueller; Sarco; Streamflo; Kitz; Toyo
.26	Thermometers:	Taylor; Weiss; Marshalltown; Ashcroft; Duro; Lunkenheimer; Terice; Ametek; Marsh; Winters;
.27	Vacuum Breakers:	Febco; Watts; Wilkins; Spirax/Sarco;
.28	Valves (General):	Crane; Kitz; Apollo; Newman-Hattersley; Nibco; Toyo; Jenkins; American Valve; Anvil; KVC;
.29	Valves (Ball):	Worcester; TrueLine;;
.30	Valves (Butterfly):	Kitz; Nibco; Jenkins; Newman- Hattersley; Apollo; Dezurik; Keystone; Crane; TrueLine; KVC; Challenger;
.31	Valves (Check):	Centerline; Hagen; Mueller; Moyer and Groves; Singer; Dezurik; Crane; Apco; KVC; Uni-chek

.32 Valves (PVC): Chemline;

.33 Wall Hydrants: Woodford

END OF SECTION