

PRICE PROPOSAL

Action Behaviour Centre Cimmarron Path 2.0

CONTRACTOR NAME:

DATE:

December 6, 2022

No.	Description	Special notes from Bidder	Material	Labor	Line Subtotal
1.0	General Conditions		\$ 2,448	\$ -	\$ 2,448
22.0	Plumbing		\$ 50,511	\$ 18,260	\$ 68,771
	Thermal insulation & Moisture		\$ 423	\$ 365	\$ 788
	Subtotal		\$ 53,382	\$ 18,624	\$ 72,007
	Insurance	5%	\$ 2,669	\$ 931	\$ 3,600
	Overhead & Profit	10%	\$ 5,338	\$ 1,862	\$ 7,201
	TOTAL BASE BID		\$ 61,390	\$ 21,418	\$ 82,808

Estimate of Materials and Cost of Construction

Date: 6 December 2022
Project: Action Behaviour Centre Cimmarron Path 2.0

ITEM #	REF. SHEET	REF. DETAIL	DESCRIPTION	QTY.	UNIT	WASTAGE	QTY W/WASTAGE	UNIT COST (MATERIAL)	TOTAL COST (MATERIAL)	UNIT COST (LABOR)	TOTAL COST (LABOR)	TOTAL ITEM COST	TRADE COST
01- GENERAL CONDITIONS													\$ 2,448
1			Permits Documentation And Fees	1	LS	0%	1	\$0	\$ 699.49	\$0	\$ -	\$ 699	
2			Signage	1	LS	0%	1	\$0	\$ 174.87	\$0	\$ -	\$ 175	
3			Sales TAX on Material Items	1	LS	0%	1	\$0	\$ 1,573.52	\$0	\$ -	\$ 1,574	
22- PLUMBING													\$ 69,161
FLOOR PLAN													
Pipes													
Pipes													
		P 201, 401, 50	CW & HW Pipes										
4		P 201, 401, 50	1 1/2" Cold Water Pipe	84	LF	5%	88		\$ 1,128.96			\$ 1,570	
5		P 201, 401, 50	1 1/4" Cold Water Pipe	10.15	LF	5%	11		\$ 77.27			\$ 120	
6		P 201, 401, 50	3/4" Cold Water Pipe	286	LF	5%	300		\$ 1,072.07			\$ 2,273	
7		P 201, 401, 50	1" Cold Water Pipe	12.95	LF	5%	14		\$ 69.21			\$ 124	
Waste & Vent Pipes													
8	P 201	P 201, 401, 50	4" Vent Pipe	20	LF	5%	21		\$ 256.20			\$ 403	
9		P 201, 401, 50	2" Vent Pipe	239	LF	5%	251		\$ 1,136.80			\$ 2,141	
10		P 201, 401, 50	3" Vent Pipe	64	LF	5%	67		\$ 597.41			\$ 1,001	
11		P 201, 401, 50	2" Sanitary Pipe	30	LF	5%	32		\$ 142.70			\$ 269	
12		P 201, 401, 50	3" Sanitary Pipe	46	LF	5%	48		\$ 429.39			\$ 719	
13		P 201, 401, 50	4" Sanitary Pipe	156	LF	5%	164		\$ 1,998.36			\$ 3,145	
Fittings													
Waste & Vent Pipe Fittings													
14	P 201	P 201, 401, 50	3" Bend -Vent Pipe	4	EA	0%	4		\$ 42.64			\$ 123	
15		P 201, 401, 50	2" Bend -Vent Pipe	5	EA	0%	5		\$ 50.50			\$ 151	
16		P 201, 401, 50	2" Wye Joint -Vent Pipe	5	EA	0%	5		\$ 15.00			\$ 115	
17		P 201, 401, 50	4" Wye Joint - Sanitary Pipe	7	EA	0%	7		\$ 203.00			\$ 343	
18	P 201	P 201, 401, 50	4" Bend -Sanitary Pipe	9	EA	0%	9		\$ 210.96			\$ 391	
CW & HW Pipe Fittings													
19		P 201, 401, 50	3/4" Tee - Cold Water Pipe	12	EA	0%	12		\$ 62.64			\$ 303	
20		P 201, 401, 50	3/4" Bend - Cold Water Pipe	9	EA	0%	9		\$ 50.31			\$ 230	
21		P 201, 401, 50	1 1/2" Bend- Cold Water Pipe	2	EA	0%	2		\$ 28.00			\$ 68	
22		P 201, 401, 50	1 1/2" Tee-Cold Water Pipe	5	EA	0%	5		\$ 173.00			\$ 273	
Plumbing Equipments													
Heaters													
23	P 201	P 501	EWH-3, Elec Tankless Heater, Eemax Pro Series Xtp Series , XTPP024480	3	EA	0%	3		\$ 9,270.00			\$ 10,530	
24		P 501	EWH-1, Elec Tankless Heater, Eemax Accumix Ii, Model AM004277T 4.1Kw, 0.5 GPM, 277V,3P	6	EA	0%	6		\$ 4,200.00			\$ 6,720	
25		P 501	EWH-2, Electric Tankless Heater, Eemax Proseries Xtp Series, XTP016480 16KW, 480V, 3P, 2 GPM	1	EA	0%	1		\$ 2,259.49			\$ 2,679	
Plumbing Fixtures													
Fixtures													
26		P 501	WC-1, Water Closet, American Standard Model 215Ca.104, Champion Pro, White , V.C Elongated, Floor Mounted Bowl, Tank Type	2	EA	0%	2		\$ 550.00			\$ 1,272	

27		P 501	WC-2, Water Closet, American Standard Model 211Aa.104, Champion Pro, White V.C. Elongated Floor Mounted Bowl Tank Type	4	EA	0%	4	\$	1,420.00	\$	2,864
28		P 501	L-1, Lavatory , American Standard No. 0355.012, Lucerne 20"X18" Lavatory. Wall Mounted Fixture W/ Front Overflow, w/ Delta Teck Commercial 21C144 Centerset Faucet With Fixed Grid Drain Stainer, w/ Cast Brass P trap, w/Truebro or equal Insulation Kit, w/ ZURN Floor Mounted Arm Carrier	6	EA	0%	6	\$	7,128.00	\$	9,749
29		P 501	SK-1 - Sink 1 Compartment , Elkay , Model LRADQ252155, W/ Drop In Counter Sink W/ Rear Centre Drain, W/ Stainless Steel, Single Bowl Sink, Infinity Finish Faucet - Grohe , Model : 30377Dc0, W/Single Lever Handle - Elkay No Lk10 Grid Drain Stainer, W/P Trap Cast Brass, W/Offset Tailpiece, Insulation Kit	2	EA	0%	2	\$	2,966.00	\$	3,649
30		P 501	SK-2, Sink 1 Compartment Tas Compliant, Elkay , Model LRADQ252155, Drop In Counter Sink W/ Rear Centre Drain, Stainless Steel, Single Bowl Sink, Infinity Finish Faucet - Grohe , Model : 30377Dc0, Single Lever Handle, P Trap Cast Brass, Garbage Disposal Model Badger 1.	1	EA	0%	1	\$	1,498.00	\$	1,840
31	P 201	P 501	MS-1, Mop Sink, Stern Williams Serviceceptop No. Sb-802, 24"X24"X12" Service Sink W/ Ss Cap, W/ 2 Tiling Flanges, Bp - Splash Catcher Panels, W/ T35 Hose & Wall Bracket, W/ Service Sink Faucet Model No. Chicago No. 897, W/ Vacuum Breaker Hose End Spout, W/ Pail Hook & Top Reinforcing Bracket	1	EA	0%	1	\$	604.00	\$	946
32		P 501	EDF-1, Electric Drinking Fountain , Manuf: Halsey Taylor, Model: HTHBHVR8BLR-NF ADA BI Level Barrier Free Wall Mount Cooler W/ Bottle Filling Station, 8Gph Capacty Cooled To F Ambient Temp. Rating: V, Hz, 2 Fla, 370 Watts, W/ All Ss Cabinets	2	EA	0%	2	\$	9,474.00	\$	10,196
33		P 501	WB-1, Wall Box, Guy Gray No. BIM 875 , W/ 1/2 X1/4 O.D. Tube, W/ Chrome Plated Fixture Supply Stop, W/ Type K Soft Copeer Pipe , W/ Cuno Ice Assure 1 Filter Bracket	4	EA	0%	4	\$	698.20	\$	1,178
34		P 501	FD-1, Floor Drain, Zurn ,Model: Zn415B, W/Cast Iron Drain , W/ 6" Strainer , W/ Proset Trap Guard	2	EA	0%	2	\$	436.00	\$	584
35		P 501	FS-1, Floor Sink, Zurn, Model: Zn1901-225-K, 12" Square, 8" Deep, Cast Tron Drain W/ Enameled Interior, W/ Sediment Bucket Strainer & Secured 1/2 Bronze Grate Acid Resistent Epoxy Nickel, W/Coaing & Proset Trap Guard	1	EA	0%	1	\$	640.00	\$	714
36		P 501	FCO- Floor Cleanout, Zurn, Model: Zn 1400 Bz, Duro Coates Cast Iron , W/ Watertight Counter Sunk Plug, & Adjustable Scoriated Secured Top	2	EA	5%	2	\$	548.10	\$	703

37	P 501	WCO- Wall Cleanout, Zurn, Model: Zn1443, Duro Coated Cast Iron Cleanout Tee W/ Counter Sunk Gasket, W. Watertight Threaded Plug, W// Nickle Bronze Cover , W/ Vandal Proof Screws	4	EA	5%	4		\$ 1,075.20			\$ 1,386	
		DEMOLITION PLAN										
		Plumbing Fixtures										
		Fixtures										
38	P 200	P200 Kitchen Sink W/ Accessories and Pipes (to be removed)	1	EA	0%	1		\$ -			\$ 390	
SUB TOTAL								\$ 52,959	\$ 18,650	\$ 71,609	\$ 71,609	
INSURANCE								10%	\$ 5,296	\$ 1,865	\$ 7,161	\$ 7,161
OVERHEAD AND PROFIT								5%	\$ 2,648	\$ 932	\$ 3,580	\$ 3,580
TOTAL BASE BID								\$ 60,903	\$ 21,447	\$ 82,351	\$ 82,351	



ACTION BEHAVIOR CENTERS

ACTION BEHAVIOR CENTER

CIMARRON PATH 2.0

12668 Silicon Drive, Suite 119, San Antonio, TX 78249

CONSULTANTS

DBR
 2500 S. Highway 183, Suite 500
 Austin, Texas 78744
 512.637.4393 p 512.637.4396 f
 TBPE Firm Registration No. 2234

DBR Project Number 225013.000

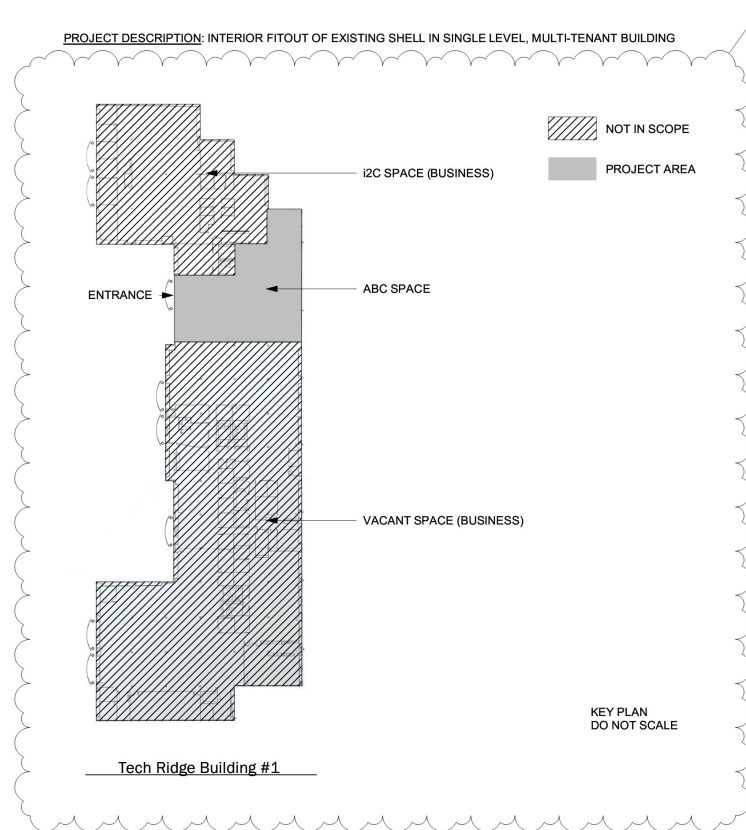
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infinitygroup
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ABBREVIATIONS & DEFINITIONS

#	POUND OR NUMBER	IRGWB	IMPACT RESISTANT GYPSUM WALL BOARD
&	AND	ILO	IN LIEU OF
@	AT	INSUL	INSULATED OR INSULATION
ACT	ACOUSTIC CEILING TILE	INT	INTERIOR
AD	AREA DRAIN	LAM	LAMINATE
AFF	ABOVE FINISHED FLOOR	LO	LOW
ALUM	ALUMINUM	LVT	LUXURY VINYL TILE
ANOD	ANODIZED	MAX	MAXIMUM
B-CAB	BASE CABINET (MILLWORK)	MO	MASONRY OPENING
BMT	BASEMENT	MECH	MECHANICAL
BYND	BEYOND	MEMBR	MEMBRANE
BOT	BOTTOM	MIN	MINIMUM
CAB	CABINET (MILLWORK)	MRGWB	MOISTURE-RESISTANT GYPSUM WALL BOARD
CIP	CAST IN PLACE	MTL	METAL
CHNL	CHANNEL	NIC	NOT IN CONTRACT
CJ	CONTROL JOINT	NO	NUMBER
CLG	CEILING	NOM	NOMINAL
CLR	CLEAR	OC	ON CENTER
CMU	CONCRETE MASONRY UNIT	OH	OPPOSITE HAND
CCL	COLUMN	OZ	OUNCE
COMPR	COMPRESSIBLE	PCC	PRE-CAST CONCRETE
CONC	CONCRETE	PLUMB	PLUMBING
CONT	CONTINUOUS	PLYD	PLYWOOD
CPT	CARPET (BROADLOOM OR TILE)	PT	PRESSURE TREATED
CT	CERAMIC OR PORCELAIN HARD SURFACE TILE	PNT	PAINT OR PAINTED
CTYD	COURTYARD	PVC	POLYVINYL CHLORIDE
DBL	DOUBLE	RBR	RUBBER
DEMO	DEMOLISH OR DEMOLITION	RCP	REFLECTED CEILING PLAN
DIA	DIAMETER	RD	ROOF DRAIN
DIM	DIMENSION	REQD	REQUIRED
DIMS	DIMENSIONS	RF	RESILIENT FLOORING
DN	DOWN	RM	ROOM
DPL	DOOR PULL	SIM	SIMILAR
DR	DOOR	SPEC	SPECIFIED OR SPECIFICATION
DWG	DRAWING	SPK	SPRINKLER OR SPEAKER
EA	EACH	SSTL	STAINLESS STEEL
EJ	EXPANSION JOINT	STC	SOUND TRANSMISSION COEFFICIENT
EL	ELEVATION	STL	STEEL
ELEC	ELECTRICAL	STRUCT	STRUCTURE OR STRUCTURAL
ELEV	ELEVATOR OR ELEVATION	T&G	TONGUE AND GROOVE
EPDM	ETHYLENE PROPYLENE DIENE M-CLASS (ROOFING)	TELE	TELEPHONE
EQ	EQUAL	TLT	TOILET
ETR	EXISTING TO REMAIN	TO	TOP OF
EXIST	EXISTING	TOC	TOP OF CONCRETE
EXP JT	EXPANSION JOINT	TOS	TOP OF STEEL
EXT	EXTERIOR	TPD	TOILET PAPER DISPENSER
FD	FLOOR DRAIN OR FIRE DEPARTMENT	T/D	TELEPHONE/DATA
FEC	FIRE EXTINGUISHER CABINET	TYP	TYPICAL
FIXT	FIXTURE	UNO	UNLESS NOTED OTHERWISE
FLR	FLOOR	UIS	UNDERSIDE
FM	FILLED METAL	VIF	VERIFY IN FIELD
FO	FACE OF	VP	VISION PANEL
FND	FOUNDATION	VCT	VINYL COMPOSITE TILE
GA	GAUGE	W-CAB	WALL CABINET (MILLWORK)
GALV	GALVANIZED	WB	WALL BASE
GWB	GYPSUM WALL BOARD	WC	WATERCLOSET
HC	HOLLOW CORE	WCV	WALLCOVERING
HI	HIGH	W/	WITH
HM	HOLLOW METAL	WD	WOOD
HP	HIGH POINT		
HR	HOUR		
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING		
	IMPACT RESISTANT GYPSUM WALL BOARD		

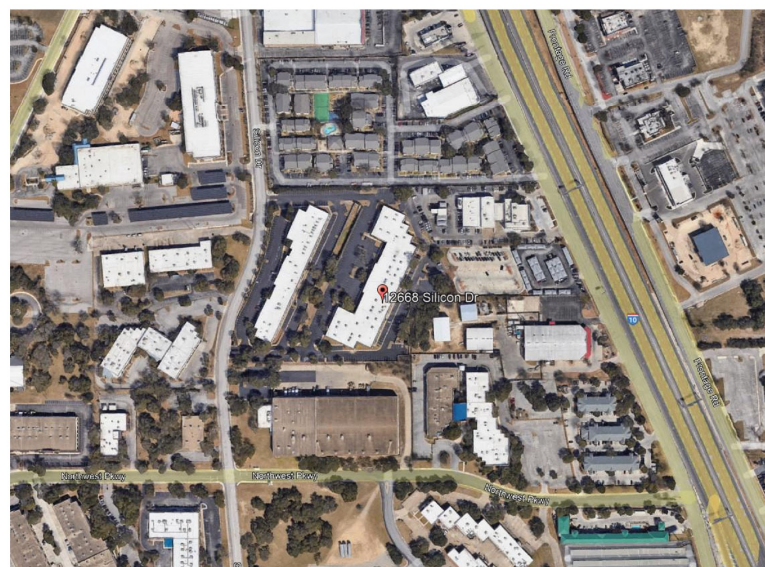
SCOPE OF WORK PLAN



SHEET LIST

Sheet Number	Sheet Name
101	Coversheet
102	Egrees Plan
104.1	Specifications
104.2	Specifications
104.3	Typical Fixture Locations
A-101	Existing Floor Plan
A-102	Demolition Plan
A-103	Construction Details
A-104	New Construction Floor Plan
A-105	Dimension Plan
A-106	Reflected Ceiling Plan-Demolition
A-107	Reflected Ceiling Plan-New
A-108.1	Enlarged Plans & Elevations
A-108.2	Enlarged Plans & Elevations
A-108.3	Enlarged Plans & Elevations
A-108.4	Enlarged Plans & Elevations
A-108.5	Sections & Details
A-108.6	Sections & Details
A-109	Finish Plan
A-108.1	Finish Schedule
A-202	Door Schedule
A-203	Equipment & Specialties Schedule
E-001	Electrical Symbol Legend
E-301	Enlarged Electrical Plans
E-401	Electrical One-Line Diagram
E-501	Electrical Schedules
E-601	Electrical Details
E-701	Electrical Specifications
E-702	Electrical Specifications
E-703	Electrical Specifications
EL-200	Lighting and Special Systems Demolition Plan
EL-201	Lighting and Special Systems Plan
EP-201	Power Plan
M-200	Mechanical Demolition Plan
M-201	Mechanical Plan
M-601	Mechanical Details, Schedules, and Schematics
M-701	Mechanical Specifications
P-001	Plumbing Symbol Legend
P-200	Plumbing Demolition Plan
P-201	Plumbing Plan
P-401	Plumbing Risers and Schematics
P-501	Plumbing Schedules
P-601	Plumbing Details
P-701	Plumbing Specifications

PROJECT LOCATION



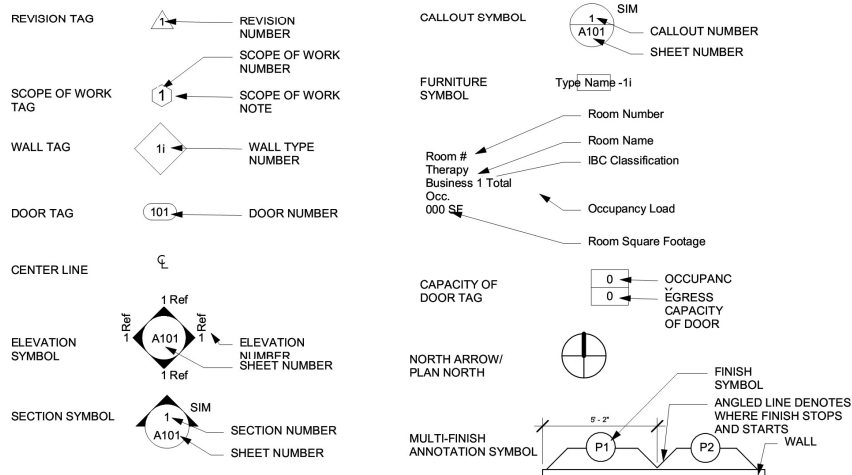
BUILDING CODE INFORMATION

1. USE GROUP (302.1)	<input type="text" value="B (BUSINESS)"/>
BUILDING TYPE	<input type="text" value="2B"/>
2. FIRE PROTECTION SYSTEMS (602.1)	<input type="text" value="SPRINKLERED"/>
3. OCCUPANCY LOAD (1004.5)	
GROSS SQUARE FOOTAGE (CONSTRUCTION AREA)	<input type="text" value="9,061 SQ.FT."/>
TOTAL BUILDING GROSS SQUARE FOOTAGE	<input type="text" value="72,474 SQ.FT."/>
TOTAL OCCUPANT LOAD (REFER TO SHEET 102)	<input type="text" value="196"/>
4. EGRESS INFORMATION (1006.3.2)	
REQUIRED EXITS	<input type="text" value="2"/>
PROVIDED EXITS	<input type="text" value="3"/>
LONGEST PATH OF TRAVEL	<input "="" type="text" value="128' - 7\"/>
LEVEL WITHIN BUILDING	<input type="text" value="FIRST FLOOR"/>
5. FIXTURE INFORMATION (2902.1)	
LAVATORIES PER CODE	<input type="text" value="6"/>
LAVATORIES PROVIDED	<input type="text" value="6"/>
TOILETS PER CODE	<input type="text" value="6"/>
TOILETS PROVIDED	<input type="text" value="6"/>
DRINKING FOUNTAIN PER CODE	<input type="text" value="2"/>
DRINKING FOUNTAIN PROVIDED	<input type="text" value="2"/>
SERVICE SINK PER CODE	<input type="text" value="1"/>
SERVICE SINK PROVIDED	<input type="text" value="3"/>

GOVERNING CODES:
 ALL WORK SHALL BE IN CONFORMANCE WITH, BUT NOT LIMITED TO THE REQUIREMENTS OF THE FOLLOWING AND ANY OTHER FEDERAL, STATE OR LOCAL CODES, LAWS AND ORDINANCES THAT APPLY:

- 2018 International Building Code, IBC
- 2018 International Existing Building Code, IEB
- 2018 International Residential Code, IRC
- 2018 International Fire Code, IFC
- 2018 International Mechanical Code, IMC
- 2018 International Plumbing Code, IPC
- 2017 National Electrical Code, NEC

GRAPHIC SYMBOLS



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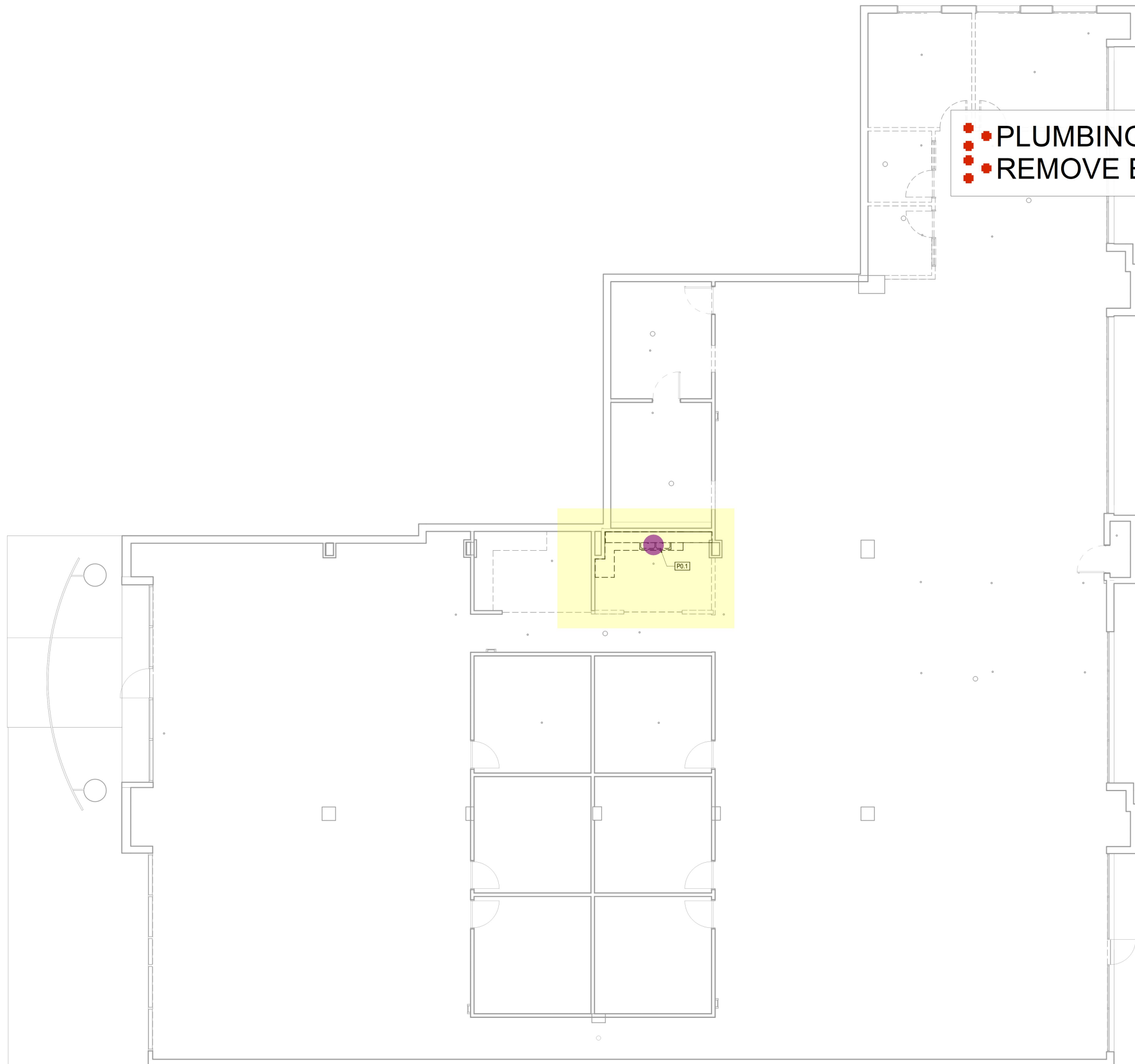
No.	Description	Date
1	Scope of work plan	2022.09.20
2	Changes to sheet	2022.09.29
3	Code information correction	2022.09.30

CIMARRON PATH 2.0
 12668 Silicon Drive, Suite 119, San Antonio, TX 78249
 PROJECT NO: ABC-7428-40.05-Cimarron Path 2.0

101

Coversheet

DRAFT:
Construction Documents
 DATE: 30.09.2022 16:26:50
 SCALE: As indicated DRAWN BY: MS



PLUMBING KEYED NOTES

P0.1 REMOVE EXISTING SINK, ASSOCIATED PIPING, AND ALL APPURTENANCES. REMOVE EXISTING SANITARY SEWER AND VENT BACK TO NEAREST ACTIVE MAIN AND CAP AIR TIGHT. REMOVE EXISTING WATER PIPING BACK TO BRANCH CONNECTION AT MAIN AND CAP WATERTIGHT. PATCH/PAINT WALLS AND FLOOR OPENINGS FROM REMOVED WORK TO MATCH.

● PLUMBING DEMO P... 0.0 ●
● REMOVE EXISTING ... 1.0 ●



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Revisions

No.	Date	Issued by

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 12668 Silicon Drive, Suite 119, San Antonio, TX 78249
 PROJECT NO: 220236.000



PLAN NORTH

DBR Project Number	220236.000
JT	-

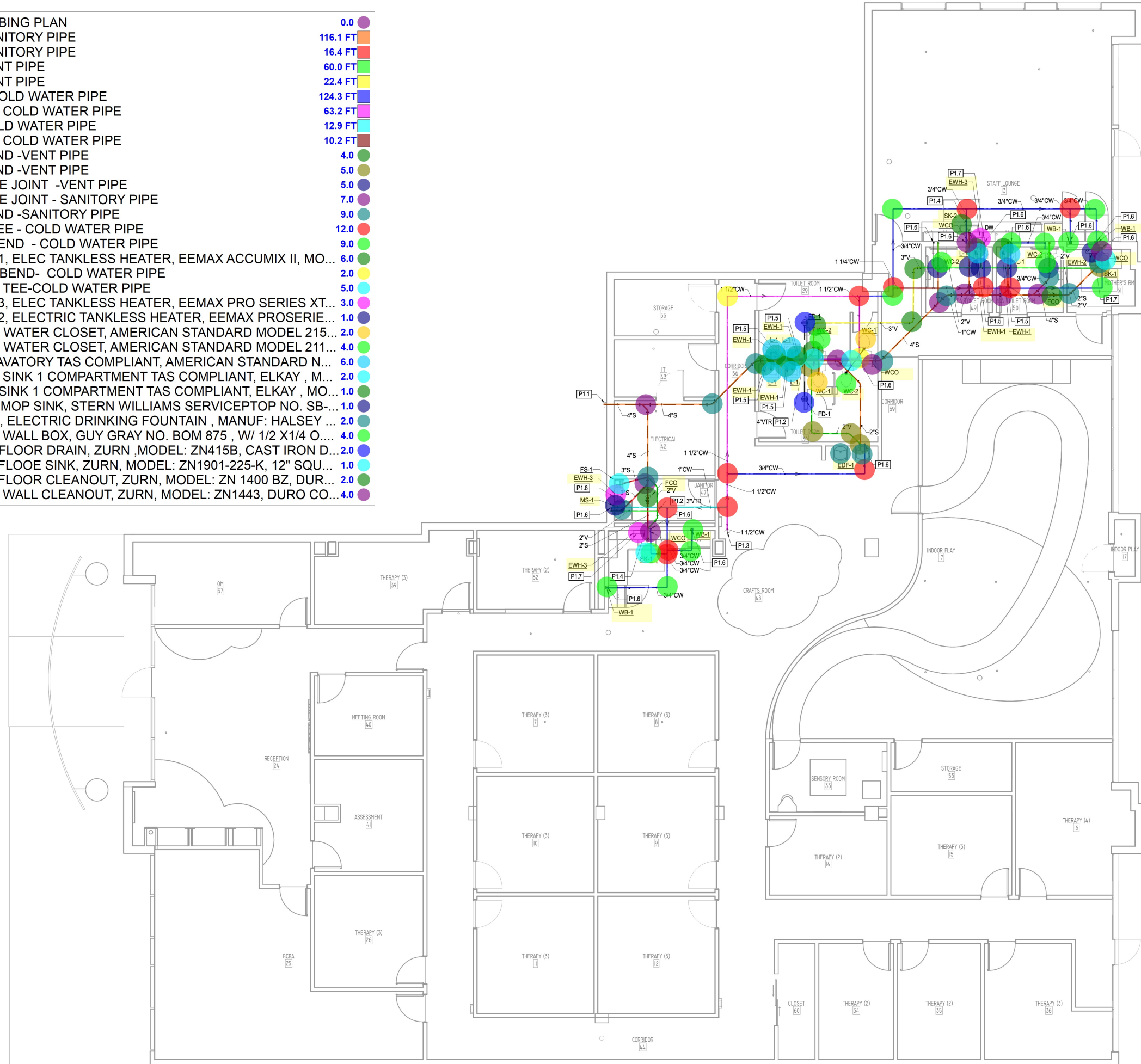
1 Plumbing Demolition Plan
 P-200 3/16" = 1'-0"

P-200
 Plumbing Demolition Plan

DRAFT: 100% CD
 DATE: 8/29/2022
 SCALE: AS INDICATED DRAWN BY: Author

- PLUMBING PLAN
- 4" SANITARY PIPE
- 3" SANITARY PIPE
- 2" VENT PIPE
- 3" VENT PIPE
- 3/4" COLD WATER PIPE
- 1 1/2" COLD WATER PIPE
- 1" COLD WATER PIPE
- 1 1/4" COLD WATER PIPE
- 3" BEND -VENT PIPE
- 2" BEND -VENT PIPE
- 2" WYE JOINT -VENT PIPE
- 4" WYE JOINT - SANITARY PIPE
- 4" BEND -SANITARY PIPE
- 3/4" TEE - COLD WATER PIPE
- 3/4" BEND - COLD WATER PIPE
- EWH-1, ELEC TANKLESS HEATER, EEMAX ACCUMIX II, MO...
- 1 1/2" BEND- COLD WATER PIPE
- 1 1/2" TEE-COLD WATER PIPE
- EWH-3, ELEC TANKLESS HEATER, EEMAX PRO SERIES XT...
- EWH-2, ELECTRIC TANKLESS HEATER, EEMAX PROSERIE...
- WC-1, WATER CLOSET, AMERICAN STANDARD MODEL 215...
- WC-2, WATER CLOSET, AMERICAN STANDARD MODEL 211...
- L-1, LAVATORY TAS COMPLIANT, AMERICAN STANDARD N...
- SK-1 - SINK 1 COMPARTMENT TAS COMPLIANT, ELKAY , M...
- SK-2, SINK 1 COMPARTMENT TAS COMPLIANT, ELKAY , MO...
- MS-1, MOP SINK, STERN WILLIAMS SERVICE TOP NO. SB-...
- EDF-1, ELECTRIC DRINKING FOUNTAIN, MANUF: HALSEY ...
- WB-1, WALL BOX, GUY GRAY NO. BOM 875 , W/ 1/2 X1/4 O...
- FD-1, FLOOR DRAIN, ZURN ,MODEL: ZN415B, CAST IRON D...
- FS-1, FLOOE SINK, ZURN, MODEL: ZN1901-225-K, 12" SQU...
- FCO- FLOOR CLEANOUT, ZURN, MODEL: ZN 1400 BZ, DUR...
- WCO- WALL CLEANOUT, ZURN, MODEL: ZN1443, DURO CO...

- 0.0
- 116.1 FT
- 16.4 FT
- 60.0 FT
- 22.4 FT
- 124.3 FT
- 63.2 FT
- 12.9 FT
- 10.2 FT
- 4.0
- 5.0
- 5.0
- 7.0
- 9.0
- 12.0
- 9.0
- 6.0
- 2.0
- 5.0
- 3.0
- 1.0
- 2.0
- 4.0
- 6.0
- 2.0
- 1.0
- 1.0
- 2.0
- 4.0
- 2.0
- 1.0
- 2.0
- 4.0



- # PLUMBING KEYED NOTES
- P1.1 MODIFY AS REQUIRED AND CONNECT NEW SANITARY WASTE BELOW FLOOR TO EXISTING OF EQUAL OR GREATER SIZE.
 - P1.2 ROUTE VENT PIPING WITHIN JOIST SPACE AND VENT THROUGH ROOF.
 - P1.3 MODIFY AS REQUIRED AND CONNECT NEW COLD WATER ABOVE CEILING TO EXISTING OF EQUAL OR GREATER SIZE.
 - P1.4 PROVIDE (2) HOT WATER STOPS UNDER SINK COUNTER, AND TAILPIECE FOR FUTURE CONNECTION OF DISHWASHER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
 - P1.5 PROVIDE TANKLESS WATER HEATER, WITH ASSE 1070 APPROVED INTEGRATED MIXING VALVE, TO SERVE LAVATORY. REFER TO PLUMBING DETAIL 2P-601.
 - P1.6 DROP COLD WATER DOWN INSIDE CHASE/WALL AND EXTEND TO SERVE ADJACENT FIXTURE(S). SIZE AS NOTED. PROVIDE SHOCK ARRESTOR.
 - P1.7 PROVIDE TANKLESS WATER HEATER TO SERVE SINK. REFER TO PLUMBING DETAIL 2P-601.
 - P1.8 PROVIDE TANKLESS WATER HEATER TO SERVE MOP SINK. REFER TO PLUMBING DETAIL 3P-601.



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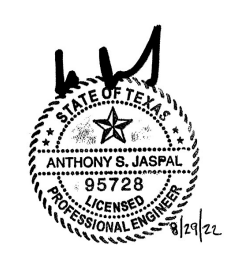
DBR Project Number 220236.000
 JT

PLAN NORTH

1 Plumbing Plan
 P-201 3/16" = 1'-0"

P-201
 Plumbing Plan

DRAFT: 100% CD
 DATE: 8/29/2022
 SCALE: AS INDICATED
 DRAWN BY: Author



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 12668 Silicon Drive, Suite 119, San Antonio, TX 78249
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P-401

Plumbing Risers and Schematics

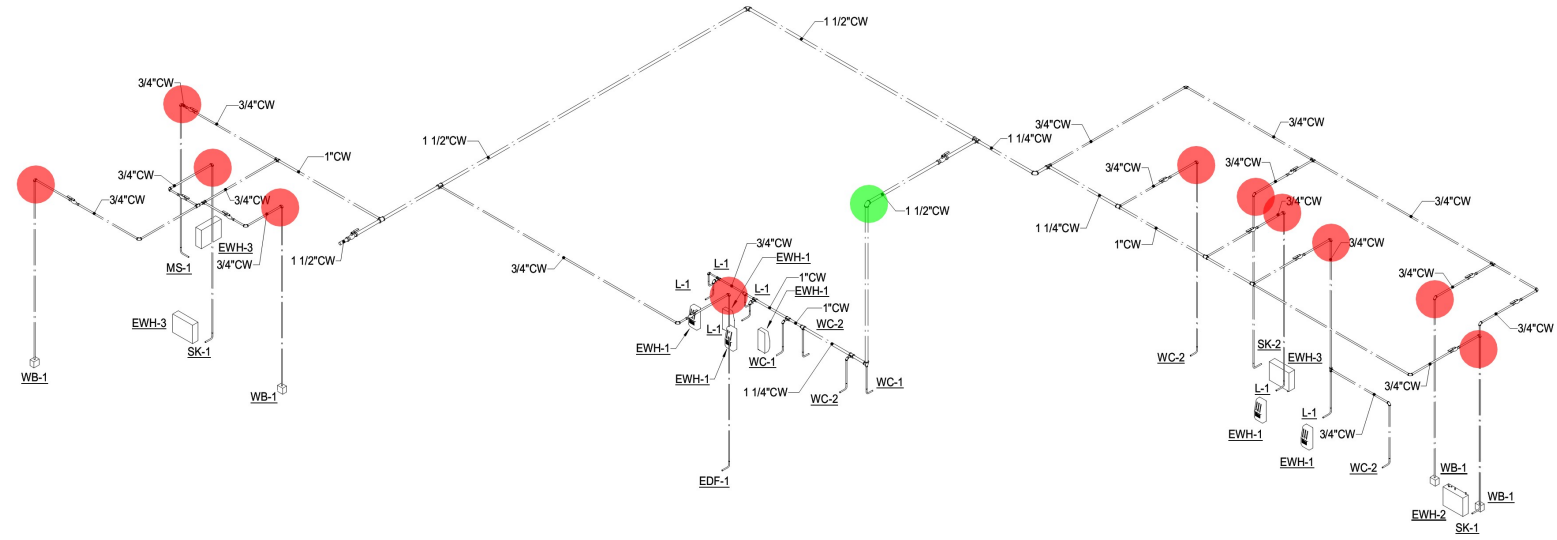
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 DATE: 8/29/2022
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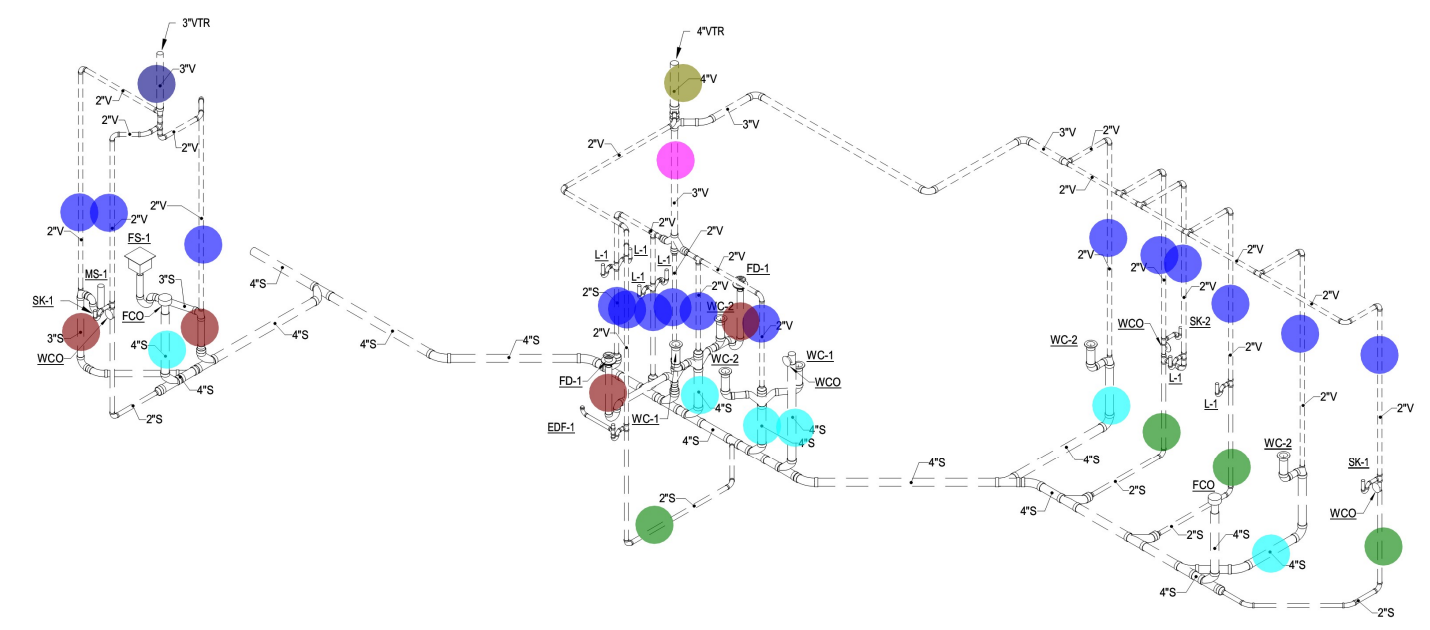
9990 Richmond Avenue
 South Building, Suite 300
 Houston, Texas 77042
 713.914.0888 p 713.914.0886 f
 TBPE Firm Registration No. 2234

DBR Project Number 220236.000
 JT

- RISER WATER 0.0
- 3/4" COLD WATER PIPE - DOWN 11.0
- 1 1/2" COLD WATER PIPE - DO... 1.0
- RISER SANITARY & VENT 0.0
- 2" VENT PIPE - DOWN 15.0
- 3" VENT PIPE - DOWN 1.0
- 4" SANITARY PIPE -UP 6 FT 6.0
- 3" SANITARY PIPE -UP 6 FT 4.0
- 2" SANITARY PIPE -UP 6 FT 4.0
- 4" VENT PIPE - 5 FT UP 1.0
- 3" VENT PIPE - 5 FT UP 1.0



2 RISER - WATER
 P-401



1 RISER - SANITARY & VENT
 P-401

FIRE PROTECTION GENERAL NOTES

- MODIFICATIONS TO THE EXISTING FIRE SPRINKLER SYSTEM SHALL BE DESIGNED AND INSTALLED BY A STATE LICENSED FIRE SPRINKLER CONTRACTOR (HEREINAFTER CONTRACTOR) IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 13 (PREVAILING EDITION) AND ALL AUTHORITIES HAVING JURISDICTION. THE SPRINKLER SYSTEM MUST ALSO BE APPROVED BY THE OWNER'S FIRE INSURANCE UNDERWRITER.
- THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF EXISTING SPRINKLER HEADS, PIPING, AND APPURTENANCES AS NECESSARY.
- SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE OWNER'S FIRE INSURANCE UNDERWRITER AND FIRE MARSHAL. THEY SHALL ALSO BE SUBMITTED FOR REVIEW BY THE ARCHITECT AND ENGINEER OF RECORD.
- PRIOR TO THE PROPOSED SHUT-DOWN/INTERRUPTION OF ANY EXISTING FIRE PROTECTION SYSTEM, THE CONTRACTOR SHALL ADVISE THE OWNER/OWNER'S APPOINTED REPRESENTATIVE NO LESS THAN 24 HOURS PRIOR. ALL SUCH SERVICE INTERRUPTIONS SHALL BE FULLY COORDINATED.
- THE CONTRACTOR SHALL PERFORM ALL WORK IN A WORKMANLIKE MANNER. UPON COMPLETION OF WORK THE CONTRACTOR SHALL TEST, THEN CONNECT TO THE MAIN SYSTEM. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING THE SYSTEM TO FULL OPERATION.
- THE SPRINKLER SYSTEM SHALL CONTAIN NO VALVES DOWNSTREAM OF THE CONTROL STATION.
- CONTRACTOR SHALL DESIGN THE SPRINKLER SYSTEM AS REQUIRED TO ACCOMMODATE NEW FIXTURES, PARTITIONS, SOFFITS, FURR DOWNS, CEILING HEIGHTS, ETC.
- THE FINAL SPRINKLER SYSTEM SHALL PROVIDE COMPLETE AUTOMATIC PROTECTION AND COVERAGE IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 13 (PREVAILING EDITION) AND ALL AUTHORITIES HAVING JURISDICTION.
- AS PART OF THE SCOPE OF WORK THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SPRINKLER HEADS, PIPE, FITTINGS, HANGERS, AND APPURTENANCES (INCLUDING, BUT NOT NECESSARILY LIMITED TO: VALVE SUPERVISORY SWITCHES, FLOW SWITCHES, AND FULL COORDINATION WITH THE OWNER'S FIRE ALARM SYSTEM).
- THE CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT AND ARCHITECT'S FINISHED CEILING PLANS FOR THE LOCATIONS OF SPRINKLER HEADS PRIOR TO INSTALLATION.
- THE EXISTING SPRINKLER SYSTEM SHALL BE FULLY CHARGED AND OPERATIONAL WHEN THE CONTRACTOR IS OFF THE SITE.
- REFER TO THE OWNER'S CRITERIA/CONSTRUCTION REQUIREMENTS AS REQUIRED FOR ADDITIONAL INFORMATION.
- THE FIRE SPRINKLER CONTRACTOR SHALL COORDINATE SPRINKLER HEAD INSTALLATION WITH THE LATEST ARCHITECTURAL REFLECTED CEILING PLANS. EXTEND BRANCH LINES ACCORDINGLY TO PROVIDE SPRINKLERS BOTH ABOVE AND BELOW ANY "CLOUD" CEILINGS, IF PRESENT.

PLUMBING EQUIPMENT SCHEDULE

PLAN MARK	MINIMUM ROUGH-IN SIZES					DESCRIPTION
	WASTE	VENT	DRAIN	CW	HW	
ELECTRIC TANKLESS WATER HEATER EWH-1	---	---	---	3/8"	3/8"	EEMAX ACCUMIX II MODEL AM042777 TANKLESS WATER HEATER. UNIT IS EQUIPPED WITH AN INTEGRATED MIXING VALVE THAT MEETS ASSE 1070, AND CAPABLE OF 56" RISE AT 0.5 GPM. WIRED AT 277V/1PH WITH 4.1 KW INPUT. COORDINATE WITH ELECTRICAL CONTRACTOR FOR FINAL CONNECTION. FACTORY SET TO 105° F.
ELECTRIC TANKLESS WATER HEATER EWH-2	---	---	---	3/4"	3/4"	EEMAX PROSERIES XTP SERIES XTP016480 TANKLESS WATER HEATER. UNIT CAPABLE OF 55" RISE AT 2.0 GPM. WIRED AT 480V/3PH WITH 16 KW INPUT. COORDINATE WITH ELECTRICAL CONTRACTOR FOR FINAL CONNECTION. FACTORY SET TO 120° F.
ELECTRIC TANKLESS WATER HEATER EWH-3	---	---	---	3/4"	3/4"	EEMAX PROSERIES XTP SERIES XTP024480 TANKLESS WATER HEATER. UNIT CAPABLE OF 55" RISE AT 3.0 GPM. WIRED AT 480V/3PH WITH 24 KW INPUT. COORDINATE WITH ELECTRICAL CONTRACTOR FOR FINAL CONNECTION. FACTORY SET TO 120° F.

PLUMBING PIPE MATERIALS SCHEDULE

PIPING SYSTEM	PIPING MATERIAL
SANITARY SOIL, WASTE AND VENT PIPING BELOW GRADE	SCHEDULE 40 PVC
SANITARY SOIL, WASTE AND VENT PIPING ABOVE GRADE	CAST IRON NO-HUB
DOMESTIC WATER PIPING ABOVE GRADE	COPPER, TYPE "L" HARD DRAWN
FIRE SPRINKLER PIPING ABOVE GROUND 2" AND SMALLER	BLACK STEEL SCHEDULE 40
FIRE SPRINKLER PIPING ABOVE GROUND 2" AND LARGER	BLACK STEEL SCHEDULE 10

PLUMBING GENERAL NOTES

- CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL CODES AND AUTHORITIES HAVING JURISDICTION AND SHALL MAKE ALL FINAL CONNECTIONS TO FIXTURES AND EQUIPMENT.
- DO NOT SCALE PLUMBING DRAWINGS. REFER TO DIMENSIONED ARCHITECTURAL OR EQUIPMENT DRAWINGS FOR EXACT LOCATIONS OF FIXTURES OR EQUIPMENT WITH CONNECTIONS.
- CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS AND ELEVATIONS FOR EXISTING POINTS OF CONNECTION WITH ALL SANITARY, STORM DRAINAGE OR OTHER UTILITY PIPING PRIOR TO THE INSTALLATION OF ANY PIPING. THE CONTRACTOR SHALL BE RESPONSIBLE TO ALERT THE ARCHITECT OF GRADING PROBLEMS PRIOR TO COMMENCING WORK WHEN SUCH PROBLEMS EXIST.
- ALL PIPE PASSING THROUGH FLOORS OR WALLS WHICH ARE FIRE RATED SHALL BE SUPPORTED AT PENETRATION AND SHALL BE SEALED WITH APPROVED FIRE STOP MATERIALS AS REQUIRED BY BUILDING CODES.
- CONTRACTOR SHALL COORDINATE WITH STRUCTURAL CONDITIONS AT THE SITE AND PROVIDE PROPER ROUGH-IN CONNECTIONS AS REQUIRED WITHOUT DAMAGE TO STRUCTURE. WHERE MODIFICATIONS TO STRUCTURAL MEMBERS ARE REQUIRED THE CONTRACTOR SHALL RECEIVE WRITTEN APPROVAL FROM THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO MODIFICATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD COORDINATING ALL PLUMBING PIPING AND SLEEVE LOCATIONS WITH ALL OTHER TRADES PRIOR TO INSTALLATION OF ANY PIPING OR SUPPORTS.

PLUMBING FIXTURES GENERAL NOTES

- CONTRACTOR TO FIELD VERIFY ELEVATIONS AND DIMENSIONS OF FINISHED FLOORS AND WALLS. TRUE ALL DRAINS, ROUGH-INS AND CARRIERS IN ACCORDANCE WITH PROPOSED ELEVATIONS AND FINISHED SURFACES.
- MOUNTING HEIGHT ELEVATION OF ALL WALL HUNG OR COUNTER MOUNTED FIXTURES SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION OF ROUGH-IN WORK.
- FOR ALL FIXTURES AND EQUIPMENT WITH ASSOCIATED TRIM OR COMPONENT ACCESSORIES PROVIDED UNDER SEPARATE DIVISIONS AND REQUIRING PLUMBING CONNECTIONS; THIS CONTRACTOR SHALL FIELD COORDINATE EXACT REQUIREMENTS OF, MAKE PROVISIONS FOR, AND SUPPLY ALL MATERIALS AND LABOR FOR MAKING FINAL CONNECTIONS.
- CONTRACTOR SHALL REFER TO SHOP DRAWINGS OF EQUIPMENT TO BE SUPPLIED FOR FINAL COORDINATION OF ALL ROUGH-IN OPENINGS BEFORE BEGINNING WORK.
- ALL FIXTURE AND EQUIPMENT STUB-OUTS SHALL BE PROVIDED WITH A STOP VALVE. ALL FIXTURE STOPS SHALL BE SOLID BRASS, LOOSE KEY OPERATED, CHROME PLATED (WHERE EXPOSED), AND FITTED TIGHT TO CHROME PLATED BRASS WALL ESCUTCHEON PLATES.
- ALL ROUGH IN OPENINGS SHALL BE FITTED WITH CHROME PLATED, HEAVY GAGE BRASS ESCUTCHEON PLATES FITTED TIGHT TO THE PIPE.
- ALL EXPOSED BRASS SHALL BE CHROME PLATED.
- PROVIDE DEEP SEAL P-TRAP FOR ALL DRAINS.
- ALL HANDICAPPED ACCESSIBLE FIXTURES SHALL BE PROVIDED OF APPROVED TYPES AND WITH REQUIRED CONTROLS AND INSTALLED TO HEIGHTS AND CLEARANCES, AS PRESCRIBED BY AMERICAN WITH DISABILITIES ACT (ADA). FIXTURES SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL ADA CODE REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONED ADA MOUNTING HEIGHTS AND SPECIFIED CLEARANCES.

PLUMBING FIXTURE SCHEDULE

PLAN MARK	MINIMUM ROUGH-IN SIZES					DESCRIPTION
	WASTE	VENT	DRAIN	CW	HW	
WATER CLOSET WC-1	4"	2"	4"	1/2"	---	AMERICAN STANDARD MODEL 215CA.104 "CHAMPION PRO" WHITE V.C. ELONGATED FLOOR MOUNTED BOWL (1.28 GPF) TANK TYPE, OLSONITE NO. 95 WHITE OPEN FRONT SEAT, LESS COVER, MCGUIRE LOOSE TEE KEY STOP VALVE.
WATER CLOSET WC-2	4"	2"	4"	1/2"	---	AMERICAN STANDARD MODEL 211A.104 "CHAMPION PRO" WHITE V.C. ELONGATED FLOOR MOUNTED BOWL (1.28 GPF) TANK TYPE, RIGHT HEIGHT, OLSONITE NO. 95 WHITE OPEN FRONT SEAT, LESS COVER, MCGUIRE LOOSE TEE KEY STOP VALVE.
LAVATORY T-1	2"	2"	1-1/4"	1/2"	1/2"	AMERICAN STANDARD No. 0355.012 LUCERNE 20"X18" LAVATORY. WALL MOUNTED FIXTURE WITH FRONT OVERFLOW AND HOLES DRILLED ON 4" CENTERS. DELTA TECK COMMERCIAL 21C144 CENTERSET FAUCET WITH FIXED GRID DRAIN STRAINER, CAST BRASS P-TRAP, STOPS AND SUPPLIES, TRUBRO OR EQUAL INSULATION KIT, ZURN OR EQUAL FLOOR MOUNTED CONCEALED ARM CARRIER AND TRIM AND MOUNTING HEIGHTS, REQUIRED FOR ADA USE. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING HEIGHT.
SINK 1 COMPARTMENT TAS COMPLIANT SK-1	2"	2"	1-1/2"	3/4"	3/4"	ELKAY MODEL LRADQ252155 DROP-IN COUNTER MOUNT SINK WITH REAR-CENTER DRAIN. SINGLE HOLE PUNCH STAINLESS STEEL, SINGLE BOWL SINK. PROVIDE GROHE DEFINED No. 30377DC0 SUPERSTEEL INFINITY FINISH FAUCET, 1.75 GPM FLOW, WITH SINGLE-LEVER HANDLE. ELKAY No. LK-18 GRID DRAIN STRAINER, CAST BRASS P-TRAP WITH CO, STOPS AND SUPPLIES, PROVIDE OFF-SET TAILPIECE AND INSULATION KIT WHERE TRIM IS EXPOSED.
SINK 1 COMPARTMENT TAS COMPLIANT SK-2	2"	2"	1-1/2"	3/4"	3/4"	ELKAY MODEL LRADQ252155 DROP-IN COUNTER MOUNT SINK WITH REAR-CENTER DRAIN. SINGLE HOLE PUNCH STAINLESS STEEL, SINGLE BOWL SINK. PROVIDE GROHE DEFINED No. 30377DC0 SUPERSTEEL INFINITY FINISH FAUCET, 1.75 GPM FLOW, WITH SINGLE-LEVER HANDLE. CAST BRASS P-TRAP WITH CO, STOPS AND SUPPLIES. PROVIDE WITH GARBAGE DISPOSAL MODEL BADGER 1, 1/3 HP, 115V.
MOP SINK MS-1	3"	2"	3"	1/2"	1/2"	STERN WILLIAMS SERVICECEPTOR No. SB-802 24"X24"X12" SERVICE SINK WITH STAINLESS STEEL CAP, 2 TILING FLANGES, BIP-SPLASH CATCHER PANELS, T-35 HOSE AND WALL BRACKET. PROVIDE CHICAGO No. 897 SERVICE SINK FAUCET WITH VACUUM BREAKER HOSE END SPOUT, PAIL HOOK AND TOP REINFORCING BRACKET.
ELECTRIC DRINKING FOUNTAIN T-1	2"	1-1/4"	1-1/4"	1/2"	---	HALSEY TAYLOR No. HTHBHVR8BLR-NF ADA BI LEVEL BARRIER FREE WALL MOUNT COOLER WITH BOTTLE FILLING STATION, 8.0 G.P.H. CAPACITY COOLED TO 50° F AMBIENT TEMPERATURE. PROVIDE 120V, 60 HZ, 2 FLA, 370 RATED WATTAGE. COORDINATE WITH ELECTRICAL WITH POWER. PROVIDE WITH ALL STAINLESS STEEL CABINETS.
WALL BOX WB-1	---	---	---	1/2"	---	GUY GRAY NO. BIM-875 WITH 1/2 X 1/4 O.D. TUBE, CHROME PLATED FIXTURE SUPPLY STOP. INSTALL BOX 54" AFF BEHIND FREE STANDING REFRIGERATOR WITH ICE MAKER LEAVE 48" COIL OF 1/4" O.D. TYPE "K" SOFT COPPER FOR EQUIP. CONNECTION AND PROVIDE CUNO ICEASSURE1 FILTER BRACKETED TO WALL.
FLOOR DRAIN FD-1	3"	2"	3"	---	---	ZURN No. ZN415B CAST IRON DRAIN WITH 6" DIAMETER STRAINER. PROVIDE WITH PROSET OR EQUAL TRAP GUARD.
FLOOR SINK FS-1	4"	2"	4"	---	---	ZURN No. ZN-1901-2-25-K, 12" SQUARE, 8" DEEP CAST IRON DRAIN WITH ENAMELED INTERIOR. SEDIMENT BUCKET STRAINER AND SECURED 1/2 BRONZE GRATE ACID RESISTANT EPOXY NICKEL. COATING AND PROSET TRAP GUARD.
FLOOR CLEANOUT FCO	SEE PLAN	---	---	---	---	ZURN No. ZN-1400-8Z DURO-COATED CAST IRON CLEANOUT WITH WATERTIGHT COUNTER-SUNK PLUG AND ADJUSTABLE SCORATED SECURED TOP.
WALL CLEANOUT WCO	SEE PLAN	---	---	---	---	ZURN No. ZN1443 DURO-COATED CAST IRON CLEANOUT TEE W/COUNTER-SUNK GASKET, WATERTIGHT THREADED PLUG, AND SMOOTH NICKEL BRONZE SQUARE ACCESS COVER WITH VANDAL PROOF SCREWS.



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BOSTON
HARTFORD
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INFINITYGROUP.COM



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Revisions

No.	Date	Issued by

ABC Cimarron
12668 Silicon Drive, Suite 119, San Antonio,
TX 78249
PROJECT NO: 220236.000

P-501

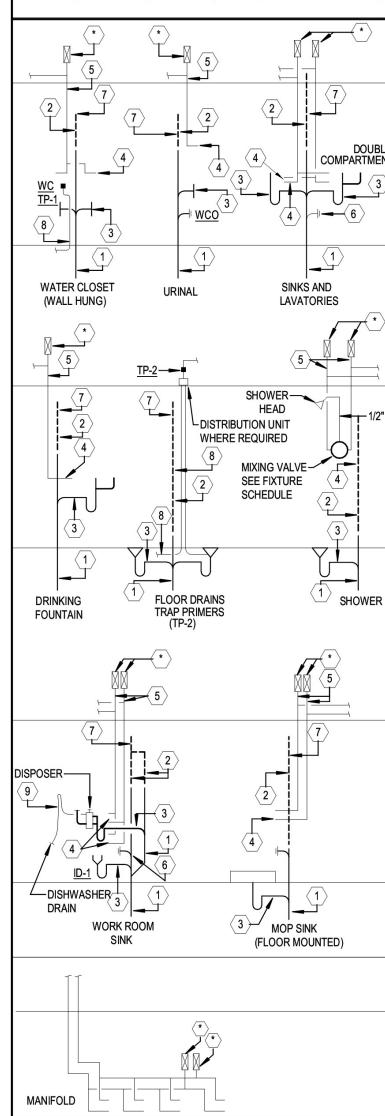
Plumbing Schedules

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DATE: 8/29/2022
SCALE: AS INDICATED
DRAWN BY: Author



DBR Project Number	220236.000
JT	-

TYPICAL PLUMBING RISER DETAILS



- KEYED NOTES - TYPICAL RISER DIAGRAM DETAILS**
(NOT ALL RISERS USED IN EVERY PROJECT.)
- REFER TO PLUMBING FIXTURE SCHEDULE FOR SOIL OR WASTE ROUGH-IN PIPE SIZE. MINIMUM SOIL OR WASTE DRAIN LINE SIZE (EXCEPT AS NOTED) FOR THIS FIXTURE.
 - REFER TO PLUMBING FIXTURE SCHEDULE FOR SANITARY VENT ROUGH-IN PIPE SIZE. MINIMUM SANITARY VENT BRANCH SIZE (EXCEPT AS NOTED) FOR THIS FIXTURE.
 - REFER TO PLUMBING FIXTURE SCHEDULE FOR FIXTURE DRAIN ROUGH-IN PIPE SIZE. MINIMUM FIXTURE DRAIN AND TRAP SIZE (EXCEPT AS NOTED) FOR THIS FIXTURE.
 - REFER TO PLUMBING FIXTURE SCHEDULE FOR WATER PIPING ROUGH-IN PIPE SIZE. MINIMUM WATER SUPPLY BRANCH SIZE (EXCEPT AS NOTED) FOR THIS FIXTURE.
 - WATER HAMMER ARRESTOR INLET: REFER TO ARRESTOR SCHEDULE FOR SIZE. LOCATION SHOWN HERE FOR INDIVIDUAL FIXTURE WILL VARY WHERE INCLUDED AS PART OF PLUMBING CHASE BATTERY OF PIPING. REFER TO RISER DIAGRAMS FOR MANIFOLD LOCATIONS. ARRANGE ALL WATER LINES TO GRAVITY DRAIN.
 - WALL CLEANOUTS SHALL BE PROVIDED AT ALL END OF BATTERY OR END OF BRANCH LINE FIXTURES AND WHERE REQUIRED BY PLUMBING CODE OFFICIALS TO ASSURE COMPLETE ACCESS TO ALL PORTIONS OF DRAIN.
 - SANITARY VENT PIPES SHALL CONTINUE TO CEILING OR HEADER TOGETHER AT MINIMUM 42" ABOVE FINISHED FLOOR.
 - TRAP PRIMER LINE: SEE PLUMBING DETAILS SHEET. EXTEND AND CONNECT TO FLOOR DRAIN TRAP AS SHOWN.
 - AIR GAP FITTING: PROVIDE WHERE REQUIRED BY CODE.

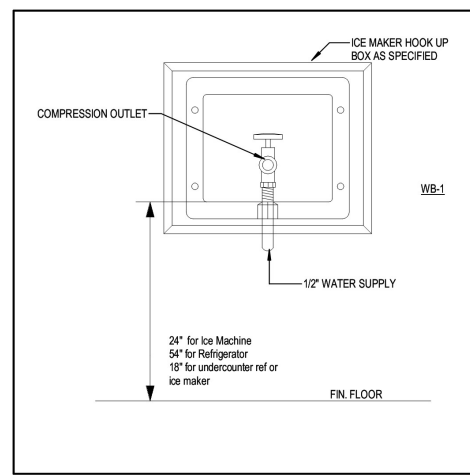
WATER HAMMER ARRESTOR SCHEDULE

P.D.I. SYMBOL	FIXTURE UNITS	SIZE
A	1-11	1/2" NPT
B	12-32	3/4" NPT
C	33-60	1" NPT
D	61-113	1 1/4" NPT
E	114-154	1 1/2" NPT
F	155-330	2" NPT

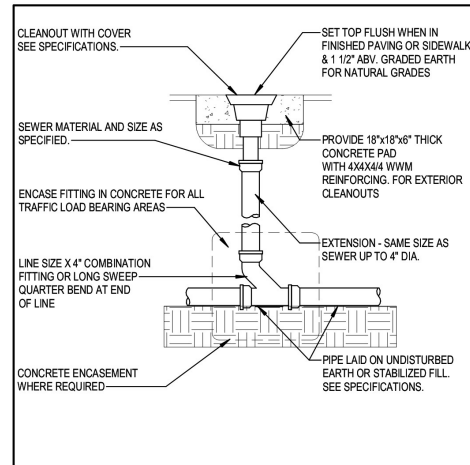
PIPING RISER DIAGRAMS/TYPICAL RISER DETAILS ILLUSTRATE WATER HAMMER ARRESTORS FOR FIXTURE WATER PIPE OPENINGS. ALL ARRESTORS SHALL BE SIZED AS INDICATED ON DRAWINGS OR IN ACCORDANCE WITH THIS SCHEDULE, WHICHEVER PLACES THE MOST STRINGENT REQUIREMENT.

PROVIDE ARRESTORS IN ACCORDANCE WITH THE REQUIREMENTS OF PLUMBING DRAINAGE INSTITUTE (PDI) STANDARD PDI-WH-201. THE USE OF AIR CHAMBERS SHALL NOT BE ACCEPTABLE.

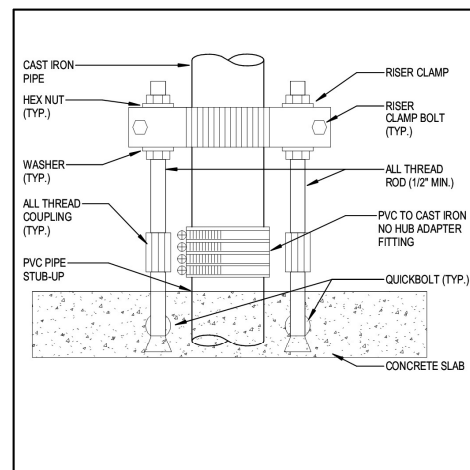
WATER HAMMER ARRESTORS SHALL HAVE LIFETIME WARRANTY AND SHALL BE CERTIFIED BY THE MANUFACTURER AS SUITABLE FOR INSTALLATION WITHOUT A REQUIREMENT FOR ACCESS PANELS. NONETHELESS, ACCESS PANELS SHALL BE PROVIDED IF AND AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ).



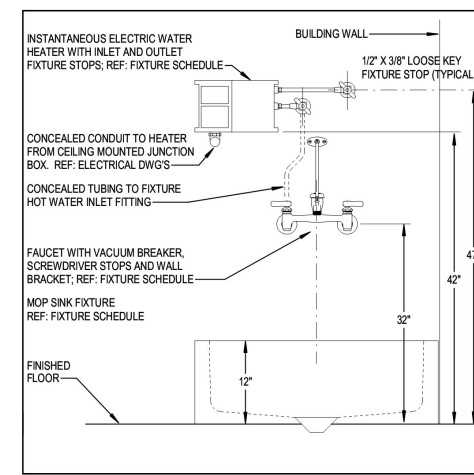
6 ICE MAKER SUPPLY BOX
NOT TO SCALE



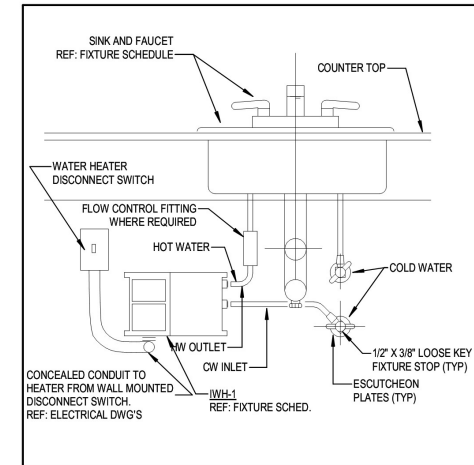
5 CLEANOUT DETAIL
NOT TO SCALE



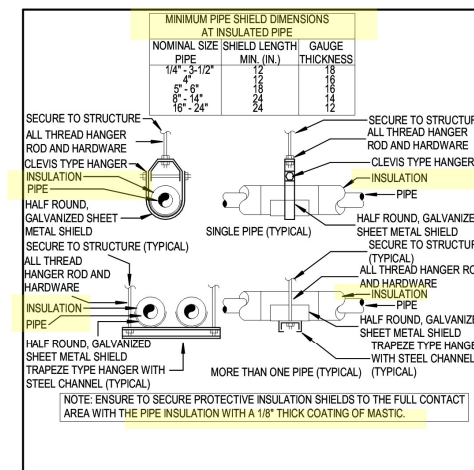
4 PVC TO CAST IRON SUPPORT
NOT TO SCALE



3 WATER HEATER DETAIL
NOT TO SCALE



2 WATER HEATER DETAIL
NOT TO SCALE



1 TYPICAL INSULATED PIPE HANGER INSTALLATION
NOT TO SCALE

DBR
9990 Richmond Avenue
South Building, Suite 300
Houston, Texas 77042
713.914.0888 p 713.914.0886 f
TBPE Firm Registration No. 2234

DBR Project Number 220236.000
JT

IC
infinitygroup
AUSTIN
BOSTON
HARTFORD
NEW YORK
SAN FRANCISCO
INFINITYGROUPUS.COM

STATE OF TEXAS
ANTHONY S. JASPAL
95728
LICENSED PROFESSIONAL ENGINEER
8/29/22

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Revisions

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ABC Cimarron
12668 Silicon Drive, Suite 119, San Antonio, TX 78249
PROJECT NO: 220236.000

P-601
Plumbing Details
DRAFT: 100% CD
DATE: 8/29/2022
SCALE: AS INDICATED
DRAWN BY: Author

PART I: GENERAL - PLUMBING

1-1 DESCRIPTION:

All work on these drawings shall be done in strict accordance with these specifications.

The work included under this contract shall consist of furnishing and installing the:

- A. Sanitary drainage waste and vent system
B. Domestic hot and cold water supply and distribution systems
C. All associated fixtures, equipment, accessories, and appurtenances

1-2 WARRANTY:

A. The contractor shall guarantee the work for a period of one year beyond the date of final acceptance. During that period, the contractor shall repair or replace, at his own expense, any faults or imperfections that may arise due to defects in material and workmanship, including fixtures and pipe leaks.

1-3 PROJECT CONDITIONS:

A. The contractor shall visit the site of the work and fully understand the conditions that affect the work, the costs of the work, and the existing utilities from which services will be supplied.

1-4 PERMITS AND FEES:

A. The contractor shall arrange and pay for all permits, fees, tests, and all inspections as required by the Authorities Having Jurisdiction (AHJ).

1-5 COORDINATION WITH FIELD CONDITIONS:

A. The contract documents are schematic in nature in that they are only to establish scope and a minimum level of quality. Pipe and equipment locations as indicated on the documents do not indicate every offset or exact location.

1-6 SUBMITTALS:

A. Contractor shall provide electronic submittals (PDF format) for all plumbing fixtures, equipment, and piping accessories. Any deviations from the specified items shall be listed on the cover sheet and clearly itemized for all deviations.

1-7 QUALITY ASSURANCE:

A. All work shall be performed in accordance with all applicable state, local, and federal codes; all authorities having jurisdiction, and generally accepted industry standards.

1-8 EQUIPMENT IDENTIFICATION:

A. All equipment shall be clearly identified by means of permanently attached nameplates and all valves shall be clearly identified by means of wire-attached valve tags.

1-9 REGULATORY REQUIREMENTS:

A. Perform Work in accordance with plumbing and building codes and inspectors having jurisdiction.

B. Conform to applicable codes for the provision and installation of all required backflow prevention devices. Provide certificate of compliance from authority having jurisdiction indicating approval of installation of backflow prevention devices.

C. No PVC pipe or fittings will be allowed for any areas where pipe is to penetrate a fire rated assembly or is to be installed in a return air plenum unless the entire length of all such piping is encased within a minimum 2 hour fire rated enclosure.

D. Provide a water pressure regulating valve assembly at the service entry where incoming water supply pressure is greater than 70 psi.

PART II: PRODUCTS - PLUMBING

2-1 SANITARY SOIL, WASTE, VENT PIPE, AND FITTINGS ABOVE GROUND (Inside building):

- A. Pipe, 1-1/4" and 1-1/2": ASTM B306, copper drainage tubing (DWV).
B. Fittings, 1-1/4" and 1-1/2": ASME B16.23, cast copper alloy solder joint drainage fittings or ASME B16.29 wrought copper and wrought copper alloy solder joint drainage fittings.
C. Pipe and fittings, 2" and larger: CISPI 301/ASTM A888 hubless cast iron pipe, service weight (SV), with hubless joints using ASTM C564 neoprene gaskets and ASTM C1277 stainless steel clamp and shield assemblies or ASTM A74 Bell & Spigot cast iron pipe and fittings with ASTM C564 neoprene compression type gaskets.
D. Exposed pipe and fittings: Polished chrome over nickel plated brass.

2-2 SANITARY SOIL, WASTE, PIPE, AND FITTINGS BELOW GROUND:

- A. Pipe and fittings, 2" and larger: ASTM A74 Bell & Spigot cast iron pipe and fittings with ASTM C564 neoprene compression type gaskets.
B. Provide minimum 60 mil polyethylene encasement for piping in aggressive soil conditions.

2-3 CLEANOUTS:

- A. Sizing: Shall be the same nominal size as the pipe they serve, up to 4 inches. For pipe larger than 4 inches, provide a 4 inch cleanout.
B. Placement: Provide readily accessibly located, as indicated on Drawings and also as required by the prevailing code, whether shown on the Drawings or not.
C. Construction: All cleanouts shall have tapered bronze plugs and secured scoriated covers. Provide with 18"x18"x4" thick concrete pad, where outside of the building on grade.

2-4 DOMESTIC WATER PIPING AND FITTINGS ABOVE GROUND:

- A. Piping: ASTM B88, copper tubing, hard drawn, type "L".
B. Fittings: ASME B16.22, wrought copper solder joint or ASME B16.18 cast copper alloy solder joint. Provide joints per ASTM B829 using ASTM B32 Alloy E or HB lead-free solder.
C. Unions 2" and smaller: ASME B16.22, wrought copper solder joint, ground seat.
D. Dielectric connections: Lead-free, Watts or approved equal. Select gasket materials for compatibility with fluid, temperature, and pressure (no less than 175 psi minimum working pressure. Ends to match connections.
E. No foreign pipe or fittings shall be allowed.
F. Escutcheon Plates: Provide steel escutcheon plates with chrome plated or polished brass finish at locations where piping penetrates finished and semi-finished floors, walls or ceilings.

2-5 DOMESTIC WATER PIPING BELOW SLAB:

- A. Piping: ASTM B88, copper tubing, soft type "K" with no joints below slab for all sizes up to and including 2-1/2".
B. Provide minimum 60 mil polyethylene encasement for piping in aggressive soil conditions.

2-6 DOMESTIC WATER VALVES ABOVE GROUND:

- A. Ball Valves: All bronze cast construction two piece body, full port, lead free, stainless steel ball, stem, and valve handle. Provide with threaded or solder connections, line sized unless specifically noted otherwise. NIBCO T5-585-70-66-LF for all sizes up through 2 inch.
B. Ball: Bronze 600psi two piece body full port, stainless steel ball and stem, teflon seats and stuffing box ring, lever handle and balancing stops, solder or threaded ends with unions.

2-7 DOMESTIC WATER ACCESSORIES:

- A. Exposed piping at plumbing fixtures:
1. Chrome plated brass pipe.
B. Pipe sleeves and plates:
1. Provide sleeves made from steel pipe or tubing for all pipes passing through concrete floors or walls.
2. Fit uninsulated pipe passing through or entering from floors, finished walls, or ceilings with heavy cast brass, chrome plated escutcheons firmly secured to pipes with set screws.
C. Shock Arrestors:
1. Provide factory fabricated water hammer eliminators sized and located in accordance with plumbing and drainage institute standard "WH-201" bearing the seal of P.D.I.
2. Access doors: Provide access doors or panels of suitable size for ready servicing of water hammer arrestors, valves, and other devices where concealed in partitions.

2-8 HANGERS, RODS AND SUPPORTS:

- A. Insulated pipe: Auto-grip Insul-speed hangers, Figure 800, by Fee and Mason Division, A-T-O, Inc., Manasquan, New Jersey or approved equal.
B. Uninsulated pipe: Adjustable band, copper plated and plastic coated hanger, Figure 381, Fee and Mason Division, A-T-O, Inc., Manasquan, New Jersey or approved equal.
C. Anchors and rods: Support by approved rods and anchors from building members. Perforated metal tape is prohibited.
D. All-thread hanger rods shall be galvanized.

2-9 JOINT MATERIALS:

- A. Hubless cast iron pipe joints: For above ground pipe, stainless steel couplings, per CISPI 301-82.
B. Compression gaskets: For below ground, cast iron hub and spigot pipe and fittings as approved.
C. Solder: ASTM B32-83, 95-5, tin-antimony, the use of solder containing more than 0.20 percent lead will not be permitted.

2-10 PLUMBING FIXTURES:

- A. General: Color shall be white. Fixtures shall be complete with all required specialties, trim, supports, and related items. Provide screwdriver operated stops and escutcheons on all piping brass P-trap with tubing drain to wall. Size to match tailpiece with chrome plated escutcheon.
B. Refer to construction documents for further specifications.

2-11 INSULATION:

- A. Domestic water: Insulate all pipe, fittings, and valves with factory molded fiberglass insulation of density not less than 3 pounds per cubic foot, and conductivity (k) not higher than 0.24 at 75 degrees F. mean temperature difference, with factory applied white vapor barrier jacket.

2-12 PIPE IDENTIFICATION:

- A. Pipe marking:
1. All visible piping located in accessible spaces such as equipment rooms, ceiling space, under floor spaces, etc., shall be identified with all temperature pipe markers as manufactured by W.H. Brady Company, 431 West Rock Ave., New Haven, Connecticut or approved equal.
2. Pipe shall be marked as follows:
COLOR SYSTEM
Green Sanitary sewer
Blue Domestic cold water
Yellow Domestic hot water
Red Fire protection
3. Provide flow arrows indicating direction of flow on regular intervals and on both sides of walls that are penetrated.

PART III: EXECUTION

3-1 GENERAL:

- A. Locate equipment requiring service and maintenance in fully accessible positions. Furnish access doors for this purpose if required.
B. Runs and arrangement of piping shall be as shown, subject only to such changes and modifications as may be necessary to suit actual conditions at the building, to avoid interference or conflict with work of other sections.
C. Carefully check installations against structural, architectural, and mechanical drawings and note where walls, ceilings, beams, and pipe shafts are furred or enclosed.
D. Hang horizontal piping runs from construction and above ceilings.
E. Make joints between dissimilar piping by dielectric unions or flanges.
F. Use reducing fittings whenever a change in pipe size occurs.

3-2 INSTALLATION OF SANITARY SYSTEM:

- A. Pitch cast iron pipe within the building, minimum of 1/8" per foot for piping 4" and larger and 1/4" per foot for pipe 3" and smaller, in the direction of flow.
B. Check and verify all inverts of lines at connection points prior to the installation of the various piping systems.
C. Install traps on fixtures and equipment requiring connection to the sanitary system.
D. Cleanouts: Provide at each change in direction and on a minimum of 75 foot centers at horizontal runs, or as stated in local code.
E. Pitch vent lines to allow for condensation drainage.
F. Where vent piping runs concealed in partitions, obtain exact dimensions and locations of partitions and use special care to ensure that lines are maintained in their proper locations and alignment.
G. Flashing: Flash vents penetrating the roof structure with 6 pound sheet lead.
H. Flashing: Flash vents penetrating the roof structure with 6 pound sheet lead.

3-3 INSTALLATION OF DOMESTIC WATER SYSTEM:

- A. Install domestic water system as shown. Piping shall traverse the building at the locations shown or as required to service fixtures requiring water and with the pipe sizes shown or specified.
B. Begin the installation of the hot water piping system at the water heater and traverse the building at the locations shown or as required to service fixtures requiring hot water and with the pipe sizes indicated.

3-4 HANGERS, ANCHORS, GUIDES:

- A. Support piping to maintain required grading and pitching of lines to prevent vibration, and to secure piping in place.
B. The spacing of hangers shall not be greater than 10 feet on center for pipe larger than 1 inch; 8 feet for 1 inch pipe; 6 feet for pipe 3/4" and smaller.
C. Support vertical lines at bases by an approved hanger placed in the horizontal line near the riser.
D. Do not hang piping from the ductwork or piping of other trades.
E. Make pipe sleeves watertight with 25 year siliconized sealant joints on both sides of foundation wall.

3-5 INSTALLATION OF PLUMBING FIXTURES:

- A. Protect fixtures and equipment during construction.
B. Set fixtures level and square with relation to interior finish, floor, and wall lines.
C. Cover metal fixture trimmings with non-corrosive grease or approved protective tape and maintain until construction work is complete.
D. Disinfect all water piping and equipment upon completion of piping installation.

3-6 DISINFECTION OF WATER SYSTEM:

- A. Disinfect all water piping and equipment upon completion of piping installation in accordance with the requirements of the AWWA and local water authority.

3-7 TESTING OF PLUMBING PIPING SYSTEMS:

- A. During the progress of the work and upon completion, tests shall be made as specified herein and as required by authorities having jurisdiction.
B. Tests shall be conducted as part of this work and shall include all necessary instruments, equipment, apparatus, and service as required to perform the tests with qualified personnel.
C. Tests shall be performed before piping of various systems have been covered or furred-in.
D. Leaks, damage, or defects discovered or resulting from test shall be repaired or replaced to a like new condition.
E. Domestic Water
1. Pressure test at one and one half times the normal working pressure or 125 p.s.i.g., whichever is the greater, for 24 hours.
F. Sanitary soil, waste, and vents, and storm
1. For pipe in ground, all joints shall be exposed and the piping system filled with water to a verifiable and visible level to 10' above the lowest portions of the system being tested.
2. Piping above grade and on multi-level buildings only one floor level shall be tested at a time.

END OF SECTION

END OF SECTION

PART I: GENERAL - FIRE PROTECTION

1-1 DESCRIPTION:

All work on these drawings shall be done in strict accordance with these specifications.

The work included under this contract shall consist of the furnishing and installation of all equipment and material necessary and required to form the complete and functioning systems in all of its various phases, all as shown on the accompanying drawings and/or described in these specifications.

1-2 WARRANTY:

The contractor shall guarantee the work for a period of one year beyond date of final acceptance. During that period, the contractor shall repair or replace, at his own expense, any faults or imperfections that may arise due to defects in material and workmanship.

1-3 PROJECT CONDITIONS:

The contractor shall visit the site of the work and fully understand the Conditions that affect the work, or the cost thereof, understand the existing utilities from which services will be supplied, verify locations of utility services, determine requirements for connections and determine in advance that equipment and materials proposed for installation fit into the confines indicated.

1-4 PERMITS AND FEES:

The contractor shall arrange and pay for all permits, fees, tests, and all inspections as required by governmental authorities.

1-5 COORDINATION WITH FIELD CONDITIONS:

The contract documents are schematic in nature in that they are only to establish scope and a minimum level of quality. All duct, pipe, or equipment locations as indicated on the documents do not indicate every offset, or exact location.

1-6 SUBMITTALS:

Contractor shall provide six sets of shop drawings of the entire sprinkler system including hydraulic calculations and submittals of sprinkler heads.

1-7 QUALITY ASSURANCE:

All work shall be performed in accordance with all state, local, and federal codes and all authorities having jurisdiction, and N.F.P.A.

1-8 CERTIFICATE OF TESTING:

Furnish owner with test certificate certifying the system approved by the City Fire Marshal, Insurance Services Officials and Landlord.

1-9 TESTING:

Upon completion of the installation, test the system and obtain approval of the local fire insurance rating organization having jurisdiction, particular attention is called to the requirements of N.F.P.A. 13 pamphlet.

PART II: PRODUCTS - FIRE PROTECTION

2-1 PRODUCTS AND MATERIALS:

A. SPRINKLER HEADS:

- 1. Temperature rating on fusible links to suit specific hazard area with a minimum margin or safety 50°F.
2. Automatic sprinklers installed in public areas with ceilings shall be concealed type with cover plate to match ceiling appearance.
3. Design and install the system so that no part will interfere with doors, windows, heating, plumbing, or electrical equipment.
4. Protect sprinkler heads against mechanical injury with standard guards.
5. No foreign pipe or fittings shall be allowed for this project.

B. PIPE:

- 1. Pipe shall be Schedule 40 or as required to match existing piping systems where such exist and are determined fit for use.
2. Run piping concealed above furred ceilings and in joists to minimize obstructions. Expose only heads.

C. SUPPORTS:

- 1. Pipe hangers, equipment supports and associated anchors shall be in accordance with NFPA 13.
2. Hanger rods shall be galvanized all-thread.

END OF SECTION



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Plumbing Specifications

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9990 Richmond Avenue South Building, Suite 300 Houston, Texas 77042 713.914.0888 p 713.914.0886 f TBPE Firm Registration No. 2234

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