

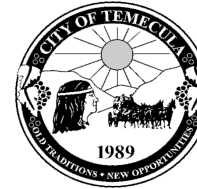
GAS SPA HEATERS

BTU (1000)	CFH (Btu/Bt per cubic foot(specified by your utility provider)			
	1000	1050	1100	1150
Gas BBQ 50	50	48	45	43
150	150	143	136	130
200	200	190	182	174
250	250	238	227	217
300	300	286	273	261
350	350	333	318	304
400	400	381	364	348

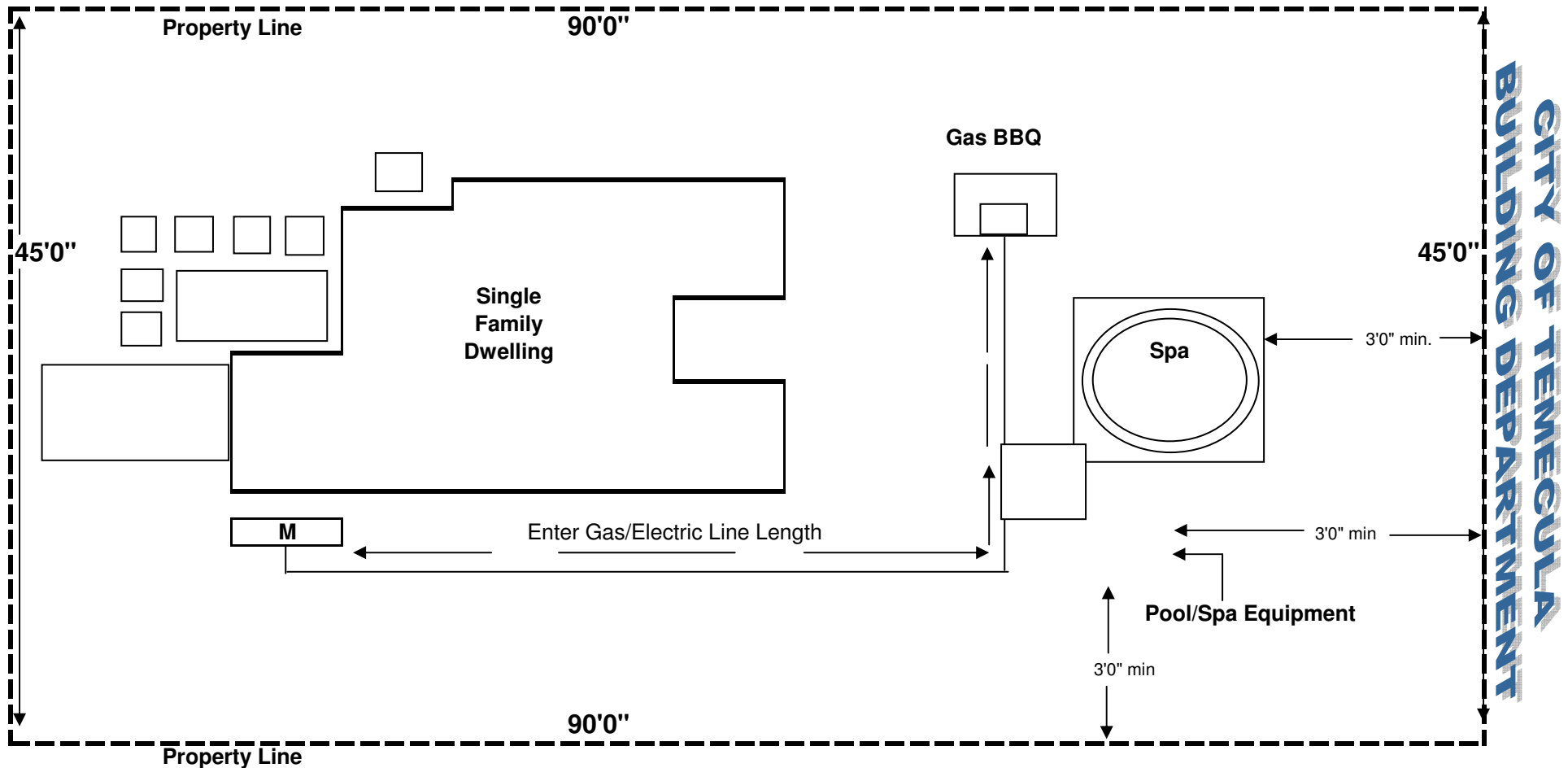
EXCERPT FROM GAS PIPE SIZING TABLE 12-7

Length in Feet	Pipe Size, inches				
	1/2"	3/4"	1"	1 1/4"	1 1/2"
	Cubic Feet Per Hour (CFH)				
10	131	273	514	1060	1580
20	90	188	353	726	1090
30	72	151	284	583	873
40	62	129	243	499	747
50	55	114	215	442	662
60	50	104	195	400	600
70	46	95	179	368	552
80	42	89	167	343	514
90	40	83	157	322	482
100	38	79	148	304	455
125	33	70	131	269	403
150	30	63	119	244	366
175	28	58	109	224	336

KVA (Watts)	120 Volts			220 Volts		
	Amps (kVA/V)	Min. Breaker Size	Min. Wire ^{1/} Conduit Size ²	Amps (kVA/V)	Min. Breaker Size	Min Wire ^{1/} Conduit Size ²
5	42	50	2#6+1#10grd/3/4"	23	30	3#10+1#10grd/1/2"
5.5	46	50	2#6+1#10grd/3/4"	25	30	3#10+1#10grd/1/2"
6	50	50	2#6+1#10grd/3/4"	27	30	3#10+1#10grd/1/2"
6.5	54	60	2#6+1#10grd/3/4"	30	30	3#10+1#10grd/1/2"
7	58	60	2#4+1#10grd/1"	32	40	3#8+1#10grd/3/4"
7.5	63	70	2#4+1#8grd/1"	34	40	3#8+1#10grd/3/4"
8	67	70	2#4+1#8grd/1"	36	40	3#8+1#10grd/3/4"
8.5	71	80	2#3+1#8grd/1"	39	40	3#8+1#10grd/3/4"
9	75	80	2#3+1#8grd/1"	41	50	3#6+ 1#10grd/3/4"
9.5	79	80	2#3+1#8grd/1"	43	50	3#6+ 1#10grd/3/4"
10	83	90	2#3+1#8grd/1"	45	50	3#6+ 1#10grd/3/4"
10.5	88	90	2#2+1#8grd/1 1/4"	48	50	3#6+ 1#10grd/3/4"
11	92	100	2#2+1#8grd/1 1/4"	50	50	3#6+ 1#10grd/3/4"
11.5	96	100	2#1+1#8grd/1 1/4"	52	60	3#6+ 1#10grd/3/4"
12	100	100	2#1+1#8grd/1 1/4"	55	60	3#6+ 1#10grd/3/4"



**ELECTRIC BRANCH CIRCUIT
AND
GAS PIPE SIZING
FOR
RESIDENTIAL SPA HEATERS
AND
GAS BARBEQUES**



NOTE:

1. Based on the National Electrical Code (NEC) Table 310.16 for equipment terminals rated at 60°C for terminals rated at 75°C on equipment rated at 100 Amps or greater, see Table 310.16 for alternate acceptable wire sizes.
2. Based on the NEC, Annex C, Table C9, using a minimum THWN type wire insulation + PVC conduit.
3. Based on the NEC Table 300.5.
4. Based on the Uniform Plumbing Code (UPC) Section 1211.1.2.
5. UPC Section 1211.1.6 requires no gas piping shall be installed in or on the ground under any building or structure and all exposed gas piping shall be kept at least 6 inches above grade or structure.
6. UPC Section 1211.1.7 Connections between metallic & plastic pipe be made only with ASTM D2513 Category I transition fittings
7. UPC Section 1211.1.7 requires an insulated 14 ga. Copper tracer wire with plastic gas pipe with one end terminating above grade.
8. Listed gas appliances shall be installed per the manufacturer's installation instructions.

MINIMUM BURIAL DEPTHS						
	Electrical Conduit ³				Gas Piping ⁴	
	Rigid Metal Conduit	Rigid Non-Metallic Conduit	Residential ≤120V & 20A w/GFCI	≤30 V (Irrigation & Lighting)	Metal	PVC/PE
Unless specified	6"	18"	12"	6"	12"	18"
2" conc. In the trench	6"	12"	6"	6"		
Under 6" ext. slab	4"	4"	4"	4"		