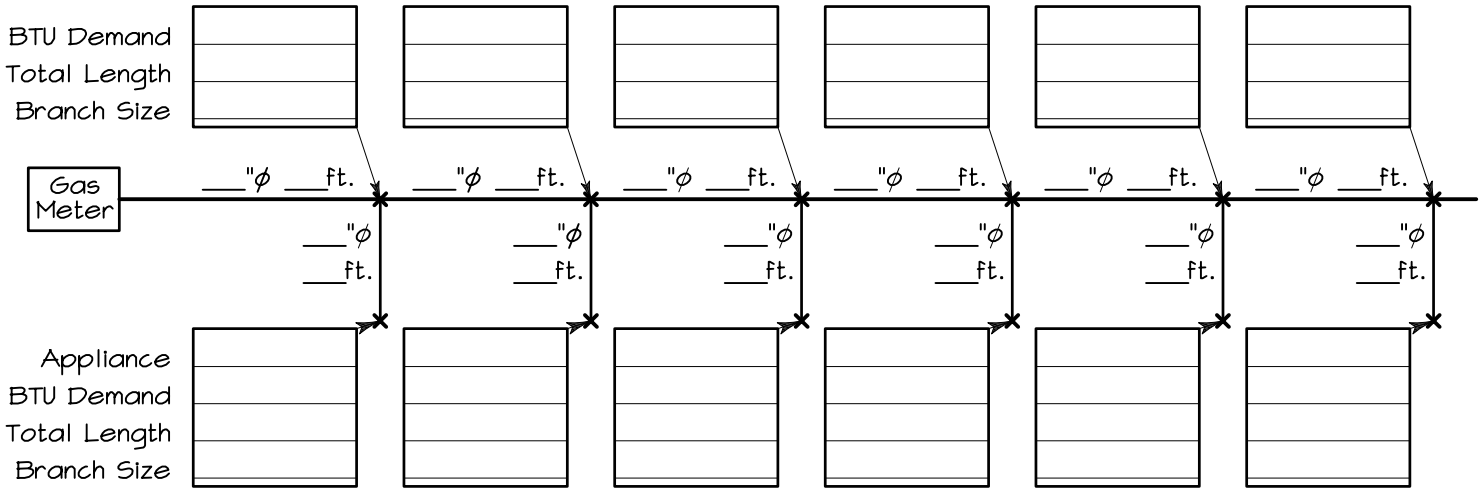

DESIGN PROCEDURE

Step 1 Draw Layout or use graphic above, identify branch and outlets as individual points.

Step 2 Determine BTU/hr demand at each Appliance.

Step 3 Calculate the gas demand at each branch in the main line. Starting with the furthest appliance from the meter, add up the demands as you work towards the meter.

Step 4 Specify length of each segment

Step 5 Calculate length from the gas meter to each branch and each appliance.

Step 6 Look up the line size starting from the furthest point from the meter. The pipe size at any point shall not be smaller size than the largest pipe required for any branch or segment.

Appliance	Spa Heater
BTU Demand	60,000
Total Length	110'
Branch Size	3/4

Appliance Name

BTU Demand can be determined on the name plate or in Table "A"

Length of gas pipe from meter to point under consideration

Size determined from Table below

TABLE "A"
Minimum Demand of Typical Gas Appliances in BTU/HR

Appliance	BTU/HR
Barbecue (Residential)	50,000
Domestic Clothes Dryer	35,000
Domestic Gas Range	65,000
Domestic Recessed Oven Section	25,000
Domestic Recessed Top Burner Section	40,000
Fireplace Log Lighter (Residential)	25,000
Water Heater - 40 & 50 gallon	50,000
- 30 gallon	30,000

Size of Low Pressure Gas Piping (Table 12-3 C.P.C.)
Maximum Delivery Gas Capacity in Thousand of BTU Per Hour

	Length in Feet												
Pipe Size	10	20	30	40	50	60	70	80	90	100	125	150	200
1/2"	191	130	105	90	80	72	67	61	58	55	48	44	37
3/4"	399	273	220	188	167	151	139	129	122	114	102	92	79
1"	752	517	414	355	314	284	262	244	228	216	191	173	148
1-1/4"	1544	1061	852	729	646	585	539	501	470	444	393	356	305
1-1/2"	-	-	-	-	-	877	807	751	705	665	589	534	457
2"	-	-	-	-	-	-	-	-	1357	1281	1136	1029	881

Note: If the distance from the appliance to the meter is between two columns, round to the longer run. Example if Length is 62' use the 70' column

Note: Errors in these calculations can be cause serious problems thus Building and Safety recommended that you hire a professional to assist you with your project.

GAS PIPE SIZING WORKSHEET FOR THE HOME

HELP FOR THE HOMEOWNER

DEVELOPMENT SERVICES

Rob Roshanian 11/7/05
Building Official: Date

Date: 10/13/05 | Sheet 1 of 2 | B703

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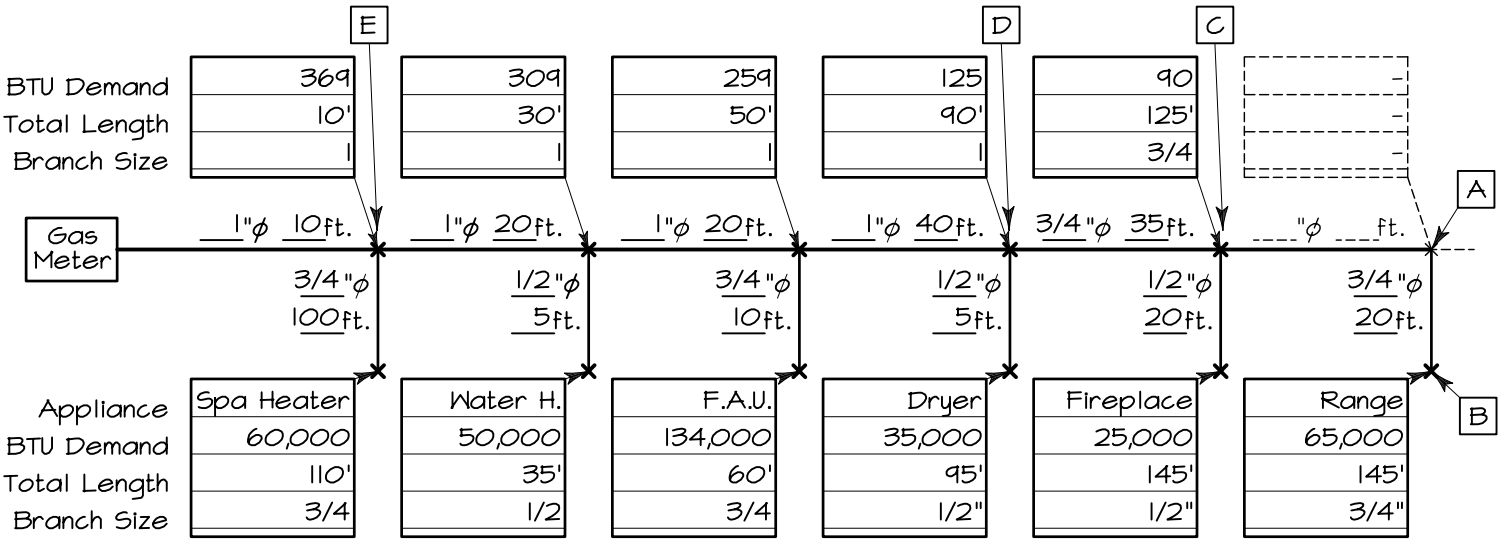

EXAMPLE CALCULATION FOR VARIOUS POINTS

Point A If additional appliances were provided the table would simply be extended, in this case the main line is simply a branch to the range.

Point B Here the BTU Demand is found by taking the larger value of the name plate rating or the value shown in Table "A".

Total Length is 145' = 20' + 35' + 40' + 20' + 20' + 10'

To find the required branch size enter the table below rounding the distance from 145' to 150' and reading down the column until the capacity of the pipe exceeds the BTU demand in this case 92 cf/hr exceeds 65 BTU/hr therefore a 3/4" pipe will work for this branch. This is the minimum pipe size all the way to the meter.

Size of Low Pressure Gas Piping (Table 12-3 C.P.C.)
Maximum Delivery Gas Capacity in Thousand of BTU Per Hour

	Length in Feet												
Pipe Size	10	20	30	40	50	60	70	80	90	100	125	150	200
1/2"	191	130	105	90	80	72	67	61	58	55	48	44	37
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1-1/4"	1544	1061	852	729	646	585	539	501	470	444	393	356	305
1-1/2"	-	-	-	-	-	877	807	751	705	665	589	534	457
2"	-	-	-	-	-	-	-	-	1357	1281	1136	1029	881

Point C To calculate the BTU demand add all the BTU demand of appliances that this branch serves. In this case it serves the range and fireplace. The distance is calculated as noted at point B above.

BTU Demand 90 = 65 + 25 Total Length is 125' = 35' + 40' + 20' + 20' + 10'

Entering the table with the Length = 125 and BTU Demand = 90 the minimum pipe size is 3/4"

Point D BTU Demand 125 = 35 + 65 + 25 Total Length is 90' = 40' + 20' + 20' + 10'

Entering the table with the Length = 90' and a cf demand of 113.6 the minimum pipe size is 1", this pipe size must be maintained all the way back to the meter.

Point E Calculate this point as shown above.

CD Demand 369 = 60 + 50 + 134 + 35 + 65 + 25 Total Length is 10' = 10'

Entering the table with the Length = 10' and BTU Demand = 369 the minimum pipe size is 3/4" but because points up the line require a minimum of a 1" line a 1" line must be provided.

Note: Follow the instruction on page one, this sheets only illustrates specific examples.

GAS PIPE SIZING WORKSHEET FOR THE HOME

HELP FOR THE HOMEOWNER

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Date: 10/13/05 | Sheet 2 of 2 | B703

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