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| FIRE-WATER CALC WORKSHEET FOR |       |
| (Based upon the Hazen-Williams Formula) NAME/ADDRESS OF PROJECT | NAME/ADDRESS OF PROJECT |

# INFORMATION REQUIRED TO CALCULATE WATER SERVICE SIZE

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1. | Sprinkler Demand: |  | 1 Sprinkler (gpm) |  | 2 Sprinklers (gpm) | Total | GPM =       |
|  | Sprinkler Manufacturer: |       | Model#       | K-Factor:       |
| 2. | Difference in elevation from main to external pressure tank or to building control valve. | (feet)       |
| 3. | Size of the water meter when applicable. | Example; 5/8, ¾, 1, 2, 3, 4 |       |
| 4. | Developed length from main or external pressure tank to building control valve. | (feet)       |
| 5. | Low pressure at main in street or external pressure tank. | (psig)      |

# CALCULATE WATER SERVICE PRESSURE LOSS

|  |  |  |
| --- | --- | --- |
| 6. | Low pressure at main in street or external pressure tank. (value of #5 above) |       |
| 7. | Water service diameter is  |  | Material is  |       | Pressure loss per 100 ft =       psi |
|  | X       (decimal equivalent of service length, i.e. 65 ft = 0.65) |  |       |
|  |  | (Subtract line 7. From line 6.) | subtotal |       |
| 8. | Determine pressure gain or loss due to elevation. (multiply the value of #2 above by 0.434) | Value of “8” |       |
| 9. | Available pressure after the bldg. Control valve. | (subtract or add line 8. Enter in "B".) | **subtotal** |  |

**CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")**

|  |  |  |  |
| --- | --- | --- | --- |
| B. | Available pressure after the building control valve. (from "9" above) | value of "B” |       |
| C. | Pressure loss of water meter. (when meter is required or installed) | value of "C” |       |
|  | (subtract line C. From B.) | **subtotal** |  |
| D. | Pressure at controlling sprinkler(s).  | value of "D” |       |
|  | (controlling sprinkler(s) is      ) |  |  |
|  | (subtract the value of D.) | **subtotal** |  |
| E. | Difference in elevation between the building control valve and the controlling sprinkler(s) in feet;  |  |
|  |       X 0.434 psi/ft. | Value of “E” |       |
|  | (subtract the value of E.) | **subtotal** |  |
| F. | Pressure loss due to water treatment devices, instantaneous water heaters and backflow preventers  |  |
|  | which serve the controlling fixture | Value of “F” |       |
|  | Pressure loss due to       | (subtract the value of F) | subtotal |       |
| G. | Developed length from building control valve to controlling sprinkler in feet |       X 1.5 | Value of “G” |       |
|  |  | (divide by the value of G.) | **subtotal** |  |
|  | (Note: Excessive number of fittings refer to material fitting pressure loss tables) |  |
|  |  | Water distribution piping material is:       |
|  |  |  | (multiply by 100) | 100 |
| A. | Pressure available for uniform loss | **“A” =**  |  |

Comments

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SBD-10860 (R10/14)