3.13 G: GARDEN HOSE WITH NOZZLE VELOCITY 15 m/s

F: MAX HEIGHT OF JET

MAX HT WILL BE ACHIEVED IF SHOT STRAIGHT UP

2 PEAK HT $V_2 = 0$ $P_2 = P_{ATM} = P_0$

1 NOZZLE $z_1 = 0$ $P_1 = P_{ATM} = P_0$

$$\cancel{\frac{P_1}{\gamma}}^{\,P_0} + \frac{V_1^2}{2g} + \cancel{z_1}^{\,0} = \cancel{\frac{P_2}{\gamma}}^{\,P_0} + \cancel{\frac{V_2^2}{2g}}^{\,0} + z_2$$

$$z_2 = \frac{V_1^2}{2g} = \frac{(15\,m/s)^2}{2(9.8\,\frac{m}{s^2})} = 11.5\,m$$

$$\boxed{Z_2 = 11.5\,m}$$