Calculations for determining Temporary Access Fill (TAF) culvert system

Given

OHWM: 924.7 (plans)

Top of TAF: 925.7

Minimum flow to be maintained: 123.6 cfs (2x highest monthly average (March) from SteamStats (See Table 1)

Manning for CMP: 0.022 (See Table 2)

Slope: 0.008 ft/ft

Maximum size pipe for TAF: 24” CMP

Calculated flow using Culvert Hydraulic Tool in Figure 1

Graphical user interface

Description automatically generated

**Figure 1 – Culvert Hydraulic Tool Results for 24” CMP**

Process:

123.6 cfs / 11.96 = 10.38, Use 77 pipes. 123.6 / 11 = 11.23 cfs. Produces 12.86 cfs Max. & 11.96 cfs full

**Max.: 12.86 x 11 = 141.46 cfs > 123.6 cfs, Full: 11.96 x 11 = 131.56 cfs > 123.6 cfs : GOOD**

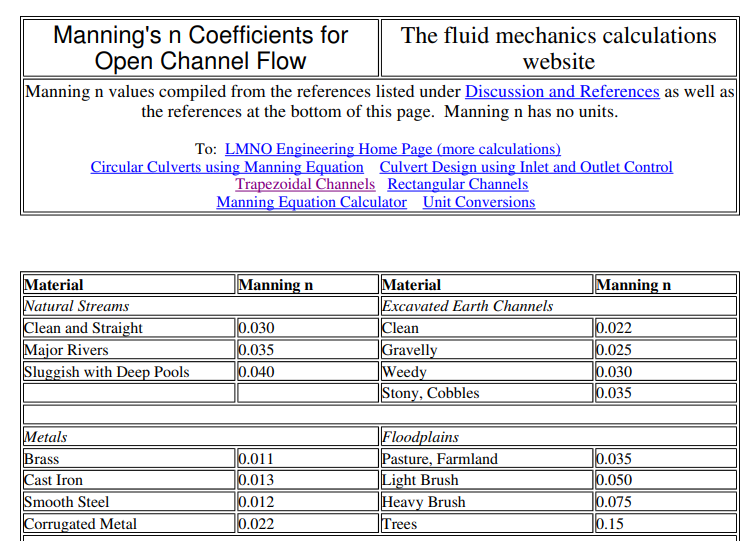
Maximum Stream opening: 29

Pipes: (2’ x 11 each) + (10 spa, clearance @ 6”) = 27’ < 29.0’, **GOOD**

Table

Description automatically generated

**Table 1 – StreamStats Monthly Average Flows**



**Table 2 – Manning Values**