Barrington Shores
BARRINGTON NH
Riprap Stone Apron Sizing
50-Year Storm Event

FES-1

La	Apron Length, Ft.	Calculated
Tw	**Tailwater, Ft.**	**0.2**
Q	**Flow, 50 Yr Storm, CFS**	**5.7**
D50	Median Stone Dia., Ft.	Calculated
D	Depth of Stone, In	Calculated
Do	**Pipe Diameter, Ft**	**1.25**
W1	Width @ Start, Ft.	1
W2	Width @ End, Ft	Calculated
W	**Width of Channel**	**3**

W1:

3(Do)= 3.75 Ft.

Width @ Start: 4 Ft.

D50: $\frac{0.02(Q)^{4/3}}{Tw(Do)}$

D50= 0.81 Ft.

or 9.7 In.

Median Stone Size: 10 In.

D: 2.25*D50

Depth of Riprap: 15 In.

La: If Tw< Do/2:

$La=1.8Q/Do^{3/2} + 7Do$

and W2=width of channel

or

W2=3.0*Do+La

Do/2= 0.625 Ft.

Tw= 0.2 Ft.

If Tw>=Do/2:

$La=3.0Q/Do^{3/2}$

and W2=width of channel

or

W2=3.0*Do+0.4La

Length of Apron: 17.0 Ft.

Width @ End: 3 Ft.