U.S. Department of Agriculture
Soil Conservation Service

NE-ENG-41a
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DATA SHEET FOR SIZING SPILLWAYS

Owner/operator _____ Date _____

NRD _____ County _____ Field ofc. _____

I.D. _____ Other no. _____ Field no. _____

Practice _____ Legal desc. _____ Sec. _____ T _____ R _____

EMERGENCY SPILLWAY RATING

(Page NB 2-90, EFM)

Rating

Spillway flow depth (H_p _____ ft (resists erosion) (easily eroded)

Max. Grade _____ % _____

Condition of re-entrance to main channel

_____ _____

Vegetative cover _____ _____

Protection _____ _____

Numerical rating (total) _____

Principal spillway design requirements _____-year, 24-hours

EMERGENCY SPILLWAY DESIGN

(Page NB 2-92 thru NB 2-94, EFM)

Minimum design storm (ES 378 Emergency Spillways) _____ -yr, 24-hours

Rainfall _____ in.

Runoff _____ in.

(V_f) Runoff volume _____ acre-feet

Design storm Q_p _____ cfs (peak discharge of design storm)

Spillway crest length _____ ft

H_p = _____ ft (depth -of -water in reservoir above crest)

V_s = _____ ac-ft (storage from riser crest to H p

V_f = _____ ac-ft (volume of design storm runoff)

Q_0 combined discharge of emergency and principal spillways

$$Q_o = 2Q_p\left(1-\sqrt{\frac{V_s}{V_f}}\right) = 2(_____)\left(1-\sqrt{\frac{(_____)}{(_____)}}\right) = _____ \text{cfs}$$

From curves, Pg, NB 2-92 & NB 2-93 EFM

q = _____ cfs

d_c = _____ ft

S_c = _____ %

V_c = _____ ft/sec

Exit channel grade _____ %

Sideslope, z _____ : _____

$$b = \frac{Q_o - Q_{pipe}}{q} = \frac{(_____)-(_____)}{(_____)} = _____$$

Use _____ ft emergency spillway bottom width

Design by _____ Date _____

Approved by _____ Date _____