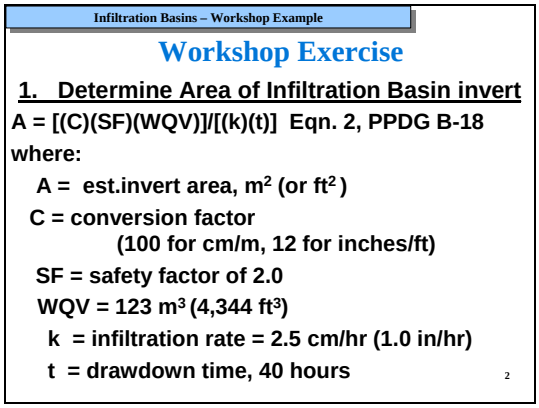
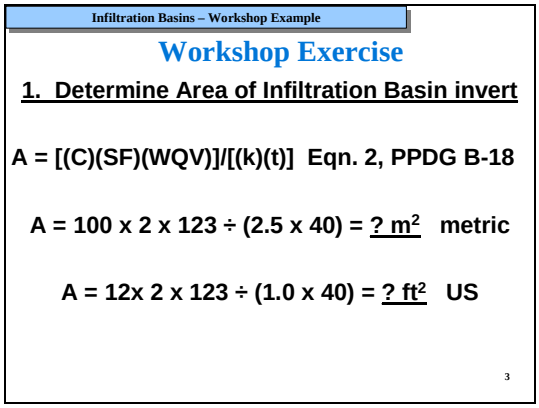
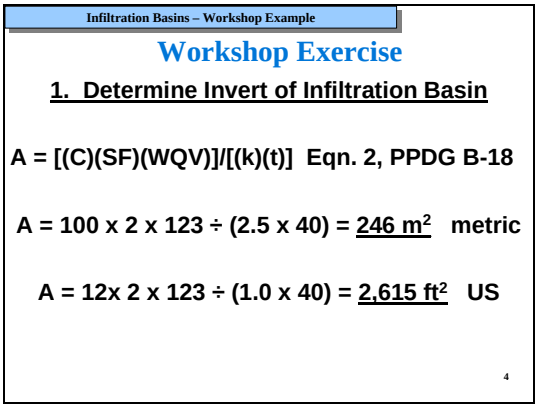
Slide 1: This is the example problem for this Workshop for the Infiltration Basin. We will be using pages 4 and 5 of the Workshop Handout, and the example problem statement is on page 5.



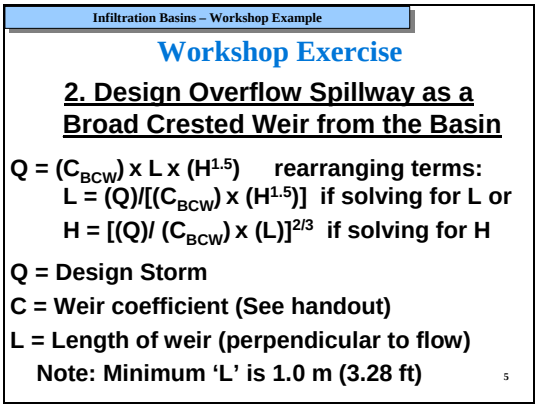
Slide 2: This formula is on page 4 of the Workshop Handout, and the example problem statement is on page 5.



Slide 3: The problem statement givens have been inserted into the formula for invert area of the Infiltration Basin.



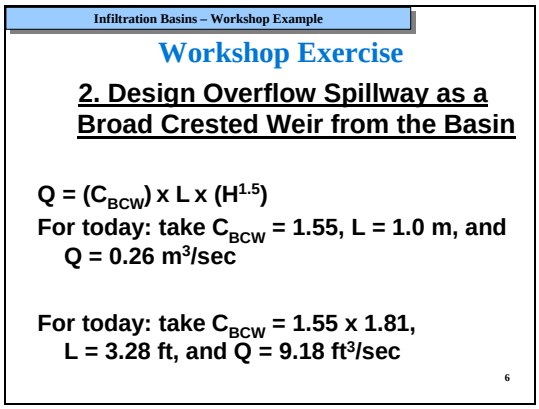
Slide 4: We would have to use the trapezoid formula to calculate the depth (and later we would need to include freeboard). But the key concept here is: infiltration is only assumed to occur through the invert, and we ignore any contributions through the side slopes.



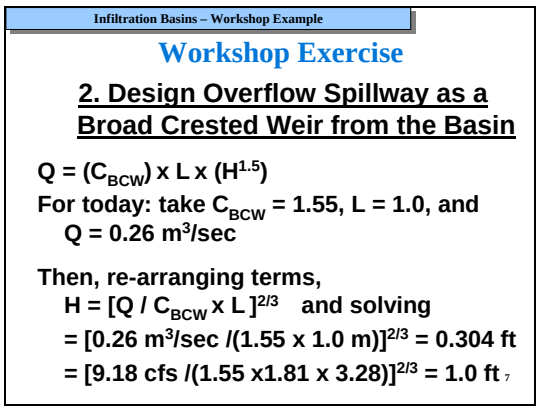
Slide 5: We will use this formula, with these terms as givens. Note that there are two unknowns at this time: H and CBCW m, but these vary with each other. We will assume a CBCW at this time, and cycle through the formula iteratively if the assumed value and the value obtained from the table using the H calculated are too far apart.

Note that at this time the Workshop Handout has the broad-crested-weir coefficients only in metric, but note that there is a conversion factor for these

coefficients of 1.81 x the C_{BCW} metric units.



Slide 6: The C_{BCW} must be assumed and we will check if after we complete this calculations; if the C_{BCW} is too far the value that was assumed we will cycle through the interactive procedure again. Note that the factor 1.81 is used to convert the metric C_{BCW} coefficient into US Customary units.



Slide 7: Solving for H. After solving for H, we must verify from the table that the assumed value for broad-crested weir coefficient C_{BCW} was close enough. Note shown on a slide, but from the table the C_{BCW} for the height calculated would be 1.56, which is sufficiently accurate.

Slide 8: We have now finished the 'civil' design of the basin. We have not designed the conveyance systems leading to the basin, the vegetation in the basin, the maintenance road around the basin, among key items. You will need to work with other functional units in some cases, including Geotechnical Services, but you have completed the main treatment aspects. Check also with the NPDES unit to determine if standard detail sheets are available for this Treatment BMP.