Corrections for

Water Resources Engineering
(Second printing)

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Corrections as of 4/29/03

If you find additional corrections please email me at mays@asu.edu

Chapter 1

Chapter 2

Page 27 Problem 2.3.3 statement "3000 cm^2" should be "3000 cm^3"

Page 28 Problem 2.4.8 statement "100 kg/m^3 density" should be "1000 kg/m^3 density"

Chapter 3

Page 46 The exponent 3 in the velocity integral should be added to the last two lines of example 3.6.1

$$= \frac{1}{pr_0^2 (0.5 v_{max})^3} \int_0^{r_0} \left\{ v_{max} \left[1 - \left(\frac{r}{r_0} \right)^2 \right] \right\}^3 (2pr) dr$$

$$= \frac{16}{r_0^2} \int_0^{r_0} \left[1 - \left(\frac{r}{r_0} \right)^2 \right]^3 r dr = 2$$

Chapter 4

Page 50 First line of text "called as" should be "called"

Page 69 Energy and hydraulic grade lines need to be modified.

Page 70 First line of section 4.4 "changes" should be "change"

Page 74 Example 4.5.1

"$z_1 - z_2 = 0.025 \frac{1000}{[20/1000]} \frac{V_A^2}{2(9.81)} + \ldots$"

should be

"$z_1 - z_2 = 0.025 \frac{1000}{[200/1000]} \frac{V_A^2}{2(9.81)} + \ldots$"

Page 74 Figure 4.5.2, "$z_1 - z_2 = 15$" should be "$z_1 - z_2 = h_{Lf}$"

Page 75 Example 4.5.1 Velocities should read

$$V_A = Q / A_A = 0.03 \Big/ \frac{p\,(200/1000)^2}{4} = 0.955\ m/s$$

$$V_B = Q / A_B = 0.03 \Big/ \frac{p\,(180/1000)^2}{4} = 1.180\ m/s$$

$$V_C = Q / A_C = 0.03 \Big/ \frac{p\,(220/1000)^2}{4} = 0.790\ m/s$$

Page 78 Example 4.5.3 second to last line
"$V_A =$" should be "$V_B =$"

Page 79 Equation 4.5.8, "V^2_{AB}" should be "V^2_{AD}"

Chapter 5

Page 93 Table 5.1.2, under column for Trapezoid the "Bw" should be "B_w" in the expressions for wetted perimeter and hydraulic radius

Page 117 Table 5.4.1 footnote "**$h_o = C_c$" should be "**$h_o = C_e$"

Page 119 Add the following sentence to the problem description, "Distance between cross-sections 1 and 2 is 500ft, between cross-sections 2 and 3 is 400 ft, and between cross-sections 3 and 4 is 400 ft."

Page 123 Table 5.4.2, first line of second footnote "**…., $h_o = C_e$| = " should be "**…., $h_o = C_e$| "

Table 5.4.2, second line of the second footnote "$h_o = C_e$" should be "$h_o = C_c$"

Page 124 Line above equation (5.5.5), "Alternatively, $Q = B^2 y_2^2 V_2^2$" should be "Alternatively, $Q = B y_2 V_2$"

Page 125 Example 5.5.3, third line above equation at bottom of page, "Because $y_n < y_c < 8$ ft, a supercritical flow …" should read "Because $y_n < y_c < 8$ ft, a subcritical flow …"

Chapter 6

Page 141 Section 6.1, sixth line, “slit” should be “silt”

Page 148 Fourth line from bottom of page, “diameter,” should be “diameter),”

Page 152 Equation 6.2.14, in denominator “y” should be “x”
Equation 6.2.15, in denominator “x” should be “y”

Page 153 Equation 6.2.21, in numerator “h” should be “H”

Page 163 Line above equation 6.5.2 should read “solve for the *drawdown* s given as”

Page 164 Add the following after equation 6.5.5, “ where Q is m^3/day and T is m^2/day for s in m; or Q is gal/day and T is gpd/ft for s in ft; or Q is ft^3/day and T is ft^2/day for s in ft.”

Page 165 Sentence above equation 6.5.9, after S add “,using time-drawdown data,”

Figure 6.5.2 curves in this figure should be changed to reflect log 1/u on the x-axis so that all curves increase from left to right instead of decrease.

Page 169 Last line → *366.700* should be *366,700*
Page 169 Second line of step 4, “2.56 – 1.48” should be “2.67 – 1.45”

Page 170 Step 7, “366.700” should be “366,700” and “t ≥ 12.6 min” should be “t ≥ 25.3 min”.

Page 173 Line after equation (6.6.3), “? = r^2k_z/b^2k_r” should be “? = r^2K_z/b^2K_r”

Page 174 Equation (6.7.3) denominator in radical “Kb'_b” should be “Kbb’”

Page 176 In Figure 6.8.2, the arrow for the recharge well should be point downward.

Page 178 Equation 6.8.12, “4” should be in the denominator, and not in the numerator

Page 183 Line above equation (6.9.12), “equation (11.2.7)” should read “equation (6.9.7)”

Page 186 Fourth line from bottom of page, “models in the MODFLOW” should read “models is the MODFLOW”

Page 189 Second line of Problem 6.8.5 statement "….two barrier boundaries was …" should read "… two barrier boundaries perpendicular to each other was …"

Chapter 7

Page 222 In Table 7.2.2, "P_t/P24" should be "P_t/P_{24}"

Page 225 Figure 7.2.19 (a) is for 12 hours not 6 hours
Figure 7.2.19 (b) is for 6 hours not 12 hours

Page 230 Line above equation (7.3.7), "(dz/dt (0)" should be "(dz/dt = 0)"

Page 231 Second line of SOLUTION, "l_v = 2501 – 2.36 X 28.5" should be "l_v = 2501 – 2.37 X 28.5"

Page 236 Equation 7.4.14 should have minus sign after the first equal sign

Second line of solution "? = [-65+-(60)]/2" should be "? = [-65+(-60)]/2"

Page 244 Figure 7.4.9, in figure for the F – index delete the f_o and f_c

Chapter 8

Page 254 Last line of Table 8.3.1, "+ U_{N-M+1}" should be "+ $P_M U_{N-M+1}$"

Page 256 Column (2) under Unit Hydrograph, "(cfs/m)" should be "(cfs/in)"

Page 267 Under Table 8.7.3, footnote d, "conversation" should be "conservation"
Third line from bottom of page, "imperious" should read "impervious"

Page 282 The end of problem 8.7.3, "runoff volume?" should read "runoff volume per unit area?"

Chapter 9

Page 284 Line above Equation (9.2.2), "(9.1.1)" should read "(9.2.1)"

Page 286 First line below Table 9.2.1, "(columns 1 and 3)" should read "(columns 1 and 2)"

Page 287 Sentence above Table 9.2.2, "Refer to Table 9.2.1" should read "Refer to Table 9.2.2"

Page 299 Equation (9.5.12), the first = should be +

Page 302 Second line below Equation (9.5.34), “Rhapson” should read “Raphson”

Page 307 Problem 9.1.1, “Outflow (m^3)” should read “Outflow (m^3/s)”

Chapter 10

Page 310 Title of Table 10.1.1, “Parameter” should read “Parameters”

Page 321 Third line from top of page “(5) to the select of” should read “(5) for the selection of”

Page 328 Equation (10.5.8), delete the overbar on y_H and place an overbar on y
Equation (10.5.9), delete the overbar on y_L and place an overbar on y

Page 335 Title of Figure 10.7.2, “by equation (10.6.3)” should read “ by equation (10.7.3)”

Page 340 “=F(-3.00)” should read “=F(-0.300)”

Chapter 11

Page 385 Figure 11.5.1, in the abscissa label, “Quality” should read “Quantity”

Chapter 12

Page 419 After equation (12.1.2) should be added
“where *Q* is the discharge in *gpm* for U.S. customary units and m^3/s for SI units.”

Also above equation (12.1.3)

“*D* is the pipe diameter in *ft* (*m*)”

should be changed to

“*D* is the pipe diameter in *in* (*m*)”

Equation 12.1.5, “f ” should be same as the Greek symbol in the next line of text.

Page 428 Third line below equation (2.2.8), “h_{Lp}” should be “h_{Lf}”

Page 451 Second line of Example 12.5.1, “Figure 12.5.16” should read “Figure 12.5.13 (a)”

Sixth line of Example 12.5.1, "Figure 12.5.13" should read "Figure 12.5.13 (b)"
"Figure 12.5.16" at bottom of page should read "Figure 12.5.13 (a)"

Page 452 First line of Example 12.5.2, "Figure 12.5.13" should read "Figure 12.5.13 (b)"

Page 453 "Figure 12.5.13" should be "Figure 12.5.13 (b)"

Page 458 Part (d) of example 12.5.4, Equation for $H_{\text{pump}A}$ should be

$$\begin{aligned} H_{pumpA} = H_T &= 150 + 2.514Q^2 + 1.606\left(Q_{pumpA}\right)^2 \\ &= 150 + 2.514(4.126)^2 + 1.606(2.676)^2 \\ &= 205\ ft \end{aligned}$$

Equation for efficiency should be

$$e_A = \frac{62.4(205)(2.676)}{80(550)} = 0.78$$
$$= 78\%\ (efficiency)$$

Page 468 Conservation of flows for Node 5 and 12 should read

"Node 5: $Q_4 + Q_5 + Q_{13} = -550$"

"Node 12: $Q_{12} + Q_{19} - Q_{13} - Q_{18} = 0$"

Page 478 Part a of solution for Example 12.8.1, v_c = …= 1473 m/s

Chapter 13

Page 522 Problem statements 13.2.1 and 13.2.2

"(e = 1.0 mm)" should be "(k_s = 1.0 mm)"

Chapter 14

Page 545 Line above equation 14.4.2, "Figure 14.4.1" should be "Figure 14.4.2e"

Page 558 Figure 14.6.4, "(annual = 22^o)" should be "(annual = 22 inches)" and "(annual = 51^o)" should be "(annual = 51 inches)"

Chapter 15

Page 565 Table 15.2.3, The C factor for a 10-yr return period, Forest/Woodlands should be "0.36" instead of "0.26"

Page 596 First line of subsection 15.3.2, "vegetable linings" should be "vegetative linings"

Page 609 Equation 15.4.12, "$(t_{D+} t_c)$" should be "$(t_D + t_c)$"

Chapter 16

Page 654 Table 16.2.1, Heading in the Table "Monograph Scale" should read "Nomograph Scale"

Page 655 same as above

Page 660 Figure 16.2.6, at section 2 the top "H_o" should be "H_e"

Page 662 Third line from the bottom of the page (line with starting with Step 8) delete, "where"

Page 664 3rd line → Need new pharagraph after *"…above equation for EL_{h0}."*
SPACE
The new pharagraph starts with *"Now consider inlet control and …"*

Also, after the line *"To check,"*

$\left[\frac{Q^2}{AD^{0.5}}\right]$ should be $\left[\frac{Q}{AD^{0.5}}\right]$

Page 664 First line, "4.63" should be "4.64"

Page 665 Second line above Example 16.2.2, "Administration CAP" should read "Administration and CAP"

Page 667

Fourth equation from top of page "K_t" should be "k_t"
Table 16.2.4, "MW_i" should be "HW_i" and "$d_c + D$" should be "$(d_c + D)/2$"

Page 693 Figure 17.2.20 title should be "Culvert spillway for Dulce Reservoir dam under construction in northern New Mexico (Photograph by L. W. Mays)"

Chapter 17

Page 707 Figure 17.3.2, 0+00 is located at the upstream side of the channel trough

Page 708 Figure 17.3.14, “Hydralic gradient” should be “Hydraulic gradient”

Page 729 Equation for ? x =, six lines above Example 17.4.2, there appears 29 twice which in both cases should be 2g

Page 731 Example 17.4.3, energy equation which is fifth line in the solution, the “19.3” should be “4.15”

Page 746 Problem 17.4.4, “Example 17.4.1” should be “Example 17.4.2”
Problem 17.4.5, “Example 17.4.1” should be “Example 17.4.3”
Problem 17.4.6, “Example 17.4.1” should be “Example 17.4.4”
Problem 17.4.4, “Example 17.4.1” should be “Example 17.4.5”

Appendix A

Page 751 First sentence on page, “Table 5.2.1”, should be “Table 5.1.2”