



Clark County Stormwater Manual 2015 Errata Sheet #1 September 2016

Below is a summary of changes required to the *Clark County Stormwater Manual 2015* adopted on November 24, 2015 (effective January 8, 2016). These changes have been adopted by Board of County Councilors at a public hearing in November 22, 2016.

No.	Book	Section	Page	Change
1	All		All	Add Errata date stamp with <u>Errata September 2016</u>
2	All		throughout	Update references to web links from " <u>.../environmental services/....</u> " to " <u>.../public-works/....</u> "
3	All	Multiple	Throughout	Add the following line to blank pages with no text: " <u>This page intentionally left blank</u> "
4	1	1.2.3	10	Line 2 – Update reference "Chapter 7 of this book " to "Chapter 7 of <u>Book 2</u> "
5	1	1.5.4	24	Line 9 – Update reference "Section 7.6" to "Section <u>7.7</u> "
6	1	1.5.5	24	Line 14 – Update reference "Section 1.5.7.1" to "Section <u>1.5.7</u> "
7	1	1.6.1	36	Line 18 – Update reference " Book 2, Chapter 9 " to " <u>referenced in Book 2 Introduction</u> "
8	1	1.6.3	42	Line 4 – Add " <u>No new development, redevelopment, or drainage project shall be allowed to materially increase or concentrate stormwater runoff onto an adjacent property or block existing drainage from adjacent lots.</u> "
9	1	1.6.4.1	42	Line 9 – Update reference "Section 7.6" to "Section <u>7.7</u> "
10	1	1.6.6	43	Line 10 – Add " <u>All private stormwater facilities that are gated and locked are required to have a double locking system for inspection purposes. It is preferred to use a chain with a county lock and the private lock.</u> "
11	1	1.8.2	53	Line 20 (second paragraph) – Replace the word " Preliminary " with " <u>Final</u> "
12	1	1.8.2	56 & 57	Last line on 56 – Update to include: " <u>...rain gardens, as well as any stormwater system that includes or requires plantings in or over the proposed stormwater system, provide....</u> " Line 2 – Update to include: " <u>....plant types, sizes and locations. Planting plan shall include proposed grading (1-foot contours) and stormwater system layout to</u>

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				<u>ensure minimal conflict between plantings and stormwater system.</u> "
13	1	1.8.2.3	58	Line 8 – Remove the word “Chapter” from “CCC Chapter 40.386”
14	1	1.8.2.3	60-61	Bullet list numbers 7-13 should be updated and renumbered to include the appropriate subordinate list for analysis (a.-d.)
15	1	1.8.2.3	62	Lines 18-23 - Remove the word “Chapter” from “CCC Chapter 40.”
16	1	1.8.2.3	63	Update sections titles to eliminate duplicate Sections D.3 (update to <u>D.4</u> and <u>D.5</u>)
17	1	TOC	77	Update references under 2.3 to create the correct subordinate sequence
18	1	2.2	80	Line 22 – Change the first word of the bullet from “ Meeting ” to “Meet”
19	1	Table 2.3	84	Heading of table 2.3, remove “ subject to Minimum Requirement #1 – #9 ”
20	1	2.3.X	85-89	Subheadings – Change “2.3.1.X” to the next higher level of headings “2.3.X” under Section 2.3
21	1	2.5.5	105	Line 17 – Add “ <u>BMP T5.15</u> ” to heading
22	1	3.2.3.6	129	Update reference to <i>Combined Detention and Wetpool Facilities</i> should be to <u>BMP D6.40</u> instead of T10.40 .
23	1	3.4.5.2	138	Update references from T10.40 to <u>D6.40</u> .
24	1	3.4.5.3	139	Update reference from T10.40 to <u>D6.40</u>
25	1	4.3.2.1	151	Line 13 – Correct the requirement from “ or ” to “ <u>and</u> ”.
26	1	6.3.4.1	174	Line 28 – Update reference for precipitation data from Ecology’s SWMMWW “ Volume III ” to “ <u>Book 2 Appendix 2-A</u> ”
27	1	6.4.9	183	Line 16 – Update reference from Book 4 to <u>Book 3</u>
28	1	Append. C	C-5	Line 1 – Update equation to bracket the first half of the formula
29	1	Append. E	E-1	Line 6 – add <u>reference to Book 1</u>
30	1	Append. E	E-1	Section 1 – update 3.1 to <u>2.1</u>
31	1	Append. E	E-1	Section 1 – update 3.2 to <u>2.2</u>
32	1	Append. E	E-1	Section 1 – update 3.3 to <u>2.3</u>
33	1	Append. H	H-1	Update Guide Sheet 1, last paragraph to reference <u>Figure 1.4</u> instead of <u>Figure 1.5</u>

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34	1	Append. H	H-5	In the Minimum Requirement 8 Checklist, Item B., update the reference from Appendix 1- K to Appendix 1- <u>H</u>
35	1	Append. H	H-5	Add the following question to the Checklist: “ <u>Does the wetland provide habitat for threatened or endangered species? If yes complete the checklist below. If No Stop.</u> ” Update the question bullets to change existing D to <u>E</u> and existing E to <u>F</u> .
36	1	Append. I	I-8	Lines 15 & 18 – Update groundwater assessment to “groundwater <u>depth</u> assessment”
37	1	Append. I	I-8	Lines 15 & 16 – add “ <u>downspout full infiltration or rain garden</u> ” after the word pavement.
38	1	Append. I	I-11	Lines 15 & 16 – add to requirement: “ <u>No new development, redevelopment, or drainage project shall be allowed to materially increase or concentrate stormwater runoff onto an adjacent property or block existing drainage from adjacent lots.</u> ”
39	1	Append. I	I-14	Eliminate Box 1.; change box 2- To <u>1.</u> ; change box 3- to <u>2.</u> ; change box 4- to <u>3.</u> ; second orange box – Eliminate text “ OR (optional) go to next question ” as well as the dotted line to the No line; change box 5. to <u>4</u> and eliminate “ and 2. ”; change box 6- to <u>5.</u> ; change box 7- to <u>6.</u> ; and, change box 8- to box <u>7.</u>
40	1	Append. I	I-15	Eliminate Box 1 and update formatting (65% of site set aside as native vegetation?)
41	1	Append. I	I-32	Fix formatting - Under the applicant line, eliminate the second line
42	1	Append. I	I-66	Fix formatting – eliminate the underline for “Users may reference the handbook”
43	1	Append. I	I-66	Replace bullets with numbers for <u>1-7</u>
44	1	Append. I	I-74	Lines 33 & 34 – Eliminate references to Section 2.5.5.3 in Book 2 and Table 2.3. Replace with “ <u>...infeasibility criteria below.</u> ”
45	2	1.3.1.1	8	Line 10 – Change reference from 1.5. 2.2 to 1.5. <u>5.2</u>
46	2	BMP T5.10A	22	Line 19 – Change spelling of “ <u>course</u> sands” to “ <u>coarse</u> sands”
47	2	BMP T5.10D	33	Line 8 – Add the following to the limitations section: “ <u>Perforated stub outs do not provide pretreatment. Perforated stub outs are not allowed to drain into a subsurface detention or retention facility without first</u>

No.	Book	Section	Page	Change
				<u>connecting to a pretreatment BMP under Minimum Requirement #6.”</u>
48	2	BMP T5.11	37	Line 27 – update reference to include punctuation: BMP T5.10C
49	2	BMP T5.13	43	Lines 13 & 14 – Update outdated reference from BMP 7.30 to <u>BMP 5.14B</u> ; also eliminate an extra space after the closing parentheses.
50	2	BMP T5.14B	66 & 68	<p>Line 8 – Update BMS to <u>BSM</u></p> <p>Lines 18-23 – remove existing bullet information [“If the standard soil mix is used:.....”] and replace with <u>“Option 1: If using the Bioretention Soil Mix recommended herein, the WWHM assumes a default infiltration rate of 12 inches per hour (15.24 cm/hr).”</u></p> <p>Lines 24-33 – remove existing bullet information [“If a custom soil mix is used:.....”] and replace with <u>“Option 2: If creating a custom bioretention soil mix, Use ASTM D 2434 Standard Test Method for Permeability of granular Soils (Constant Head) with a compaction rate of 85 percent using ASTM D1557 Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort. The WWHM user must enter the derived value into WWHM using “View/Edit Soil Types” pull down menu and adjusting the Ksat value. After selecting option 1 or 2 above, determine the appropriate safety factor for the saturated hydraulic conductivity (Ksat). If the contributing area of the bioretention cell or swale is equal to or exceeds any of the following limitations: 5,000 square feet of pollution-generating impervious surface; 10,000 square feet of impervious surface; ¾ acre of lawn and landscape, use 4 as the infiltration rate (Ksat) safety factor. If the contributing area is less than all of the above areas, or if the design includes a pretreatment device for solids removal, use 2 as the Ksat safety factor. The WWHM has a field for entering the appropriate safety factor.”</u></p>
51	2	BMP T5.15	77	<p>Line 11 – Update reference for 2.5.3 Book 2 to Book <u>1</u>.</p> <p>Line 13 – Replace bullet text “No run-on from pervious surfaces is allowed.” with <u>“Run-on from pervious surfaces is not allowed, except from minor or incidental pervious areas that cannot be directed elsewhere. Those areas must be fully stabilized before</u></p>

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				<u>discharging runoff to the pervious pavement.”</u>
52	2	BMP T5.30A	100	Line 10 – Update reference in cross-reference table to add <u>“Book 1”</u> to Section 2.5.3.
53	2	BMP T5.30B	109	Line 9 - Update reference in cross-reference table to add <u>“Book 1”</u> to Section 2.5.3.
54	2	BMP T5.30B	110	Line 22 – Update reference to include proper notation for <u>“BMP T5.30A”</u>
55	2	BMP T5.40	113	Line 21 - Update reference to include proper notation for <u>“BMP T5.30A”</u>
56	2	BMP T5.40	114	Line 8 – Update reference Figure from <u>9.11</u> to <u>1.14</u> in <u>Book 1</u>
57	2	BMP T5.41	116	Line 1 – Add notation for the continuance of the cross reference table from the previous page.
58	2	BMP T8.10	165	Update Figure reference from <u>Plan</u> view to <u>Section</u> view.
59	2	BMP T8.30	172	Line 13 – Update reference for BMP 9.40 to <u>T9.40</u>
60	2	BMP T9.10	200	Line 13 – Update reference from BMP <u>T7.30</u> to <u>5.14B</u>
61	2	BMP T7.40	215	Line 15 – Update reference from BMP <u>T7.30</u> to <u>5.14B</u>
62	2	BMP 7.40	216	Line 2 - Update reference from BMP <u>T7.30</u> to <u>5.14B</u>
63	2	BMP 10.10	221	Line 9 – Update referenced figures from <u>4.27</u> and <u>4.28</u> to <u>4.26</u> and <u>4.27</u>
64	2	5.1.1	250	After Line 6 – Add a new bullet: <u>“Reference BMP D6.10 and BMP 6.20 for landscape requirements at stormwater facilities.”</u>
65	2	5.1.1.3	251	Line 16 – Update the first sentence: <u>“A facility to treat Pretreatment of stormwater influent for suspended solids must precede the is required for each infiltration facility.”</u>
66	2	BMP D.610	282	After line 4 – Add bullet: <u>“10. Ensure that mature width of plants are taken into consideration near access roads, pedestrian walkways or manmade structures. To reduce safety and maintenance liabilities, mature plant width should not overhang or encroach into these features.”</u>
67	2	BMP	287	After line 6 – Add new section: <u>“Landscaping 1. Refer</u>

No.	Book	Section	Page	Change
		D6.20		<u>to BMP D6.10 for landscape requirements, as well as statements listed below. 2. Plantings directly above the detention tank system shall include only shallow rooted herbaceous perennials, low growing shrubs or grasses. Trees and shrubs should be avoided to minimize risk of roots impeding storage volume and capacity, as well as structural integrity of the system. Plantings should not include varieties that are water seeking such as sedges or rushes. 3. Avoid any plantings around the perimeter of detention tank that will cause root encroachment into the tank storage area. Large trees should be planted a minimum of 10' from edge of detention tank storage area."</u>
68	2	BMP D6.40	300	Line 13, second bullet – Update reference from 6.1.7 to 6.1.4
69	2	7.2	303	Add last bullet: <u>No new development, redevelopment, or drainage project shall be allowed to materially increase or concentrate stormwater runoff onto an adjacent property or block existing drainage from adjacent lots.</u>
70	2	BMP C209	400	Line 15 – Update reference from Section 7.6 to 7.7
71	2	Appendix C	C-4	Line 16 – Update reference from “BMP T5.10B of Volume III – Chapter 3” to “BMP T5.10C of Book 2”
72	2	Appendix C	C-4	Lines 34 & 36 – Update reference for BMPs in the last bullet from “Book 1” to “Book 2”
73	2	Appendix C	C-13	Lines 26 & 27 – Update reference “explained in Book 1, Section 2.2.1.3” and “Book 1, Section 4.3.1.3” to “Book 1, Section 2.3.1.4”
74	2	Appendix C	C-14	Line 7 – Update reference from BMP T5.10B to C
75	2	Appendix C	C-15	Lines 9 & 13 – Add a period at the end of the sentences.
76	2	Appendix D	D-1	Line 6 – Update reference from “See Appendix 1-D” to “See Appendix 1-C”
77	2	Appendix D	D-1	Line 20 – Update reference for Site Characterization Study from “Section 4.4” to “Book 1, Section 4.3.1.2”
78	2	Appendix D	D-1	Line 25 – Add “Book 1,” to reference of Section 4.4, Table 4.1
79	2	Appendix	D-1	Line 26 – Update reference for CARA sites from

No.	Book	Section	Page	Change
		D		"Section 4.2.2" to "Section 4.3.1.1"
80	2	Appendix D	D-2	Line 24 – Update reference for coefficient of permeability from "Section 4.5.2" to "Section 4.3.1.3"
81	2	Appendix D	D-2	Line 25 – Update reference for correction factors from "Section 4.5.4" to "Section 4.3.1.3"
82	3	2.1.3	9	Figure 2.1 - Picture caption – Left justify Source information and update to correct reference "Source: <u>Fresh Look Mobil Power Wash</u> "
83	3	2.1.3	10	Line 32 – Update reference to metal medallion from "Book 2, Figure 9.1" to "Book 1, Figure 1.5"
84	3	2.1.4	11	Figure 2.2 – Update photo source to correct source: "Source: <u>Brady Worldwide</u> "
85	3	S412	47	Line 28 – Update references from "Figures 2.6 and 2.6" to "Figures 2.7 and 2.8"
86	3		52	Eliminate duplicate statement: "This page intentionally left blank."
87	3	S419	63	Line 29 – Update statement ".....or covering the storm..."
88	3	S426	79	Figure 2.11 – Update photo source to correct source: "Source: <u>Brady Worldwide</u> "
89	3	Appendix 3-A	A-17	Line 15 – <u>Insert tab</u> to properly align "Commercial Car and Truck Washes"
90	3	Appendix 3-E	E-1	Second to last line – Update reference from "Table 6.6" to "Table E.6"
91	4		6	Line 10 – Update "Biofiltration wale" to "Biofiltration <u>swale</u> "
92	4	Detention Pond	44	Lines 23 and 24 – Update the word " Tree " to " <u>Vegetation</u> " to clarify that all vegetation should be inspected to minimize impact to inspection access
93	4	Closed Detention System	73 & 74	After Line 44, add a new row in the table: " <u>Vegetation Encroachment - Root encroachment of tree or shrub have impacted function or integrity of wetvault. - Roots are found in vault to be removed and repair vault.</u> "
94	4	Wet Vault	77	After Line 31, add a new row in the table: " <u>Vegetation Encroachment - Root encroachment of tree or shrub have impacted function or integrity of wetvault. - Roots are found in vault to be removed and repair vault.</u> "
95	4	Modular Detention	79	After Line 41, add a new row in the table: " <u>Vegetation Encroachment - Root encroachment of tree or shrub</u> "

No.	Book	Section	Page	Change
		Systems		<u>have impacted function or integrity of wetvault. - Roots are found in vault to be removed and repair vault."</u>
<i>End of summary</i>				

DRAFT V. 9.20.16