

Stormwater Design Manual Update

Public Comments Received - Review Draft of Clark County Stormwater Manual

DATE: June 30, 2014

REVIEWER NAME: Public Comment (via email and phone submittals)

NOTE: This list does not include the comments received from internal county staff. Other public comments were received during TAC/SAC meetings.

line no.	Comment No.	Book	Chapter	Page	Comment	Name	Organization	County Response
General comments:								
1	16 F1	1	6.11	231	Include language to allow use of infeasibility criteria and BMPs approved in other manuals found to be equivalent as we do not know what other jurisdictions have proposed.	Eric Golemo	SGA Engineering	While we can't give blanket approval to BMPs in other jurisdictions manual the county will review infeasibility criteria of manuals as they are approved by Ecology later this year. If new criteria are approvable then they may be considered for inclusion in the adoption draft in 2015.
2	16 F2				Include language to allow vesting for regional stormwater facilities in business parks/industrial parks for the future pads, similar to homes in a subdivision.	Eric Golemo	SGA Engineering	This may in part be a policy question considered for inclusion into the adoption draft in 2015 if approvable by Ecology. The current NPDES permit requires that the manual apply to all applications submitted after July 1, 2015. The permit also states that projects approved before July 1, 2015 must begin construction before June 30, 2020 or be subject to the requirements of the 2015 county manual.
3	16 F3				The old [previous] CC [Clark County] manual section 5.3 had a section on retrofit of existing facilities. Is that in the manual? If so, where? If not, we may want to add it back in.	Eric Golemo	SGA Engineering	Section 5.3 of the county's 2009 design manual is not compliant with the current municipal stormwater permit. Development project facility retrofits must utilize the WWHM to demonstrate compliance with Minimum Requirement #7 flow duration standard and forested predevelopment condition.
4	phone				Ensure that there is a strong flow through the sections and include references to applicable material that is in a different section.	Eric Golemo	SGA Engineering	The draft manual was revised for consistency and flow.
5					"It is the recommendation of the [Vancouver School] District to ensure that the manual and municipal code is written in a way that will continue to allow partnerships between agencies for innovative opportunities to educate citizens for a reduced or waived storm water fee. Clark County citizens have greatly benefited from the educational delivery of best practices around water quality and conservation and in turn the District has received a stormwater fee waiver. The value added to our community thru this quid pro quo arrangement has reduced cost for the County to educate the citizens in a meaningful and relevant way for all ages of individuals in a household. "	Jennifer C. Halleck	Vancouver School District	Noted. No development code or design manual revisions are requested by this comment.
Design Manual comments:								
6	16 A1	1	1.2.3	7	Include all tidally influenced backwaters of the Columbia River	Eric Golemo	SGA Engineering	No change proposed at this time. The issue of exempting the entire Columbia River flood plain may be further developed after the draft manual is submitted to Ecology. Revising the flow control standards will require focussed basin planning efforts and further discussion with Ecology.
7	16 A2	1	1.2.3	7	Bullet starting with "If an existing...": Clarify that indirect discharges to large water bodies may need to detain to the capacity of the system if it doesn't have adequate capacity to pass the full developed flow. (also on p. 27, 1.5.7.1)	Eric Golemo	SGA Engineering	We believe this is addressed by the hydraulic design in Chapter 7.

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8	16 A3	1	1.3	9	Under "effective impervious surface" - Also include "Dispersion to pasture or cropland BMP T5.30B"	Eric Golemo	SGA Engineering	The manual includes both "Full dispersion" BMPs in the 2009 Clark County Stormwater Manual, including BMP T5.30A Full Dispersion to Native Vegetation and BMP T5.30B Full Dispersion to Pasture and Cropland.
9	16 A4	1	1.5.5.3	22	Clarify that the 5% sizing rule only applies to facilities utilizing the mandatory lists. It doesn't apply when the performance standard is used. This can be confusing and is misapplied by review staff.	Eric Golemo	SGA Engineering	Added a footnote to say the 5% proportion does not apply when using the performance standard to help clarify the point during application review.
10	16 A5	1	1.9.2	59	Third paragraph: This section should be expanded to clarify that underground closed systems include perforated systems. Also, bioretention and other LID's can be in the right-of-way. Also, facilities such as rain gardens in the planter strip may be owned by Clark County but have aesthetic maintenance done by the homeowner or HOA....may need to discuss.	Eric Golemo	SGA Engineering	Included language allowing UIC-regulated facilities in Right-of-Way.
11	16 B1	1	1.9.4.1	63	Small (<=15") pipes less than 8' deep can be maintained with less than 20' easement. Consider another classification allowing 15' easements in this situation.	Eric Golemo	SGA Engineering	No change at this time. Clark County will consult Operations staff to consider issue and respond as final draft manual is created.
12	16 B2	1	1.9.9	66	Infiltration testing - Many times we will apply an additional safety factor to a measure rate to compensate for future variability in the confirmation testing. This section requires testing at 95% of the uncorrected rate which ignores the attempt to add a safety factor. Also 95% is a very tight tolerance. The previous manual (pg. 6-11) used 75% (3/4) which is more reasonable. Consider changing to 75%.	Eric Golemo	SGA Engineering	Language was updated to 75%.
13	4a	1	1.9.9	66	Can the County legally require the "geotechnical specialist who performed the testing" to return to conduct the construction testing? What if that individual is not available? Or is unwilling? Or charges exorbitant fees?	Lance Lehto	Columbia West Engineering	Removed the requirement to have the same person perform design and construction tests.
14	4b	1	1.9.9	66	It could be very difficult, if not impossible, for some larger systems in relatively high permeability soils to "as a condition of acceptance...be tested as a completed facility...to demonstrate that it performs as designed". The volume of water required to conduct testing of a large completed facility may be excessive and infeasible.	Lance Lehto	Columbia West Engineering	The language was revised to state that the county may require the testing, providing latitude for high permeability soils.
15	16 B3	1	2.2	70	Other compliant manuals (including COV [City of Vancouver]) have allowed infiltration facilities to be modeled using SBUH [Santa Barbara Urban Hydrograph] for infiltration system modeling where there is not a discharge.	Eric Golemo	SGA Engineering	The only approved manuals are those in the phase I general permit and the phase I WSDOT permit. While the SBUH model may be used for design, the county believes that the WWHM must be used to demonstrate compliance with MR #7.
16	15 b2	1	3.3.2	92	"Clark County should also strongly consider geographic based exception. The County and development community have well documented geotechnical data about soil conditions, groundwater elevations, infiltration rates and other data about certain geographic areas within the County. Again, this data is based upon substantial development projects within a defined geographic area. The County should strongly consider exceptions based on soils that will not infiltrate. This will [save] project proponent's significant amounts of money from having to prove something that is already known and will save the public the cost of reviewing the superfluous data."	Jamie Howsley	Jordan Ramis PC (BIA)	No change at this time. Clark County met with the Dept. of Ecology in a project update meeting on January 7, 2014. One of the questions asked of Ecology staff was the opportunity to utilize maps derived from existing data sets to identify infeasible areas (based on soils types, water tables, hazard slopes, etc.). Ecology responded that existing data sets such as the NRCS soil maps did not provide site-specific information to confirm the presence of soil types that would make a site infeasible. Site specific data would be required.
17	16 B4	1	3.3.3	93	It is not feasible to only conduct tests in the wet season. This will cause significant delays. Change to "when practical" and require a pre-soak and possible additional safety factor to the rate.	Eric Golemo	SGA Engineering	The Ecology manual does not have seasonal requirements on infiltration testing. It is removed.
18	4c	1	3.3.2	93	The text in the box at the end of this section appears to be an exact duplicate of the text just above.	Lance Lehto	Columbia West Engineering	Duplicate language removed.

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19	4d	1	3.3.3	93	Will infiltration testing by the gradation method be restricted to occurring between January 1 and May 31? The gradation method will produce the same result regardless of the date tested.	Lance Lehto	Columbia West Engineering	The manual was revised to remove the seasonal testing requirement.
20	16 B5	1	3.3.3.2	94	Give more flexibility to the geotech based on soil consistency allowing a combination of test pits and infiltration tests. If the soil has consistent profiles, the number of tests can be reduced. (Also on pg. 119, 4.4)	Eric Golemo	SGA Engineering	Language was updated to include reductions for homogenous sites.
21	4e	1	3.3.3.1 & 3.3.3.2	94	Both sections contain text justifying a reduction in the frequency of infiltration testing if the site contains "unconsolidated material or unconsolidated coarse gravel with high infiltration rates". I support these statements, but suggest that text also be added allowing a reduction in test frequency if the soil conditions are homogeneous and consistent.	Lance Lehto	Columbia West Engineering	Language was updated to include reductions for homogenous sites.
22	4f	1	3.3.3.2	95	Table 3.4 lists a required correction factor for site variability of 0.5. However, the text above the table discusses a range for this value (0.33 to 1.0). Table 3.5 does state a range for this value, matching the adjacent text. Do I recall correctly that the TAC generally concluded that specifying a value was 0.5 was appropriate?	Lance Lehto	Columbia West Engineering	The correction factors were revised to conform to the geotech and TAC recommendations.
23	15 b3	1	3.3.3.2	96	"The PCHB decision required Ecology to modify the permit and limit the application of permeable pavement "...to those roadways that receive very low traffic volumes and areas of very low truck traffic."2 In reviewing the opinion even the testimony from the Intervenor Defendant's witnesses Booth and Horner state that permeable pavement should be limited to "...low volume areas such as parking lots, sidewalks, road shoulders and paths."3 Clark County should therefore propose to limit the application of permeable pavement as LID technique to those "very low volume" areas such as parking lots, sidewalks and paths and note have it on any roadway.	Jamie Howsley	Jordan Ramis PC (BIA)	The PCHB ruling applied to very low traffic volume roads. The infeasibility criteria in the draft includes the specific language of the PCHB, awaiting an interpretation from Ecology on the threshold.
24	16 C1	1	3.5.3	101	Specify that the 10' property line setback doesn't apply to shared rear-yard systems which (see p.125 table 4.2) can be in an easement between lots. Also, specify setback of 6' from R/W so a system can be placed in a front yard (18' setback, 10' from building, 2' trench)	Eric Golemo	SGA Engineering	No change to setback requirements was made.
25	16 C3	1	3.8.4	110	Add option to reduce set back from slop with geotech evaluation. (Also 3.9.3 on page 113)	Eric Golemo	SGA Engineering	A geohazard report can specify setbacks.
26	16 C2	1	3.9.2	112	Per the PCHB [Pollution Control Hearings Board] - Add infeasibility criteria for everything above "very low volume surfaces" - Per AASHTO ADT≤400.	Eric Golemo	SGA Engineering	The PCHB ruling applied to very low traffic volume roads. The infeasibility criteria in the draft includes the specific language of the PCHB, awaiting an interpretation from Ecology on the threshold.
27	16 C4	1	4.5.2	123	Specify when these rates and correction factors apply. For example, they do not apply to LID facilities. They have separate factors (see p. 95, table 3.4 and p. 97, table 3.5)	Eric Golemo	SGA Engineering	These correction factors apply to facilities designed under Chapter 4 requirements. LID facilities are under Chapter 3 requirements.
28	5a	1	4.5.2	123	Table 4.1 should state "Other small-scale (e.g., Double-ring infiltrometer or single-ring falling head as described in ASCE 2009".	Lance Lehto	Columbia West Engineering	Site variability factors were simplified using a single value.
29	16 C5	1	5.2.1.2	141	Typically pond berms have 1' of free board. Information was hard to find or inconsistent. Six (6) inch of freeboard is stated in #2 pg. 142. Figures on p. 143 and 146 vary. [Also pg. 147 section 5.2.2.2]	Eric Golemo	SGA Engineering	The language was taken directly from the 2012 SWMMWW. The 0.5 foot freeboard is in Section 5.32.1.3. of the final draft manual and the associated figures which should be revised for clarity during the adoption process.
30	16 C6	1	chap 6 TOC	179	Many BMPs are missing compared to Vol. 5 of SWMMWW. Most notably infiltration and bioretention facilities. I believe this is intentional and covered in Chap. 3, but perhaps a reference is included pointing to Chapter 3 for people used to looking at the DOE manual. BMP 7.10 and 7.20 are missing.	Eric Golemo	SGA Engineering	The draft manual was edited to move BMPs to the most appropriate location and cross reference where needed.
31	15 b5	1	6.11	231	"The County should have the ability to adopt other BMP's not identified in Clark County's specific manual, but approved by Ecology in other Phase I and Phase II BMP manuals. In other words, if Ecology approves a BMP in another jurisdiction, that BMP should be found to be equivalent for Clark County's purposes."	Jamie Howsley	Jordan Ramis PC (BIA)	While we can't give blanket approval to BMPs in other jurisdictions manual the county will review infeasibility criteria of manuals as they are approved by Ecology later this year. If new criteria are approvable then they may be considered for inclusion in the adoption draft in 2015.

line no.	Comment No.	Book	Chapter	Page	Comment	Name	Organization	County Response
32	15 b1	1	3		"Clark County should propose economic infeasibility criteria for LID techniques to Ecology. This has a basis in law. As you are aware, the Pollution Control Hearings Board (PCHB) recently issued its decision in the consolidated appeals of the Phase I NPDES Permit. Specifically on page 35 of the decision the PCHB states that "[f]easibility is measured against, among other things, the infeasibility criteria..." set forth in the 2012 manual.1 [Emphasis added]. The PCHB goes on to state "[t]he infeasibility criteria can be expanded." The PCHB goes on citing Bill Moore that "[i]f a Phase I permittee finds the infeasibility criteria does not address a particular limitation to employing LID in its jurisdiction, the permittee can develop infeasibility criteria for inclusion in its stormwater manual or SWMP and submit the criteria to Ecology for review and approval." The "among other things" implies that there are other inherent criteria to consider. Inherently economics is one of those criteria. BIA proposes to work with the County and Ecology to develop a reasonable economic infeasibility measure."	Jamie Howsley	Jordan Ramis PC (BIA)	This is a policy issue for further discussion. Economic infeasibility criteria are still under consideration for permeable pavements.
33	15 b4	1			"BIA continues to have serious concerns about the issue of vesting. As the County is aware, BIA appealed to the Thurston County Superior Court the PCHB determination on Summary Judgment the issue of vesting. Snohomish County and King County also appealed the issue raising similar concerns. We firmly believe that the PCHB erred in its decision and that this will eventually prove out. We raise it here as a caution to the County to continue to monitor, but also for the consideration of what happens to long term phased projects that use the prior phases for their stormwater management. This is more of a question for consideration."	Jamie Howsley	Jordan Ramis PC (BIA)	Issue noted for consideration.
34	5b	1	Appendix D		The reference on the "Single-Ring Falling Head Infiltration Test Procedures" page should be ASCE 2009, not ASCE 2007. The same page has "X's" listed in the equations and figures.	Lance Lehto	Columbia West Engineering	Correction made.
35	5c	1	[Reply comment to L. Lehto from Otak staff via email 4.16.14]		Do we need the "Simplified" and "Detailed" approaches, and does the "Detailed" Approach even work? If no one is using these, maybe we jettison them and reference the Ecology manual if someone wants to use them. We could replace both sections with the ASCE approach. Thoughts?	Lance Lehto	Columbia West Engineering	The detailed approach was removed due to lack of use and included in an appendix.
36	16 D1	2	Chap 1 TOC	1	The BMP numbers are hard to follow and not in order. They are however grouped by type. This likely matches the DOE manual	Eric Golemo	SGA Engineering	BMPs are listed in the table of contents and use the standard Ecology numbers.
37	16 D5	2	Chapt 1 TOC	1	General - I could not find information on SC type Oil/Water separator. I expected to see it near pg. 9-11	Eric Golemo	SGA Engineering	SC manhole is with the oil/water separators.
38	16 E1	2	rain gardens	122	Note: Sometimes bubblers are needed to get runoff to a shallow bioretention facility from an inlet while maintaining adequate pipe cover	Eric Golemo	SGA Engineering	Public Works Development Engineering does not normally approve pipe designs that do not have open channel flow under normal conditions.
39	16 D3	2	rain gardens	123	Section 4-6 of the current manual "Design Criteria for Rain Gardens" allowed an additional 12" of detention storage above the bioretention water surface, provided that the release structure is designed with an outflow set at the bioretention water surface. That was previously found equivalent and should be added back in. It could be more with different plants.	Eric Golemo	SGA Engineering	The 2012 Ecology manual allows 12" of ponding over the soil surface. The 2009 county manual is not deemed equivalent to the 2012 SWMMWW.
40	16 D4	2	BMP T5.15	130	Add a BMP for a hybrid pervious pavement with a standard AC above but drain rock below. Water can enter through pervious shoulders or area drains with distribution manifolds.	Eric Golemo	SGA Engineering	This is an interesting idea and may be possible to design under the proposed manual if overflow from the smaller area of permeable pavement is managed to the performance standard or pretreatment is provided instead of using permeable pavement. Will be considered for the adoption draft in 2015.

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41	16 D2	2	BMP T530.B	153	Should the BMP be T5.30.B (not T530.B).....Full dispersion is T5.30	Eric Golemo	SGA Engineering	Both full dispersion BMPs in the 2009 county manual were included in the draft manual. Nomenclature is now consistent.