

Pima County Regional Flood Control District
 Comment/Response Summary SAHBA Chapter 4 Comments
 Draft Stormwater Detention/Retention Manual

	Location/Comment	Date Rec'd	Name/Contact	Response	Initials
1	<u>Chapter 4</u> Introductory paragraph 1 Clarify Floodplain Administrator and "written approval" process.	4/10/2013	SAHBA Tech Committee	No Change. The Floodplain Administrator is the Chief Engineer of RFCD, when projects are within unincorporated Pima County. Other jurisdictions designate the Floodplain Administrator. Use of Floodplain Administrator instead of Chief Engineer was chosen as a more general term for applicability to other jurisdictions. The "written approval" process is intended to include contact with staff to resolve issues. It is not strictly defined here to allow for flexibility among jurisdictions and to avoid implying that a fee-based variance process might be required.	BZ ES AM
2	<u>Chapter 4</u> Introductory paragraph 2 The County is moving away from the term "Development Plan". Do you want to keep the term in this document?	4/10/2013	SAHBA Tech Committee	No Change. The term "Development Plan" is retained in new DSD checklist guidelines and is the term utilized in the Floodplain Ordinance and the Zoning Code. We are keeping the term to be consistent with ordinance language.	BZ ES AM
3	<u>Section 4.1.1</u> Is the Inspection and Maintenance Plan prepared by the Engineer of Record or project Landscape Architect? Can this be included in the Drainage Report?	4/10/2013	SAHBA Tech Committee	Add that Plan can be prepared by a qualified registrant. The Plan can be included in the Drainage Report for RFCD review purposes; however the intent is to deliver the Plan and related checklist to the entity responsible for inspection and maintenance, such as the HOA or property management company, therefore, it should be prepared in a format suitable to stand alone. A suggestion was to include the Plan in the CCR's for subdivisions. Need to clarify with Committee if this is the best place for accessibility by the inspector.	BZ ES AM
4	<u>Section 4.1.4</u> Detention basins aren't necessarily in floodplains so is the Floodplain Use permit the proper permit?	4/10/2013	SAHBA Tech Committee	No change. This is the tracking mechanism	AM
5	<u>Section 4.2.3</u> Regulatory flow not clearly defined in later sections. On-line/Regulatory can be done effectively and should be permitted.	4/10/2013	SAHBA Tech Committee	Change to regulatory floodplain which is defined in the Glossary. Add provision for Floodplain Administrator approval.	AM
6	<u>Section 4.3.1.2</u> "approximate" is very vague.	4/10/2013	SAHBA Tech Committee	No Change. Intent is to not specify an explicit allowable percentage difference.	BZ ES AM
7	<u>Section 4.3.1.3</u> 10 feet can be excessive for in-fill projects and where other access, such as ROW, exists.	4/10/2013	SAHBA Tech Committee	Change to include other access. Change to 4-foot minimum or as required by 4.3.1.2.	BZ ES AM
8	<u>Sections 4.3.2</u> Is this the right mechanism? Not all basins are within the flood plain. Is there another option?	4/10/2013	SAHBA Tech Committee	No change. This is the tracking mechanism.	AM
9	<u>Section 4.3.3</u> If only a portion of the site is a designated sheet flood area, it could be an appropriate place for a basin. If it's allowed for sites entirely within sheet flooding, can it be allowed for portions of sites?	4/10/2013	SAHBA Tech Committee	Yes. Allowable.	BZ ES AM

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10	<u>Section 4.4.1.1</u> This prohibits over flow weirs and 'contradicts emergency spillway provisions.	4/10/2013	SAHBA Tech Committee	Clarify that freeboard is from basin top, not within weirs or spillways.	BZ ES AM
11	<u>Section 4.4.3</u> Flexibility is needed. Why the limitation? Is this only for embankments/dam projects?	4/10/2013	SAHBA Tech Committee	Seek Floodplain Administrator approval for greater depth.	BZ ES AM
12	<u>Section 4.5.1, items 1 and 2</u> Isn't this a significant reduction over current manual?	4/10/2013	SAHBA Tech Committee	No Change. This is the same as the current manual.	AM
13	<u>Section 4.6.1.1</u> 0.5% may exceed natural slope.	4/10/2013	SAHBA Tech Committee	Change to positive drainage.	AM
14	<u>Section 4.6.3</u> Request use of turf grass and DG for paths in multi-use basins.	4/10/2013	SAHBA Tech Committee	Under consideration	BZ ES AM
15	<u>Table 4.1</u> Can DG be allowed on slopes?	4/10/2013	SAHBA Tech Committee	Allow screened rock with minimal fines.	BZ ES AM
16	<u>Table 4.1</u> In non-erosive environments, non-angular stone should be allowed.	4/10/2013	SAHBA Tech Committee	Add.	BZ ES AM
17	<u>Section 4.7.3</u> Change to Free-standing, non-retaining/non-structural walls are not allowed as basin sides. Structurally designed walls can be used as basin sides.	4/10/2013	SAHBA Tech Committee	No change. Case-by-case designs can be considered by the Floodplain Administrator.	BZ ES AM
18	<u>Section 4.8.1.1</u> Strike. See previous removal of 'basin location'	4/10/2013	SAHBA Tech Committee	Previous change to Section 4.3 to allow basins upstream of development makes this inconsistent. Strike.	BZ ES AM
19	<u>Section 4.8.1.5</u> Depth of riprap is not clear. Figure 4.5 doesn't have all of the information shown in Channel Design Standards. Photos 4.3 and 4.4 imply that wall openings should be considered as basin inlets.	4/10/2013	SAHBA Tech Committee	Replace with wording that riprap shall be flush with finished grade. Remove Figure 4.5 because figure in Channel Design Standards does the job. Photos removed.	BZ ES AM
20	<u>Section 4.9.1.6</u> Riprap depth not clear	4/10/2013	SAHBA Tech Committee	Re-worded to eliminate reference to figure and to match Section 4.8.1.5.	AM
21	<u>Section 4.10.1.2</u> Clarify? "reviewer subjectivity" very high.	4/10/2013	SAHBA Tech Committee	Add more specific items.	AM
22	<u>Section 4.10.1.3</u> Embankments are constructed at 8-foot or greater widths and then cut back to design width, making a 2-foot minimum top width constructable. Suggestion: top width no less than 100-year water depth.	4/10/2013	SAHBA Tech Committee	Change to 100-year water depth or 2 feet, whichever is greater.	BZ ES AM

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23	<u>Section 4.10.1.6</u> This is arbitrary. "All fills shall be placed in accordance with Geotechnical Report".	4/10/2013	SAHBA Tech Committee	To allow flexibility in timing of geotechnical report, will leave in min. 6 inches (8 in. is about standard in practice). Add or as specified in geotechnical report.	BZ ES AM
24	<u>Section 4.10.1.7</u> Anti-seep collar shown in the figure appears to be intended for embankments which impound water continuously. Furthermore, the size specification is too large for relatively low embankments that may have 18" to 36" pipe.	4/10/2013	SAHBA Tech Committee	Remove anti-seep collar. Change to any outlets through the embankment must be placed through impervious interior slope treatment.	BZ ES AM
25	<u>Section 4.10.1.9</u> Impervious treatment seems unnecessary for short storage times expected in typical basin design.	4/10/2013	SAHBA Tech Committee	Language now is impervious treatment required when storage is greater than 1 foot for more than 30 minutes. Tech Committee to review several basin designs to determine if something more typical is appropriate.	BZ ES AM
26	<u>Section 4.10.1.11</u> Covenant requirements need to consider CCR's for subdivisions instead of separate recorded document.	4/10/2013	SAHBA Tech Committee	Provisions for CCR's will be incorporated.	BZ ES AM
27	<u>Section 4.10.2</u> Annual inspections should be sufficient. Storm event is vague.	4/10/2013	SAHBA Tech Committee	No change. There can be storms which result in need for removing obstructions or other maintenance. Because of the variability among locations and years, the District will keep the language about storm events to alert maintenance entities that maintenance may be required more frequently than once per year. However, the District will look at the maintenance items for which annual inspections are adequate, such as security barriers. It is anticipated that maintenance requirements will be compiled in one section prior to final draft.	BZ ES AM
28	<u>Section 4.12.1 (Section deleted)</u> Not critical but "Depth" is overkill. Signs are unsightly and maybe only applicable for multi use basins.	4/10/2013	SAHBA Tech Committee	Move sign requirement to multi-use section. Remove warning and depth language. Section deleted.	BZ ES AM
29	<u>Section 4.12.1.2</u> Change top of basin slope to 100-year water surface elevation location	4/10/2013	SAHBA Tech Committee	Change.	BZ ES AM
30	<u>Section 4.12.3.3</u> Walls on embankments should be allowed if properly designed.	4/10/2013	SAHBA Tech Committee	Allowed where there is impervious treatment.	BZ ES AM
31	<u>Section 4.13.1, Item 5</u> What is justification for 1.5 storage volume for underground storage?	11/1/2012 8/8/2012 4/10/2013	SAHBA Tech Committee	SAHBA Technical committee will provide a recommendation.	AM
32	<u>Section 4.13.1.7 and 4.14.1.3</u> 25 feet seems excessive; 18" elevation requirement for scuppers and other structures conveying less than regulatory flows seems excessive.	4/10/2013	SAHBA Tech Committee	Propose to remove this ordinance language from the detention/retention manual as it appears to apply more to drainage structures such as scuppers and catch basins.	BZ ES AM
33	<u>Section 4.16.1</u> What is the minimum access requirement?	4/10/2013	SAHBA Tech Committee	Maintenance access must be demonstrated on the plan. For small basins, pedestrian access is possible without a constructed ramp. For large basins, equipment ramps should be provided. The requirement language is being left open to allow flexibility. ROW will be included as access space.	BZ ES AM
34	<u>Section 4.19</u>	4/10/2013	SAHBA Tech	Under consideration. True retention would be volume not allowed to outflow. With	AM

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	Use of Dry Wells should allow for greater retention depths.		Committee	drywells, it seems all volume will outflow?	
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PCFC Detention/Retention Manual Comments – Chapters 1-3

- Section 2.1, pg. 8 – Does the First Flush run-off requirement apply to roadway infrastructure development and/or utility infrastructure/extensions?
- Table 2.1, pg. 9 – What types of areas would be classified as “Other Higher Permeability Area”
- Section 2.2.2, pg. 9 – is there flexibility on the location of the first-flush being downstream of an impervious area? In some cases it is beneficial to locate a basin on the upstream side of a project to catch flows from off-site rather than allow the entire flow through the project.
- Section 2.2.6, pg. 9 – Why does the detention basin and/or stormwater harvesting basin areas need to be included for the first-flush volume calculation?
- Section 2.4.2, pg. 12 – Second paragraph states that “when roadside basins are proposed, they shall not be located at a roadway low point to assure flow conveyance within the roadway once the basin is full”. This seems to contradict Section 2.2.2 which states the first-flush basin shall be downstream of an impervious area. Also, a roadside stormwater harvesting basin as shown in Figure 5.2 which is not located at a roadway low point will contain only a very minimal volume.
- Section 2.4.3.1, pg. 13 – What type of situations would a non-contributing area basin be beneficial to the first-flush volume requirements? Per Section 2.2.2 the first-flush basin shall be located downstream of an impervious area, therefore it would seem that any basin in a non-contributing area could not apply to the first-flush volume requirement.
- Section 2.4.3.1, pg. 13 – the 2:1 requirement for the ratio of the immediately upstream drainage area to the pervious basin bottom of a non-contributing area would be extremely limiting in some cases such as parking lot drainage areas.
- Section 2.4.3.1, pg. 13 – last paragraph states “a type 2 non-contributing area basin meeting the above criteria and the area draining to it are not included in any peak discharge calculations” – can this area count as part of the first-flush volume requirement?
- Section 3.3.4, pg. 19 – does the Stormwater Harvesting Hydrograph Spreadsheet in Appendix E need to be submitted for review by FC with each submittal?
- General Comment – Using smaller “stand alone” water harvesting basins at project low-points creates uncertainty on a typical project due to the increased modeling that would be necessary to evaluate what’s flowing in to and out of these smaller, multiple basins in lieu of larger combined detention/retention basins. Additionally the significant effort on the County’s part to “police” the owner/HOA to maintain multiple basins to assure functionality is counterproductive.
- General Comment – Clarification – does the first-flush retention requirement replace the previous threshold requirement for project specific retention, i.e. 2-year threshold retention for 3-6 RAC residential, etc?

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