

APPENDIX B

DEVELOPER MEETING SUMMARY



MEMO

To: Project File - Cool Creek Watershed Management Plan
From: Hans J. Peterson, P.E.
Date: October 30, 2002
Subject: Meeting Summary – Developer Input

Copies: Meeting Attendees
Kent Ward, Hamilton Co.
Kate Weese, Carmel
David Johnston, Westfield

On October 30, 2002, a meeting was held at the Hamilton County Surveyors Office to obtain input from the development community on stormwater issues affecting the Cool Creek watershed. The following were in attendance at the meeting:

| Name | Representing | E-mail |
|-----------------|----------------------|---------------------------------|
| Hans Peterson | Clark Dietz, Inc. | hansp@clark-dietz.com |
| Dale Tekippe | Clark Dietz, Inc. | dalet@clark-dietz.com |
| Robert Thompson | Hamilton County | rct@co.hamilton.in.us |
| Steven Cash | Hamilton County | stc@co.hamilton.in.us |
| Bruce Hauk | Town of Westfield | bhauk@netdirect.net |
| Mike McBride | City of Carmel | mmcbride@ci.carmel.in.us |
| John Talbot | Estridge | talbotj@estridge.net |
| Jose Kreutz | Brenwick | josek@brenwick.com |
| Tim Walter | Platinum Properties | Twalter platinum-properites.com |
| Jim Langston | Langston Development | jlang@langstondev.com |
| John Edwards | Langston Development | Jedwards@langstondev.com |

Topics covered at the meeting included:

- Overview and purpose of the Cool Creek Watershed Plan
- Existing stormwater problems in the watershed
- Effectiveness of stormwater runoff controls associated with new development
- Regional detention facilities
- Rule 13 requirements and impacts to new development

Overview

Hans Peterson reviewed the overall purpose of the watershed study. One of the key drivers of the study was the concern with stormwater impacts resulting from new development, particularly with the upper watershed (Westfield) developing and the lower watershed (Carmel) being already fully developed. The project included a detailed review of existing problems in the watershed, analysis of the watershed using

hydrologic/hydraulic modeling, identification of impacts from development, and development of solutions to existing stream problem areas.

Stormwater Problems

Stream flooding on the main Cool Creek channel is generally not currently a problem in Carmel. The stream does get out of its channel banks during major storms, but for the most part, does not overtop roads or flood structures. Some of the tributaries to the main channel do have some flooding problems. Westfield has some roads that overtop and the Evan Kendall drain has some potential flooding concerns. The primary concern in Carmel is with stream bank erosion. Several reaches of the stream have moderate to severe erosion. A photo book was shared with the meeting attendees showing typical stream bank erosion examples.

Effectiveness of Stormwater Controls

The impacts of new development were analyzed with the hydrologic model. Undeveloped areas in the watershed were simulated in the model as fully developed. The County's detention policy (100-year controlled at pre-development 10-year rate and 10-year controlled at the pre-development 2-year rate) was factored into the model. Hydrograph printouts of the results were distributed to the attendees. The analysis showed that under future full build-out conditions, the County's detention policy would result in a 5 to 10 percent reduction in peak flows. However, the duration that flow remains in the channel following a storm event is 20 to 30 percent longer. Also, the flow rates on the trailing limb of the hydrograph are much higher (two to four times) than existing flows. The higher flows over a long period of time following a storm event will tend to increase stream bank erosion in Carmel. This situation can be better controlled if the smaller, more frequent storm events are retained on site through modifications to the detention policy to incorporate a "channel protection" volume in detention basin designs.

Regional Detention

The advantages/disadvantages of regional detention were discussed. John Talbot of Estridge commented that they built an on-line regional pond, but ran into significant permitting challenges with IDEM, even though the basin was built on a small, normally dry channel that ran through a farm field. The regional pond was then considered a "water of the State" and required "pre-treatment" of any stormwater discharges into the basin. Tim Walter of Platinum Properties has also built on-line ponds in series and has also run into similar obstacles. If the drainage area to the pond is less than one square mile (640 acres), IDNR and IDEM do not get involved and regional ponds can be permitted directly with the County.

Off-line regional facilities can be used; however, the size and location of ponds in a development is often dictated by the need for earthwork fill as well as the need to provide water amenities. Also, the cost of building larger conveyance facilities to reach a regional pond can preclude their use. Tim Walter commented that they have “over-detained” in some instances to reduce the size of the outlet pipe that is needed to discharge into a nearby creek. If the County desires to use larger regional basins, they should be identified early on in the planning process so the development community can anticipate them. John Talbot also indicated that if regional ponds with amenities are promoted, they should count towards the open space requirement (they currently do not count toward this requirement in Westfield).

Rule 13

A handout summarizing the requirements of Rule 13 was distributed. The primary impact to the development community will be that erosion and sediment controls will be required for all sites greater than one acre (vs. the current 5-acre threshold) and best management practices (BMPs) will be required to control the quality of post-construction runoff.

A handout was distributed with some examples of BMPs. The primary BMP that is used to control post-construction runoff quality is wet ponds with water quality features incorporated. Smaller developments and re-developments can use other structural BMPs such as sand filters, vortex devices, etc. Jose Kruetz of Brenwick commented that BMPs that rely on infiltration for treatment would not work in Hamilton County or many other parts of central Indiana due to clayey soils. He also asked whether these requirements apply to just new development or will cities be required to retrofit existing development. We discussed that this requirement applies to new development and re-development.

John Talbot of Estridge asked whether zoning and land use issues would be addressed as part of the post-construction runoff issue. He commented that impervious area could be reduced if street lane width requirements were reduced and other parking lot space requirements were re-considered.

John Edwards of Langston Development asked how development in the floodplain would be addressed in the watershed. We discussed that the County prohibits any development in the floodplain. Carmel and Westfield do not have the same requirements, but that would make sense on a watershed basis to be consistent on this issue. Mr. Edwards indicated that this policy is unrealistic in situations where floodplains are very wide (300 or 400 feet) and the flood depths are shallow (less than one foot). A lot of prime development area is lost and property owners see reduced land values. We discussed the importance of maintaining buffer strips along streams and that these could be an important component of Rule 13 compliance with post-construction runoff controls. Perhaps there is a compromise to maintain buffers while allowing some development in instances where floodplains are very wide and shallow. Compensatory storage could also be included to account for lost floodplain storage.

Robert Thompson discussed that the County and other communities affected by Rule 13 are just beginning the process of deciding how to approach the requirements of the rule and what types of BMPs will be used. He mentioned that there was an upcoming BMP seminar that Hamilton County and a BMP vendor are sponsoring.

Summary

Key feedback from representatives of the development community is summarized as follows:

- Regional on-line detention has become very difficult to implement because of environmental permitting issues.
- Regional detention for areas less than one square mile can work; however detention basin configurations are often dictated by other engineering issues (need for earthwork fill, limitations on conveyance facility sizes, etc.)
- If regional basins are constructed, credit should be given towards open space requirements.
- If the communities or the County want a particular regional detention basin site, the development community should know this early on so it can be accommodated in the development process.
- Development restrictions in the floodplain should be re-considered in areas of very wide, shallow floodplains.
- Street widths and parking space requirements should be considered when looking at the non-structural aspects of the post-construction runoff control requirement.

Please contact Hans Peterson if there are comments or corrections to this meeting summary.

Hans J. Peterson, PE
Clark Dietz, Inc.
8445 Keystone Crossing, Suite 105
Indianapolis, IN
Hansp@clark-dietz.com
317.259.4644