



Washington County Planning and Parks Department Land and Water Conservation Division

EROSION CONTROL & STORMWATER MANAGEMENT MEETING

MINUTES

of 09/27/07

*Meeting held on 09/27/07 @ 2:07 PM
Washington County Public Agency Center, Room 3224,
333 E. Washington St., West Bend, WI 53095-2003*

The meeting was called to order by Paul Sebo, Washington County Senior Technician of the Land & Water Conservation Division @ 2:07 P.M. A meeting notice was provided to the Washington County Clerk and the local newspaper for their information.

Excused: Phil Gaudet, Washington County Land Resource Manager

Absent: Steve Wendelborn, Town of Barton Zoning Administrator; Matt Bedarski, Village of Newburg Engineer, Kirk Radtke, Village of Germantown Building Inspector, Leander Herriges, Town of Wayne

Those in attendance included the following:

City/Town/Village Representatives

<i>Jim Reinke</i>	<i>City of West Bend, Com Dev., Asst. Planner</i>
<i>Max Marechal</i>	<i>City of West Bend, Asst., City Engineer</i>
<i>Jim Bennett</i>	<i>Town of Hartford, Chairman</i>
<i>*William Ripp</i>	<i>City of Hartford, Engineer</i>
<i>Frank Mayer</i>	<i>Town of Trenton, Zoning Administrator</i>
<i>Jim Haggerty</i>	<i>Village of Slinger, Engineer</i>
<i>Ken Voigt</i>	<i>Village of Germantown, Bldg/Plmb Inspector</i>

Washington County Representatives

<i>Scott Schmidt, P.E., R.L.S.</i>	<i>Washington Co., Engineer/Surveyor</i>
<i>Paul Sebo</i>	<i>Washington Co., Senior Technician</i>
<i>Jill Hapner</i>	<i>Washington Co., County Conservationist</i>
<i>Charlene Brady</i>	<i>Washington County Supervisor</i>
<i>Paul Backhaus</i>	<i>Washington Co., Project Technician</i>
<i>Fay Fitts</i>	<i>Washington Co., Admin. Secretary</i>

State Representative/Others

<i>Benjamin Benninghoff</i>	<i>DNR, Water Res. Stormwater Specialist</i>
<i>Scott Mathie</i>	<i>Metropolitan Builders Association</i>
<i>Mark Augustine, P.E.</i>	<i>Yaggy Colby Associates</i>

**Arrived late for the meeting*

Review and Approve Minutes of 08/23/07

The draft minutes of the previous meeting had been mailed or emailed for review. Mr. Marechal suggested that clarification should be made pertaining to definition of working day. It was agreed that the final minutes of 08/23/07 would reflect the following language– “Definition of working day was discussed and it was noted that inclement weather would not be included as a working day.”

Mr. Bennett motioned to amend the minutes of 08/23/07 to include the added language clarifying “working day” as noted above; seconded by Mr. Marechal. Motion carried unanimously.

Mr. Bennett motioned to approve the minutes of 08/23/07 with the corrections noted as stated above; seconded by Mr. Marechal. Motion carried unanimously.

Review/Add to the Agenda

Nothing was brought forward.

Continuation of Edit/Review Preliminary Draft – Erosion Control & Stormwater Management Ordinance

Notable comments and discussions were as follows:

17.09 STORMWATER MANAGEMENT PLAN REQUIREMENTS (4) Specific Stormwater Management Requirements & Performance Standards (c) Infiltration.

A continuation of the previous discussion related to runoff volume and infiltration was conducted. Mr. Sebo reviewed the proposed draft ordinance language which goes above the minimum DNR requirements being:

1. For residential developments infiltrate the post development 2-year 24 hour design storm with a type II distribution.
2. For non-residential development, including commercial, industrial and institutional development, infiltrate the post development 1-year 24 hour design storm with a type II distribution.

On behalf of the Metropolitan Builders Association, Mr. Mathie had invited an engineer to the meeting to present research findings regarding infiltration, pond sizes and related costs to the committee. Mr. Augustine introduced himself to the group, as being employed as an engineer for Yaggy Colby Associates, a firm out of Delafield, WI, specializing in civil engineering and surveying for residential and commercial stormwater design.

Mr. Augustine stated that he had took the hypothetical scenario given of a 10 acre site (former farmland) to be developed as 1/3 acre in size residential lots, ran the calculations accordingly to NR151 and NR216 requirements and included the modification of the post development 2 year-24 hour storm event with infiltration of 100%.

Mr. Augustine stated that given the parameters using a 10:1 side slope at 100% infiltration, 2 year, 24 hour storm event the approximate size for the basin size would be approximately 25,000 sq. ft or just under 2/3 of an acre. If comparing that to a design using NR151 requirements of a 4:1 side slope 25% infiltration 2 year 24 hour storm, the basin size would be 7,800 sq. ft. Mr. Augustine stated that by using a 4:1 side slope basin sizes are substantially reduced. He also stated that with the 10:1 side slopes construction costs increase significantly because of the amount of soil that needs to be removed. He presented the following comparisons.

Mr. Sebo clarified that the 10:1 side slope is not a requirement of the proposed ordinance; it was just used as an example in the scenario.

2 year, 24 hour Design Storm Event	Side Slopes	Cost of Construction	Other Notes
100 % Post-Development	10:1	\$64,000	Cost Only Includes Field Construction Costs
100% Post-Development	4:1	\$41,000	
25% Post-Development	10:1	\$51,000	
25% Post-Development	4:1	\$14,200	
90% Average Annual Rainfall	4:1	\$13,150	

Mr. Sebo stated that if the above calculations were taken a step further and calculated in WinSLAMM (in order to consider the pollution reduction load requirements for total suspended solids of 80%), additional stormwater management practices would be needed. And that 90% of the pre-development or 25% of the post-development 2 year 24 hour design storm event does not meet the 80% pollution reduction requirement. Mr. Augustine stated that all of the above design examples would require a construction of a forebay, in order to accommodate the pollution reduction standard, which would then add to the estimated construction costs indicated above. Noting that the technical standards state that 80% of total suspended solids be removed before entering the infiltration basin.

Mr. Sebo clarified Mr. Augustine statement indicating that the 80% removal of total suspended solids is required from the site, not prior to any infiltration practice, pretreatment prior to infiltration is required but not to the 80% level.

Mr. Augustine expressed concern that if the 80% sediment reduction was not met prior to infiltration, future maintenance costs may be significantly higher as sediment would be clogging the infiltration basin over time.

Mr. Sebo indicated that Mr. Augustine's design calculations entail a full wet detention basin, designed according to design standards, indicating the 80% pollutant reduction is following the design standard, noting that is not what he believes NR151 tech standards require. Mr. Augustine stated that his design separates the different discharges – roof tops from driveways, etc. for pretreatment.

Mr. Benninghof verified the DNR technical standard requirement, noting that the 80% pollutant reduction does not have to be done prior to infiltration, but noted that it would be considered good design practice if it were done prior to runoff entering the infiltration basin (i.e., grass swales, vegetation filter strips, wet detention basin).

Mr. Augustine stated that, if requiring a 100% infiltration of a 2 year, 24 hour design storm, may then lead to other issues such as local groundwater mounding, basement flooding, leaks in sanitary sewer lines.

Mr. Sebo stated that the proposed language is proposed because Washington County has good soils for infiltration, we are capable, we have the ability to exceed the DNR standards, because of the soils available, we can help to alleviate downstream flooding problems. If the minimum standards are followed, additional practices would still need to be addressed to control the 80% pollutant solid reduction standard on site. Mr. Sebo stated that by doing the full 2 year – 24 hour design storm @ 100% infiltration on a residential development, you've made engineering simpler.

Mr. Sebo agreed with Mr. Marechal, to include additional language to read that one of the following methods could be met for infiltration, and if not met, the applicant would then move to the next level, etc. It was agreed to revise the language to read -

1. For residential developments infiltrate the **“runoff volume of the”** post development 2-year 24 hour design storm with a type II distribution.
2. Adding language for residential and non-residential to read. When site constraints do not allow for appropriate infiltration systems, technical waivers may be sought in accordance with sec. 17.05(4); however, **“one of”** the following infiltration minimums shall be met when practicable.

Mr. Augustine noted that designing for infiltration of 100% of a 2 year 24 hour design storm event would require more engineering, because typically there is a higher % of granular (gravely or

course) soils on the top of the hills or the upslopes and finer % soils (silts and clays) on the bottom, reducing infiltration rates.

Mr. Bennett motioned to approve the infiltration recommendations as presented in the draft ordinance; seconded by Ms. Brady. Discussion ensued. Mr. Bennett amended the motion to include additional draft ordinance language as being; For residential developments infiltrate the “runoff volume of the” post-development 2-year 24 hour design storm with a type II distribution; and including the following language for both residential and non-residential; “When site constraints do not allow for appropriate infiltration systems, technical waivers may be sought in accordance with sec. 17.05(4); however, “one of” the following infiltration minimums shall be met when practicable; seconded by Ms. Brady; Vote Count Taken. 5 Ayes; 4 Nays. Motion carried.

17.09 STORMWATER MANAGEMENT PLAN REQUIREMENTS (4) Specific Stormwater Management Requirements & Performance Standards (e) Requirements. 1. Conflicting Ordinances.

It was noted that if conflicting ordinances arise the most restrictive ordinance or setback rule shall apply. It was noted that when NR 115 is finalized the County will eventually need to update their Chapters.

17.09 STORMWATER MANAGEMENT PLAN REQUIREMENTS (4) Specific Stormwater Management Requirements & Performance Standards (i) Site Drainage. 3. Subsurface drainage.

Mr. Haggerty noted that the Village of Slinger has had a lot of discussion on the topic of seasonal high groundwater, noting that there are times of low rainfall when the seasonal high groundwater is not visually evident, but there does lay evidence in the soils. Discussion continued regarding the definition of seasonal high groundwater and the occurrence of flooding basements. Mr. Augustine noted that he has witnessed the geo-technical problems facing Waukesha County because this topic was not clearly defined in their ordinance. Mr. Haggerty noted that he would also like some clarification on the definition. Mr. Sebo noted that Waukesha County has just completed research on how to determine where the seasonal high groundwater tables are located through soils investigations, stating that he could get copies of the document for others to review. Discussion continued on the possibility of inserting better defined language into the draft such as referencing Com83. Further discussion ensued determining the best qualified person to determine basement elevations in regards to level of high groundwater - engineers vs. certified soil testers vs. building inspectors, and findings of cohesive soils, re-dox indicators.

Mr. Schmidt noted that he felt that this area was not a topic that should be included in the County ordinance, suggesting that possible language could be referenced for the City, Towns and Villages to consider for adoption in their local ordinances, noting that when Certified Survey Maps are developed in rural areas, such as divisions of 1 or 2 lots, those situations are hardly seen at the County level.

Mr. Ripp agreed that this issue was the number one complaint that he receives from homeowners and the City of Hartford will need to address and enact language, whether it is in the County ordinance or not.

Mr. Augustine suggested that if homeowners don't want to do an engineering design on their basements than the proposed ordinance language could be followed, or a statement could be inserted into the ordinance recommending that the basement foundation must be designed by a qualified engineer that would address any groundwater issues that arise.

Mr. Sebo stated that at a minimum, he would like to see some language stating, that if a site is above an infiltration basin, the basement should not be located in the high groundwater table, whether it's visibly observed or otherwise defined as being seasonal high groundwater. If the location of the site is below a wet detention basin would not be as detrimental, but the discharge occurring from a wet detention basin would also need to be taken into account and consideration.

Mathie indicated that his organization would also be researching possible language to consider at the next meeting.

It was recommended to table this topic for future discussion.

17.09 STORMWATER MANAGEMENT PLAN REQUIREMENTS (4) Specific Stormwater Management Requirements & Performance Standards (i) Site Drainage. 4. Structure protection & safety. a. & b.

Mr. Augustine noted that in regards to the horizontal and vertical control on structures the ordinance does not take into account the floodplain separation. Mr. Schmidt noted that perhaps the language could be changed to include wording related to the connectivity between the two; water surface and groundwater surface. Discussion ensued regarding berming and pond location, it was agreed to research additional TR55 or DNR language in order to address the hydraulic connection.

Mr. Augustine noted that depending on the grade of the site, the 2 foot separation vertical is difficult to meet the requirement, if the site is a relatively level. On the other hand, if the site is a steeper slope grade, than the horizontal is difficult to meet. Inserting language regarding closed depressional sites was also discussed, as well as, back to back 100 year storm events if no outlet exists.

Mr. Sebo stated that if the site was not meeting the standard a technical exemption was another alternative.

It was recommended to table further discussion on this topic, until a later date, in order to research additional language.

The committee members agreed that at the next meeting, tabled items would be addressed and the review process would begin at 17.10 TECHNICAL STANDARDS & SPECIFICATIONS.

It was asked of the committee, if there were any other major concerns regarding the remainder of the draft proposal? Mr. Augustine suggested additional language could be inserted in the following - 17.11 PERMIT REQUIREMENTS (4) Construction Certification (a) A professional engineer licensed in the State of Wisconsin, shall verify that the engineer "or qualified representative" has successfully completed all site inspections outlines...

By consensus, committee members agreed to the language recommendation.

Consideration of Approval of Preliminary Draft

No motion was brought forward to consider.

Review of Meeting Dates & Times

The following meeting date was scheduled as follows:

October 25, 2007 – 2-4 PM

There being no further comments, Mr. Ripp motioned to adjourn, seconded by Mr. Mayer. Motion carried.

Meeting adjourned @ 4:15 P.M.

Respectfully Submitted, Fay Fitts