DuPage County
Water Quality BMPs and
Water Control Volume

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DuPage County Economic Development and Planning

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BMP Approach - Existing and Proposed

- All Developments that require a Stormwater Management Permit must provide BMPs for the total area being developed.

- Generally, developed area is defined as any activity that changes the stormwater runoff characteristics or any activity in a wetland, wetland buffer, floodplain, or riparian area.
DuPage County

Water Quality Best Management Practices
Technical Guidance

For Inclusion into Appendix E – Technical Guidance
for the DuPage Countywide Stormwater and Flood
Plain Ordinance

March 2008

Prepared by:
DuPage County Stormwater
Management Committee

With
DuPage County
Economic Development and Planning
And
ENGINEERING RESOURCE ASSOCIATES, INC.
BMP Approach – Existing vs. Proposed

- Select common target pollutants
  - Total Suspended Solids (TSS)
  - Metals and Oils
  - Nutrients
BMP Approach – Proposed Draft Ordinance

- Intent was a greatly simplified approach, but current proposed draft language is inadequate.
- Will be adding a design rainfall event to focus on frequent events, and other changes.
BMP Approach – Existing vs. Proposed

- **Existing BMP Guidance**
  - Treat the water quality event
  - 2-year 24 hour event = 3.04 inches

- **Proposed**
  - Treat the first flush
  - 2 inch rain event
  - 80% of runoff is from storms which are 2 inches or less
  - 80% of the sediment load is from storms 1.78 inches or smaller
Existing BMP approach uses BMPs by Land-Use - The Selection Guide
>1 ac. Multi-Family or Non-Residential Land Uses; Roads w/ Detention

Pollutant Category by Treatment Importance

More Important

TSS

Metals/Oils

Less Important

Nutrients
>1 ac. Multi-Family or Non-Residential Land Uses; Roads w/ Detention

<table>
<thead>
<tr>
<th>Sample Recommended BMPs</th>
<th>Value</th>
<th>Pollutant Treatment Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetated Swale, native</td>
<td>2</td>
<td>Metals/Oil</td>
</tr>
<tr>
<td>Permeable Pavers</td>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td>Dry Detention</td>
<td>1</td>
<td>Oil</td>
</tr>
<tr>
<td>Wet Bottom Detention</td>
<td>2</td>
<td>Oil</td>
</tr>
<tr>
<td>Wetland Detention (no open water)</td>
<td>2</td>
<td>None</td>
</tr>
<tr>
<td>Constructed Wetland (CWD)</td>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td>Manufactured</td>
<td>Varies</td>
<td>Varies</td>
</tr>
</tbody>
</table>

**Importance Value (BMP Effectiveness)**

1 = Low  2 = Moderate  3 = High

**BMPs should treat 100% of the developed area and average or exceed a 2.5 average importance value.**
BMP Flexibility

- Provide Options - treatment train
- Detention Basins – double credit for BMP use
Water Control Volume (WCV) Proposed Draft Ordinance

- WCV based on impervious area according to Table 2
- Lots greater than 12,000 square feet with more than 500 square feet of impervious area
- WCV rainfall capture depth is a sliding scale ranging from 0.5” to 1.00” depending on the project type
Proposed Draft Ordinance Language

- Proposed Draft Ordinance attempts move away from zoning classifications by looking at impervious areas and changes to impervious areas.
**Table 2. Site Runoff Storage and Water Control Volume Requirements**

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Site Runoff Storage</th>
<th>Water Control Volume Applicable Rainfall Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway Projects</td>
<td>Special</td>
<td>1.00 in.</td>
</tr>
<tr>
<td>Open Space Development Projects</td>
<td>Special</td>
<td>0.75 in.</td>
</tr>
<tr>
<td>Public Water and Sewer Improvement Project</td>
<td>Not Required</td>
<td>Not Required</td>
</tr>
<tr>
<td>All development where, compared to the Pre-Project Site, the TIA has increased or decreased less than 5% and the TIA of the With-Project Site is:</td>
<td>And new TIA is greater than 25,000 sq ft.</td>
<td>And new TIA is greater than 500 sq ft.</td>
</tr>
<tr>
<td>Equal to or less than 10%</td>
<td>Not Required</td>
<td>0.75 in.</td>
</tr>
<tr>
<td>Greater than 10%</td>
<td>Required</td>
<td>0.75 in.</td>
</tr>
<tr>
<td>All development where, compared to the Pre-Project Site, the TIA has decreased at least 5% and the TIA of the With-Project Site is:</td>
<td>Not Required</td>
<td>0.50 in.</td>
</tr>
<tr>
<td>Equal to or less than 50%</td>
<td>Not Required</td>
<td>0.75 in.</td>
</tr>
<tr>
<td>Greater than 50% but less than 80%</td>
<td>Not Required</td>
<td>0.75 in.</td>
</tr>
<tr>
<td>Greater than 80%</td>
<td>Not Required</td>
<td>1.00 in.</td>
</tr>
</tbody>
</table>
Water Control Volume (WCV) Proposed Draft Ordinance

- Preferred method of discharge from the WCV facility is through infiltration or evapotranspiration.
- Where soils are inappropriate for infiltration, an underdrain may be used provided that the WCV does not draw down in less than 48 hours.
- The volume calculated for the WCV can be subtracted from any site runoff volume (detention) required.
Proposed Draft Ordinance

- Proposed Draft Ordinance attempts to recognize the integration of BMPs and WCV into other aspects of Stormwater Management.
- Promote design opportunities to take advantage of combining:
  - Runoff volume (detention)
  - BMPs
  - Water Control Volume
Proposed Draft Ordinance – next steps

- First Public Comment period ended March 4.
- Compile comments received and develop responses with Steering Committee.
- Present comments and responses to Stormwater Committee.
- Prepare a revised draft reflecting comment response.
- Present draft to Stormwater Committee for second public comment period.
- Compile and respond to comments.
- Prepare final ordinance for Stormwater Committee and County Board approval.
Re-ordering/Re-arranging Ordinance Articles

By Storm[Blog] | Date: Oct 13 | Filed in: Permit Application and Review Process | 2 comments

How much value is there in re-ordering and re-arranging the various Articles of the Ordinance? In 1992 when the ordinance was new the most immediate questions were "How does administration of this thing work?" and "will projects be "grandfathered" from this ordinance and reviewed/approved under the previous stormwater management ordinance?" The answer to the first question has been with us for a while now and the update to the ordinance may tweak some aspects, it is hardly new. The answer to the second question has yet to be widely discussed and may be much less of an issue this time around. Arguably, those two questions dominate the text in 5 of the first 6 articles of our current Ordinance. We don't really begin to specify submittal requirements until Article 11, 56-pages into the text. On the positive side those who work in the Engineering/Legal/Development field in DuPage County frequently have gotten used to this system, and any sort of wholesale change in layout and format could cause concern for any number of reasons. Should we work within the current ordinance text format and divisions, or look at a re-ordering? If reordering, who should the primary target audience be?

Definitions of Development and Types

By Storm[Blog] | Date: Oct 12 | Filed in: Development | No comments yet
Stormwater Permitting Information
www.dupageco.org/edp