

# IAFSM Annual Conference

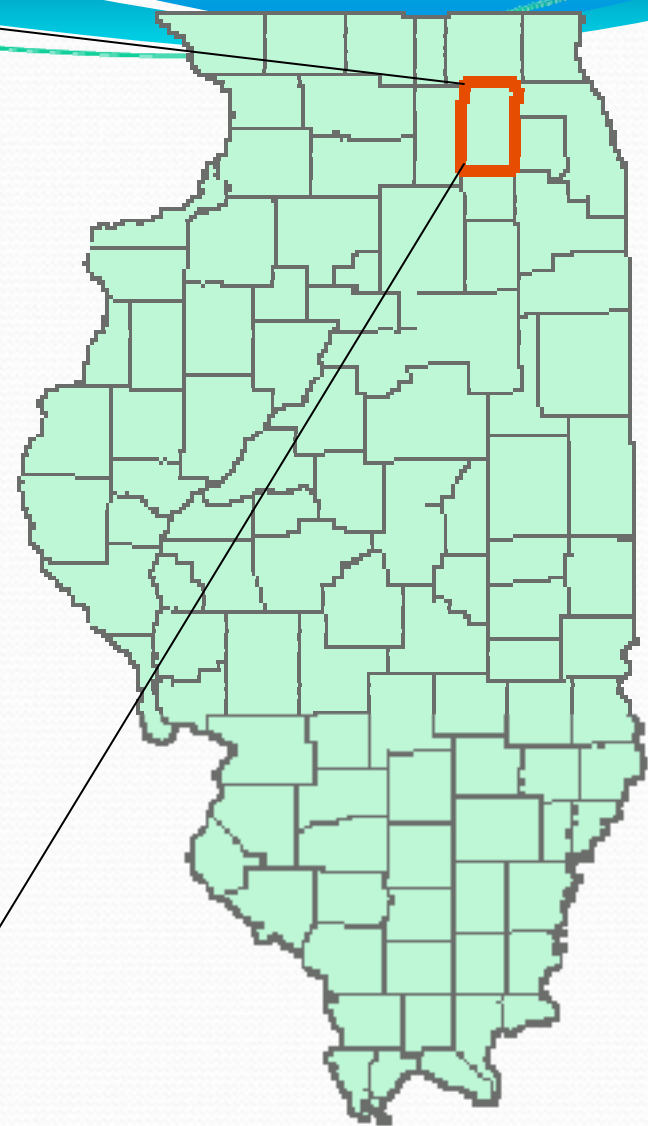
**March 9, 2011**

New BMP Requirements in N.E. Illinois

Tim Harbaugh, P.E., DEE

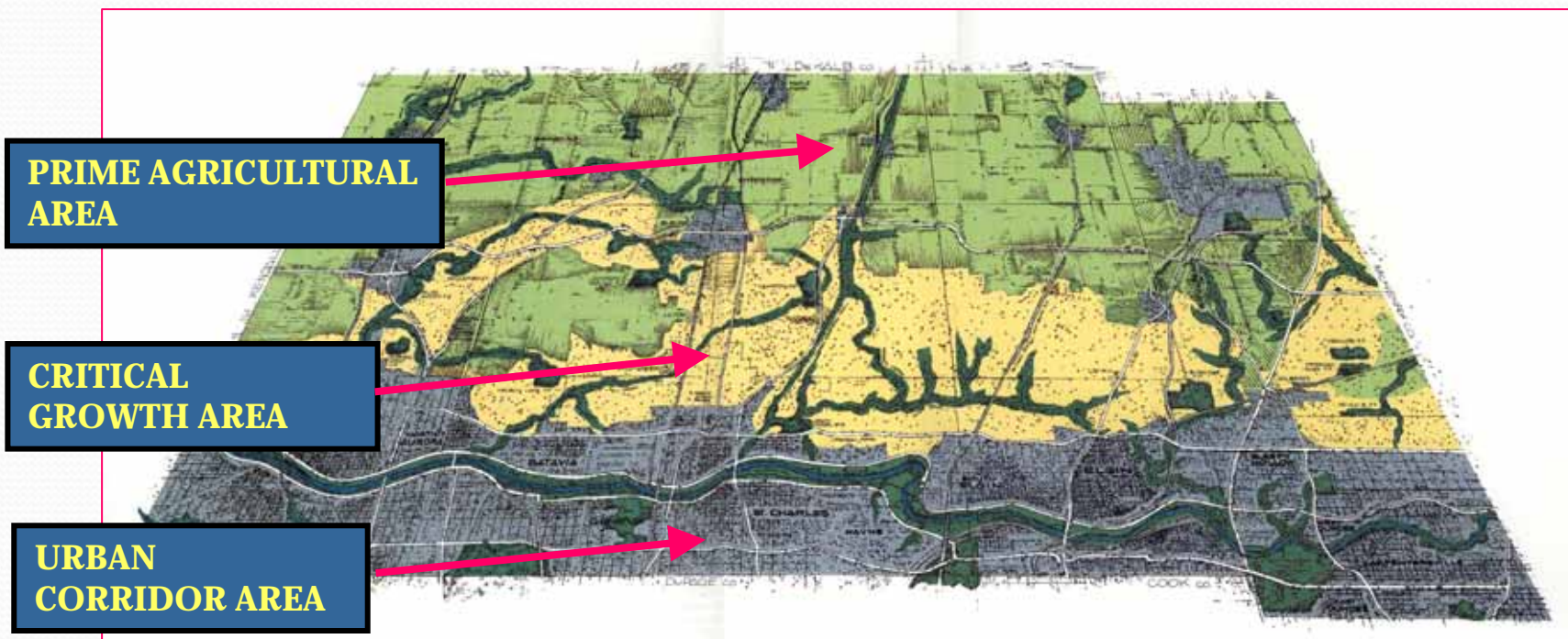
Kane County

## Kane County, Illinois

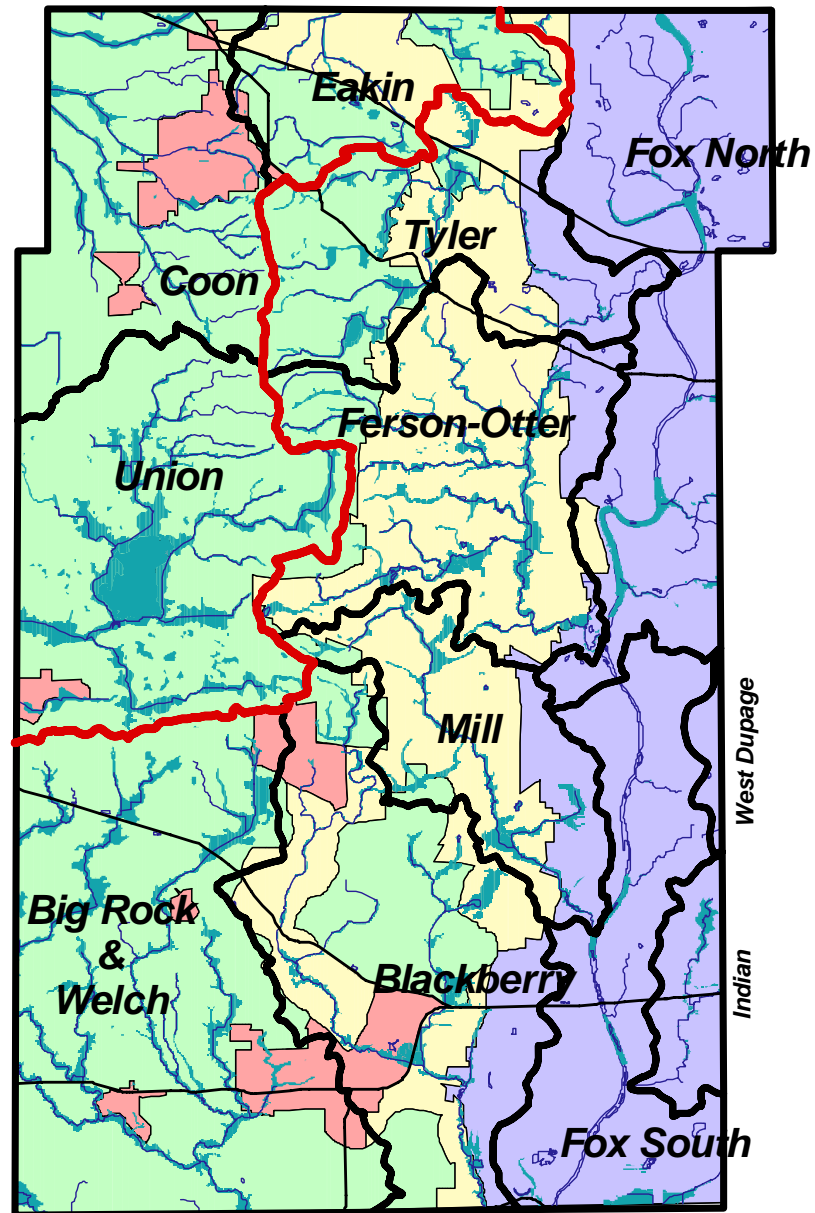




# Land Use Strategy Perspective Kane County 2030 Plan



WESTWARD DEVELOPMENT



4/26/00 <i>Created By: KMR</i>		Map Extents 	<b>Key to Features</b> Streams Floodplain 2020 Land Use Categories Agricultural Priority Critical Growth Agricultural Village Urban Corridor	Kane County 2020 Landuse & Watersheds  Kane County, Illinois
	Kane County Environmental Management Department	1 0 1 Miles 		







# KANE CO. STORMWATER ORDINANCE KEY POINTS

- Reducing stormwater damages
- Commitment to water quality and infiltration
- Preserve or compensate depressional storage
- Development design alternatives
- **Post development release** rate is  $\leq 0.1$  cfs/acre for a 100-year event **for areas disturbed**
- Retain  $0.75''$  rainfall x "directly connected impervious area" (plan for evapotranspiration or infiltration) Volume based on '**directly connected impervious surface**' in the development
- Set gravity outlet above retention volume



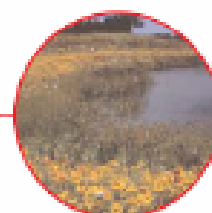
**Vegetated Swale**



**Rain Garden**



**Conservation Rural  
Residential Template**



**Naturalized Detention**



**Native Landscaping**



**Conventional Rural  
Residential Template**



Bioswale



Green Roof



Conservation Commercial/  
Industrial Template

Mixed uses within  
development  
(i.e. offices, retail,  
restaurants, etc.)



Naturalized  
Detention

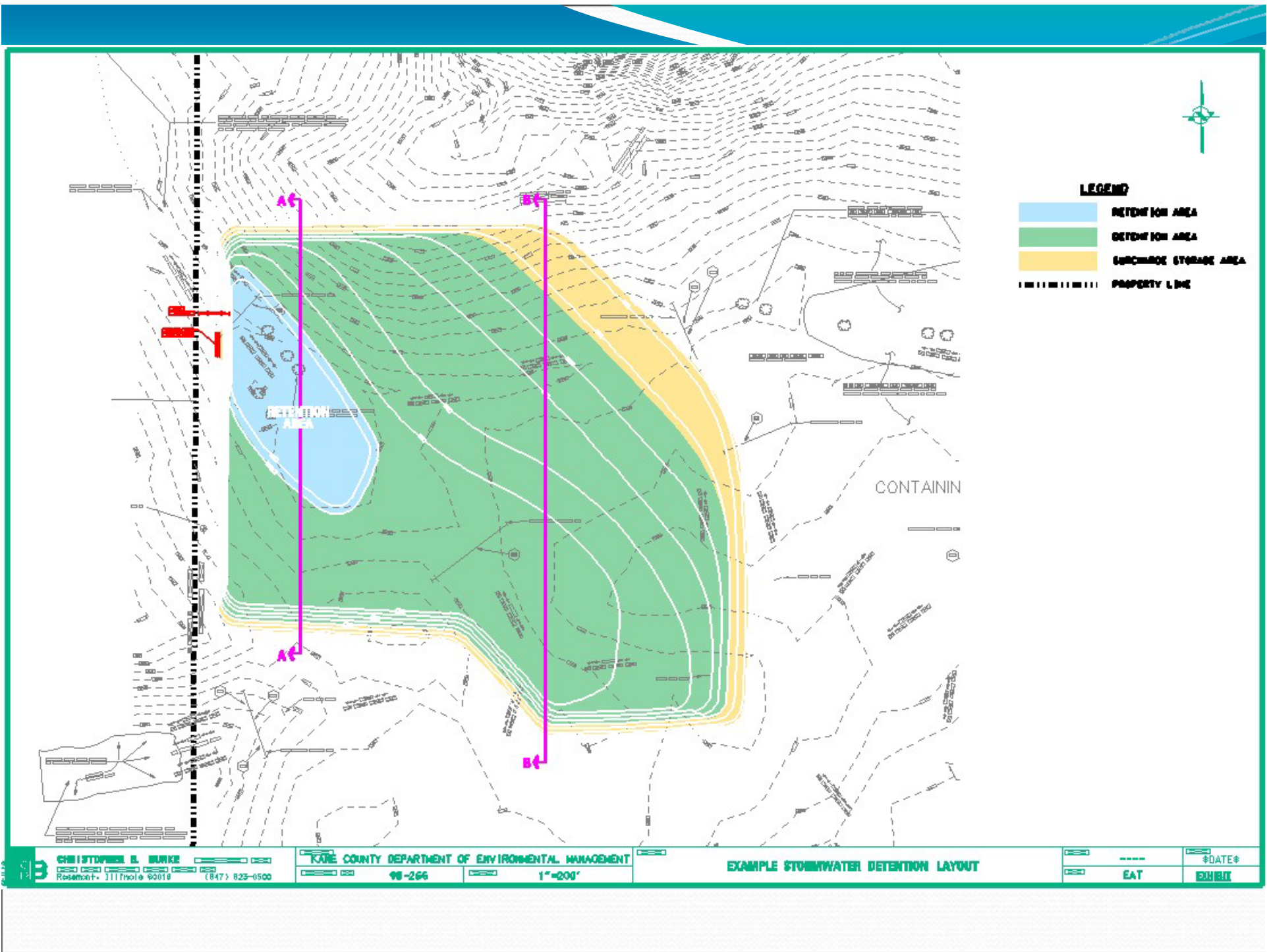


Porous  
Pavement



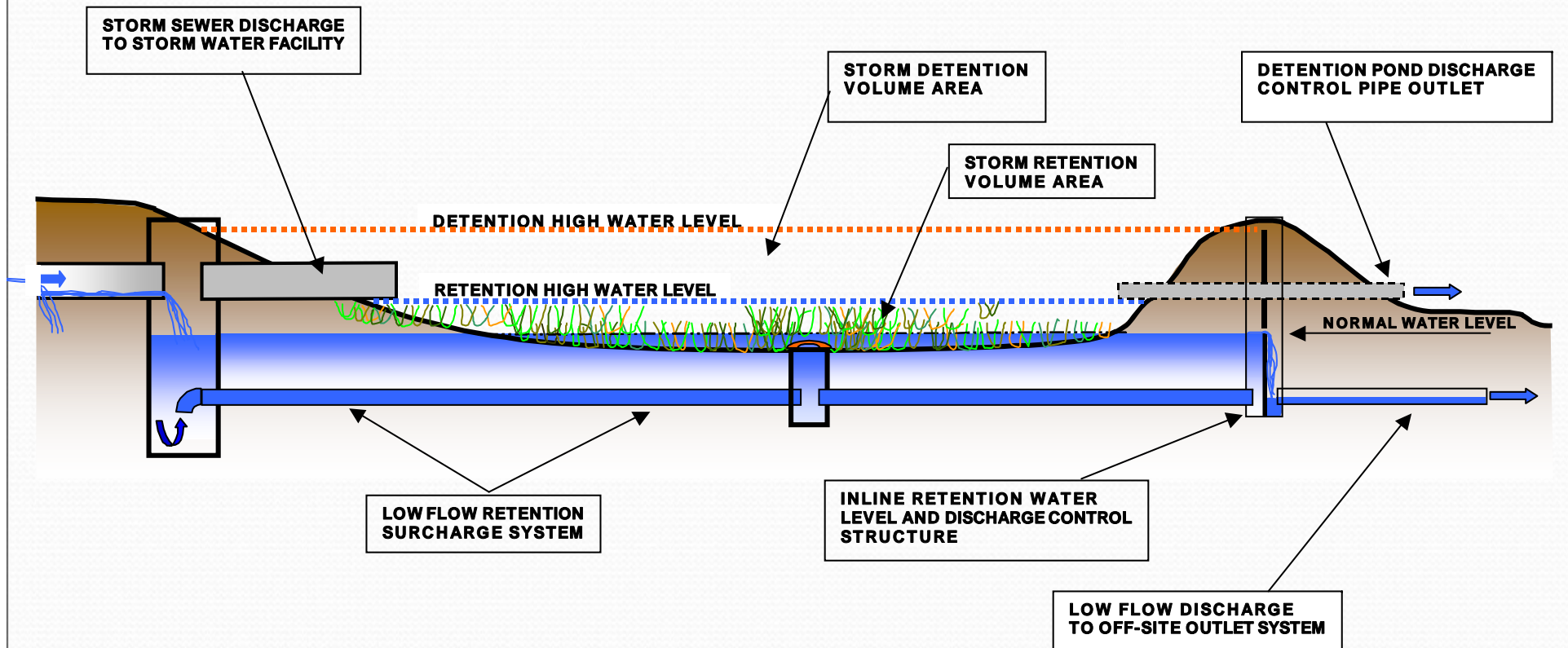
Conventional Commercial / Industrial  
Template





# TYPICAL STORMWATER DETENTION POND WITH CONTROLLED WETLAND RETENTION

HUDDLESTON-MCBRIDE TYPICAL SECTION NO. C-128-98





# KANE COUNTY STORMWATER ORDINANCE KEY POINTS

## Continued

- Pass the existing conditions peak runoff rate from the 100-year, critical duration rainfall above the design 100-year high water level
- Protect agricultural land uses (drain tile investigations and improvements)
- **Soil erosion and sediment control measures**
- **Wetland protection (non-Corps Jurisdiction)**
- Wetland buffers
- Floodplain regulations
- **Mandatory special service areas (SSA) or Homeowners association and a mandatory backup SSA**



# BMP Demonstration Project



Kane County  
Environmental  
Management  
Department



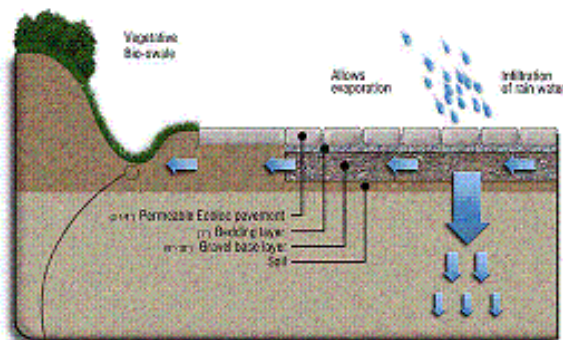
## KANE COUNTY EVENTS CENTER

Environmentally Friendly Parking Lot Improvements



This is the first installation of Gravel Grass Pavements in the Chicagoland Area.

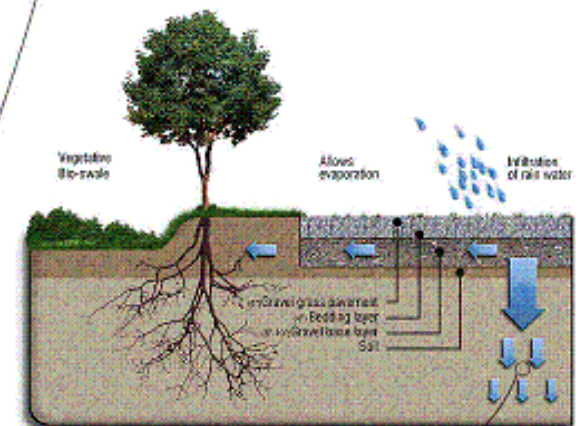
### Ecolog Permeable Paving System



**Vegetative Bio-Swale Benefit = Water Quality**  
Stormwater runoff is filtered through layers of the paving systems before flowing through the naturally filtering bio-swales to White's Creek and eventually the Fox River.



### Gravel Grass Paving System



### Gravel Grass & Ecolog Permeable Paving Systems Benefit = Reduced Flooding

Stormwater infiltrates (sinks in) and is stored in the system's base layer, decreasing the amount and rate of runoff from the site & decreasing flooding downstream.





# 2009 Minor Ordinance Amendments

- BMP-in-lieu of site runoff storage
- Outline permeable pavement and rain gardens



# Thoughts on the Future

- Ordinance Interpretation left to Municipalities (County will assist municipality, not developer or engineer)
- Stormwater Authority does not include zoning
- Water Quality opportunities are gone when the water leaves the basin
- Development community just wants to build, and follows tried and true methods
- Ordinance is “strict enough,” tradeoffs for improved water quality, including **Density**
- I personally oppose on site mandated water quality sampling
- Open to Ideas/Suggestions





THANK YOU