

# Existing & Future Land Use in Woods Creek Watershed

Prepared for: March 20, 2012 WCWC Meeting  
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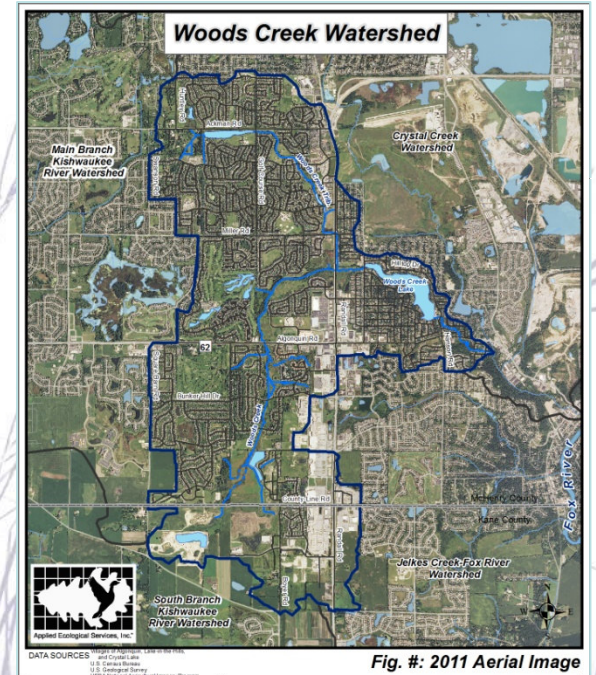
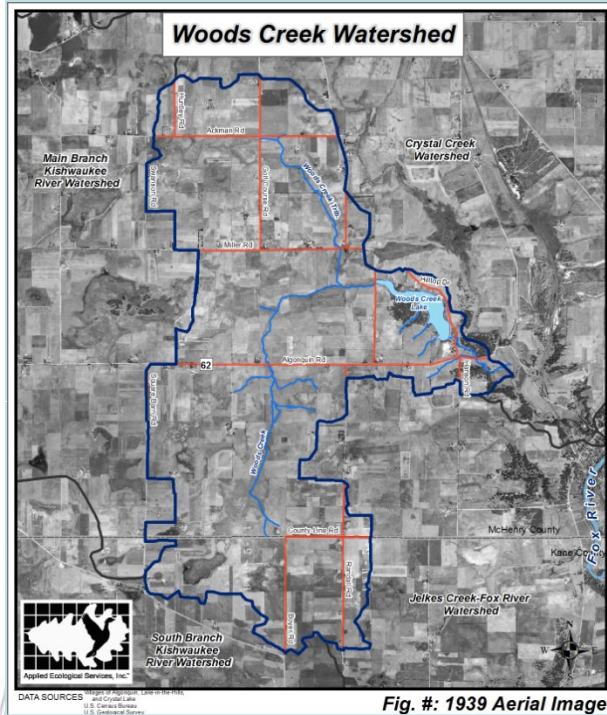
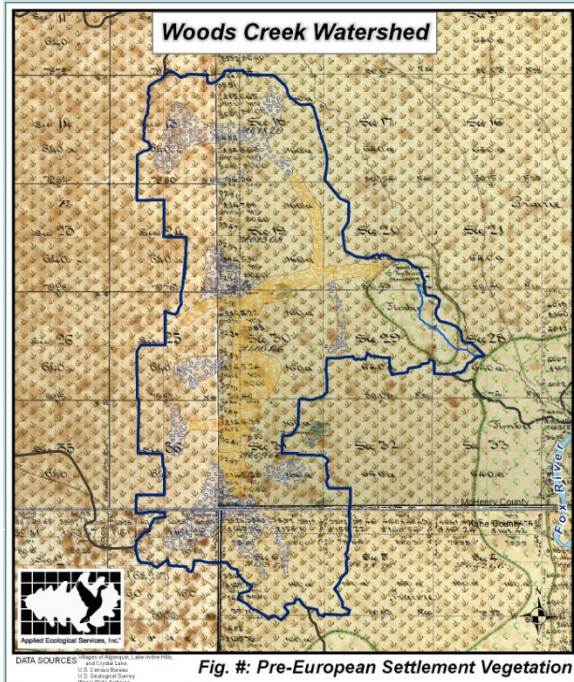
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# Key Discussion Topics

- Existing land use/land cover
- Existing transportation network
- Future land use/land cover
- Impervious cover impacts on watershed
  - Existing impervious cover
  - Future impervious cover & vulnerability
- Recommendations



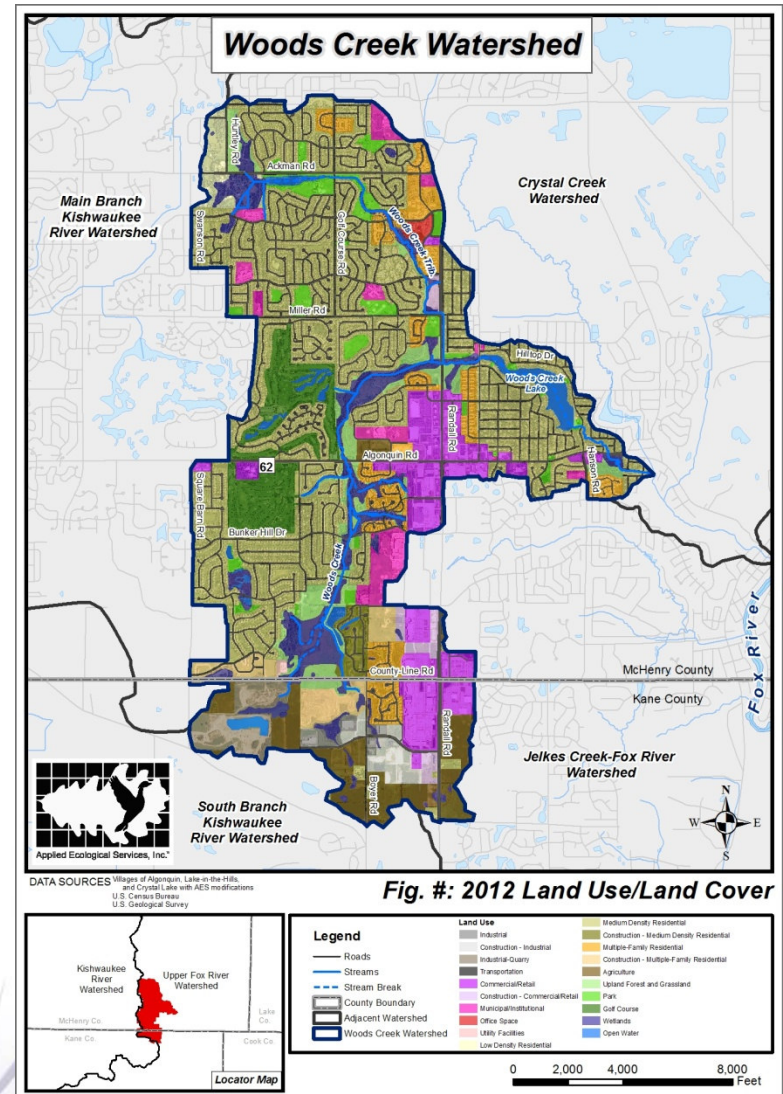
# Land Use Change





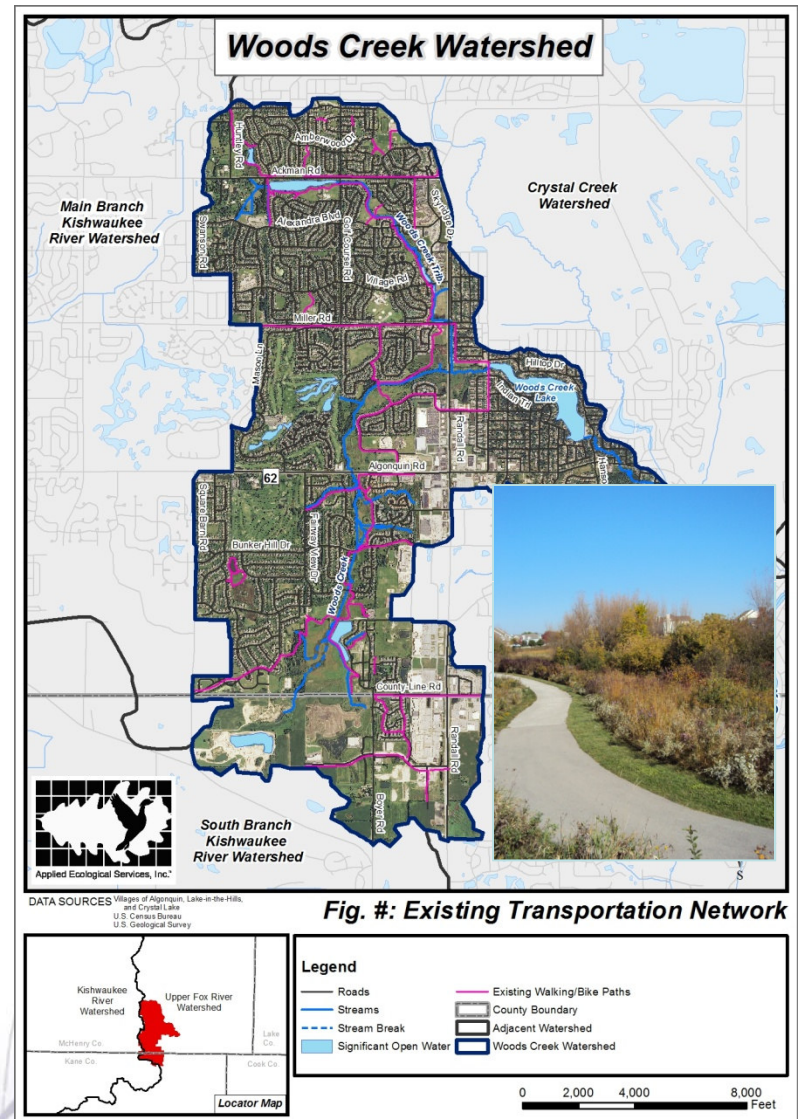
# Existing Land Use/Land Cover

- Medium density residential (1,812, ac; 33%)
- Transportation (753 ac; 14%)
- Commercial/retail (458 ac; 8%)
- Wetland (405 ac; 7.5%)
- Golf course (297 ac; 5.5%)
- Multi-family residential (292 ac; 5.5%)
- Agriculture (293 ac; 5%)



# Existing Transportation Network

- Randall Road is designated as a Strategic Regional Arterial (SRA).
- E-W: Algonquin Road (Route 62), Ackman Road, Miller Road
- N-S: Golf Course Road, Square Barn Road, Boyer Road
- Excellent network of walking and bike paths





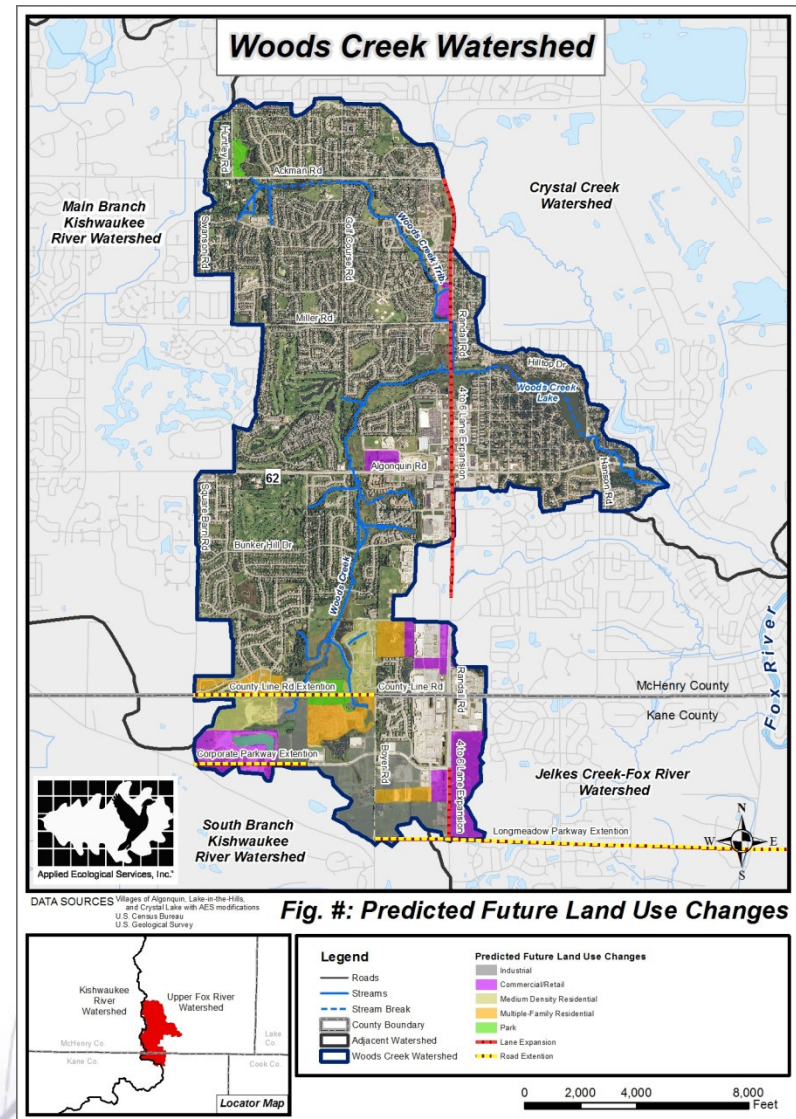
# Future Land Use/Land Cover

## Significant Decreases:

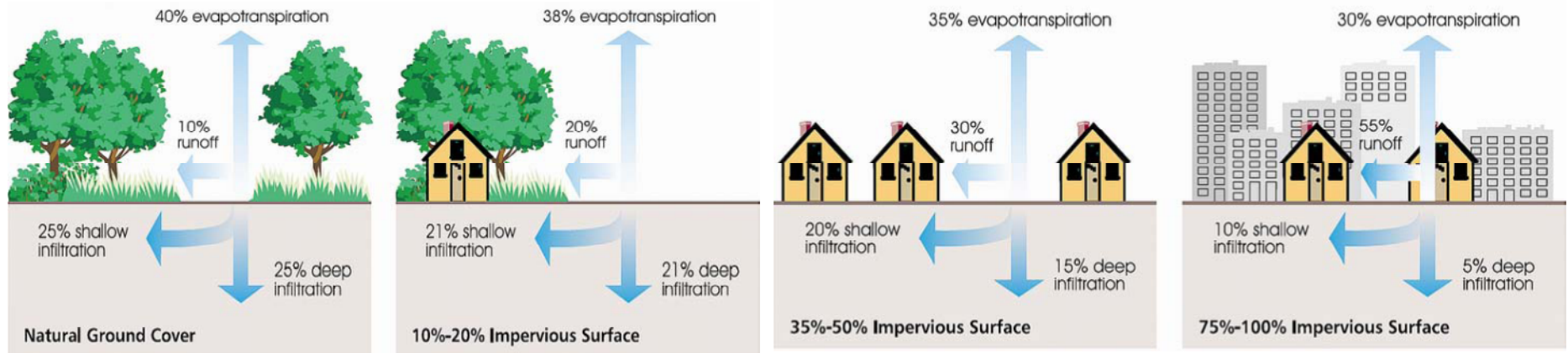
- Agriculture (-294 ac; 5%)
- Under construction (-294 ac; 5%)

## Significant Increases:

- Commercial/retail (238 ac; 4.5%)
- Industrial (209 ac; 3.4%)
- Multi-family residential (159 ac; 3.0%)
- Medium density residential (102 ac; 2%)
- Road expansion & extension



# Impervious Cover Impacts on the Watershed



Source: Federal Interagency Stream Restoration Workshop Group

Category	% Impervious Cover	Subwatershed Description
Sensitive	10% or less	Very little impervious cover ( $\leq 10\%$ ), stable stream channels, excellent habitat, good water quality, and diverse biological communities.
Impacted	Greater than 10% and less than 25%	Moderate impervious cover (11-25%), and somewhat degraded stream channels, altered habitat, decreasing water quality, and fair-quality biological communities.
Non-Supporting	Greater than 25%	High impervious cover ( $>25\%$ ), and highly degraded stream channels, degraded habitat, poor water quality, and poor-quality biological communities.





# Impervious Cover Impacts

## Streams:

- Streams degrade

## Water Quality:

- Pollutants and temperature increase

## Flow:

- Increased flow/volume

## Habitat

- Habitat is lost or becomes degraded





# Existing Impervious Cover

## 1 “Sensitive” SMU

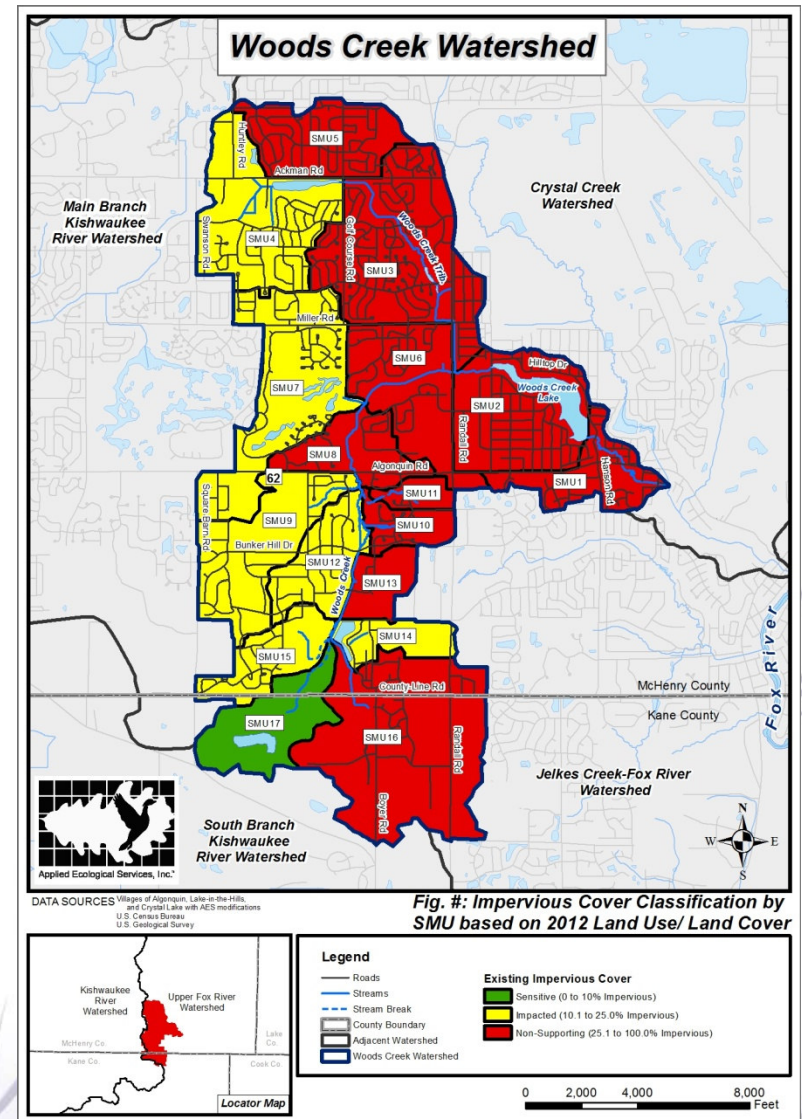
- Gravel quarry & Spella Wetland

## 6 “Impacted” SMUs

- West half of watershed where medium density residential and golf courses are common

## 10 “Non-Supporting” SMUs

- East half of watershed associated with Randall & Algonquin Roads



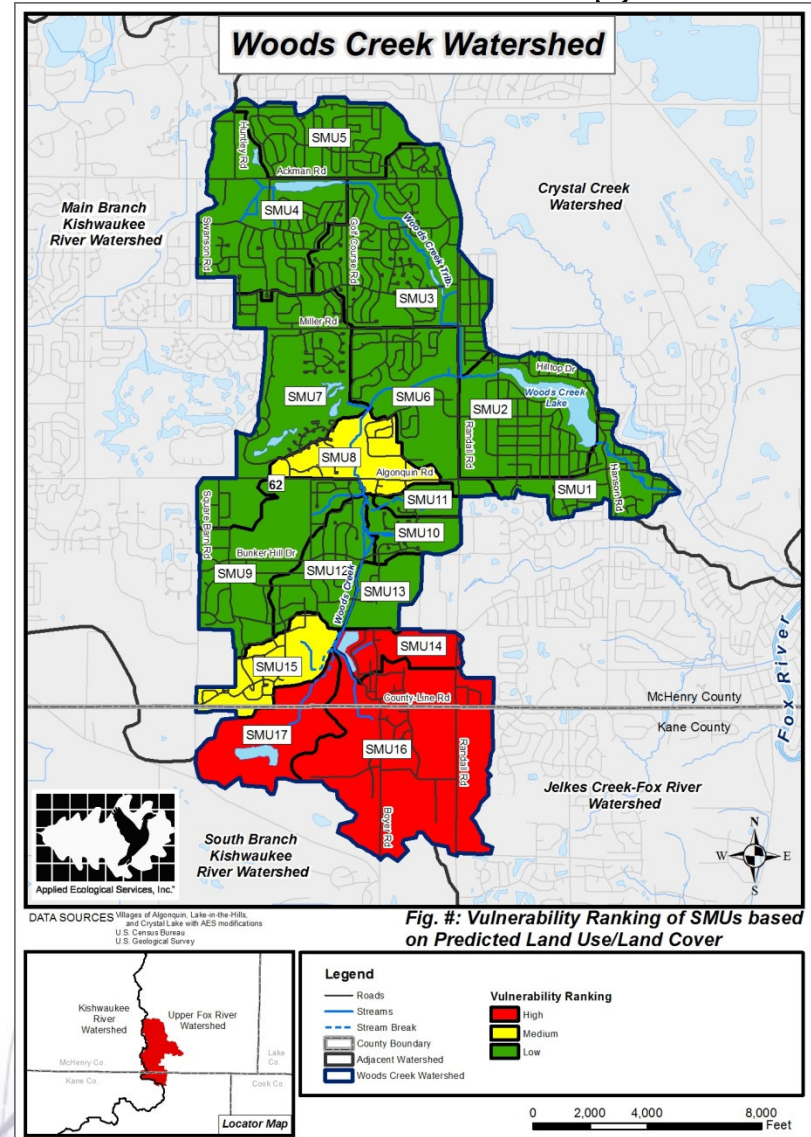
# Future Impervious Cover & Vulnerability

## Future Classification

- 0 “Sensitive”, 5 “Impacted” & 12 “Non-Supporting” SMUs

## Vulnerability

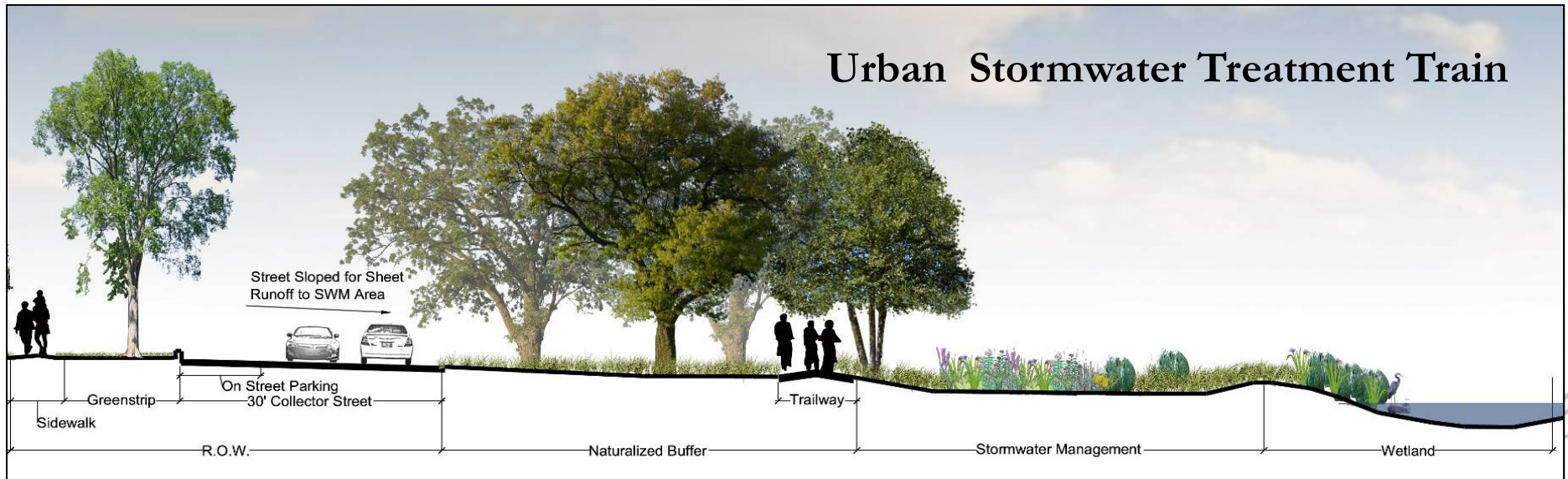
- 12 “Low”, 2 “Moderate”, & 3 “High”





# Recommendations

Go above and beyond to control runoff & improve water quality from future development at the headwaters of Woods Creek



Precipitation



Rain Gardens & Bioswales



Buffers



Naturalized Detention Basins



# Questions?



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