




# Urban Perspective DuPage River Watershed



# Water

Presentation by:  
Jennifer Hammer

DuPage River Specialist  
The Conservation Foundation



# The Conservation Foundation

1972-

- To enhance the quality of life by preserving open space, protecting natural lands, and improving rivers and watersheds.

Land/Open Space Protection  
 Dupage County Conservation

- Environmental Education
- Adopt-A-Road
- Work in DuPage, Kane, Kendall  
 & Will Counties
- Membership over 3,000
- 1 full time & 7 part time

professional staff

water

water

water



# What We Do...

*water*

- **Land Preservation**

- Protect Kendal Now!
- Open Space Referendum
- Land Acquisition Assistance
- Private Landowner Assistance

*water*

- **Watershed Protection**

- DuPage River Coalition
- Salt Creek Watershed Network
- Aux Sable Creek
- Big Rock Creek
- Blackberry Creek





# What We Do...

*water*

- **Public Policy Advocacy**

- DuPage County Environmental Summit
- Kendall County Growth Conference

- **Environmental Education**

*water*

- DuPage River C.A.R.E.
  - Mighty Acorns
  - Envirothon
- West Chicago Prairie Stewardship Group

*water*





# DuPage River Coalition - History

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- Volunteer initiated in 1989.
- Original focus West Branch, DuPage River
- water* • Developed one of the first volunteer monitoring programs in the state.
- Started an annual river clean up in 1991.
- Began Storm Drain Stenciling program in 1993.

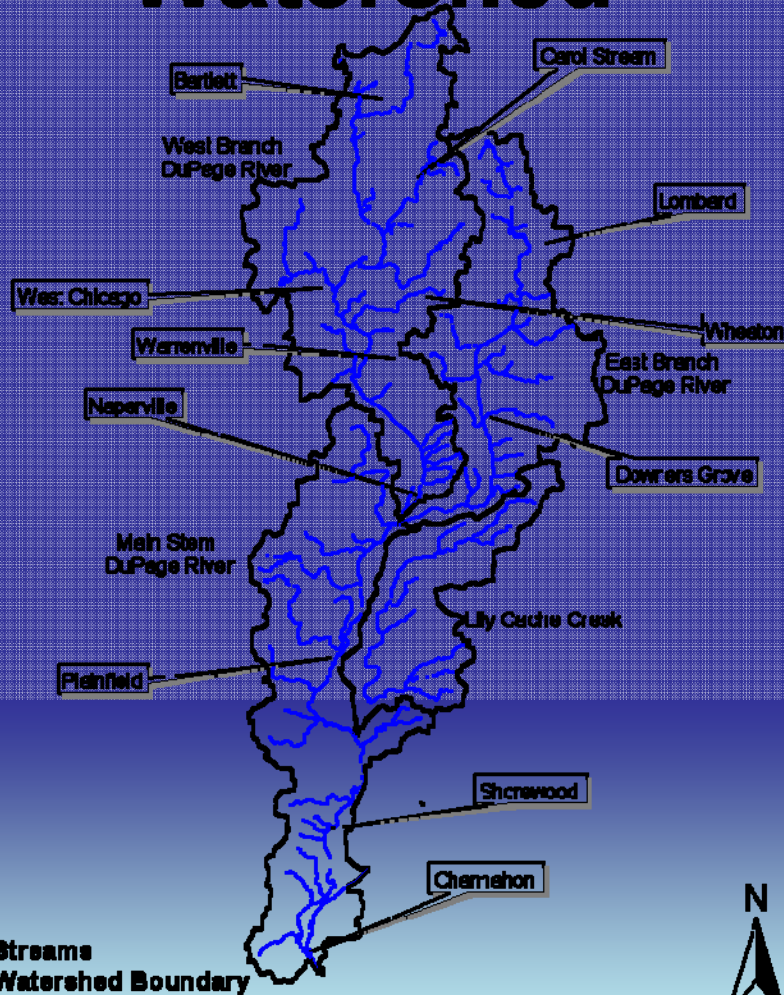
*water*



# DuPage River Watershed

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# The Watershed Planning Process

*water*

- Started Planning Process in 1997
- IEPA, US FWS, IDNR & private funding
- Citizen Stakeholder Planning Committee
- *WATPV* Technical Advisory Committee
- Implementation Committee
- 91 participants
- 2 years to complete

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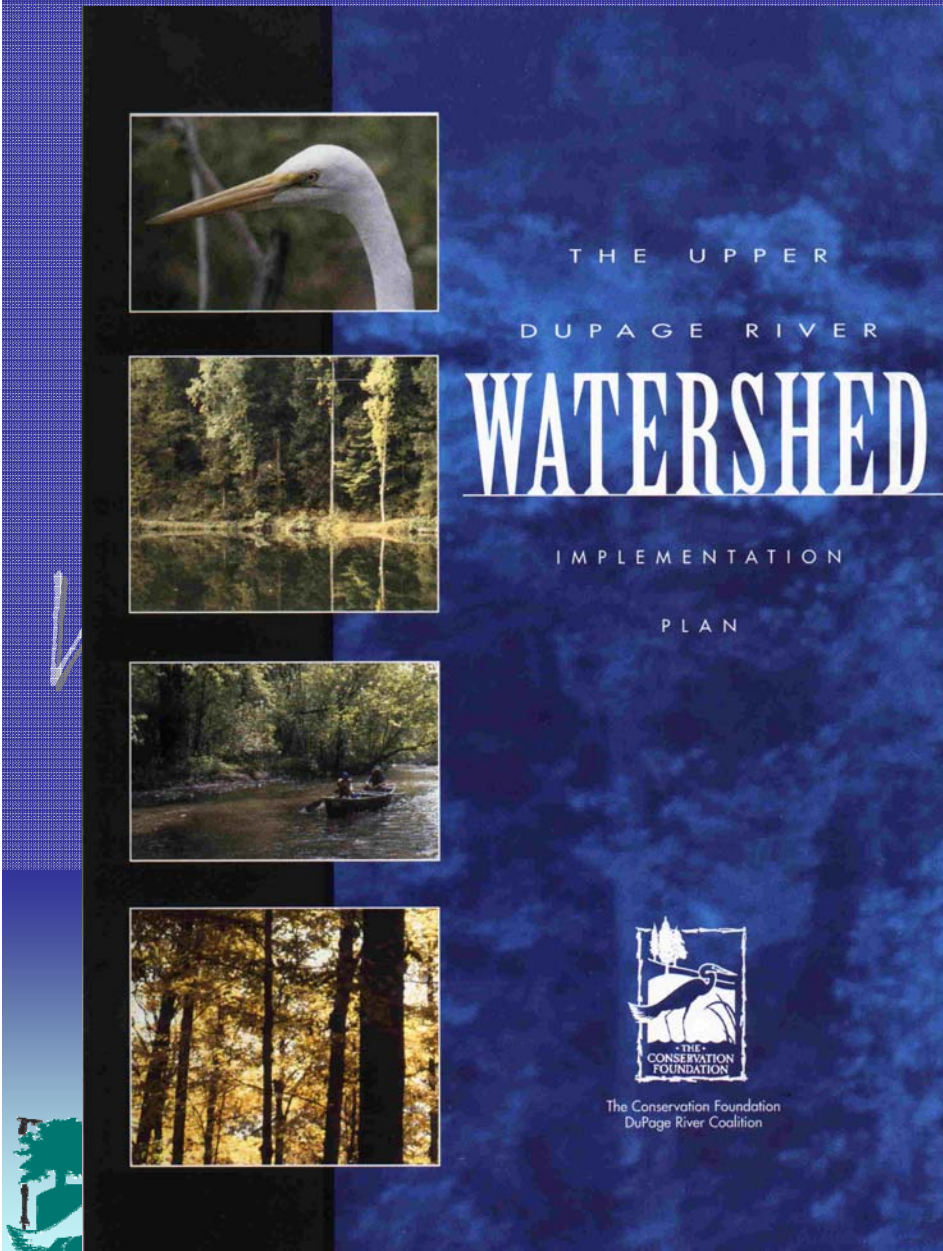


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## Major Goals

- Education
- Water Quality
- Land Use
- Ecosystem - Biodiversity
- River Access

water



# TCF Coordination *water*

- Communication- Quarterly Partnership Meetings, Quarterly Newsletter, Media
- Funding - Public, Private, Volunteer
- *water* Coordination - Full-Time Staff
- Endorsement by Communities and Organizations

*water*



# DuPage River Ecosystem Partnership



- Applied for partnership in 1998
- First Round of C-2000 Grant Applications submitted in February 1999

*WATER*

- 12 funded projects
  - \$560k from C2000
  - \$1.9 million from local match
- Project Ranking Committee

*water*





# Conservation 2000 Projects Granted

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- Ferry Creek Wetland Restoration
- Fish Passage & Water Quality Impacts of Dams on the DuPage River
- Riparian/Spring Seep Restoration along West Branch
- Re-meander of Spring Brook Creek

water

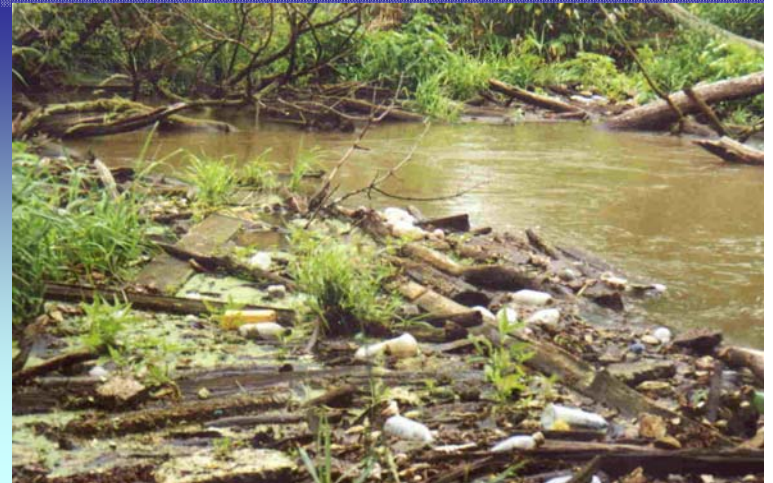


# Other Conservation 2000 Projects

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- Lyman Woods Wetland Restoration East Branch
- DuPage River Greenway Improvements
- Sustainable Development Education/Outreach to Municipalities in Watershed
- Removal of Concrete-lined Channel on East Branch

water



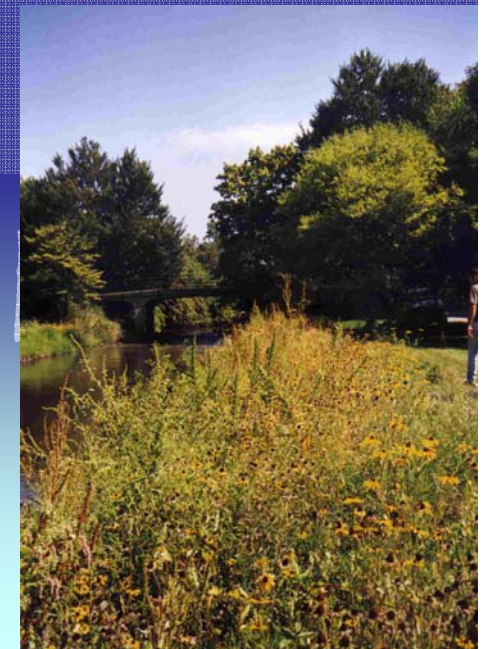


# Illinois EPA Section 319 Grants

water

- Completed 5 grants since 1998 Totaling nearly \$2 million
- Two ongoing grant contracts for a total of \$1.1 million worth of projects.

water





# 319 Water Pollution Education Program

*water*

- **Ad Campaign- Spring 2001**

- Newspaper advertising

- cable TV commercials

- direct mail to 30,000 households

- \$80,000- \$90,000

- Funding from IEPA, IDNR & DuPage

County Board

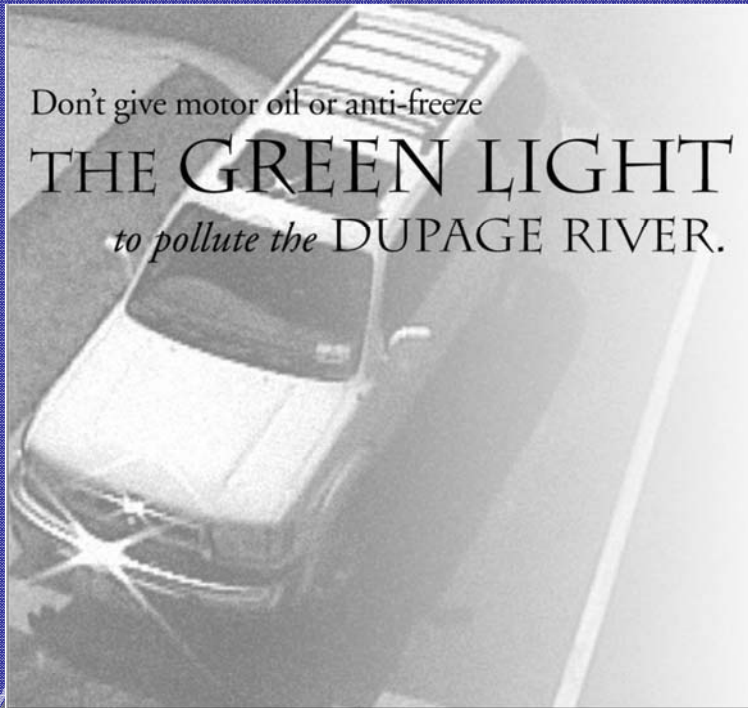
*water*



Don't give motor oil or anti-freeze

# THE GREEN LIGHT

*to pollute the* DUPAGE RIVER.



*Leaking fluids wash  
off of your driveway  
into storm drains and  
directly into the  
DuPage River.*

We are in the driver's seat when it comes to putting the brakes on harmful chemicals and waste that are polluting our river. Keeping cars new and old in good repair will keep motor oil, anti-freeze, gasoline and other fluids from draining into storm drains that flow directly into the DuPage River.

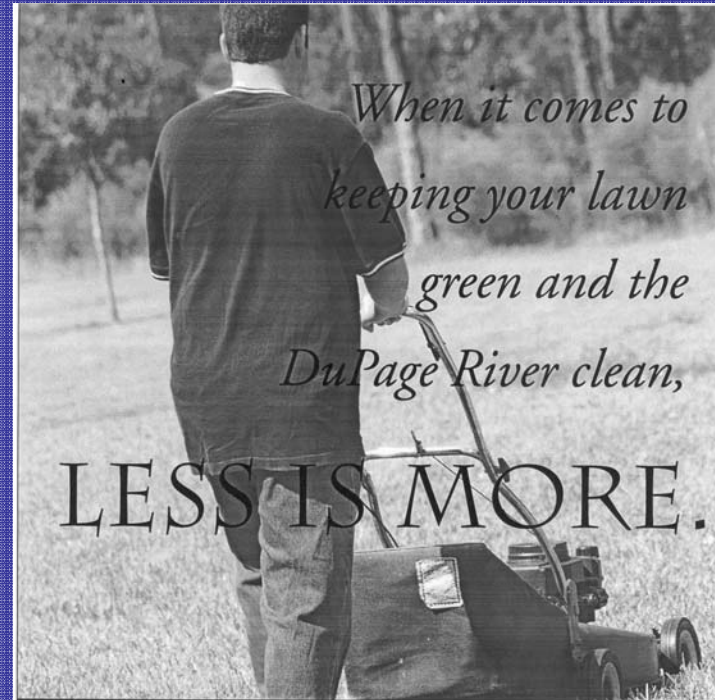
**Do your part to clean up and restore the DuPage River by following these few simple steps:**

- Use less fertilizer lawn chemicals or try organic alternatives when you garden—you can still have a green lawn using half as many chemical fertilizers.
- Keep cars in good repair so motor oil, anti-freeze and brake fluid aren't put on a fast track to the river.
- Native plants hold more water and need no chemical additives to thrive. Choose native wildflowers, plants and grasses to make your yard look great with less effort.



For more information or to join the DuPage River Coalition, call The Conservation Foundation at (630) 428-4500 or log on to [www.theconservationfoundation.org](http://www.theconservationfoundation.org)

A message from the Conservation Foundation. Funding provided in part by the Illinois Environmental Protection Agency, through the Clean Water Act, the Illinois Department of Resources and DuPage County.



*When it comes to  
keeping your lawn  
green and the  
DuPage River clean,*

# LESS IS MORE.

*Excess fertilizer  
is a major  
source of  
pollution in the  
DuPage River.*

Sometimes too much of a good thing can be bad for our environment. Lawn chemicals are a major source of pollution in the DuPage River. By simply cutting the amount of fertilizer and pesticide you use in half, you can help restore the DuPage River and still have a lawn that makes your neighbors green with envy.

**Do your part to clean up and restore the DuPage River by following these few simple steps:**

- Use fewer lawn chemicals or try organic alternatives when you garden—you can still have a green lawn using half as many chemicals.
- Keep cars in good repair so motor oil, anti-freeze and brake fluid aren't put on a fast track to the river.
- Choose native plants that allow more rainwater to naturally soak into the ground instead of down the storm sewer. Native wildflowers and grasses need no chemical additives to thrive, make your yard look great and protect the DuPage River.
- Treat all area rivers and streams with the same level of care and concern.



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**DUPAGE RIVER  
COALITION**



# DOES A MAJOR POLLUTER live here?



*The DuPage River is being polluted by everyday runoff from our homes.*

Anything that can be washed off your lawn or driveway — excess fertilizer, salt, grass clippings, anti-freeze or motor oil — washes directly down storm drains that flow right into the DuPage River.

And this constant stream of harmful runoff is taking its toll on the river. Pollution is harming the plants that grow in and around the river and as they die, so do the fish and wildlife that populate it.

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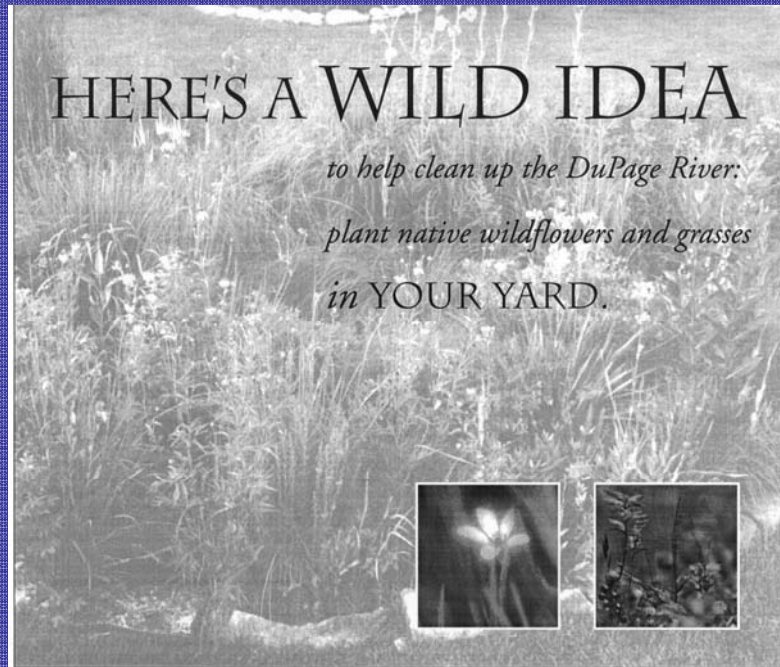


Do your part to clean up the DuPage River.

A message from the Conservation Foundation. Funding provided in part by the Illinois Environmental Protection Agency, through the Clean Water Act, the Illinois Department of Resources and DuPage County.

# HERE'S A WILD IDEA

*to help clean up the DuPage River: plant native wildflowers and grasses in YOUR YARD.*



*Native wildflowers and grasses allow more rainwater to soak into the ground and don't need chemical fertilizers to grow.*

Going native when it comes to landscaping helps the DuPage River in two ways. First, native plants allow more water to naturally soak into the ground minimizing the amount of runoff going down storm drains and into the river. Secondly, native plants thrive in our area without lots of fertilizers—excess lawn fertilizer is a major source of pollution in the river.

**Do your part to clean up and restore the DuPage River by following these few simple steps:**

- Use fewer lawn chemicals or try organic alternatives when you garden—you can still have a green lawn using half as many chemicals.
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**DUPAGE RIVER COALITION**





**More than  
traffic flows**  
through your  
community.

water

water



water



water

water

water



# Watershed Survey *water*

- Purpose – to better understand the opinions of DuPage County residents about environmental issues
- Developed by the Education Committee of the DRC with assistance from NRCS State Sociologist *water*
- Paid for by DuPage County Department of Stormwater and Environmental Concerns *water*





# Sample Questions *water*

17. In your opinion, what is the definition of the term, “Watershed”? *(Check one answer)*

- The area of land that catches rain and snow and then drains into a river, wetland or lake
- The land that is next to a river, wetland or lake
- The area of land that has no water on it
- Don't know

*water*

18. In your opinion, what is stormwater runoff? *(Check one answer)*

- Water from rain or melting snow that soaks into the ground
- Water that flows over roofs, pavement, soil, and across lawns and fields to the nearest storm drain
- Water that is left standing or pooling on property after a storm
- Don't know

*water*



**23. The items listed below may be more of a problem in some towns or villages than in others. In your opinion, how much of a problem are they where you live? For each item, please check one choice which best shows how you feel about the size of the problem in the town or village where you live.**

Potential Community Problems	NOT A PROB LEM	SMALL PROB LEM	MEDIUM PROB LEM	SERIOUS PROB LEM	DON'T K N O W
Flooding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality of drinking water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality of water in rivers, wetlands, lakes or ponds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality of groundwater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wearing away of the banks of rivers, lakes or ponds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Soil loss from construction sites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smells, noise or dust from factories	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discharge of factory waste into rivers or creeks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sewage treatment plant discharge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seepage from septic tanks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Solid waste disposal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Property damage from wildlife	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss of habitat for wildlife	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loss of natural land, wetlands, and open space	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recreational opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community landscaping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Litter in streets, roads and parks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# Survey Details

water

- 1200 surveys mailed to randomly selected residents
- Each survey was numbered
- Follow-up postcard sent
- 198 respondents

water

water





# Survey Results

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- Waterbodies generally seen as in “Good Quality”
- Most people thought that HOAs were responsible for detention basins and townships or counties were responsible for wetlands and

streams

*water*

- 20% of respondents answered “Don’t Know” to the definition of a watershed or where does their stormwater go.
- 1/3 of answers to where does your stormwater go were to a “treatment facility”

*water*



water

- About half of respondents use HHW drop-off sites
- A “One-Stop” drop-off site would increase amount of HHW being properly disposed of.
- More info needed on which products are HHWs

water

water



# What Now?

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- Distributed results to pertinent organizations
- DRC Education Committee working on incorporating info into all new projects
- Developing recommendations for communities

water

water





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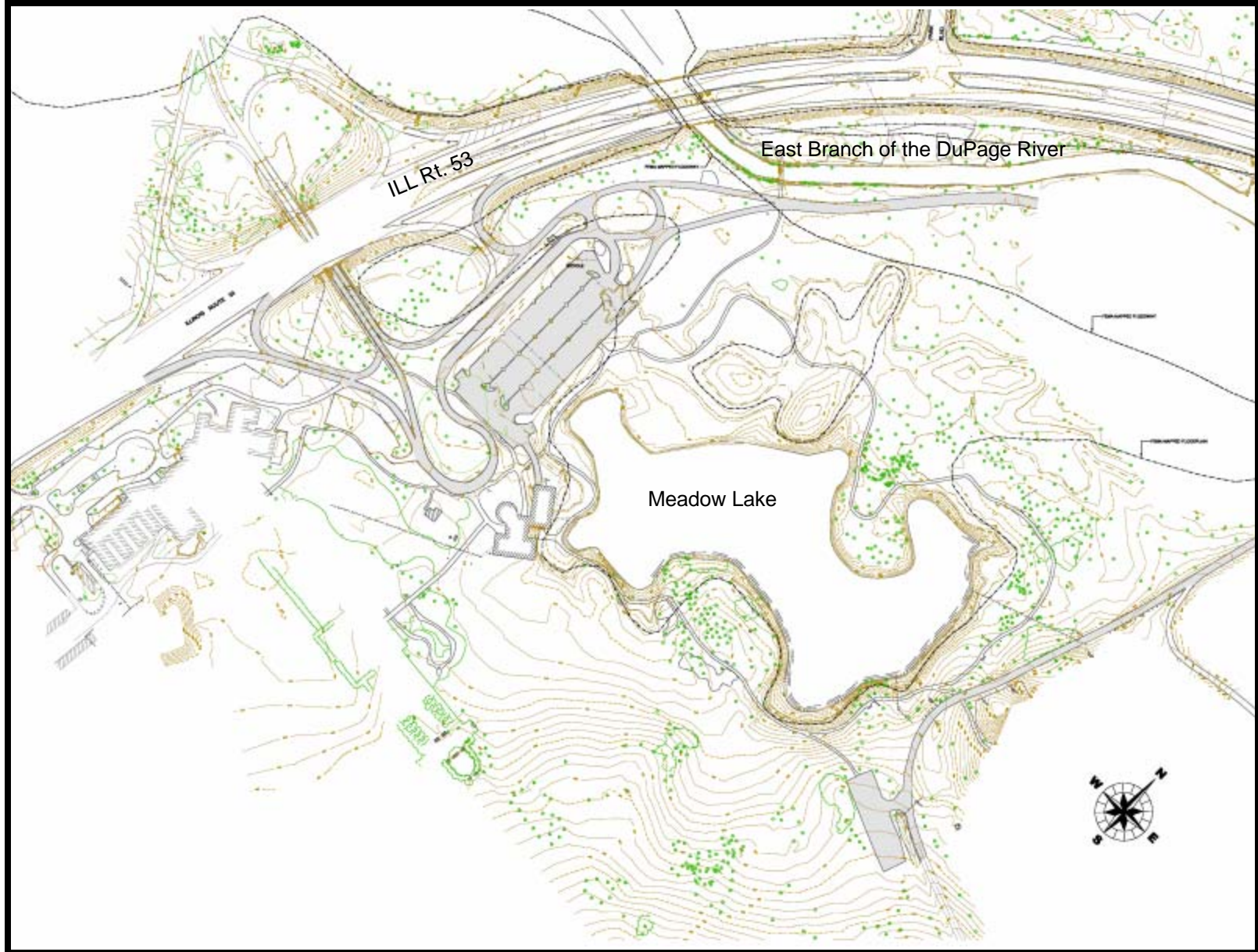


water

Kris Bachtell  
Director of Collections & Grounds  
kbachtel@mortonarb.org  
630-719-2437

water





**EXISTING CONDITIONS**



## Goals

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- Increase parking spaces to approximately 500, 9 handicapped and 11 bus spaces.
- To provide a durable, 4 season lot that is easily maintained.
- Accommodate all age groups and levels of mobility (ADA accessible).
- Address urban runoff impacts on Meadow Lake and the East Branch of the DuPage River. Improve the water quality of Meadow Lake.
- Demonstrate innovative stormwater management approaches for parking lots.
- Create spaces to showcase trees, shrubs and herbaceous plants tolerant of parking lot conditions.
- A welcome and attractive start to an Arboretum visit.
- To be cost effective.





**MAIN PARKING / VISITOR CENTER / TRAM ROAD**





Floodplain Comp. Storage

Entrance Bridge

East Branch of the DuPage River

Entry Road

ILL. Rt. 53

Main Parking Lot

Meadow Lake

Staff Parking Lot

Tram Road

Visitor Center

Future Children's Garden

Maze Garden

Arbor Court



## BMPs (Best Management Practices)

---

- Pervious Pavement
  - material appropriate to our climate
  - easily maintained
  - long life cycle
- Gravel drainage layer beneath pavement to store and slow run-off while trapping heavy solids
- Vegetated biofiltration swales to gather and clean stormwater and reduce particulate matter
- Curb cuts to direct surface run-off into swales
- Level spreaders to slow run-off before it is released into lake
- Wetlands to clean stormwater then release it into the lake
- Irrigation of parking lot vegetation from existing lake





Run-off is directed to the north end of the parking lot. It is piped to the wetland where it is cleansed before being released into Meadow Lake.

Gate Houses

Ecoloc Pavement

Bio-Swales

Bus Parking

Level Spreaders

Wetland

Meadow Lake

Wetland

Meadow Lake Path

Visitor Center

Tram Road









**The bases for light poles were formed before gravel was spread or curbs put in.**







## Pervious Pavement

vs.

## Asphalt

- Slows down/ absorbs run-off
- Non-toxic
- Water is cleaner when it leaves the system
- Life span of approx. 50 yrs
- Higher installation cost (1.7 times the cost of asphalt)
- Maintenance cost estimated to be \$1,245/yr over 50 yrs
- 50 yr maintenance cost \$62,250
- 25% cheaper than asphalt

All water runs off

Toxic

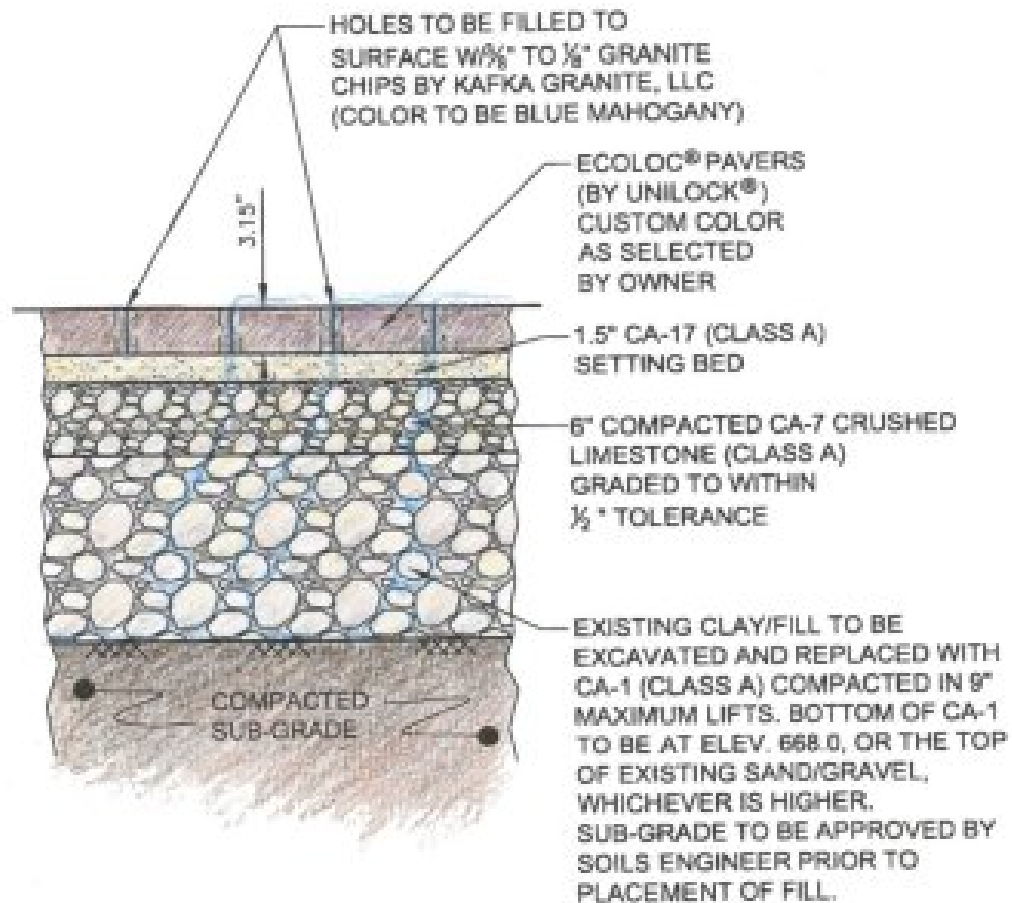
Water has more contaminants when it leaves the system

Life span of approx. 15 yrs

Lower installation cost

Maintenance cost estimated to be \$26,390/yr over 50 yrs (21.2 times the cost of pervious)

50 yr maintenance cost \$1,319,500



**ECOLOC PAVEMENT SECTION**

(NTS)







**4' deep gravel bed, CA-1, to store, slow and trap heavy solids from stormwater. It is graded to send the water towards the north end of the lot.**





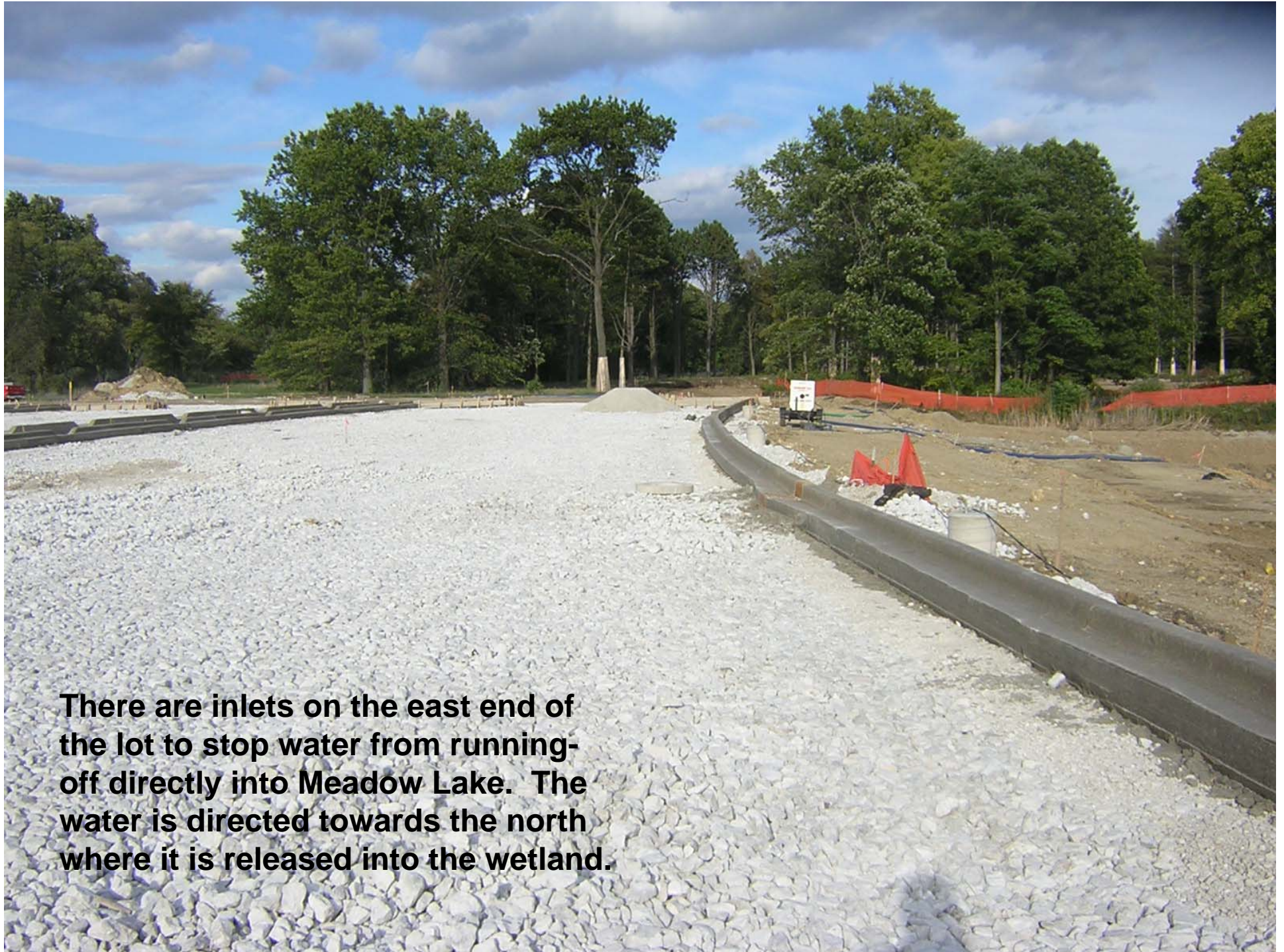




**Curb cuts every 27'  
allows water to enter  
the vegetated swales.**







**There are inlets on the east end of the lot to stop water from running-off directly into Meadow Lake. The water is directed towards the north where it is released into the wetland.**



**6" of compacted CA-7 to top the base course**





**1 ½” setting bed of CA-17**





**The pervious pavement was installed mechanically which helped reduce installation cost.**











**Anchorlock, a non-pervious pavement, was used in the handicapped spaces and in the drop-off area. It was installed with a typical sand setting bed.**



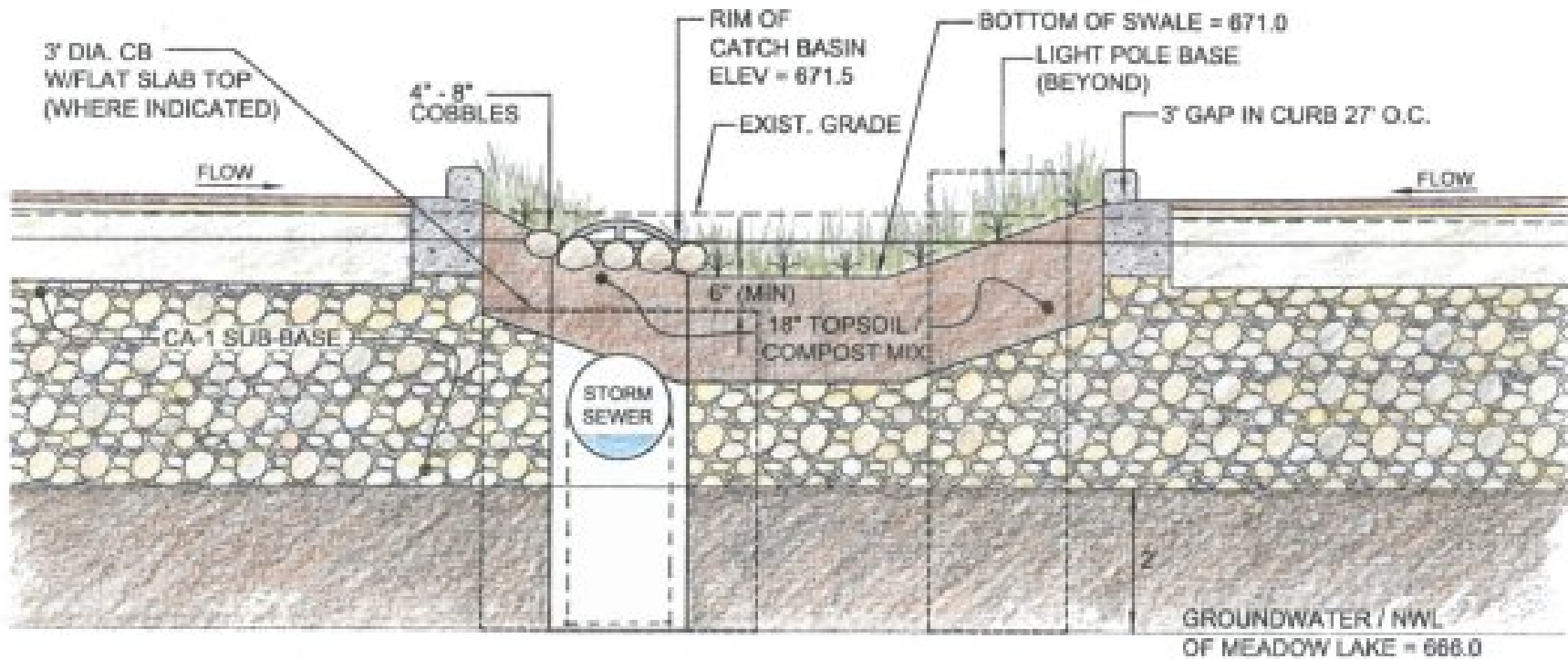
A soldier course is in-between the Ecoloc and Anchorlock.











SECTION A-A (BIO-SWALE CROSS SECTION)  
(NTS)

Light poles and conduit are on one edge of the swale.







**Irrigation consists of pop-up heads on both sides of the swale. The water used is pumped from Meadow Lake.**

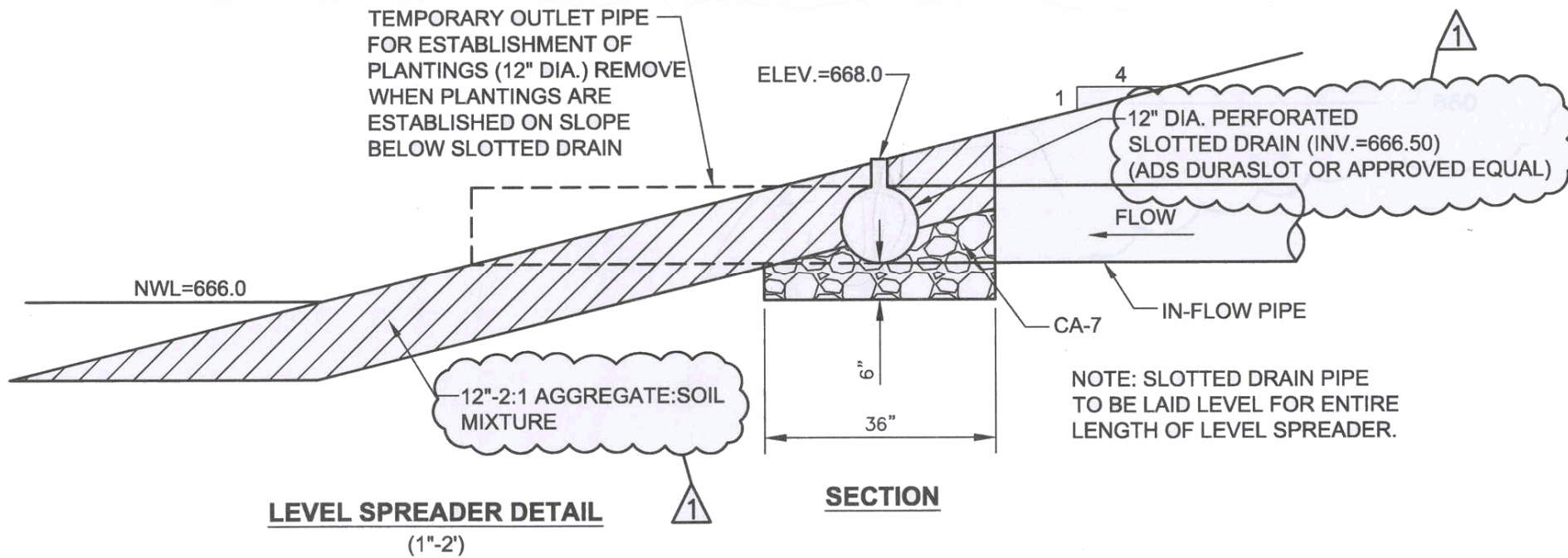






**Soil Mix**  
**25% topsoil**  
**37.5% sand**  
**37.5% compost**







**The level spreader slowly releases water gathered from inlets in impervious pavement areas and from the roof.**





















College Home  
and  
Restaurant  
  
Dinner  
What Now

Visitor  
Center  
D2

Visitor  
Center  
D2

Visitor  
Center  
C2

← to Exit  
↑ to Picnic Area

STOP

This is what we are dealing  
with!

*water*

**It's about people!**

*water*



McDonald Farm 1998

*water*

