



How to Protect Shorelines on \$25 , or less, Per Day

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Lake Sara Forever Foundation

How Can You Start a Project Without \$\$\$?

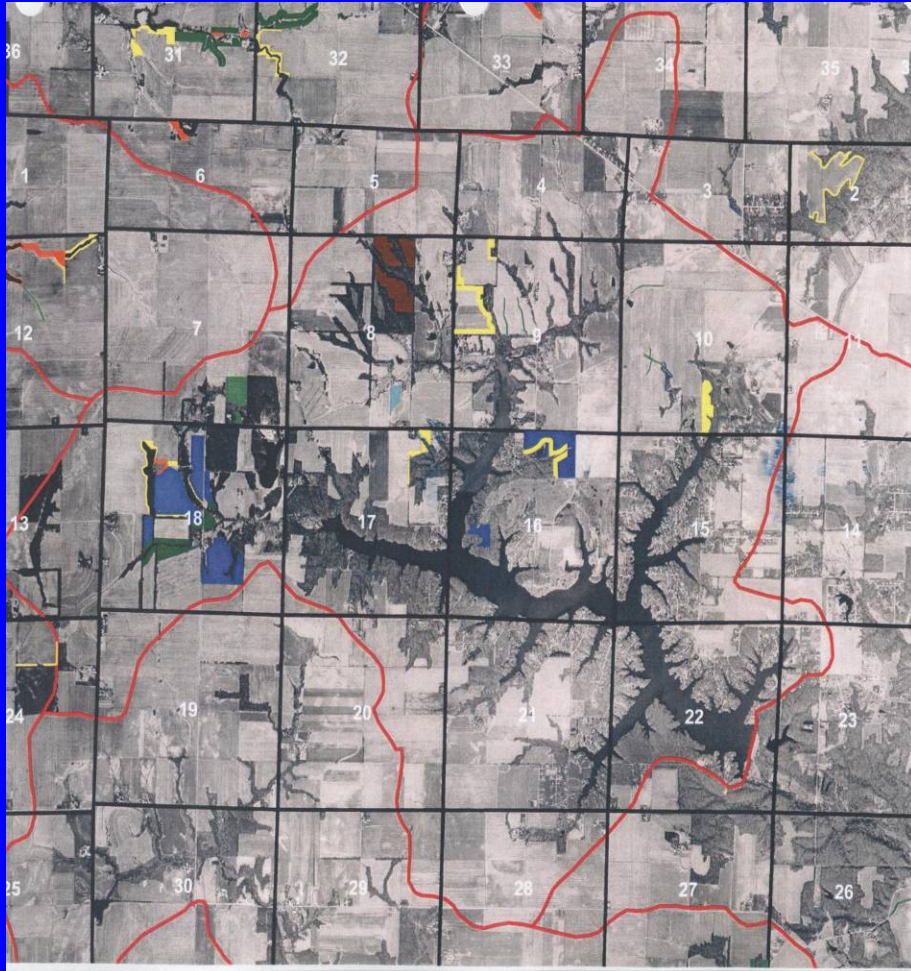




Since Erosion Control Committee Creation during June, 2007:

- 3,900 of Transitional Wetland Breakwaters Constructed
- \$306,000 Construction Expenditures
- Less than \$1,000 spent on admin, research, design, & project management

Lake Sara - Effingham, IL

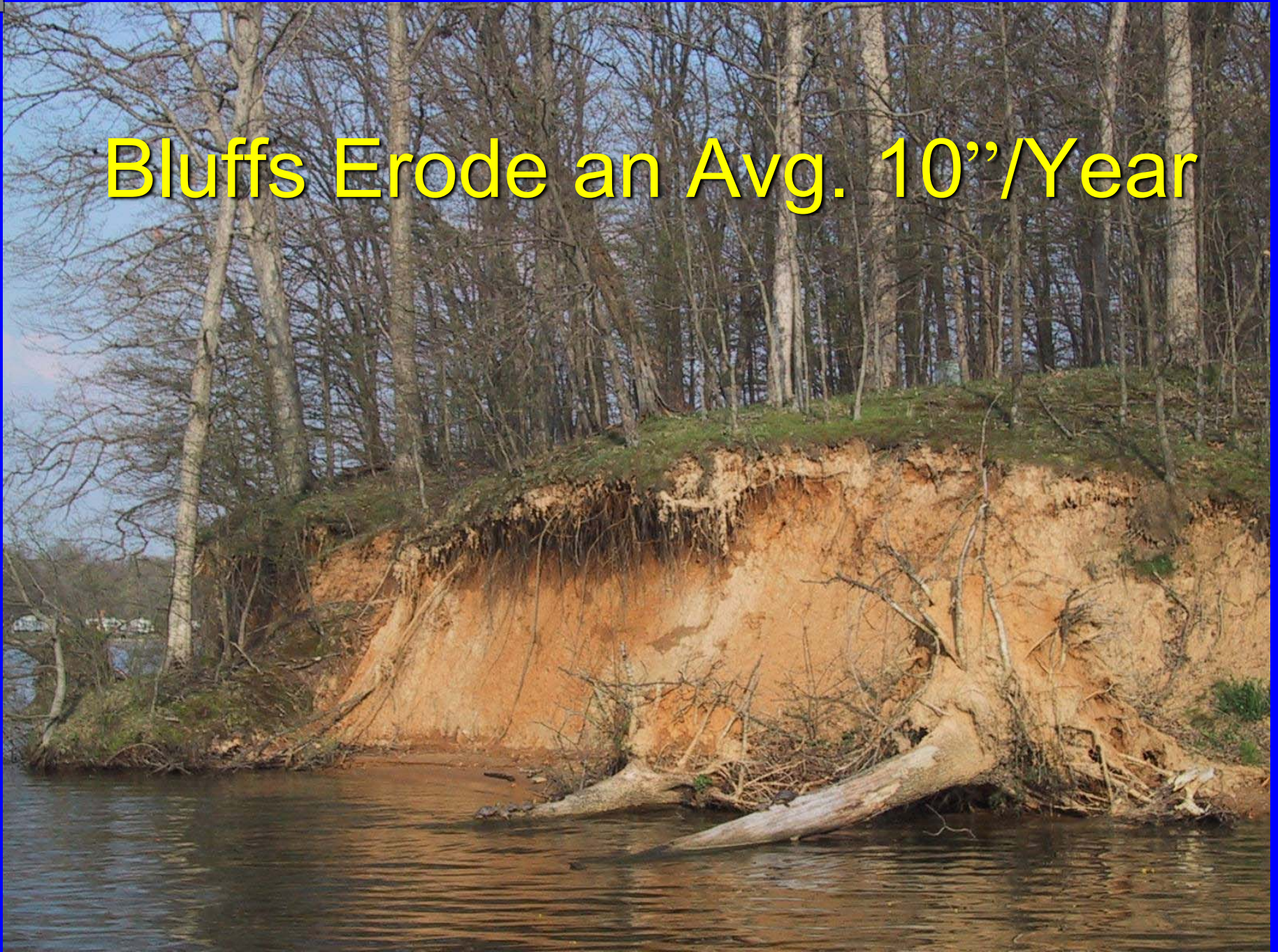


- 536 Acres
- 7,700 Acre Watershed
- Part of Upper Little Wabash Watershed
- On Impaired Waters List
- Governed by Effingham Water Authority
- 3 Board Members, 1 Superintendent & 1 Full time employee
- Approx. 450 Residences



Over 5 Miles of
Unprotected
Public Shoreline

Bluffs Erode an Avg. 10"/Year



High Waters of 2009 Cut Some Bluffs 2-3 feet



Transitional Wetland Breakwater Process



Original slope when reservoir is filled

The diagram shows a cross-section of a slope. A solid brown line represents the original slope, which is a straight line sloping downwards from left to right. A horizontal blue line is drawn across the middle of the slope, representing the water level when the reservoir is filled.



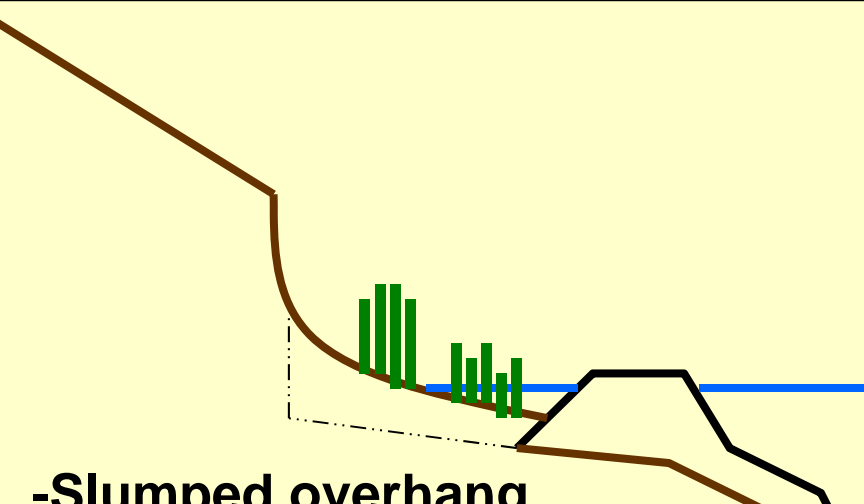
Eroded slope

The diagram shows the same cross-section as the first panel, but the slope has eroded. The solid brown line now has a stepped profile with a vertical drop and a horizontal overhang. A dashed black line shows the original slope for comparison. The horizontal blue line representing the water level is still present.



Breakwater installed

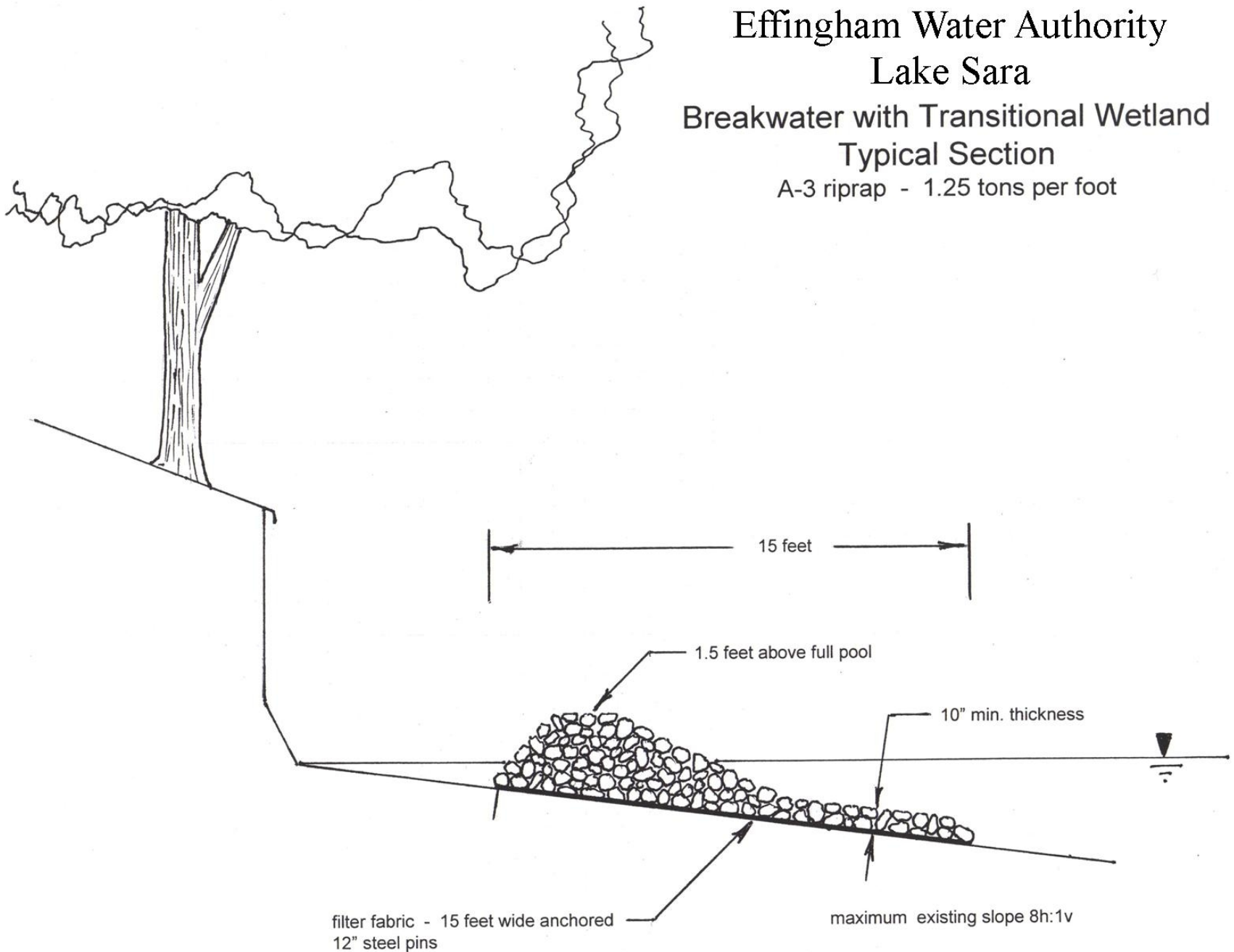
The diagram shows the cross-section with a breakwater installed. The breakwater is represented by a black trapezoidal shape on the slope. The horizontal blue line representing the water level is now above the top of the breakwater.



-Slumped overhang
-Sediment accretion
-Vegetation establishment

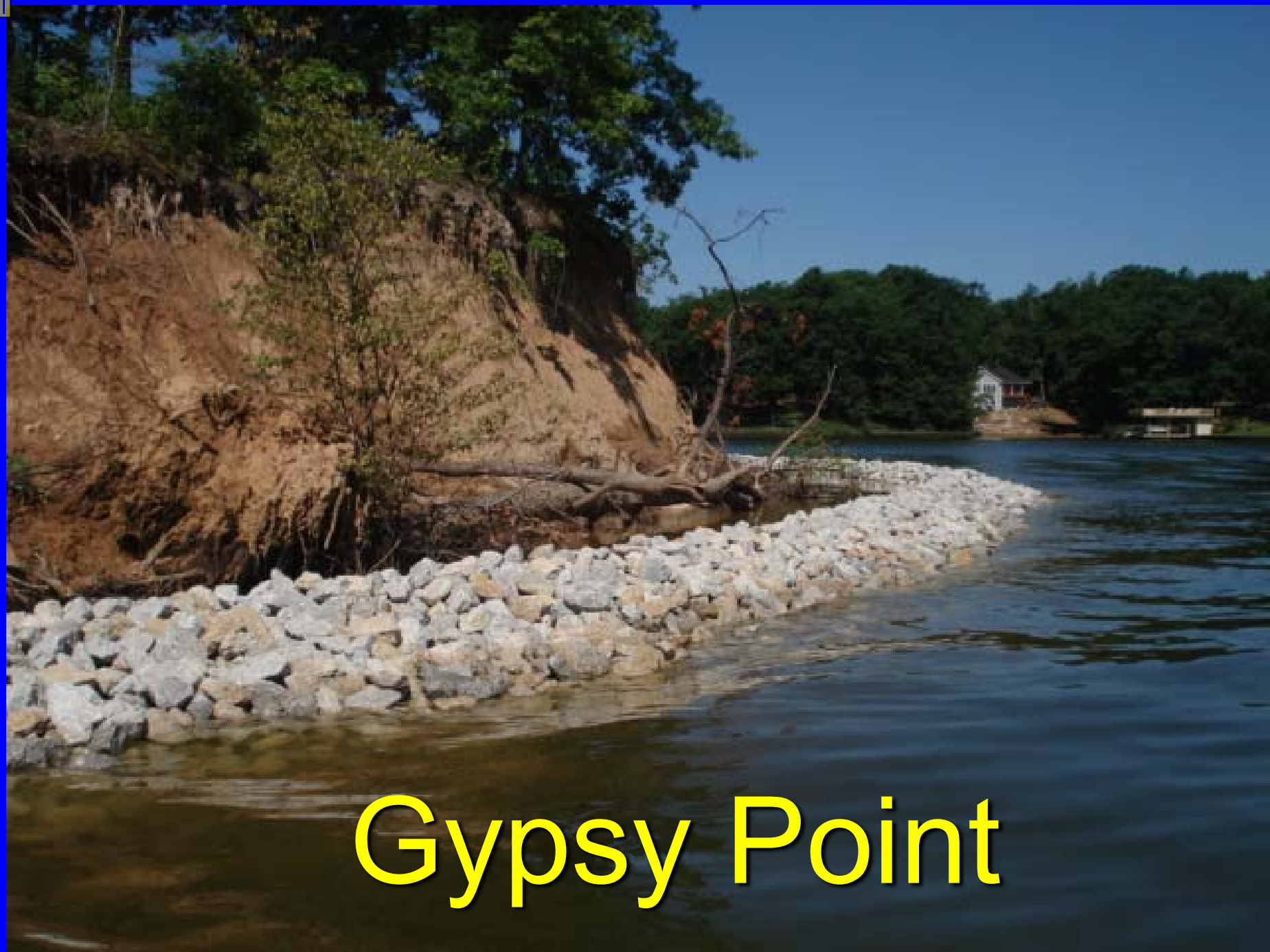
The diagram shows the cross-section with the breakwater installed. The brown line representing the slope has slumped under the overhang, creating a curved profile. A dotted black line shows the original slope for comparison. The horizontal blue line representing the water level is still present. Green vertical bars representing vegetation are shown growing on the slumped slope.

Effingham Water Authority
Lake Sara
Breakwater with Transitional Wetland
Typical Section
A-3 riprap - 1.25 tons per foot



Barge Laying Rock





Gypsy Point

Effingham Water Authority Lake Sara Shoreline Protection Plan 2008-Future

2010 319/PLWIP
2,120 feet

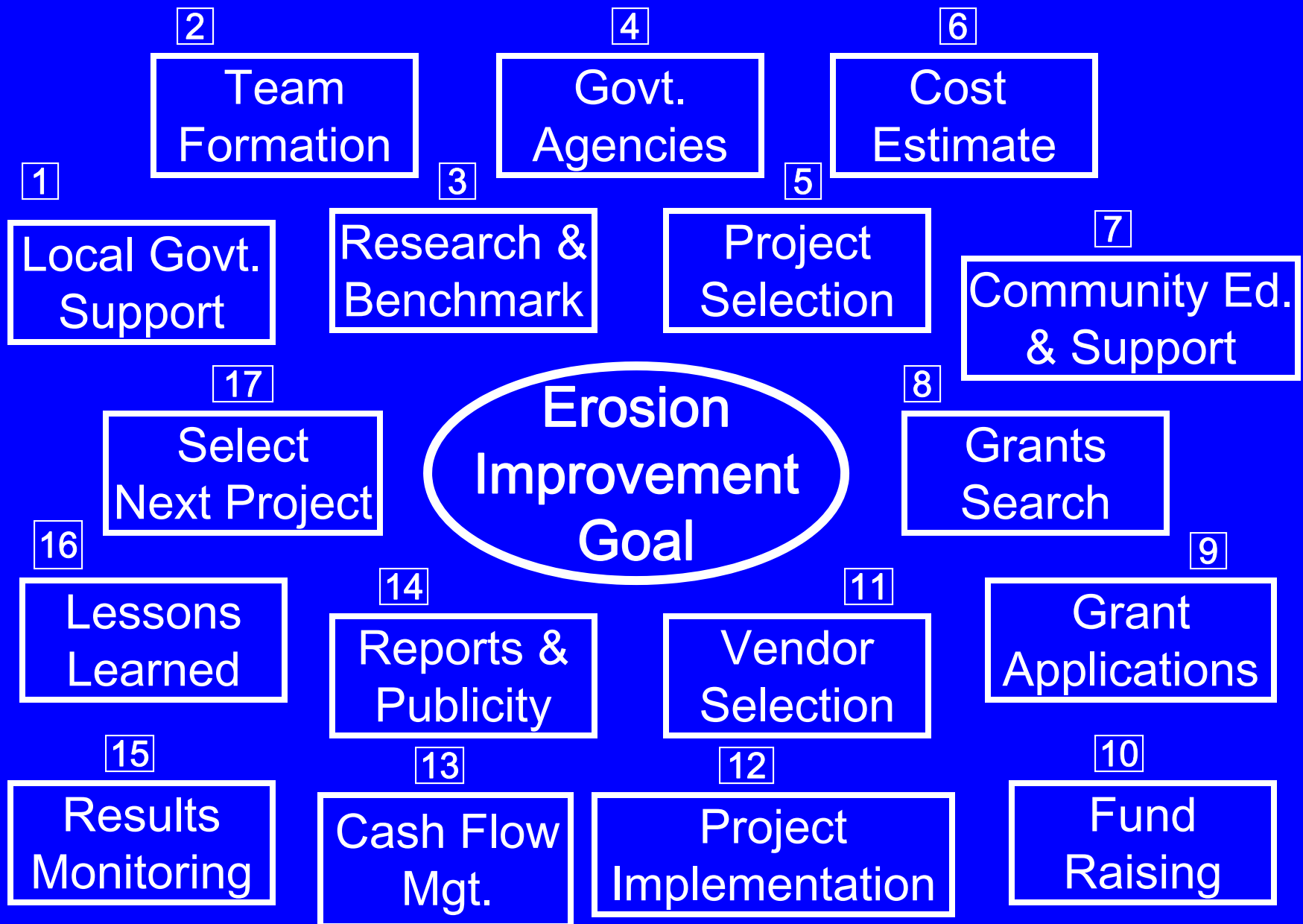
New Loading Dock
& Staging Pad

Loading Dock
& Staging Pad

2010 319/PLWIP
580 feet

Legend:

- 2008-2009 Projects; 3,912 ft.
- 2010 319/PLWIP; 2,700 ft.
- Future Projects; approx. 11,000 ft.
- 2009 Resident Program; 3,200 ft.





This Presentation's Focus

- Minimizing Project Development Expense
- Team Formation & Recruitment
- Zero Cost Benchmarking & BMP Research
- Project Engineering on the Cheap
- How to Get the Real Money to Execute a Project



Team Formation

- Lake Residents have great skill sets
- Network or use news article to recruit
- Someone with a copy machine & presentation equipment is VERY useful
- PowerPoint skills come in handy
- A Licensed Professional Engineer saves bucks on sign-offs
- Stay focused & watch out for hidden agendas
- Most important... find people with time available.



Uncle Jack Wants You!

**Erosion Control
could use a few
more volunteers**



“ Sounds interesting
.... how much do you
volunteers get paid?”



Zero Cost Benchmarking & BMP Research

- Google Lots... see www.lakesaraforever.org for some of our favorite sites
- Contact Universities... SIU Lake Kinkaid research transferred directly to our lake
- Consult with government agencies... IEPA, SWCD, NRCS, ACOE very supportive
- Pick Vendors' brains... Lake Rip Rap, Inc. really assisted development



How to Contact Sources

- Don't be afraid to “cold call”
- Even if someone can't help get a referral to someone who can
- Meet people face-to-face (eyeballs are important)
 - If you only phone or e-mail, you're just a bunch of electrons, not a human being

Designing on the Cheap

“It’s rock, not
rocket, science”

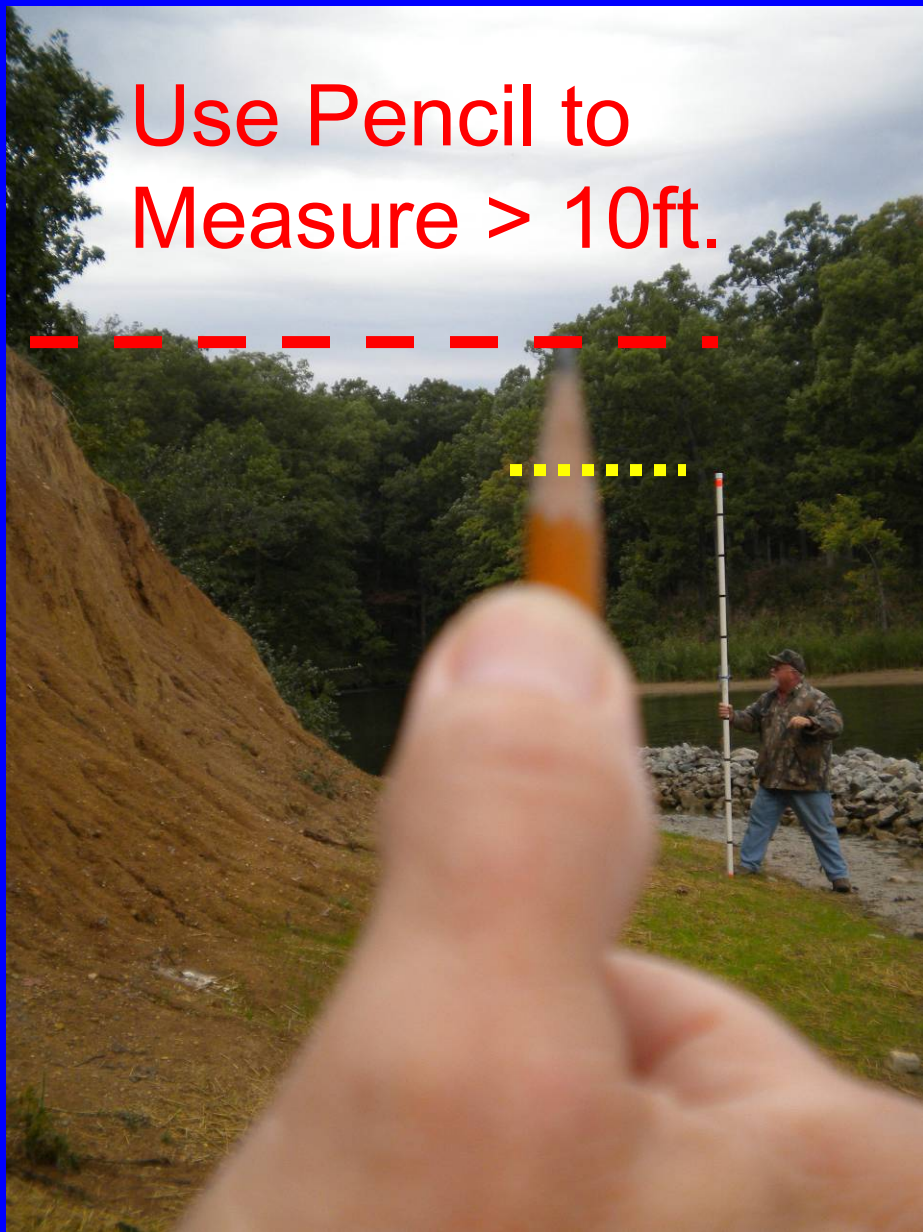




Engineering Surveying Tools
Less Than \$100

Pole & Protractor Measure Height & Slopes

Use Pencil to Measure > 10ft.



Use 2 Measuring Sticks to Determine Shoreline Slope



Surveying Breakwater Position



← GPS



Tape



Rebar Stakes







COMMUNITY BUILDING

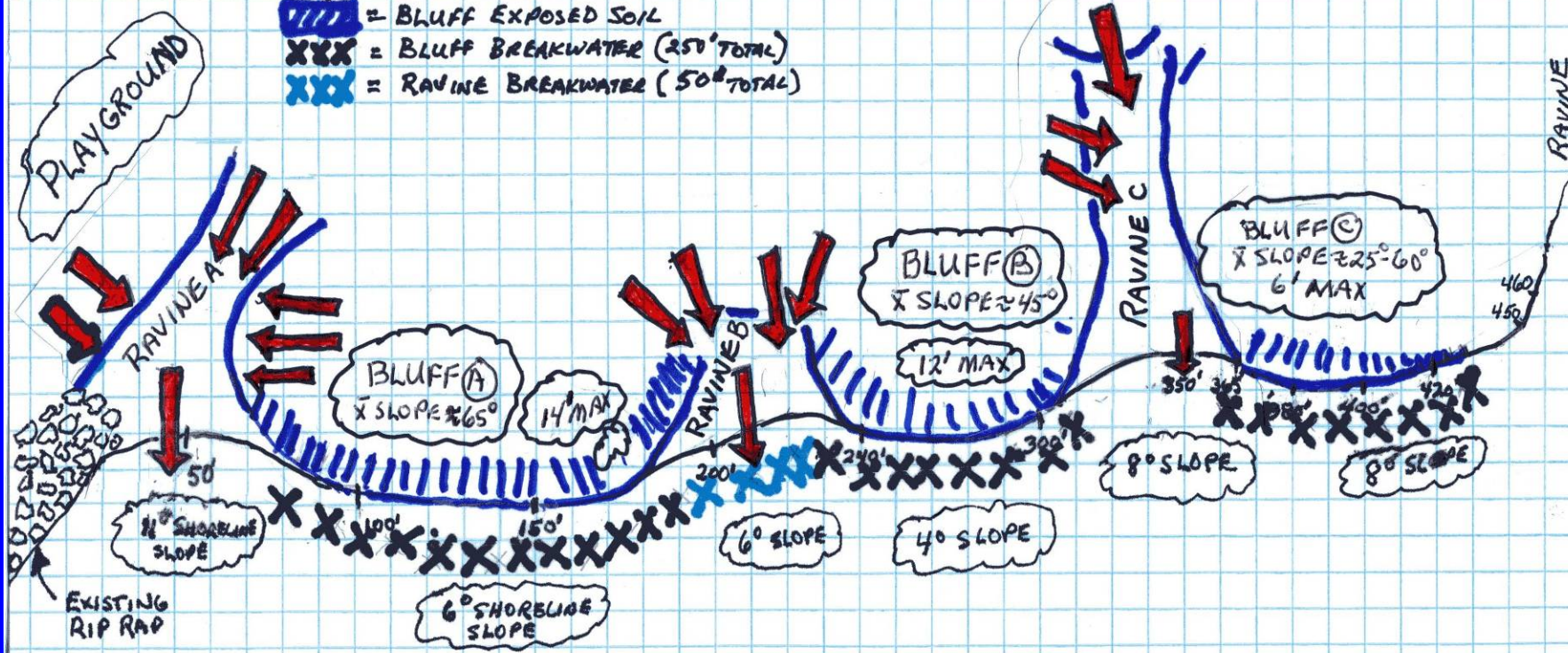
PARKING LOT

POST OAK FENCE

POTENTIAL STONE STAGING AREA

-  = STORMWATER EROSION
-  = BLUFF EXPOSED SOIL
-  = BLUFF BREAKWATER (250' TOTAL)
-  = RAVINE BREAKWATER (500' TOTAL)

PLAYGROUND



BLUFF A
X SLOPE ~65°
14' MAX

BLUFF B
X SLOPE ~45°
12' MAX

BLUFF C
X SLOPE ~25-60°
6' MAX

8° SHORELINE SLOPE

6° SHORELINE SLOPE

6° SLOPE

4° SLOPE

8° SLOPE

8° SLOPE

RAVINE

BLUFF (A)

$sq = 5'$

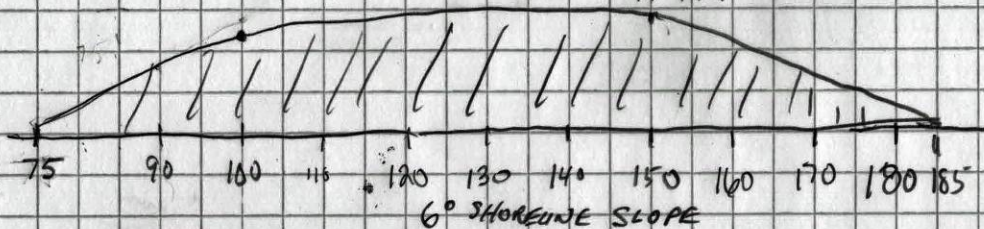


= ERODED SLOPE

= VEGETATED SLOPE

← STORMWATER EROSION

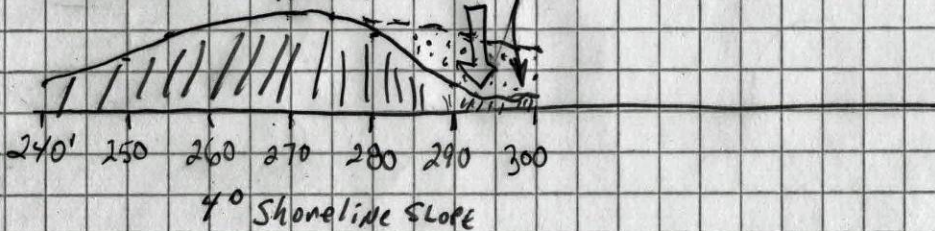
$\bar{x} = 65^\circ$ SLOPE 14' MAX



BLUFF (B)

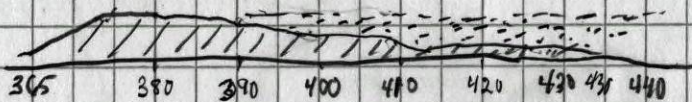
$\bar{x} = 45^\circ$ SLOPE 12' MAX

VEGETATED SLOPE $\approx 40^\circ$



BLUFF (C)

$\bar{x} 25-60^\circ$ SLOPE 6' MAX



**PILOT AREA
BLUFF CONTOURS**

Illinois Volunteer Lake Monitoring Program Loans Instruments





Obtaining Funds

- If you didn't have to chase money it would all be fun and easy
- The real work starts here



Working with Government Agencies

- Meet people face-to-face
 - Eyeballs again
 - Present a business case to demonstrate, need, capability, & community support
 - Sell, but listen for advice
 - Determine how your project can support the agency's (or individuals) objectives
 - Get the key people on the water, give tours

Favorite Government Snack



If You've Written a Term Paper,
You Can Write A Grant Application





The Application Process

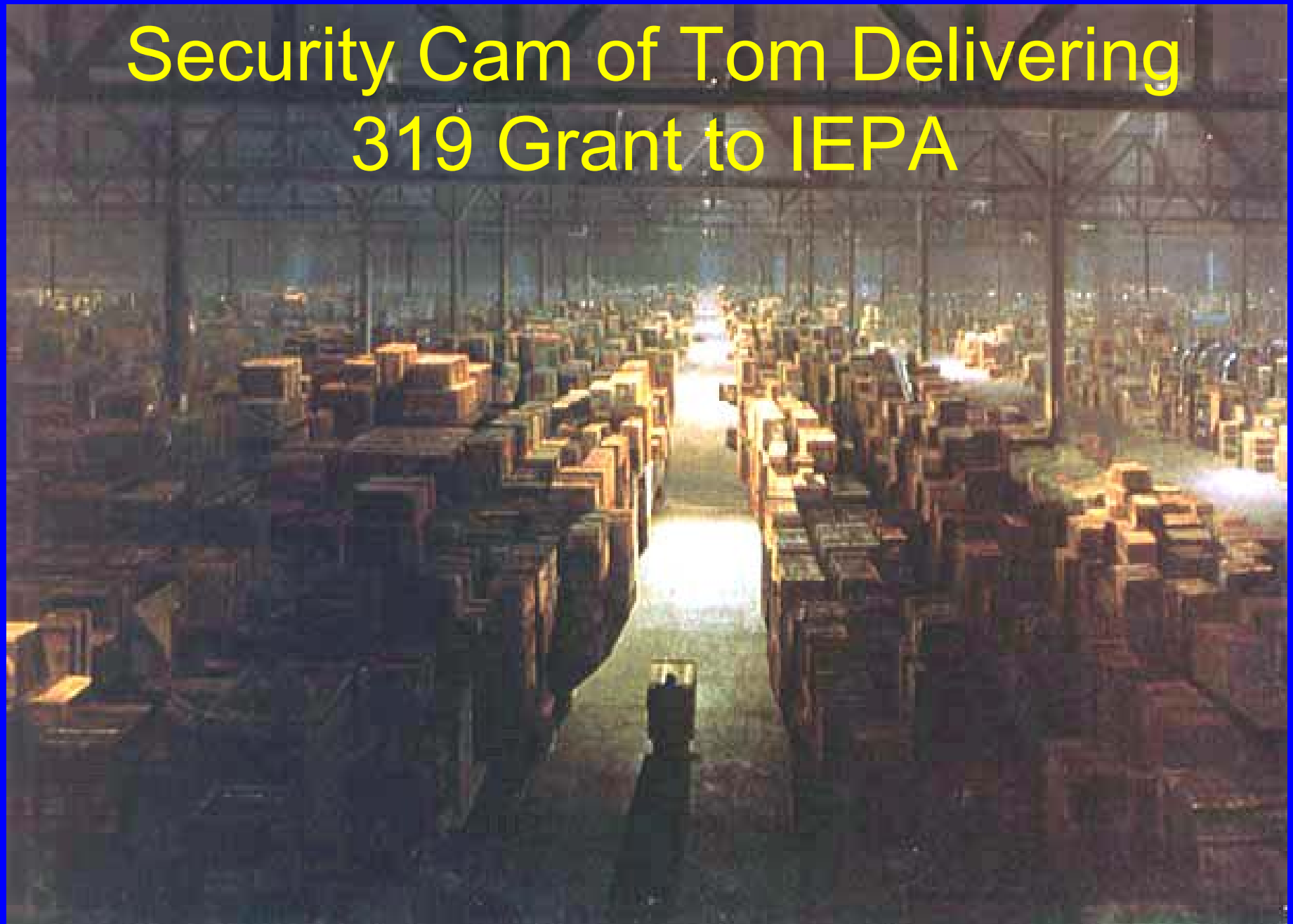
- Meet with the Grantor to determine best way to complete application & “hot button” issues
- Cite all the research that has been done on the lake...303(d) Impaired Waters, TMDL, Bathymetry, Watershed Plan, etc.
- Stress use of “Best Management Practices”



The Application Process

- Show that project is integral to SWCD Watershed Plan
- Stress community support, involvement, & outreach programs
- Double check that every issue mentioned by the Agency or application instructions is addressed

Security Cam of Tom Delivering 319 Grant to IEPA

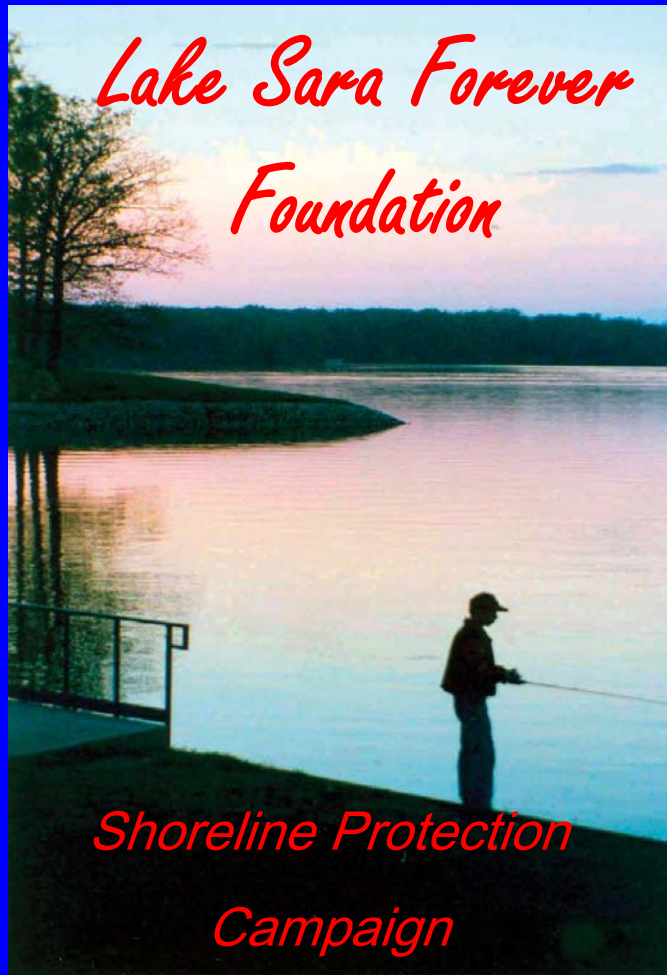




Obtaining Matching Funds

- State Grants can match Federal (& vice-versa)...e.g PWLIP for 319 Grant
- Private Foundation Grants
- EWA Increased Boat Sticker Fee
- In-kind Services – Only count after contract signed. Wage rates: www.bls.gov/bls/blswage.htm
- Community Donations: Established Lake Sara Forever Foundation within Effingham County Community Foundation

The Effingham County Community Foundation Handles All Our Accounting & Tax Work



www.lakesaraforever.org

www.effinghamfoundation.org



Cottage Owners Are Passionate about Their Lake

- Phone Solicited Top Potential Donors
- Mailer, with Brochure, to All Residents
- Newspaper Article about Fund Drive
- Within Three Months:
 - \$40,000 Cash Contributions
 - \$150,000 Pledged over next 5 years

Project Management is a Juggling Act

Time

\$\$\$
\$

Skills



Q & A