

# Buffalo Scholastic Rowing Association



**In Partnership with  
Buffalo Niagara Riverkeeper**

**Shoreline Stabilization  
Habitat Restoration**

*March 2014*

# The BSRA...

- Vision – Rowing for All.
- Mission - Building strong and successful scholastic rowing teams and expanding community access to the sport of rowing within a strong stewardship of the Buffalo River.

**BSRA's Plan is in Motion and we have made significant Progress. But we are hampered by a shortage of boathouse space.**

**January 2013**

- 4 High School programs
- 48 Summer youth Learn-to-row athletes
- 32 Summer youth competition athletes
- 15 Adult athletes
- Permanent Boathouse 40% funded
- 260 combined athletes
- Serious shoreline erosion

**January 2014**

- 5 High School programs
- 62 Summer youth Learn-to-row athletes
- 65 Summer youth competition athletes
- 28 Adult athletes
- Permanent Boathouse 82% funded
- 360 Combined athletes
- **Shoreline stabilization project partially funded and underway**

# Bringing People to the Buffalo River



# Boathouse Construction Is Underway !!!



# Soon this new boathouse will grace the recovering Buffalo River



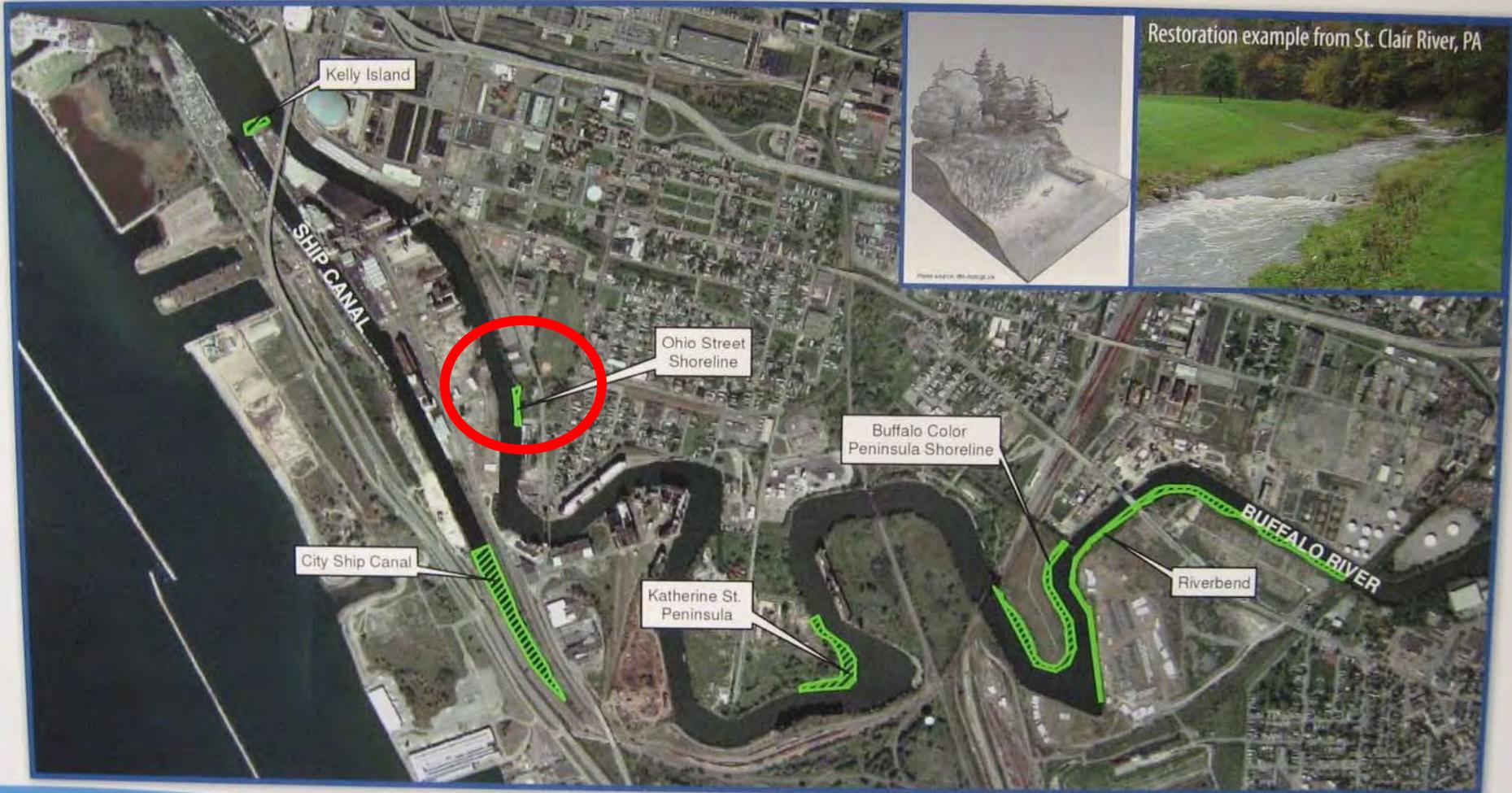
# And take its place on the Ohio Street Corridor



# Buffalo River Shoreline

- River mouth upriver 4600 meters (~3 miles) shoreline is naturally or artificially stable except for 500 meters in proximity to the Ohio Street Inlet.
- Short range plans will stabilize all of this shoreline except for the BSRA shoreline.
- Property is owned by BSRA and construction of permanent boathouse is underway.
- Regional Habitat Restoration plans designated the BSRA Shoreline a major habitat restoration area

# Regional Planners Recognize the Potential Habitat Restoration Project Areas



## Ohio Street Corridor



The BSRA Shoreline is an important segment of the New Buffalo River Shoreline



## Buffalo Riverfest Park



## Buffalo River Lofts



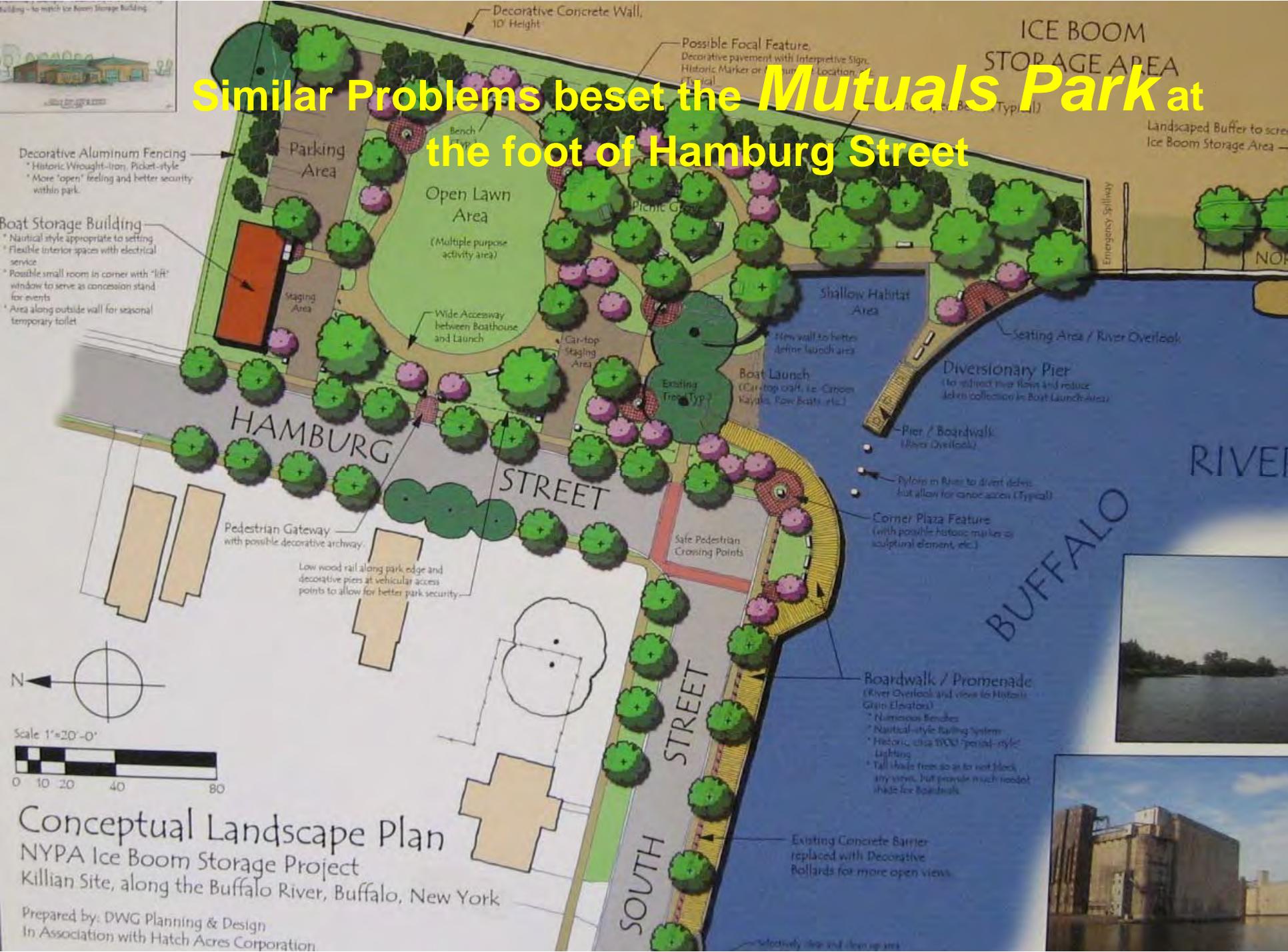
## Buffalo River Rowing Center

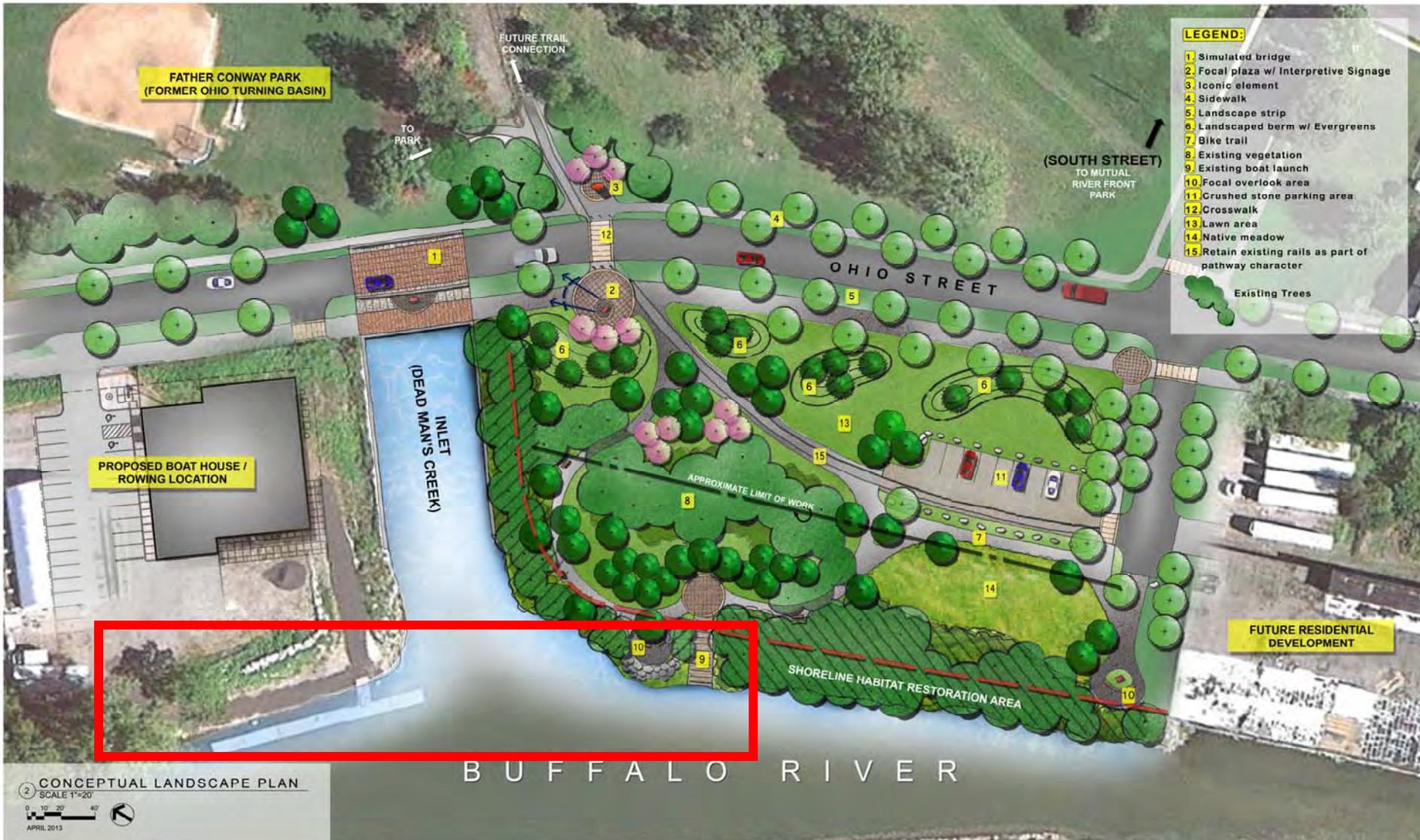
# Ohio Street Shoreline

Deflected River Current Directly Impacts the BSRA Shoreline



# Similar Problems beset the *Mutuals Park* at the foot of Hamburg Street





# Effects of High Hydraulic Energy upon the BSRA Shoreline



# BSRA's Ecological Plan

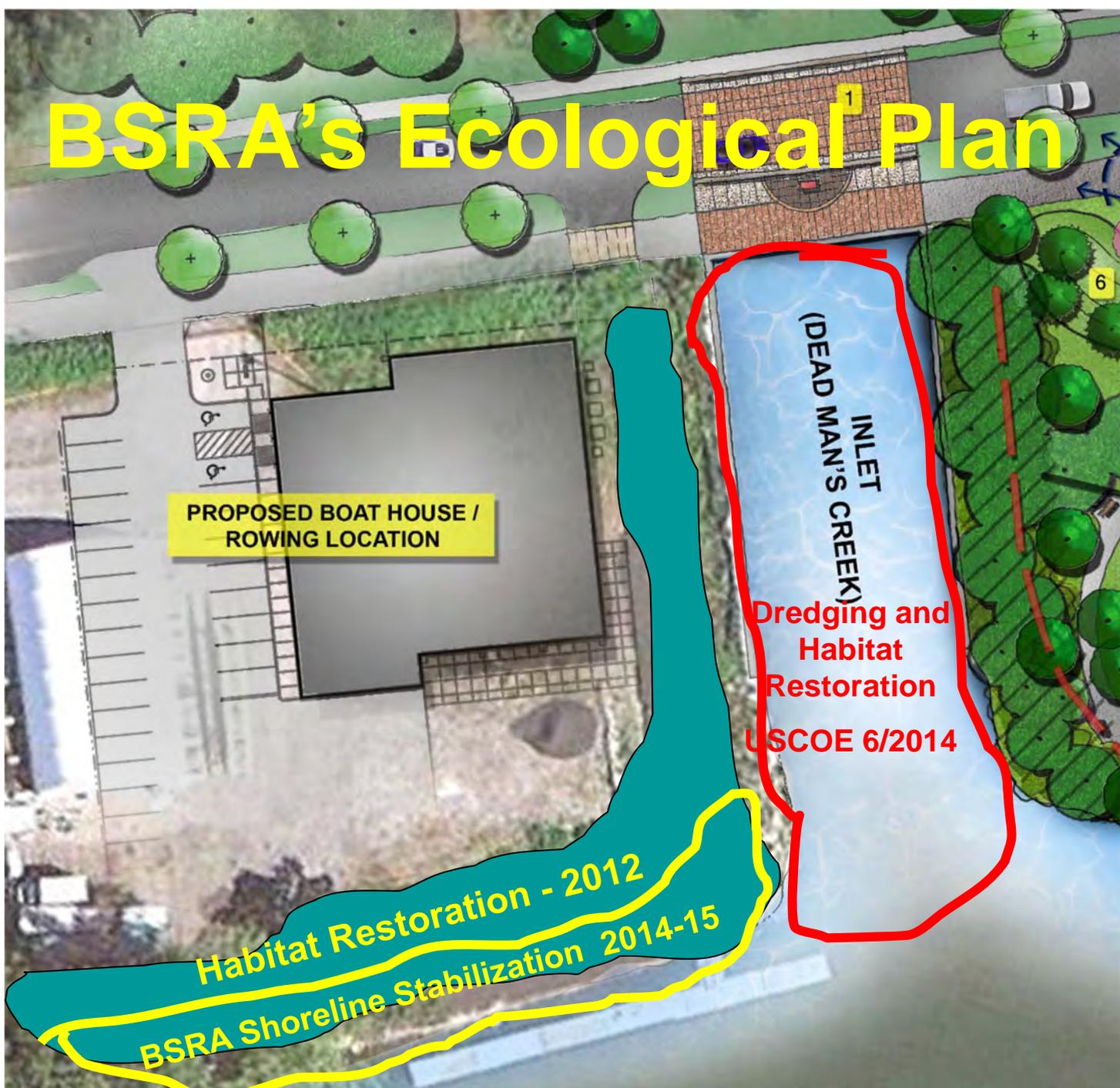
PROPOSED BOAT HOUSE /  
ROWING LOCATION

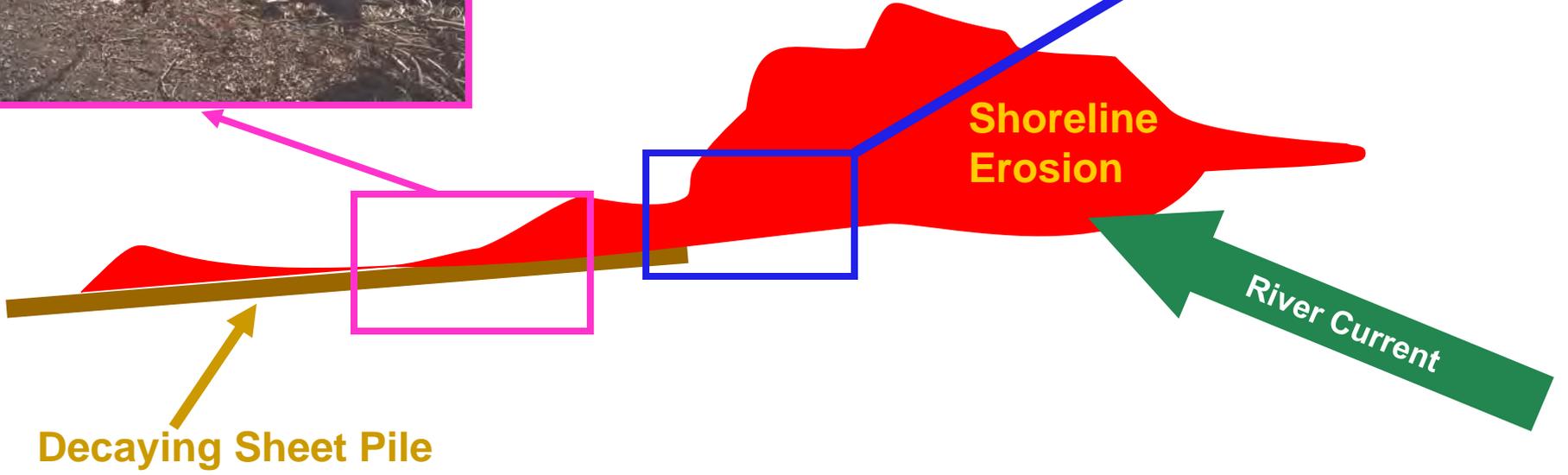
INLET  
(DEAD MAN'S CREEK)

Dredging and  
Habitat  
Restoration  
USCOE 6/2014

Habitat Restoration - 2012

BSRA Shoreline Stabilization 2014-15

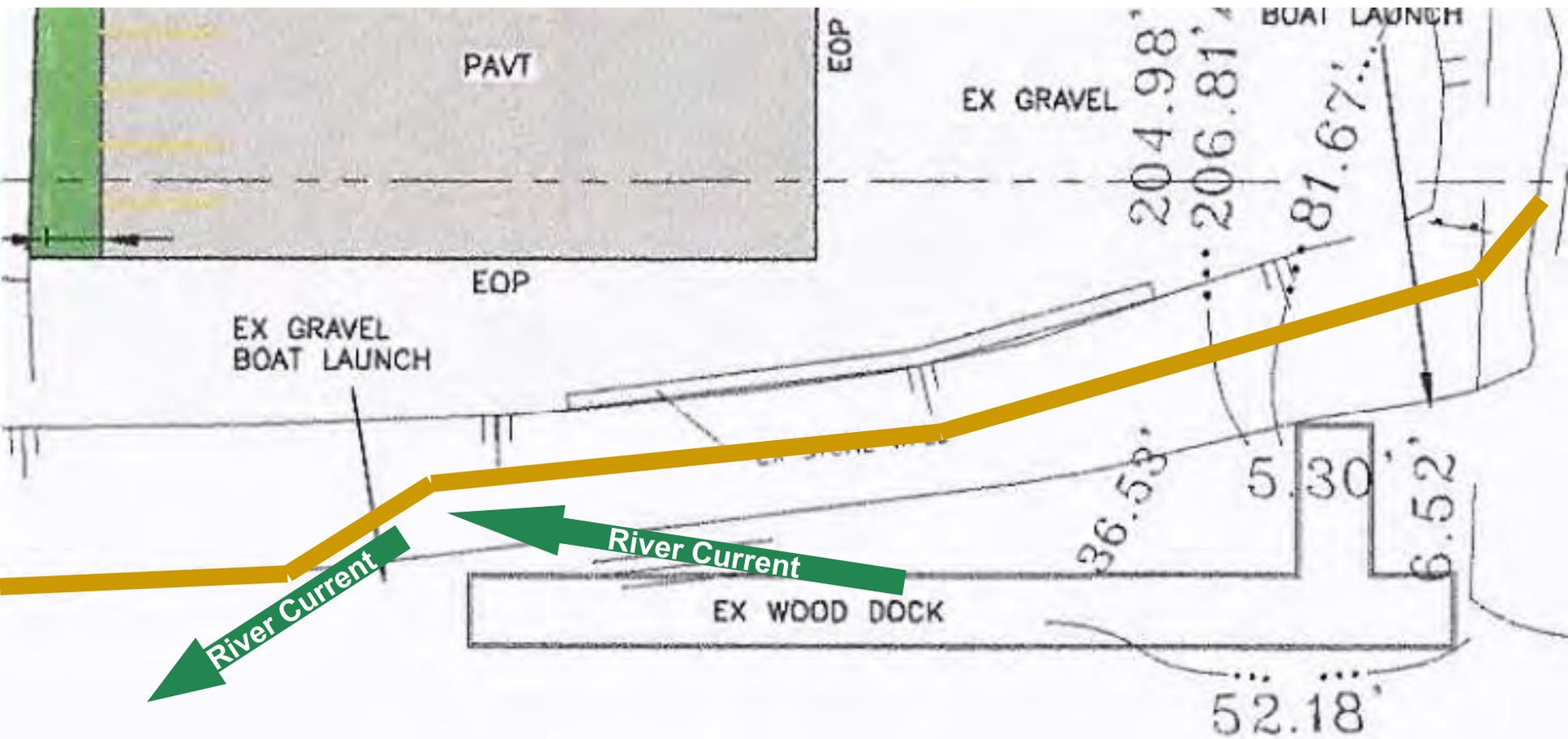




Shoreline Erosion

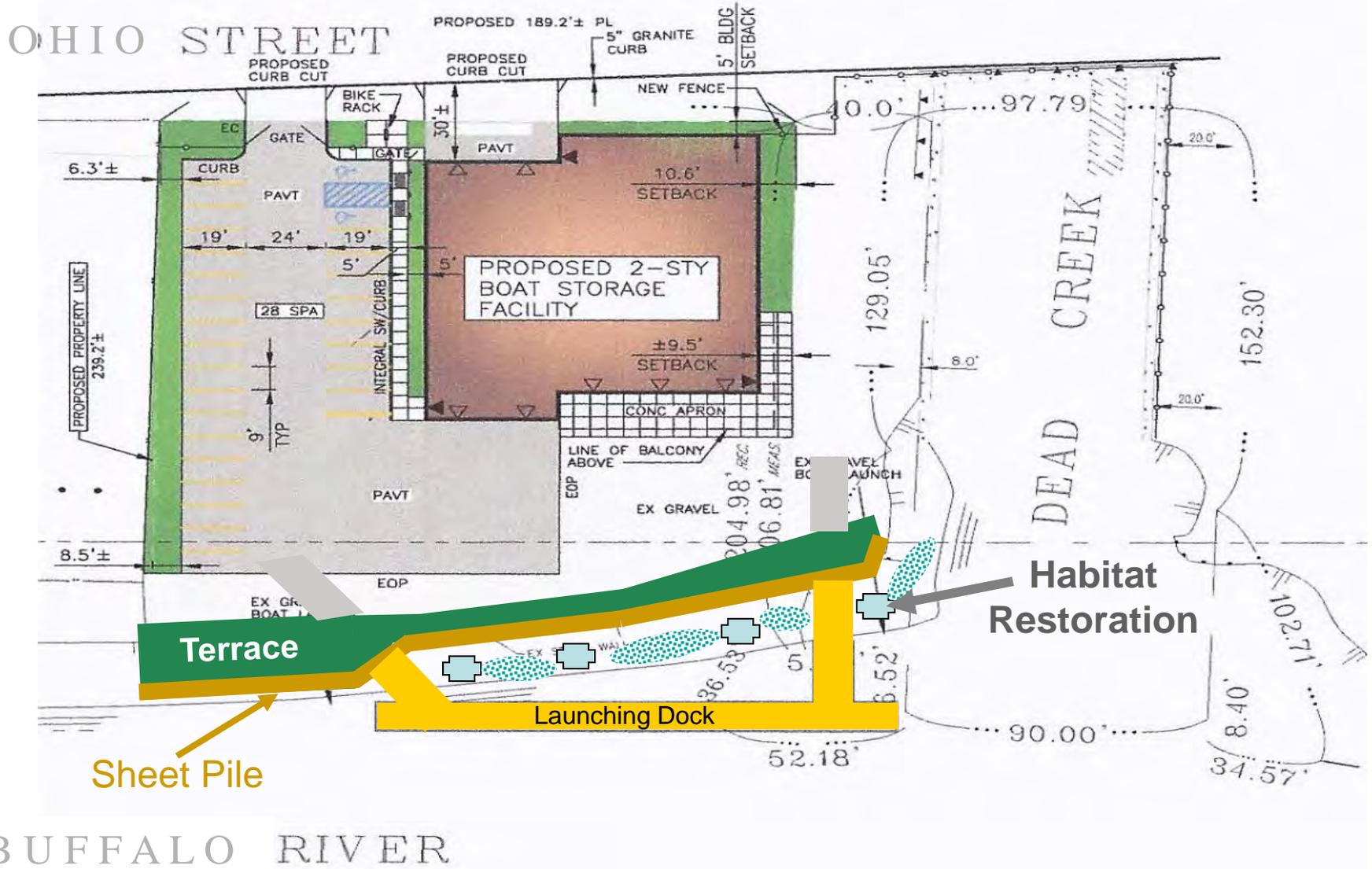
River Current

Decaying Sheet Pile



**Sheet Pile Wall to control River current and create a natural appearing terrace**

**With the River flow controlled further shoreline stabilization will be complemented with natural habitat restoration**



Terrace

Habitat Restoration

Sheet Pile

Launching Dock

BUFFALO RIVER

Task No.	Construction Task	Unit Price	Amount Requested	Comments
1	Construction Design and Bid Documents		\$0	Funding for this task has been paid for by BSRA using existing financial resources - Value \$32,500
2	Stabilization Project Construction Management		\$13,305	
3	Removal of existing public access ramps to facilitate construction		\$0	Funding for this task will be paid for by BSRA using existing organization financial resources - Value \$2100
4	Pile driver set-up and break-down		\$27,000	
5	Insertion of 140 horizontal feet of Sheet Piling consistent with existing barrier termini to stabilize the shoreline against destructive high action river current impact.	\$23/ft <sup>2</sup>	\$125,580	Estimated depth of piling 35 feet per pile and 4 feet above grade = 5460 ft <sup>2</sup> of sheet piling steel
6	Backfill Terracing consistent with pre-existing shoreline features	\$7.30/yd <sup>3</sup>	\$5,986	820 yd <sup>3</sup>
7	Insertion of Habitat Restoration anchors	134 ewa.	\$2,412	18
8	Final Landscaping and grading		\$7,200	
9	Planting of indigenous flora consistent with river habitat		\$13,500	
10	Placement of final fish habitat lunkers		\$8,400	
11	Replacement of Public Access Ramps		\$0	Funding for this task will be paid for by BSRA using existing organization financial resources. Value \$2100
				<b>BSRA Cash Contribution is \$36,700</b>
	<b>Total Project Cost</b>		<b>\$203,383</b>	<b>With BSRA Contributions = \$240,083</b>

# Estimated Project Costs

• Landscape Architect and Ecologic Services	\$ 32,000
• Inlet Dredging (USCOE June 2014)	675,000
• Inlet Habitat Restoration	54,000
• Habitat Barrier Materials	27,000
• Removal of Invasive Plants	89,000
• Landside Indigenous Species Planting	41,000
• Waterside Shoreline Stabilization	203,383
• Final Landscaping	<u>19,500</u>
• <b>Total Estimated Project Cost</b>	<b>\$1,140,883</b>

# Project Funding Status

• Landscape Architect and Ecologic Services	\$ SGC
• Inlet Dredging (USCOE June 2014)	USCOE
• Inlet Habitat Restoration	RK
• Habitat Barrier Materials	Donation
• Removal of Invasive Plants	Legacy Act
• Landside Indigenous Species Planting	Legacy Act
• Waterside Shoreline Stabilization	203,283
• Final Landscaping	<u>Donation</u>
• <b>Total Estimated Project Funding Gap</b>	<b>\$ 203,383</b>

# Project Summary

- BSRA Shoreline Stabilization is consistent with the broad plans for Buffalo River Restoration.
- Total Project Cost is estimated to be **\$1,140,383**
- Project Funding to date **\$ 937,500**
- Project funding gap is **\$ 203,383**
- Gap financing will assure completion of the Project consistent with the Ohio Corridor and landside Boathouse construction.