

CLACKAMETE COVE-CLACKAMAS RIVERBANK RESTORATION PROJECT

Community-based Solutions in the Face of State-wide Endangered
Species Act Regulations – Pressures to Make Both Ends Meet

Phil Pommier, PE, PWR

Nancy Kraushaar, PE, City of Oregon City

Pacific Water Resources, Inc.



DAVID EVANS
AND ASSOCIATES, INC.



CITY OF
OREGON CITY



We Think the World of Water
PACIFIC
WATER RESOURCES, INC.

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Species Act Regulations – Pressures to Make Both Ends Meet

Additional Contributors:

Habib Matin, PhD, PE, PWR

Kenneth R. Elbert, PE, PWR

Sharon Zimmerman, PE, City of Oregon City



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WATER RESOURCES, INC.



VICINITY MAP
Oregon City, Oregon



May 23, 2000





May 23, 2000



May 23, 2000



May 23, 2000



August 3, 2000

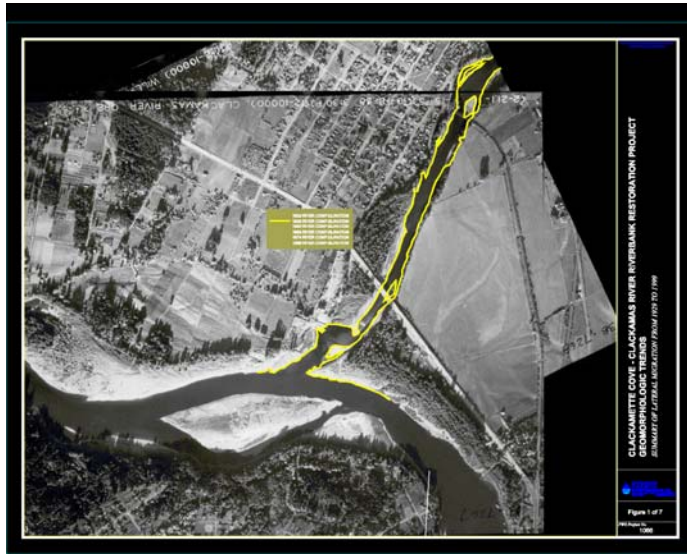
Historic Evaluation of Stream Bank Erosion

- River Characteristics / Morphology
- Historic Trend Analysis



1929





1938



1950





1963

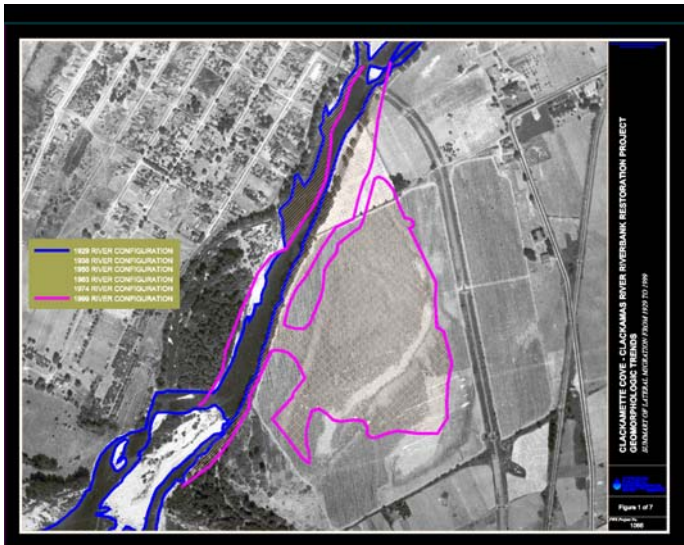


1974





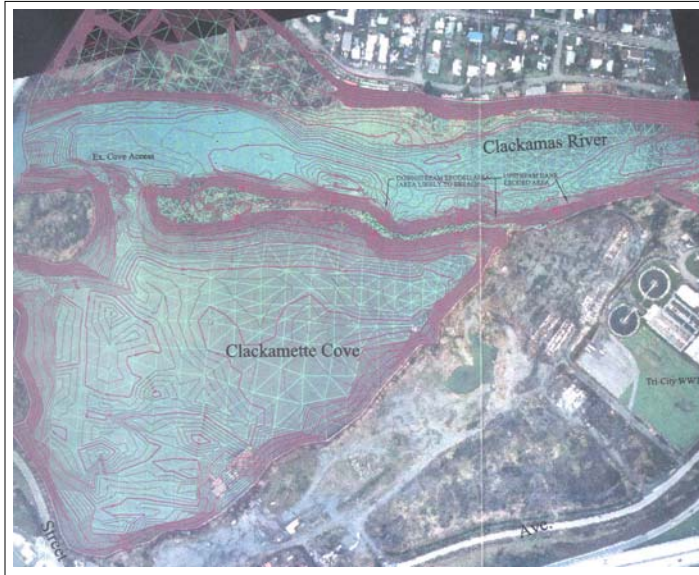
1999



1929-1999

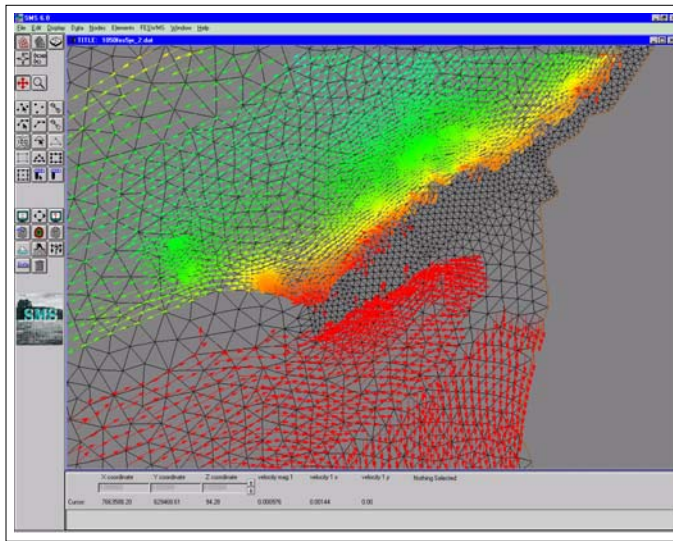


February 1996

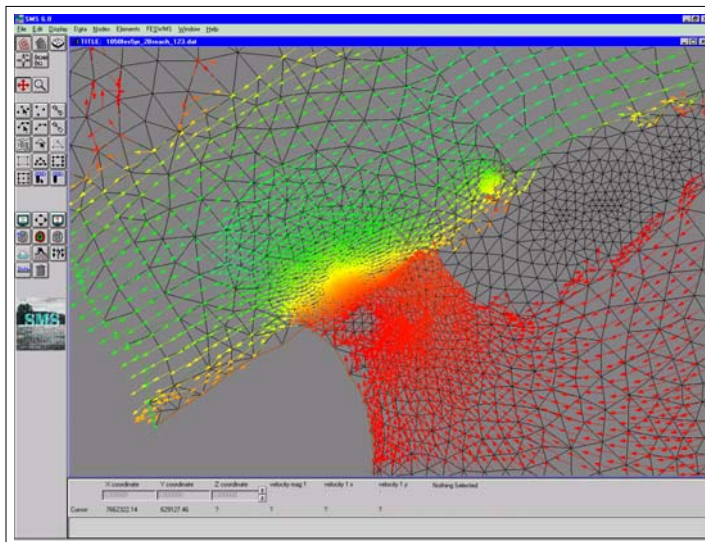


Hydraulic Base Model Map





Alternative B - Stabilize Existing Banks (5-Year Flow).



Alternative C - Model Results at Existing Access with Controlled Breach at 23 ft. (5-Year Flow).

Alternative Selection / Evaluation

- **Do-Nothing Short Term / Long Term**
- **Rigid / Flexible Revetment Countermeasures**
- **River Training Techniques Using Barb / Log Jams**
- **Stabilize Eroded Bank**
- **Controlled Breach**



Alternate Development Criteria

- **Environmentally Friendly, Multi-Objective Solution**
- **Constructability**
- **Permitting Feasibility**
- **Aesthetics**



CLACKAMETTE COVE - CLACKAMAS RIVER BANK STABILIZATION
DECISION MATRIX

		ALTERNATIVES			
		A1 Do Nothing Short Term	A2 Do Nothing Long Term	B Stabilize Existing Banks	C Controlled Breach at 23-Ft Elevation
Item	Consequences				
HYDRAULIC ENGINEERING & ENGINEERING FEASIBILITY	A. Continued Erosion of Existing Banks (Critical and Upstream Locations)	Red	Red	Blue	Blue
	B. Likelihood of River Realignment into Cove	Yellow	Red	Blue	Blue
	C. Perceived Improvement to Long Term Petrochemical Integrity	Yellow	Red	Blue	Blue
	D. Improvement of Existing Access to Cove (Bedrock Removal)	Green	Green	Blue	Blue
	E. Potential Approval of Construction Related Permits	Green	Green	Blue	Blue
	F. Construction Feasibility	Green	Green	Blue	Blue
	G. Perceived Impact on Existing Public Property & Public Facilities in or Around Cove	Yellow	Red	Blue	Blue
	H. Perceived Impact on Future Public Property & Public Facilities in or Around Cove	Yellow	Red	Blue	Blue
	I. Perceived Impact on Existing Private Property (Slabstone Residents)	Green	Red	Blue	Blue
ENVIRONMENTAL	J. Potential Approval of Regulatory Permits	Green	Green	Blue	Blue
	K. Perceived Changes in General Water Quality Condition of River	Yellow	Yellow	Blue	Blue
	L. Perceived Changes in General Water Quality Condition of Cove	Yellow	Yellow	Blue	Blue
	M. Blockage of Fish Migration to Cove from Sediment Build-up in Existing Cove Access	Green	Green	Blue	Blue
	N. Impact on Rearing, Spawning of Warm Water Fishes	Red	Red	Blue	Blue
ECONOMIC	O. Impact on Rearing, Spawning of Cold Water Fisheries	Yellow	Red	Blue	Blue
	P. Perceived Long Term Aesthetics of Eroded Area from North River Residents	Yellow	Red	Blue	Blue
	Q. Perceived Long Term Aesthetics of Eroded Area from Cove Users	Yellow	Red	Blue	Blue
	R. Level of Direct Cost Layout (Construction, Design, and Permitting Costs)	Blue	Blue	Blue	Blue
	S. Level of Perceived Impact on Future Cove Development	Yellow	Red	Blue	Blue
T. Perceived Economic Costs on Existing Public Property & Public Facilities	Green	Red	Blue	Blue	
U. Perceived Economic Costs on Future Public Property & Public Facilities	Yellow	Red	Blue	Blue	
V. Perceived Economic Costs on Existing Private Property (Slabstone Residents)	Blue	Blue	Blue	Blue	
W. Long Term Maintenance of Actual Engineered Structures for the Alternatives	Blue	Blue	Blue	Blue	
X. Long Term Maintenance of Existing Access to Cove	Blue	Blue	Blue	Blue	

KEY CODES

- Blue: Significant Positive Impact
- Light Blue: Positive Impact
- Green: No Significant Impact
- Yellow: Negative Impact
- Red: Significant Negative Impact

- Blue: High Probability
- Light Blue: Medium Probability
- Green: Not Applicable
- Yellow: Low Probability
- Red: Very Low Probability

- Blue: No Costs
- Light Blue: Minimal Costs
- Green: Low Costs
- Yellow: Medium Costs
- Red: High Costs



Message

Clients and Public Interests are not Served by Long Adversarial Review Processes



Understanding

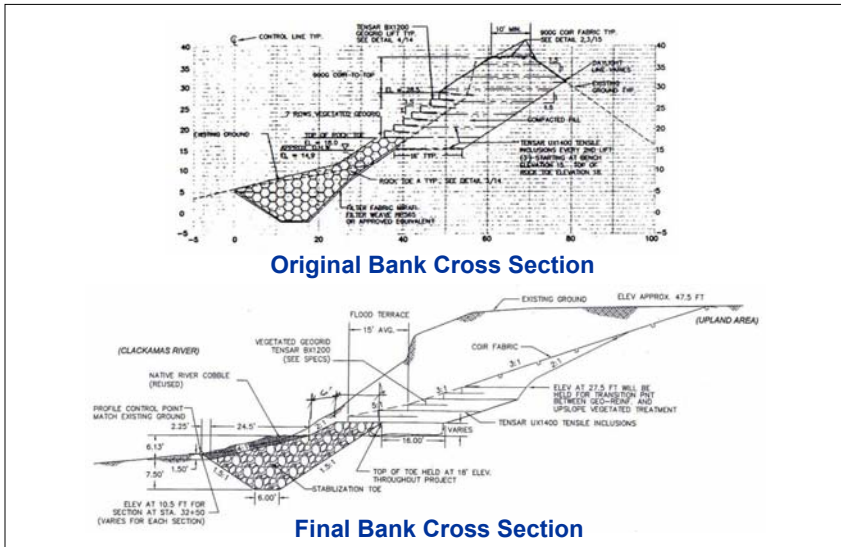
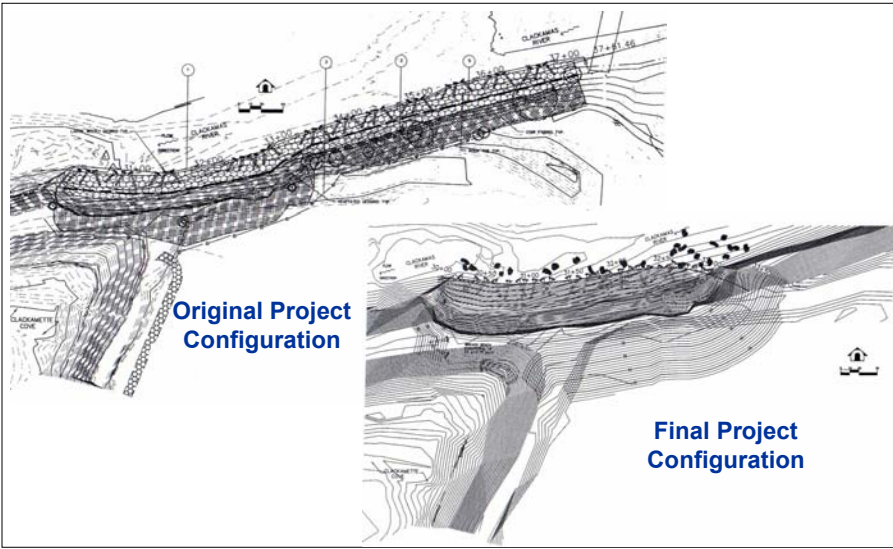
**Engineers and Regulatory Agencies
Need a Better Understanding of the
Professional Obligations and
Practices of Each**



Premise

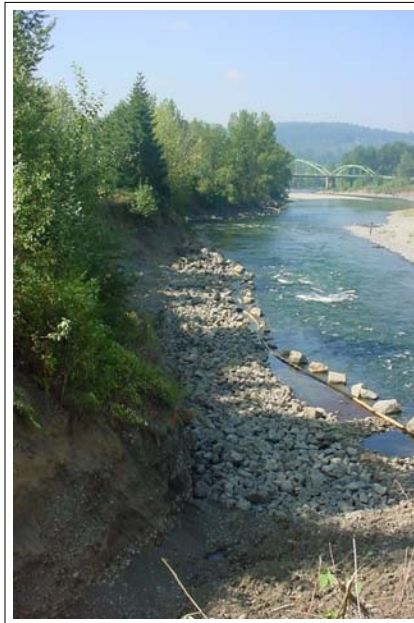
**Political Solutions Have Less Value
In Terms of Economic, Social or
Environmental Benefits**







May 23, 2000



September 6, 2002





September 25, 2002



October 2, 2002





October 9, 2002



October 16, 2002





October 23, 2002



Permit Process

- **October 2000 – Initial Meeting/Concept Plans**
- **February 2001 – Submitted Design Report and Permit Package**
- **Permit Issued August 2002**



Take Home Message

- **We Need to Work Together in the Interests of the Public**
- **Less Politics = More Value**
- **Regulatory Review Should Add Value**

