

Montesano WWTP Wynoochee River Bank Protection Project

BY MATT KASTBERG

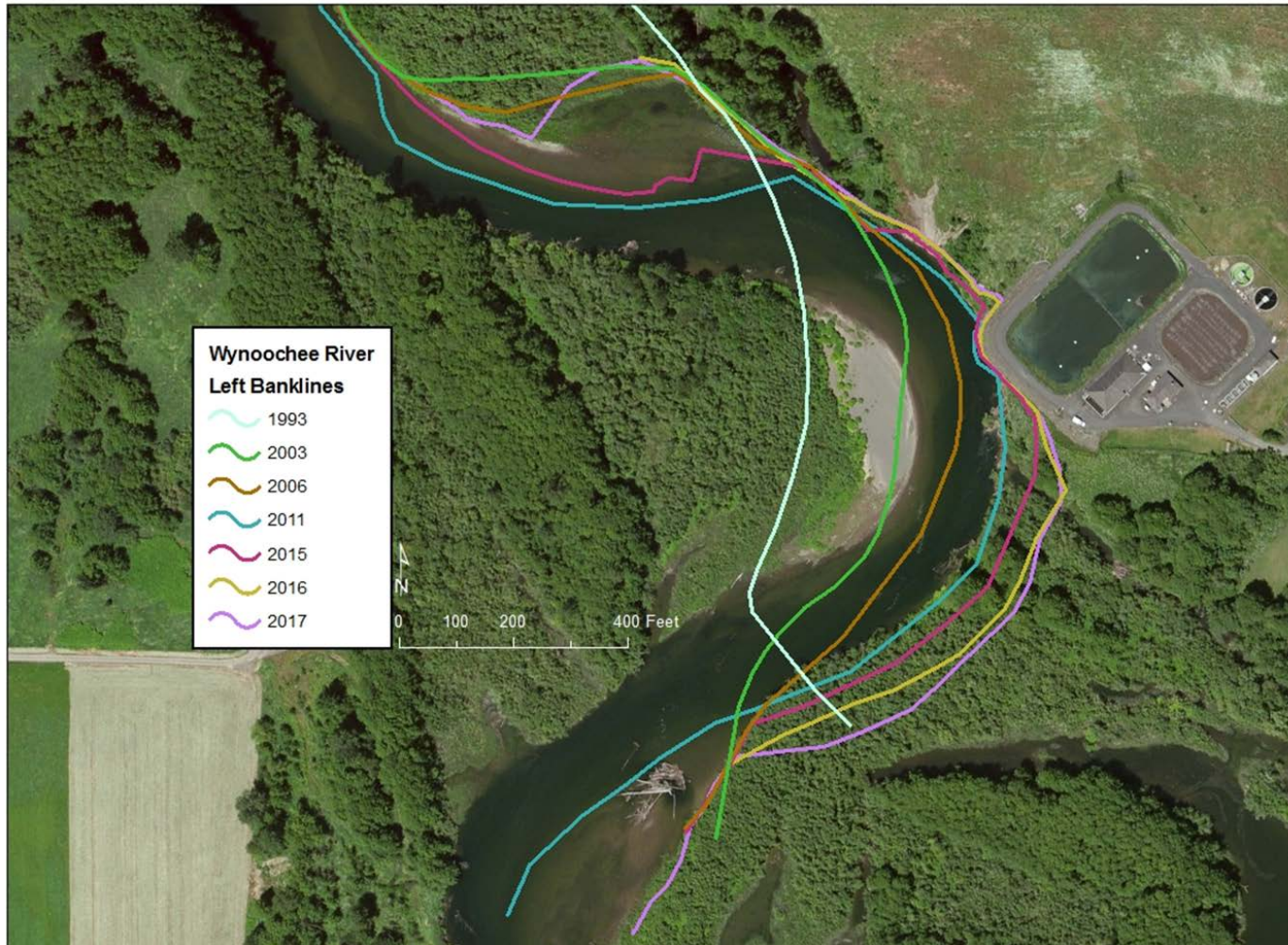
REGIONAL DIVISION MANAGER
COMMUNITY BUILDING - PUGET SOUND OFFICES
253.604.6735 | DESK
253.278.1468 | CELL
MKASTBERG@PARAMETRIX.COM

Parametrix

What is the issue?

- Wynoochee River is migrating eastward toward the City of Montesano's WWTP and threatening to breach the WWTP
- Left unaddressed, an environmental, economic and public health disaster is imminent
- Bank is eroding at a rate of 17 feet per year
- Rate of erosion is likely to increase exponentially as newly formed back-eddy increases in size
- Future flood events will likely increase risk of breach with each occurrence

Wynoochee River Left Bank Lines



Wynoochee River – July 2006



Wynoochee River – August 2016



WWTP - April 2017



WWTP – April 2017



Project Overview

- In January 2016, the City of Montesano hired Parametrix, Inc. to evaluate a proposed design of three (3) two-hundred (200) foot rock groins to deflect the river flow away from the WWTP.
- In fall of 2016, modeling results indicated that the proposed groin option would not provide the long term protection for the WWTP desired by the City.



Project Overview

- In the spring of 2017, the City began to explore other solutions to prevent an imminent disaster related to the WWTP.
- Recent work to evaluate viable solutions has included;
 - Project meetings, stakeholder engagement, project updates and technical memorandums
 - Evaluation of existing site conditions (UAV photos, wetland delineation, bathymetry, Topographic Survey)
 - Developed and evaluated list of potential long term and short term solutions
 - Preliminary project cost estimates of preferred solutions
 - Development of permit matrix summarizing anticipated permit requirements
 - Hydraulic Modeling of preferred short term solution (Sheet Pile Wall)
 - Began to evaluate WWTP Relocation options (in process)
 - Began to evaluate reported slope deformation and other site distress (in process)

Potential Solutions

- Potential Short Term Solutions
 - 300' Sheet Pile Wall to north of WWTP
 - Optional Engineered Log Structures along face of proposed Sheet Pile Wall
 - Stage hundreds of Log Jacks on uplands to north of WWTP
 - As bank erodes, jacks would fall into river and reduce scour and rate of bank erosion
 - Remove sludge from settling ponds, backfill with rock, explore alternatives for solids storage and continue to explore long term solution options
- Potential Long Term Solutions
 - In-River Piles
 - Re-opening Relic Channels
 - Engineered Log Structures
 - River Retaining (scalp right bank bar to pull river away from WWTP)
 - Log Jacks
 - Relocate WWTP

Proposed Solutions



Log Jacks



Engineered Log Structures



Re-open Relic Channel



Upcoming Activities

- Technical Workshop with Regulatory Agencies
 - June 22nd (1-3pm)
 - Focus of meeting is to provide project update and collect input
- WWTP Relocation Conceptual Evaluation
 - June 30th
 - Parametrix, Inc. to provide City with Technical Memorandum to consider potential relocation sites for the WWTP including description of each alternative, design criteria, land requirements and general estimated cost estimates
- Evaluation of reported slope deformation and other site distress
 - June 30th
 - Geotech (AMEC) and Parametrix to evaluate existing site conditions and establish settlement baseline for future analysis.
- City of Montesano Internal Meeting
 - July 10th
 - City will meet internally to discuss preferred alternatives, funding and path forward.