City of Orting, Pierce County, WA

- Population 7,000
- Land area is 2.7 square miles (1,728 acres)
- Bordered by two rivers – Carbon and Puyallup
- Existing levees built in 1960’s severely limits river and floodplain from functioning properly.
- 80% of Orting is within the 100-yr floodplain
Project Overview

• Goals:
  1. Flooding protection for Orting and downstream
  2. Salmon Habitat
• 1.6 miles in length
• $15.3 million construction cost
• 46 acres of floodplain reconnected, and 55 acres of backwater, salmon stream habitat
• Project will enhance flood protection while restoring habitat for 3 endangered salmon species (Chinook, Steelhead and Bull Trout).
November 2006 Flood
History of Flooding

- City of Orting is susceptible to large flooding events – 2009, 2008, 2006, 1996, etc.
- $$$100,000’s damage every event
- Puyallup River flooding threatens transportation corridors (SR 162, SR 410, I-5) & economy
- Gravel deposition is major issue
  - Gravel removal last conducted in 1995
  - Increase of 1-3 feet in bed elevation from 1984 to 2009
History of Flooding

• After flood of 2006, City of Orting and Parametrix worked together to solve the flooding problem.

• Several options were considered and ultimately one was chosen and designed.

• The City did not have funding for construction but had a “shovel” ready project.

• This involved risk but gave the City leverage to seek funding.
Funding

• Salmon Recovery Funding Board: $2.3 million
• Department of Ecology 2012 Stormwater Grant: $1.3 million
• The Nature Conservancy – Floodplain by Design: $4.7 million
• Pierce County Flood Control Zone District: $8.5 million
• Public Works Trust Fund Loan: $4 million
• USDA-RD Loan: $3 million
Ground Breaking Ceremony – December 2013
Construction Team

- City of Orting is the Owner and pays the bills
- Parametrix provides Construction Management Services
- Ceccanti is the General Contractor
Project Challenges

- Permit Compliance – 13 permits
- Environmental challenges
  - Clearing trees (migratory bird act of 1918)
  - Controlling storm water
  - Protecting fish
  - Noxious weeds
- Schedule
  - Dewatering / surface water
  - Weather
  - Importing material (average of 18 trucks per hour importing material)
May 5th, 2014 Construction Begins
Managing Surface and Ground Water

~1100 Dewatering Wells
Hog fuel roads built to provide site access
Dry toe rock excavation
Fish passage culverts
72” fish passage culvert with tide gate
7-15 ton jetty stone on largest bend
Roughened toe and large log spurs
Geotextile fabric used in some areas to stabilize subgrade
1.5 miles of stormwater collection trench
In water work at tie-in location
On November 25, 2014, the fourth highest recorded flow (16,200 cfs) since 1962 came down the Puyallup River. The new levee performed as expected and protected the City. Not a single flood sand bag had to be filled and there were no evacuations.

Prior to this project, the minimum flood flow that would require notification was 4,500 cfs. On March 1, 2015, this was raised to 10,000 cfs.
Success!