Proposed Chehalis River Basin Flood Damage Reduction Project

Revised Project Description Design Update

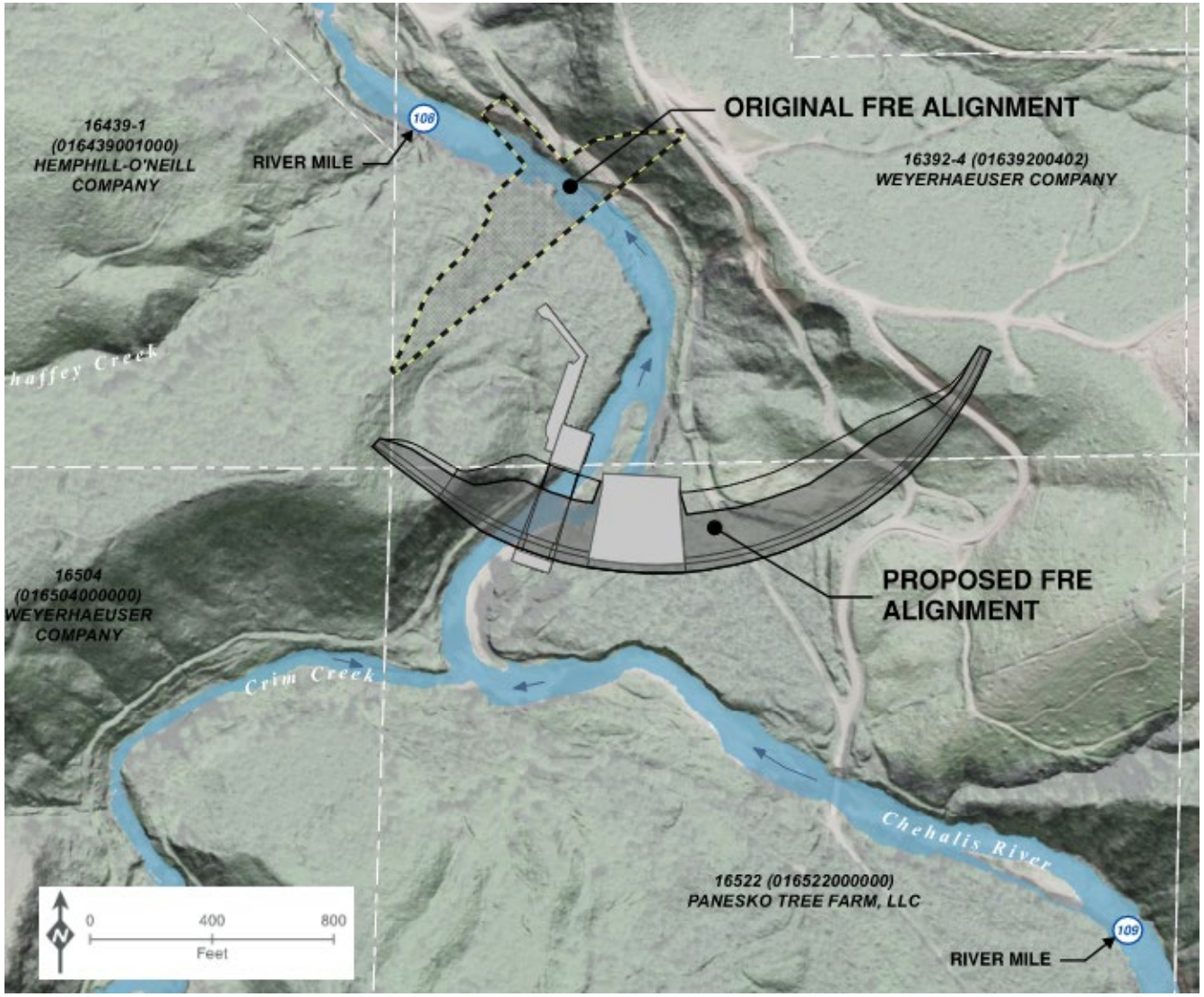
Chehalis River Basin Flood Control Zone District

April 4, 2024

Summary: Engineering Design Refinements

Design Refinements	Benefits
FRE site realignment	Minimizes impacts to TCP, Smaller reservoir
Curved alignment	Improves structural efficiency
Stepped spillway design	Dissipates energy quicker
Flood evacuation conduit addition	Finer control for releasing water during flood events
Fish passage conduits	Incorporates climate change using new NMFS guidelines; fish conduits only used for fish passage
Fish passage during construction	Open channel fish passage during construction

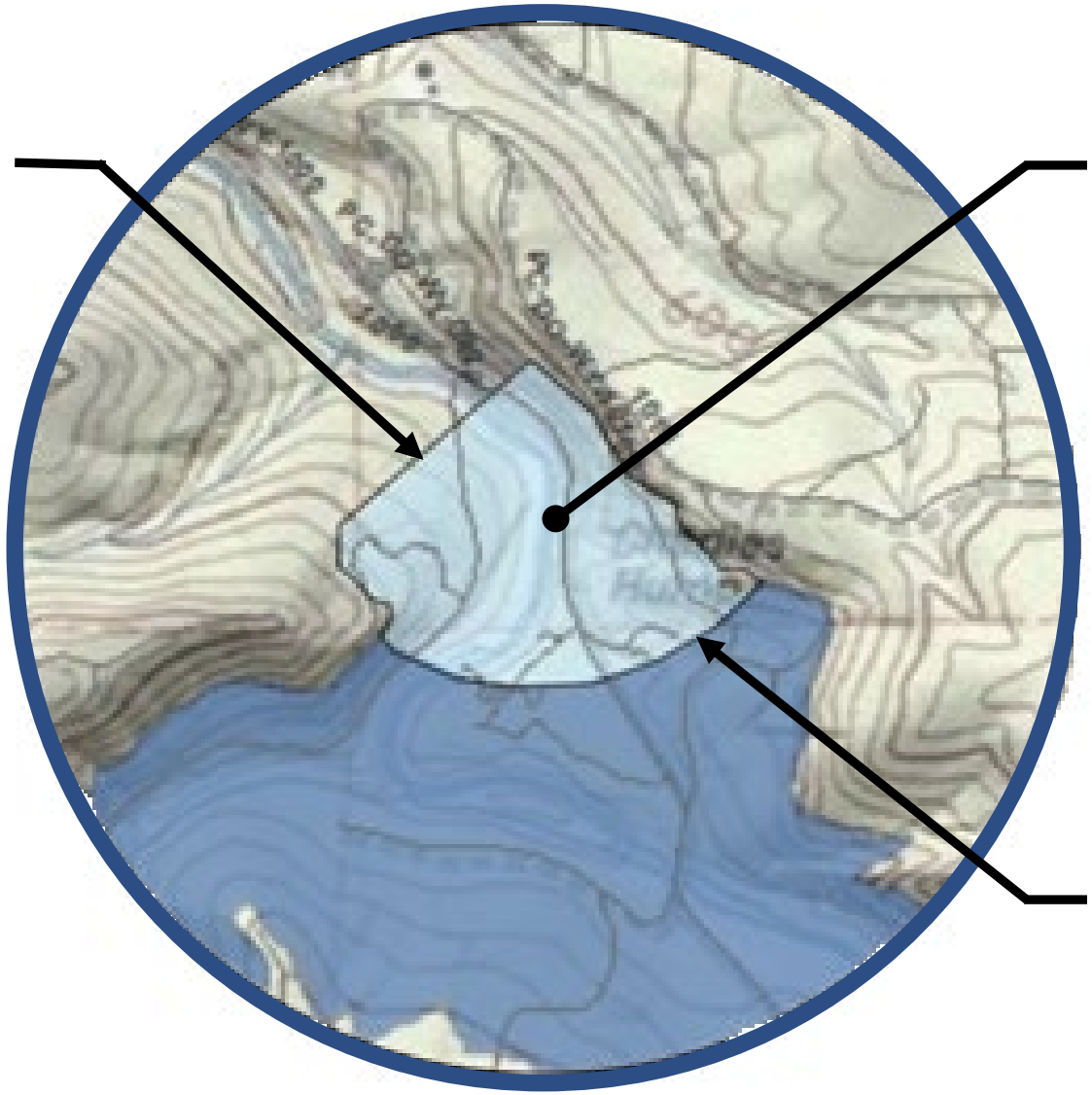
FRE Site Realignment



Benefits:

- Minimizes impacts to Traditional Cultural Property
- Wider span creates design opportunities to minimize and avoid impacts

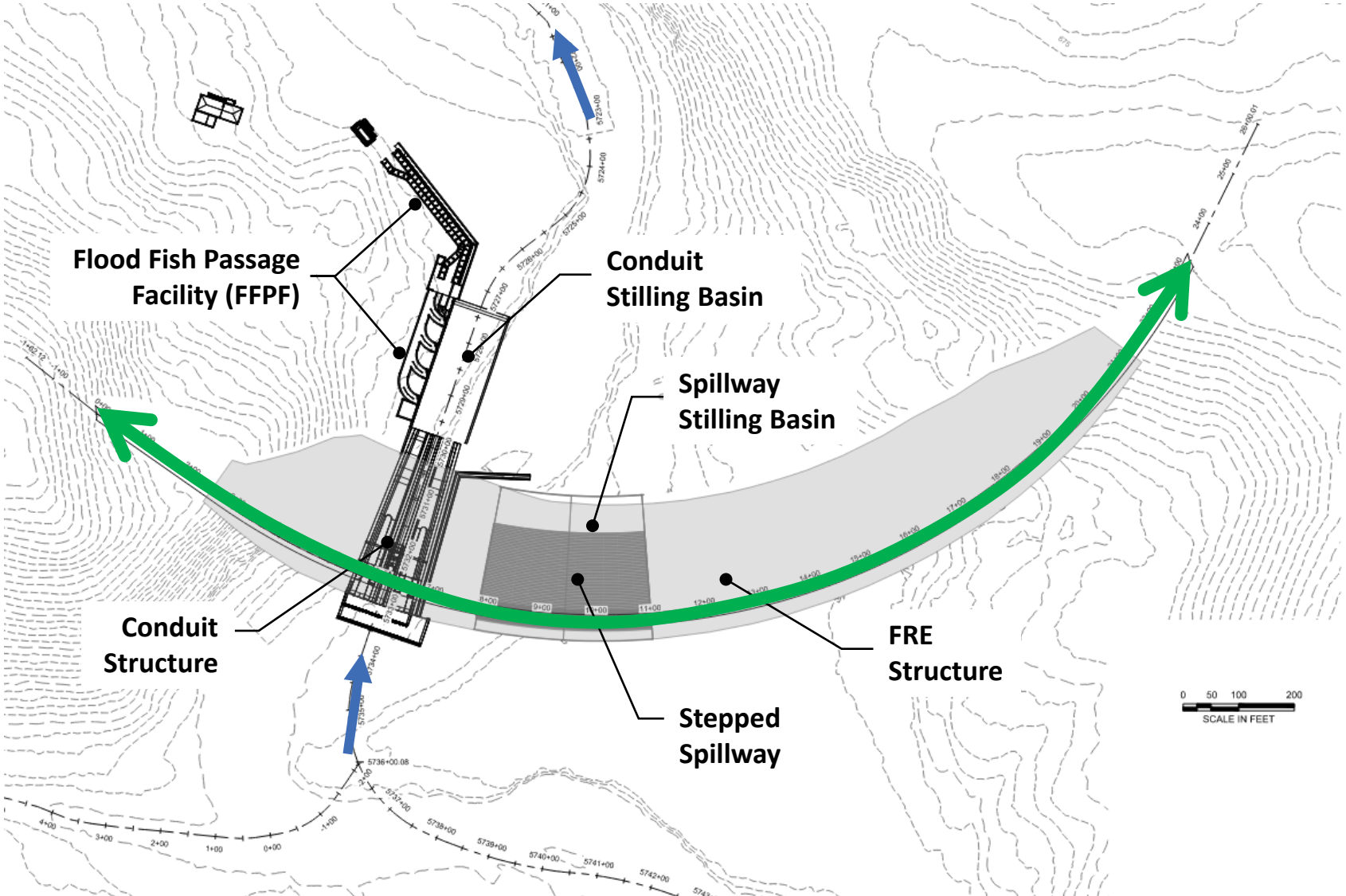
FRE Site Realignment



Benefit:

- 32-acre reduction in inundation zone

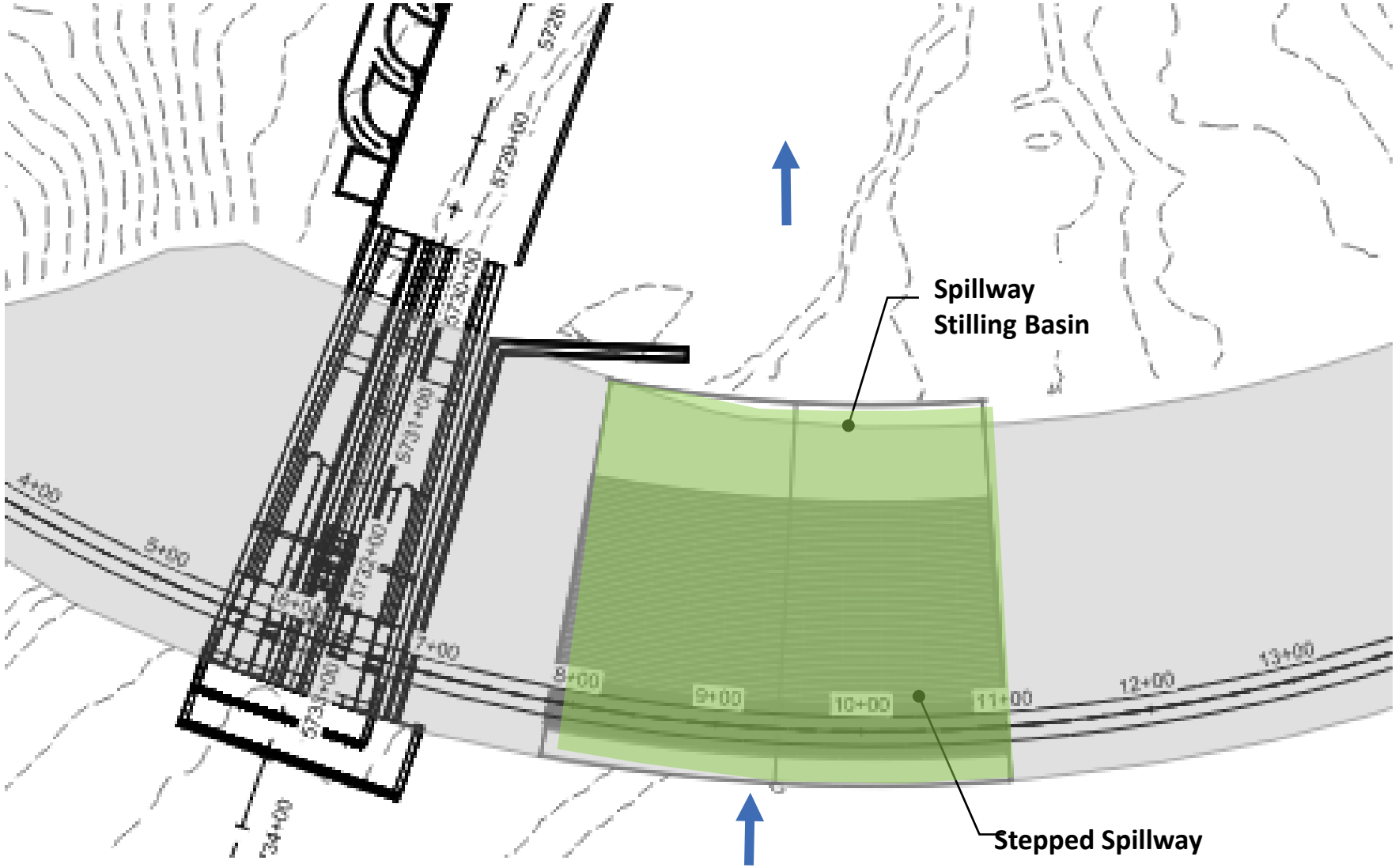
Curved Alignment



Benefits:

- More structurally efficient - uses the hillside to push back on the force of the water

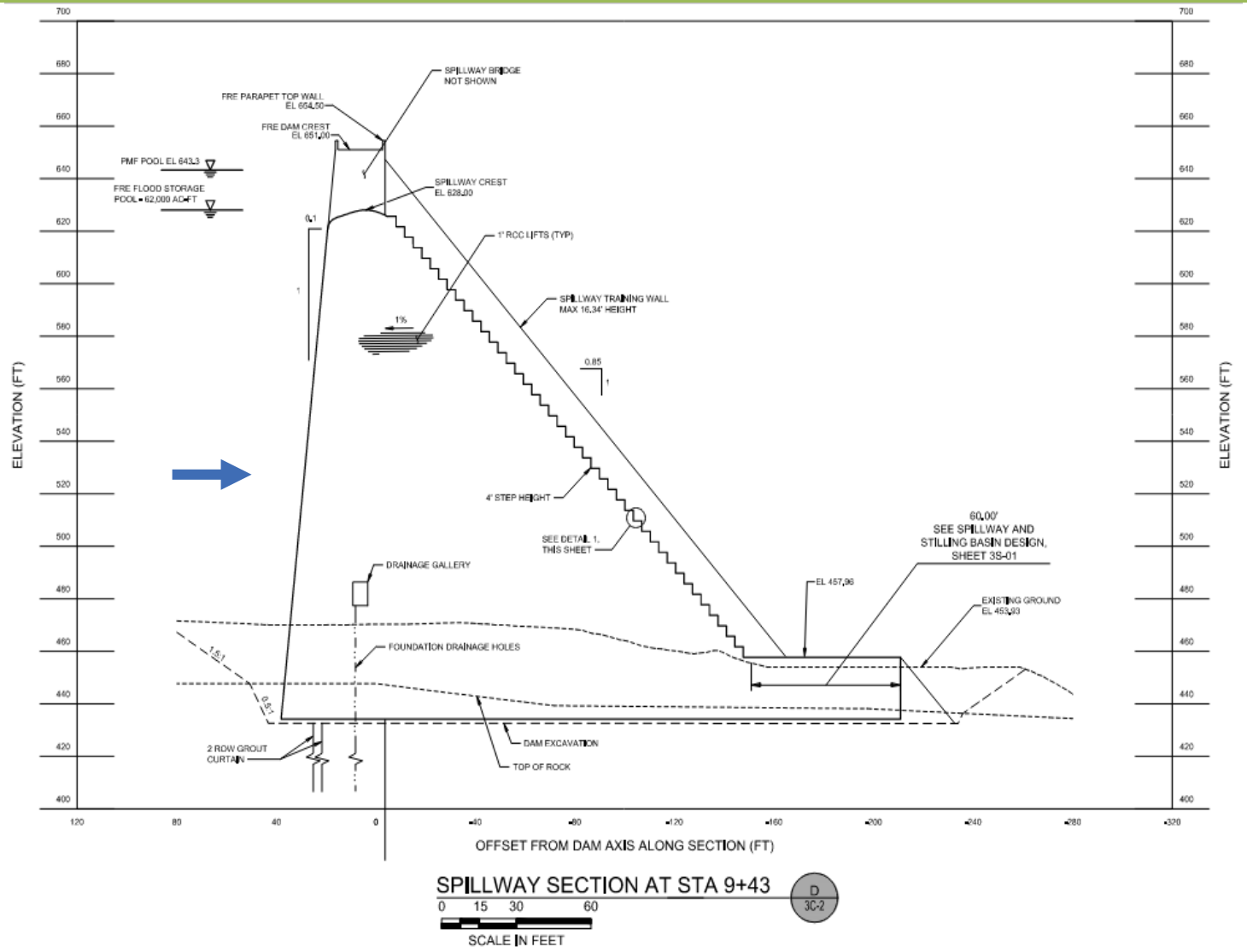
Stepped Spillway Design



Benefit:

- Dissipates energy quicker, reducing downstream impacts

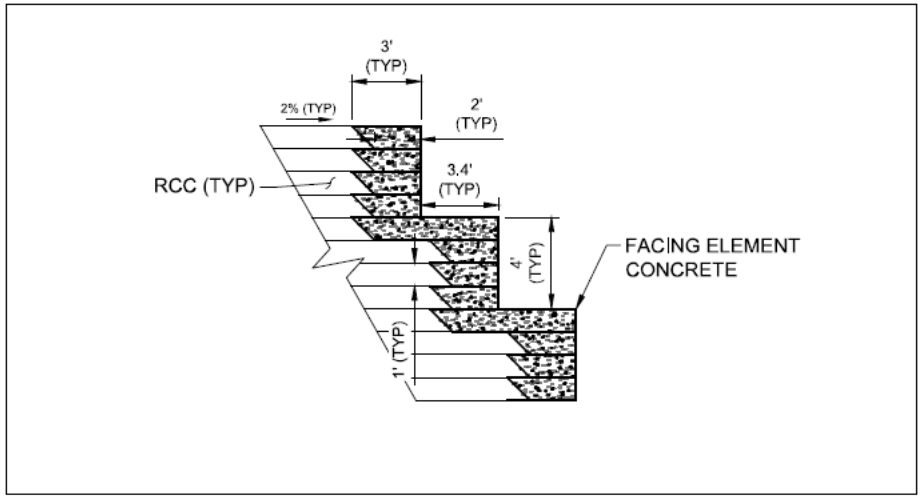
Stepped Spillway Visual



SPILLWAY SECTION AT STA 9+43 (D / 3C-2)

0 15 30 60

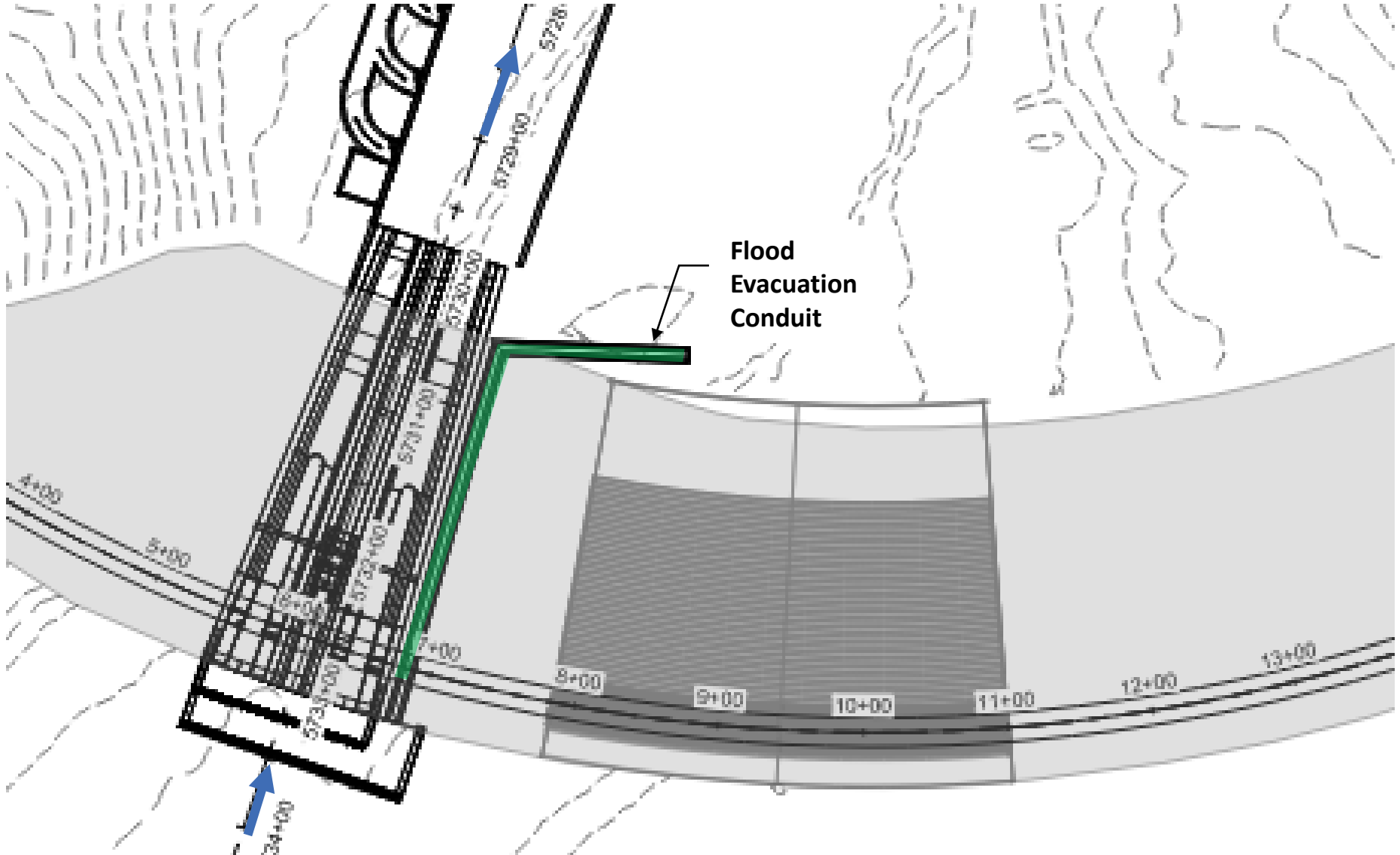
SCALE IN FEET



DETAIL 1 - FACING DETAIL

1" = 5'-0"

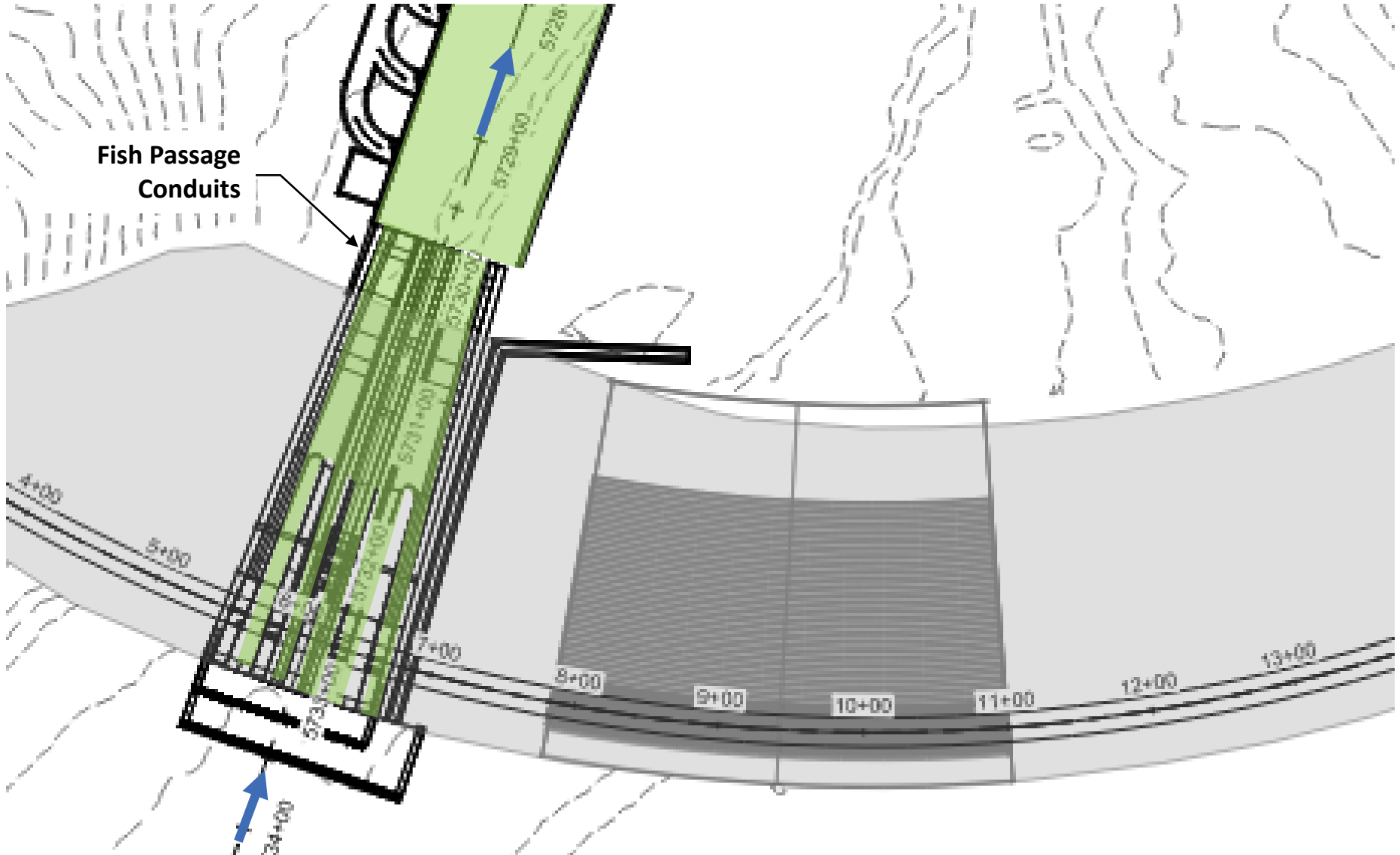
Flood Evacuation Conduit



Benefits:

- Draws down reservoir after a flood event
- Better control of flow releases
- Fish passage conduits ONLY pass fish

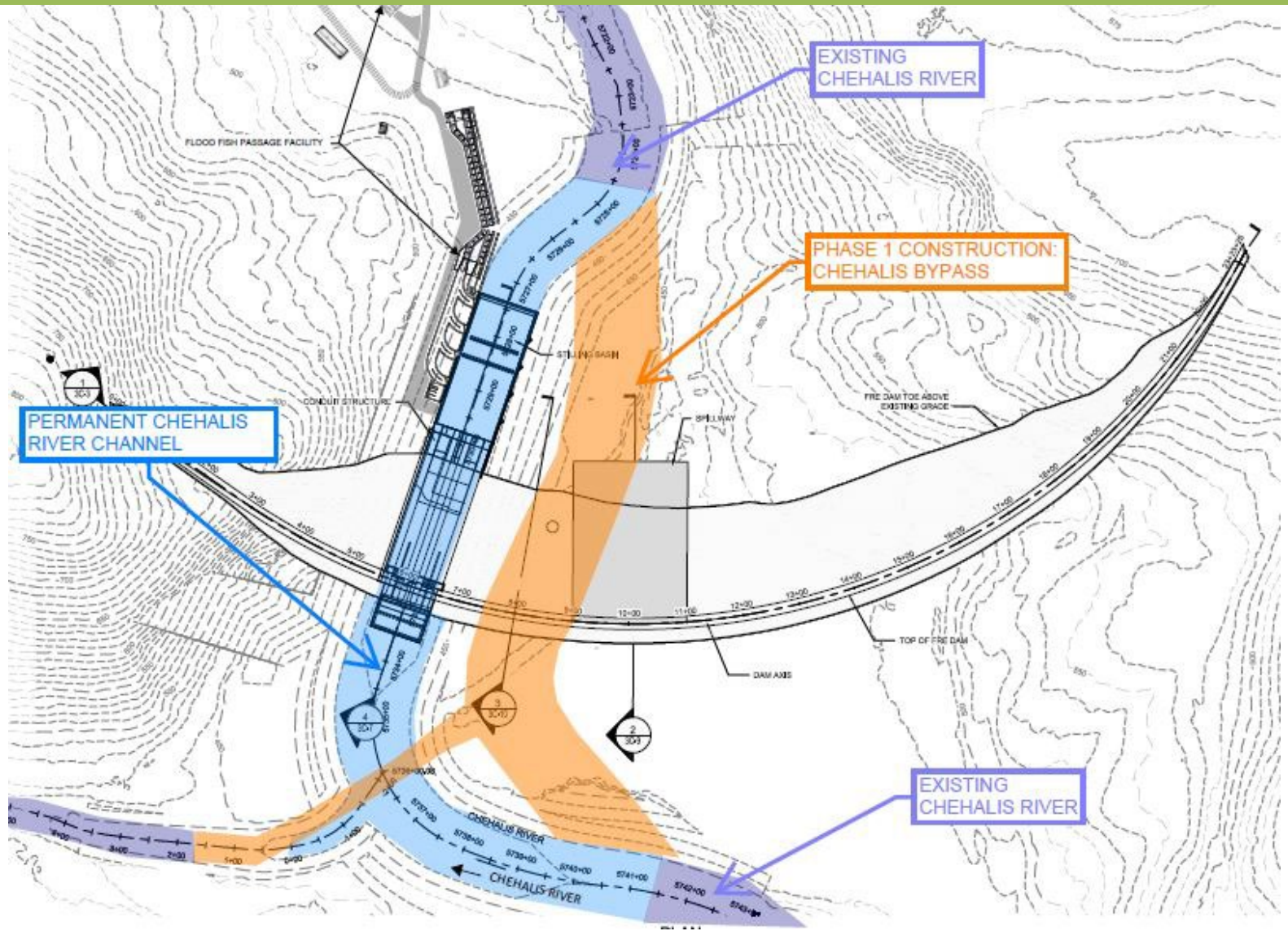
Fish Passage Conduits



Benefits:

- Sole purpose to mimic river flow
- Follows latest NMFS fish passage guidance
- Fish able to pass freely most of the time

Fish Passage: Construction Phase



Benefits:

- Bypass is designed to mimic the river flow of natural channel
- Trap and haul & diversion tunnel no longer needed

Future Presentations

- May – Fish Passage: Construction Phase
- June – Fish Passage Conduits
- Future – Mitigation Plan Updates