

Brightwater Marine Outfall

Peer Review Workshop
January 9, 2003

Overview

⌘ Phase 1

⌘ Phase 2

⌘ Preliminary Phase 3 Screening

⌘ DEIS (Phase 3)

⌘ Schedule

Marine Outfall Phase 1 Screening

⌘ May 2001

⌘ Engineering and Environmental
Constraints

☑ Superfund site, anchor zone, >100 ft depth

⌘ Detailed Evaluation Questions (DEQs)

☑ 13 DEQs

☑ Engineering, biology, shoreline public use,
hazardous waste

Phase 1 Results

- ⌘ Eight marine outfall zones
- ⌘ 16 candidate diffuser sites
- ⌘ “flexible” vs. “less flexible”

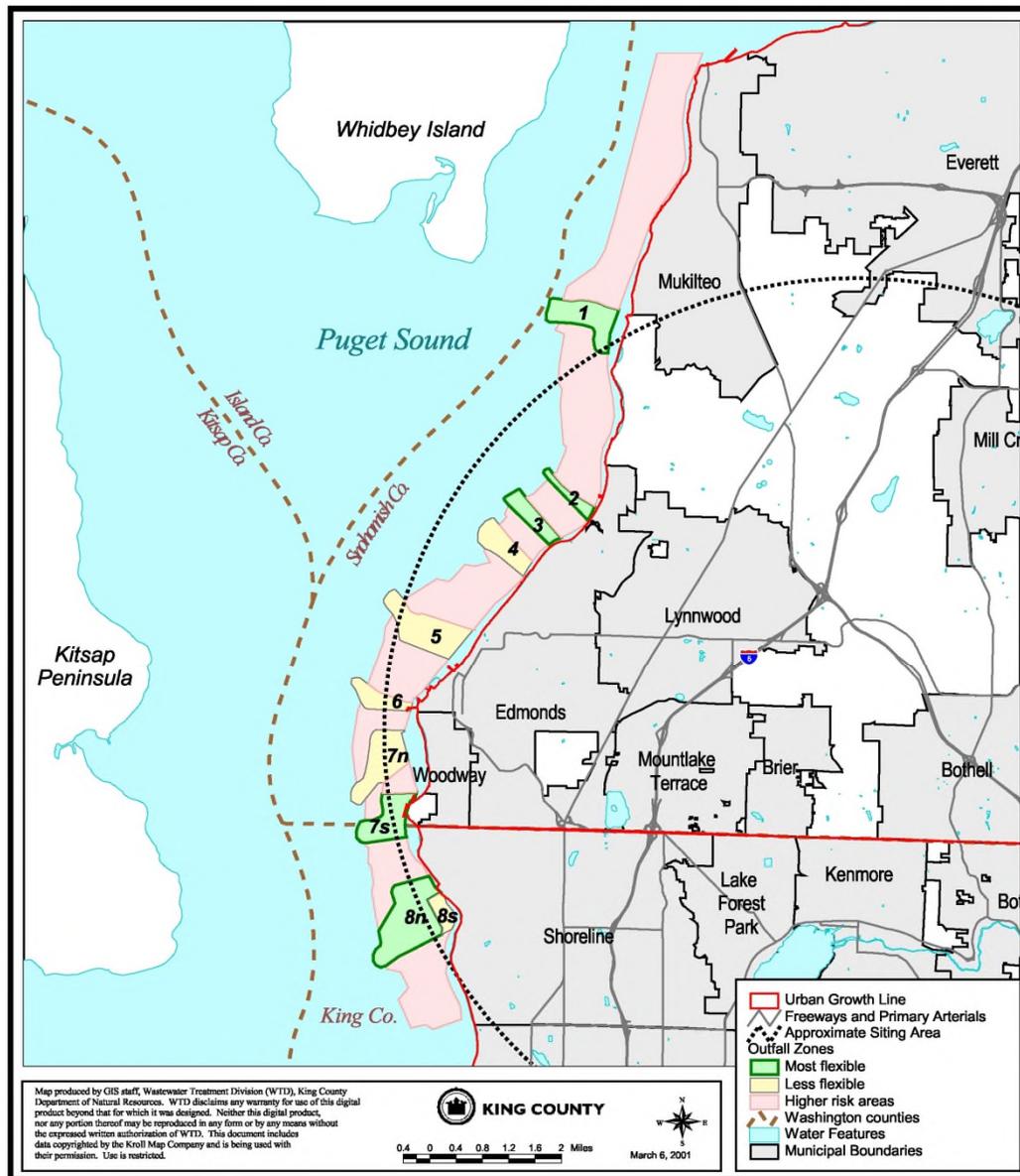


Fig. 2 Proposed Outfall Zones

Phase 2 Screening

- ⌘ October 2001

- ⌘ More/New data used

- ⌘ Detailed Evaluation Questions

 - ☒ 22 DEQs

 - ☒ Public access, cultural resources, geology/engineering, biology, water quality, public health, hazardous waste

- ⌘ Four zones with five diffuser sites

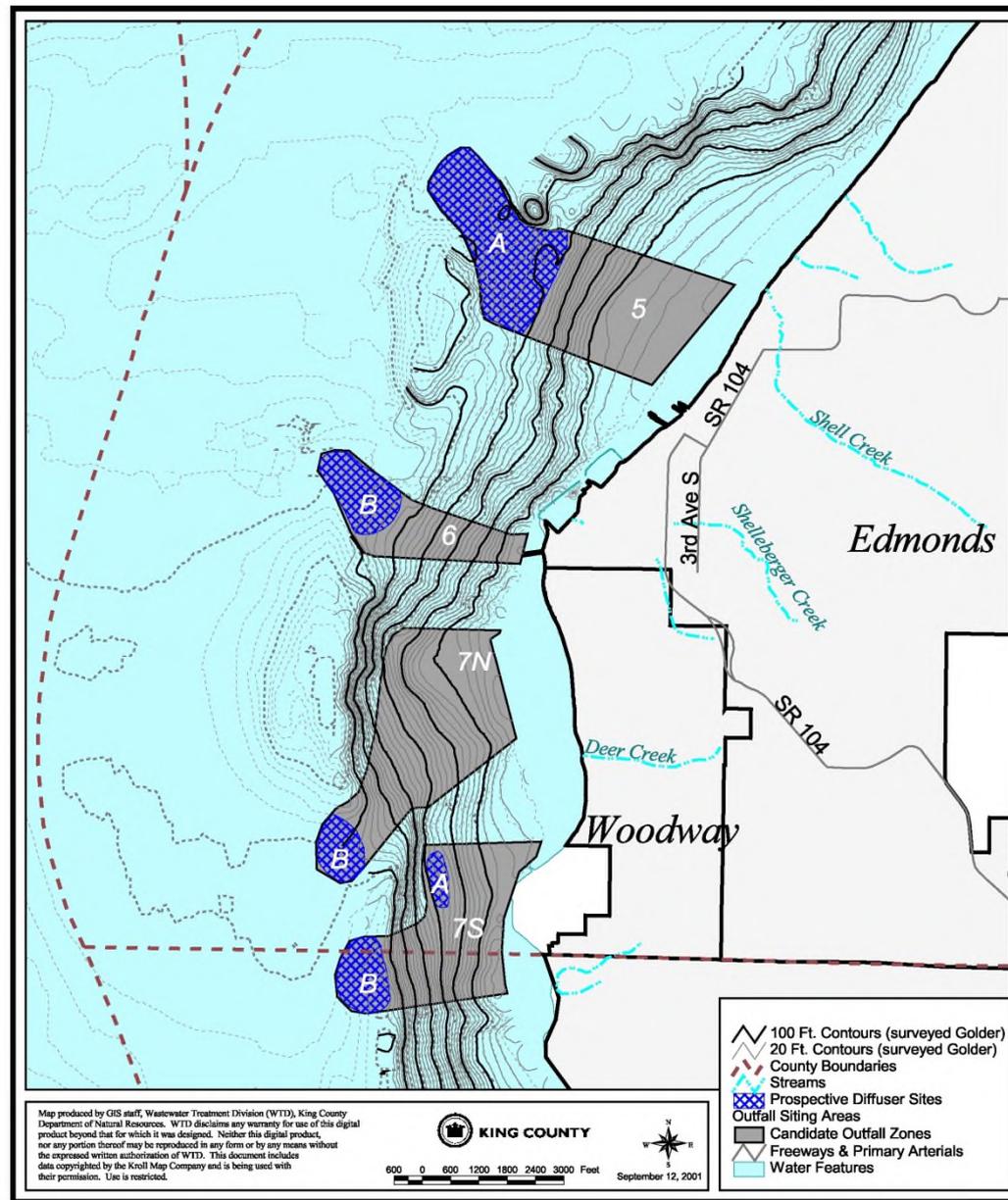
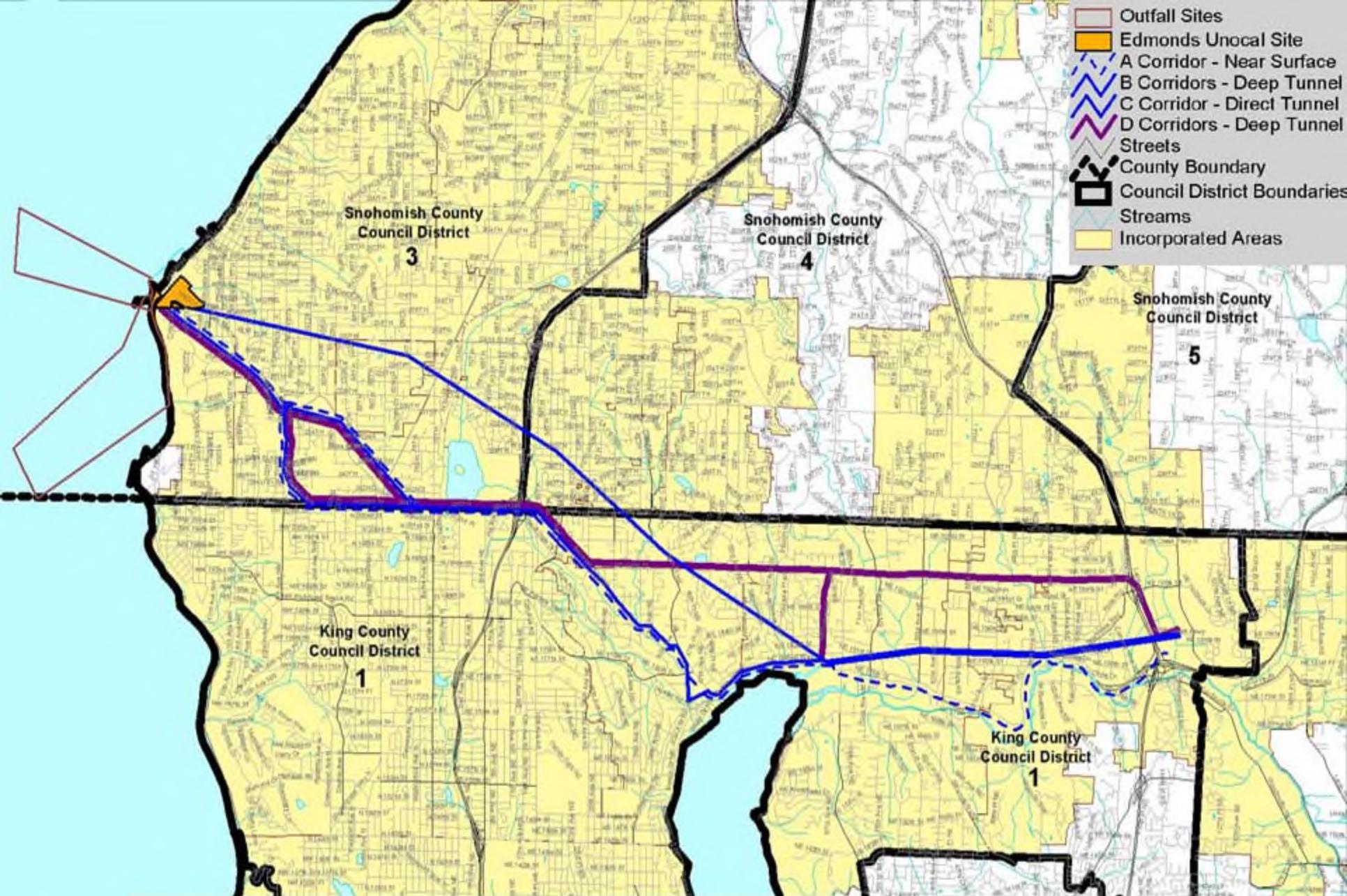


Figure 8 - Proposed Final Candidate Marine Outfall Zones & Diffuser Sites

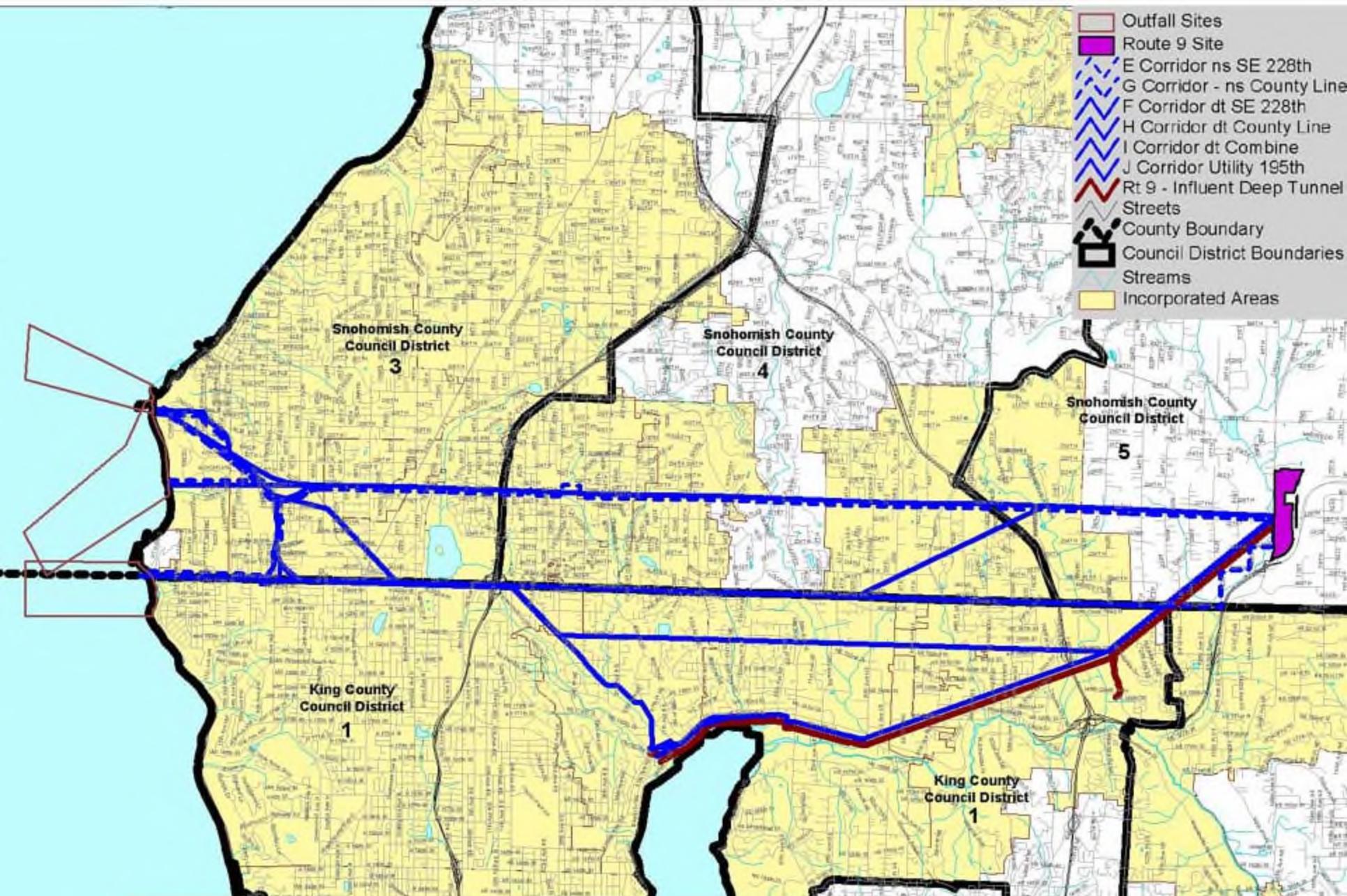
Preliminary Phase 3 Screening

- ⌘ Completed June 2002
- ⌘ DEIS scoping document
- ⌘ Develop System Packages
- ⌘ Narrative Matrix of Outfall Factors



-  Outfall Sites
-  Edmonds Unocal Site
-  A Corridor - Near Surface
-  B Corridors - Deep Tunnel
-  C Corridor - Direct Tunnel
-  D Corridors - Deep Tunnel
-  Streets
-  County Boundary
-  Council District Boundaries
-  Streams
-  Incorporated Areas

Draft Proposed Unocal Conveyance Influent Corridors



- Outfall Sites
- Route 9 Site
- E Corridor ns SE 228th
- G Corridor - ns County Line
- F Corridor dt SE 228th
- H Corridor dt County Line
- I Corridor dt Combine
- J Corridor Utility 195th
- Rt 9 - Influent Deep Tunnel
- Streets
- County Boundary
- Council District Boundaries
- Streams
- Incorporated Areas

Draft Proposed Route 9 Conveyance Influent/Effluent Corridors

Brightwater DEIS (Phase 3)

- ⌘ Issued November 6, 2002
- ⌘ 75-day comment period
- ⌘ Four public meetings
- ⌘ Multiple briefings to jurisdictions, regulators, tribes, etc

Brightwater Systems Evaluated

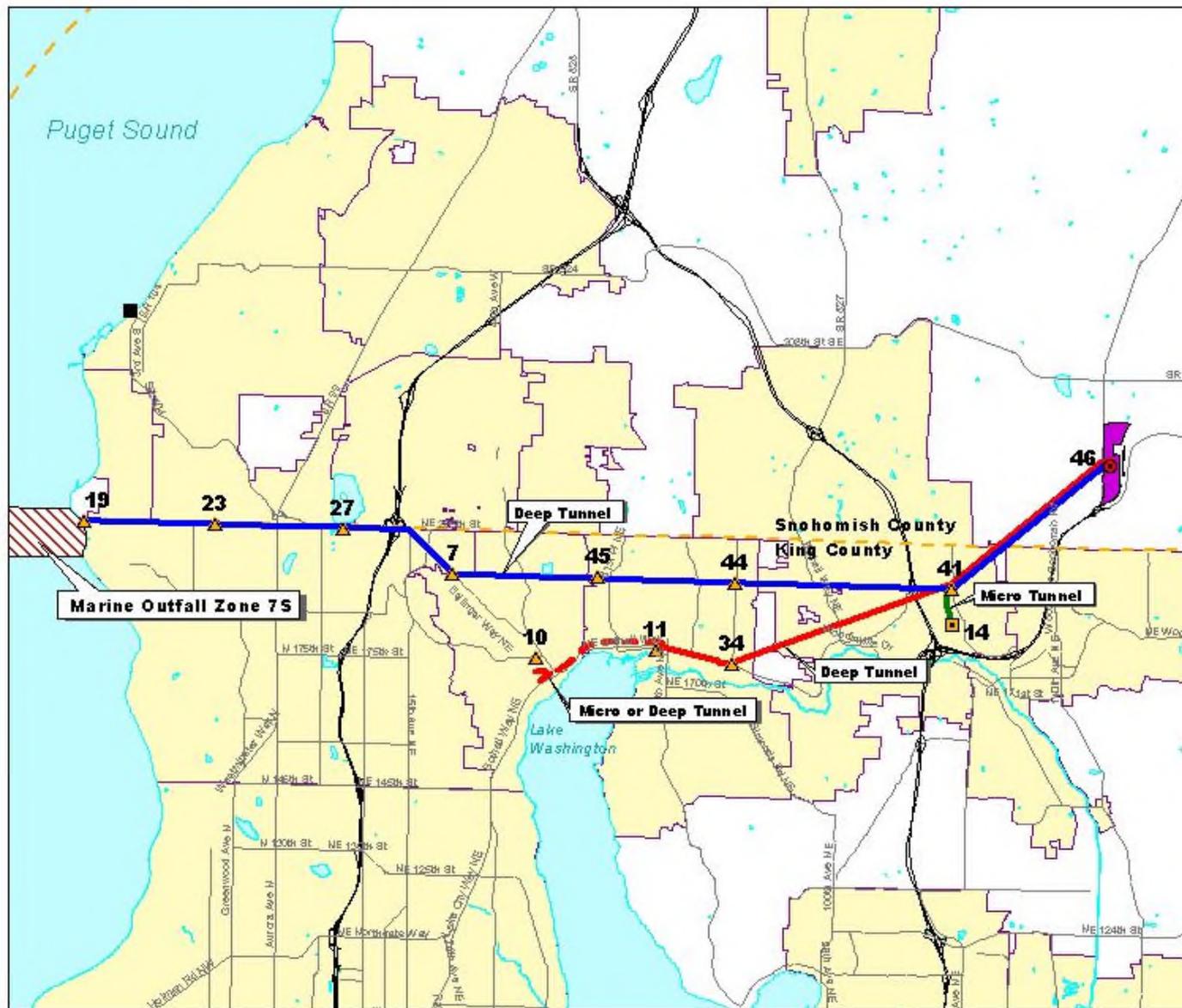
⌘ Preferred Alternative

- ☑ Route 9 with effluent along 195th, outfall 7S

⌘ Two Alternate Systems

- ☑ Route 9, effluent along 228th, outfall 7S

- ☑ Unocal, outfall 6



Legend

- Edmonds Treatment Plant
- Portals and Pump Stations
- Existing PS to be Modified
- ▲ Portal
- Portal or Pump Station
- ▨ Rt 9 Outfall Site
- ▬ Influent Tunnel
- ▬ Influent Tunnel
- Rt 9 Plant Site
- ▭ County Boundaries
- ▭ Incorporated Areas


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 Wastewater Treatment Division





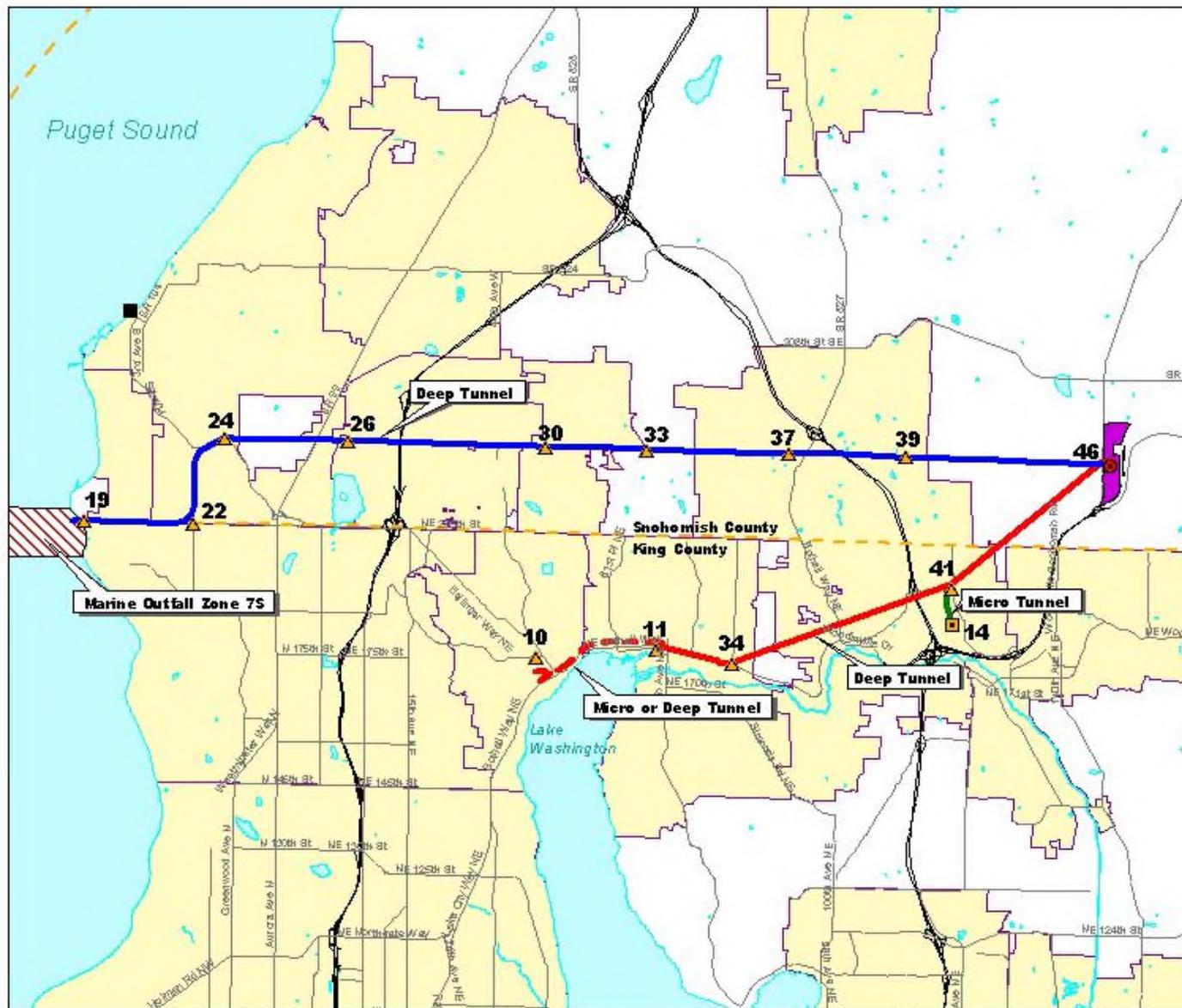
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August 13, 2002

PREFERRED ALTERNATIVE

Route 9 - 195th Deep Tunnel Conveyance Corridor (Scoping Map J)

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Legend

- Edmonds Treatment Plant
- Portals and Pump Stations
- Existing PS to be Modified
- ▲ Portal
- ▲ Portal or Pump Station
- ▨ Rt 9 Outfall Site
- Effluent Tunnel
- Influent Tunnel
- Rt 9 Plant Site
- County Boundaries
- Incorporated Areas

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0 0.4 0.8 1.2 1.6 2 Miles

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Conveyance Alternative

Route 9 - 228th Deep Tunnel Conveyance Corridor (Scoping Map F)

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Legend

- Edmonds Treatment Plant
- Portals and Pump Stations
- ▲ Portal
- Portal and Existing PS to be Modified
- Portal or Pump Station
- Portal or Pump Station and Portal
- ▨ Unocal Outfall Site
- ▭ Influent Tunnel
- ▭ Unocal Plant Site
- ▭ County Boundaries
- ▭ Incorporated Areas

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0 0.4 0.8 1.2 1.6 2 Miles

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Conveyance Alternative

Unocal - South Deep Tunnel Conveyance Corridor (Scoping Map B)

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Preferred Outfall Option

⌘ Preferred Option: Zone 7SB from Route 9

- ☑ good staging area

- ☑ cut & cover OR tunnel

- ☑ can avoid eelgrass

- ☑ good mixing and dilution

- ☑ good connection to conveyance system

⌘ Alternate Option: Zone 6 from Unocal

Outfall Conceptual Design

- ⌘ Discharges treated wastewater to Puget Sound
- ⌘ 3,000 to 7,500 feet from shore
- ⌘ Bottom of Puget Sound (>500 feet deep)
- ⌘ Diffuser at end to maximize mixing

Outfall Schedule

- ⌘ DEIS Comment Period ends 1/21/2003
- ⌘ Final EIS - mid-2003
- ⌘ Predesign - mid-2003 to early 2004
- ⌘ Permits - mid-2003 to late 2004
- ⌘ Final design - 2004/2005
- ⌘ Construction - between 2005 - 2009
- ⌘ Brightwater operation - 2010

Summary

- ⌘ Rigorous screening methods
- ⌘ Outfall zone 7SB from Rt 9 preferred alternative
- ⌘ Outfall zone 6 alternate
- ⌘ Excellent outfall locations
- ⌘ Protect public health and environment
- ⌘ Minimize impacts on fish and sensitive habitat
- ⌘ Construction between 2005 and 2009

