

Lake Washington Ship Canal Project Master Plan 2026

Attachment B – Lists of Prior Design Memorandum, National Environmental Policy Act Documents, and Studies

EAXX-202-00-G3P-1735821983

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DESIGN MEMORANDUMS

Following is a list of previously issued Design Memorandums for Lake Washington Ship Canal Project.

DESIGN MEMO No.	SUBJECT	DATE ISSUED
1	Bank Erosion	April 1959
(no number)	Centralized Control	June 1964
2	Downstream Waiting Pier	January 1966
3	Fish Ladder Rehabilitation	August 1972
	Supplement 1 Fish Ladder Rehabilitation	September 1974
4	Electrical Distribution Rehabilitation	September 1973
5	Master Plan	April 1977
5	Large Lock Downstream Miter Gate Rehabilitation	September 1977
	Supplement 1 Locks Entryway Development	April 1979
6	Entryway Development	August 1979
7	Emergency Closure System – Major Rehabilitation Program	December 1981
8	Earthquake Analysis Chittenden Lock and Dam	1982
9	Master Plan	February 1994
end 1999 (this index system is no longer used)		

NEPA DOCUMENTS

Following is a list of prior NEPA documents for Lake Washington Ship Canal Project.

Document type: EA – Environmental Assessment
EIS – Environmental Impact Statement

Decision Document FONSI – Finding of No Significant Impact
ROD – Record of Decision
SOF – Statement of Findings

DATE	SUBJECT
1972	Operations & Maintenance and Proposed Fish Ladder Improvements EA
1977	Test Production Dredging by Hopper Dredge EA & SOF
1984	Downstream Guard Gates Project EA

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DATE	SUBJECT
1985	Saltwater Barrier EA & FONSI
1988	Spillway Gate Seal EA
1990	Rehabilitation of Large Lock Features EA
1991	Underground Storage Tank Removal EA & FONSI
1999	Smolt Passage Section 1135 Restoration EA
2001	Fremont Cut Vegetation Rehabilitation Plan Environmental Assessment
2001	LWSC Section 216 Ecosystem Restoration & Flood Damage Reduction Study General Investigation (date approximate)
2008	Diffuser Well EA
2011	Monolith Erosion Repair EA
2014	King County Fremont Siphon Section 408
2020	Hiram M. Chittenden Locks (Locks) Urgent Interim Scour Repair EA
2022	Hiram M. Chittenden Locks Large Lock Center Gate Project EA

STUDIES AND TECHNICAL REPORTS

DATE	SUBJECT
1983	Tech Report No. 1 Emergency Closure System and Flood Control Regulation Gate for Hiram M. Chittenden Locks at Lake Washington Ship Canal
1994	California Sea Lions and Steelhead Trout at the Chittenden Locks
1995	Implementation and Assessment of the Acoustic Barrier at the Hiram M. Chittenden Locks Using Calibrated Measurements of the Sound Field (NOAA)
1996	Sound Level Contours Produced by the 1995 Acoustic Barrier at the Hiram M. Chittenden Locks (NOAA)
1997	Characteristics of the 1996-1997 Acoustic Barrier at Hiram M. Chittenden Locks (NOAA)
2000	Characteristics of the 1999 Acoustic Barrier at Hiram M. Chittenden Locks (NOAA)
2000	Seward Park Rehabilitation Study: Juvenile Salmonid Use of Shoreline Habitats in Seward Park, King County, Washington Planning Assistance to the States Report
2001	Acoustic and Video Measurements of Fish Passage at the Hiram M. Chittenden Locks: A Year 2000 Focus on the Saltwater Drain and Spill Bay #2
2001	Fish Passage Investigations at the Hiram M. Chittenden Locks, Seattle, WA in 2000
2001	PIT Tagging of Juvenile Salmon Smolts in the Lake Washington Basin: Year 2000 Pilot Study Results

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DATE	SUBJECT
2001	Seward Park Rehabilitation Study: Juvenile Salmonid Use of Shoreline Habitats in Seward Park
2002	PIT Tagging of Juvenile Salmon Smolts in the Lake Washington Basin: 2 nd Year (2001) Pilot Study Results
2003	PIT Tagging of Juvenile Salmon Smolts in the Lake Washington Basin: 3 rd Year (2002) Pilot Study Results
2004	Lake Washington Ship Canal Water Quality Monitoring and Analysis Plan
2005	PIT Tagging of Juvenile Salmon Smolts in the Lake Washington Basin: 4 th Year (2003) Pilot Study Results and Synopsis of 2000-2003 Findings
2005	Salmon Bay Natural Area Pre-Restoration Monitoring 2004
2005	Effectiveness of Strobe Lights for Reducing Juvenile Salmonid Entrainment into a Navigation Lock, Johnson et al., North American Journal of Fisheries Management, 25(2), 491-501
2006	Salinity Monitoring at the Lake Washington Ship Canal 2005: Data Review and Quality Assurance
2007	PIT Tagging of Juvenile Salmon Smolts in the Lake Washington Basin: 5 th & 6 th Year (2004-2005) Pilot Study Results
2008	PIT Tagging of Juvenile Salmon Smolts in the Lake Washington Basin: 7 th & 8 th Year (2006-2007) Study Results
2008	Synthesis of Salmon Research and Monitoring, Investigations Conducted in the Western Lake Washington Basin
2010	PIT Tagging of Juvenile Salmon Smolts in the Lake Washington Basin: 9 th & 10 th Year (2008-2009) Study Results
2010	Salmon Bay Estuary Synthesis Report Including Assessment of Proposed Daylighting Wolfe Creek Project; Lake Washington, Cedar, Sammamish Watershed (WRIA 8)
2011	Movement and Habitat Use of Chinook Salmon Smolts in the Lake Washington Ship Canal, 2007-2008 Acoustic Tracking Studies
2013	PIT Tagging of Juvenile Salmon Smolts in the Lake Washington Basin: 11 th through 13 th Year (2010-2012) Study Results
2013	Tech Memo No. 1 Evaluation of Adult PIT Tag Detection Data in the Fish Ladder at the Hiram M. Chittenden Locks, 2004-2012
2014	Commodore Park Great Blue Heron Colony Report
2014	Lake Washington Ship Canal False Locking Study 2013: Temperature, Salinity, and Dissolved Oxygen Monitoring
2014	Migratory Behavior and Habitat Use of Bull Trout Near Shilshole Bay
2015	Lake Washington Ship Canal False Locking Study 2014: Temperature, Salinity, and Dissolved Oxygen Monitoring

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2017	Economic Impacts of the Hiram M. Chittenden Locks
2017	Evaluation of Adult PIT Tag Detection Data in the Fish Ladder at the Hiram M. Chittenden Locks 2013-2016
2017	PIT Tagging of Juvenile Salmon Smolts in the Lake Washington Basin: 14 th through 16 th Year (2013-2015) Study Results
2017	Summary of Database for PIT Tagging in the Lake Washington Basin: Juvenile Tagging and Detections and Adult Detections in Fish Ladder through 2016
2017	Coho Salmon Smolt Injury and Survival Through New and Existing Fish Bypass Flumes
2018	Hiram M. Chittenden Large Lock PIT Tag Detection System
2019	Behavioral thermoregulation by adult Chinook salmon (<i>Oncorhynchus tshawytscha</i>) in estuary and freshwater habitats prior to spawning. Fishery Bulletin, 117(3), 258-275.