

CAPITOL LAKE – DESCHUTES ESTUARY

MEMORANDUM OF UNDERSTANDING FOR GOVERNANCE AND FUNDING OF A RESTORED ESTUARY

Introduction

In 2018, the Washington State Department of Enterprise Services (DES) began a process to prepare an Environmental Impact Statement (EIS) to evaluate the potential impacts and benefits of long-term management alternatives for the Capitol Lake – Deschutes Estuary. This process included an effort to evaluate conceptual options for shared funding and governance of a future management plan, in accordance with Engrossed Substitute House Bill 2380. In 2022, DES identified the Estuary Alternative as the long-term management plan that would best meet project goals. This decision was made following careful consideration of a broad range of technical analyses conducted for the EIS, by soliciting feedback from key stakeholders, and after reviewing public comments.

Estuary restoration will complement other efforts among state, tribal, and local governments, public entities, and private organizations to restore the Deschutes River watershed and improve the health of Budd Inlet.

To explore and develop long-term management options for the Capitol Lake – Deschutes Estuary, a Funding and Governance Work Group (FGWG) was created with the following members (FGWG Members), each of which appointed a representative:

- State of Washington, Department of Enterprise Services
- State of Washington, Department of Natural Resources
- Squaxin Island Tribe
- Thurston County
- City of Olympia
- City of Tumwater
- LOTT Clean Water Alliance
- Port of Olympia

The FGWG Members have reached preliminary consensus on a range of topics as outlined in this Memorandum of Understanding (MOU). This MOU is not a binding agreement among the FGWG Members. Instead, it is a description of the progress made to date toward a potential binding agreement, documenting areas of broad conceptual agreement, describing remaining issues, and indicating the shared commitment to good faith discussion to reach agreement on the remaining issues.

The FGWG Members intend to work to develop an Interlocal Agreement (ILA) that will govern long-term management of the restored estuary. Any ILA will require the approval of each FGWG Member's governing body or administrative head and no ILA will be binding on a FGWG Member until approval is obtained and the ILA is duly executed. Any reference in this MOU to an ILA, an "agreement," or similar words or phrases refers only to a conceptual, tentative agreement regarding a potential ILA by the FGWG Member representatives, who are not authorized to bind their respective entities. Similarly, any reference in this MOU to specific terms or provisions in a future ILA refers only to terms or provisions that will be discussed for possible inclusion in a potential ILA, and does not

indicate any FGWG Member's agreement to the specific provisions or agreement to an overall ILA.

Background¹

What is now known as Capitol Lake was originally the southern portion of the Deschutes Estuary, where freshwater from the Deschutes River mixed with saltwater from Budd Inlet over extensive tidal flats. Between 1949 and 1951, the State of Washington constructed a dam at 5th Avenue in Olympia. The 5th Avenue Dam blocked saltwater from Budd Inlet and transformed the area upstream of the dam into Capitol Lake, a 260-acre freshwater lake fed by the Deschutes River. Capitol campus planners intended Capitol Lake to be part of the Washington State Capitol Campus, and it was designated a resource of the Capitol Campus under RCW 43.34.090 and RCW 79.24.710. The waterbody, together with the parks and trails that surround it, remains an important visual and recreational resource for the community. Enterprise Services (to include predecessor agencies) has had the responsibility to manage Capitol Lake throughout the lake's existence.

The Deschutes River and Percival Creek deposit an estimated 35,000 cubic yards of sediment into the Capitol Lake basin each year. Before construction of the 5th Avenue Dam, much of this sediment was deposited in Budd Inlet; after construction of the dam, the vast majority of this sediment settled out in Capitol Lake. Over time, the sediment captured upstream of the 5th Avenue Dam has accumulated up to 13 feet deep in some places – shallowing the lake, visibly altering conditions, and impacting ecological functions.

Capitol Lake historically has violated water quality standards and is a focus of state and federal water quality improvement planning. Water quality monitoring began in the 1970s, and by 1985, the Thurston County Health Department permanently closed the historic swimming beach in Capitol Lake due to water quality impairments.

The presence and persistence of invasive species in Capitol Lake has also complicated its management. Since the 1980s, the State of Washington (State) has employed a variety of strategies to address invasive species, but today more than a dozen different plant and animal invasive species are present. In response to finding the New Zealand mudsnail in Capitol Lake in 2009, the State officially closed Capitol Lake to all active public use.

For more than 50 years, public and private entities have attempted to address environmental concerns regarding the Capitol Lake – Deschutes Estuary. For a wide variety of reasons, these efforts have been unsuccessful or stalled. All FGWG Members agree that action must be taken to better manage this resource.

DES released the Draft EIS in mid-2021 and identified the Estuary Alternative as the likely preferred alternative in early 2022. Shortly afterwards, FGWG Members began exploring

¹ This background is only intended to be a summary. A more complete discussion of project background, project elements, and the technical analyses that describe impacts and benefits of a long-term management plan can be found in the Final EIS and supporting materials, which can be accessed through the following links: [Capitol Lake – Deschutes Estuary EIS - Home \(capitollakedeschutesestuaryeis.org\)](https://capitollakedeschutesestuaryeis.org/); <https://des.wa.gov/about/projects-initiatives/capitol-lake/long-term-planning-capitol-lake-deschutes-estuary>

ways to fund and govern the likely preferred alternative consistent with guiding principles established by the FGWG Members.

The areas of agreement outlined within this MOU are based on the guiding principles the FGWG Members identified in 2016 to support this process, which are as follows:

1. Dedicated and secure funding sources
2. Those who contribute to the problem should participate in funding or paying for the solution
3. Those who benefit from the solution should participate in funding or paying for the solution
4. Shared distribution of costs
5. State participation
6. Watershed-wide in scale
7. Manageable governance
8. Commitment to a long-term collaborative process
9. Adequately resourced administration
10. Support the goals and objectives of the long-term management plan and the future of the overall watershed

From these guiding principles, the FGWG Members tentatively agreed upon a two-part structure for implementing and funding the preferred alternative:²

- The State should be primarily responsible for funding the capital costs of design, permitting, and construction of a preferred alternative. This responsibility reflects the State's role in creating the current conditions.
- After construction is complete, FGWG Members will share in administering, funding, and maintaining the Estuary Alternative for the term of the potential ILA. This shared responsibility reflects FGWG Members' desire for a long-term solution and recognition that the preferred alternative appears to provide significant benefits to FGWG Members and the broader community.

FGWG Members recognize that after construction of the Estuary Alternative, continued governance of the project and funding of sediment management in West Bay, will contribute to the health of Budd Inlet and the Deschutes River watershed and will help maintain a working waterfront and recreational boating. Maintaining a working waterfront and supporting infrastructure of recreational boating contributes to a dynamic, vibrant community and will produce and sustain public revenue, support employment opportunities, and create public amenities that benefit all community members.

² The Managed Lake and Hybrid Alternatives identified in the Draft EIS lacked sufficient support among FGWG Members to warrant further development of governance and funding models. As a result, if either of these alternatives were selected, long-term administration, funding, and maintenance would be expected to remain State responsibilities.

Conceptual Agreement

The FGWG Members conceptually agree on the following issues:

1. Conceptual Overview

Construction and management of the Estuary Alternative will include the following elements and assumptions, which are described in more detail in sections that follow:

- The FGWG Members intend to execute an ILA (or ILAs) governing implementation and long-term funding and governance of the Estuary Alternative.
- DES intends to submit a capital request to fund design and permitting of the Estuary Alternative to the State Legislature for the 2023 legislative session.
- The State will administer and fund initial estuary restoration. DES intends to pursue funding from the State Legislature and other sources and intends to construct the Estuary Alternative.
- DES will transfer specific physical assets and/or long-term management responsibilities of those assets to individual FGWG Members after construction.
- As a separate project, known sediment contamination in lower Budd Inlet will be remediated. The Port of Olympia is expected to lead this remediation, which is expected to occur prior to removal of the 5th Avenue Dam.

2. Project Elements

a) Pre-Project Conditions

Prior to and separate from construction of the Estuary Alternative, known sediment contamination in lower Budd Inlet will be remediated to conditions satisfactory to the Washington State Department of Ecology and the US Army Corps of Engineers. The Port of Olympia is expected to lead and manage this effort, with the State of Washington providing funding, in part. The Port of Olympia is currently targeting the late 2020s for remedial action throughout lower Budd Inlet. The 5th Avenue Dam will not be removed until this work is complete to help ensure that the Port of Olympia-led remediation and DES-led estuary construction do not interfere with each other and, to the extent feasible, complement each other.

b) Appropriations for Design, Permitting, and Construction

DES intends to submit a capital request to the State Legislature to fund the design and permitting of the Estuary Alternative in the 2023 biennial budget. If funding is secured, the estimated 3- to 5-year design and permitting process could begin in mid-2023. The State, acting through DES or a designee, will manage and have authority over design and permitting. During the design and permitting process, DES (or designee) will coordinate with the City of Olympia and City of Tumwater on design of the 5th Avenue Bridge and South Basin boardwalks, respectively, to ensure that these physical assets comply with applicable design standards and are acceptable to the receiving FGWG Member, and that the process used to approve design of the asset is acceptable to the receiving FGWG Member.

DES is currently developing a strategy for construction funding, which is likely to rely on funds from a variety of sources, including federal, state, and potentially philanthropic. If funding is secured without delay, construction of the Estuary Alternative could begin in the late 2020s. The State, acting through DES, the Washington State Department of Natural Resources (DNR), or a designee, will manage and have authority over construction, which is estimated to occur over a 7- to 8-year period.

c) Transfer of Assets

DES will convey or transfer certain physical assets to individual FGWG Members after construction is complete. Each transfer will be governed by a separate agreement between DES (or designee) and the receiving Member. Upon transfer of a physical asset, the receiving FGWG Member will have full ownership in perpetuity, to include all maintenance responsibility and risk of loss.

d) Governance Responsibility

A state agency will act as Project Manager to convene and facilitate the FGWG as set forth in a future ILA. DES may transfer governance responsibilities to other state agencies for services required in the course of long-term management for the Estuary Alternative. No other FGWG Members are assuming governance responsibilities.

Table 1. Transfer of Physical Assets and Governance Responsibilities

Receiving Entity	Asset/Governance Responsibility	Time of Transfer
State of Washington	Maintenance of constructed infrastructure to support boating, fishing, recreation in estuary, as needed. Staffing of decontamination stations. Maintenance of Middle Basin boardwalks. Bathymetric surveys, design, permitting, contract management for maintenance dredging outside of federal navigation channel and turning basin and port vessel berths.	Upon construction completion
Squaxin Island Tribe	Participate in implementation of Habitat Enhancement Plan for constructed habitat in the 260-acre basin, formerly Capitol Lake	Upon construction completion
Thurston County	None identified	N/A
City of Olympia	New 5 th Avenue Bridge	Upon construction completion

Receiving Entity	Asset/Governance Responsibility	Time of Transfer
City of Tumwater	South Basin boardwalks	Upon construction completion
LOTT	None identified	N/A
Port of Olympia	Bathymetric surveys, design, permitting, contract management for maintenance dredging in port vessel berths. Lead coordination with USACE on maintenance dredging in federal navigation channel and turning basin.	Upon construction completion

e) Sediment Management

After the State constructs the estuary and transfers physical assets and specific management responsibilities to individual FGWG members, shared long-term responsibilities will focus on sediment management in the West Bay of Budd Inlet. Sediment management is part of the overall project for the benefit of all, as described above.

Sediment management is intended to remove additional sediment that deposits in West Bay under the Estuary Alternative at rates greater than the No Action Alternative (also referred to as “baseline”). Sediment management includes annual bathymetric surveys (at a minimum) in the marinas and marina access areas to evaluate sediment accumulation, contract management (which includes design and permitting), and maintenance dredging (which includes disposal of dredged material). The FGWG Members will collectively fund maintenance dredging. Numerical modeling conducted for the EIS suggests that maintenance dredging to avoid significant impacts³ to navigation from sediment accumulation could be needed in areas of West Bay on an average and approximated frequency of 6 years. The actual rate of sediment accumulation is highly dependent on river flow conditions.

3. ILA Term/Withdrawal

FGWG Members intend to include the following provisions related to the term of a potential ILA and conditions warranting withdrawal:

- The ILA will become effective on the date of the last FGWG Member’s signature.
- The ILA will expire on December 31, 2050, unless some or all FGWG Members agree to renew for an additional term.

³ Significant adverse impacts are defined as: Large vessels accessing the Federal Navigation Channel and Port of Olympia having to wait more than four (4) hours for channel access due to water depth and low tide conditions caused by sediment deposition on more than one consecutive occasion, or more than 10% of anticipated small craft vessels at any single marina unable to access leased moorage due to shallowed water depth caused by sediment deposition.

- Prior to the end of 2045, the Project Manager will convene FGWG Members to determine whether to extend the ILA, and if so, on what terms and with which FGWG Members.
- An FGWG Member may withdraw from the ILA at any time, provided that before withdrawing, (1) the withdrawing FGWG Member provides funds sufficient to satisfy all financial obligations of the withdrawing FGWG Member for the current term of the ILA, and (2) the withdrawing FGWG Member has satisfied all specific performance obligations under the ILA.

4. ILA Renegotiation

If one or more of the following specific events occur, each FGWG Member will have the right to withdraw from or require renegotiation of the terms of the future ILA:

- Washington State Legislature fails to appropriate full funding for construction of the Estuary Alternative.
- Remediation of contaminated sediment in lower Budd Inlet is postponed indefinitely or cannot occur before the removal of the 5th Avenue Dam.
- Projected sediment management costs during the term of the ILA increase above agreed-upon allocation amounts. If sediment management costs increase to a degree that funds will be exhausted prior to the expiration of the initial term of the ILA (expected to be 2050), the Project Manager will reconvene the FGWG to determine an approach that will avoid impacts to navigation through the initial term of the ILA.
 - Note: total planning-level cost estimates and the resulting individual allocations provided in Attachment 1 are stated in 2022 dollars and will be adjusted to include an annual inflationary rate).
- The private marinas fail to provide funding sufficient to meet their obligations under a formal dredging program under the No Action Alternative (i.e., funding sufficient to accomplish baseline dredging).

5. Financing for Sediment Management in West Bay

The FGWG Members have reached conceptual agreement regarding several aspects of funding and finance management for sediment management, as described below:

a) Finance Management

The FGWG Members recognize the need for financial management of funds used for sediment management, including an entity acting to manage such funds and an investment plan that will both protect deposited funds from use by other entities or for other purposes, and provide for a favorable return on investment (to the extent permissible). The FGWG Members will develop a financial plan at the time of ILA formation and seek any necessary authorization from the State Legislature as may be needed.

b) Total Estimated Sediment Management Costs and Payment Allocation

FGWG Members agree that costs for sediment management above those costs associated with dredging of the No Action Alternative (baseline) will be allocated among FGWG Members on a percentage basis, as estimated and set forth in Attachment 1. Acceptance of the allocations set forth in Attachment 1 shall be subject to each Member's approval of a final ILA through its respective legislative and budgetary processes as may be legally required.

c) FGWG Member Deposits and Annual Payments

The Project Manager will notify the FGWG Members when the State has formally appropriated construction funding for estuary construction, and within 90 of each entity receiving such notice, but no earlier than January 1, 2025, each FGWG Member will make an initial deposit with State of Washington. Each FGWG Member's initial deposit will be equal to the FGWG Member's annual payment, which is determined by dividing the FGWG Member's total allocated sediment management costs for the initial term of the ILA by the number of years (partial years count as a full year) remaining in the initial agreement term of the ILA at the time of the deposit. Following the initial deposit, each FGWG Member agrees to make annual payments (determined as above) on or before December 31 of each year, through the end of the agreement term.

d) Annual Payment Adjustments

Calculations of total estimated sediment management costs conservatively assume that removal of the 5th Avenue Dam begins in 2033, which is the earliest that this could occur given the design and permitting process, and other construction activities that are required before dam removal; and this assumes that all funding is secured without delay. The total estimated sediment management costs also assume three dredging events, given the 18-year duration between 2033 and 2050 and the estimated 6-year frequency of maintenance dredging that is based on hydrodynamic and sediment transport numerical modeling conducted for the EIS. If removal of the 5th Avenue Dam is delayed such that there is certainty that fewer than three dredging events are anticipated to occur within the term of the ILA, FGWG Members may adjust total estimated sediment management costs and annual payments.

After each maintenance dredging event, the Project Manager will convene the FGWG to provide FGWG Members with final costs and summary report for the dredging event and for the FGWG Members to consider alterations to the sediment management program and/or to implement other adaptive management practices. Adjustments to total sediment management costs and/or annual payments will trigger the renegotiation rights described in Section 4 only if adjustments cause projected costs to increase above agreed-upon allocations.

If excess funds remain upon the expiration or termination of the ILA and unless otherwise agreed to, each FGWG Member will be entitled to receive a refund of such excess funds based on a pro-rata calculation of the amounts paid.

e) Planning-Level Cost Estimates

FGWG Members have negotiated this MOU using planning-level cost estimates. Civil, environmental, and coastal engineers developed planning-level cost estimates using

costs for similar work on recent projects, hydrodynamic and sediment transport numerical modeling in the EIS that predicts sediment accumulation under the Estuary Alternative, and triggers to initiate dredging events (see footnote 3). Planning-level cost estimates also assume in-water disposal of the dredged sediment, based on current sediment data and a projection that invasive species will not persist in the material to be dredged.

Planning-level cost estimates are in 2022 dollars, are based on conceptual design, and have an accuracy variation of minus 25% to plus 35%, consistent with Class 4 estimates prepared using standards established by the Association for the Advancement of Cost Engineering. The cost estimates are to support planning efforts and include a 15-percent contingency. The higher end of the range (+ 35%) has been used.

The accuracy of planning-level cost estimates will increase as design is further developed. If updated cost estimates are available before FGWG Members begin annual payments, FGWG Members may agree to update the total sediment management costs set forth in Attachment 1.

6. Enforcement

The FGWG Members agree and recognize that this multi-party MOU and the multi-party ILA intended to follow are the result of complex negotiations among individual entities each with individual interests and constituencies, and that the provisions of the MOU and ILA are interdependent and represent a balancing of those individual interests and constituencies. The FGWG Members further agree that the restoration of the Deschutes Estuary and maintenance of a working waterfront and recreational boating will provide each entity with public benefits, but to secure those public benefits, each obligation the FGWG Members will make to each other must be fulfilled. Accordingly, the FGWG Members intend that each FGWG Member will have authority to enforce the obligations under a future ILA of each other FGWG Member, to include requiring specific enforcement of such obligations.

7. Additional Issues Under Discussion

The FGWG Members continue to discuss the following issues:

- FGWG Members have preliminarily agreed to apply an annual inflation increase to each FGWG Member's allocated payment (options are 3% or CPI), subject to further adjustments. Attachment 1 reflects 2022 dollars and does not include this assumption.
- Allocation, documentation, and parties involved in addressing maintenance dredging costs equivalent to the No Action Alternative (baseline dredging).
- The specific FGWG Member or entity to serve as financial manager.

8. Administrative Issues and Commitment

This MOU may be executed in counterpart and/or by electronically-transmitted signature (pdf or similar).

This MOU, and the ILA proposed to follow, shall be amended or modified only by written agreement of all FGWG Members.

By signing below, the FGWG Members are not entering into a binding agreement, but are indicating areas of general or conceptual agreement.

The FGWG Members execute this MOU in good faith and commit themselves to continuing discussions for timely execution of the ILA.

Signatures

Tara Smith, Director
Department of Enterprise Services

Date

Hilary Franz, Commissioner of Public Lands
Department of Natural Resources

Date

Kris Peters, Chairman
Squaxin Island Tribe

Date

Steven J. Burney, City Manager
City of Olympia

Date

Mark Barber, City Attorney
City of Olympia

Date

Debbie Sullivan, Mayor
City of Tumwater

Date

Karen Kirkpatrick, City Attorney
City of Tumwater

Date

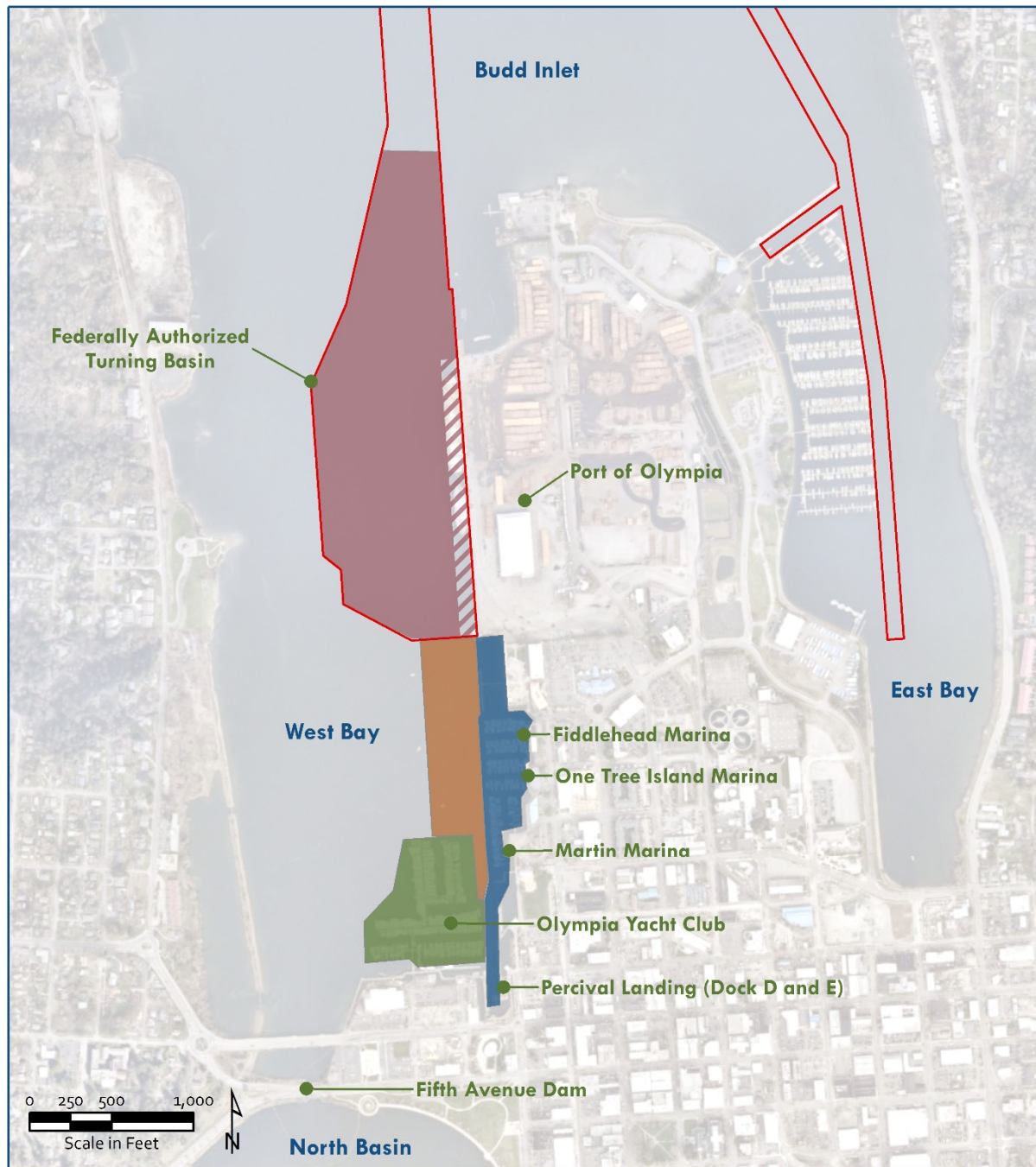
Mike Strub, Executive Director LOTT	Date
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Lisa Parshley, Board President LOTT	Date
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Sam Gibboney, Executive Director Port of Olympia	Date
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Ramiro Chavez, Thurston County Manager Thurston County	Date
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Exhibit 1: Maintenance Dredging Areas



Legend

 Olympia Yacht Club	 Marina Access Area	 Port Vessel Berths (within FNC)
 Other Nearby Marinas (and Percival Landing and Port Plaza)	 Turning Basin (within FNC)	 Federal Navigation Channel (FNC)

Note:

Percival Landing and the Port Plaza have been included in the planning-level cost estimates for maintenance dredging included in Attachment 1. It is assumed that these facilities would be dredged at the same frequency as the "other marinas" shown in blue, and the need would be confirmed by the FGWG. There is no other dredging trigger defined for dredging at the Percival Landing and Port Plaza, and they are not included in the EIS analysis or EIS cost-estimates. They were added to this MOU at the request of the FGWG.

Attachment 1

The values in this table are based on planning-level cost estimates and are provided in 2022 dollars. The allocations and associated cost estimates are provided for the term of the FGWG agreement only – through 2050.

This table of recommended allocations provides and equalizes the recommended allocations for sediment management across the FGWG. It recognizes that: (1) all parties benefit from estuary restoration and/or implementation of the Dredging Program; and (2) that differences in the magnitude of benefits cannot be mathematically derived but that the project would be beneficial to each entity. Importantly, the City of Olympia is shown in an increased capacity from the remaining FGWG members given that the working waterfront and recreational boating infrastructure exists within the city limits and is adjacent to downtown Olympia; and arguably, the City of Olympia may derive the most direct benefits.

Recommended Sediment Management Allocations

Entity ^(i, ii)	Allocation % for Maintenance Dredging of Increased Sediment from Estuary Alternative <i>(above No Action Alternative)</i>	Cost Estimate for Maintenance Dredging Equivalent to No Action Alternative ⁽ⁱⁱⁱ⁾	Cost Estimate for Maintenance Dredging of Increased Sediment from Estuary Alternative <i>(above No Action Alternative)</i> ^(iv)	Total Cost Estimate for Sediment Management <i>(No Action Alternative + Increased Maintenance Dredging from Estuary Alternative)</i>	Estuary Construction + Total Sediment Management	Allocation % Total <i>(Estuary Construction + Sediment Management)</i>
Olympia	~23.1%	\$0	\$4,297,000	\$4,297,000	\$4,297,000	2%
LOTT	~15.4%	\$0	\$2,865,000	\$2,865,000	\$2,865,000	1%
Port	~15.4%	\$362,000	\$2,865,000	\$3,227,000	\$3,227,000	1%
Tumwater	~15.4%	\$0	\$2,865,000	\$2,865,000	\$2,865,000	1%
Marinas	0.0%	\$5,800,000	\$0	\$5,800,000	\$5,800,000	2%
Thurston County	~15.4%	\$0	\$2,865,000	\$2,865,000	\$2,865,000	1%
State	~15.4%	\$0	\$2,865,000	\$2,865,000	\$249,545,000	92%
Squaxin Island Tribe	0.0%	\$0	\$0	\$0	\$0	0%
	~100.0%	\$6,162,000	\$18,622,000	\$24,784,000	\$271,464,000	100%

Notes:

- i

All values included in this table are represented in 2022 dollars and may exhibit rounded values. In the future, an annual inflationary rate (3% or Consumer Price Index equivalent) is to be included by the FGWG in each entities’ annual payment of allocated maintenance dredging funding; those inflation costs are not reflected in this table. All values reflect planning-level cost estimates based on conceptual design (see Section 5.e).
- ii

The total cost to manage sediment represented in this table assumes removal of the 5th Avenue Dam occurs in 2033, which is the soonest that phased dam removal could begin – through 2050, which is the end date of the existing agreement. Based on hydrodynamic and sediment transport numerical modeling conducted for the EIS, maintenance dredging is assumed to occur at an approximately 6 year frequency, resulting in an estimated three dredge events in the 18-year duration between 2033 and 2050. These planning level costs reflect these assumed dredging events.

Delays in 5th Avenue Dam removal would reduce the duration within this agreement where sediment conditions in West Bay have changed from existing conditions. If removal of the 5th Avenue Dam is delayed (particularly if the delay is long enough to eliminate an assumed dredge event), the total cost estimates for sediment management provided herein could be adjusted. Potential future adjustments in the total cost of sediment management will be reflected in the total costs allocated to each FGWG member, but not the percentage allocation of each FGWG.

Each FGWG member's annual payment is determined by dividing the member's total allocated sediment management costs for the initial term of the ILA by the number of years (partial years count as a full year) remaining in the initial agreement term of the ILA at the time of the payment's deposit. The number of years used to determine the annual payment is dependent upon the State's formal appropriation of construction funding for the Estuary Alternative construction. Each FGWG member is responsible for its annual allocated costs; however, they may divide over the initial term of the ILA, as is described in Section 5.b, Total Estimated Costs and Payment Allocation, of the ILA. These costs assume that the Port of Olympia has already dredged existing contaminated sediment and has reestablished authorized depths in West Bay. That dredging of contaminated accumulated sediment is not associated with this project, and those costs are not included in the costs represented here. The planned Port of Olympia dredging of contaminated sediments is also expected to allow the future dredged material under the No Action Alternative (and Estuary Alternative) to be disposed of in-water.

The planning-level costs presented herein assume in-water disposal of dredged material. The maintenance dredging costs would significantly increase if dredged material was determined not suitable for in-water disposal.

Bathymetric surveys would be conducted to adjust dredging events to actual environmental conditions (surveys would occur annually, at a minimum). These tables do not include costs for the annual bathymetric surveys. Costs associated with design and permitting (and associated efforts) are not included in these tables either, and they are currently assumed to be an in-kind contribution from the FGWG as outlined in Section 2.d.

2050 is the last year of existing leases with private marinas in West Bay; these estimates align with that timeline and do not speculate about continued maintenance dredging past that time, potential new funding sources or different shared agreements, or potential marina decisions to relocate.

- iii

This represents the estimated non-project costs associated with dredging impacted areas of West Bay based on sedimentation rates and patterns modeled for the No Action Alternative, assuming a formal dredging program with the same dredging triggers as defined for the Estuary Alternative. Numerical modeling shows that approximately 65% of the sediment would be dredged from the Federal Navigation Channel and turning basin; funding for that dredging is the responsibility of the U.S. Army Corps of Engineers (USACE). USACE-provided funding (for dredging equivalent to the No Action Alternative, or for increased sediment management under the Estuary Alternative, as described below) has not been included in this table at the request of the FGWG. USACE funding for dredging is a critical component of maintaining navigation in West Bay.

- iv

These costs reflect the increased maintenance dredging costs beyond those that would be incurred by others under the No Action Alternative to avoid significant impacts to navigation in West Bay. Dredging in the FNC and turning basin, including additional dredging requirements resulting from the project, is the responsibility of the USACE and those costs are not included herein. Maintenance dredging needs equivalent to the No Action Alternative in impacted areas of West Bay would continue to be the responsibility of the Port of Olympia, private marinas, and the USACE; additional dredging requirements shown in this estimate, resulting from the project, would be the shared responsibility of members of the FGWG.