



KING COUNTY

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

Signature Report

FCDEC Motion FCDECM2021-03

Proposed No. FCDECM2021-03.2

Sponsors

1 A MOTION stating the Flood Control District Zone
 2 District executive committee's intent to include the
 3 Willowmoor Floodplain Restoration Project in the
 4 Sammamish Capital Investment Strategy, explore near-term
 5 mitigation strategies for Lake Sammamish property
 6 owners, and continue to pursue permits required for
 7 ongoing maintenance of the Sammamish River Transition
 8 Zone.

9 WHEREAS, the Willowmoor Floodplain Restoration Project ("the Willowmoor
 10 Project") proposes to reconfigure the Sammamish River Transition Zone ("the Zone")
 11 and adjacent undeveloped King County property, and

12 WHEREAS, the Zone was constructed as part of the overall Sammamish River
 13 Improvement Project ("the Improvement Project") in the 1960s by the U.S. Army Corps
 14 of Engineers ("the Corps") in cooperation with King County primarily to control flooding
 15 in the Sammamish river valley, and

16 WHEREAS, King County is responsible for maintaining the Improvement Project
 17 through an operation and maintenance agreement with the Corps, and

18 WHEREAS, the King County Flood Control Zone District ("the District"),
 19 through the King County water and land resources division as its service provider, funds

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20 and conducts annual maintenance of the Zone, including mowing, trimming, removal of
21 vegetation, removal of accumulated sediments in the channel and associated mitigation
22 efforts. The District also funds and conducts mitigation activities required to receive
23 maintenance permits, and removal of obstructions from the low flow channel, such as
24 logs and beaver dams as necessary, and

25 WHEREAS, in order to perform annual maintenance of the Zone, King County
26 must apply for a five-year permit from the co-managers of the Sammamish River: the
27 Washington Department of Fish and Wildlife and the Muckleshoot Indian Tribe Fisheries
28 Division. The five-year permit contains limitations on the timing and nature of activities
29 allowed in the Zone, including restricting trimming of vegetation to the Washington State
30 mandated "fish-window" of August 1 through 15 and mandating that mowing may only
31 occur when the Sammamish River is not connected to the floodplain, specifically, in late
32 September when the high flow channel is dry. Each five-year permit includes
33 consideration that ongoing maintenance is a continuing disruption of the natural river
34 process and an acknowledgment that additional mitigation may be required for new
35 requests, such as the removal of mature trees, an increase in the area for mowing, or the
36 removal of reed canary grass buildup because those actions have an ecological impact
37 similar to dredging, and

38 WHEREAS, state agency and tribal government representatives have expressed
39 concern that current maintenance actions adversely affect water quality and habitat and
40 are in conflict with federal, state and local efforts to protect and enhance riverine habitat
41 for recovery of salmon species listed under the federal Endangered Species Act, and

42 WHEREAS, in recent years, property owners around Lake Sammamish have

43 expressed concerns about high lake levels impacting their properties, and

44 WHEREAS, the Willowmoor Project was created with the intent to reduce the
45 frequency and duration of high lake levels while maintaining downstream Sammamish
46 river flood control performance, and

47 WHEREAS, in 2011, King County and representatives of Lake Sammamish
48 residents signed the Lake Sammamish Flood Reduction Plan, including a four-fold
49 increase in mowing of the Zone, cutting buffer vegetation, removal of cutting and
50 clippings, and sediment and debris removal evaluation, and

51 WHEREAS, since mid-2013, the District's service provider, the King County, has been
52 collecting data, conducting technical analyses and engaging various stakeholders in
53 developing a suite of conceptual design alternatives for the Willowmoor Project, and

54 WHEREAS, in parallel with the process for developing options for reducing lake
55 levels with reconfiguration within the Zone, eight cold-water supplementation concepts
56 were identified, developed, analyzed and compared as a tool for reducing fish morbidity,
57 and

58 WHEREAS, on June 6, 2016, the District executive committee approved Motion
59 2016-04.1, which provided direction to proceed to 30 percent design with the Project,
60 including, in part: developing the split channel alternative in such a way that balanced
61 the objectives of flood control, habitat restoration, fish passage and sustainability;
62 conducting a feasibility analysis of a dynamic weir that included costs and benefits;
63 developing a maintenance plan for when the project is complete; pursuing grant sources
64 and identifying funding partners to further evaluate cold water supplementation and
65 assume ongoing maintenance costs should the option be selected; and continuing existing

66 maintenance during design and permitting phases, and

67 WHEREAS, King County prepared a report dated May 22, 2018, in response to
68 the issues listed in Motion 2016-14.1. The report, using the "Modified Existing
69 Conditions HEC-RAS" model for lake levels, indicated that there was no significant
70 difference in flood risk reduction between the wide and narrow side channel alternatives
71 and that the manually operated weir, which assumed adjustments in weir height only on a
72 seasonal basis, was not expected to reduce lake levels for a significant number of flood
73 days, and

74 WHEREAS, the District requested King County evaluate the flood risk reduction
75 of a dynamic weir, which could be adjusted with greater frequency and in anticipation of
76 major weather events. In response, the county prepared a progress memorandum for an
77 addendum to the weir analysis dated July 5, 2019, using the "Contemporary Conditions
78 spreadsheet." The analysis preliminarily indicated a 25 percent to 47 percent reduction in
79 flood days exceeding lake elevation of 27 feet was possible using a remote dynamically
80 operated weir, and

81 WHEREAS, the July 5, 2019 progress memorandum included a sensitivity
82 analysis that indicated the consequence of incorrect parameter estimation for downstream
83 risks was very high, and could have negative consequences on the city of Redmond's
84 stormwater infrastructure, and

85 WHEREAS, in June 2020 the final Remotely Operated Dynamic Weir Analysis
86 Addendum Technical Memorandum confirmed the preliminary results of the July 5, 2019
87 progress memorandum, and

88 WHEREAS, because the predicted flood reduction benefits of the 2018 and 2019

89 analyses of Zone and weir configuration varied significantly due to differences in data
90 availability and model setup, the District requested a third-party review of the models and
91 analysis to inform further decision making for the Willowmoor Project, and

92 WHEREAS, the District issued a request for proposals for a third-party evaluation
93 in 2019 and again in 2020 and no responses were received in either cycle, and

94 WHEREAS, in February 2020, Lake Sammamish experienced historic flooding,
95 with reported damage to property including docks, crawlspaces and small outbuildings
96 around the lake totaling almost \$650,000. King County collected damage estimates from
97 property owners across the County, but the total storm damage did not meet the threshold
98 for federal emergency support; and

99 WHEREAS, climate change is projected to increase the frequency and intensity of
100 heavy rainfall events in King County in coming years, increasing the potential for high
101 lake level events and associated flooding around the lake, and

102 WHEREAS, uphill development around Lake Sammamish and in tributary stream
103 basins may have resulted in increased runoff into the lake during storms, and

104 WHEREAS, the impact of climate change and development make adaptation and
105 mitigation necessary, in addition to flood risk reduction efforts, and

106 WHEREAS, Lake Sammamish and the Transition Zone are integral parts of the
107 Sammamish River basin and that changes in one part of the basin, including tributaries to
108 the Sammamish River, have implications for other parts of the basin, and

109 WHEREAS, the Sammamish river capital investment strategy ("Sammamish
110 CIS") is intended to take a comprehensive look at the entire Sammamish river basin in
111 collaboration with the Corps, cities and other stakeholders and to update the capital

112 investment and maintenance strategy for meeting the flood risk reduction, fish habitat,
113 and navigability requirements of the Corps's 1964 River Improvement Operations &
114 Maintenance Manual for the Improvement Project. The Sammamish CIS will identify and
115 prioritize near-, mid-, and long-term capital projects for implantation that meet the
116 authorized intent and purpose of the Improvement Project, and

117 WHEREAS, on June 16, 2020, the District executive director approved the
118 Sammamish CIS work program, and

119 WHEREAS, the Sammamish CIS did not include the Willowmoor Project
120 because the third-party review had not been completed, and

121 WHEREAS, any capital project in the Zone will require time for design,
122 permitting and construction and flooding occurs on Lake Sammamish nearly every year
123 and near-term solutions are needed, and

124 WHEREAS, the 2021 adopted District budget includes an additional \$1,000,000
125 for the Willowmoor Project;

126 NOW, THEREFORE, BE IT MOVED BY THE EXECUTIVE COMMITTEE OF
127 THE KING COUNTY FLOOD CONTROL ZONE DISTRICT:

128 SECTION 1. In coordination with King County as the District's service provider,
129 the District will undertake the following near-term measures:

130 A. Update the Sammamish river capital investment strategy work program
131 authorization and project charter to include Lake Sammamish, the Willowmoor project,
132 Bear creek and Issaquah creek to ensure a complete basin-wide approach, subject to
133 approval by the District executive director;

134 B. Work with cities that border Lake Sammamish to design and implement a

135 near-term grant program to help fund flood mitigation options for lakeside landowners,
136 such as floating docks, relocation or elevation of outbuilding and other damage-reduction
137 and floodproofing measures;

138 C. Conduct outreach to homeowners' associations and others on the lake to make
139 them aware of their potential eligibility for flood-reduction grants and flood insurance to
140 ensure broad awareness of existing resources available to lakeside residents;

141 D. Prepare a high-level assessment of the scope and level of effort needed for
142 data collection and a tributary gaging, groundwater monitoring and weather station
143 network that would be able to support lake level forecasting;

144 E. Continue to pursue the permits from the co-managers of the Sammamish
145 River, the Washington Department of Fish and Wildlife and the Muckleshoot Indian
146 Tribe needed to continue vegetation maintenance in the Zone; and

147 F. Identify updates to the 2021 work plan and budget needed to undertake the
148 work described in this motion for potential inclusion in the 2021 midyear budget update.

149 SECTION 2. The District executive director will:

150 A. Work collaboratively with King County, present to the Executive Committee
151 before June 30, 2021, a scope and draft a scope of work for consultant services to:

152 1. Determine the adequacy of the methodology analyzed in the June 2020
153 Remotely Operated Dynamic Weir Analysis Addendum Technical Memorandum
154 confirming the preliminary results of the July 5, 2019 progress memorandum; and

155 2. Evaluate the feasibility and potential impact on flooding and Chinook salmon
156 fish passage of a remotely operated dynamic weir that could include a wider notch than in
157 the current configuration and be adjusted multiple times throughout the year in response

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158 to forecast storms; and

159 B. Explore possible county-owned locations closer to Lake Sammamish for
160 sandbag distribution.

161 SECTION 3. The District requests King County reach out to city stormwater
162 programs in Bellevue, Issaquah, Sammamish and Redmond through existing contacts and
163 coordination venues to learn more about their current plans, including stormwater


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164 retrofits and green stormwater infrastructure initiatives, such as rain gardens, and share its
165 findings to the District executive director.
166

FCDEC Motion FCDECM2021-03 was introduced on and passed as amended by the King County Flood Control District Executive Committee on 4/7/2021, by the following vote:


Yes: 4 - Mr. Dunn, Ms. Lambert, Mr. Upthegrove and Mr. von Reichbauer

KING COUNTY FLOOD CONTROL ZONE
DISTRICT
KING COUNTY, WASHINGTON

DocuSigned by:

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Dave Upthegrove, Chair

ATTEST:

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Melani Pedroza, Clerk of the District

Attachments: None