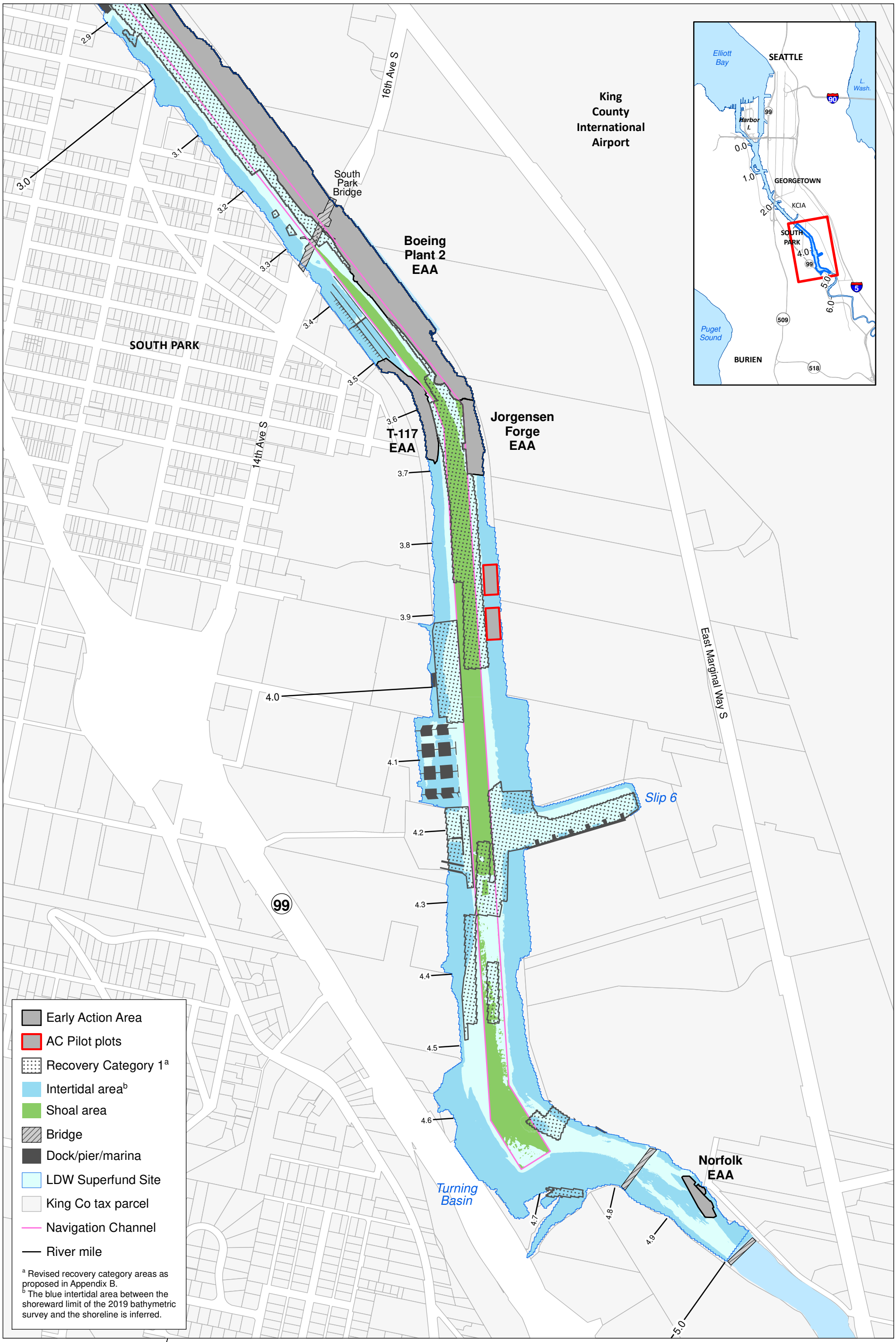

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Map 1. Overview of the LDW upper reach (RM 3.0 to RM 5.0)

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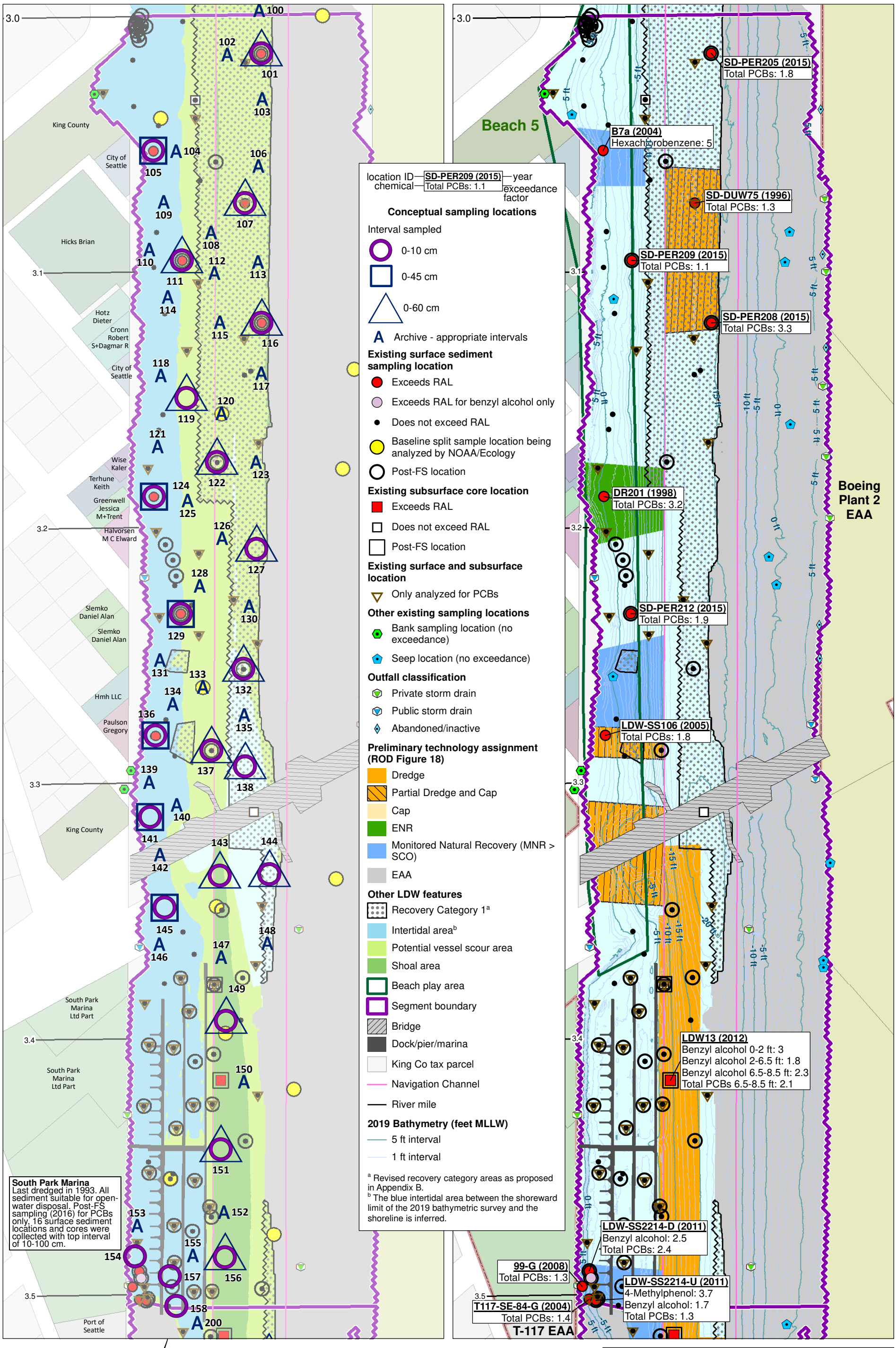
Prepared by craigh, 11/22/2019; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\QAPP\Map 1 7059 Upper Reach.mxd



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Map 2. Segment 1 (RM 3.0 to RM 3.5) Phase 1 locations, sediment RAL exceedances, bathymetry, and ROD Figure 18 remedial action areas

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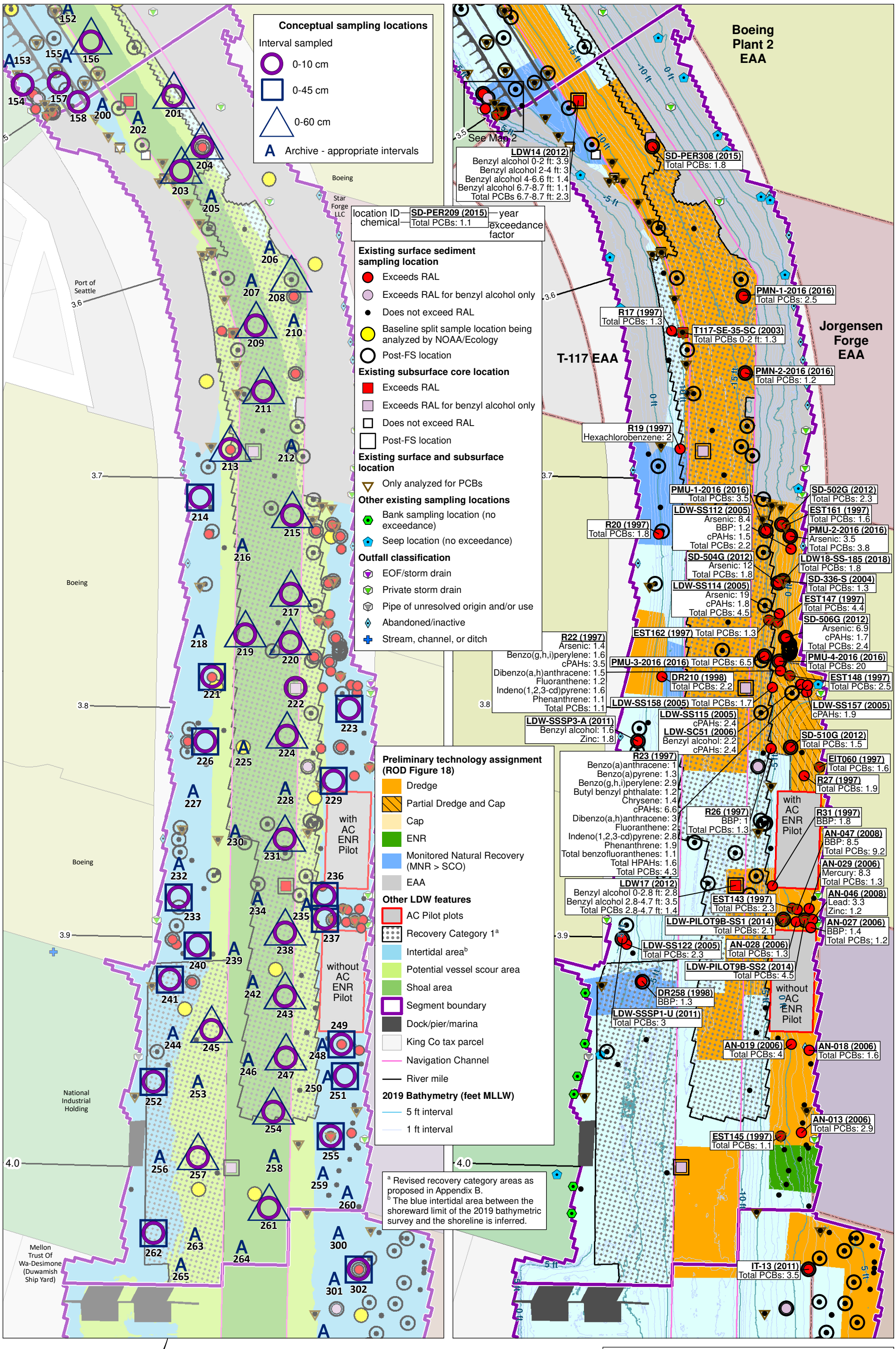
Prepared by craigh, 11/22/2019; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\QAPP\Map 2 7034 Upper Reach - Segment 1.mxd



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N

0 200 400 Feet
0 50 100 Meters
Scale is the same for each inset map

Map 3. Segment 2 (RM 3.5 to RM 4.05) Phase 1 locations, sediment RAL exceedances, bathymetry, and ROD Figure 18 remedial action areas

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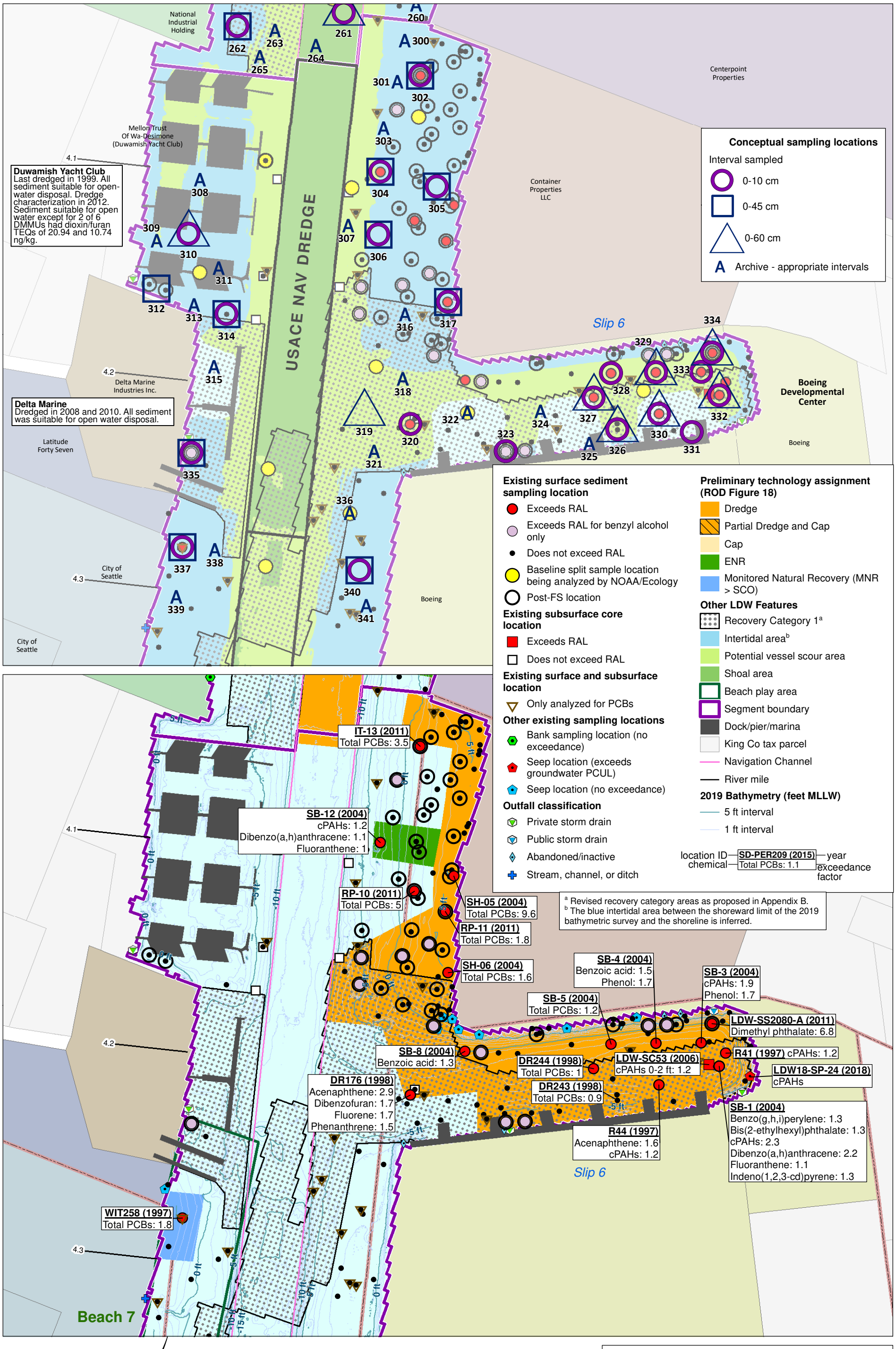
Prepared by craigh, 11/22/2019; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\QAPP\Map 3 7034 Upper Reach - Segment 2.mxd



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Map 4. Segment 3a (RM 4.05 to RM 4.35) Phase 1 locations, sediment RAL exceedances, bathymetry, and ROD Figure 18 remedial action areas

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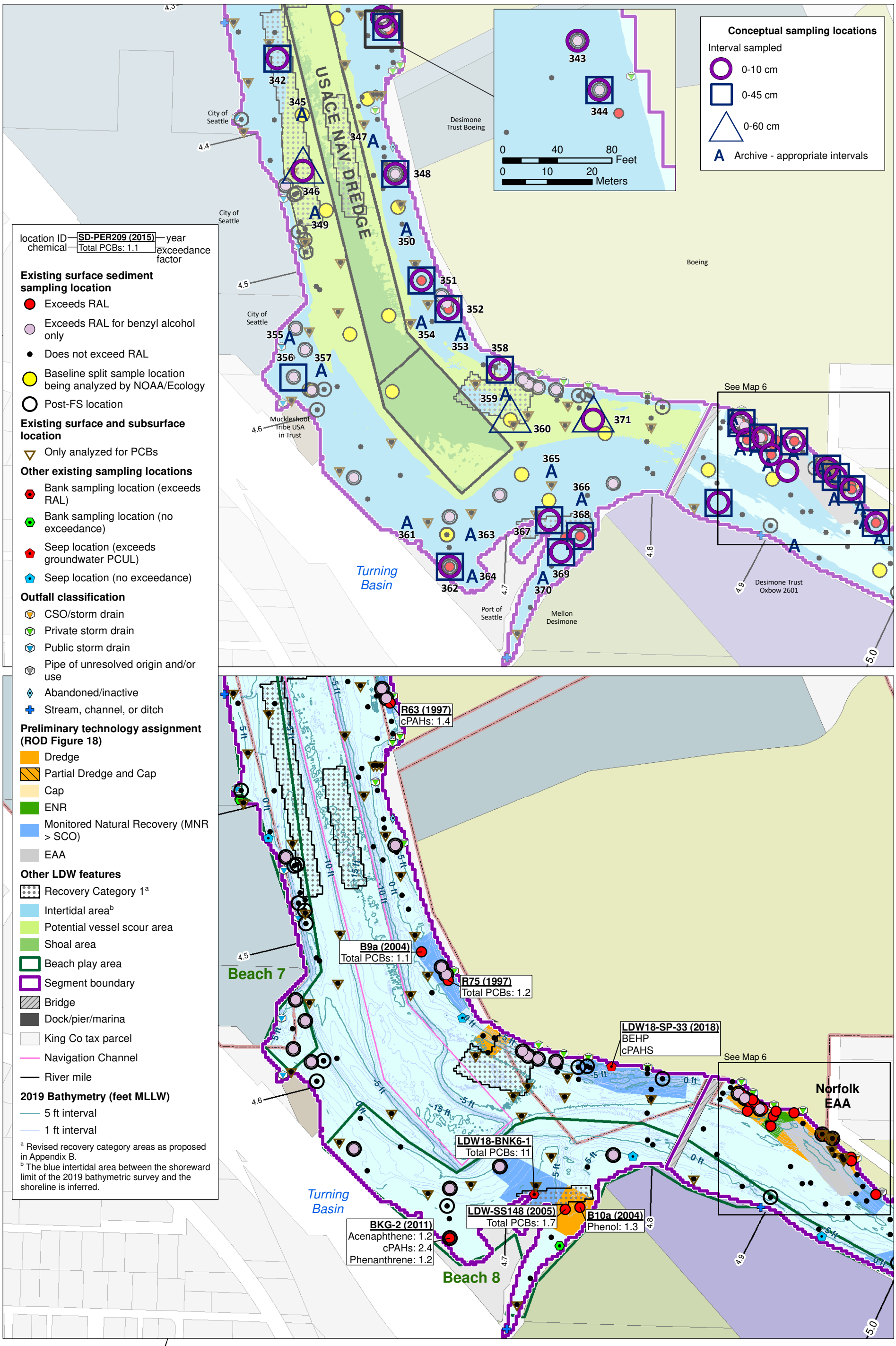
Prepared by craigh, 11/22/2019; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\QAPP\Map 4 7034 Upper Reach - Segment 3a.mxd



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N

0 300 600 Feet
0 100 200 Meters
Scale is the same for each inset map

Map 5. Segment 3b (RM 4.35 to RM 4.75) Phase 1 Locations, sediment RAL exceedances, bathymetry, and ROD Figure 18 remedial action areas

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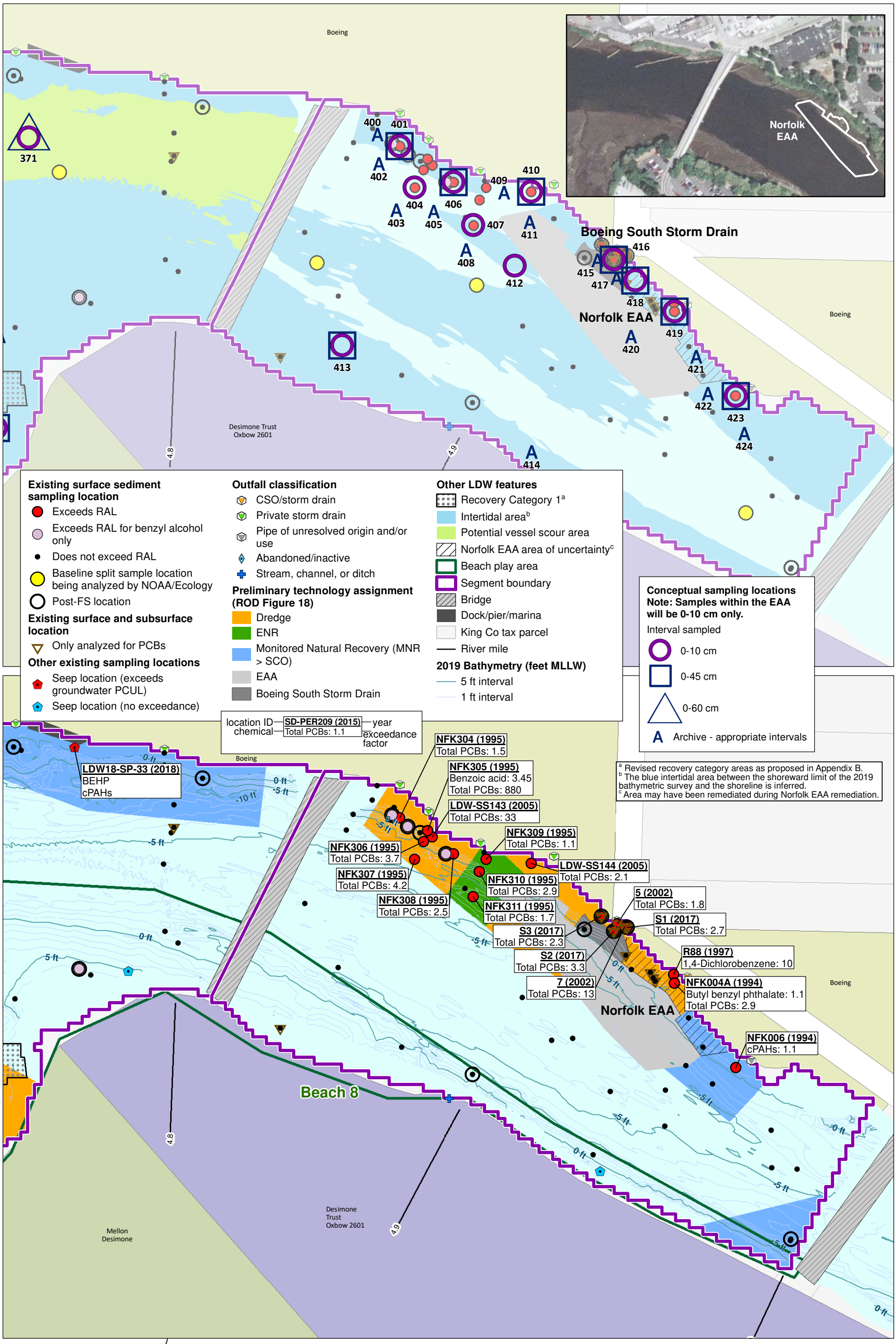

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N

0 100 200 Feet

0 40 80 Meters

Scale is the same for each inset map

Map 6. Segment 4 (RM 4.75 to RM 5.0) Phase 1 locations, sediment RAL exceedances, bathymetry, and ROD Figure 18 remedial action areas

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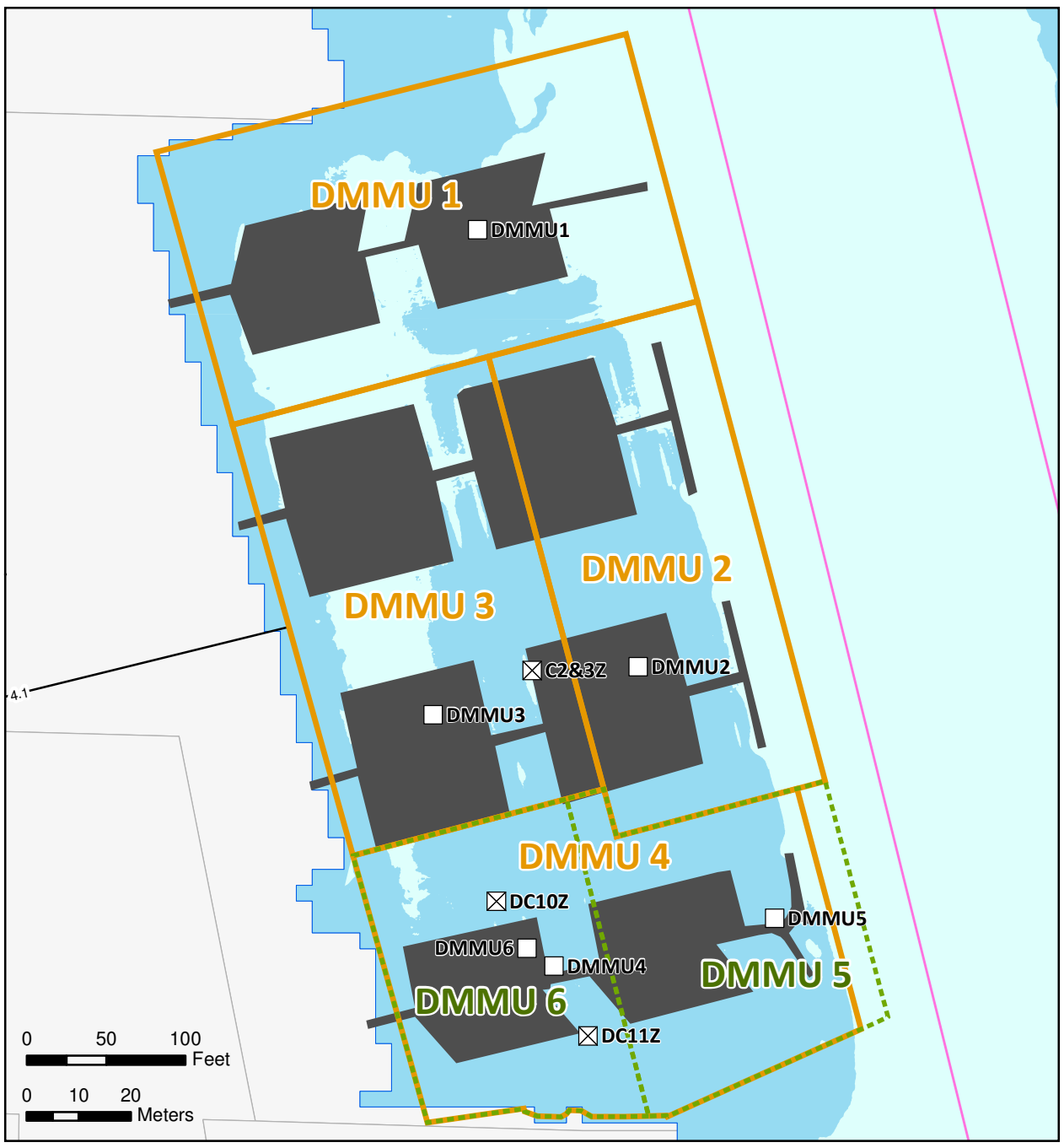
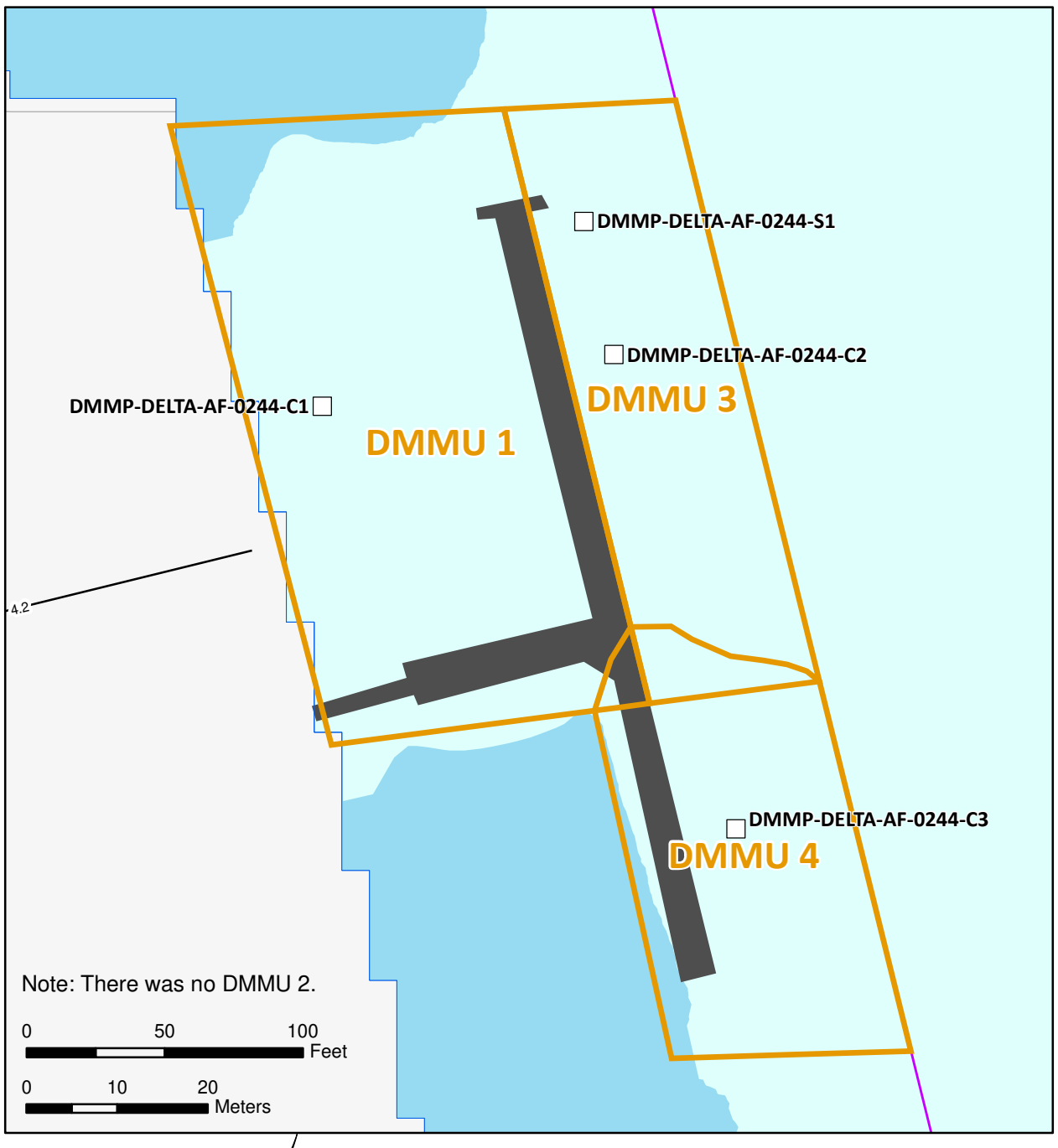
Duwamish Yacht Club



Delta Marine



- Surface DMMU
- Subsurface DMMU
- Subsurface composite centroid
- Z sample
- Dock/pier/marina
- Intertidal area
- LDW Superfund Site
- King Co tax parcel
- Navigation Channel
- River mile

Note: Surface DMMUs characterize sediment from up to the 0-4 ft interval depending on the elevation. Subsurface DMMUs characterize a 2 ft interval of sediment including sediment from > 4 ft depth.

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N

Map 7. Duwamish Yacht Club and Delta Marine Marina DMMU locations

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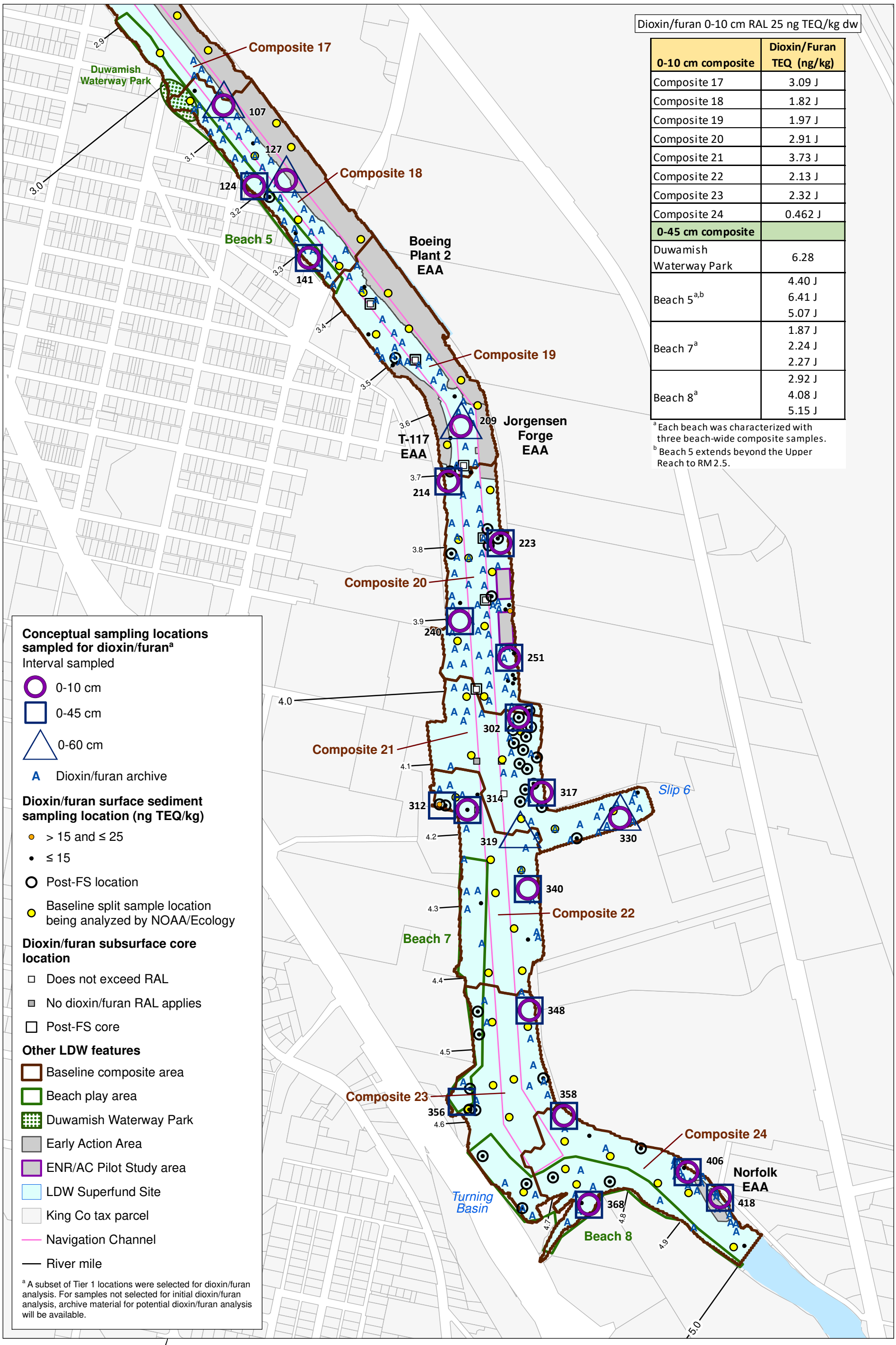

Dioxin/furan 0-10 cm RAL 25 ng TEQ/kg dw

0-10 cm composite	Dioxin/Furan TEQ (ng/kg)
Composite 17	3.09 J
Composite 18	1.82 J
Composite 19	1.97 J
Composite 20	2.91 J
Composite 21	3.73 J
Composite 22	2.13 J
Composite 23	2.32 J
Composite 24	0.462 J
0-45 cm composite	
Duwamish Waterway Park	6.28
Beach 5[a,b]	4.40 J 6.41 J 5.07 J
Beach 7[a]	1.87 J 2.24 J 2.27 J
Beach 8[a]	2.92 J 4.08 J 5.15 J

[a] Each beach was characterized with three beach-wide composite samples.
[b] Beach 5 extends beyond the Upper Reach to RM 2.5.

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N

0 510 1,020 Feet
0 200 400 Meters

Map 8. Phase I dioxin/furan locations, archive locations, and existing data locations

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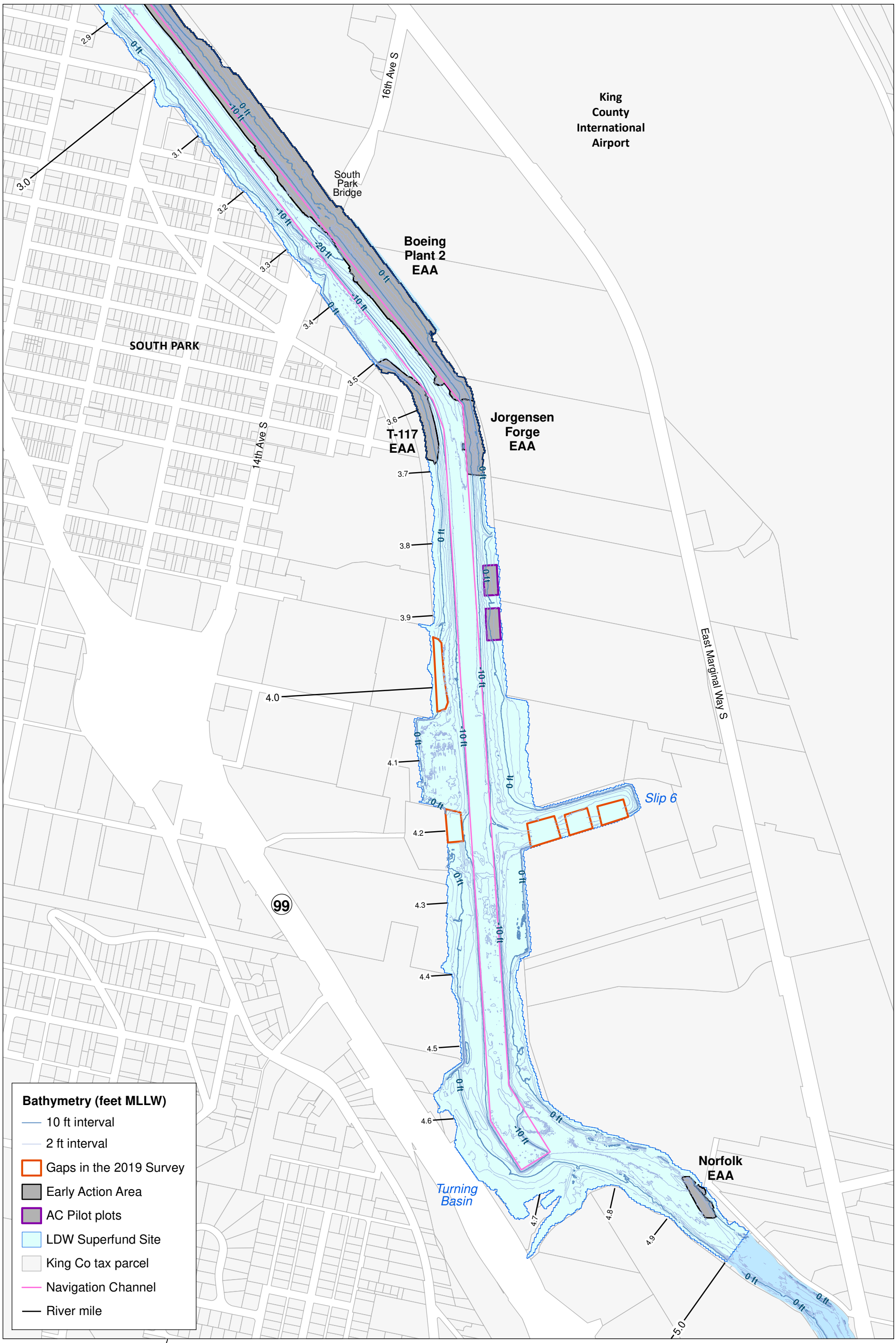
Prepared by craigh, 11/22/2019; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\QAPP\Map 8 6849 Surface sediment compositing data - wAllSed - DF.mxd



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N

0 500 1,000 Feet

0 200 400 Meters

Figure A-1. 2019 bathymetry

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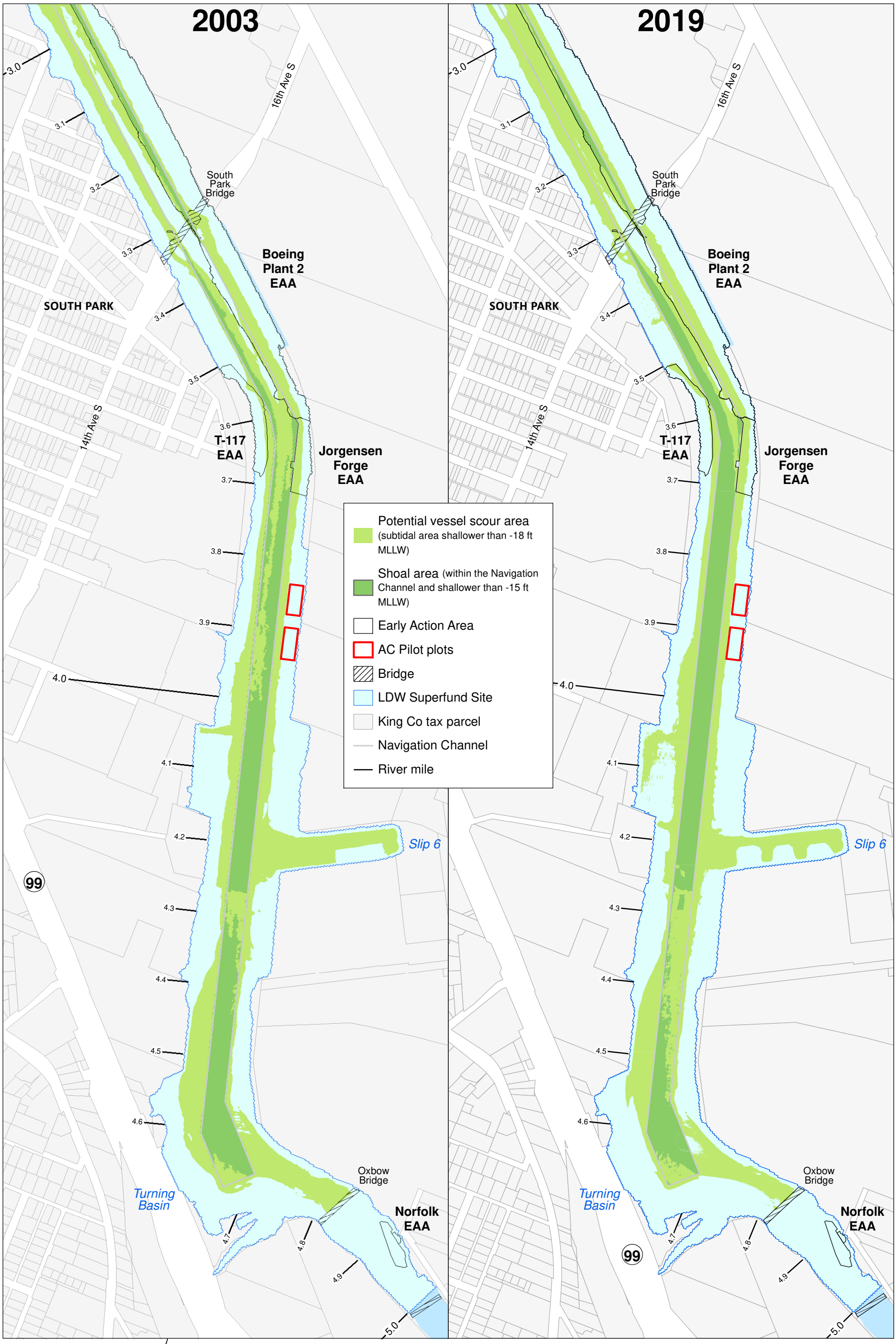
Prepared by craigh, 11/21/2019; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\QAPP\App A\Fig A-1 7125 2019 bathymetry and data gaps.mxd



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N

0 500 1,000 Feet

0 200 400 Meters

Figure A-2. Comparison of 2003 and 2019 potential tug scour area and shoal area in the upper reach

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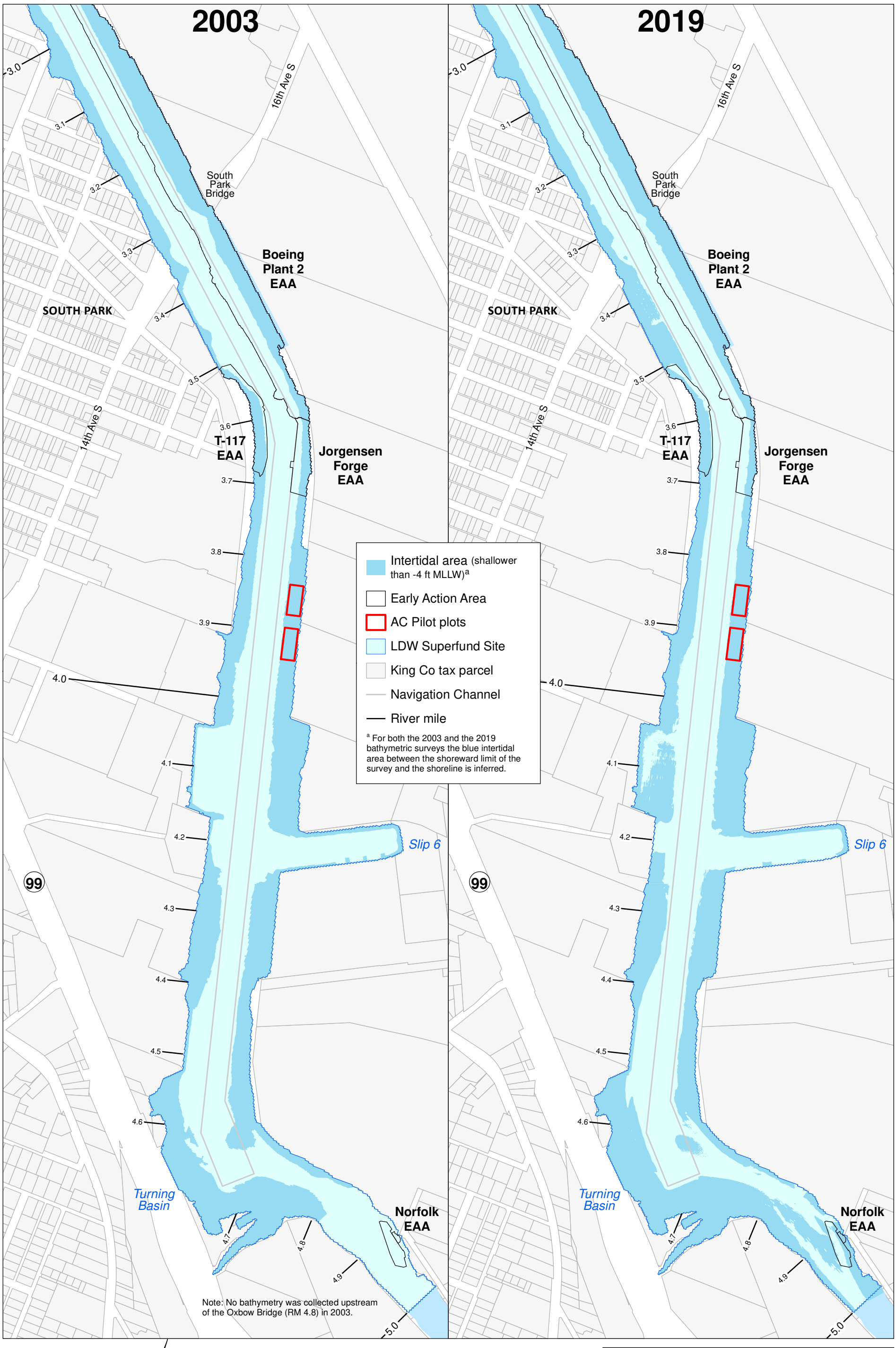
Prepared by craigh, 11/21/2019; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\QAPP\App A\Fig A-2 7078 Bathy difference-shoal-scour.mxd



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N

0 500 1,000 Feet

0 200 400 Meters

Figure A-3. Comparison of 2003 and 2019 intertidal area in the upper reach

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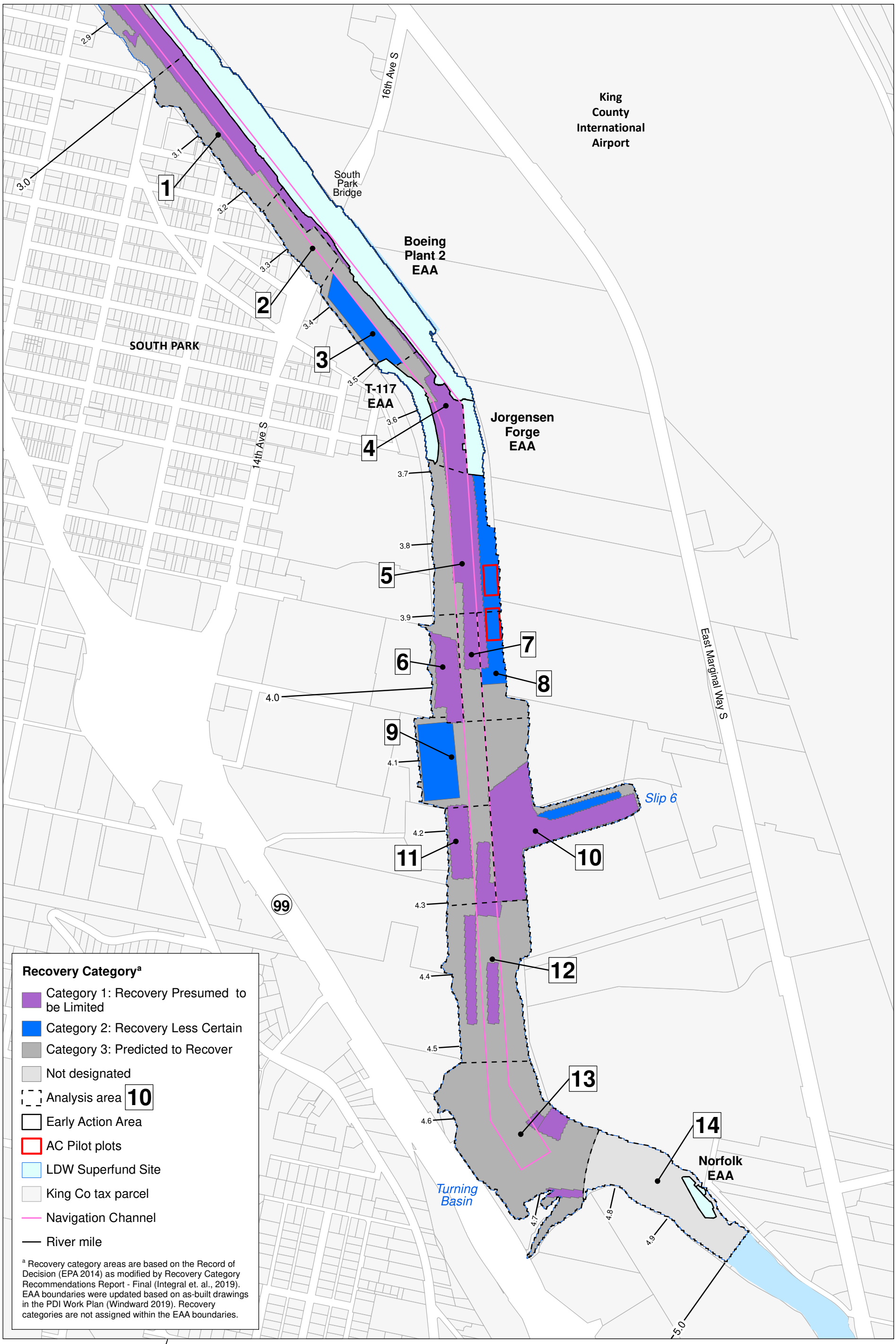
Prepared by craigh, 11/21/2019; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\QAPP\App A\Fig A-3 7078 Bathy difference-intertidal.mxd



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N

0 500 1,000 Feet

0 200 400 Meters

Figure B-1. Upper reach recovery category designations prior to 2019 bathymetric survey analysis and areas of focus for further recovery category discussions

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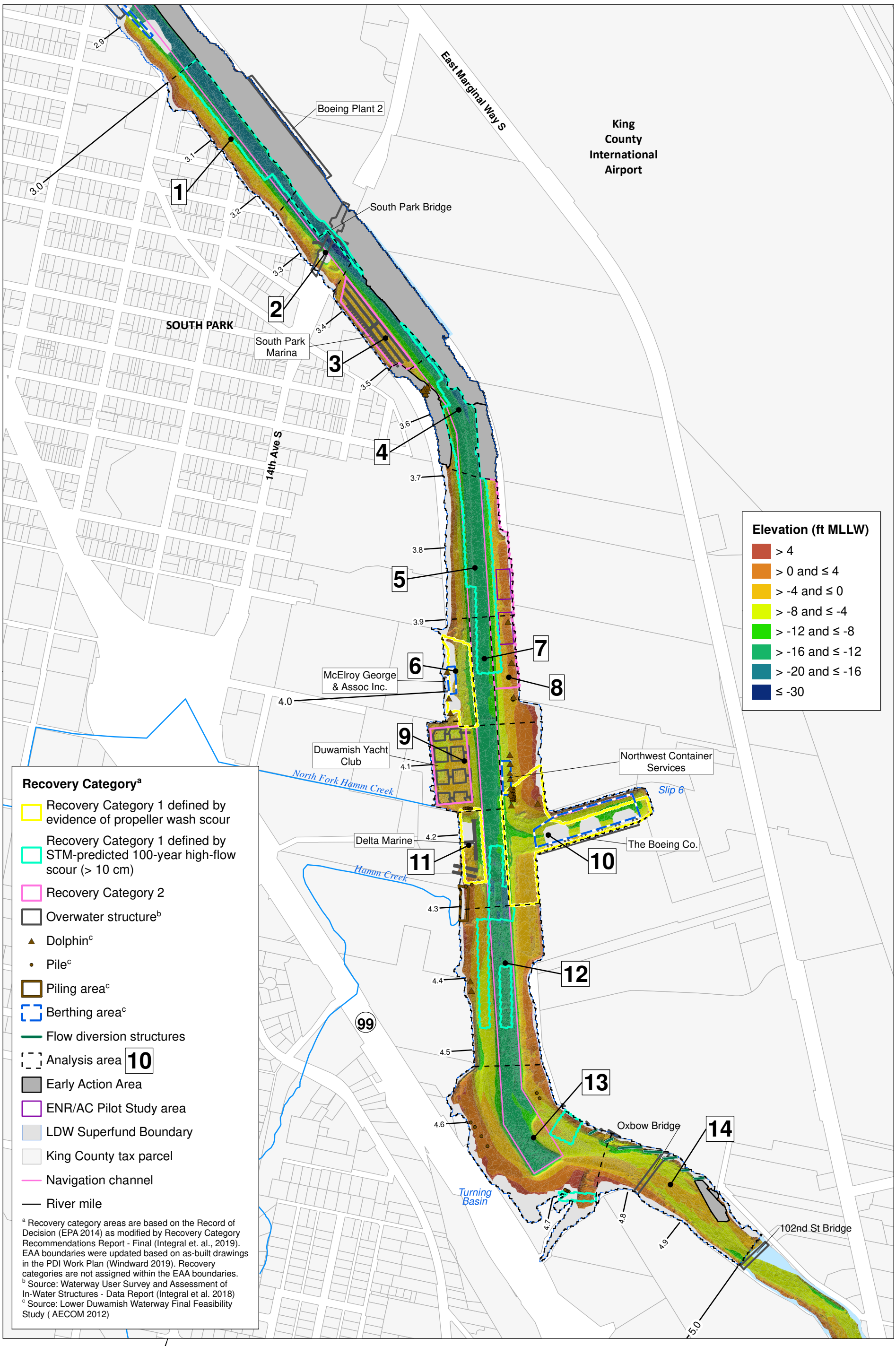
Prepared by craigh, 11/21/2019; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\QAPP\App B\Fig B-01 7109 Prior recovery categories.mxd



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N

0 500 1,000 Feet

0 200 400 Meters

Figure B-2. Sun-illuminated 2019 bathymetry in the upper reach

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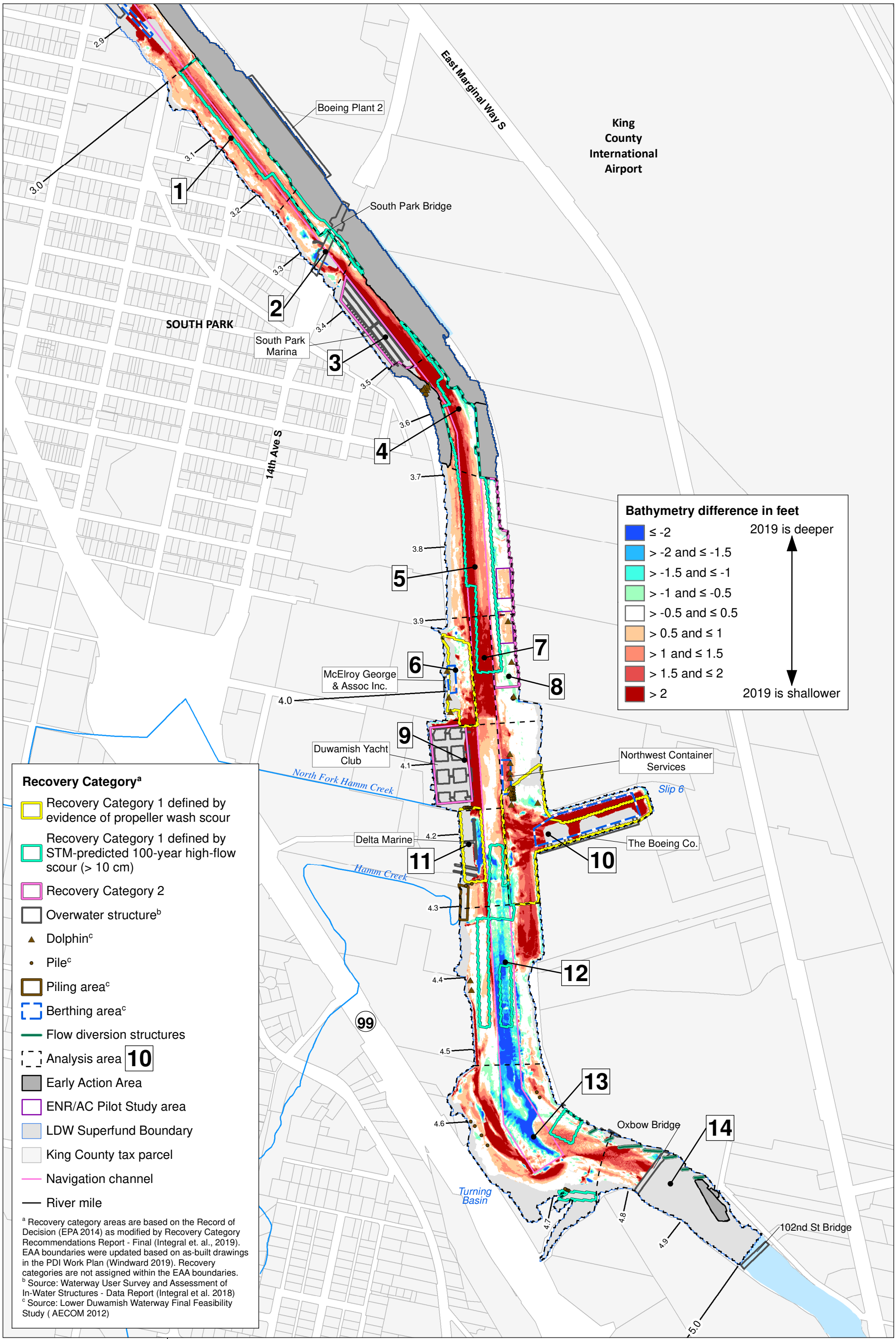

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N

0 500 1,000 Feet
0 200 400 Meters

Figure B-3. Difference between 2003 and 2019 bathymetry in the upper reach

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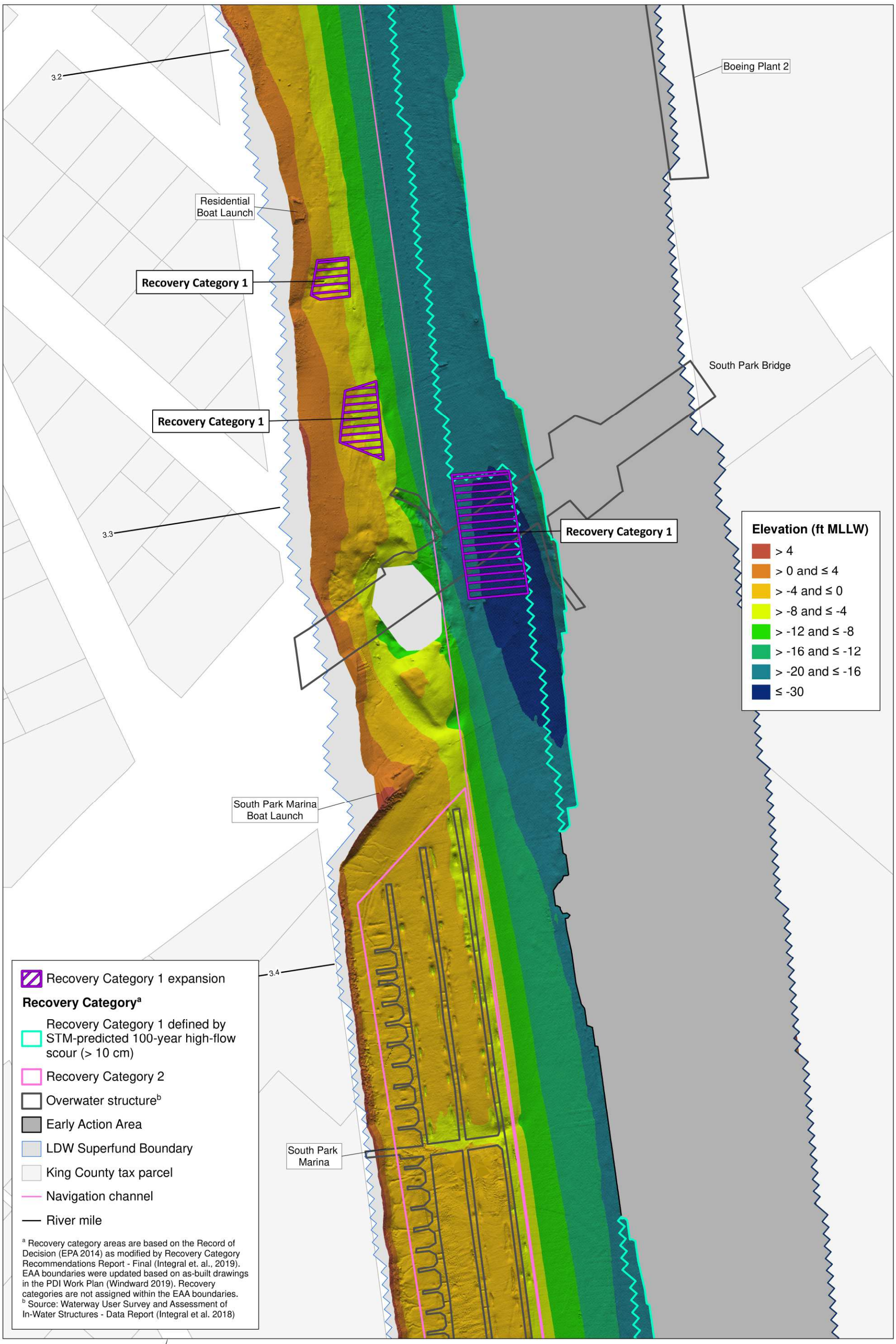

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N

0 100 200 Feet

0 20 40 Meters

Figure B-4. Potential recovery category modifications, Analyis Area 2

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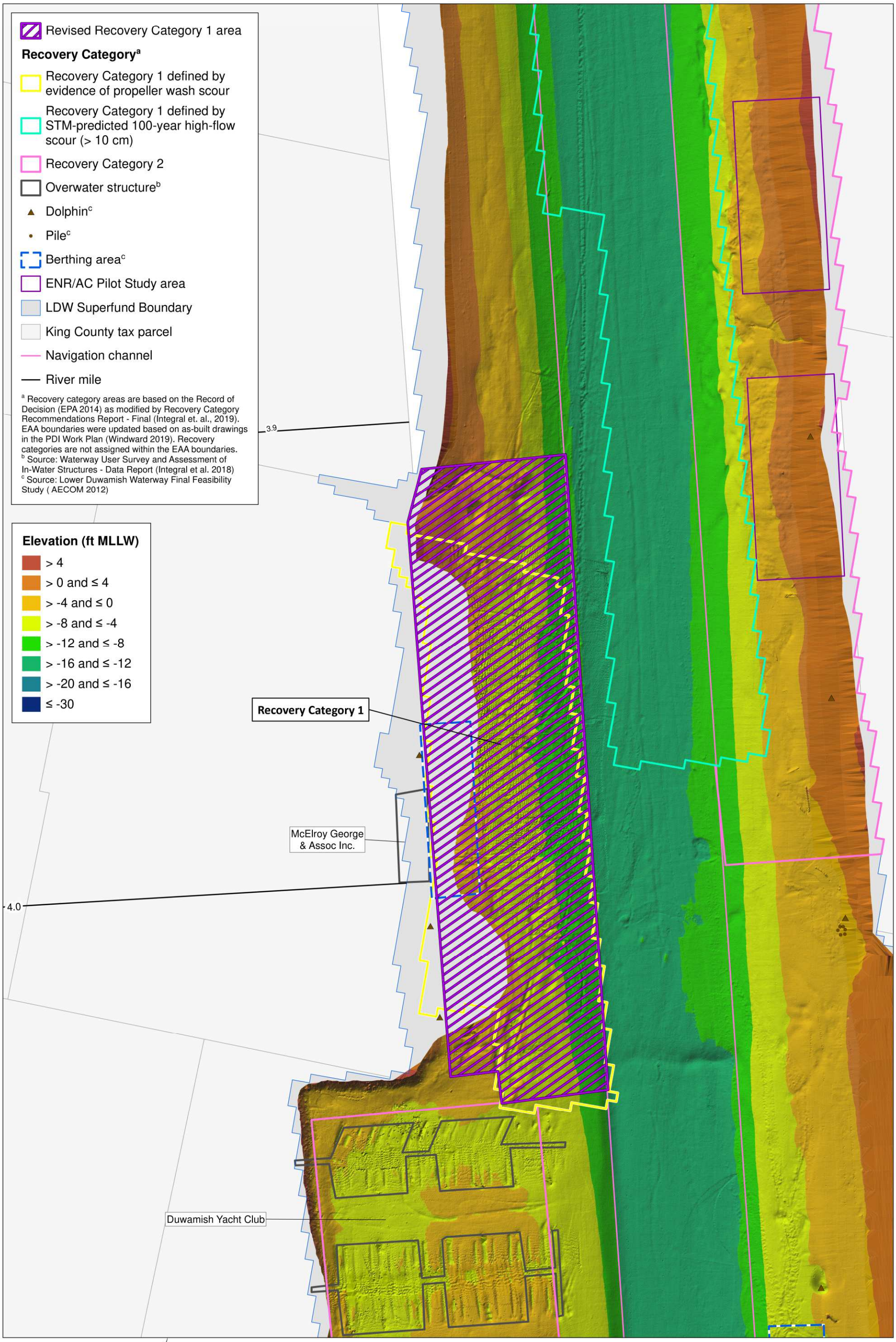

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N

0 75 150 Feet

0 20 40 Meters

Figure B-5. Potential recovery category modifications, Analysis Area 6

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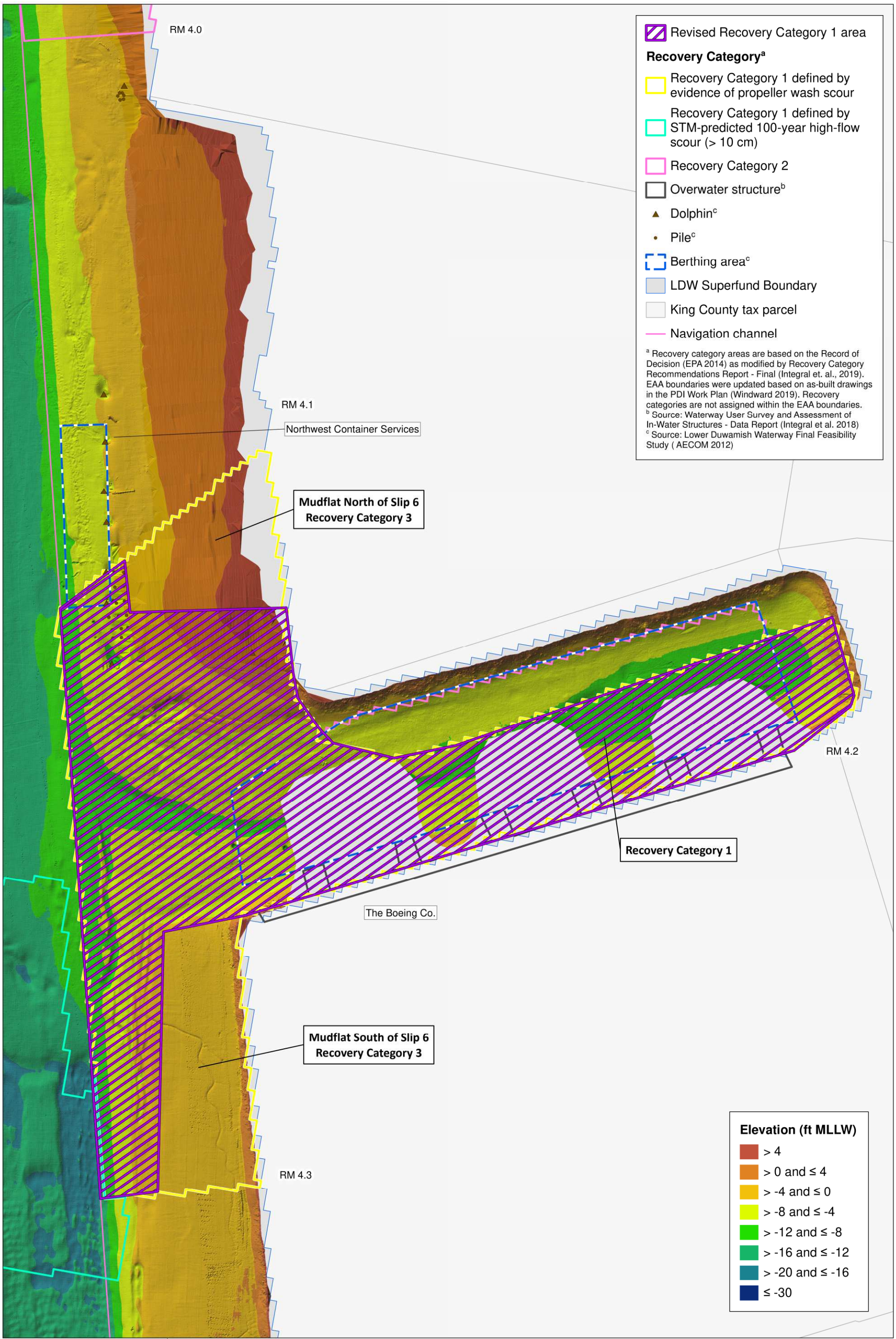

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N

0 100 200 Feet
0 20 40 Meters

Figure B-6. Potential recovery category modifications, Analysis Area 12

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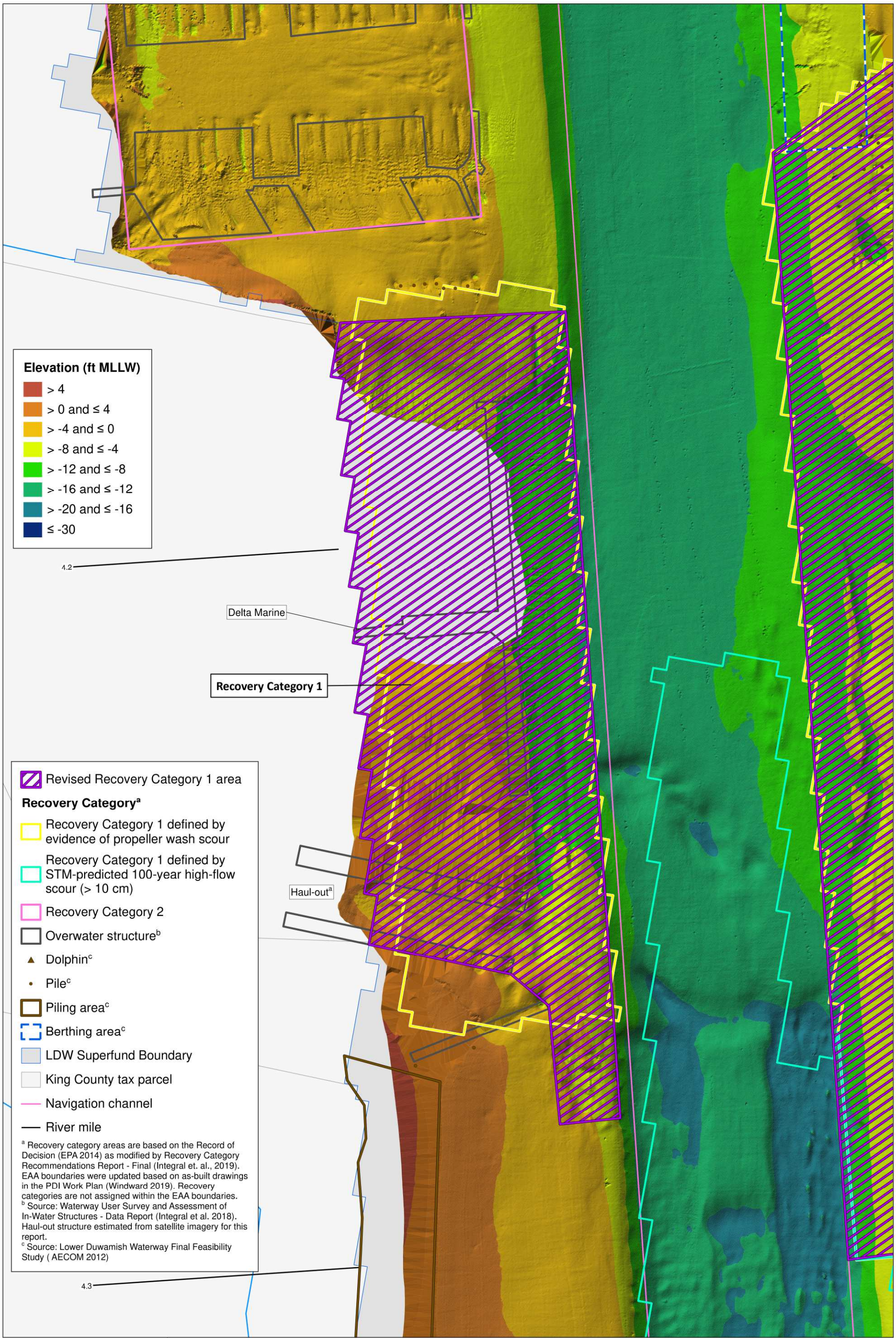

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Figure B-7. Potential recovery category modifications, Analysis Area 11

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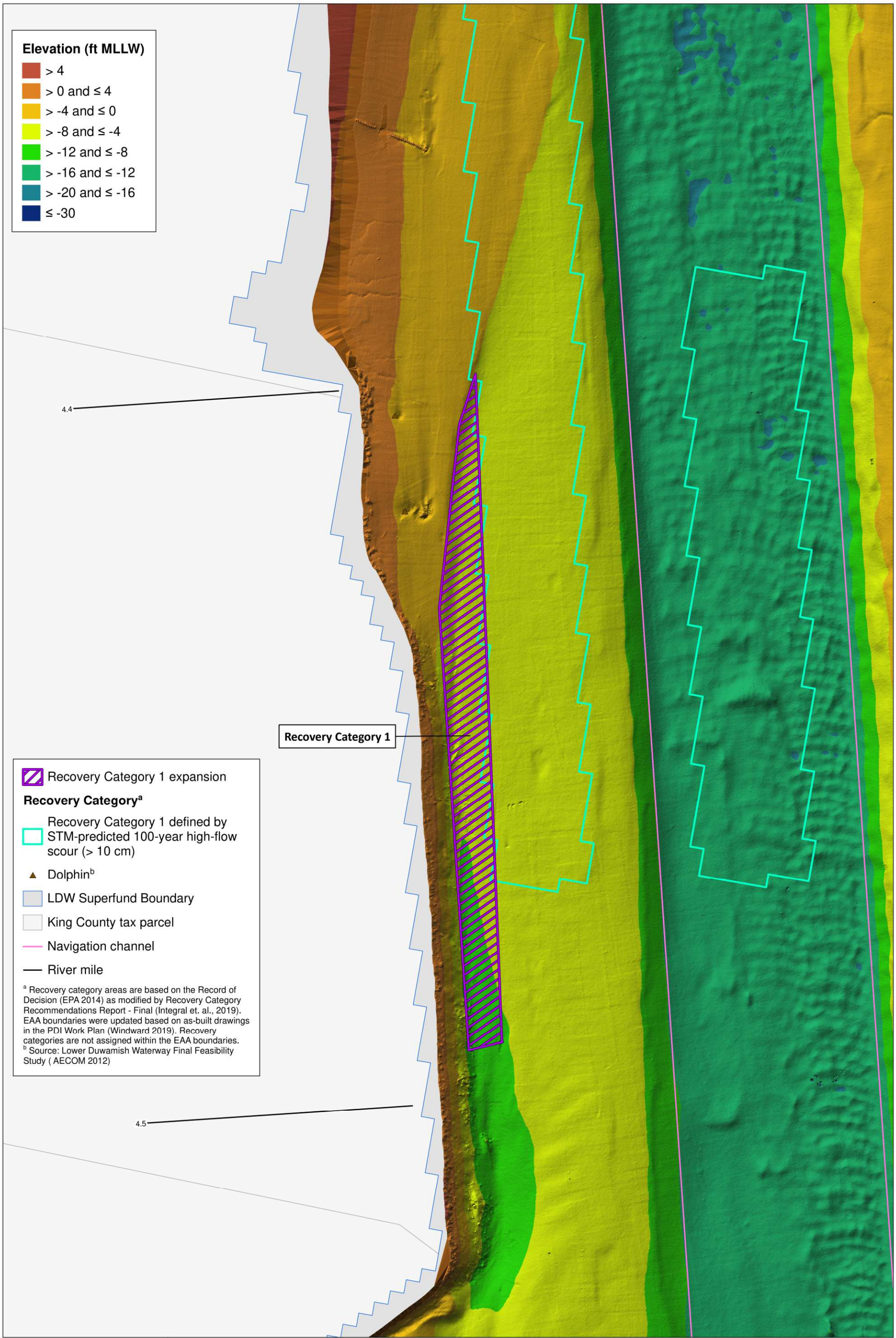

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N

0 50 100 Feet

0 10 20 Meters

Figure B-8. Potential recovery category modifications, Analysis Area 13

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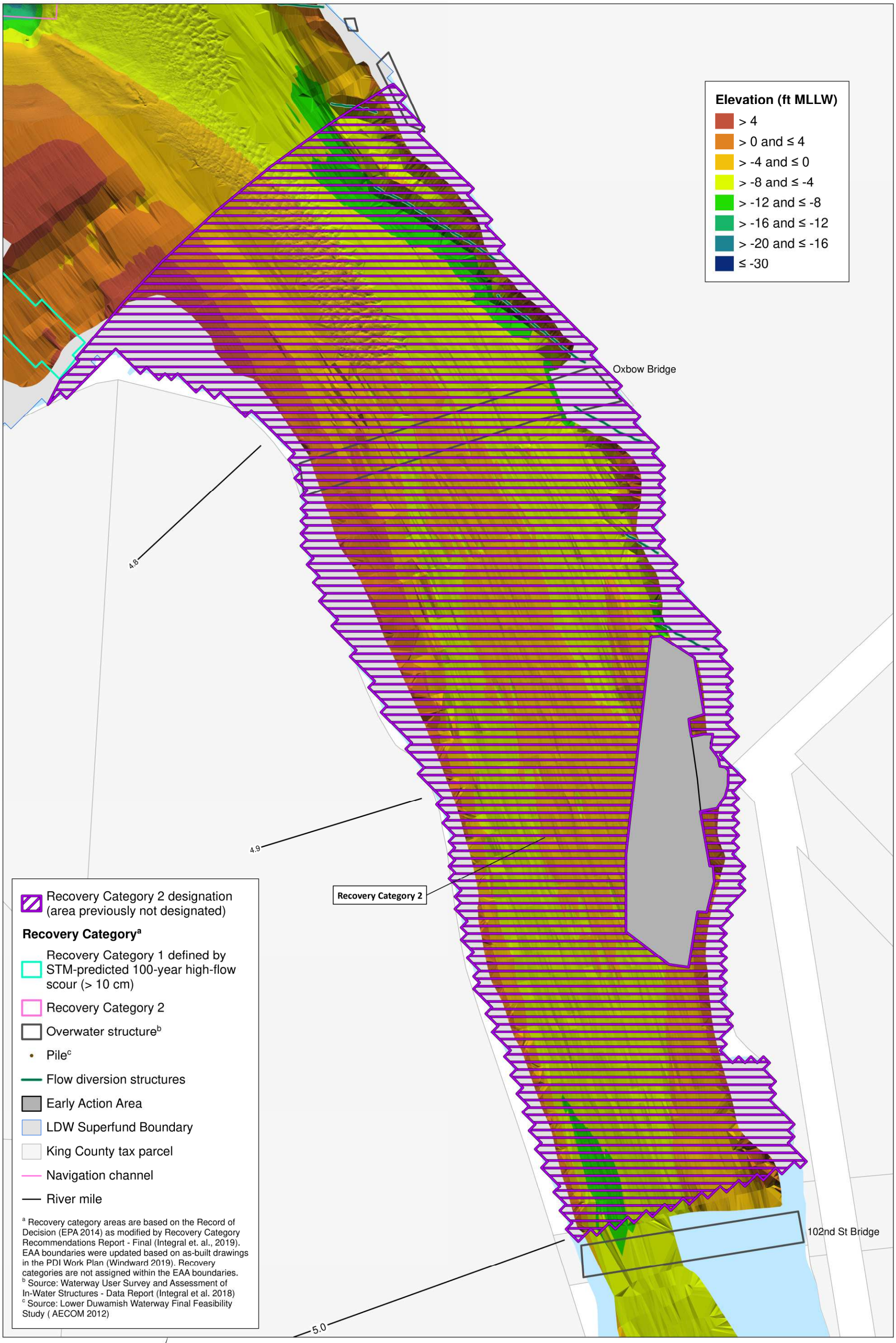

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N

0 100 200 Feet

0 20 40 Meters

Figure B-9. Potential recovery category modifications, Analysis Area 15

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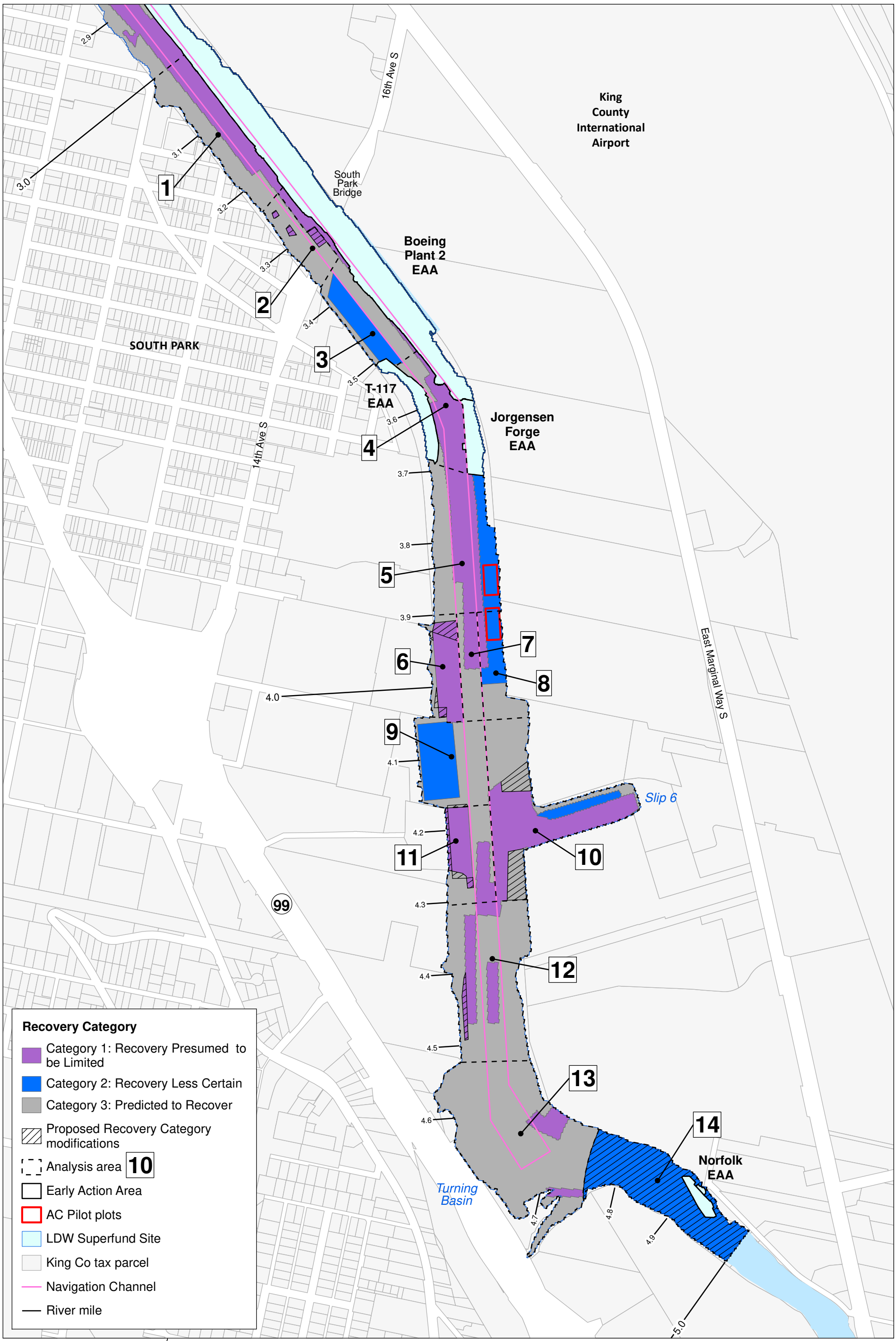
Prepared by craigh, 11/22/2019; W:\Projects\Duwamish AOC4\GIS\Maps and Analyses\QAPP\App B\Fig B-09 7109 Proposed recovery categories - AA 15.mxd



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N

0 500 1,000 Feet

0 200 400 Meters

Figure B-10. Potential recovery category modifications for the upper reach

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