

E. Tryon Creek and Fanno Creek

Tryon Creek

Of the waterways in the City of Portland that have mapped floodplains, Tryon Creek in Southwest Portland has the largest percentage of watershed (80%) within the Portland urban services boundary. The remaining portion of the watershed is within the jurisdictions of Multnomah County, Clackamas County, and the City of Lake Oswego, where it enters the Willamette River. Tryon Creek flows freely for approximately seven miles from its headwaters near Multnomah Village southeast to its confluence with the Willamette. The creek is characterized by steep slopes and stream gradients, which has resulted in a stream system with channel incision, undercutting of stream banks, landslides, and other erosion issues. These steep slopes and stream gradients have resulted in a floodplain that is fairly confined and limited. In addition, existing residential development, impervious surfaces, road crossings, and hardened and incised streambanks have further limited the floodplain. However, a significant portion of the creek is located within Tryon Creek State Natural Area. In this area, unlike in upper reaches of the creek, the floodplain broadens and is protected from near-stream development.

Eight-nine percent of the Riparian Buffer Area along Tryon Creek has tree canopy coverage. This number says nothing of the quality of the understory or presence of near-stream development associated with homes, such as patios, decks, or landscaped areas. However, the tree canopy still provides shade and other important riparian functions that may not be present in areas without tree canopy. Table 38 shows the number of tax lots within the floodplain of Tryon Creek and total acreage of floodplain in Portland's USB.

Fanno Creek

Fanno Creek is a tributary of the Tualatin River, which then flows into the Willamette River. The Fanno Creek mainstem and its seven tributaries collectively have approximately 23 miles of open stream channel in Portland. However, only the Fanno Creek mainstem and Vermont Creek have mapped floodplains and are considered in this report. The mainstem headwaters are in the Tualatin Mountains of Southwest Portland near the intersection of SW 25th Avenue and Beaverton-Hillsdale Highway. From there, it flows west along and north of the highway. Vermont Creek to the south originates near Gabriel Park and flows north and west to the mainstem of Fanno Creek. Similar to Tryon Creek, most of the tax lots within Fanno Creek floodplain are residentially zoned and currently developed with houses. Table 38 shows the number of tax lots with floodplains and acres of floodplains for both Tryon and Fanno Creeks.

TABLE 38: TRYON AND FANNO CREEK FLOODPLAINS (IN ACRES)

	Tax lots (#)	100-Year Floodplain	Metro Title 3/1996 Flood Inundation Area	1996 Actual Flood Extent²³	100-Year & 1996 Flood Inundation Area
Tryon Creek	56	21	Not mapped	Not mapped	21
Fanno Creek	139	33	Not mapped	Not mapped	33

Although the 1996 flood event caused significant streambank and streambed damage and landslides along both Tryon Creek and Fanno Creek, the flooding did not cause substantial flooding or property damage in the watershed (BES, 2005b). Given the nature of the stream channel and constrained floodplain, future flood events are not likely to cause significant flooding of properties. Rather, extreme rainfall events could cause soil saturation and subsequent landslides on the steep and unstable slopes prevalent across Southwest Portland.

i. Potential Impact of Development in the Floodplain

Unlike the other watersheds in Portland, the majority of tax lots within the floodplains associated with Tryon Creek and Fanno Creek have sufficient area outside of the floodplain to develop with the maximum building coverage of the base zone. This is both a function of the confined nature of these floodplains along steep channels, but also a function of the largely residential zoning along these creeks. In the case of Tryon Creek, much of the floodplain is located in public parks and natural areas with open space zoning. Furthermore, the remaining tax lots are zoned for low-density residential development on large lots with relatively limited maximum building coverages. Only about 10 percent of the lots in the Tryon Creek watershed do not have sufficient area outside of the floodplain to accommodate the base zone’s maximum building coverage (see Table 39).

TABLE 39: TRYON CREEK – TAX LOT AREA OUTSIDE OF THE FLOODPLAIN IS GREATER THAN OR EQUAL TO THE MAXIMUM ALLOWED BUILDING COVERAGE

Base Zone	No	Yes	Open Space	Grand Total
R20	3	23		26
OS	0	0	17	17
R10	2	11		13
Grand Total	5	34	17	56

²³ Statistics for the actual 1996 Flood Extent are included for informational purposes, only. Portland does not apply floodplain regulations to this area.

In contrast to Tryon Creek, the Fanno Creek floodplain encompasses substantial areas where commercial and multi-family residential zoning has been applied. Many of the lots along the Beaverton Hillsdale Highway corridor have considerable development potential or capacity for future infill. These areas also coincide with a broadening of the floodplain. Many of these tax lots do not sufficient area outside of the floodplain to accommodate the base zone’s maximum building coverage. However, even with these constraints, the majority (around 70%) of the tax lots that intersect with the Fanno Creek floodplain could be developed to their maximum allowed coverage without building in the floodplain (see Table 40). Thirty-four lots remaining lots that are zoned residential or commercial (around 1/3) have insufficient area outside of the floodplain to accommodate the base zone’s maximum building coverage. The percentage of the maximum building coverage that is within the floodplain on individual tax lots varies significantly.

TABLE 40: FANNO CREEK – TAX LOT AREA OUTSIDE OF THE FLOODPLAIN IS GREATER THAN OR EQUAL TO THE MAXIMUM ALLOWED BUILDING COVERAGE

Row Labels	No	Yes	Open Space	Grand Total
RM1	27	35		62
R10	2	31		33
R7	2	20		22
CE	1	9		10
OS	0	0	8	8
CM2	2	0		2
RM2	0	2		2
Grand Total	34	97	8	139

ii. Additional Floodplain Characteristics

TABLE 41: TRYON CREEK ZONING (IN ACRES)

Zone	Tax lots (#)	100-Year Floodplain	Metro Title 3/1996 Flood Inundation Area	1996 Actual Flood Extent ²⁴	100-Year & 1996 Flood Inundation Area
OS	17	11	0	0	11
R20	26	8	0	0	8
R10	13	1	0	0	1
Grand Total	56	21	0	0	21

TABLE 42: FANNO CREEK ZONING (IN ACRES)

Zone	Tax lots (#)	100-Year Floodplain	Metro Title 3/1996 Flood Inundation Area	1996 Actual Flood Extent ²³	100-Year & 1996 Flood Inundation Area
RM1	62	14	0	0	14
R10	33	8	0	0	8
OS	8	4	0	0	4
CM2	2	3	0	0	3
CE	10	2	0	0	2
R7	22	2	0	0	2
RM2	2	0	0	0	0
Grand Total	139	33	0	0	33

TABLE 43: TRYON CREEK PROPERTY OWNERSHIP (IN ACRES)

Tryon Creek	Tax lots (#)	100-Year Floodplain	Metro Title 3/1996 Flood Inundation Area	1996 Actual Flood Extent ²⁵	100-Year & 1996 Flood Inundation Area
Private	37	8	0	0	8
Public	19	13	0	0	13
Grand Total	56	21	0	0	21

²⁴ Statistics for the actual 1996 Flood Extent are included for informational purposes, only. Portland does not apply floodplain regulations to this area.

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TABLE 44: FANNO CREEK PROPERTY OWNERSHIP (IN ACRES)

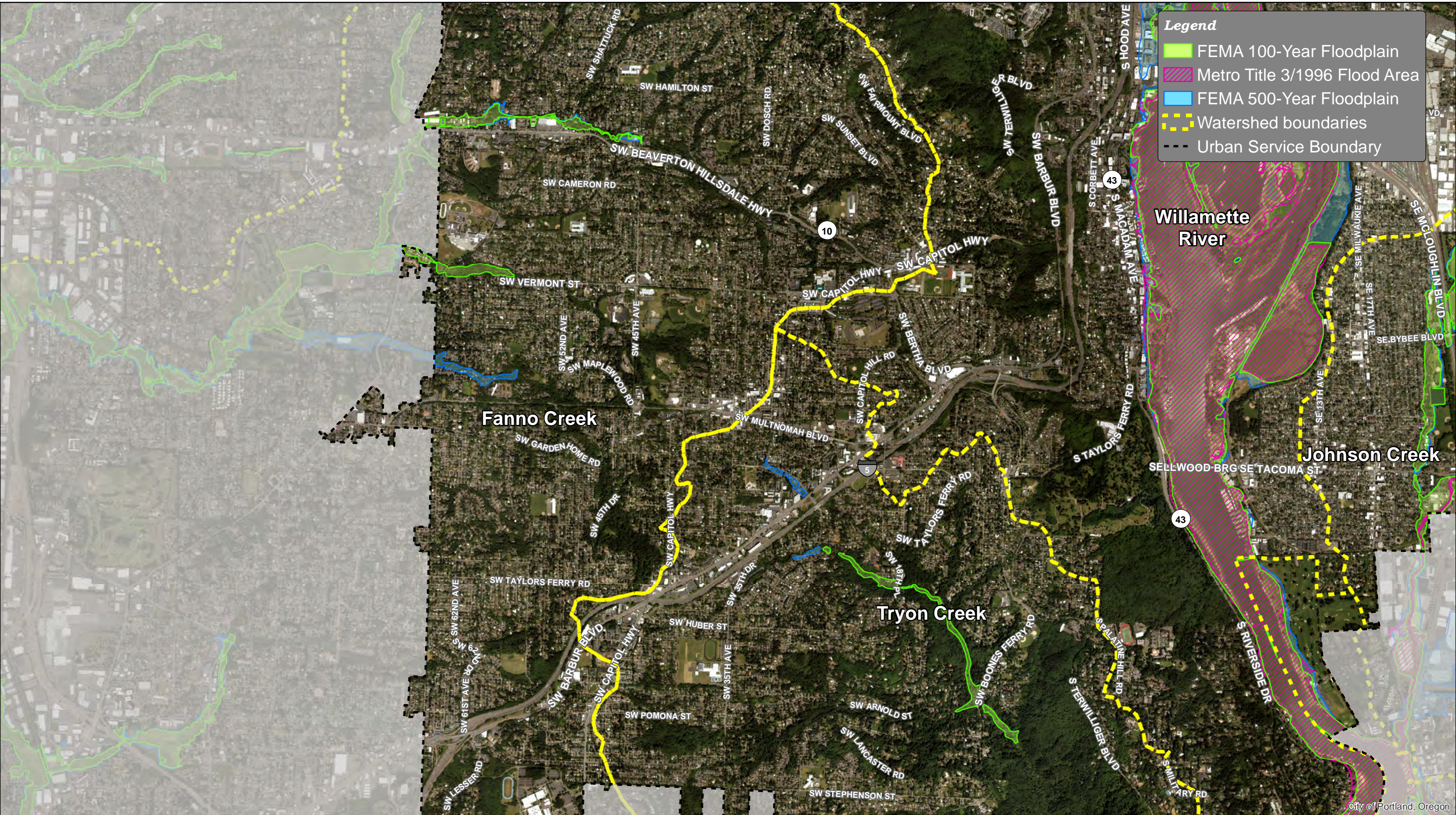
Fanno Creek	Tax lots (#)	100-Year Floodplain	Metro Title 3/1996 Flood Inundation Area	1996 Actual Flood Extent²⁴	100-Year & 1996 Flood Inundation Area
Private	129	28	0	0	28
Public	10	5	0	0	5
Grand Total	139	33	0	0	33

TABLE 45: TRYON CREEK TAX LOTS WITHIN THE FLOODPLAIN BY BASE ZONE

Base Zone	Fully Within (>95%)	Partially Within	Grand Total
R20	3	23	26
OS	0	17	17
R10	1	12	13
Grand Total	4	52	56

TABLE 46: FANNO CREEK TAX LOTS WITHIN THE FLOODPLAIN BY BASE ZONE

Base Zone	Fully Within (>95%)	Partially Within	Grand Total
RM1	14	48	62
R10	2	31	33
R7	2	20	22
CE	0	10	10
OS	2	6	8
CM2	0	2	2
RM2	0	2	2
Grand Total	20	119	139



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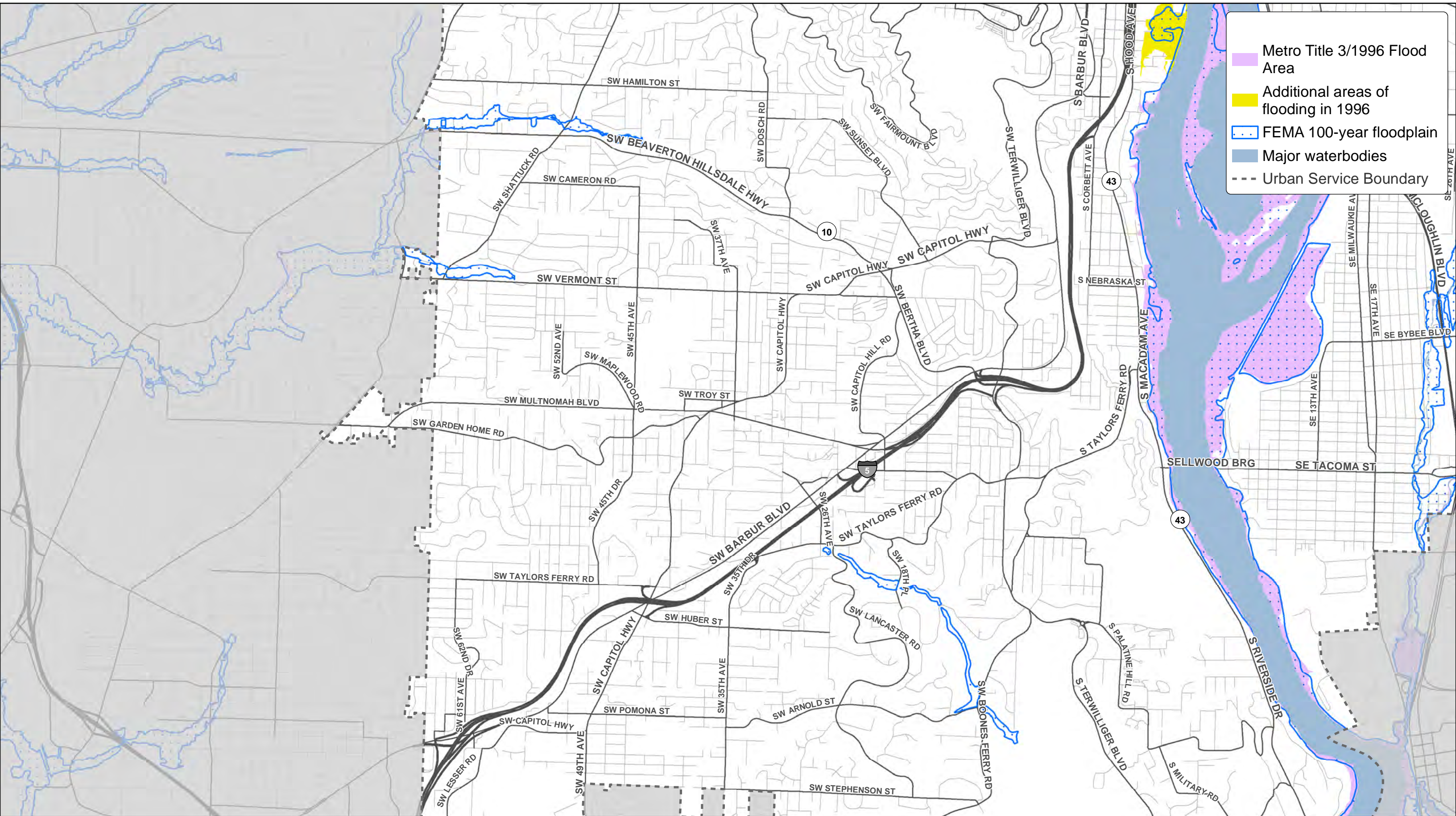
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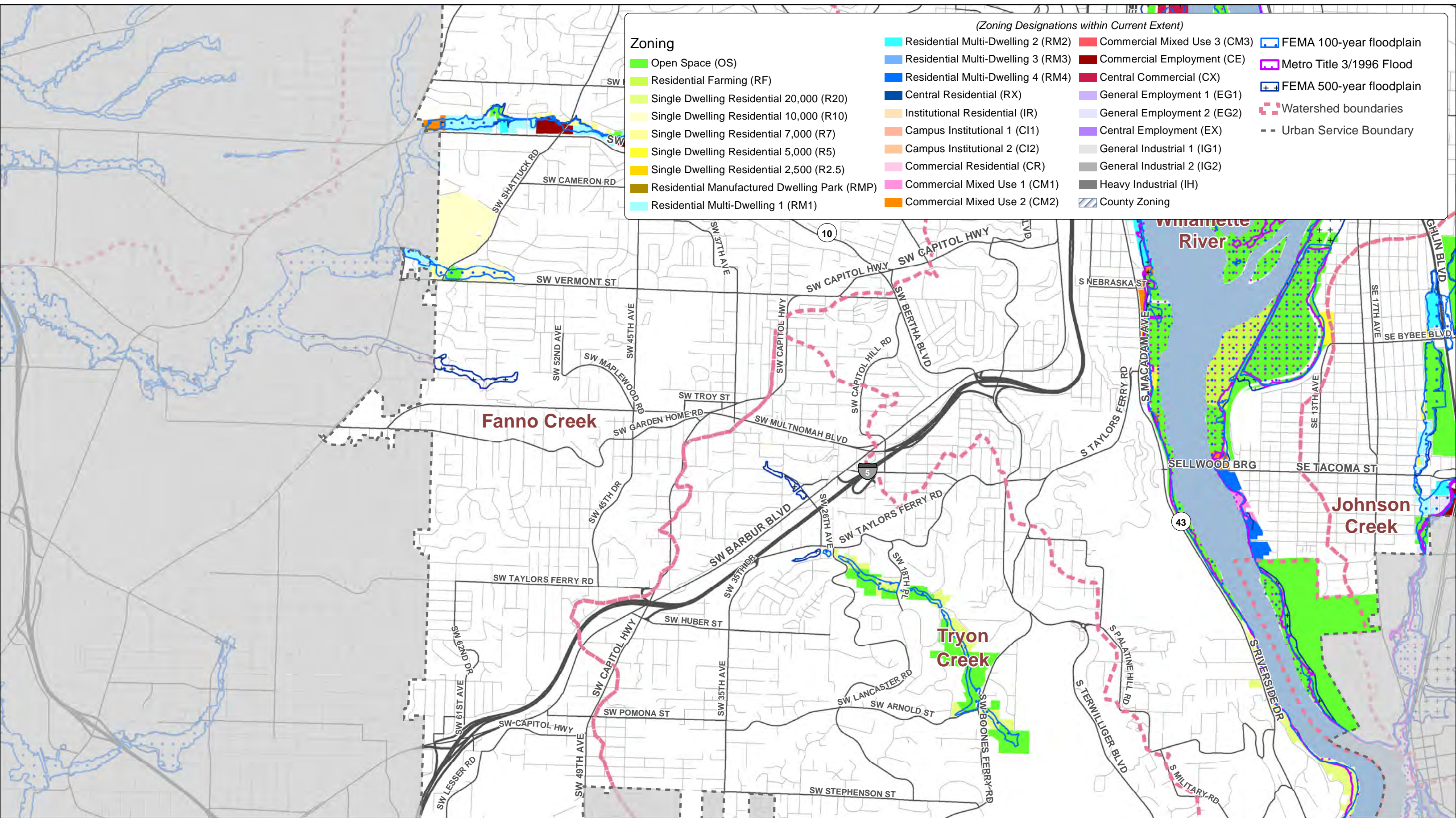
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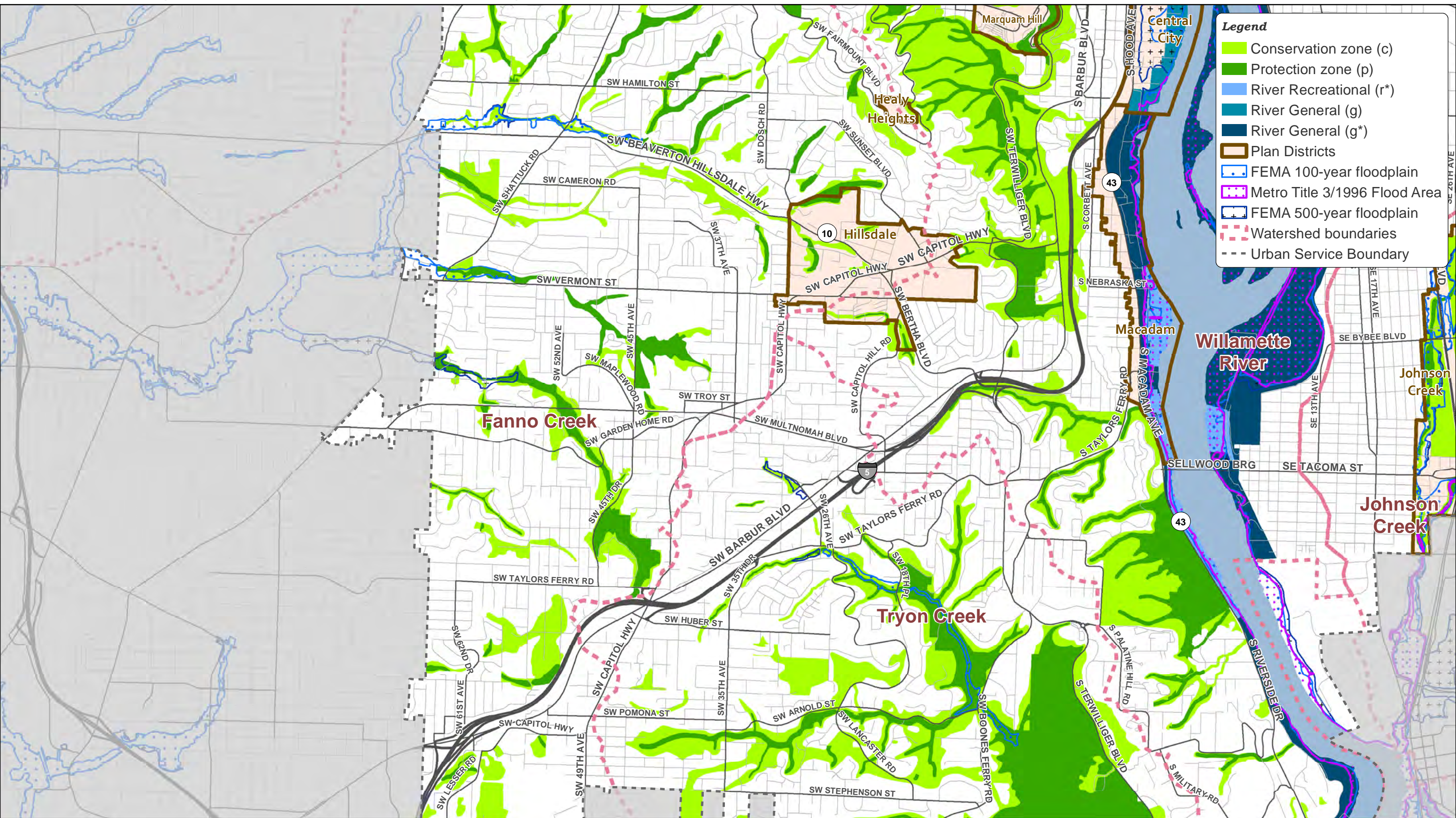


0 5,000 Feet



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Legend

- Conservation zone (c)
- Protection zone (p)
- River Recreational (r*)
- River General (g)
- River General (g*)
- Plan Districts
- FEMA 100-year floodplain
- Metro Title 3/1996 Flood Area
- FEMA 500-year floodplain
- Watershed boundaries
- Urban Service Boundary

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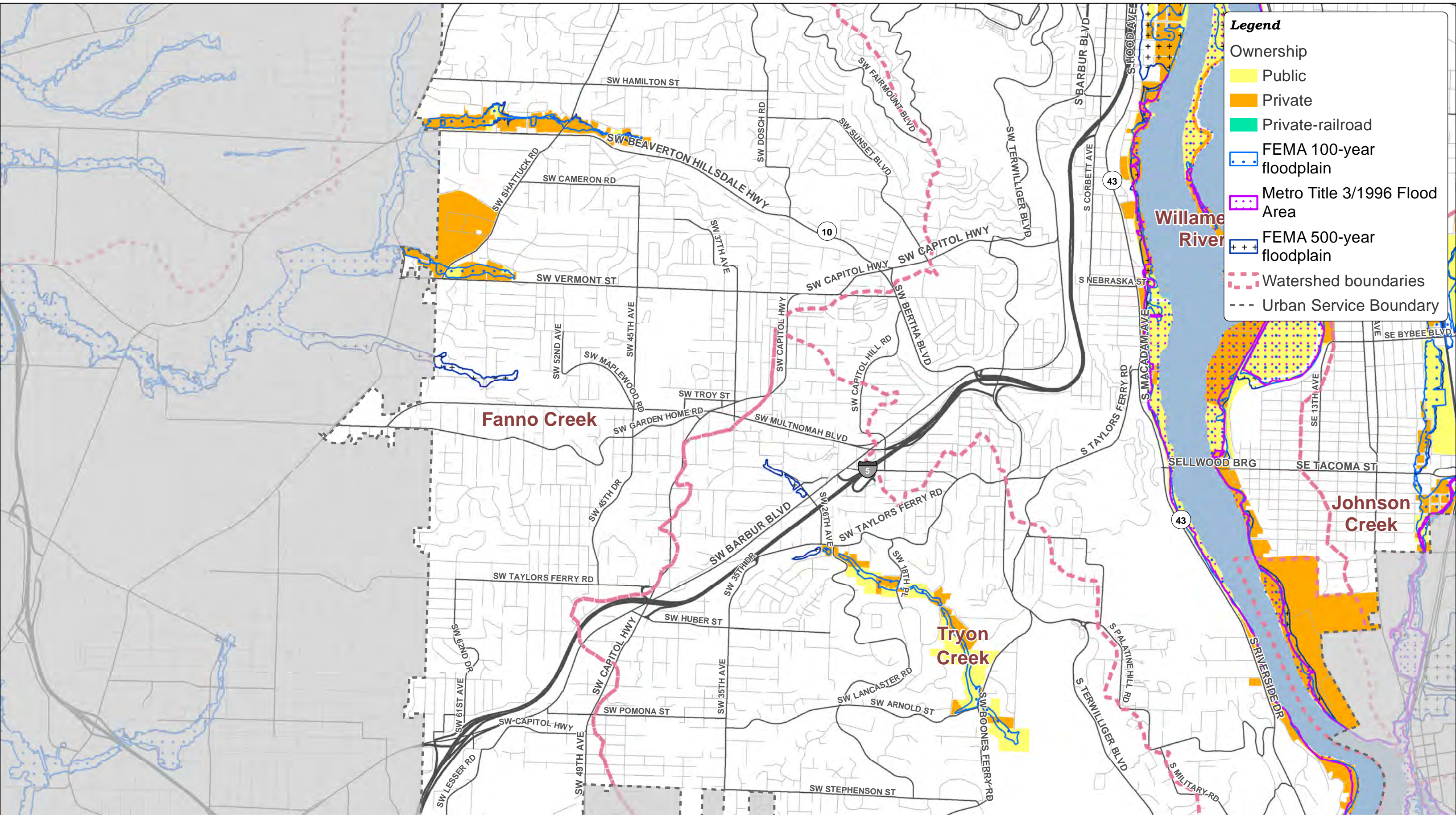
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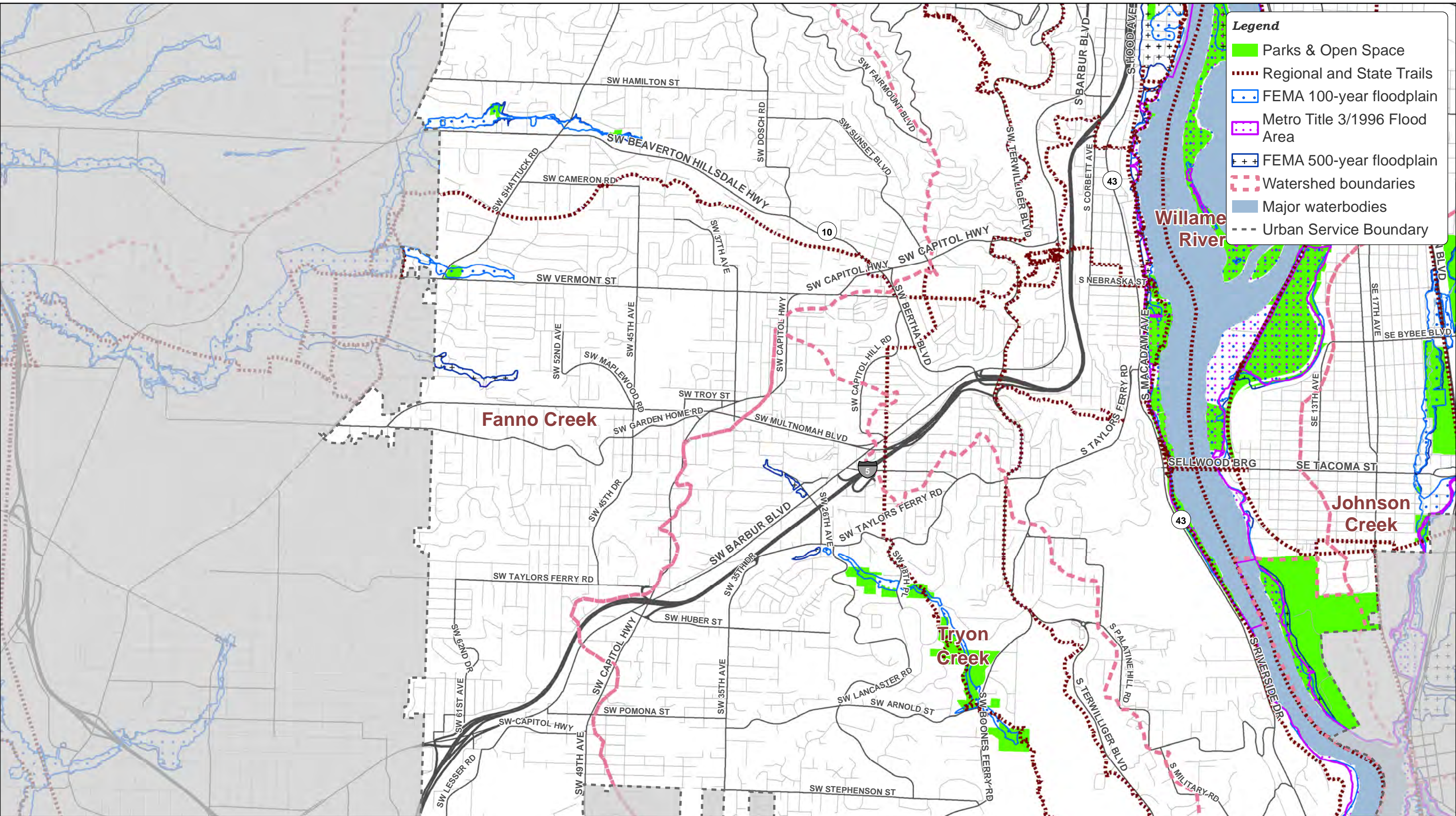
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Legend

- Parks & Open Space
- ⋯ Regional and State Trails
- - - FEMA 100-year floodplain
- - - Metro Title 3/1996 Flood Area
- - - FEMA 500-year floodplain
- - - Watershed boundaries
- █ Major waterbodies
- - - Urban Service Boundary

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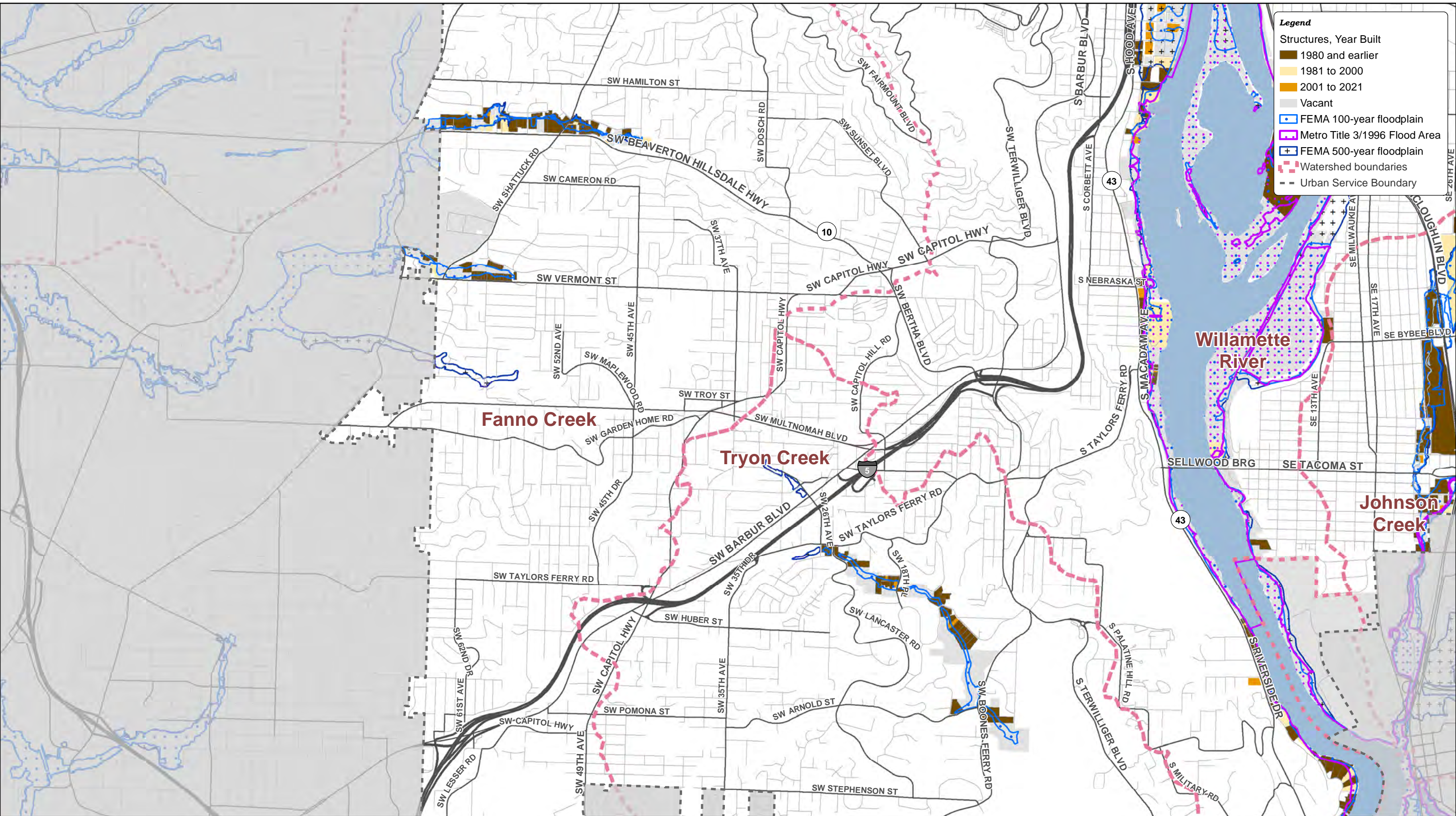
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Legend

- Structures, Year Built
 - 1980 and earlier
 - 1981 to 2000
 - 2001 to 2021
 - Vacant
- FEMA 100-year floodplain
- Metro Title 3/1996 Flood Area
- FEMA 500-year floodplain
- Watershed boundaries
- Urban Service Boundary

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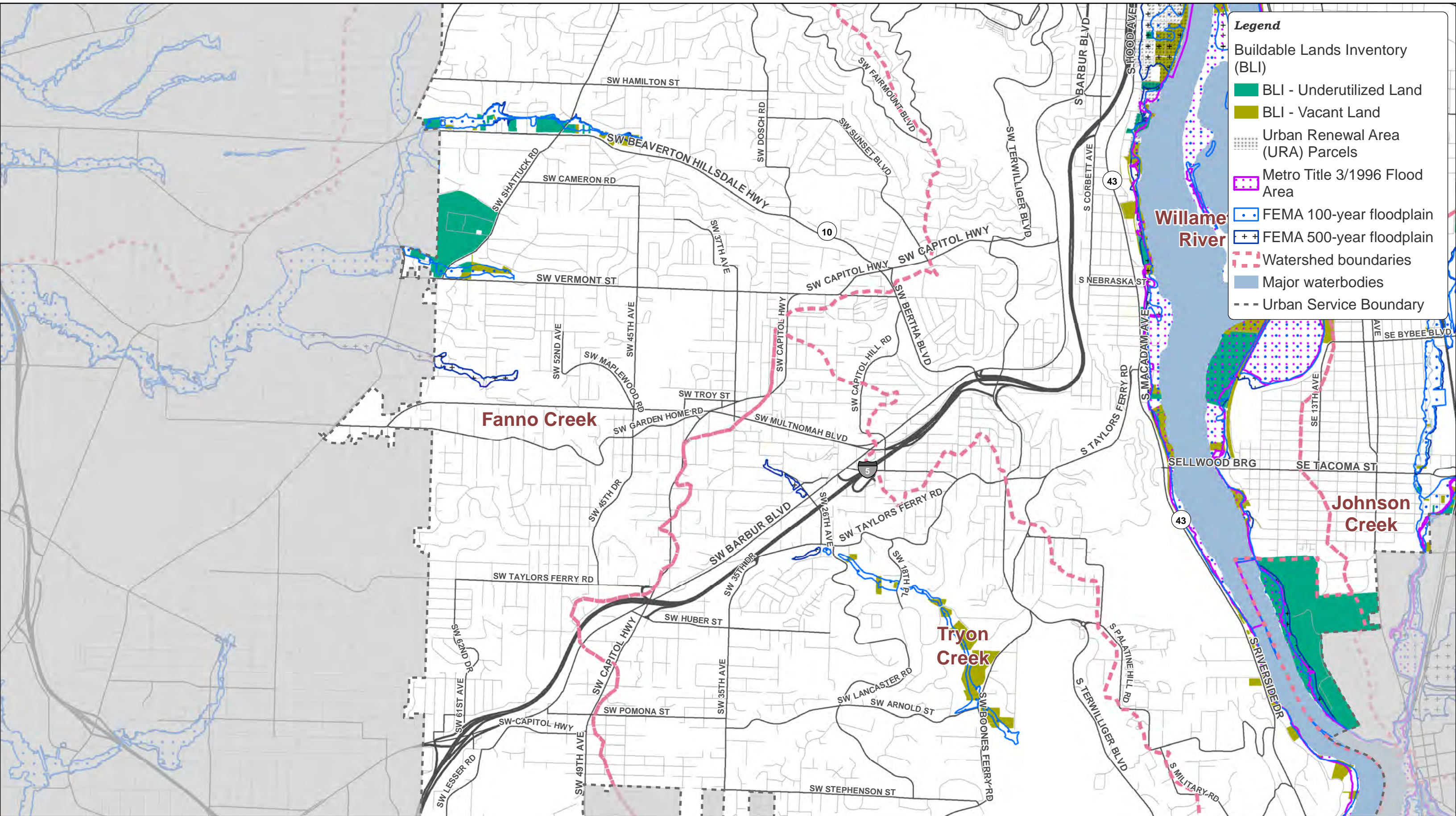
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Legend

- Buildable Lands Inventory (BLI)
 - BLI - Underutilized Land
 - BLI - Vacant Land
- Urban Renewal Area (URA) Parcels
- Metro Title 3/1996 Flood Area
- FEMA 100-year floodplain
- FEMA 500-year floodplain
- Watershed boundaries
- Major waterbodies
- Urban Service Boundary

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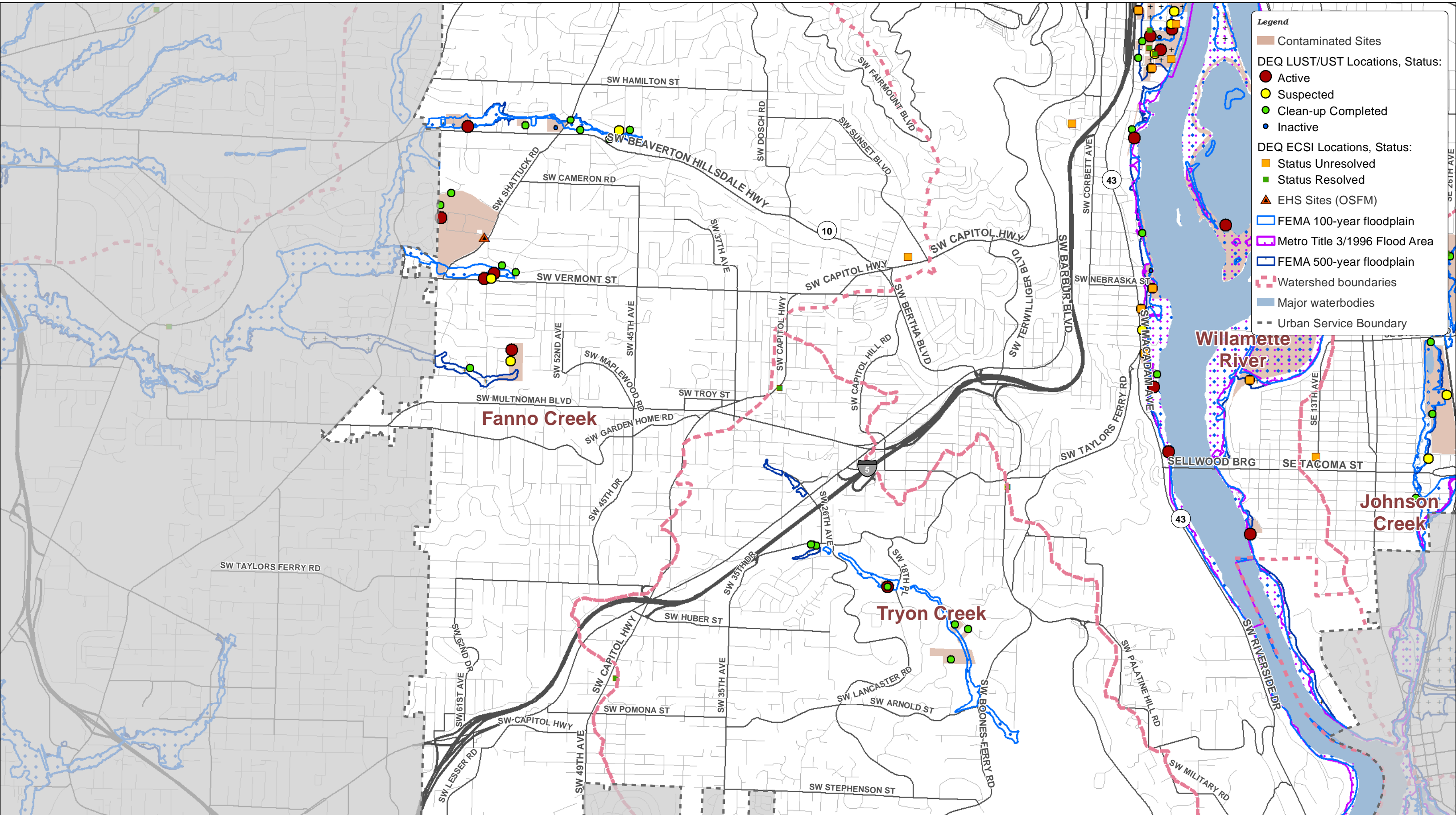
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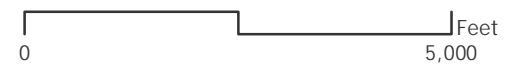
Legend

- Contaminated Sites
- DEQ LUST/UST Locations, Status:
 - Active
 - Suspected
 - Clean-up Completed
 - Inactive
- DEQ ECSI Locations, Status:
 - Status Unresolved
 - Status Resolved
- ▲ EHS Sites (OSFM)
- FEMA 100-year floodplain
- Metro Title 3/1996 Flood Area
- FEMA 500-year floodplain
- Watershed boundaries
- Major waterbodies
- - - Urban Service Boundary

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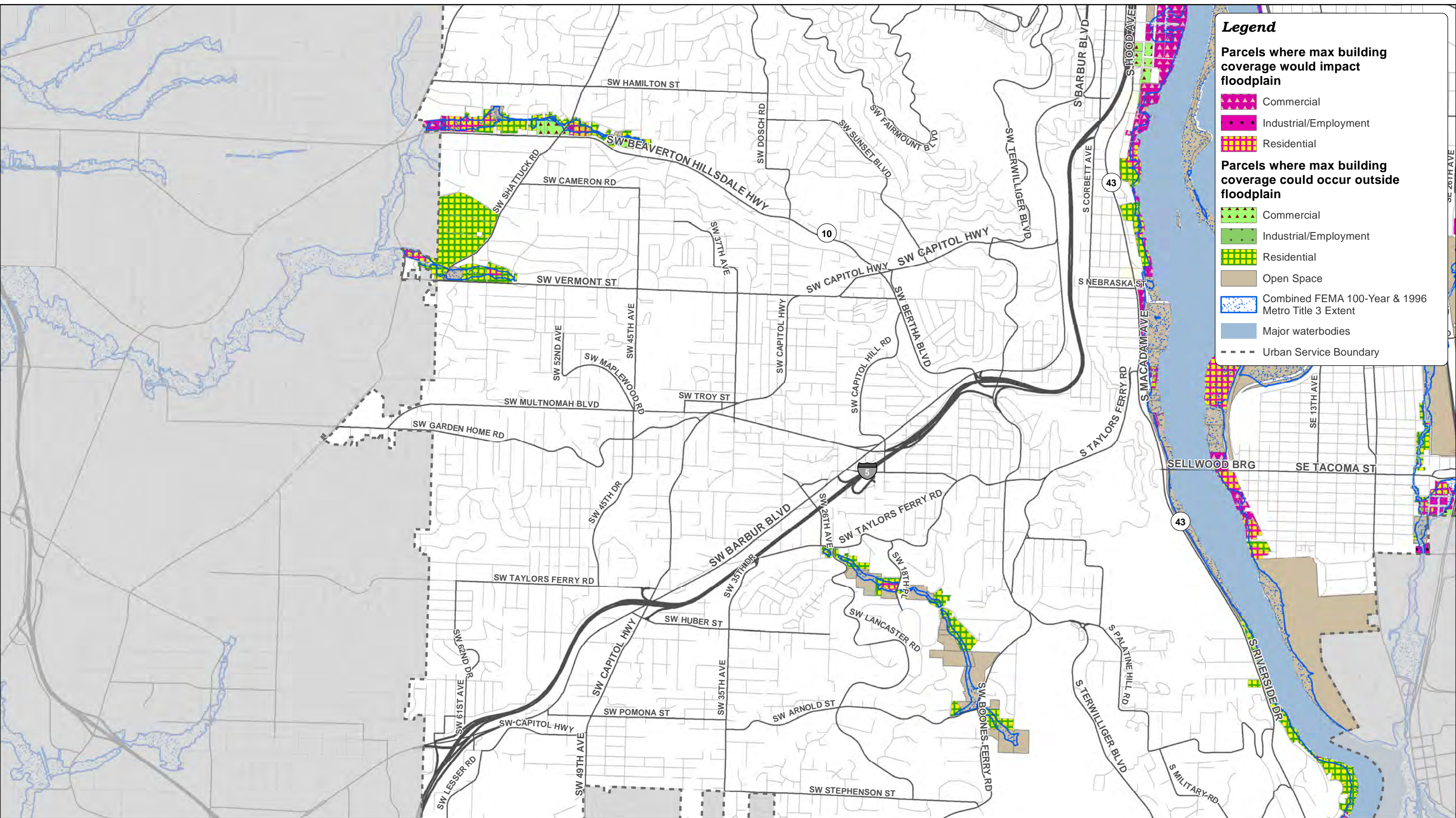
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