

# DRAFT MEMORANDUM

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**Date:** February 28, 2023  
**To:** LAND Steering Group  
**From:** Michaela Jellicoe and Bryan Lobel, Community Attributes Inc; Jon Pheanis, AICP, Alex Dupey, AICP and Keegan Gulick, MIG  
**Re:** **Draft Memorandum #2: Land Use Recommendations and Receiving Areas**

## Introduction

This memorandum provides an overview of potential land use policy, programmatic, regulatory, and infrastructure recommendations that could be implemented to reduce impacts to future development in the Chehalis Basin as part of the Preliminary Local Action Non-Dam (LAND) Alternative. These recommendations include actions to:

1. Prevent new development from occurring in harm's way;
2. Ensure that new development accounts for future flooding risks;
3. Increase opportunities for coordination between local jurisdictions to reduce development in the Floodplain; and
4. Support implementation of a voluntary relocation program for existing structures (Safe Structures Program)

Several of these recommendations build upon the work of French & Associates, with local governments and recommendations developed by the Local Actions Program Implementation Advisory Group in 2020-2021. Some land use actions have already been implemented by local jurisdictions, such as in the City of Centralia and elsewhere. Completing these actions also can improve the likelihood of securing future state and federal investment in infrastructure as proposed in the Preliminary LAND Alternative.

Past development in the Chehalis Basin has resulted in thousands of residential, commercial, and industrial structures constructed in the floodplain. Local regulations have not always accounted for potential flooding to the property and many properties have also flooded repeatedly, resulting in loss of structures and valuables, or requiring extensive rehabilitation to properties after a single or multiple flood events. The Preliminary LAND Alternative's proposed Safe Structures Program is designed to address existing structures (see **Memorandum #1: Proposed Safe Structures Program**), whereas other land use actions described in this memorandum address future development related to natural population and housing growth. Land use modifications that guide future development away from vulnerable locations and into areas less likely to be flooded is an essential action needed to reduce the impacts of flooding, particularly as flooding becomes more frequent and intense with climate change.

## ***Receiving Areas and Capacity***

Communities throughout the Chehalis Basin are required to plan for the needs of future growth in their neighborhoods. The impacts of flooding add an additional element to this planning. Identifying potential *receiving areas*, or areas within each community that are outside of the floodplain which may serve both the needs of growth and allowing residents voluntarily moving outside of the floodplain to remain within their community, is a critical adaptation in land use planning for Chehalis Basin communities in an era of increased flooding.

The Proposed Safe Structures Program would encompass a sustained long-term effort to protect, raise, or relocate vulnerable structures within the floodplain. A component of the Proposed Safe Structures Program is relocating residents of vulnerable structures in the floodplain to receiving areas identified in the communities of Centralia, Chehalis, Tenino, Napavine, Oakville, Pe Ell, and Bucoda, and the counties of Lewis, Thurston, and Grays Harbor, as well as the Confederated Tribes of the Chehalis Reservation and traditional hunting and fishing areas of the Quinault Indian Nation<sup>1</sup>. The success of this program would be driven by a combination of public sector-influenced development policy and regulations and private real estate-driven market forces and dynamics.

To identify appropriate receiving areas, the project team considered the following:

- The capacity for development related to both relocation of existing residential capacity away from the floodplain, and natural future population and housing growth;
- Locations outside the 100-year late century 2080 floodplain but within existing urban growth boundaries;
- Areas that are currently zoned for or have a future residential land use designation;
- Vacant or potentially underutilized land (potentially underutilized describes land that, while currently developed, may have reduced economic barriers to redevelopment);
- Unconstrained by critical areas (constraints include barriers to development such as the presence of wetlands, priority habitat areas, steep slopes and other factors), and
- Have potential for future infrastructure development.

Some receiving areas located outside of existing urban growth boundaries were defined in consultation with appropriate jurisdiction staff. As shown in **Table 1**, a total of nearly 4,500 acres of unconstrained land would be available for development within these receiving areas (constraints include factors like steep slopes or wetlands).

**Table 1.**  
**Receiving Area Capacity Projection**

Receiving Area	Acres		Percent Developable	High Market Factor		Low Market Factor	
	Total	Unconstrained		Housing Units	Population	Housing Units	Population
Centralia	3,147.4	2,799.2	89%	2,820	6,750	3,310	7,910
Chehalis	1,011.9	452.5	45%	730	1,710	840	1,990
Napavine	571.4	398.5	70%	420	1,120	490	1,320
LAMIRDs	709.8	617.4	87%	240	550	290	690
Bucoda	52.7	32.1	61%	160	380	170	450
Oakville	37.6	37.6	100%	290	710	360	880
Grand Mound UGA	128.5	128.5	100%	630	1,520	760	1,850
Totals	5,659.2	4,465.6		5,290	12,740	6,220	15,090

Sources: City of Centralia, 2022; City of Chehalis, 2022; City of Napavine, 2022; Lewis County, 2022; Town of Bucoda, 2022; City of Oakville, 2022; Thurston County, 2022; Washington State Office of Financial Management, 2022; Community Attributes Inc., 2022.

Note: High and Low Market Factors refer to a discount rate applied to estimates of consumption of developable land to account for the portion of developable area that is unlikely to develop due to market conditions and owner willingness to transact.

This amount of land could accommodate approximately 5,290 to 6,220 new housing units, and 12,700 to nearly 15,100 new or relocated residents under current zoning and accounting for the portion of developable area that is unlikely to develop due to market conditions and owner willingness to transact. As natural population growth projected among cities within the Preliminary LAND Alternative primary study area totals more than 15,600, the identified receiving areas have nearly enough capacity to accommodate future growth. However, a more accurate estimate would depend on market assumptions.

Although some receiving areas have sufficient capacity to serve the needs of natural growth *and* potential relocations – the cities of Centralia, Chehalis and Napavine may not have sufficient capacity based on densities associated with existing land use and zoning designations for each area. Therefore, a combination of local policy interventions, programmatic actions and regulatory actions would need to be implemented by the local jurisdictions to create the most attractive conditions to support market-driven development activity within the identified receiving areas. In particular, these three jurisdictions will require policies and regulations (such as zoning) allowing for higher residential building densities in the receiving areas and the expanded infrastructure capacity to support it.

**Table 2.**  
**Study Area Population by City, 2011 – 2040**

Cities	2011	2016	2021	2040	Growth	CAGR 2011-2021	CAGR 2016-2021	CAGR 2021-2040
<b>Primary Study Area</b>								
Centralia	16,580	17,340	18,280	26,280	8,000	1.0%	1.1%	1.9%
Chehalis	7,290	7,380	7,350	11,230	3,880	0.1%	-0.1%	2.3%
Tenino	1,700	1,820	2,010	2,760	750	1.7%	2.1%	1.7%
Napavine	1,770	1,820	1,900	4,500	2,600	0.7%	0.9%	4.7%
Oakville	690	710	710	790	80	0.3%	0.1%	0.6%
Pe Ell	630	630	640	810	170	0.1%	0.2%	1.3%
Bucoda	560	580	600	760	160	0.6%	0.5%	1.3%
<b>Total Primary</b>	<b>29,220</b>	<b>30,270</b>	<b>31,480</b>	<b>47,130</b>	<b>15,640</b>	<b>0.7%</b>	<b>0.8%</b>	<b>2.1%</b>
<b>Secondary Study Area</b>								
Aberdeen	16,890	16,840	17,050	18,980	1,930	0.1%	0.3%	0.6%
Hoquiam	8,670	8,720	8,790	9,780	990	0.1%	0.2%	0.6%
Ocean Shores	5,620	5,970	6,970	7,750	780	2.2%	3.1%	0.6%
Montesano	4,010	4,080	4,150	4,610	460	0.3%	0.3%	0.6%
Elma	3,130	3,210	3,450	3,840	390	1.0%	1.5%	0.6%
Westport	2,110	2,160	2,230	2,480	250	0.6%	0.6%	0.6%
McCleary	1,680	1,790	2,040	2,270	230	2.0%	2.7%	0.6%
Cosmopolis	1,640	1,620	1,660	1,840	180	0.1%	0.5%	0.6%
<b>Total Secondary</b>	<b>43,740</b>	<b>44,380</b>	<b>46,320</b>	<b>51,570</b>	<b>5,210</b>	<b>0.6%</b>	<b>0.9%</b>	<b>0.6%</b>

Sources: Washington State Office of Financial Management, 2022; Lewis County Countywide Planning Policies, 2022; Thurston Regional Planning Council, 2022; Community Attributes Inc., 2022.

Note: CAGR is Compound Annual Growth Rate, an annualized average rate of growth between two given years, assuming growth takes place at an exponentially compounded rate.

According to our preliminary analysis, an estimated 110 valuable structures may be expected to qualify for relocation under the voluntary Safe Structures Program (this estimate may be low – see **Table 3** note). These structures are in communities throughout the Chehalis Basin, with the greatest concentrations in Centralia, Elma, Rochester and Chehalis, as shown in **Table 3**. It may also be the case that, were funding available, additional property owners may wish to relocate. Depending on Safe Structures Program design, structures categorized as “Protect” or “Raise” under the program may also want to have their property acquired and relocated – potentially including owners that would need their homes raised several feet and / or are more likely to be flood prone.

Valuable structures are sourced from WSE’s structure database. Structures in the Protect category have estimated flood depths above the first-floor elevation of one foot or less; structures in the Raise category have flood depths above the first-floor elevation between one foot and five feet; structures in the Relocation category have estimated flood depths greater than 5 feet. Structures classified as commercial and agricultural that are single family residential type buildings are classified as residential. All commercial and agricultural structures are grouped into the Protect category due to limitations to options for elevations or relocation. An estimated 10% of residential structures in the Raise category are

assumed to be slab-on-grade construction and therefore, not feasible for elevation. Analysis additionally assumes a 75% voluntary participation rate.

**Table 3.**

**Estimated Valuable Structures to be Protected by Safe Structures Program Intervention, City and Type Under the Preliminary LAND Alternative**

Location	Residential	Protect Commercial	Agriculture	Raise Residential	Relocate Residential	Total
<b>Lewis County</b>						
Centralia	43	50	21	136	28	278
Chehalis	16	50	18	63	11	158
Adna	11	8	20	53	8	100
Boistfort	17	1	15	41	6	80
Pe Ell	11	2	1	5	2	21
<b>Thurston County</b>						
Rochester	42	2	56	88	14	202
<b>Grays Harbor County</b>						
Elma	8	38	33	74	20	173
Oakville	8	21	32	65	10	136
Montesano	8	13	10	28	11	70
Satsop	0	0	5	3	0	8
Aberdeen	0	1	0	3	0	4
Cosmopolis	0	0	0	1	0	1
<b>Total</b>	<b>164</b>	<b>186</b>	<b>211</b>	<b>560</b>	<b>110</b>	<b>1,231</b>

Sources: WSE, 2022; MIG, 2022; Community Attributes Inc., 2022.

Note: Estimates of valuable structures are based on the WSE structure database which contains finished floor elevations. The finished floor elevations are estimated only for valuable structures. Given that updated data is not available for recent development, the dataset does not include all structures in the floodplain and estimates of valuable structures may be low or missing for certain locations. It is possible that more structures that quantified in this table and in additional areas could qualify for Safe Structures interventions.

## Public Sector Actions

There are a number of potential actions that local jurisdictions could undertake to reduce damage to structures within the floodplain and to “set the table” for a long-term shift in private market real estate development patterns away from the floodplain and toward receiving areas. Many of these have been identified and discussed during previous studies in the Basin and some have already been implemented in some, but not all jurisdictions. Centralia, Chehalis, Tenino, Napavine, Oakville, Pe Ell, and Bucoda, and the counties of Lewis, Thurston, and Grays Harbor, as well as the Confederated Tribes of the Chehalis Reservation have the economic and development foundation to create the necessary conditions for the market-driven activity that will drive the shift in future growth through implementation of policy, programmatic, regulatory, and infrastructure strategies and actions. Specific actions summarized here are described in detail in the section that follows.

- **Policy interventions** would include new and revised Comprehensive Plan policies, including updated land use designations in both sending and receiving areas; revised floodplain

development policies in Comp Plan elements and Countywide Planning Policies; potentially updated Urban Growth Areas; updated Comprehensive Flood Hazard Management plans; potential subarea and / or master planning in receiving areas; and revised equity and housing planning policies.

- **Programmatic actions** would largely center on the creation and operation of a Safe Structures Program. Other programmatic avenues may be considered in parallel by local governments, including updating flood maps; joining the Community Rating System; a possible novel application of the state's Transfer of Development Rights program; and utilization of the Open Space Taxation (aka the Current Use) program.
- **Regulatory actions** on the part of the public sector may include implementing regulation for policy actions described above such as zoning and development code revisions to implement new land use designations and additional flood protection; a model development code; updates to local and county Critical Areas Ordinances; implementing National Flood Insurance Program criteria; and Flood Damage Prevention Ordinance updates.
- **Infrastructure planning and development** led by the public sector will continue to expand infrastructure into areas of each jurisdiction's designated urban growth area that anticipate new development related to natural growth or relocations under the Safe Structures Program. Infrastructure actions may include Capital Improvement / Facility Plan and element updates; funding; and physical development.

New structure development and redevelopment in the receiving areas, including right-of-way and easement dedication and fee payment for infrastructure<sup>ii</sup>, will be undertaken predominantly by the private sector. Private sector actors, including individual landowners, developers, and brokers, would need to actively participate and be encouraged to participate in programs and private property transactions for successful implementation.

## ***Policy***

Public sector actions to support the success of development in the receiving areas should begin with clear and explicitly stated policy. Policy statements in city and county Comprehensive Plans, Subarea Plans, Countywide Planning Policies, Comprehensive Flood Hazard Management Plans and other guiding documents with intentionally drawn and designated land uses and boundaries on Future Land Use maps, would clearly communicate jurisdictions' position on development in and out of the floodplain.

**Comprehensive Plan Updates.** The Washington Department of Commerce requires periodic updates for city and county comprehensive plans. Lewis and Thurston Counties (and cities within the county boundaries) must complete updates by June 30, 2025. Grays Harbor County (and cities) must update their Comprehensive Plan by June 30, 2027. Comprehensive Plan updates are typically required to update land use, housing, and other elements as required by the State of Washington. Basin jurisdictions could address new development within the floodplain, using the flood of record as a

foundation for assessing existing and future land use to reduce the potential of increasing the number of flood prone structures in the floodplain. Jurisdictions could evaluate future land uses in areas that repeatedly flood, and use available data generated by the Chehalis Basin Strategy regarding future predicted flood frequencies, extents, depths, and velocities to inform comprehensive plan updates and future land use map discussions.

- **Revise Future Land Use (FLU) Designations, Maps, and Policy** language in floodplain **sending areas** to discourage new residential and commercial development and discourage expansion or densification of existing land uses within the floodplain. Jurisdictions may consider the use of a transition zone overlay to existing FLU designations that seeks to protect and / or sunset existing uses while discouraging new uses for a specified period.
- **Revise Future Land Use (FLU) Designations, Maps, and Policy** language in potential **receiving areas** to encourage and stimulate new growth and relocations through clearly-articulated policy direction outlining desired levels of intensity, adjacency, and development character. Current designations in areas preliminarily identified as receiving areas include Rural Residential, Very Low and Low Density Residential, Open Space, and Public Facilities and are paired with policy language outlining the specific land use vision for each area. Revised designations could replace these with Low and Medium Density Residential and Mixed-Use categories to support urban densities conducive to achieving a “critical mass” of development leveraging new, natural growth and relocations.

**Revise Countywide Planning Policies (CPPs).** Revise stated growth policy as articulated in CPPs to more categorically discourage or even prohibit new development in the floodplain (currently development is prohibited in the floodway). Generally, current policy regarding development within a floodplain seeks to balance discouraging new development with private property rights. Current policy, for example, from the Lewis County Comprehensive Plan, Land Use Element<sup>iii</sup>, states:

- POLICY NE 4D.3: Discourage and/or mitigate residential development within the 100-year floodplain.
- POLICY NE 4D.4: Prohibit development within floodways, unless a hydraulics and hydrology study shows that the property is not within a floodway or will not impact the pre-project base flood elevations, floodway elevations or floodway data widths<sup>iv</sup>.

Thurston County’s Comprehensive Plan Natural Resources Land Element<sup>v</sup> is more limiting and states:

- New structures should not be built on floodplains. Existing structures within a floodplain cannot update beyond the existing footprint.

**Expand Urban Growth Areas (UGAs) in Select Locations.** UGA boundaries may be expanded to incorporate receiving areas with planned city services that are currently located outside both

incorporated and unincorporated UGA boundaries. The identification of extra-UGA receiving areas located in Centralia took potential expansion into account at the behest of local officials.

**Subarea or Master Planning (Receiving Areas).** Subarea or Master planning for a portion of the receiving areas may be an important future step for each community and signals clear intent on the part of the public sector. A subarea or master plan will provide both vision and direction for the jurisdiction as well as private developers with interest in developing the receiving areas.

**Comprehensive Flood Hazard Management Planning (CFHMP).** When updating county CFHMP<sup>vi</sup> plans, the Safe Structures Program and sending and receiving area-related policies could be incorporated to ensure consistency and integration with all other management policies related to flood mitigation.

**Equity & Affordable Housing.** Equity and affordable housing policies may be updated, such as Lewis County Public Health and Social Services (PHSS) 5-Year Housing & Homelessness Strategic Plan,<sup>vii</sup> to include projections of the impact of updated local policies and plans on the number of households housed and the number of households left unsheltered.

## ***Programmatic***

While the primary program to implement actions related to sending and receiving areas will be the Safe Structures Program, other programs may be considered for adaptation and / or adoption to reduce impacts to future development in the Chehalis Basin as part of the Preliminary LAND Alternative. A small selection is described here among others.

**Proposed Safe Structures Program.** While the specifics of the design and implementation of this program are currently under development (see **Draft Memorandum #1**), this entirely voluntary structure flood protection and relocation program will represent the most significant programmatic action on the part of the public sector to the success of receiving areas to pull growth away from the floodplain. In addition to design and implementation, production and dissemination of program guidance will be important. As a part of this program, additional analysis will be required to evaluate potential development capacity within Urban Growth Areas and Limited Areas of More Intense Rural Development (LAMIRD) to accommodate voluntary relocations and organic growth. The development capacity analysis completed for the upper basin as part of the Preliminary LAND Alternative has identified potential locations where additional growth could occur, including locations within urban growth areas and LAMIRDs. While growth is expected to continue in the Basin and housing is in high demand, the analysis has shown that there is largely adequate capacity to accommodate both projected growth and voluntary relocation to locations outside of the floodplain. For Chehalis and Centralia, limited increased density may be required in some locations that should be evaluated as part of each jurisdiction's comprehensive plan updates.



**Update Local Flood Maps.** There are communities, such as the City of Centralia and Lewis County, that have not updated their flood maps in over 20 years and four of the Chehalis Basin's largest and most destructive flood events have occurred since 1996. Updated maps are a foundational element of providing important information for landowners and developers, in addition to identifying existing structures that may be at risk from flooding.

Where the FIRM does not provide a base flood elevation (BFE), use the BFEs developed by Watershed Science & Engineering for the Chehalis Basin Strategy. Where the FIRM does not provide a BFE and there is no available flood study, the BFE must be calculated by either the permit applicant or the community before a permit is issued for a new building or substantial improvement. While this will add cost and complexity to the development, it also acknowledges that developing in a flood-prone area has risk that must be mitigated to the greatest degree practicable.

**Join the Community Rating System (CRS).** By implementing the various actions proposed in the Preliminary LAND Alternative, additional basin communities could join FEMA's Community Rating System (CRS). This is a voluntary incentive program that recognizes and encourages community floodplain management practices that exceed the minimum requirements of the National Flood Insurance Program (NFIP). The benefit of enacting flood damage reduction measures necessary to meet CRS requirements is discounted flood insurance premium rates, provided the flood damage reduction measures address the following goals of the CRS program:

1. Reduce and avoid flood damage to insurable property
2. Strengthen and support the insurance aspects of the National Flood Insurance Program
3. Foster comprehensive floodplain management

Within the Chehalis Basin, the Cities of Chehalis, Centralia, and Lewis and Thurston County are eligible communities as of October 2022 (see <https://www.fema.gov/floodplain-management/community-rating-system>). Thurston County is a Class 2 community, eligible for up to 40 percent in insurance premium discounts. Lewis County (Class 5), Centralia (Class 6), and Chehalis (Class 7), are eligible for insurance premium discounts of 25%, 20%, and 15%, respectively.

**Assess Transfer of Development Rights (TDR).** Local jurisdictions may consider a novel use of Washington state's existing Transfer of Development Rights program<sup>viii</sup> for application to the Safe Structures Program and receiving areas. The TDR program is a voluntary, incentive-based, and market-driven approach to preserve land and steer development growth away from rural and resource lands into urban areas. In this application, reclaimed landowners in areas within the floodplain could potentially sell off development rights to private developers who are able to build more densely in designated receiving areas or other non-floodplain urban areas. While a primary advantage to this program would be to create financial incentives for non-development of privately held properties in the floodplain, barriers may exist to its real-world application. Challenges may include added complexity

and, thus, increased development costs in receiving areas; lack of experience with creation and operation of the program and the TDR credit exchange market on the part of local jurisdictions; and the possible lack of a market for increased density in receiving areas.

**Assess the Open Space Taxation (Current Use) Act.** Jurisdictions should assess the potential for utilization of Washington state's Open Space & Forest Taxation Act (aka the Current Use Program)<sup>ix</sup> to preserve existing and future undeveloped and / or reclaimed land in sending areas located in the floodplain for the long-term. The Open Space Taxation Act allows property owners to have their open space, farm and agricultural, and designated forest land valued at their current use rather than their highest and best use of the land for the purposes of property taxation. In employing the program for sending areas, local jurisdictions that have aggregated and or re-naturalized reclaimed land in sending areas, upon disposition of the property to private or caretaker entities, may work with such entities to encourage current use designation. Challenges to the application of the Current Use program here might include the cost of re-naturalization of floodplain properties; related qualification of the property as forest, agricultural, or open space land; the potential for uncompensated loss of property value to non-public owners of designated properties; and the cost and complexity of any public-private partnerships (such as land banks) that may be required to utilize the program.

## ***Regulatory***

Adopting policies related to the Preliminary LAND Alternative will impact existing land use regulations as managed by each county and local jurisdiction. Each policy will need to be reviewed by appropriate city and county department managers and necessary subsequent ordinance revisions prepared for decision-makers. The resulting revisions will ensure consistency of enforcement as they relate to city and county ordinances. Coordination among cities and counties in the Basin will be crucial.

**Create a Model Development Code for the Chehalis Basin Floodplain.** While some larger communities have the capacity to regularly review and update their development codes, many smaller jurisdictions do not have staff to address specific floodplain development issues for development. This action would create a model development code focused on development within the Chehalis Basin floodplain that could be implemented by local jurisdictions, either in whole or in part, by providing code and development regulation language relevant to the circumstances of Basin communities.

**Update Local Zoning and Development Code Regulations.** Chehalis Basin counties and local jurisdictions will need to update local zoning designations and code language to implement new future land use designations described above in the Policy section and further reduce their vulnerability to flooding. Jurisdictions may first conduct an audit of their development code to determine if code amendments may be required. For cities and counties that determine that development code amendments are needed through the code audit, they may utilize a model code (above), as applicable, or consider the following (note: the model code would also include these recommendations) to include the following:

- Adopt low density zoning or non-residential zoning in the flood plain.
- Adopt subdivision and development regulations that avoid or minimize development in floodplains, or require new subdivisions and other large development that are both in and outside the floodplain to have all parcels with buildable sites on higher ground outside the floodplain.
- Adopt a zero-rise policy in the floodplain, or, in riverine areas where the FIRM does not have a floodway, any increase in flood heights caused by the development must be acceptable to affected property owners.
- Require any fill within the floodplain to be compensated by removal of an equal amount of fill.
- Require non-conversion agreements and follow through with enforcement, as needed: An applicant for a permit for a building elevated on walls must sign an agreement that the area below the flood protection elevation will not be converted to a use or dimension contrary to the building's originally approved design. The agreement authorizes the Floodplain Administrator to periodically inspect the area.
- Change local building codes to require new structures, substantially remodeled structures, or structures damaged from previous flooding to be raised up to three feet above the BFE. This could include a program that tracks substantial improvements to a structure, such as improvements and repairs to existing buildings (within five years). If during the tracking period, total improvements exceed 50% of the value of the building, the building must also meet flood protection standards for a new building.
- New buildings must be protected at least to the base flood elevation (BFE – the elevation of the 100-year flood mapped by FEMA) or flood of record, whichever is higher. Residential buildings must be elevated on fill, piers, posts, or flow-through crawlspaces. Restrict slab on grade construction in the floodplain.

**Implement National Flood Insurance Program (NFIP) Criteria.** Cities and counties in the Basin that have not already done so should consider implementing the NFIP criteria. Previous analysis within the basin identified a number of ways to create standards that could address future development within the floodplain. (NOTE, some measures have been implemented by local jurisdictions as amendments to their development regulations and are also listed under the above zoning action). These include:

- Require builders and developers to calculate the base flood elevation and / or floodway boundary as a condition of building in the floodplain, where such data are not shown on the Flood Insurance Rate Map.
- Require new buildings to be elevated to three or more feet above the base flood elevation.
- Require critical facilities (e.g., police stations, hospitals, and water treatment plants) to be located outside of the floodplain to the greatest degree practicable or be elevated to three or more feet above the 500-year flood level or the base flood elevation, whichever is higher.
- Require individual building site plans to account for the flow of drainage off the site to not divert flows onto other properties.

- Prohibit the storage of hazardous materials in the floodplain or requiring that they be stored well above the base flood level.

**Update Critical Areas Ordinances.** It may be necessary to update local and county Critical Areas Ordinances (CAOs), as well as their consistency with each other, to support implementation of new policies related to sending and receiving areas as described above, along with other elements of the Preliminary LAND Alternative. Sections on permitting, mitigation, and buffers may require changes, and the county CAO may be developed as a model for local jurisdictions to ensure consistency.

**Update Flood Damage Prevention Ordinances.** Local and county Flood Damage Prevention Ordinances govern several key dimensions related to potential development within a floodplain, including:

- Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights;
- Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters.

Several subsections of these ordinances related to elements including methods of reducing flood losses, lands to which the ordinance applies, developer permits, shoreline permits, anchoring, construction materials and methods, flood protection elevation, and subdivision proposals may require updates to reflect new policy and programmatic direction related to sending and receiving areas.

## ***Infrastructure***

One aspect of managing growth in the Basin is ensuring that needed public facilities, infrastructure, services, and financing are available when growth occurs. A successful long-term shift in development away from the floodplain will be contingent on the development of needed infrastructure in a timely and orderly fashion within identified receiving areas. Development of needed infrastructure will also require identification of sources of funding for the improvements. Cities and counties will need to plan for this infrastructure through capital facilities planning.

A capital facilities plan (CFP) is one of the mandatory elements of the Comprehensive Plan required pursuant to the GMA and generally includes an inventory, forecast of future needs, proposed locations and capacities, and a six-year financing plan. As such, it will be critical to update land use planning in the Basin in close coordination with planning for – and financing availability of – capital facilities. In some instances, the provision of adequate facilities (including utilities such as water, sewer, power, but also including services such as police and fire response) and levels of service may be the limiting factor in planning for receiving areas. Beyond the comprehensive plan element, cities and counties may also have separate documents, either a capital facilities plan or capital improvement plan, that document capital needs over the short and long-term.

Once planning is in place for capital facilities and infrastructure in cities and counties with receiving areas identified, jurisdictions will have to prioritize, select, and identify funding for individual projects out of their respective budgets on an annual basis before undertaking construction. Best practices suggest that cities and counties should update their CFP or CIP annually, identifying near-term capital facilities and funding sources. Annual budget processes and the upcoming comprehensive plan updates provide an opportunity to coordinate and update capital facilities planning with land use planning and in coordination with the Preliminary LAND Alternative.

Capital facilities planning offers cities and counties options for additional local fundings sources, as well as opportunities for state and federal grants. Revenue sources restricted for capital facilities include real estate excise taxes (REET), general obligation bonds for specific capital purposes, impact fees, local improvement district revenues, connection fees, and latecomer agreements. All cities may adopt a 0.25% REET and cities fully planning under the Growth Management Act (GMA) may also adopt an additional 0.25% REET. These funds are restricted to capital projects in the capital facilities plan. General obligation bonds are another funding option; however, they require 60% voter approval. Impact fees may be adopted to fund the capital costs for transportation, parks, schools and fire protection. Impact fees are limited to the capital costs of facilities that serve new development or increase the capacity of the system to serve growth. Impact fees may not be used to cover the costs of utility related infrastructure to serve growth.

Cities and counties can use local improvement districts (LID) as a source of funding to support infrastructure development. LIDs can be used to finance needed capital improvement districts, allowing for financing at a lower rate to be paid back over time. They can also help to provide matching funds to secure state and federal grants. While LIDs offer benefits to both developers and cities and counties, they can also be challenging to implement. They require good communication, particularly to communicate the benefits of the project, reach any necessary compromises, and ultimately get property owners to vote to form the LID.<sup>x</sup>

Connection fees are a fee in addition the cost to make the connection to a water or sewer system that is charged to property owners. This fee is charged to cover the property owners share of the overall system cost. Calculation of the fee must be based on historic costs of the system.<sup>xi</sup> Latecomer fees are another option for cities to charge property owners the costs of improvements to public infrastructure including transportation, water and sewer systems, parks and recreation, and others. Latecomer agreements are a contract or agreement for reimbursement allowing a property owner or a city that installs a transportation or utility improvement to recover the portion of those costs from other benefiting property owners. Some requirements of latecomer fees include that the facility must be constructed based on plans approved by the city, contracts must be requested prior to the approval of the facility, and the facility must be transferred to city ownership. For transportation improvements the improvement must be required as a condition of development.

## ***Near, Mid and Long-Term Actions***

While public sector actions “set the table” for a sustainable shift toward development in receiving areas in the near- to mid-term (1-5 years), private (and limited public, such as with expanded infrastructure) sector uptake, participation, and build-out of the receiving areas would occur gradually over time and be subject to additional private market forces that drive real estate development.

### ***Near-Term Actions***

Local jurisdictions in the region, including counties, cities, towns, tribal authorities, the Flood Authority, and others should very early consider how they might formalize cooperation amongst themselves as it relates to implementation of the Safe Structures Program and the Preliminary LAND Alternative generally. A Memorandum of Understanding (MOE) amongst the jurisdictions, or the continuation of existing groups convened for the development of the Preliminary LAND Alternative, such as the LAND Steering Committee, could be options for such coordination.

In the near-term, from one to three years, cities and counties in the Chehalis Basin should begin to study and update their land use frameworks (Comprehensive Plans and Countywide Planning Policies, for example) and regulatory frameworks (e.g. Critical Areas Ordinances, Zoning and Development Codes, etc.) to articulate new policies and necessary codes that would facilitate a long-term shift in development away from the floodplain and toward receiving areas.

By updating local land use, urban growth, and floodplain protection policies, local jurisdictions would be encouraging development in the identified receiving areas at a scale that is appropriate for their communities at a rate of growth that can be managed locally. For instance, the City of Centralia may need to adjust its Urban Growth Area to incorporate new areas identified as having strong potential for receiving area status currently located outside the UGA. The city – as well as Lewis County with regard to its Limited Areas of More Intensive Rural Development (LAMIRD) – could consider updating the Future Land Use (FLU) designations in receiving areas from categories such as Rural Residential; Very Low-, and Low-Density Residential; Open Space; and Public Facilities to categories that allow for a higher density and intensity of uses, such as Medium Density Residential, and Mixed Use.

Conversely, FLU designations in sending areas would also need to be updated to discourage development or high intensity uses. These actions should take place in coordination with the operationalization and implementation of the Safe Structures program.

Since the Washington Department of Commerce requires periodic updates for city and county Comprehensive Plans (Lewis and Thurston Counties – and cities within the county boundaries – must complete updates by June 30, 2025 while Grays Harbor County and cities must update theirs by June 30, 2027), a distinct opportunity exists in the near term to begin to adopt the necessary policies. As concurrency requirements in GMA require that roads, electric, water, stormwater, and sewer facilities must be available concurrent with new development or redevelopment (meaning that adequate capital

facilities have to be finished and in place before, at the time, or within a reasonable time period) following the impacts of development, capital facilities plans and elements will have to be updated at the same time, or prior to, land use policy updates.

### ***Mid-Term Actions***

Regulatory (e.g., zoning and development code) updates will likely continue in the mid-term (3-5 year) timeframe. The Safe Structures Program will likely be operationalized by this time and private market raising and floodproofing will likely begin to take place in sending area zones under the Program. Program administrators will determine eligibility and priority for relocations. Additionally, local governments will annually review, fund, and begin to develop public facilities and infrastructure planned to lead development in updated Capital Facility and Improvement Plans and elements.

### ***Mid-to-Long-Term Actions***

Local cities and counties may begin to aggregate parcels and initiate naturalization or conversion of reclaimed land in sending areas to provide local benefits and ecosystem protection. Jurisdictions may also begin to adapt and adopt other, existing, state, and federal programs in support of the Preliminary LAND Alternative, such as Washington State's TDR and Open Space Taxation Act (Current Use) programs. Once such programs are in place for local use, private market actors would be able to utilize them to transact and develop individual properties.

## **Next Steps**

Local jurisdictions in the Chehalis Basin have made progress to complete many of the land use actions that are proposed in this memorandum. While many are long-term strategies that can reduce flood damage, a combination of land use changes, infrastructure interventions, and implementation of the proposed Safe Structures Program will be required to substantially mitigate impacts to existing structures and neighborhoods. Local jurisdictions can also take advantage of the upcoming comprehensive plan update process that all jurisdictions will have to complete in the coming years to further refine land use and future development. Population within the Basin is increasing rapidly, which will require community conversations about how and where growth occurs, and the cost, location of development, and neighborhood design. The Chehalis Basin is in a constant state of demographic and environmental change; land use planning must address how that change also reduces the damage and cost of future flooding.

## **Appendix: Receiving Area Maps**

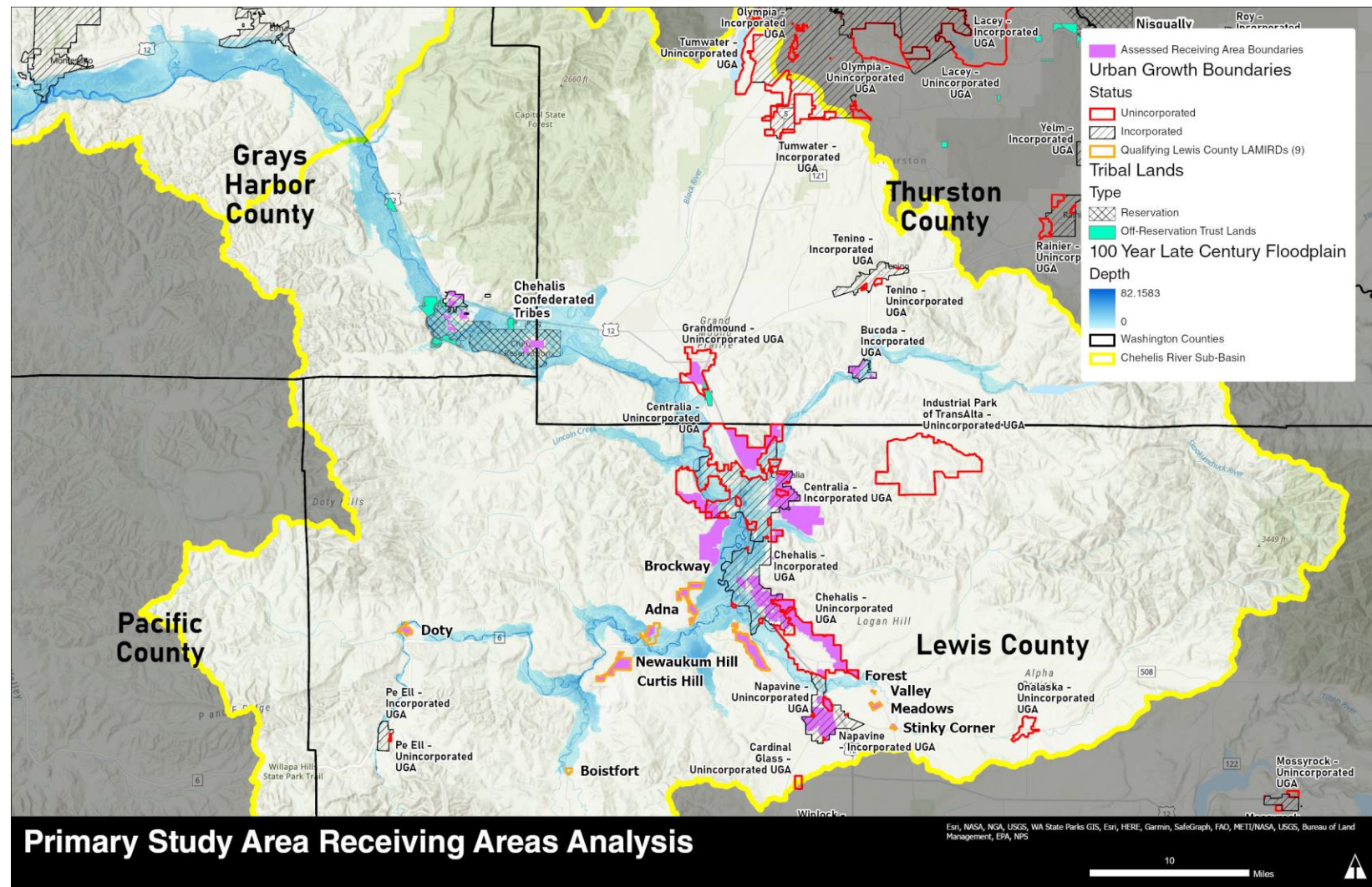
The following maps illustrate the specific receiving area zones identified by the Chehalis Basin LAND Alternatives team, including incorporated and unincorporated urban growth areas, county LAMIRDs, and tribal lands.





Figure 1

Overview of Chehalis Basin Primary Study Area Receiving Area Boundaries

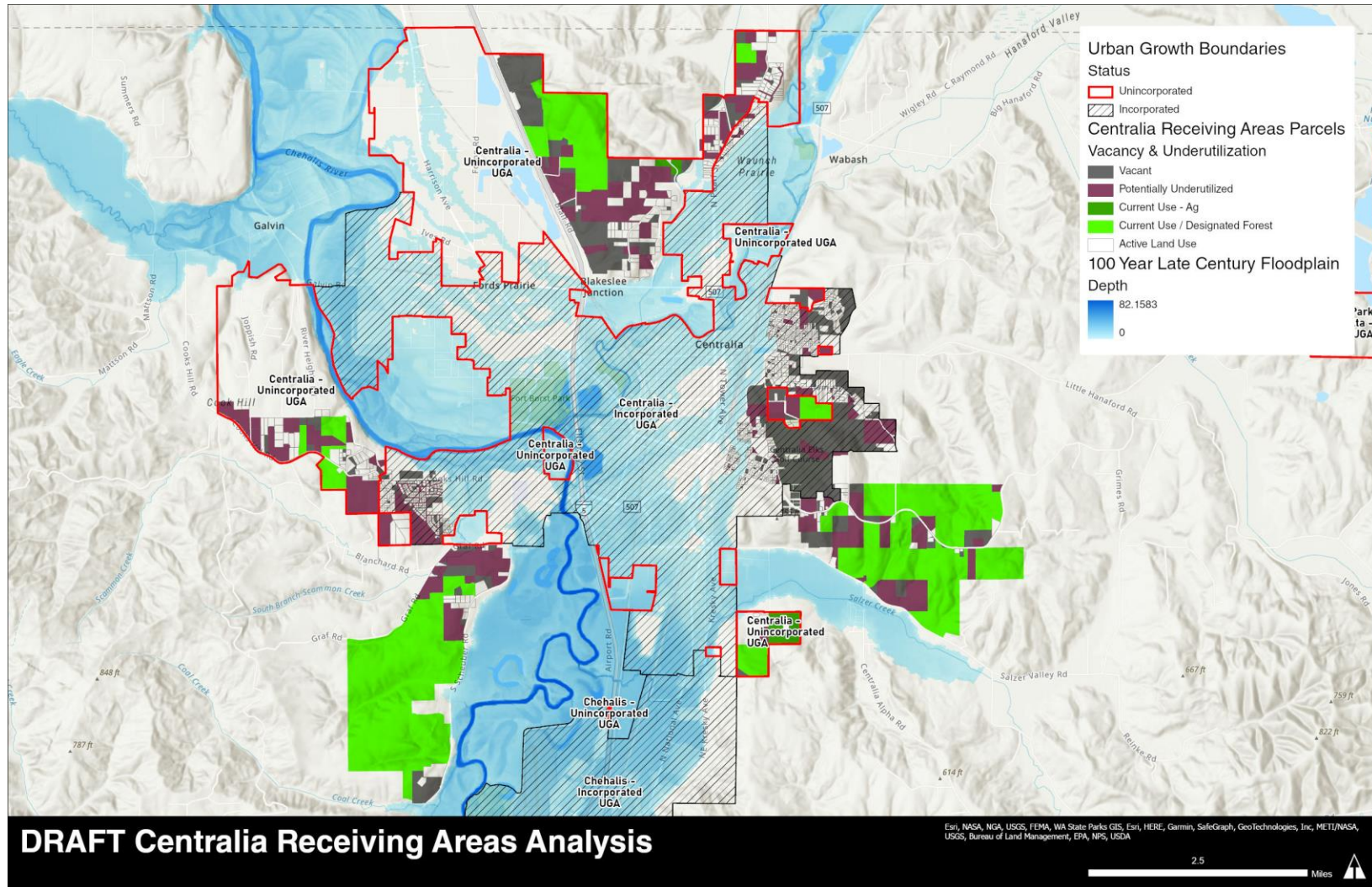


Sources: Lewis County, 2022; MIG, 2022; Community Attributes Inc., 2022-23.



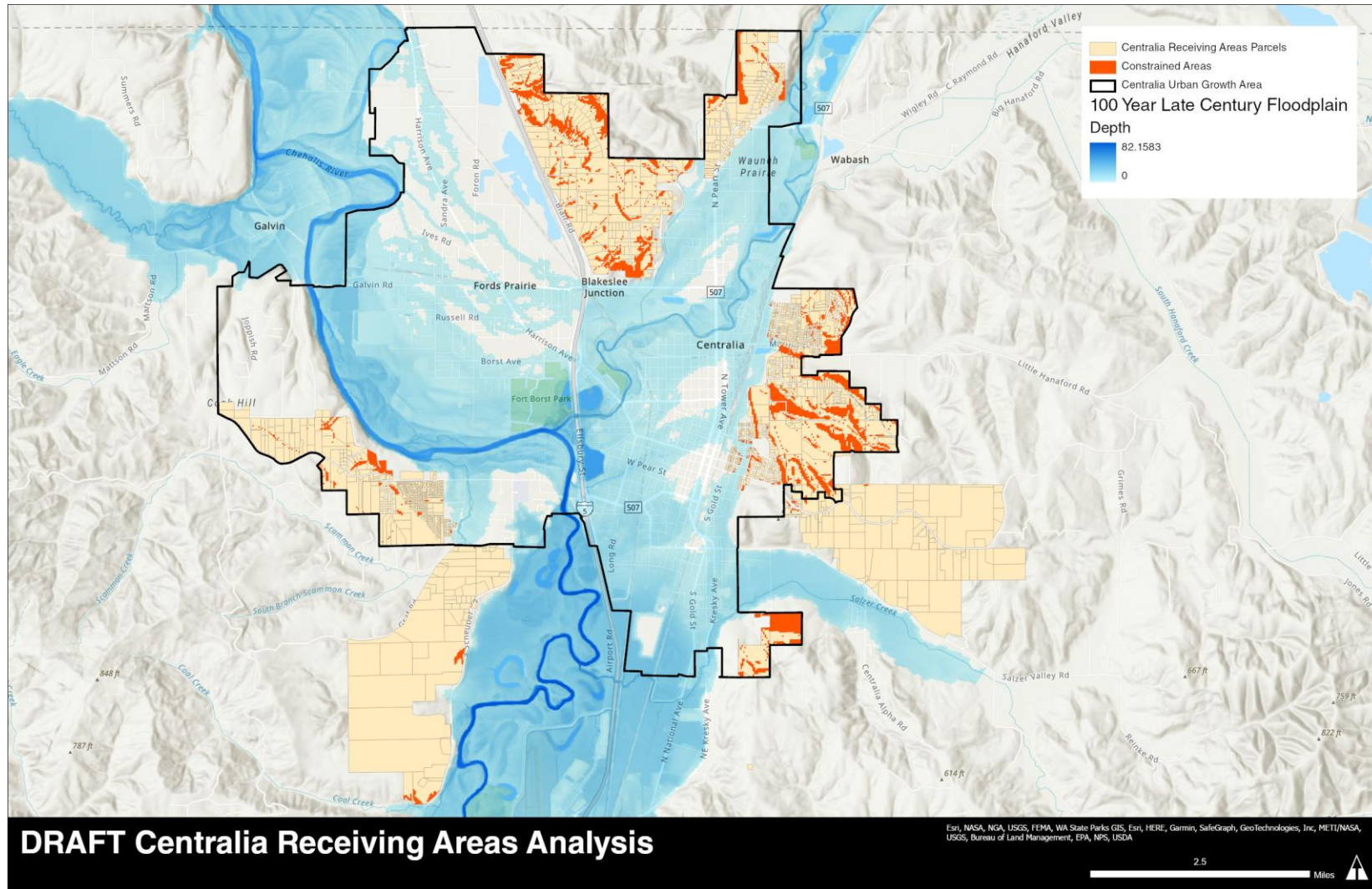
Figure 2

City of Centralia Receiving Area Boundaries: Vacant & Underutilized Parcels



Sources: Lewis County, 2022; City of Centralia, 2022; Community Attributes Inc., 2022-23.

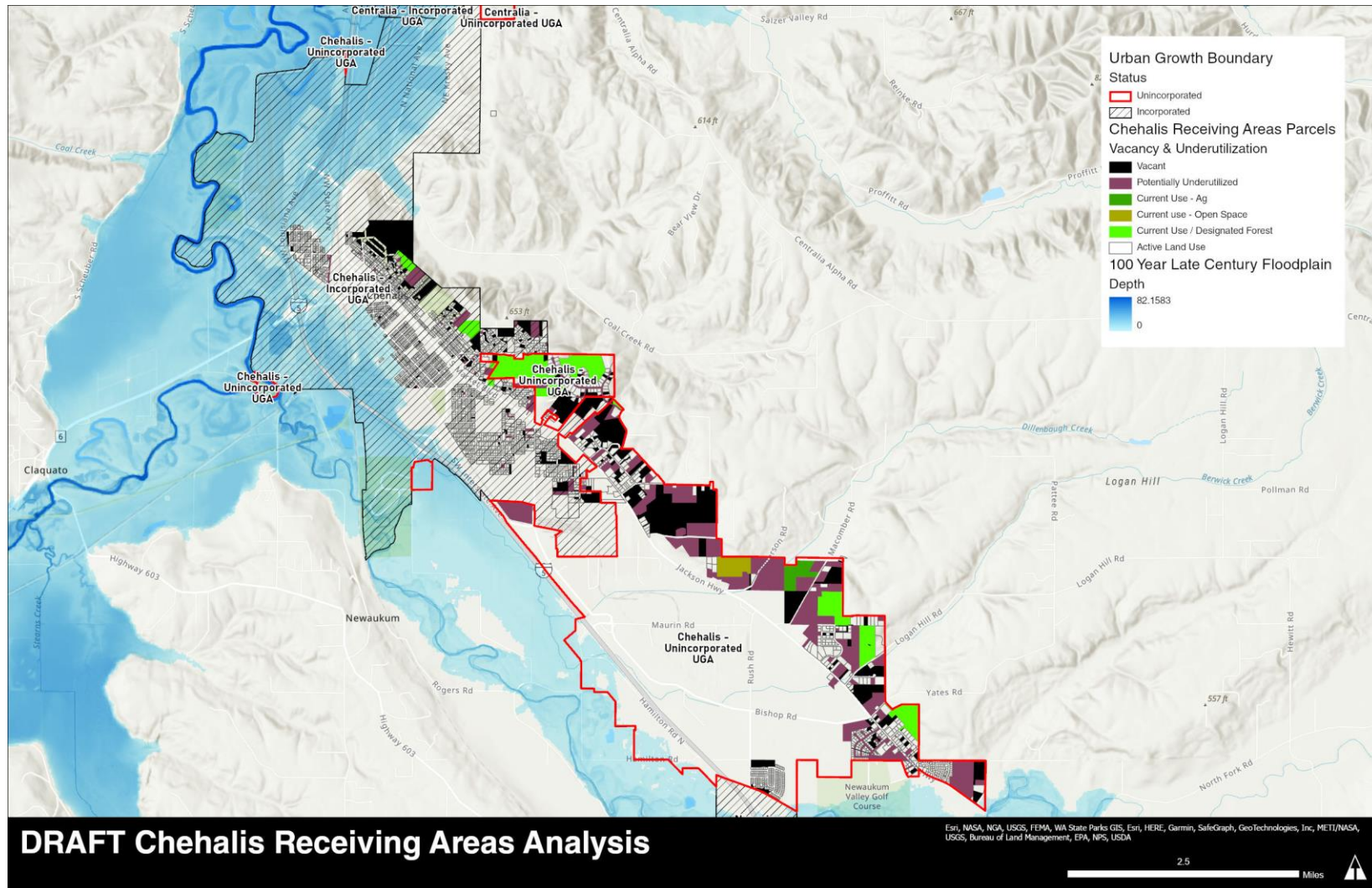
**Figure 3**  
**City of Centralia Receiving Area Boundaries: Constrained Areas**



Sources: Lewis County, 2022; City of Centralia, 2022; Community Attributes Inc., 2022-23.

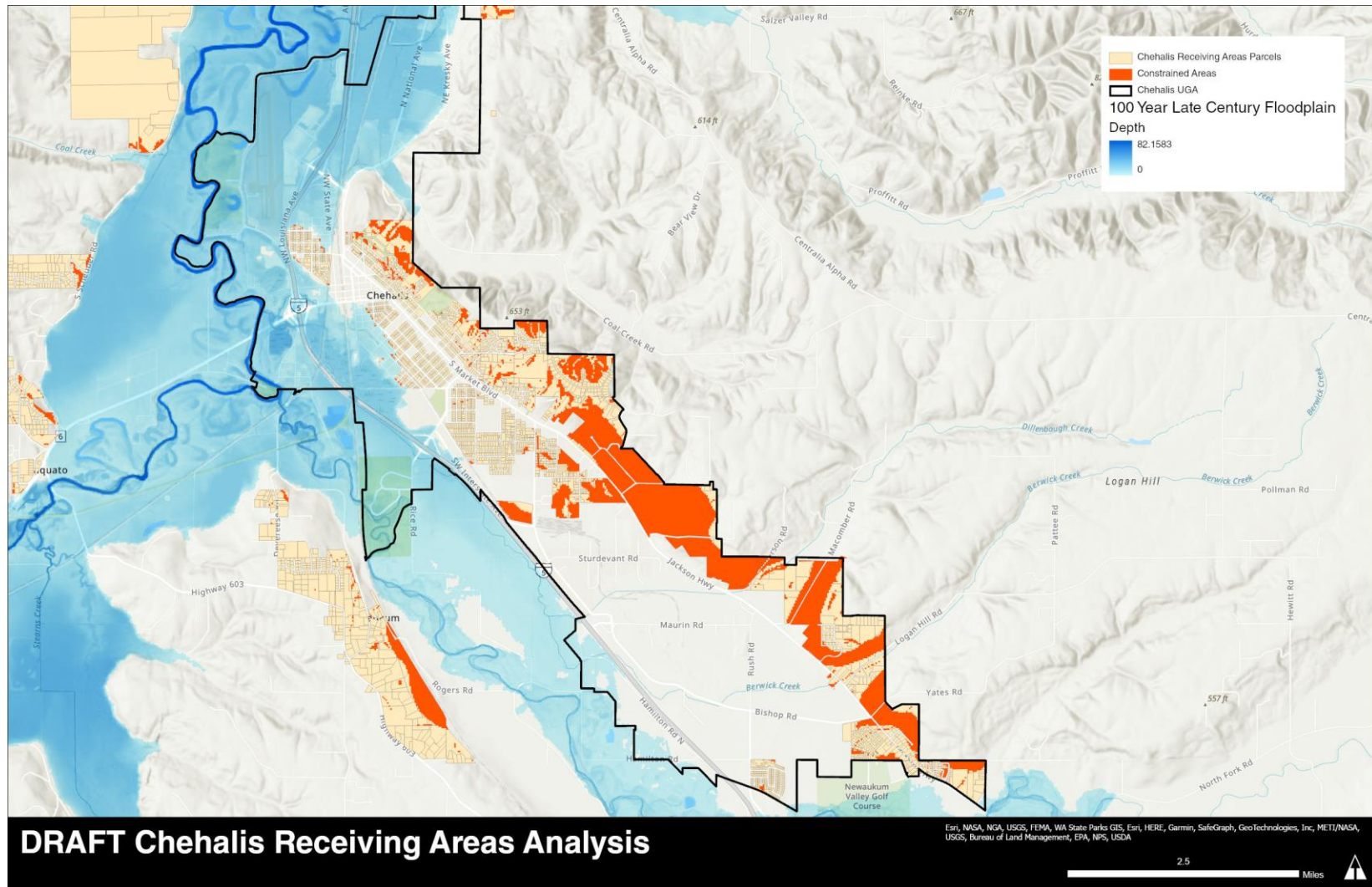


**Figure 4**  
**City of Chehalis Receiving Area Boundaries: Vacant & Underutilized Parcels**



Sources: Lewis County, 2022; City of Chehalis, 2022; Community Attributes Inc., 2022-23.

**Figure 5**  
**City of Chehalis Receiving Area Boundaries: Constrained Areas**

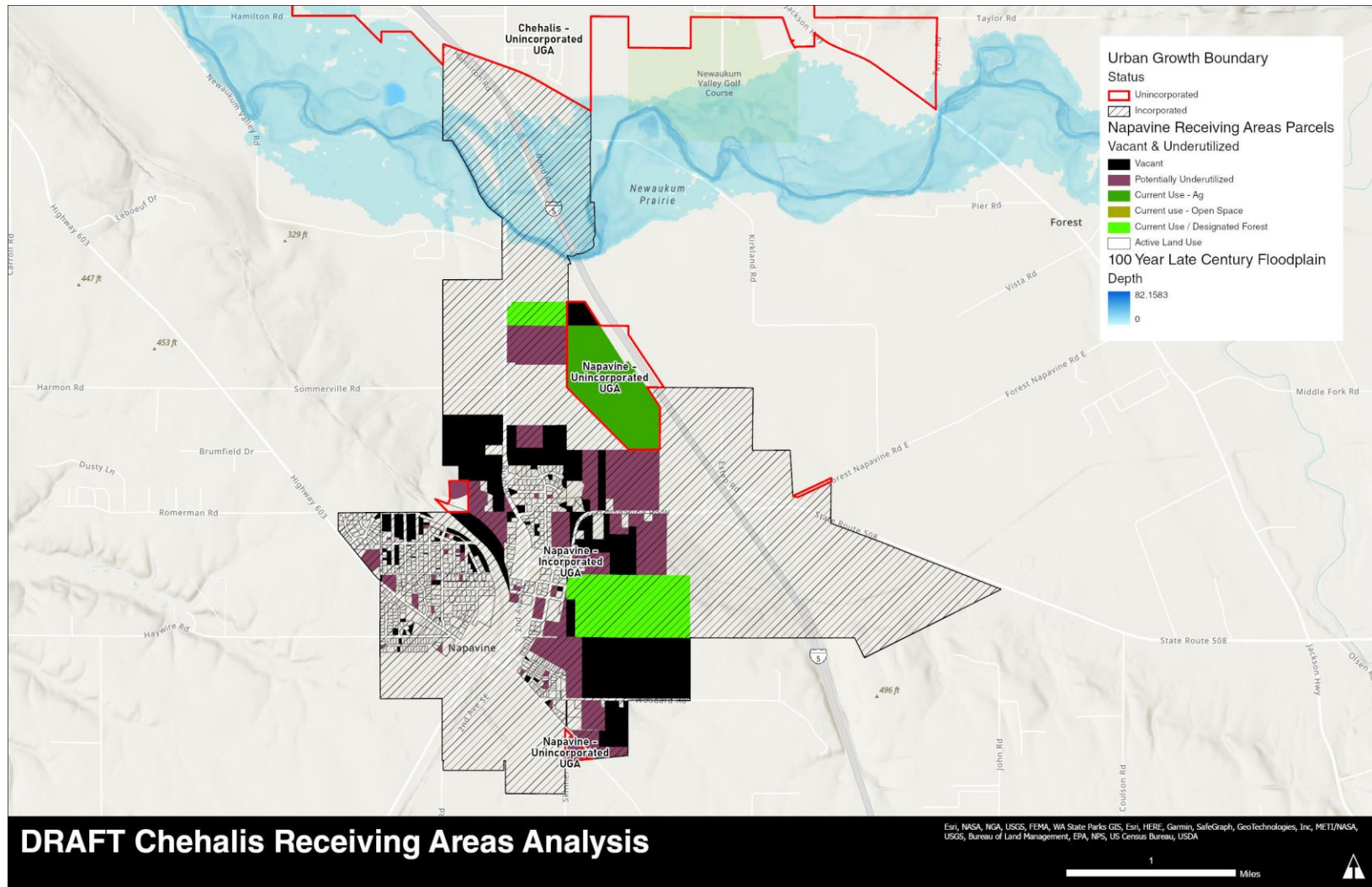


Sources: Lewis County, 2022; City of Chehalis, 2022; Community Attributes Inc., 2022-23.



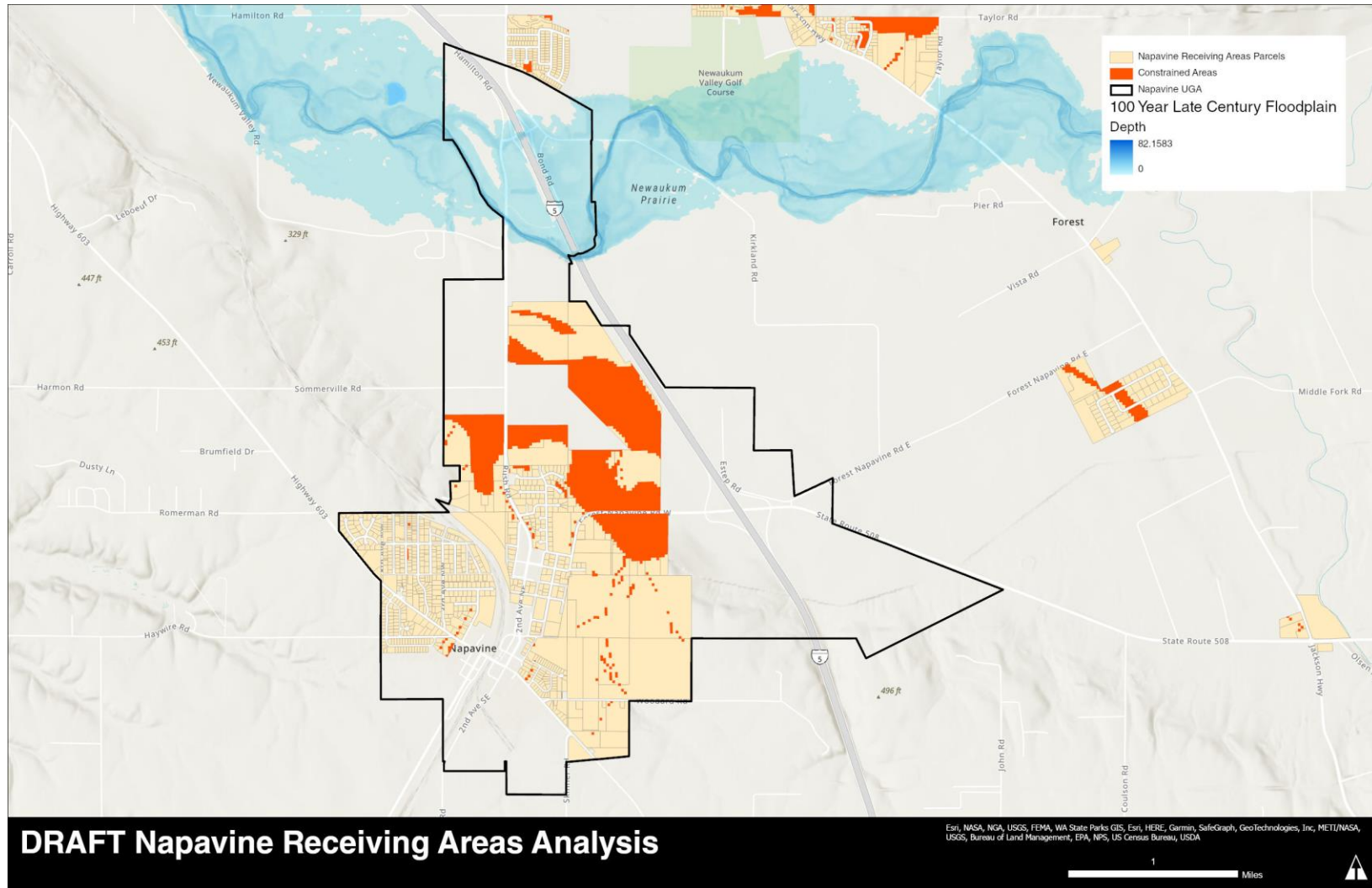
Figure 6

City of Napavine Receiving Area Boundaries: Vacant & Underutilized Parcels



Sources: Lewis County, 2022; City of Napavine, 2022; Community Attributes Inc., 2022-23.

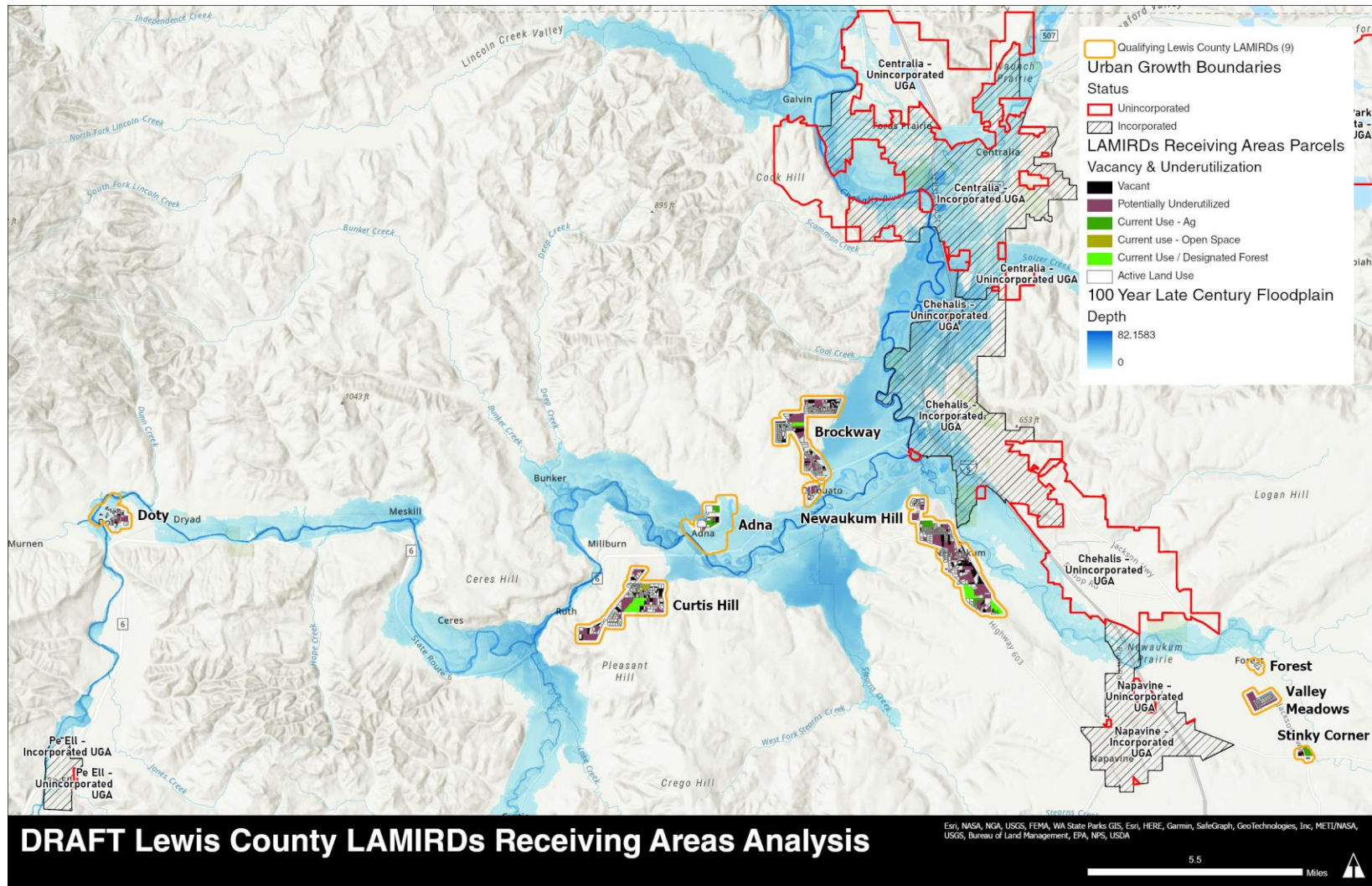
**Figure 7**  
**City of Napavine Receiving Area Boundaries: Constrained Areas**



Sources: Lewis County, 2022; City of Napavine, 2022; Community Attributes Inc., 2022-23.



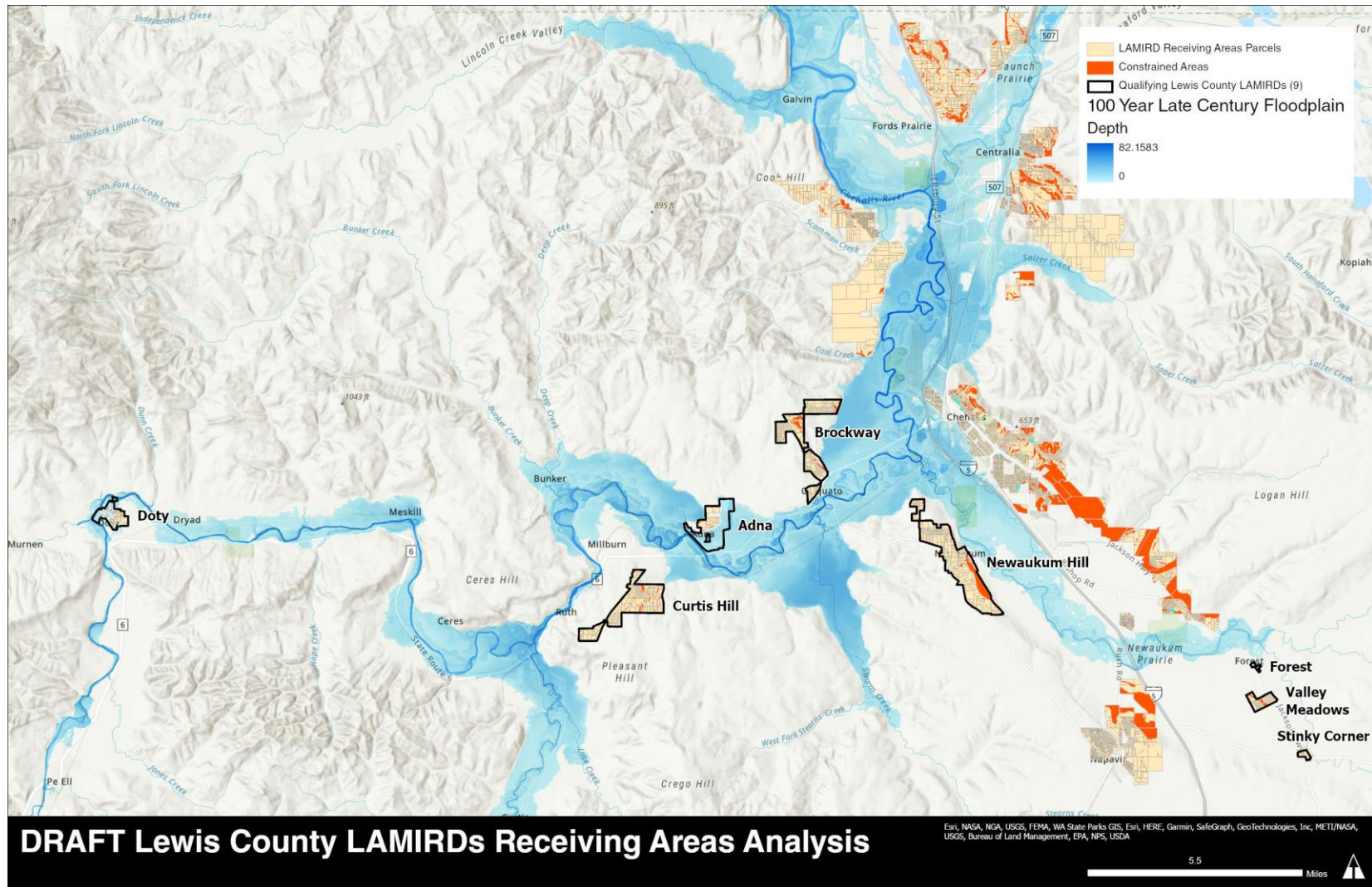
**Figure 8**  
**Lewis County LAMIRD Receiving Area Boundaries: Vacant & Underutilized Parcels**



Sources: Lewis County, 2022; Community Attributes Inc., 2022-23.

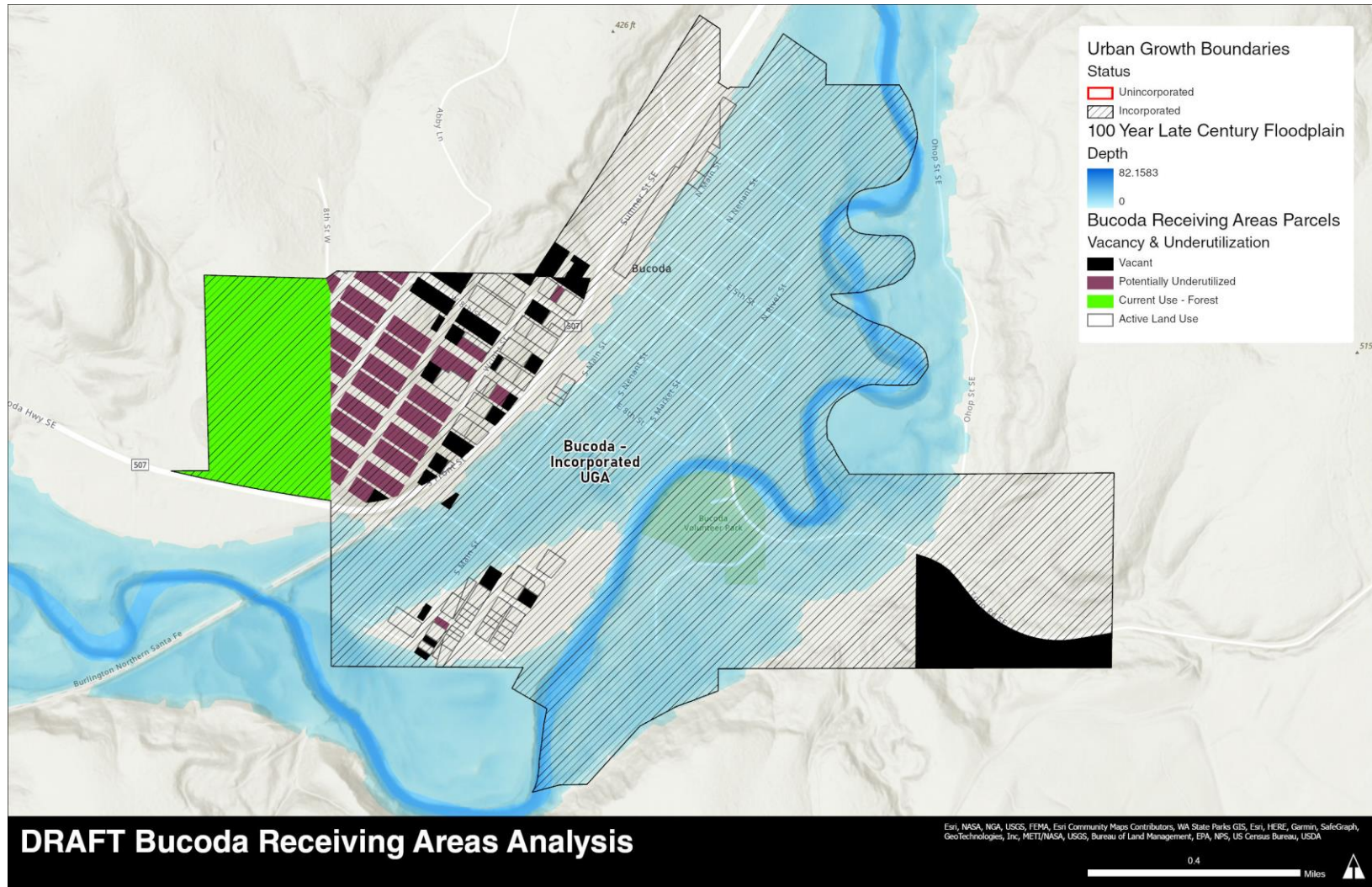


**Figure 9**  
**Lewis County LAMIRD Receiving Area Boundaries: Constrained Areas**



Sources: Lewis County, 2022; Community Attributes Inc., 2022-23.

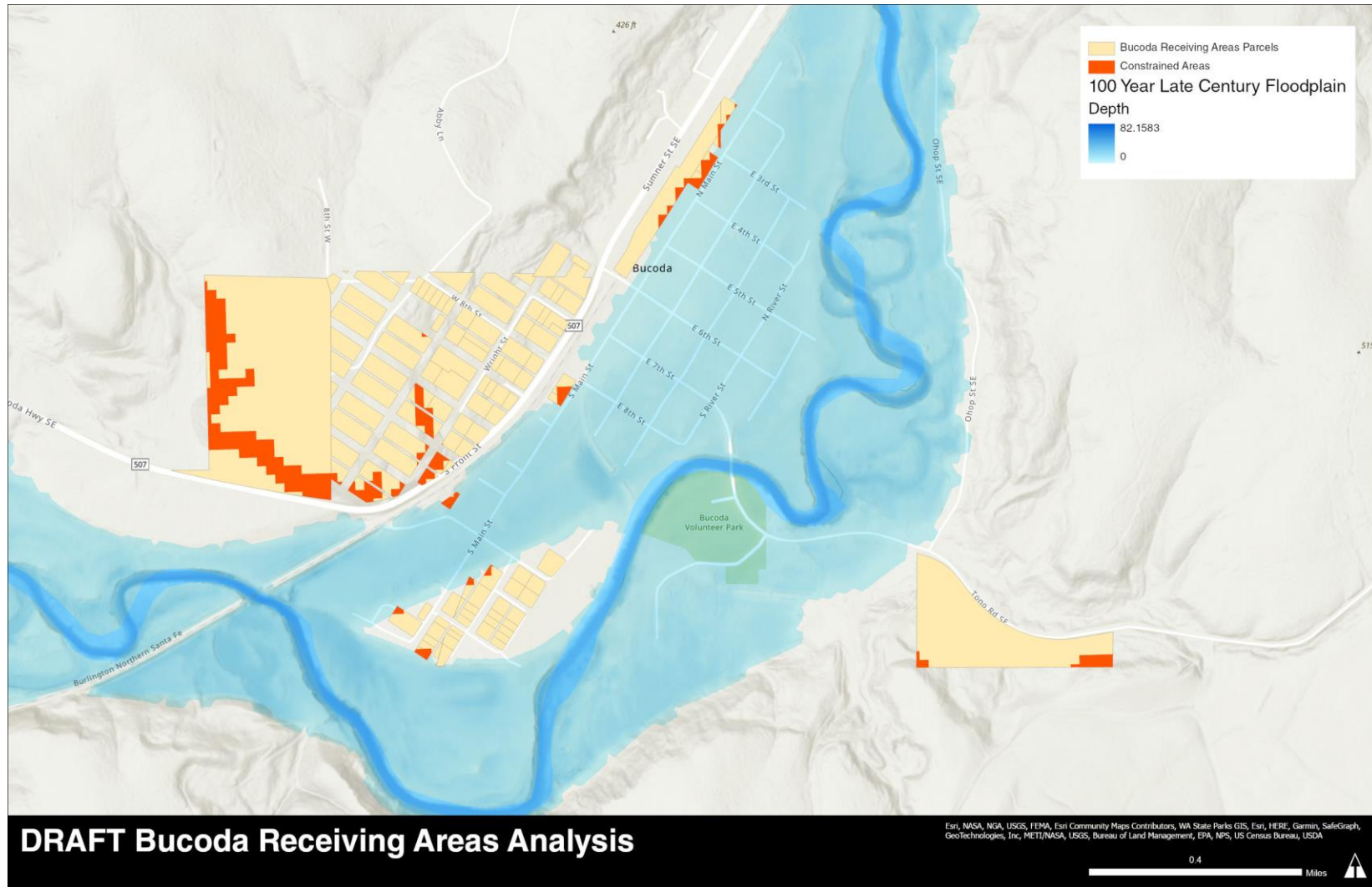
**Figure 10**  
**Town of Bucoda Receiving Area Boundaries: Vacant & Underutilized Parcels**



Sources: Thurston County, 2022; Town of Bucoda, 2022; Community Attributes Inc., 2022-23.

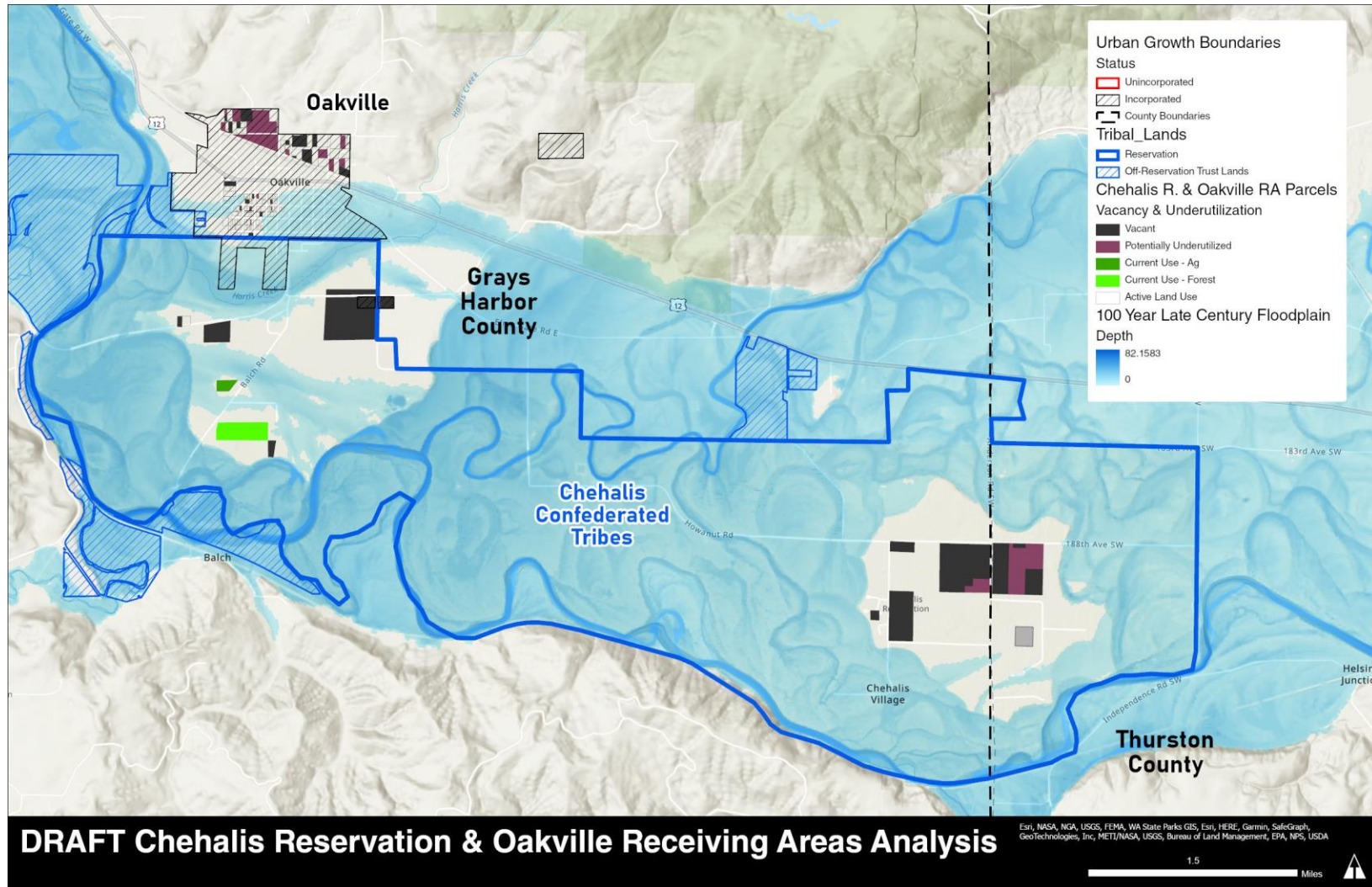


**Figure 11**  
**Town of Bucoda Receiving Area Boundaries: Constrained Areas**



Sources: Thurston County, 2022; Town of Bucoda, 2022; Community Attributes Inc., 2022-23.

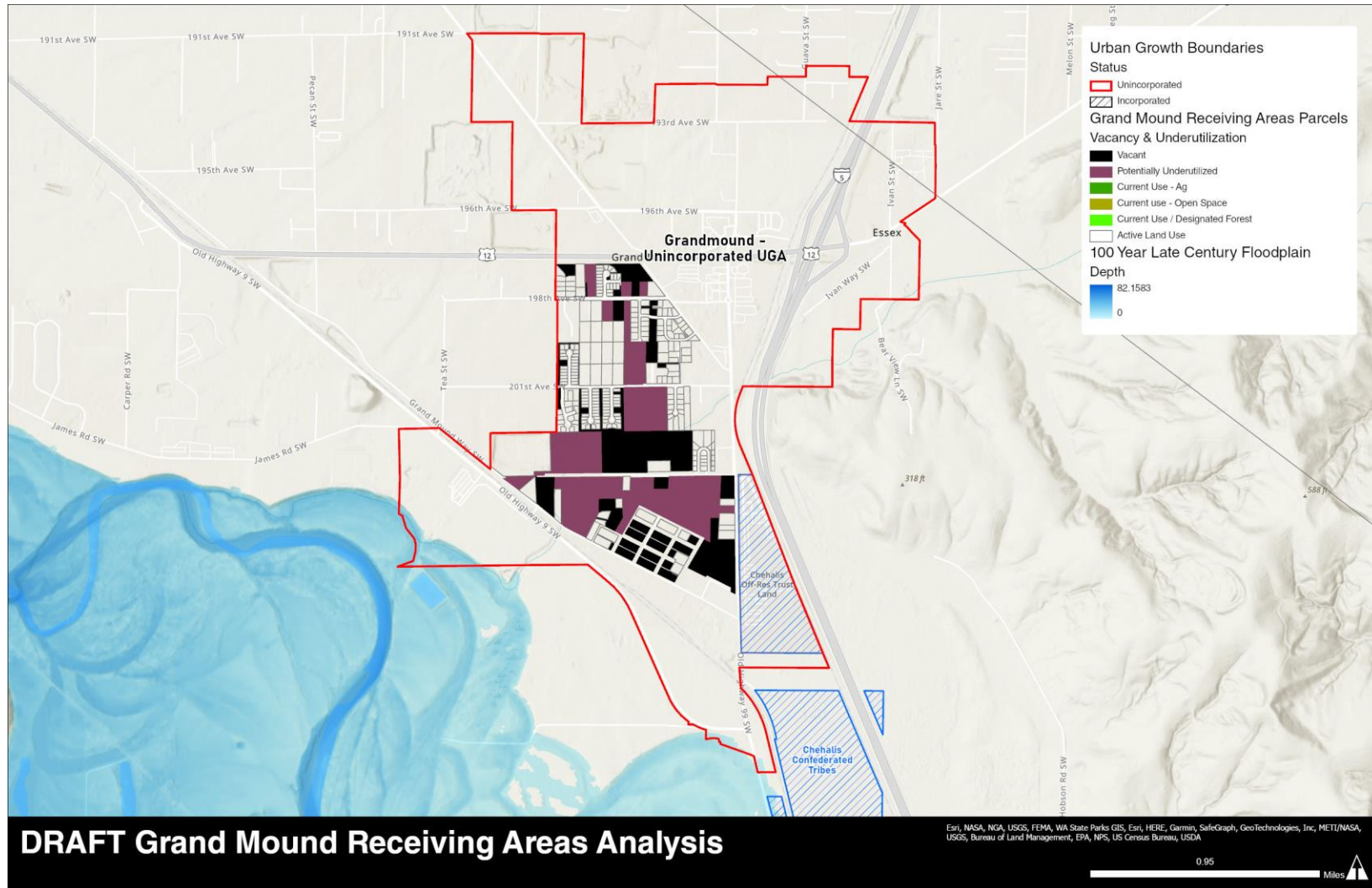
**Figure 12**  
**Oakville & Chehalis Reservation Receiving Area Boundaries: Vacant & Underutilized Parcels**



Sources: Grays Harbor County, 2022; Thurston County, 2022; Community Attributes Inc., 2022-23.



**Figure 13**  
**Grand Mound Receiving Area Boundaries: Vacant & Underutilized Parcels**



Sources: Thurston County, 2022; Community Attributes Inc., 2022-23.



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<sup>i</sup> In 1974, a federal court decision affirmed the tribes' treaty rights to fish in the entire Chehalis Basin and that includes "waters adjacent to their territory" and "Grays Harbor and those streams which empty into Grays Harbor." The ruling affirmed rights to half of the harvestable salmon on their historic fishing grounds and recognized them co-managers with the state of those fisheries.

<sup>ii</sup> Infrastructure fees include "facility fees" paid by developers for infrastructure development, extension, and hook-up. In the City of Centralia, for example, new development may be required to pay Wastewater and Water Connection Fees (<https://www.cityofcentralia.com/214/Planning-Fees>).

<sup>iii</sup> Lewis County Comprehensive Plan, Land Use Element:  
[https://lewiscountywa.gov/media/documents/Land\\_Use\\_Element\\_Final.pdf](https://lewiscountywa.gov/media/documents/Land_Use_Element_Final.pdf)

<sup>iv</sup> RCW 86.16.041 (<https://app.leg.wa.gov/RCW/default.aspx?cite=86.16.041>) prohibits new construction in floodways. Cities and counties are not allowed to permit new construction in floodways under any circumstances, regardless of studies conducted.

<sup>v</sup> Thurston County Comprehensive Plan, Natural Resources Land Element:  
[https://www.thurstoncountywa.gov/planning/planningdocuments/Chapter\\_03\\_Natural%20Resources\\_Dec2020\\_FINAL\\_clean.pdf](https://www.thurstoncountywa.gov/planning/planningdocuments/Chapter_03_Natural%20Resources_Dec2020_FINAL_clean.pdf)

<sup>vi</sup> Lewis County Comprehensive Flood Hazard Management Plan:  
[https://www.ezview.wa.gov/Portals/\\_1492/images/default/Lewis%20County%20Comprehensive%20Flood%20Hazard%20Management%20Plan.pdf](https://www.ezview.wa.gov/Portals/_1492/images/default/Lewis%20County%20Comprehensive%20Flood%20Hazard%20Management%20Plan.pdf)

<sup>vii</sup> Lewis County Public Health and Social Services (PHSS) 5-Year Housing & Homelessness Strategic Plan:  
[https://lewiscountywa.gov/media/documents/5\\_year\\_Housing\\_\\_Homeless\\_Strategic\\_Plan\\_2020.pdf](https://lewiscountywa.gov/media/documents/5_year_Housing__Homeless_Strategic_Plan_2020.pdf)

<sup>viii</sup> Washington State Transfer of Development Rights (TDR Program):  
[https://www.commerce.wa.gov/serving-communities/growth-management/growth-management-topics/development-rights/#:~:text=Transfer%20of%20Development%20Rights%20\(TDR,referred%20to%20as%20receiving%20areas.\)](https://www.commerce.wa.gov/serving-communities/growth-management/growth-management-topics/development-rights/#:~:text=Transfer%20of%20Development%20Rights%20(TDR,referred%20to%20as%20receiving%20areas.))

<sup>ix</sup> Washington State Open Space Tax Act (Current Use Program):  
<https://dor.wa.gov/sites/default/files/2022-02/OpenSpace.pdf>

<sup>x</sup> Municipal Research and Services Center of Washington Local Improvement Districts: <https://mrsc.org/explore-topics/public-works/finance/local-improvement-districts>

<sup>xi</sup> Municipal Research and Services Center of Washington Selected Funding Sources for Public Facilities:  
<https://mrsc.org/explore-topics/planning/land-use-administration/impact-fees/types-of-impact-fees-and-other-sources-of-public-f#connectionfee>