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COMMUNITY PLANNING &

ECONOMIC DEVELOPMENT DEPARTMENT

Creating Solutions for Our Future

Joshua Cummings, Director

MEMORANDUM

TO: Thurston County Planning Commission

FROM: Maya Teeple, Senior Planner

Ashley Arai, Agriculture Community Program Manager

DATE: July 5, 2023

SUBJECT: Work Session 4: Long-Term Agriculture Designation and Zoning Update

SUMMARY & DECISION POINTS

This is work session 4 on the Long-Term Agriculture Designation and Zoning Update, which is one component of CPA-16 "Community Driven Review of Agricultural Policies and Programs".

A public hearing was held on June 21, 2023. Based on the substantial public comment received, staff are bringing forward new options in response to that public comment. A high-level summary of the follow-up items and changes based on comment include:

- New map options based on a refined soils list and consideration of smaller adjacent parcels. Refined soils list responds to concerns that were heard about prime if drained, prime if irrigated, capability of land for commercial agriculture, woodland soils, and habitat areas
- Clarifying language in Chapter 3 and consideration of an "opt-in" process
- Consideration of co-designation of mineral and agricultural lands

The Planning Commission may consider making decisions during the review process before a final recommendation is produced. Below is a list of potential decision points:

- Make any revisions to policies addressing co-designated areas of mining and agriculture?
- Recommend or drop cluster requirement overlay?
- Agriculture designation criteria decision points:
 - o Use a refined soils list based on land capability classification? With what cut off?
 - o Include Farmlands of Statewide Importance?
 - What percent of a parcel must be prime soils: 75%, 50%, or other?
 - o What should the predominant parcel size be: 20 acres, 15 acres or other?
 - o What should the block size requirement be: 200-320 acres, 100+ acres, 40+ acres?

BREAKDOWN OF OPTIONS

Below is a breakdown of the 2 map series: public hearing version; new public comment version. This table compares the criteria used for developing each map.

		Options From June 21, 2023 Public Hearing			New Options Based on Public Comment					
Information	Current LTA	Baseline –	Scenario 1 –	Scenario 2 –	Scenario X	Scenario Y	Scenario Z			
	Designation	Based on	Based on	Based on	(mirrors	(mirrors	(mirrors			
		Appeal	Stakeholder Stakeholder E		Baseline with	Scenario 1 with	Scenario 2 with			
			Themes	Themes	refined soils list)	refined soils list)	refined soils list)			
Acreage of LTA	15,500	Additional 22,000	Additional 12,000	Additional 19,000	Additional 2,450	Additional 2,300	Additional 7,200			
Criteria that are out	Criteria that are outside the scope of discussion as set by BoCC									
Criteria 3. Land	Used or capable	Applied without	Applied without	Applied without	Applied without	Applied without	Applied without			
Capability and	of being used for	change	change	change	change	change	change			
Tax Status	agriculture									

Criteria 6. Land	Adjacent	Applied without	Applied without	Applied without	Applied without	Applied without	Applied without
Use Settlement	residential	change	change	change	change	change	change
Patterns Criteria 7. Proximity of	development should be minimal and at densities of 1 per 5 acres or less. Should have access to road.	Applied without change	Applied without change	Applied without change	Applied without change	Applied without change	Applied without change
Markets	rail, or air transportation routes	_	, and the second	-		_	_
Criteria 9.	Outside of	Applied without	Applied without	Applied without	Applied without	Applied without	Applied without
Environmental	Natural Shoreline	change	change	change	change	change	change
Considerations	Environments						
	thin the scope of dis		1		1	T	Γ
Criteria 1. Soils	1990 USDA Soil	2022 USDA Web	2022 USDA Web	2022 USDA Web	2022 USDA Web	2022 USDA Web	2022 USDA Web
information	Survey, predominantly prime farmland soils (>50%)	Soil Survey predominantly prime farmland soils (>50%)	Soil Survey predominantly prime farmland soils (>75%)	Soil Survey predominantly prime farmland soils (>75%)	Soil Survey – refined soils list using prime with LCC 3 or higher (parcel must have >50%)	Soil Survey – refined soils list using prime with LCC 3 or higher (parcel must have >75%)	Soil Survey – refined soils list using prime with LCC 3 or higher (parcel must have >75%)
Criteria 2. Availability of public facilities and services	Designated lands should be outside of area planned to be served by public facilities and utilities	Applied without change	Applied without change	Applied without change	Applied without change	Applied without change	Applied without change
Criteria 4. Proximity to Urban Growth Areas	Designated lands should be outside of urban growth areas and should	Applied without change	Applied without change	Applied without change	Applied without change	Applied without change	Applied without change

	be separated by a						
	natural or man-						
	made barrier						
Criteria 5.	20 acres or more	20 acres	20 acres	15 acres	20 acres	20 acres	15 acres
Predominant					Adds back in	Adds back in	Adds back in
Parcel Size					parcels <20 acres	parcels <20 acres	parcels <15 acres
					that meet other	that meet other	that meet other
					criteria, are used	criteria, are used	criteria, are used
					agriculture and	agriculture and	agriculture and
					are adjacent or	are adjacent or	are adjacent or
					within block	within block	within block
Criteria 8.	Agricultural Block	320 acres or 200	100 acres or	40 acres or more	320 acres or 200	100 acres or	40 acres or more
Agricultural	of Land must be:	if nearby	more		if nearby	more	
Diversity	320 acres or 200						
	acres if nearby to						
	other agriculture						

How much of each option is forested?

	Options From June 21, 2023 Public Hearing			New Options Based on Public Comment			
Type of Forestland	Baseline – Based on Appeal	Scenario 1 (Based on Stakeholder Themes)	Scenario 2 (Based on Stakeholder Themes)	Scenario X (mirrors Baseline with refined soils list)	Scenario Y (mirrors Scenario 1 with refined soils list)	Scenario Z (mirrors Scenario 2 with refined soils list)	
Acreage of New LTA	Additional 22,000	Additional 12,000	Additional 19,000	Additional 2,450	Additional 2,300	Additional 7,200	
Designated Forestland (88)	7,047	4,263	5,679	1,151	690	2,227	
Non-Commercial Forestland (92)	0	0	0	0	0	0	
Timberland (95)	36	36	113	0.1	0.1	40	
Total Forested	7,083 (31% of new)	4,299 (34% of new)	5,792 (30% of new)	1,151 (47% of new)	691 (30% of new)	2,267 (32% of new)	

How much of each option is an existing farm or in agriculture use?

	Options From June	21, 2023 Public Hearin	ng	New Options Based on Public Comment			
Type of Forestland	Baseline – Based on Appeal	Scenario 1 (Based on Stakeholder Themes)	on Stakeholder Baseline with		Scenario Y (mirrors Scenario 1 with refined soils list)	Scenario Z (mirrors Scenario 2 with refined soils list)	
Acreage of New LTA	Additional 22,000	Additional 12,000	Additional 19,000	Additional 2,450	Additional 2,300	Additional 7,200	
"Existing Farms" that overlap with new LTA (81 & 83)	8,680	2,930	4,682	556	576	1,957	
Agriculture (not current use, 81)	1,015	186	279	0	0	0	
Agriculture (current use, 83)	7,665	2,743	4,403	556	576	1,957	
WSDA Crop Data	3,185	2,182	3,773	430	274	1,844	
Total Acres (WSDA and existing Agriculture)	11,865 (52% of new)	5,111 (40% of new)	8,455 (44% of new)	986 (40% of new)	850 (37% of new)	3,802 (53% of new)	

REFINED SOILS LIST

Based on the public comment received that several soils included are not suitable for agriculture and after further discussions with the Agriculture Advisory Committee, WSU Extension, NRCS and Pierce County, staff are investigating a refined list of soils. This refinement is done using the land capability classification system, which is a specific criteria jurisdictions are permitted to use under state law:

WAC 365-190-050(3)(b)(ii) In determining whether lands are used or capable of being used for agricultural production, counties and cities shall use the land-capability classification system of the United States Department of Agriculture Natural Resources Conservation Service as defined in relevant Field Office Technical Guides. These eight classes are incorporated

by the United States Department of Agriculture into map units described in published soil surveys, and are based on the growing capacity, productivity and soil composition of the land.

A detailed summary of this analysis is provided in the memorandum as Attachment A.

CLARIFYING LANGUAGE IN CHAPTER 3 AND CONSIDERATION OF AN "OPT-IN" PROCESS

The following changes have been made based off of public comment. These changes will be included in the final Planning Commission recommendation draft.

- From Loretta Seppanen comment (#33): "Add policy that is explicit about the development limits inherent in LTA and NA designation. The policy should read something like this: 'Those areas with Long-Term Agriculture designation shall have a residential density of one dwelling unit per 20 acres. Those areas with Nisqually Agriculture designation shall have residential density of one dwelling unit per 40 acres.' (Modeled after Clark County policy language)"
 - New Policy added Goal 2, Policy 2: <u>The residential density of areas within Long-Term Agriculture should not be greater than one dwelling unit per 20 acres and in Nisqually Agriculture should not be greater than one unit per 40 acres.</u>
 - Note: specific details about how zoning is applied typically exists in the development code, rather than the Comprehensive Plan which sets the vision. A policy exists speaking to this issue (Goal 2, Policy 1): Designated agricultural lands should be zoned at very low densities to ensure the conservation of the resource for continued agricultural use.
- From Loretta Seppanen comment (#33): "Delete reference to parcel size."
 - o Reference to parcel size deleted from page 3-4 in Chapter 3.
- From Jennifer Colvin (#24) and other comments: Consider large neighboring parcels that could be owned by the same farm and may not be included.
 - A landowner with a portion of property enrolled in Long Term Agriculture may voluntarily enroll contiguous parcels in Long
 Term Agriculture, even if they do not meet the designation criteria. A comprehensive plan amendment application is
 required. Applications will be reviewed with the periodic update.
- From several comments: "Add policy that would permit landowners with parcels outside the LTA zones but with prime soils or soils of statewide significance to voluntarily permanently change their zoning to preclude subdividing the parcel.
 - o No change made. Staff recommends further evaluating as part of the periodic update and potentially through a separate agricultural zone or overlay. Applying to LTA could result in small additions fragmented from LTA blocks. Conservation

easements are one tool outside of zoning that can currently be used voluntarily by property owners to limit subdivision and development.

- From Futurewise comment (#23): "pages 3-8 and 3-9 states that the designation of agricultural lands of long-term commercial significance protects working farms from nearby incompatible uses "by notifying nearby neighbors that agricultural uses could occur nearby which might cause dust, noise, and odors." But as was documented above, the county is required "to assure that the use of adjacent lands does not interfere with their continued use for the production of food or agricultural products." This requires more than just communicating that agricultural uses might cause dust, noise, and odors. The agricultural uses must actually be protected from adjacent incompatible uses. This statement should be clarified."
 - Language added in pg. 3-8 and 3-9: <u>The ability of owners or occupants to recover for nuisances arising from activities on the designated agricultural land may be restricted.</u>
 - o Additional language is already existing within policies that further protect agricultural uses from adjacent incompatible uses.
 - Goal 1, Obj. A, Policy 1 (p. 3-28): Residential uses adjacent to farms should be developed in a manner which minimizes potential conflicts and reduces unnecessary conversion of farmland. The use of "cluster" development patterns should not result in increased density adjacent to existing farms, and should ensure that resource use parcels intended for agricultural use can be reasonably farmed.
 - Goal 1, Obj. A, Policy 4 (p. 3-29): In order to reduce development pressure on the farm and rural areas, future development should be directed toward designated growth areas where existing and planned services can more easily accommodate growth. Outside these growth areas, densities should remain low.
- From Futurewise comment (#23): "Page 3-13 includes the following sentence: "Landowners may apply to voluntarily add individual properties to the designation through a comprehensive plan amendment proves." It appears that "proves" is unneeded and can be deleted."
 - o Typo has been deleted.
- From Futurewise comment (#23): "Page 3-13 describes the criteria and the process the County will use to evaluate the designation of agricultural lands of long-term commercial significance. This existing language is inconsistent with the newly adopted amendments to WAC 365-190-040(10)(b). WAC 365-190-040(10)(b) provides in full that: (b)(i) De-designations of natural resource lands can undermine the original designation process. De-designations threaten the viability of natural resource lands and associated industries through conversion to incompatible land uses, and through operational interference on adjacent lands. Cumulative impacts from de-designations can adversely affect the ability of natural resource-based industries to operate. (ii)

Counties and cities should maintain and enhance natural resource-based industries and discourage incompatible uses. Because of the significant amount of time needed to review natural resource lands and potential impacts from incompatible uses, frequent, piecemeal de-designations of resource lands should not be allowed. Site-specific proposals to de-designate natural resource lands must be deferred until a comprehensive countywide analysis is conducted."

 Language added in to pages 3-13 and 3-14 to clarify the process of de-designation, specifically around site-specific requests and information and the need for a comprehensive countywide analysis.

The following changes can be included in the final Planning Commission recommendation draft if chosen by Planning Commission and are available for further consideration:

- 1. Revision to co-designation mineral lands policy, Goal 8, Policy 9.
 - When feasible, accessory uses to mining (crushing, screening, or washing) should only be located on adjacent mineral lands that are not co-designated with long-term agriculture. are not on prime farmland soils. In the event prime farmland soils cannot be avoided, the footprint should be minimized.
- 2. Recommending removal of cluster requirement from further consideration at this time, and delaying consideration of a cluster requirement to the periodic Comprehensive Plan Update when it can be considered more holistically in relation to the housing element changes.
 - a. Would remove Ch. 2, Goal 1, Objective A, Policy 5 (new as of Planning Commission hearing): Residential use occurring on active farms with prime farmland soils that are not designated long-term agriculture should be developed through clustering to conserve underlying prime soils for farming operation.
 - b. Would remove Ch. 3, Goal 1, Objective A, Policy 5 (new as of Planning Commission hearing): For rural residential lands with underlying prime farmland soils and active farms, clustering is encouraged in an effort to conserve underlying prime soils for farming operation.

CONSIDERATION OF CO-DESIGNATION OF MINERAL AND AGRICULTURAL LANDS

Currently, the Comprehensive Plan allows for co-designation of mineral and agricultural resource lands. The issue of co-designation was considered thoroughly by the Planning Commission, public, stakeholder workgroup and Board consideration during the mineral lands update that took place from 2016-2020. Prior to this update, mineral lands and agricultural lands were not co-designated.

It is important to note, prior to the 2020 mineral lands update, the County only designated existing, operating mines. Following the 2020 update and as required by state law, the County applied an overlay designation based on the underlying resources and applied designation criteria.

A summary of the recent 2020 mineral lands update is provided as Attachment B. The mineral lands overlay (end of Attachment B) does not affect the underlying zoning of a property and does not require properties be used for mining. However, in order to mine, properties must be included in the designation.

NEXT STEPS

This project is in-part in response to a GMHB appeal, and timely review is of the essence. Staff requests the Planning Commission consider what additional information is needed for making a recommendation.

To facilitate review and remain on track for final action by the end of the calendar year, staff anticipates the following schedule for Planning Commission review:

- May 3, 2023 Work Session #1 overview of the project, state law, proposed amendments
- May 17, 2023 Work Session #2 follow up questions from Planning Commission; tentatively request to set a public hearing
- June 21, 2023 Tentative public hearing date; Work Session #3 for follow-up
- This meeting July 5, 2023 Work Session #4 follow up, option for recommendation
- July 19, 2023 Work Session #5 follow up, recommendation

ATTACHMENTS

- Attachment A: Memo on refined soils list
- Attachment B: Mineral Lands Summary & Options Regarding Mineral and Agricultural Lands
- Attachment C: Map Series June 21, 2023 Public Hearing (Baseline, 1, 2)
- Attachment D: Map Series July 5, 2023 Post Hearing based on Public Comment (X, Y, Z)

Attachment A

Soils Analysis - Long-Term Agriculture Designation and Zoning Update

Background

A consistent theme of public comment on the Long-Term Agriculture Designation and Zoning Update has been that many of the new prime farmland soils identified in the USDA's 2022 Soil Survey are not suitable for commercially significant agricultural production. The following is a more detailed analysis of the new prime farmland soils as listed in the 2022 USDA web soil survey, as well as a summary on farmlands of statewide importance.

Decision Point

Based on the information contained in this soils analysis, the Planning Commission may consider whether to remove specific soil classes identified as prime farmland due to their limited capability for supporting commercially significant agricultural production. To help illustrate what this looks like, staff has prepared a new set of maps using a refined soils list that contains the 29 prime farmland soils currently designated for LTA in the Comprehensive Plan plus 9 new prime farmland soils identified in the USDA's 2022 Soil Survey.

Analysis Components

- Overview of State law as it pertains to using soils information for agricultural resource lands designation
- Summary of USDA Thurston County Soils Survey and how it is used to assess agricultural capability, prime farmland status, and farmlands of statewide importance
- Analysis of Thurston County's new prime farmland soils and their respective agricultural capability
- Summary of Thurston County's farmlands of statewide importance

State Law

State law provides guidance in how to classify and designate agricultural resource lands (WAC 365-190-050). The County is required to consider the following three factors:

- (a) The land is not already characterized by urban growth...
- (b) The land is used or capable of being used for agricultural production. This factor evaluates whether lands are well suited to agricultural use based primarily on their physical and geographic characteristics. Some agricultural operations are less dependent on soil quality than others, including some livestock production operations.
 - i. Lands that are currently used for agricultural production and lands that are capable of such use must be evaluated for designation...

- ii. In determining whether lands are used or capable of being used for agricultural production, counties and cities shall use the *land-capability classification system* of the United States Department of Agriculture Natural Resources Conservation Service as defined in relevant Field Office Technical Guides. These eight classes are incorporated by the United States Department of Agriculture into map units described in published soil surveys, and are based on the growing capacity, productivity and soil composition of the land.
- (c) The land has long-term commercial significance for agriculture. In determining this factor, counties and cities should consider the following nonexclusive criteria, as applicable:
 - i. The classification of *prime and unique farmland soils, and farmlands of statewide importance*, as mapped by the Natural Resources Conservation Service...

In accordance with this guidance, under subsection (b) counties shall use the USDA's land-capability classification system for determining whether land is capable of being used for agriculture, irrespective of the prime farmland or farmlands of statewide importance designation. As explained below, this land-capability classification system is more refined and provides greater insight into the respective growing capacity of different soil types.

Thurston County Soil Survey

This section provides an overview of the Thurston County Soil Survey and how it is used to classify the agricultural capability of different soil types and determine whether a soil type is identified as prime farmland.

Land Capability Classification

The USDA Land Capability Classification (LCC) groups soils primarily based on their capability to produce common crop and pasture plants without reducing soil quality in the long-term. Each soil type is assigned a capability class of 1 through 8, described in the Soil Survey as follows:

- Class 1 Soils have few limitations that restrict their use
- Class 2 Soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices
- Class 3 Soils have severe limitations that reduce the choice of plants or that require special conservation practices
- Class 4 Soils have very severe limitations that reduce the choice of plants or that require very careful management, or both
- Class 5 Soils are not likely to erode but have other limitations, impractical to remove, that limit their use.
- Class 6 Soils have severe limitations that generally make them unsuitable for cultivation
- Class 7 Soils have very severe limitations that make them unsuitable for cultivation
- Class 8 Soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production

Classes 1 through 4 are generally considered capable of producing cultivated crops, with Class 4 soils being the least capable for economically viable agricultural production. The very severe limitations on Class 4 soils restrict the choice of crops and demand careful agricultural management such as nutrient inputs, irrigation, drainage, etc. to be agriculturally productive.

Land Capability Subclasses

To further describe the limitations or hazards associated with agricultural production, the Soil Survey uses the following subclasses (i.e., e, c, s, w):

- Subclass "e" describes soils that are limited due to erosion. Soils identified with an 'e' subclass may be considered either prime if irrigated or prime if drained.
- Subclass "s" describes soils that are limited by shallowness, stoniness, or drought. Soils identified with an 's' subclass are generally considered prime if irrigated.
- Subclass "w" describes soils where water in or on the soils interferes with plant growth or cultivation. Soils identified with a 'w' subclass are generally considered prime if drained or protected from flooding.
- Subclass "c" describes soils that are limited due to extreme climate (not present in Thurston County)

Soils with erosion hazards (subclass "e") have historically been excluded from prime farmland designation due to their erosion susceptibility or past erosion damage. If special conservation measures are not taken to address potential erosion, it can lead to a loss of nutrients and/or increased sedimentation in waterways. Thurston County's current LTA designation criteria only include 2 soil types that are susceptible to erosion, whereas the 2022 Soil Survey includes 14 prime farmland soils with a subclass "e".

Soil limitations (subclass "s") can also pose significant challenges locally. These soils contain a coarse fraction of stones, gravel and/or sand and are difficult to cultivate due to their low water- and nutrient-holding capacities. In the summer months, the primary growing season, they become very dry and require significant irrigation to sustain crop productivity. Thurston County's current LTA designation criteria only includes 1 soil type that has soil limitations, whereas the 2022 Soil Survey includes 5 prime farmland soils with a subclass "s".

Wet soils (subclass "w"), if not historically drained for agricultural activities, can also pose major challenges. These soils often contain wetlands or have a seasonally high-water table that restrict their use for agricultural production. Thurston County's current LTA designation criteria includes 24 soil types that were historically drained, whereas the 2022 Soil Survey includes 18 new prime farmland soils that require drainage or protection from flooding.

Prime Farmland Classification

Prime farmland soils, as defined by the USDA, are "ones having the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that are also available for these uses. They have the soil quality, growing season, and moisture supply

needed to produce economically sustained high yields of crops when treated and managed according to acceptable farming methods, including water management. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding."

The majority of new prime farmland soils identified in the 2022 Web Soil Survey are 'prime if drained', 'prime if irrigated', or 'prime if protected from flooding'. When staff contacted the USDA Natural Resource Conservation Services soil scientist to request more information about the "prime if..." designation we received the following response:

"the 'prime if...' designation is just that. If the soil is prime if drained (artificial drainage through pumping, ditches, etc), then the soil properties would meet the requirements for prime farmland. If the soil is prime if irrigated, then that amendment of additional water would allow the soil to be classified as prime farmland. The 'prime if...' indicates the unmanipulated natural soil is close but doesn't meet the requirements for prime farmland but can be pushed to that if long-term and repeated measures are taken. For example, if a soil is designated as prime if drained, and the drainage fails, or is no longer maintained, that soil would be considered not prime, as the artificial drainage is no longer effective."

For new prime farmland soils that are designated 'prime if drained' or 'protected from flooding', there are limitations to managing these soils for economically viable agricultural production. While there are several soil types that have been historically drained or protected from flooding (i.e. the Mukilteo and Norma soil series), securing the necessary permits to expand these drainage systems is highly unlikely. For new prime farmland soils that are designated 'prime if irrigated', there are limitations associated with acquiring and maintaining water rights for irrigation.

Thurston County Prime Farmland Soils Analysis

The current designation criteria in the comprehensive plan include prime farmland soils from the 1990 USDA Soil Survey. As listed, there are 29 soils identified as prime farmland which cover around 83,814 acres in Thurston County. Of those 29 soils, 15 of them have been historically drained and one is designated 'prime if irrigated'. Twenty-three of these soil types fall into a Land Capability Class 1, 2, or 3, with the remaining six soil types ranging from Class 4 to Class 7.

The 2022 Web Soil Survey contains 29 additional soil types identified as prime farmland covering approximately 99,638. Of these 29 soils, 8 are designated 'prime if drained', 11 'prime if irrigated', and 7 'prime if protected from flooding'. Nine of the new prime farmland soil types fall into a Land Capability Class 2 or 3, with the remaining 20 soil types ranging from Class 4 to Class 7. The following table provides a comparison of the prime farmland soil categories.

Prime Farmland Soil Categories	# of Existing Soil Types (1990 Soil Survey)	# of New Soil Types (2022 Soil Survey)
Prime	13	7
Prime if Drained	15	8
Prime if Irrigated	1	11
Prime if Protected from Flooding	0	7
Total	29	29

Prime

The following table summarizes the characteristics of the seven new soil types identified as "Prime". They all fall within a Land Capability Class 2 or 3 and are relatively well suited to economically viable crop production with limited agricultural management. The color coding highlights the range of limitations associated with the respective soil classes with green denoting Land Capability Classes 1-3, yellow denoting Class 4 and red denoting Classes 5-8.

Soils			Land Capability Class			
Map Unit #	Soil Description		LCC Subclass	Soil Limitations		
3402	Gate silty clay loam, 0 to 5 percent slopes	2	е	Moderate crop limitations		
1213	Elma-Fordprairie complex, 0 to 12 percent slopes	3	е	Severe crop limitations or special practices		
1312	Scatter-Elma complex, 0 to 15 percent slopes	3	е	Severe crop limitations or special practices		
1225	Eld-Fordprairie complex, 0 to 12 percent slopes	3	е	Severe crop limitations or special practices		
1325	Eld-Fordprairie-Elma complex, 0 to 15 percent slopes	3	е	Severe crop limitations or special practices		
1212	Scatter-Fordprairie-Roundtree complex, 0 to 12 percent slopes	3	w	Severe crop limitations or special practices		
1224	Chehalis-Maytown complex, 0 to 10 percent slopes	3	W	Severe crop limitations or special practices		

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Prime if Drained

The eight new soil types identified as "Prime if Drained" require artificial drainage through pumping, ditches, etc to meet the requirements for prime farmland. Apart from Spana Gravelly Loam which has a higher capability for agricultural production, these soil types fall into a Land Capability Class of 4, 5, or 6. According to the Soil Survey, without proper drainage these soil types have either very severe limitations that require very careful agricultural management or are generally unsuitable for crop production. The color coding highlights the range of limitations associated with the respective soil classes with green denoting Land Capability Classes 1-3, yellow denoting Class 4 and red denoting Classes 5-8.

	Soils	Land Capability Class			
Map Unit #	it # Soil Description		LCC Subclass	Soil Limitations	
109	Spana gravelly loam (if drained)	3	w	Severe crop limitations or special practices	
3401	Rony-Gate complex, 0 to 8 percent slopes (if drained)	4	w	Very severe crop limitations and/or careful mgmt.	
3200	Huttula gravelly loam, 0 to 5 percent slopes (if irrigated and drained)	4	W	Very severe crop limitations and/or careful mgmt.	
65	McKenna gravelly silt loam, 0 to 5 percent slopes (if drained)	4	W	Very severe crop limitations and/or careful mgmt.	
1100	Steilacoom-Yelm complex, 0 to 2 percent slopes (if drained)	5	w	Impractical to remove limitations	
116	Tacoma silt loam (if drained or protected from flooding)	5	w	Impractical to remove limitations	
1210	Roundtree loam, 0 to 5 percent slopes (if drained and protected from flooding)	6	W	Generally unsuitable for cultivation	
1221	Rennie silty clay loam, 0 to 5 percent slopes (if drained and protected from flooding)	6	w	Generally unsuitable for cultivation	

Prime if Irrigated

The eleven new soil types identified as "Prime if Irrigated" require an amendment of additional water to meet the requirements for prime farmland. Apart from the Daviscreek-Huttula complex which has a higher capability for growing crops, the 'Prime if Irrigated' soil types fall into a Land Capability Class of 4 with a subclass "w" or "s". For the soil types with a 4w subclass, the soil survey indicates the soils experience seasonal

high-water tables and have low available water capacity. For the soil types with a 4s subclass, the soil survey indicates the soils are primarily used for hay and pasture or croplands. The main limitations affecting hay and pasture include moderate available water capacity and for cropland it's low precipitation during the growing season. According to the soil survey, without proper irrigation these soil classes have very severe limitations that require very careful agricultural management. The color coding highlights the range of limitations associated with the respective soil classes with green denoting Land Capability Classes 1-3, yellow denoting Class 4 and red denoting Classes 5-8.

	Soils	Land Capability Class			
Map Unit #	Soil Description	LCC#	LCC Subcla ss	Soil Limitations	
3201	Daviscreek-Huttula complex, 0 to 10 percent slopes (if irrigated)	3	е	Severe crop limitations or special practices	
2	Alderwood gravelly sandy loam, 8 to 15 percent slopes (if irrigated)	4	W	Very severe crop limitations and/or careful mgmt.	
1	Alderwood gravelly sandy loam, 0 to 8 percent slopes (if irrigated)	4	W	Very severe crop limitations and/or careful mgmt.	
3200	Huttula gravelly loam, 0 to 5 percent slopes (if irrigated and drained)	4	W	Very severe crop limitations and/or careful mgmt.	
110	Spanaway gravelly sandy loam, 0 to 3 percent slopes (if irrigated)	4	S	Very severe crop limitations and/or careful mgmt.	
114	Spanaway-Nisqually complex, 2 to 10 percent slopes (if irrigated)	4	S	Very severe crop limitations and/or careful mgmt.	
84	Pilchuck loamy sand (if irrigated)	4	W	Very severe crop limitations and/or careful mgmt.	
20	Cagey loamy sand (if irrigated)	4	W	Very severe crop limitations and/or careful mgmt.	
47	Indianola loamy sand, 5 to 15 percent slopes (if irrigated)	4	S	Very severe crop limitations and/or careful mgmt.	
46	Indianola loamy sand, 0 to 5 percent slopes (if irrigated)	4	S	Very severe crop limitations and/or careful mgmt.	
3203	Grandmound gravelly sandy loam, 0 to 15 percent slopes (if irrigated)	4	S	Very severe crop limitations and/or careful mgmt.	

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Prime if Protected from Flooding

The seven new soil types identified as 'Prime if Protected from Flooding' require flood control to meet the requirements for prime farmland and fall into a Land Capability Class of 4, 5, or 6. According to the Soil Survey, without proper flood protection these soil classes have either very severe limitations that require very careful agricultural management or are generally unsuitable for crop production. The color coding highlights the range of limitations associated with the respective soil classes with green denoting Land Capability Classes 1-3, yellow denoting Class 4 and red denoting Classes 5-8.

	Soils			Land Capability Class			
Map Unit #	Soil Description	LCC#	LCC Subclass	Soil Limitations			
1222	Maytown-Rennie complex, 0 to 10 percent slopes (if protected from flooding)	4	W	Very severe crop limitations and/or careful mgmt.			
1211	Fordprairie-Roundtree complex, 0 to 10 percent slopes (if protected from flooding)	4	W	Very severe crop limitations and/or careful mgmt.			
1223	Maytown-Chehalis-Rennie complex, 0 to 10 percent slopes (if protected from flooding)	4	W	Very severe crop limitations and/or careful mgmt.			
1214	Fordprairie-Roundtree-Water complex, 0 to 10 percent slopes (if protected from flooding)	4	W	Very severe crop limitations and/or careful mgmt.			
116	Tacoma silt loam (if drained or protected from flooding)	5	W	Impractical to remove limitations			
1210	Roundtree loam, 0 to 5 percent slopes (if drained and protected from flooding)	6	W	Generally unsuitable for cultivation			
1221	Rennie silty clay loam, 0 to 5 percent slopes (if drained and protected from flooding)	6	W	Generally unsuitable for cultivation			

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Soils Analysis Summary

As stipulated under state law, counties shall use the USDA's Land Capability Classification System to determine agricultural capability for agricultural resource designation. This analysis provided an overview of the Land Capability Classes of the new prime farmland soils identified in the 2022 Web Soil Survey. This refined level of analysis helps inform whether these soils are capable of agricultural production and therefor, should be considered for Thurston County's LTA designation and zoning.

Of the 29 new prime farmland soil types included in the 2022 Web Soil Survey, 20 of them are rated Class 4 or worse in the Land Capability Classification System. This means the soils are very severely limited for agricultural production and/or require very careful management. Without proper drainage, irrigation, or protection from flooding or erosion these soils will support a narrow range of crops with a limited growing season.

Thurston County Farmlands of Statewide Importance

A recent update to State law allows counties to consider farmlands of statewide importance as a non-exclusive criteria for determining long-term commercial significance of agricultural resource lands. The USDA defines farmlands of statewide importance as:

"land that does not meet the criteria for prime or unique farmland [may be] considered to be farmland of statewide importance for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law."

The 2022 Web Soil Survey contains 53 soil types identified as farmlands of statewide importance covering approximately 151,000 of the county. Nine of the new soil types identified as farmlands of statewide importance fall into a Land Capability Class 3 with the remaining 44 soil types falling into a Land Capability Class of 4, 5, or 6. Nearly 70% of all farmlands of statewide importance fall into a Land Capability Subclass 'e' meaning the soils are susceptible to erosion and require special conservation measures. Preliminary analysis found most of these soils to be in woodland use, which aligns with the Soil Survey's 'Puget Lowlands Forest' ecological characterization.

FSI Land Capability Classifications (LCC)	# of FSI Soil Types	LCC Subclass 'e' Prone to Erosion	LCC Subclass 's' Has Soil Limitations	LCC Subclass 'w' Needs Draining
Class 3 Soils	9	8	0	1
Class 4 Soils	38	26	11	1
Classes 5-8 Soils	5	3	0	3

Next Steps

Staff has produced a second series of maps that mirror the conditions of the first series that went to the June 21, 2023 public hearing, but consider a refined soils list of only new prime farmland soils with a Land Capability Class 3 or above. Considerations and decision points for the Planning Commission include:

- 1. Use refined soils list?
 - a. If using refined soils list, cut off at Land Capability Classification 3 and above?
 - b. Consider excluding soils of certain subclasses?
- 2. Farmlands of Statewide Importance re-draft maps to include Farmlands of Statewide Importance? *Note: This affects new landowners not initially reached in mailing.*
 - a. Several comments recommend reviewing this more in-depth as part of the Periodic Update. This will allow greater flexibility as staff can look into how this relates to a broader voluntary opt-in or new agricultural conservation overlay/zone.
 - b. Farmlands of Statewide Importance soils are lower land capability classification (Class 4 and below), or Class 3 woodland soils that are prone to erosion.

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Attachment B

Mineral and Agricultural Resource Lands – Co-Designation and 2020 Mineral Lands Update
History

History of Recent Review for Mineral Lands and Co-Designation

Review for the mineral lands update included:

- 1. Consultant Review and Development of Inventory Map, and Adoption of Mineral Resource Lands Inventory with the Comprehensive Plan Periodic Update on Nov. 12, 2019 (Map N-3);
- 2. 12 Stakeholder Meetings with interested mineral lands parties, including mining, environmental, land trust, city, and other representatives;
- 3. Internal review with Development Services and Water Resources divisions regarding the development code amendments to the mineral extraction code (and other sections of the Thurston County Code);
- 4. 21 Planning Commission Meetings (14 on mineral lands, including two public hearings on March 7, 2018, and on August 19, 2020); The planning commission recommended co-designation of mineral and agricultural lands on March 7, 2018 and again on September 2, 2020.
- 5. 13 Board meetings specific to mineral lands; 1 Board public hearing.

Options presented as part of the 2020 mineral lands package included both options to 1) exclude co-designation with agricultural lands and 2) revise language to allow for co-designation of mineral and agricultural lands.

Brief State Law Summary on Co-Designation of Resource Lands

Per state legislature WAC 365-190-040(7)(b), if two or more natural resource land designations apply, counties must determine if these designations are incompatible, and if they are incompatible, counties should examine to determine which has the greatest long-term commercial significance and that resource use should be assigned. The legislature does not provide detail on how long-term commercial significance should be weighed. To override the co-designation mandate under WAC 365-190-040(7)(b), the county must demonstrate that dual designation would result in a loss of agricultural or mineral resources, not "secondary benefits", such as habitat, open space, or carbon sequestration.

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Analysis of Reclaimed Mineral Lands for Agricultural Use

In a memorandum to the Planning Commission dated November 9, 2017, staff analyzed compatibility of agriculture with mineral lands. Literature shows that while there is potential that lands for mineral extraction can be reclaimed for agricultural use, that depends highly on underlying circumstances, such as the type of agriculture, soil composition, and type of mining. Some studies summarized in that memorandum include:

- USDA and DNR study on "Farm Management Practices for Reclaimed Cropland", by Boyles *et al.* (2015). Study reviews reclaimed coal mine sites for cropland use, and determines that cropland can be a reclaimed use, but best management practices of topsoil impact that success, as well as other management techniques.
- An Ohio study by Shrestha and Rattan (2008) evaluates post-reclamation use for hay, forest and agriculture, and recommends forest and hay as post-reclamation uses.
- Other studies show success with reclaimed mining for pastureland, and that while surface mining can generate chemical problems with the soil, that followed land uses like hay, pasture and forest have the ability to improve that.
- Reclamation is required in Washington State, but may vary depending on the site.

While mining could occur after agriculture in all scenarios, agriculture may not be able to occur after mining depending on how reclamation is conducted and the resulting soil composition and type of agricultural use (crop, pasture, livestock). Literature exists to support reclamation of mineral lands for agricultural purposes. Quality of restoration depends heavily on the reclamation process and can take upwards of 30 years.

Summary of Stakeholder Group Work On Co-Designation of Agriculture and Mineral Lands

The issue of co-designation of mineral and agricultural lands was persistent throughout the update. Early in the process, mining representatives argued for co-designation, while farmland trust and environmental representatives advocated for maintaining no co-designation. Towards the end of the update in early 2020, a subcommittee working group of the original mineral lands stakeholder group was reconvened to further investigate a few hot topics, of which co-designation was one of. This subset group included individuals who were involved throughout the entire multi-year process and represented the mining (aggregate and bedrock), environmental, and agriculture communities. Two additional meetings were held on February 26 and March 9, 2020. The stakeholder workgroup primarily worked to develop additional policy and code language that would limit impacts of codesignation on agricultural operations. Main points that were made:

- Noted mapped mineral lands is primarily on the edges of agricultural lands.
- Suggested language that stresses the importance of maintaining a contiguous block of agricultural lands.
- Suggested language that limits uses to the perimeter as so not to infringe on the block of agricultural lands.
- Suggested language to identify soils characteristics and language that requires land be returned to pre-mining state.

Final Outcome on Co-Designation

Ultimately, co-designation of mineral and agricultural lands was approved by the Board of County Commissioners with the 2020 update, 2-1. Co-designation of agricultural and mineral lands of long-term commercial significance is expressly permitted within the designation criteria for mineral resource lands. Other additions that were made include:

- A narrative on co-designation in Chapter 3 (page 3-22)
- Policies that limit uses on co-designated agricultural lands
 - Goal 8, Policy 8 (p. 39) Mineral extraction on designated agricultural lands should be avoided unless the soils can be restored to their
 original productive capabilities, as identified in a soil survey, as soon as possible after mining occurs.
 - Goal 8, Policy 9 (p. 39) Accessory uses to mining (crushing, screening, or washing) should only be located on adjacent mineral lands that are not co-designated with long-term agriculture.
 - Goal 9, Policy 5 (p. 40) In areas of co-designated mineral lands and agricultural lands, post-reclamation of mineral extraction sites should maintain the long-term agricultural use and should occur in a timely fashion.
- TCC 17.20 Mineral Extraction and Asphalt Production Code
 - o 17.20.140 Rehabilitation and conservation requirements
 - For land that is co-designated as long-term agriculture or Nisqually agriculture, the land owner must secure from the Thurston Conservation District a certified conservation plan with a baseline analysis documenting standardized qualitative and quantitative evaluation of soils and a post-mining plan update. The baseline and post-mining soil survey shall include soil nutrient testing, measures of organic matter percentage, cation exchange capacity, pH, soil particle size, and available water capacity, plus a visual evaluation of soil health. Post-mining plans shall include the same metrics with a goal of reclaimed soils being in the same range (or better) than on the baseline test.

Options for Next Steps On Co-Designation

Staff honors the work from the Planning Commission, public, and stakeholder workgroup that was put in towards the co-designation issue in 2016-2020. Re-opening the issue of co-designation would require significant additional stakeholder input from many individuals that are not represented at the table today.

It is critical to note that both the mineral lands overlay and Long-Term Agriculture zoning do not require individuals to use their land for mining or for agriculture. Mining can only occur within the mineral lands overlay. Agriculture can occur in most rural residential zones and agricultural zones.

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Attachment B: Agriculture Zoning Update
Thurston County Planning Commission, July 5, 2023

Comments received around excluding mines consider individual mine operations, some of which have been in effect for a long time. Other mine operations may have been permitted following the soil survey.

While zoning as Long-Term Agriculture does not preclude mining, it does impact the reclamation plans for existing and operating mines. If a mining operation does not include a reclamation plan that specifically preserves topsoil and other soils on-site in a specific manner, the potential for it to be used for long-term commercial agriculture in the future is unlikely. With that said, the majority of the mineral lands designation is based on underlying resources and not active existing operations, so new mine operations in the future could reclaim in a manner that allows for future agricultural use.

Staff proposes the following options moving forward. Both options maintain co-designation of mineral lands and agricultural lands:

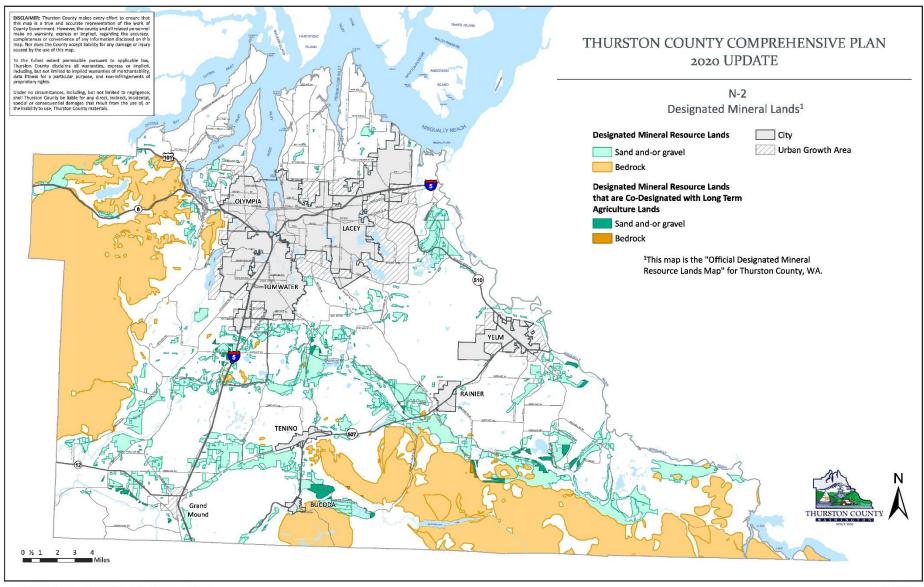
1. Maintain co-designation; Exclude current operating mines from the soils used to update the Long-Term Agriculture zoning (based on public comment received, "gravel, pits" cannot be classified as farmland). The preserves the landowner's ability to do either mining or agriculture.

OR/AND

2. Maintain co-designation; Consider revisions to policy language related to accessory mining uses. Below are suggested changes in bill format to Goal 8, Policy 9.

When feasible, accessory uses to mining (crushing, screening, or washing) should only-be located on-adjacent mineral lands that are not co-designated with long-term agriculture. are not on prime farmland soils. In the event prime farmland soils cannot be avoided, the footprint should be minimized.

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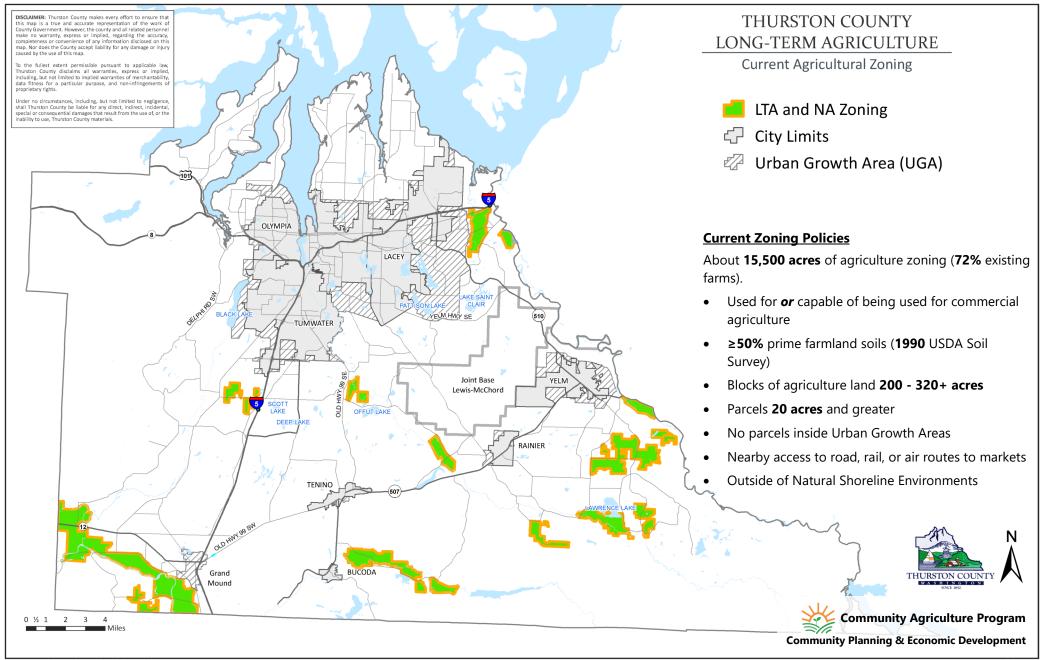
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Attachment C

Map Series - Maps Presented for 06-21-2023 Planning Commission Public Hearing



Current Agriculture Zoning Location and Spacing

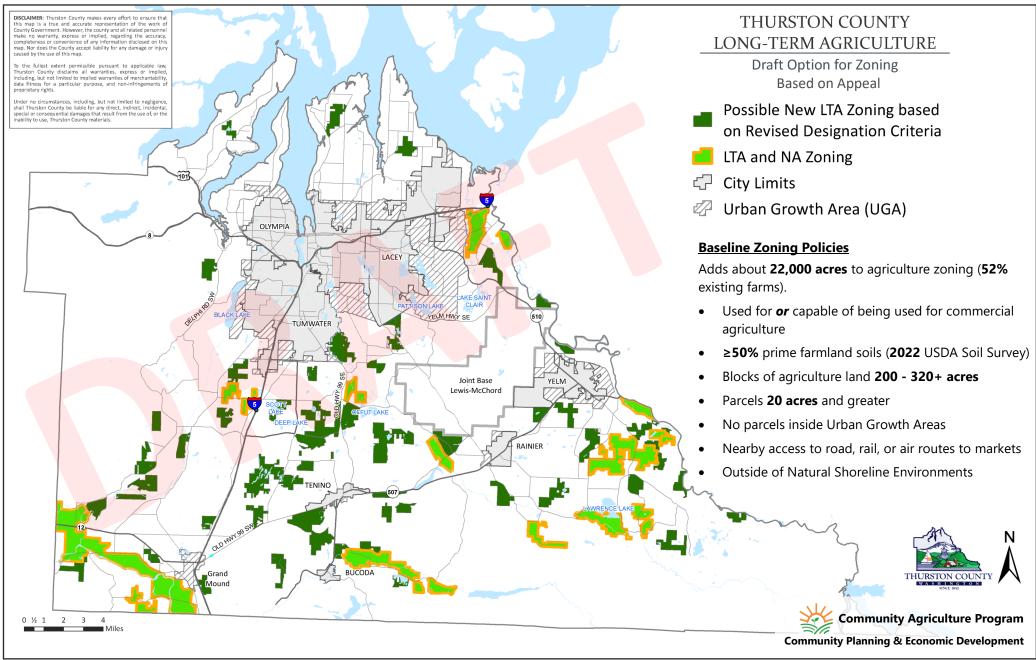


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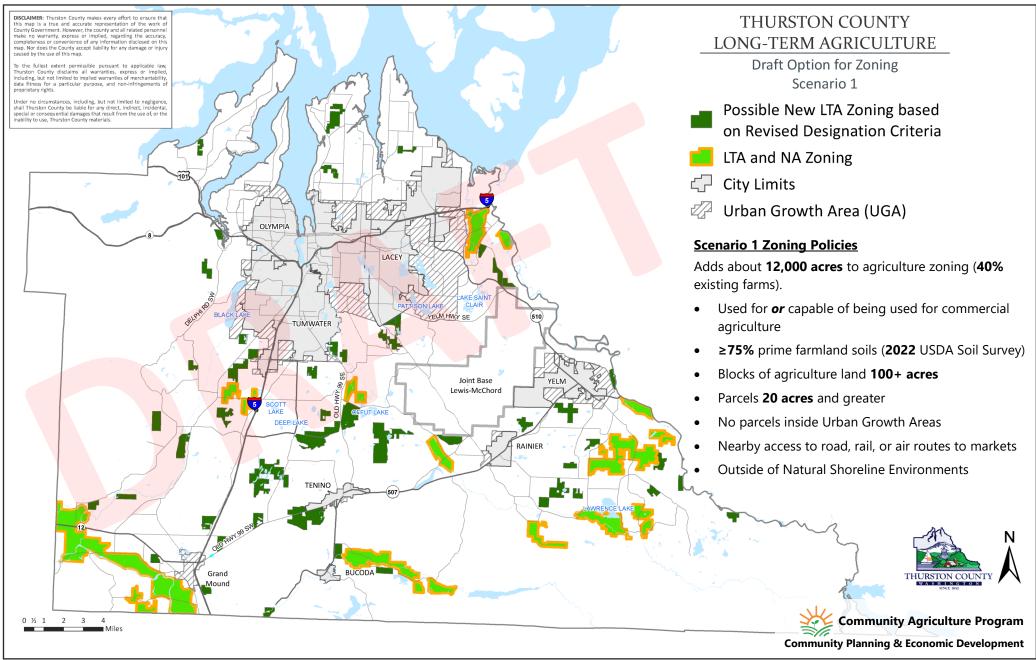
Baseline for Agriculture Zoning Expansion Based on Appeal



Date: 3/28/2023 by E

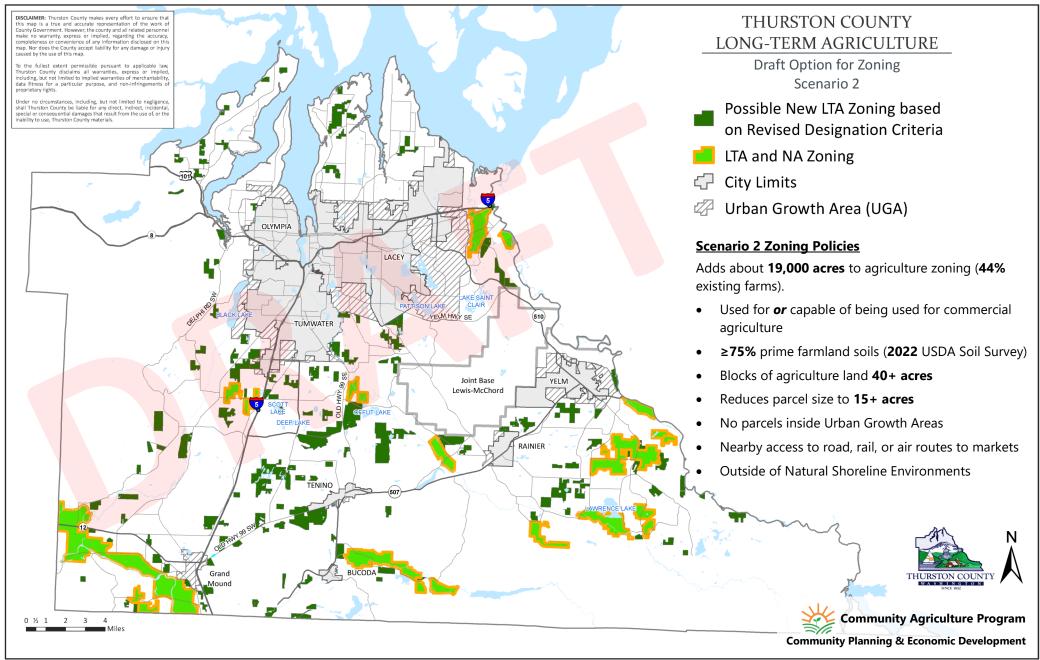


Scenario 1 for Agriculture Zoning Expansion Based on Stakeholder Group Themes





Scenario 2 for Agriculture Zoning Expansion Based on Stakeholder Group Themes



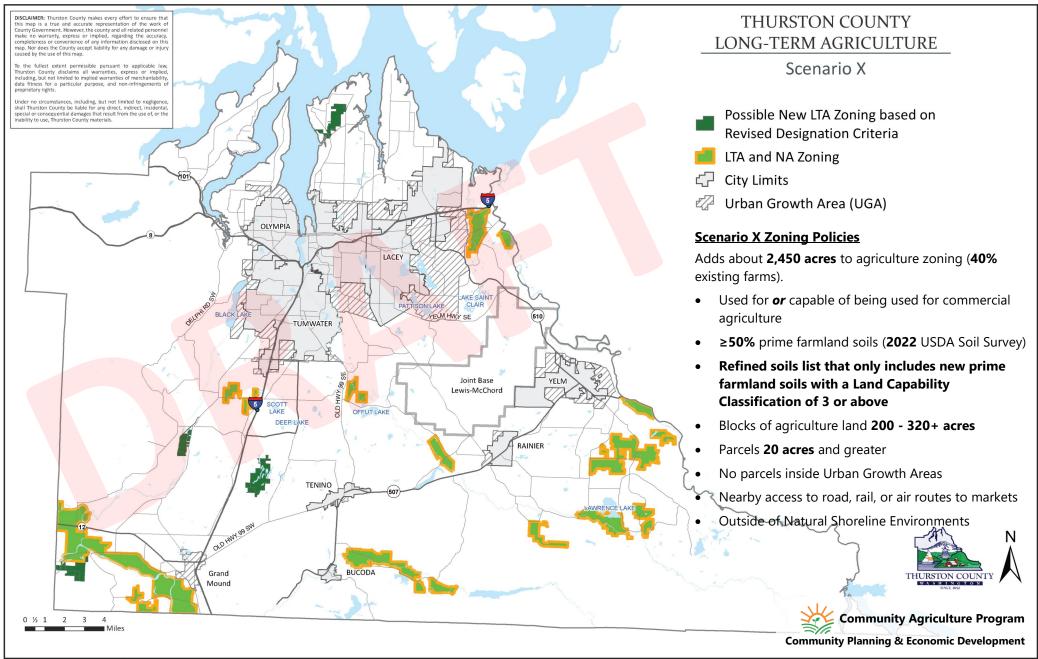
Date: 3/30/2023 by EP

Attachment D

Map Series - Updated Maps 07-05-2023 Based on Public Comment & Refined Soils List



Scenario X for Agriculture Zoning Expansion (Baseline Update) Based on Stakeholder Group Themes

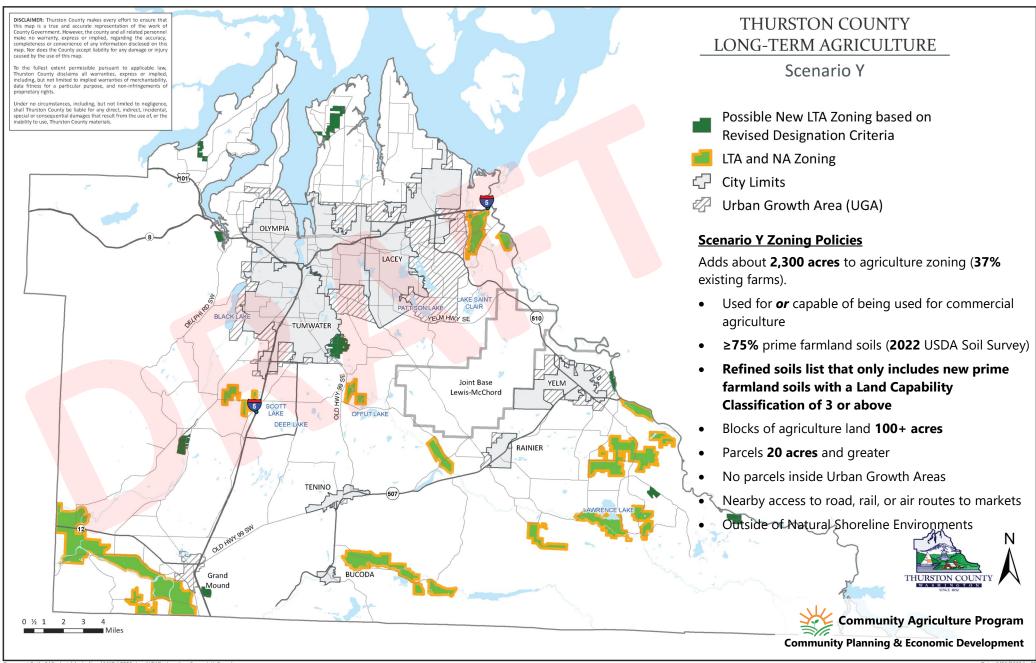


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Scenario Y for Agriculture Zoning Expansion (Scenario 1 Update) Based on Stakeholder Group Themes



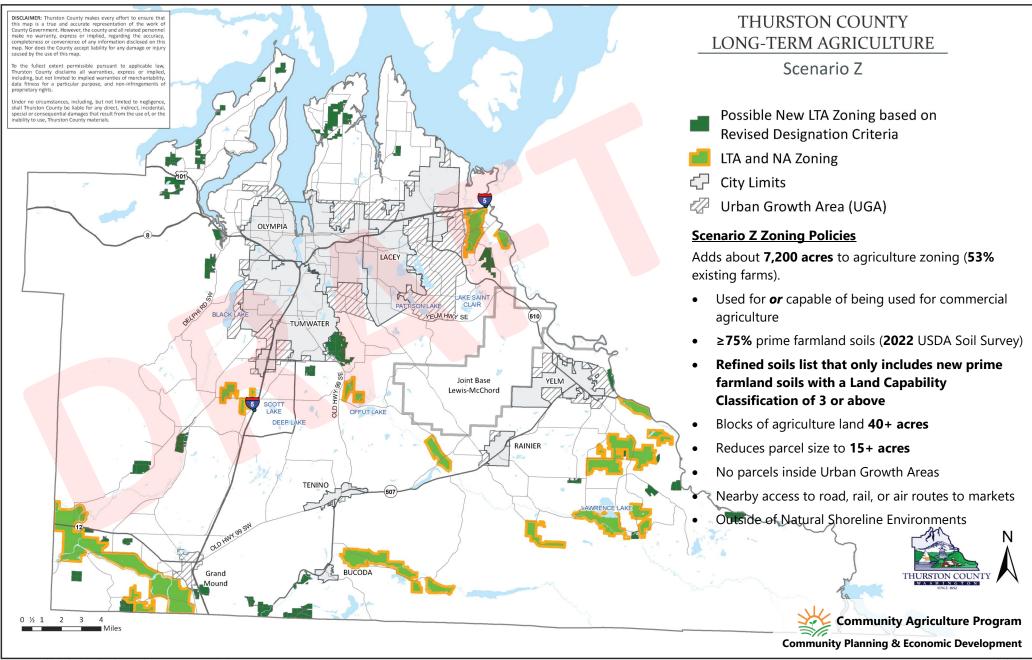
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Date: 6/26/2023 b

Draft for Discussion Purposes Only



Scenario Z for Agriculture Zoning Expansion (Scenario 2 Update) Based on Stakeholder Group Themes



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Date: 6/26/2023 by E