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TO:

WASCO COUNTY PLANNING COMMISSION

FROM:

WASCO COUNTY PLANNING & ECONOMIC

DEVELOPMENT OFFICE

SUBJECT:

Request for Comprehensive Plan Amendment and Zone Change for land in Sevenmile Hill Area Committed to Residential Use;

Exception to Goal 4; and Forest Protection Overlay.

HEARING DATE:

APPLICANT:

Wasco County, with the assistance of Kenneth A. Thomas

NATURE OF REQUEST:

The request is for:

- Amendments to the County's Comprehensive Plan and plan map establishing an exception to Goal 4, "Forest Lands," for 8 parcels totaling approximately 287 acres;
- A change in the zone designation of those lands from F-2 (80) "Forest Use" to F-F (10) "Forest Farm"; and
- Imposition of a Limited Use Overlay zone, including fire protection and clustering conditions and standards for development of rural residences in the zone.

RECOMMENDATION: The Planning Office recommends that the Planning Commission approve the request for a zone change, comprehensive plan amendment and exception as set forth below. The property is physically developed and irrevocably committed to non-forest uses, because residential uses on and surrounding the area make forest uses impracticable. The requested zone change includes imposition of a Limited Use Overlay that contains stringent fire reduction and protection standards, along with PUD standards for the clustering of new dwellings away from commercial forest uses. Following adoption of the requested overlay zone, the area will serve as a more effective buffer between residential uses in the Sevenmile Hill area, and commercial forest uses to the south. The criteria for the requested zone and plan changes are met, as explained in this submittal and the attached Exhibits.

BACKGROUND INFORMATION

PROPERTY OWNERS:

The tax lots subject to this request include all or part of the following lots, as shown on the attached map labeled Exhibit 1.1 and other maps in Exhibit 1 and referred to in this submittal as the "subject property:"

TAX LOT NO.	ACREAGE (Approx.)	OWNER	EXISTING DEVELOPMENT	MAXIMUM POTENTIAL NEW RESIDENCES
2N 12E Lot 2900 (portion of lot 2900 lying north of the BPA Transmission Line Easement for the Bonneville – The Dalles Line)	82.4	K. Thomas	All Weather Surfaced road.	8
2N 12E Section 21 Lot 1200	40 Ac	K. Thomas	Dirt road; spring developed with underground springbox, piping to a stand pipe and collection tank	4
2N 12 E Section 21 Lot 2600	4.86 Ac	Steven D. and Lisa Biehn	Residence	0
2N 12 E Section 21 Lot 2700	39.26 Ac.	Richard and Hope Vance	Residence and commercial fishing ponds.	2
2N 12 E Section 21 Lot 3000	34.24 Ac.	Margaret Anderson & James Foote	Residence.	1 or 2
2N 12 E Section 21 Lot 900	17.81 Ac.	Dennis Davis	All weather surfaced road.	1
2N 12 E Section 22 Lot 4400	40.10 Ac.	David Wilson	Residence	3
2N 12 E Section 22 Lot 4100	29.09 Ac.	David Wilson	Residence	1
TOTAL	287.76			20 or 21
AVERAGE LOT SIZE	33.67 Ac.			

COMPREHENSIVE PLAN AND ZONING DESIGNATIONS:

The subject property is designated forest use on the comprehensive plan map and zoned F-2 (80) for forest use.

PUBLIC FACILITIES AND SERVICES:

Transportation

The subject property lies south of Sevenmile Hill Road at the point where it intersects with Dry Creek Road and Osburn Cut-off Road. At or near the point of the intersection, and proceeding toward the northwest from the intersection, Sevenmile Hill

Road becomes State Road. The primary access to the subject property is from Sevenmile Hill Road onto a County Road of Limited Public Access.

From the records of the Wasco County Road Department:

	Functional Class	ADT	V/C ratio
		2009	from TSP
State Rd	RC Rural Major Collector	480	0.01
Dry Creek	RK Rural Minor Collector	78	n/a
Osburn Cut-off	RL Rural Local	51	n/a

[Data taken from Wasco County Transportation System Plan, 2009]

The Planning Office prepared a memorandum to the County Court dated 2/18/98 as a staff report for the Transition Lands Study Area (TLSA) Rezoning Hearing (See Exhibit 2). The TLSA memo contained the following statistics, found in Attachment "A" Quick Facts, pp. 2-3 (Exhibit 2, p. 7)):

Capacity for State Rd (7-Mile Hill Rd) 1500/day Capacity for Browns Creek Rd 1500/day

According to the latest version of the ITE Trip Generation Manual, a detached single family dwelling produces 9.57 Average Daily Trips (Land Use 210). The zone change could potentially add 22 dwellings to the area's traffic load, producing 201 daily trips at maximum buildout. The addition of those trips to the existing ADT would result in 690 daily trips for the area. Based on the carrying capacity of State Road/Sevenmile Hill Road, the addition of 22 dwellings would not cause the V/C ratio to rise above 0.5. Wasco County has not established a mobility standard for Sevenmile Hill Road. However, in the 2009 Transportation System Plan the county used the ODOT mobility standard of 0.70 as a comparison figure. Using that standard, should the proposed zone change produce the maximum development allowed, it would not have a significant impact on the transportation facilities.

Water and Sewer

There is no public water system that would be available to serve existing or future residences on the subject property or surrounding lands, because of the rural nature of the area. A Geologic Survey was published in 1996 as part of the TLSA study (see below under prior land use actions) which included a survey of wells and groundwater levels to determine the capacity for development in the Sevenmile Hill area. The land around the subject property was found to have groundwater in relatively good quantities. The static water levels were found to be less than 50' and the depth to base of aquifer was found to be between 100' and 199.' (See Exhibit 4, the <u>TLSA Study Area Ground Water Evaluation – Wasco County, Oregon</u>, Jervey Geological Consulting ("Groundwater Study") at pages 12-13.) The predominant source of water in this area is from wells. The general conclusion of the groundwater study is that this area has capacity to support

additional residential development. The study also recommended that groundwater levels be periodically monitored to assess the impact of ongoing rural development. See additional findings below regarding the TLSA study.

There are no public sewer facilities available in the area. Each residence would be required to handle its own sewage as required by law. At the development stage, each residential development would have to go through the site evaluation process for an individual septic system and private well. A maximum overall density of 1 residence per 10 acres has provided the necessary land area for adequate handling of sewage for individual properties in areas surrounding the subject property.

Electricity

Power lines are located on Sevenmile Hill Road, in close proximity to the site. Electric power is available to serve the subject property and currently serves residences located on the subject property.

Fire Protection and Prevention

The subject property is within the Mid-Columbia Fire and Rescue District. The District has cooperation agreements with the Oregon Department of Forestry and with the Mosier Fire Protection District. When an alarm is received in one agency, it is also transferred to the other two, and when necessary, there is a combined, coordinated response to fire emergencies.

HISTORY AND PRIOR LAND USE ACTIONS:

In 1993, Wasco County began work on the Transition Lands Study Area Project ("TLSA") in response to concerns about development in northern Wasco County, and particularly in the area surrounding the parcels in this current proposal, known as the Sevenmile Hill area. The concerns included "availability of groundwater to serve domestic needs, fire hazard, conflict with wildlife, and available lands for rural residential lifestyle in this developing area."

The first phase of the project was a groundwater study. The initial study was published in December 1996 as the "TLSA Ground Water Evaluation, Wasco County, Oregon" by Jervey Geological Consulting (The Groundwater Study"). On September 12, 1997, the final report for the TLSA was published, incorporating the Groundwater Study. The TLSA report included recommendations outlining the sub-areas within the study area that were suitable for residential development, rating them with scores for resource values and development values. Referring to Figure 11 in that report, which is a map indicating the combined values of the two scales, the properties in this current proposal were rated "L/H," meaning that they scored low for Resource Values and high for Development Values (with the exception of the northern part of parcel 2900, which was rated H/H, or having high scores for both Development Values and Resource Values).

The final Recommendation of the TLSA for the Sevenmile Hill area included:

- Retain the existing R-R(5) and A-1 (80) EFU zoning.
- Retain the existing F-F(10) areas that have a higher resource value or a low development value (for instance, in areas where water availability is unknown).
- Rezone the remainder of the F-F(10) lands to R-R(10). F-F(10) areas would be able to transfer development rights to the area identified as the test area.

As a result of the TLSA study, eight parcels of F-F(10) land in the Seven-Mile Hill area north of the subject property were converted to R-R(10), removing the requirement for conditional use review of proposed non-farm/forest dwellings (ZNC 99-101 ZO-L and CPA 99-103-CP-L). In recent years the County has approved single family dwellings that have subsequently been built on nearly every lot surrounding the proposed exception area. In addition, there are five existing dwellings within the proposed exception area, in the F-2(80) zone.

The approval of dwellings south of Sevenmile Hill Road in recent years and the rezoning of portions of that area has been contentious. Appeals of those approvals to the Land Use Board of Appeals were brought by Kenneth Thomas. Mr. Thomas is a member of the Society of American Foresters, and owns and manages extensive tracts of timberland south of, and extending into, the proposed exception area. One of Mr. Thomas' central concerns has been that rural residential development is generally incompatible with commercial forestry—that the approval of additional dwellings south of Sevenmile Hill Road would increase the fire risk for his commercial forest lands to the south and increase the chance that a forest fire in the commercial forest lands would spread to abutting residences and pose a risk to the community. Considering the topography of the area, which is generally flat north of Sevenmile Hill Road and rapidly sloping upward to the south, if housing had been limited to the area north of Sevenmile Hill/Dry Creek Roads, those roads could have operated as a fire break between residential uses and commercial forestry uses to the south.

The record of hearing, and findings leading to approval of a dwelling on a 5.1 acre parcel south of Sevenmile Hill Road and abutting the subject property (applicant Joseph Betzing), indicate that the area in which the subject property is located is subject to high wind gusts as well as stable high wind patterns. The area is characteristically dry and subject to drought, which leads to high mortality in forest stands. That record also indicated that the Oregon Department of Forestry (ODF) has identified the area as one of particularly high fire risk during the fire season, and has repeatedly identified residential and associated buildings as significant fire hazards. ODF also testified that "dwellings increase the risk of fire, restrict control tactics, complicate the protection priorities and require additional coordination that result in increased cost." Betzing Record at 230.

A settlement agreement was entered into on January 5, 2000, between the County Planning Director, the appellant Kenneth Thomas, and Joseph Betzing. (Attached as Exhibit 5) The settlement was based on a mutual understanding that the area south of Sevenmile Hill Road included land that was already built (with existing residences), and committed (through existing plan and zone designations and development approvals) to low-density rural residential uses. The logical boundary, separating commercial forestry uses from built and committed residential areas, is the Bonneville Power Administration Transmission Line Easement also known as "Bonneville - The Dalles Line." The BPA easement area is maintained clear of trees, and acts, because of its width and scarification, as a significant physical break between rural residential uses in the Sevenmile Hill Road area and commercial forestry uses to the south. That powerline right-of-way/ easement area will separate and therefore mitigate the potential fire impacts associated with low-density residential uses in the Sevenmile Hill area.

The terms of the Settlement Agreement state, in relevant part:

"The County Department Staff, acting in good faith shall use best efforts in supporting a legislative zone change and comprehensive plan change to modify the zoning and comprehensive plan designation of the property marked in exhibit A, from F-2 to FF-10." Exhibit 5, p. 1.

To institute these recommended changes, the county's comprehensive plan should be amended, to take an exception to Goal 4 and to recognize that the area has changed enough to require a new plan designation. The new designation should permit not just small-scale forest-farm uses, but also low-density rural residential use. In this circumstance, the proposed zoning designation is Forest-Farm, with a ten-acre minimum lot size. Residential use of the area in conjunction with forest or farm uses is allowed outright on parcels meeting the minimum lot size, and otherwise, only subject to a conditional use permit. To further promote the goal of protecting commercial forestry in the area, a Limited Use, Forest Protection Overlay Zone, (proposed in this submittal and attached as Exhibit 6) will require clustering of any proposed dwellings toward the northern portion of the area adjacent to existing residential lots and close to existing road access, and establish additional fire prevention standards and conditions. These measures will improve the utility of the subject property to serve as a buffer between rural residential uses in the area and commercial forestry uses to the south.

The current proposal therefore seeks to apply F-F(10) zoning to all or a portion of eight parcels (totaling approximately 287 acres) in an area identified on the attached map (Exhibit 1.1), currently zoned F-2. This action would allow potential development of an additional 20-21 rural residences in an area south of Sevenmile Hill Road (County Road 507) and Dry Creek Road (County Road 405), and north of the southern boundary of Bonneville Power Administration's (BPA) Bonneville - The Dalles Line right-of-way/easement. That right-of-way/easement will function as a physical divider between existing rural residential development and the new F-F(10) lands in the current proposal on the one hand, and the commercial forestry lands south of the easement on the other.

Approval of the Sevenmile Hill Forest Protection Overlay, as proposed in Exhibit 6, will further promote and protect commercial forest uses in the area, and otherwise further mitigate the potential for conflicts between residential uses and Goal 4 resources.

The county has determined that nearly all the lots within the exception area are legally established lots of record, with two exceptions. The status of Tax Lot, 2N 12E 22 4100, is "not legal." In a letter from the Planning Department dated March 16, 2011 under file number PLALUV-11-03-0001, the county wrote:

"In summary, Bargain & Sale Deed 98-1202 is the instrument that created the improper division of 2N 12E 22 4400, 4100/2N 12E 0 2800. It is staff's opinion that this improper land division occurred as a result of a letter dated December 12, 1985, from the Wasco County Planning Dept. to the Dept. of Veterans Affairs. This letter indicates that as long as the legal parcel (tax lot 4400) maintains a minimum of 40 acres in compliance with the (then) zoning of F-2(40), Forest (40 acre minimum lot size requirement), the remainder of the property could be combined with another legal parcel. If the remainder of the property had been consolidated with another parcel that was legally created by deed, it would have been consistent with the definition of Property Line Adjustment. However, the remainder of the property was consolidated with subdivision lots. A property line adjustment cannot combine a subdivision lot with a non-subdivision lot. This action would require a replat of the actual subdivision, which did not occur. The result of this action was an illegal land division."

The letter goes on to outline the steps required to make this lot legal pursuant to ORS 92.176, a statute that allows for the validation of a land division that was not approved legally when the lot was created by sale or transfer.

The status of Lot 2N 12E 21, tax lot 900, owned by Davis, is unknown. The Planning Department does not have any partition or subdivision on file that contains this tax lot. The Assessor records indicate that the first deed for this property was Warranty Deed 80-1353, several years after the enactment of partitioning regulations in Wasco County (9/4/1974). In 1980, at the time that the referenced deed created this lot, the zoning for the property was A-2:10 (a zone that no longer exists). According to the zoning ordinance at that time, the minimum lot size for that zone was 10 acres. Therefore, the lot that was created complied with the zoning code as far as lot size is concerned.

By reducing the minimum parcel size in the exception area, this zone change should also provide a different way to make legal the two lots whose legality is presently in question. It will become possible to file an application for a partition (as opposed to a lot validation under ORS 92.176) with respect to each of the two lots and the contiguous lot or lots.

One lot in the exception area, Tax Lot 2N 12E Section 21 Lot 2600 (formerly tax lot 11691) is considered a legal lot, even though it is 4.86 acres in an F-2(80) zone. According to county records, it was created through a land sale contract recorded under number 80-1399 on 7/15/80. A partition filing in 1984, MIP-84-118 WAF24-A, divided property that lot 2600 was a part of in prior deed descriptions, leaving lot 2600 as a remainder. The county acknowledged that it would be considered a legal lot of record as part of the partition, and this was not appealed. The county's policy is to continue to treat it as a legal lot of record, although it was not created properly according to county regulations. This property contains a dwelling.

JUSTIFICATION FOR REQUEST:

- 1. Wasco County Comprehensive Plan Revision Procedures and standards.
- 1.1 The Comprehensive Plan's "Definitions—Existing Land Use Map" identify the subject property as: "Forestry this designation includes all commercial forest land, both publicly and privately owned. Productivity is greater than 20 cubic feet per acre per year." Page 232 of the plan lists "Purpose Definitions of Map Classifications on the Comprehensive Plan Map." The existing plan classification, "Forest," states: "Purpose: To provide for all commercial and multiple use forest activities compatible with sustained forest yield."
- 1.2 Part of the request is to change the classification of the subject property on the planning map to "Forest-Farm:" "Purpose: To provide for the continuation of forest and farm uses on soils which are predominantly class 7 and forest site class 6 and 7; and to preserve open space for forest uses (other than strictly commercial timber production) and for scenic value in the Gorge."
- 1.3 The following provisions apply and are addressed in the following sections.
- 1.4 Chapter 11 of the Comprehensive Plan establishes procedures and standards for revision of the plan and plan map. This request requires amendment of the text of the plan, to justify an exception to Goal 4, and an amendment to the plan map to designate the subject property for Forest-Farm (non-resource) uses.
- 1.5 Chapter 11 states that a comprehensive plan revision may be initiated by the Wasco County Court. This amendment has been initiated by resolution of the Wasco County Court, Resolution ___ (attached as Exhibit 7) directing the Planning Director to prepare the materials contained in, and attached to, this narrative. Kenneth Thomas has assisted this effort by providing factual information and other support as specified in the Settlement Agreement dated January 5, 2000 attached as Exhibit 5.

1.6 The proposal is legislative in character, and hearings in this matter are being conducted with legislative procedures and safeguards. Notice of the hearing on this action was provided to the Department of Land Conservation and Development as specified in ORS 197.610 and 615. (See attached Exhibit 8)

1.7 General Criteria for a Plan Amendment.

Subsection H. of Chapter 11 of the comprehensive plan states:

"The following are general criteria which must be considered before approval of an amendment to the Comprehensive Plan is given:

- 1. Compliance with the statewide land use goals as provided by Chapter 15 or further amended by the Land Conservation and Development Commission, where applicable.
- 2. Substantial proof that such change shall not be detrimental to the spirit and intent of such goals.
- 3. A mistake in the original comprehensive plan or change in the character of the neighborhood can be demonstrated.
- 4. Factors which relate to the public need for healthful, safe and aesthetic surroundings and conditions.
- 5. Proof of change in the inventories originally developed.
- 6. Revisions shall be based on special studies or other information which will serve as the factual basis to support the change. The public need and justification for the particular change must be established."
- 1.7.1 As set forth by the County Court in Exhibit B of the Big Muddy Ranch Young Life Youth and Family Camp Exception (September 1997), these are factors for consideration and not standards that must each be strictly met. Thus, the Planning Commission and County Court need only consider these criteria and determine whether they are generally satisfied. Further, as previously determined by the County Court, factors VIII(3) and VIII(5) relative to mistake and inventory change are generally more appropriate in a legislative plan amendment which often includes policy deliberations of a broader scale.
- 1.7.2 The following findings demonstrate compliance with statewide land use planning goals that may apply to the request, as required by subsections 1 and 2 of the plan amendment general factors:

Goal 1 — Citizen Involvement. The purpose of Goal 1 is to ensure the "opportunity for citizens to be involved in all phases of the planning process." Wasco County has incorporated opportunities for citizen involvement in its Comprehensive Plan and zoning ordinance procedures. Compliance with Goal 1 is demonstrated by compliance with the applicable Plan and zoning ordinance provisions. These proceedings are being conducted with notice and hearings as required by law and local ordinance.

Goal 2 – Land Use Planning. The purpose of Goal 2 is "to establish a planning process and policy framework as a basis for all decisions and actions related to use of the land and to assure an adequate factual base for such decisions and actions." The county's planning process has been acknowledged as being in compliance with the goals, and was followed in consideration of the proposal. An adequate factual base is provided by this narrative, the attached exhibits, and testimony received through the hearing process. As discussed in greater detail below, the proposal also complies with Goal 2 requirements for the adoption of exceptions to a statewide goal, in this case, Goal 4. The proposal complies with Goal 2.

Goal 3 – Agricultural Lands. Goal 3 provides for the preservation of Agricultural Lands for farm use. The subject property has been designated for forest uses, not farm uses, although small scale (non-commercial) farm uses are possible in the area. Because the subject property has not been identified or inventoried as agricultural land, Goal 3 does not apply to the proposal. The small-scale farming activities possible in the area are promoted by the allowance of rural residences.

Goal 4 – Forest Lands. Goal 4 provides for the preservation of Forest Lands. The properties to be included in the proposed exception area are currently designated Forest Land. The intention of this proposal is to preserve those properties in small-scale forest and farm use, while allowing establishment, through a conditional use process, of rural residences under the county's F-F(10) zoning. Because Goal 4 applies, and the requested plan and zone designations would allow development of non-forest uses, an "exception" must be taken to Goal 4. The exception is justified in part 2 of this narrative addressing LCDC's administrative rule requirements for "built" and "committed" exceptions.

Goal 5 – Open Spaces, Scenic and Historic Areas, and Natural Resources. Tax Lots 2600, 2700, a portion of 2900, and 3000 are located within the Low Elevation Winter Range of the Big Game Wildlife Overlay. Wasco County recognizes in its comprehensive plan that big game herds are a valuable natural resource. The county zoning ordinances contain siting and development criteria, found in zoning ordinance section 3.920, for

lands within designated areas in the county. Goal 5 is met by the application of these standards to any development within the designated Big Game Winter Range. Protection of Goal 5 resources is also promoted through establishment of the Sevenmile Hill Forest Protection Overlay, which will require clustering of development near existing homes and away from commercial forest lands, helping to preserve wildlife corridors and to protect big game habitat from destructive fires. No other inventoried Goal 5 resources are affected by the proposal. The proposal complies with Goal 5.

Goal 6 – Air, Water, and Land Resources Quality. Goal 6 is "To maintain and improve the quality of the air, water and land resources of the state." The proposal is consistent with Goal 6. The exception area is not located in or near a federal air quality attainment area, and will not generate significant additional air pollution. Sewage disposal from potential additional new dwellings must comply with all state and local requirements. Those requirements ensure that such discharges will be properly treated and disposed of, and will not threaten to exceed the carrying capacity of, or degrade or threaten the availability of, area natural resources. The proposal complies with Goal 6.

Goal 7 - Areas Subject to Natural Disasters and Hazards. Goal 7 is "To protect people and property from natural hazards." Goal 7 calls for local governments to adopt measures "to reduce risk to people and property from natural hazards." The only natural hazard listed in the rule relevant to the request is "wildfires." Adoption of the proposal, including the proposed Forest Protection Overlay, will reduce the risk to people and property from wildfires. The proposal promotes and implements Goal 7.

Goal 8 – Recreational Needs. Goal 8 is "To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts." If the zoning is changed to F-F(10), "Parks, playgrounds, hunting and fishing preserves and campgrounds" would be allowed as conditional uses within the exception area. Hunting and fishing preserves are allowed outright without lodging, and parks and campgrounds are allowed as conditional uses, under the current F-2 zoning. To the extent Goal 8 applies, the proposal is consistent with Goal 8.

Goal 9 – Economic Development. Goal 9 is "To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens." The proposal promotes Goal 9 in two ways: first, by allowing residential uses, which the County considers to be the appropriate use of the subject property in view of existing development and; second, because the Sevenmile Hill Forest

Protection Overlay will protect and promote commercial forestry on neighboring forest resource lands. Improved protection from fire and improved buffering from residential uses provided by the proposal will serve to reduce the cost of fire prevention for the commercial forestry lands and increase the security of, and thereby the value of residential uses in the area. The proposal is consistent with, and promotes Goal 9.

Goal 10 - Housing. Goal 10 is "To provide for the housing needs of citizens of the state." The rule is directed to lands in urban and urbanizable areas. However, the proposal will allow development of additional homes in an area that is already built and committed to residential uses. Consistent with Goal 10, the proposal will improve housing opportunities in an area where such uses are appropriate.

Goal 11 - Public Facilities and Services. Goal 11 is "To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development." In this case, the proposed rural development is supported by facilities and services that are appropriate for, and limited to, the needs of the rural area to be served. Because the area is rural, public facilities such as water and sewer services are not considered necessary or appropriate. Public roads are available and adequate. Local fire and police services are provided by Mid-Columbia Fire and Rescue Department and the Wasco County Sheriff's Office. Neither water nor sewer services are provided to the area, but both are available on the subject properties through individual wells and septic tank systems. Electric and phone services are available in the area. The increased housing potential in the area is not great enough to have a significant impact on any facilities planned for under Goal 11. density allowed by the change (1 residence per 10 acres) is less than the maximum density recommended by the TLSA study. Fire protection for the area and the resource land to the south will be improved by restrictions imposed through the Sevenmile Hill Forest Protection Overlay. proposal complies with Goal 11.

Goal 12 – Transportation. Goal 12 is "To provide and encourage a safe, convenient and economic transportation system." The proposal will have little if any impact on the transportation system serving the exception area because there will be a minimal increase in traffic generated by development that might occur as a result of the plan amendment and zone change. Current estimates of use indicate that roads in the area are operating now well below their capacity, with Volume-to-Capacity ratios of 0.01. Under the proposed exception area standards, it is estimated that a maximum of 22 residences could be developed. Each residence is predicted to generate an average of 9.57 trips/day, which would not

significantly affect the functionality, capacity, or level of service of Sevenmile Hill Road or other local roads.

In connection with Goal 12, the county is required to apply the Transportation Planning Rule in Chapter 660, Division 12 of the Oregon Administrative Rules. OAR 660-12-060 requires, as to amendments to a comprehensive plan or zoning ordinance that "significantly affect a transportation facility," that the county "assure that allowed land uses are consistent with the identified function, capacity, and level of service of the facility." The proposed action does not significantly affect a transportation facility, and is in conformance with Goal 12 and the Goal 12 rule.

Goal 13 – Energy Conservation. Goal 13 is "To conserve energy." In this case, Goal 13 is promoted through standards that require clustering of dwellings toward established roads, and through fire prevention standards and requirements that will reduce the threat of wildfires in the area. Fires wastefully consume natural resources and homes, requiring considerable energy to replace. The proposal conforms with and promotes Goal 13.

Goal 14 - Urbanization. Goal 14 is "To provide for an orderly and efficient transition from rural to urban land use." Goal 14 lists seven factors to be considered when establishing and changing urban growth boundaries, and four considerations for converting urbanizable land to urban uses. The subject property is not near or within an urban growth boundary, and is not urban or urbanizable. The density of housing that could occur in the area following the requested plan amendment and zone change is one dwelling per ten acres, which is not an urban density. No decidedly "urban" services will be required to allow the maximum amount of development contemplated by this proposal. Water is available in the area in sufficient quantities to serve the proposed housing density (see Exhibit 4, TLSA Groundwater Evaluation). The proposed density will also allow sewage disposal through construction of on-site septic drainfields in accordance with DEQ and local health department requirements. To the extent Goal 14 applies to this proposal, conformance is demonstrated through detailed findings in this submittal addressing Goal 14 as required by Oregon Administrative Rules governing the exceptions process.

Goals 15 through 19 do not apply.

1.7.3 As noted above, subsection 3 of the county's plan revision factors requires consideration of whether: "A mistake in the original comprehensive plan or change in the character of the neighborhood can be demonstrated." Webster's least recriminatory definition of "mistake," most appropriate here, is "a

misunderstanding of the meaning or implication of something." unabridged ed. p. 1446). This proposal is being reviewed in a legislative proceeding, in which the County is considering whether proposed plan and zone designations for the area are more appropriate than the original designations. At that time increased fire hazards in the wildland-urban interface and the need for appropriate buffer areas between rural residential and forestry uses may have been less understood. Based on the materials in this submittal, the county's original characterization of the area as most appropriate for commercial forest uses appears to have been incorrect. Numerous residential lots had been previously platted to the south of Sevenmile and Dry Creek roads. Subsequent decisions allowed rural residential uses on both sides of Sevenmile Hill and Dry Creek roads, diminishing the value of those roads as an effective fire break between residential uses and lands capable of being managed for commercial forest use. The area now appears not to be suitable for forestry uses, but to be more suitable for rural residential use. The TLSA study supports a conclusion that the original comprehensive plan was incorrect, and that the most appropriate use of the property is for rural residences. The County's recent rezoning of several parcels south of Sevenmile Hill Road from F-F(10) to RR-10, allowing development of nonfarm or forest dwellings as uses permitted outright, also supports this conclusion. The approval of dwellings in and immediately adjacent to the subject property also supports a finding that the character of the neighborhood has changed, toward residential, and away from forestry use.

Regardless of how previous decisions and their impacts are characterized, it is clear that conflicts currently exist in the area, between residential and forestry uses. Where possible, firebreaks should effectively separate residential and forestry uses, to protect each from the fire risks inherent in the other. To the extent the existing designation is a mistake, the proposal will effectively correct that mistake by allowing development of Forest-Farm residences in an area physically separated from commercial forest lands by a power line right-of-way/easement. The proposal also recognizes that the character of the neighborhood south of Sevenmile Hill Road has changed from undeveloped forest and woodlot, to rural residential uses, and seeks to resolve existing conflicts between forest and residential uses.

1.7.4 As noted above, subsection 4 of the county's plan revision factors requires consideration of "Factors which relate to the public need for healthful, safe and aesthetic surroundings and conditions." This requirement is satisfied by the proposal, which is purposefully designed to allow limited residential development, and small-scale farm and forest uses, on land that is suited for such uses. Safety for those uses is provided by the proposed Sevenmile Hill Forest Protection Overlay and by the BPA right-of-way/easement, which will serve as a firebreak between existing and proposed residential uses and nearby commercial forestry uses. The county's interest in promoting healthful, safe and aesthetic surroundings for rural residences is effectively addressed through imposition of

the fire protection and clustering requirements of the Overlay. The aesthetics and safety of forested areas is promoted by protecting those areas from the threat of fires that might originate in residential areas.

- 1.7.5 As noted above, Subsection 5 of the County's plan revision factors requires consideration of "Proof of change in the inventories originally developed." The proof required by this section is provided by these findings, the attached exhibits, and testimony and evidence obtained by the county through the hearing process. The county's original inventory of forest lands included the subject property. That inventory has changed, because housing has been allowed within, and in close proximity to the resource area, in a manner that diminishes its suitability for forest uses. The most appropriate manner of addressing this change is as proposed—demonstrate that the land is built and committed to non-resource uses, and justify an exception to Goal 4 that will officially remove the property from the County's Goal 4 inventory. The property can then be dedicated to small-scale farm and forest uses with limited density housing in a manner that promotes and improves protection of nearby forest resource lands south of the BPA easement.
- 1.7.6 As noted above, Subsection 6 of the county's plan revision factors states: "Revisions shall be based on special studies or other information which will serve as the factual basis to support the change. The public need and justification for the particular change must be established." As described throughout these findings, the proposed revisions are based on the TLSA study, previous county land use decisions affecting the area, as well as the information, justification and evidence contained and referenced in these findings and in the attached exhibits. These materials, and the county's plan, demonstrate that there is a public need for low-density rural residential uses, for small scale farm and forest uses, and for commercial forestry in the county generally and in the Sevenmile Hill area. The justification for the particular change, addressed throughout these findings, is that the safety and viability of all of these uses is promoted through zoning designations that separate residential uses from commercial forestry uses and buffer each from the other. It is feasible to mitigate the potential impacts of fire in the area, by utilizing existing firebreaks, and imposing requirements for clustering dwellings; maintenance of fire breaks around dwellings; maintenance of adequate fire suppression water supplies, and similar practices. There is therefore a public need for the requested change, which has been fully justified by these findings and exhibits.

1.8 Transportation Planning Rule Compliance

Subsection I. of Chapter 11 of the comprehensive plan states:

"1. Review of Applications for Effect on Transportation Facilities - A proposed plan amendment, whether initiated by the County or by a private interest, shall be reviewed to determine whether it significantly affects a transportation facility, in accordance with Oregon Administrative Rule (OAR) 660-012-0060 (the Transportation Planning Rule – "TPR"), 'Significant' means the proposal would: (exclusive of correction of map errors in an adopted plan);

- a. Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);
- b. Change standards implementing a functional classification system; or
- c. As measured at the end of the planning period identified in the adopted transportation system plan:
- (1) Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;
- (2) Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP; or
- (3) Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum acceptable performance standard identified in the TSP or comprehensive plan.
- 2. Amendments That Affect Transportation Facilities Amendments to the land use regulations that significantly affect a transportation facility shall ensure that allowed land uses are consistent with the function, capacity, and level of service of the facility identified in the TSP. This shall be accomplished by one or a combination of the following:
- a. Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.
- b. Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of Section -0060 of the TPR.
- c. Altering land use designations, densities, or design requirements to reduce demand for vehicle travel and meet travel needs through other modes of transportation.
- d. Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.
- 3. Traffic Impact Analysis A Traffic Impact Analysis shall be submitted with a plan amendment application pursuant to Section 4.140 Traffic Impact Analysis (TIA)) of the Land Use and Development Ordinance."

1.8.1 A separate Traffic Impact Analysis is not required because there is not a "significant impact" under the TPR (OAR 660-12-0060(1)).

1.9 Procedures for a Plan Amendment.

Subsection J. of Chapter 11 of the comprehensive plan states, in relevant part:

- "1. A petition must be filed with the Planning Offices on forms prescribed by the Commission.
- "2. Notice of a proposed revision within, or to, the urban growth boundary will be given to the appropriate city at least thirty (30) days before the County public hearing.

* * *

- 4. Notification of Hearing:
- (1) Notices of public hearings shall summarize the issues in an understandable and meaningful manner.
- (2) Notice of hearing of a legislative or judicial public hearing shall be given as prescribed in ORS 215.503 subject to ORS 215.508. In any event, notice shall be given by publishing notice in newspapers of general circulation at least twenty (20) days, but not more than forty (40) days, prior to the date of the hearing.
- (3) A quorum of the Planning Commission must be present before a public hearing can be held. If the majority of the County Planning Commission cannot agree on a proposed change, the Commission will hold another public hearing in an attempt to resolve the difference or send the proposed change to the County Governing Body with no recommendation.
- (4) After the public hearing, the Planning Commission shall recommend to the County Governing Body that the revision be granted or denied, and the facts and reasons supporting their decision. In all cases the Planning Commission shall enter findings based on the record before it to justify the decision. If the Planning Commission sends the proposed change with no recommendation, the findings shall reflect those items agreed upon and those items not agreed upon that resulted in no recommendation.

(5) Upon receiving the Planning Commission's recommendation, the County Governing Body shall take such action as they deem appropriate. The County Governing Body may or may not hold a public hearing. In no event shall the County Governing Body approve the amendment until at least twenty (20) days have passed since the mailing of the recommendation to parties."

These and all other applicable statutory and local procedures have been or will be followed in consideration of the proposal.

2. Justification for Taking an Exception to Goal 4:

2.1 Introduction.

In order to amend its plan to change the subject property's designation from Forestry to Forest-Farm and to implement that designation through its zoning ordinance, the County must adopt an exception to Goal 4.

Statewide Land Use Planning Goal 4, "Forest Lands" is:

"To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture."

ORS 197.932(1) states, in relevant part:

- "(1) A local government may adopt an exception to a goal if:
- (a) The land subject to the exception is physically developed to the extent that it is no longer available for uses allowed by the applicable goal; [or]
- (b) The land subject to the exception is irrevocably committed as described by Land Conservation and Development Commission rule to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable;

* * *

(4) A local government approving or denying a proposed exception shall set forth findings of fact and a statement of reasons which demonstrate that the standards of subsection (1) of this section have or have not been met.

(5) Each notice of a public hearing on a proposed exception shall specifically note that a goal exception is proposed and shall summarize the issues in an understandable manner.

* * *

- (8) As used in this section, 'exception' means a comprehensive plan provision, including an amendment to an acknowledged comprehensive plan, that:
- (a) Is applicable to specific properties or situations and does not establish a planning or zoning policy of general applicability;
- (b) Does not comply with some or all goal requirements applicable to the subject properties or situations; and
- (c) Complies with standards under subsection (1) of this section."
- **2.1.1** In like manner, Planning Goal 2, part II, states, in relevant part:
- "A local government may adopt an exception to a goal when:
- (a) The land subject to the exception is physically developed to the extent that it is no longer available for uses allowed by the applicable Goal; [or]
- (b) The land subject to the exception is irrevocably committed to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable;"
- 2.1.2 Both the goal and the rule adopt the legislative definition of an exception with minor variation—subsection (c) is modified in the goal to state "Complies with standards for an exception" and in the rule to state "Complies with the provisions of this Division." OAR 660-004-0010 states that the "process is generally applicable to all or part of those statewide goals which prescribe or restrict certain uses of resource land," including: "Goal 4 'Forest Lands.'"

2.1.3 Goal 4 provides that:

"Where a * * * plan amendment involving forest lands is proposed, forest land shall include lands which are suitable for commercial forest uses including adjacent or nearby lands which are necessary to permit forest operations or practices and other forested lands that maintain soil, air, water and fish and wildlife resources,"

2.1.4 Rule definitions of "resource land" and "nonresource land" support a conclusion that, in this instance, an exception is necessary before the subject property can be plan and zone designated for forest-farm uses, a rural residential, nonresource category of uses under the County's plan and zoning ordinance. To justify an exception, the County must address all applicable criteria in LCDC's rule for exceptions, OAR 660, Division 4.2.2.

This request is for both "physically developed" and "committed" exceptions to Goal 4, "Forest Lands," which seeks to conserve forest lands by promoting efficient forest practices and sound management of the state's forest land base.

2.2 Exception Requirements for Land Physically Developed to Other Uses.

OAR 660-004-0025 contains standards for adoption of a "physically developed" exception.

2.2.1 OAR 660-004-0025 states:

- (1) A local government may adopt an exception to a goal when the land subject to the exception is physically developed to the extent that it is no longer available for uses allowed by the applicable goal. Other rules may also apply, as described in OAR 660-004-0000(1).
- (2) Whether land has been physically developed with uses not allowed by an applicable goal will depend on the situation at the site of the exception. The exact nature and extent of the areas found to be physically developed shall be clearly set forth in the justification for the exception. The specific area(s) must be shown on a map or otherwise described and keyed to the appropriate findings of fact. The findings of fact shall identify the extent and location of the existing physical development on the land and can include information on structures, roads, sewer and water facilities, and utility facilities. Uses allowed by the applicable goal(s) to which an exception is being taken shall not be used to justify a physically developed exception.
- 2.2.1.1 The proposed exception area has the same boundaries as the subject property, as shown on the map in Exhibit 1.1.
 - 2.2.1.2 Recent wildfires in the western United States have demonstrated the risk to residences and the community that such fires pose. As an example, the Sheldon Ridge fire in 2002 burned 12,761 acres of land in Wasco County, destroyed eight structures, and threatened 200 residents, including residents in the Sevenmile Hill area. Management of

wildfires in wildland-urban interface areas is more difficult and costly than in areas without residences. (See Exhibit 12)

- 2.2.2.1 The exception area is located in T2N, R12E, in the south half of Section 21, and in the southwestern quarter of Section 22. The north boundary of the area is the horizontal half-line of section 21, until it approaches the west line of Section 22, where the boundary follows the centerline of Sevenmile Hill Road. The south boundary is the southern boundary line of the BPA Transmission Line Easement. The transmission line corridor is cleared and maintained, and acts as a physical dividing line between the exception area and the ongoing large-scale forestry and agricultural uses that dominate the property to the south. The lots in the SW Quarter of Section 21 have been reconfigured over time to use the BPA Line Easement as their boundary lines.
- 2.2.2.2 The eight lots within the exception area range in size from 4.86 to 82.4 acres. Notwithstanding the current F-2 (80) zoning, two of the lots are smaller than 20 acres, and five are approximately 40 acres. Only one of the lots, Lot 2900, conforms to the size requirements of the underlying zone.
- 2.2.2.3 The exception area is a hillside of moderate slopes (10%-30%) with occasional small flat benches. The elevation ranges from approximately 1400 to 1800 feet above sea level.
- 2.2.2.4 The dominant vegetation of the exception area is primarily Oregon White Oak interspersed with Ponderosa Pine, with some Douglas Fir in draws. Grasses and shrubs create moderately dense underbrush.
- 2.2.2.5 Soils in the exception area. The area soil is thin and rocky. It is predominately class III Wamic Loam with a forest index of 6.
 - 2.2.2.5.1 According to the USDA, Soil Conservation Service (now known as Natural Resource and Conservation Service or NRCS) Soil Survey for Wasco County, Oregon, Northern Part, the soils in the exception area are mainly comprised of Wamic loam, with some areas of Wamic-Skyline Complex and Hesslan-Skyline Complex. The table below summarizes the soil types and the percentage of coverage of the exception area they represent.

MAP	NAME OF SOIL TYPE	CAPABILITY	WOODLAND	PERCENT
UNIT		CLASS	GROUP	COVERAGE
49C	Wamic Loam, 5-12% north slope	IIIe-4	50	50.1%
50D	Wamic Loam, 12-20% slopes	IIIe-4	50	23.4%
51D	Wamic-Skyline Complex, 2-20%	VIe	-	17.5%

	slope			
28E	Hesslan - Skyline complex, 5-40%	VIIs	-	5.3%
	slope			
50E	Wamic Loam 20-40% slope	VIe	5r	3.7%

Soils maps are attached to this submittal as Exhibits 1.6 and 1.7, and soil descriptions are contained in Exhibit 9.

2.2.2.5.2 Characteristics of 49C WAMIC LOAM, 5-12% North Slope. Wamic Loam is the predominant soil class in the exception area, and is further categorized into four subcategories according to the degree of slope, exposure and capability class. Mapping Unit 49C, Wamic Loam, 5-12% slope is the most prevalent, comprising just over 50% of the land area. This soil type represents more gently sloping areas where the exposure is toward the north. In the exception area, this particular range of the soil class is characterized by smaller oak and scattered pine forest. The capability of IIIe-4 has been found to be suitable for dry farm small grain, hay, pasture, and wildlife habitat. The woodland designation of 50 indicates low productivity with no significant limitations or restrictions. This capability class is also designated under the pine-oak-fescue range and as such it is possible that it could be used for fruit orchards or other crops. In its uncultivated state, however, special management is required to reduce oak and shrub growth that will curtail stabilizing plant growth beneath what amounts to a thin, mainly pine canopy.

2.2.2.5.3 Characteristics of 50D Wamic loam 12-20% slope. This soil class is the second most prevalent in the exception area, covering approximately 23% of the area. It carries much the same characteristics as mapping unit 49C, with the same capability unit of IIIe-4, part of the pine-oak-fescue range, and also woodland group 50. The main difference is that mapping unit 50D tends to have steeper slopes and is therefore less desirable for agricultural cultivation.

2.2.2.5.4 Characteristics of 51D Wamic-Skyline Complex. This mapping unit covers about 17.5% of the exception area. It is capability class VIe, which denotes that, depending on the slope, the hazard of erosion can be from slight to severe. These soils are typically suitable for range, pasture, timber, wildlife habitat and water supply. It is not part of a woodland group. In this area, this mapping unit is characterized by sparse tree growth along ridgelines.

- 2.2.2.5.5 Characteristics of 50E Wamic Loam 20-40%. This soil classification covers about 3.7% of the exception area, and is confined to one section within a draw around a creek near the east end of the exception area. It is characterized by more severely sloping land. It carries soil classification VI-e, making it suitable for range, pasture, timber or wildlife habitat. Soils in this class are not considered highly productive agricultural lands. It is in the woodland group 5r, indicating low potential timber productivity and steeper slopes.
- 2.2.2.5.6 Characteristics of 28E Hesslan-Skyline Complex. This mapping unit covers about 5.3% of the exception area, mainly in a long thin corridor at its western edge. It is soil classification VIIs which designates it as suitable for range, timber, wildlife habitat and water supply. It is not highly productive for agricultural uses, and is not part of a woodland class. This particular mapping unit would contain some of the skyline complex soils, meaning that it is at higher elevations and tends to be along ridge tops with more severe sloping.
- 2.2.2.6 The area has no history of crop use because, due to the terrain and rocky soil, it is not tillable, and because the elevation creates climatic extremes. These conditions make crop agriculture uneconomical and otherwise impracticable.
- 2.2.2.7 The exception area does not have a history of commercially successful grazing for sheep or cattle. Grazing was occasionally tried in the 1940's, but the terrain, thin soil and climate have limited the activities to an occasional attempt rather than a sustained commercial success. There have been efforts in modern times to use parts of the exception area for commercial grazing, but grazing has not been a commercially viable use of the land except when it has been combined with commercial forestry. For more information, see Exhibit 10, outlining the history of use on the site and in the area.
- 2.2.2.8 Although the soils in the exception area could, at first glance, appear to indicate a potential for agricultural use, particularly small-scale orchards, that potential is severely reduced due to climatic conditions. The area is mostly in current use for residences, along with timber, pasture and as wildlife habitat. It has never been successfully utilized for agricultural purposes and has very limited value as forestland due to the dwellings on and surrounding the site. The soils indicate low timber productivity. The partitioning of the site has further compromised the

potential of the exception area for use as productive commercial timberland.

- 2.2.2.9 Current use of the exception area has been for rural residential uses on five of the smaller parcels. One of the parcels in residential use has recreational/commercial fishing ponds, which are open to the public for a fee. One small lot is currently vacant and used for regular recreational use. It has an all-weather road and is otherwise suitable for residential use.
- 2.2.2.10 The residential development in the exception area has occurred mainly in proximity to the county roads that intersect or run at or near the northern boundary of the exception area. Because of this development and ownership pattern, and because of the odd lot sizes, it would be impracticable to manage any of the property in the area as a commercial forestry operation or as part of such an operation.

2.3 Exception Requirements for Land Irrevocably Committed to Other Uses.

OAR 660-004-0028 contains standards for adoption of a "committed" exception.

2.3.1 OAR 660-004-0028(1) states:

- "(1) A local government may adopt an exception to a goal when the land subject to the exception is irrevocably committed to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable:
- (a) A 'committed exception' is an exception taken in accordance with ORS 197.732(1)(b), Goal 2, Part II(b), and with the provisions of this rule;
- (b) For the purposes of this rule, an 'exception area' is that area for which a 'committed exception' is taken;
- (c) An 'applicable goal,' as used in this section, is a statewide planning goal or goal requirement that would apply to the exception area if an exception were not taken."
 - 2.3.1.1 In this case, the proposed designation for the subject property promotes many of the uses allowed in Goal 4 designated areas. More importantly, granting the request will promote economically efficient forest practices on large forested tracts south of the subject property, in a manner more consistent with sound management practices.

2.3.2 OAR 660-004-0028(2) states:

"Whether land is irrevocably committed depends on the relationship between the exception area and the lands adjacent to it. The findings for a committed exception therefore must address the following:

- "(a) The characteristics of the exception area;"
- 2.3.2.1 The characteristics of the exception area are fully discussed in the findings above in response to OAR 660-004-0025.
- 2.3.3 "(b) The characteristics of the adjacent lands;"
 - 2.3.3.1 The parcels immediately adjacent to the exception area have substantially similar characteristics for terrain and soil types (See Exhibits 1.6 and 1.7, Soils maps). North of Sevenmile Hill Road and West of the Osburn Cutoff Road, the land is at a lower elevation and has fewer trees.
 - 2.3.3.2 The areas to the East, North and West of the proposed exception area have been for the most part divided into smaller lots relative to rural development (10 acres or less). A large majority of the parcels were created long before the area was subject to statewide or even county-wide zoning regulation. Of the four subdivisions in the area, three were platted in the early part of the 20th century, and the fourth in 1979 (Fletcher Tract-1908; Fairmont Orchard Tracts-1911; Sunnydale Orchards-1912; Flyby Night Subdivision-1979). For three of these subdivisions, the majority of the lots are approximately 5 acres in size. The county has recognized the existing parcelization by zoning the area for rural residential development (R-R(5) and R-R(10)) and for smallscale agriculture or forestry uses in conjunction with a rural residence (F-F(10)). As a result of this parcelization and in keeping with the zoning, there has been a significant amount of rural residential development, particularly along the county roads and within the platted subdivisions. There have also been several applications for rural residences in the areas zoned F-F(10).
 - 2.3.3.3 Between 1994 and 1997, the exception area and the lands surrounding it were included in what Wasco County collectively designated as the "Transition Lands Study Area" (TLSA). The county performed an analysis of the area, in part to determine where rural residential development would be appropriate. The final report for the TLSA was published on September 12, 1997, (Exhibit 3) and included recommendations outlining the sub-areas within the study area that were suitable for residential development. The exception area and the lands to

the north and east were determined to be suitable for further rural residential development. Certain zone changes have been processed as part of the TLSA program to further the development of residential uses in the area surrounding the exception area.

- 2.3.3.4 The exception area is surrounded on three sides (North, East and West) by residential development and land zoned for rural residential development, under the three rural residential zoning designations, R-R(10), R-R(5) and F-F(10) (See Exhibit 1.10, Map of Residential Uses). Land to the south is zoned for forestry uses, and is generally used for commercial forestry.
- 2.3.3.5 East: Directly to the east of the exception area are four parcels that the county recently rezoned from F-F(10) to R-R(10): T2N R12E, Section 22, Lots 4700, 4300, 4200 and 4000. Three of these lots abut the eastern boundary of the exception area, and the fourth is just across Sevenmile Hill Road to the north. Two of the four lots have residences.

The three abutting rural residential lots to the east are part of a small rural subdivision called Fairmont Orchard Tracts, filed August 5, 1911. The subdivision is located entirely in the SW quarter of Section 22, Township 2 North, Range 12 East. It was originally composed of nine lots, Lots 1-6 and Parcels A, B, & C. The numbered lots were generally to the south of Sevenmile Hill Road, oriented in a north-south rectangle, while the lettered parcels form a flagpole on the north side of Sevenmile Hill Road, running west to the western boundary of the section. The lot sizes ranged from 6.08 Acres to 13.22 acres on the original plat, making the average lot size 9.66 acres. Over time, three of the original lots have been partitioned into smaller lots, resulting in 12 lots, the smallest being 0.75 acres. The average size is now 6.85 acres. (See Exhibit 1.9, Parcelization Map, and Exhibit 11, Parcelization Table, items 44-55)

There are three zoning designations covering the area east of the exception area. Lots along the north flagpole are zoned R-R(5) (with the exception of 4700, which is F-F(10)). The other lots are now R-R(10). In 1999, Wasco County revised the zoning of the lots adjacent to the exception area to the east, changing them from F-F(10) to R-R(10). (County Ordinance 99-111, amending Ordinance 97-102) According to goals established in the TLSA project, the change in zoning was part of a process seeking to allow the expansion of rural residential uses in this 'transition' area between the more developed areas to the north and the large scale forestry/agricultural uses to the south. These zone changes were objected to and appealed, partly on the basis that they were likely to diminish the buffer between commercial forestry and rural residential uses

in the area and increase conflicts between those uses. (LUBA appeal No. 99-178)

2.3.3.6 North: To the north on the eastern side of the exception area are two lots zoned R-R(5), Lots 5400 (4.63 ac.) and 4600 (7.35 ac.). Both have residences. (See Exhibit 1.10) The former is part of the Flyby Night subdivision and the latter is part of the Fairmont Orchards subdivision.

North of the exception area and just to the west of the section line for section 21, is the southernmost lot of the Sunnydale Orchards subdivision, Lot 800 (9.10 ac.). The lots in this subdivision are approximately five acres each, and are developed with residences. (See Exhibits 1.9 and 1.10)

The remainder of the land to the north of the exception area is comprised of nine lots, all zoned R-R(10) or F-F(10): T2NR12E Section 21, Lots 1000, 1100, 1400, 1300, 2500, 2400, and 3100, 3300, 3400. These range in size from approximately 2 acres to 9.7 acres. Five of these lots have residences on them. Two of the lots without houses are only two acres each.

All of the area north of the proposed exception area is built and committed to low and medium density rural residential uses. There are two platted subdivisions: Sunnydale Orchards and Flyby Night. (See Exhibit 11, items 20-30 and 40-43, respectively) There is also a group of lots created by three successive partition plats established in the 1990s. These partitions began with one submitted in 1991 by Hobart Darter and Linda Rose, and are referred to here as the Darter-Rose lots. (See Exhibit 11, items 31-36) The rest of the lots in this general area were created by partitioning land from larger lots, many of which were originally part of the larger holdings of the Davis family. (See Exhibit 11 items 37-39) There is a group of lots directly north of the eastern portion of the exception area that are part of the Fairmont Orchard Tracts subdivision—these are included in the section dealing with property to the east of the exception area: lots 4500, 4600, 4700, 4300, 4800, 4900 in Section 22.

There are three zoning districts represented in the area north of the exception area, and all of them are rural residential, nonresource zones. Starting at the west side, the Darter-Rose lots and others are in an area of F-F(10) zoning surrounding Dry Creek Road and stretching eastward to its intersection with, first Osburn Cut-Off Road, then State Road/Sevenmile Hill Road. Zoning of three of the lots between the exception area and Sevenmile Hill Road was changed to R-R(10) by Ordinance 99-111. North of the F-F(10) zone, and north of Sevenmile Hill Road east of the

intersection, is an area of R-R(10) zoning, covering the Sunnydale Orchards subdivision. East of the R-R(10) zone and covering the Flyby Night subdivision is an area of R-R(5) zoning.

The Sunnydale Orchards Subdivision was recorded on March 8, 1912. It consisted of 25 lots averaging about five acres each, with the largest at 11.4 acres. Lots in the subdivision are for the most part less than ten acres each. The plat for the Flyby Night Subdivision was recorded November 8, 1979. The Flyby Night lots average approximately five acres each, with two larger, approximately 20-acre parcels as the exceptions.

The area to the north is the most heavily developed area surrounding the proposed exception area. As can be seen by the maps in Exhibits 1.9 and 1.10 and the table in Exhibit 11 (See items 20-43), virtually all lots to the north of the exception area have been improved with a residence or a manufactured home. The one undeveloped lot is Tax Lot 2N 12E 21 3200, item 32 in the summary table. In November of 2004, Lot 3200 was partitioned into 2 lots of about 10 acres each, Lot 3201 to the east and the remainder of Lot 3200 to the west. A dwelling has since been developed on the new Lot 3201.

The County has recognized that development has increased in this area over the years, and rezoned several lots in the southern part of Sunnydale Orchards from F-F(10) to R-R(10) (Pursuant to Ordinance 99-111). The zoning for the Flyby Night subdivision is R-R(5).

2.3.3.7 West: The property to the west of the exception area is zoned F-F(10). The two abutting properties consist of one 4.59-acre parcel and one 15.29-acre parcel. The smaller lot contains one residence. (See Exhibit 1.10)

The two abutting properties to the west are part of a subdivision known as the "Fletcher Tract." This subdivision was recorded on June 6, 1908 and contains a total of 32 parcels, almost all roughly 5 acres each. The lots are oriented in two long north-south columns of 16 lots each, with a north-south roadway between the two columns. The roadway north of Dry Creek Road was vacated in 1977, but a private road still exists. The portion of this platted road south of Dry Creek Road has never been developed (according to aerial photographs), although there are some private access roads leading to the developed parcels. For the purposes of this submittal, information was collected on 11 lots in the subdivision. (See Exhibit 11, items 9-19) Most of the lots have remained separate 5-acre parcels, but a few have been combined under single ownership into larger lots (Tax lots 1000, 2200, 700, 2600, 2700). The 15.29-acre lot

abutting the exception area (Lot 1000) is the largest parcel in the Fletcher Tract.

The current zoning for the entire Fletcher Tract is F-F(10). Beyond the subdivision to the west and south are large parcels zoned F-2(80). According to planning department records, the Fletcher Tract has been zoned F-F(10) since the implementation of zoning in the county.

Several of the lots in the Fletcher Tract are in common ownership forming larger tracts, more in keeping with smaller, 10-15 acre woodland lots. When looking at them as individual lots, the majority have no improvements. However, in the area south of Dry Creek Road, five of the lots in the 'eastern column' are in common ownership (Tax Lots 900, 1000 and 1100, covering subdivision Lots 9-13), with a residence on one of those lots. Similarly, three of the lots in the 'western column' are in common ownership (Tax Lots 2100, 2200 and 2300, covering subdivision Lots 20-23), with a residence on two of them. Considering this pattern of use, the majority of the land area is dedicated to non-resource, residential uses. Additionally, because the establishment of the lots predates zoning in the area, each 5-acre parcel could conceivably be developed with a rural residence. From the beginning, rural residential zoning of a large area, both north and south of Dry Creek and Sevenmile Hill Roads has been a formal acknowledgement by the County that the area has been built with and committed to rural residential uses.

2.3.3.8 South: The area directly adjacent to the exception area to the south is composed of a mix of larger scale lots and 10- or 20-acre lots from historic orchard marketing schemes. It is zoned F-2(80), Forest. For the most part, it is currently in commercial forest use, (2N12E Lot 2900 and 2N12E 27 Lot 2800). The other two lots forming the southern border of the exception area (2N12E 21 Lots 2900 and 2800) are vacant.

Most of the area is being managed in forestry or large scale agricultural (mostly grazing) uses. There are some lots, (two more, in particular, which are listed below) that have become non-conforming in the zone because they are less than 80 acres. In some cases, this is due to partitioning done prior to the enactment of the zoning code. In other cases, it is because prior to 1993, 40-acre Forest lots were allowed under the county's code.

The exception area is physically separated from the properties to the south by the BPA Transmission line right-of-way/easement. (See Exhibit 11, items 56-60) With the exception of Lot 2N12E 21 2900, no lots to the south surveyed and discussed in this submittal contain dwellings.

2.3.4 "(c) The relationship between the exception area and the lands adjacent to it;"

2.3.4.1 As described in the preceding sections of this submittal, the exception area is surrounded on three sides by 17 contiguous residential lots in F-F(10), R-R(10) and R-R(5) zones. None of these zones are resource zones. The average lot size is approximately 9 acres. All are in separate ownerships. An additional 32 residential lots are within 1,000 feet of the boundaries of the exception area.

In the past, the commercial forest uses in the exception area were buffered from residential uses because the homesteads were north and east of Sevenmile Hill Road, and north and west of Osborn Cut-off Road. Those roads served to physically separate most of the resource property and provide an effective, permanent fire control line. However, in recent years more residences have been constructed on old pre-existing lots south and east of those roads and Dry Creek Road. The residences are downslope from the exception area: fire generally travels more quickly uphill.

The encroachment of residential uses on the exception area has dramatically increased the fire risk to the exception area and to the other resource land to the south. The risk is mutual: residences create an increased fire risk to commercial timberlands, and forest fires would impact the residences near the forest land.. The exception area is surrounded on three sides by significant, low and medium density rural residential development and this surrounding area is zoned in a manner that will allow continued residential development. There are also dwellings within the exception area. The exception area now lacks an effective buffer—there is no separation, for purposes of fire control or otherwise, between developed and developing residential areas and the exception area. The additional houses, and the location of several of them immediately adjacent to and within the exception area have increased the risk and expense associated with attempting to use the land for commercial forestry or agriculture, to the extent that these uses are now impracticable.

The owner of a portion of the exception area, Kenneth Thomas, is a commercial forestry operator. Mr. Thomas has sought for years to protect and maintain an effective buffer between his commercial forest holdings and the Sevenmile Hill residential area. Development pressures, prior county actions in response to those pressures, pre-existing parcelization and settlement patterns, and related factors as explained

elsewhere in this submittal, combined to diminish the potential use of the exception area for commercial forest use or agriculture. Because the use of the exception area for commercial forest uses or agriculture has become impracticable, it is now best suited for low density, rural residential uses. Imposition of the forest-farm zone will continue to promote resource uses, while allowing low density residential uses appropriate to the character of the area.

As indicated, the increased number of residences in the surrounding area is uniquely problematic at these locations because the houses are downslope from the exception lands. Fire travels faster upslope and moves very quickly through the underbrush and oak that is typical of both the exception area and adjacent land. If a fire is started in one of these residential areas it would travel quickly upslope into the exception area. Once a fire has started in the exception area or surrounding residential area, fire control officials will give priority to protecting residences and as a result, firefighting resources that might have been able to prevent the spread of the fire further onto resource lands are diverted to protect homes, which is exactly what happened during the Sheldon Ridge Fire.

These findings are strongly supported by publications of the Oregon Department of Forestry, some of which are available through the ODF website (www.odf.state.or.us/) (See also, Exhibit 12). ODF indicates that problems within the state's Forestland-Urban Interface are escalating: more wildland fires are burning homes; firefighters are diverted from battling fires in resource areas, to protect more valuable homes and lives; and suppression costs are rising in part because firefighting is more complex and difficult in Forestland-Urban Interface areas. (See also, ORS 477.015-061—the "Oregon Forestland-Urban Interface Fire Protection Act of 1997" and ODF rules implementing the Act at OAR 629-044-1000)

Numerous studies have indicated that as the number of dwellings in interface areas increase, so does the incidence of fires. Costs and complexity of firefighting increase because structural and timber firefighting equipment and methods are fundamentally different, and both are needed in interface areas. Suppression training and strategy of attack differ between structural and timber fires. Priorities are different, and firefighting efforts and resources are restricted and redirected when residences are present. These problems are heightened in places like the Sevenmile Hill area which has numerous developed or developable lots—a community—abutting large tracts of wildland and timberland.

The proposal attempts to make the best of what has become a bad situation, and seeks to: 1) recognize that the exception area is committed

to residential uses; 2) apply the least dense, most forest- and farmoriented designation—F-F(10); 3) establish a cut and maintained power line right-of-way/easement approximately 150 feet wide as the appropriate fire break between residential and purely commercial forest uses; 4) impose a Forest Protection Overlay, including requirements for clustering dwellings to the north and fire protection standards and conditions, to establish an effective buffer between otherwise conflicting uses within and adjacent to the exception area.

2.3.5 "(d) The other relevant factors set forth in OAR 660-004-0028(6)." These factors are discussed in the following sections.

2.3.6 OAR 660-004-0028(3) states:

"Whether uses or activities allowed by an applicable goal are impracticable as that term is used in ORS 197.732(1)(b), in goal 2, Part II(b), and in this rule shall be determined through consideration of factors set forth in this rule. Compliance with this rule shall constitute compliance with the requirements of Goal 2, Part II. It is the purpose of this rule to permit irrevocably committed exceptions where justified so as to provide flexibility in the application of broad resource protection goals. It shall not be required that local governments demonstrate that every use allowed by the applicable goal is 'impossible.' For exceptions to Goals 3 or 4, local governments are required to demonstrate that only the following uses or activities are impracticable;

- (a) Farm use as defined in ORS 215.203;
- (b) Propagation or harvesting of a forest product as specified in OAR 660-033-0120;
- (c) Forest operations or forest practices as specified in OAR 660-006-0025(2)(a)."

In turn, ORS 215.203(2)(a) states:

"[F]arm use" means the current employment of land for the primary purpose of obtaining a profit in money by raising, harvesting and selling crops or the feeding, breeding, management and sale of, or the produce of, livestock, poultry, fur-bearing animals or honeybees or for dairying and the sale of dairy products or any other agricultural or horticultural use or animal husbandry or any combination thereof. "Farm use" includes the preparation, storage and disposal by marketing or otherwise of the products or by-products raised on such land for human or animal use. "Farm use" also includes the current employment of land for the primary purpose of obtaining a profit in money by stabling or training equines including but not limited to providing riding lessons, training clinics and schooling shows. "Farm use" also includes the propagation, cultivation, maintenance and harvesting of aquatic, bird and animal species that are under the jurisdiction of the State Fish and Wildlife Commission, to the extent allowed by the rules adopted by the commission. "Farm use" includes the on-site construction and maintenance of equipment and facilities used for the activities described in this subsection. "Farm use" does not include the use of land subject to the provisions of ORS chapter 321, except land used exclusively for growing cultured Christmas trees as defined in subsection (3) of this section or land described in ORS 321.267 (3) or 321.824 (3).)

OAR 660-033-0120 contains a chart of uses that are allowed of right, conditionally, or not authorized on agricultural lands, including "farm use" and "propagation or harvesting of a forest product," and OAR 660-006-0025(2)(a) states:

- (a) Forest operations or forest practices including, but not limited to, reforestation of forest land, road construction and maintenance, harvesting of a forest tree species, application of chemicals, and disposal of slash;
 - 2.3.6.1 The rule does not require that the listed resource uses be impossible in the exception area; rather, it requires that they be impracticable. Impracticable means "not capable of being carried out in practice." Webster's New World Dictionary, 2nd College Edition, 1980. Capable means "having ability" or "able to do things well." Id. Finally, "in practice" means by the usual method, custom or convention. Id. Webster's Third New International Dictionary, (unabridged ed., 1993) defines "impracticable" as "1a: not practicable: incapable of being performed or accomplished by the means employed or at command: INFEASIBLE * * * c: IMPRACTICAL, UNWISE, IMPRUDENT * * *"

Based on the foregoing, the county must evaluate to what extent the adjacent uses and other factors affect the ability of property owners to carry out resource uses in practice in the exception area. The rule only requires evaluating whether the resource use can be carried out by the usual, available methods or customs. Consequently, just because a farm or forest use can be attained by methods that are not usual or customary does not mean that the farm or forest use is practicable. Using the area for commercial agricultural or forestry uses—in a manner capable of generating a profit or return from those activities—is not practicable in the exception area for all of the reasons stated in this submittal. Resource designation is not necessary to preserve the area for small scale farm or forestry uses in conjunction with residential use.

A definition of "forest products" can be found in ORS 532.010(4), which states that forest products are "any form, including but not limited to logs, poles and piles, into which a fallen tree may be cut before it undergoes manufacturing, but not including peeler cores."

Commercial forestry and agriculture have become impracticable on the exception property because of the residential development on the exception property and surrounding it on three sides. The suitability of the property for resource use has always been limited by geographic factors (see description above describing characteristics of the exception area).

The current level of residential development has increased to the point that commercial resource use has become impracticable. The exception area is surrounded on three sides by existing residential development, with the potential for additional residential development in the future. Conflicts caused by the proximity of residential neighbors on three sides require added expense related to fire protection, fencing and general control of the area, and prevent the use of spraying to control insects and vegetation that competes with commercial tree species. Further conflicts with residences arise because of the noise associated with commercial operations and the safety risks of logging near residential property.

The most significant conflicts are due to fire risks. The increased numbers of residences automatically increases the risk and potential severity of fires, because fires caused by humans add to the frequency of natural fires, and human caused fires can take longer to detect. Human occupation is always associated with quantities of flammable materials and fire accelerants, such as fuels on household products. In this particular circumstance the impact of the fire risk is magnified not just by the number of residences but also physical features, including terrain, climate and vegetation (see discussion earlier, and Exhibit 12).

The effects of these conflicts and impacts from residential uses combined with the long cycle for trees to reach maturity (100-125 years), make commercial forestry and commercial agriculture impracticable at this location. As explained throughout this submittal, residential development within and in close proximity to the exception area, coupled with topography and climate, supports a conclusion that the buffer between the exception area and nearby rural residences is inadequate and ineffective. The threat of fire and steps that would need to be taken to efficiently and effectively manage timber in the area makes such uses impracticable.

2.3.6.2 To the extent this section requires that a justification for an exception to Goal 4 also requires consideration of the suitability of the area for farm uses, the record of this proceeding and the attached exhibits demonstrate the lack of suitability of the area for farm uses. The soils in the area are not generally suitable for farm use, nor is the climate conducive to those uses. At no time has the county considered the exception land to be farmland or to be suitable for farming, and at no time in the history of the area has farming taken place. Due to the existing parcelization, soils, climate and development in the area, it cannot be, and is not currently employed for the primary purpose of obtaining a profit The history of the area also supports this from agricultural uses. conclusion. (See Exhibit 10) At best, the area can support the small-scale, "peripheral" farm activities now taking place on adjacent F-F and R-R zoned properties, under circumstances in which residential use represents the primary and most highly valued use.

2.3.7 OAR 660-004-0028(4) states:

"A conclusion that an exception area is irrevocably committed shall be supported by findings of fact which address all applicable factors of section (6) of this rule and by a statement of reasons explaining why the facts support the conclusion that uses allowed by the applicable goal are impracticable in the exception area."

This submittal, including this statement and all attached exhibits, addresses all applicable factors and reasons why, in this case, the facts support the conclusion that uses allowed by Goals 3 and 4 are impracticable in the exception area. See especially, the immediately preceding sections of this submittal, and sections addressing section (6) of the rule, below.

2.3.8 OAR 660-004-0028(5) states:

"Findings of fact and a statement of reasons that land subject to an exception is irrevocably committed need not be prepared for each individual parcel in the exception area. Lands which are found to be irrevocably committed under this rule may include physically developed lands."

As discussed elsewhere in this submittal, the exception area includes physically developed lands. Five of the eight lots in the exception area are currently developed with non-farm dwellings. The presence of these dwellings, and other dwellings immediately adjacent to the exception area, each contribute to the irrevocable commitment of the area to rural residential uses, and the impracticability of using the area for farm or forest uses.

2.3.9 OAR 660-004-0028(6) states:

"(6) Findings of fact for a committed exception shall address the following factors:" and lists several factors, each of which is considered in the following sections of this submittal:

2.3.9.1 "(a) Existing adjacent uses;

The existing adjacent uses are discussed and considered in great detail in sections 2.3.3 and 2.3.4, above. Existing adjacent uses to the West, North and East are all residential. (see Exhibit 1.9 and 1.10) The land to the south of the power line easement is zoned for, and used as, commercial forest.

2.3.9.2 "(b) Existing public facilities and services (water and sewer lines, etc.);

There are no public water or sewer facilities on either the adjacent land or the exception area. Electric power and phone service are available to the area. The property can be adequately served by existing fire, police and school facilities. See prior findings under goals.

2.3.9.3 OAR 660-004-0028(6)(c) Requires consideration of:

- "(c) Parcel size and ownership patterns of the exception area and adjacent lands:
- "(A) Consideration of parcel size and ownership patterns under subsection (6)(c) of this rule shall include an analysis of how the existing development pattern came about and whether findings against the Goals were made at the time of partitioning or subdivision. Past land divisions made without application of the Goals do not in themselves demonstrate irrevocable commitment of the exception area. Only if development (e.g., physical improvements such as roads and underground facilities on the resulting parcels) or other factors make unsuitable their resource use or the resource use of nearby lands can the parcels be considered to be irrevocably committed. Resource and nonresource parcels created pursuant to the applicable goals shall not be used to justify a committed exception. For example, the presence of several parcels created for nonfarm dwellings or an intensive agricultural operation under the provisions of an exclusive farm use zone cannot be used to justify a committed exception for land adjoining those parcels."

As discussed in great detail above and in the attached exhibits, the existing development pattern for the Sevenmile Hill area was established prior to the

adoption of the goals. Many of the small parcels that characterize the area were created between 1900 and 1920 and were marketed as orchard sites that could support a family. The lots in the vicinity of the exception area were not successful because of the cold and dry weather at this location and elevation. Most of the existing lots have non-resource residences located on them now, as do five of the eight tax lots in the exception area.

"(B) Existing parcel sizes and contiguous ownerships shall be considered together in relation to the land's actual use. For example, several contiguous undeveloped parcels (including parcels separated only by a road or highway) under one ownership shall be considered as one farm or forest operation. The mere fact that small parcels exist does not in itself constitute irrevocable commitment. Small parcels in separate ownerships are more likely to be irrevocably committed if the parcels are developed, clustered in a large group or clustered around a road designed to serve these parcels. Small parcels in separate ownership are not likely to be irrevocably committed if they stand alone amidst larger farm or forest operations, or are buffered from such operations."

Ownership patterns in the area are discussed in detail in preceding sections of this narrative addressing OAR 660-004-0028(2)(a)-(c). Virtually all of the parcels are clustered along roads serving the area.

The parcel size on the west, north and east perimeters of the exception property averages 5.7 acres. The smallest single ownership is slightly more than 1.6 acre, and the largest is 15.29, in separate ownerships. Most of these parcels are in separate ownerships. This parcelization pre-dates the adoption of the county zoning ordinance and comprehensive plan. Within the subject property the lots vary in size between 4.86 acres and 40 acres. In addition, 82.46 acres in the area are eventually to be divided off from a larger 492.82-acre uniform lot. Most of the resource land immediately to the south is owned by Ken Thomas, although one 41-acre lot is owned by Richard Vance, who also owns an adjoining lot inside the exception area. As discussed throughout this submittal, one reason that the exception area is committed to nonresource uses is that the area is not effectively buffered from nonresource areas that surround it on three sides, and dwellings within the exception area. This situation occurred upon establishment of the orchard tracts, was confirmed by the TLSA study and by the county's implementation of zoning changes to foster residential development in the area.

2.3.9.4 "(d) Neighborhood and regional characteristics;

Based on the descriptions already provided in this submittal, the "neighborhood characteristics" can best be described as commercial timberland to the south, and rural residential development within the area and on every other side. The "regional characteristics" include location, six miles west of The Dalles and 0.2 miles from the closest boundary of the Columbia River Gorge National

Scenic Area. Considering these characteristics, the importance of fire protection standards and establishment of appropriate buffers between wildlands and rural residential uses cannot be understated.

2.3.9.5 "(e) Natural or man-made features or other impediments separating the exception area from resource land. Such features or impediments include but are not limited to roads, watercourses, utility lines, easements, or rights-of-way that effectively impede practicable resource use of all or part of the exception area;

As described throughout this submittal, there is an important, manmade feature separating the exception area from commercial timberlands to the south—the BPA Bonneville-The Dalles power line right-of-way/easement—which forms a 150-foot wide cleared and maintained firebreak between the residences developed in the exception area and commercial forest areas to the south.

- 2.3.9.6 "(f) Physical development according to OAR 660-004-0025;" In turn, OAR 660-004-0025 states the "Exception Requirements for Land Physically Developed to Other Uses" as follows:
- (1) A local government may adopt an exception to a goal when the land subject to the exception is physically developed to the extent that it is no longer available for uses allowed by the applicable goal.
- (2) Whether land has been physically developed with uses not allowed by an applicable Goal, will depend on the situation at the site of the exception. The exact nature and extent of the areas found to be physically developed shall be clearly set forth in the justification for the exception. The specific area(s) must be shown on a map or otherwise described and keyed to the appropriate findings of fact. The findings of fact shall identify the extent and location of the existing physical development on the land and can include information on structures, roads, sewer and water facilities, and utility facilities. Uses allowed by the applicable goal(s) to which an exception is being taken shall not be used to justify a physically developed exception."

Part of the justification for this exception is that five dwellings currently exist within the exception area. Those houses are identified in Exhibits 1.9 and 1.10. The minimum lot size for a forest dwelling is currently 240 acres, and none of the existing dwellings are located on a240 acre lot. All of the remaining information specified in this section has been provided as a factual basis for the findings requested.

2.3.9.7 "(g) Other relevant factors;

To the extent there are other relevant factors, they are discussed throughout this submittal and not repeated here.

2.3.10 OAR 660-004-0028(7) states:

"The evidence submitted to support any committed exception shall, at a minimum, include a current map, or aerial photograph which shows the exception area and adjoining lands, and any other means needed to convey information about the factors set forth in this rule. For example, a local government may use tables, charts, summaries, or narratives to supplement the maps or photos. The applicable factors set forth in section (6) of this rule shall be shown on the map or aerial photograph."

The submittal complies with this requirement, and includes current maps as Exhibits 1.1-1.10 showing the exception area and adjoining lands. Tables, charts, and summaries are also included within and as exhibits to this narrative, along with maps and other materials.

2.3.11 OAR 660-004-0040 concerns the:

"Application of Goal 14 Urbanization to Rural Residential Areas," the purpose of which: "is to specify how Statewide Planning Goal 14, Urbanization, applies to rural lands in acknowledged exception areas planned for residential uses."

- f. Subsections -0040(1) through (3) explain what the rule does. It does not apply to land within an urban growth boundary; unincorporated community; urban reserve area; destination resort; resource land; and "nonresource land, as defined in OAR 660-004-0005(3)." The following sections of this submittal demonstrate compliance with Goal 14 as and to the extent specified in OAR 660-004-0040.
 - 2.3.11.1 Although it is not entirely clear, OAR 660-004-0040 does not appear to include standards that apply to the land use decisions requested by this submittal. The land in question is currently classified as resource land, and the request is to establish an exception to Goal 4 that will allow rural residential development on lots that are a minimum of ten acres per dwelling, or otherwise at a density that cannot exceed one dwelling for every ten acres in the area. The F-F(10) zoning to be applied, and the Limited Use Overlay, will ensure that the requested housing density is not exceeded. The proposed housing density is not an urban density. No sewer or water services exist near the area or are proposed, and there are no other "urban" attributes of development that could occur if the request is granted.

2.3.11.2 OAR 660-004-0040(4) and (5) state:

- "(4) The rural residential areas described in Subsection (2)(a) of this rule are rural lands. Division and development of such lands are subject to Statewide Planning Goal 14, <u>Urbanization</u> which prohibits urban use of rural lands.
- (5)(a) A rural residential zone currently in effect shall be deemed to comply with Goal 14 if that zone requires any new lot or parcel to have an area of at least two acres.
- (b) A rural residential zone does not comply with Goal 14 if that zone allows the creation of any new lots or parcels smaller than two acres. For such a zone, a local government must either amend the zone's minimum lot and parcel size provisions to require a minimum of at least two acres or take an exception to Goal 14. Until a local government amends its land use regulations to comply with this subsection, any new lot or parcel created in such a zone must have an area of at least two acres.
- (c) For purposes of this section, 'rural residential zone currently in effect' means a zone applied to a rural residential area, in effect on the effective date of this rule, and acknowledged to comply with the statewide planning goals."

This section does not appear to be an approval standard applicable to the request. However, the proposed zone and Limited Use Overlay will not allow the creation of any new lots or parcels within the exception area smaller than two acres, in conformance with this section.

2.3.11.3 OAR 660-004-0040(6) and (7) state:

"(6) After October 4, 2000, a local government's requirements for minimum lot or parcel sizes in rural residential areas shall not be amended to allow a smaller minimum for any individual lot or parcel without taking an exception to Goal 14 pursuant to OAR chapter 660, division 14, and applicable requirements of this division."

The County recognizes the requirements of this section. No request has been made to allow smaller minimum lot sizes than allowed by the rule.

"(7)(a) The creation of any new lot or parcel smaller than two acres in a rural residential area shall be considered an urban use. Such a lot or parcel may be created only if an exception to Goal 14 is taken. This subsection shall not be construed to imply that creation of new lots or parcels two acres or larger always complies with Goal 14. The question of whether

the creation of such lots or parcels complies with Goal 14 depends upon compliance with all provisions of this rule."

The underlying zone and Limited Use Overlay will prevent the creation of any new lot or parcel in the area smaller than two acres. Lot sizes allowed in the area comply with all provisions of the Goal 2 rule for exceptions.

(b) Each local government must specify a minimum area for any new lot or parcel that is to be created in a rural residential area. For purposes of this rule, that minimum area shall be referred to as the minimum lot size.

The minimum lot size for the area is ten acres. For a PUD, in which dwellings are clustered away from commercial forestry uses, the minimum property size is 2.5 acres, and the overall density of the PUD cannot exceed a ratio of one dwelling for every ten acres in the PUD.

(c) If, on October 4, 2000, a local government's land use regulations specify a minimum lot size of two acres or more, the area of any new lot or parcel shall equal or exceed that minimum lot size which is already in effect.

As stated, the minimum lot size of the underlying zone is currently ten acres, and that minimum lot size will apply in the exception area.

(d) If, on October 4, 2000, a local government's land use regulations specify a minimum lot size smaller than two acres, the area of any new lot or parcel created shall equal or exceed two acres.

As stated, the County's land use regulations do not specify a minimum lot size smaller than two acres.

(e) A local government may authorize a planned unit development (PUD), specify the size of lots or parcels by averaging density across a parent parcel, or allow clustering of new dwellings in a rural residential area only if all conditions set forth in paragraphs (7)(e)(A) through (7)(e)(H) are met:

As proposed in Exhibit 6, the County is authorizing planned unit development in the exception area, to improve the ability of the area to serve as a buffer between residential and commercial forestry uses. Exhibit 6 complies with this section and paragraphs (7)(e)(A) through (7)(e)(H).

(A) The number of new dwelling units to be clustered or developed as a PUD does not exceed 10.

The proposed Limited Use Overlay specifies that the number of new lots or parcels to be created from a parent parcel shall not exceed ten. This would allow no more than nine new dwelling units and one common area tract.

(B) The number of new lots or parcels to be created does not exceed 10.

As stated, the proposed Limited Use Overlay specifies that the number of new lots or parcels to be created from a parent parcel cannot exceed 10.

(C) None of the new lots or parcels will be smaller than two acres.

As stated, the proposed Limited Use Overlay specifies that no new lots can be smaller than 2.5 acres.

(D) The development is not to be served by a new community sewer system.

The Limited Use Overlay specifies that no new PUD development can be served by a new community sewer system.

(E) The development is not to be served by any new extension of a sewer system from within an urban growth boundary or from within an unincorporated community.

The Limited Use Overlay specifies that no new PUD development can be served by an extension of an existing community sewer system.

(F) The overall density of the development will not exceed one dwelling for each unit of acreage specified in the local government's land use regulations on October 4, 2000 as the minimum lot size for the area.

As stated, the Limited Use Overlay specifies that the overall density of PUD development cannot exceed one dwelling for every ten acres, the minimum lot size of the underlying F-F zone.

(G) Any group or cluster of two or more dwelling units will not force a significant change in accepted farm or forest practices on nearby lands devoted to farm or forest use and will not significantly increase the cost of accepted farm or forest practices there.

For purposes of this finding, the area in consideration includes the surrounding rural residential areas to the west, north and east, and the commercial forestlands to the south of the exception area. There are no lands in these areas devoted to farm or forest uses. The Limited Use Overlay requires clustering of dwellings to the north, toward existing roads and dwellings, and away from forest lands. Lands to the south are devoted to forest practices, with some grazing. The purpose of the overlay clustering provisions is to promote efficient forest practices on bona fide forest lands, and improve the value of the exception area as a buffer between incompatible uses. In this case, clustering of dwellings will not force any negative changes to accepted farm or forest practices to the south, and will not increase the cost of accepted farm or forest practices taking place there.

(H) For any open space or common area provided as a part of the cluster or planned unit development under this subsection, the owner shall submit proof of nonrevocable deed restrictions recorded in the deed records. The deed restrictions shall preclude all future rights to construct a dwelling on the lot, parcel, or tract designated as open space or common area for as long as the lot, parcel, or tract remains outside an urban growth boundary.

The Limited Use Overlay in Exhibit 6 requires that common open space provided as part of a PUD shall be deeded to a Homeowners' Association, and may be encumbered with a conservation easement. The Overlay also requires that a conservation easement or other deed restriction be established to preclude all future rights to construct a dwelling on the lot, parcel, or tract designated as open space or common area for as long as the lot, parcel, or tract remains outside an urban growth boundary.

"(f) Except as provided in subsection (e) of this section, a local government shall not allow more than one permanent single-family dwelling to be placed on a lot or parcel in a rural residential area. Where a medical hardship creates a need for a second household to reside temporarily on a lot or parcel where one dwelling already exists, a local government may authorize the temporary placement of a manufactured dwelling or recreational vehicle."

In conformance with this section, the County is not proposing to allow more than one permanent single-family dwelling to be placed on any lot or parcel in the proposed rural residential area.

(g) In rural residential areas, the establishment of a new mobile home park or manufactured dwelling park as defined in ORS 446.003(32) shall

be considered an urban use if the density of manufactured dwellings in the park exceeds the density for residential development set by this rule's requirements for minimum lot and parcel sizes. Such a park may be established only if an exception to Goal 14 is taken.

The County is not proposing a new mobile home park or manufactured dwelling park as part of this proposal, in conformance with this section.

- (h) A local government may allow the creation of a new parcel or parcels smaller than a minimum lot size required under subsections (a) through (d) of this section without an exception to Goal 14 only if the conditions described in paragraphs (A) through (D) of this subsection exist:
- (A) The parcel to be divided has two or more permanent habitable dwellings on it;
- (B) The permanent habitable dwellings on the parcel to be divided were established there before the effective date of this rule;
- (C) Each new parcel created by the partition would have at least one of those permanent habitable dwellings on it;
- (D) The partition would not create any vacant parcels on which a new dwelling could be established.
- (E) For purposes of this rule, habitable dwelling means a dwelling that meets the criteria set forth in ORS 215.283(t)(A)-(t)(D).

Because the county is not allowing the creation of new parcels smaller than the minimum lot size required under subsections (a) through (d), subsections (A) through (E) of this section do not apply to the proposal.

- (i) For rural residential areas designated after the effective date of this rule, the affected county shall either:
- (A) Require that any new lot or parcel have an area of at least ten acres, or
- (B) Establish a minimum lot size of at least two acres for new lots or parcels in accordance with the requirements of Section (6). The minimum lot size adopted by the county shall be consistent with OAR 660-004-0018, 'Planning and Zoning for Exception Areas.'"

In this case, the County is establishing an overall density of residential development allowed as a ratio of one dwelling for every ten acres. As described in the Limited Use Overlay applied to this area, some clustering of dwellings may occur in the area, and is encouraged. The purpose of allowing clustering of dwellings in the area is to encourage development of dwellings toward the northern end of the area, near existing roads and development, and away from forest resource lands to the south. This approach is consistent with OAR 660-004-0018. The Limited Use Overlay will also ensure that no individual parcel may be created in the area that is less than 2.5 acres. easements or other deed restrictions will ensure that the required density of one dwelling for every ten acres in the exception area is maintained over time. (See Exhibit 6, Proposed Forest Protection Overlay Zone Ordinance)

3. Justification for a Zone Change:

3.1 Zoning Ordinance - Chapter 9:

Chapter 9 of the Wasco County Land Use and Development Ordinance (zoning ordinance), entitled "Zone Change and Ordinance Amendment," includes standards and procedures for zone changes. Section 9.010 states:

""Application for a zone change may be initiated as follows:

A. By resolution of the County Court referring to the Commission a proposal therefore;"

As indicated previously, this zone change, including the change to F-F(10) and imposition of the Overlay zone, was initiated by County Court Resolution ____, (Exhibit 7) at the request of the Planning Director and with the assistance of commercial forestry operator Kenneth A. Thomas, who owns about 45% of the subject property. Planning staff is presenting the proposal with a recommendation for approval.

3.2 Zoning Ordinance - Section 9.020

Section 9.020 is entitled "Criteria for Decision" and states:

"The Approving Authority may grant a zone change only if the following circumstances are found to exist:

A. The original zoning was the product of a mistake; or

B. It is established that

- 1. The rezoning will conform with the Comprehensive Plan; and,
- 2. The site is suitable to the proposed zone;
- 3. There has been a conscious consideration of the public health, safety and welfare in applying the specific zoning regulations."
- 3.2.1 This request includes a request for a plan amendment and an exception to Goal 4. As with the original plan designation, (See section 1.7) the original zoning can be considered the product of a misunderstanding of the implication of fire dangers in wildland/urban interface areas. Whether the area was zoned incorrectly from the beginning or the character changed over time, the area now appears not to be suitable for forestry uses, but to be more suitable for rural residential use and as a buffer area between conflicting uses.
- 3.2.2 This narrative and the attached exhibits also establish that the requirements of subsection B. have been met. B.1. is met because the Comprehensive Plan is being amended specifically to support the proposed zoning designation. Following amendment of the Comprehensive Plan Map, the plan designation for the subject property will be "Forest-Farm." The zone designation, "Forest-Farm," with a minimum lot size of ten acres, (F-F(10)) is a zone that conforms with the proposed plan designation. By its nature, and because it affords even greater protections than the underlying zone, the Overlay Zone also complies with these requirements.
- 3.2.3 The exception area, as shown in the maps and the chart at page 2 of this narrative, is composed of 8 lots of varying sizes. The zone change would allow some of the property owners the opportunity to partition their lots and place one or more dwellings on the new lots. They would be required to comply with the fire safety standards for development set out in the overlay zoning ordinance. This is an additional burden on a developer, but is ultimately a positive in that it will enhance the entire community's fire safety profile.
- 3.2.4 Compliance with Wasco County Planning Goals and Policies. The Wasco County Comprehensive Plan contains goals that mirror the statewide goals, and policies to carry them out. Except as discussed in these findings, the plan does not contain approval standards that apply to the requested zone change. The zone change is proposed with due consideration of all relevant comprehensive plan goals and policies, as required by section B.1:

Goal 1 – Citizen Involvement.

The purpose of Goal 1 is to ensure the "opportunity for citizens to be involved in all phases of the planning process." Wasco County has incorporated opportunities in its Comprehensive Plan and the zoning ordinance. Compliance with Goal 1 is demonstrated by compliance with the applicable plan and zoning ordinance provisions.

Goal 2 - Land Use Planning.

The County's land use planning goal requires that procedures be established and followed to ensure public participation in land use decision making, and that there is an "adequate factual base" for land use decisions. All applicable procedures have or will be complied with in the consideration of this proposal. These findings and the record of this proceeding are a more than adequate factual base for the decision.

Goal 3 - Agricultural Lands.

Goal 3 provides for the preservation of Agricultural Lands for farm use. There are no Goal 3 designated Agricultural Lands on the subject property and Goal 3 therefore does not apply.

Goal 4 – Forest Lands.

Goal 4 provides for the preservation of Forest Lands. The subject property is currently designated Forest Land, but the proposal is to redesignate the property for rural residential uses. The proposal promotes Goal 4 by allowing more efficient management of timber resources to the south, and an improved buffer area between existing residential development and those resources.

Goal 5 – Open Spaces, Scenic and Historic Areas and Natural Resources.

As stated, tax Lots 2600, 2700, a portion of 2900, and 3000 are located within the Low Elevation Winter Range of the Big Game Wildlife Overlay. Wasco County recognizes in its comprehensive plan that big game herds are a valuable natural resource. The county zoning ordinances contain siting and development criteria, found in zoning ordinance section 3.920, for lands within designated areas in the county. Goal 5 is met by the application of these standards to any development within the designated Big Game Winter Range. Protection of Goal 5 resources is also promoted through establishment of the Sevenmile Hill Forest Protection Overlay, which will require clustering of development near existing homes and away from commercial forest lands, helping to preserve wildlife corridors and to protect big game habitat from destructive fires. No other inventoried Goal 5 resources are affected by the proposal.

Goal 6 - Air, Land and Water Quality.

Goal 6 is "To maintain and improve the quality of the air, water and land resources of the county." The policies promote land management practices that tend to preserve natural resources. The proposal promotes Goal 6 by improving the ability to manage nearby forest resources and prevent forest fires. All discharges from the area will comply with all state, federal and local pollution control standards that apply to activities in the area. The proposal complies with Goal 6.

Goal 7 - Areas Subject to Natural Disasters and Hazards.

The area does not contain or affect any areas identified by the county as Natural Hazard Areas.

Goal 8 – Recreational Needs.

Goal 8 is "To satisfy the recreational needs of the citizens of Wasco County and visitors." None of the policies of Goal 8 apply to the proposal.

Goal 9 - Economy of the State.

Goal 9 is "To diversify and improve the economy of Wasco County." A County policy is to maintain forestry resources as a basis for the County's rural economy. The proposed zoning promotes this goal by improving fire protection standards and the buffer between existing and allowed residential uses and nearby commercial forest uses. The Sevenmile Hill Forest Protection Overlay will also promote the economic viability of commercial forestry on the remaining resource land, in conformance with Goal 9.

Goal 10 – Housing.

Goal 10 is "To provide for the housing needs of the citizens of Wasco County." An implementation policy under Goal 10 states that "Residential developments shall be protected from encroachment of incompatible land uses." The exception area will provide additional housing opportunities consistent with Goal 10, and will mitigate existing conflicts between forestry rural residential uses in the area.

Goal 11 - Public Facilities and Services.

Goal 11 requires the orderly and efficient arrangement of public facilities. The existing services and facilities are adequate for the proposal. Adequate public roads access the area - Sevenmile Hill Road and Osborn Cutoff Road. Local fire and police services are provided by the rural fire protection district and the

sheriff's office. Neither water nor sewer services are provided to the area, but are available on the subject properties through individual wells and septic tank systems. Policy 1 calls for "an appropriate level of fire protection, both structural and wildfire, for rural areas." Fire protection for the area and the resource land to the south will be improved by the Sevenmile Hill Forest Protection Overlay.

<u>Goal 12 – Transportation</u>.

Comprehensive Plan Goal 12 is "To provide and encourage a safe, convenient and economic transportation system." The goal does not approval standards, and is otherwise implemented through County transportation planning. The proposal will have little if any impact on the transportation system serving the exception area because there will be minimal increase in traffic generated by development that might occur as a result of the zone change. If the exception area is completely built out, it will add at the most 20 - 21 residences. potentially generate between a low of 72 and a high of 210 average daily trips. The Sevenmile Hill Road has demonstrated capacity to accommodate the increased traffic. In connection with Goal 12, the county is required to apply the Transportation Planning Rule located in Chapter 660, Division 12 of the Oregon Administrative Rules. OAR 660-12-060 requires amendments to comprehensive plans that "significantly affect a transportation facility ... assure that allowed land uses are consistent with the identified function, capacity, and level of service of the facility." Sevenmile Hill/State Road is classified as a Rural Major Collector, which is consistent with the level of traffic from the rural residential uses that feed into it.

Goal 13 - Energy Conservation.

This Goal is met by application of development standards contained in the zoning ordinance and the Overlay Zone.

Goal 14 – Urbanization.

The level of existing development and possible development does not constitute "urban use." Goal 14 does not, therefore, apply. It should be noted, however, that Policy 3 of Goal 14 encourages "subdivisions to be developed by a planned development approach, maximizing physical design, the retention of open space and reducing adverse impacts. The proposed Forest Protection Overlay applies a Planned Unit Development overlay, and promotes this policy. OAR 660-004-0040 explains the appropriate manner in which to address Goal 14 as part of an exception. All applicable requirements of that section have been addressed earlier in this submittal and in development of the Forest Protection Overlay.

3.2.5 Subsection B.2. of zoning ordinance section 9.020 requires that the site be shown to be "suitable to the proposed use." The proposed zone would

allow, outright, farm and forest uses and dwellings on parcels of at least ten acres in conjunction with farm or forest uses. In discussing the Forest-Farm zone, zoning ordinance section 3.220.A. states:

"The purpose of the Forest-farm zone is to permit those lands which have not been in commercial agriculture or timber production to be used for small-scale, part-time farm or forest units by allowing residential dwellings in conjunction with a farm use while preserving open space and other forest uses."

- 3.2.5.1 The Forest-Farm zone is not a resource zone. (See October 11, 1995 non-resource determination letter Exhibit WC-Q, Betzing Record). In this case, it is the most suitable designation for the subject property, which has been partially built and entirely committed to non-resource use due to its location in close proximity to a major county rural residential area, on the residential side of the most logical firebreak between rural residential and commercial forest lands (BPA's Bonneville-The Dalles Line right-of-way/easement). The area is suitable to the proposed use as described in the attached exhibits and otherwise as described in the reports and testimony received in this proceeding.
- The history of the area is also relevant to addressing this 3.2.5.2 standard. Exhibit 10 is a discussion by Kenneth Thomas of the history of the creation of the orchard tracts surrounding the subject property. The extensive parcelization that took place to the west, north and east of the subject property has resulted, over time, in the building and commitment of the area to non-resource, rural residential uses. Properties more recently managed on an integrated basis for commercial forestry purposes include portions of the subject property. However, on-going development of residences south of Sevenmile Hill and Dry Creek Road has diminished the value of those roads as a firebreak for commercial timberlands to the south. As explained in previous sections of this narrative, the presence of dwellings in and adjacent to the subject property complicates and increases the cost of commercial forestry in that area in a manner rendering commercial forestry impracticable. The subject property is less suitable for commercial forestry than the forestland south of the subject property. The subject property is better used as a buffer between lowdensity rural residential uses to the north, and commercial forestry uses to the south. The most appropriate design for that buffer is: 1) allow limited housing opportunities in relatively close proximity to existing roads and development; 2) require clustering of housing generally away from commercial forest areas allowing remaining open areas to be used for small or large scale commercial forest activities, wildlife habitat and as a buffer for those activities; 3) establish a forest protection overlay zone providing standards and conditions to enhance fire protection for both rural residences and commercial forestry uses; and 4) utilize the BPA's

Bonneville-The Dalles transmission line right-of-way/easement as the logical fire break between extensively built and committed rural residential lands and commercial forest lands in the area. The site is suitable to the proposed zone as required by section 9.020,B.2.

3.2.6 Subsection 9.020.B.3. requires, prior to approval of a zone change, that it be established that "There has been a conscious consideration of the public health, safety and welfare in applying the specific zoning regulations." The exhibits and record of this proceeding support a finding of compliance with this The TLSA study investigated the suitability of the area for requirement. residential needs, including "the availability of groundwater to serve domestic needs, fire hazard, conflict with wildlife, and available lands for rural residential lifestyle in this developing area." The components of this proposal also support a finding of compliance with this section, as discussed in the preceding section of this submittal. The proposal is designed to provide an appropriate buffer between low-density rural residential, forest and farm uses on the one hand, and commercial forestry uses on the other. The "specific zoning" includes the Forest-Farm zone with a ten acre minimum lot size, clustering to a density not to exceed one dwelling for every ten acres, and additional restrictions imposed through the Forest Protection Overlay Zone. This requirement for rezoning has been met.

4. Justification for Forest Protection Overlay Zone.

The Forest Protection Overlay Zone, Exhibit 6, is a Limited Use Overlay Zone and a Planned Unit Development Overlay Zone.

4.1 Section 3.600—Limited Use Overlay Zone.

4.1.1 Zoning Code section 3.600 A. states, in relevant part:

"The purpose of the 'LU' Limited Use Overlay zone is to limit the list of permitted and conditional uses in an underlying zone. * * * Where appropriate, the 'LU' zone may be applied to 'physically developed' and 'irrevocably committed' exceptions under ORS 197.732(1)(a) & (b) in order to reduce the list of permitted uses in a zone to those that are suitable for a particular location. In such cases, the 'LU' zone may be used to carry out the administrative rule requirements for 'physically developed' and 'irrevocably committed' exceptions pursuant to OAR 660-04-018(2)(a) and (b)."

In this case, the Limited Use Overlay is proposed to limit uses in a committed exception area, as part of a process in which all requirements for an exception have been satisfied. The Forest Protection, Limited Use Overlay in Exhibit 6 is consistent with the purpose of Limited Use Overlay zones.

4.1.2 Section 3.600 allows use of a Limited Use Overlay in the circumstances presented here. Uses permitted in the Overlay area are described in Exhibit 6.

4.2 Chapter 18—Planned Unit Development (PUD) Overlay Zone

4.2.1 Section 18.010 states the purpose of the Planned Unit Development Overlay as follows:

"The purposes of the Planned Unit Development District are to provide a means of creating harmonious planned environments through the application of flexible and diversified land development standards; to encourage the application of new development techniques and technology which will result in superior living or development arrangements; to promote the efficient use of land to facilitate more economic provision of housing, circulation systems, utilities and their maintenance; to promote energy conservation and use of renewable energy resources; to preserve to the greatest extent possible significant landscape features and to utilize such features in a harmonious fashion; and to provide for more usable and suitably located open space and recreation facilities than would otherwise be provided under conventional land development procedures."

The proposed PUD Overlay, Exhibit 6, is consistent with the purpose of the Overlay. Adoption of the ordinance will allow clustering of dwellings in the area toward existing roads and dwellings to the north and away from commercial forest resources to the south. Open space areas preserved through the PUD process will provide additional buffering between otherwise incompatible residential and forestry uses. Application of the PUD requirements of Chapter 18 to development in the Overlay area will promote the purposes of Chapter 18.

- 4.2.2 Compliance with Section 18.040—Criteria for Zone Change to Apply PUD District. Section 18.040 states that the Approving Authority shall approve a zone change applying the PUD District if the following criteria are met:
 - **4.2.2.1** "A. The criteria of Section 9.020 of Chapter 9 of this Ordinance have been met;"

Preceding sections of this narrative explain how the proposal, in its entirety and including the proposed Overlay, comply fully with Section 9.020. Please refer to the justification in section 3 of this submittal.

4.2.2.2 "and; B. Two or more of the following:

- 1. The subject property contains significant landscape features or open space whose preservation requires planned unit development rather than conventional lot-by-lot development;
- 2. Planned unit development of the subject property will promote increased energy conservation or use of renewable energy resources;
- 3. The subject property contains natural hazards, the avoidance of which requires planned development of the property;
- 4. Planned unit development of the subject property will produce more efficient use of the land and provision of services than conventional lot-by-lot development."

As explained elsewhere in this submittal, inherent fire risks due to the climate and vegetation in the area are exacerbated by slopes that tend to convey fire from rural residential uses to up-slope Planned unit development in the manner forest resources. specified in Exhibit 6 will cluster housing toward existing roads and residences, and away from timberlands. Such development will also preserve open space that will act as part of a buffer between existing and allowed residential uses to the north and commercial forestlands to the south. To the extent wildfires are considered a natural hazard, planned development is also part of a strategy to minimize those hazards. Finally, as explained in detail throughout this submittal, planned unit development in the area will promote more efficient management of timberlands to the south of the area, and more efficient provision of fire suppression strategies and techniques in the Overlay area. At least three of the four circumstances listed in Section 18.040 B. Establishment of the PUD Overlay described in Exhibit 6 is clearly justified in this instance.

CONCLUSION

Because of the unique circumstances of the relationship between the exception land and surrounding land as explained above, and because of the Sevenmile Hill Forest Protection Overlay, the residential uses will not commit adjacent or nearby resource land to non-resource use, and will provide adjacent resource land with enhanced protection, actually facilitating the continued use of such lands for direct resource uses. Consequently the rural residential uses allowed are compatible with adjacent nearby resource use. Based upon all of the findings of fact and conclusions of law set forth above, the Planning

Director recommends approval of the exception and zone change and recommends that the exception area be rezoned to "F-F(10)," that the Sevenmile Hill Forest Protection Overlay be adopted and that the corresponding Plan, map and ordinance changes be made.

Table of Exhibits

Sevenmile Hill Plan Amendment Zone Change and Exception

Exhibit #	Title of Exhibit
1	Subject Property Maps
1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9	Exception Area Map Vicinity Map Sevenmile Hill Area Zoning Map Exception Area Zoning Aerial Photo (w/ Tax Lot lines) Map of Soil Classes Map of Soil Classes (w/ aerial photo) Area Topography (w/ aerial photo) Parcelization Map Map of Area Residential Uses
2	Memorandum from Planning Staff to Wasco County Court dated 2/18/98, "Staff Summary of Issues for the (TLSA)" with attachment, "TLSA Quick Facts" (other attachments to this memonot included)
3	Transition Lands Study Area Final Report, 9/12/97
4	TLSA Study Area Ground Water Evaluation-Wasco County, Oregon, December 1996.
5	Settlement Agreement Between Wasco County, Kenneth A. Thomas and Joseph Betzing, 1/5/02
6	Proposed Sevenmile Hill Forest Protection Overlay Zone Ordinance
7	Resolution No, Wasco County Court, "In the Matter of County Court Initiation of a Plan Amendment, Zone Change, and Exception to Statewide Planning Goal 4, for an Area South of Sevenmile Hill and Dry Creek Roads, at the Request of the Planning and Economic Development Office"
8	DLCD Notice of Proposed Amendment, ORS 197.610

Table of Exhibits Sevenmile Hill Plan Amendment, Zone Change and Exception Page 1

9	Soil Classification Descriptions (From the Soil Survey for Wasco County, USDA Soil Conservation Service)
10	"History of Use and Parcelization of Sevenmile Hill Area,' Kenneth A. Thomas, September 5, 2003
11	Parcelization Table, Sevenmile Hill Area
12	Additional Information Regarding Forest Fires and the Forestland- Urban Interface

Application for Zone/Plan Change and Proposed Exception for Seven Mile Hill Area

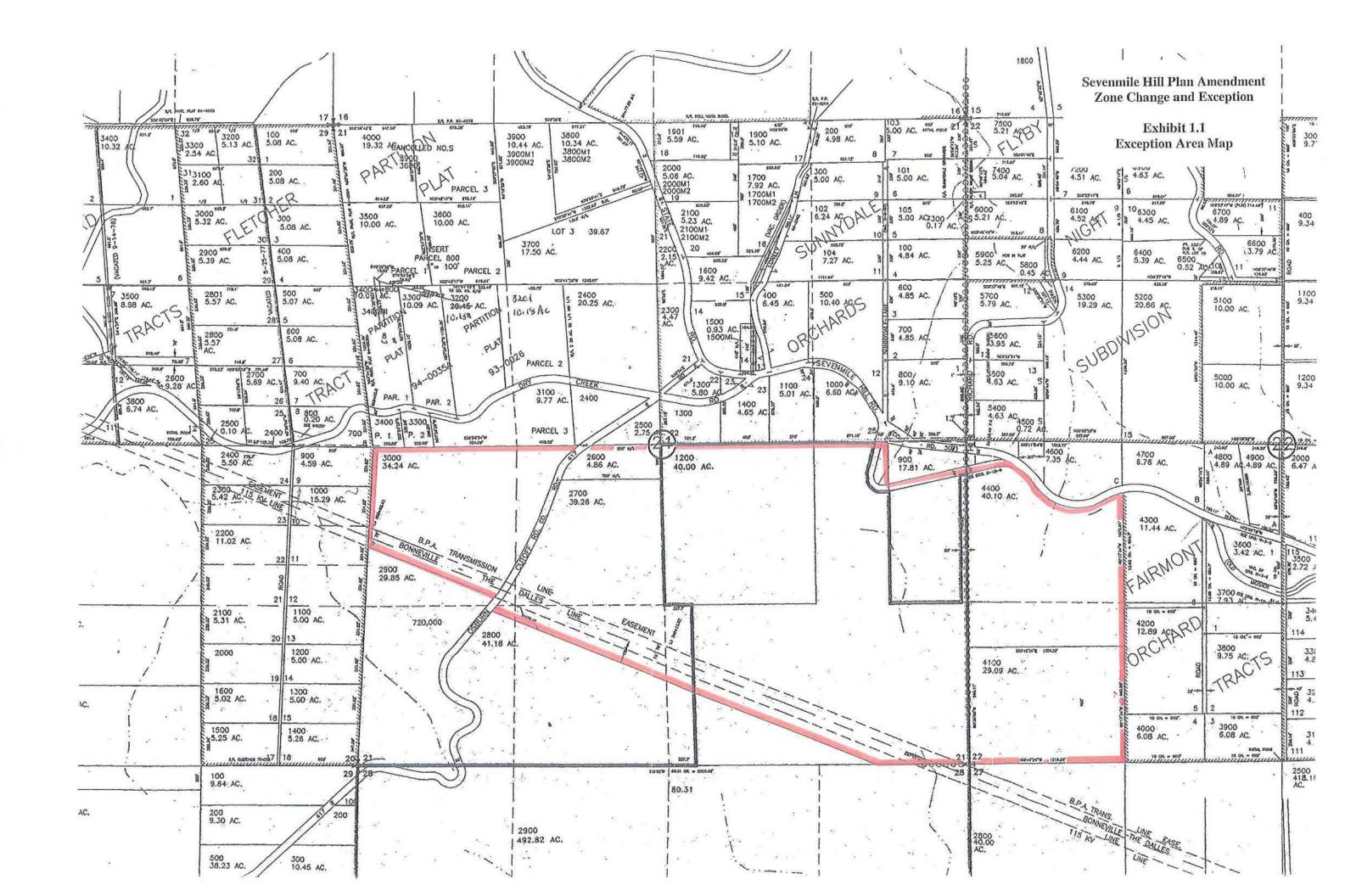
EXHIBIT 1

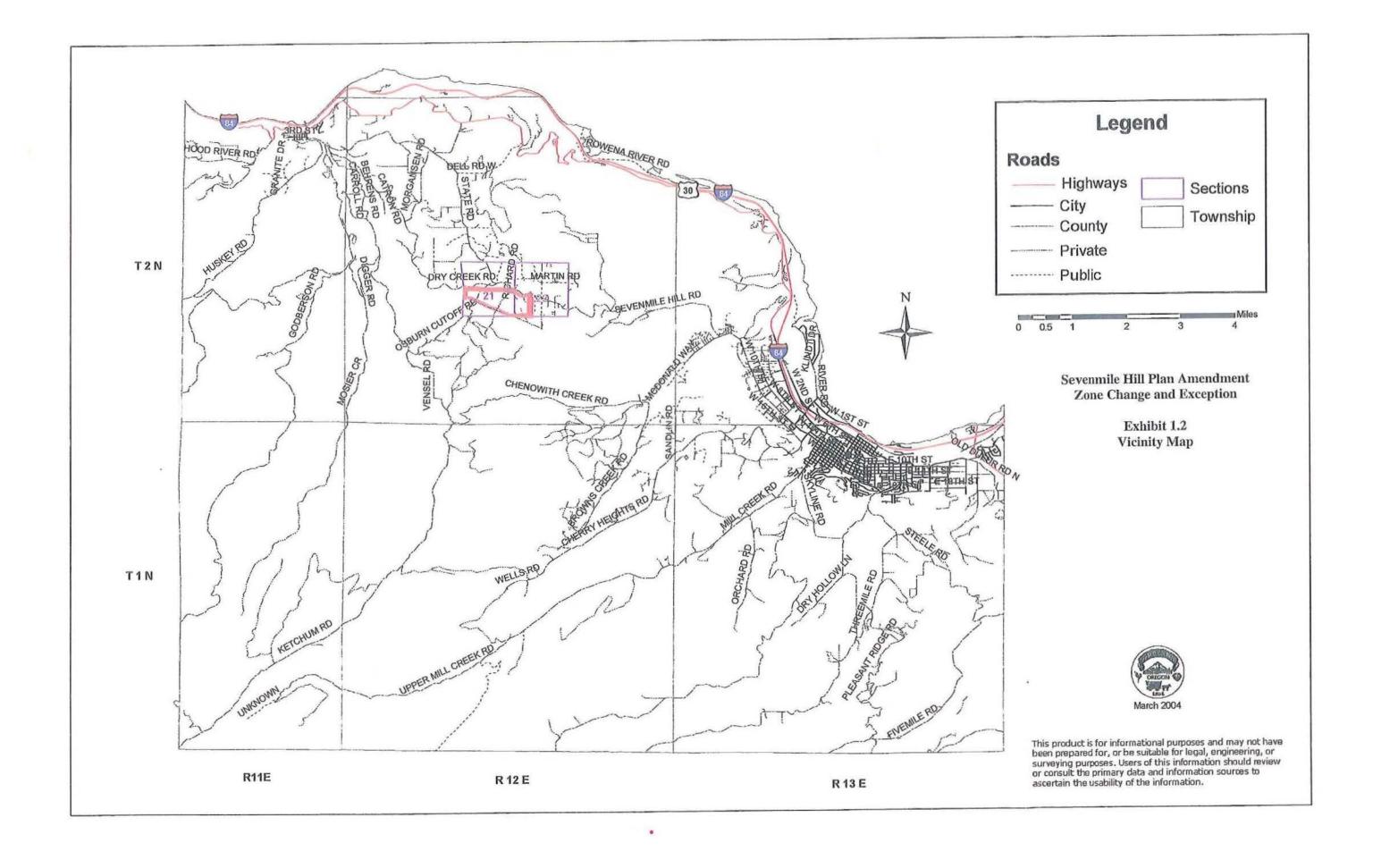
MAPS

Subject Property Maps

- 1.1 Exception Area Map
- 1.2 Vicinity Map
- 1.3 Sevenmile Hill Area Zoning Map
- 1.4 Exception Area Zoning
 1.5 Aerial Photo (w/ Tax Lot lines)
 1.6 Map of Soil Classes
- 1.7 Map of Soil Classes (w/ aerial photo)1.8 Area Topography (w/ aerial photo)

- 1.9 Parcelization Map1.10 Map of Area Residential Uses





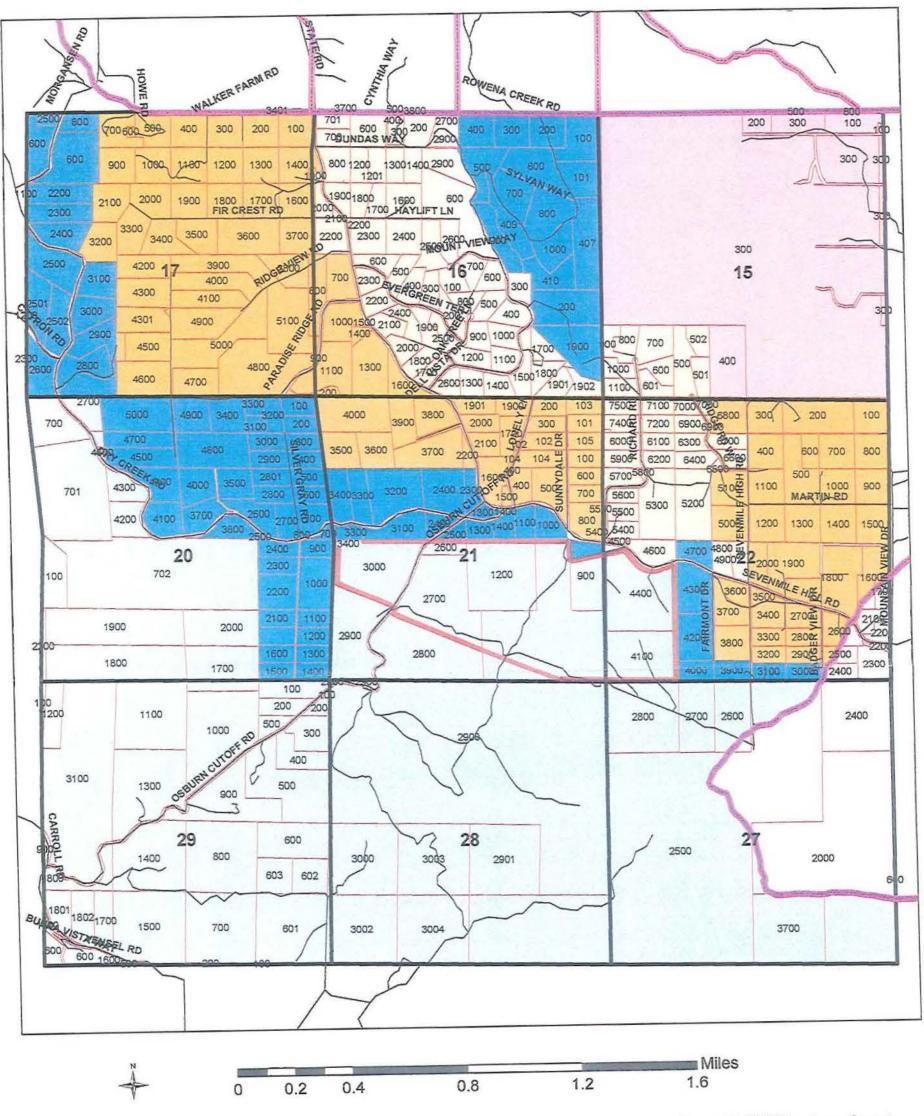
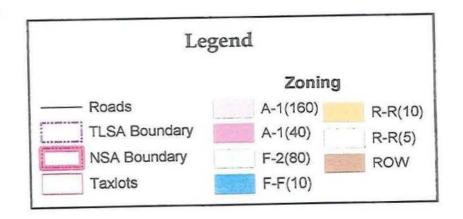


Exhibit 1.3 Sevenmile Hill Area Zoning Map





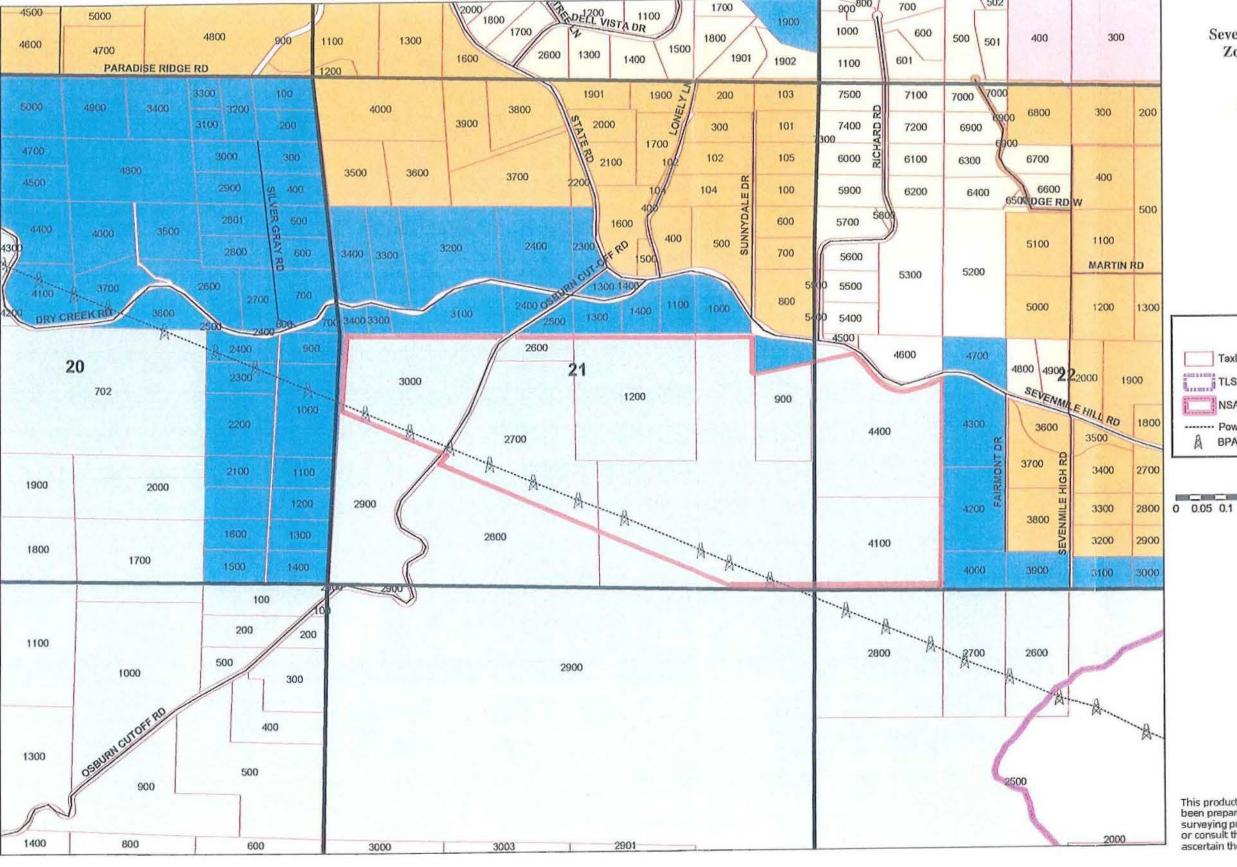


Exhibit 1.4 Exception Area Zoning





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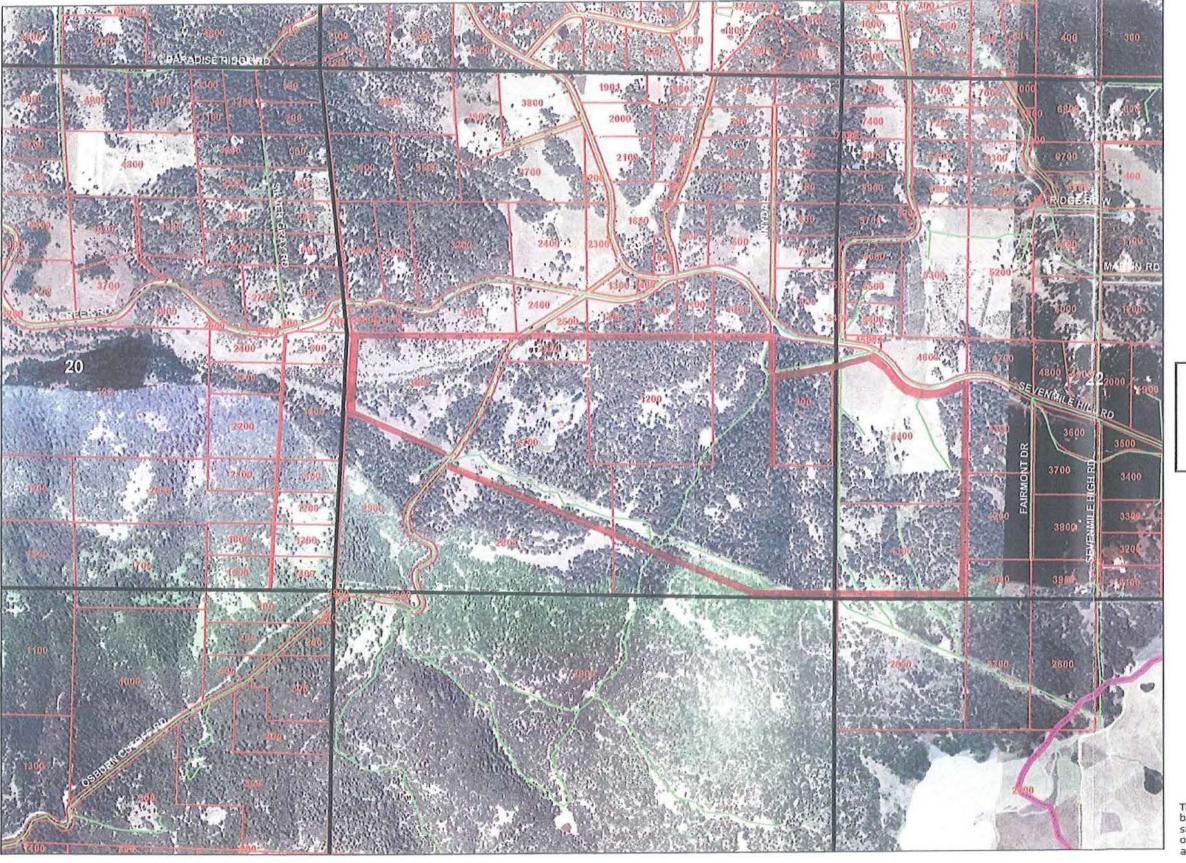
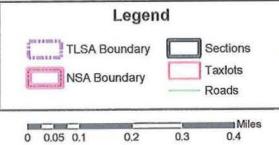


Exhibit 1.5 Aerial Photo (w/ Tax Lots)







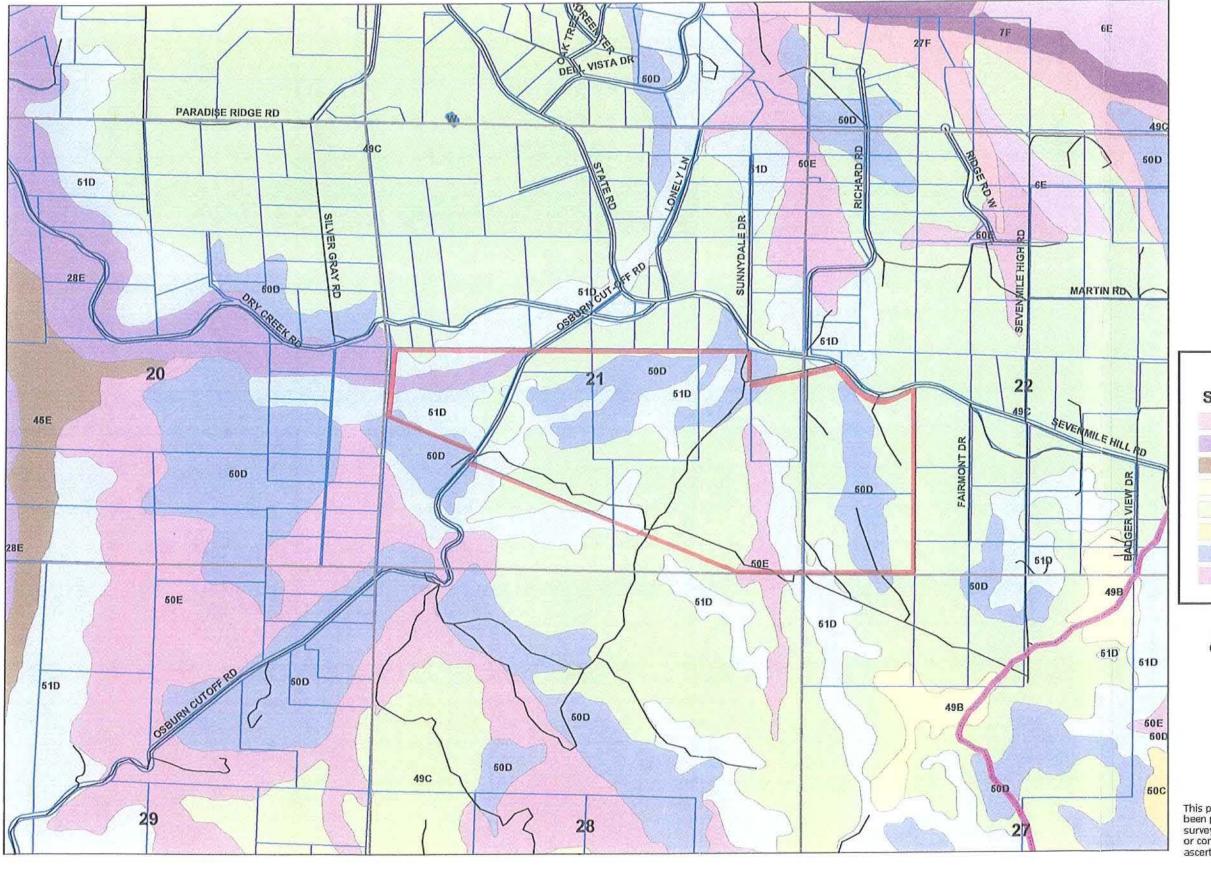
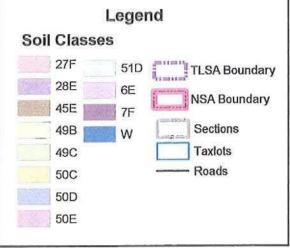
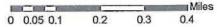


Exhibit 1.6 Map of Soil Classes









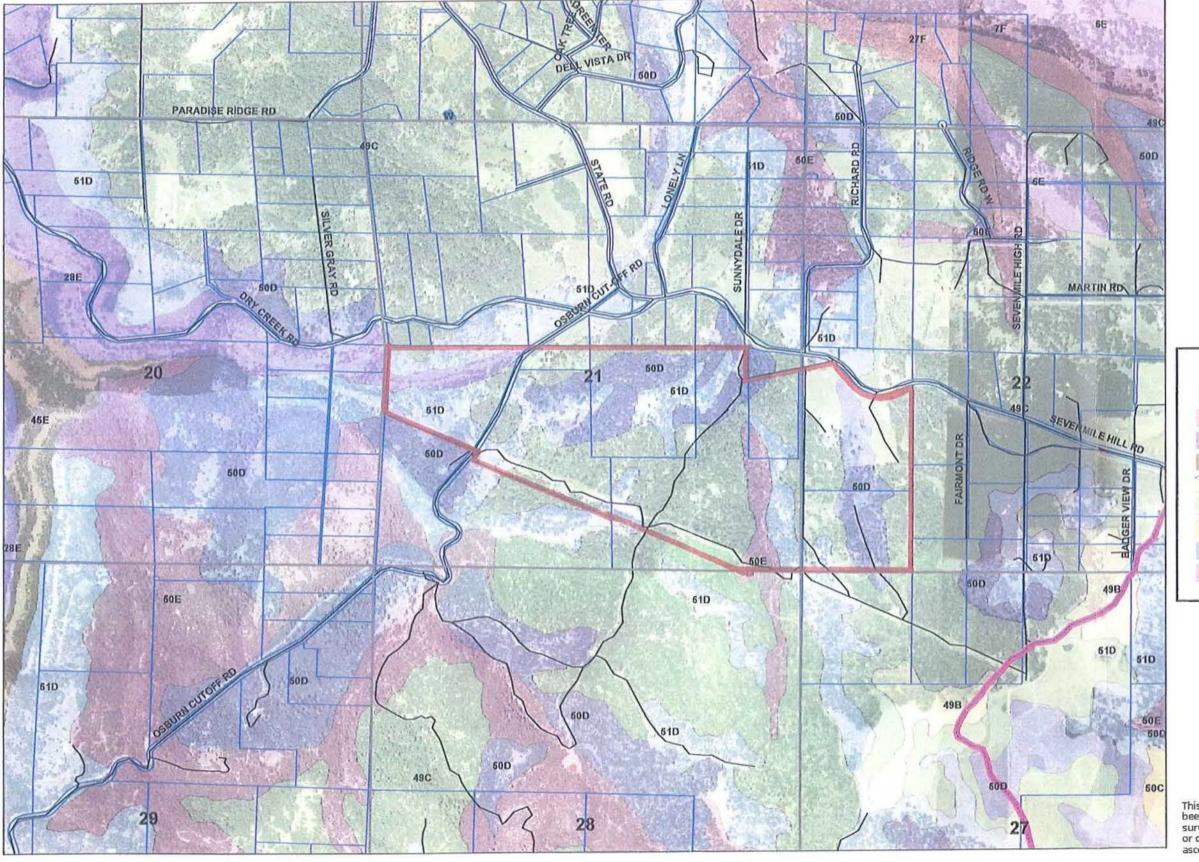
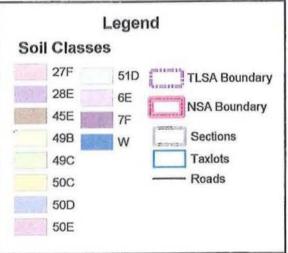
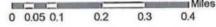


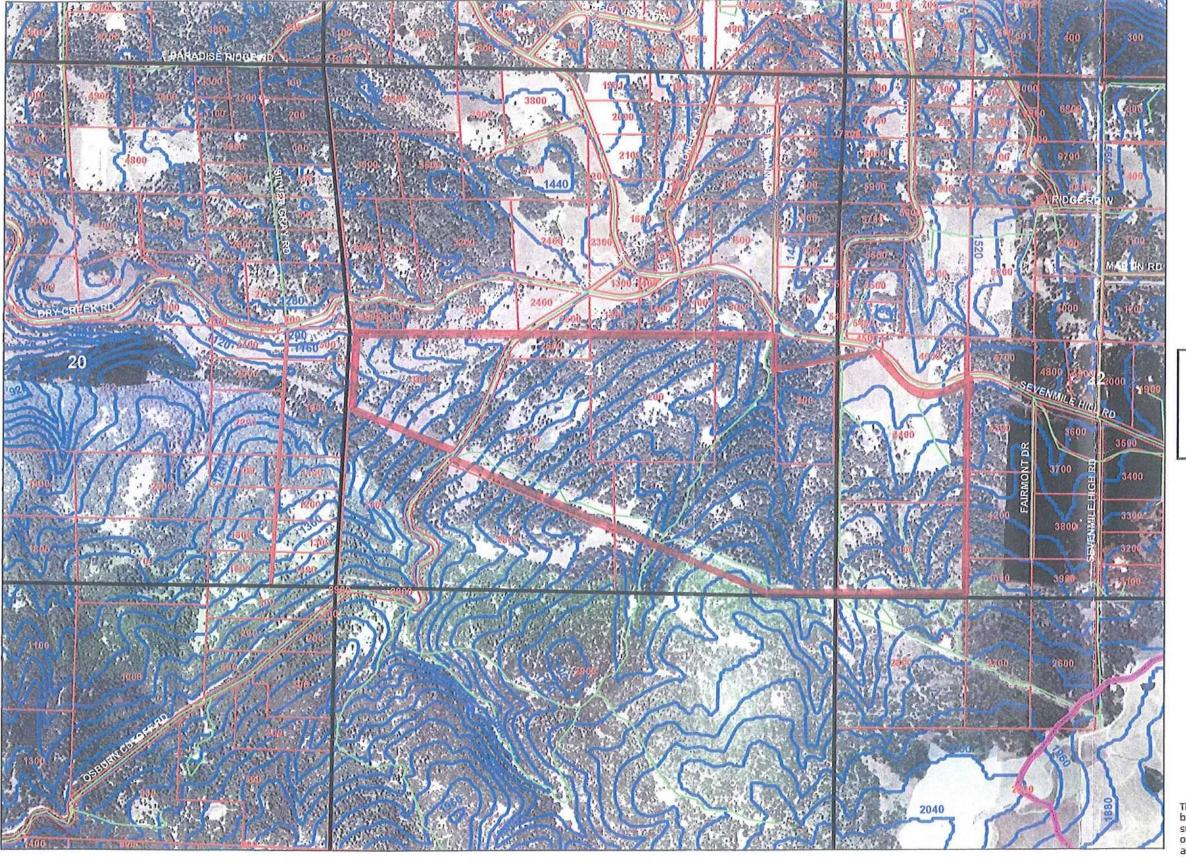
Exhibit 1.7 Map of Soil Classes (w/ aerial photo)





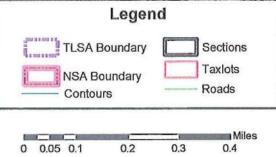




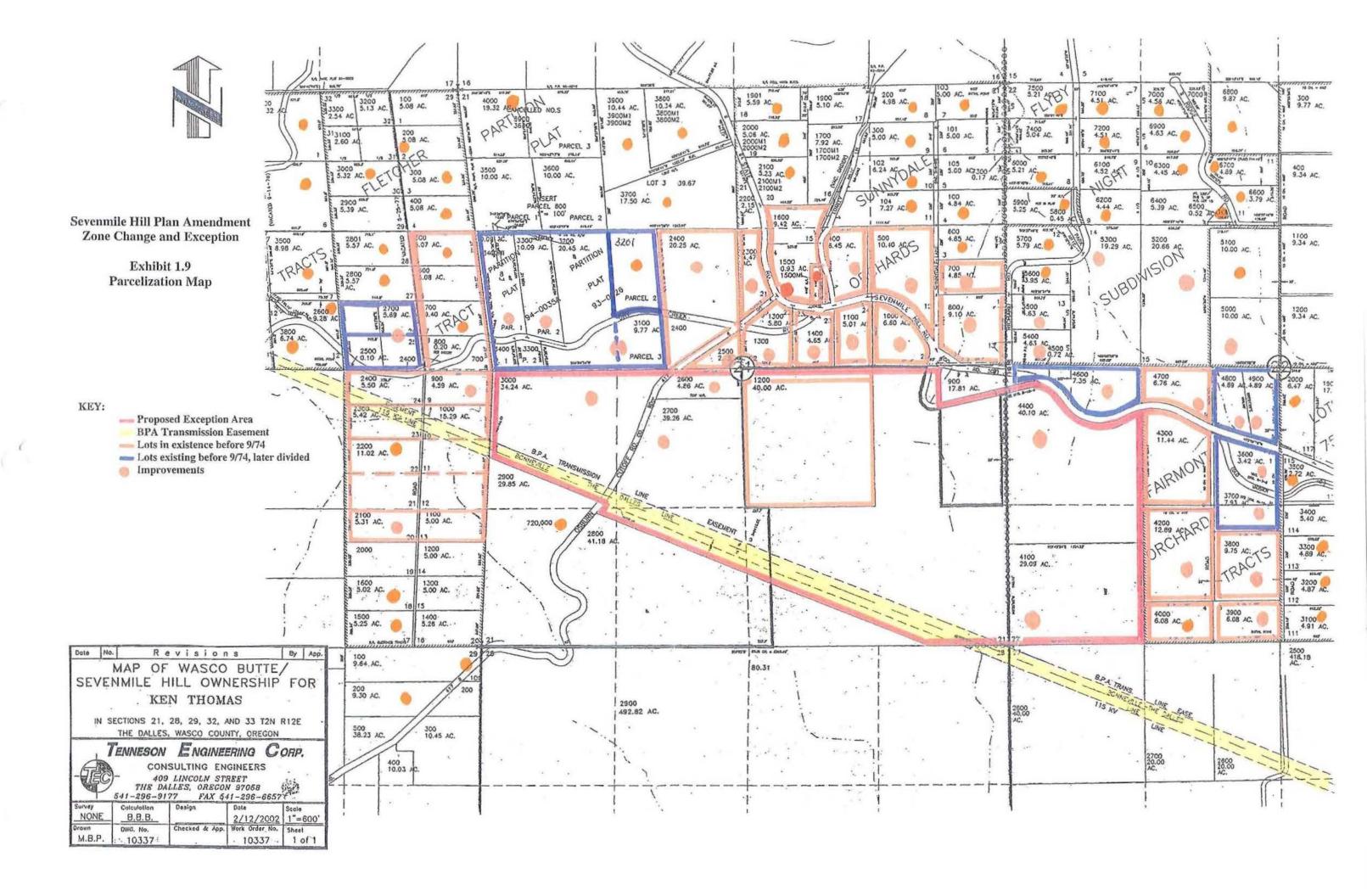


> Exhibit 1.8 Area Topography (w/ aerial photo)









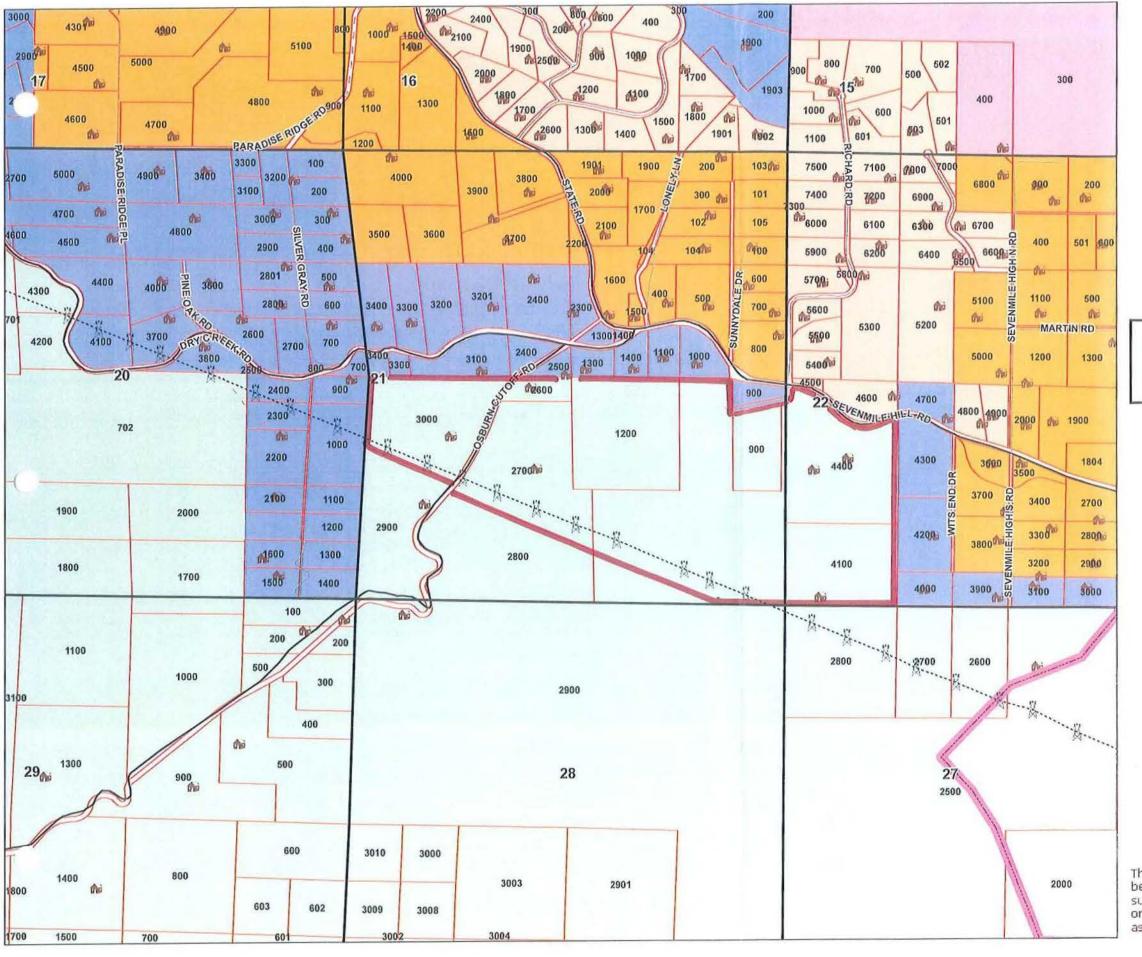
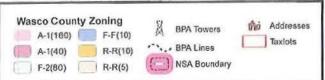


Exhibit 1.10 Map of Area Residential Uses



N 1 inch = 1,042 feet

EXHIBIT 10

History of Use and Parcelization of Sevenmile Hill Area

By Kenneth A. Thomas

September 5, 2003

The vicinity of the Thomas Tract (Sevenmile Hill-Wasco Butte) has been an area of development and activity from the earliest days of settlement of the Columbia River Gorge. The Sevenmile Hill State Road was originally the Ft. Dalles Military Road, constructed prior to the Civil War to re-supply Ft. Dalles. Settlers began occupying the area for intensive agricultural and timbering relatively early in the history of Wasco County, i.e., just before and after the Civil War. Holdings were relatively small, driven by the Homestead Act's maximum of 160 acres per claim. The first major change in this pattern of use came around 1900.

Starting around 1900 and running until World War I and shortly thereafter, there was an "Orchard Boom" throughout the American West, including Oregon and Wasco County. (At this time, Wasco County included what is now Hood River County, and in fact the success of the "Orchard Boom" in the Hood River-Odell area is what led to the creation of the Hood River County around 1910.) This "Orchard Boom" was based upon increased markets in the east and the ability to grow "dryland" fruit in the relatively mild climate of the Northwest. Orchard developers subdivided land into 5 and 10 acre plots, advertised them all over the U.S., and sold them as orchard sites that could be operated by and support a single family. The "booster" pamphlets can be seen among the displays at the annual meeting of the Wasco County Pioneers Association, including advertising pamphlets urging the advantages of Hood River, Mosier, Dufur, The Dalles and all of Wasco County as prime orchard country and an excellent place to settle. There are several of these plotted subdivisions in Wasco County, two of which are adjacent to the Thomas Tract. One such orchard subdivision forms the Northern boundary of the Thomas Tract on both sides of Sevenmile Hill Road. The second lays at the south boundary of the Thomas Tract along Vensel Road just South and West of the summit of Wasco Butte. These subdivisions also exist around Dufur and Friend, as well as Boyd, Rice, Ortley and other abandoned developments that are only a name on the map of Wasco County. All of these "orchard subdivisions" still appear on official maps of Wasco County available from the County Road Department and the Assessor's Office. The Thomas Tract includes three such orchard plots, each being slightly less than 10 acres in size.

The area North of Sevenmile Hill Road became intensively developed for orchards, with the building of the town of Ortley and several hundred family farms. It was not just newcomers who took to orchards. Many long-time residents tried fruit growing. As part of an economic history project at the University of Washington in the early 1970's, I interviewed many local farmers about the "Orchard Boom." Among them

were my Godfather, Grover Moore, Roy Slusher and Vaughn Creel. Each of these men planted and operated orchards just before and after World War I. Each had looked for orchard land in the Sevenmile Hill – Wasco Butte vicinity, but bought land in the Dufur area because the Seven Mile Hill area was already filled up when they started. Each of these men eventually had to pull up their apple trees because of poor markets and dry weather. The subsequent history of the land is marked by a series of unsuccessful attempts to use the property for commercial agriculture.

While the area South of Sevenmile Hill Road was partially subdivided and sold during the "Orchard Boom," orchards never became permanently established. This was a result of a change in local climate that started about 1916, which change finally killed the "Orchard Boom" by the late 1920's. As shown in the National Weather Service's records, and the agricultural extension records of Oregon State, the annual precipitation for Wasco County was approximately 6-8" per annum higher for the period 1880-1920 than it has been for the period 1930-2000. This drop in annual precipitation totally altered the agricultural pattern in the County. Thousands of acres of dryland orchard were no longer viable, and were removed. According to the Wasco County Pioneer Association, small landholders sold out and acreages were consolidated for use in grazing and dryland wheat and alfalfa. For example, the Dufur Orchard Company, which at one time had almost 3,000 acres of orchards, became a dryland wheat ranch by the early 1930's. Merle Huston, the onetime Manager of the Miller Ranch (which had been the Dufur Orchard Company land) personally saw this part of Wasco County go from intensive orchards in the 1920's to wheat and cattle in the 1930's, with the removal of thousands of fruit trees. While I was in high school, he gave me a tour of the old orchard sites. This was also the pattern on Sevenmile Hill - Wasco Butte. The final chapter of this process on Wasco Butte was only recently concluded. In 1910, the Davies Family of Upstate New York purchased, sight unseen, a 9 acre orchard plot on Wasco Butte with the intent to move West and grow apples. By the time they were ready to move economic and climatic conditions had shown the small plot to be non-viable. The family retained the property in hopes of selling to other farmers when markets recovered. However, the long-term trend never changed, and in 1999 the great-grandson of the original owners finally sold the plot to me and related the foregoing history to me. This is one of the three orchard plots that are included in the Thomas Tract.

From the 1920's through the 1960's, the vicinity of the Thomas Tract underwent continuous consolidation and depopulation and small subsistence farmers sold out and local cattle and wheat growers converted the land back to less intensive resource-based uses. Ortley disappeared and the owners of most of the land lived elsewhere in the County. The Kortge Family ran the land for wheat and cattle and related its history to me.

The late 1960's brought the next major change in land use patterns to the area, a change I was able to personally observe. A combination of population growth and a "back-to-nature" ethos caused rural lands in Wasco County to increase dramatically in value up to 1968-1969. During this brief "recreation boom" small tracts became very

popular in the vicinity around the Thomas Tract. There was much activity, as this was prior to the 1974 Oregon law that requires a formal partition to subdivide land. During this period the granting of a deed was all that was required to effect a division of land. However, as the recession of the early 1970's hit, and people discovered that living on the land was not so easy during the winter, this second boom, based on recreation and life-style, also went bust. Richard Murray, who has had property on Sevenmile Hill for decades, related to me his experience as a developer in the area during this period.

Through the 1970's and 1980's, development in the area had fits and starts, but the trend continued for subdivision for recreation and dwellings. The current configuration of the Thomas Tract was a direct result of this piecemeal development. The core of the Sevenmile Hill portion of the Thomas Tract land had been the Davis Ranch, a cattle farm developed in the aftermath of the "Orchard Boom." In acquiring this tract, I have become acquainted with the descendants of the Davis family who are still neighbors on Sevenmile Hill. They told me that, after the ranch ceased operation, the surviving heirs started subdividing it and selling recreation plots during the 1970's and 1980's. Kargl, Elwood, and Geiger, the real estate brokers for the Davis family, told me that they were only able to sell small acreages (40 acres and less) that had direct access to year-round County roads. Therefore, by the mid-1980's, they were left with a core tract with limited road access, surrounded by smaller, recreational properties.

The balance of the Thomas Tract, on Wasco Butte, is also the remnant of a late 1960's early 1970's development scheme. Over the last ten years I have become well acquainted with Alan Bond, the General Partner for over 20 years of Mosier Creek Development, the Seattle-based development partnership that sold me most of my land on Wasco Butte. Mr. Bond related to me the events of this phase of my property's history. The Schmidt Family had, since pioneer days, owned large tracts of range/timber land in the vicinity. In the late 1960's, early 1970's several thousand acres of this land was sold, through Karl Johnson, to the real estate development partnership based in Seattle, Washington, Mosier Creek Development. They planned to subdivide all this property for residential and recreational development. They constructed roads and began the subdivision process. However, they just missed the boom of the late 1960's, and by the time the value of rural lands had started to recover, Oregon land use laws prevented small lots, or residential use of almost all of the Schmidt Family land. While all the Wasco Butte lands had been divided into lots of 40 acres or less, the inability to build, and general economic weakness in the area during the recession of the 1980's, caused most of these lands to be sold and resold, with Mosier Creek Development foreclosing upon defaults and sales contracts.

From 1990-2000, I acquired the lands that now comprise the Thomas Tract on Sevenmile Hill – Wasco Butte. For the first time in 30 years these lands were being utilized exclusively for resource production (grazing and timber production). This period also coincided with the most recent of the "booms" experienced by the area. By 1995, I had observed several factors that had changed the economic influences in the area. The creation of the Columbia River Scenic Area drove development out of the Scenic Area

and into neighboring lands. The local economy was doing very well, and in particular, the windsurfing industry was thriving from Hood River to The Dalles. Thus was born the "boardhead boom." The value of building sites in the vicinity increased dramatically and a wave of construction occurred, leaving virtually no unbuilt, legal sites in the vicinity of the Thomas Tract. Pressure mounted for ways to build on sites not traditionally sought after as home sites. This boom continues, but may be moderating as the local economy slows down. During the prior booms in the area, the owners of large tracts of land were also the developers of that land. For the first time, with my land (the Thomas Tract), that is not the case, and probably accounts for the recent problems relating to the interface between urbanization and the agricultural and forestry use of my land (the Thomas Tract).

Over the last 100 years, the long-term trend for the Sevenmile Hill – Wasco Butte area has been a shift from agricultural use, including residential use based upon agriculture, to residential use based on "living-in-the-country," unrelated to any resource use. This trend has accelerated or decelerated depending on general economic conditions, but the basic movement has been toward open residential use.

As can be seen from this narrative, many landowners have attempted to use my land (the Thomas Tract) for agricultural use in the past, but none have been successful on a consistent basis. The lack of rainfall, elevation, harsh winters, and poor soil have meant that commercial forestry or a combination of commercial forestry and grazing are the only viable resource uses for this area. Attempts at intensive commercial agriculture uses in the area have consistently failed. The only successful commercial agriculture operations in the vicinity are conducted on better soil and at lower elevations. The growth of residential use immediately surrounding the Exception Area has increased the fire risk to a degree that commercial forestry is also no longer economically practicable. Given that the cycle to mature timber in this area is 100-125 years, fires in the vicinity are certain to occur during the normal timber rotation. The only question is when, and whether they will be controlled before devastating the existing trees. The only way in which commercial forestry can be continued is to attempt to create a better buffer between the residences and the resources. That requires construction of such things as fire lanes and water resources to enable the fires to be controlled once they start. Wells, water storage, fire access roads, fuel break maintenance, and other fire prevention technologies and practices cost money. Although well spent, the cost and effort needed to prevent rural residential fires operates as a disincentive that can only be overcome through proper planning and regulation.

The request will convert a small amount of my F-2 resource land to regulated residential use, which will actually enhance the viability of resource use on the bulk of my F-2 land by reducing the risk of fire spreading from the existing residences on three sides of the Exception Area.

Exhibit 11 Sevenmile Hill Plan Amendment Zone Change and Exception

Parcelization and Development Chart—Sevenmile Hill Area

The following chart contains information on tax lots within, and surrounding, the subject property, obtained from County deed and assessment records, partition and subdivision plats. The lots are categorized by their general cardinal location in relation to the exception area (west, north, east and south).

Accompanying the Parcelization and Development Chart is a map, prepared from the same County records, showing the proposed exception area, the location of the BPA Transmission Easement, and indicating (in red) lots that were created prior to September 1974 (pre-comprehensive planning and zoning) and (in blue) lots that were divided further after September 1974.

The map also shows which lots in this study area contain improvements. The map is not intended to show the exact location of improvements-only to indicate that according to assessment records, improvements exist on the lot.

The map has been labeled Exhibit 1.9

EXHIBIT 11 Application for Zone/Plan Change and Proposed Exception for Seven Mile Hill Area

Lot Pattern Information Chart

EXCEPTION AREA

Map: 2N 12E Section 21; 2N 12E Section 22 8 Lots, Average Lot size:

35.97 acres

No.	TAX LOT NO.	ACREAGE (Approx.)	CREATION DATE	OWNER	Notes
1.	2N 12E Lot 2900	82.4 (of 492.62)	1993 by Deed	Applicant K. Thomas Zoning: F-2(80) No Improvements	Exception proposed only for Part of lot North of BPA Trans. Easement, in Section 21 Frmly Lot No. 11693. Created over time by combining tax lots owned by the Davis family (i.e. Former Tax lot No. 9169) Described as: Sec 21: S1/2 of SE 1/4 (minus a 227' Strip at west); NE 1/4 of SE1/4 (minus what is now Tax Lot 900, see Item 6 below); AND Sec. 28: N 1/2; NE 1/4 of SE 1/4; NW 1/4 of SE 1/4 WD 73-1451 6/29/73 -M. Davis to Davis-Lundell-Klepper-Findley (Deed conveys Lots in Sunnydale Orchards (see Item 22 below) along with parcels in other sections AND SW 1/4 of Sec. 21, AS WELL AS Lots that became Lot 2900) BS 84-2890 11/13/84 - G.E. Davis to B. Lundell, I. Klepper, D. Findley Deed conveys all of Lot 2900 except NW 1/4 of SE1/4 of Sec. 28, AS WELL AS Lot 13 of Sunnydale Orchards (See Item 20 below) WD 92-3873 3/14/94 - WD 93-3244 8/17/93 - Lundell, Klepper, Wilson,

					Reed to KAT
2.	2N 12E 21 Lot 1200	40 Ac	Prior to 1971 by Deed	Applicant K. Thomas	NW 1/4 SE 1/4 Section 21 Frmly T.L. 11500. Same configuration since 1971
				Zoning: F-2(80)	WD 71-2207- 11/26/71 - M.C. Doyle & M. Doyle to
				No Improvements	B.E. Goocher & D.J. Goocher
<u></u>	0.110001	1,06	40001		WD 97-3402-7/29/97 - Moore & Moore to Thomas
3.	2N 12E 21 Lot 2600	4.86 Ac	1980 by Contract	Steven D. and Lisa Biehn Address: 2800 Osborn Cut-	(Legal Desc,. NE Corner of SW 1/4 of Section 21) Created by parcelization of Davis Ranch property.
	Lot 2600		Contract	off Road	Non-conforming lot in zone
				Oli Koau	C 80-1399 5/15/80- Davis, Lundell, Klepper,
				Zoning: F-2(80)	Findlay to H.D. Jones & D.J. Jones
				Improvements: \$49,470	WD 2001-0801 2/15/2001 - S. Biehn to L. Beihn (1/2
				MFG Structure: \$24,690	interest)
4.	2N 12E 21	39.26 Ac.	1985 by	Richard and Hope Vance	(Legal Desc, Part of NW 1/4 of SW 1/4 Section 21)
	Lot 2700		Contract	Address: 2600 Osborn Cut-	Combined with pieces of adjacent lots to create a
				off Road	near-40 acre parcel. Southern boundary is BPA
					Easement
				Zoning: F-2(80)	COT 0000 0 /6 /05 TO 1 TO 1 TO 1
				Improvements: \$27,290 MFG Structure: \$81,140	C 85-0228 2/6/85 - Forrester Brokers, Inc. to J. B. Hines & J. M. Hines
				MFG Structure: \$61,140	BS 96-2883 6/21/96 - J. Hines to J. Hines & J. Hines
					(entirety)
E					(cridicty)
5.	2N 12E 21	34.24 Ac.	1986 by	Margaret Anderson & James	SW 1/4 of Sect 21, West of Osburn Cut-off Rd and
	Lot 3000		Contract	Foote	North of the BPA Line Easement
				Address: 2777 Osborn Cut-	Frmly 2N12 11605
				off Road	86-3227 12/31/86 - Forrester Brokers, Inc. to K. E.
				7	Howell & A. C. Howell
				Zoning: F-2(80)	WD 2000-2101 5/24/2000 - A. Hubbard to J. Foote & M. Anderson
				Improvements: \$2,020 MFG Structure: \$91,940	W. Anderson
6.	2N 12E 21	17.81 Ac.	1980 by Deed	Dennis Davis & Mary R.	Part of E 1/2 NE 1/4 SE 1/4, Section 21. Part of
".	Lot 900		2300 27 2200	Davis	Davis Ranch property
					80-1353 5/13/80 - E. Davis, Klepper, Findlay,
				Zoning: F-2(80)	Lundell to E. Davis & V. Davis
				No Improvements	BS 98-4096 8/10/98 - G. Davis to D. Davis & N.
					Davis

Lots in Section 22

No.	TAX LOT	ACREAGE	CREATION	OWNER	Notes
	NO.	(Approx.)	DATE	1	
7.	2N 12E 22	40.10 Ac.	1986 by Deed	David and Jolene Wilson	W1/2 SW 1/4 of Section 22, S. of Rd.
1	Lot 4400		(remainder)		Existed as a 70-ac. parcel until 8/21/86, w/ T.L 4100
				Zoning: F-2(80)	(Parcel 901)
				Improvements: \$160,330	C72-1044 5/11/72 - C.J. Marshall & B.J. Marshall to
					S.J. Decker & B.J. Decker (Includes Tracts
					2,3,5,6 Fairmont Orchards, and W 1/2 of
					SW 1/4 of Sec 22, and N 1/2 of NW 1/4 of
					Sec 27. See item 50 below)
					98-6570 6/17/98 - D. Hendershot to S. Gearhart &
					S. Gearhart
	}				[See item 8 below, WD 86-1988 8/21/86: Lot 4400 is
					excluded from that deed]
8.	2N 12E 22	29.09 Ac.	1986 by Deed	David and Jolene Wilson	S'ly 960' of (W1/2 SW 1/4 S. of Rd.)
	Lot 4100			Address: 7100 Sevenmile	Created as a separate lot in 1986
				Hill Road	WD 86-1988 8/21/86 -L.F. Black & B.J. Black to K.A.
					Johnson - Splits 4100 from 4400, & includes
				Zoning: F-2(80)	other lots (Tracts 3, 4, & 5 of Fairmount
				Improvements: \$21,420	Orchards, items 47-49 below; N 1/2 of NW
				MFG Structure: \$49,860	1/4 of Sec. 27, items 58-60, below)
					TD 95-3866 10/6/95 - D. Wilson to C. Appleton, S.
					Appleton & L. Sohler

WEST OF THE EXCEPTION AREA Map 2N 12 20 11 Lots: Average Lot Size: 6.59

6.59 Acres

No	Tax Lot	Size (Acres)	Creation Date	Zoning	Notes
9.	2N 12 20 600	5.08 Ac.	1908-Fletcher Tract Subdivision	Zoning: F-F(10) No Improvements	Lot 6, Fletcher Tract Frmly Tax Lot 2N1220 200 WD 74-0911 4/23/74 –P.C. & M.G. Robisud to Leedom & Leedom Deed covers many lots in transaction, 10 of the lots in the Fletcher Tract North of Dry Creek Road (Lots 4-8, & 25-29); Also Lots in

					Fairview Orchards Tracts (not relevant here)
10.	2N 12 20 700	9.40 Ac.	1908-Fletcher Tract Subdivision	Zoning: F-F(10) No Improvements	Lot 7 & 8 (part), Fletcher Tract Frmly Tax Lot 2N1220 300 WD 74-0911 4/23/74 - P.C. & M.G. Robisud to Leedom & Leedom (See item 9, above, Lot 6, T.L. 600)
11.	2N 12 20 800	.20 Ac.	1985 by deed	Zoning: F-F(10) No Improvements	Part of Lot 8, Fletcher Tract QD 87-0986 11/20/85 - Watson to Forrester Brokers Probably created to preserve road access
12.	2N 12 20 900	4.59 Ac.	1908-Fletcher Tract Subdivision	Zoning: F-F(10) Improvements: \$37,800	Lot 9 Fletcher WD 75-0690 4/2/75 -Graphic Arts Center, Inc to K.H. McClure & R.S. McClure 95-3033 QC 8/3/95 -Newman & Daniels to Newman/Daniels Trust (Deed includes Lots 10, 11, 12, & 13, See below items 13 & 14)
13.	2N 12 20 1000	15.29 Ac.	1908-Fletcher Tract Subdivision	Zoning: F-F(10) No Improvements	Lot 10, 11, 12 Fletcher Combined with Lot 23, T.L. 2300 until 1988, Lot 23 separated out (SEE below, Item 17, Lot 2300) C 68-2016 1/29/69 - Schmidt & Schmidt to Forrester Brokers, Inc. –Refer to Exhibit A, Parcel III: includes Fletcher Tract 10, 11, 12, And 17, 19, & 23 [C 88-1909 2/1/1988 removes Lot 23—See item 17 below] 95-3033 QC 8/3/95 - Newman & Daniels to Newman/Daniels Trust (Deed includes Lots 10, 11, 12, & 13, See below items 12 & 13)
14.	2N 12 20 1100	5.00 Ac.	1908-Fletcher Tract Subdivision (1986, became a separate Tax Lot)	Zoning: F-F(10) No Improvements	Lot 13 Fletcher Formerly Tax Lot 601 Prior to 10/1/73 [8/30/85] combined with Lot 20 (T.L. 2100) to form 10.31-acre lot (See item 15 below) CC # 13987, 2/18/76 – TROXEL V. DETHMAN Foreclosure, title to M. Troxel & V. Troxel Bk. 143, Pg 619 12/13/60 –Wasco Co. to Dethman,

15.	2N 12 20 2100	5.31 Ac.	1908-Fletcher Tract Subdivision	Zoning: F-F(10) Improvements: \$25,890	Foreclosure Sale BS 85-0967, 8/30/85 – M. Troxel to Forrester Brokers, Inc (Lot 13 only) 95-3033 QC 8/3/95 – Newman & Daniels to Newman/Daniels Trust (See above, T.L. 1000) Lot 20 Fletcher Tract Formerly Tax Lot 600 Prior to 10/1/73 [8/30/85] combined with Lot 13 (T.L. 1100) to form 10.31-acre lot D.eed Bk. 143, Pg 619 12/13/60 –Wasco Co. to Dethman, Foreclosure Sale CC # 13987, 2/18/76 – TROXEL V. DETHMAN Foreclosure, title to M. Troxel & V. Troxel [BS 85-0967, 8/30/85 – M. Troxel to Forrester Brokers, Inc (Lot 13 separated from Lot 20, See item 14 above)] C 88-1909 2/1/1988 Contract P. Ladouceur to R.J. Igo (Combined with Lot 20, T.L. 2100, See item 17) WD 92-3854 10/13/92 –P. Ladouceur to R.J. Igo & L.K. Igo WD 99-4982 9/15/99 R. Igo to L. Igo [Conveys Lot 20 only—Correction deed]
16.	2N 12 20 2200	11.02 Ac.	1908-Fletcher Tract Subdivision	Zoning: F-F(10) No Improvements	Lots 21 & 22, Fletcher Tract Frmly T.L. 1300 Both Lots transferred as one property since 1968. BS 68-1665-9/19/68R.B. Raynor & I.B. Raynor to R.R. Raynor WD 92-2895-7/17/92 –L.K. Igo to R.J. Igo
17.	2N 12 20 2300	5.42 Ac.	1908-Fletcher Tract Subdivision	Zoning: F-F(10) No Improvements	Lot 23, Fletcher Tract Formerly Tax Lot 501 C 88-1909 2/1/1988 Contract P. Ladouceur to R.J. Igo (Combined with Lot 20, T.L. 2100, See item 15 above) WD 92-3855, 10/22/92- P. Ladouceur to R.J. Igo (Sold only this lot)
18.	2N 12 20 2400	5.50 Ac.	1908-Fletcher Tract	Zoning: F-F(10) No Improvements	Lot 24, Fletcher Tract Formerly Tax Lot 1400

			Subdivision		WD 77-2410 9/6/77 –R. Pierce & D.M Carter Pierce to R.M. Hicks
19.	2700	5.69 Ac.	1908-Fletcher Tract Subdivision	Zoning: F-F(10) Improvements: \$11,940	East 1/2 (app.) of Lots 25 & 26, Fletcher Tract WD 91-0448 1/25/91 –Leedom to Forrester Brokers WD 91-0447 1/10/91 -Forrester Brokers to Ramsey & Ramsey C 85-2467 10/29/85 –Forrester Brokers to Ramsey & Ramsey

NORTH OF THE EXCEPTION AREA

Map: 2N 12 21 2N 12 22 25 Lots, Average Lot Size: 9.51 Acres Sunnydale Orchards Subdivision

No	Tax Lot	Size (Acres)	Creation Date	Zoning	Notes
20.	2N 12 21 400	6.45 Ac.	1912- Sunnydale Orchards Subdivision	Zoning: R-R(10) No Improvements	Sunnydale Orchards, Lot 13 WD 73-1451 6/29/73 -M. Davis to Davis-Lundell- Klepper-Findley (Deed conveys several Lots in Sunnydale Orchards: 1, 2, 3, 8, 9, 12, 13, 23, 24, 25, along with parcels in other sections) WD 96-3916 9/4/96 -R.J. Murray to Bryant, L.L.C. (Lot 123 only)
21.	2N 12 21 500	10.40 Ac.	1912- Sunnydale Orchards Subdivision	Zoning: R-R(10) Improvements: \$130,460	Lot 12, Sunnydale Orchards Split in 2 tax lots, 5 acres in Farm Production WD 73-1451 6/29/73 -M. Davis to Davis-Lundell- Klepper-Findley (Deed conveys several Lots in Sunnydale Orchards: 1, 2, 3, 8, 9, 12, 13, 23, 24, 25, along with parcels in other sections) MC 79-4415 12/28/79 -Davis-Lundell-Klepper- Findley to Cannon (Conveys only Lot 12, T.L. 500) WD 99-2725 5/14/99 -Morgan & Morgan to Morgan & Morgan (deed includes a separate parcel in The Dalles)

22.	2N 12 21	4.85 Ac.	1912-	Zoning: R-R(10)	Lot 2 Sunnydale Orchards
	700		Sunnydale	Improvements: \$36,840	WD 73-1451 6/29/73 -M. Davis to Davis-Lundell-
	1		Orchards	Mfg Structure: \$60,740	Klepper-Findley (Deed conveys several Lots
			Subdivision		in Sunnydale Orchards: 1, 2, 3, 8, 9, 12, 13,
					23, 24, 25, along with parcels in other
					sections)
		-			WD 96-1932 5/2/96 -Larkin & Larkin to Ames &
					Ames (Lot 2/T.L. 700 only)
23.	2N 12 21	9.10 Ac.	1912-	Zoning: R-R(10)	Lot 1 Sunnydale Orchards
	800		Sunnydale	Improvements: \$219,600	WD 73-1451 6/29/73 -M. Davis to Davis-Lundell-
			Orchards		Klepper-Findley (Deed conveys several Lots
			Subdivision		in Sunnydale Orchards: 1, 2, 3, 8, 9, 12, 13,
					23, 24, 25, along with parcels in other
					sections)
					WD 85-1453 5/12/82 –Davis-Lundell-Klepper-
					Findley to Forsman & Forsman (Lot 1/T.L.
					800 only)
					QC 88-2829 9/28/88 -Wasco Co. to Forsman &
					Forsman (adds a small strip N. of road to
					this lot)
24.	2N 12 21	6.60 Ac.	1912-	Zoning: F-F(10)	Lot 25, Sunnydale Orchards
	1000		Sunnydale	Improvements: \$137,450	WD 73-1451 6/29/73 -M. Davis to Davis-Lundell-
			Orchards		Klepper-Findley (Deed conveys several Lots
			Subdivision		in Sunnydale Orchards: 1, 2, 3, 8, 9, 12, 13,
			}		23, 24, 25, along with parcels in other sections)
					WD 79-1349 2/2/79 -Davis-Lundell-Klepper-
					Findley to Walters & Walters (Lot 25/T.L.
ļ					1000 only)
					WD 99-3423 6/22/99 -Rucco et ux to R. Holycross
25.	2N 12 21	5.01 Ac.	1912-	Zoning: F-F(10)	Lot 24, Sunnydale Orchards
~~.	1100	0.01110.	Sunnydale	Improvements: \$57,630	WD 73-1451 6/29/73 -M. Davis to Davis-Lundell-
			Orchards		Klepper-Findley (Deed conveys several Lots
			Subdivision		in Sunnydale Orchards: 1, 2, 3, 8, 9, 12, 13,
					23, 24, 25, along with parcels in other
		,			sections)
				1.	WD 97-3336 7/29/97 -McGuire to Betzing
26.	2N 12 21	5.8 Ac.	1912-	Zoning: F-F(10)	Lot 22, Sunnydale Orchards

	1300		Sunnydale	Improvements: \$192,320	Formerly T.L. 502
			Orchards	*	QD 94-0835 2/8/94 -Rodgers to R. Mazzrillo (Split
ļ			Subdivision		off from 2N12E 21 2500, see below, Item 39)
27.	2N 12 21	4.65 Ac.	1912-	Zoning: F-F(10)	Lot 23, Sunnydale Orchards
	1400		Sunnydale	Improvements: \$43,430	Formerly T.L. 392
			Orchards	*	WD 73-1451 6/29/73 -M. Davis to Davis-Lundell-
			Subdivision		Klepper-Findley (Deed conveys several Lots
					in Sunnydale Orchards: 1, 2, 3, 8, 9, 12, 13,
					23, 24, 25, along with parcels in other
					sections)
					WD 91-2291 7/11/91 -Davis-Lundell-Klepper-
					Findley to Belida & Belida (Lot 23/T.L. 1400
					only)
28.	2N 12 21	.93 Ac.	1912-	Zoning: R-R(10)	Formerly T.L. 400
	1500		Sunnydale	Improvements: \$60,220	Partitioned from Lot 14, Sunnydale Orchards by
			Orchards	New Construction	deed Book 123, Page 647, 6/12/52 (See WD 80-1589
			Subdivision		listed in item 29, below)
			Partitioned by		WD 70-1435 9/24/70 -Hammons & Dillon to
			deed in 1952		Schaller
	2N 12 21	9.42 Ac.	1912-	7 P. P(10)	Lot 15 and Part of lot 14, Sunnydale Orchards
29.	1600	9.42 AC.	Sunnydale	Zoning: R-R(10) Improvements: \$21,060	Formerly T.L. 106
	1000		Orchards	MFG Structure: \$3,150	WD 80-1589 3/16/72 -F. Griswold to Saunders,
			Subdivision	Wir G Structure. \$5,150	Carl, Snow, & McDaniel
	4		Partitioned by		WD 85-0574 3/10/85 -McDaniel to Burbank &
			deed in 1952		Burbank
30.	2N 12 21	4.47 Ac.	Before 1973 by	Zoning: F-F(10)	S 900 ft Lot 21 Sunnydale Orchards
	2300		deed	Improvements: (none)	[Common ownership with Lot 2400, Item 37, below]
				MFG Structure: \$44,090	WD 73-2466 10/25/73 -Gourley & Gourley to Wilke
			1		(See also Item 37, below) Lots described as
					separate tracts
		And the second s			WD 73-2467 10/26/73 -Wilke to Sorenson
				The state of the s	C Asgn 73-2468 10/25/73 -Wilke to Sorenson (Jones
				and the state of t	et ux., Buyers)
					WD 85-2407 10/31/73 -Sorenson et ux to Jones et
	<u> </u>				ux. (deed includes T.L. 2400, item 38 below)

Darter-Rose Lots

No	Tax Lot	Size	Creation Date	Zoning	Notes
,		(Acres)			
31.	2N 12 21	9.77 Ac.	1993 by	Zoning: F-F(10)	Frmly T.L. 120
	3100		Partition Plat	Improvements: \$15,420	Part. 93-4016 9/9/93 -Parcel 3 of Part. Plat 93-0026
				MFG Structure: \$8,920	[Part of T.L. 3200 before that]
					WD 99-1153 2/25/99 -Foote to Foote & Anderson
					NOTE: Items 32-36, T.L. 3200-3300, were
		***************************************			transferred as the SW 1/4 of NW 1/4 of Section 21;
					and the W 15 Acres of SE 1/4 of NW 1/4 of Section
					21 prior to the partitions noted below.
32.	2N 12 21	10.18 Ac.	1993 by	Zoning: F-F(10)	Frmly T.L. 119
A	3200		Partition Plat	No Improvements	WD 77-2131 8/5/77 -R.B. Raynor & I.B. Raynor to
1		1	Divided again		W. Hammond & J. Hammond (along with
			in 2004 by		Lots 3300, 3400, 3500, 3600 and 14 lots in
ļ			Partition		Sunnydale Orchards Subdivision)
}				·	Part. 93-4016 9/9/93 -Parcel 2 of Part. Plat 93-0026
					WD 00-2065 5/24/2000 -Foote & Anderson to
					Barone Hldgs LLC
32.	2N 12 21	10.18 Ac.	2004 by	Zoning: F-F(10)	Partition Plat 12/14/2004, 2004-5842 – created by
В	3201		Partition Plat	Improvements: \$260,210	splitting tax lot 3200 into two equal-sized
			No. 2004-5842		parcels.
33.	2N 12 21	10.09 Ac.	1994 by	Zoning: F-F(10)	Frmly T.L. 121
	3300		Partition Plat	Improvements: \$166,380	WD 77-2131 8/5/77 -R.B. Raynor & I.B. Raynor to
ł					W. Hammond & J. Hammond (along with
					Lots 3200, 3400, 3500, 3600 and 14 lots in
					Sunnydale Orchards Subdivision)
					Part. 94-5589 12/19/94 -Parcel 2 of Part. Plat 94-0035
	0011001	10.00 4	10047	7	BS 98-0290 12/17/97 -Fowler to Fowler (divorce)
34.	2N 12 21	10.09 Ac.	1994 by	Zoning: F-F(10)	Frmly T.L. 103
	3400	Çina u	Partition Plat	Improvements: \$300,290	WD 77-2131 8/5/77 -R.B. Raynor & I.B. Raynor to
					W. Hammond & J. Hammond (along with
					Lots 3200, 3300, 3500, 3600 and 14 lots in
		İ			Sunnydale Orchards Subdivision)
					Part. 94-5589 12/19/94 -Parcel 1 of Part. Plat 94-0035
L	ONI 12 01	10.00 4	10011	D. D. (60)	WD 2000-4822 11/9/00 -D. Lantz to L. Ott & C. Ott
35.	2N 12 21	10.00 Ac.	1991 by	Zoning: R-R(10)	WD 77-2131 8/5/77 –R.B. Raynor & I.B. Raynor to
L	3500		Partition Plat	No Improvements	W. Hammond & J. Hammond (along with

					Lots 3200, 3300, 3400, 3600 and 14 lots in Sunnydale Orchards Subdivision) Part. 91-0004, recorded 4/12/91 -Parcel 1 of Part. Plat 91-0004
36.	2N 12 21 3600	10.00 Ac.	1991 by Partition Plat	Zoning: R-R(10) No Improvements	WD 77-2131 8/5/77 –R.B. Raynor & I.B. Raynor to W. Hammond & J. Hammond (along with Lots 3200, 3300, 3400, 3500 and 14 lots in Sunnydale Orchards Subdivision) Part. 91-0004, recorded 4/12/91 -Parcel 2 of Part. Plat 91-0004

Miscellaneous Lots and Partitions in Section 21:

No	Tax Lot	Size	Creation Date	Zoning	Notes
ĺ		(Acres)			
37.	2N 12 21	20.25 Ac.	1973 by Deed	Zoning: F-F(10)	E 25 Ac. of SE 1/4 of NW 1/4, Section 21. excluding
	2400		(or possibly	Improvements: \$29,600	portion S. of Osburn Cut-off Rd.
			before)	MFG Structure: \$15,540	WD 73-2466 10/25/73 -Gourley & Gourley to Wilke
					(Includes Lot 21 of Sunnydale Orchards
					Subd., Item 30, above)
					WD 73-2467 10/26/73 -Wilke to Sorenson
					Ass. 73-2468 10/26/73 –Wilke assigns to Sorenson
					rights under contract w/ Jones & Jones
					WD 85-2407 10/31/73-Sorenson et ux to Jones et ux.
38.	2N 12 21	2.75 Ac.	1994? by Deed)	Zoning: F-F(10)	Part of SE 1/4 of NW 1/4 of Sec 21 lying SE-ly of
1	2500			Improvements: \$1,340	Osburn Cut-off Rd.
				MFG Structure: \$32,320	(Frmly T.L. 501)
			-		Sold with Lot 22 of Sunnydale, TL. 1300, above
		***			until 1994]
					C 72-2166 7/10/71 -Gourley et ux to Jones et ux.
		j			(with Lot 22, Sunnydale Orchards)
					WD 75-1099 7/10/71-Recorded 5/20/75 -Gourley et
					ux to Jones et ux. (with Lot 22, Sunnydale
					Orchards)
					QC 94-0818 11/23/94 -H. Darter to J.C. Rogers (with
					Lot 22, Sunnydale Orchards)
1		1			QC-94-5053 11/1/94 -H. Porter to J.C. Rogers
					Spec. D 99-2477 4/30/99 Rodgers to Rodgers-create
L					joint tenancy (T.L. 2500 only)

SECTION 22, NORTH OF EXCEPTION AREA

No	Tax Lot	Size (Acres)	Creation Date	Zoning	Notes
39.	2N 12 22 5000	10.00 Ac.	Created 1980, (NEED DEED	Zoning: R-R(10) Improvements: \$17,570	SE 1/4 SE1/4 NW 1/4 of Section 22 Frmly T.L. 118 Prior to 1980, sold with 2 other parcels as a 50-acre tract C 79-0145 1/11/79 -R. Murray to M. Ballou (includes T.L. 5200 and 5300) SWD 82-1126 5/26/82 -R. Murray to M. Ballou (T.L. 5000 only) C 82-1127 7/1/82 - M. Ballou to G. Goolsby (T.L. 5000 only) BS 87-1399 5/4/87 -Goolsby to Yates & Yates WD 91-096 6/1/82 -M. Ballou to Goolsby (Yates & Yates) WAITING FOR 79-3207

FlyBy Night Subdivision

No	Tax Lot	Size (Acres)	Creation Date	Zoning	Notes
40.	2N 12 22 5200	20.66 Ac.	1979- Flyby Night Subc.	Zoning: R-R(5) Improvements: \$385,470	Lot 15 Flyby Night Subdivision W 1/2 SE 1/4 NW1/4 of Section 22 Prior to 1980, sold with 2 other parcels as a 50-acre tract C 79-0145 1/11/79 -R. Murray to M. Ballou (includes T.L. 5000 and 5300, items 39 & 41) QC 79-3207 1/15/79 M. Ballou to R. Murray (T.L. 5200 and T.L. 5300)
41.	2N 12 22 5300	19.29 Ac.	1979- Flyby Night Subc.	Zoning: R-R(5) Improvements: \$18,040	Lot 14 Flyby Night Subdivision (E 1/2 SW 1/4 NW 1/4 of Section 22) Prior to 1980, sold with 2 other parcels as a 50-acre tract C 79-0145 1/11/79 -R. Murray to M. Ballou (includes T.L. 5000 and 5200, items 39 & 40) QC 79-3207 1/15/79 -M. Ballou to R. Murray (T.L. 5200 and T.L. 5300)

42.	2N 12 22	4.63 Ac.	1981- by	Zoning: R-R(5)	S 1/2 of Lot 13, Flyby Night Subdivision
	5400		Contract Sale	Improvements: \$3,770	MC 81-0975 4/22/81 -R.J. Murray to S.B. Dustan &
				MFG Structure: \$9,110	B.L. Dustan
					[Conveys South 1/2 of Lot 13]
					WD 94-4028 8/31/94 -S. Bird to J. Woods
				P	QC 2000-3230 7/26/2000 -IRS to B. Lynch
43.	2N 12 22	4.63 Ac.	1981 by	Zoning: R-R(5)	N. 1/2 of Lot 13, Flyby Night Subdivision
	5500		Contract sale	Improvements: \$9,200	Frmly T.L. 2200
			(remainder)	MFG Structure: \$10,180	Two lots created 3/21/80 (Plat) from 5500 and 5400
				(\$6,410 + \$3,770)	Separated from lot 5400 4/22/81:
					MC 81-0975 4/22/81 -R.J. Murray to S.B. Dustan &
					B.L. Dustan
					[Conveys South 1/2 of Lot 13]
- American					WD 93-1422 4/16/93 -R. Murray to Gensberg &
					Gensberg

EAST OF THE EXCEPTION AREA Map 2N 12 22

12 Lots - Average Lot Size:

6.8 Acres

Fairmont Orchard Tracts	Parcels in the Fairmont Orchard Tracts are alternately
	referred to in deeds as "Tracts" or "Lots"

No	Tax Lot	Size (Acres)	Creation Date	Zoning	Notes
44.	2N 12 22 3600	3.42 Ac.	1975 by Deed (remainder)	Zone: R-R(10) Improvements: \$16,230 MFG Structure: \$49,010	Part of Tract 1, Fairmont Orchard Tracts (Part. # 7687 8/3/1911) Tract 1 included T.L. 3700. below WD 73-0646 4/2/73 - E. March to R. J. Murray [All of Tract 1] WD 2000-2846 7/12/00 -K. McAllister & B.M. McAllister to D.W. Rogers & S. Rogers (Only T.L. 3600)
45.	2N 12 22 3700	7.93 Ac.	2000 by Deed	Zone: R-R(10) Improvements: \$14,170 MFG Structure: \$8,380	Part of Tract 1, Fairmont Orchard Tracts, S'ly of Existing Co. Rd (Road since vacated) Part. # 7687 8/3/1911 Creates Fairmont Orchards Tracts

	T				WD 73-0646 4/2/73 - E. March to R. J. Murray [All
					of Tract 1]
					WD 75-0178 7/25/74 -R.J. Murray &M. Murray to
					A.J. Crabtree (Lot 3700 only)
					WD 81-2942 10/28/81 -L. Black to A. Hare & B.
		,	· · · · · · · · · · · · · · · · · · ·		Hare
46.	2N 12 22	9.75 Ac.	1911- Fairmont	Zone: R-R(10)	Tract 2 Fairmont Orchard Tracts
	3800		Orchards Subd	Improvements: \$14,870	(Part. # 7687 8/3/1911)
				MFG Structure: \$11,890	WD 77-0763 2/25/77 –Decker & Decker to L. Black
					WD 99-2019 4/9/99 -R. Goss to D. McCord & S.
					McCord
47.	2N 12 22	6.08 Ac.	1911- Fairmont	Zone: F-F(10)	Lot 3 Fairmont Orchard Tracts
	3900		Orchards Subd	Improvements: \$125,510	(Part. # 7687 8/3/1911)
					WD 77-0606 2/25/77 -Decker & Decker to L. Black
					& B. Black (includes Lots 3, 4, 5 of Fairmont
					and T.L. 4100 and 4400, to West of
					Fairmont)
					WD 96-5574 12/31/96 -J.O. Parvin & R.J. Parvin to
					D. Kindig & A.C. Yannotti (Lot 3 only)
					BS 2001-0693 2/14/2001 -Kindig & Yannotti to
					Kindig & Yannotti, w/ survivorship
48.	2N 12 22	6.08 Ac.	1911- Fairmont	Zone: F-F(10)	Tract 4 Fairmont Orchard Tracts
10.	4000	0.00110.	Orchards Subd	No Improvements	(Part. # 7687 8/3/1911)
	1000		Oldinards odod	110 mipro v cincino	WD 73-0411 3/5/73 -E. Garrison & G. Garrison to
				•	Decker & Decker (Tract 4 only)
					WD 77-0606 2/25/77 –Decker & Decker to L. Black
					& B. Black (includes Lots 3, 4, 5 of Fairmont
		4		**	and T.L. 4100 and 4400, to West of
					Fairmont)
					WD 2000-2974 7/18/00 –S.A. Bleiler & M.A. Tilden
					to S.A. Bleiler
49.	2N 12 22	12.89 Ac.	1911- Fairmont	Zone: F-F(10)	Tract 5 Fairmont Orchard Tracts
127.	4200	12.07 AC.	Orchards Subd	Improvements: \$20,180	(Part. # 7687 8/3/1911)
	1200		Olchards Subu	MFG Structure: \$43,640	WD 77-0606 2/25/77 –Decker & Decker to L. Black
				MrG Structure: \$45,040	
					& B. Black (includes Lots 3, 4, 5 of Fairmont
					and T.L. 4100 and 4400, to West of
					Fairmont, see items 47-49 and items 7 & 8)
					WD 98-2819 6/8/98 –Johnson & Johnson, T'ees to R.
					Dys & S. Dys

50.	2N 12 22	11.44 Ac.	1911- Fairmont	Zone: F-F(10)	Tract 6, Fairmont Orchard Tracts
00.	4300	2272272	Orchards Subd	No Improvements	Frmly T.L. 1100
			Oldina as Subu	and the second	(Part. # 7687 8/3/1911)
					C72-1044 5/11/72 – C.J. Marshall & B.J. Marshall to
					S.J. Decker & B.J. Decker (Includes Tracts
					2,3,5,6 Fairmont Orchards, and W 1/2 of
					SW 1/4 of Sec 22 (Lots 4100 & 4400, items 7
					& 8 above), and N 1/2 of NW 1/4 of Sec 27,
					Lots 2600-2800, items 58, 59, 60 below)
					AC 74-0951 4/29/74) S. Decker & B. Decker to Mid
					Columbia Production Credit Assoc.,
					(Decker & Decker as Buyers on underlying contract)
1]	,			[Includes Tracts 2,3,5, and C and W 1/2 of SW 1/4
					of Sec. 22. Under common ownership until
					5/18/77]
		,			WD 84-2475 9/20/84 -L. Black to Wagner & Wagner
					(Tract 6 only)
					WD 2001-3761 8/31/2001 -Wagner & Wagner to
					Wagner Living Trust
51.	2N 12 22	0.72 Ac.	1984- by Deed	Zone: R-R(5)	Part of Tract C, Fairmont Orchard Tracts
	**4500			No Improvements	Frmly T.L. 802
				_	WD 84-0969 4/19/84 - L. Black to S. Dustan
					(Creation of separate parcel)
]				BS 88-2603 8/22/88 - S. Dustan to Wasco County
					(Part of ROW)
52.	2N 12 22	6.76 Ac.	1995- by Deed	Zone: R-R(5)	Part of Tract C, Fairmont Orchard Tracts
	4600			Improvements: \$9,460	Frmly T.L. 803
				MFG Structure: \$48,370	C 72-1044 5/11/72 – C.J. Marshall & B.J. Marshall to
					S.J. Decker & B.J. Decker (Includes Tracts
					2,3,5,6 Fairmont Orchards, and W 1/2 of
					SW 1/4 of Sec 22 (Lots 4100 & 4400, items 7
ŀ					& 8 above), and N 1/2 of NW 1/4 of Sec 27,
					Lots 2600-2800, items 58, 59, 60 below)
					AC 74-0951 4/29/74) S. Decker & B. Decker to Mid
					Columbia Production Credit Assoc.,
					(Decker & Decker as Buyers on underlying
					contract)
		The state of the s			[Includes Tracts 2,3,5, and C and W 1/2 of SW 1/4

53.	2N 12 22 4700	6.76 Ac.	1911- Fairmont Orchards Subd	Zone: F-F(10) Improvements: \$3,280 MFG Structure: \$17,870	of Sec. 22. Under common ownership until 5/18/77] WD 95-4927 12/18/95 -R. Murray to Duarte & Duarte (Includes only what is now T.L. 4600) Lot B, Fairmont Orchard Tracts QCD 72-2731 11/21/72 -R. Eastman to R. Vinson [Prior to this, commonly owned with Tract
				·	A, See items 54 & 55] SWD 94-3629 8/5/94 -Fry & Fry to J. Fry T'ee of Fry Revocable Living Trust (Lot B only)
54.	2N 12 22 4800	4.89 Ac.	1990 by Deed	Zoning: R-R(5) Improvements: (none) MFG Structure: \$5,790	Part of Tract A, Fairmont Orchard Tracts ("W 1/2 of Lot A") Divided into 2 lots in 1990 QC 72-2732 12/27/72 –J.A. Vinson & F.L. Vinson to R.L. Eastman (All of Tract A) BS 96-5297 12/11/96 -H. Caldwell & E. Caldwell to R. Murray & G Murray
55.	2N 12 22 4900	4.89 Ac.	1990- by Deed	Zoning: R-R(5) Improvements: \$170,480	Part of Tract A, Fairmont Orchard Tracts ("E 1/2 of Lot A") Frmly T.L. 702 QC 72-2732 11/21/72-Vinson & Vinson to R. Eastman (All of Lot A) Divided into 2 lots in 1990 C 90-2834-9/21/80 -R.J. Murray & G.A.M. Murray to G.D. Chobot (Lot 4900 only) WD 93-4093 9/13/93 -G.D. Chobot to P.D. Thurston ("E 1/2 of Lot A") WD 98-5604 10/28/98 -P. Deleon-Thurston to P. D-T. Daniels-(Name Correction)

SOUTH OF EXCEPTION AREA Map: 2n 12 2N 12 21

5 Lots, Average Lot Size: 30.21 A SECTION 21 South of Exception Area 30.21 Acres

No	Tax Lot	Size (Acres)	Creation Date	Zoning	Notes
56.	2800	41.18 Ac.	1985- Contract	Zoning: F-2(80)	(Frmly T.L. 11602)

			Sale	No Improvements	Part of SW 1/4 of Sec 21 WD Bk 128, Pg 484 5/13/54 -O. Davis to M. Davis (w/ other property. In this deed, property is all of the SW 1/4 of Section 21) C 85-0227 1/7/85 -Forrester Brokers to Shelton (Property now described as part of SW 1/4)
					lying E. of Osburn Cut-off, S. of BPA Easement, and adds an adjoining strip of land in the SW 1/4 of the SE 1/4 of Section 21) WD 89-2752 9/22/89 –Forrester Brokers to Shelton
57.	2900	29.85 Ac.	1985- by Deed	Zoning: F-2(80) No Improvements	Part of N 1/2 of SW 1/4 Lying S'ly of BPA Transm. Line and W'ly of Osburn Cut-Off Road First Deed in Current parcel size in 7/30/85 WD Bk 128, Pg 484 5/13/54 -O. Davis to M. Davis (w/ other property. In this deed, property is all of the SW 1/4 of Section 21) D WD 73-1451 6/29/73 -M. Davis to Davis-Lundell- Klepper-Findley (w/ other property) MC 85-0949 7/30/85 -[Separate from parcel 11604; Conveys lot to north of 2900, leaving it as a remainder] WD 96-3133 7/17/96 -Jackley to McKeag

SECTION 27 South Of Exception Area

No	Tax Lot	Size (Acres)	Creation Date	Zoning	Notes
58.	2600 (2N 12E 2600)	20.0 Ac.	1995 by Deed	Zoning: F-2(80) No Improvements	E 1/2 of NE 1/4 OF NW 1/4 OF Section 27 C 72-1044 5/11/72 – C.J. Marshall & B.J. Marshall to S.J. Decker & B.J. Decker (Includes Tracts 2,3,5,6 Fairmont Orchards, and W 1/2 of SW 1/4 of Sec 22, and N 1/2 of NW 1/4 of Sec 27) GD 95-3373 9/5/95 -G.W. Stricker & L.D. Stricker to Zond Development Corp. (T.L. 2600 only)
59.	2700 (2N 12E 2700)	20.0 Ac.	1995 by Deed (Remainder)	Zoning: F-2(80) No Improvements	W 1/2 NE 1/4 NW 1/4 of Section 27 C 72-1044 5/11/72 – C.J. Marshall & B.J. Marshall to S.J. Decker & B.J. Decker (Includes Tracts

					2,3,5,6 Fairmont Orchards, and W 1/2 of SW 1/4 of Sec 22, and N 1/2 of NW 1/4 of Sec 27) WD 2000-2974 7/18/2000 -S.A. Bleiler & M. Bleiler to S.A. Bleiler (w/ Lot 4 of Fairmont Orchard Tracts-See Item 48 above)
60.	2800 (2N 12E 2800)	40.00 Ac.	1995- by Deed	Zoning: F-2(80) No Improvements	NW 1/4 NW 1/4 of Sec. 27 C 72-1044 5/11/72 – C.J. Marshall & B.J. Marshall to S.J. Decker & B.J. Decker (Includes Tracts 2,3,5,6 Fairmont Orchards, and W 1/2 of SW 1/4 of Sec 22, and N 1/2 of NW 1/4 of Sec 27) Tee's D 95-3865 10/9/95 -Bankruptcy Trustee to D.W. Wilson [w/ 2N12E 22 lot 4100 See item 8 above] TD 95-3866 10/6/95 –D.W. Wilson, G'or, to Wasco Title, T'ee, for C. Appleton, S. Appleton, & L. Sohler, Beneficiaries

Exhibit 12

Additional Information Regarding Forest Fires and the Forestland-Urban Interface

The Sevenmile Hill plan amendment narrative discusses fire risks associated with the placement of dwellings in close proximity to commercial forestlands. This exhibit provides a more detailed discussion of fire control and prevention, in support of the proposal.

Defining the Problem

"Wildland-Urban Interface" is a term that describes areas where homesites have been developed in close proximity to commercial timberlands and other "wildlands." In western Oregon, interface areas are typically rural-residential developments in, or adjacent to, forested areas used for timber production, grazing, and as wildlife habitat. The Oregon Department of Forestry (ODF) estimates that almost 250,000 homes worth a combined total of over \$6.5 billion are currently within these high-risk areas. The area surrounding the intersection of Sevenmile Hill Road, State Road and Osburn Cut-Off Road in Northeastern Wasco County, is the southern edge of a wildland-urban interface area. The area area.

Forest fires are caused either by lightning, volcanic or human activity. The likelihood and severity of wildfires is highly dependent on terrain, climate and vegetation. Each year in Oregon, lightning and human-caused fire destroys thousands of acres of forestland. Oregon's ten-year forest fire average is 1,104 fires per year, burning an average of 26,301 acres.⁴ In 2012, 17,551 acres were destroyed by fire as the result of 104 lightning-caused, and 588 human-caused fires.⁵ For the Central Oregon District, which includes Wasco County, the 10-year average from 2001 to 2010 was 164 fires affecting an average of 11,417 acres.⁶ In wildland-urban interface areas, problems associated with forest fires are magnified by reciprocal risk—forest fires threaten homes, and home fires threaten forests. Lightning strikes during the driest season, without regard for the location of dwellings or communities. Fires caused deliberately and carelessly by

In relevant literature, "Wildland" and "Forestland" appear to be synonymous. Oregon statues and administrative rules use the term "forestland." ORS 477.015 et. seq. and OAR 629-044-1005, 1010 et. seq.

Oregon Department of Forestry, "Thanks for Asking About... Wildfire Protection," 2004. www.odf.state.or.us The Department has also long been concerned about "the negative effects of a growing wildland/urban interface." See, "Changes to Land Use Planning Program" by Kevin Birch, in ODF's publication, Forest Log, February, 1995.

Although no area in Oregon has yet been officially designated a "forestland-urban interface area" under the Oregon Forestland-Urban Interface Fire Protection Act of 1997, the area has the characteristics of such an area. See ORS 477.015 et. seq.

ODF 2008 Annual Report, Oregon Department of Forestry, p. 2. A statistics page at the site indicates that as of 2002, the 10-year average was 23,587 forest fires per year.

ODF's website, www.odf.state.or.us - Statistical Fires Summary.

Central Oregon District 2010 Annual Report, p. 3.

humans increase with the number of humans available to make mistakes.⁷ As dwelling densities increase, so does the potential for fire.

The strategic problem for firefighters is also more complicated in interface areas, because the response to forest fires and home fires is not equivalent. The primary purpose in fighting a home fire is to save human lives, while saving pets, personal property and improvements is secondary. The setting for a home fire usually includes adults and children, pets, dwellings, outbuildings, driveways, vehicles, and powerlines. The equipment employed in this type of firefighting is geared toward rescuing humans, saving property, and extinguishing structural blazes.

Where dwellings are not present, the purpose of fighting a forest fire is to protect timber and wildlife habitat. The setting is usually a remote area where powerline locations are known and humans are few. Forest fires are fought with backfires, bulldozers, shovels and chain saws. Fire suppressants are sometimes delivered by air as large crews of firefighters, operating over the course of weeks, construct firebreaks. When operations are going well, the need for rescue equipment is limited.

The cost of fighting both residential and forest fires is high. In areas that have the characteristics of a wildland-urban interface, fire response units and equipment must be available to fight both residential and forest fires. Training and coordinating response units in interface areas increases overall fire response costs that are then reflected in a variety of state and local taxes and fees. When forest resources and humans are both threatened by fire, protecting humans and their homes takes precedence, and limited resources are redirected to protecting humans and away from fighting more remote wildfires. The more humans choose to live in the woods, the more resources that are necessary to protect them from the risks of both structural and forest fires.

Wildfires in rural Southern California in recent years have brought national attention to the increasing conflict between wildfires and homes. Oregon experiences destructive wildfires every year and, not surprisingly, the incidence and severity of

State law, establishing the responsibility of the Department of Forestry to fight fires, states that: "* * the primary mission of the State Forestry Department in such a system is protecting forest resources, second only to saving lives. Structural protection, though indirect, shall not inhibit protection of forest resources * * *." ORS 477.005(2)(a).

A 1993 ODF study of the Sisters area of Deschutes County found that as the number of dwellings in interface areas increased, the probability of a fire occurring also increased, stating: "When compared to sections without dwellings, the presence of 1 to 5 dwellings increased the odds of a section having a human-caused fire 2.6 times. Similarly, the odds of having a fire in sections with 6 to 10 dwellings increased 4.7 times, 21 to 40 dwellings increased the likelihood of a fire 21.3 times, and sections with more than 40 dwellings were 71.4 times more likely to have a human-caused fire when compared to sections without dwellings." "Wildfire Prevention and Control in Areas of Residential Forest Land Development: An Analysis of Fire Data," Oregon Department of Forestry (principal authors T. Lorenson, K. Birch and G. Lettman) March 1993. p.6.

"interface" fires is increasing in Oregon. The 1990 Awbrey Hall fire and the 1996 Skeleton Fire both threatened suburban Bend and "helped to make the firefighter jargon term, 'wildland-urban interface' a household word in [that] Central Oregon town..." Closer to home, the Sheldon Ridge fire in late July, 2002, required the evacuation of 250 rural Wasco County homes. 10

The threat of residential destruction by forest fires and the threat that dwellings will cause forest fires can both be reduced through proper planning for, and maintenance of, rural residences. Volunteer efforts can be effective but are not consistent. Some zoning regulations include fire prevention planning requirements, but enforcement is difficult and compliance is inconsistent. Zoning designations often simply recognize existing development and parcelization patterns, without consideration of the potential fire impacts of in-fill residential development on small parcels in and adjacent to commercial timber areas.

Structuring a More Complete Solution

Althought wildfires have occurred throughout history and prehistory, and can be beneficial to forest ecology, the current wisdom is that most of them must be either prevented or controlled. The best approach, likely to save the most lives and prevent the most destructive loss, is to establish best available and affordable control and prevention systems. For purposes of discussion, control and prevention systems can both be broken into three main components; planning, funding and execution.

Wildfire Control

Planning for Wildfire Control and Suppression

In Oregon, wildfire control "is provided through a coordinated protection system that incorporates resources from federal wildfire agencies, other state agencies, city fire departments, rural fire protection districts and private forest landowners." Agencies responsible for fire control each determine what equipment is necessary for them to effectively respond to the kind of fire likely to occur in their separate jurisdictions. The ODF has responsibility "over almost 16 million acres of Oregon forestlands, including

⁹ "Legacy of 1990 Awbrey Hall Fire a hopeful one." Rod Nichols, Forest Log, November/December 2000, pg. 9

[&]quot;Sheldon Ridge, six miles south of Mosier, was the site of a lightning strike July 23, 2002 that set off one of the area's largest wildfires. Strong westerly gorge winds whipped the fire into a conflagration as it expanded from 200 acres to over 5,180 acres in a matter of hours, eventually growing to over 9000 acres. Over 800 firefighters came from all over the state and the country to battle the blaze, which burned eastward and threatened people living in The Dalles, Oregon. The evacuation of 250 homes was lifted on July 30, and the fire was contained on August 1." www.a2zgorge.info/community/towns/mosier.htm

Forest Log, Winter 2004, p. 15.

state lands, private lands, and Bureau of Land Management Lands, more than half the forestland in the state." In the Sevenmile Hill area, local forces also play an important role in responding to structural and forest fires. The subject property is within the Mid-Columbia Fire and Rescue District. The District has cooperation agreements with the Oregon Department of Forestry and with the Mosier Fire Protection District. When an alarm is received in one agency, it is also transferred to the other two, and when necessary, there is a combined, coordinated response to fire emergencies. If necessary, the Oregon National Guard has in the past also been deployed as necessary to respond to forest fires.¹³

Funding Wildfire Control and Suppression

Hiring crews and purchasing equipment to fight fires is expensive. According to the Department of Forestry, the twelve-year average for suppressing forest fires was \$13.8 million per year through 2012 (FY 2001 – FY 2012). This figure does not include amounts spent by municipal and rural district forces to fight forest fires, evacuate areas threatened by fire, and to rescue rural residents caught in wild conflagrations. As more and more people build residences and vacation homes in the woods, the cost of protecting them from fire will rise.

Deployment of Control Forces

Fighting fires is intense and dangerous work. Forces controlling mostly structural fires must be trained to enter and search burning buildings, to treat injuries, and evacuate victims. These crews anticipate the possibility of encountering trapped or injured humans, hazardous or explosive chemicals, transformers and powerlines, and their training is focused on these contingencies. Crews engaged in fighting forest fires are also well trained, but their focus is on slowing the spread of huge blazes through difficult terrain, using earthmoving equipment and hand tools. Deployment and coordination of these forces often continues over the course of weeks, depending on weather, terrain, and the location of the highest risk fire occurring at the time.

Firemen and wildfire combatants are both capable of responding to a fire emergency, but their strategies, approaches, and the equipment they require all change in response to a structural or forest fire. In areas where crews must fight a fire to save a resource while at the same time saving structures and rescuing people, control and suppression are greatly complicated, and expenses rise. It is for this reason that emphasis

ODF website, "Thanks for Asking About," 2004.

The National Guard was deployed to Wasco County on July 27, 2002 to fight the Sheldon Ridge fire. Oregon Military Department News Release, July 26, 2002, (http://www.mil.state.or.us/PressRel/ 2002/26July02_NGSolidersToSheldonRidge.html).

ODF website, <u>Suppression Cost Summary FY01-FY12</u> ("500.pdf"). The data is labelled as "Extra Costs", and includes only fires with extra cost above \$500,000. 2003 was the highest, at \$54.8 million.

must also be placed on prevention, a key element of a cost-effective response to wildfire risks.

Wildfire Prevention

Planning for Wildfire Prevention

Private forest landowners and homeowners play a key role in planning for wildfire prevention. Volunteer efforts can have dramatic positive effects and should not be discounted. Such efforts are nevertheless by their nature inconsistent, relying as they do on education and commitment. Not all homeowners in rural at-risk areas are fully aware of the dangers or fully committed to reducing risks of wildfires.

Over the years the Oregon Department of Forestry has become increasingly concerned with the continued development of interface areas. Increasing fire damage and risk in interface areas led to the adoption of SB 360, the "Oregon Forestland-Urban Interface Fire Protection Act of 1997." The statute recognizes interface areas as presenting "a unique fire protection situation that requires that unique and special measures be taken to ensure adequate public safety and protection of property, development and natural resources." The findings, policy and purpose of the Act state:

- "(1) The Legislative Assembly finds that:
- (a) The forestland-urban interface situation in Oregon is a result of both past and present conditions and that given projected trends, the forestland-urban interface situation will continue to grow.
- (b) Urban and suburban structures, real property and other natural resources within a forestland-urban interface are subject to increased risks of catastrophic damage by fire events.
- (c) There is greater complexity in forestland-urban interface fire protection than in either resource land fire protection or urban structural fire protection.
- (d) In dealing with the forestland-urban interface situation, major and long term solutions will involve local actions and efforts by property owners.
- (e) One solution or set of solutions will not fit all situations or areas of the state.

ORS 477.015-061.

ORS 477.023(1).

(2) The Legislative Assembly declares that:

- (a) In order to ensure the protection of human life, the safety of citizens and fire service personnel and the highest possible level of livability in Oregon, it is necessary to provide a complete and coordinated fire protection system within the forestland-urban interface in Oregon.
- (b) All forestland-urban interface property owners have a basic responsibility to share in this complete and coordinated protection system by providing efforts against fire.
- (c) Public and property owner education and awar4eness is critical to forestland-urban interface solutions and must occur at multiple levels.
- (d) In administration of [this Act], it is the intent of the Legislative Assembly that property owners who will be affected by [this Act] will be:
 - (A) Involved in the processes of development of administrative rules pursuant to [this Act]; and
 - (B) Notified of the outcomes of classification pursuant to ORS 477.015 to 477.057.

(3) The purpose of [this Act] is to:

- (a) Provide a forestland-urban interface fire protection system in Oregon that minimizes cost and risk while maximizing effectiveness and efficiency for protection of the values at risk from fire.
- (b) Promote and encourage property owner efforts to minimize and mitigate fire hazards and risks within the forestland-urban interface.
- (c) Promote and encourage the involvement and interaction of all levels of government and the private sector that have a direct or indirect interest and role in the forestland-urban interface situation over the long term."

The law requires establishment by the Department of Forestry of a methodology for determining the fire hazard risk of identified areas in a participating county. The ODF has adopted a methodology that establishes "hazard factors" and allows

classification committees to assign points based on consideration of local conditions. The factors are based on topography, natural vegetative fuel, and fuel distribution in the area. Counties, with the assistance of the State Fire Marshal and the State Forester, "may" then establish a committee for classifying county lands for interface-related fire risks. Weather, topography, available fuel and distribution of fuel in a given area are key to accurately gauging and weighing the likelihood and severity of fire impacts. Considering the density of residential uses in a given area in conjunction with the hazard factor ratings, leads to a committee determination of whether to classify the fire hazard as low, moderate, high, extremely high, or "high density extreme."

If a county establishes a classification committee, and if a wildland-urban interface area is identified and classified as to risk, property owners in the area would be notified of modifications recommended in their area to comply with the act. Property owners should then evaluate their homes and carry out one of several minimum-standard modification options, to certify that their lands and homes are in compliance. There is no fine for noncompliance, but the state has authority to collect up to \$100,000 in suppression costs from a landowner whose property is not certified, if a fire starts on the landowner's property and spreads to other property. Also upon classification, development of new homes is also subject to enhanced building code fire-resistance requirements. The potential benefits of the SB 360 system are limited due to their largely voluntary nature and due to the unavailability of planning funds. Only Deschutes, Jackson and Lane Counties have completed SB 360 classification process.

The planning process established by SB 360 should yield beneficial results as it is slowly implemented. It is not, however, a complete planning effort, and local regulations continue to be important. Prior to 2007, fire-prevention zoning regulations for development in Wasco County were applied only in certain zones. In 2007, the county created Section 10, a set of regulations governing the approval and development of

The hazard factors and instructions for calculating fire risks in a given area are located at OAR 629-044-0200 to 629-044-1045.

No attempt is made here to determine the appropriate score for the Sevenmile Hill area, or to establish that it should receive any official designation under the rules. For point of reference, six points are required for "hazard zone" designation, and the presence of a site in Wasco County has a "weather hazard factor" of three. A "topography hazard" of three exists for slopes of 20-60% (two if 12-20%) and the presence of "shrubs and timber with heavy buildup of ground litter" results in a "natural vegetative fuel factor" of three. A facial review of the factors and conditions in the ordinance suggests that in general, the Sevenmile Hill area (including residential areas north of Sevenmile Hill Road) qualifies for official designation as a hazard zone.

For more information regarding wildfire risk calculations, see OAR 629-044-0200-1045, "Criteria for Determination of Wildfire Hazard Zones."

²⁰ Ibid.

ORS 477.059.

OAR 629-044-0210.

Information regarding the progress of the Deschutes and Jackson County proceedings, including hearing and deliberation minutes, are available throught the ODF website.

residences in all zones. The regulations impose standards that home developers must follow to prevent homes from creating forest fires or being consumed by them, and to assist firemen and wildfire suppression crews.²⁴

The proposed comprehensive plan amendment, zone change, and Forest Protection Overlay Zone are an attempt to plan for wildfire prevention in the exception area to a greater level than required by official risk classification or current local ordinances. The overarching purpose of the proposal is to improve the effectiveness of the southern buffer to the Sevenmile Hill residential area, between the wildlands to the south and residences to the north, in an area that is now at a heightened risk of wildfire loss and poses heightened fire risks to commercial forestlands. To achieve this purpose, the proposal makes mandatory the kind of "options" established by the Forestry Department that homeowners in high-risk interface areas could implement to achieve certification if risk designation were ever to occur.²⁵

The proposed Fire Protection Overlay would impose conditions on development in the exception area to prevent forest fires and catastrophic fire losses. The location of new dwellings would be oriented and clustered toward existing homes to the north and away from commercial forestland to the south. The BPA power easement would be identified as a distinct firebreak between existing and proposed residential uses and commercial forests.²⁶ No dwellings could be constructed within 200 feet north of the BPA easement. Standpipes; separate power supply for pumps; underground electrical wires; minimum water flow and storage requirements (1000 gallons); requirements for access to water supply, including widths and grades to accommodate emergency pumping equipment; fire resistant roof requirements; requirements for screening of eves and porches against wind-blown embers; chimney screening and other requirements all ensure that best available prevention planning will take place in conjunction with any future development in the area. Maintenance by residents of fuel breaks of between 30 and 180 feet, depending on slope, would also be required. The Ordinance also includes requirements related to the construction and maintenance of driveways to ensure access by emergency vehicles. Finally, under Plannned Unit Development requirements that would apply to a large portion of the site, a fire prevention fund would be established to be used for fire loss prevention planning and implementation. These requirements are intended to be superior to both optional and default measures required for certification in designated high fire risk areas under the Forestland-Urban Interface Fire Protection Act.

Funding Wildfire Prevention Programs

See Wasco County Land Use and Development Ordinance, Chapter 10.

These techniques are discussed in more detail below. Please also refer to the draft overlay ordinance in Exhibit 6.

The recognizable nature of this feature to the community and emergency crews should also serve to improve overall fire response coordination.

As stated, SB 360, the Interface Fire Protection Act establishes a process that could ostensibly lead to greater education of those living or vacationing in high fire risk areas. The Act could also place financial incentives on risk area residents in the form of penalties if damage occurs. Over the slow course of implementation such education will lead to increased funding by individual residents of fire prevention methods and technologies. Over time, residents will be more likely to recognize the value of reroofing using fire resistant materials, of "slashbusting," chipping and removing fuels to form effective fuel breaks, of developing water storage, and of taking additional community and individual preventative measures.

The proposal seeks to place a greater burden on landowners in the identified area to plan for and fund wildfire prevention techniques. Development of individual properties can only proceed under restrictions that offer greater risk reduction than existing zoning requirements. Development under a PUD, which would be required prior to development of most of the site, would cluster dwellings away from commercial forest areas, require residents to fund their own fire prevention activities, and allow enforcement of fire prevention rules by individual homeowners.

Execution of Wildfire Prevention Programs and Strategies

In 1997 the Oregon Legislature and Governor recognized the importance of wildfire prevention by establishing the Forestland-Urban Interface Fire Protection Act. The Department of Forestry has in turn established a detailed system for classifying atrisk areas, and detailed options for risk reduction. The focus of the entire program is on the individual owner of a home in an interface area. It is the individual homeowner or occupant that is entirely responsible for carrying out the "default" or "optional" compliance standards.²⁷ The law recognizes something that fire prevention officials have been saying for many years—landowners in rural areas must take more responsibility for protecting their homes from fire and preventing forest fires. Time and again, fire professionals point to property owners who took it upon themselves to "fire-proof" their homes and property and who thereby avoided or minimized their losses during a fire. There are dramatic examples of single, fireproofed homes escaping damage when all surrounding homes have been destroyed.²⁸

Three key fire safety implementation measures are fuel reduction/modification, improved emergency access, and development of water sources for use in fighting fires and protecting individual homes. Fuel reduction/modification measures reduce a fire's ability to spread onto a residential site, or if it does, to minimize the impact. Fuel modification measures can be in the form of fire retardant building materials for structures on the property, reduction of available fuel in the form of burnable vegetation,

²⁷ See OAR 629-044-1005 et. seq.

Fire Protection in the Wildland/Urban Interface: Everyone's Responsibility. Publication of the National Wildland/Urban Interface Fire Protection Program, sponsored by National Association of State Foresters and others, p. 22

and maintenance of fire resistant plantings in areas directly surrounding homes and other buildings.

Recommendations for fire retardant building materials can be obtained from many sources.²⁹ Using metal roofing or other fire resistant is the first line of fire defense for a structure. Homeowners often neglect to take protective measures on decks and overhanging structures, measures that would be required under the Fire Prevention Overlay.³⁰

Fire professionals also speak of "creating a defensible space," which means that the area directly surrounding buildings should be maintained with a minimum of burnable materials. This does not mean removing all of the vegetation. However, tree limbs on larger trees should be trimmed up to the six-foot level, to reduce the chance of fire spreading up into the trees.³¹ A minimum area of 30 feet surrounding the building should be free of burnable vegetation (which does not necessarily mean removal of ornamental shrubs or specimen trees as long as they do not provide a way for fire to spread from natural vegetation to the structures). Debris piles and firewood stacks should be kept away from the structures.³² The amount of cleared space will depend on local conditions, particularly the proximity to hillsides and amount of slope leading up to the structure. Fire moves more easily and rapidly uphill and therefore a particular development may require as much as 100 feet of cleared space leading down a slope.³³ Fire professionals recommend that decks be constructed of materials that have at least a 1-hour fire resistant rating. There are also species of plants that can be used as ground covers in many areas that retain a greater degree of moisture. These types of vegetation slow and in some cases prevent the spread of fire.

A second key to implementation of fire loss prevention strategies is to improve access for firefighters and their equipment. Wildland interface dwellings are often accessed by dirt or gravel roads that are of substandard width, and often covered with and bordered on both sides by dense vegetation. Public works officials typically recommend that landowners make sure that their access roads are capable of handling loads of 50,000 pounds Gross Vehicle Weight. While this is not usually a problem for the roadways themselves, bridges and culverts can be a concern. Access roads and driveways should

These include publications by the International Association of Fire Chiefs and the Western Fire Chiefs Association, including "Development Strategies in the Wildland/Urban Interface."

There is anecdotal information that decks overhanging a canyon edge provided the avenue for fire to spread to a number of homes in a wildfire that struck on the west side of Lake Billy Chinook.

The overlay requires six feet of vegetative clearance in required fuel breaks, and 13.5 feet of clearance above access roads.

The overlay requires that, during declared fire season, all firewood piles must be maintained at least 20 feet from a structure, or fully enclosed.

Depending on slope, the Overlay requires breaks of up to 180 feet.

also provide space for emergency vehicles to maneuver and to turn around easily, and should not be more than 8% average grade. If there is a water source such as a pond or pool within a reasonable distance, pumping trucks must be able to get within 15 feet of the source if it is to be available for loss prevention.³⁴

A third key to implementation of fire loss prevention strategies is the development of private water sources. Landowners can greatly enhance their ability to prevent loss of their dwelling, and prevent a residential fire from spreading to resource lands, by creating or enhancing suitable water sources. A pond, stream or swimming pool can provide a suitable emergency fire loss prevention water source. A large, above-ground swimming pool can hold from 4,000 to 8,000 gallons of water, while an average in-ground pool can hold between 12,000 and 20,000 gallons. If there are no natural sources available, landowners should consider installing a tank with a minimum capacity of 5,000 gallons for a moderately sized single-family residence (1400 square feet). Tanks such as these can be somewhat expensive to develop for a single residence, making it difficult for building officials or local governments to require them generally for development approval.

These measures, and others, can be implemented voluntarily, and can be made part of the requirements for development of a rural residence, especially in interface areas. Landscaping requirements can be monitored at the time of construction approval, but continued maintenance necessary to ensure maximum protection for individual dwellings and the surrounding community of homes is usually left entirely to the discretion of the individual landowner, with little if any oversight by planning, building, or fire officials. Water sources can be expensive to develop, and present a significant burden for the individual homeowner. For these reasons, a rural homeowners' association, as required in the proposed Fire Protection Overlay, is likely to be a more effective tool for monitoring and enforcing neighborhood fire prevention requirements. Such an association would also raise the awareness of residents to fire risks and provide a mechanism for funding risk reduction strategies. These tools are especially appropriate in areas like the one in question, which are intended to provide a more effective buffer between existing and future dwellings, and existing commercial forest resources.

Conclusion

Development pressures, prior county actions in response to those pressures, preexisting parcelization and settlement patterns, and related factors as explained in the

Most, if not all of these implementation strategies are required by County Code or would be required by the Fire Protection Overlay.

The National Fire Protection Association publishes a handbook entitled "Planning for Water Supply And Distribution in the Wildland/Urban Interface" that contains information on how to calculate capacities for water sources, the recommended size of water sources based on structure type and size, and how to construct a dry hydrant to assist in easy transfer to pumper trucks.

submittal narrative, have combined to diminish the potential use of the exception area for commercial forestry or agriculture. Because the use of the exception area for commercial forest uses or agriculture has become impracticable, it is best suited for low density, rural residential uses. Imposition of the forest-farm zone will continue to promote resource uses, while allowing low density residential uses appropriate to the character of the area.

Increased fire risk is currently posed by the close proximity of residential uses to commercial forest resources in the Sevenmile Hill area. The proposal seeks to: recognize that the exception area is committed to residential uses; apply the least dense, most forest and farm oriented zoning designation to the site—F-F(10); establish a cut and maintained power line easement as the appropriate fire break between residential and purely commercial forest uses; and impose a Forest Protection Overlay, including requirements for clustering dwellings to the north and fire protection standards and conditions, to establish an effective buffer between otherwise conflicting uses within and adjacent to the area. As explained in this exhibit, the safety and viability of both residential and forestry uses in the area is promoted through planning and zoning designations that separate residential uses from commercial forestry uses and buffer each from the other. It is feasible to mitigate and minimize the potential impacts of fire in the area, by utilizing existing firebreaks, and imposing requirements for clustering dwellings; maintenance of fire breaks around dwellings; maintenance of adequate fire suppression water supplies, and similar practices.

MEMORANDUM

To:

Wasco County Court

From: Hearing Date: Planning Staff Feb. 18, 1998

RE:

Staff summary of Issues for the Transition Lands Study Area

(TLSA)

Background

A nine member citizen based Steering Committee and a Technical Advisory Committee, comprised of local resource experts, was appointed by the County Court in Jan. 1994. The Steering Committee and Technical Advisory Committee met monthly from July 1996 through September 1997. The purpose of the Steering Committee was: 1. to be representatives for the community in response to concerns about development and resource protection 2. to assess the resource of the Transition Lands Study Area and establish a factual database for decision making and, 3. to assess the carrying capacity of the land.

The Steering Committee held a public informational meeting for public input on their recommendations. The Citizens Advisory Group and the Planning Commission held public hearings to consider the Steering Committee recommendations.

Purpose of the TLSA Study

The TLSA study was initiated in 1993 in response to concerns of the Wasco County Planning Commission, elected officials, and members of the community about development in northern Wasco County, including the Seven Mile Hill and Browns Creek/Cherry Heights area. Concerns stemmed from availability of groundwater to serve domestic needs, fire hazards, conflicts with wildlife, and available lands for rural residential lifestyles in this developing area.

The product of this planning effort is a report, the 'Wasco County Transition Study Area, Sept. 12, 1997, which builds on information gathered throughout the TLSA project and makes policy recommendations for integrating future development with resource protection within the Study Area

Summary of TLSA Steering Committee Recommendations:

The Steering Committee recommendations and the process and methodology which guided their recommendations are documented on page two of the report. A vast amount of data was collected and evaluated with project goals in mind. The outcome of the project relied on this information to establish best land use practices for the Study Area through a public process.

Attachment A 'Qwik Facts' provides an overview of key data considered by the Steering Committee.

There were five key recommendations made by the TLSA Steering Committee. The complete list of policy recommendations and action items are discussed more fully on page 2 and 3 of the TLSA study included in your packet.

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Steering Committee Recommendations:

- 1. Change a portion of the F-F(10), Farm-Forest zone to R-R(10) Rural Residential zone(a new zone).
- 2.Upzone approximately 200 acres of existing F-F(10) land to R-R(5) adjacent to existing R-R(5). The upzone is in an area where there is fire protection, adequate road capacity for additional traffic, and within an area which shows no groundwater anomalies. The upzone would add approximately 32 additional homes to the number of new homes allowed by current zoning.
- 3. Designate a "test" receiving area for the Transfer of Development Rights (TDR)

 Attachment B explains TDR's).
- 4. Implement development standards for fire, scenic, and roads within the new R-R(10).
- 5. Do not implement House Bill 3661 provisions for the Lot of Record or Template Test dwellings in the F-2, Commercial Forest zone.

Action of the Citizens Advisory Group:

A public hearing was set For November, 18, 1997. There was not a quorum of the members attending, therefore we could not hold a hearing to review the Steering Committee recommendations. Rather than try to reach a consensus, on the SC Recommendations, the CAG members voted on the five steering committee recommendation listed above Their votes are noted on the Attachment C

Main Issues Discussed by the Planning Commission:

<u>Issue 1 - House Bill 3661 provisions for Lot of Record dwellings and Template Test dwellings in the F-2 Commercial Forest zone</u>

The Steering Committee recommendation was <u>not</u> to implement either of the two provisions for dwellings in the F-2 zone. Their recommendation was based on inventory data showing this area as having a high resource value, and a low development value (due to lack of infrastructure).

What is the difference between the two provisions? The Lot of Record provision would allow dwellings to those landowners who have owned the land prior to 1985 and still own it. The Legislative intent for this provision was for fairness and equity to those landowners who may not have been aware of the state landuse laws adopted in 1974. The Template test for dwellings was based on available area wide information regarding overall landuse pattern, land values, and infrastructure within the area. Criteria in the Statue for applying the template test provision address the facilities and service capabilities of the area. These criteria would result in a denial of all applications based on the data resulting from the TLSA study. Specifically, the data showed a lack of road capacity and fire protection, that is, it exceed the facilities and service capabilities of the area.

<u>Issue 2 - Implementing the Transfer of Development Rights test area, The Planning Commission</u> asked to get an opinion from the District Attorney on the legality, and or risk involved, other

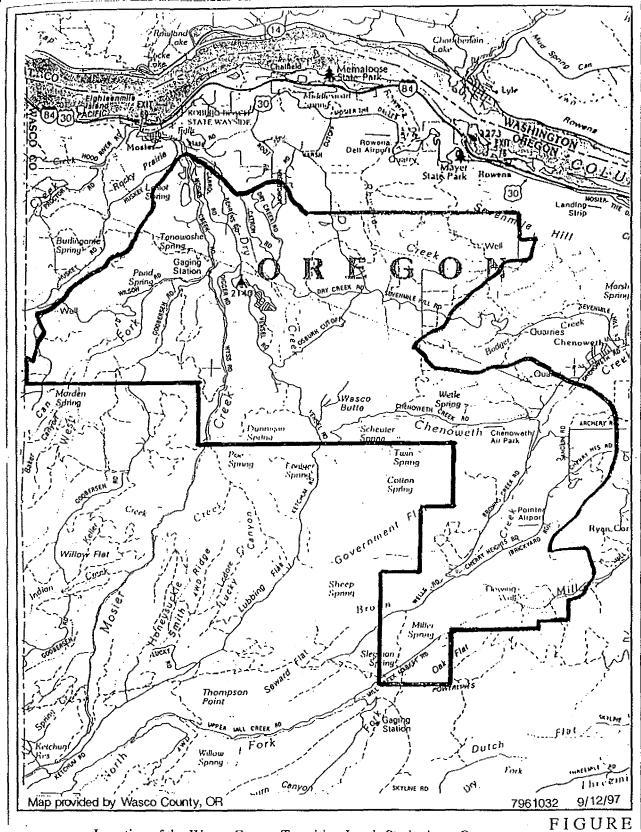
issues were the discrepancy between the upzone area and the TDR area.

An opinion was provided by District Attorney Smith (Attachment D). To summarize, the Transfer of Development rights tool is valid planning tool, but he cautions that it has not been tested in Oregon. Smith also listed concerns with two different treatments, both which are being recommended, for the upzone and TDR area, and suggested that if approved the Commission's findings clearly spell out the reasons why the areas are being treated differently. His overall advise is to proceed with caution.

Planning Commission Recommendations

- 1. To Change a portion of the FF-10 zone to R-R (10) (a new zone, L.U.D.O. Section 3.220 "R-R" Rural Residential) as proposed by the TLSA Steering Commission and as delineated on the map entitled TLSA Recommendation, and dated, September 1997, and also including as R-R(10), those areas shown on the map as the proposed R-R(5) upzone, and Transfer of Development Rights Test Area.
- 2. To adopt development standards for fire, scenic, and roads within the new R-R(10) zone, with two wording changes in Section D.2. Scenic Development Standards D.2. (b) and (g) from mandatory requirements for house colors, and fences, to non-mandatory requirements; and with a wording change in Section E. 9. (e) Fire Standards from undergrounding of power and telephone being located underground where practicable instead of where possible. (Ordinance Attached)
- 3. To implement the Lot of Record provision in the F-2 Commercial Forest Zone for parcels within a fire protection district or by contracting for fire protection, based on the Legislative intent to provide for fairness and equity to landowners owning prior to 1985 and, not to implement the Template Test provision based on the available area wide information regarding overall landuse patterns, land values, and infrastructure in the F-2 Commercial Forest Zone based on the TLSA study.
- 4. To put on 'hold' the Transfer of Development Rights Test Area with direction to planning staff to explore the necessary size of the receiving area; look into who manages the conservation easements and; to gather more information in order to determine the reason and potential effectiveness of implementing this tool in the TLSA area.
- 5. Not to upzone the approximately 200 acre area identified by the Steering Committee from a F-F (10) zone to a R-R (5) zone, and to review this issue at the biannual advisory group review with respect to the additional information that will be available concerning the Transfer of Development Rights.

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Location of the Wasco County Transition Lands Study Area, Oregon.



ATTACHMENT "A"

TLSA " QUICK FACTS"

The TLSA 'Quick Facts' sheet was put together to provide a broad overview of the extensive data that provided the basis for the recommendations of the TLSA study.

GROUNDWATER AQUIFERS

- The previous report information presented two years ago was a broad overview of water in TLSA. This study identified overdraft areas with a computer model based on assumptions about aquifer behavior.
- Since then the TLSA study has done more detail mapping of well behavior. The facts seem to indicate that the original model was too pessimistic.
- The Jervey Study, December 1996, provided more water data in the TLSA:
- All of the aquifers in TLSA are water table aquifers or hydraulically tied to water table aquifers.
- These aquifers were <u>identified</u> and <u>mapped</u>, for the first time, through the TLSA process. Aquifer systems were identified using similar rock types; similarities in static water levels of the aquifers; similarities in yield, decline and performance criteria, and aquifer continuity.
- 817 wells were included in this review, 592 wells were located and are shown on TLSA maps.
- There is no obvious overall trend of aguifer depletion in TLSA.
- Declines in wells (observed) occur primarily in basalt aquifer wells and appear to be linked to the internal structure of the basalts.
- Deepenings of wells (where the was a lowering of static water levels) are due to specific negative situations having to do with the geology adjacent to the wellbore
- Generally, 7 Mile Hill has basalt aquifers and; Cherry Hill/Browns Creek has sedimentary aquifers.
- Basalt aquifers have a more erratic behavior i.e., higher fluctuations (higher highs, lower lows); sedimentary aquifers have lower yields, but consistent performance.

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page 1
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- Domestic water usage per average household (gross) is approx. 200,000 gallons/year.
- Irrigation water usage (gross) is approx. 434,555 gallons/year per acre.
- Information gained through this study provides the foundation for a data base. Continued monitoring can be used to help individual property owners to better understand the behavior of their wells and help to avoid future problems.

COUNTY ROADS

- Wasco County Public Works Dept. maintains 70 miles of roads in the TLSA but many of the rural properties are served by private roads and public roads which are maintained by adjacent landowners.
- Roads that are not paved now are unlikely to be paved by Wasco County in the foreseeable future.
- Under existing zoning regulations, in rural residential areas of TLSA, 498 new homes could be built (301 existing). This would increase demand of services on roads that the county would have to provide. 185 of the total potential new homes could be built on Seven Mile; 313 in the Cherry Heights/Browns Creek. (Does not count potential new homes in resource zones).
- The capacity of a road is expressed as a maximum daily volume measured in Average Daily Traffic (ADT), along with other factors applicable to capacity assessments for individual road segments, such as grade, curves, lane and shoulder width. The capacity of a road is unaffected by whether it is a gravel road or a paved road. (1 home averages 4 trips/day) This is a 30 year old figure, the estimate is low.
- Four county maintained roads in TLSA have the traffic capacity remaining to accommodate new development under existing zoning. The following roads would be within their design capacity as constructed today. Roads in TLSA with at least 25% capacity remaining are shown below.

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	Capacity	ADT	at Buildout (current zoning)	Total
Mill Creek Rd.	1500	317	(+60 ADT) =	377
Cherry Hgts. Rd.	1500	724	(+472 ADT) =	1196
Browns Crk. RD.	1500	353	(+478 ADT) =	831
State Rd.(not			•	
counting east & west	1500	352	(+740 ADT) =	1092
ends which do not have			,	
existing capacity)				

- Funds for road maintenance and improvements do not come from property taxes.
 Funding sources include: 1. Timber receipts (which are being phased out) and;
 2. a portion of the state highway funds allocated to Counties based on number of vehicles registered in the county. Property owners with cars registered in another county do not contribute to county roads.
- There are some public roads that are not maintained by anyone. You can experience problems with the maintenance and cost of maintenance of your road.

FIRE

- There are two fire protection districts in the TLSA. Not all areas are in a fire
 protection disctirt. Rural Residential areas in the TLSA are, for the most part, in
 either the Mosier Rural Fire Protection District, which is made up of voluntees; or
 Mid Columbia Rural Fire Protection District.
- The Oregon Dept. of Forestry Fire Protection District covers wildfires in the TLSA. ODF does not cover structural fires. Residences pay a tax to the ODF for wildfire coverage.
- Fire District response times (time it takes to get to a call) vary depending of access to the property and distance. Portions of the TLSA within the Mid Columbia Fire Protection District are not accessible for fire trucks
- Emergency response time can not be guaranteed. Under some extreme conditions, you may find that emergency response is extremely slow and expensive.

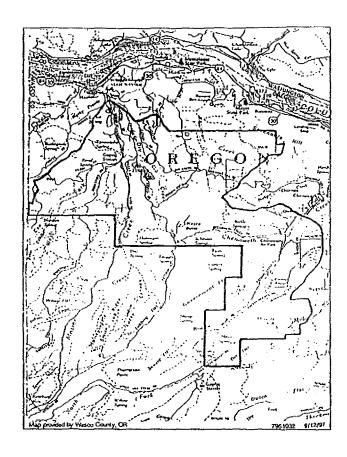
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POTENTIAL DEVELOPMENT

•	Under current zoning the potential for ne	w h	ouses is:	
•	In the Rural Residential, R-R(5) zone	=	93	
•	In the Farm Forest, F-F(10) zone	=	405	
•	In the Agricultural zone AG -1	=	14	
•	In the Commercial Forest, F-2(80) zone		=	51 Template Test Dwellings
	, , ,		42	Lot of Record Dwellings
				(24 In a fire district)

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Wasco County Transition Lands Study Area (TLSA)



Prepared for Wasco County

Prepared by



SRI/SHAPIRO/AGCO, Inc.

In cooperation with Northwest Economic Associates

September 12, 1997

EXHIBIT 3

Wasco County Transition Lands Study Area (TLSA)

Prepared for

Wasco County 2705 East 2nd Street The Dalles, Oregon 97058

Prepared by

Cindy Hahn SRI/SHAPIRO/AGCO, Inc. 1650 N.W. Front Avenue, Suite 302 Portland, Oregon 97209 SRI/SHAPIRO/AGCO, Inc. Project #7961032

In cooperation with

Suzanne Rock Northwest Economic Associates

September 12, 1997



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Appendices

- Appendix 1. Background Materials and Standards Related to Action Items Identified in Section 2.0 (Policy Recommendations and Action Items)
- Appendix 2. Record of Community Involvement
- Appendix 3. Record of Goal Development for Project
- Appendix 4. Groundwater Evaluation Reports and Background Materials
- Appendix 5. Ordinances, Regulations, and Technical Background Related to Implementation
- Appendix 6. Background Information Related to Opportunities and Constraints Analysis and
 - Production of Resource and Development Capability Composites

Acknowledgements

The TLSA Project involved a Steering Committee (SC) and Technical Advisory Committee (TAC) who guided the planning process and were integral to selection of alternatives. Members included the following:

Steering Committee

- Sandee Burbank (Planning Commission representative)
- Sheila Dooley (Citizens Advisory Group representative)
- Bruce Lumper (Bill Creek resident)
- Jim Wilcox (Board of Realtors)
- Jennifer Ringlbauer (Seven Mile Hill resident)
- Matthew Koerner (Mosier City Council)
- Wayne Huskey (Timber owner/Husky Ridge/South Mosier)
- Ron Nelson (Cherry Heights resident)
- Bill Reeves (Agricultural representative/Mosier Rural Fire District).

Technical Advisory Committee

- Dusty Eddy, District Conservationist, Soil Conservation Service
- Ron Graves, Manager, Soil and Water Conservation District
- Jim Bishop, County Executive Director, Agricultural Stabilization and Conservation Service
- Lynn Long, Extension Agent, Wasco County Extension Office
- Jim Torland, Oregon Department of Fish and Wildlife
- Keith Kohl, Oregon Department of Fish and Wildlife
- Larry Hoffman, Unit Forester, Oregon Department of Forestry
- Ken Polehn, President, Wasco County Farm Bureau
- Larry Toll, Wasco County Watermaster
- Jodi Calica, General Manager, Natural Resources Department, Confederated Tribes of the Warm Springs
- Dan Boldt, Director, Wasco County Public Works Department
- Gay and Mac Jervey, Geological Consulting.

Key County staff from the Planning and Economic Development Office involved in the TLSA Project included:

- Karen Mirande, Associate Planner
- Dotty DeVaney, Associate Planner
- Kim Jacobsen, Former Director.

In addition, Gay Jervey, a TAC participant, volunteered her time to prepare extensive groundwater analysis for the TLSA Project. This analysis was integral to completion of the study and Wasco County is extremely grateful for her generosity and dedication.

1.0 LOCATION AND PURPOSE

1.1 Location

Which County lands are involved in the study area?

The Wasco County Transition Lands Study Area (TLSA) Project encompasses approximately 24,000 acres of land located in unincorporated Wasco County, Oregon, between the cities of The Dalles and Mosier, and south of the Columbia River Gorge National Scenic Area (Figure 1). The study area includes all or part of the following sections:

Township 1 North, Range 12 East, Sections 1, 2, 10 through 15, and 22 through 24; Township 1 North, Range 13 East, Sections 6, 7, and 19;

Township 2 North, Range 11 East, Sections 12 through 14, and 22 through 27;

Township 2 North, Range 12 East, Sections 7, 8, 13 through 23, and 25 through 36; and Township 2 North, Range 13 East, Section 31.

The study area was divided into two broad areas: 13,500 acres (about 56% of the Study Area) currently zoned Forest or Exclusive Farm Use (EFU) orchard, and 10,500 acres (about 44% of the Study Area) currently in mixed zoning for residential and resource use (Figure 2). The 10,500-acre area includes two distinct parts: the Seven Mile Hill Area in the north-central part of the Study Area, and the Mill Creek/Cherry Heights Area in the southeastern part of the Study Area. The primary focus of the Steering Committee was on looking at development issues for the 10,500-acre mixed residential and resource use portion of the study area.

1.2 Purpose

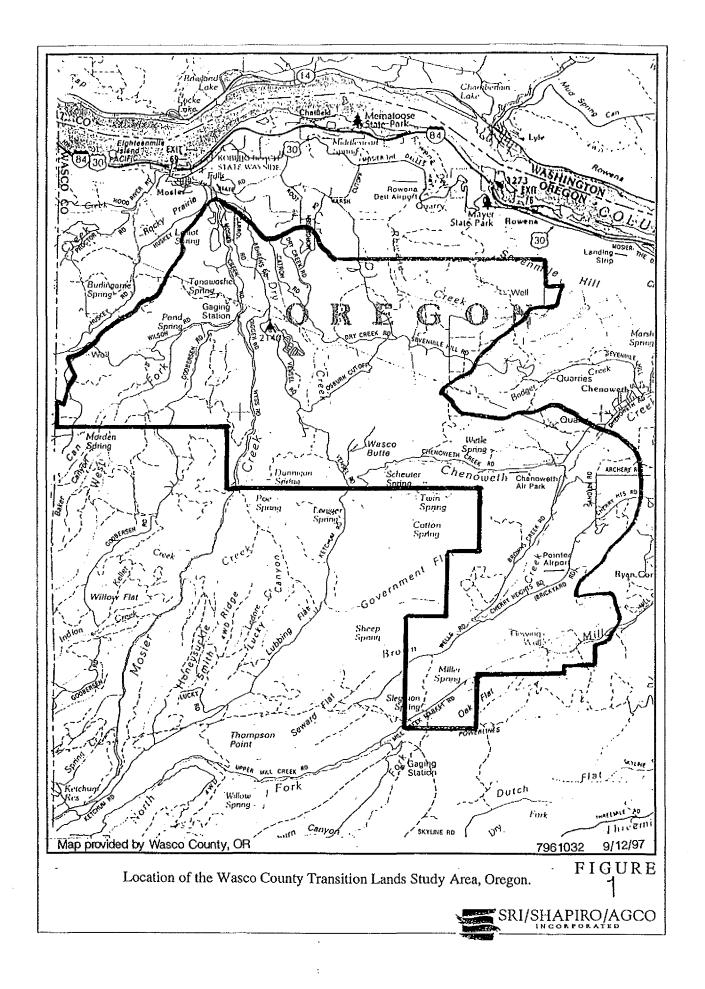
What is the purpose of the process and this document?

This document discusses analysis methods and results of the TLSA Project. The TLSA Project was initiated in 1993 in response to concerns of the Wasco County planning commission, elected officials, and members of the community about development in northern Wasco County, particularly in the Seven Mile Hill Area. Concerns stemmed, in part, from availability of groundwater to serve domestic needs, fire hazard, conflicts with wildlife, and available lands for rural residential lifestyles in this developing area.

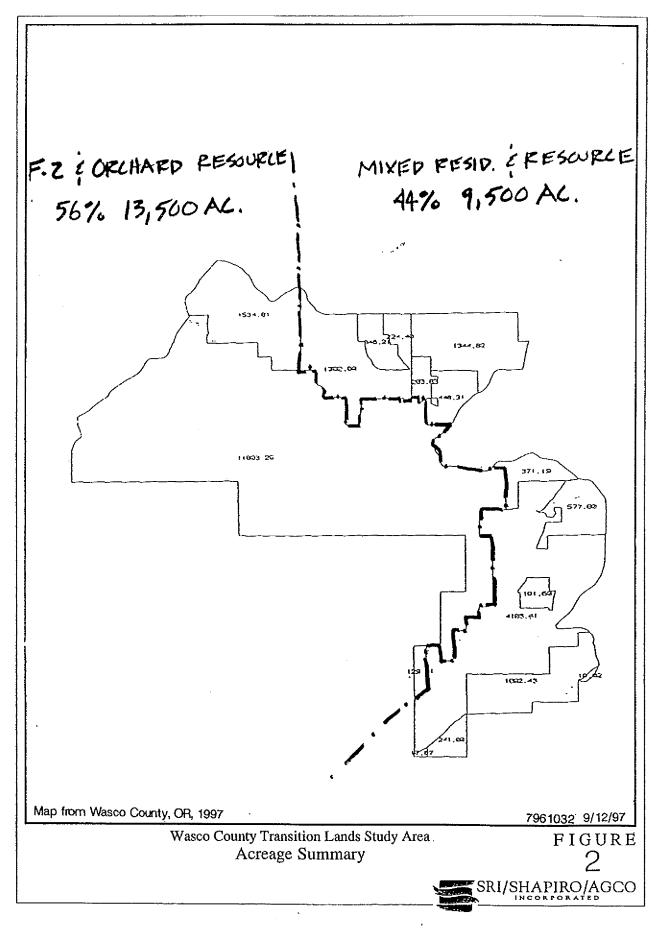
In 1993, the Wasco County Budget Committee appropriated funds to conduct a water study of Study Area lands (referred to as "Phase 1" in this document). In 1996, additional funds were appropriated to continue the Study Area project (referred to as "Phase 2" in this document). The following purposes guided the Phase 2 analysis process:

- Study the appropriateness of current zoning within the study area in response to recurring concerns with development patterns and potential resource conflicts.
- Establish a factual database incorporating information gained from local experts and the public at large during the course of public meetings and workshops.
- Establish best land use practices within the study area using the best available information.

Wasco County Transition Lands Study Area (TLSA) Project
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 Build a citizen-based monitoring program allowing local residents to track impacts of land use decisions on such factors as groundwater availability, wildlife, and infrastructure, and provide updated information in a bi-annual review process.

Outcomes of the project were to be consistent with the Oregon Revised Statutes and Statewide Planning Goals, satisfy State Periodic Review requirements, and address integration recommendations on potential implementation of House Bill 3661 (forest template test or lot-of-record provisions in the forest zone).

The product of this planning effort is this Land Use Alternatives Study, which builds on information gathered throughout the TLSA Project and makes policy recommendations for integrating future development with resource protection within the Study Area.

2.0 POLICY RECOMMENDATIONS AND ACTION ITEMS

What plan does the Steering Committee recommend? What should be done to implement the recommendation?

The nine key policy recommendations are as follows:

- Proceed with caution -- change should be introduced gradually while monitoring programs are established to develop a better understanding of resource carrying capacities.
- 2. Preserve the rural lifestyle and quality of life in the 10,500-acre portion of the study area currently in mixed residential and resource zones and uses.
- 3. Protect the resource values in the 13,500-acre portion of the study area zoned A-1, in orchard use, and zoned F-2, in forest production.
- 4. Educate existing and future residents of the study area about the demands, risks, and responsibilities that are part of rural living.
- 5. Protect the existing number of development options provided under existing zoning -- no down zoning is recommended.
- 6. Limit or control the increase in potential numbers of home sites in the study area no, or very little, immediate up zoning is recommended. (Currently, 301 out of the total of 799 allowed by zoning have been developed.)
- 7. Focus growth into the Browns Creek/Cherry Heights corridor -- a combination of regulatory up zoning and incentive based tools (transfer of development rights) would be used.
- 8. A local land trust should be created or an existing qualified entity should seek to identify, purchase, and protect significant open spaces and oak woodlands within the study area.

9. Review the effectiveness of the plan -- a bi-annual audit of the program should be held for consideration of new information including, but not limited to: infrastructure development, growth and build-out rates, impacts on resources such as water and wildlife, successes or failures of siting standards, and progress of private local preservation efforts.

Recommended action items include:

- Planning staff will draft required ordinance and comprehensive plan amendments to implement the recommended land use plan (Figure 3), new R-R(10) zoning, and siting standards addressing roads, fire, scenic, and habitat issues (see TLSA Development Standards in Appendix 1). These ordinance amendments are not proposed to include implementation of the HB 3661 forest template test or lot-ofrecord provisions in the Forest zone.
- Educational materials will be prepared and made available to the public. These
 materials will be modeled closely after those used in Larimer County, Colorado in its
 "Code of the West: The Realities of Rural Living" (see copy of code in Appendix 1).
 Wasco County will add simplified discussions of septic system maintenance, well
 maintenance and monitoring, conservation of backyard wildlife and oak woodland
 values, and water conservation measures.
- A local water monitoring program will be developed and implemented (see Local Water Monitoring Program in Appendix 1).
- Audubon Society will coordinate an Oak Woodland Research Committee that will
 focus on the identification and monitoring of impacts on oak woodland habitat in the
 study area and the providing of educational materials.
- Interest in the creation of a local land trust will be gauged. If sufficient interest exists, an organization will be formed to seek permanent protection of valuable open areas and oak woodlands in the Study Area (see Land Trust Proposal in Appendix 1).

3.0 PUBLIC PROCESS AND GOALS

What did the Steering Committee want to accomplish?

The policy statements and recommended land use plan were developed in response to a set of common goals established by the TLSA Steering Committee (SC) based on input from the Technical Advisory Committee (TAC).

Because the study was initiated in response to concerns about development and resource protection expressed by members of the community, obtaining their input and addressing their concerns was considered essential for success of the planning effort. Input was sought from public officials and private citizens, many of whom live in the Study Area. The Steering Committee and Technical Advisory Committee were reconvened to continue their work on Phase 2 of the TLSA Project. Meetings of the Steering Committee and Technical Advisory Committee were held, usually monthly, throughout the project. Background information from Phase 1 of the study, including mapped data and hydrogeologic reports, were used extensively in Phase 2 as a basis for analysis.

Wasco County Transition Lands Study Area (TLSA) Project
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One task of the Steering Committee was to establish goals for the TLSA Project, which would guide the planning process and its outcomes. Goals, as established by the Steering Committee, are included in the following sections.

3.1 Resource-related Goals

3.1.1 Forest

- 1. Protect commercial/industrial forest land in large tracts.
- 2. Protect and maintain opportunities for wood lot production on smaller parcels.
- 3. Provide for recreational opportunities where [this] does not pose a threat to accepted forest practices.
- 4. Buffer commercial/industrial forest land from conflicts with residential use.
- 5. Protect private property rights of the commercial/industrial forester.

3.1.2 Agriculture

- 1. Leave all commercial farm land under the protection of the recently revised agricultural ordinances.
- 2. Protect and maintain opportunities for small scale farming on moderately sized parcels (right to farm).
- 3. Buffer commercial farmland from conflicts with residential use.
- 4. Protect the rights of small scale farmers to accepted farming practices.

3.1.3 Wildlife

- 1. Avoid increasing conflicts between potential development and big game where possible.
- 2. Maintain diversity of wildlife, and provide means for animals to get from one place to another.

3.2 Development-related Goals

3.2.1 Water

- 1. Use the best available observations and information about water in the study area as one of many factors considered, rather than the primary driving or limiting factor, in adjusting residential densities.
- 2. Identify areas suitable for development that support an increase, but do not exceed appropriate density, of wells.
- 3. Develop a long-term plan for assessing the behavior of domestic wells (using a representative sample) in each aquifer unit.

3.2.2 Fire

- 1. Ensure adequate protection of forest resources.
 - Maintain limits to uses posing potential fire risk in or near commercial forest land.
 - Apply strict fire standards and require development to be in a fire district, as required by state statute in the Forest Zone, to enable domestic fires to be contained.

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- 2. Ensure adequate protection of existing and potential residential development.
 - Apply fire standards in accordance with Oregon Department of Forestry recommendations.
 - Consider setbacks from ridge tops based on recommendations of Mid-Columbia Fire and Rescue and Mosier Rural Fire Protection District.
 - Focus residential development within fire districts.
 - Consider increasing densities where fire response times are shortest.
- 3. Ensure adequate protection of agricultural resources.
 - Review agricultural fire standards and consider making recommendation to Agriculture Resource Group (ARG) if changes are warranted.

3.2.3 Access/Roads

- 1. Ensure "safe and sane" access to residential areas.
- 2. Identify main routes with additional carrying capacity and use them to greatest extent possible to provide access to new development.
- 3. Do not increase densities or development potential without providing means of ensuring that adequate access is both constructed and maintained.
- 4. Identify new public and private road development needed to access potential new development areas.

3.2.4 Housing

- Provide rural residential housing opportunities outside the National Scenic Area (NSA) and Resource Zones - Evaluate suitability of land and carrying capacity relative to current zoning.
 - Consider rezone of F-F (10) to R-R (10) where dwellings can be permitted subject to standards rather than conditionally.
 - Evaluate portions of F-F (10) zone for ability to accommodate increased density.
 - Explore feasibility of limited rezone of non-productive F-2 lands.
- 2. Maintain rural character.
- 3. Retain open space values.
- 4. Protect scenic views/scenic quality.

4.0 INVENTORY PROCESS

What facts were considered by the Steering Committee in making their recommendation?

Data was collected and evaluated with the project goals in mind. Alternative land use plans were developed and evaluated for compliance with the project goals.

From the outset of the TLSA Project's Phase 2, three factors were clear:

Substantial information about the physical environment of the Study Area existed as
an outcome of the first phase of study. Information included several study area
maps in hard-copy and AutoCAD format, and the report entitled <u>Hydrogeologic</u>
<u>Investigation of the TLSA</u>, prepared for Wasco County by Northwest Geological
Services, Inc. in 1994 (see Appendix 4). This information needed to be organized.

- evaluated, and in some cases, refined or supplemented so that it could be used in Phase 2 of the TLSA study.
- Additional factors relating to the suitability of the study area lands for development or resource uses needed to be addressed.
- The outcome of the project would need to rely on this information to establish best land use practices for the Study Area through a public planning process.

Analysis Approach 4.1

The overall analysis approach was designed to address the two primary concerns that prompted the study: development opportunity and resource protection. Substantial time in the early months of the study was dedicated to determining which factors constitute development opportunity or suitability, and which factors contribute to a need for resource protection. The outcome of this discussion was the development of a set of inventory maps that could be combined in various ways to build composite maps, which were used to develop land use alternatives for the Study Area. The inventory maps provided base data that were used in developing weighted suitability composite maps. The suitability composite maps addressed development values and resource values. The resulting maps included a weighted analysis of factors contributing to development suitability and resource suitability. The two composite maps--resource composite and development composite--were combined into a suitability analysis map to determine areas with high development value (high development suitability/low resource suitability) and high resource value (high resource suitability/low development suitability).

The flow diagrams (Figures 4 and 5a-d) provide conceptual depictions of the process, which is discussed in more detail in the following sections.

4.2 Inventory Maps

Inventory maps were developed, including the following:

- Fire Districts and Response Time
- County Road Capacity
- Zoning
- Parcels
- Developed Parcels
- Parcels by Size
- Potential Development (based on current zoning)
- Agriculture:

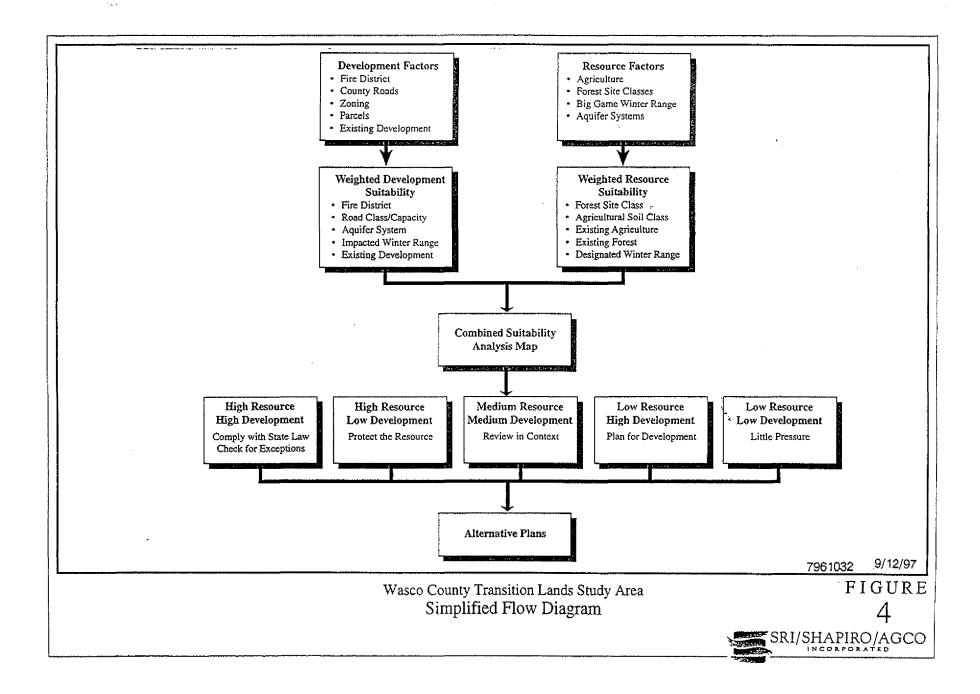
Historically Cropped Lands

Existing Agriculture (Land in Production)

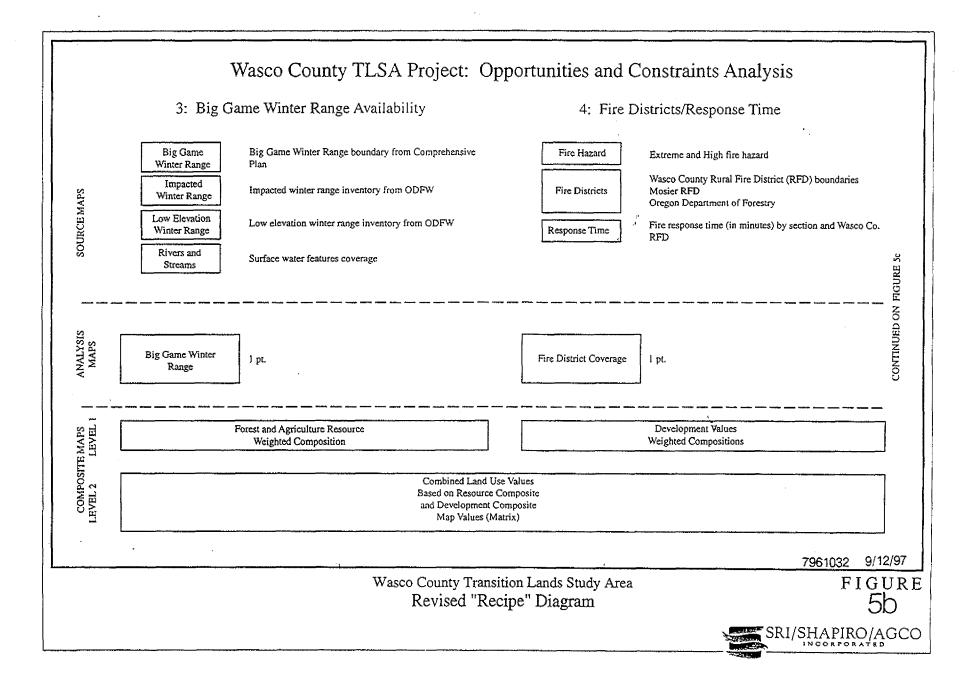
Agricultural Soil Classes

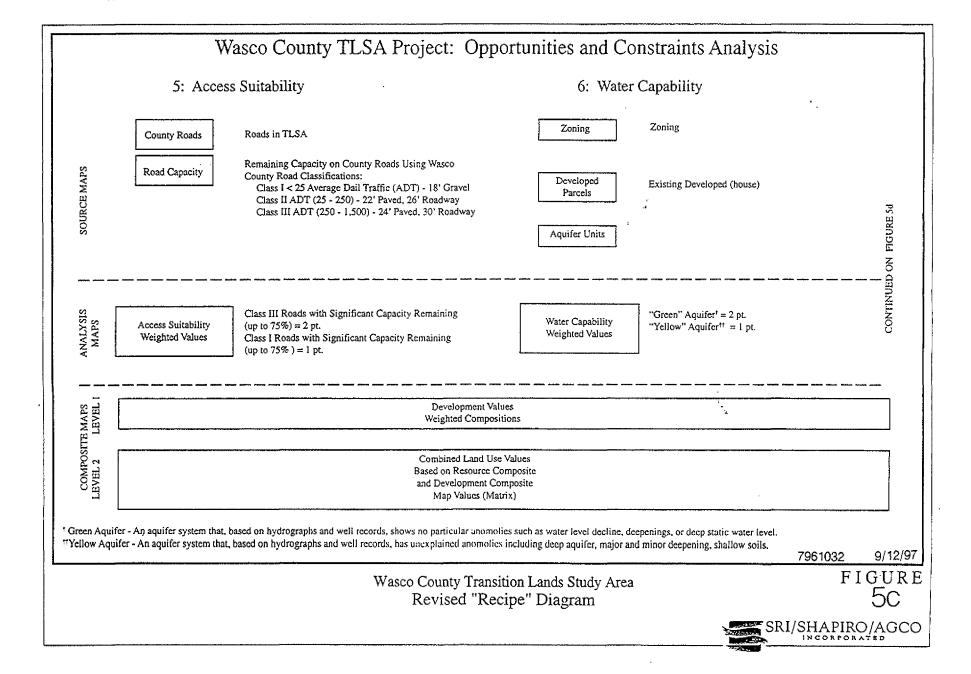
- Forest Site Classes
- Big Game Winter Range
- Well Locations
- Aguifer Systems

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	1. Aorici	ıltural Suitability	2: Fores	et Suitability	
SOURCE MAPS	Zoning Existing Ag (Field&Perennial) Ag Soil Classes Parcels	Zones (A-1(80), A-1(20, F-2(80), F-F(10), R-R(5), RMH-2)) Existing registered field and perennial crops High Value (Class 1&2, Prime&Unique), Other Productive (Class 3-6, not Prime&Unique), and Unsuitable (Class 7-8) Parcel boundaries/ownership	Zoning Torest Site Classes Soils Parcels	Zones (A-1(80), A-1(20), F-2(80), F-F(10), R-R(5), RMH-2)) Forest Site Classes 4, 5, 6, and 7 Soil classes Parcel boundaries/Ownership/Centerpoints	
ANALYSIS MAPS	Agricultural Suitability Weighted Values	Soil Class: High Value (Class 1-2) = 2 pt. Class 3 - 6 = 2 pt, Existing Agriculture = 1 pt.	Forest Suitability Weighted Values	Forest Site Class (Predominantly): Class 6 = 1 pt. Class 5 = 2 pt. Class 4 = 3 pt. Existing Forest Use ≥ 80 ac. in F-2 (80) zone = 1 pt.	CONTINUED ON FIGURE 58
AAPS EVEL 1		Forest and Agriculture I Weighted Composi			
COMPOSITE MAPS LEVEL 2 LEVEL	Combined Land Use Values Based on Resource Composite and Development Composite Map Values (Matrix)				
 		Wasco County Transition La Revised "Recipe" I		7961032 9/13 FIGU	





180, RR5, F-2	A count of all parcels that could be develop existing zoning or state law (F-2 (80) zone) All parcels that are currently developed	ed based on	r .1		. ,
Parcels Potential evelopment F10, Ag1-20 180, RR5, F-2 reels by Size Developed Parcels	existing zoning or state law (F-2 (80) zone)	ed based on			
				*	
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	Bas	sed on Resource Composite			
					7961032 9
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		C Ba: an Wasco Cou	Wasco County Transition Lands S	Weighted Compositions Combined Land Use Values Based on Resource Composite and Development Composite	Weighted Compositions Combined Land Use Values Based on Resource Composite and Development Composite Map Values (Matrix) Wasco County Transition Lands Study Area

4.3 Analysis Maps

Analysis maps were derived by combining the inventory data into two categories: "development suitability" and "resource suitability." Components, by category, are listed below by category.

Development suitability included the following:

- Fire Districts and Response Time
- County Road Capacity
- Zoning
- Developed Parcels by Size
- Potential Build out by Zone
- Aquifer Systems

Forest and Agriculture resource suitability included the following:

- Agriculture: Existing Agriculture (Land in Production)
 Agricultural Soil Classes
- Forest Site Classes
- Big Game Winter Range
- Aquifer Systems

The presence of pine oak woodland habitat also was discussed at length as a resource suitability consideration. Definitive mapping of pine oak woodland habitat areas was not available for inclusion in the composite maps but will be developed for future consideration. Pine oak habitat values were addressed by the Steering Committee through public education and siting standards.

4.3.1 Suitability Composite Maps

The next step in the analysis was to determine how important each component was to determining the lands' suitability for development (Development Suitability Composite) and the lands' value as resource land (Forest and Agriculture Resource Suitability Composite). The weighting and combination of the components are discussed below.

4.3.2 Development Suitability Composite

Components of development suitability included:

- Located within the fire district;
- Accessible by a Class III or Class I road with 75% capacity remaining;
- Located within recognized impacted Big Game Winter Range; and
- Located within either a "green" or "yellow" aquifer system, which are aquifer systems having identified units within them generally supporting densities greater than or equal to existing zoning.

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Points were assigned to each of these factors and the respective points were added to identify which parcels within the Study Area were most suitable for development. The weighted values given to each factor and the composite totals are shown in Figures 6 and 7; the highest possible value was 7 points.

4.3.3 Forest and Agricultural Resource Suitability Composite

Components of forest and agricultural resource suitability included:

- Located within forest site class 4-6, or located within agricultural soil class 1-2 or 3-6;
- Identified as existing agriculture or existing forest; and
- Located within designated Big Game Winter Range. ..

Points were assigned to each of these factors and the respective points were added to identify which parcels within the Study Area were most suitable for forest and agricultural resources. The weighted values given to each factor and the composite totals are shown in Figure 8; the highest possible value was 6 points.

4.3.4 Potential Development

A set of maps was also produced to identify development potential (how many houses could be built) within the existing zoning districts in the Study Area. These maps included:

- Potential Development AG-1 (20) and (80) Zones
- Potential Development F-F (10) Zone
- Potential Development R-R (5) Zone
- Potential Development F-2 (80) Zone

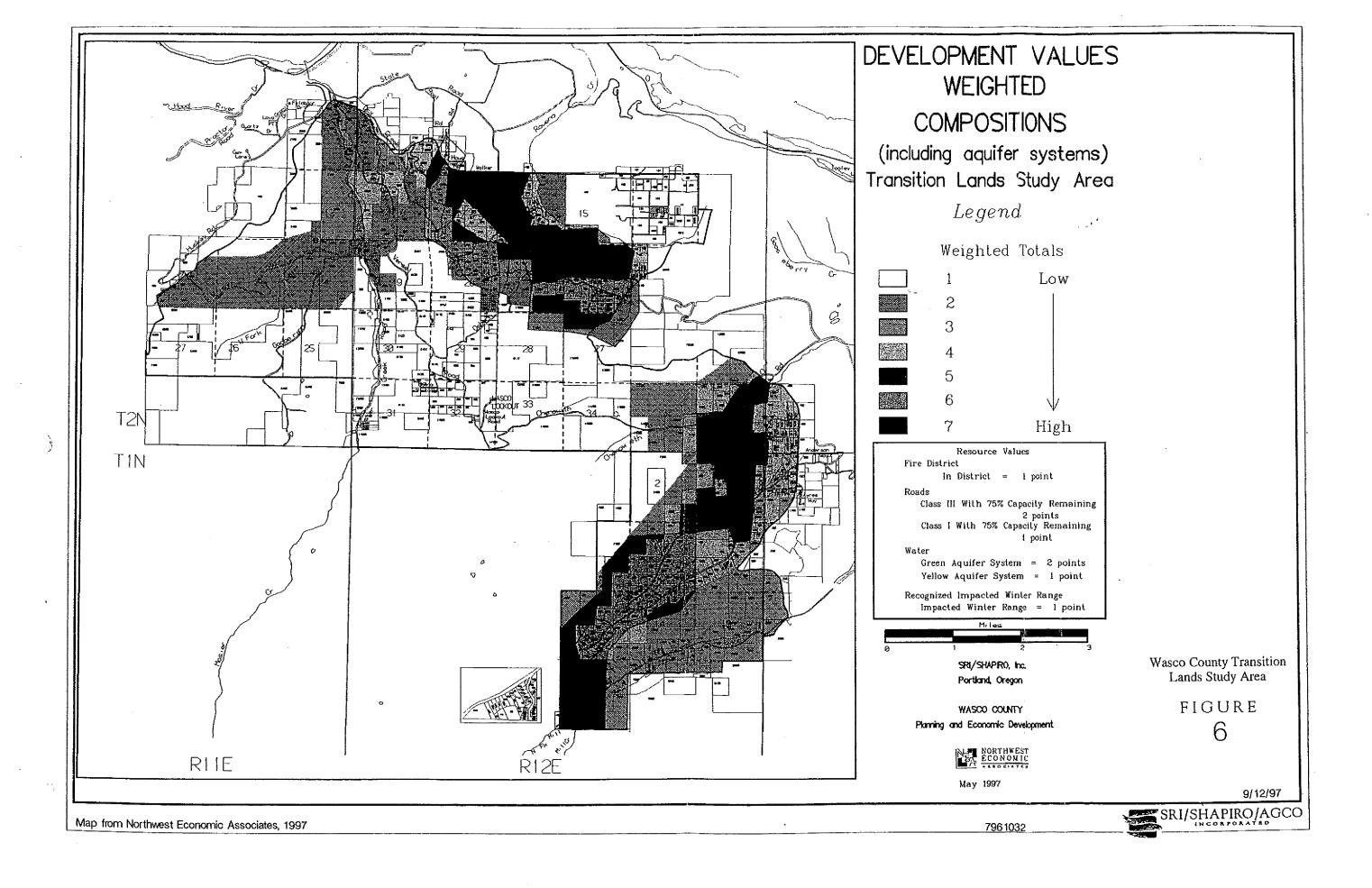
These maps indicated the total number of parcels per section that would be available for development based on the existing zoning classification. Based on this information, it was possible to identify total potential development that would be possible within the Seven Mile Hill Area and the Mill Creek/Cherry Heights Area (Figure 9). Although this information was not used to produce the combined weighted compositions map described in Section 4.4 below, it provided a frame of reference for evaluating impacts of zone changes while exploring Policy Alternatives.

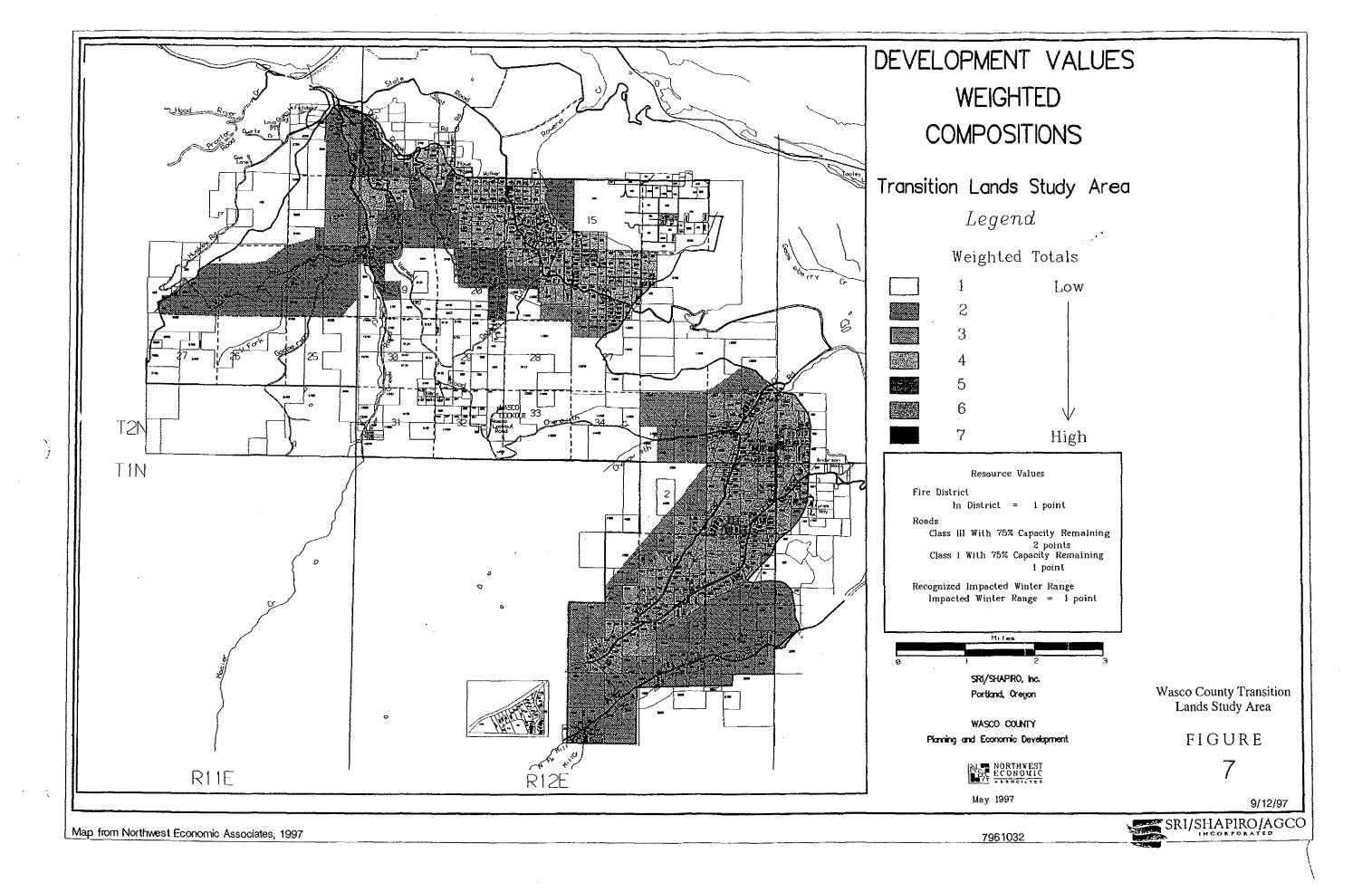
4.4 Combined Suitability Composite

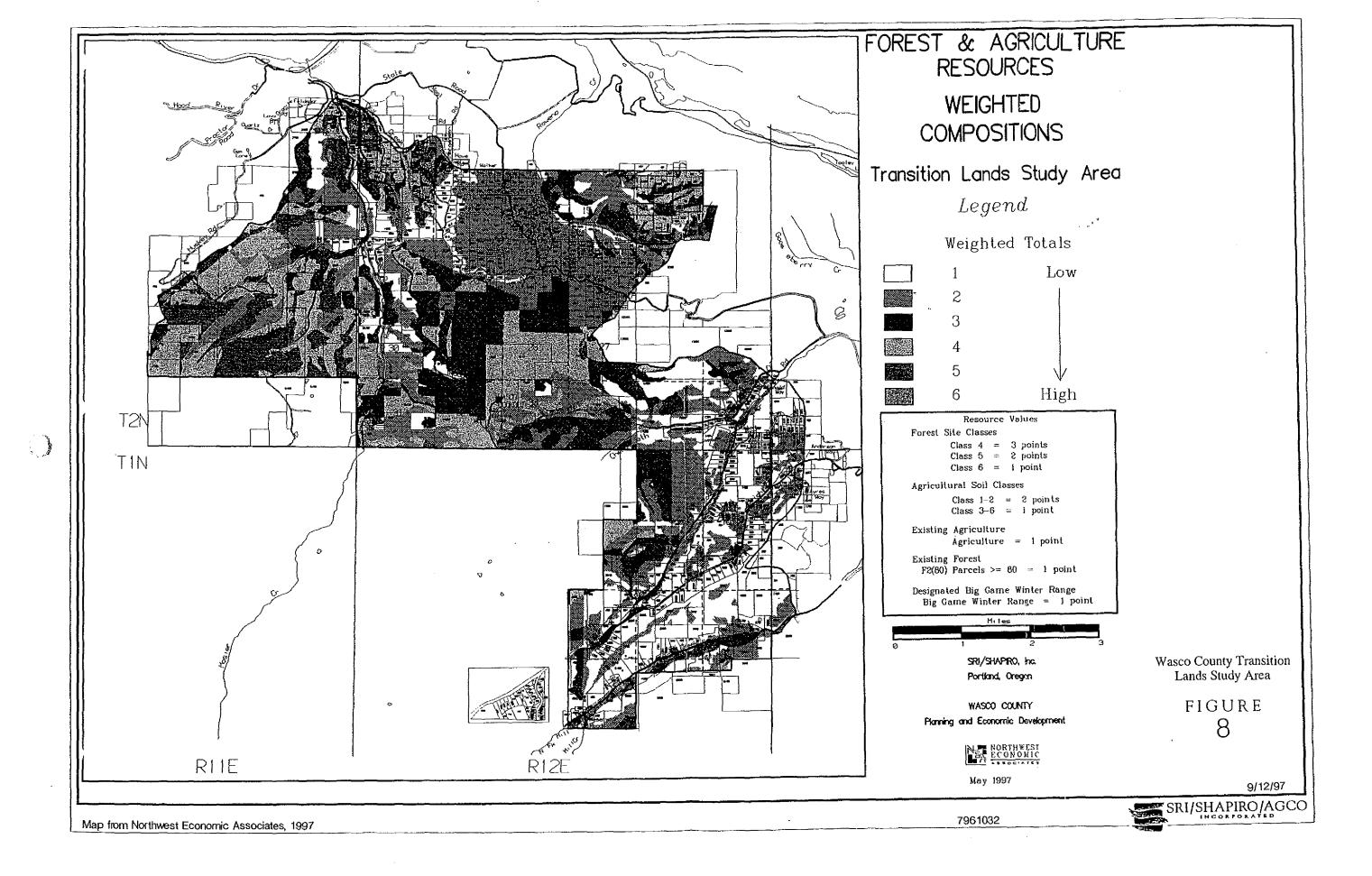
The next step in analysis was to combine the Development Suitability map with the Forest and Agricultural Resource Suitability map to identify which parts of the Study Area were most appropriate for development and which were most appropriate for resources use/protection. This was accomplished by developing a matrix of development versus natural resources values, as shown in Figure 10. The matrix identifies the conflicts between the suitability maps. For example, if an area had a resource value of 5 and a development value of 2, it was classified H-L (High-Low)within the matrix. Based on the matrix and the map combining the Development Suitability and Resource Suitability maps in Figure 11, lands within the Study Area were categorized as follows:

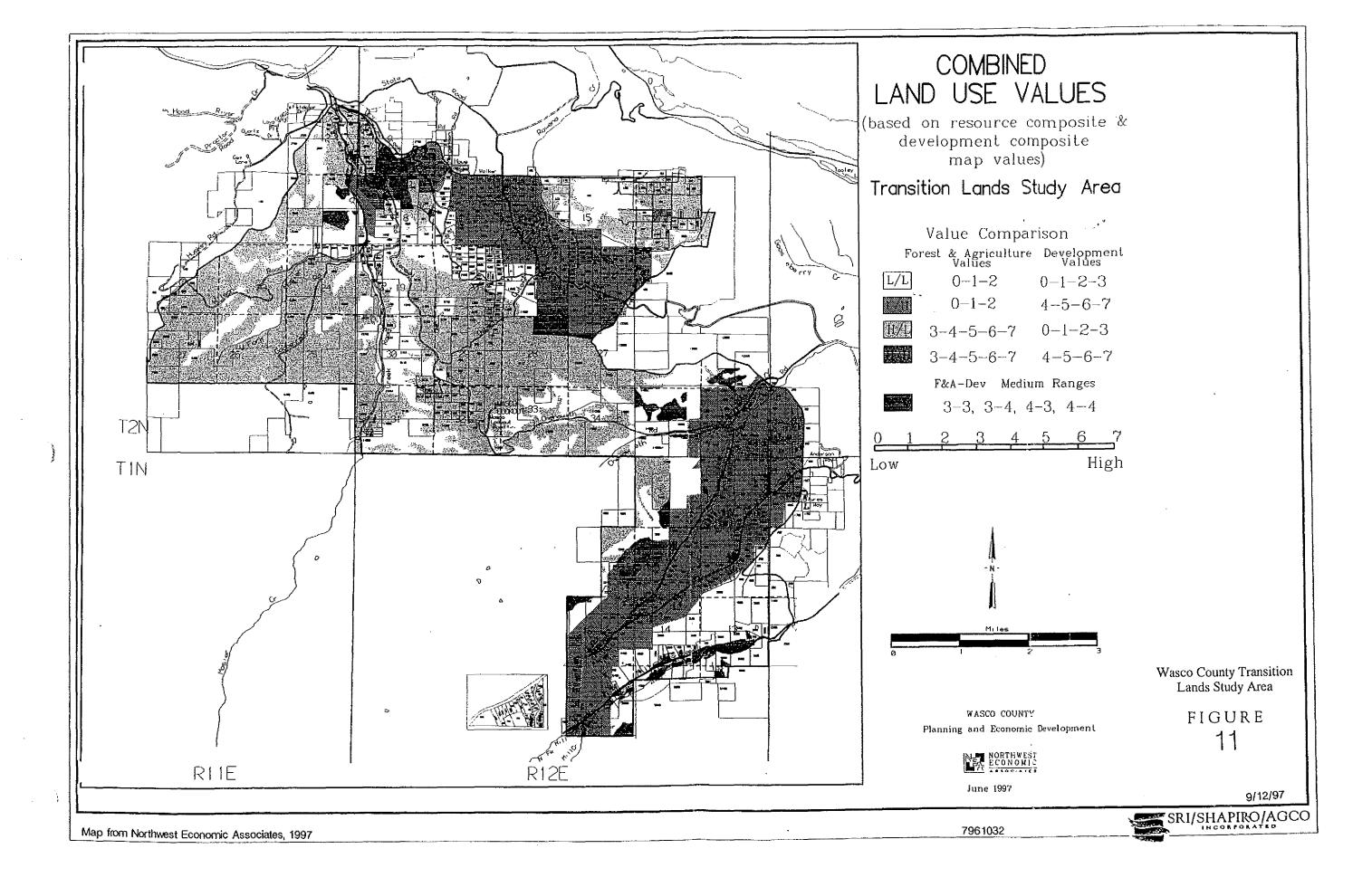
• Low development value/Low resource value (L-L)--No conflict; these lands will experience little pressure either for development or resource use/protection.

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EXISTING DEVELOPMENT AND POTENTIAL DEVELOPMENT SUMMARY

	7 Mile Hill	Mill Creek - Cherry Heights	Totals
Existing Development	114	187	301
Potential Development	185	313	498
Cluster Provison Bonus	Density Increase	e (Add to potential)	
Potential Increase at 25% Bonus	1	50	
Potential Increase at 50% Bonus	11	102	-

Development is defined as dwellings.

Potential development numbers are based on what would be allowed under the current zoning in the FF-10, RR-5, and Agricultural Zones only. Numbers do not take into account unbuildable lots based on topography.

Potential development by zones

7 Mile Hill		Mill Creek-Cherry Heights				
FF-10 =	125	FF-10		256		
RR-5 =	52	RR-5		50		
Ag =	8	Ag	<u></u>	7		

Example of how to figure a cluster bonus.

a 40 acre parcel in the FF-10 would get 4 houses (1 per each 10 acres). With a cluster provision, the same parcel would get 1 extra dwelling at 25% bonus (4 dwellings x .25); or 2 extra dwellings (4 dwellings x .50).

Source - Potential Development Maps produced for TLSA April 7, 1997

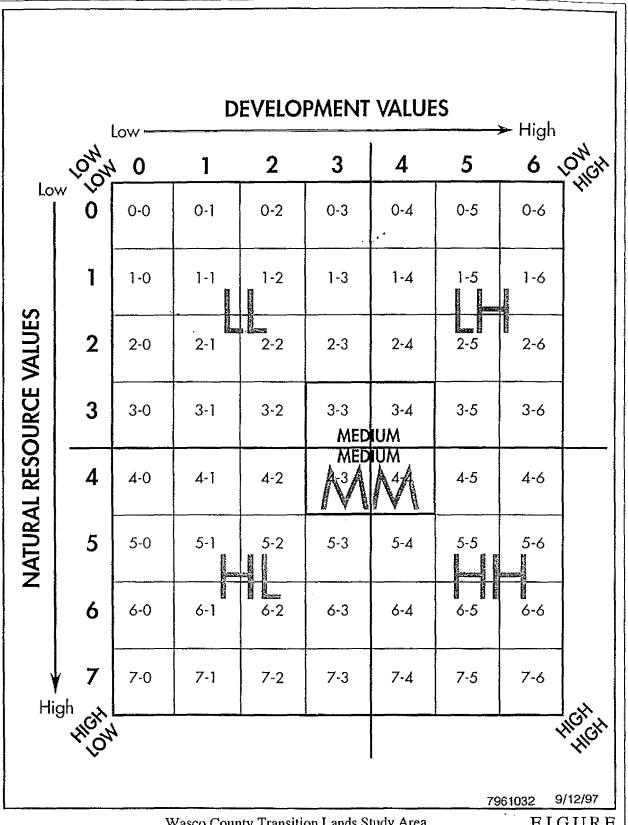
Tables from Wasco County, OR, 1997

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9/12/97 FIGURE

Wasco County Transition Lands Study Area
Summary of Existing Development and Potential
Development





Wasco County Transition Lands Study Area
Development versus Resource Values Matrix

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- High resource value/Low development value (H-L)--plans for these lands should protect the resource.
- Low resource value/High development value (L-H)--plans for these lands could accommodate development.
- Medium resource value/Medium development value (M-M)--Potential conflict; lands in this category must be reviewed in context to determine which factor (development or resource use/protection) is more important to plan for.
- High resource value/High development value (H-H)--plans for these lands must also be reviewed in context. Land uses must be based on review of applicable statutes, which usually will favor the resource, but there may be exceptions.

5.0 PRELIMINARY DEVELOPMENT ALTERNATIVES

What was the full range of alternatives considered?

Three preliminary alternatives were developed based on the development and resource value analysis. These include: Alternative 1--Minimum Development, Alternative 2--Moderate Development, and Alternative 3--Maximum Development (Figures 12, 13, and 14). The alternatives reflect the range of development that could occur in the Study Area, from essentially "status quo" to substantial increases in allowed density. The alternatives are described below, accompanied by a discussion of the positive and negative aspects of each.

As noted earlier in this report (see Section 2.0), two areas were identified as most suitable for development based on the Development Suitability Maps: the Seven Mile Hill Area, in the northeastern part of the Study Area, and the Mill Creek/Cherry Heights Area, in the southeastern part of the Study Area. The preliminary alternatives focus on these areas.

5.1 Alternative 1--Minimum Development

This alternative represents the "status quo," allowing very little increase in development density above what was already allowed by current zoning. A key factor recognized by the Steering Committee was that the potential exists for approximately 500 additional homes to be built under the current zoning, in addition to the existing approximately 300 homes. Water Monitoring Areas were designated as areas which could experience increased densities in the future if adequate water is available (Figure 12).

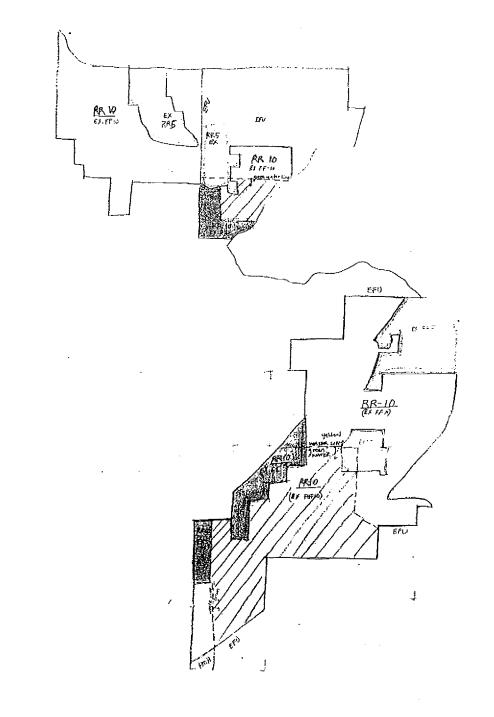
5.1.1 Seven Mile Hill Area

In the Seven Mile Hill Area, Alternative 1 would:

- Retain the existing A-1 (80) EFU and R-R (5) Rural Residential, and the vast majority of the F-2(80) zoning.
- Rezone the remainder of the area from F-F (10) Forest-Farm and a small amount of F-2 (80) Forest to R-R (10) Rural Residential, a new zone created as a result of this study.
- Rezone one area of F-2(80), approximately 80-100 acres located in the southeast corner of the Seven Mile Hill Area, to R-R(10).

Wasco County Transition Lands Study Area (TLSA) Project
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ALTERNATIVE PAR MINIMUM DEVELOPMENT (Sam suning vy minur (Sam suning vy minur (Sam suning vy minur (Sam suning)

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DENSITY (1884) where contain dense appearing it works in the containing of the sorry season has the containing of the sorry season has a monitored, that the sorry season has a monitored to be sorry season has a monitored to be sorry season has been presented to be sorry to be sorr

PROPOSED MINIOR INCLUSIONS OF RESURCE

MINIMUM DEVELOPMENT

- Rezone only very limited resource zoned fands with low resource values, retaining areas of higher resource value.
- Retain existing ten acre minimum.
 No increase in potential impacts on BGWR.
- Allows further testing and monitoring of aquifer systems prior to any increase in density "we'll never be able to promise water but may understand the odds better." Doesn't increase potential service needs (roads
- and fire protection).

 Retains familiar 10 acre land use pattern.

CONS:

- Without development standards and education for rural occupants, still impacts fire protection, rural character and "other" wildlife habitat as ten acre densities developed.

- nensnes developed.

 No increase in potential \$'s for rumi fire protection.

 Monitoring still important to provide understanding of water issues to rural dwellers.

 Fails to provide a smaller for option for rural dwellers each rural residence "consumes" a minimum of ten acre. minimum of ten acres.

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9/12/97 FIGURE

Wasco County Transition Lands Study Area Alternative 1 - Minimum Development



Map from Wasco County, OR, 1997

Map from Wasco County, OR, 1997

ALIERNATIVE PS MODERATE DEVELOPMENT

IDENTIFIED PAREAU AND PLITURE WHER MINING CATA SUPPORT

MODERATE DEVELOPMENT

- · Accommodates limited increased densities in
- areas of low or lower resource value

 Directs limited density increases to areas with low
- or lower resource value.
- Accommodates limited increased dansities in impacted areas of BGWR.
- increases densities where aquifer systems are behaving more predictably.

 Identifies areas for additional increased densities
- once more is known about water. Focuses limited density increases in serviceable
- areas.
 Provides for a limited increase in fire district
- revenues. Accommodates increased densities accessed by a
- single road system at first- allowing the Road Department to assess Impacts.
- Allows opportunity to assess effectiveness of development standards, for maintaining fire I road access and preserving rural character, and educational programs increasing awareness of water, wildlife and right to farm issues prior to further increase in densities.
- Provides limited accommodations for rural

- Limited Impacts on other wildlife habilat.
 No guarantees as to water availability at higher densities.
 Limited Increases in risk of fire loss in less
- accessible areas.

 Limited increase in traffic on roads with no automatic increase in Rd. Department revenue.
- impacts on rural character in limited areas.

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9/12/97

FIGURE



ALTERNATIVE FOR MAXIMUM DEVELOPMENT

MAXIMUM DEVELOPMENT

PROS.;

Maximizes development in areas of low or lower resource value - taking pressure off higher value

- fesource value taking pressure or might lands.

 Maximizes development in impacted areas of big game winter range (BGWR)- taking pressure off areas with remaining habitat values.
- areas with remaining hadout values.

 Not limited by possible ground water shortages—
 water can be purchased or hauled if needed.

 Allows all serviceable (roads and fire district) land
 to be developed fully-taking pressure off areas
 with substandard services.
- Allows broad increase in densities with in fire districts increasing revenues within the same service area.
- service area.

 Maximum accommodations for rural housingcould consider cluster density bonuses at even
 higher than five acres.

 Broad comprehensive density increases provide
 for more consistent development pattern rather
 than infill after ten acre fot pattern has continued

CONS:

- . Impacts other wildlife habitat- quantifiable data not
- available.

 Possible over extension of ground water supplies and increased densities in areas where aquifer system behavior is not well understood.

 Hauting water to domestic dwellings is not the usual and customary practice in this area can't form water districts or co-ops outside UGB.

 Without adequate Road standards increases risks
- Without adequate Road standards increases risks of fire loss in less accessible areas (increased structure values and more lives affected).
 Without LIDs (limited improvement districts) or Development Fees, no increased reverues for Road Department to provide for additional development and maintenance as traffic increased.
 Impacts on unal character.
- and education programs.

7961032 9/12/97 FIGURE

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Wasco County Transition Lands Study Area Alternative 3- Maximum Development



Map from Wasco County, OR, 1997

 Create and coordinate a water monitoring program tied to specific Water Monitoring Areas.

Creation and application of the R-R (10) zone would simplify the approval of homes by eliminating the conditional review process. Residential use would be permitted subject to standards for approval (see Appendix 1 for a summary of this new zone).

Water Monitoring Areas are areas that could be rezoned in the future to allow increased development, provided water monitoring indicates water availability would be able to accommodate increased density (water monitoring information is included in Appendix 6 of this report). Water Monitoring Areas were determined based on aquifer systems within the Study Area determined to be "green" or "yellow." A "green" aquifer system is one that, based on hydrographs and well records, shows no particular anomalies such as water level decline, deepenings, or deep static water level. A "yellow" aquifer system is one that, based on hydrographs and well records, has unexplained or negative anomalies including deeper than average aquifers, major and minor deepenings of wells, decreases in static water levels and/or has shallow soils.

5.1.2 Mill Creek/Cherry Heights Area

In the Mill Creek/Cherry Heights Area, Alternative 1 would:

- Retain the existing R-R (5) Rural Residential zoning.
- Rezone the remainder of the area zoned F-F (10) to the new R-R (10) zone.
- Rezone two small segments zoned F-F(80) located along the western boundary of this area to R-R (10).
- Create and coordinate a water monitoring program aimed at Water Monitoring Areas identified over approximately one-half of the Mill Creek/Cherry Heights area.

5.1.3 Pros and Cons of Alternative 1--Minimum Development

Pros include the following:

- Only a very limited area of resource-zoned (F-2 (80)) lands with low resource values
 would be rezoned to R-R (10), thus retaining areas of higher resource value in their
 existing zoning.
- The existing 10-acre minimum would be retained in rezoned areas.
- There would be no increase in potential impacts on the Big Game Winter Range (BGWR).
- Further testing and monitoring of aquifer systems would be undertaken before any
 increase in density is allowed. This will result in a better understanding, through
 monitoring and evaluation, of the aquifer systems and how they are affected by
 development.
- Potential service needs (i.e., for roads and fire protection) would not increase.
- The existing, and familiar, 10-acre land use pattern would be retained.

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Cons include the following:

- Without development standards and public education about the impacts of increased density, impacts on fire protection services and wildlife habitat, and changes in the rural character of the area, would result.
- There would be no increase in potential revenue for rural fire protection services.
- Likely less incentive to monitor aquifers, however, monitoring of aquifers still would be important to provide understanding of water issues to rural dwellers.
- Fails to provide a smaller lot option; each rural residence would continue to "consume" a minimum of 10 acres of land.

5.2 Alternative 2--Moderate Development

Alternative 2 would allow more development than with Alternative 1, with other areas in both the Seven Mile Hill Area and Mill Creek/Cherry Heights Area identified for a future increase in density if there is water monitoring data to support it. A much larger part of the Mill Creek/Cherry Heights Area (about half) would be rezoned to R-R (5) (Figure 13). This would allow more development than with Alternative 1.

5.2.1 Seven Mile Hill Area

In the Seven Mile Hill Area, Alternative 2 would:

- Retain the existing A-1 (80) EFU and R-R (5) Rural Residential zoning.
- Rezone the remainder of the area, which currently is zoned for F-F (10) and F-2 (80), to R-R (10).
- Create a much larger water monitoring area than Alternative 1, which means it could be rezoned in the future to allow increased development, provided water monitoring indicates water availability.

5.2.2 Mill Creek/Cherry Heights Area

In the Mill Creek/Cherry Heights Area, Alternative 2 would:

- Retain the existing R-R (5) zoning.
- Rezone existing F-F (10) in the northern part of the area to R-R (10), and designate about half a Water Monitoring Area.
- Rezone a small area of existing F-2 (80) in the southern part of this area to R-R (5).
- Rezone existing F-2 (80) and F-F (10) along the western boundary to R-R (10).

5.2.3 Pros and Cons of Alternative 2--Moderate Development

Pros include the following:

- Limits increased densities.
- Directs increased densities to areas of low or lower resource value, areas where the Big Game Winter Range (BGWR) already is impacted, and/or areas where aquifer systems are behaving more predictably ("green areas").
- Areas are identified where density could increase once more is known about water availability (Water Monitoring Areas).

Wasco County Transition Lands Study Area (TLSA) Project
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- Density increases are focused in serviceable areas.
- A limited opportunity for an increase in fire district revenues is provided.
- Increased densities are first directed to areas accessed by an existing road system with adequate capacity for increased traffic, allowing the Road Department to assess impacts of increased development on roads.
- The opportunity is provided to assess the effectiveness of development standards, for maintaining fire/road access and preserving rural character, and educational programs to increase awareness of water, wildlife, and right-to-farm issues, before increases in density occur.
- Limited accommodations for rural housing are provided.

Cons include the following:

- Limited impacts on other wildlife habitat would result.
- There is no guarantee that water will be available to accommodate higher densities.
- A limited increase in risk of fire loss would result in accessible areas.
- Traffic on roads would increase to a limited extent without an automatic increase in Road Department revenue to offset increased service demand.
- Rural character would be affected in certain areas to a limited extent.

5.3 Alternative 3--Maximum Development

This alternative would rezone most of the Seven Mile Hill Area and the Mill Creek/Cherry Heights Area to R-R (5), thus allowing the most development of the three alternatives (Figure 14). This alternative does not consider water to be a limiting factor to development.

5.3.1 Seven Mile Hill Area

In the Seven Mile Hill Area, Alternative 3 would:

- Retain the existing A-1 (80) EFU and R-R (5) zoning.
- Rezone areas with medium-low development value and low resource value from F-F (10) to R-R(10).
- Rezone the remainder of the existing F-F (10) to R-R(5) without regard to water considerations.

5.3.2 Mill Creek/Cherry Heights Area

In the Mill Creek/Cherry Heights Area, Alternative 3 would:

- Retain the existing R-R (5) zoning.
- Rezone most areas in the northern half from F-F (10) to R-R (5); the exception would be a small area along the western boundary that has a medium-low development value and a low resource value, which would be rezoned to R-R (10).
- Rezone the southern half of the area to R-R (5), with a small part along the western boundary rezoned to R-R (10).

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5.3.3 Pros and Cons of Alternative 3--Maximum Development

Pros include the following:

- Development is maximized in areas of low or lower resource value, thus taking development pressure off lands with higher resource value.
- Similarly, development is maximized in areas of impacted Big Game Winter Range, taking pressure off areas with remaining habitat values.
- Development would not be limited by possible groundwater shortages; water could be purchased or hauled if needed.
- All serviceable (roads and fire district) lands can be fully developed, which takes pressure off areas with substandard services.
- A broad increase in densities is allowed on lands within the fire districts, resulting in increased revenues within the same service area.
- There is maximum accommodation of rural housing; cluster density bonuses could be considered at greater than 5-acre minimum lot size.
- Broad comprehensive density increases proposed with this alternative provide for a more consistent development pattern, rather than resulting in infill after the 10-acre pattern has continued to develop.

Cons include the following:

- Although quantifiable data is not available, this alternative is expected to result in impacts on wildlife habitat.
- It is possible that over-extension of groundwater supplies will occur as a result of increased densities in areas where the behavior of aquifer systems is not well understood.
- Hauling of water for domestic use is not the usual and customary practice in the Study Area, and formation of water districts or co-ops outside the urban growth boundary (UGB) is not allowed; therefore, water availability could become a problem.
- Without adequate road standards, there would be increased risk of fire loss in less
 accessible areas, and likely increased structure damage and more lives affected as a
 result of increased density.
- Without local improvement districts (LIDs) or development fees, there would not be increased revenue for the Road Department to provide for additional development and maintenance as traffic increases.
- Impacts on rural character would result.
- A "trial run" for development standards and educational programs is not provided.

6.0 ALTERNATIVE PLANS

What was the preferred preliminary alternative? What options were considered for implementing the preferred alternative?

Based on analysis and comparison of the Preliminary Development Alternatives (Section 5.1) and consideration of information derived from analysis of the Potential Development maps (as described in Section 4.3.3 of this report), the Steering Committee selected Alternative 1 – Minimum Development as their preferred alternative. The Steering Committee agreed to look at some options for development within the context of the

Wasco County Transition Lands Study Area (TLSA) Project
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Minimum Development Alternative. Three Preferred Policy Alternatives were developed. The Preferred Policy Alternatives focus on the same mixed residential and resource use areas of the Study Area as the Preliminary Development Alternatives: the Seven Mile Hill Area and the Mill Creek/Cherry Heights Area. These alternatives were refinements of the Minimum Development Alternative, and were guided and developed from the policy statements. They explored three different approaches to developing the Minimum Development Alternative, as follows:

- (1) Maintain the existing number of homes that can be developed by current zoning, but provide flexibility of lot size through transfer of development rights.
- (2) Identify specific areas for immediate upzone (increased density), but significantly limit these areas.
- (3) Identify specific areas for an upzone in the future, as warranted.

The Preferred Alternative plans combine features of each of the Preliminary Development Alternatives. Each approach aims to:

- Proceed with caution;
- Focus growth in the Mill Creek/Cherry Heights area; and
- Retain rural character and quality of life.

The plans also include a new concept--transfer of development rights (TDR)--to allow a transfer of a development (house) to another location. The alternative concepts are explained in detail in the following sections.

6.1 Transfer of Development Rights (TDR) Alternative

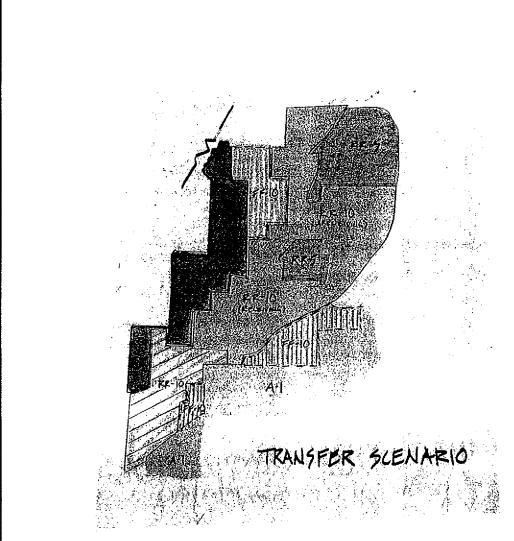
The Transfer of Development Rights Alternative transfers development rights from areas with high resource values and/or lower development values to areas with high development potential. This approach could result in higher protection for resource lands while allowing some flexibility for development (Figures 15 and 16). Areas most suitable for development will be allowed to build out at higher densities than allowed under current zoning. They would be allowed to increase their density by purchasing a development right (unbuilt homesite) from another property owner and agreeing to develop the "transferred" homesite within the receiving area where development suitability is highest. The key is that increased densities allow for infill development where best suited, and make possible the utilization of development rights from areas that are less suitable for development, which may include areas of steep slopes, ridgelines, aquifer anomalies, significant wildlife habitat, and/or locations compromising scenic views.

6.1.1 Seven Mile Hill Area

In the Seven Mile Hill Area, the TDR Alternative would:

- Retain the existing R-R (5) and A-1 (80) EFU zoning.
- Retain the existing F-F (10) areas that have a higher resource value or a low development value (for instance, in areas where water availability is unknown).
- Rezone the remainder of the F-F (10) lands to R-R (10). None of the rezoned R-R (10) areas would be able to receive development rights under the TDR concept.

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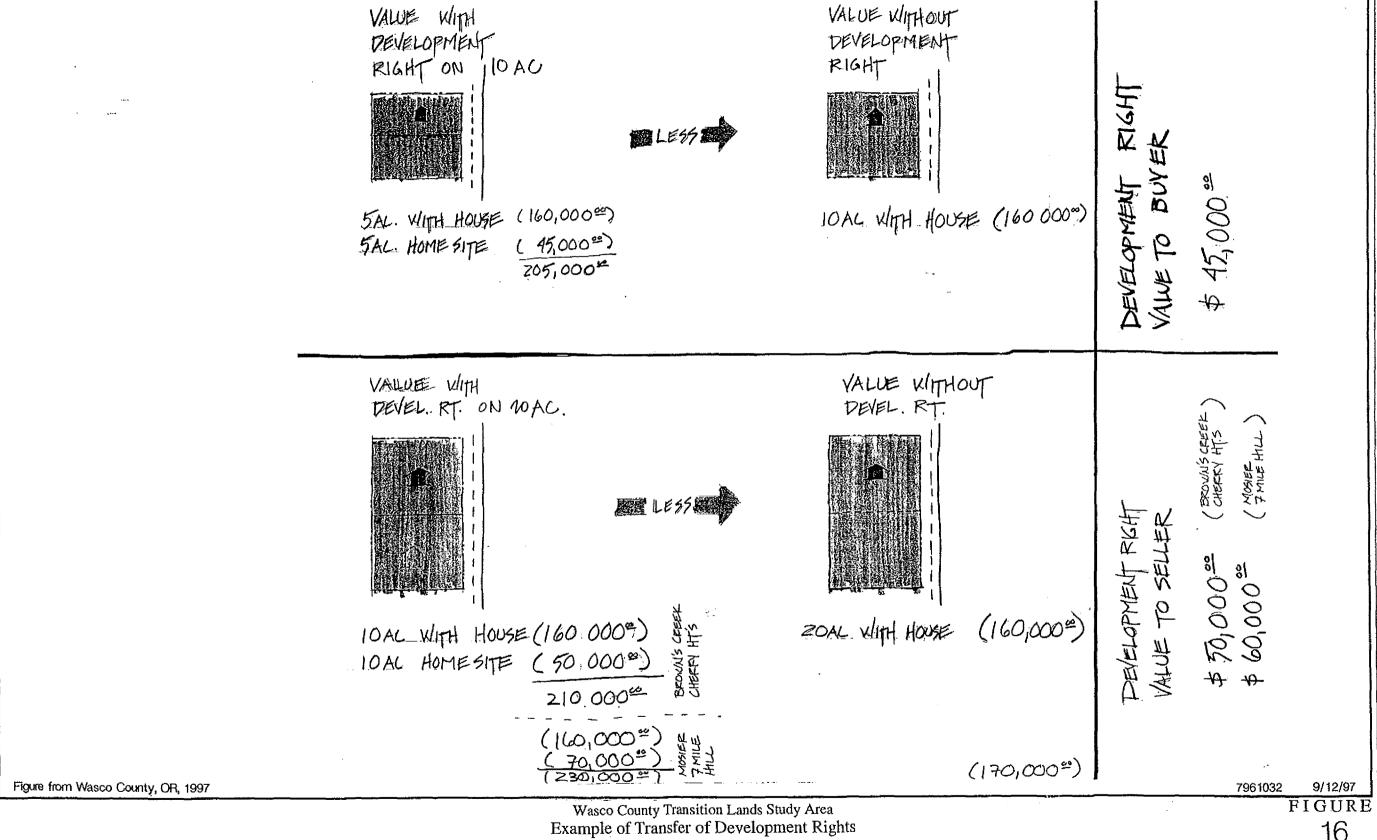
Map from Wasco County, OR, 1997

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Wasco County Transition Lands Study Area
Transfer of Development Rights (TDR) Alternative



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6.1.2 Mill Creek/Cherry Heights Area

In the Mill Creek/Cherry Heights Area, the TDR Alternative would:

- Retain the areas with R-R (5) zoning.
- Retain a small area of F-F (10) and areas of F-2 (80) along the western area boundary.
- Rezone the remainder of lands currently zoned F-F (10) to R-R (10) with TDR receiving status.

6.1.3 Intent and Impacts of the TDR Alternative

What is the intent of the TDR Alternative?

- The overall density (number of new homes) would not increase, but would allow lot size flexibility.
- Development would occur at a slower pace, which allows time to explore ways to fund the cost of providing service to developing areas.
- Increased densities would occur in the most accessible areas, as driven by the market.
- An incentive is generated for private purchase of development rights.
- Those who pay (for transfer of development rights) are those who stand to benefit from increased development.
- Rural character would be maintained.
- Development would proceed with caution and allow time for water monitoring data to be compiled.

What are the impacts of the TDR Alternative?

- TDR is a new concept and will be difficult to understand and/or explain.
- There is no guarantee that development rights will be purchased and built out in the "receiving areas;" however, the alternative acknowledges the value of creating incentives, rather than regulating development through such methods as downzoning.
- TDR may be complex and difficult to implement because of higher administrative costs and staff time commitments.
- Creates higher densities in "receiving areas" than zoning would indicate.

6.2 Limited Upzone Alternative

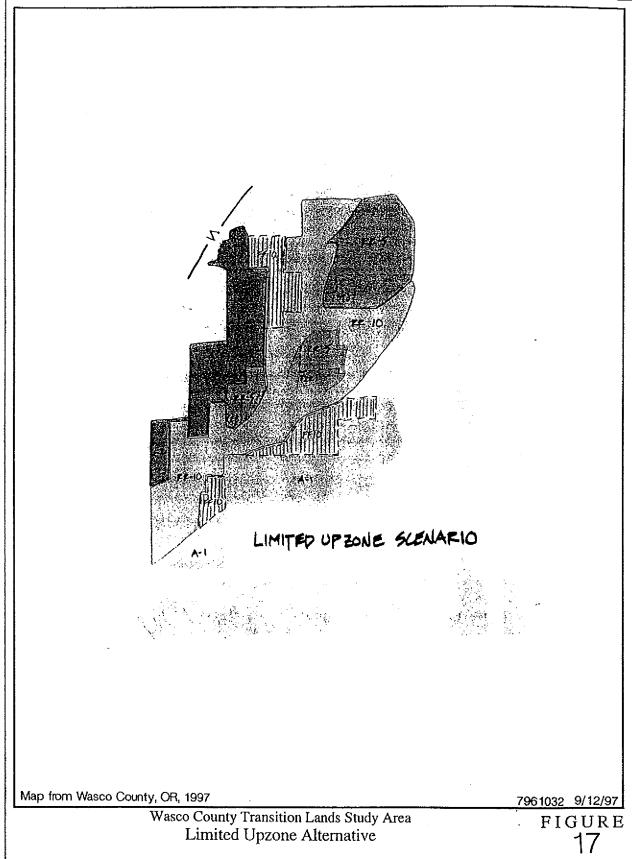
The Limited Upzone Alternative identified areas that are best suited for an upzone based on development suitability (Figure 17) Generally, these are areas that have good road access, are in a fire district, are in an impacted Big Game Winter Range area, and are located in an aquifer that has few anomalies. There is not a transfer of development rights (TDR) in this alternative.

6.2.1 Seven Mile Hill Area

In the Seven Mile Hill Area, the Limited Upzone Alternative would be the same as with the TDR Alternative, but there would not be the opportunity to transfer or sell development rights.

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6.2.2 Mill Creek/Cherry Heights Area

In the Mill Creek/Cherry Heights Area, the Limited Upzone Alternative would retain the existing F-F (10) areas that have a higher resource value (the same as Alternative 1). However, this scenario identifies two areas for an upzone from F-F (10) to R-R (5). These areas are identified as having a high development value and include the following:

- Area 1--south of the existing R-R (5). Rezoning this area to R-R (5) would result in approximately 39 additional homesites.
- Area 2--south of Lutz Lane. Rezoning this area to R-R (5) would result in approximately 22 additional homesites.

6.2.3 Intent and Impacts of the Limited Upzone Alternative

What is the intent of the Limited Upzone Alternative?

- Rural densities would increase in the most appropriate areas.
- Upzoning and downzoning are familiar concepts; therefore, the action would be easily understood by landowners.

What are the impacts of the Limited Upzone Alternative?

- The number of potential homesites would increase by 60+, which would put more demand on infrastructure and services, such as the road system.
- It would be difficult to "go back" once areas are upzoned.

6.3 Future Expansion Alternative

The Future Expansion Alternative identifies the same two areas for an upzone as are identified in the Limited Upzone Alternative (Figure 18). In this scenario the upzone of an area would be phased in as development pressure occurs in the future, and as more information on water is gathered. There is no difference between this alternative and the Limited Upzone Alternative other than the rezone areas are identified and reserved for future growth.

6.3.1 Intent and Impacts of the Future Expansion Alternative

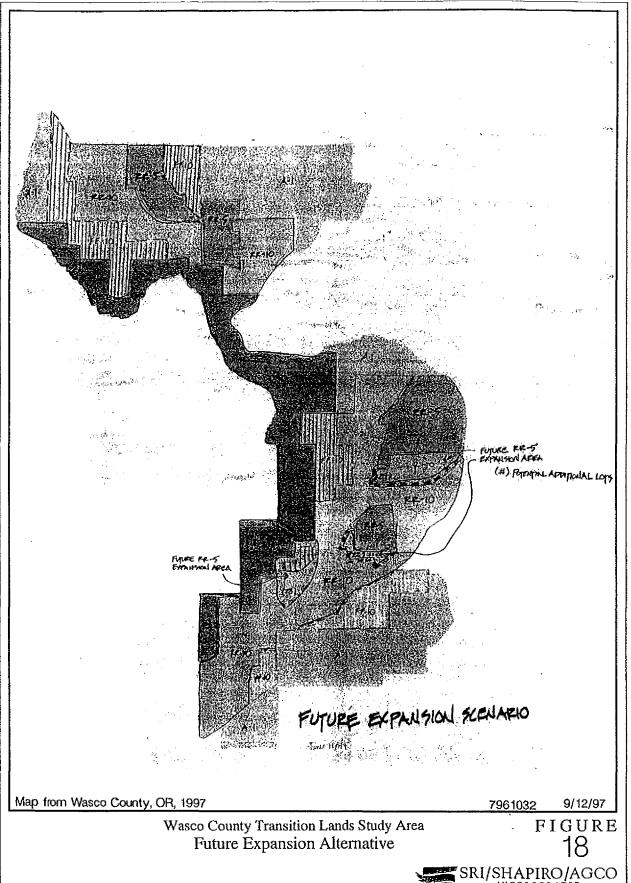
What is the intent of the Future Expansion Alternative?

- Does not increase number of homesites above what current zoning allows at this time.
- Identifies those areas where development is most suitable for future growth.
- Has no immediate impacts.

What are the impacts of the Future Expansion Alternative?

- The number of homesites would not increase at this time.
- · As need for homesites increases, areas for future upzones have been identified.

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7.0 FINAL RECOMMENDATION

The final preferred alternative recommendation combines features of both the Transfer of Development Rights and the Limited Upzone (Figure 3). It identifies Area 1 for an immediate upzone from F-F (10) to R-R (5) and it identifies Area 2 as a test case area to receive Transfers of Development Rights.

7.1 Seven Mile Hill Area

In the Seven Mile Hill Area the Final Recommendation would be:

- Retain the existing R-R (5) and A-1 (80) EFU zoning.
- Retain the existing F-F (10) areas that have a higher resource value or a low development value (for instance, in areas where water availability is unknown).
- Rezone the remainder of the F-F (10) lands to R-R (10). F-F (10) areas would be able to transfer development rights to the area identified as the test area (Figure 3).

7.2 Mill Creek/Cherry Heights Area

In the Mill Creek/Cherry Heights Area the Final Recommendation would be:

- Retain the areas with R-R (5) zoning.
- Retain a small area of F-F (10) and areas of F-2 (80) along the western area boundary.
- Upzone Area 1 south of the existing R-R (5) from F-F (10) to R-R (5). Rezoning this area would result in approximately 39 additional homesites.
- Identify Area 2 south of Lutz Lane, existing R-R (5) zone as a test case receiving area for the Transfer of Development Rights.
- Rezone the remainder of lands currently zoned F-F (10) to R-R (10).

7.3 Intent and Impacts of the Final Recommendation

What is the intent?

- The overall density (number of new homes above current zoning) would increase by 39 and be directed in the most appropriate area.
- Transfer of Development Rights concept could be tested to determine its success.
- Rural character would be maintained.
- Development would proceed with caution, and allow time for water monitoring data to be completed.

What are the impacts of the limited Upzone Alternative?

- The number of homesites would increase by 39 and provide some additional housing opportunities.
- There is no guarantee that development rights will be purchased and built out in the
 test area. However, it allows an opportunity to explore a new concept which creates
 incentives for development to occur in an appropriate place rather than regulating
 development through such methods as downzoning.
- Transfer of Development Rights densities in "receiving areas" at higher densities that zoning would indicate.

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TRANSITION LANDS STUDY AREA GROUND WATER EVALUATION WASCO COUNTY, OREGON

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EXHIBIT 4



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TRANSITION LANDS STUDY AREA GROUND WATER EVALUATION WASCO COUNTY, OREGON

Gay M. Jervey

SUMMARY

The evaluation of ground water quantity is important to residents of the Transition Lands Study Area (TLSA). Assessment of the volume available has been difficult because of one major problem; regardless of the method of assessment used or the assumptions made in estimating available ground water, none of the ground water models used to date explain the declines seen in some wells in the TLSA or the fact that some wells have had to be deepened due to lack of water in the wellbore.

The purpose of this report is to examine this one issue in detail using available information. The conclusions presented are:

- all of the aquifers in the TLSA are water table aquifers or hydraulically tied to water table aquifers
- these aguifers can be identified and mapped
- there is no obvious overall trend of aquifer depletion in the TLSA
- declines observed occur primarily in basalt aquifer wells and appear to be linked to the internal structure of the basalts
- deepenings (where related to lowering of static water level) are due to specific negative situations having to do with the geology adjacent to the wellbore
- more work needs to be done to better understand basalt aquifer performance
- close observation of wells in densely drilled areas is necessary to improve estimation of appropriate well spacing

 well spacing should not exceed what has been demonstrated to be effective within the TLSA unless additional information is provided to the Wasco County TLSA Steering Committee or other County representatives

INTRODUCTION

The main questions which must be addressed in order to better understand aquifer behavior and availability of ground water in the TLSA are:

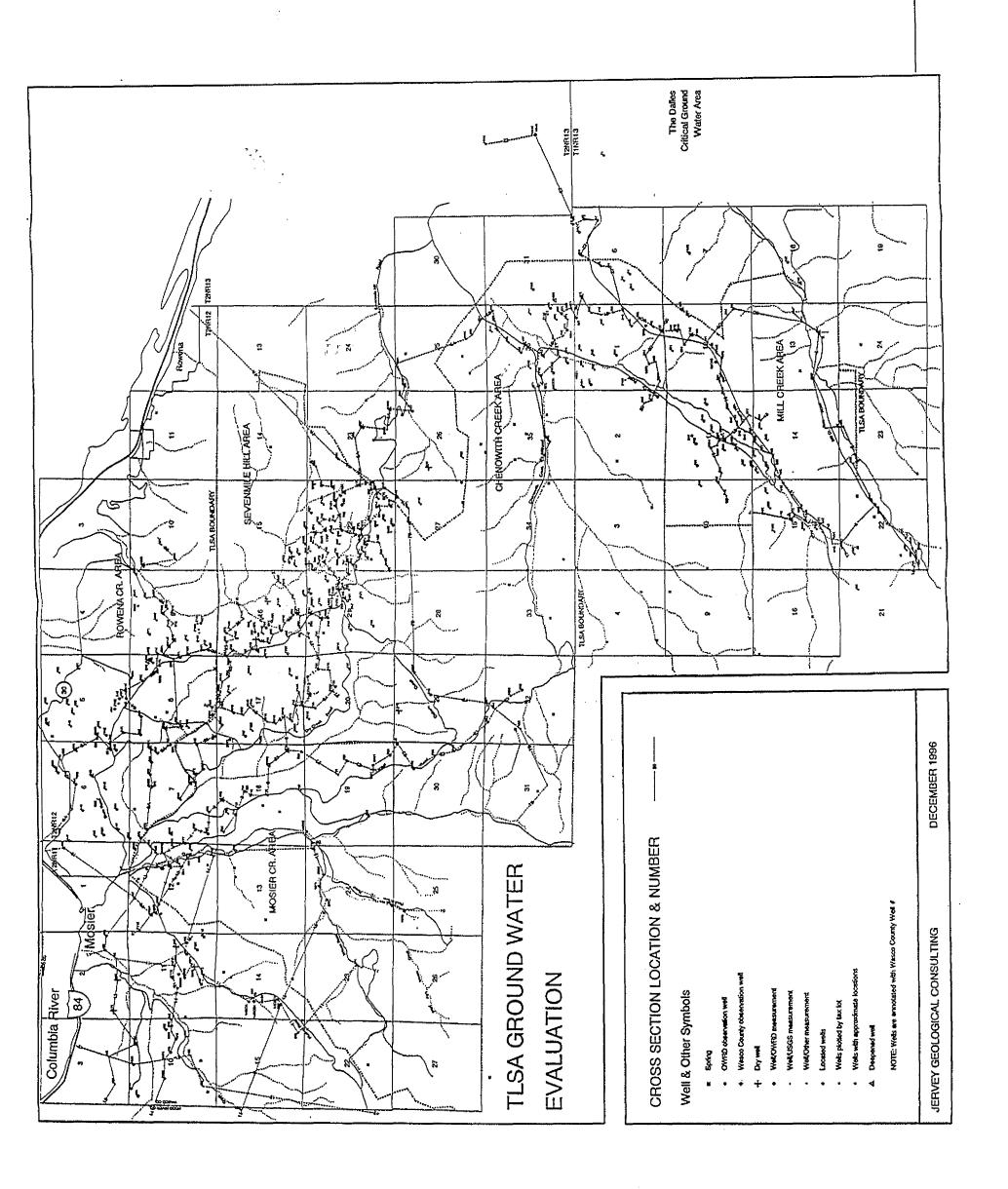
- 1) How much ground water is available to the individual land owner?
- 2) Why do some wells have to be deepened?
- 3) Why do some wells show water level declines?
- 4) How close together can wells be and still operate properly (without undue interference)?

In order to address these questions, a detailed study of water wells in the TLSA was conducted. Records for a total of about 817 wells in and adjacent to the TLSA were included in this review. It is estimated that there are an additional 40 to 60 wells within this area that have no well records and were not included. The lack of this information is probably not critical to this review, since it is a small proportion of the data set which has been examined.

An initial and ongoing problem is the uncertain geographic location of a number of the water wells within the TLSA. Work done by the Wasco County Watermaster has contributed a great deal toward

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locating existing wells. Of the well records mentioned above, 592 wells were located and are shown on the map on the preceeding page (a large version of this map with topography added is also available). Almost all of the wells inside the TLSA area were located, at least approximately (by tax lot). Most of the 225 unlocated wells lie outside the TLSA boundary, mainly in the Rowena and west The Dalles areas. Within and immediately adjacent to the TLSA, 58 deepened wells were identified and studied in detail. The data collected for the wells in this review is in Table A at the end of this report (Appendix A). Included in this table are multiple measures of static water levels made in certain wells. Multiple static water level measures are also included in Tables A1, D and E (Appendix A).

2.

Sources of information for this report are primarily the extensive previous studies done in this area and referenced at the end of this report (Lite and Grondin, 1988, and Kienle, 1995). Important additional information was contributed by the people listed in acknowledgment at the end of this report who work or reside in Wasco County or have a general or specific interest in the topic covered. However, errors in data or interpretation present in this report text are entirely the responsibility of the author.

The data and interpretations in this report are provided as a service by Jervey Geological Consulting in response to questions raised by the TLSA Steering Committee. Jervey Geological Consulting is primarily involved in oil and gas exploration and has no special qualifications in the evaluation of ground water resources. Therefore, this document should be primarily used as a basis for evaluating the data and observations it records. It is not specifically designed to be used in formulating public policy. The material collected here may also be helpful for use in future studies by qualified hydrogeologists.

GROUND WATER AVAILABILITY

An estimate of available recharge volume is necessary to evaluate how many wells per unit area an aquifer can support. For the most part, the aquifer systems in the TLSA are recharged by precipitation (diffuse) and intermittent runoff in valleys. The lowest aquifer systems, are also probably recharged and maintained by perennial streams (Mill Creek, Chenowith Creek, and Mosier Creek).

A key factor in recharge to the TLSA area is its precipitation pattern. The area lies in an intermediate position between humid and arid climates. The cycles of heavy and low precipitation that occur over many years reflect this intermediate position. Because of this, a range of recharge volumes should be calculated that

reflect both normal (or average) conditions and low precipitation conditions over specific time intervals.

The graph in Figure 1 shows precipitation volumes in Hood River and The Dalles. The longest dry cycle in recorded history is the period from 1922 to 1944 (23 years) overlapping the occurrence of The Great Dust Bowl in the central United States. The average precipitation in Hood River during this period was 26 inches (84% of normal values). On the average, rainfall in The Dalles is about 48% of the amount recorded in Hood River.

Figure 2 is derived from Oregon Water Resources Department Ground Water Report #33 on the Mosier area (Lite and Grondin, 1988) showing the most probable change in precipitation levels across the TLSA. The western boundary, closer to Hood River, probably receives over 25 inches per year; the eastern boundary near The Dalles, about 15 inches.

A recent report on the Columbia Plateau aquifer system issued by the U.S.G.S. (Whiteman, et al, 1994) includes part of the TLSA on the extreme southwestern margin of the report area. The estimate for recharge for the TLSA from this report would be 2 to 15 inches per year, depending on total precipitation. In effect, the lower the rainfall, the smaller the percentage of water that is available for recharge. Using an average of 20 inches of precipitation per year, an example estimate of recharge can now be calculated. At this level of precipitation, the proportion returned as recharge is around 30% (values presented in the Whiteman report are 6.82" of recharge for 21.06" of precipitation in a temperate climate). Under dry conditions over several years, this percentage probably drops to about 26%. The overall calculation for recharge in this example is shown in Table 1 (page 5).

The estimates used were drawn from several sources; but primarily from U.S.G.S. Professional Paper 1413-B on the Columbia Plateau Aquifer System (Whiteman, et al, 1994).

DOMESTIC WELL USAGE

Water usage per average household has been estimated by several authors working in this general area:

- Lite and Grondin (1988) 288,350 gallons/year
- Kienle (1995)
 191,760 gallons/year
- OWRD information pamphlet for well owners (1993) average of values cited: 217,500 gallons/year
- Local utilities, Chenowith and The Dalles: 90,000 to 350,000 gallons per year

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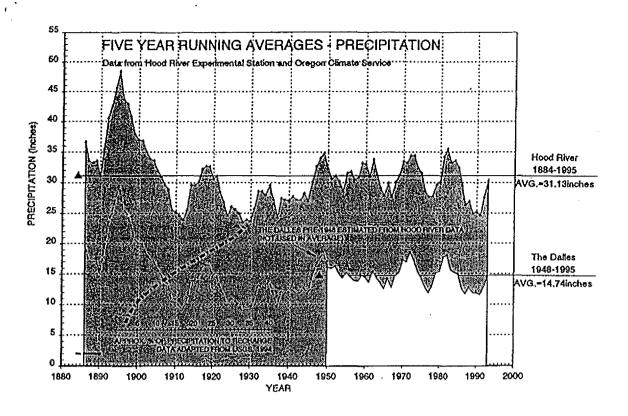


Figure 1. Precipitation for Hood River and The Dalles, Oregon, five year running averages.

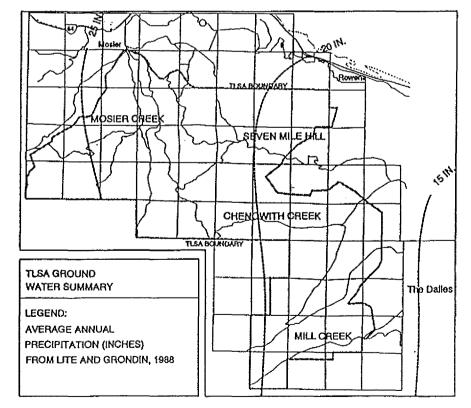


Figure 2. Average annual precipitation, TLSA (from Lite and Grondin, 1988).

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				•	•	
CALCULATION OF RECHA	rge					
	A Precipi-	B TO	c Recharge	d Recharge	CUBIC CUBIC	gallons gallons
	TATION	recharge	PER YEAR	PER YEAR	PERT	PER ACRE
mainen	PER YEAR		(INCHES)	(PEET)	PER ACRE	PER YEAR
EXAMPLE 	(Inches)		አ *B 	C/12 	D*43560	B*7.482
TLEA AVERAGE	20.0	30%	6.0	0.5	21,780	162,958
TLSA DRY CYCLE	16.8	261	4.4	0.4	15,856	118,633
NGS REPORT MAXIMUM		5.6	•		·	89,100
ngs report Minimum		5.6%				13,800
HOD THE OLD PARTITION		3.04				13,000
		·				
COMPARISON OF USAGE (RECHARGE/DOMES	PIC WELLS B	c		D	E
	DOMESTIC	ī	DOMESTIC		GALLONS	ALLOWABLE
	USE, GROSS	RETURN	USE, RET		PER ACRE	ACRES PER
	GALLONS/	TO	GALLONS/		PER YEAR	DOMESTIC
	YEAR ,	RECHARGE	YEAR		RECHARGE	WELL
	,		እ*(1-B)		(FROM ABOVE)	C/D
TLSA AVERAGE	200,000	30%	140,000		162,958	0.9
PLSA DRY CYCLE	200,000	26%	152,000		116,633	1.3
NGS REPORT HAXIMUM	191,625	0	191,625		89,100	2.2
ngs report hinihum	191,625	. 0	191,625		13,800	13.9
comparison of usage (_		_	va.
	λ	В	C		D	e recharge
	IRRIGATION USE, GROSS	return	IRRIGATION		GALLONS PER ACRE	recharge Acres
	GALLONS/	TO	use, Ret Gallons/		PER YEAR	TO SUPPORT
	YEAR	RECHARGE	YEAR		RECHARGE	ONE ACRE OF
	PER ACRE	TOTAL TOTAL	PER ACRE-		(FROM ABOVE)	IRRIGATION
	IBN NOW		A*(1-B)		(two mote)	PER YEAR [C/D

TLSA AVERAGE (16"PER ACRE)	434,555	30%	304,189		162,958	1.9
TLSA DRY CYCLE	516,034	261	392,186		118,633	3.3
(19*PER ACRE)						
	814,790	0	814,790		89,100	9.1

Table 1. Examples of recharge and discharge calculations using different assumptions.

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It is evident that there is a range of usage, but on the average over a large group, a figure of 100,000 to 300,000 gallons per year is probably a reasonable range.

Of the ground water used, a percentage of household waste water and lawn irrigation is returned as recharge. Designs for most domestic systems (in houses) assume an average volume of around 200 gallons per day per household (73,000 gallons per year) is produced as waste water. In addition, a small percentage of the water used in the lawn and garden will return as recharge to the aquifer.

The amount returned is extremely difficult to estimate, because it depends on precipitation levels, time of year, type of waste water, and the amount of water usage of the household. Under favorable conditions of rainfall, water use, soil type and other factors, 50% or more of water extracted from an aquifer may return as recharge (Stephens, 1996). However, because there is no data in the TLSA area that can support an estimate of this magnitude, it is better at this time to simply use the same percent of recharge that was used in the estimate of natural recharge.

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The calculations for usage can be compared with average recharge to yield an approximation of well densities (Table 1) which could perhaps be supported by the aquifers in the TLSA. In addition to these figures the estimates made for minimum to maximum elevations in the NGS, Inc. TLSA study (Kienle, 1995) are provided for comparison. There is a range of volumes presented; neither case can be definitively proven at this point in time.

There is a problem that appears at once; even at far lesser well density than the most conservative figures in Table 1, TLSA domestic wells show declines and some have to be deepened. This observation will have to be addressed before any ground water model can be considered acceptable.

Even with very conservative estimates for recharge such as those used in the NGS, Inc. study of the TLSA (Kienle, 1995), there is no indication that current levels of usage have exceeded recharge. The reason that a number of sections appeared to be in an overdraft situation was due to the maximum permitted water usage used in the model calculations (about 816,790 gallons per acre per year for sections with water right acres). This is far in excess of what has been documented as actual irrigation usage (Lite and Grondin, 1988, and Whiteman et al, 1994). The actual use of ground water in irrigation is summarized in the next discussion.

IRRIGATION USAGE

The same procedure used for domestic wells can be used when assessing irrigation usage versus recharge, Previous reports (Lite and Grondin, 1988 and Kienle. 1995) estimated actual irrigation use at about 1.1 to 1.5 acre feet per acre of orchard per year, or about 488,000 gallons per acre per year. This was based on an estimate of 36" of water required per year by orchard crops, 18" of which was supplied by rainfall in the orchard area around Mosier. The calculations shown in Table 1 assume that if the average rainfall is 20", average usage for irrigation would be around 16" of water per acre. The following calculations assume that the majority of ground water available for irrigation is replaced by diffuse recharge. It is likely that additional recharge by local sources such as perennial streams is available to the lowest aguifers in the TLSA. It is also important to note that a substantial fraction of irrigation (20-50%) is from surface water sources.

To reiterate; the central issue that needs to be examined is that of the declines and well deepenings observed in wells throughout the TLSA. A corollary observation that must also be addressed is that other wells do not seem to show the effects of decline.

At this point, it is necessary to briefly describe aquifer types and their characteristics. Once this information is presented, an assessment of the assumptions concerning recharge and discharge can be made.

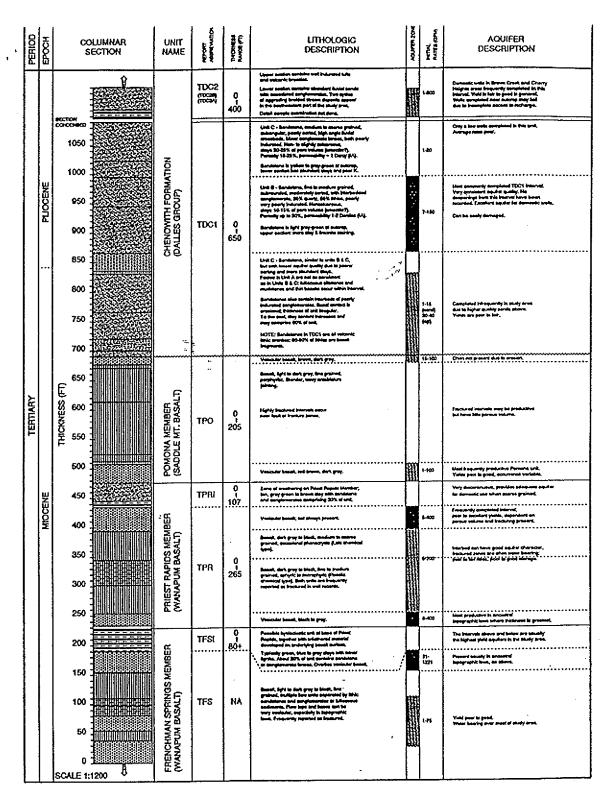
GENERAL GEOLOGY - AQUIFERS

The descriptions in this part of the report are drawn from a variety of sources, primarily Lite and Grondin, 1988. Kienle. 1995 and others which are listed at the end of the report text and from field work in parts of the study area. There are some indications that differences between basalt aguifers and sedimentary (sandstone and conglomerate) aguifers give rise to differences in water well performance. It is critical to examine the two aguifer types before looking at individual aguifer systems. In addition, there are some important differences among basalt aguifers which need to be introduced at this time. This discussion will be limited to the description of characteristics which affect aquifer behavior. Figure 3 is a columnar description of the sequence of various rock types found in the TLSA and contains brief descriptions of aquifer qualities.

BASALT AQUIFERS

Figure 4 is from the U.S.G.S. Columbia Plateau report previously cited (Whiteman, et al, 1994). It shows the internal structures in typical basalt flows and some of the physical characteristics, such as porous volume, which affect their performance as aquifers. In

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GENERALIZED STRATIGRAPHIC SECTION

TLSA, WASCO COUNTY, OREGON

Figure 3. Generalized stratigraphic section, TLSA, Wasco County, Oregon (adapted in part from Keinle, 1995, and Lite and Grondin, 1988).

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		,			
Flow top and base of overlying flow form interflow zone	Vesicuter top	PERMEABILITY LOW HIGH	POROSITY LOW HIGH		
Entablature	Fanning columns				
Hackly, slender columns					
Undulatory . Colomns	Relatively sharp contact providing columns Blocky joints Vesicular base				
Base Jase Pillow-Palagonite Complex	Chilled base as "Inciplent pilloy	nd we*			
Figure 4. Aquifer quality varia	tion in basalt flow units (diagram on left	t from Whiteman, et al	, 1994).		

general, the flow tops and bases, with vesicular (vesicles: openings left by escaping gases when lava cools), and other types of porous volume (breccias: broken rock fragments) can have both high porosity and high permeability. The entablature and colonnade portions of the flows have far less porous volume. Porous volume in these central parts of a lava flow exists mainly in fractures and is very low in comparison with flow tops and bases, in general. The interbeds of basalt flows consist of soils, sands and clays developed on top of flows and the clay-rich pillow palagonite complex formed when the base of the next basalt flow contacts water or moisture bearing soils and sediments.

The curves drawn in Figure 4 show diagrammatically how porous volume and permeability change through the basalt section. None of the section is usually entirely impermeable, but great variations occur from top to bottom of the flows. The best aquifers, which occur in vesicular and/or brecciated flow tops and bases, have internal variations which are also of significance. The porous volume can consist of two types of openings; 1) vesicles and interfragment porosity of breccias, and 2) the porous volume occurring in open fractures connecting them. These two features have very different hydraulic character.

Entablature and colonnade units seem to have very poor lateral (horizontal) permeability, but the fractures in them can have fair vertical permeability. Occasionally, if in the vicinity of a fault or fracture zone, these two basalt types can be completed as aquifers, but their long-term performance is questionable. The interbed sediments may also occasionally act as good aquifers, if they consist of well sorted sands or gravels.

The Pomona, Priest Rapids and Frenchman Springs basalts are the commonly penetrated water bearing units in the central and western parts of the TLSA. The most important differences among them are listed below and shown in Figure 3.

- Pomona (TPO)
- flow top is often eroded away, vesicular flow base is generally in the order of 5-15 feet thick
 canyon filling and restricted to lower elevations in the western part of the study area
- shows an intercalated relationship with Dalles Group sediments at its flow margins
- Priest Rapids (TPR)
- distinguished by a commonly very thick pillow palagonite (lava erupted into water or water bearing sediment) sequence at its base and well developed vesicular zone
- in some parts of the report area composed of

- two flow units; the interbed between them can be an adequate aquifer
- Frenchman Springs (TFS)
- At least three submembers occur in area: Ginko (oldest), Sand Hollow and Sentinel Gap
- frequently exhibits a very continuous, thick vesicular flow top in topographic lows
- highest yield wells in the TLSA are usually completed in the uppermost part of the Frenchman Springs, combined with the overlying Priest Rapids flow base
- Grande Ronde (TGR)
- very few wells completed in this unit; oldest and deepest basalt exposed in TLSA wells

SEDIMENTARY AQUIFERS

Two sedimentary formations act as aquifers in the report area; the Dalles Group (TDC) and various younger alluvial and flood-deposited sands and gravels, referred to as Quaternary alluvium (QAL) and glacial flood deposits (QGF). Most of the wells in sedimentary rocks are completed in the Dalles Group.

The primary difference between the basalt and sedimentary aquifers is illustrated in Figure 5. The basalts are rigid and brittle: they are easily fractured. The basalt flow tops and bases may contain vesicles or breccias which provide large porous volumes. Together with fractures, this type of rock is a high quality aquifer with high porosity and high permeability. On the other hand, basalt that is fractured but not connected to pore spaces such as vesicles, may have high permeability but very low porous volume. In comparison, sedimentary aquifers tend to be more uniform in porosity and permeability but with lower well yields than the best basalt aquifers.

The Dalles Group consists of several aggrading cycles of braided stream sandstones and gravels and associated floodplain deposits. It also contains ash fall tuffs and abundant tuffaceous material, particularly in the upper third of its thickness. In structure and organization of its rock types, it is very similar to the main producing section in Prudhoe Bay, North Slope, Alaska. Figure 6 shows the vertical sequence in this deposit as an illustration of the environment of deposition similar to that in the lower part of the Dalles Group in the TLSA.

Examination of samples and well records in the Dalles Group also indicates that at the base of the braided stream cycles (Chenowith Creek-TDC1 and Brown Creek-TDC2A and TDC2B, discussed later in this report), permeability and porosity are often very good and fairly consistent across the aquifers. The highest

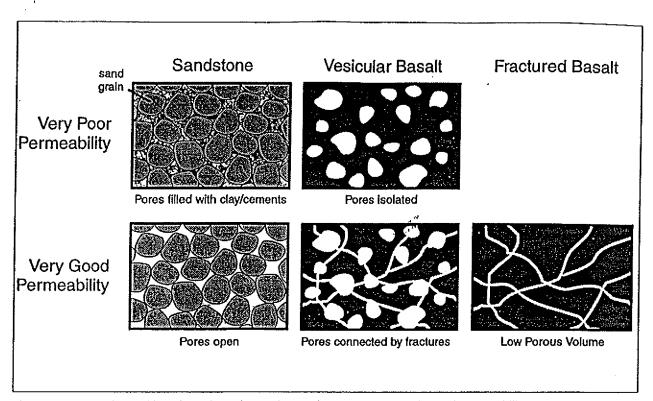


Figure 5. Comparison of basalt and sandstone internal structures, porosity and permeability.

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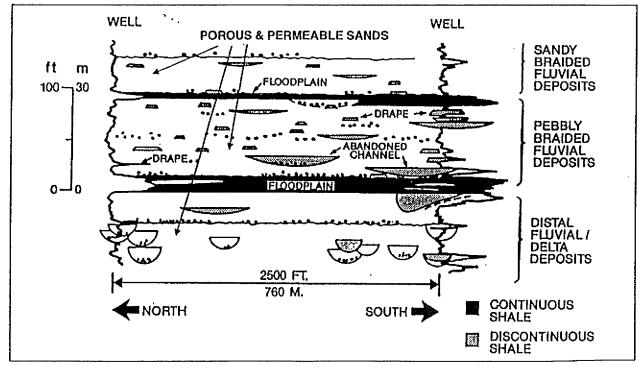


Figure 6. Distribution of rock types, typical deltaic/braided stream association as an analog to Dalles Group aquifers. Diagram is of the Ivishak Sandstone, Prudhoe Bay, North Slope, Alaska (adapted from Atkinson, et al, *in* Barwis, McPherson and Studlick, 1990).

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quality basalt aquifers exceed the Dalles Group aquifers in both yield and volume of water in storage per unit area. However, for domestic well development and possibly for irrigation, the Dalles seems to display very stable aquifer behavior. Most of the subunits mentioned above are exposed in layers in the weathered cliffs adjacent to The Dalles, Oregon and in the southern and western part of the study area.

TLSA AQUIFER SYSTEMS

The three maps on the following pages show depth to aquifer, depth to static water level and water yield in the TLSA. T2NR12E sections 9, 16 and 19 have some of the deepest wells in the TLSA. The Mill Creek, Chenowith Creek and Mosier Creek valleys have the most productive wells in the area. The variety seen in these maps can be attributed to the occurrence of water in separate aguifer systems.

A collection of 28 cross sections was constructed to assist in the identification of aquifer systems in the review area. Seven of these sections extend into areas beyond the TLSA. Cross section locations are shown in the location map at the beginning of this report. A selection of the cross sections is used to illustrate points in the remainder of this report.

Formation boundaries were identified using previous studies, surface exposures of the formations and rock types identified in the well records. Aquifer systems were identified using:

- similar rock/formation types,
- similarities in static water level of the aquifers,
- aguifer continuity, and
- similarities in yield, decline and other performance criteria.

When examining the cross sections the following items are of importance:

- Each section is exaggerated vertically; the actual slope of the surface and tilt of the subsurface formations are much more subdued than shown.
 The sections are exaggerated vertically so that changes from well to well may be more easily seen.
- Patterns on the vertical columns representing a well are based on rock type as described by the driller. A legend describing these patterns is shown in Figure 3 and is also included at the beginning of Appendix B. Speckled patterns are sandstones or conglomerates, generally found in the Dalles Group, alluvial deposits or in interbeds

between basalts. Vertical banded patterns are basalts and horizontal banded patterns are usually clays or interbedded clays and basalts. Hexagonal dotted patterns are vesicular basalts.

 Water producing intervals are indicated with this symbol next to the well column. The static water levels are shown in blue. For more details as to symbols in the cross sections, please refer to the cross section legend at the beginning of Appendix B. The data presented is not altered materially from the original driller's description.

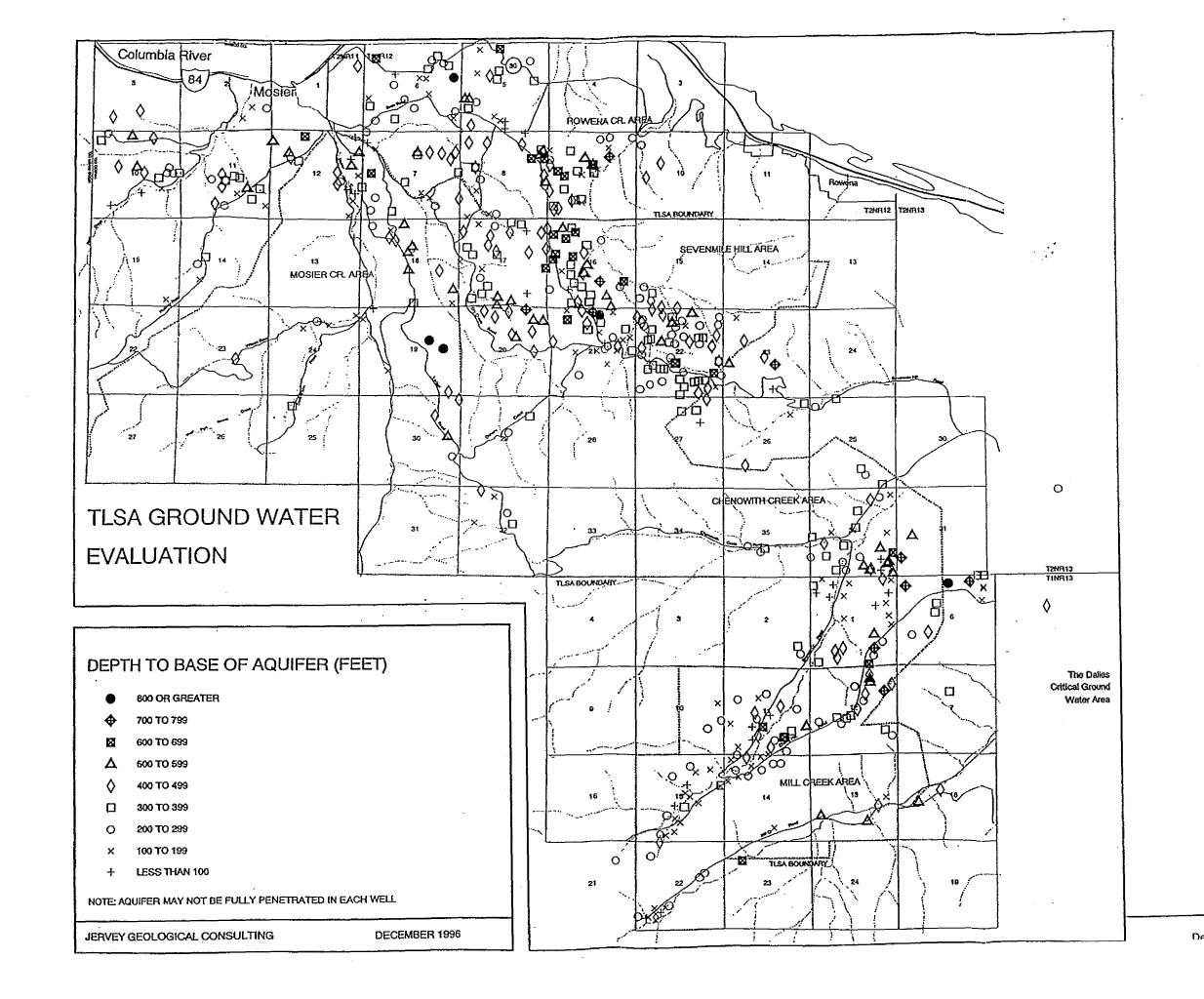
Cross section 26 is a detail section and differs from most of the other sections in that it has very few wells and more descriptive information. However, it is a good example of the kinds of situations that can be discovered by cross section construction. The section is located immediately west of the western TLSA boundary and has a well belonging to a TLSA Steering Committee member on it (W. Huskey).

The aquifers on the section are in basalts; the wells penetrate three separate aquifer systems. The systems can be identified by the change in elevation of the static water level and the change in position of the aquifer zone itself. To the south (right) side of the section, a well penetrates the Pomona, Priest Rapids and the top of the Frenchman Springs basalts. It is water productive only in the Frenchman Springs and is distinguished by a high water column and good production characteristics (yield approximately 25 gpm, drawdown unknown). This aquifer is separated from the adjacent well's aquifer by a fault and there is an almost 200' difference in water level between them.

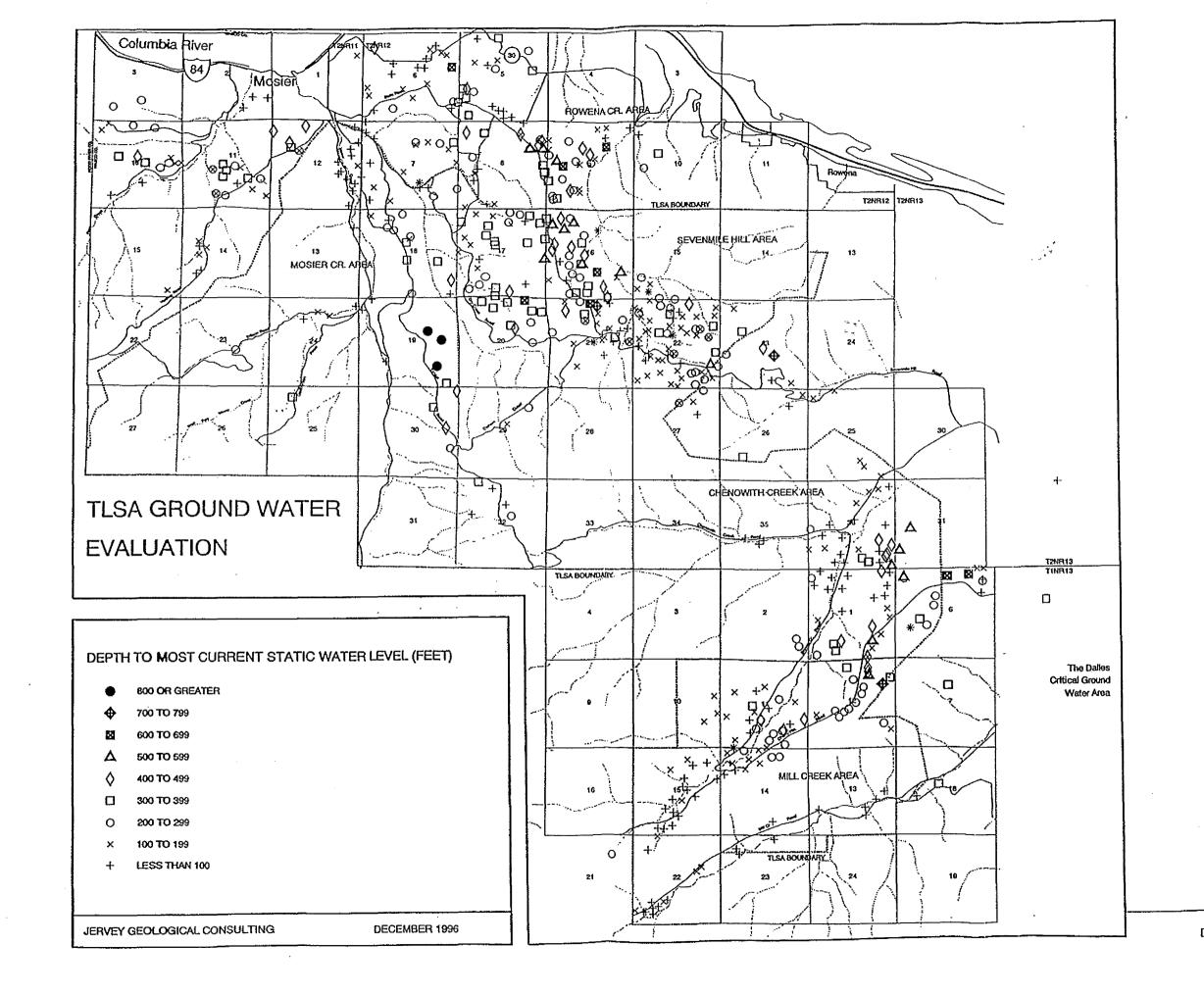
The two central wells are in the same aquifer and are quite similar in other respects as well as static water level. It is interesting to note that the LeSasso well was originally drilled to the Pomona/Priest Rapids interbed in 1976. At some point not long afterwards the well was deepened to the Priest Rapids/Frenchman Springs interbed. At that time there were only three residences in the entire section and no irrigation wells. Two other wells 1.5 miles away in the Rocky Prairie area are similar to this one (deepened from the Pomona before use). The Pomona in this area is well exposed and forms the cliffs surrounding the town of Mosier. It appears to fill and empty at the outcrop on an annual basis. In wells such as the LeSasso well, in January (when the well was drilled) it would appear to be an adequate aquifer; by August it would be effectively drained. In the adjacent Mazeski well, this zone was not water bear-

The Huskey well, on the far left side of the section, benefits from being immediately adjacent to a canyon flowing into Rock Creek. Static water levels often rise

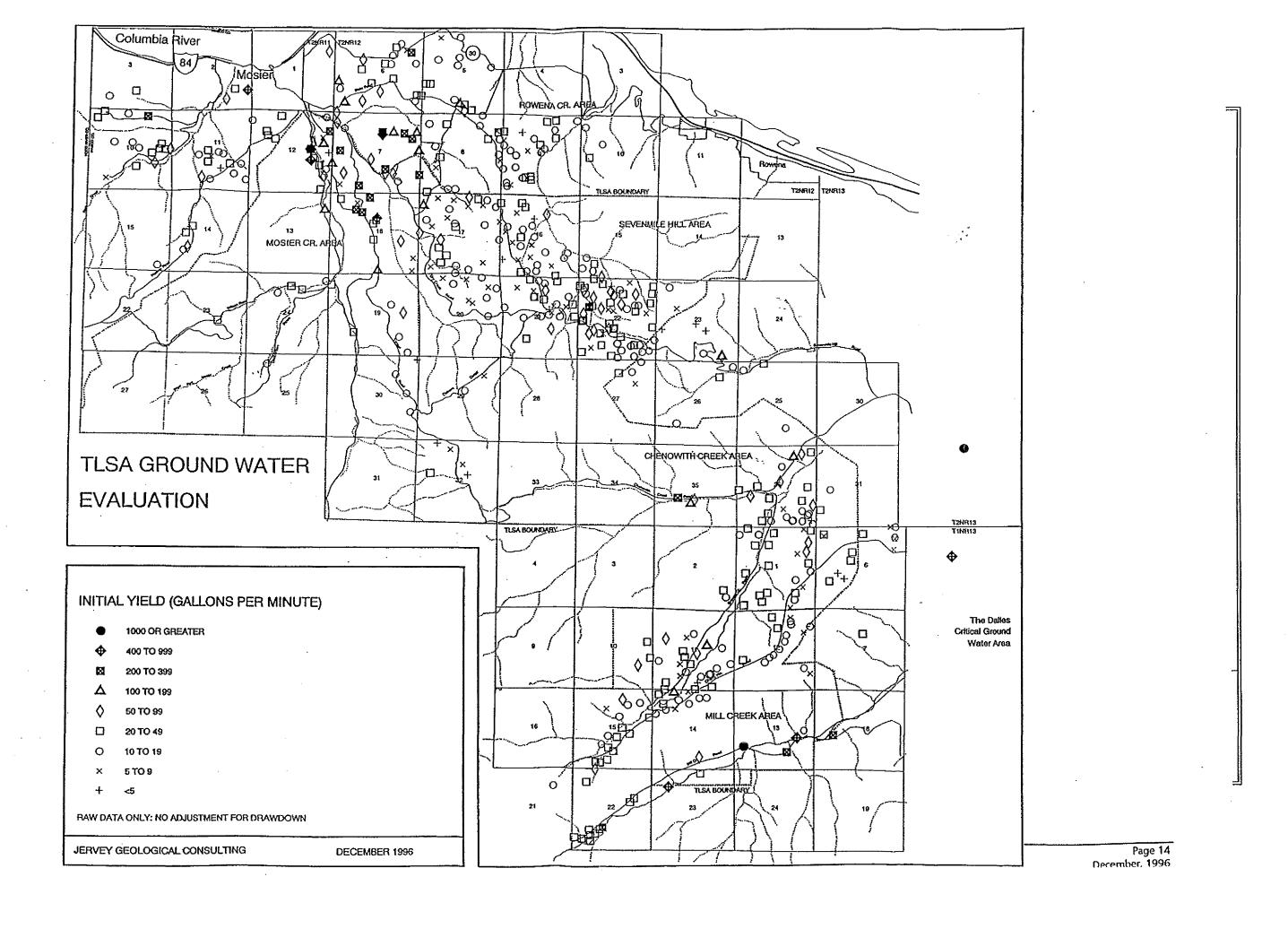
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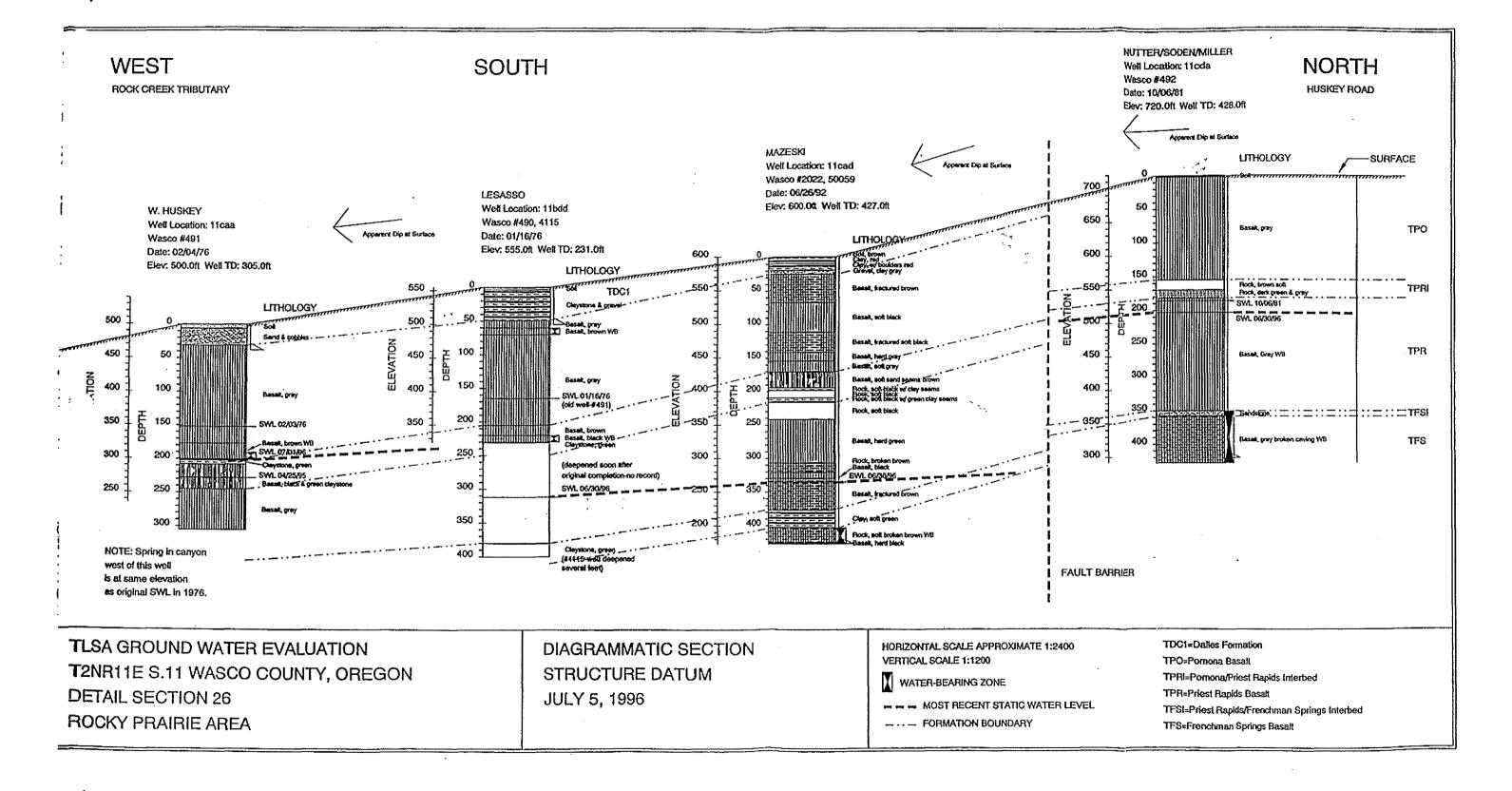


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as such a feature is approached. It also appears to be affected by a local fracture trend which delivers water to the wellbore immediately after a rainfall event. The drawback to being in this position is that the behavior of the static water level can be quite erratic; the well is drained in dry seasons as quickly as it fills during wet cycles and the volume available in summer months may be unreliable.

The information above is somewhat interpretive and other investigators may come to different conclusions about this material. But it is important to do this kind of correlation in order to understand the relation of one well to another and the position and distribution of each aquifer. If pump tests were performed on these wells, a great deal more information would be gained by identifying which wells are in direct communication.

Table 2 is a summary of the aquifer systems in the TLSA area and the map on the page following shows their areal distribution. The system names are based on common geographical names. Most of the abbreviations refer to the main producing formations, except in systems where several formations are productive. As can be seen in this table, each system also has characteristic static water level declines and types of well deepenings (or lack of them).

The aquifer systems described are usually separated from other systems by changes in topography or faults. The position of the static water level within each of them is roughly correlative to the surface elevation at the well.

Figure 7, a plot of static water level versus elevation illustrates the point made above. The aquifer static water level elevations show a very close correlation with surface elevation of the well. Each aquifer system develops a gradient unique to its members, but the overall picture is one of aquifers very closely tied to ground level and existing in specific compartments separated by lateral changes (faults, topography, etc.). This is one reason why use of diffuse recharge is probably appropriate in the calculation of the TLSA water budget. Almost all of the TLSA aquifers are water table aquifers. Even the artesian flowing wells seem to be closely linked hydraulically to surrounding water table aquifers above them.

It is perhaps easier to see the relation between ground level and static water level by quickly reviewing the cross sections in Appendix B. In these sections, the static water levels, where continuous, show a distinct relation to ground surface elevation.

STATIC WATER LEVEL (SWL) CHANGES

Table D (Appendix A) contains data from all multiple measures recorded in and adjacent to the TLSA over the last 40 years. Many measures were made by a U.S.G.S. study in 1979 and by Oregon Water Resources Department in the period 1981-1986. The long term hydrographs for wells within the TLSA are included in Figures 8A-8E of this report.

The values shown in Table D are somewhat subjective in that some consideration of time of year of measurement and length of time between measurements has to be made in order to arrive at an estimate of decline or average annual fluctuation. This may introduce error in the estimates of as much as +/- 10-20 feet. But, in general, the overall trend of decline (or lack of it) and annual variation will probably yield the same picture when the group is considered as a whole.

The most striking feature of this collection is the frequent occurrence of SWL declines in the basalt aguifers. All but two of the 21 hydrograph wells in basalts and about 64% of the multiple measures in basalts show declines from 15 to 307 feet from the initial SWL, with a most frequent range of 30 to 80 feet of decline. The amount of decline often appears to be independent of time of drilling, rate of water extraction or height of the water column. Declines in SWL occur in areas with only a few wells per section, early in the history of ground water development and it occurs in recently drilled wells in densely drilled areas. In contrast, about 36% of measured basalt aquifer wells and almost all Dalles Group aguifers do not show declines greater than might be expected from seasonal fluctuation, even in areas of fairly dense drilling.

A corollary and equally important observation is that most of the basalt wells that show significant declines reach a stable position at some point during the life of the well. The position of stabilization is most commonly 30' to 80' below the original driller's static water level. The hydrographs in Figure 8a through 8e illustrate this observation. (Figures 8a-8e show summary hydrographs; individual hydrographs are available in previous Committee documents or in Kienle, 1995.)

Basalt aquifers do not show large declines if:

- they are extremely shallow (10 to 80 feet deep) and in a catchment position (shallow basin, or in an seasonally active drainage),
- occur immediately below a sandstone such as the Dalles Group or a Quaternary gravel or sand,
- occur immediately below a thick clay unit with overlying basalt aquifer units that are not saturated.

These three situations account for all the basalt aquifers which do not show large initial declines. The collection of observations suggests, but does not

(all data in imperial units)

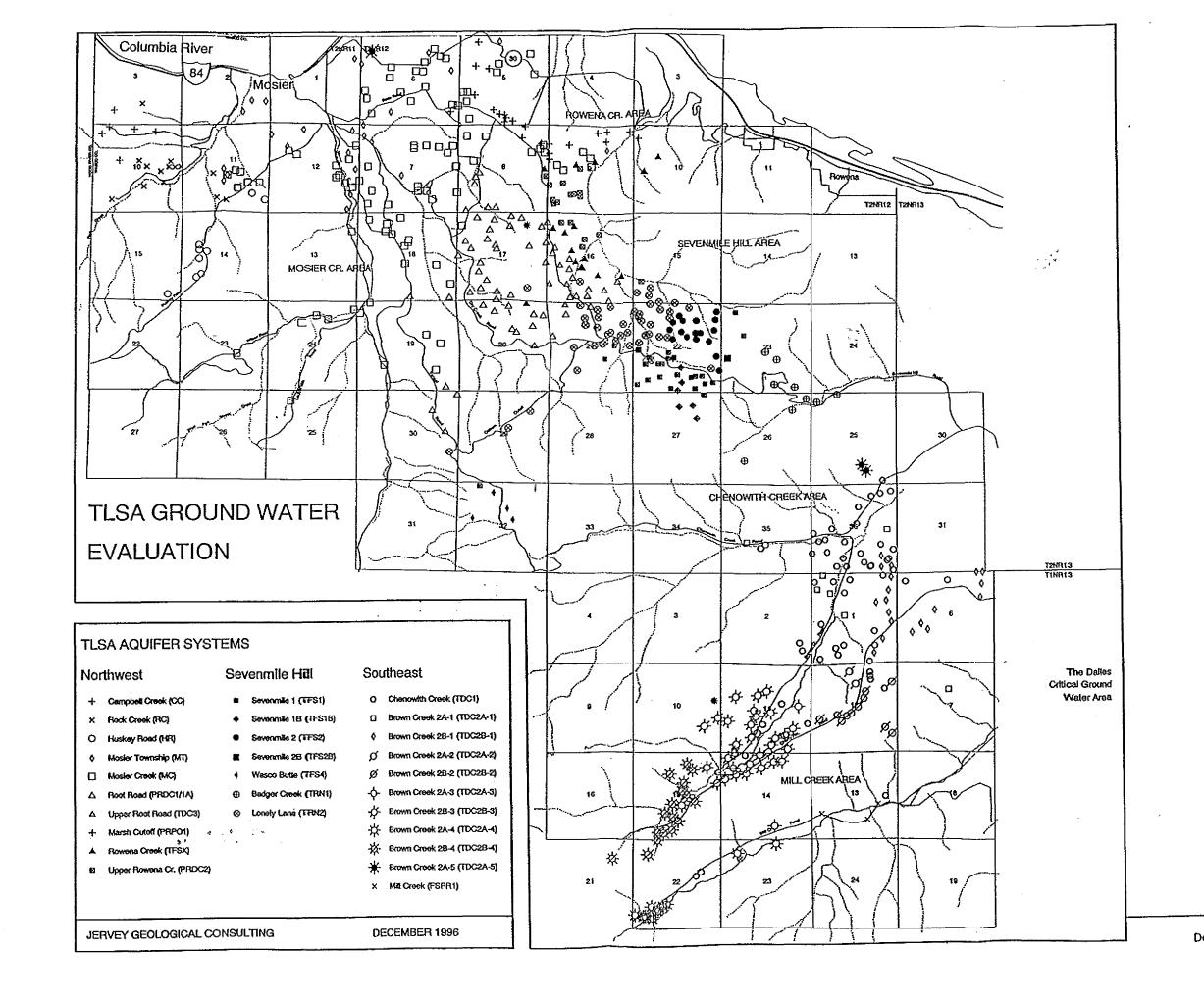
												OP			
	HAJOR	APPROX			AVG	λVG	AVG	λVG	# OF			WELLS	AVG	λVG	
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4 ABBREVIATION	TIONS	WELLS	BIEA	PTTG	GPH	ELEV	SWL	CITHH	нај і	HOD I	HIH	BWLS	ewl.	P	сонивит
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Campbell Creek (CC)	TFS		1005		14	778	230	167	0	0	8		-32		1 WELL @ 200GPH CHITTED
Rock Creek (RC)	TPR	14	719	286	30	545	174	113	0	1,	4 0	4	-26	56	
Huskey Road (BR)	IDC	9	979	236	26	857	122	90	٥.	0'	1	6	5	58	
Hosier Township (HT)	FSPR	23	422	326	32	216	206	120	0	0	0	9	0	4	1 WELL @ 400GPH ONLYTED
Hosier Cr (HC) Low Rate	PSPRPO	68	669	360	22	423	242	119	5	5	6	13	-50	58	HIGH VARIABILITY: SWL CHNO
Momier Cr (MC) Eigh Rate	PSPRPO	26	548	401	219	419	130	204	ō	0	4	16	-60	61	HIGH VARIABILITY: SVL CHRO
Root Road 1 (PRDC1)	PRDC	51	- 1110	399	15	816	291	67	2	1	0	6	-1	60	2 ANOMALOUS EWLS OMITTED
Root Road 1A (PRDC1A)	PRDC	13	1323	386	17	1024	299	67	1	0	0	o	*	60	SINILAR TO PROC17
Upper Root Road (TDC3)	TDC	5	1317	149	9	1219	98	51	٥	0	0	1	-1	53	
Marsh Cutoff (PRPO1)	PRPO	23	755	225	21	652	104	122	0	3	0	2		56	SWL CHANGES: -257, -12
Rowena Creek (TFSK)	TPS	14	1117	546	13	653	463	96	0	0	0	0	*	61	
Upper Rowena Cr. (PRDC2)	PSPR	17	1078	359	18	821	257	102	1	0	0	1	-58	59	
SEVERNILE HILL Lonely Lane (TRH2)	rspr	47	1469	 354	28	1259	210	141	 o	 1	 2	. 	-50	 57	HIGH VARIABILITY: BWL CHIC
Sevenmile 1 (TFS1)	TPS	25	1718			1561	156	134	0	1	0	2	-62	55	
'evenmile 1B (TFS1B)	Trs	,	1792	326		1689	103	223	0	0	2	4	-22	53	
evenmile 2 (TFS2)	TFS	18	1711			1533	178	120	0	0	0	8	-18	60	
Sevenmile 2B (TFS2B)	TFS	4	1775			1619	156	127	4	0	0	0		53	ALL 4 WELLS: DEEPENED
Masco Butte (TPS4)	TPS	4	2021	228	10	1907	115	114	0	0	0	0			SINILAR TO TES1 & TPS2?
Badger Creek (TRN1)	TYS	- 10	1261	354	21	1009	272	93	1	1	0	0	*	*	SIMILAR TO TRN27
SOUTHEAST TLSA		.							•						
Chenowith Cr. (TDC1)	TOC	61	760	395	30	502	262	136	0,	1	4	6	-3	58	
Brown Creek 2A (TDC2A)	TOC	29	620	220	44	699	121	93	2	1	0	4	2	58	
		82	1038	217	20	903	135	88	3	3	1	15	2	56	1 SWL CHANGE CHITTED(+122
Brown Creek 2B (TDC2B)	TDC	02													

NOTE: COMMENTS ARE IN REGARD TO CALCULATION OF AVERAGE VALUES OR ARE OBSERVATIONS ABOUT AQUIFER CHARACTERISTICS

FOR COMPLETE DATA SEE TABLES IN APPENDIX A

Table 2. Summary of characteristics, aquifer systems, TLSA, Wasco County, Oregon.

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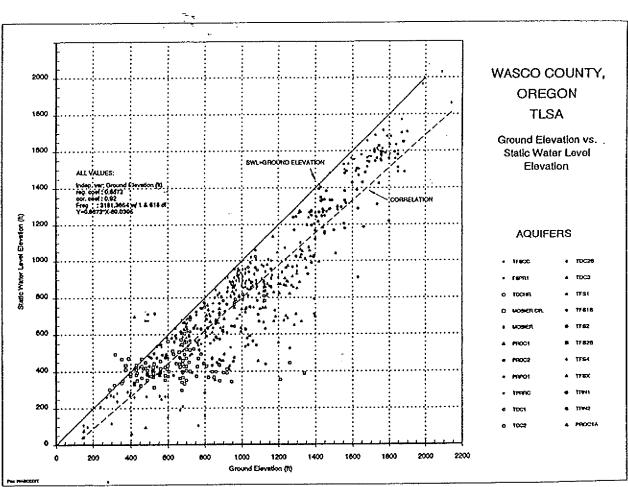


Figure 7. Static water level elevation versus ground elelvation, TLSA, Wasco County, Oregon.

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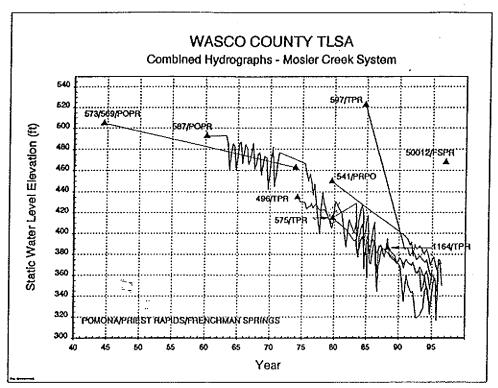


Figure 8A. Combined hydrographs, Mosier Creek System, TLSA, Wasco County, Oregon.

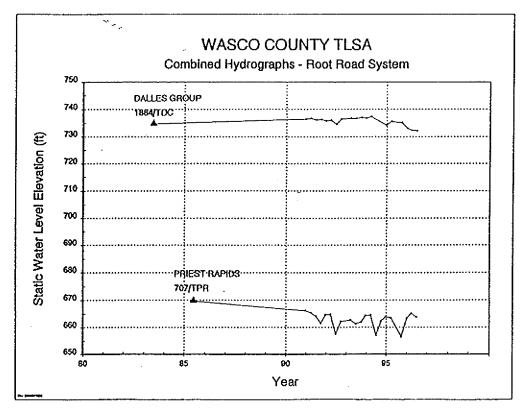


Figure 8B. Combined hydrographs, Root Road System, TLSA, Wasco County, Oregon.

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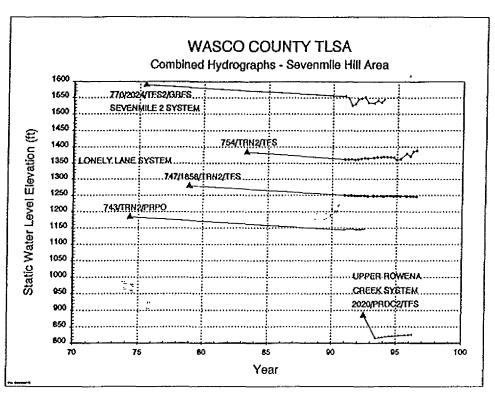


Figure 8C. Combined hydrographs, Sevenmile Hill Area, TLSA, Wasco County, Oregon.

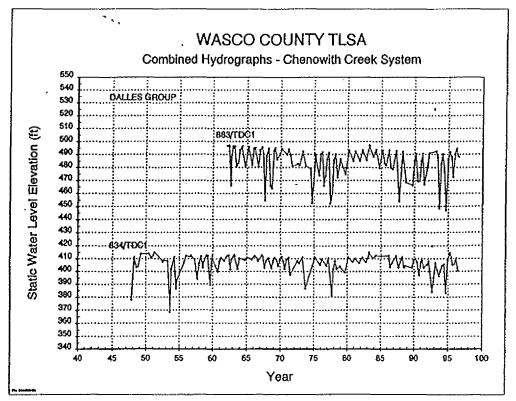


Figure 8D. Combined hydrographs, Chenowith Creek System, TLSA, Wasco County, Oregon.

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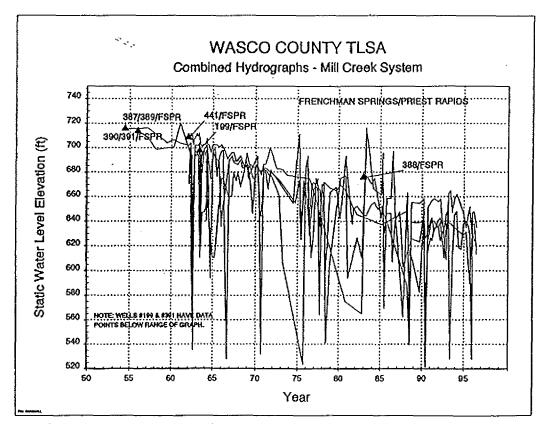


Figure 8E. Combined hydrographs, Mill Creek System, TLSA, Wasco County, Oregon.

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prove, that the initial declines seen in basalt aquifers may somehow be related to their internal structure. the dual porosity found in fractures and vesicles or breccias. The diagram in Figure 4 is an illustration of a possible explanation for the rapid initial declines seen in some basalt aquifers. If the zone of saturation below the vadose zone (the transition from no saturation to 100% saturation) occurs in the entablature or colonnade parts of a basalt, the actual volume of water contained in the highest part of an aquifer may be very small. This part of the basalt may have very little horizontal connection with the rest of the aquifer. As the well is produced, decline in this section of the basalt may only recover under conditions of very high recharge. Each time the well is produced the water level will drop slightly and not recover until a point is reached that can be supported by the high volume porous part of the basalt aquifer. The fact that large declines are not seen in basalts that are overlain by Dalles Group or alluvium suggests that this explanation may be valid for some basalt aguifers, particularly those at higher elevations.

An alternative or possibly contributing explanation is in the normal response of fractured reservoirs to fluid withdrawal. The shape of the pressure sink around a well in a fractured rock is often one that shows a rapid but small drop of very large radius, and afterwards very little change in static water level while pumping. Figure 9 is a display of the data on two basalt aquifer tests presented in the Lite and Grondin 1988 report. The recovery curve is roughly an inverted mirror image of the decline during pumping. The shape of the build up curve, shown in Figure 10, indicates that recovery to original static water level may take much longer than the pumping time interval.

The decline in SWL may not be easily detectable after any one pumping period, but during seasons of heavy use, each time the well is pumped, the static water level will fail to rise back to its original position. Over a year the discrepancy may be large (10-20 feet) and unless the well is shut in for a long time, this process will continue until the fracture system pressure drops and equilibrates with the matrix (pore volume) pressure. At this point the well will maintain a reasonably constant static water level, if the volume extracted per unit time remains constant. Figure 10 shows a different type of plot with a logarithmic scale which allows for analysis of aquifer character. The change in slope seen in the Pomona test may be the pressure decline encountering a barrier or it could be the transition period before the fracture system reaches equilibrium with the porous matrix.

The hypotheses above are not necessarily correct. It may simply be that the basalt aquifers have poor

storage volume and/or access to recharge and consequently are declining and will fail in the near future. However, there are a few indications that this is not the case. These include:

- the observation that many hydrographs show static water level decline to a specific level, followed by stabilization,
- the continued drilling of new wells which appear to encounter original or near original aquifer pressures (suggesting that SWL declines are tied to individual wellbores), and
- the overall stability of static water levels in each aquifer system over the past 40 years

Each of these points will be illustrated with a specific example.

Figures 8a-8e contained all hydrograph curves in and adjacent to the TLSA. The Mill Creek, Dalles Critical Ground Water area, and Sevenmile Hill curves have declined to specific positions and are not, in general, showing rapid decline at this time. A few of the Mosier Creek wells have reached such an equilibrium position; the rest of them have not been measured for a number of years and cannot be assessed. The Chenowith Creek and Root Road hydrographs are not indicative of a rapidly declining systems.

Almost every cross section in Appendix B that displays basalt aguifers shows at least one example of new wells being drilled adjacent to older wells with higher SWL than the older wells which have demonstrated declines. Figure 11 shows 3 wells in T12NR12E Section 7. Mosier Creek System. The oldest well (#569/573 Root) has developed a cone of depression that makes its static water level lower than the other two, younger wells. The difference between the SWL in the Root well and the Reeves well is around 50 feet. Many of the cross sections show examples of this situation. In these sections, an older well is displayed adjacent to a well drilled long afterward. In many cases, even though the wells are not separated by great distances, the newest well shows a higher static water level than the current SWL of the older well. This suggests that declines are directly the result of producing the well and are not perhaps representative of the state of the aguifer as a whole.

Figures 12 and 13 are displays of the static water levels in the TLSA aquifer systems versus time. The thin lines connecting points are multiple water level measurements in single wells. It is apparent that many of the basalt aquifer systems have wells which show declines. However, the trend of initial static water levels in all of the TLSA aquifer systems has not shown any correlation with time. In other words, there is no

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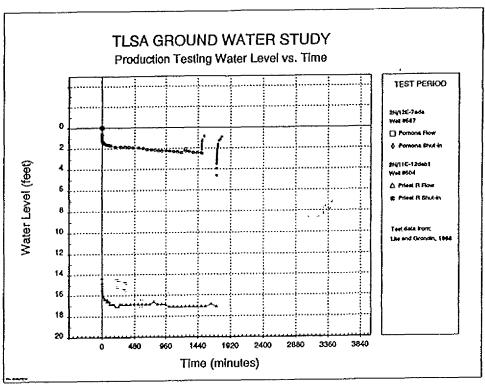


Figure 9. Pomona and Priest Rapids pump test data, Mosier Creek System (data from Lite and Grondin, 1988).

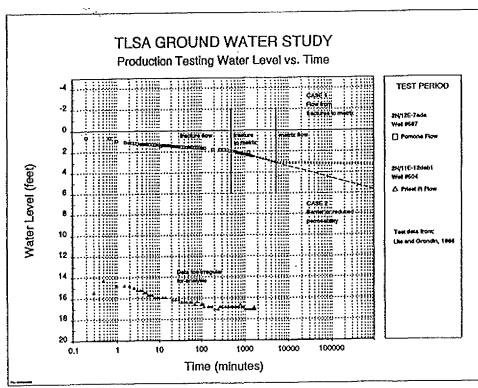


Figure 10. Logarithmic plot, Pomona and Priest Rapids test data, Mosier Creek System (data from Lite and Grondin, 1988).

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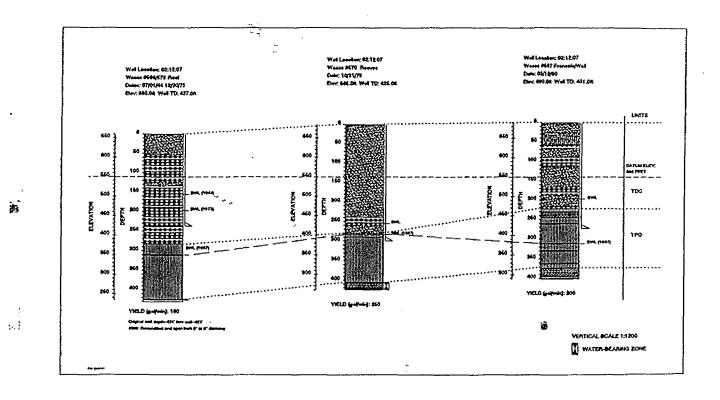


Figure 11. Static water levels, Mosier Creek System, TLSA, Wasco County, Oregon.

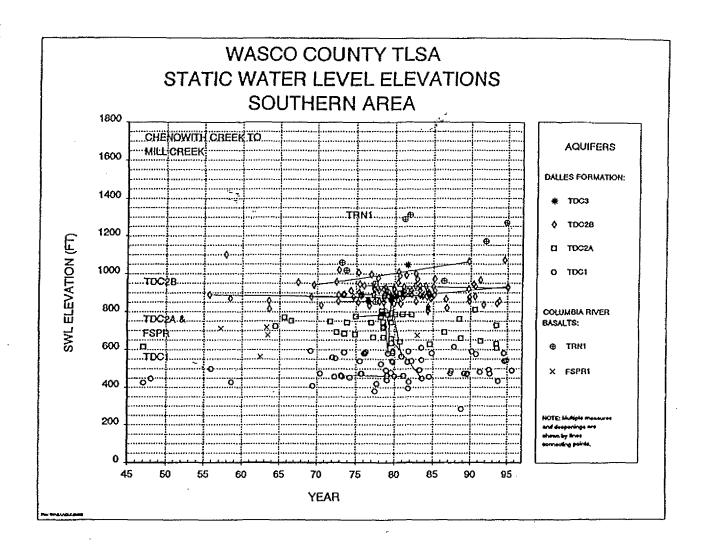


Figure 12. Initial static water level elevations versus time, TLSA southern area. Multiple measures connected with a thin line.

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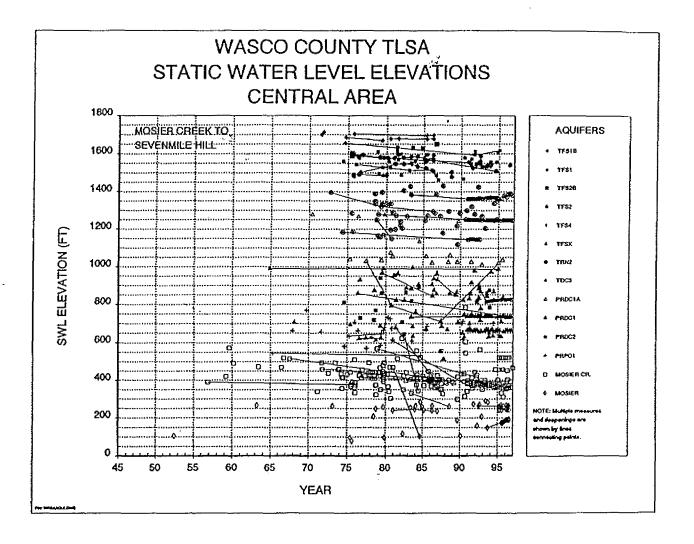


Figure 13. Initial static water level elevations versus time, TLSA central area. Multiple measures connected with a thin line.

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significant increase or decline in any of these systems (this also implies that no appreciable co-mingling is occurring between systems). A minor exception to this summary is the Sevenmile Hill TFS2B aquifer. This aquifer is very shallow, of limited extent and three out of four wells in it were deepened to the Sevenmile TFS2 system.

Another significant observation is that in a few wells, recovery to original static water levels has occurred in basalt aquifers with large initial declines. It is notable that only in particular cases does the high rate of initial decline continue, resulting in aquifer failure. Most of the wells showing large declines continue to provide water in a satisfactory manner. The specific reasons for aquifer failure will be discussed in the next section.

In order to assess the previously mentioned observations, it would be useful to look in detail at how the static water level reacts to production and/or rainfall volumes in a well where there is a fairly complete set of data. The Chenowith Co-op Wells #1,2 and 3 provide about 300,000,000 gallons of water per year to customers. Most of the production is from Well #3, which is near The Dalles Racquet Club. Wells #1 and 2 are twins (drilled side by side) and are located a few city blocks from Well #3. The wells are completed in the Priest Rapids/Frenchman Springs basalts and are shown on Cross Section 22. They are very similar to the irrigation wells in Mill Creek (Cross Section 6), excepting that the water column in the Chenowith wells is much smaller. The Chenowith wells are part of the Dalles Critical Ground Water system.

The curves in Figure 14 cover a long time period during which production of water from these wells rose from about 200 million gallons per year to 300 million gallons per year. The first 13 years of production saw a rapid decline of about 50 feet in static water level. Over the next 30 years, static water level seemed to reflect the level of production rather than to decline. In 1975, production was estimated at about 250 million gallons/year. In 1994, production had risen to almost 300 million gallons/year and the stabilized water level dropped, but did not decline appreciably after the initial drop. A point of interest; the bulge in the static water level curve beginning in 1987 does not correlate with rainfall volume during or immediately before that time period.

A more detailed examination of well data is shown in Figure 15. The curves for water level, rainfall and production all seem to have a relationship (although due to time lag, it cannot be quantified easily). The peaks of rainfall, water level and the lowest production volume seem to occur at about the same time. Whether the responses on the water level curve are

due to rainfall or production recovery is difficult to say. It may be that both factors affect the water level in this well. It is notable that some of the recovery curves begin before the beginning of increased rainfall. This may mean that the shut in or low production period allows the water level to recover and that this water level increase may be primarily a build up rather than a response to new injection of water volumes after rainfall.

Another example of the water level response to water production volume in basalt aguifers occurs in a very different type of well; the domestic well #492 in Cross Section 26 shown previously in this report. This well had an original static water level of 186'. It was drilled in 1981 and only used intermittently for many years. For most of its early history, there were only a few wells in the section, all of which were domestic wells. In 1995, the next static water level measured was 201'. For most of that year, the water level stayed within one foot of that measure. At that point only one household was using the well on a full time basis. In late 1995, another household was added to the well system. The water level immediately dropped to 204'. Subsequent measures throughout 1996 remained very constant at or near that value.

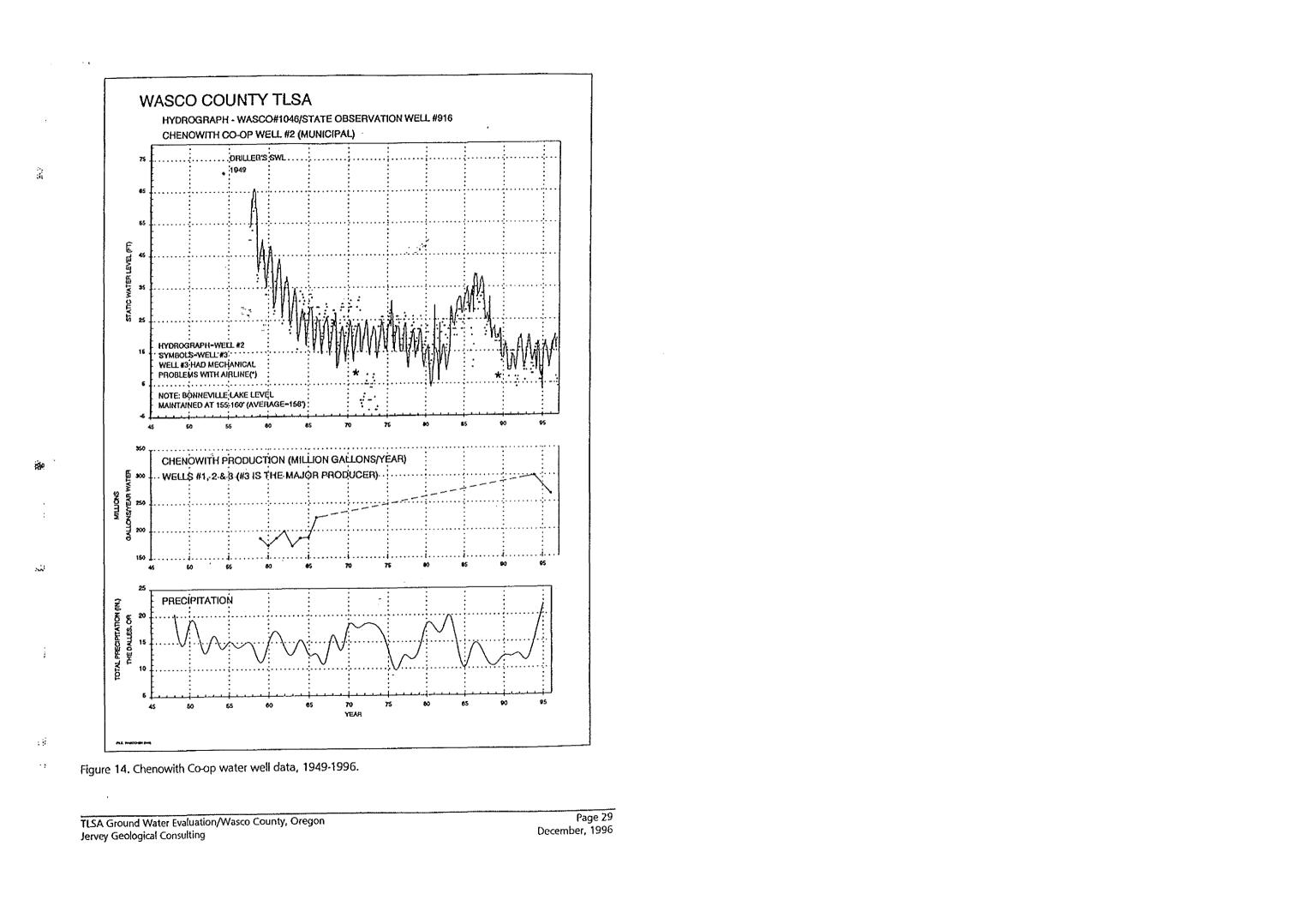
The point of this discussion is that the specific stable static water level for a particular well may depend entirely on the volume extracted per unit time. If the volume produced is increased, the water will drop to a new equilibrium position. If the production volume is reduced, the water level will show an immediate return to a higher position. The amount of water that can be extracted depends on the porosity and permeability of the specific aquifer and the rocks above it. If the production volume exceeds the capacity of the well, the aquifer will fail in the vicinity of the wellbore, but a shut in period will allow it to recover.

DEEPENED WELLS

Wells which are deepened occur throughout the TLSA, but are most numerous in several areas. The common reasons that a well is deepened are

- land owner wishes to access a larger supply of water,
- the shallowest aquifer present shows a reduction in rate and static water level to the point where deepening the well is required to maintain water in the wellbore, or
- collapse and/or caving of the wellbore damages its ability to provide water

The second reason above has the most interest in the evaluation of ground water supply in the TLSA. A



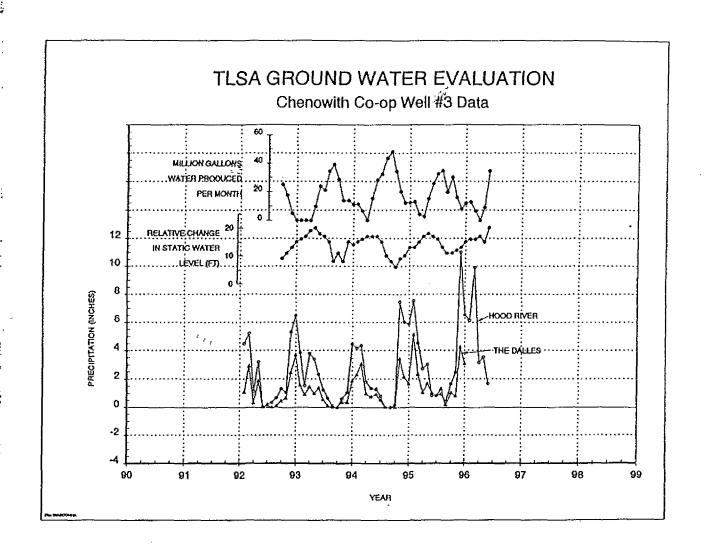


Figure 15. Monthly detail, Chenowith Co-op water well data, 1992-1996.

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similar interest pertains in wells that have had multiple static water level measures over time and show significant decline in static water level (>30').

From the previous discussion on basalt aquifer initial decline, it is apparent that in many basalt wells enough water column must be available to accommodate the initial decline that many of them will experience. In many instances of deepened wells, the original well did not penetrate enough aquifer thickness to support water production over time. In these wells, deepening is required to more fully expose the aquifer system to the wellbore. In other instances, the entire system is abandoned and the well is deepened to a new aquifer system. It is now necessary to review available data and summarize how many wells of each type exist and the aquifers in which they tend to occur.

The 58 deepened wells examined may be categorized as follows:

- Minor (22 wells): 3 to 50 foot increase in well depth
- repairs damage through caving or extended use
- very little to no new aquifer thickness is exposed
- static water level does not change
- may be considered well rejuvenation
- Moderate (17 wells): 20 to 250 foot increase in well depth
- repairs damage due to partial penetration
- exposes more central part of aquifer system
- static water level change is minor and remains within the same aquifer system
- Major (19 wells): 200 to 600 foot increase (or more) in well depth
- abandonment of original aquifer system
- static water level is 100 to 400 feet lower than in original well
- represents a significant failure of shallowest aquifer system.

The deepened wells are listed in Table E (Appendix A). Minor and moderate deepenings may be regarded as fairly normal occurrences in the development of a ground water resource. They are only of concern when the overall rate or percentage of them sharply increases over a particular time period. This may signal the stressing of the shallow ground water systems.

As is shown in Figure 16, deepenings in the TLSA area have occurred at a fairly constant percent of total wells drilled through the history of water well development. It should be noted that wells drilled during high rainfall cycles may have a tendency to be deepened more than wells drilled during normal or dry cycles.

Major deepenings are of serious concern. If no other explanation for them is identified, they signal failure of the shallow aquifer and depletion of the ground water resource. However, in the case of most of the major deepenings within the TLSA area, an explanation for failure can be demonstrated.

The following conditions may cause failure of the shallow aquifer. Each of them is illustrated by a cross section in Appendix B showing the condition described:

1) POOR PERMEABILITY AND/OR POROSITY IN THE VICINITY OF THE WELLBORE

Aquifers are not uniform throughout their occurrence. For a variety of reasons, internal variation within them is normal and can be expected. In some areas. poor performance of an individual aquifer can be identified and mapped. A good example of this occurs in the northern part of the ridge between Mill Creek and Brown Creek and is shown in the northern end of Cross Section 58. The Brown Creek-TDC2B aquifer (Dalles Group) is a frequently completed unit in this area. However, northeast of T1NR12E Section 11, it gains in clay content (clay lenses) to the point that in some cases, wells were not even completed in this zone, but were drilled deeper to the TDC1 aguifer. Other wells completed in this the TDC2B were later deepened, probably because of insufficient water volume. The TDC2B in this area also has the problems mentioned in #2 and #3 below.

2) DESTRUCTION OF ORIGINAL AQUIFER CONDITIONS BY FRACTURING OR FAULTING

Faults and fractures can be very detrimental to aquifer performance in the following ways:

- Plugging of porous rock by deposits of minerals resulting in low porosity and permeability and poor interconnection with the main body of the aguifer.
- In contrast, fracturing may be seen as an enhancement to aquifer permeability in fault/fracture zones which are not mineralized. However, if it is extreme and continues to an adjacent canyon, fracturing can act as a drain, enhancing permeability to the point where the rock is no longer able to maintain high water volume.

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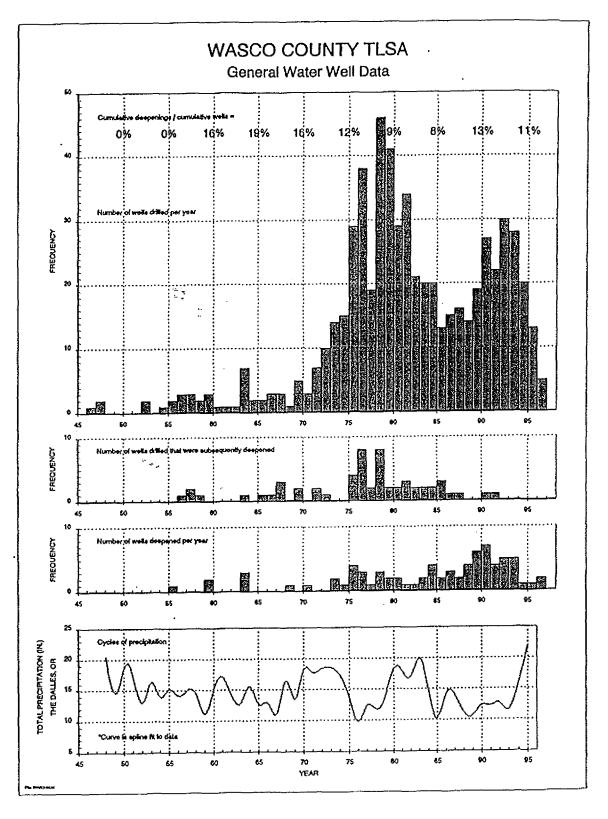


Figure 16. Wells drilled and well deepenings versus time, TLSA, Wasco County.

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The detrimental effect of fault/fracture zones can be seen in Cross Section 2 in the Sevenmile Hill area. Two wells in this section are abandoned after encountering no water. The driller's description in both wells indicates that mineralization has destroyed original aquifer quality by allowing mineral-bearing fluids to deposit material in available fractures and pore space. Away from the fault zones, the basalt aquifers here are quite acceptable in terms of rate and productive capability.

A rather serious condition occurs in T2NR12E Section 9 shown in Cross Section 98. In this area, two major fault zones cross, one going east-west, the other trending northwest-southeast. Some wells in the vicinity of this intersection are either very deep originally, or have to be deepened to depths greater than 550 feet. The map on the following page shows trends of wells with drilling problems such as caving, fractures or lost circulation, dry holes, deepened wells and wells with very large declines (>100 feet) and the pattern of major fault and fracture zones identified on surface or in cross section. Figures 17, 18 and 19 are aerial photographs which show some of the features mapped as fault or fracture zones. The Wasco County Planning Office has complete aerial photo coverage in the TLSA for those who have an interest in this topic.

The presence of a fault or fracture zone is shown on the report cross sections as a vertical line. The faults in this general area are high angle reverse, lateral or normal faults. If actual displacement is seen in cross section or in outcrop, the formations on either side of the fault line will be offset on the cross sections. A quick review of any selection of the cross sections will show how faults or fractures can depress static water levels in their vicinity.

3) WELL IS LOCATED TOO CLOSE TO THE MARGIN OF AN AQUIFER SYSTEM

In cross section 5B discussed previously, the TDC2B aquifer was becoming very shallow and close to its exposure at surface on adjacent slopes. Cross section 3 shows the Upper Dry Creek aquifer system (PRDC1) as it approaches its exposure on the slopes of Dry Creek valley. This aquifer system occurs in basalts immediately below the Dalles Group or in the base of the Dalles Group itself. Wells #726/714 and 713/715/2068 are on the margin of the system and their initial water columns are intermediate between the Root Road and Mosier Creek systems. These wells were deepened in 1986 and 1992, respectively, to the Mosier Creek system (elevation about 350-400 feet). If a well is drilled in a marginal position, it receives recharge from perhaps only about half the area of a

normal aquifer. In addition, diffuse recharge on slopes is probably less than diffuse recharge in flatter areas.

In all of the instances of major deepenings, one or more of these conditions existed. The detrimental features described above all reduce the ability of an aquifer to gain recharge from the area surrounding it. In essence, these wells are deepened because they were produced at rates that exceeded their capacity to supply water. The aquifer conditions in each of them would not support water production at even low rates for an extended period of time.

Other conditions which may cause water level decline and lead to deepening are:

- Partial penetration of the upper part of an aquifer system. The Root well in Figure 11 is possibly affected by this condition.
- Damage caused by bacteria and/or deposition of fine sediment, both of which occlude porosity and permeability.
- The presence of ductile clays (often adjacent to basalt aquifers which can deform plastically over time. The result is an eventual "choking off" of the aquifer interval.
- Wells may also be affected by composite cones of depression, but this subject will be covered in the section below on well spacing.

In Figure 20 three unrelated wells are shown to illustrate an important problem. The Wilds well (T2NR12E Section 21) at the left, was deepened twice and now is at a depth of 799 feet. The two upper aquifers which have been subsequently abandoned were evidently of low quality. The 1995 measurement of static water level (NGS, Inc.) may be only apparent because the well measure also reported cascading water. What is certain is; the two upper zones could not support domestic requirements. This well is on trend with two dry holes, #753 and #4103, near one of the fault zones shown in the drilling hazard map. The third aguifer at the base of the well appears to be of higher quality than the other two. Other wells in the vicinty, including Wasco County Observation Well #743, appear to be stable and are about one half the depth of this well.

Also displayed in Figure 20 are two other wells in T2NR12E (Sections 16 and 9) which are abnormally deep for the area, and have abnormally low static water level elevations. It is this type of well which requires the most future investigation. There are many questions about such wells to be answered:

 Does the great depth to static water level reflect a restricted access to diffuse recharge?

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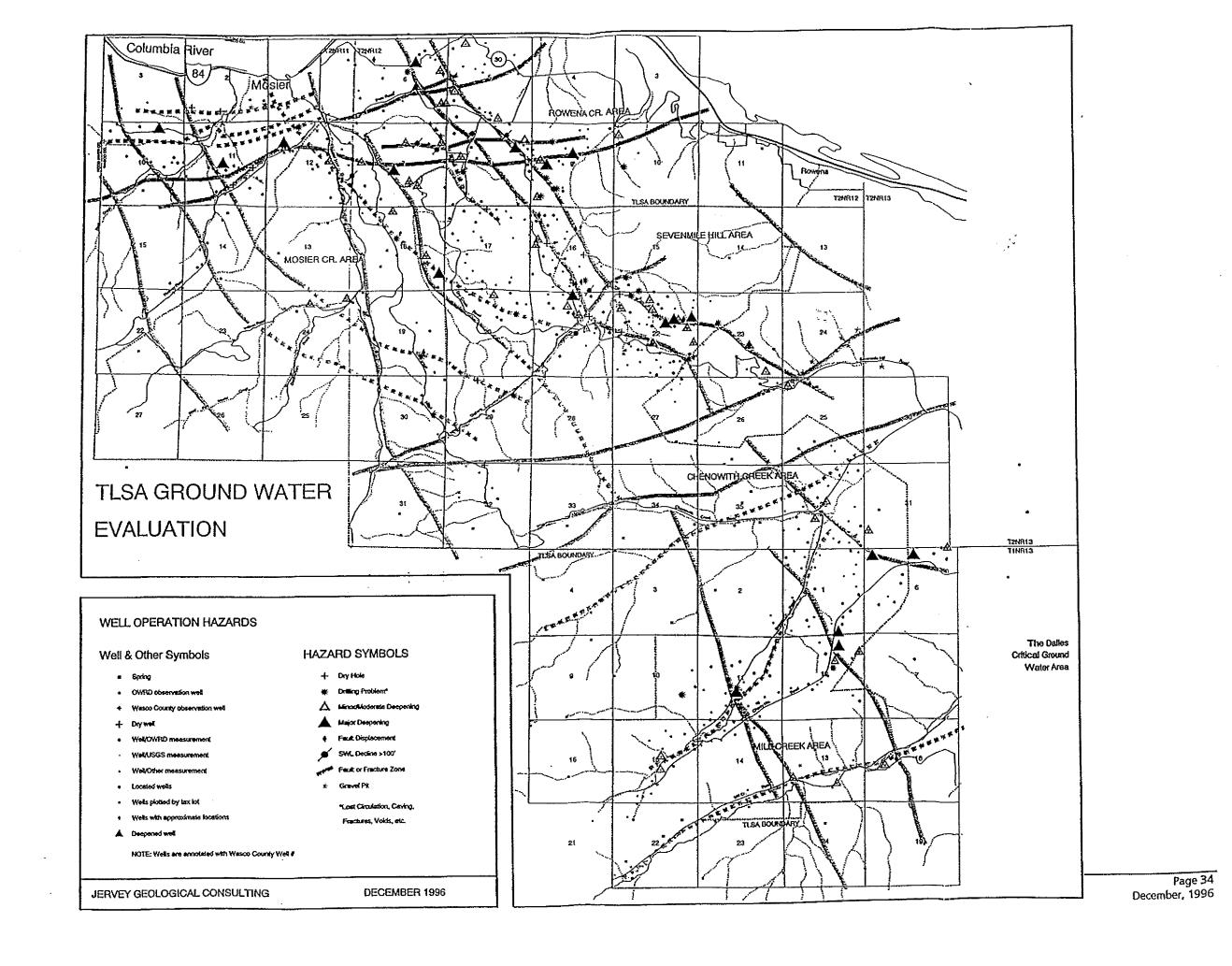




Figure 17. Aerial photograph showing fault zone near Cherry Heights Road, Wasco County, Oregon.

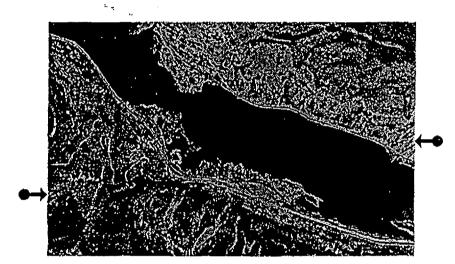


Figure 18. Aerial photograph showing fault zone visible from Interstate 84 at Rowena.

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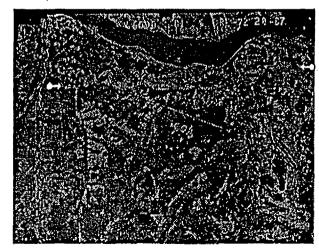


Figure 19. High altitude aerial photograph showing fault displacements, northern Wasco and Hood River Counties, Oregon.

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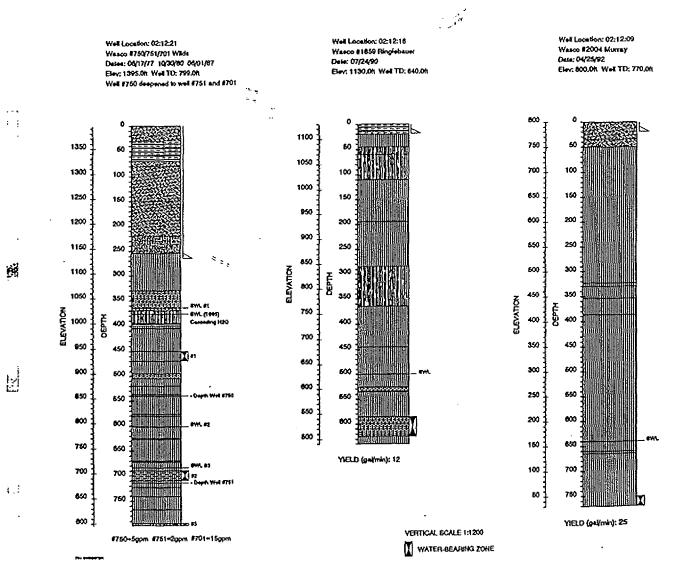


Figure 20. Examples of deep wells with deep static water levels, TLSA, Wasco County.

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- Are these wells stable in regard to static water level?
- Should areas with a high proportion of these wells have more restricted allowable well spacing?

To date, there are no hydrograph wells are very few multiple measures in this type of well. This issue will be discussed again in the report recommendations.

The problem for both individual land owners and for Wasco County is that the prediction of well performance is highly dependent on individual well conditions. The best course to follow under these circumstances is close monitoring of existing densely spaced and deep wells and pump testing in a variety of aquifers. The following discussion attempts to answer in part, how closely spaced wells may be for optimum performance.

WELL SPACING - DOMESTIC

The subject of appropriate well spacing is a controversial one. In order to clarify points made in this discussion, proper well spacing is defined as spacing required in order to allow good operation of a domestic well in the shallowest perennial aquifer available. High rate irrigation wells will be addressed separately at the end of this section.

Regardless of aquifer type, most wells outside of the agricultural areas of TLSA show similar characteristics of rate and capacity (5 to 60 gpm at 100% drawdown in one hour). Under these conditions, observations may be made about the area of influence of any individual low rate, low specific capacity domestic well.

Since production (pump) tests are not available, at the present time it is necessary to use other observations to estimate the area affected by a single domestic well. A review of the 28 cross sections in this report shows the minimum horizontal distance to outcrop that can be maintained by several typical TLSA aguifers. On average, most low rate aguifers (basalts and sandstones) can maintain a distance to outcrop of 300-400 feet before failure. This distance is approximately the radius that would be affected by these wells if they were at 100% drawdown. Under most conditions, wells are only operated at 60% or less of maximum drawdown. Ideally, then, on the average, minimum well spacing should be in the range of 360 to 500 feet. Well spacing closer than one half this range should be avoided.

This somewhat vague estimation can be supplemented by other data. The map on the following page shows areas (called units) where well spacing is dens-

est in the TLSA. These units can be important tools in planning for conservation of ground water resource.

Table 3 shows each unit, the aquifers present in its wells, well densities, age of wells and average well spacing and average of the closest one third well spacing. These areas can provide the best information possible to support ground water development (or limitations on development). It is obvious that current average well spacing is controlled by zoning. But in each unit, some wells are very closely spaced, and it is this group which should be used to direct future development.

Going back to the beginning of this report, clearly there is a wide spread of theoretical estimates of how much recharge might be available. There is no inexpensive way to determine by these methods an accurate estimate of recharge or discharge. The biggest problem is in accurately estimating the amount of recharge any individual aquifer can receive, not how much is available. The best sources of information about this subject are actual wells that have been operated successfully over a reasonable period of time at a particular well density.

REDUCE RISK BY USING EXISTING WELL SPACING AS A GUIDELINE

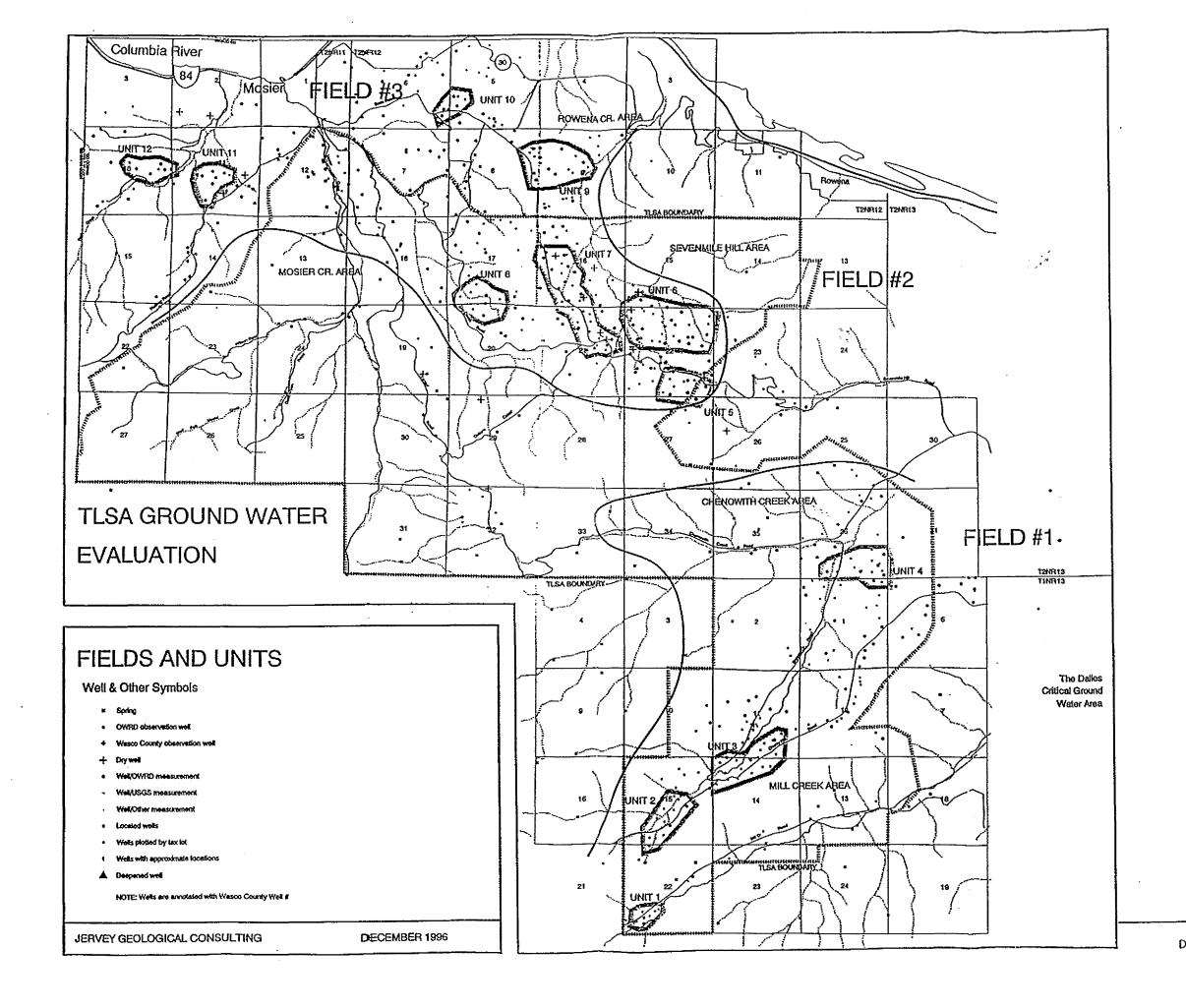
Table 3 shows that for the most part, the units considered appear to support one well per 10 acre spacing. In addition, there are wells that are more closely spaced and give guidelines about what possible minimum spacing could be supported.

From this information, a simple planning tool can be developed. For sections where aquifer type and performance are known and drilling density is highest, well spacing may be one well per 10 acres (optimum) without undue risk. Because there are indications that higher densities may be feasible, an additional 10% of locations may be at closer spacing, for a total of about 70 wells per section allowable, with a 10 acre optimum and a 5 acre minimum spacing. Obviously there should be flexibility in applying this as a guideline.

In sections which have few wells, and especially in such sections with deep wells and static water levels a more conservative guideline should be set. A suggestion is that this type of section be limited to twenty acre per well spacing until such time as more is known about aquifers present and their performance. When that well density is approached, a section or area can be reviewed to see if a closer spacing is feasible. Or, if enough data exists, to compare it with other more densely drilled areas, which may be used as a rationale to increase drilling density.

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REVIEW WELL DATA AS MORE INFORMATION IS AVAILABLE

When sections or areas reach about the maximum density described above, further subdivision should be reviewed in view of well performance. If the wells over time have not responded adversely to the closest current spacing, a slight increase in well density may be prudent. On the other hand if well performance has negative warning flags new drilling (or subdivision) may be restricted.

At this point it would be extremely useful to look at analogs in other areas, if they exist. Comparable development in conditions of similar rainfall and in similar aquifer types would also be helpful in assessing risk of increased well density.

This type of process should be in a deliberate manner for the best and most successful result. If well drilling were to immediately proceed from no wells in a section to one or two acre density, many errors and some severe problems would be unavoidable. This type of risk is unacceptable both to county residents using ground water and county taxpayers who must pay for court costs incurred by the county to defend permitted subdivision.

The following recommendations can be made to assist Wasco County in planning ground water development:

- In the short term, the recommended and minimum spacing discussed previously could provide a guideline for planning.
- Guidelines should be reviewed periodically as new information may affect them.
- The unit areas indicated (or some version of them) should be the sites for further collection of data. At least two measured wells and several pump tests in each of them would be a goal for the next two years. This information could be used to further refine the estimated wells allowed per acre above.
- Most of this effort should be made by landowners as volunteered work. Wasco County may be able to coordinate the collection of data and verify it, but the manpower requirement to survey these units is onerous and perhaps not primarily the responsibility of the county. It is possible that interested individuals may be able to do a great deal more in the area of data collection

UNIT #		System	WELLS	area acres	ACRES PER WELL	WELL DISTANCE	AVERAGE LOWER 1/3 WELL DISTANCE FEET	DERSEST ACRES	PRIORITY
	1	TDC2A				388	316	3	
	2	TDC2AGB	12	142	12	604	416	4	
	3	TDC2B	19	212	11	653	478	5	
	4	TDC162B	17	177	10	708	491	5	HIGH
	5	TPS1&1B	12	123	10	602	393	4	
	6	TF82/TRK2	33	342	10	599	386	3	HIGH
		TRR2 PRDC1A TYSX	32	322	10	563	333	3	HIGE
	8	PRDC1	9	138	15	798	580	8	
	_	PRPO1 HC TPSX	18	216	12	-		-	HICH
	10	нс	7	68	10	-	-	-	
	11	HT/RC	7	97	14	-	-	-	
	12	RC	7	91	13	-	-	-	

Table 3. Summary of well spacing in TLSA units.

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than local or state government could afford to do.

- The effort above would have many positive rewards; one of the most important of these would be the emphasis on knowledge and control for the individual well owners. The more they know about their own situation and ground water as a whole, the better off the entire community will be.
- Continued effort on a number of fronts to improve well location accuracy; particularly important are dry holes, deepened wells and any wells with multiple static water level measurements.
- A manner of well naming so that one location would have one designation for all of its history.
 Many problems are caused by renumbering a well any time anything happens to it. The clerical problems this will create in the next ten to twenty years could be enormous.

The reason it is important to commit to this type of project is actually for the long term. At some point in future, one to two acre spacing for wells may be requested by development. At this extreme, it is best to use actual examples of well development to either permit or restrict denser drilling. Wasco County has done an exemplary job of data collection and should continue this effort.

WELL SPACING - IRRIGATION AREAS

Wells with high rates occur in the following areas: Mill Creek, Chenowith Creek, Mosier Creek and adjacent orchard area. Wells with sustainable rates of greater than 60 gpm can, if operated continuously, easily affect water levels in areas of 1 to 5 square miles in the same aquifer system. In view of the possibility that these wells establish a more or less permanent cone of depression, it is probable that they have an impact on some domestic wells around them, if they are in the same aquifer system.

The cone of depression formed will, in the case of fracture controlled aquifers, not be circular but will have dimensions controlled by fracture trends. The domestic well owner should be aware of this and understand the possibility that his well may be affected by irrigation wells. For this and a variety of other reasons, production testing of a sampling of irrigation wells is strongly recommended in order to improve understanding of their performance characteristics and potential for interference over distance. This testing could also identify wells that have incurred significant damage over time, resulting in reduced rates. An

important relationship to develop would be the graph of well capacity versus radius of influence as a guideline to both irrigators and domestic well owners. This type of activity is probably best pursued by Oregon Water Resources Department.

The restriction of irrigation usage is not the domain of county regulation. However, the nomograph of capacity versus radius of influence should be used to control, at least to some extent, well spacing in irrigation wells. The detrimental effect of composite cones of depression could in many instances, be avoided with better information and spacing recommendations to water right holders. This matter has little to do with volume of water used; rather the proper and most efficient use of ground water available for irrigation.

WATER QUALITY

The evaluation of quality of ground water was not a primary goal of this report, however there are two general observations which may be made:

In the original TLSA questionnaire responses, more complaints were voiced about water quality than amount of water available. The most common objection was to water with high iron content and/or unpleasant odor. These wells are almost always located very close to fault or fracture zones. The ground water in them may be mixing with upward percolating warmer waters which also carry more minerals in solution. The most likely solution to this type of problem is in the purchase of equipment which will filter or remove offending minerals.

From the first section of this report, it may be surmised that septic fields might contaminate local water supplies in shallow aquifers. Periodic inexpensive testing for contamination is recommended to anyone concerned about this potential problem.

CONCLUSION

It is hoped that the information presented in this report will be helpful in the process of assessing the TLSA ground water resource. The current tendency toward higher precipitation offers an ideal time to gather data and learn more about TLSA aquifers. However, it is only a temporary reprieve from the average conditions that have to be incorporated into resource planning.

Many of the best observations and ideas in this report were based on comments by the TLSA Technical and Steering Committees, the interested public and the Wasco County Planning Staff. Together with well drillers and the local land owners, they can arrive at a reasonable approach to ground water development in the TLSA.

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The people listed below were generous with ideas, suggestions and observations that are used in this study. The author wishes to thank them for their time and efforts.

RESIDENTS/LAND OWNERS OF WASCO COUNTY:

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Frans Bosman

Wayne Haythorn

Sandra and Deane Preston

Steven Cain

Delbert and Elaine Huskey

Bill and Jeanne Reeves

Brenda and Ron Carroll

Jack and Betty Huskey

Mike Sandoz

Linda Cartwright

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Carole Schmidt

Janine and Joseph Czerniecki

Wayne and Helen Huskey

Tamara Shannon

Betty Daniel

Greg Koonce

Mary Soden

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Oregon Water Consultants, Inc.

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Oregon Water Resources Department

Toole and Sons Drilling

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Staff

Wasco County Planning Office

Jim Johns/Staff Chenowith Irrigation Co-op

Members

Project Office/The Dalles Dam

TLSA Steering Committee

Army Corps of Engineers

Members

TLSA Technical Committee

WATER WELL DRILLERS

All well drillers in the past and present have contributed information to this study. Those who were especially helpful (in the detail of their well records and/or their comments on the subject) include:

Charles Austin

Leonard Marinelli

Greg Byrd

Charles Moore

Gilbert Clayton, Jr. and Sr.

Richard Murray

Harry Douthit

Clyde Root

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REFERENCES

111 L

- Barwis, J.H., McPherson, J.G., and Studlick, J.R.J., editors, 1990, Sandstone Petroleum Reservoirs, Springer-Verlag, Inc., New York, New York, 583 p.
- Beaulieu, J.D., 1977, Geologic Hazards of Parts of Northern Hood River, Wasco, and Sherman Counties, Oregon, Oregon Department of Geology and Mineral industries Bulletin #91, 95 p.
- Beaulieu, J.D., editor, 1973, Geologic Field Trips in northern Oregon and southern Washington, Oregon Department of Geology and Mineral Industries Bulletin #77, 206 p.
- Briggs, G.F., and Fiedler, A.G., editors, 1972, Ground Water and Wells, Edward E. Johnson, Inc., St. Paul, Minnesota, 440 p.
- Dake, L.P., 1994, The Practice of Reservoir Engineering, Elsevier Press, Amsterdam, 534 p.
- Domenico, P.A. and Schwartz, F.W., 1990, Physical and Chemical Hydrogeology, John Wiley & Sons, New York, New York, 824 p.
- Grady, S.J., 1983, Ground-Water Resources in the Hood Basin, Oregon, U.S. Geological Survey Water-Resources Investigations Report 81-1108, 68 p.
- Green, G.L., 1982, Soil Survey of Wasco County, Oregon, Northern Part, U.S. Department of Agriculture Soil Conservation Service, 125 p.
- Kienle, C.F., 1995, Hydrogeologic Investigation Transition Lands Study Area, report prepared for: Wasco County Planning and Economic Development Office, Wasco County, Oregon, Northwest Geological Services, Inc., 49 p.
- Lite, K.E., and Grondin, G.H., 1988, Hydrogeology of the Basalt Aquifers Near Mosier, Oregon, A Ground Water Resource Assessment, Oregon Water Resources Department Ground Water Report #33, 119 p.
- Lohman, S.W., 1972, Ground-Water Hydraulics, U.S. Geological Survey Professional Paper 708, 70 p.
- Prasuhn, A.L., 1987, Fundamentals of Hydraulic Engineering, Harcourt Brace Jovanovich, Orlando, Florida, 509 p.
- Reidel, S.P., and Hooper, P.R., editors, 1989, Volcanism and Tectonism in the Columbia River Flood-Basalt Province, Geological Society of America Special Paper #239, 386 p.
- Stephens, D.B., 1996, Vadose Zone Hydrology, CRC Press, Inc., Boca Raton, Florida, 347 p.
- Streltsova, T.D., 1988, Well Testing in Heterogenous Formations, John Wiley & Sons, New York, New York, 413 p.
- Swanson, D.A., Anderson, J.L., Camp, V.E., Hooper, P.R., Taubeneck, W.H., and Wright, T.L., 1981, Reconnaissance Geologic Map of the Columbia River Basalt Group, Northern Oregon and Western Idaho: U.S. Geological Survey Open File Report 81-797, 33 p.
- Whiteman, K.J., Vaccaro, J.J., Gonthier, J.B., and Bauer, H.H., 1994, The Hydrogeologic Framework and Geochemistry of the Columbia Plateau Aquifer System, Washington, Oregon, and Idaho, U.S. Geological Survey Professional Paper 1413-B, 73 p.

Exhibit B

Betzing Conditions

- The permit shall allow one single family dwelling and attached garage only.
- 2) At a minimum all conditions required pursuant to the existing County ordinances regulating dwellings in RR-10 zone shall be applied as a condition of development.
- 3) The rear yard set back shall be the greater of 75 feet or the amount required by applicable County ordinance.
- 4) Betzing shall develop and maintain a water source which is capable of delivering water at the rate of 20 gallons per minute continuously for 50 minutes (1,000 gallons) on a year around basis.
- Compliance with these conditions shall be checked though an on-site review by a qualified person selected by the County Planning Department.

SETTLEMENT AGREEMENT

This settlement agreement dated as of January 5, 2000, and the parties to this agreement are Kenneth A. Thomas ("Thomas"), Wasco County (the "County"), and Joseph Betzing ("Betzing").

Recitals

A. In LUBA Case No. 99-178 Thomas filed an appeal with the Land Use Board of Appeals regarding County Ordinance No. 99–111. This appeal is stayed pending mediation.

B. In LUBA Case No. 99-109 Thomas filed an appeal with the Land Use Board of Appeals regarding County Ordinance 99-114. This appeal is stayed

pending mediation.

Č. In LUBA Case No. 98-043 Thomas appealed a permit for a dwelling issued by the County to Betzing. This case has been remanded by the Land Use Board of Appeals for further proceedings consistent with their opinion.

D. The parties to this agreement mutually wish to agree to a framework for resolution of the above cases and all disputes arising out of those cases. Therefore in exchange for their mutual promises, the parties agree as follows:

Terms

- 1. The County Department Staff, acting in good faith shall use best efforts in supporting a legislative zone change and comprehensive plan change to modify to zoning and comprehensive plan designation of the property marked in exhibit A, from F-2 to FF-10. The changes will be initiated by the County unless Thomas elects to initiate them. If property owners other than Thomas elect not to participate then Thomas and the County will proceed and exclude the other property owners' land from the change.
- 2. Thomas acting through his attorney Michael J. Lilly shall assist the County staff by submitting evidence, drafting staff reports, and drafting findings for the zone and plan changes referenced above.
- 3. Betzing hereby waives all rights to remonstrate against the zone and plan changes referenced above.
- 4. Thomas hereby waives all rights to remonstrate against Betzing's application for a single family dwelling if the conditions set forth exhibit B are imposed on the dwelling permit for Betzing. Betzing agrees to accept the conditions set forth in Exhibit B and agrees to abide by the terms and conditions of the permit.
- 5. If the zone change and plan change applications referenced in paragraph 1 are approved by the County Court, and become final without an appeal or are affirmed on appeal, then Thomas will withdraw the appeals referenced above in paragraphs A and B. If the zone change applications are not

Page 1 of 3 EXHIBIT 5

approved by the Wasco County Court then Thomas and the County agree to enter non-binding mediation but Thomas will be free to continue the appeals referenced in paragraphs A and B if the mediation fails to result in a settlement.

- 6. If the zone and plan changes are approved by the County Court and the approvals are appealed then the County shall support its decision, but not be obligated to prepare or file briefs in opposition to the appeal. Thomas will file briefs in opposition to the appeal, but shall not be obligated to file briefs regarding issues that are not relevant to property in his ownership.
- 7. If the zone change or plan change are reversed or remanded on appeal, and if Thomas and the County are unable to agree on an appropriate course of further action, then Thomas and the County will enter into non-binding mediation. If the mediation does not result in a settlement then Thomas may continue the appeals referenced in paragraphs A and B.

Miscellaneous Provisions

- 8. Binding Effect. This Agreement shall be binding on and inure to the benefit of the parties and their heirs, personal representatives, successors, and assigns.
- 9. Attorney Fees. If any suit or action is filed by any party to enforce this Agreement or otherwise with respect to the subject matter of this Agreement, the prevailing party shall be entitled to recover reasonable attorney fees incurred in preparation or in prosecution or defense of such suit or action as fixed by the trial court, and if any appeal is taken from the decision of the trial court, reasonable attorney fees as fixed by the appellate court.
- 10. Amendments. This Agreement may be amended only by an instrument in writing executed by all the parties.
- 11. Entire Agreement. This Agreement (including the exhibits) sets forth the entire understanding of the parties with respect to the subject matter of this Agreement and supersedes any and all prior understandings and agreements, whether written or oral, between the parties with respect to such subject matter.
- 12. Counterparts. This Agreement may be executed by the parties in separate counterparts, each of which when executed and delivered shall be an original, but all of which together shall constitute one and the same instrument.
- 13. Waiver. A provision of this Agreement may be waived only by a written instrument executed by the party waiving compliance. No waiver of any provision of this Agreement shall constitute a waiver of any other provision, whether or not similar, nor shall any waiver constitute a continuing waiver. Failure to enforce any provision of this Agreement shall not operate as a waiver of such provision or any other provision.

- 14. Further Assurances. From time to time, each of the parties shall execute, acknowledge, and deliver any instruments or documents necessary to carry out the purposes of this Agreement.
- 15. Time of Essence. Time is of the essence for each and every provision of this Agreement.
- 16. No Third-Party Beneficiaries. Nothing in this Agreement, express or implied, is intended to confer on any person, other than the parties to this Agreement, any right or remedy of any nature whatsoever.
- 17. Exhibits. The exhibits referenced in this Agreement are a part of this Agreement as if fully set forth in this Agreement.
- 18. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the state of Oregon.

Dated: 1/5/00

Kenneth Thomas

Wasco County Planning Director

Joseph Betzing

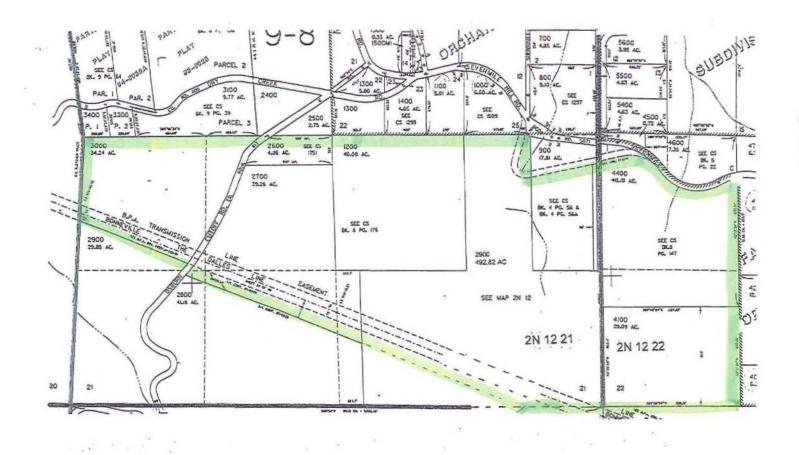


Exhibit 6

Sevenmile Hill Forest Protection Overlay Zone

Section 3.950 <u>Division 11 - Sevenmile Hill Forest Protection Overlay Zone</u>

A. <u>Purpose</u>

The purpose of this Sevenmile Hill limited use overlay is to establish appropriate conditions and standards for development in the Sevenmile Hill Exception Area (2012), ("Exception Area" or "Area") identified on a map labeled Exhibit ____ of the ordinance establishing the Area, Ordinance No. 12-___. Under Ordinance No. 12-___, this Overlay is applied as a Forest Protection Overlay Zone and a Planned Unit Development Overlay Zone. The goal is to allow rural residential development while improving the overall value of the Area as a more appropriate buffer between existing and allowed rural residences to the north, and commercial timber and wildlands to the south. Development within the overlay zone is subject to comprehensive standards designed to reduce the risk of fires spreading uncontrolled onto the resource lands.

B. Uses Permitted Without Review:

1. All uses permitted without review in the Forest-Farm, F-F(10) Zone and listed in Section 3.220(B) of this Ordinance are allowed without review in areas covered by the Overlay Zone..

C. <u>Uses Permitted Subject to Type I Review</u>

1. Uses permitted subject to Type I Review in the Forest-Farm, F-F(10) zone and listed in Section 3.220(C) are subject to Type I Review in areas covered by the Overlay Zone.

D. <u>Uses Permitted Subject to Standards/Type II Review:</u>

1. Uses permitted subject to Standards/Type II Review in the Forest-Farm, F-F(10) zone and listed in Section 3.220(D) are subject to Type II Review in areas covered by the Overlay Zone.

Establishment of a Planned Unit Development (PUD). Notwithstanding Section 18.080 of this Ordinance, only uses permitted outright or conditionally in the F-F(10) Zone are allowed in the Area.

E. <u>Uses Permitted Subject to Conditional Use Review/Type II or Type III:</u>

1. Uses permitted subject to Conditional Use Review/Type II or Type III in the Forest-Farm, F-F(10) zone and listed in Section 3.220(E) are subject to Conditional Use Review under a Type II or Type III procedure in areas covered by the Overlay Zone.

F. General Development Standards

- 1. The property development standards that apply to development in the F-F(10) Zone and are listed in Section 3.220(F)(1) through (10) of this Ordinance apply to development in the Exception Area;
- 2. The minimum property size for non-Planned Unit Development is ten acres, with a 330-foot minimum average lot width.
- 3. No dwelling may be erected within 200 feet of the northern boundary of the Bonneville Power Administration Transmission Line Easement known as "Bonneville The Dalles Line."
- 4. New parcels shall be oriented, and new homesites shall be located toward the north of the Exception Area to the greatest practical extent.
- E. <u>Fire and Safety Standards</u>. In the Exception Area, all dwellings, and other structures as specified, shall comply with the fire and safety standards in Section 10, Fire Safety Standards, for protection of the development and of surrounding areas, and also the following additional standards. If the standards below overlap or are not the same as those in Section 10, then the more stringent standard will apply.
 - 1. A dwelling or other structure developed with a plumbed water system shall also include at least one standpipe, placed a minimum of 50 feet from the dwelling or structure at an accessible location;
 - 2. Separate power service independent of the dwelling or other structure shall be provided for the pump delivering water to the standpipe called for in section 1. above, and shall be provided by a public utility. Any exception to this requirement must be approved in writing by a state-licensed fire engineer;
 - 3. A minimum water flow equal to 20 gallons per minute for 50 minutes, for a total water capacity of 1,000 gallons shall be provided and maintained by the owner year-round, and made available to the rural fire protection provider;

- 4. Power and telephone lines to the dwelling, pumps and other utilities or structures shall be located underground, when it is possible to do so without undue hardship or difficulty;
- 5. If a water supply, such as a tank installed for wildfire suppression, swimming pool, pond, suitable stream or lake, exists within 100 feet of the driveway or access road at a reasonable grade, the owner shall provide an access drive to within 15 feet of the water's edge for pumping unit access. The access drive shall be a minimum of 12 feet wide, maximum 12% grade, with a 14-foot vertical clearance and 50,000 pound carrying capacity. Access roads over 150 feet in length shall be constructed with a turn-around for emergency vehicles;
- 6. <u>Building Construction and Maintenance Requirements.</u>
 - a. Exterior roofing on all dwellings and structures shall be of fireresistant materials (e.g. tile, slate, metal, composition asphalt). The area over a roof shall be maintained clear of tree limbs or other vegetation that is dead or dying;
 - b. All permanent openings into and under a dwelling or other structure shall be completely covered with noncombustible, corrosion-resistant, 1/4-inch mesh screening material, to protect against wind-blown embers. The area under decks, porches and other structural attachments shall be maintained substantially free of flammable material, such as firewood, lumber, leaves and needles;
 - c. The openings of chimneys and stovepipes shall be completely covered with a 12-gauge metal spark arrester that has mesh openings no larger than 0.5-inch. The area within ten feet of a dwelling or other structure's chimney or stove pipe shall be maintained clear of vegetation;
 - d. Decks, porches and other structural attachments extending from the main structure shall be constructed of materials that have a one-hour fire rating;
 - e. During declared fire season, all firewood piles shall be maintained at least 20 feet from a structure, or fully enclosed.
- 7. <u>Fuel breaks</u>. A fuel break is created by removal of fire fuels from the ground, shrubs from under large trees, and tree limbs from within six feet of the ground. The owners of dwellings and structures shall clear and maintain a primary fuel break area surrounding all structures of at least 30 feet, and a secondary fuel break area according to the following chart:

Size of Fuel Break Safety Zone by Percent Slope

Slope	Feet of Primary <u>Safety Zone</u>	Feet of Additional Down Slope
0%	30	0
10%	30	50
20%	30	75
25%	30	100
40%	30	150

Limbs and other vegetation overhanging all driveways shall be cleared to a height of 13.5 feet. For any driveway longer than 150 feet, a fuel break shall also be cleared and maintained ten feet from both sides of the driveway centerline.

8. <u>Setbacks</u>. The owners of dwellings and structures shall maintain the following setbacks from ridgetops, cliffs and bluffs:

Setback from Major Slope Changes (change in slope 10% or greater) in Conjunction with Fuel Break Safety Zone

<u>On</u>	a	slope	<u>e change</u>	
		_	1 1 .	

Where the downhill slope is	Feet of Setback
10%	50
20%	75
25%	100
40%	150

9. <u>Driveways and private roads</u>:

- a. Shall be built and maintained to provide a minimum 18-foot wide all weather surface with a 50,000 pound carrying capacity, a minimum curve radius of 48 feet and a vertical clearance of 13.5 feet;
- b. Shall be built with grades that do not exceed an average of 8% with a maximum of 12% on short pitches.
- c. If dead-end and over 150 feet in length, shall have turnarounds of not less than a 48-foot radius.
- d. In excess of 200 feet in length shall be constructed with 20-foot wide by 40-foot long turnouts at a maximum spacing of 1/2 the

driveway length or 400 feet, whichever is less. An existing driveway may be used to meet the spacing requirements of this section.

- e. Where intersecting with a public road, shall be constructed and maintained in a manner allowing reasonable access for fire suppression equipment;
- 10. When issuing a building permit, the county shall make reasonable effort to ensure that the applicant is aware of the following:
 - a. Open fires may be built, ignited and maintained only in compliance with all applicable permit and fire safety requirements; tended and maintained under the control of a person 16 years of age or older; conducted only when weather conditions permit safe burning; conducted in a location which has had all surrounding material cleared of flammable material sufficient to prevent unintended spread of the fire; and conducted only when adequate and appropriate fire tools and/or a water supply are present to assist in preventing the unintended spread of fire;
 - b. Grills, incinerators, outdoor fireplaces, permanent barbecues and similar devices shall be maintained by their owner in good repair, in safe condition, and all openings shall be covered by a spark arrester, a screen, or by a device that prevents the unintended spread of fire;
 - c. Outdoor equipment or devices capable of generating heat, open flame, or sparks may only be used in compliance with all applicable permit and fire safety requirements.
- G. <u>Additional PUD Requirements</u>. The following additional requirements shall apply to a PUD in the Exception Area:
 - 1. Subdivision of an existing lot in the Area shall comply with the applicable standards, conditions, and development plan requirements of Chapter 18, Planned Unit Development.
 - 2. For a PUD, the minimum property size is 2.5 acres, the overall density of the PUD shall not exceed a ratio of one dwelling for every ten acres in the PUD, and the number of new lots or parcels to be created from a parent parcel shall not exceed ten, unless the County determines that more than ten lots are allowed under state law.
 - 3. The PUD shall provide for clustering of dwellings toward the north of the Exception Area to the greatest practical extent;

- 4. Common open space provided as part of a PUD shall be deeded to a Homeowners' Association, and may be encumbered with a conservation easement. A conservation easement or other deed restriction shall preclude all future rights to construct a dwelling on the lot, parcel, or tract designated as open space or common area for as long as the lot, parcel, or tract remains outside an urban growth boundary.
- 5. Deed covenants and restrictions established as part of a PUD in the Exception Area shall require that, upon issuance of a building permit for construction of a dwelling, the owner of a lot or parcel shall begin contributing the amount of at least \$200 per year (prorated for the first year) into a Fire Prevention Fund maintained by the Homeowners' Association. Money collected and managed by the Homeowners' Association in a Fire Prevention Fund shall be used only for the following purposes:
 - a. To provide additional water supply, storage capacity, standpipes or water conveyance systems to protect the PUD from wildfires;
 - b. To provide additional, or enhanced fire breaks not otherwise required by this Ordinance, at strategic locations determined to be useful or appropriate by the Association, following consultation with the State Forester, a state or local Fire Marshall, or the designee of any such official (herein, "fire official");
 - c. For maintenance of additional, or enhanced fire breaks not otherwise required by this Ordinance;
 - d. For installation and maintenance of fire roads, at locations determined to be useful or appropriate by the Association, following consultation with a fire official;
 - e. For technical advice, training or education provided to Association members concerning fire risk reduction, prevention and suppression practices and programs;
 - f. To fund any other fire risk reduction, prevention or suppression technology or practice not otherwise required by this ordinance and recommended in writing by a fire official.
- 6. PUD Homeowner Associations are encouraged to adopt and enforce rules as necessary to ensure compliance with applicable Fire and Safety Standards.

7. Except as otherwise required by state law, a PUD shall not be served by a new community sewer system or extension of an existing sewer system, but may be served by a water system developed and maintained in conformance with state law;

BEFORE THE COUNTY COURT OF WASCO COUNTY, OREGON

IN THE MATTER OF A RESOLUTION)	
INITIATING A PLAN AMENDMENT,)	
ZONE CHANGE, AND EXCEPTION TO)	
GOAL 4, FOR AN AREA SOUTH OF)	RESOLUTION NO. 04
SEVENMILE HILL AND DRY CREEK)	
ROADS, AT THE REQUEST OF THE)	
PLANNING AND ECONOMIC)	
DEVELOPMENT OFFICE)	

Whereas, the County Planning staff has requested that this Court initiate a plan amendment and zone change for eight tax lots totaling ±287.76 acres, currently designated for forest use;

Whereas, the area in question is south of, and near the intersection of, Osburn Cutoff Road, Dry Creek Road, Sevenmile Hill Road, and State Road, west of The Dalles;

Whereas, the area has been the subject of recent studies and planning conflicts between rural residential and commercial forestry uses, as described in the Planning Staff Report presented in this matter; and

Whereas, the Court would like to have its Planning Staff prepare materials and proposals for consideration by the Planning Commission and the Court, to more appropriately plan for uses in the Sevenmile Hill area.

NOW, THEREFORE,

- 1. County Planning staff shall prepare documents, reports and other materials for presentation to the Planning Commission, requesting consideration of a plan amendment and zone change for a portion of the Sevenmile Hill area identified on the map attached hereto as Exhibit A and incorporated herein by this reference.
- 2. It is understood that Kenneth Thomas has and will provide assistance to county staff in the form of evidence and analysis supporting the proposed plan amendment and zone change, including materials necessary to support an exception to Statewide Planning Goal 4 for the property and imposition of a forest protection overlay zone.
- 3. This resolution is not intended to constitute a land use decision nor to indicate support or opposition by the Court to materials and requests to be made and presented by the Planning staff in this matter. Planning staff shall present the proposals following //
- 1 IN THE MATTER OF A RESOLUTION INITIATING A PLAN AMENDMENT, ZONE CHANGE AND EXCEPTION, SEVENMILE HILL

shall consider the matter in due course a	s required by law.
SIGNED this day of	, 2004.
	WASCO COUNTY COURT
	Daniel W. Ericksen, Judge
	Scott McKay, Commissioner
Eric J. Nilsey Wasco County District Attorney	Sherry Holliday, Commissioner

legislative notice and hearing procedures and otherwise as provided by law. The Court

2 – IN THE MATTER OF A RESOLUTION INITIATING A PLAN AMENDMENT, ZONE CHANGE AND EXCEPTION, SEVENMILE HILL

Wasco County, Oregon Northern Part



UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE In cooperation with Oregon Agricultural Experiment Station

EXHIBIT 9

platy structure; soft, very friable, nonsticky and non-

platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine irregular
pores; neutral; abrupt smooth boundary.
2—2 to 10 inches; very dark grayish brown (10YR 3/2)
loam, dark grayish brown (10YR 4/2) dry; massive;
slightly hard, friable, slightly sticky and slightly
plastic; few very fine roots; many very fine tubular
pores; neutral; abrupt wavy boundary.
—10 to 24 inches; dark brown (10YR 3/3) loam, brown
(10YR 4/3) dry; massive; slightly hard, friable,
slightly sticky and slightly plastic, few very fine roots;
many very fine tubular pores; neutral; clear wavy

many very fine tubular pores; neutral; clear wavy

boundary. -24 to 38 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; moderately alka-

roots; many very fine tunular pores; moderately analine; clear wavy boundary.

C2—38 to 53 inches; dark brown (10YR 3/3) fine sandy loam, brown (10YR 5/3) dry; massive; soft, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; moderately alkaline; clear wavy boundary.

IIC3—53 to 60 inches; multicolored very gravelly sand;

single grained; loose, nonsticky and nonplastic.

The A horizon is gray, grayish brown, dark gray, or dark grayish brown when dry and very dark gray, very dark grayish brown, or dark brown when moist. It is loam or fine sandy loam. It has weak fine granular or platy structure or is structureless. The AC horizon and C1 horizon are stratified in places with thin lenses ranging from silt to loamy sand. The content of pebbles in the upper 40 inches ranges from 0 to 15 percent. The content of rock fragments below a depth of 40 inches ranges from 50 to 80 percent. 50 to 80 percent.

24—Endersby loam. A representative mapping unit is in the $SW_4NE_4SW_4$ section 25, T. 2 N., R. 14 E. This soil has slopes of 0 to 3 percent and is on alluvial

bottoms in long, narrow areas.

Included with this soil in mapping were areas of Hermiston, Pedigo, and Tygh soils. These soils make

up about 15 percent of the unit.

Runoff is slow, and the hazard of erosion is slight. Capability unit IIe-3, nonirrigated and I-1, irrigated; Semi-Moist Bottom range site.

Frailey Series

The Frailey series consists of well drained soils formed in volcanic ash, loess, and colluvium weathered from semiconsolidated sedimentary materials on uplands. Slopes are 3 to 70 percent. Elevation is 1,000 to 3,500 feet. The vegetation is oak, ponderosa pine, Douglas-fir, bunchgrasses, forbs, and shrubs. The average annual precipitation is 16 to 30 inches, the average annual air temperature is 45° to 49° F, and the frostfree period is 100 to 140 days at 32° and 120 to 160 days at 28°.

In a representative profile the surface layer is very dark grayish brown loam about 4 inches thick. The subsoil is dark brown loam about 46 inches thick. The substratum is brown loam about 15 inches thick. The soil material throughout the profile is slightly acid.

Permeability is moderate, and the available water capacity is 5 to 10 inches. Water-supplying capacity is 10 to 15 inches. Effective rooting depth is 40 to 60 inches or more.

These soils are used for timber, range, wildlife habitat, and water supply.

Representative profile of Frailey loam, 30 to 70 percent slopes, about 50 feet north of road in the NE1/4 NE14SW14 section 22, T. 2 N., R. 11 E.:

O1-2 inches to 0; fir needles, twigs, and partly decom-

-2 inches to 0; fir needles, twigs, and partly decomposed material.

-0 to 4 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; may very fine irregular pores; 15 percent fine publics; clickty and slightly said, slightly said. A1-

roots; may very fine irregular pores; 15 percent fine pebbles; slightly acid; clear smooth boundary.

B21—4 to 10 inches; dark brown (10YR 3/3) loam, light brownish gray (10YR 6/2) dry; weak medium subangular blocky and weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 15 percent fine pebbles; slightly acid; clear smooth boundary.

B22—10 to 33 inches; dark brown (10YR 3/3) loam, pale brown (10YR 6/3) dry; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many

slightly plastic; many very fine and fine roots; many very fine tubular pores; 10 percent fine pebbles, 5 percent cobbles; slightly acid; clear smooth boundary.

-33 to 50 inches; dark brown (10YR 3/3) loam, light brownish gray (10YR 6/2) dry; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few fine and medium roots; many very fine tubular pores; 10 percent cobbles, 5 percent

pebbles; few thin clay films in pores; slightly acid; clear smooth boundary.

C-50 to 65 inches; brown (10YR 4/3) loam, light brownish gray (10YR 6/2) dry; massive; hard, friable, slightly sticky and slightly plastic; few fine and median processing the sticky and slightly plastic; few fine and median process. dium roots; few very fine tubular pores; 10 percent cobbles, 5 percent pebbles; few thin clay films in

pores; slightly acid.

The A horizon is grayish brown or light brownish gray when dry and very dark grayish brown or dark brown when moist. The B horizon is loam. It is 5 to 20 percent rock fragments 2 millimeters to 3 inches in size and 0 to 15 percent cobbles. Depth to rippable bedrock is 40 to 60 inches or more.

25E—Frailey loam, 3 to 30 percent slopes. A representative mapping unit is in the NE14NE14NE14 section 7, T. 2 S., R. 12 E. This soil is in broad, irregularly shaped areas.

Included with this soil in mapping were areas of Hesslan, Ketchly, Skyline, and Wamic soils. These soils

make up as much as 20 percent of the unit.

Runoff is medium, and the hazard of erosion is moderate. Capability subclass VIe; Pine-Douglas Fir-

Sedge range site; woodland group 3o.

25F-Frailey loam, 30 to 70 percent slopes. A representative mapping unit is in the NE¼NE¼SW¼ section 22, T. 2 N., R. 11 E. This soil is in long, narrow areas and has north-facing slopes. It has the profile described as representative of the series.

Included with this soil in mapping were areas of Hesslan, Ketchly, Skyline, and Wamic soils. These soils make up as much as 20 percent of the unit.

Runoff is rapid, and the hazard of erosion is severe. Capability subclass VIIe; woodland group 3r.

Hermiston Series

The Hermiston series consists of well drained soils formed in alluvium derived from loess and volcanic ash on bottom lands. Slopes are 0 to 3 percent. Elevation is 800 to 2,500 feet. In uncultivated areas, the

vegetation is bunchgrasses, forbs, and shrubs. The average annual precipitation is 10 to 13 inches, the average annual air temperature is 49° to 54° F, and the frost-free period is 130 to 180 days at 32° and 180 to 200 days at 28°.

In a representative profile the surface layer is very dark grayish brown silt loam about 16 inches thick. The underlying material is very dark grayish brown and dark brown silt loam that extends to a depth of 60 inches or more. Depth to gravel and sand is 40 to 60 inches or more. The soil material throughout the profile is neutral to moderately alkaline.

Permeability is moderate, and the available water capacity is 7.5 to 12.5 inches. Water-supplying capacity is 8 to 13 inches. Effective rooting depth is 40 to 60 inches or more.

These soils are used for hay, pasture, small grain, range, and wildlife habitat.

Representative profile of a Hermiston silt loam in the SW1/4SE1/4NW1/4 section 32, T. 2 N., R. 15 E.:

Ap-0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many fine irregular pores; neutral; gradual wavy boundary.

A12—8 to 16 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak coarse prismatic structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; neutral; gradual wavy boundary.

AC-16 to 37 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak coarse prismatic structure; slightly hard, firm, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; moderately calcareous; moderately alkaline; gradual wavy boundary.

a—37 to 48 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine tubular pores; moderately calcareous with mycelial lime; mildly alkaline; gradual wavy boundary.

C2-48 to 60 inches; dark brown (10YR 3/3) silt loam, grayish brown (10YR 5/2) dry; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; neutral; abrupt smooth boundary.

The A horizon is dark grayish brown or grayish brown when dry and very dark brown or very dark grayish brown when moist. It is silt loam or loam. The C horizon is grayish brown or brown when dry and very dark grayish brown or dark brown when moist. It is silt loam or loam and has stratified layers of sand and gravel.

26—Hermiston silt loam. A representative mapping unit is in the SW4/SE1/4NW1/4 section 32, T. 2 N., R. 15 E. This soil has slopes of 0 to 3 percent. It is adjacent to streams in long, narrow strips that average about 100 yards wide.

Included with this soil in mapping were areas of Tygh, Endersby, Pedigo, and noncalcareous silt loam soils. These soils make up about 10 percent of the unit.

Runoff is slow, and the hazard of erosion is slight. Capability unit He-3, nonirrigated and I-1, irrigated; Semi-Moist Bottom range site.

Hesslan Series

The Hesslan series consists of well drained soils formed in loess, volcanic ash, and colluvium weathered from sandstone on uplands. Slopes are 5 to 70 percent. Elevation is 500 to 3,500 feet. In uncultivated areas, the vegetation is bunchgrasses, forbs, shrubs, oak, and ponderosa pine. The average annual precipitation is 14 to 20 inches, the average annual air temperature is 45° to 49° F, and the frost-free period is 110 to 140 days at 32° and 140 to 160 days at 28°.

In a representative profile the surface layer is very dark grayish brown stony loam about 9 inches thick. The upper 9 inches of the subsoil is dark brown loam, and the lower 5 inches is dark brown cobbly loam. Semiconsolidated sandstone is at a depth of about 23 inches. The soil material throughout the profile is neutral.

Permeability is moderate, and the available water capacity is 3 to 8 inches. Water-supplying capacity is 5 to 7 inches. Effective rooting depth is 20 to 40 inches.

These soils are used for range, timber, wildlife

habitat, and water supply.

Representative profile of a Hesslan stony loam in an area of Skyline-Hesslan complex, 40 to 65 percent slopes, 500 feet north of the county road in the NW1/4 SW 1/4 SE 1/4 section 1, T. 1 S., R. 12 E.:

A11—0 to 3 inches; very dark grayish brown (10YR 3/2) stony loam, grayish brown (10YR 5/2) dry; weak medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 5 percent pebbles, 5 per-cent cobbles, and 5 percent stones; neutral; abrupt smooth boundary.

A12-3 to 9 inches; very dark grayish brown (10YR 3/2) stony loam, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 5 percent pebbles, 5 percent cobbles, and 5 percent stones; neutral; abrupt smooth boundary.

B1—9 to 18 inches; dark brown (10YR 3/3) loam, brown

(10YR 5/3) dry; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 5 percent pebbles and 5 percent cobbles; neutral; clear smooth boundary.

trai; clear smooth boundary.

B2—18 to 23 inches; dark brown (10YR 4/3) cobbly loam, pale brown (10YR 6/3) dry; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 10 percent pebbles and 10 percent cobbles; neutral; abrupt wavy boundary.

IIC—23 to 30 inches; semiconsolidated sandstone; extremely hard.

tremely hard.

The A horizon is grayish brown, dark grayish brown, or brown when dry and very dark grayish brown, very dark brown, or dark brown when moist. It is stony loam or cobbly loam. The content of rock fragments 2 millimeters to 10 inches in size ranges from 5 to 20 percent. The content of surface stones is 5 to 20 percent. The borizon is grayish brown, brown, or pale brown when dry and very dark grayish brown or dark brown when moist. It is 5 to 30 percent rock fragments 2 millimeters to 10 inches in size. It has weak or moderate medium and finches in size to 10 inches in size to 10 inches in size to 10 inches in size. rock is 20 to 40 inches.

27F-Hesslan complex, 30 to 70 percent slopes.

A representative mapping unit is in the SW1/4NW1/4 NW1/4 section 17, T. 1 S., R. 13 E. This complex is about 60 percent a Hesslan stony loam and 20 percent loam or cobbly loam soils that are 40 to 60 inches deep to bedrock. The Hesslan soil is on ridgetops and northfacing side slopes.

Included with this complex in mapping were areas of Wamic loam and Skyline very cobbly loam. These soils make up about 20 percent of the unit. Also in-

cluded were outcroppings of sandstone.

Runoff is rapid, and the hazard of erosion is severe. This complex is used for timber, range, wildlife habitat, and water supply. Capability subclass VIIs; Oak

Steep North range site.

28E Hesslan-Skyline complex, 5 to 40 percent slopes. A representative mapping unit is in the SW1/4 SW1/4 NW1/4 section 5, T. 1 S., R. 12 E. This complex SW1/4 NW1/4 SW1/4 SW1 is about 30 to 60 percent a Hesslan stony loam and 20 to 50 percent a Skyline very cobbly loam. The Hessian soil has north-facing slopes, and the Skyline soil has south-facing slopes,

Included with this complex in mapping were areas of Frailey loam and Wamic loam. These soils make up

about 20 percent of the unit,

Runoff is medium to rapid, and the hazard of erosion is moderate. This complex is used for range, wildlife habitat, and water supply. Capability subclass VIIs; Oak Steep South range site.

Ketchly Series

The Ketchly series consists of well drained soils formed in loess, volcanic ash, and colluvium weathered from andesite on uplands. Slopes are 3 to 65 percent. Elevation is 2,000 to 3,600 feet. The vegetation includes Douglas-fir, ponderosa pine, Oregon white oak, bunchgrasses, forbs, and shrubs. The average annual precipitation is 25 to 30 inches, the average annual air temperature is 42° to 45° F, and the frost-free period is 70 to 120 days at 32° and 100 to 140 days at 28°.

In a representative profile the surface layer is very dark grayish brown or dark brown loam about 11 inches thick. The subsoil is brown heavy loam about 31 inches thick. The substratum is very cobbly clay loam about 3 inches thick. Andesite bedrock is at a depth of

% 45 inches.

Permeability is moderately slow, and the available water capacity is 6 to 11 inches. Water-supplying capacity is 10 to 15 inches. Effective rooting depth is 40 to 60 inches.

These soils are used for timber, water supply, and

wildlife habitat.

Representative profile of Ketchly loam, 3 to 30 percent slopes, 175 feet south of road in the NE1/4NE1/4 -NW1/4 section 2, T. 1 N., R. 11 E.:

> 01-1 inch to 0; fir needles and twigs, grass, and deciduous leaves.

> All—0 to 6 inches; very dark grayish brown (10YR 3/2) loam, dark grayish brown (10YR 4/2) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine irregular pores; 15 percent pebbles % to % inch in diameter; neutral; gradual smooth boundary.

A12—6 to 11 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine and medium roots; many very fine tubular pores; 15 percent pebbles ½ to ½ inch in diameter; neutral; clear smooth boundary.

B1—11 to 18 inches; brown (7.5YR 4/4) heavy loam, pale brown (10YR 6/3) dry; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many fine and medium roots; many very fine tubular pores; 15 percent pebbles; neutral; gradual smooth boundary.

gradual smooth boundary.

gradual smooth boundary.

B21t—18 to 24 inches; brown (7.5YR 4/4) heavy loam, pale brown (10YR 6/3) dry; weak coarse subangular blocky structure; very hard, friable, slightly sticky and slightly plastic; many fine roots; many very fine tubular pores; common thin clay films in pores; neutral; gradual smooth boundary.

B22t—24 to 42 inches; brown (7.5YR 4/4) heavy loam, light yellowish brown (10YR 6/4) dry; weak coarse subangular blocky structure; extremely hard, firm, sticky and plastic; few to common fine and medium roots; many very fine tubular pores; common thin clay films on peds and in pores; slightly acid; gradual wavy boundary.

wavy boundary.

IIC-42 to 45 inches; very cobbly clay loam; massive; extremely hard, very firm, sticky and plastic; common

very fine pores.

IIIR—45 inches; andesite bedrock

The B2t horizon is loam, heavy loam, or light clay loam and is 5 to 30 percent rock fragments. Depth to bedrock is 40 to 60 inches or more.

29E-Ketchly loam, 3 to 30 percent slopes. A representative mapping unit is in the NE1/4NE1/4NW1/4 section 2, T. 1 N., R. 14 E. This soil is on broad ridgetops. It has the profile described as representative of the series.

Included with this soil in mapping were areas of Bins, Bindle, Frailey, Bald, and shallow stony loam soils. These soils make up as much as 15 percent of the unit.

Runoff is slow, and the hazard of erosion is moderate. Capability subclass VIe; woodland group 2o.

29F—Ketchly loam, 30 to 65 percent slopes. A representative mapping unit is in the NW1/4NE1/4 section 10, T. 1 N., R. 11 E. This soil has long and narrow

Íncluded with this soil in mapping were areas of Bins, Bindle, and Bald soils. These soils make up as

much as 15 percent of the unit.

Runoff is rapid, and the hazard of erosion is severe. Capability subclass VIIe; woodland group 2r.

Lickskillet Series

The Lickskillet series consists of well drained soils formed in shallow, stony colluvium consisting of a mixture of loess, rock fragments, and residuum weathered from the underlying basalt on uplands. Slopes are 15 to 70 percent. Elevation is 200 to 3,600 feet. The vegetation is bunchgrasses, forbs, and shrubs. The average annual precipitation is 10 to 13 inches, the average annual air temperature is 45° to 52° F, and the frost-free period is 100 to 150 days at 32° and 150 to 210 days at 28°.

In a representative profile (fig. 4) the surface layer is very dark grayish brown extremely stony loam about slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many fine tubular pores; neutral; gradual smooth boundary.

pores; neutral, gradual smooth boundary.

12—44 to 82 inches; dark yellowish brown (10YR 3/4)

silt loam, pale brown (10YR 6/3) dry; massive;

slightly hard, very friable, slightly sticky and slightly

plastic; common very fine roots; many very fine
tubular pores; mildly alkaline.

The A horizon is dark grayish brown, grayish brown, or brown when dry and very dark brown, very dark grayish brown, or dark brown when moist. It is silt loam or coarse silt loam. The B horizon is silt loam or coarse silt loam. The C horizon is light brownish gray or pale brown when dry and dark yellowish brown or brown when moist.

It is silt loam or coarse silt loam. Lime in mycelium form
is below a depth of 55 inches in some places. Depth to bedrock is 40 to more than 60 inches.

-Walla Walla silt loam, 3 to 7 percent slopes. A representative mapping unit is in the SW14SW14SW14 section 2, T. 1 N., R. 15 E. This soil is on ridgetops in broad, smooth, convex areas.

Included with this soil in mapping were areas of Anderly and Nansene soils. These soils make up about 5 percent of the unit.

Runoff is slow, and the hazard of erosion is slight.

Capability unit IIe-3; Rolling Hills range site.
46C—Walla Walla silt loam, 7 to 12 percent slopes. A representative mapping unit is in the SW1/4SW1/4 SW1/4 section 3, T. 1 N., R. 15 S. This soil is on ridgetops in broad, smooth, convex areas.

Included with this soil in mapping were areas of Anderly and Nansene soils. These soils make up about

5 percent of the unit. Runoff is medium, and the hazard of erosion is moderate. Capability unit IIIe-1; Rolling Hills range site.

46D-Walla Walla silt loam, 12 to 20 percent north slopes. A representative mapping unit is in the SE1/4 SW1/4 SW1/4 section 12, T. 1 N., R. 14 E. This soil is in long, broad, convex areas. It has the profile described as representative of the series.

Included with this soil in mapping were areas of Anderly and Nansene soils. These soils make up about 5 percent of the unit.

Runoff is medium, and the hazard of erosion is moderate. Capability unit IIIe-4; Droughty North Exposure range site.

47D-Walla Walla silt loam, 12 to 20 percent south slopes. A representative mapping unit is in the SW1/4 SW14SW14 section 6, T. 1 N., R. 15 E. This soil is in long, broad, convex areas.

Included with this soil in mapping were areas of Anderly and Nansene soils that make up about 10 percent of the unit.

Runoff is medium, and the hazard of erosion is moderate. Capability unit IIIe-4; Rolling Hills range site.

47E-Walla Walla silt loam, 20 to 35 percent north slopes. A representative mapping unit is in the NE1/4 SW1/4SW1/4 section 9, T. 1 N., R. 14 E. This soil is in long, broad, irregularly shaped areas.

Included with this soil in mapping were areas of Anderly and Nansene soils that make up about 10 percent of the unit.

Runoff is rapid, and the hazard of erosion is severe. Capability unit IVe-3; North Exposure range site.

48E-Walla Walla silt loam, 20 to 35 percent south slopes. A representative mapping unit is in the NW1/4 NW1/4NW1/4 section 10, T. 1 N., R. 14 E. This soil is in long, broad, irregularly shaped areas.

Included with this soil in mapping were areas of Anderly and Nansene soils that make up about 10 per-

cent of the unit.

Runoff is rapid, and the hazard of erosion is severe. Capability unit IVe-2; Droughty South Exposure range site,

-Walla Walla silt loam, 35 to 50 percent south slopes. A representative mapping unit is in the SW1/4. SE1/4NE1/4 section 7, T. 1 N., R. 14 E. This soil is in long, narrow, irregularly shaped areas.

Included with this soil in mapping were areas of Anderly and Nansene soils that make up about 10 per-

cent of this mapping unit.

Runoff is rapid, and the hazard of erosion is severe. Capability subclass VIe; Drougthy South Exposure range site.

Wamic Series

The Wamic series consists of well drained soils formed in volcanic ash, and loess overlying alluvium or colluvium weathered from basalt or andesite on uplands. Slopes are 1 to 70 percent. Elevation is 1,000 to 3,600 feet. In uncultivated areas, the vegetation is ponderosa pine, Douglas-fir, oak forbs, and shrubs. The average annual precipitation is 14 to 20 inches, the average annual air temperature is 46° to 50° F, and the frost-free period is 100 to 150 days at 32° and 150 to 200 days at 28°.

In a representative profile the surface layer is very dark grayish brown loam about 7 inches thick. The subsoil is dark brown loam about 21 inches thick. The substratum is dark brown heavy loam 16 or more inches thick. The soil material throughout the profile is neutral.

Permeability is moderately slow, and the available water capacity is 6.5 to 11 inches. Water-supplying capacity is 8 to 12.5 inches. Effective rooting depth is 40 to 60 inches or more.

These soils are used for dryfarmed small grain, hay,

pasture, range, timber, and wildlife habitat.

Representative profile of Wamic loam, 5 to 12 percent south slopes, 100 feet south of road in the NE1/4 NW1/4NW1/4 section 26, T. 2 S., R. 12 E.:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine irregular pores; neutral; abrupt smooth boundary.

B1—7 to 18 inches: dark brown (10YR 3/3) loam light

-7 to 18 inches; dark brown (10YR 3/3) loam, light brownish gray (10YR 6/2) dry; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; neutral; clear wavy boundary.

-18 to 28 inches; dark brown (10YR 4/3) loam, light brownish gray (10YR 6/2) dry; weak medium sub-angular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine roots; many

very fine and common fine tubular pores; about 2 percent very fine pebbles; light gray (10YR 7/2) when dry coatings of very fine sand on peds; neutral;

abrupt wavy boundary.

loam, pale brown (10YR 4/3) heavy loam, pale brown (10YR 4/3) dry; massive; very hard, firm, sticky and plastic; few fine roots; many very fine and common fine tubular pores; about 2 percent very fine pebbles; brown (7.5YR 4/4) when dry thick class files in roothy all roots and the class files in roo dry thick clay films in nearly all pores and on faces of fractures; neutral.
IIIR—44 inches; basalt bedrock.

The A horizon is light brownish gray or pale brown when dry and very dark grayish brown or dark brown when moist. It is loam, very fine sandy loam, or silt loam. It has weak granular or subangular blocky structure. The B horizon is light brownish gray, pale brown, or light yellowish brown when dry and dark brown, brown, or dark yellowish brown when moist. It is loam or silt loam, dark yellowish brown when moist. It is foam or silt loam, is 18 to 22 percent clay, and is more than 15 percent particles coarser textured than very fine sand. The substratum is pale brown or light yellowish brown when dry and brown or dark yellowish brown when moist. It is heavy loam, loam, or sandy clay loam and is 20 to 30 percent clay. The amount of ash in the soil ranges from 20 to 60 percent, Depth to bedrock is 40 to 60 inches or

49B—Wamic loam, 1 to 5 percent slopes. A representative mapping unit is in the SW1/4SE1/4SW1/4 section 25, T. 1 N., R. 12 E. This soil is on ridgetops

in broad, smooth, convex areas.

Included with this soil in mapping were areas of Bald, Bodell, Hesslan, Skyline, and Frailey soils. These

soils make up about 5 percent of the unit.

Runoff is slow, and the hazard of erosion is slight. Capability unit IIIe-1; Pine-Oak-Fescue range site;

woodland group 50.

49C - Wamic loam, 5 to 12 percent north slopes. A representative mapping unit is in the SE14NW14 NW14 section 35, T. 2 S., R. 12 E. This soil is on ridgetops in broad, smooth areas.

Included with this soil in mapping were areas of Bald, Bodell, Hesslan, Skyline, and Frailey soils. These

soils make up about 10 percent of the unit.

Runoff is medium, and the hazard of erosion is moderate. Capability unit IIIe-4; Pine-Oak-Fescue range

site; woodland group 50.

50C-Wamic loam, 5 to 12 percent south slopes. A representative mapping unit is in the NE1/4NW1/4 NW1/4 section 26, T. 2 S., R. 12 E. This soil is in long, irregularly shaped areas and has south-facing slopes. It has the profile described as representative of the series.

Included with this soil in mapping were areas of Bald, Bodell, Hesslan, Skyline, and Frailey soils. These soils make up about 10 percent of the unit.

Runoff is medium, and the hazard of erosion is moderate. Capability unit IIIe-5; Oak South Exposure

50D Wamie loam, 12 to 20 percent slopes. A representative mapping unit is in the $SE\frac{1}{4}SE\frac{1}{4}SE\frac{1}{4}$ section 14, T. 2 S., R. 14 E. This soil is in irregularly shaped areas.

Included with this soil in mapping were areas of Bald, Bodell, Hesslan, Skyline, and Frailey soils. These soils make up about 10 percent of the unit.

Runoff is medium, and the hazard of erosion is moderate. Capability unit IIIe-4; Pine-Oak-Fescue range

site: woodland group 50.

50E Wamie loam, 20 to 40 percent slopes. A representative mapping unit is in the NE¼NE¼NE¼ section 31, T. 2 S., R. 13 E. This soil is in long, broad areas and narrow, irregularly shaped areas.

Included with this soil in mapping were areas of Bald, Hesslan, Skyline, and Frailey soils. These soils make up about 10 percent of the unit.

Runoff is rapid, and the hazard of erosion is severe. Capability subclass VIe; Pine-Douglas Fir-Sedge range

site; woodland group 5r.

50F-Wamic loam, 40 to 70 percent slopes. A representative mapping unit is in the NE¼SW¼SW¼ section 10, T. 2 N., R. 12 E. This soil is in long, narrow, irregularly shaped areas. It has a profile similar to the one described as representative of the series, but the surface layer is darker colored.

Included with this soil in mapping were areas of

Bald, Hesslan, Frailey, and Skyline soils. These soils make up as much as 20 percent of the unit.

Runoff is rapid, and the hazard of erosion is severe. Capability subclass VIIe; Pine-Douglas Fir-Sedge

range site; woodland group 5r.
51D Wamic-Skyline complex, 2 to 20 percent slopes. A representative mapping unit is in the NW1/4 NW1/4 NE1/4 section 36, T. 2 S., R. 12 E. This complex is about 45 to 70 percent a Wamic loam and about 15 to 40 percent a Skyline very cobbly loam. The Wamic soil is on ridgetops or side slopes in circular or elongated mounds. The Skyline soil is in areas where the ridgetops break off into canyons.

Included with this complex in mapping were areas of very shallow, very stony, and deep stony soils. These

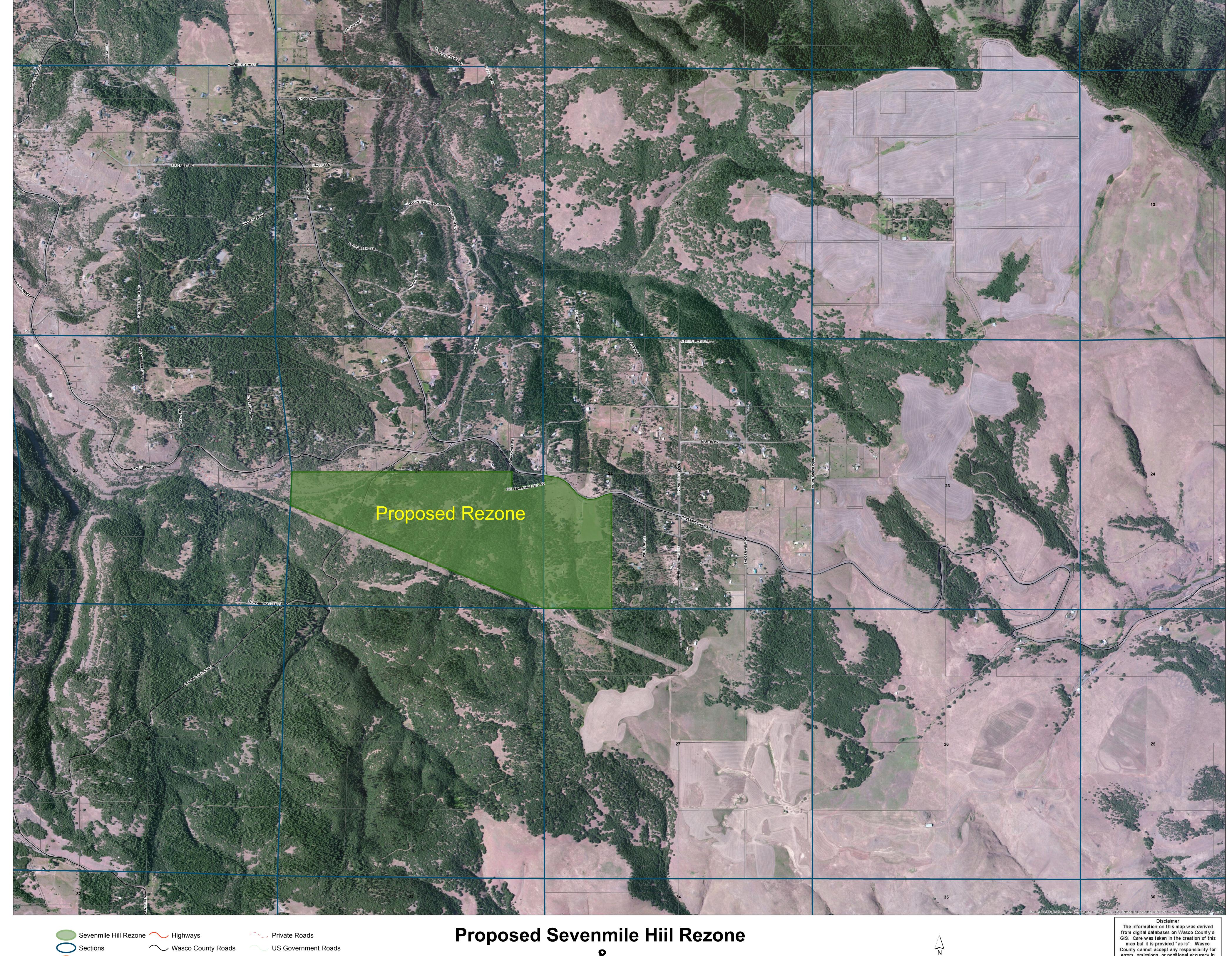
soils make up about 20 percent of the unit.

Runoff is medium, and the hazard of erosion is moderate. This complex is used for range and wildlife habitat. Capability subclass VIe; Wamic soil in Oak South Exposure range site; Skyline soil in Oak Steep South range site,

Wapinitia Series

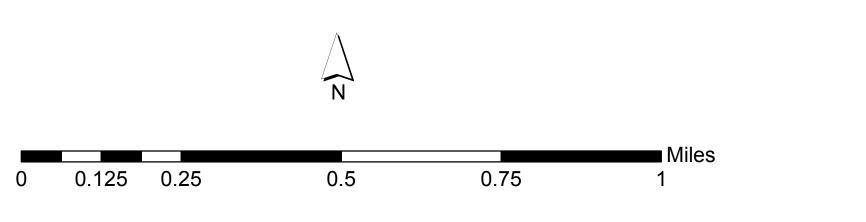
The Wapinitia series consists of well drained soils formed in losss and volcanic ash on uplands, Slopes are 0 to 35 percent. Elevation is 1,800 to 3,400 feet. In uncultivated areas, the vegetation is bunchgrasses, forbs, and shrubs. The average annual precipitation is 13 to 16 inches, the average annual air temperature is 48° to 50° F, and the frost-free period is 120 to 170 days at 32° and 170 to 200 days at 28° .

In a representative profile the surface layer is very dark brown silt loam about 6 inches thick. The upper 13 inches of the subsoil is very dark brown silt loam, and the lower 10 inches is dark brown silty clay loam. The upper 7 inches of the substratum is dark yellowish brown fine sandy loam, and the lower 14 inches is dark brown clay loam. Basalt bedrock is at a depth of about 50 inches. The surface layer and upper part of the subsoil are slightly acid, and the lower part of the subsoil and the substratum is neutral.



Local City Roads 1 Mile Notification Public Access Roads

1 Mile Notification Area



Disclaimer
The information on this map was derived from digital databases on Wasco County's GIS. Care was taken in the creation of this map but it is provided "as is". Wasco County cannot accept any responsibility for errors, omissions, or positional accuracy in the digital data or the underlying records. There are no warranties, express or implied, including the merchantability or fitness for a particular purpose, accompanying this product. However, notification of any errors will be appreciated.

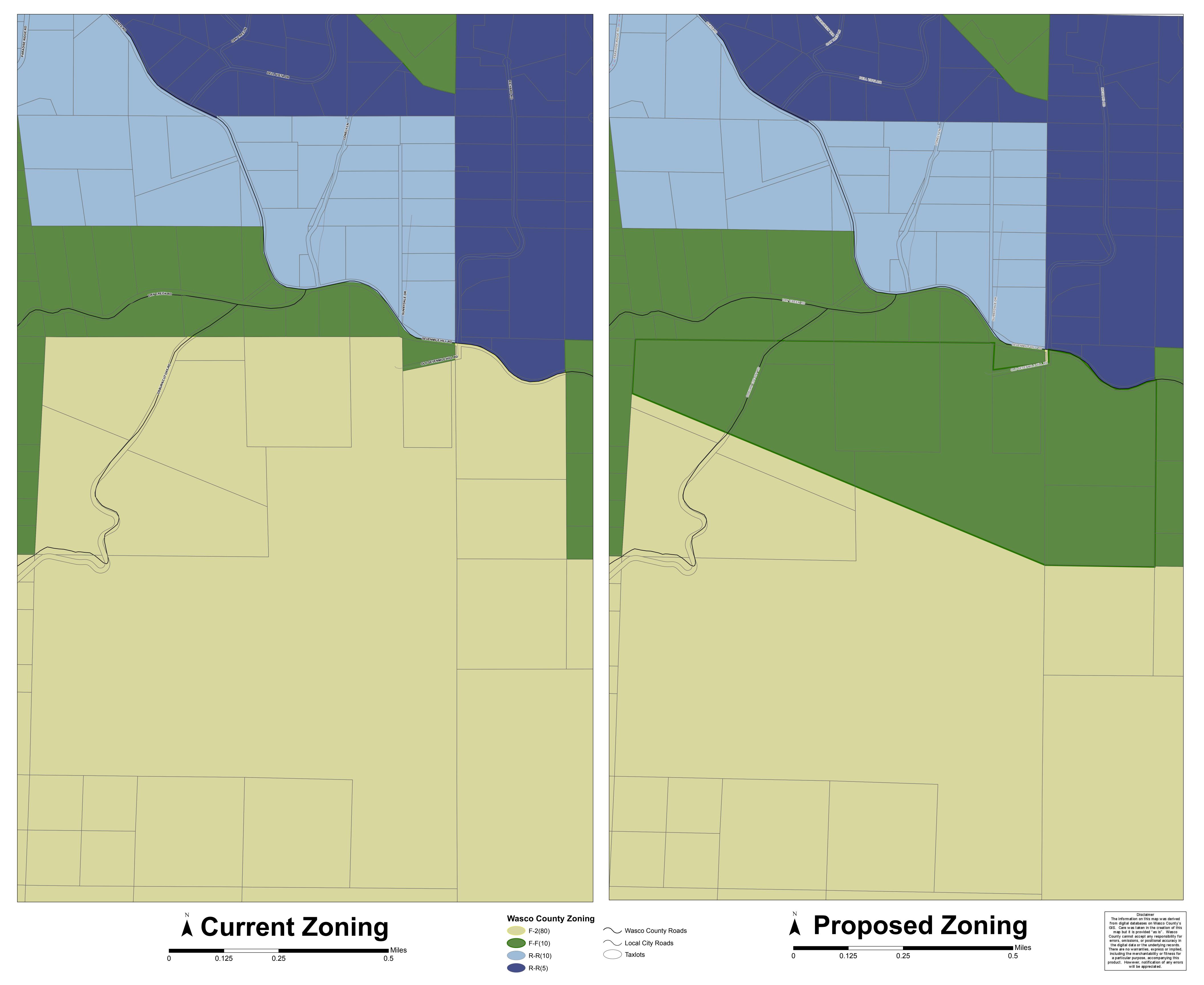


Exhibit 6

Sevenmile Hill Forest Protection Overlay Zone

Section 3.950 <u>Division 11 - Sevenmile Hill Forest Protection Overlay Zone</u>

A. Purpose

The purpose of this Sevenmile Hill limited use overlay is to establish appropriate conditions and standards for development in the Sevenmile Hill Exception Area (2012), ("Exception Area" or "Area") identified on a map labeled Exhibit ____ of the ordinance establishing the Area, Ordinance No. 12-___. Under Ordinance No. 12-___, this Overlay is applied as a Forest Protection Overlay Zone and a Planned Unit Development Overlay Zone. The goal is to allow rural residential development while improving the overall value of the Area as a more appropriate buffer between existing and allowed rural residences to the north, and commercial timber and wildlands to the south. Development within the overlay zone is subject to comprehensive standards designed to reduce the risk of fires spreading uncontrolled onto the resource lands.

B. Uses Permitted Without Review:

1. All uses permitted without review in the Forest-Farm, F-F(10) Zone and listed in Section 3.220(B) of this Ordinance are allowed without review in areas covered by the Overlay Zone..

C. Uses Permitted Subject to Type I Review

1. Uses permitted subject to Type I Review in the Forest-Farm, F-F(10) zone and listed in Section 3.220(C) are subject to Type I Review in areas covered by the Overlay Zone.

D. Uses Permitted Subject to Standards/Type II Review:

1. Uses permitted subject to Standards/Type II Review in the Forest-Farm, F-F(10) zone and listed in Section 3.220(D) are subject to Type II Review in areas covered by the Overlay Zone.

Establishment of a Planned Unit Development (PUD). Notwithstanding Section 18.080 of this Ordinance, only uses permitted outright or conditionally in the F-F(10) Zone are allowed in the Area.

E. <u>Uses Permitted Subject to Conditional Use Review/Type II or Type III:</u>

1. Uses permitted subject to Conditional Use Review/Type II or Type III in the Forest-Farm, F-F(10) zone and listed in Section 3.220(E) are subject to Conditional Use Review under a Type II or Type III procedure in areas covered by the Overlay Zone.

F. General Development Standards

- 1. The property development standards that apply to development in the F-F(10) Zone and are listed in Section 3.220(F)(1) through (10) of this Ordinance apply to development in the Exception Area;
- 2. The minimum property size for non-Planned Unit Development is ten acres, with a 330-foot minimum average lot width.
- 3. No dwelling may be erected within 200 feet of the northern boundary of the Bonneville Power Administration Transmission Line Easement known as "Bonneville The Dalles Line."
- 4. New parcels shall be oriented, and new homesites shall be located toward the north of the Exception Area to the greatest practical extent.
- E. <u>Fire and Safety Standards</u>. In the Exception Area, all dwellings, and other structures as specified, shall comply with the fire and safety standards in Section 10, Fire Safety Standards, for protection of the development and of surrounding areas, and also the following additional standards. If the standards below overlap or are not the same as those in Section 10, then the more stringent standard will apply.
 - 1. A dwelling or other structure developed with a plumbed water system shall also include at least one standpipe, placed a minimum of 50 feet from the dwelling or structure at an accessible location;
 - 2. Separate power service independent of the dwelling or other structure shall be provided for the pump delivering water to the standpipe called for in section 1. above, and shall be provided by a public utility. Any exception to this requirement must be approved in writing by a state-licensed fire engineer;
 - 3. A minimum water flow equal to 20 gallons per minute for 50 minutes, for a total water capacity of 1,000 gallons shall be provided and maintained by the owner year-round, and made available to the rural fire protection provider;

- 4. Power and telephone lines to the dwelling, pumps and other utilities or structures shall be located underground, when it is possible to do so without undue hardship or difficulty;
- 5. If a water supply, such as a tank installed for wildfire suppression, swimming pool, pond, suitable stream or lake, exists within 100 feet of the driveway or access road at a reasonable grade, the owner shall provide an access drive to within 15 feet of the water's edge for pumping unit access. The access drive shall be a minimum of 12 feet wide, maximum 12% grade, with a 14-foot vertical clearance and 50,000 pound carrying capacity. Access roads over 150 feet in length shall be constructed with a turn-around for emergency vehicles;
- 6. Building Construction and Maintenance Requirements.
 - a. Exterior roofing on all dwellings and structures shall be of fireresistant materials (e.g. tile, slate, metal, composition asphalt). The area over a roof shall be maintained clear of tree limbs or other vegetation that is dead or dying;
 - b. All permanent openings into and under a dwelling or other structure shall be completely covered with noncombustible, corrosion-resistant, 1/4-inch mesh screening material, to protect against wind-blown embers. The area under decks, porches and other structural attachments shall be maintained substantially free of flammable material, such as firewood, lumber, leaves and needles;
 - c. The openings of chimneys and stovepipes shall be completely covered with a 12-gauge metal spark arrester that has mesh openings no larger than 0.5-inch. The area within ten feet of a dwelling or other structure's chimney or stove pipe shall be maintained clear of vegetation;
 - d. Decks, porches and other structural attachments extending from the main structure shall be constructed of materials that have a one-hour fire rating;
 - e. During declared fire season, all firewood piles shall be maintained at least 20 feet from a structure, or fully enclosed.
- 7. <u>Fuel breaks</u>. A fuel break is created by removal of fire fuels from the ground, shrubs from under large trees, and tree limbs from within six feet of the ground. The owners of dwellings and structures shall clear and maintain a primary fuel break area surrounding all structures of at least 30 feet, and a secondary fuel break area according to the following chart:

Size of Fuel Break Safety Zone by Percent Slope

Slope	Feet of Primary <u>Safety Zone</u>	Feet of Additional <u>Down Slope</u>
0%	30	0
10%	30	50
20%	30	75
25%	30	100
40%	30	150

Limbs and other vegetation overhanging all driveways shall be cleared to a height of 13.5 feet. For any driveway longer than 150 feet, a fuel break shall also be cleared and maintained ten feet from both sides of the driveway centerline.

8. <u>Setbacks</u>. The owners of dwellings and structures shall maintain the following setbacks from ridgetops, cliffs and bluffs:

Setback from Major Slope Changes (change in slope 10% or greater) in Conjunction with Fuel Break Safety Zone

On a slope change Where the downhill slope is	Feet of Setback	
10%	50	
20%	75	
25%	100	

9. <u>Driveways and private roads</u>:

40%

a. Shall be built and maintained to provide a minimum 18-foot wide all weather surface with a 50,000 pound carrying capacity, a minimum curve radius of 48 feet and a vertical clearance of 13.5 feet;

150

- b. Shall be built with grades that do not exceed an average of 8% with a maximum of 12% on short pitches.
- c. If dead-end and over 150 feet in length, shall have turnarounds of not less than a 48-foot radius.
- d. In excess of 200 feet in length shall be constructed with 20-foot wide by 40-foot long turnouts at a maximum spacing of 1/2 the

driveway length or 400 feet, whichever is less. An existing driveway may be used to meet the spacing requirements of this section.

- e. Where intersecting with a public road, shall be constructed and maintained in a manner allowing reasonable access for fire suppression equipment;
- 10. When issuing a building permit, the county shall make reasonable effort to ensure that the applicant is aware of the following:
 - a. Open fires may be built, ignited and maintained only in compliance with all applicable permit and fire safety requirements; tended and maintained under the control of a person 16 years of age or older; conducted only when weather conditions permit safe burning; conducted in a location which has had all surrounding material cleared of flammable material sufficient to prevent unintended spread of the fire; and conducted only when adequate and appropriate fire tools and/or a water supply are present to assist in preventing the unintended spread of fire;
 - b. Grills, incinerators, outdoor fireplaces, permanent barbecues and similar devices shall be maintained by their owner in good repair, in safe condition, and all openings shall be covered by a spark arrester, a screen, or by a device that prevents the unintended spread of fire;
 - c. Outdoor equipment or devices capable of generating heat, open flame, or sparks may only be used in compliance with all applicable permit and fire safety requirements.
- G. <u>Additional PUD Requirements</u>. The following additional requirements shall apply to a PUD in the Exception Area:
 - 1. Subdivision of an existing lot in the Area shall comply with the applicable standards, conditions, and development plan requirements of Chapter 18, Planned Unit Development.
 - 2. For a PUD, the minimum property size is 2.5 acres, the overall density of the PUD shall not exceed a ratio of one dwelling for every ten acres in the PUD, and the number of new lots or parcels to be created from a parent parcel shall not exceed ten, unless the County determines that more than ten lots are allowed under state law.
 - 3. The PUD shall provide for clustering of dwellings toward the north of the Exception Area to the greatest practical extent;

- 4. Common open space provided as part of a PUD shall be deeded to a Homeowners' Association, and may be encumbered with a conservation easement. A conservation easement or other deed restriction shall preclude all future rights to construct a dwelling on the lot, parcel, or tract designated as open space or common area for as long as the lot, parcel, or tract remains outside an urban growth boundary.
- 5. Deed covenants and restrictions established as part of a PUD in the Exception Area shall require that, upon issuance of a building permit for construction of a dwelling, the owner of a lot or parcel shall begin contributing the amount of at least \$200 per year (prorated for the first year) into a Fire Prevention Fund maintained by the Homeowners' Association. Money collected and managed by the Homeowners' Association in a Fire Prevention Fund shall be used only for the following purposes:
 - a. To provide additional water supply, storage capacity, standpipes or water conveyance systems to protect the PUD from wildfires;
 - b. To provide additional, or enhanced fire breaks not otherwise required by this Ordinance, at strategic locations determined to be useful or appropriate by the Association, following consultation with the State Forester, a state or local Fire Marshall, or the designee of any such official (herein, "fire official");
 - c. For maintenance of additional, or enhanced fire breaks not otherwise required by this Ordinance;
 - d. For installation and maintenance of fire roads, at locations determined to be useful or appropriate by the Association, following consultation with a fire official;
 - e. For technical advice, training or education provided to Association members concerning fire risk reduction, prevention and suppression practices and programs;
 - f. To fund any other fire risk reduction, prevention or suppression technology or practice not otherwise required by this ordinance and recommended in writing by a fire official.
- 6. PUD Homeowner Associations are encouraged to adopt and enforce rules as necessary to ensure compliance with applicable Fire and Safety Standards.

7. Except as otherwise required by state law, a PUD shall not be served by a new community sewer system or extension of an existing sewer system, but may be served by a water system developed and maintained in conformance with state law;

Exhibit 6

Sevenmile Hill Forest Protection Overlay Zone

Section 3.950 <u>Division 11 - Sevenmile Hill Forest Protection Overlay Zone</u>

A. <u>Purpose</u>

The purpose of this Sevenmile Hill limited use overlay is to establish appropriate conditions and standards for development in the Sevenmile Hill Exception Area (2012), ("Exception Area" or "Area") identified on a map labeled Exhibit ____ of the ordinance establishing the Area, Ordinance No. 12-___. Under Ordinance No. 12-___, this Overlay is applied as a Forest Protection Overlay Zone and a Planned Unit Development Overlay Zone. The goal is to allow rural residential development while improving the overall value of the Area as a more appropriate buffer between existing and allowed rural residences to the north, and commercial timber and wildlands to the south. Development within the overlay zone is subject to comprehensive standards designed to reduce the risk of fires spreading uncontrolled onto the resource lands.

B. <u>Uses Permitted Without Review:</u>

1. All uses permitted without review in the Forest-Farm, F-F(10) Zone and listed in Section 3.220(B) of this Ordinance are allowed without review in areas covered by the Overlay Zone..

C. Uses Permitted Subject to Type I Review

1. Uses permitted subject to Type I Review in the Forest-Farm, F-F(10) zone and listed in Section 3.220(C) are subject to Type I Review in areas covered by the Overlay Zone.

D. Uses Permitted Subject to Standards/Type II Review:

1. Uses permitted subject to Standards/Type II Review in the Forest-Farm, F-F(10) zone and listed in Section 3.220(D) are subject to Type II Review in areas covered by the Overlay Zone.

Establishment of a Planned Unit Development (PUD). Notwithstanding Section 18.080 of this Ordinance, only uses permitted outright or conditionally in the F-F(10) Zone are allowed in the Area.

E. <u>Uses Permitted Subject to Conditional Use Review/Type II or Type III:</u>

1. Uses permitted subject to Conditional Use Review/Type II or Type III in the Forest-Farm, F-F(10) zone and listed in Section 3.220(E) are subject to Conditional Use Review under a Type II or Type III procedure in areas covered by the Overlay Zone.

F. General Development Standards

- 1. The property development standards that apply to development in the F-F(10) Zone and are listed in Section 3.220(F)(1) through (10) of this Ordinance apply to development in the Exception Area;
- 2. The minimum property size for non-Planned Unit Development is ten acres, with a 330-foot minimum average lot width.
- 3. No dwelling may be erected within 200 feet of the northern boundary of the Bonneville Power Administration Transmission Line Easement known as "Bonneville The Dalles Line."
- 4. New parcels shall be oriented, and new homesites shall be located toward the north of the Exception Area to the greatest practical extent.
- E. <u>Fire and Safety Standards</u>. In the Exception Area, all dwellings, and other structures as specified, shall comply with the fire and safety standards in Section 10, Fire Safety Standards, for protection of the development and of surrounding areas, and also the following additional standards. If the standards below overlap or are not the same as those in Section 10, then the more stringent standard will apply.
 - 1. A dwelling or other structure developed with a plumbed water system shall also include at least one standpipe, placed a minimum of 50 feet from the dwelling or structure at an accessible location;
 - 2. Separate power service independent of the dwelling or other structure shall be provided for the pump delivering water to the standpipe called for in section 1. above, and shall be provided by a public utility. Any exception to this requirement must be approved in writing by a state-licensed fire engineer;
 - 3. A minimum water flow equal to 20 gallons per minute for 50 minutes, for a total water capacity of 1,000 gallons shall be provided and maintained by the owner year-round, and made available to the rural fire protection provider;

- 4. Power and telephone lines to the dwelling, pumps and other utilities or structures shall be located underground, when it is possible to do so without undue hardship or difficulty;
- 5. If a water supply, such as a tank installed for wildfire suppression, swimming pool, pond, suitable stream or lake, exists within 100 feet of the driveway or access road at a reasonable grade, the owner shall provide an access drive to within 15 feet of the water's edge for pumping unit access. The access drive shall be a minimum of 12 16 feet wide, maximum 12% 10% grade, with a 14-foot vertical clearance and 50,000 pound carrying capacity. Access roads over 150 feet in length shall be constructed with a turn-around for emergency vehicles;

6. <u>Building Construction and Maintenance Requirements.</u>

- Exterior roofing on all dwellings and structures shall be of fire-resistant materials (e.g. tile, slate, metal, composition asphalt).
 The area over a roof shall be maintained clear of tree limbs or other vegetation that is dead or dying;
- b. All permanent openings into and under a dwelling or other structure shall be completely covered with noncombustible, corrosion-resistant, 1/4-inch mesh screening material, to protect against wind-blown embers. The area under decks, porches and other structural attachments shall be maintained substantially free of flammable material, such as firewood, lumber, leaves and needles;
- c. The openings of chimneys and stovepipes shall be completely covered with a 12-gauge metal spark arrester that has mesh openings no larger than 0.5-inch. The area within ten feet of a dwelling or other structure's chimney or stove pipe shall be maintained clear of vegetation;
- d. Decks, porches and other structural attachments extending from the main structure shall be constructed of materials that have a one-hour fire rating;
- e. During declared fire season, all firewood piles shall be maintained at least 20 feet from a structure, or fully enclosed.
- 7. <u>Fuel breaks</u>. A fuel break is created by removal of fire fuels from the ground, shrubs from under large trees, and tree limbs from within six feet of the ground. The owners of dwellings and structures shall clear and maintain a primary fuel break area surrounding all structures of at least 30 feet, and a secondary fuel break area according to the following chart:

Size of Fuel Break Safety Zone by Percent Slope

Slope	Feet of Primary Safety Zone	Feet of Additional <u>Down Slope</u>
0%	30	0
10%	30	50
20%	30	75
25%	30	100
40%	30	150

Limbs and other vegetation overhanging all driveways shall be cleared to a height of 13.5 14 feet. For any driveway longer than 150 feet, a fuel break shall also be cleared and maintained ten feet from both sides of the driveway centerline.

8. <u>Setbacks</u>. The owners of dwellings and structures shall maintain the following setbacks from ridgetops, cliffs and bluffs:

<u>Setback from Major Slope Changes (change in slope 10% or greater) in Conjunction with Fuel Break Safety Zone</u>

On a slope change

Where the downhill slope is	Feet of Setback	
10%	50	
20%	75	
25%	100	
40%	150	

9. Driveways and private roads:

- a. Shall be built and maintained to provide a minimum 48-16 foot wide all weather surface with a 50,000 pound carrying capacity, a minimum curve radius of 48 feet and a vertical clearance of 13.5 14 feet:
- b. Shall be built with grades that do not exceed an average of 8% 10% with a maximum of 12% on short pitches.
- c. If dead-end and over 150 feet in length, shall have turnarounds of not less than a 48-foot radius.
- d. In excess of 200 feet in length shall be constructed with 20-foot wide by 40-foot long turnouts at a maximum spacing of 1/2 the

driveway length or 400 feet, whichever is less. An existing driveway may be used to meet the spacing requirements of this section.

- e. Where intersecting with a public road, shall be constructed and maintained in a manner allowing reasonable access for fire suppression equipment;
- 10. When issuing a building permit, the county shall make reasonable effort to ensure that the applicant is aware of the following:
 - a. Open fires may be built, ignited and maintained only in compliance with all applicable permit and fire safety requirements; tended and maintained under the control of a person 16 years of age or older; conducted only when weather conditions permit safe burning; conducted in a location which has had all surrounding material cleared of flammable material sufficient to prevent unintended spread of the fire; and conducted only when adequate and appropriate fire tools and/or a water supply are present to assist in preventing the unintended spread of fire;
 - b. Grills, incinerators, outdoor fireplaces, permanent barbecues and similar devices shall be maintained by their owner in good repair, in safe condition, and all openings shall be covered by a spark arrester, a screen, or by a device that prevents the unintended spread of fire;
 - c. Outdoor equipment or devices capable of generating heat, open flame, or sparks may only be used in compliance with all applicable permit and fire safety requirements.
- G. <u>Additional PUD Requirements</u>. The following additional requirements shall apply to a PUD in the Exception Area:
 - 1. Subdivision Any division of an existing lot in the Area shall comply with the applicable standards, conditions, and development plan requirements of Chapter 18, Planned Unit Development.
 - 2. For a PUD, the minimum property size is 2.5 acres, the overall density of the PUD shall not exceed a ratio of one dwelling for every ten acres in the PUD, and the number of new lots or parcels to be created from a parent parcel shall not exceed ten, unless the County determines that more than ten lots are allowed under state law.
 - 3. The PUD shall provide for clustering of dwellings toward the north of the Exception Area to the greatest practical extent;

- 4. Common open space provided as part of a PUD shall be deeded to a Homeowners' Association, and may shall be encumbered with a conservation easement to benefit the property owners in the PUD. A conservation easement or other deed restriction shall preclude all future rights to construct a dwelling on the lot, parcel, or tract designated as open space or common area for as long as the lot, parcel, or tract remains outside an urban growth boundary.
- 5. Deed covenants and restrictions established as part of a PUD in the Exception Area shall require that, upon issuance of a building permit for construction of a dwelling, the owner of a lot or parcel shall begin contributing the amount of at least \$200 per year (prorated for the first year) into a Fire Prevention Fund maintained by the Homeowners' Association. Money collected and managed by the Homeowners' Association in a Fire Prevention Fund shall be used only for the following purposes:
 - a. To provide additional water supply, storage capacity, standpipes or water conveyance systems to protect the PUD from wildfires;
 - b. To provide additional, or enhanced fire breaks not otherwise required by this Ordinance, at strategic locations determined to be useful or appropriate by the Association, following consultation with the State Forester, a state or local Fire Marshall, or the designee of any such official (herein, "fire official");
 - c. For maintenance of additional, or enhanced fire breaks not otherwise required by this Ordinance;
 - d. For installation and maintenance of fire roads, at locations determined to be useful or appropriate by the Association, following consultation with a fire official;
 - e. For technical advice, training or education provided to Association members concerning fire risk reduction, prevention and suppression practices and programs;
 - f. To fund any other fire risk reduction, prevention or suppression technology or practice not otherwise required by this ordinance and recommended in writing by a fire official.
- 6. PUD Homeowner Associations are encouraged to adopt and enforce rules as necessary to ensure compliance with applicable Fire and Safety Standards.

7.	Except as otherwise required by state law, a PUD shall not be served by a new community sewer system or extension of an existing sewer system, but may be served by a water system developed and maintained in conformance with state law;