

ZONING MAP: N.T.S.

CB	PF
CC	PO
CG	PO/RM/RS
CH	SR2-1/2
CL	RH
CN	RL
IG	RM
IL	RS
IP	SM
ME	UAR10
MR	

ADJACENT AMENITIES

- FORUM SHOPPING CENTER: **A**
- COSTCO
 - WHOLE FOODS
 - SAFWAY
 - BARNES AND NOBLE
 - BIG LOTS
 - OLD NAVY
 - PIER 1 IMPORTS
- WILCO: **B**
- WALGREENS: **C**
- WORTHY BREWING: **D**
- RESTAURANTS: **NOT SHOWN**
- SUBWAY
 - JIMMY JOHNS
 - JAMBA JUICE
 - ALOHA CAFE
 - SCHLOTSKY'S
 - TACO BELL
 - TIMBERS BAR AND GRILL
 - DUTCH BROTHERS
 - STARBUCKS
 - CUPPA YO
 - GROWLER GUYS

VICINITY MAP: N.T.S.



← -CITY OF BEND WATER STUB APPROX. 200' WEST ON HWY. 20
 -SEWER @27TH UPON COMPLETION OF SE INTERCEPTOR LINE →

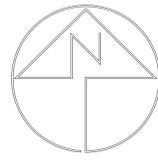
US HIGHWAY 20

← -8" AVION WATER MAIN AT HAMBY RD. →

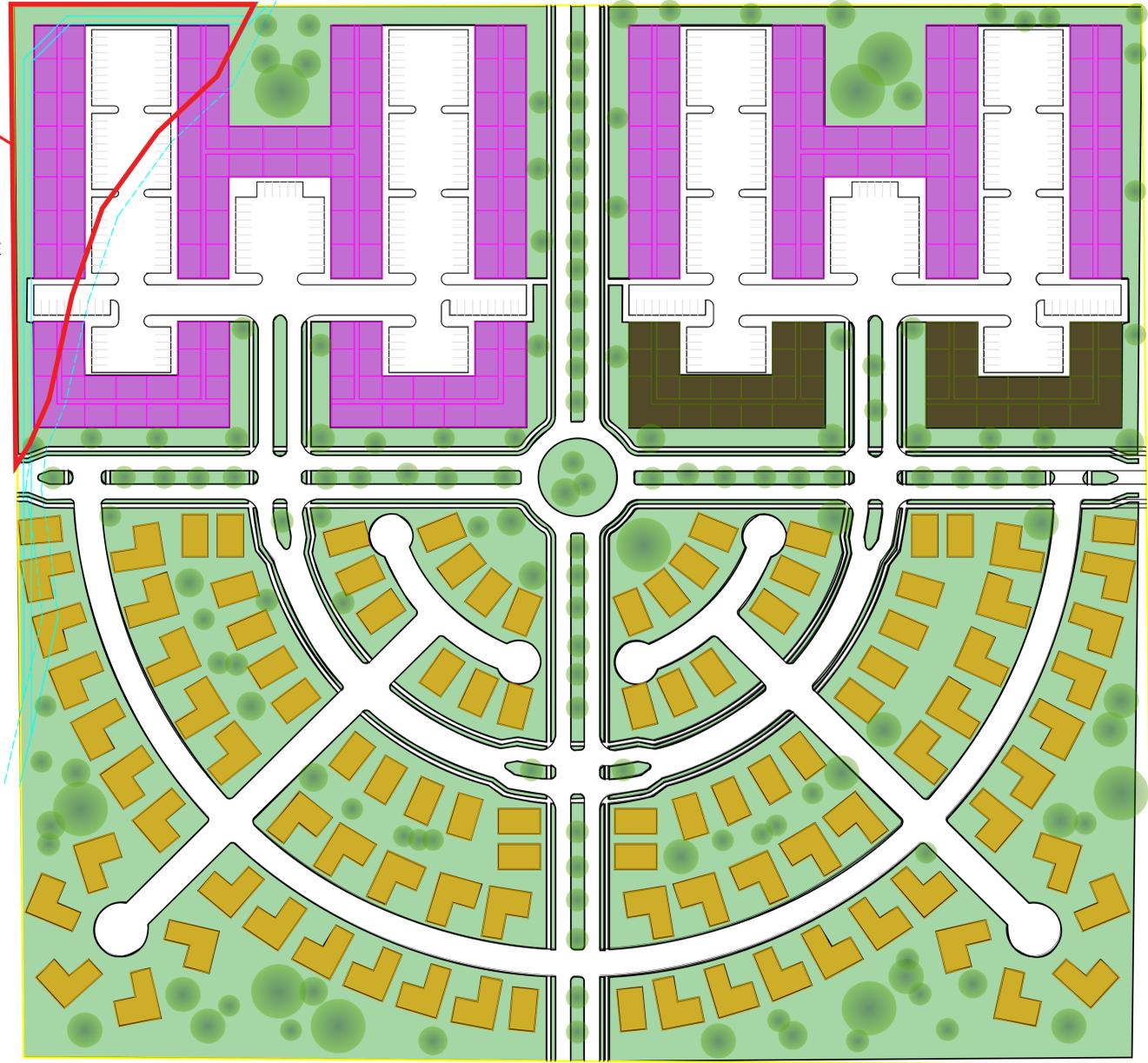
URBAN AREA RESERVE THIS SIDE OF CANAL

CANAL RE-ROUTED INTO AN UNDERGROUND PIPE

EXISTING SEWER STUB AT LIVINGSTON



- SINGLE FAMILY
- APARTMENTS
- ASSISTED LIVING
- MAPLE AND ASPEN
- CANAL
- LANDSCAPE
- STREETS AND SIDEWALKS



PLAT PLAN: N.T.S.

BEAR CREEK ROAD

PROPERTY INFO:

SITE ADDRESS: 21455 HWY 20, BEND, OR 97701
 MAP & TAXLOT#: 1712350001500
 PARCEL SIZE: 36.39 ACRES

HOUSING INFO:

3-BEDROOM APARTMENTS: 192 UNITS
 2-BEDROOM APARTMENTS: 300 UNITS
 3-BEDROOM SINGLE FAMILY: 54 UNITS
 2-BEDROOM SINGLE FAMILY: 48 UNITS
 ASSISTED LIVING: 264 UNITS



Hi Eric,

Tired of people waying in on the UGB yet?? ☺ Hey, I wanted to show you a plan that we have developed for our 37 acres just East and on the current UGB on 20 and between Bear Creek. The plan calls for as you can see, nearly 850 lower income housing units (including an assisted facility) and given the proximity of sewer and water, basically build ready if brought into the new UGB. We have submitted an application for a zoning change from EFU to UAR which a portion of the Northwest corner is already, but as you are aware this would need to be in place to develop, we just need to prove that the land is not suitable for farming or and any other Agriculture use. We have a soils report that supports this, and it has been submitted to LCD for their opinion. Anyhow, that process is started and I just wanted to way in and share with you that due to our original cost basis of the land, and we being both developer and builder, this project would be the most affordable project in years. I think the single family homes will start in or at the 200k mark and we feel the apartment rents could be \$100.00- 150.00 less a month than any other properties on the East side. Also given the connectivity of the property to the intersection of 20 and 27th, many would walk or bike to retail and other services, dining ect.

We feel this project would alleviate some housing pressure immediately once the UGB process is complete and adopted. As you know, many other properties being contemplated won't be build ready for years due to sewer costs etc.

Your consideration and comments are appreciated Eric.

Hope all is well!

Jim Yozamp *Owner*



Design - Build

P 541.389.2089 • F 541.389.4591

170 SW Scalehouse Loop • Bend, Oregon 97702

jimmy@pacwesthomes.com • pacwesthomes.com

CCB #146351

Memorandum



Date: September 23, 2015
To: Brian Rankin, Principal Planner, City of Bend
From: Suzanne Butterfield, Manager, Swalley Irrigation District
Re: Swalley Irrigation District Supplemental Input on Impacts of Urbanization within Potential UGB Expansion Areas

I. INTRODUCTION

We appreciate the opportunity you have provided us to work with the City to identify the potential impacts and costs associated with the urbanization of Swalley Irrigation District (“SID” or “District”) lands. Most recently you have requested that SID provide City staff and the UGB Boundary Technical Advisory Committee (“TAC”) with additional detailed information regarding operational and financial impacts of urbanization. This memorandum seeks to summarize those impacts and supplements SID’s prior submissions dated April 23, 2015 and June 16, 2015.

Our supplemental analysis is based on the three original expansion scenarios (Scenarios 1.2, 2.1, and 3.1) that are located within the North “Triangle” Study Area and the OB Riley/Gopher Gulch Study Area, together with the Supplemental Analysis Areas (“SAA”) approved for further study by the Bend Urban Growth Boundary Steering Committee at its June 25, 2015 meeting. We have focused on those portions of the various alternatives that impact lands within SID’s service boundaries.

You have asked us to provide you with information that will help you better undertake your evaluation and balancing efforts with respect to Statewide Goal 14. In particular, you have indicated that you would like us to help you better understand how the proposed expansion scenarios might impact SID with respect to Factor 4, which is an analysis of the compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB. In addition, we believe the SID information is relevant to other statewide planning goals, including Goal 2 (intergovernmental coordination) and Goal 9 (economic development), and to Goal 14 Factor 3 (comparative environmental, social, economic and energy consequences).

As a local municipal government, SID appreciates the opportunity to provide meaningful input into the UGB process. It is our hope that the information we are providing will be accorded the significant weight it deserves, given that it relates to direct impacts to an adjacent governmental entity.

II. SUMMARY OF INFORMATION PRESENTED

SID is an Oregon special district and a municipal governmental entity with statutory and fiduciary obligations to provide irrigation and livestock water to lands within SID’s boundaries.

The inclusion of any SID lands into the City's UGB has the significant potential to impact SID's operational capacity and financial stability. In addition, such urbanization is likely to have a significant detrimental impact on rural lifestyles and small scale agriculture currently occurring on those lands. Finally, the urbanization of lands within SID will carry a considerable cost because of the need to mitigate the impacts on District facilities.

Because of the fundamental incompatibility between urban and rural/agricultural land uses, SID's suggestion to the TAC is to direct growth away from the irrigation district's boundaries to lands that do not have the benefit of appurtenant senior water rights or the challenges associated with mitigating impacts to District facilities.

At the same time, SID is keenly aware that some of the lands it serves are prime candidate lands for UGB expansion. As a rule, with respect to those lands, less is more. In other words, it will be critically important to minimize the number of acres impacted, the number of SID customers impacted, and the number of SID facilities impacted.

As we explain below, there are direct and indirect costs associated with the urbanization of lands within SID. Generally speaking, it will be considerably more expensive and difficult to develop lands on which SID facilities are located and across which SID has significant easements. This includes many of the District's smaller parcels, which are served by private lateral ditch systems connecting to SID canals and pipelines.

To the extent that SID lands are ultimately included in any UGB expansion area, SID strongly advocates that those lands be designated for large-parcel commercial and industrial development. Larger-scale developers tend to be better able to manage the infrastructure conflicts with irrigation districts and they are also generally better able to afford to manage such conflicts.

Finally, it is important to note that SID is concerned about UGB expansion choices that will encourage future incompatible (small parcel) growth farther into SID boundaries. To avoid such incompatibilities we recommend against locating a school or other residential development attractors on those lands.

III. SID BACKGROUND

SID serves 664 water users on 4,323 acres of land, from its south boundary inside the current Bend City limits to Eagle Crest on the north and from the Deschutes River on the west to Highway 97 on the east, as well as Bend Park and Recreation District and U.S. Forest Service lands to the east. SID has 28 miles of irrigation distribution facilities (some piped and some open channel). In addition, there are many miles of private distribution ditches and pipes that carry water among smaller parcels.

SID has the oldest water right on the Deschutes River dating back to 1899. Yet SID has been one of the most progressive irrigation districts in the state, piping about half of its irrigation system and returning to the Deschutes River about 39 cubic feet per second of water. This is

equivalent to 25 million gallons a day. SID has also made a substantial and pioneering effort toward sustainable power development by installing a hydroelectric plant at the end of its main pipeline, producing clean energy for 300 homes, using only the water that passes through the pipeline to farms beyond. All SID water is delivered by gravity—no pumps required.

SID's distribution system starts at a single point of diversion on the Deschutes River and branches out (like a tree) in a series of delivery canals, some of which take water to agricultural lands located more than 8 miles north of the original diversion. (See the SID overview map attached as **Exhibit 1**). Two of the primary branches of the SID system (the Riley and Rogers Laterals) and two secondary branches (the Riley Sub-lateral and Rogers Sub-lateral) are located within the North "Triangle" and OB Riley/Gopher Gulch Study Areas (collectively referred to as the "Study Areas" in this memo) and the SAA. These main delivery structures carry water beyond the current UGB and beyond the Study Areas /SAA to nearby agricultural lands located outside the UGB and to EFU lands located to the north. Together, those delivery systems serve about 40 percent of SID's water users.

The Riley and Rogers systems are open canal systems outside the UGB. In almost all locations, the canals are paralleled by a dirt road that runs along the canals to allow for access and maintenance. SID holds substantial easements for these facilities, ranging in width from 15 feet to as much as 120 feet. In addition, similar easements encumber many of the parcels over which the private lateral ditches pass.

Each of the three proposed development scenarios will impact a different portion of the lands and facilities within SID. To assist the TAC in better understanding how each scenario differs, we have included three maps as **Exhibits 2, 3, and 4** that superimpose the land proposed for inclusion under each scenario on SID's basemap showing SID's boundaries, facilities, and water rights.

IV. IMPACTS DISCUSSION

A. Agricultural and Rural Character Of Lands In The District

The lands located within the SID boundaries are a mix of small- and large-parcel agricultural and rural lands. Most of the lands in the northern portion of the District are designated as EFU lands. Most of the lands in the southern portion of the District are designated as exception lands because they had been divided into smaller sized parcels at the time Deschutes County prepared its original Comprehensive Plan. However, many of those properties are either currently used for agricultural purposes or have the potential to be used for agricultural purposes given the existence of water rights and distribution facilities on or near those properties.

Deschutes County has recognized these small-scale agricultural lands for their value in maintaining agricultural and rural lifestyles. The 2011 Deschutes County Comprehensive Plan update contains a number of relevant findings on this front. As a result of the Comprehensive

Plan update process, the County found that **people believe the high quality of life in Deschutes County stems from, among other things, the rural character of the region** (*Comprehensive Plan Preamble* at page iii). While the document recognizes that farming in Deschutes County, for a majority of farmers, “is not a sustaining economic activity, but rather a lifestyle choice,” it also recognizes Deschutes County’s competitive advantage in being part of emerging farm trends, including buying local from small farms at local markets, and niche markets for small quantities or specialized products (*Comprehensive Plan, Chapter 2* at pages 7- 8). In a discussion of the future of county farm designation and uses, the documents states as follows:

“Farm lands contribute to the County in a number of ways. Agriculture is part of the ongoing local economy. Wide-open farm lands offer a secondary benefit by providing scenic open spaces that help attract tourist dollars. Farm lands also contribute to the rural character that is often mentioned as important to residents. Finally, it should be noted that agricultural lands are preserved through State policy and land use law because it is difficult to predict what agricultural opportunities might arise, and once fragmented the opportunity to farm may be lost.” (*Comprehensive Plan, Chapter 2* at page 9).

As discussed in this memorandum, the proposed UGB expansion into SID’s service area has the potential to significantly impair SID’s ability to deliver irrigation water to its patrons who depend on that water for their agricultural way of life. Significantly, as alluded to in the County’s Comprehensive Plan, once irrigated lands are urbanized, their capacity to support agricultural uses is lost forever.

Therefore it is both relevant and important to consider the potential impacts that the proposed urbanization may have on the agricultural and rural lands within SID that either currently receive or could receive irrigation water deliveries from the District. To assist the TAC in that effort SID has prepared a proposed factor map (See **Exhibit 5**) that depicts the SID lands that are currently irrigated or that could potentially be irrigated from the SID system. The map highlights in dark red the lands that, if urbanized, will erode the agricultural land base through cessation of agricultural operations on those parcels or through other urbanization effects.

These are unique agricultural properties with access to the senior-most irrigation water right on the Deschutes River. That special land/resource combination deserves special consideration under Statewide Goal 9 (economic development), Goal 14-Factor 3 (social and economic values), and Goal 14-Factor 4 (agricultural compatibility). For that reason, the TAC should consider all irrigated or potentially irrigable lands within the SID boundaries as important agricultural lands.

B. Goal 14, Factor4 (Farm/Forest Compatibility)

Goal 14, Factor 4 requires that the City evaluate the compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB. Given that SID plays a pivotal role in regional agricultural activity, this compatibility analysis

must consider the impacts that urbanization could have on SID's future operational and financial capability.

1. Operational Impacts

As noted above and as depicted on the attached maps, the SID delivery system is a trunk and branch system. The District's diversion on the Deschutes River feeds the main canal, which in turn feeds lateral canals, sub-lateral canals, and many smaller canals. While many of the parcels on the south end of SID are smaller in size, SID supplies water to a number of water users at the north end of its system who farm larger agricultural parcels. Because of this arrangement, actions on the south end of SID that impact water diversions and deliveries will ripple through the system to harm all our irrigators and their rural way of life.

By way of example, significant portions of the SID delivery system consists of open canals. These canals will not be able to convey water over their entire length if urbanization impacts on the upstream end of the system degrade the canals or make it more difficult to operate and maintain the canals. Such impacts can occur through earth moving and other construction-related activities that weaken or damage open canals or pipelines. Likewise, the relocation of a canal or lateral can impair canal function if not properly engineered and constructed. Urbanization can also lead to other operational challenges such as an inability to operate or maintain delivery facilities if conflict arises with regard to access issues, or if access is compromised as the result of development near or within District easements. Finally, additional urbanization impacts may occur in the form of surface water contamination from diffuse runoff or from direct discharge to District facilities.

To assist the City in its evaluation of the potential for such impacts to occur, SID has prepared a proposed factor map that analyzes the proximity of SID lands to irrigation infrastructure (see **Exhibit 6**). The map depicts in dark red those properties that are located within 100 feet of SID distribution canals. This shows that many properties within the Study Areas or SAA have a high potential to impact SID's operational capabilities if urbanized without sufficient mitigation measures (discussed in detail in Section V. below).

2. Financial Impacts

SID's revenue is comprised entirely of its assessment base and hydroelectric revenue. The assessment base of 664 water users represents 70% of SID's total revenue, but all of its operating revenue comes from this assessment base. Hydroelectric revenue is dedicated in the mid-term to paying off construction loans that allowed the 39 cfs of conserved water to be placed into the river.

The loss of even a small number of water users from the assessment base could be extremely detrimental to SID. As set forth in the table below, SID assesses a base fee for all users regardless of size, meaning that every parcel that leaves SID, no matter how small, has a disproportionately significant financial impact.

2015 Assessment Structure		
Parcel Size	Base Fee	Per Acre Assessment
0.00-6.00 acres	\$586.00	\$42.00
6.01-11.00 acres	\$586.00	\$30.50
Larger than 11 acres	\$586.00	\$26.30

The specific projected impacts of each scenario on SID's assessment base are as follows:

- **Scenario 1.2** (2/3 North "Triangle" + 1/4 OB Riley/Gopher Gulch Study Areas)
 - Impacts 16 tax lots (10 SID accounts)
 - Impacts 78.71 irrigated acres
 - 1% of SID assessment base (\$5,590 annually)

- **Scenario 2.1** (All of North "Triangle" + 1/3 OB Riley/Gopher Gulch Study Areas)
 - Impacts 39 tax lots (32 SID accounts)
 - Impacts 128.32 irrigated acres
 - 3.5% of SID assessment base (\$18,452 annually)

- **Scenario 3.1** (All of North "Triangle" + All of OB Riley/Gopher Gulch Study Areas)
 - Impacts 97 tax lots (70 SID accounts)
 - Impacts 207.64 irrigated acres
 - 8.6% of SID assessment base (\$45,605 annually)

- **SAA**
 - Impacts 22 tax lots (17 SID accounts)
 - Impacts 303.24 irrigated acres
 - 3.2% of SID assessment base (\$16,894 annually)

These impacts are graphically depicted on the map attached as **Exhibit 7**, showing the value of assessed acres inside both Study Areas and the SAA, and on the chart attached as **Exhibit 8**.

The City has also requested that we analyze how urbanization would impact users on each of the four major distribution systems located within the Study Areas and the SAA. The results of that analysis are shown on the charts attached as **Exhibits 9-11**. **Exhibit 9** depicts the breakdown of the number of accounts that will be lost on each canal system under each of the UGB scenarios. **Exhibit 10** depicts the breakdown of the number of acres that will be lost on each canal system under each of the UGB scenarios. **Exhibit 11** depicts the breakdown of the revenue that will be lost on each canal system under each of the UGB scenarios. However, it is important to note that each of the proposed scenarios implicates multiple delivery systems, so it is impossible in practice to isolate the impacts as to a single canal system.

It is also important to note that SID's financial needs do not diminish when its assessment base shrinks. In fact, due to the pressures of urbanization, it is very likely that SID's operation and maintenance budget would need to be increased to deal with the conflicts between this rural-agricultural water system and the encroaching urban development.

V. DEVELOPMENT/MITIGATION COST ANALYSIS

As noted above, the urbanized portion of SID's water diversion and delivery systems support commercially valuable agricultural operations outside the UGB. SID has a statutory obligation to protect and maintain those systems for the good of the entire District. SID anticipates that, given the operational difficulties identified above resulting from urbanization of a large area of the District, SID will need to completely engineer its delivery system from top to bottom for conversion to a closed, piped system as configured through a master planning process.

Through the master planning process, SID will develop a comprehensive urbanization mitigation policy. That policy is designed to keep SID's systems functioning at peak performance now and into the future. SID will not be in a position to pay for a conversion of its currently functioning delivery systems due to urbanization. Therefore the urbanization mitigation policy will necessarily place the financial burden for developing impacted properties on developers and landowners seeking to convert their properties from a rural to urban use. This will create significant increased costs to developers and landowners for properties within SID's boundaries.

As detailed in the report from SID's engineer, Munson & Associates, attached as **Exhibit 12**, the development of parcels on which SID canals are located will generate significant additional development expenses that will not be incurred for properties outside of SID's boundaries. SID will require developers and landowners to pay for soft costs, hard costs, and professional fees associated with such development, including the costs for items such as master planning, feasibility studies, canal realignment, canal piping, attorney fees, and engineering fees. Those costs are broken out by UGB expansion scenario as follows:

Scenario 1.2 (2/3 North "Triangle" + 1/4 OB Riley/Gopher Gulch study areas)	\$1,584,833
Scenario 2.1 (All of North "Triangle" + 1/3 OB Riley/Gopher Gulch study areas)	\$2,085,138
Scenario 3.1 (All of North "Triangle" + All of OB Riley/Gopher Gulch study areas)	\$2,869,020
Supplemental Analysis Area	\$ 515,391

These costs are based on 2015 estimates, and are likely to be considerably higher by the time development occurs within any of the proposed UGB expansion areas.

As an additional matter, the TAC should consider the fact that a large portion of the SID lands within the Study Areas and the SAA are already carved into many small lots. This highly fractured land ownership pattern will significantly increase the difficulty and expense of developing those lands. Given the fact that many additional small parcels lay to the north of the Study Areas, this problem will only be compounded as the City considers where it will expand in the next round of UGB adjustments.

VI. CONCLUSION

If the City decides to direct future urbanization into the SID boundaries, it is our hope that the City and SID will be able to proactively manage and mitigate the impacts of such urbanization through cooperative efforts to develop policies and processes that are fully protective of SID's operational and financial interests. We anticipate that such a policies and processes would identify potential impacts on SID facilities as part of any annexation process and would require developers/landowners to work with the City and SID to fully and completely mitigate the direct and indirect impacts that annexation and development will have on SID's ability to continue delivering irrigation and stock water to its patrons, to generate clean power, and to contribute to conservation efforts in the Deschutes Basin for years to come.

EXHIBIT 1

General Overview Map with EFU Lands

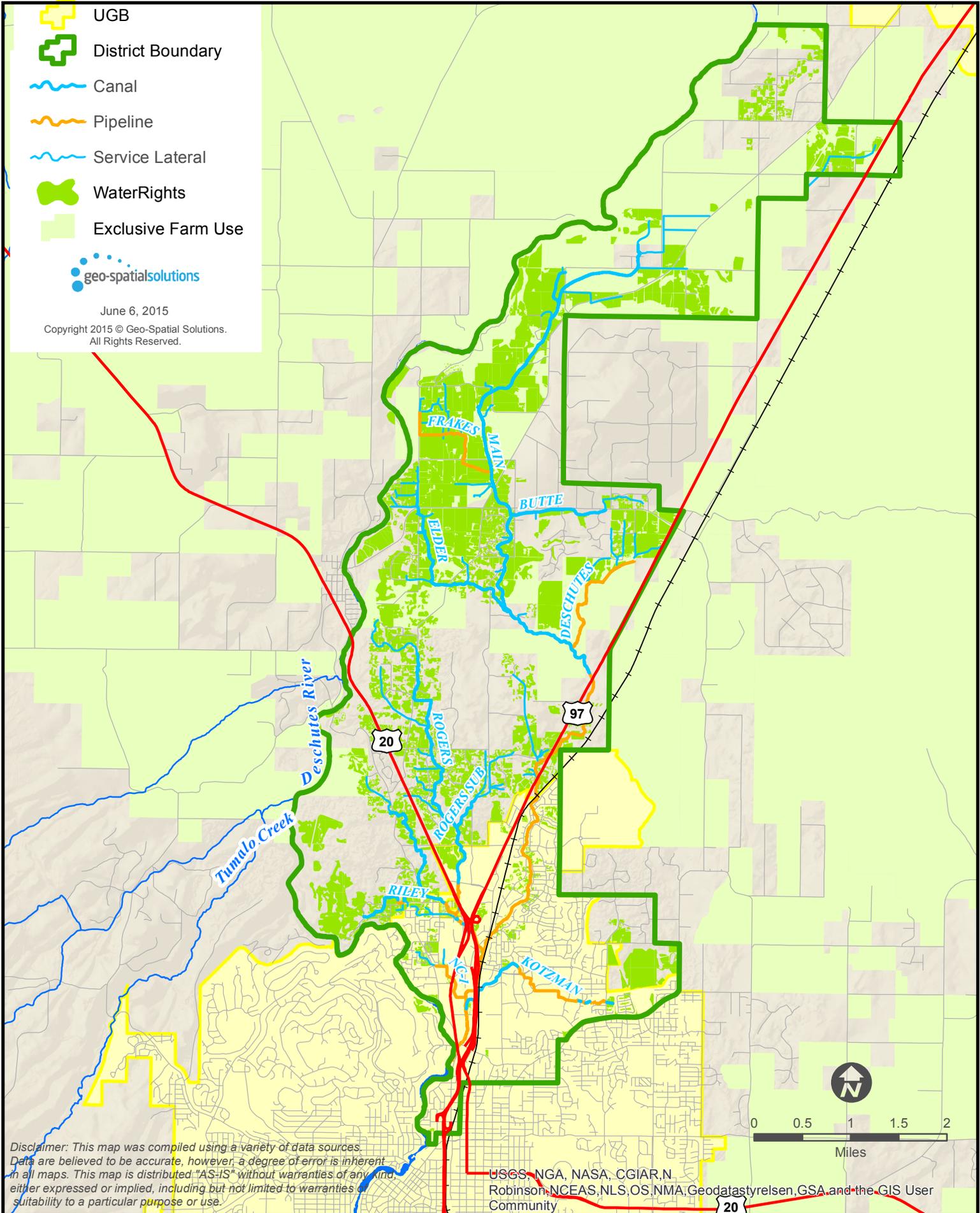
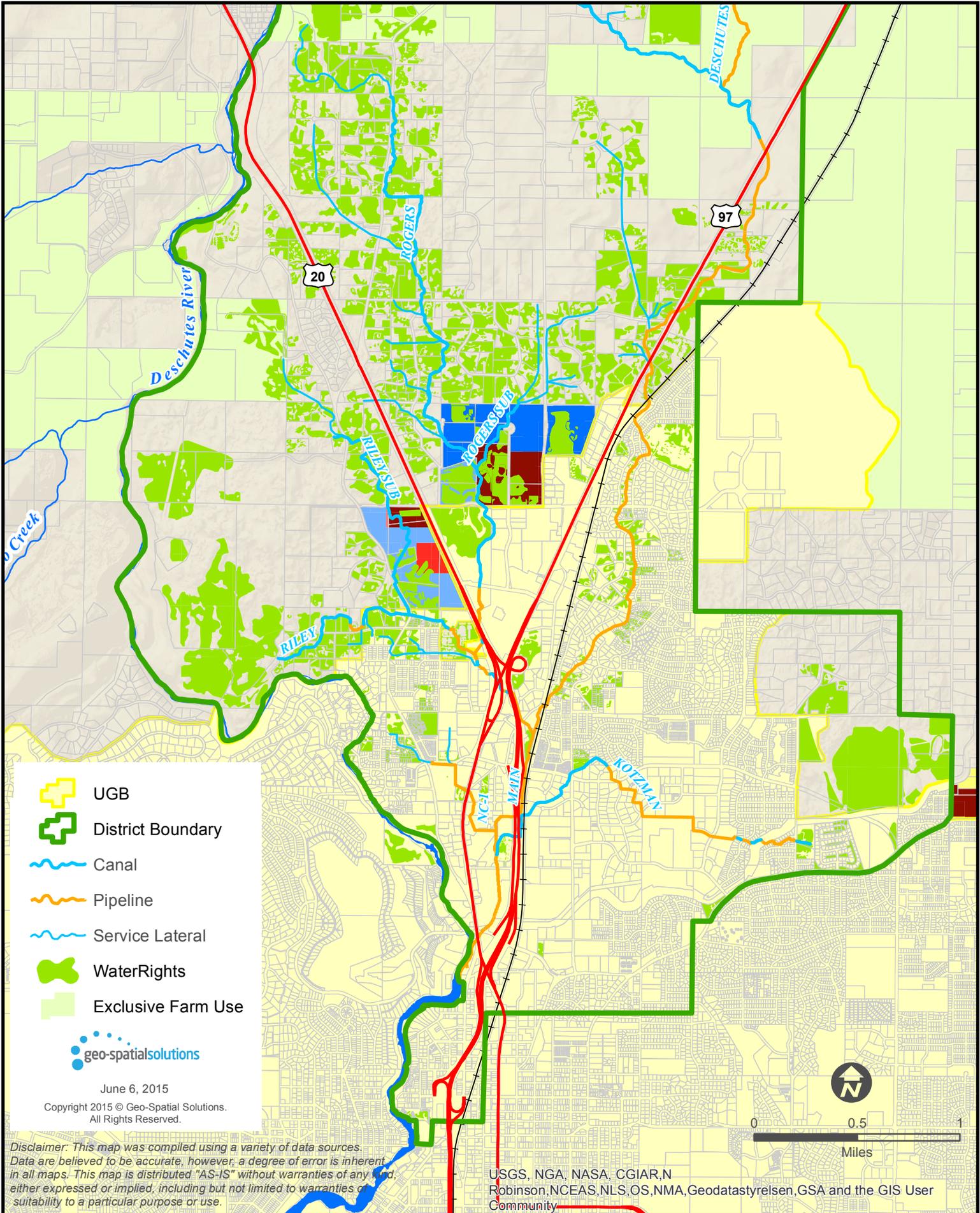


EXHIBIT 2

Basemap with TAC Scenario 1



- UGB
- District Boundary
- Canal
- Pipeline
- Service Lateral
- WaterRights
- Exclusive Farm Use



June 6, 2015

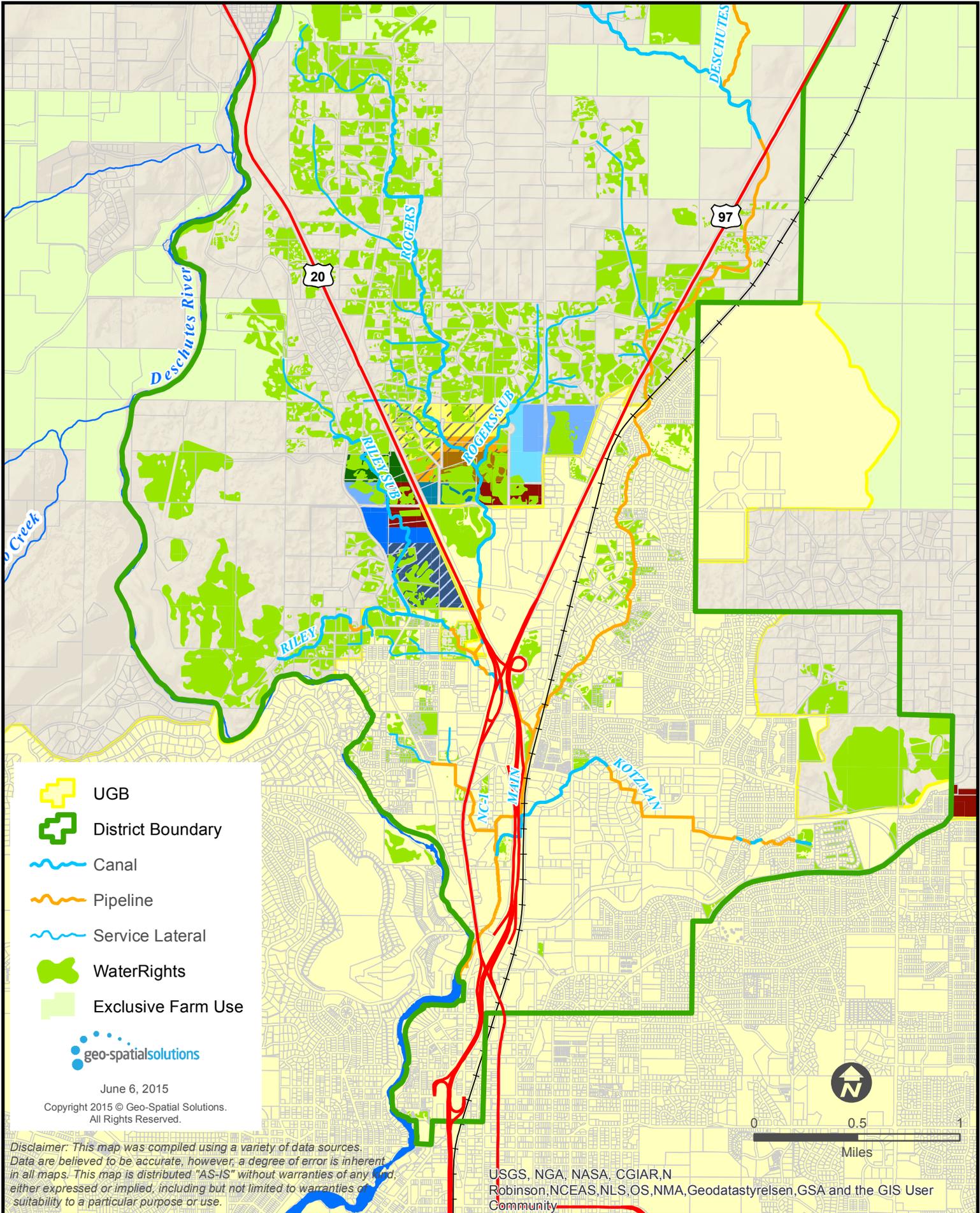
Copyright 2015 © Geo-Spatial Solutions.
All Rights Reserved.

Disclaimer: This map was compiled using a variety of data sources. Data are believed to be accurate, however, a degree of error is inherent in all maps. This map is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use.

USGS, NGA, NASA, CGIAR, N
Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, GSA and the GIS User
Community

EXHIBIT 3

Basemap with TAC Scenario 2



Disclaimer: This map was compiled using a variety of data sources. Data are believed to be accurate, however, a degree of error is inherent in all maps. This map is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use.

USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodastyrelsen, GSA and the GIS User Community

EXHIBIT 4

Basemap with TAC Scenario 3

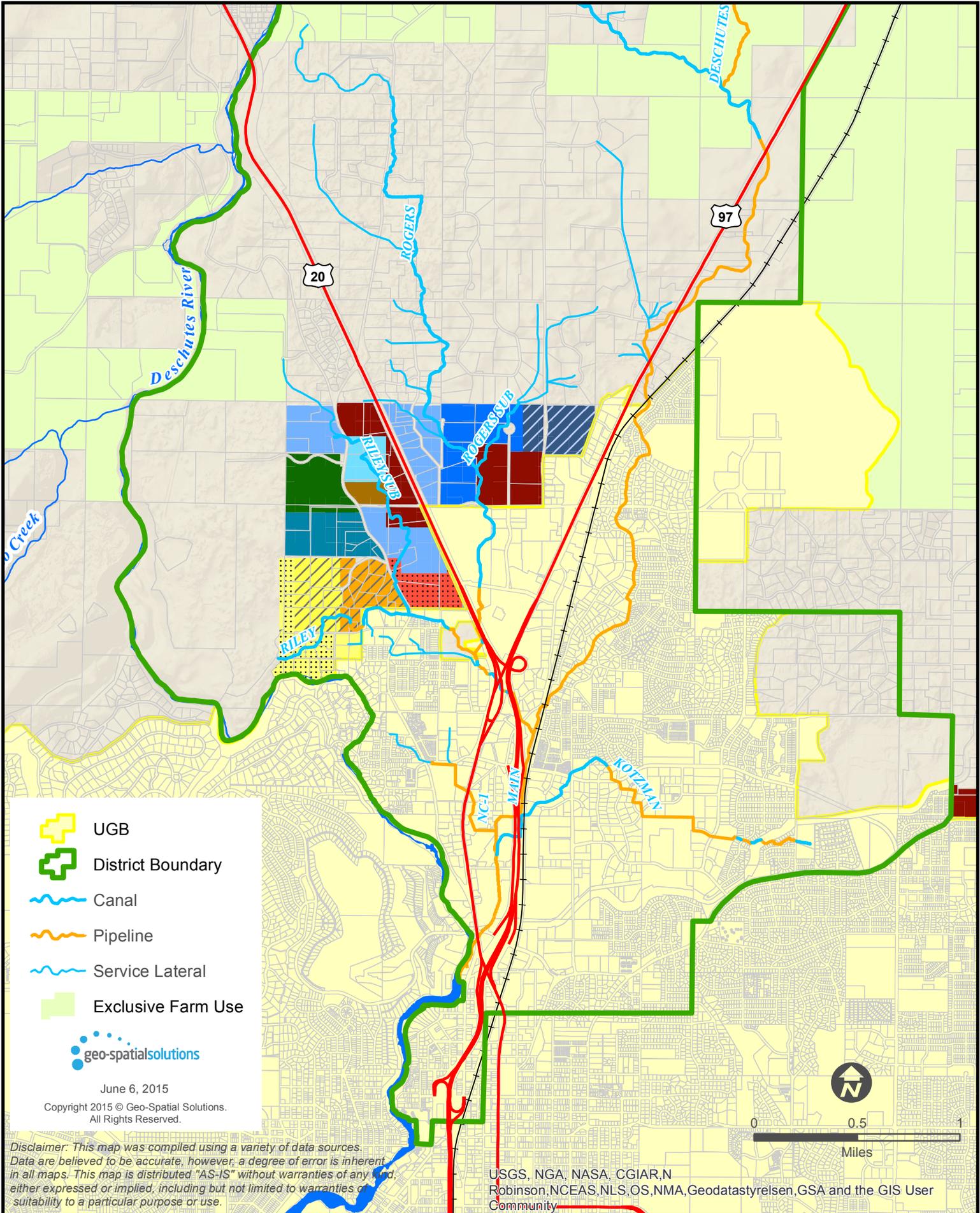


EXHIBIT 5

Proposed Factor Map

Water Rights & Distribution

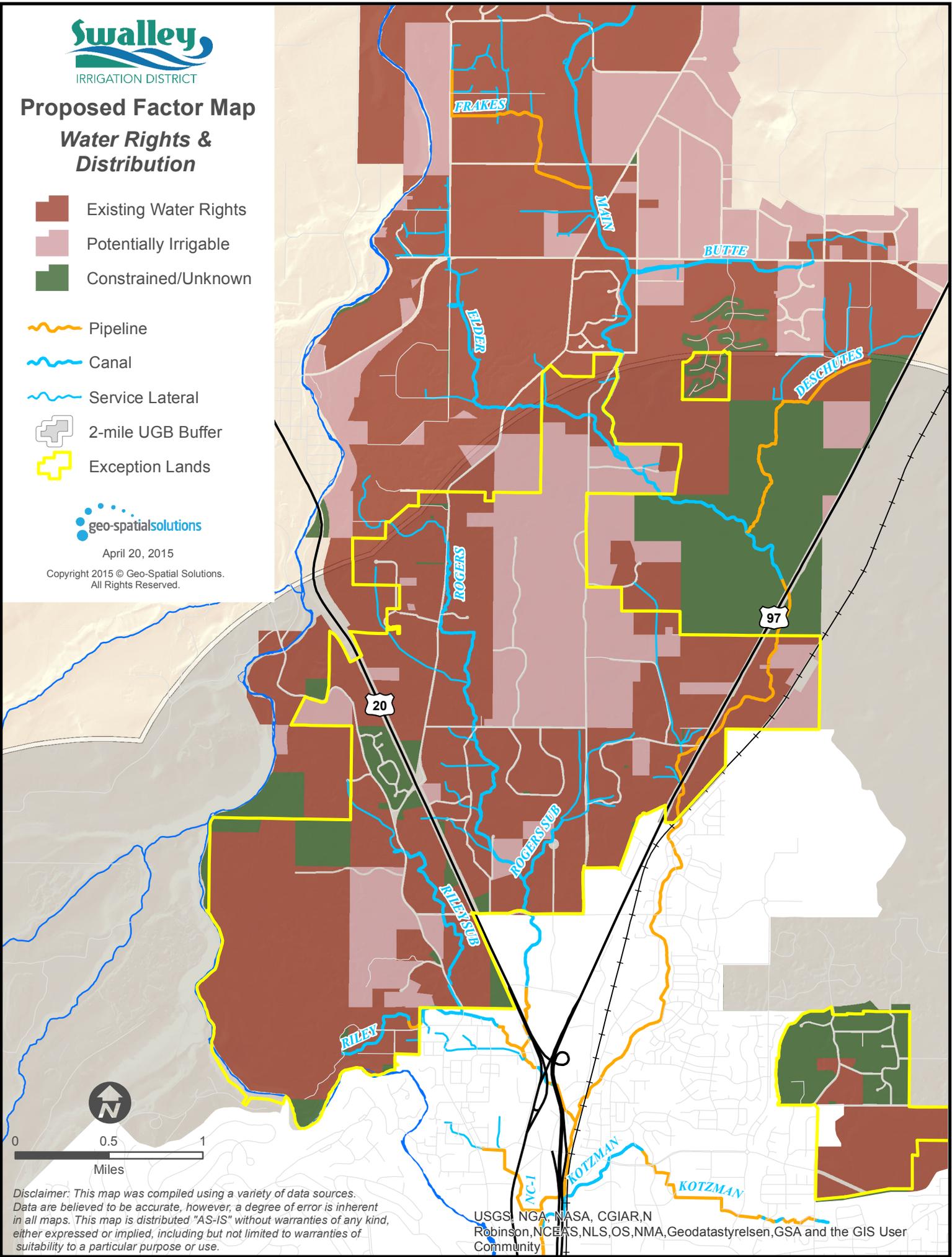
- Existing Water Rights
- Potentially Irrigable
- Constrained/Unknown

- Pipeline
- Canal
- Service Lateral
- 2-mile UGB Buffer
- Exception Lands

geo-spatial solutions

April 20, 2015

Copyright 2015 © Geo-Spatial Solutions.
All Rights Reserved.



Disclaimer: This map was compiled using a variety of data sources. Data are believed to be accurate, however, a degree of error is inherent in all maps. This map is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use.

USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodastystrelsen, GSA and the GIS User Community

Proposed Factor Map
Proximity to Water Infrastructure

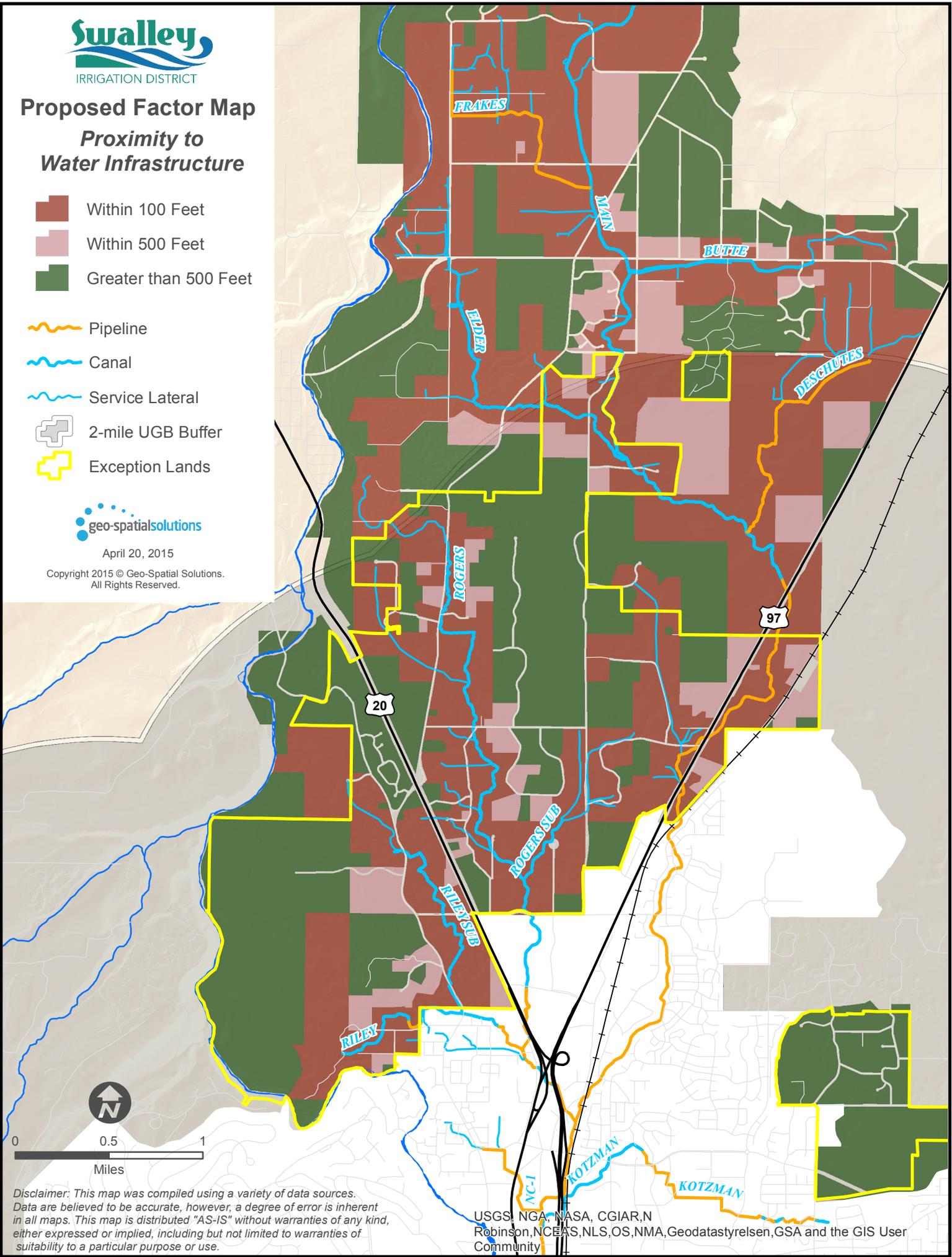
- Within 100 Feet
- Within 500 Feet
- Greater than 500 Feet

- Pipeline
- Canal
- Service Lateral
- 2-mile UGB Buffer
- Exception Lands

geo-spatial solutions

April 20, 2015

Copyright 2015 © Geo-Spatial Solutions.
All Rights Reserved.



Disclaimer: This map was compiled using a variety of data sources. Data are believed to be accurate, however, a degree of error is inherent in all maps. This map is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use.

USGS, NGA, NASA, CGIAR, N
Robinson, NCEAS, NLS, OS, NMA, Geodastystrelsen, GSA and the GIS User
Community

EXHIBIT 6

Proposed Factor Map
Proximity to Water Infrastructure

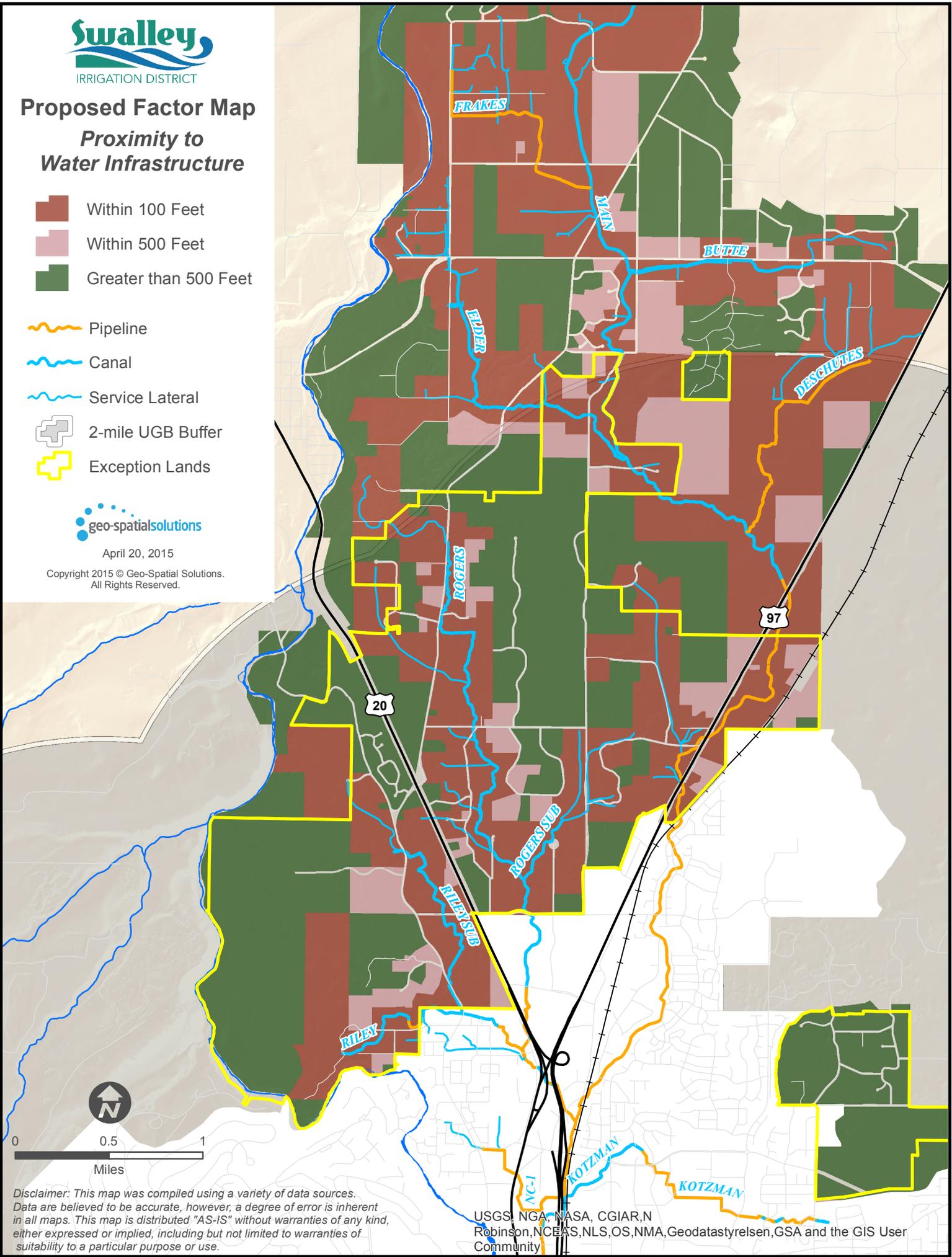
- Within 100 Feet
- Within 500 Feet
- Greater than 500 Feet

- Pipeline
- Canal
- Service Lateral
- 2-mile UGB Buffer
- Exception Lands

geo-spatial solutions

April 20, 2015

Copyright 2015 © Geo-Spatial Solutions.
All Rights Reserved.



Disclaimer: This map was compiled using a variety of data sources. Data are believed to be accurate, however, a degree of error is inherent in all maps. This map is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use.

USGS, NGA, NASA, CGIAR, N
Robinson, NCEAS, NLS, OS, NMA, Geodastystrelsen, GSA and the GIS User
Community

EXHIBIT 7

Assessment Impact Map

All Study Areas & SAA

- Pipeline
- Canal
- Service Lateral
- Taxlots w Water Rights

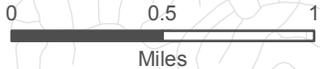
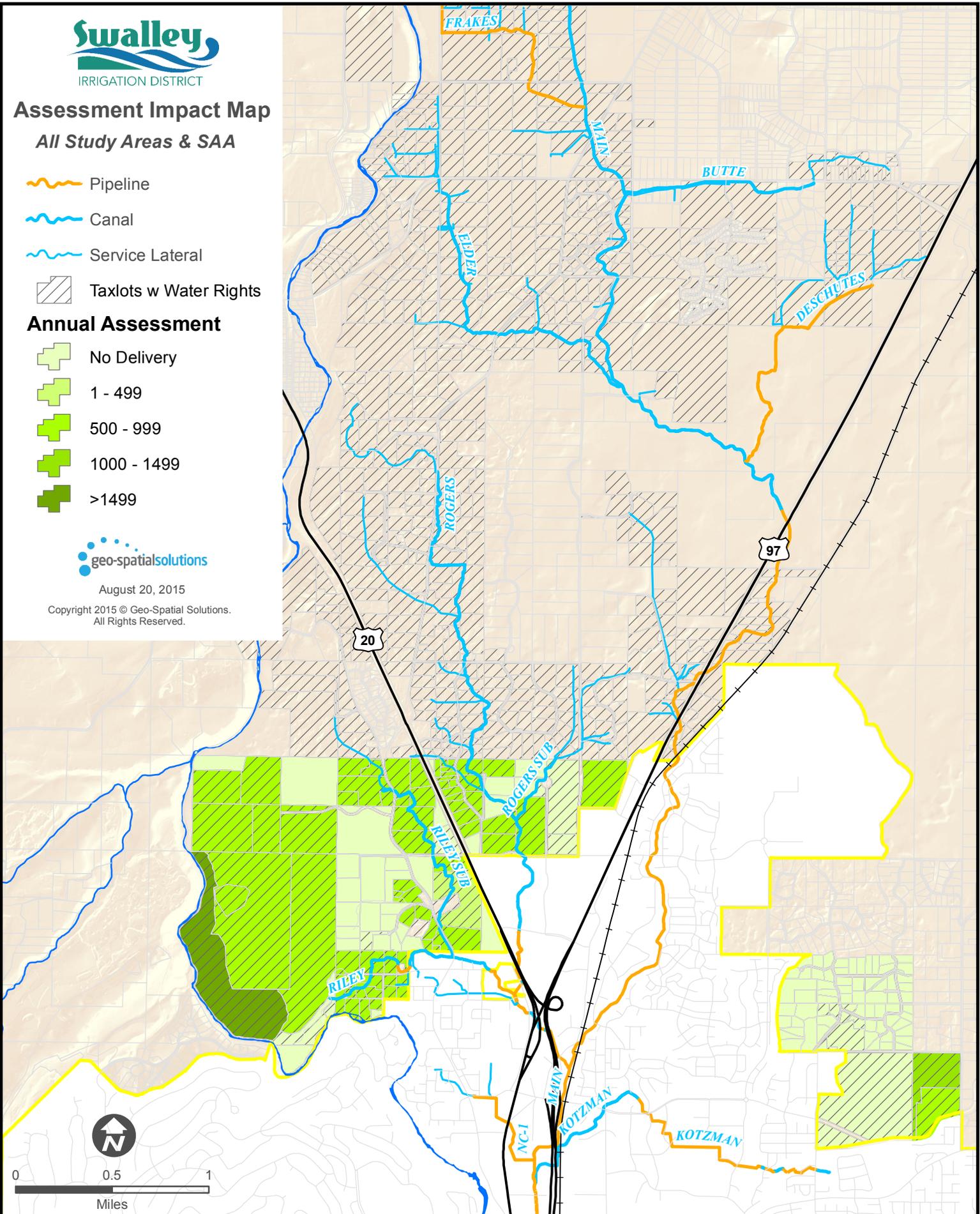
Annual Assessment

- No Delivery
- 1 - 499
- 500 - 999
- 1000 - 1499
- >1499



August 20, 2015

Copyright 2015 © Geo-Spatial Solutions.
All Rights Reserved.



Disclaimer: This map was compiled using a variety of data sources. Data are believed to be accurate, however, a degree of error is inherent in all maps. This map is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use.

USGS, NGA, NASA, CGIAR, N
Robinson, NCEAS, NLS, OS, NMA, Geodastystrelsen, GSA and the GIS User
Community

EXHIBIT 8

Summary Losses to Swalley Irrigation District within UGB Scenarios

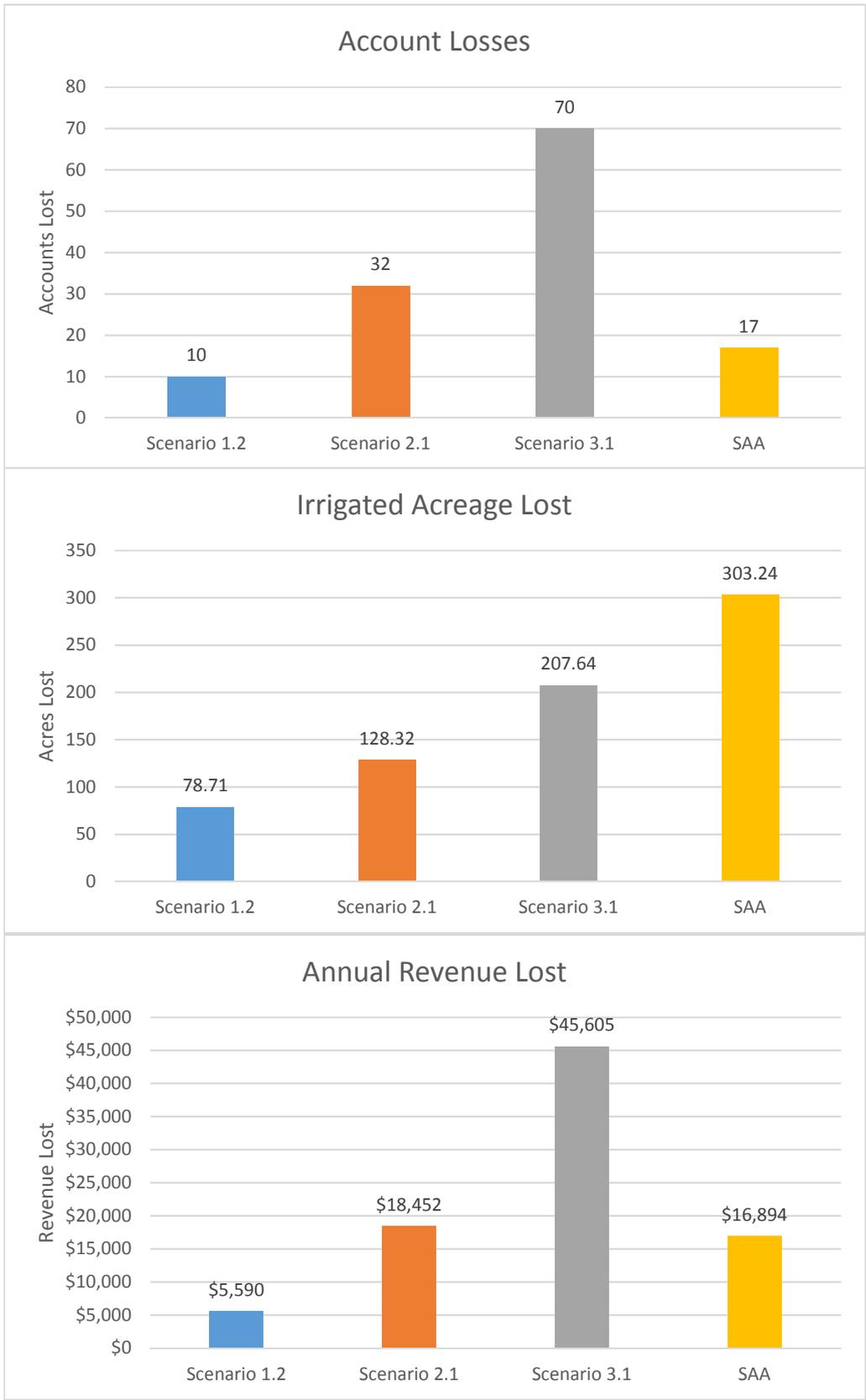


EXHIBIT 9

Accounts Lost in Swalley Irrigation District by Irrigation Lateral within UGB Scenarios

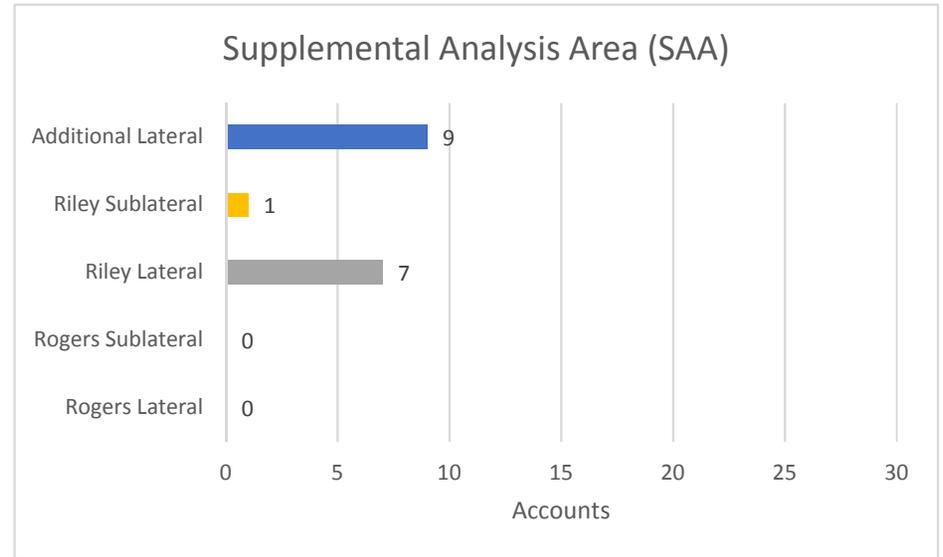
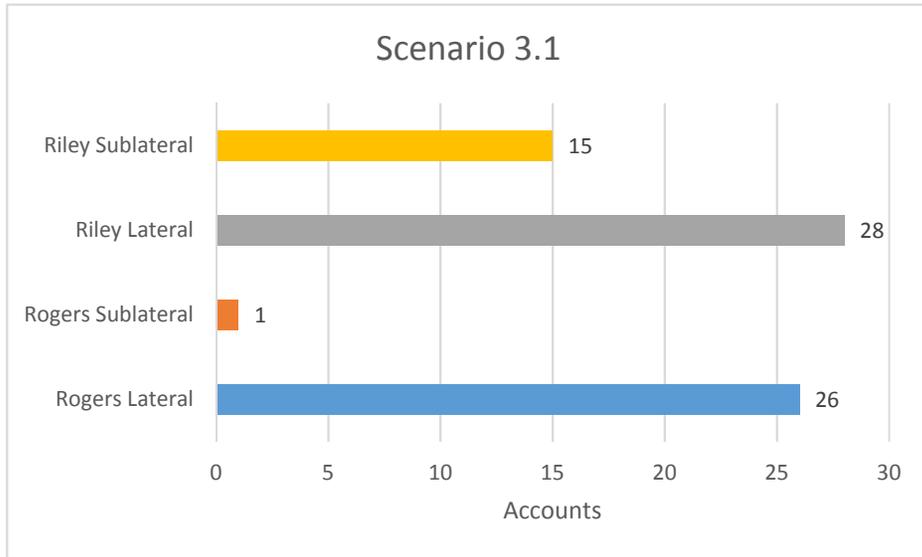
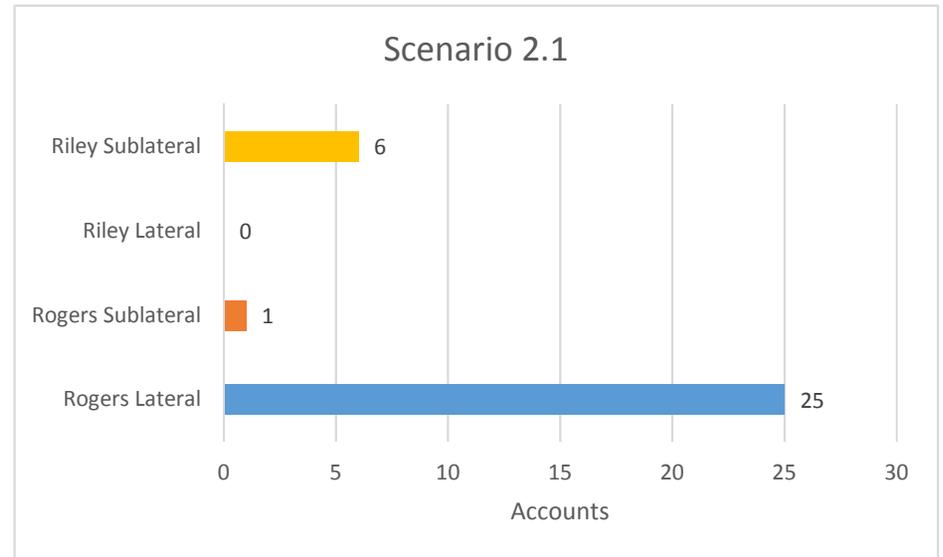
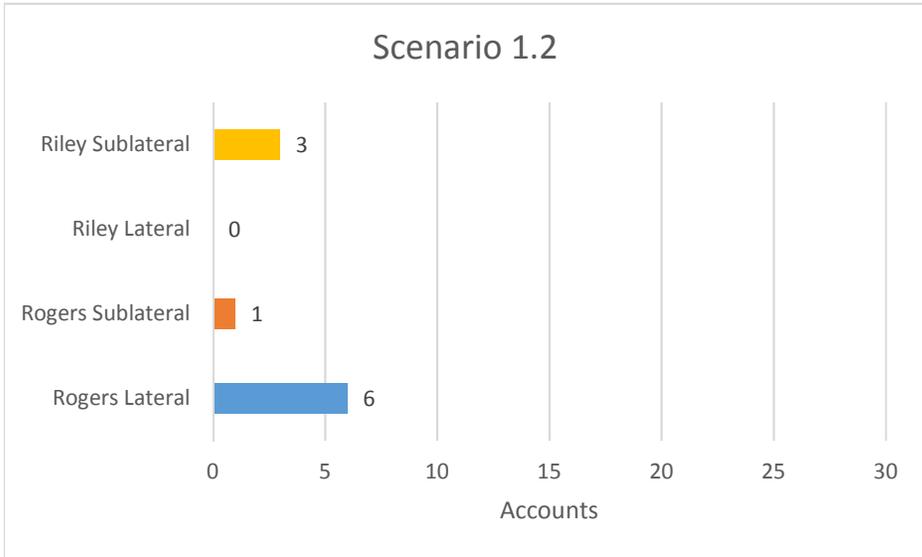


EXHIBIT 10

Irrigated Acres Lost in Swalley Irrigation District by Irrigation Lateral within UGB Scenarios

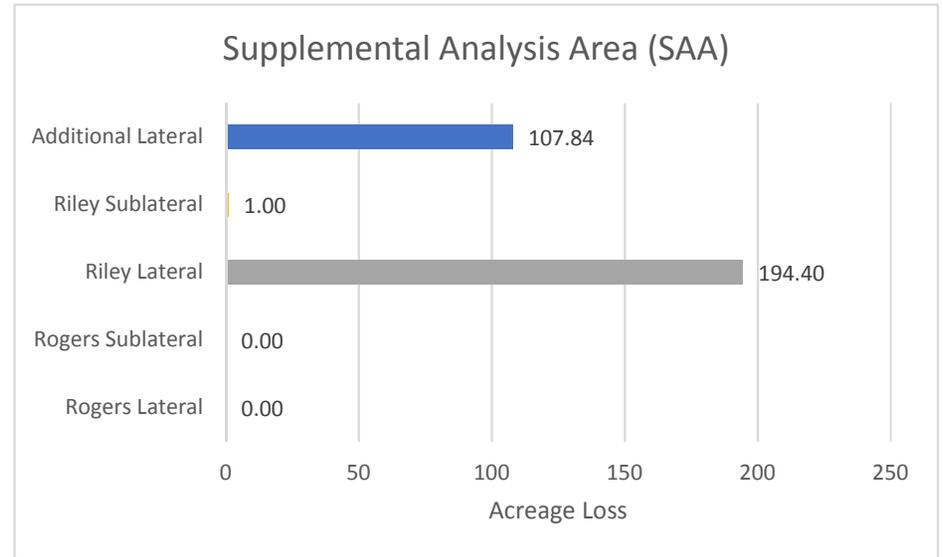
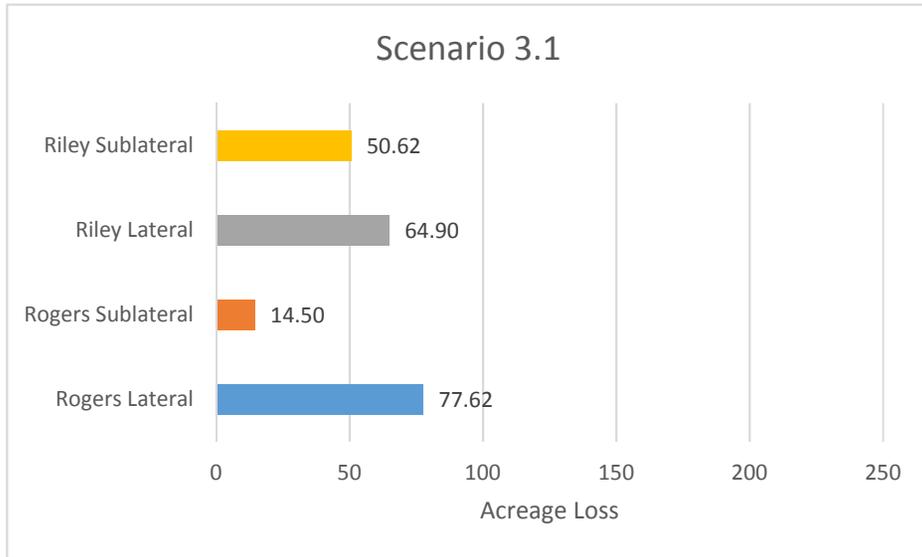
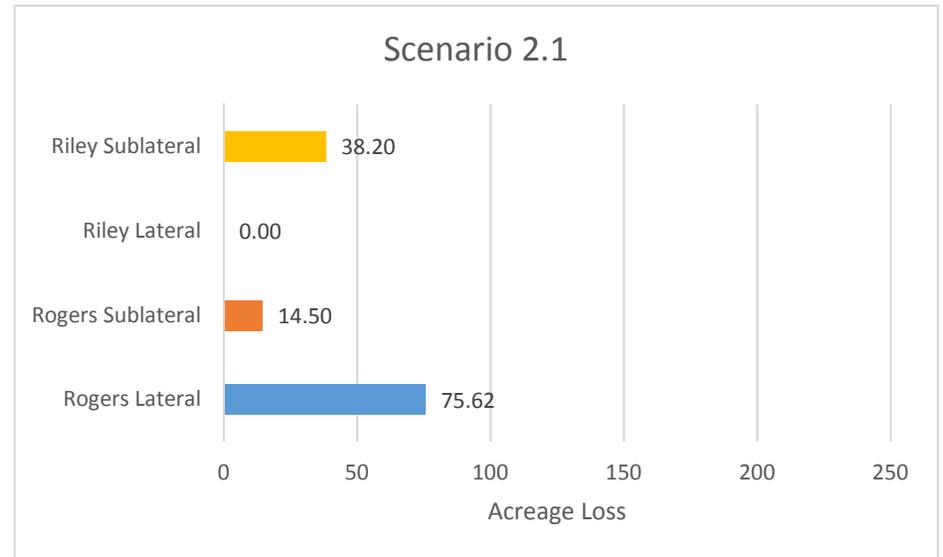
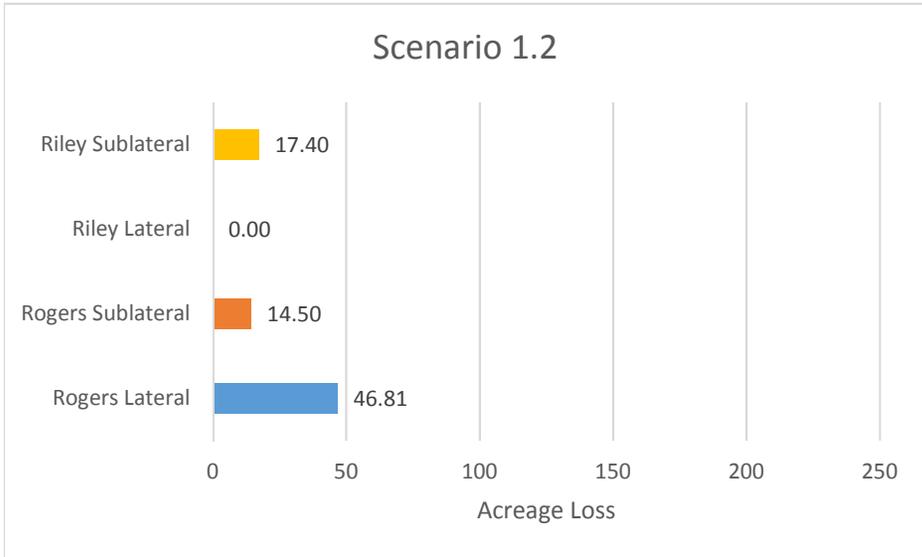


EXHIBIT 11



**Cost Analysis
for the
City of Bend Urban Growth Boundary Expansion
within
Swalley Irrigation District**

September 23, 2015



RENEWS: 12/31/16

PREPARED BY:

M&A **Munson & Associates**
civil engineers | land surveyors

233 Southwest Wilson Avenue, Suite 5
Bend, Oregon 97702

EXECUTIVE SUMMARY

The City of Bend is in the process of expanding its Urban Growth Boundary (UGB). Three expansion scenarios are currently being considered by the City's Boundary Technical Advisory Committee (TAC): Scenario 1.2, Scenario 2.1, and Scenario 3.1, as well as a Supplemental Analysis Area (SAA). All four of these expansion areas expand onto lands within Swalley Irrigation District (SID). Swalley Irrigation District has commissioned this report to estimate the cost of each expansion scenario relative to SID and its facilities, with the imperative that property owners or developers must pay for development-related impacts to SID lands.

Projected Development Costs by Expansion Area

Projected development costs are a combination of soft costs (master planning of Swalley and private lateral piping, feasibility study of re-applying water right acreage lost within the UGB expansion elsewhere within District boundaries, and professional fees paid by SID to attorneys, engineers, etc. in relation to UGB expansion) and hard costs (cost of canal/ditch piping and realignment due to development), and are summarized by expansion area as follows:

Scenario 1.2 (2/3 North Triangle + 1/4 OB Riley Study Areas)	\$1,584,833
Scenario 2.1 (All of North Triangle + 1/3 OB Riley Study Areas)	\$2,085,138
Scenario 3.1 (All of North Triangle + All of OB Riley Study Areas)	\$2,869,020
Supplemental Analysis Area	\$ 515,391

All scenarios will generate significant development costs to SID that will need to be passed on to future developers. But as shown above, Scenario 1.2 is the least costly expansion option, while Scenario 3.1 approximately doubles the eventual cost. Inclusion of the OB Riley/Gopher Gulch Supplemental Analysis Areas to any scenario will increase the cost of each as shown, although the inclusion of the Northeast Edge SAA and the Bend Park and Recreation District Riley Ranch property within the OB Riley/Gopher Gulch SAA is expected to have substantially less impact and cost than the remainder of the OB Riley/Gopher Gulch SAA.

BACKGROUND

Swalley Irrigation District is located in Deschutes County, generally northerly of the City of Bend between the Bend-Sisters Highway (U.S. 20) and the Dalles-California Highway (U.S. 97). The district boundaries encompass approximately 12,000 acres in area, and transmits irrigation water through approximately 28 miles of open canals and pipelines.

Over the last few years, the City of Bend (City) has been actively pursuing an expansion of its Urban Growth Boundary (UGB). The Boundary Technical Advisory Committee (TAC), which is responsible for recommending a final expansion boundary to the City Council, has recently settled on three options for expansion: Scenario 1.2, Scenario 2.1, and Scenario 3.1, as well as a Supplemental Analysis Area (SAA) for lands that may be tacked on to any of the scenarios listed above during final analysis. All of these proposed expansion areas expand onto SID service territory.

Urbanization and development of lands within SID territory results in a loss of irrigated land. SID is funded by its assessments on irrigated land; each dollar of assessment loss results in a higher assessment to the remaining irrigated land owners within SID territory, as most costs are fixed. Swalley Irrigation District is concerned that encroaching urban expansion will result in a downward spiral in which the District cannot provide irrigation water to its members at reasonable cost, thus driving more and more members out of the District, eventually ending in the demise of SID as a functioning entity, and the cessation of irrigation water delivery to the irrigated agricultural parcels within SID territory.

Swalley Irrigation District opposes further expansion of the City of Bend UGB onto SID territory for the reasons stated above. However, SID realizes that some northward urban expansion is likely in any scenario currently being considered by the Boundary TAC, and has commissioned this report to identify development costs related to expanding upon SID territory for each scenario. This report also makes recommendations on annexation agreement language and SID policy for recouping costs for development land included within SID boundaries of the eventual UGB expansion.

PROJECTED DEVELOPMENT COSTS

Swalley Irrigation District has identified four main cost categories associated with UGB expansion onto SID territory: Canal/ditch piping and/or realignment, master planning of SID and private irrigation laterals, a feasibility study to re-apply water rights to new acreage from acreage lost due to development, and direct costs incurred by SID triggered by UGB expansion. Although actual costs may vary from the estimates below, any variation is expected to be roughly proportional to each scenario, and does not invalidate the estimates as a prioritization mechanism.

Piping Costs

There exists in the UGB study area four Swalley Irrigation District laterals: The Rogers Lateral, the Rogers Sub-Lateral, the Riley Lateral, and the Riley Sub-Lateral. These SID laterals are mostly in open canals within the UGB study area, although a small portion of the Riley Lateral is currently piped.

There also exists several private irrigation laterals which begin at the end of SID conveyances, each of which serve multiple SID users. Some of these private laterals are entirely in open ditches, others are entirely piped along their lengths, and the remainder are a combination of open ditches and piped runs. These private laterals, although not under the direct ownership and control of SID, deliver irrigation

water to water rights holders within the District; SID holds these water rights in trust for these water rights holders, and therefore has a vested interest in the operations and maintenance of these private irrigation laterals.

It is the policy of SID that all irrigation laterals, whether SID-owned or private, be piped upon development of urbanized land in order to improve safety, operations and maintenance, and also to conserve water that is otherwise lost in open canals. As discussed above, the SID laterals in the UGB expansion scenarios are mostly open, and will require piping if added to the City of Bend UGB. A substantial number of the private laterals are already piped, but it is expected that even if these laterals are currently piped, considering the history of urbanization and development of lands with irrigation facilities, these piped private laterals will require a realignment across future development properties; therefore it is assumed that each private lateral within the UGB expansion will require piping or repiping.

Since any UGB expansion area under current consideration involves multiple and separately owned properties, it is impossible to determine the future alignment of any of the SID or private laterals, as each development parcel will likely develop piecemeal and not in concert with surrounding parcels. Therefore, it has been assumed that the eventual length of required piping will be the same length as the current length of piping or open canal, recognizing that some portions of laterals that currently meander due to topography will be shortened as they are piped, and that some portions of laterals that are relatively direct in their alignment will be lengthened as they bypass future proposed development.

All costs of piping shall be directly borne by every developer seeking to develop land with SID or private laterals within the final UGB expansion. Tables showing the projected costs of piping for each expansion scenario and the SAA follow. Piping and associated costs are estimated, or may be more or less depending on project size, construction cycles, pipe costs, and other variables.

As calculated, Scenario 1.2 will result in the least cost of irrigation piping, and Scenario 3.1 would be the most expensive. Lands within the SAA will incur additional cost above and beyond the scenarios above, with most of the impact caused by the OB Riley/Gopher Gulch SAA. Although not separately delineated in this report, the Northeast Edge SAA is expected to have little to no effect on future piping costs.

Estimated Piping Costs										
Scenario 1.2										
Lateral Name	Water Rights (acres)	Delivery Flow (cfs)	Length (ft)	Estimated Pipe Size Diameter (2)	Unit Pipe Cost (\$/ft) (3)	Construction Cost	Contingency (25% of Construction Costs)	Engineering/Permits/Construction Mgmt. (10% of Construction Cost)	Design/Construction Survey (\$2.50/ft)	Total Piping Cost
<i>Swalley Laterals</i>										
Rogers Lateral		10.50	3760	24"	\$95	\$357,200	\$89,300	\$35,720	\$9,400	\$491,620
Rogers Sub-Lateral		2.38	2230	14"	\$75	\$167,250	\$41,813	\$16,725	\$5,575	\$231,363
Riley Sub-Lateral		2.71	6490	16"	\$80	\$519,200	\$129,800	\$51,920	\$16,225	\$717,145
<i>Private Laterals</i>										
05-0050 (4)	14.50	0.23	0	8"	\$55	\$0	\$0	\$0	\$0	\$0
GRAND TOTAL										\$1,440,128

Notes:

- (1) Lateral lengths provided by SID. Private lateral water rights acreage provided by SID, and maximum flow is based on a delivery of 7 gallons/minute to each acre with water rights. Flows for Swalley Laterals taken from 2013 report by Black Rock Consulting.
- (2) Pipe diameter determined by using delivery flow, and assuming gravity flow over an average 0.7% grade using a roughness coefficient of n=0.009 for PVC pipe at half-full depth (0.7% is the average grade over the Rogers Phases 1-3 proposed pipelines as determined by Black Rock Consulting in a 2013 report). It is presumed that upstream pipes may be larger and downstream pipes smaller due to flow differences. 8" minimum diameter for all pipes per SID Development Handbook.
- (3) Includes fittings and appurtenances.
- (4) Water rights currently on 5-year instream lease. No lateral length available.

Estimated Piping Costs										
Scenario 2.1										
Lateral Name	Water Rights (acres)	Delivery Flow (cfs)	Length (ft)	Estimated Pipe Size Diameter (2)	Unit Pipe Cost (\$/ft) (3)	Construction Cost	Contingency (25% of Construction Costs)	Engineering/Permits/Construction Mgmt. (10% of Construction Cost)	Design/Construction Survey (\$2.50/ft)	Total Piping Cost
<i>Swalley Laterals</i>										
Rogers Lateral		10.50	3760	24"	\$95	\$357,200	\$89,300	\$35,720	\$9,400	\$491,620
Rogers Sub-Lateral		2.38	2230	14"	\$75	\$167,250	\$41,813	\$16,725	\$5,575	\$231,363
Riley Sub-Lateral		2.71	6490	16"	\$80	\$519,200	\$129,800	\$51,920	\$16,225	\$717,145
<i>Private Laterals</i>										
04-0150	0.50	0.01	1400	8"	\$55	\$77,000	\$19,250	\$7,700	\$3,500	\$107,450
04-0240	5.40	0.08	1100	8"	\$55	\$60,500	\$15,125	\$6,050	\$2,750	\$84,425
04-0260	17.00	0.27	3500	8"	\$55	\$192,500	\$48,125	\$19,250	\$8,750	\$268,625
05-0050 (4)	14.50	0.23	0	8"	\$55	\$0	\$0	\$0	\$0	\$0
									GRAND TOTAL	\$1,900,628

Notes:

- (1) Lateral lengths provided by SID. Private lateral water rights acreage provided by SID, and maximum flow is based on a delivery of 7 gallons/minute to each acre with water rights. Flows for Swalley Laterals taken from 2013 report by Black Rock Consulting.
- (2) Pipe diameter determined by using delivery flow, and assuming gravity flow over an average 0.7% grade using a roughness coefficient of n=0.009 for PVC pipe at half-full depth (0.7% is the average grade over the Rogers Phases 1-3 proposed pipeline as determined by Black Rock Consulting in a 2013 report). It is presumed that upstream pipes may be larger and downstream pipes smaller due to flow differences. 8" minimum diameter for all pipes per SID Development Handbook.
- (3) Includes fittings and appurtenances.
- (4) Water rights currently on 5-year instream lease. No lateral length available.

Estimated Piping Costs										
Supplemental Analysis Area (SAA)										
Lateral Name	Water Rights (acres)	Delivery Flow (cfs)	Length (ft)	Estimated Pipe Size Diameter (2)	Unit Pipe Cost (\$/ft) (3)	Construction Cost	Contingency (25% of Construction Costs)	Engineering/Permits/Construction Mgmt. (10% of Construction Cost)	Design/Construction Survey (\$2.50/ft)	Total Piping Cost
<i>Swalley Laterals</i>										
Riley Lateral (4)		1.96	3740	14"	\$75	\$280,500	\$70,125	\$28,050	\$9,350	\$388,025
<i>Private Laterals</i>										
06-1300	181.90	2.84	105	16"	\$80	\$8,400	\$2,100	\$840	\$263	\$11,603
								GRAND TOTAL		\$399,628
Notes:										
(1) Lateral lengths provided by SID. Private lateral water rights acreage provided by SID, and maximum flow is based on a delivery of 7 gallons/minute to each acre with water rights. Flows for Swalley Laterals taken from 2013 report by Black Rock Consulting.										
(2) Pipe diameter determined by using delivery flow, and assuming gravity flow over an average 0.7% grade using a roughness coefficient of n=0.009 for PVC pipe at half-full depth (0.7% is the average grade over the Rogers Phases 1-3 proposed pipelines as determined by Black Rock Consulting in a 2013 report). It is presumed that upstream pipes may be larger and downstream pipes smaller due to flow differences. 8" minimum diameter for all pipes per SID Development Handbook.										
(3) Includes fittings and appurtenances.										
(4) Cost of piping the Riley Lateral within the SAA to only be added when considering Scenario 1.2 or 2.1, as Scenario 3.1 already accounts for piping of the Riley Lateral.										

Master Planning Costs

Swalley Irrigation District has determined that each SID or private lateral affected by UGB expansion shall be master planned in its entirety, so as to ensure the unaffected continued delivery of irrigation water to SID patrons as urbanized lands develop. While it is recognized that development and subsequent engineering of piped canals will likely occur in a piecemeal fashion, master planning of affected laterals will ensure that pipes are properly sized to accommodate current and future water rights holders, and that existing or potential problem spots along each lateral are identified and properly planned for.

In 2013, Black Rock Consulting performed a study on the Rogers Lateral, Rogers Sub-Lateral, the Riley Lateral, and the Riley Sub-Lateral, eventually performing what was very similar to a master plan for approximately 10,000 feet of the Rogers Lateral and the Riley Lateral. The cost of this report was approximately \$25,000, and therefore future master planning efforts have been estimated at \$2.50 per linear foot of canal in this report.

Feasibility Study Costs

Swalley Irrigation District faces significant loss of assessment revenue in each of the UGB expansion scenarios, as well as the Supplemental Analysis Area. Historically, as properties develop and urbanize, their water rights are removed. Each acre of water right removed results in fewer assessment dollars channeled to SID yearly; once a certain critical mass of assessments are no longer payable to SID, the District is concerned that a downward spiral will occur in which SID can no longer serve its patrons at a reasonable cost, and would have to cease delivery of irrigation water altogether, and dissolve the irrigation district.

Perpetual payments by annexed landowners or the City of Bend to SID in lieu of lost assessments would provide replacement revenue necessary; however, SID realizes that collecting such payments is unlikely. An alternative to perpetual payments is to seek new land to irrigate to compensate for the loss of previously irrigated urbanized land. SID currently irrigates approximately 4,300 acres, but the district is almost 12,000 acres in size. Some of this unirrigated area is likely not irrigable in the future, due to previous development, topography, or soil quality, but much of it probably is.

Accordingly, it is recommended that SID conduct a feasibility study to determine future irrigable acreage to replace that which is lost to urbanization due to UGB expansion. Some small scale studies have recently been done to irrigate previously unirrigated land, and this report estimates the cost of a feasibility study at \$500 per acre of water rights lost to urbanization. Actual future costs will be determined by a qualified consultant chosen to perform the study.

Direct Costs

Swalley Irrigation District has expended a significant amount of money in preparing for and engaging in the UGB expansion process. SID estimates that it will pay approximately \$30,000 in attorney, engineering, and GIS fees, as well as other miscellaneous direct costs before the UGB expansion area is finalized. This amount is exclusive of the significant amount of SID staff and Board time spent as well. These direct costs, unlike the piping, master planning, and feasibility study estimates detailed above, are independent of final UGB expansion scenario selection, but will need to be recouped by SID from annexed development lands in the future.

Total Soft Costs

A combined cost estimate for the soft costs of each scenario follows (including the master planning, feasibility, and direct costs detailed above). Scenario 1.2 presents the least cost of development of annexed lands within SID boundaries, while Scenario 3.1 is the most expensive. Lands from the SAA added to any scenario will increase the price of development as shown. The costs are recommended to be recouped from all developable land within Swalley Irrigation District boundaries that are included in the final City UGB expansion area.

Master Planning/Feasibility/Professional Fees				
Scenario 1.2				
Master Planning				
	<u>Lateral Name</u>	<u>Length (ft) (1)</u>	<u>Unit Cost (\$/ft) (2)</u>	<u>Estimated Master Plan Cost</u>
	<i>Swalley Laterals</i>			
	Rogers Lateral	21,110	\$2.50	\$52,775
	Rogers Sub-Lateral	2,310	\$2.50	\$5,775
	Riley Sub-Lateral	6,720	\$2.50	\$16,800
	<i>Private Laterals</i>			
	05-0050 (6)	0	\$2.50	\$0
	Total Master Planning Costs			\$75,350
Feasibility Study				
	Water Rights Acres within		Study Cost	Estimated Feasibility
	<u>UGB Scenario Area (3)</u>		<u>(\$/acre) (4)</u>	<u>Study Cost</u>
	78.71		\$500	\$39,355
Professional Fees & Direct Costs				
	Attorney, engineer, GIS, misc., fees and direct costs (5)			\$30,000
TOTAL MASTER PLANNING/FEASIBILITY STUDY/PROFESSIONAL FEES				<u>\$144,705</u>
Notes:				
(1) Lateral lengths provided by SID and are the total length of each lateral, regardless of the total length of each lateral, regardless of the total length that passes through the study area.				
(2) A 2013 report by Black Rock Consulting was very similar to a master plan document. This report estimated flows and required pipe sizes for approximately 9,850 feet of portions of the Rogers and Riley laterals, at cost of \$25,000. Accordingly, a cost of \$2.50/foot for master planning estimation purposes.				
(3) Water rights acreage provided by SID				
(4) Estimated at \$500/acre--actual cost will be determined by solicitation at a later date once the UGB expansion area has been determined.				
(5) Estimated direct costs and professional fees incurred by SID in relation to UGB expansion. Does not include any Swalley staff or board time.				
(6) Water rights currently on 5-year instream lease. No lateral length available.				

Master Planning/Feasibility/Professional Fees				
Scenario 2.1				
Master Planning				
	<u>Lateral Name</u>	<u>Length (ft) (1)</u>	<u>Unit Cost (\$/ft) (2)</u>	<u>Estimated Master Plan Cost</u>
	<i>Swalley Laterals</i>			
	Rogers Lateral	21,110	\$2.50	\$52,775
	Rogers Sub-Lateral	2,310	\$2.50	\$5,775
	Riley Sub-Lateral	6,720	\$2.50	\$16,800
	<i>Private Laterals</i>			
	04-0150	1,400	\$2.50	\$3,500
	04-0240	1,100	\$2.50	\$2,750
	04-0260	3,500	\$2.50	\$8,750
	05-0050 (6)	0	\$2.50	\$0
	Total Master Planning Costs			\$90,350
Feasibility Study				
	<u>Water Rights Acres within UGB Scenario Area (3)</u>		<u>Study Cost (\$/acre) (4)</u>	<u>Estimated Feasibility Study Cost</u>
	128.32		\$500	\$64,160
Professional Fees & Direct Costs				
	Attorney, engineer, GIS, misc., fees and direct costs (5)			\$30,000
TOTAL MASTER PLANNING/FEASIBILITY STUDY/PROFESSIONAL FEES				<u>\$184,510</u>
Notes:				
(1) Lateral lengths provided by SID and are the total length of each lateral, regardless of the total length of each lateral, regardless of the total length that passes through the study area.				
(2) A 2013 report by Black Rock Consulting was very similar to a master plan document. This report estimated flows and required pipe sizes for approximately 9,850 feet of portions of the Rogers and Riley laterals, at cost of \$25,000. Accordingly, a cost of \$2.50/foot for master planning estimation purposes.				
(3) Water rights acreage provided by SID				
(4) Estimated at \$500/acre--actual cost will be determined by solicitation at a later date once the UGB expansion area has been determined.				
(5) Estimated direct costs and professional fees incurred by SID in relation to UGB expansion. Does not include any Swalley staff or board time.				
(6) Water rights currently on 5-year instream lease. No lateral length available.				

Master Planning/Feasibility/Professional Fees				
Scenario 3.1				
Master Planning				
	<u>Lateral Name</u>	<u>Length (ft) (1)</u>	<u>Unit Cost (\$/ft) (2)</u>	<u>Estimated Master Plan Cost</u>
	<i>Swalley Laterals</i>			
	Rogers Lateral	21,110	\$2.50	\$52,775
	Rogers Sub-Lateral	2,310	\$2.50	\$5,775
	Riley Lateral	7,120	\$2.50	\$17,800
	Riley Sub-Lateral	6,720	\$2.50	\$16,800
	<i>Private Laterals</i>			
	04-0150	1,400	\$2.50	\$3,500
	04-0240	1,100	\$2.50	\$2,750
	04-0260	3,500	\$2.50	\$8,750
	05-0050 (6)	0	\$2.50	\$0
	06-1040	1,800	\$2.50	\$4,500
	06-1050	250	\$2.50	\$625
	06-1080	700	\$2.50	\$1,750
	06-1160	580	\$2.50	\$1,450
	06-1210	500	\$2.50	\$1,250
	06-1250	440	\$2.50	\$1,100
	Total Master Planning Costs			\$118,825
Feasibility Study				
	<u>Water Rights Acres within UGB Scenario Area (3)</u>	<u>Study Cost (\$/acre) (4)</u>	<u>Estimated Feasibility Study Cost</u>	
	207.64	\$500	\$103,820	
Professional Fees & Direct Costs				
	Attorney, engineer, GIS, misc., fees and direct costs (5)			\$30,000
TOTAL MASTER PLANNING/FEASIBILITY STUDY/PROFESSIONAL FEES				<u>\$252,645</u>
Notes:				
(1) Lateral lengths provided by SID and are the total length of each lateral, regardless of the total length of each lateral, regardless of the total length that passes through the study area.				
(2) A 2013 report by Black Rock Consulting was very similar to a master plan document. This report estimated flows and required pipe sizes for approximately 9,850 feet of portions of the Rogers and Riley laterals, at cost of \$25,000. Accordingly, a cost of \$2.50/foot for master planning estimation purposes.				
(3) Water rights acreage provided by SID				
(4) Estimated at \$500/acre--actual cost will be determined by solicitation at a later date once the UGB expansion area has been determined.				
(5) Estimated direct costs and professional fees incurred by SID in relation to UGB expansion. Does not include any Swalley staff or board time.				
(6) Water rights currently on 5-year instream lease. No lateral length available.				

Master Planning/Feasibility/Professional Fees				
Supplemental Analysis Area (SAA)				
Master Planning				
	<u>Lateral Name</u>	<u>Length (ft) (1)</u>	<u>Unit Cost (\$/ft) (2)</u>	<u>Estimated Master Plan Cost</u>
	<i>Swalley Laterals</i>			
	Riley Lateral (6)	7,120	\$2.50	\$17,800
	<i>Private Laterals</i>			
	06-1300	105	\$2.50	\$263
	Total Master Planning Costs			\$18,063
Feasibility Study				
	<u>Water Rights Acres within</u>		<u>Study Cost</u>	<u>Estimated Feasibility</u>
	<u>UGB Scenario Area (3)</u>		<u>(\$/acre) (4)</u>	<u>Study Cost</u>
	195.4		\$500	\$97,700
Professional Fees & Direct Costs				
	Attorney, engineer, GIS, misc., fees and direct costs (5)			\$0
TOTAL MASTER PLANNING/FEASIBILITY STUDY/PROFESSIONAL FEES				<u>\$115,763</u>
Notes:				
(1) Lateral lengths provided by SID and are the total length of each lateral, regardless of the total length of each lateral, regardless of the total length that passes through the study area.				
(2) A 2013 report by Black Rock Consulting was very similar to a master plan document. This report estimated flows and required pipe sizes for approximately 9,850 feet of portions of the Rogers and Riley laterals, at cost of \$25,000. Accordingly, a cost of \$2.50/foot for master planning estimation purposes.				
(3) Water rights acreage provided by SID				
(4) Estimated at \$500/acre--actual cost will be determined by solicitation at a later date once the UGB expansion area has been determined.				
(5) Direct costs and professional fees already accounted for in Scenarios 1.2, 2.1 and 3.1.				
(6) Master planning cost of the Riley Lateral only to be included in SAA in conjunction with Scenarios 1.2 and 2.1, as Scenario 3.1 already accounts for master planning costs of the Riley Lateral.				



MARTEN LAW

June 23, 2015

Via Email and Hand Delivery

UGB Steering Committee and Boundary and Growth Scenarios,
Technical Advisory Committee
c/o Brian Rankin City of Bend, Long Range Planning

Re: Urban Growth Boundary Remand

Members of the Boundary TAC and UGB Steering Committee:

Our office represents Rio Lobo Investments, LLC (“Rio Lobo”). Rio Lobo owns an approximately 376 acre property in the urban reserve located on the west side of Bend, south of Shevlin Park Road and north of Skyliners Road. There are two reasons for our submittal. First, we are writing to provide the committees with some specific details regarding the Rio Lobo Property and its particular suitability for inclusion within the Urban Growth Boundary. Second, we are compelled to register our concern with any decision by either the Urban Growth Boundary and Growth Scenarios Technical Advisory Committee (“Boundary TAC”) or the Urban Growth Boundary Steering Committee (“Steering Committee”) to eliminate otherwise “suitable” expansion lands from any further modelling, study or analysis under the relevant location factors of Goal 14. Under the requirements of OAR 660-024-0060, a local government is required to “consider and balance” all the location factors of Goal 14 in its analysis and comparison of alternative boundary locations. Suitable lands should not be eliminated from further consideration based on the various UGB expansion scenarios that have been developed by the Boundary TAC to date.

The “Rio Lobo Property”

The 376-acre Rio Lobo Property is comprised of two separate tax parcels. Both parcels lie immediately adjacent to the existing Urban Growth Boundary and are zoned as urban reserve under Deschutes County Title 19 Zoning (UAR-10). The two properties are also designated as Urban Area Reserve on the City’s General Plan map but fall outside the UGB and City limits. All of the property has been characterized as “Priority Exception Land” in connection with ongoing UGB remand process. Based on the process conducted by the City to date, such exception lands have been identified as the “highest priority” for inclusion within the UGB. Tax lot 400, County Assessor’s Map 17-11-26 is approximately 35 acres in size and is entirely surrounded by the existing UGB on three sides. Developed City subdivisions directly abut this parcel to the north, east and west. Tax Lot 600, County Assessor’s Map 17-11-00 lies immediately to the south and is approximately 334 acres in size. Large portions of this larger parcel also abut the existing UGB to the north, east and west.

As the City proceeds with its Goal 14 analysis of individual properties, you will find the property can be readily and efficiently served with connections to all required City

infrastructure. The property immediately abuts existing connections to the City sanitary sewer system and City water infrastructure can be provided to the property through multiple connection points. The property can also be served with multiple connections to the City road system and has been determined to have “Good Connectivity” (the highest category available) and minimal reliance on “Congested Corridors” in the adopted “Factor 2 Maps.” The eastern 40-acres of the Rio Lobo Property has been identified as the location of the future extension of the “Skyline Ranch” collector roadway, which is planned to facilitate existing and future growth on the west side of Bend. Because of the size, location and topography of the site, we are confident that further study and analysis will demonstrate that City infrastructure can be extended to and through the site in an efficient and cost effective manner.

The majority of the Rio Lobo Property burned entirely to the ground during the 1990 “Awbrey Hall” fire. As a result of the intensity and very high temperatures associated with this fire, Ponderosa Pine trees have not re-generated within the footprint of the fire scar. Low fertility soils, the loss of organic materials and the limited available moisture significantly constrain the ability to re-establish a pine forest on the parcel. A report from the fire and forest resource management consultants at Singletree Enterprises outlining issues related to fire and timber production is attached hereto. The attached fire and forest management report evaluates the significant fuels treatment and fire protection work that has been performed on the Rio Lobo Property to date.

The Rio Lobo Property is characterized by varied topography. Any future development plan will necessarily result in the preservation of areas of open space. These areas of open space are very well suited to provide trail corridor links between existing urban areas to the east and the public lands and amenities of Shevlin Park. Development of the Rio Lobo property provides a unique opportunity to enhance trail connections on the west side of Bend.

Land Suitability Mapping

Nearly the entirety of the Rio Lobo Property is ranked in the “Highest Quartile” in the Bend UGB Land Suitability Composite map (“Composite Map”)¹. The property also falls within the “Highest Quartile” in the Factor 1 Map (Efficient Accommodation of Land Needs) and the Factor 3 Map (ESEE Consequences). The property is mapped in the “2nd Quartile” in the Factor 2 Map (Provision of Public Facilities and Services”) which is the highest designation provided to any property located in the “West Area” as such area is defined by your consultant. Portions of the Rio Lobo Property are ranked in the “2nd Quartile” in the Factor 4 Map (Far/Forest Compatibility). Again, this is the highest ranking given to any property in the West Area. The remaining portions of the Rio Lobo Property are ranked in the lowest quartile based solely on the large size of tax lot 600. Because this parcel is large (334-acres) and extends to the west, the proximity of its western boundary to forest lands diminished the overall ranking of the entire parcel. In reality, portions of this parcel are located farther from forest lands than other properties located in the West Area. Had this large parcel been partitioned or subdivided, its

¹ Those very small portions of the Rio Lobo Property ranked in the 3rd Quartile on the Composite Map appear to be based on mapping errors contained in the Factor 1 maps. Maps depicting “Priority 2 Exception Land Parcel Size, “Improvement to Land Value Ratio” and “Tax lot distance from UGB” incorrectly reference these very small portions of the Rio Lobo Property. These errors carry over and impact the overall consideration of the property in each of the Factor 1, 2, 3, 4 maps and the Composite Map.

ranking would be entirely consistent with other properties in the West Area. It is simply unfair and arbitrary to penalize the Rio Lobo Property in the mapping process because it has not previously been divided.

More importantly, there is absolutely no basis for any assumption that the development of the Rio Lobo Property would be incompatible with farm or forest lands. The Tumalo Creek riparian corridor and Shevlin Park buffer the property from any nearby forest operations. As previously noted, the property has burned and can no longer support the growth of a Ponderosa Pine forest. There is no basis in the remand record (other than the arbitrary tax lot distance from zoning) to conclude that the future development of this parcel will have any impact on farm or forest activities on the west side.

As noted above, issues related to wildfire risk are specifically addressed in the attached report from Singletree Enterprises. With this report, consulting fire and forestry expert, John Jackson, notes that, as a practical matter, the wildland-urban interface (“WUI”) already extends west of the Rio Lobo Property by virtue of the presence of Shevlin Park and existing residential development to the west. Development of the Rio Lobo Property will not expand the WUI but will provide the City with a mechanism to reduce flammability, vegetation continuity and access for fire suppression resources. Incorporation of the Rio Lobo property into the UGB will provide additional fire protection to urbanized areas within the current City limits. Developer funded roads, fire hydrants and access infrastructure can be utilized to mitigate against the fire risks that exist today on the west side of Bend.

Required Boundary Location Alternatives Analysis under OAR 660-024-0060

With its adoption of the Bend UGB Land Suitability Composite Map, the City has determined the lands “suitable” for inclusion within the Urban Growth Boundary under ORS 197.298. All of the lands designated as suitable must be specifically evaluated under Goal 14 and the “Boundary Location Alternatives Analysis” set forth in OAR 660-024-0060 before alternative UGB expansion scenarios can be developed or approved. Where, as here, the amount of “suitable” land exceeds the identified land needs, the local government is required to apply the location factors of Goal 14 in choosing the specific lands to include within the UGB. OAR 660-024-0060(1)(b). The applicable administrative rules do not allow the City to eliminate otherwise suitable lands from further Goal 14 analysis and consideration based solely on the alternative UGB expansion scenarios developed by the Boundary TAC.

Rules provide that the boundary location factors of Goal 14 are not independent criteria. In connection with the development of alternative UGB boundary scenarios, “a local government must show that all the factors were considered and balanced.” OAR 660-024-0060(3). This requires an evaluation and comparison of the relative costs, advantages and disadvantages of alternative UGB expansion areas with respect to the provision of the public facilities and services needed to urbanize alternative boundary locations. OAR 660-024-0060(8). The evaluation under Goal 14 must include a comparison of impacts to existing water, sanitary sewer, storm water and transportation facilities.

While we understand City’s economic and efficiency interest in limiting its planned Factor 2 analysis (orderly and economic provision of public facilities and services) and modelling to the specific lands identified in the proposed UGB expansion scenarios, any such limitation stands contrary to the requirements of OAR 660-024-0060 and Goal 14.

The required consideration and balancing of the various Goal 14 factors cannot occur until the City has evaluated the relative cost and efficiency of extending infrastructure to lands otherwise designated as suitable in the Composite Map. To the extent, the City intends to eliminate lands from further Goal 14 analysis, specific Goal 14 policies must be developed and approved. To date, no such policies have been developed or approved.

Conclusion

For the reasons set forth above, we ask that the City conduct a full evaluation of the Rio Lobo property under the Goal 14 location factors. We are confident this analysis will demonstrate that the property can be efficiently served with City infrastructure and is appropriate for inclusion within the UGB. Large portions of the property are effectively surrounded by the current UGB and urban development. The varied topography of the site and its proximity to Shevlin Park provides unique opportunities for development of new open space corridors and trail connections that could link existing areas of urban development to the adjacent public lands. Incorporation of the parcel into the UGB will also provide the City with an additional tool to address existing wildfire risks on the west side of Bend. Thank you for considering our concerns.

Sincerely,

A handwritten signature in blue ink, appearing to read "Myles A. Conway".

Myles A. Conway

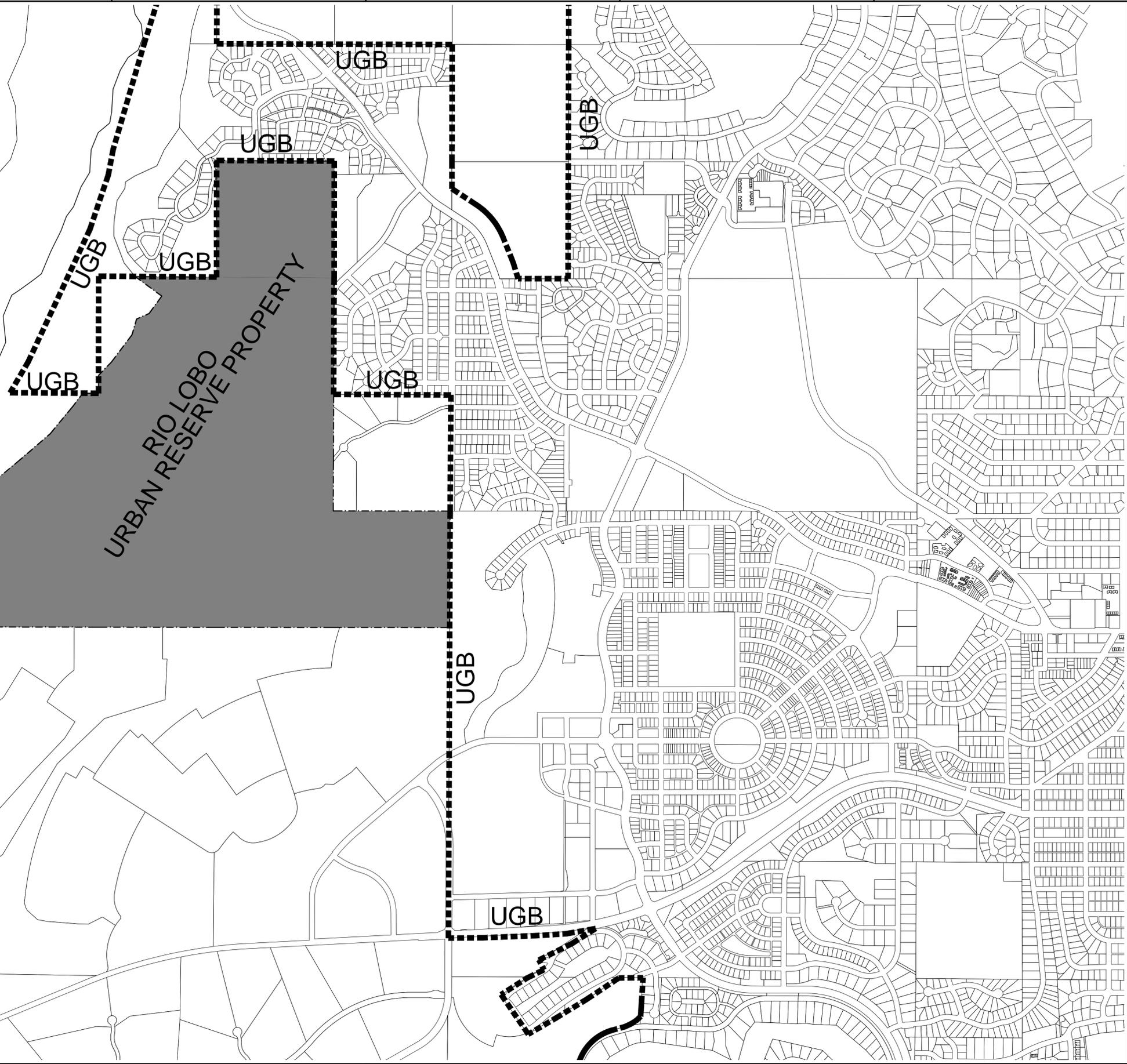
cc: Clients

Enclosures

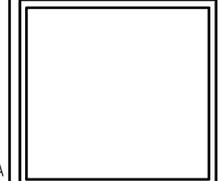
johnk S:\JOHN Matt_Day\dwg\Day_Property-201530.dwg Tue Jun 23, 2015 - 12:30pm



URBAN RIO LOBO
RESERVE PROPERTY



COPYRIGHT 2010
HICKMAN, WILLIAMS & ASSOCIATES
No reproduction or use in any form without written consent of HICKMAN, WILLIAMS & ASSOCIATES INC.
or its affiliates and subject to certain restrictions.
ALL RIGHTS RESERVED



RIO LOBO
URBAN RESERVE PROPERTY
URBAN GROWTH BOUNDARY
DESCHUTES COUNTY OREGON

HWA SURVEYORS, ENGINEERS
& PLANNERS
HICKMAN, WILLIAMS & ASSOCIATES, INC
62930 O.B. RILEY ROAD, SUITE 100
BEND, OREGON 97701
PHONE: 541.389.9351 FAX: 541.388.5416
WWW.HWA-INC.ORG

REVISIONS

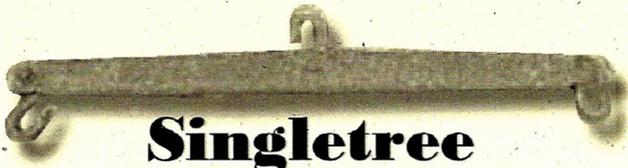
1.	
2.	
3.	

DESIGNED BY: **JMK**
DRAWN BY: **JMK**
CHECKED BY: **JMK**
SCALE: **1"=600'**
FILE: **DAY_PROPERTY.DWG**

DATE:
06/22/2015

SHEET
1 / 1

HWA # NUMBER



Singletree
ENTERPRISES, LLC

2660 NE Hwy 20 Ste 610 #222 • Bend, OR 97701 • 541-410-9686
john@singletreeconsulting.com • www.singletreeconsulting.com

TO: Myles Conway, Martin Law
FROM: John Jackson, Singletree Enterprises, LLC 
SUBJECT: Land Use Considerations: Parcels 17-11-00 TL600 & 17-11-26TL 400 - Rio Lobo Investments, LLC
Date: June 17, 2015

Three site visits were conducted on these parcels in the last five months. The last two were in December while brush mowing was in progress and later in March after snow melt to get a more in depth sense of current conditions on the site.

Background

The majority of these two parcels burned during the 1990 Awbrey-Hall Fire which started along Tumalo Creek in Shevlin Park. Since that time the footprint of the old fire has been re-vegetated by Bitterbrush, Manzanita and Rabbit Brush with widely scattered bunch grass. Very little, if any natural regeneration of Ponderosa pine has occurred from the surrounding fringe of mature pine.

Land Use Considerations

From the land management perspective there appears to be two major considerations:

- Potential to regenerate a viable Ponderosa pine forest
- Wildfire risk and threat potential to the developed areas on Bend's west side.

Singletree Enterprises provides a variety of consulting services for application to wildland fire, forest resources management and community preparedness planning. John Jackson retired from the Oregon Department of Forestry as a Unit Forester after 28 years of progressive fire management and natural resource related assignments. At the time of his retirement, he was qualified as an Incident Commander (ICT2), Operations Section Chief (OSC1) and Agency Representative. Previous qualifications included Fire Behavior Analyst and Safety Officer and a variety of operations-related positions. John graduated from Oregon State University with B.S. degrees in Biological Science ('69) and Zoology ('70).

Options for forest regeneration-

As noted above, natural regeneration of pine has not occurred in the 25 years since the fire. While that can be the result of inadequate seed source, it appears that in this case that has not been the cause. Alternatively, the soil types present, elevation of the site as well as being deeper into the Cascade rain shadow do appear to be the limiting factors.

The soil types (Type 123D Sisters-Yapoah Complex and Type 69D Kweo gravely sandy loam) identified as present on these parcels both have low fertility and substantial limitations to successful natural regeneration or seedling survival. Both are characterized by an organic mat of 2 inches or less with the substrate soil having low water availability and capacity. The organic mat contains the nutrients and biological support needed both for successful seed germination and growth and for planted seedling survival. Because of the intensity of the fire, nearly all of the organic layer on the surface was lost. Seedlings planted on Yapoah soils also have a poor survival rate because of the low available water capacity.

Competition from undesirable vegetation is also common with these soil types. The above-mentioned brush fields that have taken over the site since the fire illustrate that characteristic.

As a result of these regeneration challenges, re-establishment of a commercial pine forest on this site would probably not be cost effective from both the regeneration success as well as slow growth rate and long recovery period.

In addition to soil challenges, annual precipitation due to the lower elevation is marginal. When factored in with the loss of the organic layer and the low water retention rate of the soils regeneration is further compromised. Western Juniper in the area also creates moisture competition compromising pine survival.

Wildfire Mitigation Considerations

Whereas the forest regeneration issues discussed above generally apply specifically to the parcels in question, in order to be meaningful the wildfire issue should be considered on a broader scale as a part of the overall wildland fire fuels initiative along the length of Bend's west side.

In large measure as a result of the Awbrey-Hall Fire and the subsequent Skeleton Fire on Bend's southeast side, public awareness of the importance of hazardous vegetation mitigation treatments has expanded. Programs such as Deschutes Project Wildfire, USFS focus on mitigating treatments adjacent to private lands along the west side and the Oregon Department of Forestry's *Oregon Forestland-Urban Interface Fire Act (aka SB360)* have collectively helped to create a more defensible zone where suppression resources can work more effectively and safely to prevent wildland fire from burning into developed areas.

The overall concept is similar in many ways to the military's concept of "defense in depth." Areas further away to the west of the urban area can be treated with more modest prescriptions with progressively more thorough treatment prescriptions closer to urban areas.

In Bend's case the West Bend Fuel-break concept has resulted in substantial treatment acreage roughly along the FS 4606 Road (Old Brooks-Scanlon Mainline). The USFS work continues that concept further south of the Shevlin Park area.

As one progresses further eastward, substantial areas of high density residential development now line Shevlin Park Road, the Northwest Crossing community has been developed, Summit High School and a variety of other developed infrastructure is now present either within the Awbrey-Hall Fire scar or immediately adjacent to it.

Higher density residential areas are encountered the further east one travels. In these areas more house specific vegetation treatment programs are in place.

There is a parallel continuum of fire suppression equipment and tactics as one moves from west to east. Traditional wildland equipment and equipment transitions to a mix of wildland and structural and then to a full traditional structural response.

Unfortunately, when significant acreages of wildland fuels are present and intermingled with areas of residential development the model begins to lose effectiveness. The two parcels referenced above, until recently untreated, fall well inside of where undeveloped wildland would ideally "fit". Further, their presence degrades the effectiveness of the work completed further to the west. When discussing fire risk it is important to remember that it isn't the larger overstory trees, it's the brush and other ground fuels that are the real problem.

Ideally from a suppression tactics perspective, the main body of a fire moving toward town would be stopped at the Mainline/4606 Road with spot fires picked up in the areas toward town. The presence of large blocks without vegetation mitigation and inadequate access for fire equipment immediately adjacent to high density housing doesn't make sense because they provide an area and fuels to support the rebuilding of higher fire intensity that in turn restarts the spotting process.

Developer-funded roads, fire hydrants and access infrastructure in areas such as these two parcels becomes part of the solution rather than part of the problem.

The reality is that the wildland-urban interface ("WUI") already extends well to the west of this site by virtue of the presence of Shevlin Park and existing residential development to the northwest. Development of these parcels would not expand the WUI, but it would provide a mechanism to reduce the flammability and vegetation continuity, and improve access for fire suppression resources. More importantly, these improvements would reduce the threat of high intensity fire to adjacent existing residential areas to the south and east.

Summary

There appears to be three wildland/fire significant issues associated with development of these two parcels:

1. Opportunity for near-term re-establishment of a viable Ponderosa pine stand on these parcels appears to be marginal and not cost effective due to soil and water limitations.

Development of other viable agricultural options are difficult to identify but would appear to likewise not be cost-effective.

2. The presence of significant expanses of untreated wildland fuels within the wildland urban interface (WUI) on Bend's west side adjacent to, and up-wind from high-density residential areas doesn't make good sense as it adds an increment of additional risk of high intensity fire and renewed spotting from ember showers downwind.
3. Development of this area using fire-wise planning, structure design and building materials provides the mechanism for long term mitigation of the brush hazard, development of good access and water supply infrastructure.

The overall effect would provide a higher level of fire safety for these parcels and, from a strategic perspective, provide an elevated level of safety for existing adjacent areas of high-density development to the east

Date: June 22, 2015

To: UGB Technical Advisory Committee
From: The Schumacher Family

Subject: Bend UGB expansion property inclusion

We have been involved with the city of Bend's UGB expansion process for over a decade now with our property located in "The Elbow" at 60850 Raintree Dr. know as "Knott's Landing." It has come to our attention that now is the time to make our voices heard in regards to our desire and belief that the entire property should be included in the upcoming expansion.

The property ranks in the highest quartile for all of the land inclusion suitability factors including; efficient accommodation of land needs, provision of public facilities and services, ESEE consequences (including fire risk ranking/excluding proximity to winter range), it is not farm/forest compatible, and exception land parcel size.

This rectangular 62 +/- acre parcel currently abuts to the current UGB, is completely zoned UAR-10, and is prime developmental land that is flat with large open areas making it very affordable in terms of construction costs.

With the development currently taking place in the SE between Pahlisch's "The Bridges", Tennant's "Hidden Hills", and Hayden's "Deer Ridge"; we see the city creeping closer everyday. The current construction of both Reed Market and Murphy Rd. come at a good time to service future growth for this section of town including the high probability that the city's newest high school will be placed somewhere in the SE. Other city projects like the 40 acre park to be located where Murphy will intersect with 15th bring higher desires for people to live in this area.

We are on the short list of properties that rank highest for inclusion into this next expansion and would be devastated if for some reason were left out. Whatever zoning the TAC finds to be most suitable for our property we will respect and develop accordingly, but with the current existence of 7 high end homes on the parcel we would hope there would be some RS zoning possibly matched with a CL or RM component etc. Knott's Landing is 1350 ft. from the 74 acre High Desert Middle school property and 1300 ft. from the 31 acre park site owned by Bend Parks and Rec.

Thank you for your time and service on this project.

Regards,
The Schumacher Family
Bob, Sandy, Rhett, Jacob, and Clinton

September 22, 2015

To City of Bend UGB Expansion Staff and Boundary TAC members:

I remain very committed to being a member of the Bend UGB Remand Taskforce's Boundary TAC, despite the fact that I have missed two recent sessions. I've been deeply involved in the Bend UGB expansion since 2007, and I'm very interested in participating to help shape the future of Bend with the goal of seeing it remain a vibrant, culture-rich, economically and environmentally healthy and "socially just" place to live. Unfortunately, I am going to be out of the country for the month of October. During that time, two important Boundary TAC meetings will take place. **In order to participate, I am submitting my "vote" and comments for consideration by the Boundary TAC.** These are the principles that I support as we begin to better develop a preferred expansion Scenario.

METROQUEST SURVEY

- **METROQUEST SURVEY – Top 5 Priorities**

1. **Efficient growth.** I favor infill, and I particularly favor infill that preserves the character of existing neighborhoods, but which also stimulates the creation of truly affordable housing. Small, discrete additional dwelling units (ADUs) are so practical. An aging parent can live in an ADU, or kids that have been forced to move back home. When the right time comes, these ADUs can be rented to others. I also like to see homes cleverly converted to plexes, particularly if parking is carefully planned.
2. **Complete communities.** The objective is to use less land and avoid separating land uses in order to achieve a variety of values that include open space protection, community vitality, affordable housing, air quality, transit use, and more walkable places. Complete communities are like little, self-contained "hubs" that are linked by transit stations and walkable, bike-able pathways and trails. Complete communities reduce separation between home, work, neighborhood shops, school, doctor's offices and public gathering places. They foster walking, biking, and transit-ridership and reduce automobile dependency. Land uses are "complimentary"; they make people want to run sequential errands on foot because sidewalks are wide and commercial areas are vibrant, with small shops, public fountains, sculptures and art, busking musicians, food cart "pods", etc. Before we had easy access to automobiles and freeways, communities were inherently complete, and neighbors interacted during the process of conducting their everyday lives. There are other benefits of complete communities. It's much easier to "age in place" when everything is close by, and it's nice for seniors to sit on benches in public places and soak up the energy. I see so much of this in Europe, and it's amazing how many more seniors are out and about in the small villages there.
3. **Balanced transportation.** Top priority: REAL public transportation and an emphasis on developing along transit corridors. I would like to also place an emphasis on providing bike and foot paths and giving school kids "safe routes to school" that separate them from vehicle traffic. Kids need to walk

and bike more and I would also like to see parents stop creating “peak demand traffic jams” by encouraging kids to take the bus.

4. **Natural Environment**. As a lead-in to discussing the natural environment, I want to say that if we want to maintain and preserve a quality natural environment, we have to avoid sprawl. Urbanizing forests and rural areas are a great way to destroy the quality of the environment as such development requires more roads, more vehicle miles travelled and longer commutes, the inability to reach the scale of density that provides cost-effective public transportation, and new sewer interceptors (or worse, a continued dependence on septic, which is a real problem with in Bend’s existing UGB). I am a strong supporter of density and vertical growth, particularly in the “urban core” (e.g., the Central Area District). Tall buildings that are closer to the street (but with wide sidewalks) along transit corridors, etc. If we want clear skies, clean water, healthy native species, and enjoyable recreation in a wildland setting, we have to preserve the region’s natural environment by opting for density.
5. **Infrastructure**. If Bend grows by leveraging opportunities for infill, emphasizes complete communities, and favors balanced transportation, infrastructure will be more cost-effective. I would like to see Bend focus on stormwater management, particularly by managing run-off by using vegetation and natural processes. When precipitation falls on the natural environment, water is absorbed and filtered by soil and plants. When it falls on roofs, streets, and shopping mall parking lots it doesn’t soak into the ground but rather, travels over impermeable surfaces, during which it picks up heavy metals, trash and other pollutants from the urban landscape. The receiving waters (e.g., the Deschutes River) become polluted as a result, with trash collecting in eddies, hanging up on shore vegetation. Taking a green infrastructure approach will help bend to economically comply with the EPA’s Clean Water Act by creating a natural system of stormwater mitigation.

- **METROQUEST SURVEY - Long-Term Strategies:**

1. **Bend Central District Multi-Modal Mixed Use Area (MMA)**. I love this concept. I wish that we had more time to focus on this before we rush to expand the UGB footprint. For more on the actual MMA concept, go here: <http://bendoregon.gov/Modules/ShowDocument.aspx?documentID=21338>
 - The Central Area MMA fits well with “existing Bend” and will create an exciting secondary urban center with more opportunity for a mix of housing choice. I also suspect that it will be a huge tourist draw because this type of “new urbanism” is “foreign, but familiar”, exciting and fun to explore. To me, it feels like the best of Europe. In the MetroQuest survey, I checked “all that applied”. I favor taller buildings (over 5 stories, no higher than 8); more mixed use buildings, centralized parking as opposed to on-street or private parking, more affordable housing, more frequent transit service, a larger area that feels like “downtown” and improved access to parks, schools, trails, natural spaces and recreation. These are all key characteristics of MMAs.
 - MMAs take a proactive approach to urbanization and renewal by using building codes and development standards, anchored by modes of transportation other than the automobile, to make life simpler for residents. Once MMAs mature by adding new routes to different areas of a city, people can really get by without a car. Hop-on city-bikes and bike lanes work well for tourists and

the physically fit. People young and old are freed from the need of having to own, fuel or insure a car because they can travel by bus, pedi-cab, taxi or ride share, etc. The more robust the transit system, the easier it is to “go carless”.

- MMAs tend to stimulate economic growth in the urban core and are attractive to tourists, too, particularly if they mix complimentary land uses (commercial, residential short-stay, public gathering places, medical offices, restaurants, pocket gardens, plazas, theatres). The overall effect is a series of little urban “settlements” linked by “colored transit lines”. (The Blue bus goes to the Old Mill, the Green bus goes to COCC and OSU, the Orange bus goes to the Medical District, etc.)
- People of multiple ages and income levels find it less stressful to live, work, shop, volunteer, gather and be entertained in an energy-filled clustered development setting. Micro-commercial shops (e.g., a shoe repair, specialty greeting cards, hat shops, artist gallery, etc.) can be clustered in shaded-entrance “courts” or covered alleys lined with shops on both sides. Europe has beautiful examples of collected commercial activity that draws people in from the sidewalk.
- Some MMA clusters have shade tree plantings, fountains, pocket exercise areas, etc. They are scattered all over Paris, Barcelona, Vienna and much smaller European cities, too.
- MMAs tend to preserve surrounding open space by minimizing road construction and achieving density.
- Finally, MMAs operate with the understanding that they are really not designed for automobiles. Cars usually have a lane separated from buses, but optimized for users of transit, walkers and cyclists. Again, the “City Bike” check-out and return system, really works well in a MMA.



2. **Transit Corridors** – In the MetroQuest survey, I checked all that applied. I like redevelopment to higher densities to support travel, less land used for parking lots, taller buildings (over 3 stories, maximum 8 stories), more mixed use buildings, buildings closer to the sidewalk, wider sidewalks and landscape strips, improved access to parks, schools, trails, natural spaces and recreation.
3. **Existing Neighborhoods** – In the MetroQuest survey, I checked “all that applied” (e.g., duplexes/triplexes, townhomes, small-lot SF homes, ADUs, multi-family (less so, condos), small-scale neighborhood commercial, mixed use buildings, improved access to parks, schools, trails, natural spaces and recreation.
4. **New Neighborhoods.** In the MetroQuest survey, I checked “all that applied” (e.g., duplexes/triplexes, townhomes, small-lot SF homes, ADUs, multi-family (less so, condos), small-scale neighborhood commercial, mixed use buildings, improved access to parks, schools, trails, natural spaces and recreation.
5. **Employment Areas.** In the MetroQuest survey, I checked “all that applied” (e.g., less land used for parking lots, taller buildings (over 3 stories, maximum 8 stories), more mixed use buildings, buildings closer to the sidewalk, wider sidewalks and landscape strips, improved access to parks, schools, trails, natural spaces and recreation. .

SCENARIOS:

- **I think that Scenario 1.2 is better than 3.1, but I don't like either. I strongly oppose all of the Supplemental Areas Maps. "One star" scenarios (at best) all of them ...**
- **My preferred Scenario is 2.1. It is a 5-star. I like "complete communities" because they:**
 - **Offers a wide variety of transportation choices, including active methods (cycling, walking, etc.)**
 - **Creates transit-connected "complete communities".** Complete communities offer a full range of amenities (employment, parks, schools, shopping, restaurants, churches, trails, and public gathering places). Residents can conduct the majority of their day-to-day activities close to where they live. Research has repeatedly shown that complete communities are efficient places to live. Residents report feeling less stress. Residents of complete communities that were surveyed state that they feel anchored, safe and connected by a sense of place that comes from living in comfortable surroundings.
 - **Considers the needs of people of all ages and incomes; do not segregate low-income community members on the "edges".** True vibrancy happens when community members of different ages, and with different demographic backgrounds interact and find common ground. Some call this "social justice", but in fact, it's common sense and it creates a lively urban environment.
- **I vote to avoid "uncoordinated", "unmitigated" development that creates adverse impacts to US 97, particularly as it figures prominently in Oregon's Cascadia earthquake disaster recovery plans.**
 - The predicted occurrence of **a major Cascadia earthquake (8.0 or greater on the Richter scale) is considered to be Oregon's greatest natural threat.** The State considers the risks presented by the widely anticipated Cascadia earthquake to be greater than those posed by wildfire, floods, hurricanes, drought, etc. Geologists with expertise in the prediction and timing of earthquakes say the that the Cascadia earthquake is "overdue". ([Go here to see Cascadia earthquake timeline.](#))
Source: http://www.oregon.gov/OMD/OEM/osspace/docs/01_ORP_Cascadia.pdf
Source: <http://www.newyorker.com/magazine/2015/07/20/the-really-big-one>
 - **When (not if) it occurs, the Cascadia earthquake is expected to wreak havoc with the Interstate 5 (I-5) corridor that today serves at the State's primary freight expressway.** With the majority of bridges on I-5 built just before modern seismic design specifications were developed, the most important segment of Oregon's transportation network is likely to become fragmented after the earthquake, with some areas not operational ... Several bridges have already been identified as vulnerable to earthquake shaking but are still in active service... Five (5) bridges are expected to collapse and 19 bridges to be heavily damaged after a Cascadia Subduction Zone earthquake... U.S. 101 is expected to be impassable. I-5 will become the critical backbone route for emergency response after the earthquake ... to the extent that I-5 is operable. http://www.oregon.gov/ODOT/HWY/BRIDGE/docs/2014_Seismic_Plus_Report.pdf

-
- **In the event that major parts of Interstate 5 are not operational, US 97 will be a critical facility for ongoing interstate commerce and for staging response and recovery efforts.** Redmond Municipal Airport is a staging site for federal emergency response in Oregon. East-West corridors through the Cascades connect to more vulnerable parts of the state and are therefore a necessary part of the response and recovery system. Because there is far less likelihood of damage to facilities in these areas, they will be relied upon extensively after a Cascadia Subduction Zone event.
 - **Central Oregon will become Oregon's primary disaster recovery hub.** In all counties east of the Cascade Mountains, effects related to the earthquake include: indirect impacts related to transportation corridors (roads, rail, and air), ... supply side chain distribution, ... (and) demand for logistics and staging areas. Transportation interruptions and prioritization of emergency supplies to Western Oregon will disrupt (Oregon's economy)... Financially this is an extreme impact and alternate routing to ports of opportunity will be required. Massive staging areas are likely to be required in various areas of Central and Eastern Oregon with the primary location of relief supplies likely at an established federal ISB at Roberts Field Airport in Redmond, Oregon, Deschutes County.
http://www.oregon.gov/OMD/OEM/plans_train/docs/CSZ/1_csz_plan_final.pdf
 - **Once the Cascadia earthquake has occurred, US 97 will likely remain one of Oregon's primary north-south freightways for multiple years.** It will also be a lifeline for Central Oregonians, as today, much of our food, fuel and other consumer and economic goods are sourced to this region after first traveling through the Willamette Valley.
<http://www.bendbulletin.com/localstate/3510779-151/region-will-be-key-to-cascadia-disaster-relief>
<http://www.bend.or.us/index.aspx?page=124>
 - **US 97 in Bend is severely congested, particularly the area from Empire north to Cooley Rd.** In September, 2014, the Oregon Department of Transportation (ODOT) and the Federal Highway Administration (FHWA) jointly released a an assessment of US 97's Bend North Corridor:
 - US 97 is highly congested during peak hours.
 - Traffic flow is worsening, with drivers having to wait longer at signals.
 - Travel delays on US 97 are expected to worsen with future growth.
 - Severe injury and fatal crashes are increasing on US 97.
 - The intersections of US 97 at Robal Road and US 97 at Cooley Road have more accidents than similar intersections in the state.
 - In September, 2014 the ODOT and the FHWA concluded a 10-year project that analyzed how to resolve problems with US 97's Bend North Corridor. It presented a \$200 million (minimum) multi-phase project that are expected to resolve congestion problems on US 97 between Cooley Rd. and Empire Avenue.
 - However, per ODOT and Bend's Metropolitan Planning Organization (Bend MPO) **the \$200 million US 97 Bend North Corridor project, which consists of a series of sub-projects is not currently funded by ODOT, the FHWA, or the City of Bend, nor is it expected to be funded before the year 2040.** For more
-

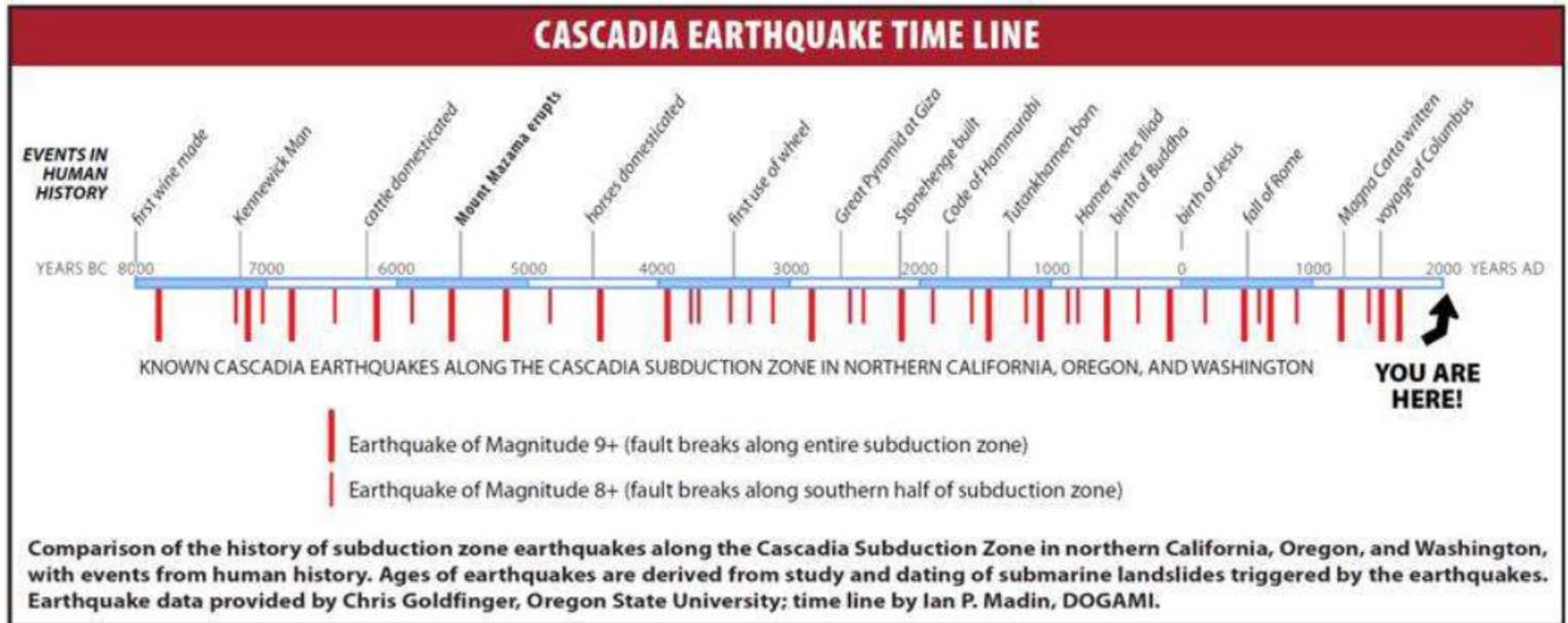
on this subject, [follow this link to Appendix A, which presents more information.](#)

[http://www.oregon.gov/ODOT/HWY/REGION4/Pages/US 97-BendNorthCorridor2.aspx](http://www.oregon.gov/ODOT/HWY/REGION4/Pages/US%2097-BendNorthCorridor2.aspx)

<http://www.bend.or.us/index.aspx?page=124>

[http://www.oregon.gov/odot/comm/pages/otc_main.aspx#Meetings - Agendas and Minutes](http://www.oregon.gov/odot/comm/pages/otc_main.aspx#Meetings%20-%20Agendas%20and%20Minutes) (Item F)

- It is imperative that development in Bend’s North Triangle area be designed to minimize impacts on US 97, particularly as there is no funding to reduce congestion in the North Corridor area. Goal 2 requires that Bend’s Comprehensive Plan be coordination with “Affected Governmental Units” (...state and federal agencies ... which have ... responsibilities within the area included in the plan). It also requires “site or area specific implementation measures such as permits ... construction of public facilities or provision of services”. <http://www.oregon.gov/LCD/docs/goals/goal2.pdf>
- Oregon’s Goal 12 Transportation (OAR 660-015-0000(12) requires that a transportation plan (prepared as part of the Comprehensive Land Use Planning process) shall “encourage a safe, convenient and economic transportation system” ... that is “based on an inventory of local, regional and state transportation needs”, that will “facilitate the flow of goods and services so as to strengthen the local and regional economy” and which will “minimize adverse social, economic and environmental impacts and costs”. Goal 12 also states, “Lands adjacent to major (highway interchanges) be managed and controlled so as to be consistent with and supportive of the land use and development patterns identified in the comprehensive plan of the jurisdiction within which the facilities are located.” While Cascadia earthquake disaster recovery plans were not considered by the Land Conservation and Development Commission (LDCD) when Goal 12 was developed, there is an implicit assumption that a local jurisdiction’s Transportation Plan, and the land uses that it is intended to coordinate with, consider regional and state transportation needs. <http://www.oregon.gov/LCD/docs/goals/goal12.pdf>
- I ask that Bend’s UGB Remand Taskforce work closely with Jim Bryant of ODOT and others at ODOT and the Oregon Transportation Commission (e.g., Tammy Baney of the OTC) to ensure that Bend’s UGB Expansion Plans are coordinated with Oregon’s 2014 Oregon Highways Seismic Plus Report and associated State of Oregon Cascadia earthquake disaster recovery plans.
- I think that it’s important that North Triangle development take the form of a “complete community” that will not introduce significant additional vehicle traffic to the US 97 North Corridor area. Before development can begin in Bend’s “North Triangle” area, I ask that robust public transportation services be required and funded by either the project’s developers or the City of Bend.



Source: http://www.oregon.gov/OMD/OEM/docs/earth_tsunami/2014%20Cascadia%20Ready%20or%20Not.pdf

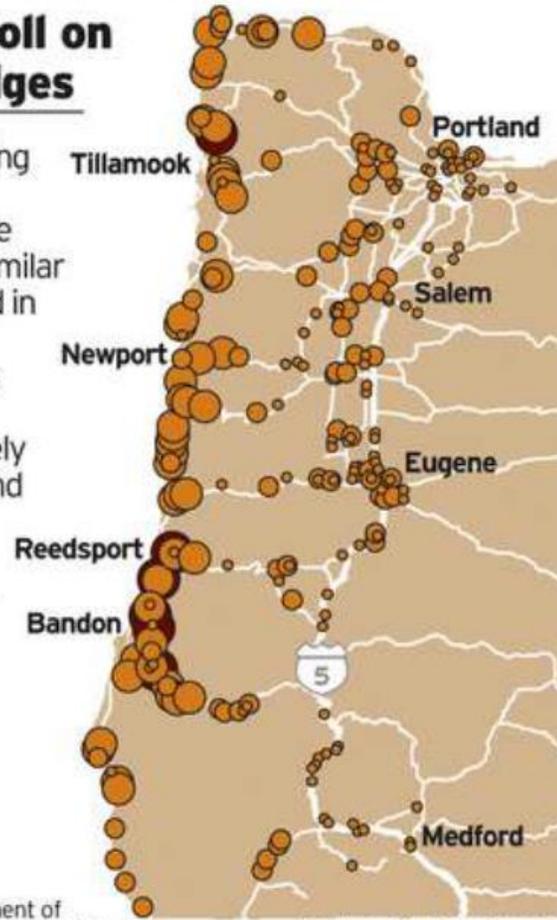
State of Oregon's Bridges

A quake's toll on Oregon bridges

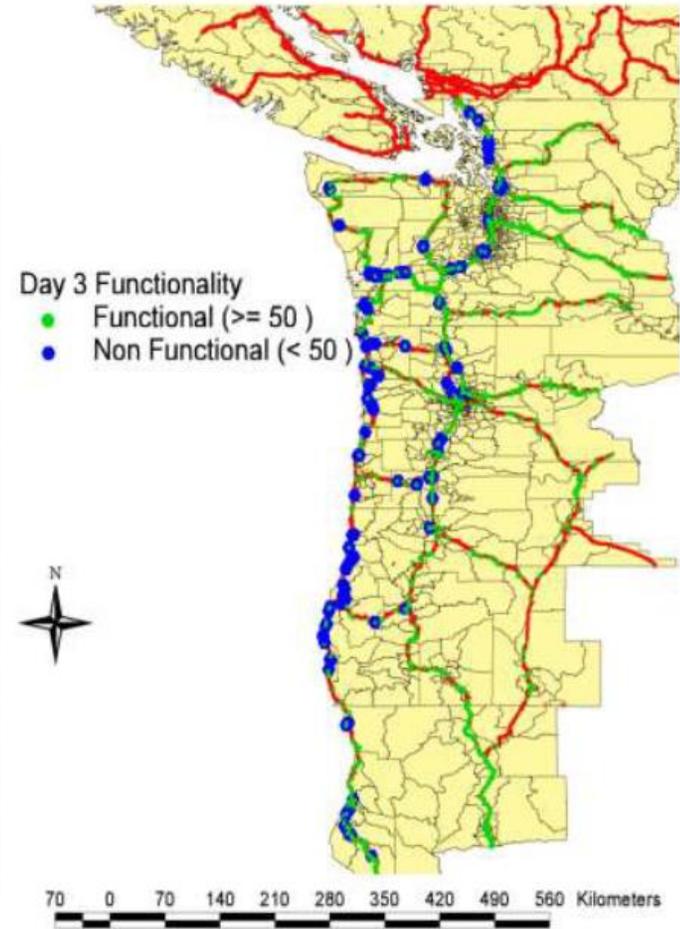
Computer modeling shows a 9.0 earthquake off the Oregon coast – similar to what happened in January 1700 – would collapse six major highway bridges, extensively damage others and cost \$1 billion for bridge repair and replacement.

- Slight
- Moderate
- Extensive
- Collapse

Source: Oregon Department of Transportation/Portland State University



STEVE COWDEN/THE OF



Cascadia Scenario Bridge Functionality

Source: http://www.oregon.gov/OMD/OEM/docs/earth_tsunami/2014%20Cascadia%20Ready%20or%20Not.pdf

- **Goal 7 considerations. I vote to carefully consider the risk of wildfire when evaluating scenarios.**
 - Oregon’s Statewide Planning Goals and Guidelines (Goal 7: Areas Subject to Natural Hazards) expressly calls out “wildfire” as a hazard that should be considered when urbanizing land and anyone who is paying attention cannot fail to have noticed that the West is on fire, with the 2015 fire season still threatening huge areas in the states of Washington, California and Oregon.
 - The lack of a mountain snowpack to provide spring and summer meltwater has resulted in record to near-record low streamflow in the Cascades. A recent NASA study shows that nearly 70 percent of the State of Oregon is in extreme drought. Jefferson, Crook and Deschutes counties were granted drought disaster declarations and state of emergency status early in 2015 and Central Oregon’s Wickiup Reservoir is the lowest it's been in over 20 years, with water levels that are just 10 percent of average -- the result of several years of drought.
 - After 2015 delivered one of the warmest, snow-free winters in the history in the Cascade Mountains, climate forecasters are now saying that in 2016, the western US will likely experience one of the strongest El Nino's in history, which may again limit Cascade Mountain snowpacks. Back-to-back years of warm-dry winters imperil the Deschutes National Forest, which is at critical risk of wildfire. The National Oceanic and Atmospheric Administration (NOAA) Climate Prediction Center expects a greater than 90% chance that El Nino will continue through the winter of 2015-2016 and most likely into the spring of 2016.
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.html
 - For these reasons, Goal 7 should be a key consideration during the Remand process, despite the fact that Central Oregon LandWatch’s Goal 7-based appeal of the prior UGB Expansion Proposal was not upheld by the LCDC during its 2010 hearings. There is far more data about wildfire risks after the 2015 fire season, and the Boundary TAC should carefully consider these risks to fully comply with Goal 7.
<http://www.oregon.gov/LCD/docs/goals/goal7.pdf>
 - The entire City is at risk for cataclysmic wildfire, it is true. Still, the greatest threat comes from “large stand ponderosa pine wildfires” (e.g., the type of forests that are prevalent on Bend’s west side (proximate to the Deschutes National Forest), and also on its south side, in the area south of Knott Road).
 - I am not entirely opposed to development in these areas, but want to see development code that establishes a significant buffer between large stands of ponderosa pine and urban development – hundreds of feet of open space that can never be developed and which is managed for fire by the developer of projects that abut these stringent buffer zone.

- **Local Food Security: Goal 2 and Goal 3 Considerations**

- Irrigation Districts play an important role in Bend’s ability to enhance local food security. It is important that Irrigation Districts act responsibly by developing infrastructure and delivery systems that minimize the loss of water during delivery (piping or lining canals and ditches) and encourage patrons to pursue “on-farm” efficiency practices and projects that further promote the efficient use of water. Having said that, the City has a legal obligation to coordinate with Irrigation Districts during this UGB Boundary Expansion process, and I strongly encourage the members of the Boundary TAC to give careful considerations to the rights and needs of irrigation districts, and closely coordinate with them during this process.
 - Bend is currently doing urban land use planning for a period that ends in 2028. During that time, much is expected to happen with respect to the impacts of climate change. The less predictable can also happen (e.g., a Cascadia Subduction Zone earthquake can disrupt this region’s ability to receive the delivery of food, and greatly impact the ability of California’s Central Valley farmers to produce and ship that food. Then, there are entirely unforeseen threats to food security – plant disease, social unrest, and other upheavals. This all needs to be considered when we do long-range land use planning.
 - A recent United Nations report raised the threat of climate change to a new level, warning of major threats to global food supplies, and to food security, not simply in “third world nations” but worldwide, including impacts to food-growing regions in the Western United States.
 - The U.N. defines “food security” as, “A situation that exists when all people, at all times, have physical, social, and economic access to sufficient, safe and nutritious food that meets their dietary needs ...” While many believe that Central Oregon is not capable of “real agriculture”, local food security is a major consideration for everyone in the 21st century. Further, a significant number of Central Oregonians produce their own food; while it takes effort and commitment, it is certainly possible to raise crops and keep animals, chickens and bees. Being a Master Gardener, I know many people who do this; I am one of them. <http://www.fao.org/publications/sofi/2014/en/>
 - Climate change will impact the extent and productivity of both irrigated and rain-fed agriculture across the globe. Reductions in aquifer recharge are expected in ... semi-arid areas of the Americas, affecting water availability in regions that are already water-stressed.
 - In semi-arid areas that rely on snowmelt and high mountain glaciers for water, food security will be significantly affected by changes in runoff patterns.
 - Both rural and urban populations are at risk from water-related agricultural impacts linked primarily to climate variability. Various adaptation measures that deal with climate variability and build upon improved land management practices have the potential to create resilience to climate change and to enhance water security.
<http://www.fao.org/docrep/014/i2096e/i2096e.pdf>
 - Irrigation Districts are public agencies, units of local government. They were created under state and federal laws, some as far back as the late 1800’s, most in the early 1900’s. Irrigation District laws are
-

strong, as it was necessary to ensure their success on behalf of landowners. Irrigation District law can be found in ORS Chapters 190, 540 and 545.

- Oregon’s Irrigation Districts hold water right certificates issued by the State of Oregon. They hold these certificates in trust for the water users who apply irrigation water to the land. The Oregon Water Resources Department has oversight and approval authority over many Irrigation District functions involving the beneficial use and transfer of water rights. There are four Irrigation Districts that have boundaries that encompass parts of the City of Bend: Arnold Irrigation District, Central Oregon Irrigation District, Tumalo Irrigation District and Swalley Irrigation District. These Districts have water users in the City and County and have irrigation conveyances (pipes and open canals) and accompanying easements in the City and County.
- Irrigation Districts that have responsibilities to the patrons who hold water rights in the districts that they serve. Some Irrigation Districts are very small (e.g., Swalley Irrigation District) and cannot afford to lose a large number of irrigated acres or they will become “uneconomic”. Irrigation districts are “government agencies” in their own right, and it is imperative to coordinate with them, so as to protect Agricultural Lands (Goal 3) and uphold the letter and the spirit of Goal 2 (Land Use Planning that is coordinated, comprehensive and which embraces the needs and interests of “Affected Governmental Units” which have programs, land ownerships, or responsibilities within the area included in the plan.” <http://www.oregon.gov/LCD/docs/goals/goal2.pdf>
- Every time that land use changes in an Irrigation District, either a conveyance, an easement, a water right or a water right assessment (revenue to the Irrigation District) or all of the above could be affected, potentially causing harm to the functioning and viability of the District. A developer may want to pipe an open channel, cross an easement with a pipe or bridge, shrink the width of an easement to create more buildable space, or entirely remove the irrigation water rights and replace them with City water. It is the City’s responsibility to notify the Irrigation Districts of these pending land use changes and it is also the responsibility of the City to coordinate with the Irrigation Districts during the UGB expansion process.
- It is very important that the Boundary TAC consider the impacts to Irrigation District that come about through urbanization. The City has a Goal 2 obligation to coordinate with these Districts. It also have a Goal 3 obligation to “preserve and maintain agricultural lands”. This is not only a State of Oregon legal obligation, but also a sustainability and stewardship obligation to help this region preserve its food security options, because one never knows what Central Oregon’s population will be facing in the years between 2015 and 2028.

Thank you for your consideration,



Toby Bayard, Member: Boundary TAC

Appendix A

Understanding the demands placed on Bend’s transportation network by proposed development is an important dimension of assessing the comparative ESEE (Economic, Social, Environmental, and Energy) consequences of growth scenarios. All development generates traffic, and it may generate enough traffic to create congestion and to compel the community to invest much more capital into the transportation network. Traffic congestion results in economic costs due to delayed travel times, wasted fuel, air pollution and accidents.

Understanding traffic impacts becomes even more important as budgets for public facility and infrastructure improvements become increasingly strained, as is true for transportation capital projects in Central Oregon, be they funded by the Federal Highway Administration (FHWA), ODOT, or the City of Bend.

Bend Parkway (US 97 North Corridor) in Area of Cooley Road is Highly Congested

As currently proposed, development along Cooley with all three Scenarios will substantially change how the Bend Parkway North Corridor (known by Oregon Department of Transportation—ODOT—as the US 97 Bend North Corridor) operates, particularly between Empire and Cooley Roads. This is a critical consideration for Boundary TAC as this part of Oregon’s Highway system is heavily congested and there is no funding to resolve the problems:

- US 97 is a designated freight route on the National Highway System, and is the only major north-south state highway east of the Cascade Mountains in Oregon. It is the key transportation corridor for interstate and regional travel of trucks and passenger cars in Central Oregon.
- Studies conducted by ODOT suggest traffic volumes along the stretch of Highway 97 from Empire Avenue through Cooley Road to the north are already at or above the road’s capacity.
- US 97 intersections at Robal and Cooley Roads are among the top 5%-10% most dangerous in Oregon.
- Traffic projections suggest the number of vehicles traveling through the area will grow by more than 40% by 2035 — and, if nothing is done, average travel speeds will drop to 2 mph in some areas.
- If long-term needs are not addressed, by 2035, US 97 ... would experience severe congestion during peak hours of travel. Traffic would wait through multiple signal cycles. Queuing would be so intense that adjacent intersections and turning lanes would be blocked by through traffic. This would result in long queues of stopped or crawling traffic lasting several hours. Turn lane queues would wait so long they would back up onto US 97 travel lanes and stop through traffic on US 97.
- If long-term needs are not addressed, by 2035 US 97 ... travelers would experience delays many times greater than current conditions. Delays would result in longer travel times for freight movement which would lead to higher costs for businesses and consumers. Delays would also hinder access to and from businesses and future development opportunities, increase driver frustration that can lead to risk-taking and accidents, and decrease the local quality of life.
http://www.oregon.gov/ODOT/HWY/REGION4/US97BendNorthCorridorSolutions/US97bnc_03_feis_chapter_1_purpose_and_need.pdf

US 97 North Corridor Project Cost > \$200 million; only \$30 million funded through 2040

Since 2004, ODOT has been working with the City of Bend and Deschutes County to develop a long-range plan to reduce traffic congestion, improve traffic flow, and enhance public safety on US 97 between the Deschutes Market Road/Tumalo Junction interchange and the Empire Avenue interchange. The findings of ODOT's US 97 and US 20 Refinement Plan, completed in 2007, led it, along with the Federal Highway Administration (FHWA) to issue an Environmental Impact Statement for the US 97 Bend North Corridor Project. A Draft EIS (published in July 2011) elicited extensive public and "local agency" (City of Bend and Deschutes County) involvement. The ten-year process was concluded in September 2014, with a solution that reflected the public's feedback; ODOT and the FHWA issued a "Record of Decision" that outlined a costly multi-stage project to greatly reduce congestion and improve safety along the approximate six-mile corridor, from the Tumalo Junction interchange to the Butler Market Road/Bend Parkway interchange.

<http://www.oregon.gov/ODOT/HWY/REGION4/US>

[97BendNorthCorridorSolutions/final_rec_doc_2014_07_17.pdf](http://www.oregon.gov/ODOT/HWY/REGION4/US97BendNorthCorridorSolutions/final_rec_doc_2014_07_17.pdf)

The entire US 97 Bend North Corridor project outlined by the ROD issued by ODOT and FHWA have an estimated minimum cost of over \$200 million (in today's dollars); an amount that ODOT initially expected would be covered by FHWA funds. But, according to the Bend Metropolitan Planning Organization's 2040 Financially Constrained Build Projects budget, no funds are expected to be received from the FHWA between 2014 and the year 2040. In other words, the US 97 Bend North Corridor project is essentially unfunded, with one possible exception.

A \$30 million component of the US 97 Bend North Corridor project, the Cooley Road Underpass, is projected to be funded by FY 2040. Funding will not come from the FHWA, but instead from ODOT and the City of Bend. The Cooley Road Underpass project removes the signalized intersection at Cooley Rd. and US 97, and reroutes traffic on Cooley Rd. beneath US 97 and the Burlington Northern Santa Fe railroad tracks. The minimum cost for this project, in today's dollars, is \$30 million. Funding includes \$16 million to be contributed by ODOT, and \$14 million to be funded with the City of Bend's Juniper Ridge Urban Renewal dollars.

In summary, by 2040, the maximum amount of money that could be allocated to the US 97 Bend North Corridor project is \$30,000, which is about 15% of the total project's minimum cost of \$200 million. Of this amount, the City must come up with \$14 million.

2040 Financially Constrained Build Projects

Number	Road	From	To	Improvement	Final Cost		Funding Source	
					Updated by CH2MH	State	City	City Urban Renewal
7	Empire Avenue	3rd Street	NB ramps	widen to 5 lanes and install signal at SB ramps	\$3,900,000		\$3,900,000	
8	Empire Avenue	Purcell Boulevard	27 th St extension	Construct 2 lane road extension	\$6,700,000		\$6,700,000	
9	Reed Market Road	27 th Street Intersection		Realign Stevens to connect directly to Reed Mkt	\$4,700,000		\$4,700,000	
10	O.B. Riley Road	Empire Avenue		Construct Intersection control improvements	\$1,900,000		\$1,900,000	
11	Murphy Road	Brookhour Road	45 th Street	2-lane Roadway extension	\$11,275,000		\$11,275,000	
12	US97/Cooley Rd area improvements			Mid-term improvement	\$30,000,000	\$16,000,000		\$14,000,000
13	Empire Avenue	NB on-ramp		widen ramp to 2 lanes	\$5,000,000		\$5,000,000	
15	US 20 (Greenwood Avenue)	4th Street intersection		Install traffic signal	\$413,000		\$413,000	
16	Yeoman Rd	18th Street	Existing section	2-lane road extension	\$1,009,265		\$1,009,265	
17	North frontage road	Murphy Road	Powers Road	New 2-lane road	\$5,400,000		\$5,400,000	
18	South frontage road	Murphy Road	Parkway off-ramp	New 2-lane road	\$13,800,000		\$13,800,000	
19	Brita St (south section)	Robal Lane	Empire Avenue	New 2-lane road	\$1,000,000		\$1,000,000	
20	Brita St	Robal Rd	Britta St (existing section)	Construct 2 lane extension	\$2,000,000		\$2,000,000	
21	Purcell Blvd	Existing section	Existing section	New 2-lane road	\$2,287,670		\$2,287,670	
22	Mervin Samples Rd - Sherman Rd	OB Riley Road	Empire Avenue	Upgrade to 2 lane collector roadway and install traffic signal at US20	\$6,100,000	\$2,000,000	\$4,100,000	
23	O.B. Riley Rd	Glen Vista Rd	Archie Briggs Rd	Upgrade to 3 lane arterial	\$6,700,000		\$6,700,000	
24	SE 27th St	Bear Creek Rd	Ferguson Rd	Upgrade to 3 lane arterial	\$11,500,000		\$11,500,000	
25	US97	Murphy Road		Construct northbound on and southbound off ramps	\$6,100,000			\$6,100,000
26	18th St	Cooley Rd	Empire Avenue	Complete 3-lane arterial corridor	\$6,100,000		\$6,100,000	
42	US20	Cooley Rd		Construct Intersection control improvements	\$1,600,000	\$1,600,000		
45	US20	Cooley Rd	3rd Street	Add 2nd eastbound through lane	\$4,800,000	\$4,800,000		
46	City of Bend			Other Local Transportation Projects			\$53,000,000	

Totals \$130,384,935 \$ 24,400,000 \$ 138,884,935 \$ 20,100,000

Available \$24,500,000 \$139,000,000 \$7,000,000 Murphy
 \$14,000,000 Juniper Ridge
 Net \$100,000 \$115,065 \$900,000

<http://bendoregon.gov/modules/showdocument.aspx?documentid=17931>

Hello Brian,

Thank you for your return call a while back. I wanted to take the opportunity to put my thoughts in writing as you suggested.

As a Bend resident (who was fortunate to grow up here), I'd like to ask the UGB committees to consider the impacts to wildlife if we were to expand the UGB boundary north and northwest of NW Park Commons Drive.

As you know, Park Commons Dr. is the last road within city limits before Shevlin Park Road reaches Shevlin Park. The park and the surrounding area outside the park have a rich diversity of wildlife. Below I've listed a few of the reasons development should not be allowed to spread in this area:

- The area is home to federally and state listed Critical and Vulnerable Sensitive species--the Lewis's Woodpecker and the White-headed woodpecker. According to ODF&W, these two woodpeckers are imperiled with extirpation because of small population sizes and habitat loss. Most importantly, the agency states that the woodpeckers may decline to the point of qualifying for threatened or endangered status if conservation actions are not taken. These two woodpeckers are also federally listed as Species of Concern. Three more birds, the Northern Goshawk, Peregrine Falcon and the Pileated Woodpecker are listed as Vulnerable Species in this area. http://www.dfw.state.or.us/wildlife/diversity/species/docs/SSL_by_category.pdf
- The area is also critical winter habitat for mule deer and Rocky Mountain elk. As we saw with development in SW Bend, even good intentions of setting aside corridors and open space don't always work within an urban area, and now the elk are gone from SW Bend. The challenge with setting aside

the land in SW was that the land was already within the UGB, so it was extremely difficult to persuade developers to preserve adequate land for the elk. As we look to expand the UGB, we are fortunate to have the opportunity to do it right—by setting aside land for elk and other species listed as Critical and Vulnerable Sensitive before the land is paved and the species are pushed out of Bend for good.

- Tumalo Creek, a source of high quality water, runs through this portion of Bend, and meets the Deschutes River north of Park Commons Drive. Tumalo Creek is important habitat for Redband rainbow trout, the only native trout in the Deschutes River.
- The area's unique combination of shade, soil moisture and cold mountain air from the Cascades allows coniferous trees that would normally grow at much higher elevations to thrive in the area.

I'm asking the UGB committees to consider conserving a very important part of our natural environment by not expanding the UGB into this very special and currently pristine, part of our community.

Thank you for your time and efforts on this project.

Sincerely,
Quinn Keever

Hello, my name is Quinn Keever, and I am a resident of Bend. I'm here to ask you to consider the impacts to the land, wildlife and current and future residents of Bend if we were to expand the UBG north from NW Park Commons Road.

As you know, Park Commons Road is the last road within city limits before Shevlin Park Road reaches the park. Shevlin Park and the surrounding area have some of the richest diversity of plants and animals in Bend.

Shevlin Park's unique combination of shade, soil moisture and cold mountain air from the Cascades allows coniferous trees that would normally grow at much higher elevations to thrive there and in the surrounding area.

Tumalo Creek runs through this portion of Bend, and meets the Deschutes River a few miles to the north of Park Commons Drive. Tumalo Creek is important habitat for Redband rainbow trout, the only native trout in the Deschutes River.

The special and pristine land I've just described is home to federally and state listed Critical and vulnerable sensitive species; the Lewis's Woodpecker and the White-headed woodpecker.

According to ODF&W, these two woodpeckers are imperiled with extirpation because of small population sizes and habitat loss. The agency states that the woodpeckers may decline to the point of qualifying for threatened or endangered status if conservation actions are not taken. These two woodpeckers are also federally listed as species of concern. Three more birds, the Northern Goshawk, Peregrine Falcon and the Pileated Woodpecker are listed as vulnerable species.

The area is also critical winter habitat for mule deer and Rocky Mountain elk, and for the elk, it is their last stand within the City of Bend. As we saw with development in SW Bend, even good intentions of setting aside corridors and open space don't always work within an urban area, and now the elk are gone. The challenge with setting aside the land in SW was that the land was already within the UGB, so it was extremely difficult to persuade developers to preserve adequate land for the elk. As we look to expand the UGB, we are fortunate to have the opportunity to do it right—by setting aside land for elk and other critical and vulnerable sensitive species before the land is paved and the species are pushed out of Bend for good.

Preserving habitat for federally and state recognized species of concern, not only makes environmental sense, it also makes economic sense for Bend as a whole. We all know that Bend's tourism draw is primarily based on our spectacular natural environment.

I'm asking you to consider helping to maintain a very important part of our natural environment for current Bendites and future generations, and not expand the UGB into this very special part of our community.

We only have one chance to do this right, and once the decision is made, there is no turning back or restoring this unique, pristine and important habitat.





Damian Syrnyk

From: Drew Bledsoe <drewbledsoe@mac.com>
Sent: Wednesday, June 10, 2015 9:59 AM
To: Damian Syrnyk; Brian Rankin
Subject: Cole Rd

Dear Mr. Syrnyk and Mr. Rankin,

I am the owner of a 15 acre parcel on Cole Rd. It has come to my attention that I need to make my voice heard regarding the potential UGB expansion.

The area around Cole Rd should be included in any UGB expansion for a number of reasons.

1. The exception zoning in the northeast ranks these parcels as first priority land to be included.
2. The area has close proximity to all necessary infrastructure: sewer, water etc.
3. The area has good proximity to the hospital which I believe is the top employer in the city.
4. Much of the area is flat and therefore inexpensive to develop.
5. The area is considered to be low wildfire risk compared with other areas under consideration.

Thank you for your consideration as you work through this complicated process.

Kinds regards,

Drew Bledsoe

Blackmore Planning

AND DEVELOPMENT SERVICES, LLC

October 1, 2015

Via Email and Hand Delivered

City of Bend UGB Steering Committee &
Boundary and Growth Scenarios Technical Advisory Committee
c/o Brian Rankin, Planning Manager
Growth Management Department
710 NW Wall Street
Bend, OR 97701

RE: Urban Growth Boundary Remand - Brownrigg Property

Dear Members of the UGB Steering Committee & Boundary TAC,

Thank you for your time and efforts in expanding the City of Bend Urban Growth Boundary. Having begun over 10 years ago, we understand that the process of shaping Bend's future is contentious and complex. The efforts made to date, particularly through the remand proceedings, have effectively distilled complex issues and community decision-making exercises into well-defined procedures, which will ultimately result in defensible findings. Your commitment to a thorough process is appreciated, as it will expedite a decision and prevent future legal challenges.

Background

Our office represents the Brownrigg Family who owns a 61-acre property bordering the northwest quadrant of the current City of Bend UGB, between US Hwy 20 and OB Riley Road, south of Cooley Road (shown on Conceptual Plan Attachment). The Brownrigg family is a long-term Bend family; they owned and operated Cascade Disposal (formerly Kelvic and Sun Country Disposal) from 1965 to 2008. The Brownrigg family has resided on the property since 1970 and have been involved in the Bend community since 1965. Mrs. Brownrigg has been an active community volunteer, having been influential in the development of both Bend gateway flower signs (south of Bend and at Division/Parkway off 3rd Street), which she annually replants.

Amenities

Having a first hand knowledge of Bend's history, culture and aesthetics, the property owners have identified (and plan to preserve) amenities that exist on their property which are unique to the City; amenities including a potential Area of Special Interest (ASI) and a developed park area (these items are documented on the attached Conceptual Plan and photos). Furthermore, having been business owners and contributing community members since 1965, the Brownrigg's appreciate that the character of Bend is based on a broad cross section of individuals, from business executive, to labors, high income and low income families and individuals. In

addition to preserving ASI areas and providing park land, to ensure the character of the Bend community, the owners plan to ensure that their property is available to a diverse cross section of families. Should a residential designation be placed on the property, the owners plan to provide “affordable housing” as that term is defined in the Development Code, by establishing a deed restriction that would require at least 5% of the housing be affordable on any portion of their property that is residentially designated.

Request

In general, the owners agree with the initial assessments that have resulted in their property being identified as a suitable priority land for the UGB expansion scenarios. The property is well located for the expansion of public infrastructure, including water, sewer and transportation facilities. The City of Bend TSP identifies two planned collector streets that cross the general area of the property (Cooley and Robal Roads), improvements that the Boundary TAC has concluded would lessen a known bottleneck in our community. However, although the property is identified as suitable priority land, the owners believe that the initial “painting” process and General Plan designations that resulted, in particular Scenario 2.1 (that specifically identifies Large Lot Industrial in the area) and Scenario 1.1 (which does not have any residential) where formulated without a thorough assessment of the property. These scenarios are not entirely:

- Consistent with Project Goals,
- Consistent with Goal 14 Factors
- Consistent with the Boundary Committee Established Suitability Criteria
- Consistent with the General Plan, as supported by an Economic Opportunity Analysis

We are writing today to provide you with property information, including a conceptual plan map, photos, and supporting information. The intent of this submittal is to inform the committees of the property features, so that appropriate “painting”, evaluation, and General Plan designations can be placed on the property. Ultimately the information provided is intended to support the following positions:

- 1) “Large Lot Industrial” is not an appropriate designation for the property
- 2) A mix of Commercial and Residential uses on the property would best serve community needs, including stated “Project Goals” and “Suitability Criteria”
- 3) The final (Step 4) *evaluation* should include residential uses on the property, which will allow for a complete community and consistency with the stated “Project Goals” and “Suitability Criteria”

These positions are supported, by this document, a Conceptual Plan and slope analysis, photos of the property, and direct references to the Project Goals, Goal 14 Factors, the Suitability Criteria established by the Boundary TAC, and existing and

proposed General Plan Policies (including the 2015 draft Economic Opportunity Analysis and Urbanization report).

1) Large Lot Industrial is not an appropriate designation for the property

In regards to Large Lot Industrial Lands, The Remand states “The Commission concludes that the City has made an adequate showing under ORS 197.298(3)(a) that there is a specific identified land need for a future university campus, a site for a future medical center, and for two 50-acre large lot industrial sites.” Pg 131-132. Thus, it is reasonable to review the original UGB record, the 2008 Economic Opportunities Analysis (EOA) and the draft 2015 EOA for guidance on desired characteristics for Large Lot Industrial Sites.

- a. Large Lot Industrial Sites require less than 5% slope – The 2015 Draft EOA provides a Summary of Site Characteristics on Table 15 (page 35 of 99). This Table indicates that Large Industrial Sites should have a 0%-5% slope. As detailed on the Conceptual Plan Exhibit, including the Slope Analysis, Hickman Williams and Associates, Inc. conducted a topographic survey of the site and found that although the entirety of the property may meet the 5% slope threshold, there are a series of pressure ridges and topographic features that are well in excess of 5%. The cost of blasting/removal, to make at least 50 acres available at the intended topography would severely limit this development potential of this property.
- b. Public Ownership vs. private ownership – Large Lot Industrial (50 acres or greater) is a unique product type, with a very specialized, and potentially smaller (limited) market demand. The 2008 City of Bend EOA indicates the following about Large Lot Industrial Sites (Page 41):

Although the demand for large parcels is limited, there is a need to have a few large parcels in the city’s inventory for firms that require a bigger site.

Understanding the Large Lot Industrial market, including metrics are not well refined. The Deschutes County – Central Oregon Large Lot Industrial Land Need Analysis indicates that (page 10):

Much of the recent demand for large lot industrial comes from rapidly growing industries that are building production and research capabilities to establish global scale. Additional demand comes from industry looking for regional production or as a result of specific logistical concerns (i.e. location near markets or suppliers, access to specific transportation modes). Warehousing and distribution is an important component of the economy that keeps international ports expanding and strengthens Oregon’s export markets for consumer, industrial and agricultural products.

The time, cost, and ability to attract, design, and/or develop a large industrial site, to serve a regional or global company, exceeds the capacity most local property owners. Large Industrial Sites have been studied as a broad based, long-term community and regional effort, having a potential pay-off to the entire

community or region (jobs, tax revenues, and economic catalysts). Throughout our country, state, and municipalities, we see jurisdictions provide tax credits and/or incentives to attract large-scale users. In Central Oregon, the regional jurisdictions (including Cities and Counties) conducted an analysis in 2012 (Central Oregon Large Lot Industrial Land Need Analysis - November 20, 2012), to study land supply and encourage communities to assist in a regional effort to attract large-lot users. The Analysis suggests that business leaders and Site Selectors will only begin to look at Central Oregon as an option, when multiple sites are available in the Region (ensuring site selectors have more than one or two sites to look at if they visit the region).

Placing the regional (Central Oregon) and local (City of Bend) goal of attracting a global or regional company on an individual private property owner is a monumental burden. The land need is potentially a long-term hold that is ultimately for a community benefit. If legitimate demand for this land type exist, it is undocumented that a privately held property could compete with public entities throughout Central Oregon to attract this user typed, particularly if public entities are able to offer tax breaks or other incentives related to development.

Regarding public ownership, the 2008 EOA indicates the following,

Page 64 - Public ownership. At Juniper Ridge, the City has a relatively unique opportunity to make industrial and other employment land available to firms based on considerations other than profit; the city may also be able to wait longer than a private landowner for tenants that will best further the interests of the city and region. The ICSC endorsed the following view in "Promoting Prosperity:" Public bodies that hold industrial land can afford to be relatively patient and can wait for the right prospects that accomplish the greatest public good, whereas private landholders are necessarily impatient. They may need to capitalize on any prospect that will pay their price. In some cases, private interests may diverge from public good. In these instances the public may see greater benefit in waiting for the right buyer, but in a transaction between two private parties, the greater social benefit may be ignored and thereby squander a scarce and valuable commodity, rather than wait for a prospect that provides the highest and best use for the community.²⁹

Page 41 - Although the demand for large parcels is limited, there is a need to have a few large parcels in the city's inventory for firms that require a bigger site. It is probably most appropriate for a public agency to be the party holding large lots in reserve for future development. The city, county, state, and federal government all have large holdings next to the urban growth boundary.

As indicated above, LCDC concluded that the City has made an adequate showing under ORS 197.298(3)(a) that there is a specific identified land need for two 50-acre large lot industrial sites." Pg 131-132. Thus, it is reasonable conclude that findings from the 2008 EOA related to Large Lot Industrial Lands remain valid, and should be considered in the suitability criteria.

Regarding the 2015 EOA, page 45-46 indicate

Juniper Ridge is the largest area designated for industrial uses in Bend. The base case assumes that all of Juniper Ridge will remain in an industrial plan designation and that it will accommodate future employment growth consistent with its designation. It can also accommodate one of the large lot industrial site needs due to its large size and the city ownership that allows it to be held to wait for a large lot user.

The draft 2015 EOA provides a clear indication that a properties with a Large Lot Industrial designation should anticipate the need to wait (hold land) for a large lot user.

The owners agree with the statement in the 2008 EOA and 2015 draft EOA. Being a private landowner, given the unknown demand, and the likely inability to compete with other public entities, a Large Lot Industrial designation is a major burden on the property and not the appropriate way to achieve the efficient use of land.

c. Clustering of Sites -

- *Size* – Table 15 on Page 35 of the draft 2015 EOA establishes that Large Lot Industrial Sites need 50-250 acres and have one or two owners. Establishing a plan where properties of at least 50 acres and contiguous to one another, provides an opportunity to combine units of land that could serve a very large lot user (100 + acres) in accordance with characteristics prescribed on Table 15. Isolated 50 acres units could not accommodate a very large lot user, should one be attracted to the area.
- *Infrastructure needs* – It is anticipated that demand for water, sewer, transportation and/or utilities (electric/gas) could be larger for Large Lot Industrial Sites, but will be similar amongst Large Lot Industrial users. Clustering of the sites will allow for an efficient extension of oversized infrastructure, rather than necessitating the extension of oversized infrastructure to multiple areas around town.
- *Buffering* – It is anticipated that large lot industrial users will require a larger buffer from roadways and incompatible uses and zones. However, buffering from similar (other Large Lot Industrial) uses, would not be needed. Clustering of sites, would therefore allow for a more efficient use of land, by limiting the amount of buffering areas that would be needed for multiple large lot areas.
- *Synergy* – Numerous articles document the benefits of clusters. An article from the Economist (<http://www.economist.com/node/14292202>) indicates that:

By sticking together, firms are able to benefit from such things as the neighbourhood's pool of expertise and skilled workers; its easy access to component suppliers (Toyota's suppliers generally cluster round the

mother company's factories, wherever they may be); and its information channels (both formal ones like trade magazines and informal ones like everyday gossip in neighbourhood bars).

- *Non-clustering potential* - In the event that the Committees find clustering does not result in the most efficient use of land, it is reasonable to argue that non-clustered Large Lot Industrial sites should be completely separated. Two sites in the same general area, but not contiguous would be inefficient, they would limit the ability to increase size, they would add cost, as necessary infrastructure would need to be extended to multiple areas, and separate areas would increase the amount land that is used only to buffer incompatible uses. In the event non-clustering is desired, it is argued that providing entirely different options, potentially on south or east side of Bend, would be more appropriate, as other locations would provide truly different options for potential users.

- d. Visibility / Gateway feature - Large Lot Industrial Sites do not require visibility (Table 15 Draft 2015 EOA). The subject property is a gateway to Bend; it has a tremendous amount of visibility (a valuable amenity). For a new visitor to Bend, or a local resident returning home after a business trip or vacation, a community gateway provides an opportunity to welcome passers-by, and in so doing highlight a few community features and Project Goals, particularly:
- Quality Natural Environment
 - Connections to Recreation and Nature
 - Great Neighborhoods

Large Lot Industrial uses on this gateway property would not contribute to the referenced Project Goals. Instead, a Large Lot Industrial zoning designation would establish the community gateway, a potentially beautiful and inviting area, between Hwy 20 Bend and the mountains to the west, as an industrial landscape. This gateway establishes the initial perspective of our community and an Industrial entryway would not highlight the Natural Environment or a Connection to Recreation and Nature Goals. To achieve Project Goals, the property owners are suggesting a mix of uses with the preservation of view corridors to the extent possible and practical. Furthermore, the owner would like to provide a welcoming feature like the existing Bend Flowers (at the intersection of the Bend Parkway and Division), which they participate in the annual replanting of. In addition, if development can occur as indicated on the Conceptual Plan, the owners foresee a reference to a park in close proximity to the community gateway, and the possibility of an historic home site, both of which further contribute the Project Goals and community goals.

Development on the site as a Large Lot Industrial would require the removal of natural features, removal of a potential ASI, and the removal of a potential park area, in direct conflict with the established Project Goals.

2) UGB Project Goals would best be met with a Mixed Use Master Plan

The property owner has hired Hickman Williams and Associates, Inc. to review the topography of the site and design a Conceptual Plan, based upon UGB Expansion Project Goals. The Conceptual Plan is attached; significant features of the plan include a mix of commercial and mixed-uses along Hwy 20, a transit stop, a landscaped Bend entry feature, commercial nodes at the intersections of the arterial and collector streets, residential uses, a park, multi-use trails, and potential ASI areas. Furthermore, the Conceptual Plan plans for a variety of housing types, ultimately establishing a complete community.

A Quality Natural Environment – As detailed on the attached Conceptual Plan and photographs, the site has unique topographical features, it has high points where buildings (potentially multi-family) would have 360 degree views (views of the downtown core, Smith Rock, and the Cascade Range to the west), in addition the property has low lying flat areas that are immediately adjacent to rock outcroppings, and park areas. Furthermore, the site includes varied topography and pressure ridges that lend themselves to distinctly separate areas on the site, areas that naturally could accommodate a variety of housing types, higher elevation areas that could serve as high density areas, lower lying flat areas that could be single family homes, areas oriented around a park, and highway frontage. As detailed on the Conceptual Plan, topography and a significant amount of the natural features could be retained with a mixed-use development, contributing to a Quality Natural Environment.

Balanced Transportation System – This area is critical to ensuring Bend has a balance transportation system. The UGB expansion analyses indicate that the Hwy 20 area adjacent to the property is bottlenecked at this time. This expansion area includes two planned Collector Street extensions (Cooley Road and Robal Road) that will provide alternative routes to Hwy 20, remove trips from the bottleneck areas, and provide connections to other western City expansion areas. Furthermore, in association with a mixed-use Conceptual Plan, the property owner proposes a transit stop and a multi-use path. A transit stop along Hwy 20, will ensure that efficient bus routes can deliver riders to desired locations including the northern triangle, without excessive crossing of major roadways. Furthermore, a multi-use path throughout the site provides pedestrian and bicycle alternatives, reducing the vehicle miles traveled throughout the site. In addition to capacity improvements, a mixed-use area provides the ability to create a complete community, one that will provide opportunities to walk or ride to commercial and retail amenities, to a park, and to transit facilities.

Great Neighborhoods - As detailed on the attached Conceptual Plan and photographs, the property has a series of features that would allow it to be a great neighborhood. It has an established park area and the topography allows for the clustering of housing options. Furthermore, as detailed on the Conceptual Plan the Highway access can also provide neighborhood commercial areas immediate vitality, as development that can be supplemented by highway access, limiting the potential “vacant commercial islands” that can occur when commercial cores are located on

the outskirts of town, away from other commercial areas, and with inadequate residential numbers to support vital economic activity.

Strong Diverse Economy

The area has excellent access. By providing areas of focused highway commercial, along with nodes of neighborhood commercial, the area has the ability to provide a range of jobs and industries.

Connections to Recreation and Nature

As indicated previously, the site has a number of features that are unique to Bend; there is an area that could become an ASI (shown on the attached Conceptual Plan and photos), there is an established park area (photos attached), and the site has areas where buildings will provide views to surrounding natural features and recreation areas, including the Cascade Range to the west, Pilot Butte and Smith Rock State Park to the east and north. Furthermore, given the topography of the site, including pressure ridges, there is the potential for clusters of development, which allow greater site preservation, walkways and parks. Having views to nature, in addition to walking trails to and through ASI areas, and a park, a mixed-use development, consistent with the Conceptual Plan would directly contribute to this Goal.

Housing Options and Affordability

Housing affordability and cost of living depends upon a variety of factors, including supply and demand of variables such as land, lumber, labor, housing, rent, and transportation costs. As a community, we see value in complete communities and we encourage working, living, and shopping without a significant amount of vehicular travel. However, in reality a number of citizens work in neighboring communities, such as Redmond, Sisters, Prineville and Madras. Having a housing alternative on the north side of Bend provides closer proximity to neighboring communities, which provides real cost savings, that could be used to afford housing. Housing on the north end of Bend could decrease travel costs for a number of community members and generate less of an impact on the transportation system. For example, if an individual working in a neighboring community had to drive 5 miles through Bend in a daily commute, over 200 days ($\$3 \text{ gas} = \$3000 \text{ year} / 12 = \250 month), they have \$250 less to spend on housing (or other items) each month. Providing a housing option on the north end of town, therefore has the potential to assist with the ability to afford housing.

Furthermore, having been business owners and contributing members of the community for 50 years, the Brownrigg's appreciate that the character of Bend is based on a broad cross section of individuals, from business executive, to labors, high income and low income families and individuals. To ensure that the character of the Bend is retained, the owners would like to ensure that their property can be used by a broad cross section of families property; the owners propose that a portion of the property provide "affordable housing" as that term is defined in the Development Code. To address affordable housing the applicant intends to establish a deed

restriction that would require 5% of the units be affordable on any portion of their property that is residentially designated.

In addition to travel costs and explicitly providing affordable housing to low, moderate and middle-income families, the Conceptual Plan provides affordability by design. The property contains distinct areas and a complete community; clusters of housing that can provide a variety of housing types. Part of the variety includes high-density areas, which allows for lower costs per unit.

3) Suitability Criteria Support a Mixed Use Master Plan –

In a June 22, 2015 Memo, the Angelo Planning Group Team, captured suitability criteria for needed land uses, as desired by the UGB TACs. These criteria, inform the community, of what characteristics are required for particular land types; for example, these criteria establish that an “Open Space Neighborhood” should have natural resources within or closer to the site. The owner has studied the site closely, and is providing the Committees with an assessment of consistency with the established criteria.

Large Lot Industrial

The site is not consistent with these criteria for the following reasons:

- Site is not relatively flat, it has significant slopes in excess of 5%
- To achieve “large” and “flat” parcels, a development to remove significant natural features and incorporate multiple owners (3+), which is more than the desired “few”
- Compatibility with adjacent uses would be limited, there are a number of large lot residential to the west

Industrial / Professional Office

The site is not consistent with these criteria for the following reasons:

- Site is not relatively flat, it has slopes in excess of 5%

Community Commercial Center

The eastern portion meets all criteria:

- It is at least 10 acres
- It has signalized access
- It is visible
- It has a pedestrian and bike friendly location

Traditional Neighborhood

The site meets all criteria:

- The properties in the area are generally larger, vacant ownerships
- The area has generally flatter sites (detailed on the Conceptual Plan, there are flat areas that are separated by pressure ridges and natural features)
- Having access to collector and arterial roadways, there is an opportunity for excellent connectivity

- The site has the potential for transit, the Conceptual Plan identifies at least one location along Hwy 20, that would enhance the public transit system
- As detailed on the Conceptual Plan, the area could have access to amenities to support higher density housing, including commercial nodes, mixed uses, parks and open spaces.

Multi-Family Housing

The site meets all criteria:

- Best located near amenities such as transit, schools, and parks (transit and park locations are planned in the Conceptual Plan areas, detailed on the Conceptual Plan)
- Can be concentrated in one area or spread among other housing types to create a diverse neighborhood, the property contains distinctly separate areas, the areas lend themselves to a clusters and a variety of housing types. Part of the variety includes high-density areas, that allow for lower costs per unit.

Open Space Neighborhood

The site meets all criteria:

- Natural resources within or adjacent to site (as shown on the Conceptual Plan and in photos, the site contains a potential ASI area, in addition to a park area)
- Large enough to support cluster design. Can be concentrated in one area or spread among other housing types to create a diverse neighborhood (The property contains distinctly separate areas, the areas lend themselves to a clusters and a variety of housing types. Part of the variety includes high-density areas, that allow for lower costs per unit.

Large Lot Neighborhood

The site is not suited for this type as:

- Lots exceed 5 acres
- There is great potential for improving connectivity
- There is great capacity for infill
- It is between UGB and vacant land to be urbanized

Because property meets the majority of the Residential Suitability, but not the Large Lot Industrial criteria, the Owners feel that the property should be evaluated for a mix of residential and commercial uses.

4) *Swalley Irrigation District*

Swalley Irrigation District provided a letter of concerns about expansion to the Northwest of Bend. This letter identified the financial implications of piping and/or improving district facilities over multiple properties, particularly in areas northwest of the UGB, which are primarily rural residential properties. The subject property, and the area east of OB Riley is different that the majority of the properties northwest of

the UGB. The property is large and has few owners, thus would operate more like a larger, commercial user than a series of rural residential, which the district indicates are easier to work with and lower cost.

Conclusion

In summary, this correspondence has been provided give the UGB Steering Committee and Boundary TAC details regarding the Brownrigg Property. The details in this letter, on the attached Conceptual Plan, Slope Analysis, and in the attached Photos support the following positions:

- 1) "Large Lot Industrial" is not an appropriate designation for the property
- 2) A mix of Commercial and Residential uses on the property would best serve community needs, including defined project goals and suitability criteria

With the additional information about the property, the owners request that the Committee members remove any potential of Large Lot Industrial designation from the property and they request that the final (Step 4) evaluation assess residential uses on the property.

Again, thank you for your efforts of expanding the UGB and thank you for your thoughtful consideration in shaping Bend's future.

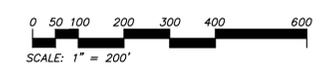
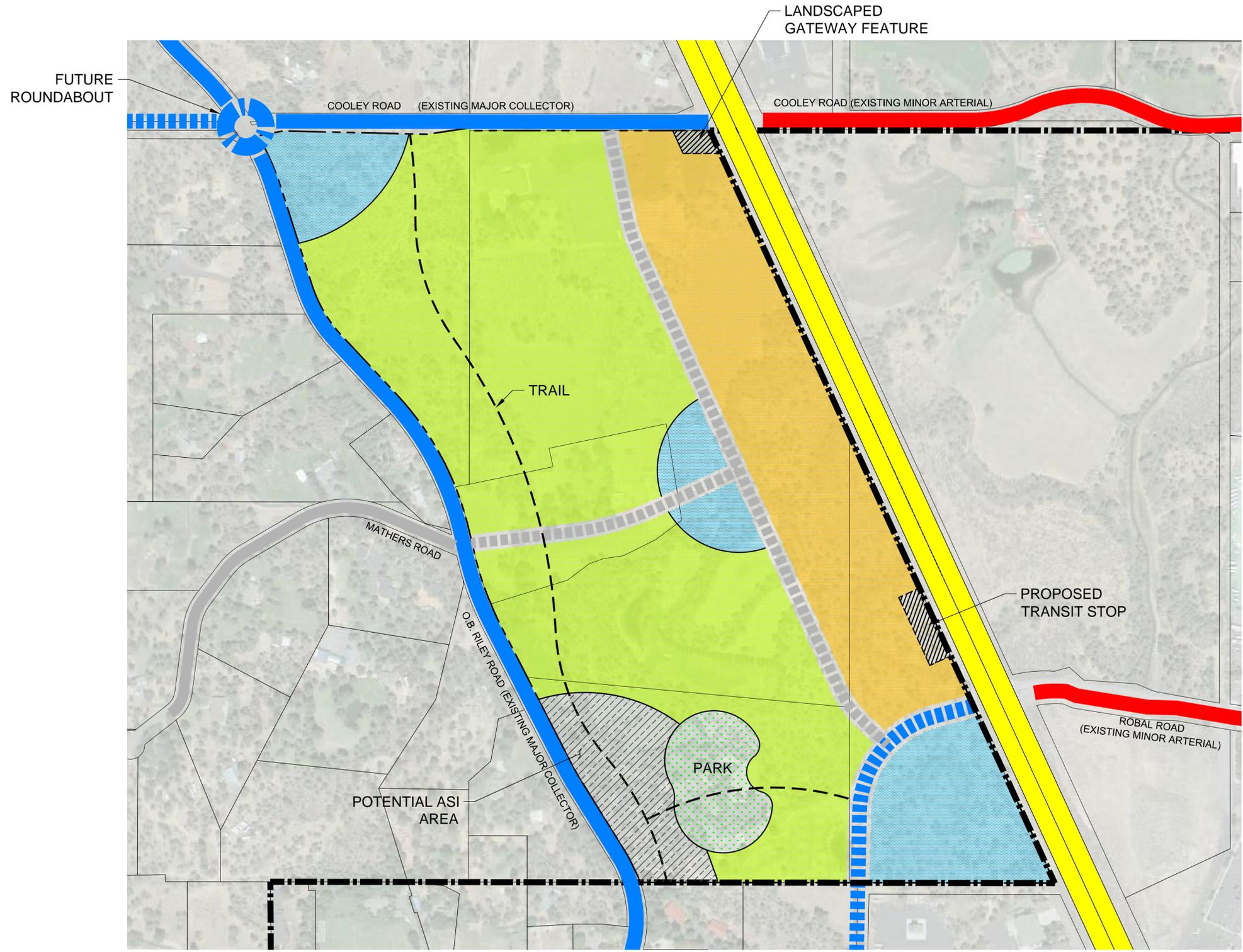
Sincerely,



Gregory C. Blackmore, Manager
Blackmore Planning and Development Services, LLC

Encl: Photos, Conceptual Plan, Slope Analysis

COPYRIGHT 2015
 HICKMAN, WILLIAMS & ASSOCIATES
 Any reproduction or use in any form without the written consent of HICKMAN, WILLIAMS & ASSOCIATES INC. is unlawful and subject to criminal prosecution.
 ALL RIGHTS RESERVED.



APPROXIMATE ACREAGES

MIXED USE	17.7 AC
COMMERCIAL	6 AC
RESIDENTIAL	21.8 AC
PARK	3.1 AC
ASI	4.7 AC

LEGEND

- EXISTING EXPRESSWAY
- EXISTING MINOR ARTERIAL
- EXISTING MAJOR COLLECTOR
- PROPOSED MAJOR COLLECTOR
- EXISTING FRONTAGE ROAD
- PROPOSED PRIMARY LOCAL STREET
- CURRENT UGB
- TRANSIT STOP
- SHARED USE TRAIL
- MIXED USE
- COMMERCIAL
- RESIDENTIAL
- PARK
- IDENTIFIED POTENTIAL ASI

BROWNRIGG PROPERTY
CONCEPT PLAN

LOCATED IN THE NE 1/4 OF SECTION 17, T. 17 S., R. 12 E., W.M.
 CITY OF BEND - DESCHUTES COUNTY - OREGON

HWA SURVEYORS, ENGINEERS & PLANNERS
HICKMAN, WILLIAMS & ASSOCIATES, INC
 62930 O.B. RILEY ROAD, SUITE 100
 BEND, OREGON 97707
 PHONE: 541.389.7351 FAX: 541.388.5416
 WWW.HWA-INC.ORG

REVISIONS	
1.	
2.	
3.	

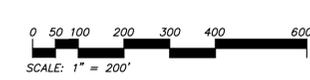
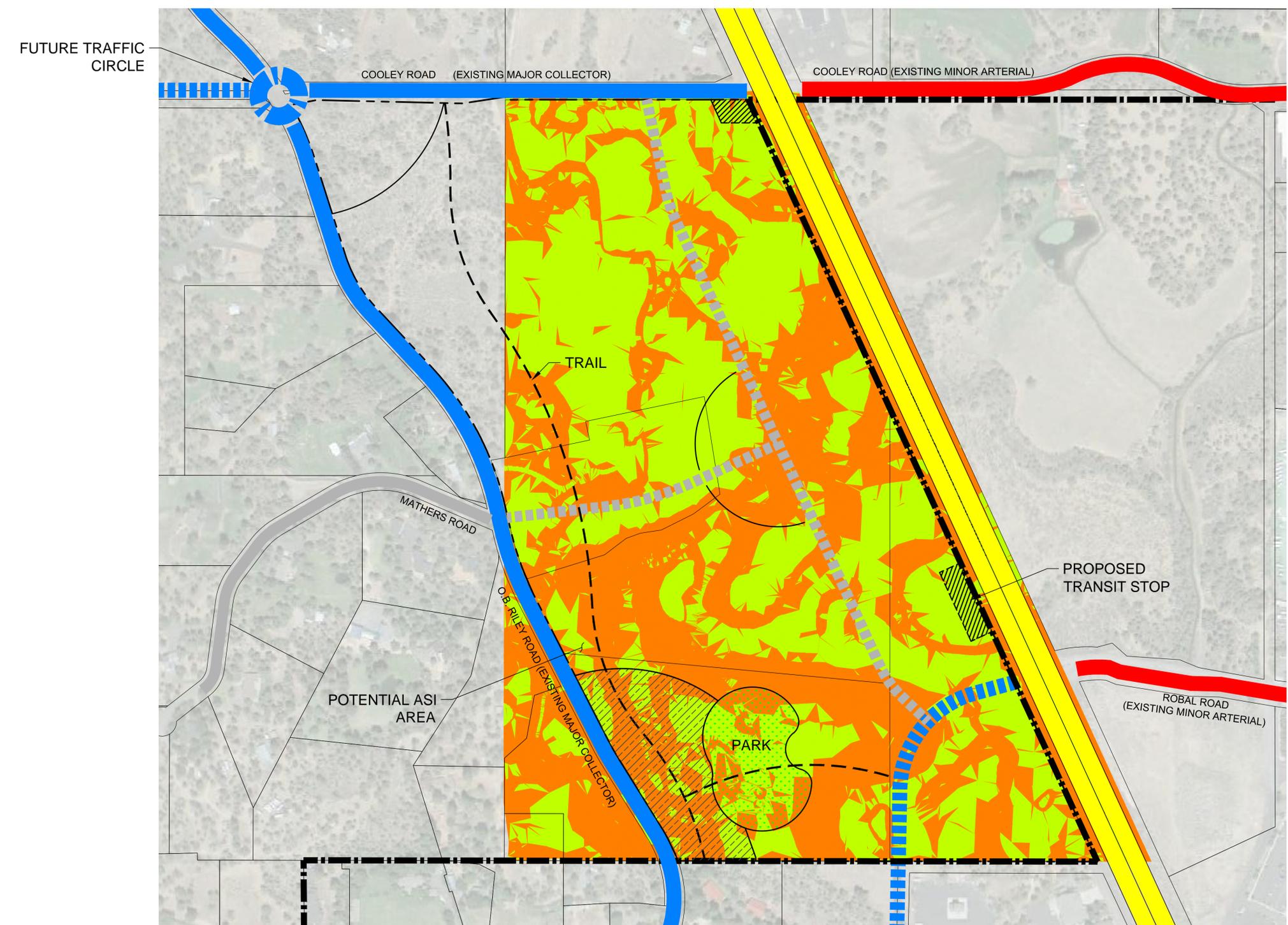
DESIGNED BY:
 DRAWN BY: **RCC**
 CHECKED BY:
 SCALE: **1"=200'**
 FILE:
 DATE: **9/17/2015**

SHEET
C1.1

HWA # 150806

1 2 3 4 5 6

A
B
C
D



Slopes Table	
Slope	Color
0% to 5%	Yellow
>5%	Orange

COPYRIGHT 2015
HICKMAN, WILLIAMS & ASSOCIATES
Any reproduction or use in any form without the
written consent of HICKMAN, WILLIAMS & ASSOCIATES INC.
is unlawful and subject to criminal prosecution.
ALL RIGHTS RESERVED.

BROWNRIGG PROPERTY

SLOPE ANALYSIS

LOCATED IN THE NE 1/4 OF SECTION 17, T. 17 S., R. 12 E., W.M.
CITY OF BEND - DESCHUTES COUNTY - OREGON

HWA SURVEYORS, ENGINEERS & PLANNERS
HICKMAN, WILLIAMS & ASSOCIATES, INC
 62730 O.B. RILEY ROAD, SUITE 100
 BEND, OREGON 97707
 PHONE: 541.389.7351 FAX: 541.388.5416
 WWW.HWA-INC.ORG

REVISIONS
1.
2.
3.
DESIGNED BY:
DRAWN BY: RCC
CHECKED BY:
SCALE: 1"=200'
FILE:
DATE: 9/9/2015

SHEET

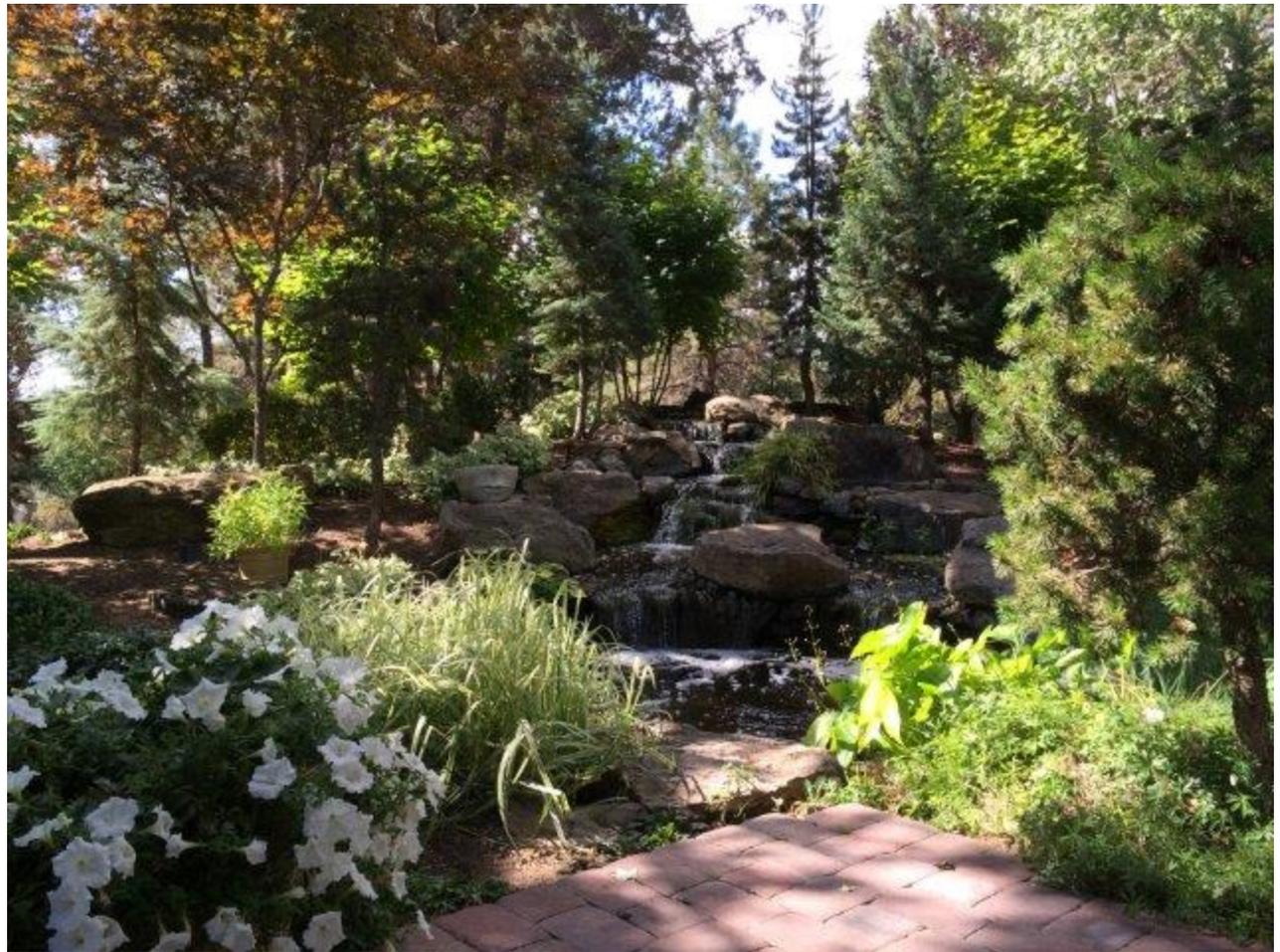
C1.2

HWA # 150806

1 2 3 4 5 6

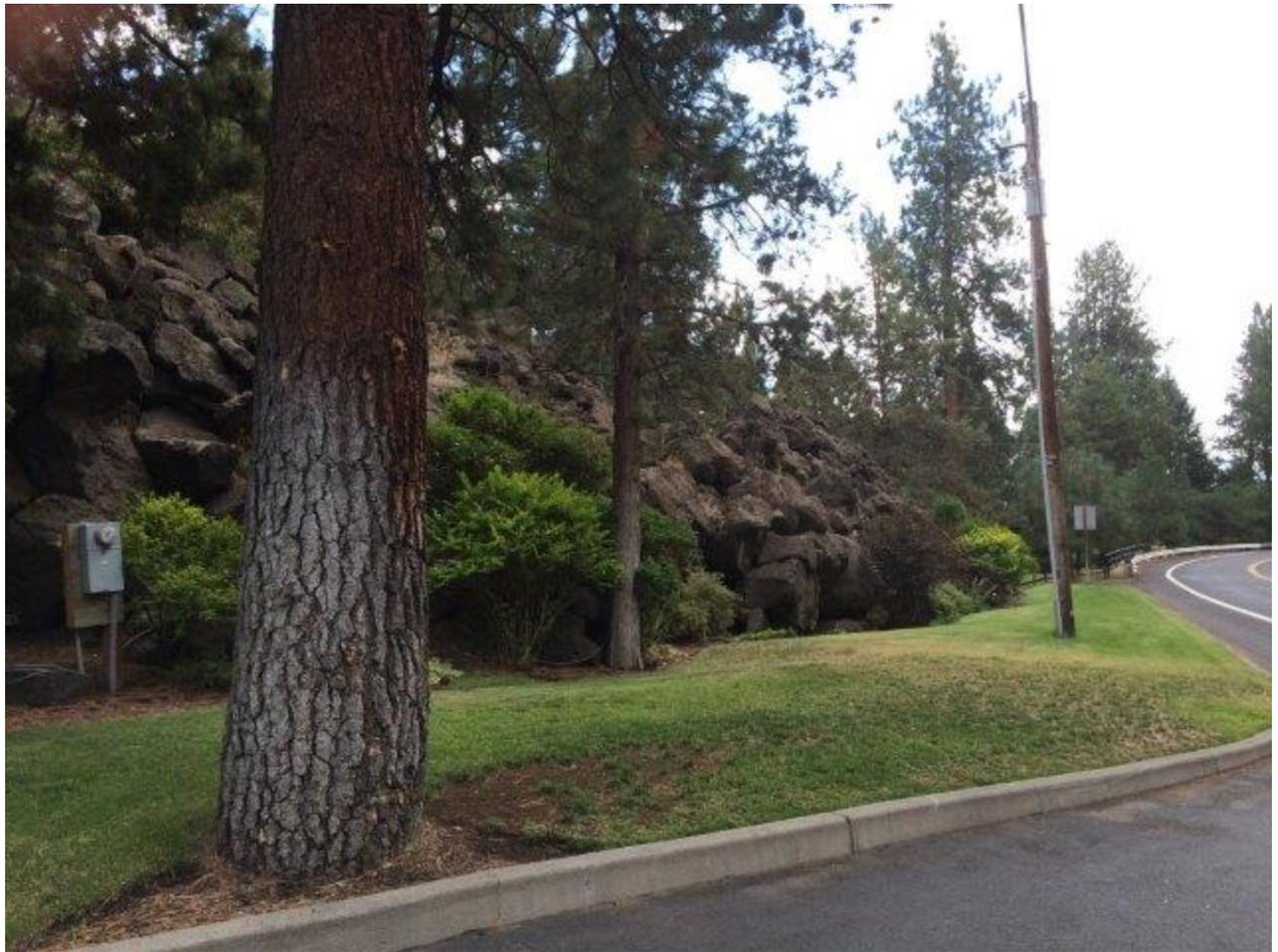
















Sign in Sheet

Meeting: UGB Open House
 Date: 10/1/15
 Location: _____

Name	Organization	Email Address
Kim Kellenberg	Neighbor	Kim.Kellenberg@yahoo.com
Janey Dudas	Self	dudasjd@gmail.com
DAVID Gilreath	"	DBGilreath@GMAIL
Jeri Boe		
DAVID FORD	WBPC	
Dale Van Valkenburg	Boundary TAC	
John Schimmoller	Re/Max	john@theilcbank.com
BARRY JOHNSON	PARAMETRIX	bjohnson@parametrix.com
JACOB FAIN	MORGAN STANLEY	jacob.fain@ms.com
JAMES BEAUCHEMIN	BANA	jb.beauchemin@gmail.com



Sign in Sheet

Meeting: UGB Open House
 Date: 10/1/15
 Location: _____

Name	Organization	Email Address
Mary Wagner LINCOLN MAYOR	Deschutes Mkt	mwagner@bendbroadband.com quigo2@subell.net
Dean Wise		dean@JLWAKOCO.COM
JOANN JACOBS		JOANN@CASCADVIEWRANCH.COM
Mike Dawson	—	—
Herb + Kathy Geiser	—	h1963k@bendbroadband.com
Calli Roberts		calliroberts@rocketmail.com
John Kelly	OBNA	BARKE@BendBroadband.com
Jade Mayer		
Charley Miller		charley@mlumber.com



Sign in Sheet

Meeting: UGB Open House
 Date: 10/1/15
 Location: _____

Name	Organization	Email Address
DANA MEYER	Cascade Sotheby's	liveinbendoregon@gmail.com
MITCH MEYER	SEBNA	MITCHELL@BENDCIBLC.COM
Bob Caine	Citizen	
Galen BAKER	Citizen	
KRIS BAKER	CITIZEN	
KAREN STRAND	CITIZEN	KLSTRAND@BENDBROADBAND.COM
Jim FRESTWOOD	CITIZEN	
Tammie Reid	Citizen	
Russ Reid	-	
Patty Kiewer	KEA	pkiewer@hotmail.com
Delsie Gilpin	Citizen	harryandDelsie@msn.com
DEREK HUBB	Citizen	
Anne George		
Brian Meese	?	
Nel (Aurora)	-	folqua'lhum@aol.com
Ronda Ellic	Citizen	rdejmr@bendbroadband.com
Gary Vadden	-	randal.wvi@gmail.com



Sign in Sheet

Meeting: UGB Open House
 Date: 10/1/15
 Location: _____

Name	Organization	Email Address
Ma An + Roy Major		
Paula Hawthorne	neighbor	paulamhawthorne@yahoo.com
Jan Pittman	city resident	jpitt29@gmail.com
Gaye Pittman	city resident	
John Smallwood	Community of Christ	smallwood4golf@outlook.com
ASHAW LAPWAN	RESIDENT	
Frank Velard		FSVELARD@GMAIL.COM
Larry Hilpin	city Resident	—
Ray Miao	Resident	raymiao20683@gmail.com
PETER CARLSON	CITY RESIDENT	P.CARLSON@CARLSONSISV.CO
Ginger Mugar	Resident	gingermugar@gmail.com
JUDY RITT	resident	rdrjmr@bead broadband.com
Ron Ross	TAC member	
Colleen Hanlon	Resident	c.hanlon246@gmail.com
Susan Brody	TAC member	
Al Johnson	" "	
VINCE MERCADO	RESIDENT	



Sign in Sheet

Meeting: UGB OPEN HOUSE
 Date: 10/1/15
 Location: _____

Name	Organization	Email Address
SALLY LYBARGER	followed original went to all hearings	sallylybarger@gmail.com
ROB PETERS	CITIZEN	RLPETERS27@AOL.COM
BILL GALAWAY	SEBWA/STONEGATE HOA	BGALAWAY@BROADBROADBAND.COM
SUE GALAWAY	CITIZEN	SUEGALAWAY@YAHOO.COM
Janet	"	lunafire.th@gmail.com
Lung Hamilton		
Sandra Cozic	neighbor	sandrafrozier234@gmail.com Stonegate
Mary Van Dyke	citizen	marygirlboss@gmail.com
BRI AVERY		NANCY.FAMILYTIES.COM
Mike Larraneta		Email/mike eyahoo.com
Michael R. De	Tom Elliott Law Office	michael@eaattorneys.com
ED & PAT DENTON	STONEGATE	
JERRY CURT		
Ken Auer	Mt. View	
Wick Black	Deschutes County	
Lorelei Williams	City of Bend	

Damian Syrnyk

From: kendall erickson <kendallkeel@gmail.com>
Sent: Wednesday, July 22, 2015 3:01 PM
To: Brian Rankin; Damian Syrnyk
Subject: UGB Public Testimony from The Brownrigg Family

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Mr. Syrnyk and Mr. Rankin,

My family owns sixty acres bordering the current UGB, off O.B. Riley Rd and Hwy 20. (Also known as OB Riley/Gopher Gulch Area) I have been attending the monthly meetings, I took part in the workshop and I am fully aware of the three scenarios presented to date.

We want to let you know that we support our property being included into the UGB and are currently preparing a Conceptual Plan for our land. Our goal is to develop a plan that factors in landscape, topography, existing features, and potential public amenities, utilizing the land to its fullest. We feel that the proper General Plan designation requires thoughtful consideration of the property and all of its features; we intend to assist the City in its decision making process by providing this detail. We plan to provide the City with the Conceptual Plan and a supporting narrative within the next few weeks.

If you have any questions or concerns, or if there is any property information that would be useful to the City in its decision making process, please don't hesitate to contact me.

Sincerely, Kendall Brownrigg Erickson

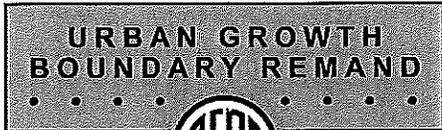
503-720-5082
Kendallkeel@gmail.com



Sign in Sheet

Meeting: JOINT TAC UGB #11
 Date: 10/7/2015
 Location: Muni Court

Name	Organization	Email Address
Kendall Brannigg	land owner	kendallkcal@gmail.com
Kurt Petach	KAEP	
Moey Newbold	COLW	
Jacob Schumacher	Schumacher Const.	jacobgschumacher@gmail
Pete Christoff	Merrill O'Sullivan, LLP	pete@merrill-osullivan.com
Ann Marie Covucci	COIN CONSULTING	ANNMARIE@BENDPATRICK.COM
Dale VanValkenburg	Boundary TAC	
Jade Mayer	Employment TAC	
Gary Vodka	-	randal.mi@gmail.com
Kat Langenderfer	HHPR	katlangenderfer@gho.com
Liz Dickson	Hurley Re PC	eedickson@hurley-re.com
Rondo		ron.boozell@simsi
BRIN MANNING	BEND 2050	brinfortemanning@gmail.com
BRISH FRITZUE	CHAUBERT / COAR	OFF FILE
Cindy Tisher	At large	onfile
JERRY GIZL	✓ ✓	



Sign in Sheet

Meeting: JOINT TAC UGB # 11
 Date: 10/7/2015
 Location: Muni Court

Name	Organization	Email Address
Kristina Barragan	Alzheimer's Association	kmbarragan@gmail.com
Scott Edelman	DLCD	
Myles Conway		mconway@montelaw.com
Ben Kuhn	UGB TAC Endowment	bkuhn@botc.com
Bill Wagner	Planning Com	
Matt Harrell	LAND OWNER	matt.harrell@hawret.com
Rod Tomcho	UGB TAC MEMBER	
TIM ELIOT	ATTY	Tin@Raattovareys.com
Matt Orell	DLCD	

October 6, 2015

Re: Potential Changes to Land Use within the UGB

Dear Technical Advisory Committee Members,

We write this letter to you In lieu of our presence at your meeting held on October 7th at the Municipal Court Room of the Bend Police Department, wherein you had some time set aside for Public Comment on your Agenda.

We understand you've not made any additional proposals to change the zoning in the current UGB, however we'd like to suggest an excellent opportunity area located at 616 NW Colorado Avenue (next to the Mill Inn B&B) for commercial zoning consideration - this property is currently an empty lot zoned as RM. The Mill Inn parking lot borders the property to the West, and a residential duplex borders it to the East. Directly across the street (the South side of Colorado), all properties are already zoned as Commercial, and the large grocery store and retail complex currently being built are located just two blocks east.

We own both the residential duplex to the East of the property, as well as the Mill Inn to the West, and have great ideas for developing the lot for commercial purposes resulting in employment, additional tax revenues for the City, and beautification of the property. In addition, 616 NW Colorado Ave is situated at the intersection of two main, busy thoroughfares through Bend, and is much better suited for commercial rather than residential use considering the traffic patterns in the area.

We thank you kindly for your review of this letter and hope you will take into consideration a change in the zoning of 616 NW Colorado Avenue to Commercial.

Sincerely,

Tricia & Zane Littrell
541-410-9092
trishhaber@yahoo.com
zaneslittrell@yahoo.com



AVION WATER CO INC.

60813 Parrell Rd • Bend, OR 97702 •
Ph: 541-382-5342 • fax: 541-382-5390 • Email: avion@avionwater.com

To: Damian Syrnyk
City of Bend

From: Jason Wick, PE
President
Avion Water Company, Inc.

Re: Avion's UGB map

Dear Damian,

On our last meeting you provided me with different scenario maps showing different possibilities for UGB expansion. After studying the maps Avion does not prefer one scenario over another. To understand why you have to understand how Avion territories develop versus how municipalities develop. Avion can add customers to any area as long as it does not harm existing customers in any way, from billing rates to system pressure during peak demand. This means that when a property is developed Avion can and does require the developer to upgrade, if needed, the water system in that area to make sure it does not harm existing customers. This does have the possibility to increase housing costs but that is dependent on which order the properties develop, which is not predictable.

Thank you,

Jason Wick, PE
President
Avion Water Company, Inc

Submitted by Ed
Elkins Oct 7 2015

RESOLUTION 15-06

OF THE SWALLEY IRRIGATION DISTRICT BOARD OF DIRECTORS

ADOPTING LAND EXCLUSION POLICY

AND

AGREEMENT FOR EXCLUSION OF LAND AND RELEASE OF RIGHTS TO RECEIVE WATER DELIVERY AND
OTHER SERVICES

WHEREAS,

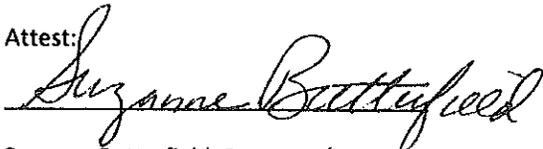
the Swalley Irrigation District Board of Directors finds it necessary to have such a policy and written
procedures for implementation, and both are attached hereto,

NOW THEREFORE BE IT RESOLVED,

The Swalley Irrigation District Board of Directors approves Resolution 15-06, adopting a Land Exclusion
Policy and Agreement for Exclusion of Land and Release of Rights to Receive Water Delivery and Other
Services, on this day August 25, 2015.



President Steve McCarrel

Attest:


Suzanne Butterfield, Secretary/Manager

LAND EXCLUSION POLICY
Adopted 8-25-2015

ORS 545.099 provides that the fee owner of one or more tracts of land in an irrigation district may file a petition requesting that those tracts be excluded and taken from the district (a "Petition"). This policy provides the conditions and procedures governing the exclusion of land from Swalley Irrigation District ("District").

Petition for Exclusion. The fee owner of one or more tax lots ("Land Owner") in the District boundaries may file a Petition under ORS 545.099 requesting that one or more of those tax lots be excluded and taken from the District. A petition may not be filed for less than a full tax lot. Such Petitions must include:

1. A statement of the grounds upon which the Land Owner requests that the tax lot(s) be excluded;
2. Documentation from the Land Owner proving that the Land Owner is the record owner of the tax lot(s) proposed for exclusion;
3. A legal description and tax lot identification of the lands proposed for exclusion;
4. A District-created map or a county assessment map of the tax lot(s) proposed for exclusion with cross-hatching showing the water rights located upon the tax lot(s) proposed for exclusion;
5. An affidavit from the Land Owner stating that the water has been used over the past five years according to the terms and conditions of the applicable water rights; and
6. Affidavits from the Land Owner stating that Land Owner has no objection and will assist to remove and transfer the water rights from the lands proposed for exclusion to the District Water Bank or to any land for which the District determines a transfer is appropriate.
7. If the Property is subject to any trust deed, mortgage, contract of sale, or other lien, a recordable agreement from the owners and holders of such instruments or liens accepting the terms of the District's Exclusion Agreement and releasing any lien those parties may have against the water rights, easements, and servitudes, acknowledged, released, transferred, and conveyed by the Exclusion Agreement.

Board Review of Exclusion Petition and Order of Exclusion. The Board of Directors ("Board") will review a Petition at its next regularly scheduled board meeting, provided that the Petition is received at least two weeks prior to the scheduled date for that meeting. If a Petition is received less than two weeks prior to a Board meeting, it will be deferred for review until the next regularly scheduled Board meeting. Pursuant to ORS 545.099, the Board shall approve a Petition by entry of an exclusion order, but it may condition that approval as necessary to reflect any of the following:

1. The Land Owner must enter into an Exclusion Agreement with the District, the form of which shall be dictated by the District. A sample Exclusion Agreement is attached hereto as Exhibit A.

2. The Land Owner must pay all past due charges and assessments of the District attributable to the Land Owner and District-assessed lands owned by the Land Owner. [ORS 545.099]
3. If a petition is filed after November 1st, the Board must condition the exclusion order to provide that it will become effective no sooner than the date that the assessment for the following year is paid in full.
4. The Land Owner must pay all costs of exclusion, including but not limited to legal fees, recording fees, filing fees, and administrative fees. [ORS 545.099]
5. The Land Owner must provide measures to protect any District facilities located on the Land Owner's lands, including but not limited to ditches, pipelines, headgates or other waterworks. The District has sole discretion to determine appropriate protective measures, which may include the right to require appropriate easements, if such easements are not of record. [ORS 545.099]
6. The proposed change in the District's boundaries shall not impair or affect its organization, its right in or to property, or any of its other rights or privileges of whatever kind or nature. The proposed change in the District's boundaries shall not affect, impair or discharge any contract, obligation, lien or charge for or upon which the district was liable or chargeable had such change of its boundaries not been made. [ORS 545.051]
7. The exclusion of lands shall not operate to release any excluded lands from any lien on the lands or any obligation to pay any valid outstanding bonds or other indebtedness of the District at the time of the filing of the Petition. The lands shall be held subject to the lien, and answerable and chargeable for the payment and discharge of all outstanding obligations at the time of the filing of the Petition, as fully as though the Petition was never filed and the order of exclusion never made.

If the excluded lands were subdivided into small tracts of less than one acre after the bonded indebtedness is apportioned to the lands on a per acre basis, the required payments will be computed to the nearest one-tenth acre. For the purpose of discharging the outstanding indebtedness, the excluded lands shall be considered part of the District.

Notwithstanding the exclusion of lands from the District, the District may continue to rely upon all provisions otherwise available to compel the payment by the lands of its quota or portion of the outstanding obligation as if the exclusion had never been accomplished, in order to compel and enforce the payment by the lands of its quota or portion of the outstanding obligations of the District for which it is liable. However, the land excluded shall not be held answerable or chargeable for any obligation incurred after the Petition is filed. [ORS 545.126]

Option to Secure Release of Liens. If the Land Owner desires to secure a release of District liens for outstanding bonds or other indebtedness, the Land Owner may elect to pay the District's exit fee. The fee shall be calculated based on the formula below, using the 10-year U.S. T-Bill as the benchmark security. Specific values for the 10-year T-Bill and final exit fee will be determined on the date the Board issues the order approving the requested exclusion.

Exit Fee Formula:

	District's secured debt obligation:	\$ _____	
+	Acres under assessment for that year:	_____	
=	Debt load per acre		\$ _____
+	10-Year U.S. T-Bill rate:	_____	
=	Per acre exit fee		\$ _____
x	Number of acres excluded	_____	
=	Total exit fee		\$ _____

Loss of Water Rights and Right to Receive Water Service. A Land Owner who files a Petition must relinquish all rights to receive irrigation water diverted and delivered by the District and must agree to cooperate with the District in the transfer of any District water rights to the District Water Bank or to other lands in the District. Part of this requirement includes irrevocably appointing the chairperson of the Board as the Land Owner's attorney-in-fact to execute any and all documents that may be necessary to transfer the water rights. At the time of transfer, the Oregon Water Resources Department will require the Land Owner to relinquish any privately held rights that are "layered" on the same land as the District water right.

Request for Future Water Delivery. If in the future, the owner of the excluded lands wishes to receive water deliveries from the District, the owner would be required to file a petition for inclusion of land as provided under ORS 545.057. If the petition is granted, the petitioner would be required to pay all District costs related to the inclusion request and to the re-establishment of water service to the lands in question. The District shall determine those costs in its sole discretion.

Recording Minutes of Board. If the exclusion changes the boundaries of the District, the Board shall make an entry in its minutes describing the new boundaries of the District. The Board shall then file with the Deschutes County Clerk and Recorder's office a copy of the entry of the Board minutes excluding any land, certified by the Board Secretary.

EXHIBIT A TO LAND EXCLUSION POLICY

AFTER RECORDING, RETURN TO:

Swalley Irrigation District
64672 Cook Avenue, Suite One
Bend, Oregon 97701

This space is reserved for recorder's use.

**AGREEMENT FOR EXCLUSION OF LAND AND
RELEASE OF RIGHTS TO RECEIVE WATER DELIVERY AND OTHER SERVICES**

This Agreement is made by and between _____

herein called "Land Owner," whether one or more, and the Swalley Irrigation District, herein called "SID."

RECITALS

A. Land Owner owns land in Deschutes County, Oregon containing _____ acres of irrigable land, identified as Deschutes County Tax Assessor's Account No(s): _____ and more particularly described on the attached Exhibit A (the "Property").

B. Land Owner or its predecessor in interest agreed to be included within SID for the purpose of receiving irrigation water and related services from SID.

C. Land Owner no longer desires to receive said services and pay the costs thereof.

D. Land Owner has filed an exclusion petition with SID under ORS 545.099 requesting that SID exclude Land Owner's Property from the District and release Land Owner's Property from SID's charges and assessments.

EXCLUSION AGREEMENT (effective _____)

Page 1

50863-38765 1265491_3.DOCXSLR/20/2015

AGREEMENT

NOW, THEREFORE, in consideration of the release by SID of Land Owner's Property from SID's charges and assessments under Oregon Revised Statutes Chapter 545, Land Owner and Land Owner's heirs, devisees, personal representatives, grantees, vendees, successors, and assigns, jointly and severally represent, warrant, guarantee, covenant, and agree with SID and its successors and assigns as follows:

1. Land Owner is the sole owner and holder of the fee simple title to the Property and has the legal authority to execute this Agreement and to bind the Property as herein agreed. If the Property is subject to any trust deed, mortgage, contract of sale, or other lien, Land Owner agrees to furnish to SID a recordable agreement (a form of which is attached to this document) from the owners and holders of such instruments or liens accepting the terms of this Agreement and releasing any lien those parties may have against the water rights, easements, and servitudes, acknowledged, released, transferred, and conveyed by this Agreement.
2. The Property does not have reasonable access to the system of irrigation works of SID, or has been permanently devoted to uses other than agriculture, horticulture, viticulture, or grazing, or is subject to being irrigated from another source or, it is in the best interest of SID to exclude the Property from assessment and from the benefits of SID.
3. Land Owner agrees to pay all past due charges and assessments of the District attributable to the Land Owner and the Property.
4. Land Owner agrees to pay all costs of exclusion, including but not limited to legal fees, recording fees, filing fees, and administrative fees.
5. Land Owner understands and agrees that by executing this Agreement, it is releasing and waiving all rights of membership in SID, including the right to receive irrigation water and other services provided by the District, and the right to vote in any SID election.
6. Land Owner understands that by filing the exclusion petition and executing this Agreement its Property will lose any right to receive irrigation water diverted and delivered by SID ("Irrigation Water"). Land Owner does hereby assign and transfer unto SID any and all right, title, and interest it has to water rights for the diversion and use of Irrigation Water from the Deschutes River, if any, appurtenant to the Property. Land Owner does hereby irrevocably appoint the chairperson of the SID Board of Directors as Land Owner's attorney-in-fact to execute any and all documents that may be necessary to transfer said water rights. This Agreement shall not be interpreted to affect or restrict Land Owner's right or ability to obtain water from any other provider or source. However, upon transfer of the SID water rights from Land Owner's land, the Oregon Water Resources Department will require Land Owner to relinquish any privately held rights that are "layered" on the same acreage as the SID water right.
7. Land Owner does hereby recognize, ratify, grant, and confirm the existence of all existing rights of SID affecting all of the Property, including, without limitation by this recital,

EXCLUSION AGREEMENT (effective _____)

Page 2

50853-38765 1265491_3.DOCX\SL\8/20/2015

all rights-of-way, easements, and servitudes for all irrigation and drainage facilities used to serve SID's patrons and land owners as now constructed and located upon or affecting the Property. Land Owner agrees that SID now owns, has, and holds and shall continue to own, have, and hold a prescriptive right, right-of-way, easement and servitude for all percolation, seepage, leakage, overflow, flooding, or any failure or lack of drainage that now exists or that at any time heretofore has occurred or resulted from any irrigation or drainage facility now constructed or in existence on or near any part of the Property.

8. Land Owner agrees to provide or take any measures deemed appropriate by SID to protect any District facilities located on the Property, including but not limited to ditches, pipelines, headgates or other waterworks. SID has sole discretion to determine such appropriate protective measures.

9. Land Owner does hereby absolve, waive, and release SID from any and all claims of liability for any damages or injuries to person or property that may have heretofore occurred or that may now be occurring in connection with the ownership, operation, or maintenance of the Swalley Irrigation District. Each consenting mortgagee or lien holder consents to Land Owner's covenants in this paragraph, but does not so covenant itself.

10. Land Owner understands and agrees that should it desire to include the Property in SID in the future, Land Owner will be required to file an inclusion petition under ORS 545.057. If the petition is granted, the petitioner would be required to pay all District costs related to the inclusion request and to the re-establishment of water service to the lands in question. The District shall determine those costs in its sole discretion.

11. Land Owner's representations, warranties, covenants, and agreements herein set forth are covenants running with Land Owner's Property and each and every part and parcel thereof in perpetuity, forever binding the same for the use and benefit of SID, and its successors, grantees, transferees, and assigns.

12. Land Owner does hereby acknowledge it has read all of the foregoing instrument and consents and agrees to each of the representations, warranties, covenants, and agreements contained herein.

This Agreement shall take effect upon the approval of the same by the Board of Directors of SID, and the adoption of the order exempting the Property from the assessments of SID.

[SIGNATURE PAGES FOLLOW]

EXCLUSION AGREEMENT (effective _____)

Page 3

50863-38765 1285491_3.DOCXSLR/8/20/2015

04320

The foregoing Agreement for Exclusion of Land and Release of Rights to Receive Water Delivery and Other Services, having been read and considered by the SID Board of Directors at an official meeting, and the Board of Directors, in consideration of all of the representations, warranties, covenants, and agreements made by the Land Owners therein, duly moved, seconded, and voted that SID approve and agree to the same, and did order that the above-described lands be excluded from SID and exempted from the payment of SID's charges and assessments and accept the release to SID of the water and drainage rights that were appurtenant to said land.

NOW, THEREFORE, SID does hereby duly execute this Agreement this _____ day of _____, _____.

SWALLEY IRRIGATION DISTRICT

By: _____
Its President

By: _____
Its Secretary

STATE OF OREGON)
) ss.
County of Deschutes)

This instrument was acknowledged before me on the _____ day of _____, _____, by _____, as President, and _____, as Secretary, of the Swalley Irrigation District and that the seal affixed to this instrument is the official seal of said Swalley Irrigation District by authority of its Board of Directors, and each of them acknowledged said instrument to be the voluntary act and deed of the Swalley Irrigation District.

Notary Public for Oregon
My Commission Expires: _____

From: Larraneta & Company [<mailto:larranetaandco@gmail.com>]
Sent: Thursday, October 08, 2015 11:18 PM
To: Damian Syrnyk <dsyrnyk@bendoregon.gov>; Brian Rankin <brankin@bendoregon.gov>
Subject: UGB Comments

Damian, Brian-

I have talked with you both about this and was hoping that you could get this into the record as a comment about the UGB. I tried to make comments on the survey but found it kind of cumbersome. If this could be added or forwarded to the committee, that would be great.

After going through the info and going to the meeting the other night I just had a few comments that stood out to me. I am a long time Bendite and am a builder/developer who lives on the NE side.

I don't quite understand how in all senario's the corner of Neff and Eagle gets included. There is only one viable property there of 9 acres undeveloped yet several small 2 acre parcels get thrown in. I recommend adding the entire length of Eagle Rd. on the east side up to the current UAR line. If you take out Bradetich Park and Keyte to Hyde Ln. that get's us a lot of usable growth land that has all infrastructure there and ready to go.

Even on Saam-1 there is a huge portion north of Yeoman that makes no sense also. That area is never going to be redeveloped just because of the complexity of getting services to all those small parcels. Areas like that should be removed from consideration so we don't inflate how much land we are asking for with land that can't be used efficiently.

I would also add the the NE side along Eagle is ready to go now. We need inventory of affordable lots which is what the NE side provides. The large parcels in the SE are great except for being by the landfill, but they are years and years from being ready to come online because of master plans and getting someone to commit to those large projects. That's not the case in the NE area. The NE Edge subarea is ready right now to be developed and help out with the affordable land situation while we are waiting for those larger, farther out areas that are years away from happening if at all.

Those are just a few of my opinions, I hope they are useful and insightful.

Thanks for the time.

Mike Larraneta

Received
10/8/2015

Lori K. Murphy
lori.murphy@millernash.com
541.749.3305 direct line

October 7, 2015

VIA HAND-DELIVERY

City of Bend Technical Advisory Committee on
Urban Growth Boundary Remand

Subject: Perfect Rectangle: Sage Wind Farm LLC

Dear TAC Members:

A rectangular, relatively flat 240 acres of property at the northeast edge of Bend city limits deserves a second look as a valuable addition to the scenarios for urban growth boundary (UGB) expansion. The site is located between Butler Market Road and Deschutes Market Road. The acreage comprises a perfect rectangle and is a perfect place to expand the UGB. Since this is the year of shapes (the "elbow," the "thumb"), we suggest this location be called the "Perfect Rectangle".

While there is humor in naming the acreage, it is more important to select expansion areas that make financial sense; those areas that perform well under Goal 14 factors and those areas without significant adverse effects on the existing transportation, sewerage and water systems.

The Perfect Rectangle meets the criteria for an UGB expansion and is rated highly in the objective analysis. It was included in the UGB expansion plan in January 2009. All land within the Perfect Rectangle is zoned MUA-10, a non-resource designation, or UAR-10, Urban Reserves, another non-resource designation. Both designations are equal in priority for expansion. As exception lands, the landowners have expected urbanization to occur on their land for over twenty years. Neither designation requires protection like farm or forest lands. City planners and consultants seemed to believe the land was resource land or that UAR zoning (not approved by LCDC) which would trump MUA. That misconception seems to have originally eliminated the Perfect Rectangle from consideration.

The Perfect Rectangle is ideal for a self-contained complete community. It offers direct walkable access to Bend Park and Recreation District parks, including the adjacent Pine

Portland, OR
Seattle, WA
Vancouver, WA
Bend, OR
Long Beach, CA

MILLERNASH.COM

70054024.3

City of Bend TAC on UGB Remand

October 7, 2015

Page 2

Nursery Park; easy access to schools with all three levels of schools located less than 5 minutes away; and efficient and timely growth due to the immediately adjacent developed communities in Monticello Estates and Mountain View neighborhoods.

The Perfect Rectangle offers an opportunity for master planning. The site is relatively flat with little development. Larger areas, like this 240-acre site, are easier and more efficient to plan and develop than small parcels and flat, rectangular land is easier to develop than hilly or oddly shaped parcels. Here, much of the land is cleared making it cost efficient to develop. Of all the scenario areas, it requires the least mitigation for wildfire danger.

The property offers ease in connectivity and access to employment centers. The site is currently surrounded by arterial roads, which include bike lanes on both sides. Because of the updated improvements to Butler Market Road, Deschutes Market Road, and Deschutes Junction in the past ten years, this area provides the best travel time from the east side sites to downtown, the Forum, Bend River Mall, Cascade Village Shopping Center, the Bend Parkway, Deschutes Junction, Redmond, Powell Butte, and Prineville.

The Perfect Rectangle offers cost effective infrastructure. The site is located at the northern end of the city sewerage system. The sewage flows north to the city's interceptor that delivers all the sewage to the sewage treatment plant. The primary interceptor crosses the Perfect Rectangle as it heads out of town to McGrath Road. Unlike the other sites being studied, sewage will not overload smaller pipes in southeast Bend or need lift stations such as sites to the west. The water reclamation plant is nearby. The area can be served by gravity and drain directly into the interceptor.

Selecting this site will support the city meeting the requirements for orderly and efficient UGB expansion and development. It is much more efficient and easier to plan and develop larger parcels of vacant land than subdivided or partitioned parcels that have already been developed. The state directs the city to look at parcels that can be aggregated into 50 acres or more. That can be done relatively easily in the Perfect Rectangle, which is sparsely developed.

The city planners also discounted the area when they noted the number of tax lots (45) in the 240-acre area. It is easier to identify large parcels owned by a single owner because we assume large acreage parcels will make development easier, quicker, and more affordable. Here, much of the ownership of the Perfect Rectangle is grouped with several owners owning multiple lots. The parcels can be aggregated to make it easier to

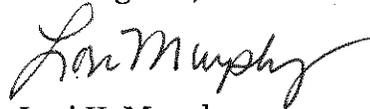
City of Bend TAC on UGB Remand
October 7, 2015
Page 3

plan and develop the area. This allows the owners to more easily cooperate to make their properties available in at least 50 acre units for efficient urbanization.

Including the Perfect Rectangle in the UGB is consistent with the state's procedure for expanding the UGB: the state encourages the aggregation of existing parcels not in the same ownership where the owners agree to make the land available as a unit of land of at least 50 acres.

The following report shows that bringing the area into the UGB meets the city's project goals and Oregon's requirements for selecting land for UGB expansion.

Best regards,



Lori K. Murphy

Attachment
cc: Clients

THE PERFECT RECTANGLE



Looking northwest into a 10.06 acre parcel, Map 171223, tax lot 106, near the intersection of Butler Market Road and Hamhook Road, at 21648 Butler Market Road, zoned MUA-10.

LOCATION

The area is bounded on the south and east by Butler Market Road, which makes a 90 degree turn to the north at the northern edge of Hamby Road, and then runs along the eastern section line between Sections 23 and 24. At the northern Section line, between Sections 23 and 14, where it meets Hamhook Road, Butler Market Road turns 90 degrees to the east and heads to the Bend Airport and the intersection of the Powell Butte Highway. Butler Market Road forms the southern and eastern boundaries of the properties in the east half of the NW 1/4 and the entire NE 1/4 of Section 23.

The area is bounded on the west by Deschutes Market Road. The northern boundary of Section 23 forms the northern line. Yeoman Road and Butler Market Road follow the alignment of the northern section line. Easements for the future eastward extension of Yeoman Road to connect with Butler Market Road in a straight line are already attached to some of the deeds of properties along the northern section line. The future extension has been shown on maps.

The following page photo shows the 240 aggregated acres that comprise the Perfect Rectangle. The photo indicates the properties that are the subject of this request. The rectangular area is outlined in red. The North Unit Irrigation Canal that delivers irrigation water to Jefferson County is in the subject area. The water in the canal flows north and crosses the Crooked River. It serves users in Jefferson County, not in Deschutes County.

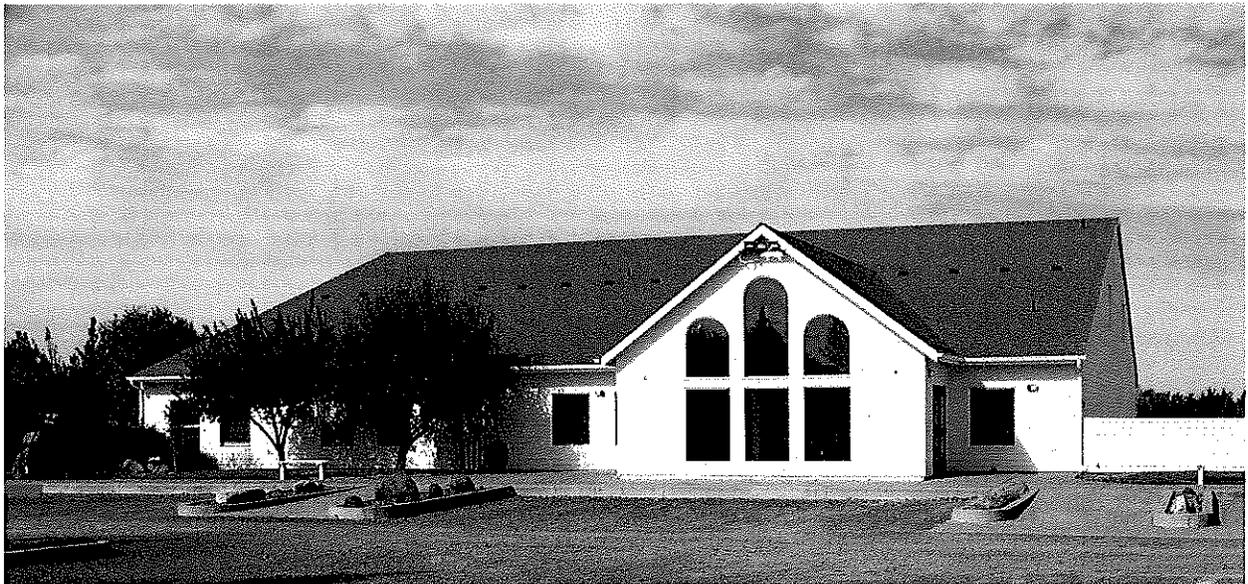
The dark green circular area just west of the Perfect Rectangle indicated with a red line is the off-leash dog park at Bend Pine Nursery Park. The area of grey "blacktop" inside the box at the lower right side is the parking lot for the new \$4,000,000 Seventh Day Adventist Church, at 21610 Butler Market Road. A driveway connects that church with the Fellowship at Bend Church located at 21530 Butler Market Road. The churches primarily serve Bend residents.



The Perfect Rectangle UGB expansion site is indicated by the red line. The North Unit Irrigation Canal passes through the western edge. The Bend Sewage interceptor also flows north in the western side. The Pine Nursery Park and Deschutes National Forest Headquarters are west of Deschutes Market Road on the western boundary. Butler Market Road forms the southern and eastern boundaries. Two churches are in the southeastern corner.



Looking northwest at the Seventh Day Adventist Church located in the southeast corner of the rectangle, at 21610 Butler Market Road.



Looking north at the Fellowship at Bend Church in the southeast corner of the rectangle.

BULLETED LIST OF KEY FEATURES OF THIS UGB EXPANSION SITE

- Better served by parks than nearly any area of the city.
- Already within the Bend Parks and Recreation District.
- Bend Pine Nursery Park is across the street to the west.
- The area has the best BPRD parks adjacent to it and within 1.5 miles.
- Relatively low cost of connecting to sewerage.
- Domestic water lines are across the streets to the west and south.
- City sewer interceptor runs across the subject area.
- Two and three-lane, well maintained, county arterial roads surround the area.
- Butler Market Road has good access to the Bend Parkway with existing overpass and on and off ramps to the Bend Parkway.
- Dedicated and striped bike lanes are on Butler Market and Deschutes Market Roads.
- Fast travel times to downtown Bend and three major shopping centers.
- Relatively flat terrain is desirable for development and for constructing and operating the urban infrastructure.
- A full service fire station is 1.2 miles away.
- Fire hydrants are in place along the eastern, southern and western boundaries.
- The site is more than ten miles from any forest and is surrounded on three sides by parks and residential subdivisions, resulting in less forest or wild fire danger.
- This is the best site for orderly and efficient development of urban services.
- Newer urban residential developments are located on south and east sides, just across the roads.
- Sparse houses and outbuildings as shown on aerial photos allow aggregated parcels.
- Parcels can be aggregated into 50 acre units for efficient development.
- Most of the land is in unimproved juniper scrub and other parcels of cleared land are no longer farmed.
- Two contiguous parcels are for sale now and other owners are ready to sell.
- Development can occur relatively quickly.
- No significant adverse effects on surrounding properties.
- Housing in the northeast can be affordable.
- Development can be mixed use.
- Rectangular shape enables more connectivity and ease of developing site.
- The subject area includes 240 acres, a manageable size.
- The elementary school, middle school, and high school are less than 5 minutes away.
- The new Ponderosa Elementary School and Buckingham School are on either side of the property.

DESCRIPTION of SUBJECT AREA



Looking north from Butler Market Road just west of Cole Road. Map 171223 Tax Lot 702, 9.28 acres.

The site is generally flat. The highest point in the 240 acre Perfect Rectangle is a gentle rise just east of Cole Road and runs north-south. A beautiful view is seen from all locations in the UGB expansion area site. Views of the Cascades, Powell Butte, Awbrey Butte, Pilot Butte and Smith Rock can be seen.

A lateral of the Central Oregon Canal maintained by COID, that diverts water from the Deschutes River south of Bend, crosses the site from south to north at the highest point. The lateral is about three feet wide and 1.5 feet deep. Some properties have water rights, some don't. Some who don't farm have deeded the water rights back to COID. The concrete trapezoidal North Unit Canal crosses the site on the western side. It does not bring irrigation water to anyone in Deschutes County. The Bend Sewerage System Interceptor also crosses the site, where it is buried deeply. Utility poles mark the northern boundary.

Vegetation includes juniper trees, bitterbrush, sagebrush, rabbit brush, wild grasses and wild grains. Lawns and landscaping are around the homes and churches. A handful of properties include irrigated pastures. A few goats and some horses are the livestock observed.

Two churches are located in the southeast corner. Other than those structures the other parcels have homes that are generally more than 25 years old and some outbuildings. Most houses are one story and are set back from the roads in the rocky juniper scrub lands. A riding arena is on Cole Road.

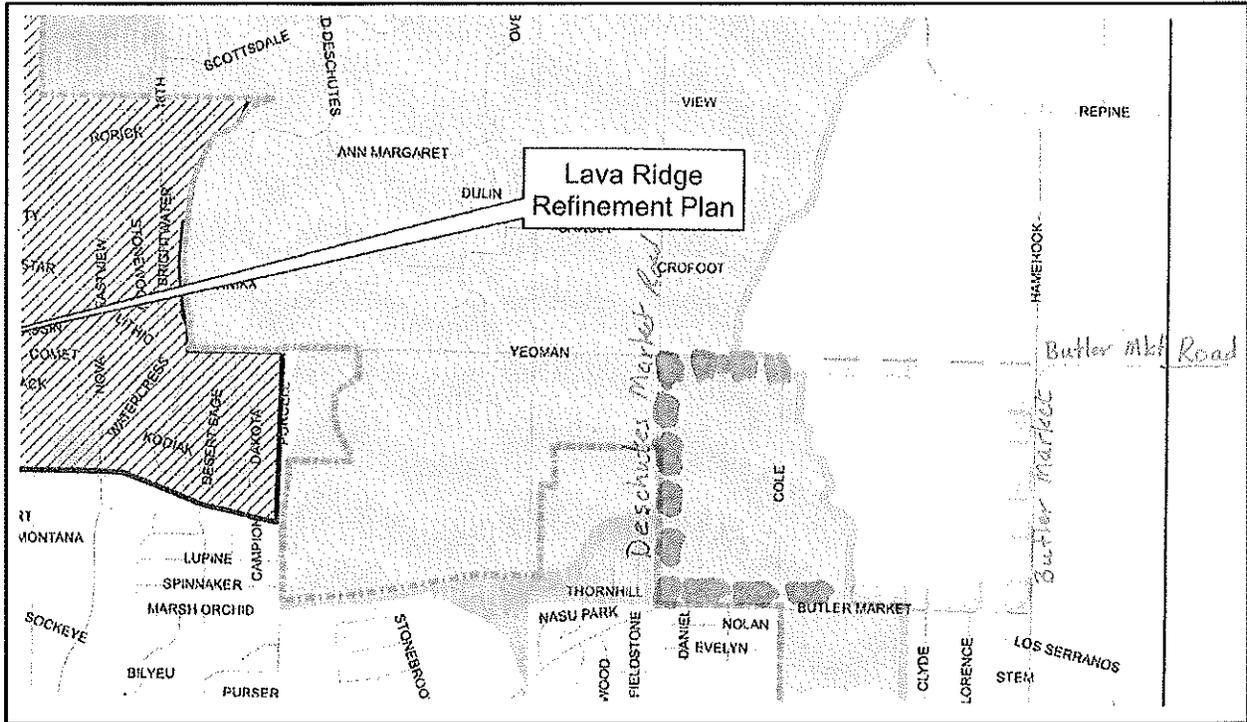
TAX MAPS AND TAX LOTS in the RECTANGULAR UGB EXPANSION SITE

The following parcels are in the east half of the NW ¼ and the entire NE ¼ of Section 23, T 17 S, R 12 E: (East of Cole Road and adjacent to and south of northern section boundary)

TAX LOT NUMBER	ADDRESS	OWNERS NAMES	PARCEL SIZE in ACRES
99	No situs address	Deschutes County	0.08
100	63190 Cole Road	Kenneth E. Crenshaw Jr., Peggy Ann Crenshaw	5.06
200	No situs address	Charlene A. Cooper Revocable Trust	6.00
300	63184 Cole Road	Charlene A. Cooper Revocable Trust	4.12
400	63182 Cole Road	Charlene A. Cooper Revocable Trust	0.30
500	63180 Cole Road	Richard B. Hight III	1.38
600	63140 Cole Road	David C. and Tammy M. Nipper	2.87
700	63130 Cole Road	Charlene A. Cooper Revocable Trust	1.33
800	63110 Cole Road	Cascade Ridge Estates LLC, Oregon City	3.42
900	63130 Cole Road	Charlene A. Cooper Revocable Trust	15.50
99	No situs address	North Unit Irrigation District	2.29
100	21634 Butler Market Road	Guy Hamby ET AL	1.21
102	21626 Butler Market Road	John L. Scarborough ET AL	10.00
103	21550 Butler Market Road	Fellowship at Bend	0.85
104	21650 Butler Market Road	John E. and Johnna R. Daniel	12.14
105	21600 Butler Market Road	Gene R. and Nadine Smith	1.43
106	21648 Butler Market Road	Michael L. McOmber	10.06
110	21566 Butler Market Road	Dana and Deborah Parazoo	1.70
111	21644 Butler Market Road	Waterman Family Revocable Trust	3.91
112	21640 Butler Market Road	Bena R. Lechner	1.52
113	21646 Butler Market Road	Arnold T. and Adrienne R. Reinhart	2.50
115	21620 Butler Market Road	Sage Wind Farm LLC	10.00
116	21610 Butler Market Road	OR Conference Adventist Churches	10.14
200	21504 Butler Market Road	John F. and Elizabeth A. Short	7.17

300	21444 Butler Market Road	L & D INC	1.13
301	63010 Cole Road	Billy M. Dual Jr. and Deborah J. Shomberg	3.26
400	21460 Butler Market Road	Doug and Carol Suchy	11.86
401	63070 Cole Road	McQueen Partners	7.42
402	63030 Cole Road	Shannon Dale Heinlein ET AL	7.58
403	No situs address	Deschutes County	0.36
404	No situs address	McQueen Partners	7.05
700	63135 Cole Road	Jean Curl Trust	16.88
701	63070 Deschutes Market Road	Aune V. Helgesson Trustee	3.71
702	21389 Butler Market Road	Mark A. Neuman IRA ET AL	9.28
703	63190 Deschutes Market Road	Kathleen M. West	2.61
704	63175 Cole Road	Jean Curl Trust	4.15
705	No situs address	Aune V. Helgesson Trustee	6.43
706	63109 Cole Road	Vachir LLC	4.87
707	No situs address	Jean Curl Trust	8.30
708	63090 Deschutes Market Road	Barnhill Living Trust	1.78
709	63050 Deschutes Market Road	Michael A. Heath Trust	2.37
710	63110 Deschutes Market Road	Federal National Mortgage Association	1.85
711	63060 Deschutes Market Road	Magdalena Beth Harlow ET AL	0.97
712	63080 Deschutes Market Road	Jennifer F. Fahrenthold	1.50
713	21350 Butler Market Road	Denora and Elwood Costlett	9.64

NORTHEAST PORTION OF THE BEND GENERAL PLAN MAP SHOWING THE SUBJECT PROPERTIES SURROUNDED BY PINK DOTS AND THE LAND DESIGNATED URBAN RESERVES IN LIGHT GREEN AND THE LAND DESIGNATED MUA-10 IN WHITE.



BOUNDARIES

West: The Perfect Rectangle is bordered on the west (left) by Deschutes Market Road.

North: Utility poles indicate the section line that forms the northern boundary. The northern line is the boundary line between Sections 23 and 14 in T 17 S, R 12 E. The northern section line is in line with Yeoman Road on the west (left) and Butler Market Road on the east (right.)

South: The Perfect Rectangle is bordered by Butler Market Road east/west on the south.

East: The Perfect Rectangle is bordered by Butler Market Road on the east. As Butler Market runs north/south, it forms the boundary line between Sections 23 and 24 in T 17 S R 12 E.



COI lateral at northern edge of Butler Market Road at high point of site. Slope drops off to east and west. Residential lawn on right. Wild grains and juniper scrub lands along ridge.

ROADS

The road network is ideally suited for urbanization. The level of service on all roads is high. Butler Market Road has on and off ramps at an overpass of the Bend Parkway and has a signalized intersection with two dedicated left (southerly) turn lanes at Third Street. The road has dedicated and striped bike lanes for its length. It is three to four lanes between Cole/Eagle Roads and Third Street. From Cole/Eagle Roads to Hamby Road, it is two lanes with dedicated bike lanes. The middle lane of the three-lane sections is a dedicated turn lane. The middle lane between Deschutes Market Road and Cole/Eagle Roads is a raised landscaped median with pedestrian refuges.

Deschutes County rural arterial roads form the western, southern and eastern boundaries of the subject area. Public roads in the area include:

1. Deschutes Market Road.

Deschutes Market Road forms the western boundary. It is a two-lane Deschutes County Rural Arterial with a 30-foot wide Macadam paved surface. Its County right-of-way is 60 feet. The 2011 traffic count on the road was 4,737 trips per day.

2. Butler Market Road.

Butler Market Road forms the southern and eastern boundaries. Around the subject site, it is a two to three-lane Deschutes County Rural Arterial with an Asphaltic Concrete paved surface. The two-lane portion with bike lanes on the eastern and the southeastern sides consist of a paved surface width of 32 feet and the right-of-way is 60 feet. The 2010 traffic count on the east-west portion of the road, south of the subject properties, was 3,892 trips per day. The 2010 traffic count east of the properties in the north-south portion of the road was 3,163 vehicles per day.

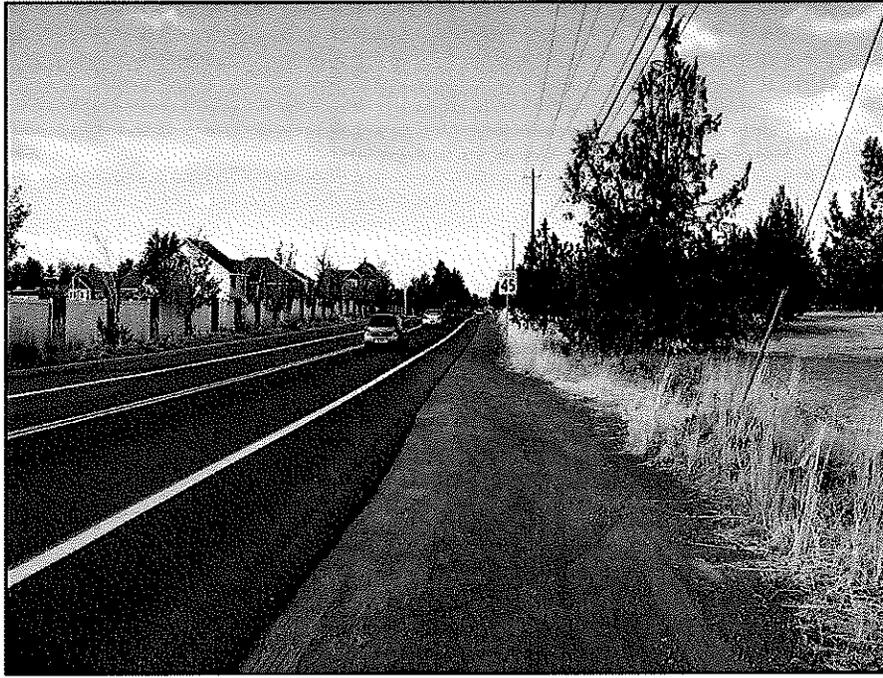
3. Cole Road

Cole Road is an un-striped road classified by Deschutes County as a Rural Local road. It's paved with a Macadam surface. Its surface width is 21 feet and its county right-of-way width is 50 feet. No traffic count has been done.

4. Waterman Way

Waterman Way is classified by Deschutes County as a Rural Local road. It is a graded dirt and gravel road. It has an 11-foot wide lane. Its right-of-way is 30 feet. No traffic count has been done. The county does not currently maintain it.

1. DESCHUTES MARKET ROAD



Deschutes Market Road looking north from intersection at Butler Market Road. Rectangular UGB Expansion area on right. Monticello Estates in City of Bend on the left (west).



Looking south from two-lane wide Deschutes Market Road to intersection of three-lane wide Butler Market Road. Rectangular UGB Expansion area is on left (east). Both roads have bike lanes. Subdivisions in City are at south and west of intersection.

2. BUTLER MARKET ROAD



Subject area is on the left. Butler Market Road, looking east from the intersection with Deschutes Market Road. The stretch of the road from this point to the intersection with Cole/Eagle Roads has a raised landscaped center median with pedestrian refuges. Striped, dedicated bike lanes are on each side.



Looking west on Butler Market Road from intersection with Hamby Road. The road is two lanes with bike lanes between this point and Cole/Eagle Roads. The site is on the right.



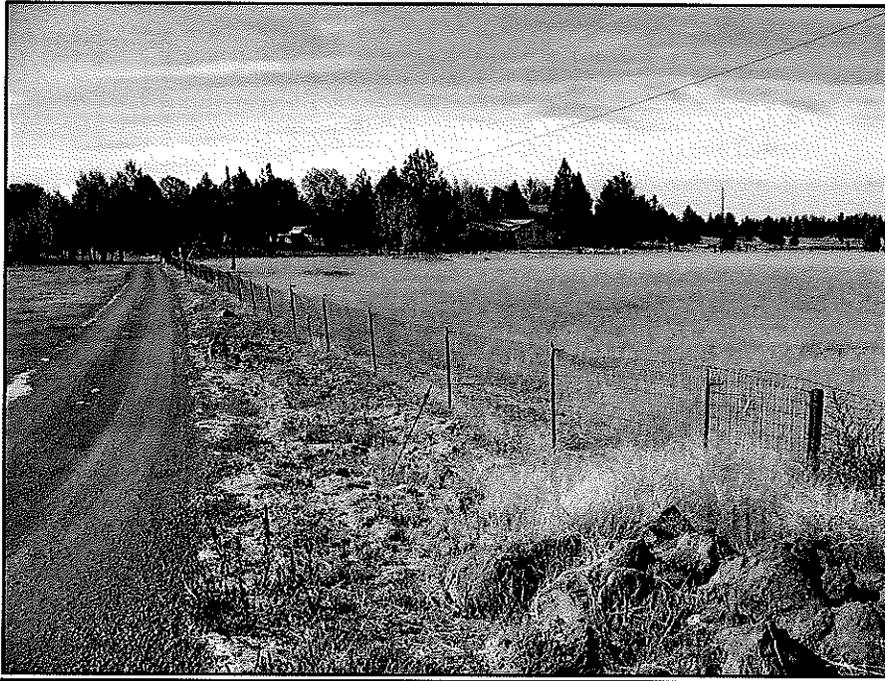
This photo is looking north on Butler Market Road between Hamby Road and Hamhook Road. The road is two lanes with dedicated bike lanes and a double yellow center stripe for the entire length. The subject site is on the left (west) side of photo.

3. COLE ROAD



Cole Road looking north from Butler Market Road. Subject site is on both sides.

4. WATERMAN WAY



Waterman Way looking west from Butler Market Road.

DESCHUTES COUNTY ZONING

The 240 acres has two zones.

102.59 acres are zoned UAR-10, Urban Area Reserve, 10 acre minimum, a non-resource zone.

125.39 acres are zoned MUA-10, Multiple Use Agriculture, 10 acre minimum, a non-resource zone.

The balance of the acreage is dedicated road or utility right-of-ways.

The following zoning map shows the Deschutes County zoning of the area.

WETLANDS

Urbanizing this area would have no adverse effects on the man-made wetlands.

The National Wetlands Inventory identifies freshwater storage at five locations in the subject area.

All of them are non-historic, man-made ponds. They are located on the following tax lots:

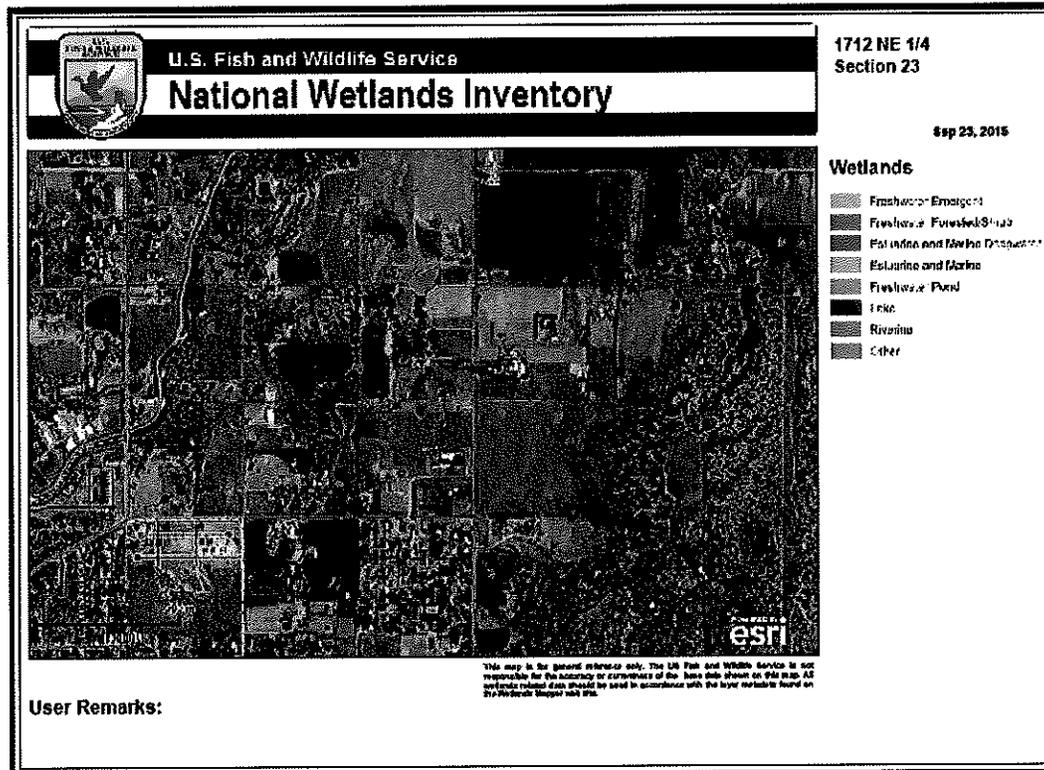
171223 tax lot 704 (one small pond)

171223 tax lot 713 (two small ponds)

171223 tax lot 400 (one small pond)

171223 tax lots 104 and 106 (shared large pond)

The identified wetlands are indicated in steel blue on the inventory map below:



The National Wetlands Inventory Site states,

"Wetlands provide a multitude of ecological, economic and social benefits. They provide habitat for fish, wildlife and a variety of plants. Wetlands are nurseries for many saltwater and freshwater fishes and shellfish of commercial and recreational importance. Wetlands are also important landscape features because they hold and slowly release flood water and snow melt, recharge groundwater, recycle nutrients, and provide recreation and wildlife viewing opportunities for millions of people."

WILDLIFE

Urbanizing this area would have no adverse effects on wildlife.

The Oregon Department of Fish and Wildlife has lists of Sensitive Species in Oregon. The list is posted on the ODFW website. The list identifies the distribution of the sensitive and vulnerable species. The subject site is in the Oregon Ecoregion called "Blue Mountains".

The Compass Mapping System on the website classifies land within the state on a scale of 1-6, with 1 being the most crucial habitat to maintain and 6 having the least importance. The map shows 171223 Tax Lot 713 in the southwest corner at Deschutes Market Road and Butler Market Road as having a Class 5 assessment and the remainder of the properties as Class 6, the least important habitat. There is no critical habitat in the subject site and there are no vulnerable or sensitive species in T17S R 12 E, NE ¼ Section 23.

The Bend office of the Oregon Department of Fish and Wildlife provided the City with a wildlife assessment for the ring two miles around the current UGB as part of this UGB study. The information shows that the subject area is not a big game area and does not have important habitat for deer or elk. No other important species are found here.

WILDFIRE

The area has a low wildfire risk. The prevailing winds blow from west to east. There is no forest within 10 miles.

To the south are urban residential subdivisions and irrigated small hobby farms.

To the west are urban residential subdivisions and the parking lots, trails and ball fields of the Bend Pine Nursery Park and dog park and Ponderosa Elementary School.

To the east are irrigated farmlands and cattle. To the north are irrigated hobby farms and scrub lands.

The City's assessment of fire risk classifies the area as "Mosaic" because it is a mixture of mostly open fields that were formerly cultivated, irrigated grasses and juniper scrub lands.

FIRE STATIONS

A relatively new full service fire station is located 1.2 miles south of the subject area at 62420 Hamby Road.

Eight fire hydrants are along the eastern edge of the subject site along Butler Market Road and at the two churches. Urban areas to the south and west have fire hydrants on every block. Other fire hydrants are in the 1970s subdivision south of the site and east of Eagle Road.



Fire Station 1.2 miles south of the subject area at 62420 Hamby Road

PARKS

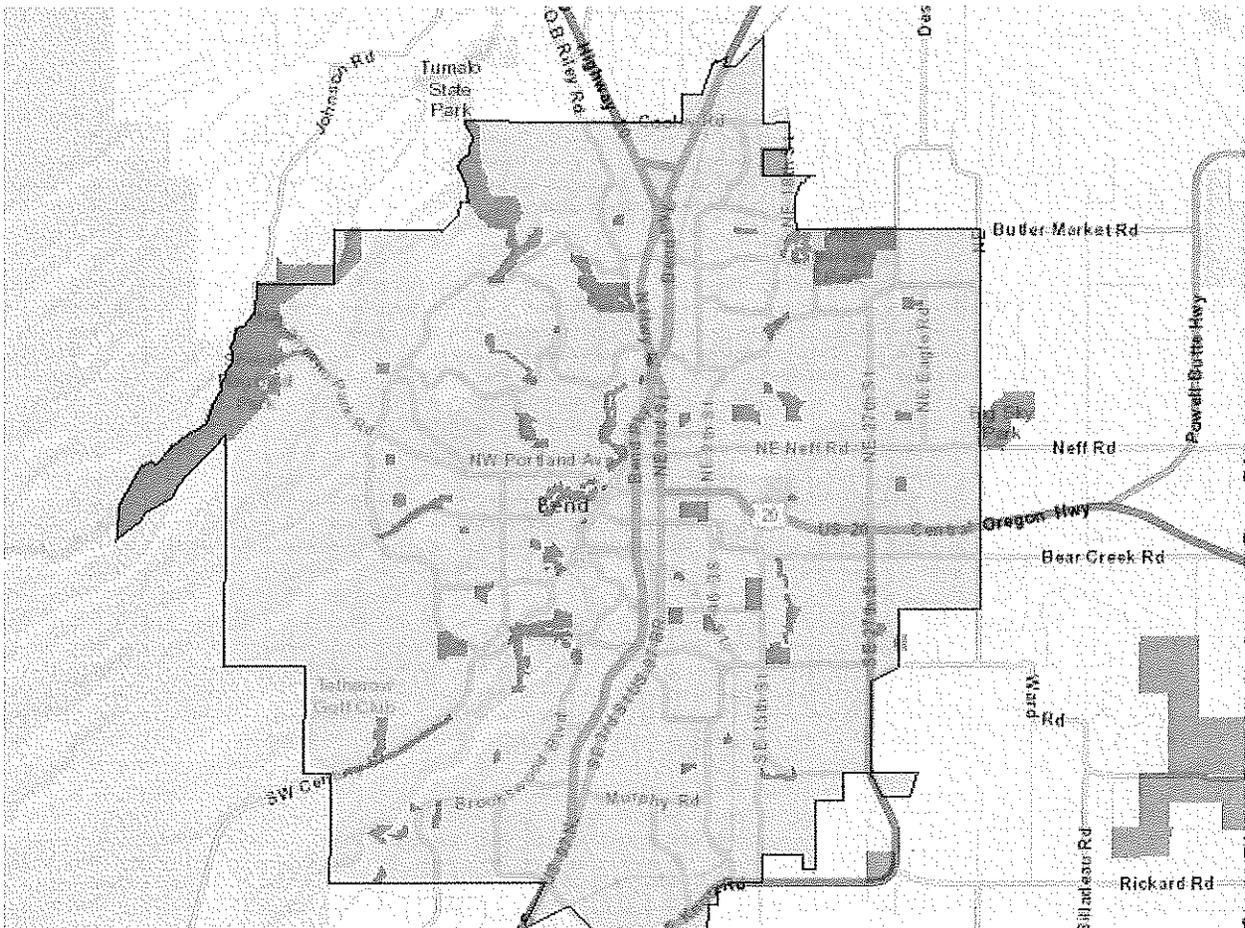
The subject area is better served by parks than nearly any area of the city. The following map shows that the subject area is within the Bend Metro Parks and Recreation District. The area in the district is indicated by yellow. The northern boundary to the subject area is also the boundary line for the parks district. Green indicates parks. All property owners in the subject area currently pay property taxes to the park district.

The subject area is adjacent to the district's flagship 159-acre Pine Nursery Community Park. The park is on its western side and runs between Deschutes Market Road, Yeoman Road and Purcell Boulevard.

The subject area is 1 mile north of the 72-acre Big Sky Park – Luke Damon Sports Complex on Neff Road.

Four other parks are within 1.5 miles of the subject area:

- The undeveloped Lava Ridges Park on Yeoman Road next to the Pilot Butte Canal,
- The undeveloped Rock Ridge Park at the corner of Egypt Drive and 18th Street,
- Boyd Park, 20750 NE Comet Lane, and
- Mountain View Park completed in 2007 at 1975 NE Providence near NE Connors Ave.



The 159 acre Pine Nursery Community Park and 15 acre Off Leash Dog Recreation Area is adjacent to the subject area. The following description of that flagship park is from the BPRD web site.

"Pine Nursery Community Park"

"Pine Nursery Park is located in northeast Bend between Purcell, Deschutes Market, and Yeoman Roads and consists of 159 acres. With construction beginning in 2007, District plans call for developing community park facilities, a neighborhood park, sports complex, natural areas, fitness trails, bike trails, nature trails, fishing pond, support facilities, connections to surrounding residential lands, an off-leash recreation area, and room for future expansion. The Bend La Pine School District's Ponderosa Elementary School is next door on 15 acres at the Northwest corner of the park."

"So much to do! Phase one and two completed construction includes:

- *4 Youth – Adult Softball Fields, 60-70 ft. baseline, 325 ft. outfield fence.*
- *Field house, dugouts and spectator amenities*
- *4 Soccer Fields can be overlaid for seasonal/tournament play*
- *8 Pickleball Courts with 8 additional courts under construction.*
- *Disc golf course*
- *14-acre off-leash area for dogs including grass field, splash pad, walking trails and separate small dog area*
- *Paved bike/pedestrian loop (1.3 miles) and connections to existing roads.*
- *A fishing/irrigation pond for landscaping in partnership with Oregon Fish & Wildlife.*
- *Park space and landscaping for picnics and recreation*
- *Fencing and access for field maintenance area*
- *User trails through natural park areas.*
- *Dog stations, trash receptacles, drinking fountains, bike parking and signage*
- *Parking*
- *Restrooms*
- *Picnic shelters*
- *Two street entrances: one on Purcell and one on Yeoman"*

"Pine Nursery Park- Bob Wenger Memorial Dog Off-Leash Area"

"14 acres with walking trails, natural areas, grass field, splash pad and small dog area"

"Located at the corner of Deschutes Market Road and Yeoman Roads, the Bob Wenger Memorial Off-Leash Area is a great place for residents to take their pets to socialize, exercise and train. The area is self-managed by pet owners who clean-up and supervise their pet's behavior. Local pet groups partner with the district to provide additional clean-up, education and management of the off-leash areas provide throughout the district. The area can be accessed via paved trails from both parking lots."

Big Sky Park – Luke Damon Sports Complex

Turf areas include space for four regulation soccer fields as well as a baseball field and a softball field. Big Sky is also home to a BMX track that was completed in 1995 and is currently leased out to High Desert BMX.

Thanks to a tremendous volunteer effort coordinated by the Bend Park and Recreation Foundation, two covered picnic shelters and one playground have been added to the park as well. Big Sky Park's most recent addition is the popular off-leash dog park. Big Sky Park Luke Damon Sports Complex is a full service sports facility, hosting District sports programs as well as those sponsored by local youth and adult sports associations.



The off-leash area features:

- Fenced area with grassy play area and natural surfaces
- Walking trails
- Picnic tables
- Water Spigot
- Double gated entry
- Portable toilet

Rockridge Park Site



Boyd Park

20750 NE Comet Lane

Park Features

- Basketball
- Large Picnic Shelter
- Natural Areas
- Playgrounds
- Seasonal Restrooms

Mountain View Park

1975 NE Providence Drive at the corner of Connors.

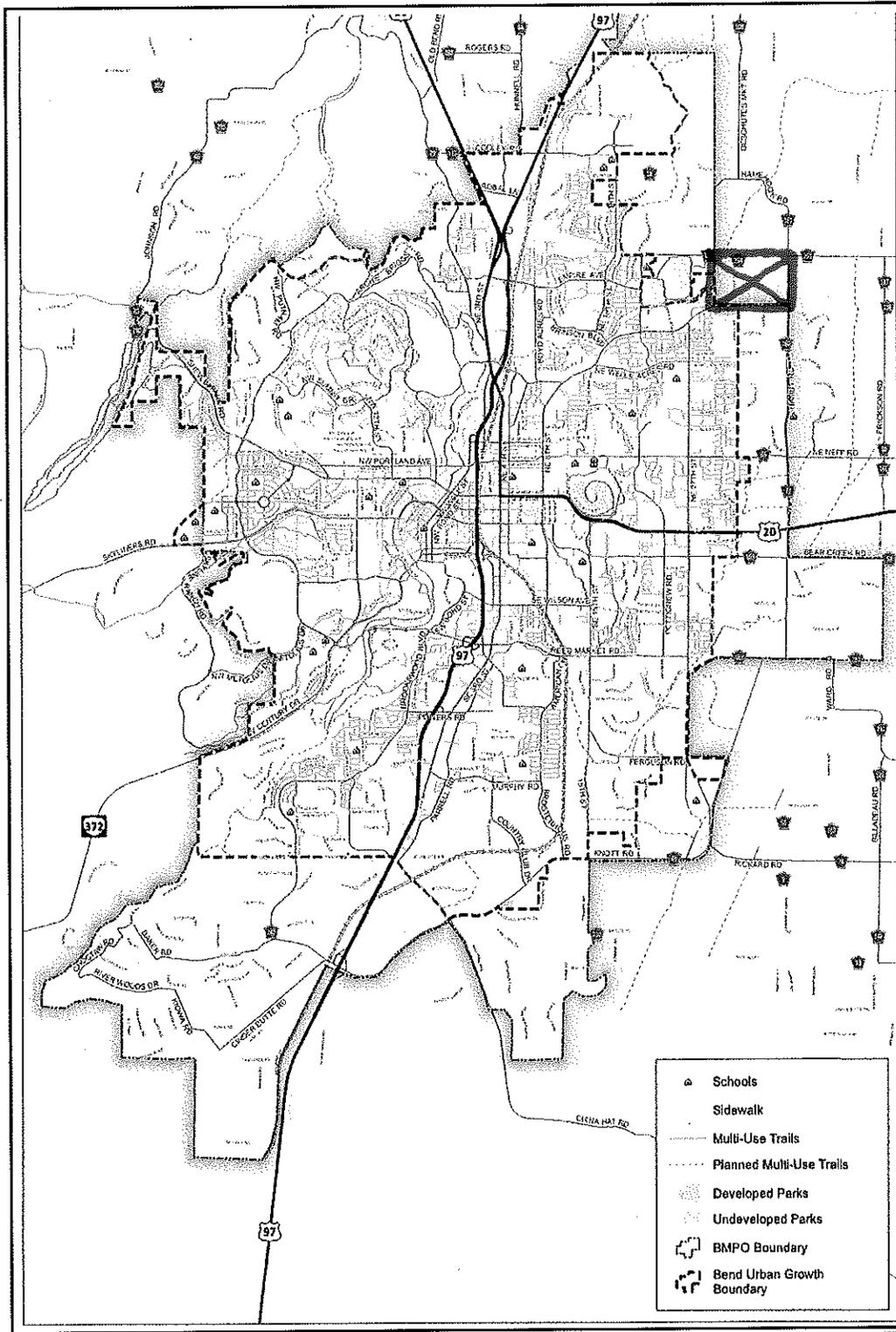


Completed in 2007, this site is located in the midst of a rapidly growing area with a mix of single and multifamily housing. This park features large open lawn play areas, fully accessible walking trails, a play ground, picnic shelter with capacity for 8, and half-court basketball. Mountain views and views of Pilot Butte make this park perfect for picnics. A portable toilet is on site.



SCHOOLS, TRAILS, PARKS, SIDEWALKS

Bend MPO/MTP Map showing locations of schools, trails, parks, sidewalks and UGB. Subject area is indicated as a red rectangle with an "X".. Schools, trails and parks are very close by.



SCHOOLS

The area is served by the Bend-La Pine School District. The elementary school, middle school and high school are less than 5 minutes away.

Buckingham Elementary School is at 62560 Hamby Road, 1.1 mile due south of the southeastern corner of the subject area. It is a 4 minute drive.

Ponderosa Elementary School is at 3790 NE Purcell Boulevard, 0.7 mile due west of the northwestern corner of the subject area. It is a 3 minute drive.

The middle school serving the area is Sky View Middle School at 62555 18th Street. It is about 1.5 miles from the southwest corner of the subject area and is a five minute drive.

The high school serving the area is Mountain View High School, 2755 NE 27th Street. It is located exactly 1.0 mile away from the southwest corner of the subject area and is a 2 minute drive.

SEWERAGE SYSTEM EXPANSION

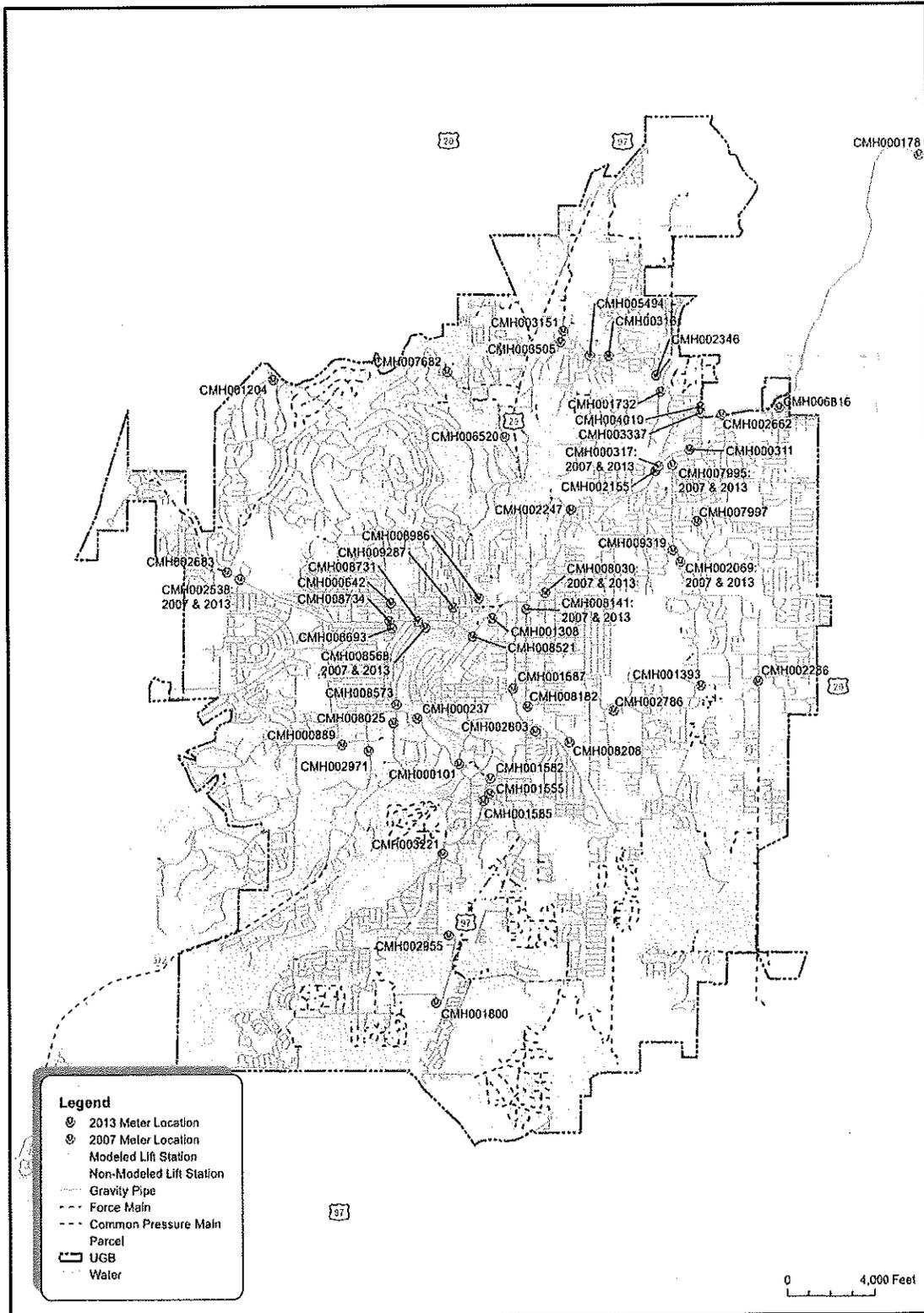
This site is ideal for orderly and efficient development of the sanitary sewerage system. Development of an urban sanitary sewerage system to serve areas brought into the UGB is a major expense. It is important that the cost, ease and efficiency of the new system be analyzed and calculated.

In this case, the interceptor that joins the entire City collection system to the treatment plant on McGrath Road runs through the subject area. It is deep enough at this location to serve the subject area by a gravity system, the least costly situation. Further, the planned Hamby Road sewer interceptor runs along the east boundary of the Perfect Rectangle. The study of relative costs and efficiency of developing the sewerage system in potential UGB expansion sites demonstrates the low cost in this area. No costly lift stations will be necessary.

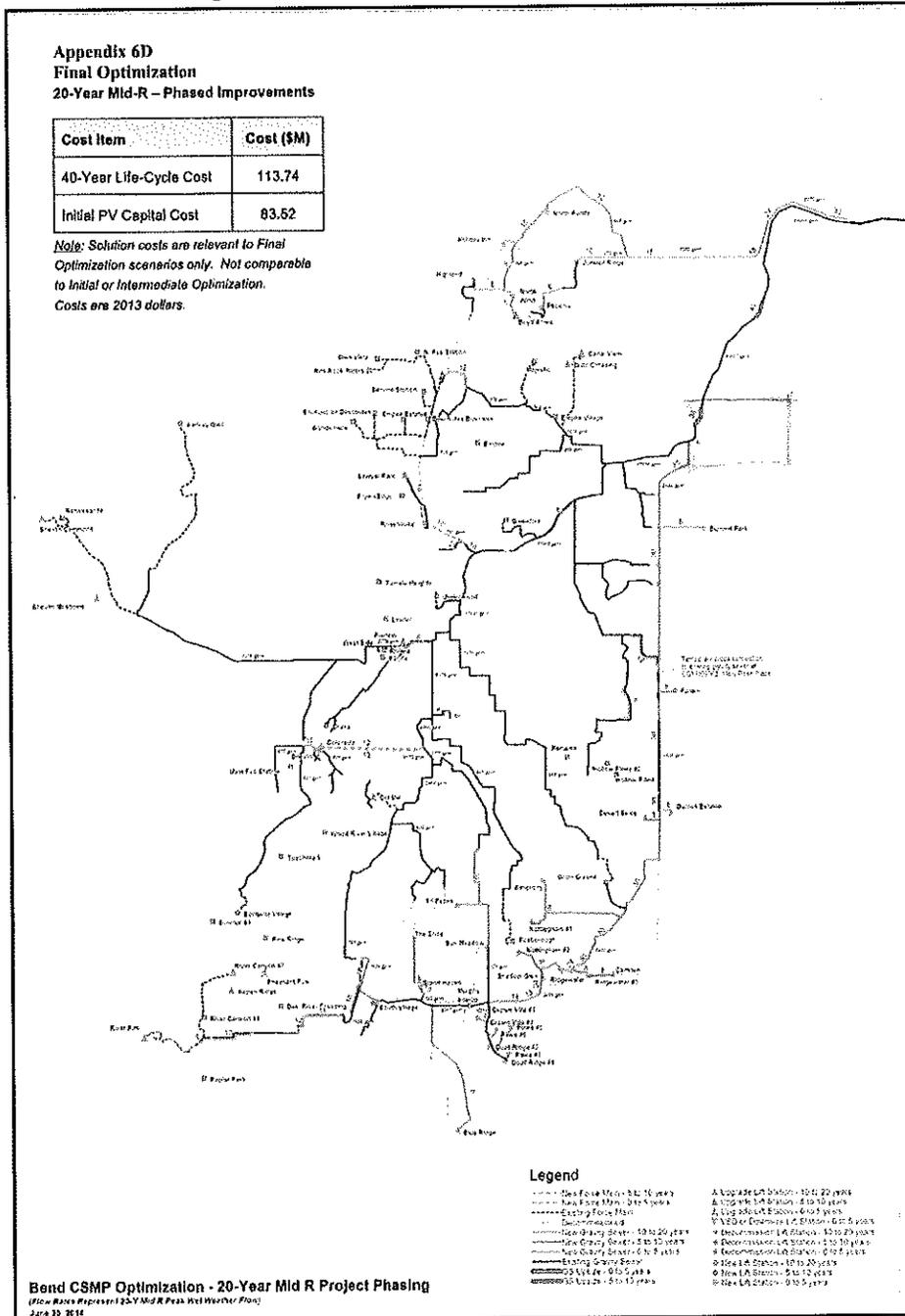
The terrain is nearly flat, which also keeps costs of a sewage collection system relatively lower than other areas. No pumping stations will be necessary.

The attached two figures from the City of Bend Collection System Master Plan show that the subject area drawn in pink adjoins the urban area that is currently served. The blue line is the interceptor taking all sewage northeast from the city collection system to the sewage treatment plant.

City of Bend Collection System Master Plan Figure 4B-1, 2007-2013 Flow Meters.
 Rectangle outlined in pink shows the subject area on the upper right side.



**Appendix 6D of the City of Bend Collection System Master Plan. North at top of figure.
 Rectangle outlined in pink shows the subject area.**



DOMESTIC WATER SYSTEM EXPANSION and STORMWATER COLLECTION

This site is ideal for orderly and efficient development of the domestic water system. Avion currently serves the area. City water is available immediately south and west of the site.

The terrain allows a new City water system that flows by gravity, a much less costly alternative than pump stations. The area is relatively flat and has fewer surface rock and rock outcroppings than in many areas around Bend. A rocky area runs north-south just east of Cole Road, in an uncultivated area of scrub juniper. Also, the minimal level of development is an advantage. Some of the tax lots have no structures at all. Most tax lots include some cleared land and most has been farmed at one time or another. No intensive farming is going on in the area. Development consists of some rural homes and outbuildings, most over 25 years old.

Development of an urban domestic water distribution system and a stormwater collection system to serve areas brought into the UGB is a major expense. It is important that the cost, ease and efficiency of the new system be analyzed and calculated. The costs of this area are favorable to its development.

EXISTING IRRIGATION WATER

Currently, although the North Unit Canal flows through the western portion of the subject area, it does not convey or distribute water in Deschutes County. The water is used in Jefferson County.

Irrigation water is provided to the area from a lateral of the Central Oregon Canal that primarily conveys water from a diversion point at the Deschutes River south of Bend to the Powell Butte area. Central Oregon Irrigation District distributes irrigation water to its users who have water rights in the subject area. An open shallow irrigation lateral about 3-feet wide and 1.5-foot deep flows under Butler Market Road and across the ridge in the subject area. A few irrigation ditches branch off of it along Butler Market Road and Cole Road. The lateral continues beyond the northern boundary of the subject site. The system flows northeast by gravity. Some of the water used in the subject area is stored in irrigation ponds in the area. Some of the tax lots do not have recorded rights to irrigation water. Others have chosen to give up a previous right and that change is recorded in their deeds. In this area, only a few small parcels as seen on the aerial photos in green are being irrigated for agriculture.

It is important to note that irrigation water rights have no bearing on the development of exception lands like MUA-10 and UAR-10. Owners may choose to make any beneficial use of that water. The Oregon Department of Water Resources defines the beneficial uses that can use irrigation water conveyed from the Deschutes River by COID. Approved beneficial uses of irrigation water conveyed by the canal include irrigating fields for agricultural crops, Bend Airport, lawns and landscaping in industrial parks, medical facilities, mobile home parks, cemeteries, recreational parks, school yards, and residences. Owners may also return water to the river.

After this area is brought into the UGB, irrigation water can be made available for these uses or conservation, instead of using more expensive City domestic water, which increases the desirability of this area for urbanization.

URBAN GROWTH BOUNDARY REMAND

MAKING BEND
EVEN BETTER



ILUTP

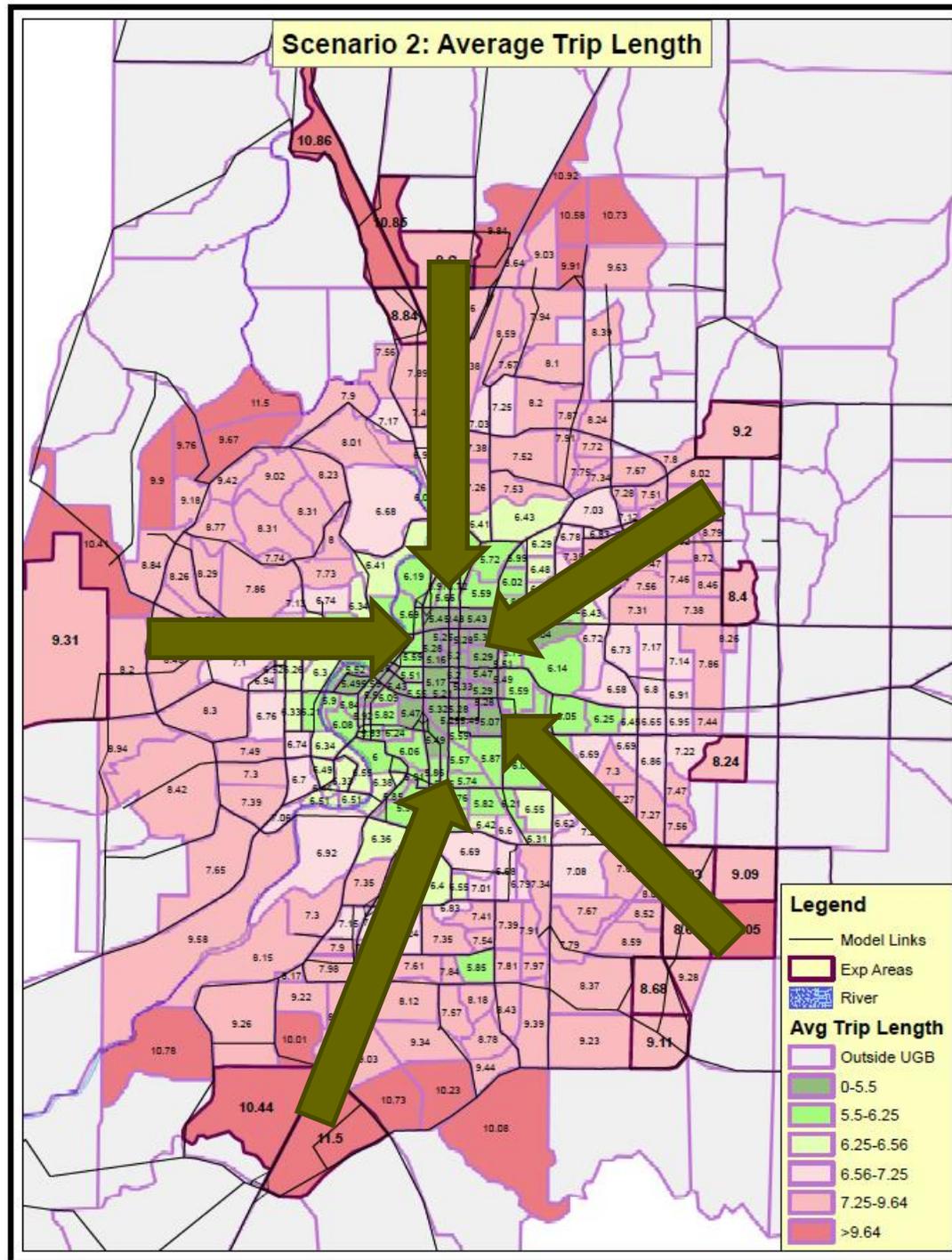
Land Use & Transportation Changes

Alex Joyce - Fregonese Associates Inc.

10/07/15

General Philosophy

- Reallocate growth from high VMT areas to Low VMT areas
 - *From “red areas to green areas”*
- Primary focus:
 - Multifamily
 - Creative office and industrial (“maker space”)



Proposed Land Use Changes for ILUTP

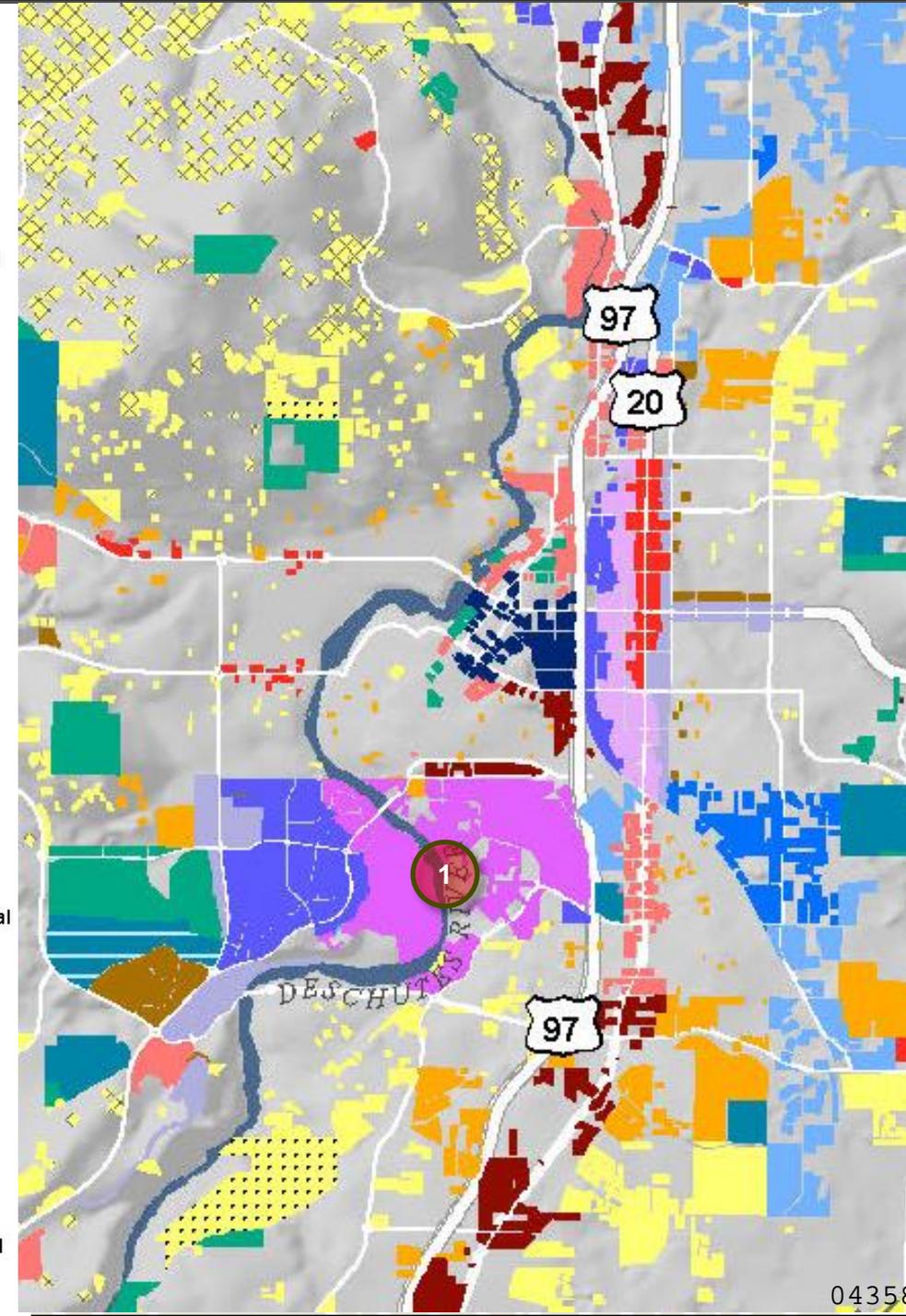
#1: Old Mill District

- **Today:** Mixed Riverfront (MR) Plan designation
 - Height: 35' max, except with variance
 - Allows single family and multifamily housing outright
 - Allows office, manufacturing, small- to medium-scale retail, etc.
- **Scenarios:** Mixed Riverfront (MR) Development Type
 - Primarily office with some retail and industrial
 - Small amount of single family and multifamily housing
 - 1-3 story buildings
- **ILUTP test:** MU-1 (Neighborhood Mixed Use) Development Type
 - Mix of retail and office, multifamily housing, some single family attached
 - Up to 4 story buildings

Dev Types

Scenario 1

RL
RS
RS MP
RS Hillside
RS-CCR
RM
RM MP
RH
MDOZ
CC
CC2
CL
CG
CB
IP
IL
IG
LL Industrial
ME
MR
MU 1
MU 2a
PF
School
Institutional
Park



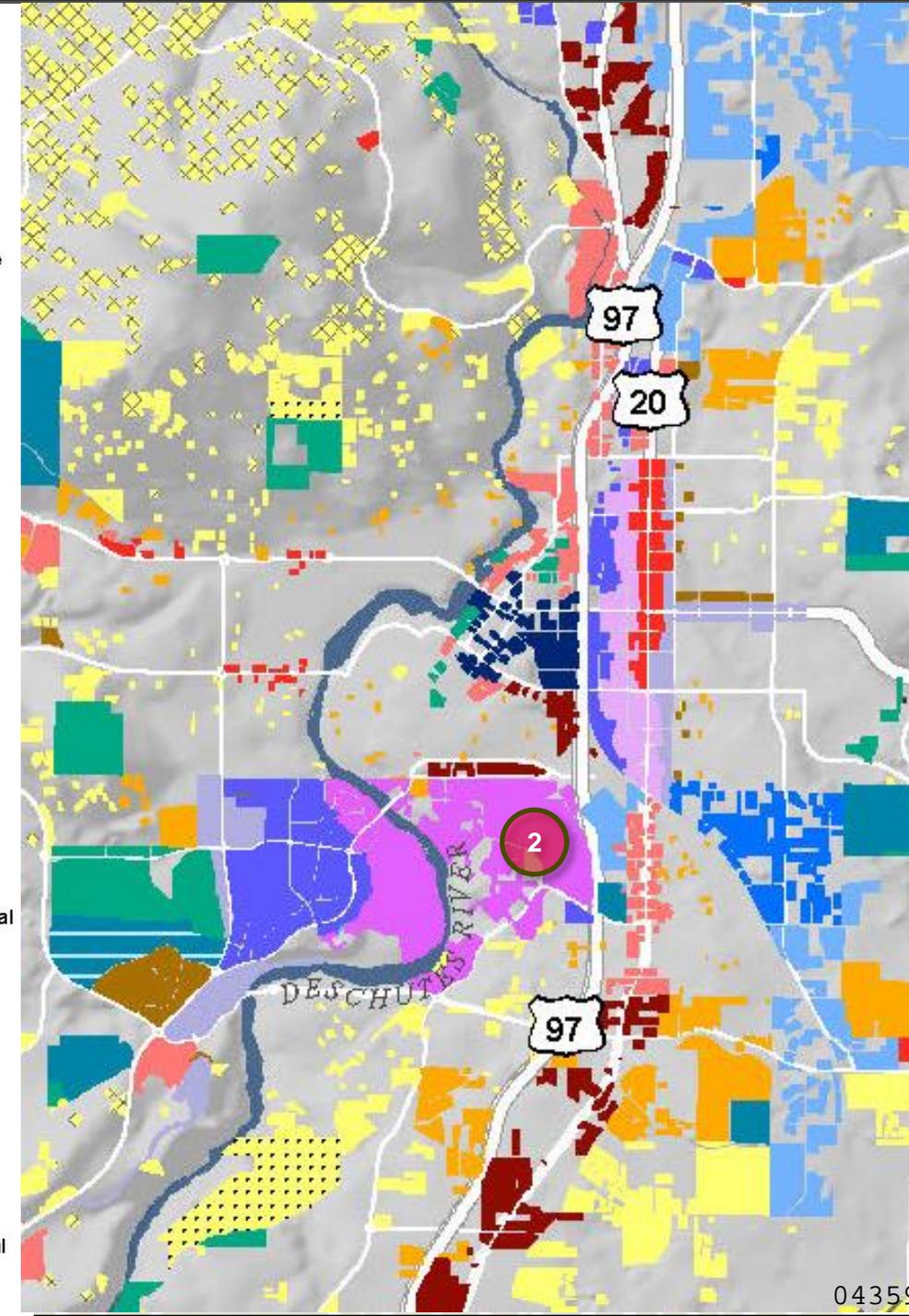
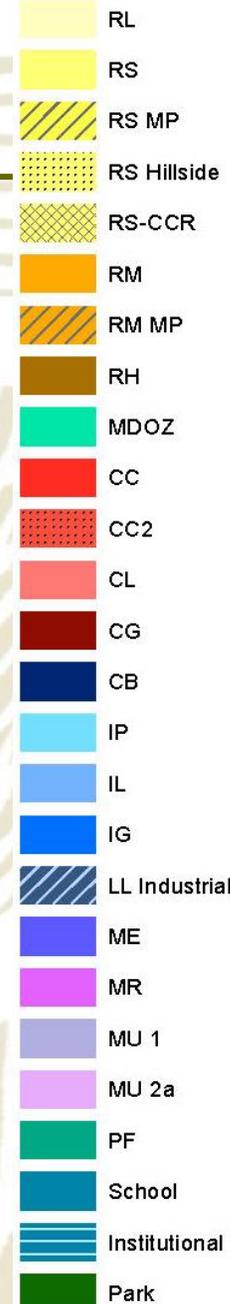
Proposed Land Use Changes for ILUTP

#2: Core Pine

- **Today:** Light Industrial (IL) Plan designation
 - Height: 50' max, except with variance
 - Prohibits nearly all residential
 - Allows a range of industrial & manufacturing, limited office, very limited retail
- **Scenarios:** Mixed Riverfront (MR) Development Type
 - Primarily office with some retail and industrial
 - Small amount of single family and multifamily housing
 - 1-3 story buildings
- **ILUTP test:** MU-2a (Urban Mixed Use) Development Type
 - Mix of retail and office, multifamily housing, some single family attached
 - Up to 5 story buildings

Dev Types

Scenario 1



Proposed Land Use Changes for ILUTP

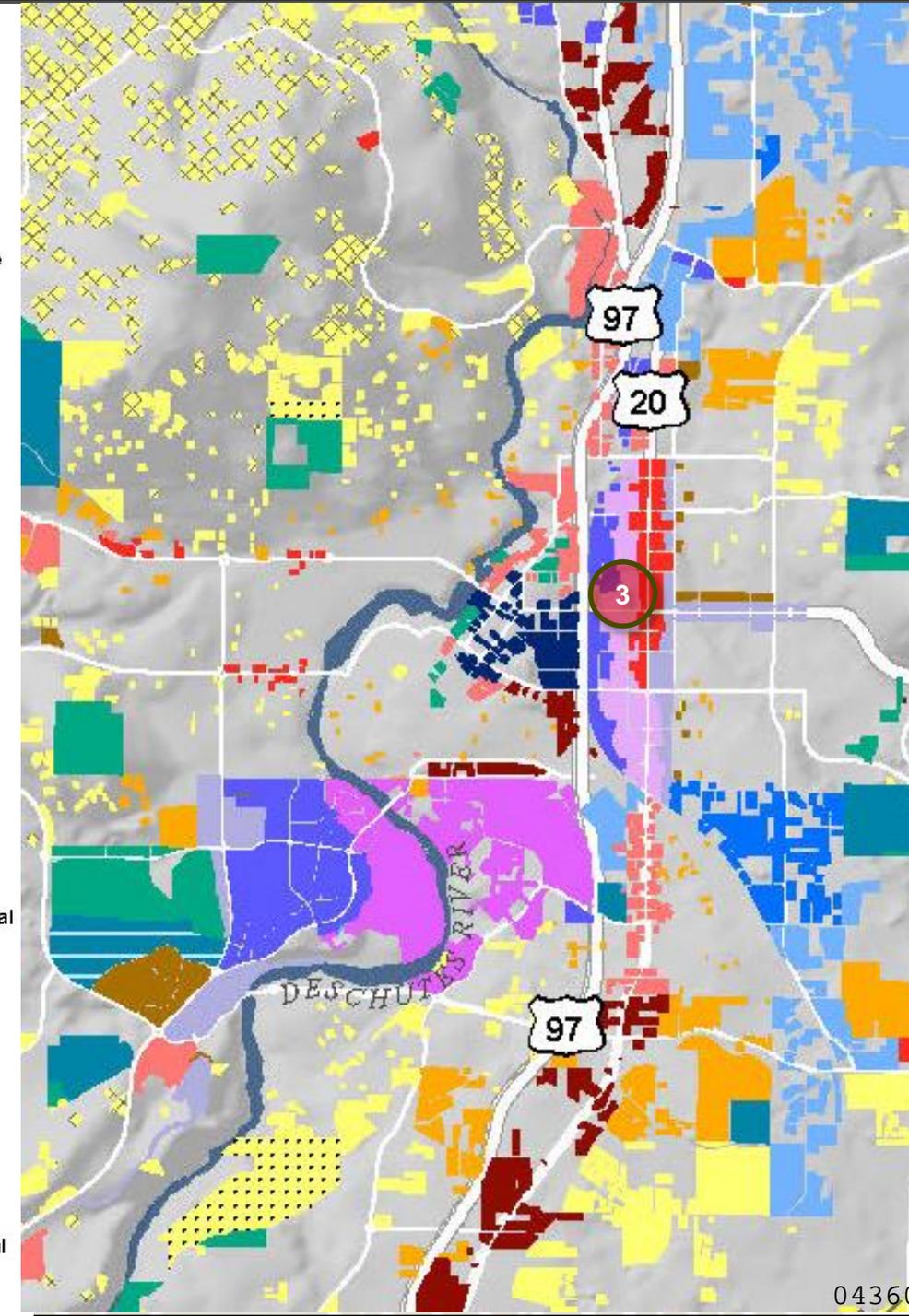
#3: Central Area Plan

- **Today:** Mixed Employment (ME) and Limited Commercial (CL) Plan designations
 - Height: 45'-55'
 - Residential allowed as secondary use / part of mixed use
 - Allow office, auto-dependent retail, some manufacturing and industrial
- **Scenarios:** follows CAP land uses
 - roughly: ME along 1st, MU2a along 2nd, CC along 3rd, MU1 along 4th
 - Up to 5 story buildings along 2nd, lower elsewhere
- **ILUTP test:** Replace CC along 3rd with MU2a and ME along 1st with Urban Industrial / Maker Space

Dev Types

Scenario 1

	RL
	RS
	RS MP
	RS Hillside
	RS-CCR
	RM
	RM MP
	RH
	MDOZ
	CC
	CC2
	CL
	CG
	CB
	IP
	IL
	IG
	LL Industrial
	ME
	MR
	MU 1
	MU 2a
	PF
	School
	Institutional
	Park



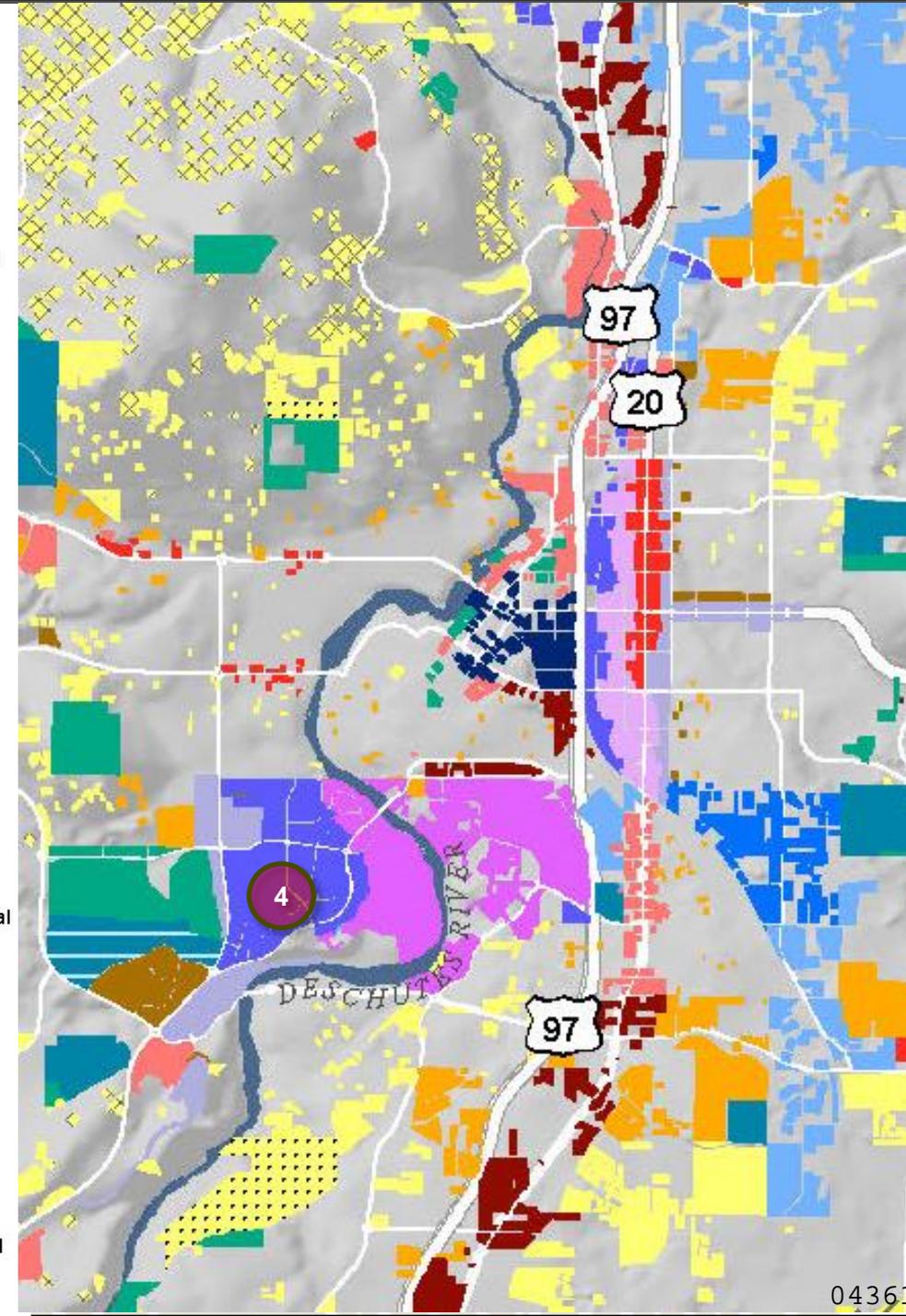
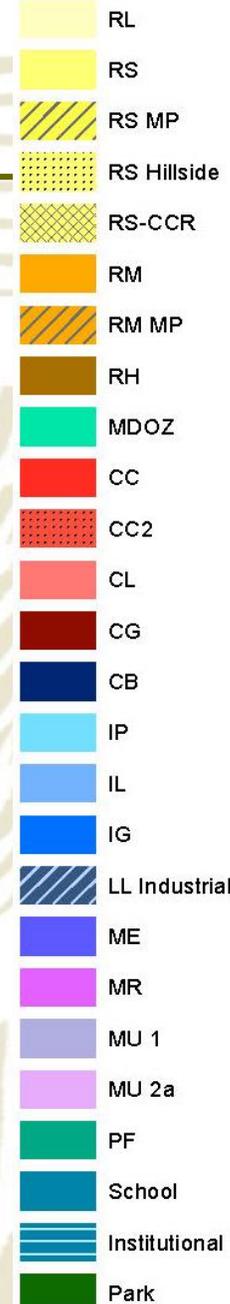
Proposed Land Use Changes for ILUTP

#4: Central Westside

- **Today:** Community Commercial (CC), General Commercial (CG) along Century; Light Industrial (IL) and Mixed Employment (ME) west of Colorado; and Limited Commercial (CL) north of Mt. Washington
 - Height: 35'-55' (varies by zone)
 - Residential allowed as secondary use / part of mixed use in some areas, prohibited in others
 - Allow office, auto-dependent retail, manufacturing and industrial
- **Scenarios:** MU1 along Century; ME west of Colorado; some RH north of Mt. Washington
- **ILUTP test:** MU2a west of Colorado (otherwise same as scenarios)

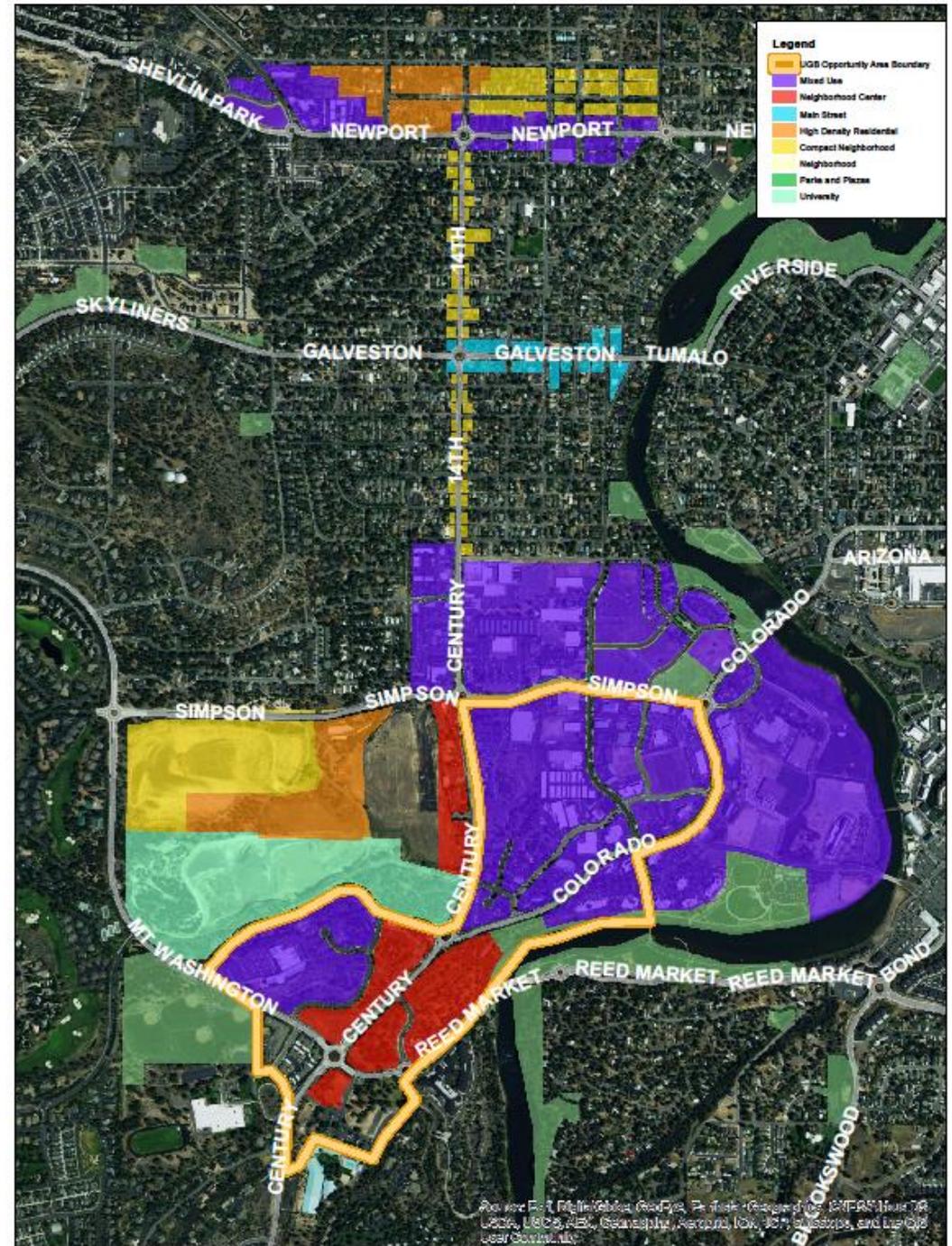
Dev Types

Scenario 1



Central West Side

- Orange boundary is UGB Opportunity Area
- Central West Side Plan considered larger area
- ILUTP changes limited to purple (mixed-use) area



H
AND

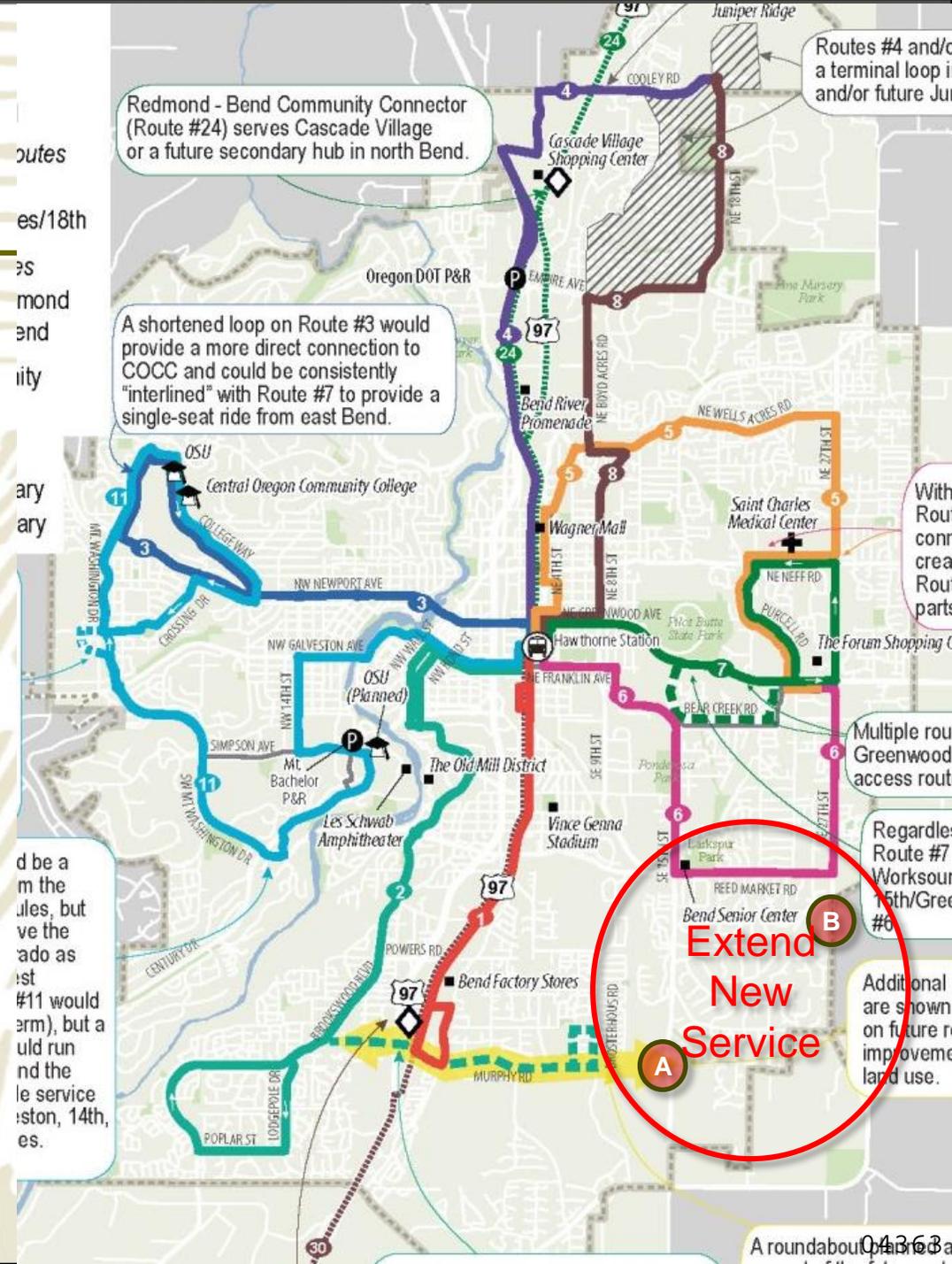
Transportation Changes

Transit

- Use mid- to long-range service concept as starting point
- Increase priority transit corridor bus frequency by reducing headways to 15 minutes
- Additional route options
 - A. Murphy / 15th Ave
 - B. 27th Ave extension

Street Connectivity

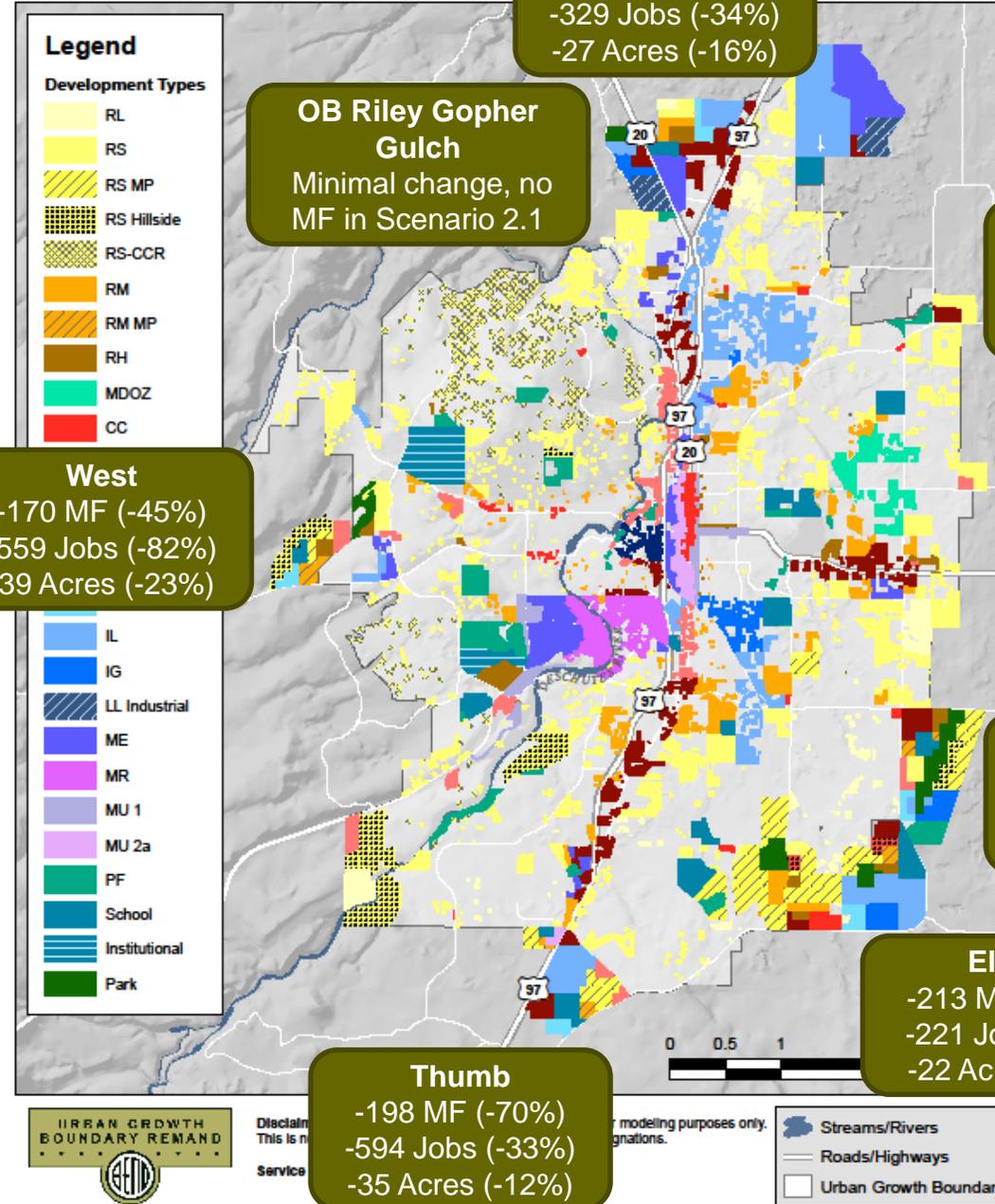
- Increase street connectivity (intersection densities) in master planned areas
- Increase walkability



Reductions in Expansion Subareas

- Generally: MU1 removed or converted to CC2; RH removed
- MU1 is a modest density, vertical mixed-use place type, that contains apartments, retail and mixed-use
- CC2 is a walkable retail and office place type -- residential uses generally surround those areas, so would be “horizontal mixed-use”

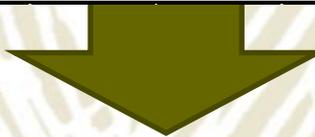
Bend UGB Scenario 2.1



Changes to Expansion Areas



Expansion Area - Subareas	Total Acres				MF				OFF				IND			
	Pre	Post	Diff	% Change	Pre	Post	Diff	% Change	Pre	Post	Diff	% Change	Pre	Post	Diff	% Change
DSL Property	362	333	(29)	-8%	369	170	(198)	-54%	530	336	(194)	-37%	677	498	(178)	-26%
Elbow	427	405	(22)	-5%	452	239	(213)	-47%	830	646	(184)	-22%	1,086	916	(169)	-16%
North Triangle	172	145	(27)	-16%	346	162	(184)	-53%	319	157	(163)	-51%	502	274	(228)	-46%
Northeast Edge	114	108	(6)	-5%	75	68	(7)	-10%	93	50	(43)	-46%	15	8	(7)	-44%
OB Riley Gopher Gulch	120	116	(4)	-4%	6	8	2	25%	143	137	(6)	-4%	260	263	3	1%
Thumb	289	254	(35)	-12%	282	84	(198)	-70%	634	288	(347)	-55%	735	532	(203)	-28%
West	171	132	(39)	-23%	373	204	(170)	-45%	324	50	(274)	-85%	241	2	(239)	-99%
Total	1,656	1,495	(161)	-10%	1,904	934	(969)	-51%	2,874	1,663	(1,211)	-42%	3,515	2,493	(1,022)	-29%



Opportunity Areas	Total Acres				MF				OFF				IND			
	Pre	Post	Diff	% Change	Pre	Post	Diff	% Change	Pre	Post	Diff	% Change	Pre	Post	Diff	% Change
Central District Mixed-Use Multimodal Area (MMA)	137	129	(8)	-6%	534	571	37	7%	349	379	29	8%	13	47	34	267%
Central Highway 20	19	19	-	0%	35	51	16	45%	40	16	(24)	-60%	-	-	-	-
COID Property	90	90	-	0%	24	21	(2)	-10%	6	6	-	0%	-	-	-	-
East Downtown	8	8	-	0%	-	25	25	-	181	102	(79)	-44%	-	-	-	-
Juniper Ridge	219	219	-	0%	5	6	1	25%	488	1,121	633	130%	677	873	196	29%
Mill District/Core Pine	61	61	-	0%	11	367	357	3247%	68	202	134	198%	12	1	(11)	-90%
River Edge	69	69	-	0%	21	19	(2)	-10%	1	1	-	0%	-	-	-	-
SE 15th St	274	274	-	0%	295	236	(59)	-20%	61	56	(6)	-9%	-	-	-	-
SW Century Drive	138	103	(36)	-26%	310	780	470	151%	313	404	91	29%	94	14	(79)	-85%
Total	1,016	973	(43)	-4%	1,235	2,077	842	68%	1,508	2,287	779	52%	795	936	140	18%

Big Picture Shifts



Acres:

- 161 fewer acres developed in expansion areas (-10%)
- No new acres “painted” in Opportunity Areas
 - Increased capacity assumed on existing “painted” lands (i.e.- up-zone)

Housing and Jobs:

- 1,000 MF units shifted to green areas (53%)
 - 1,900 multifamily units currently assumed in expansion areas
- 1,000 industrial jobs shifted
 - New place type created; 1 and 2 story flex employment (i.e.- “maker space,” for tech, light fabrication, brewing, etc.)
- 1,200 office jobs shifted
 - Office jobs increased in new and up-zoned mixed-use areas

Expansion Area Housing Mix			
Scenario	SF	TH	MF
ILUTP	52%	15%	33%
Scenario 2.1	40%	14%	46%

How to Think About the Magnitude



- 1,235 vs. 2,077 **OR** 88 vs. 148 units per year on average
- Typical single site, urban apartments have 20-40 units
 - 1-2 additional apartments or mixed-use buildings annually compared to Scenario 2.1?
- Hypothetical annual MF unit pipeline in Opportunity Areas (2015 – 2028)





1,500 new apartments on the way in Bend

Apartment-building boom might be coming

By [Joseph Ditzler](#) / The Bulletin / [@josefditzler](#)

Published Oct 4, 2015 at 12:01AM / Updated Oct 4, 2015 at 05:57AM

New plans for apartment complexes in Bend submitted this year bring the total number of proposed units in a rental-starved market to more than 1,500.

However, most of those applications remain on the drawing board, or in some phase of plan review at the city Community Development Department. Two projects are under construction and a third, a public housing project, opened its doors to tenants this summer.

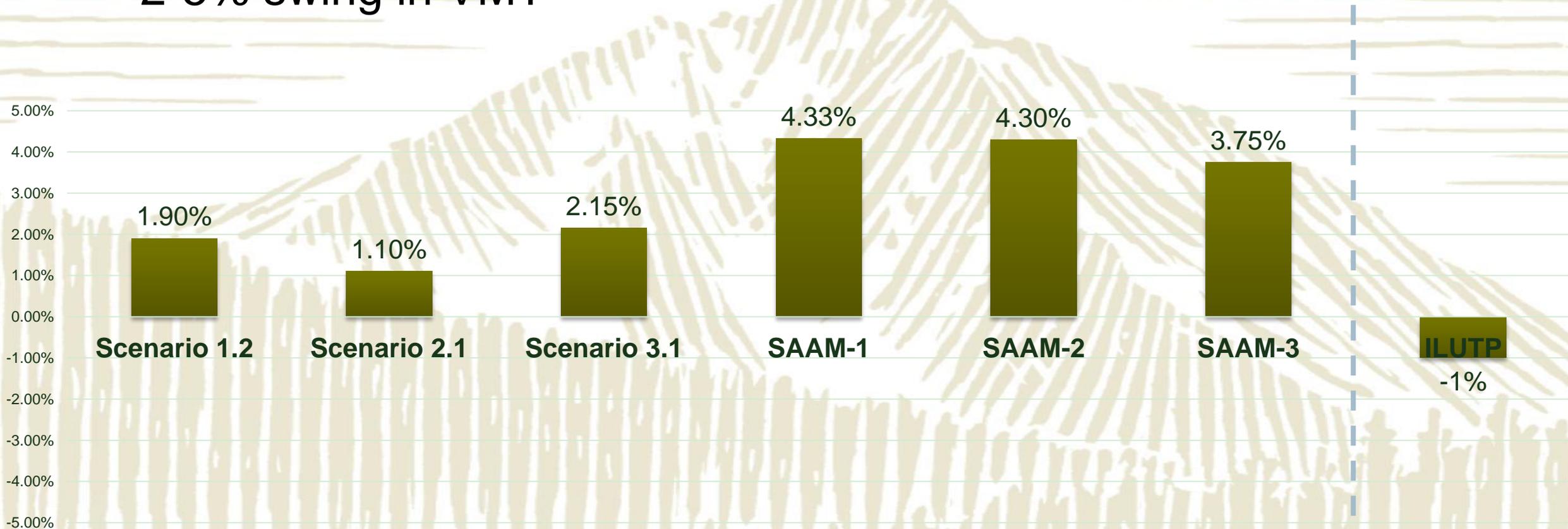
One project, filed by Monte Vista Homes, would erect a five-building apartment complex of 136 units on Empire Avenue. The developer, SGS Development, of Bend, in August applied for five building permits for the project, valued at nearly \$17 million. A company representative did not return calls seeking comment.

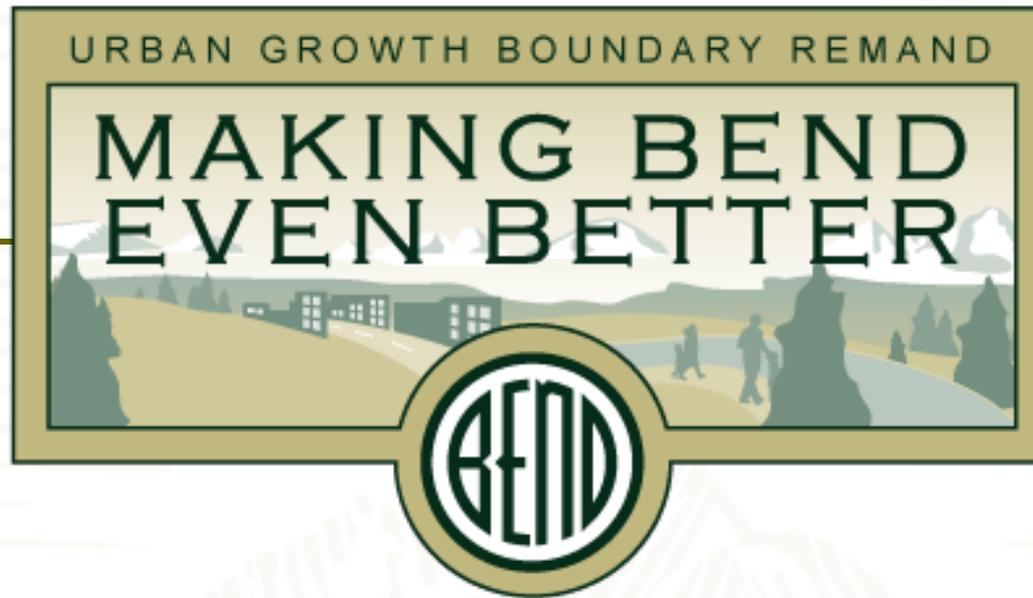
Other projects have shown little progress beyond the first meeting with city planning staff and would-be

Transportation Impacts



- Reversal of VMT trends (-1% VMT)
- 2-5% swing in VMT





Boundary TAC Meeting #11

Bend UGB Remand Project

October 8, 2015

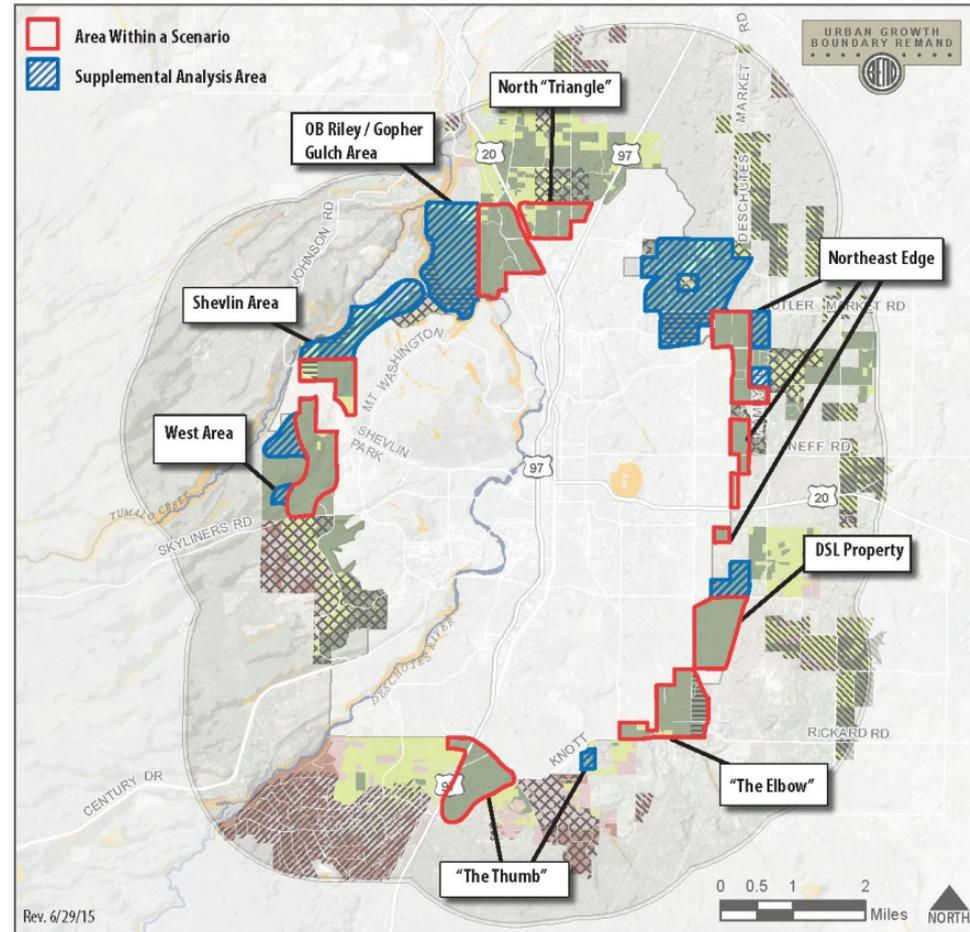
Where we left off – June, 2015



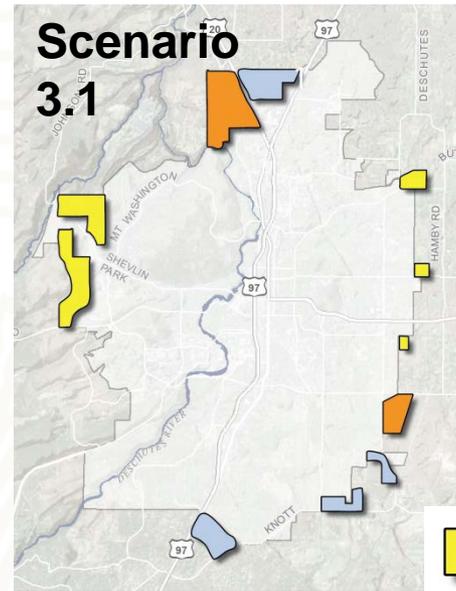
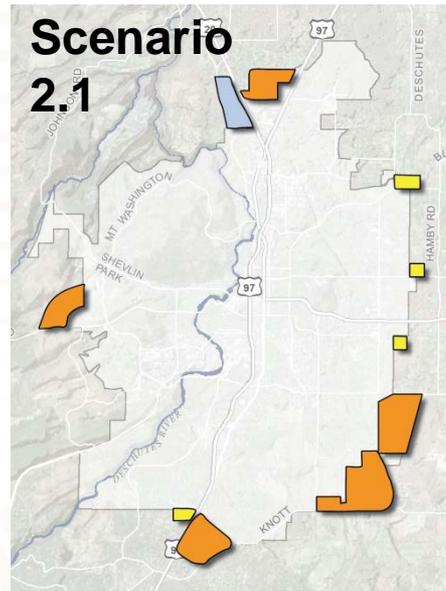
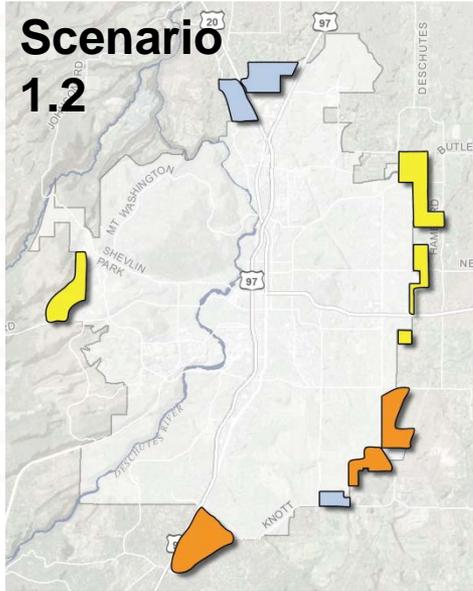
The Boundary TAC recommended, and the USC approved:

- Three expansion area scenarios (alternatives)
- Additional lands to be evaluated as supplemental analysis areas

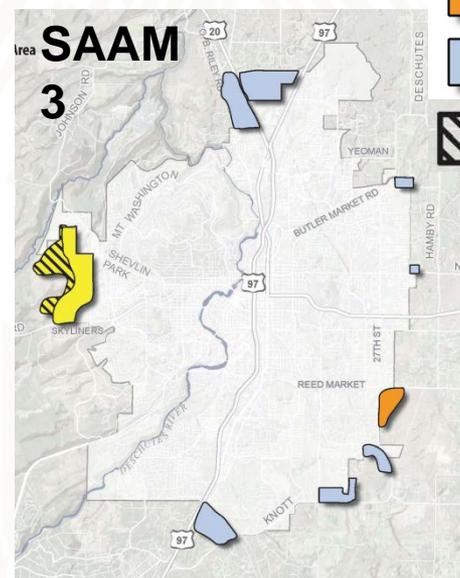
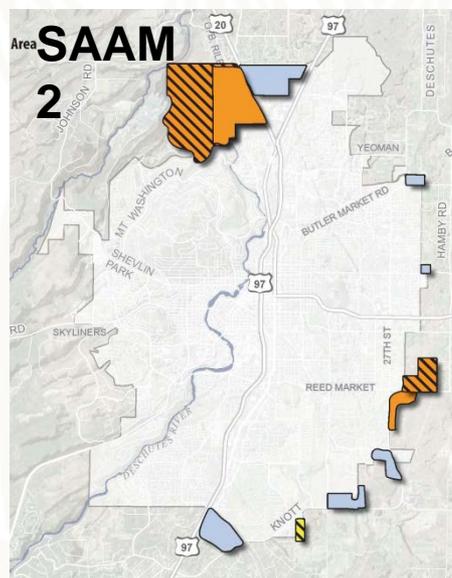
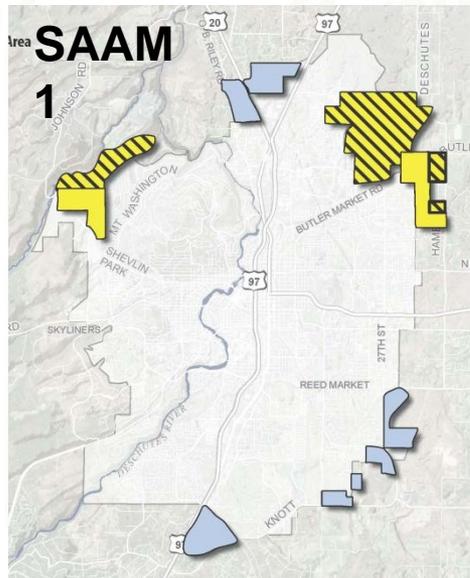
Supplemental Analysis Area Map



Expansion Scenarios and SAAMs



-  Residential Area with Locally-Serving Employment
-  Residential Area with Significant Employment
-  Employment Area
-  Supplemental Analysis Area



Scenario Evaluation Criteria



- **Goal 14 Factors.** Four legal factors of statewide planning Goal 14 (Urbanization) that Bend is required to consider.
- **Community Outcomes.** Eight intended outcomes that state what Bend is trying to achieve with the UGB update.
- **Performance Measures.** Detailed quantitative and qualitative measures of performance relative to the Community Outcomes.



Community Outcomes



Factor 1

- Complete Communities and Great Neighborhoods
- Efficient, Timely Growth



Factor 2

- Balanced Transportation System
- Cost Effective Infrastructure



Factor 3

- Quality Natural Environment (Environmental and Energy Consequences)
- Housing Options and Affordability (Social Consequences)
- Strong Diverse Economy (Economic Consequences)



Factor 4

- Compatibility with Farms and Forests



Scenario Evaluation Goals



- Which alternative best meets the criteria?
- How might we refine that scenario to make it even better?

Factor 1: Efficient Accommodation of Identified Land Needs



Complete Communities and Great Neighborhoods

Bend has a variety of great neighborhoods that promote a sense of community and are well designed, safe, walkable, and complete. Many homes are within walking distance of schools, parks, and businesses.



Key: ● = Very Good ◐ = Good ○ = Fair ◑ = Poor ● = Very Poor

Community Outcome	Performance Measure	Scenario 1.2	Scenario 2.1	Scenario 3.1	SAAM-1	SAAM-2	SAAM-3
<i>Complete Communities and Great Neighborhoods</i>							
	(1) Housing units within walking distance of existing & planned schools in 2028	○	●	◐	◑	◐	○
	(2) Housing units within walking distance of existing & planned parks and trails in 2028	●	●	●	◐	●	●
	(3) Housing units within walking distance of commercial services in 2028	◐	●	●	●	○	◑
	(4) Jobs/housing balance	○	●	◐	●	◐	◑
	(5) Opportunities for master planning	○	●	○	●	○	●

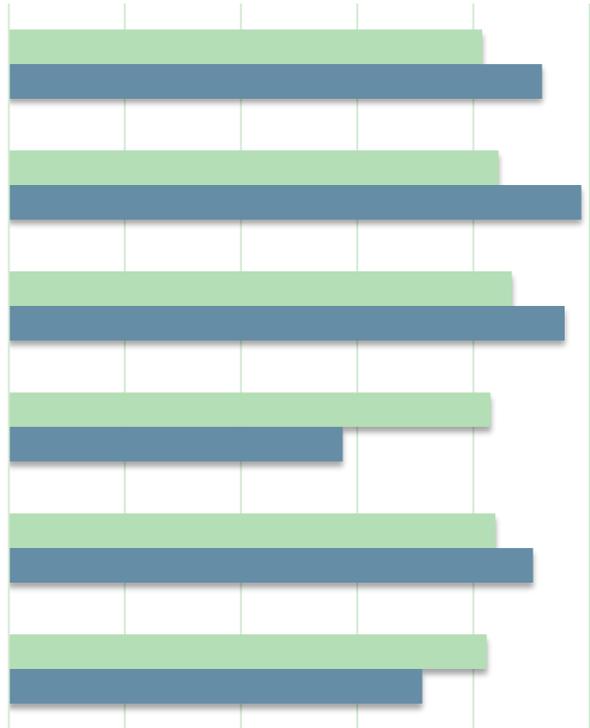
Walk access to commercial services



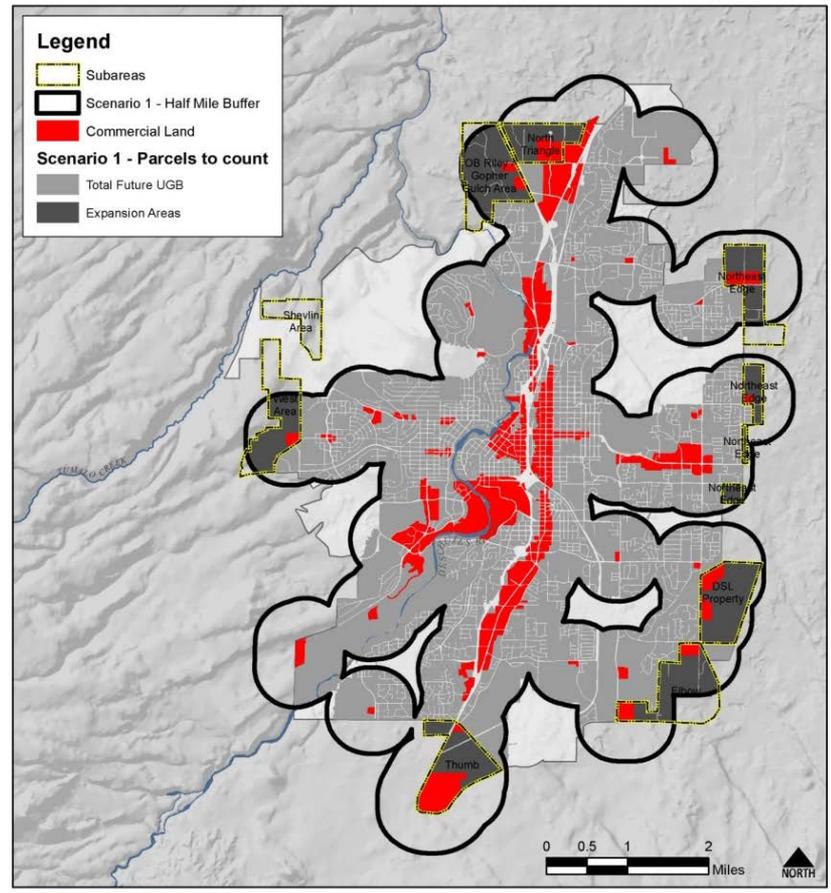
Percent of housing units within 1/2 mile of commercial services

0% 20% 40% 60% 80% 100%

Scenario 1.2
Scenario 2.1
Scenario 3.1
SAAM-1
SAAM-2
SAAM-3



■ Total Future UGB (Including Current UGB)
■ Total Expansion Area (excluding current UGB)



Disclaimer: This map represents land use assumptions for modeling purposes only. This is not a proposal for specific comprehensive plan designations.
Service Layer Credits: Deschutes County GIS (2014)

Streams/Rivers
Urban Growth Boundary

Factor 1: Efficient Accommodation of Identified Land Needs



Efficient, Timely Growth

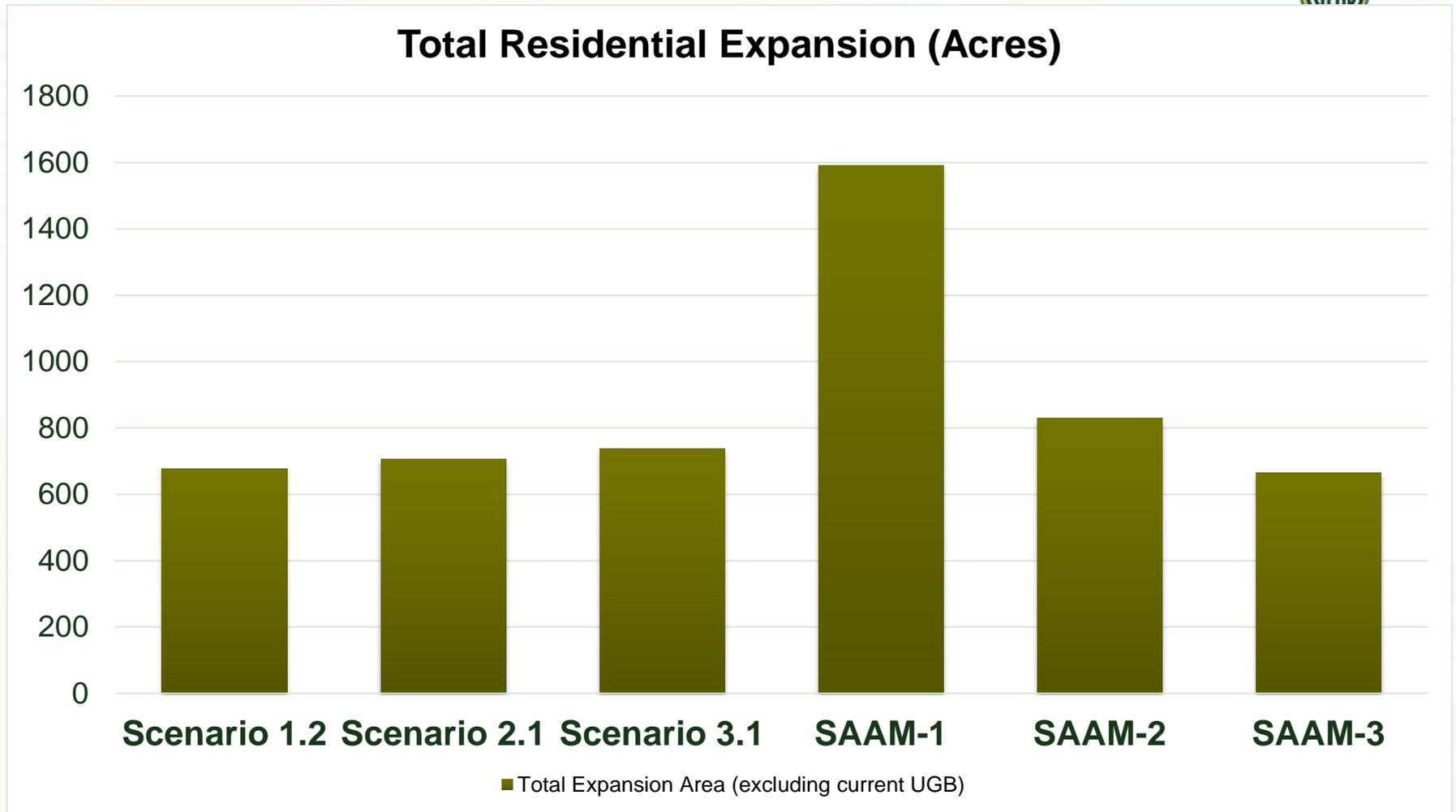
Bend's vacant land is used efficiently to limit sprawl, and new areas planned for growth can accommodate development within the planning horizon.



Key: ● = Very Good ● = Good ○ = Fair ◐ = Poor ● = Very Poor

Community Outcome	Performance Measure	Scenario 1.2	Scenario 2.1	Scenario 3.1	SAAM-1	SAAM-2	SAAM-3
<i>Efficient, Timely Growth</i>		●	●	●	○	●	●
(1)	Total urbanized acres	●	●	●	○	●	●
(2)	Gross density for new housing in 2028	●	●	○	●	●	●
(3)	Net density for new jobs in 2028	●	●	●	●	●	●
(4)	Percent of urbanized acres on parcels under 20 acres and contiguous to existing UGB	●	○	○	◐	◐	●
(5)	Vacant vs. developed land included	●	●	●	◐	○	●

Residential Land Efficiency



Factor 2: Orderly and economic provision of public facilities and services



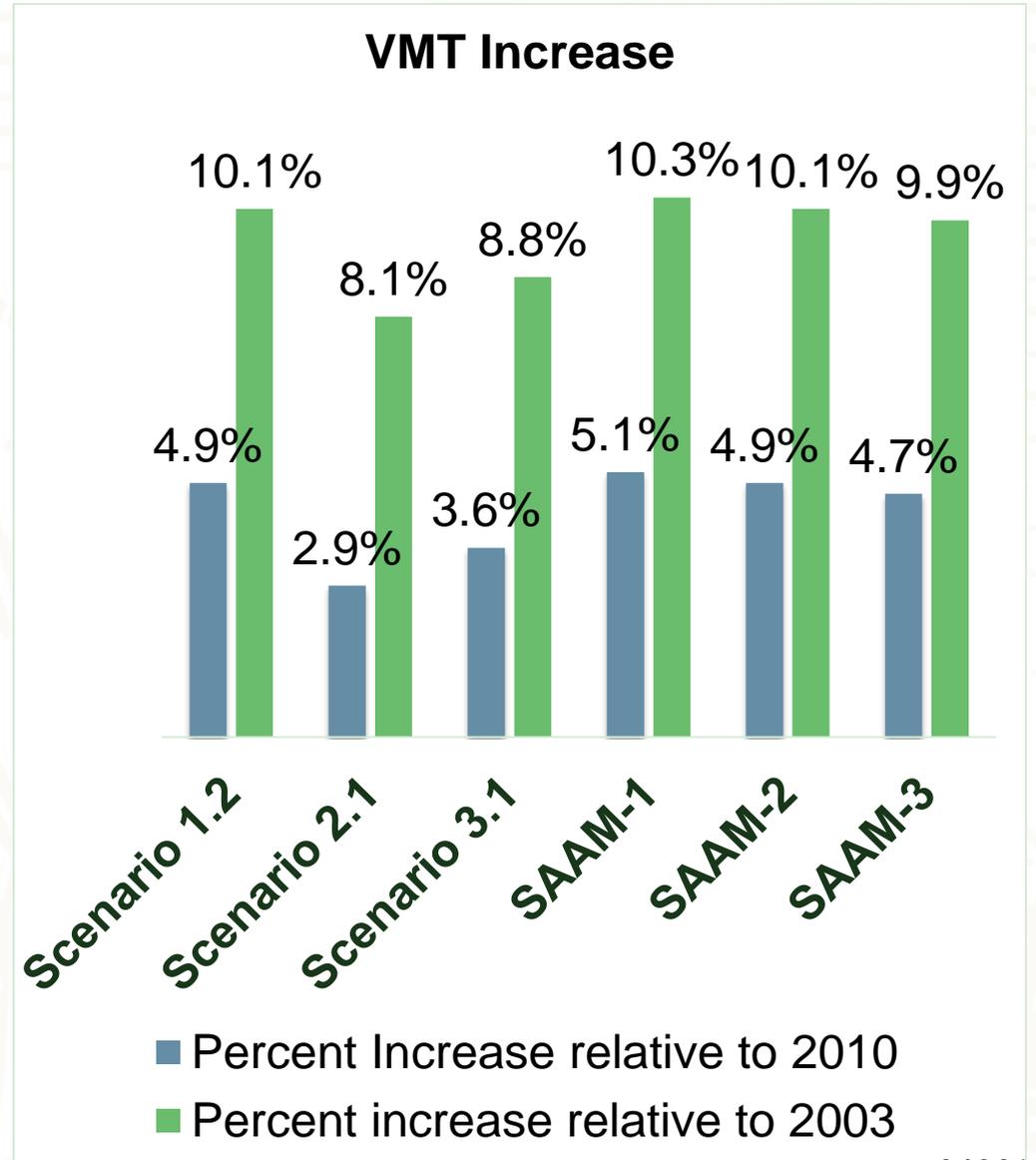
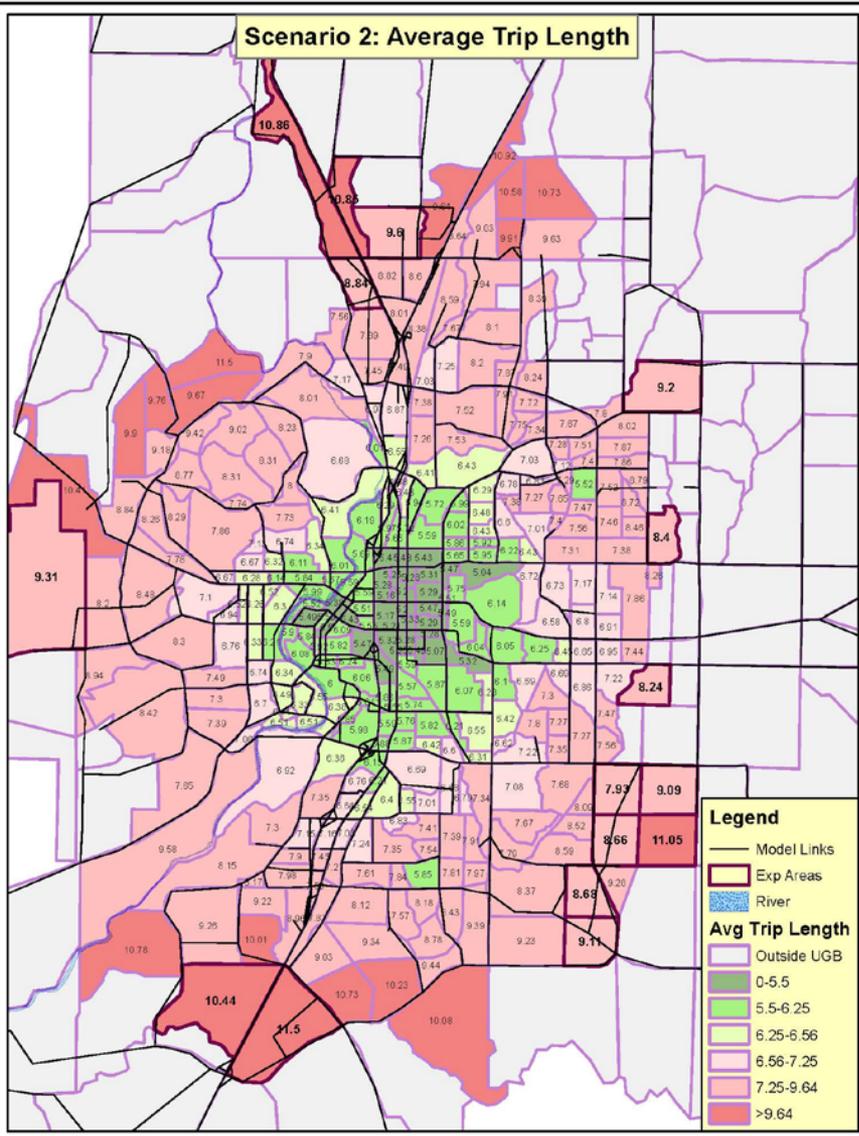
Balanced Transportation System

Bend's transportation system emphasizes safety and convenience for users of all types and ages. Land use and transportation options reduce reliance on the automobile. The transportation system is connected, functional, and safe.

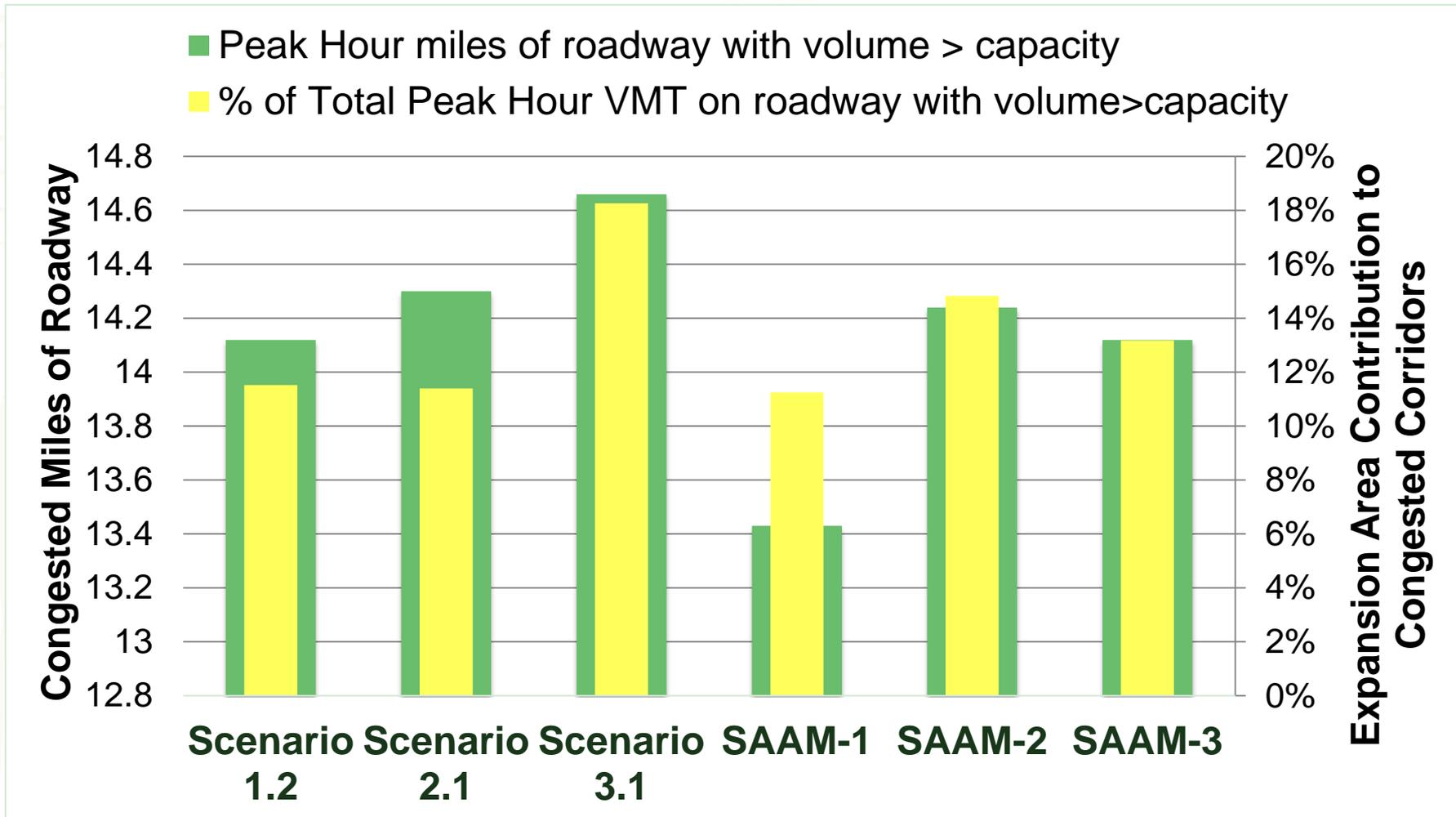
Key: = Very Good = Good = Fair = Poor = Very Poor

Community Outcome	Performance Measure	Scenario 1.2	Scenario 2.1	Scenario 3.1	SAAM-1	SAAM-2	SAAM-3
<i>Balanced Transportation System</i>							
(1)	Total VMT per capita						
(2)	Average trip length						
(3)	Household VMT per capita						
(4)	Congestion						
(5)	Walk/bike safety and connectivity						
(6)	System connectivity & progression of system hierarchy						
(7)	Mode split						
(8)	Average weekly walk trips per capita						
(9)	Proximity to transit corridors						
(10)	Percent of housing and jobs within 1/4 mile of transit						
(11)	Intersection density						

Average Trip Length & VMT



Congestion



Congestion

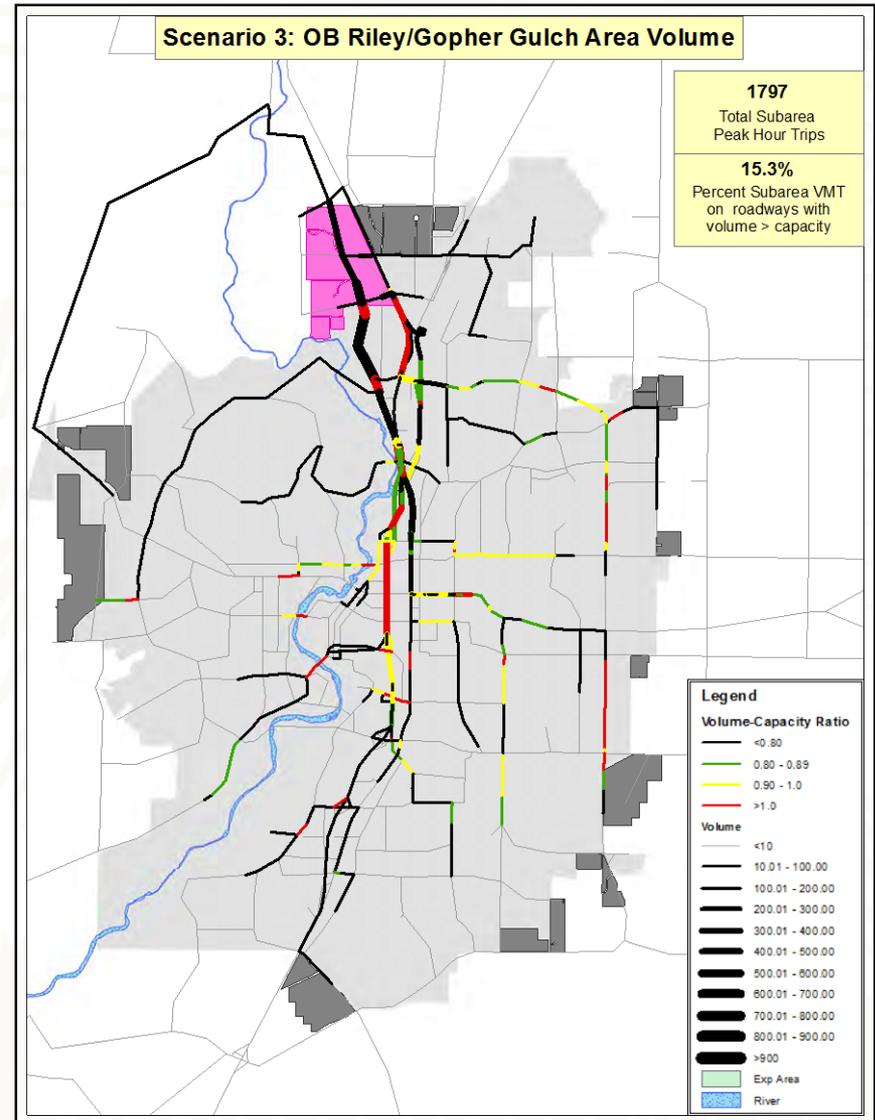
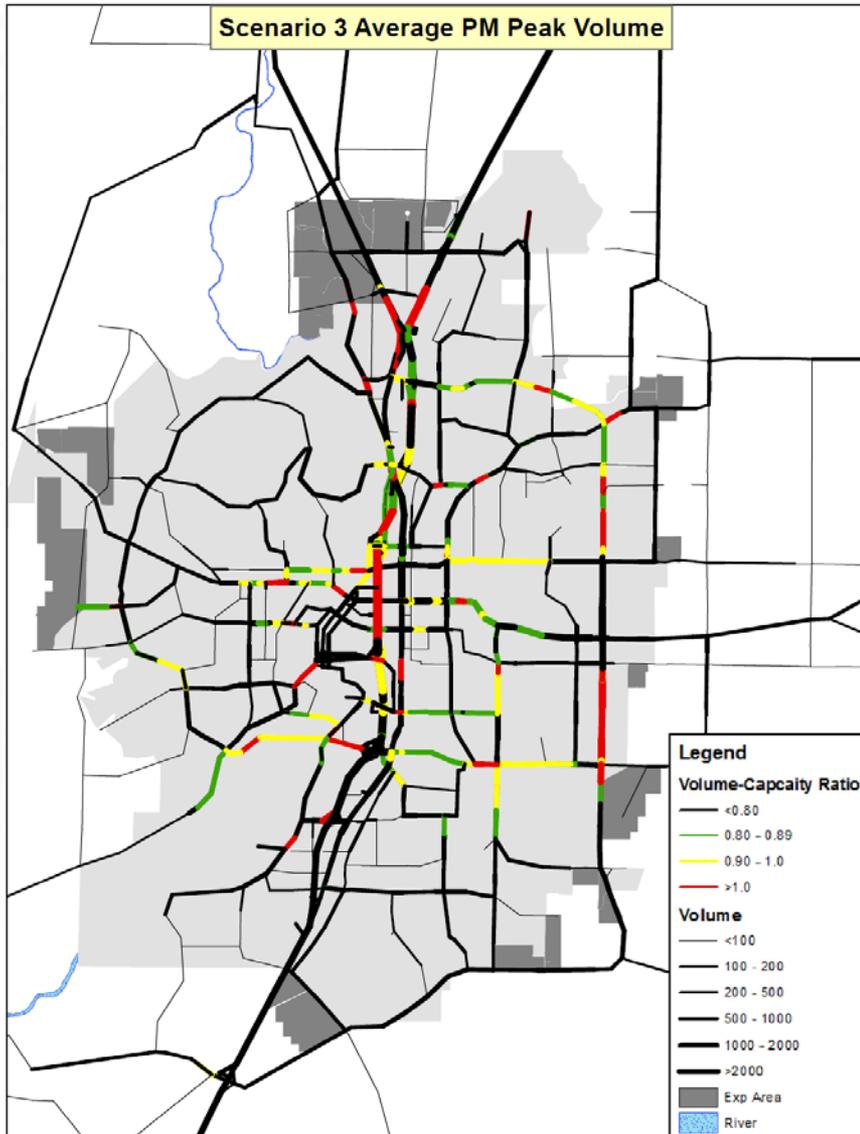


Figure 29

Factor 2: Orderly and economic provision of public facilities and services



Cost-Effective Infrastructure

Bend will build water, wastewater, storm water, transportation, and green infrastructure in a cost-effective way. The cost of major system improvements is manageable and life-cycle costs for infrastructure are minimized.

Key: = Very Good = Good = Fair = Poor = Very Poor

Community Outcome	Performance Measure	Scenario 1.2	Scenario 2.1	Scenario 3.1	SAAM-1	SAAM-2	SAAM-3
<i>Cost-Effective Infrastructure</i>							
<i>Transportation Infrastructure</i>							
	(1) Total cost of transportation improvements required						
	(2) Cost per acre of transportation improvements						
	(3) New linear miles of roadway						
<i>Sanitary Sewer Infrastructure</i>							
	(4) Efficiency of additional sewer system improvements required						
	(5) Initial capital cost of sewer system improvements required						
	(6) Initial capital cost of sewer system improvements per acre						
<i>Drinking Water Infrastructure</i>							
	(7) Water system improvements required in city water district						
<i>Storm Water Infrastructure</i>							
	(9) Total impervious area for new development						
	(10) Acres of new development with welded tuff geology						
	(11) Acres of new development within DWPA						

Cost of New Transportation Improvements



Total New Transportation Improvement Costs by Type
(\$ million)

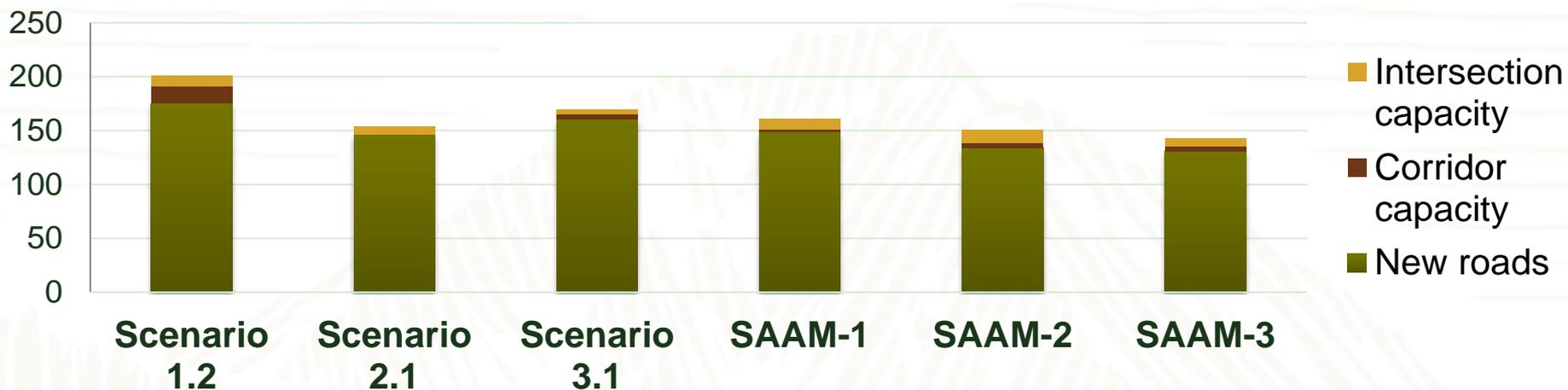


Table 2. Scenario Transportation Costs (\$ Millions) Attributed to the UGB Expansion

Cost Element	Scenario 1.2	Scenario 2.1	Scenario 3.1	SAAM-1	SAAM-2	SAAM-3
Base Roadways	175.0	146.7	160.4	148.7	134.0	130.9
Roadway Capacity	16.0	0.0	4.8	2.5	4.8	4.8
Intersection Capacity	9.5	7.1	4.7	9.5	11.8	7.1
Total	200.5	153.8	169.9	160.8	150.6	142.8

Factor 2: Orderly and economic provision of public facilities and services



Cost-Effective Infrastructure

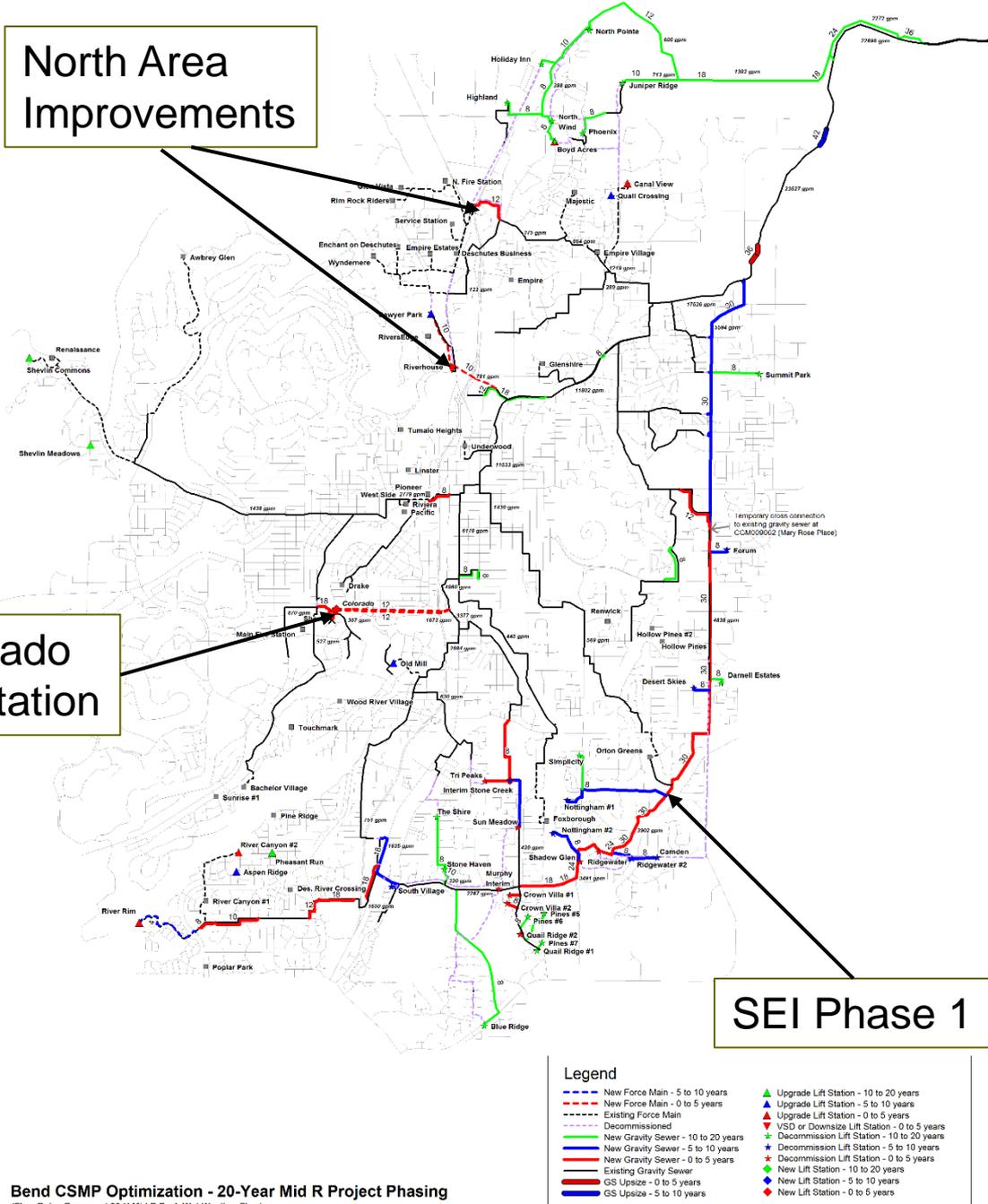
Bend will build water, wastewater, storm water, transportation, and green infrastructure in a cost-effective way. The cost of major system improvements is manageable and life-cycle costs for infrastructure are minimized.

Key: = Very Good = Good = Fair = Poor = Very Poor

Community Outcome	Performance Measure	Scenario 1.2	Scenario 2.1	Scenario 3.1	SAAM-1	SAAM-2	SAAM-3
<i>Cost-Effective Infrastructure</i>							
<i>Transportation Infrastructure</i>							
	(1) Total cost of transportation improvements required						
	(2) Cost per acre of transportation improvements						
	(3) New linear miles of roadway						
<i>Sanitary Sewer Infrastructure</i>							
	(4) Efficiency of additional sewer system improvements required						
	(5) Initial capital cost of sewer system improvements required						
	(6) Initial capital cost of sewer system improvements per acre						
<i>Drinking Water Infrastructure</i>							
	(7) Water system improvements required in city water district						
<i>Storm Water Infrastructure</i>							
	(9) Total impervious area for new development						
	(10) Acres of new development with welded tuff geology						
	(11) Acres of new development within DWPA						

Collection System Master Plan Improvements

Three immediate projects to address existing issues and provide for near term growth



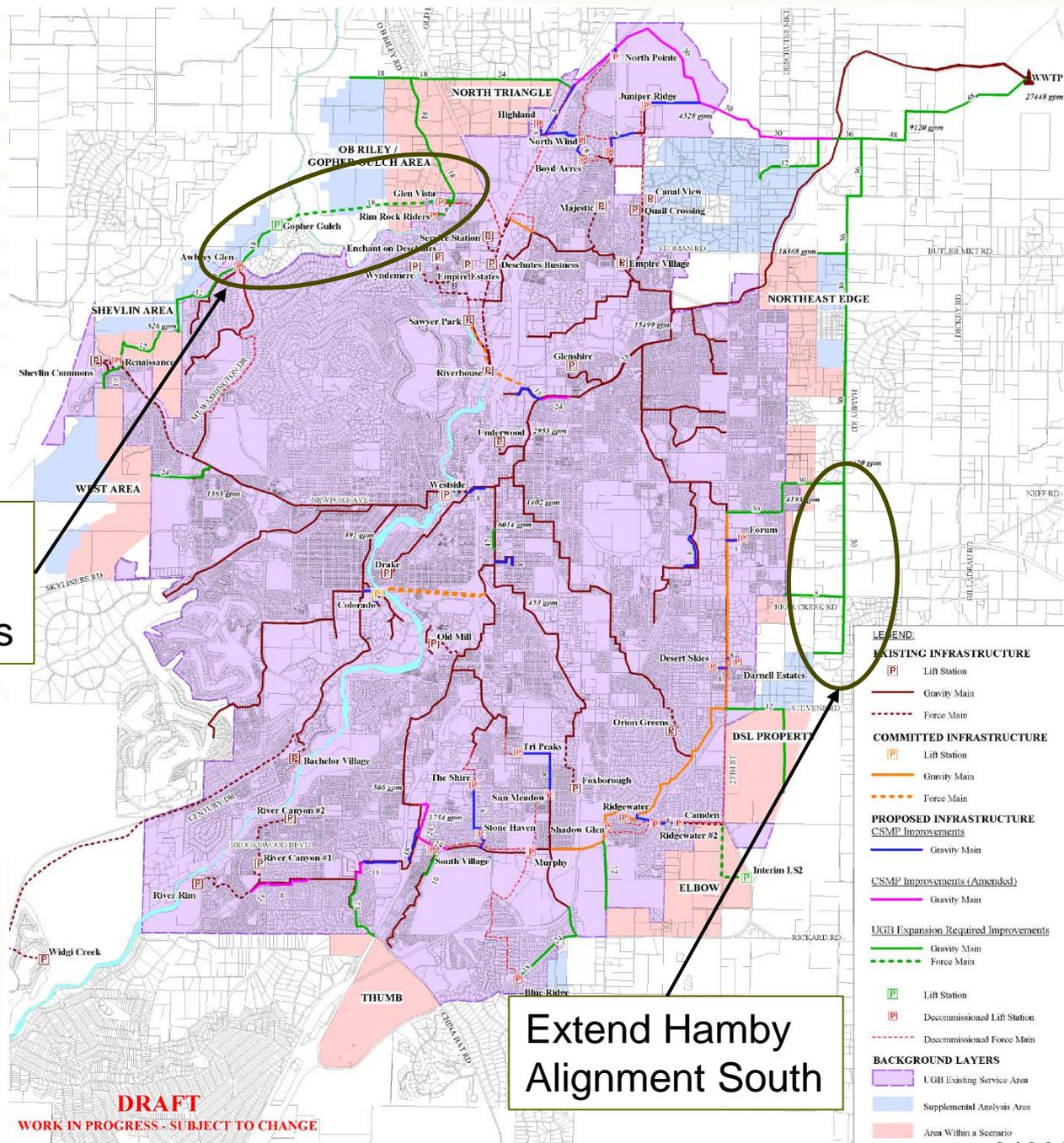
Bend CSMP Optimization - 20-Year Mid R Project Phasing
(Flow Rates Represent 20-Y Mid R Peak Wet Weather Flow)
 July 30, 2014

Sanitary Sewer Improvements

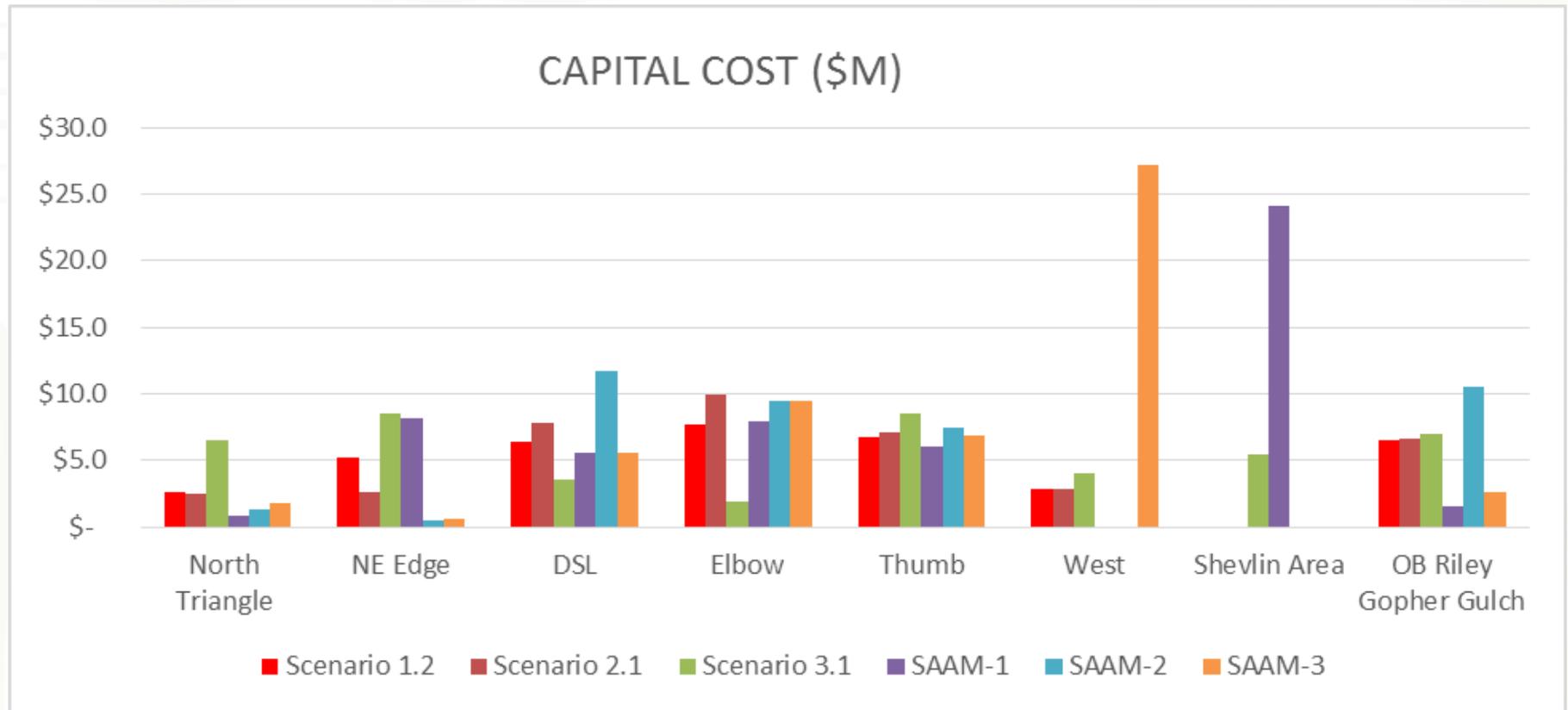
Additional improvements to serve lands in SAAs

New Lift Station and Forcemain Across Deschutes

Extend Hamby Alignment South



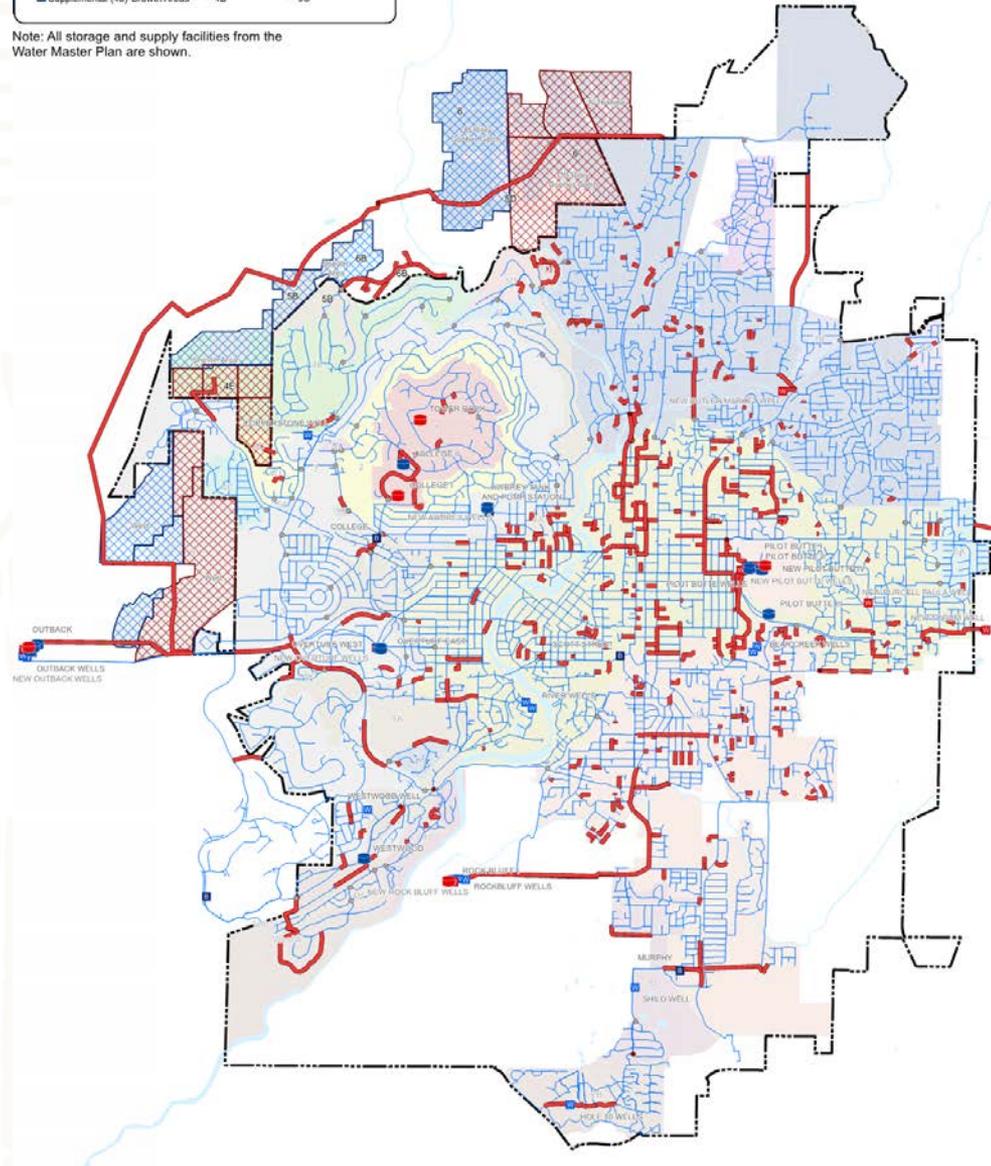
Capital Cost Comparison



Water System Improvements



Note: All storage and supply facilities from the Water Master Plan are shown.



Sewer & Water Roll-up



Performance Measure	Scenario 1.2	Scenario 2.1	Scenario 3.1	SAAM-1	SAAM-2	SAAM-3
<i>Sanitary Sewer Infrastructure</i>						
(4) Efficiency of additional sewer system improvements required	🟢	○	○	🔴	🔴	🔴
(5) Initial capital cost of sewer system improvements required	🟢	○	○	🔴	○	🔴
(6) Initial capital cost of sewer system improvements per acre of development	○	🟢	○	🔴	🔴	🔴
<i>Drinking Water Infrastructure</i>						
(7) Water system improvements required in city water district	🟢	🟢	🟢	🟢	🟢	🟢

Factor 3: Comparative environmental, social, economic and energy consequences (ESEE)



Quality Natural Environment

As Bend grows, it will preserve and enhance natural areas and wildlife habitat. Expansion areas are well planned for wildfire safety. Energy and water consumption and greenhouse gas emissions are minimized.



Key: ● = Very Good ◐ = Good ○ = Fair ◑ = Poor ● = Very Poor

Community Outcome	Performance Measure	Scenario 1.2	Scenario 2.1	Scenario 3.1	SAAM-1	SAAM-2	SAAM-3
<i>Quality Natural Environment (Environmental and Energy Consequences)</i>		◐	◐	○	◑	○	○
(1)	Development in wildlife areas	◐	○	◑	●	●	◑
(2)	Linear distance of riparian areas adjacent to development	●	●	◐	○	○	●
(3)	Wildfire hazard	○	○	◑	◑	○	○
(4)	Greenhouse gas emissions	○	◐	○	◑	◑	○
(5)	Energy Use	○	○	○	○	○	○
(6)	Average Water Consumption per Household	○	◐	○	◑	○	○

Wildlife: Big Game Winter Range

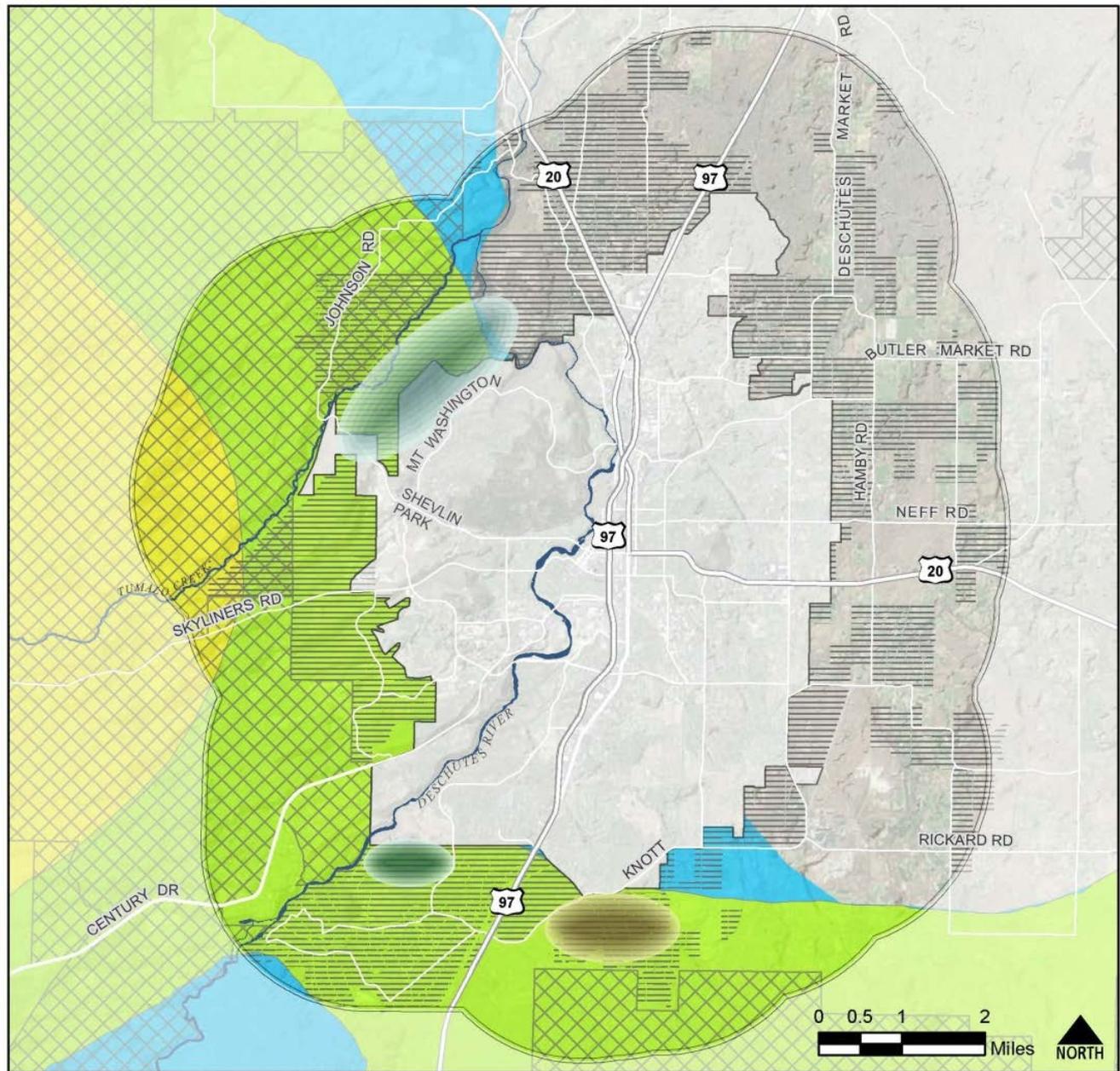
ODFW Deer & Elk Winter Range

- Elk
- Deer
- Elk & Deer

ODFW Potential Winter Range

- Elk
- Deer
- Wildlife Area Combining Zone

- 2 Miles from UGB
- Urban Growth Boundary
- Streams/Rivers
- Roads/Highways
- Exception Land

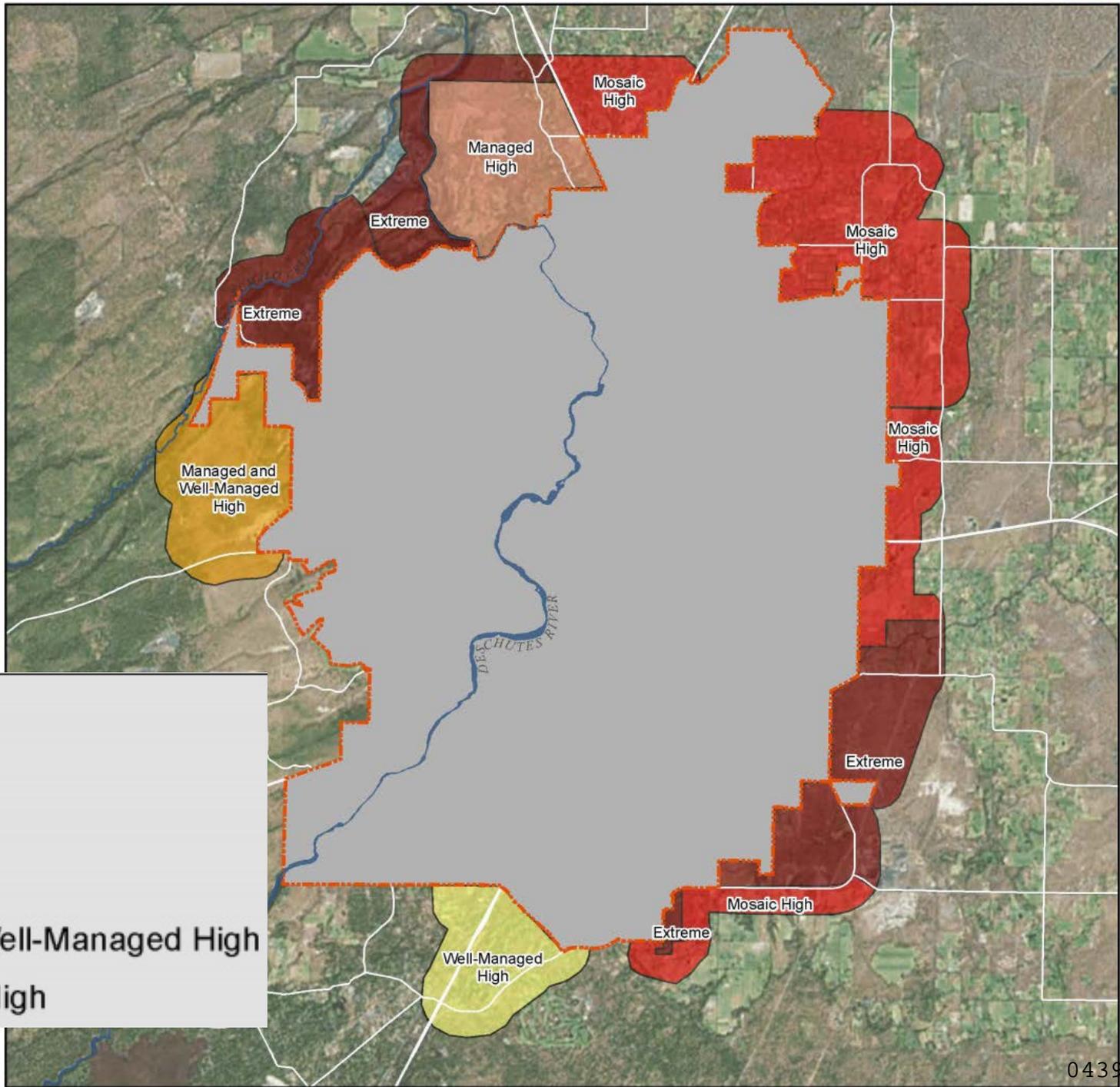


FOR INFORMATION USE ONLY

Service Layer Credits: Oregon Department of Fish and Wildlife (2011-2012). Deschutes County GIS

Note: Areas of potential concern based on interviews with ODFW

Wildfire Hazard



Fire Hazard

-  Extreme
-  Mosaic High
-  Managed High
-  Managed and Well-Managed High
-  Well-Managed High

Factor 3: Comparative environmental, social, economic and energy consequences (ESEE)



Housing Options and Affordability

Bend residents have access to a variety of high quality housing options, including housing affordable to people with a range of incomes.

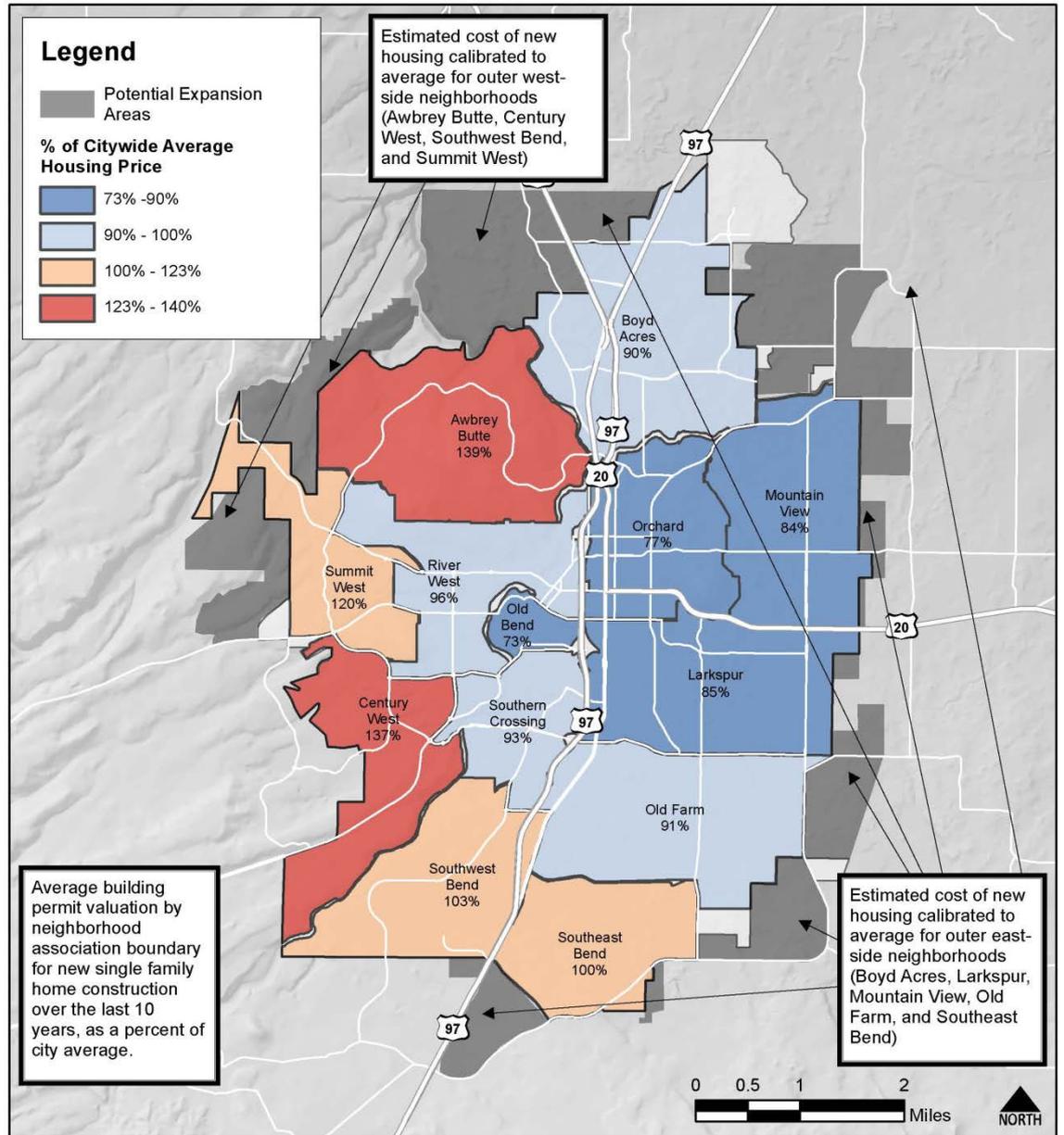


Key: ● = Very Good ● = Good ○ = Fair ◐ = Poor ● = Very Poor

Community Outcome	Performance Measure	Scenario 1.2	Scenario 2.1	Scenario 3.1	SAAM-1	SAAM-2	SAAM-3
<i>Housing Options and Affordability (Social Consequences)</i>		○	○	◐	○	○	◐
(1)	Average cost of new single family housing	●	●	◐	●	○	◐
(2)	Housing mix of new housing (subarea balance)	○	●	●	●	●	○

Relative Cost of New Single Family Homes

Outer West side ~30% higher new home costs than outer East side



Disclaimer: This map represents land use assumptions for modeling purposes only. This is not a proposal for specific comprehensive plan designations.

Service Layer Credits: Deschutes County GIS (2014)



Factor 3: Comparative environmental, social, economic and energy consequences (ESEE)



Strong Diverse Economy

Bend will have a good supply of land for employment growth that supports the City's economic development goals. Areas identified for commercial and industrial development are suitable for those uses.



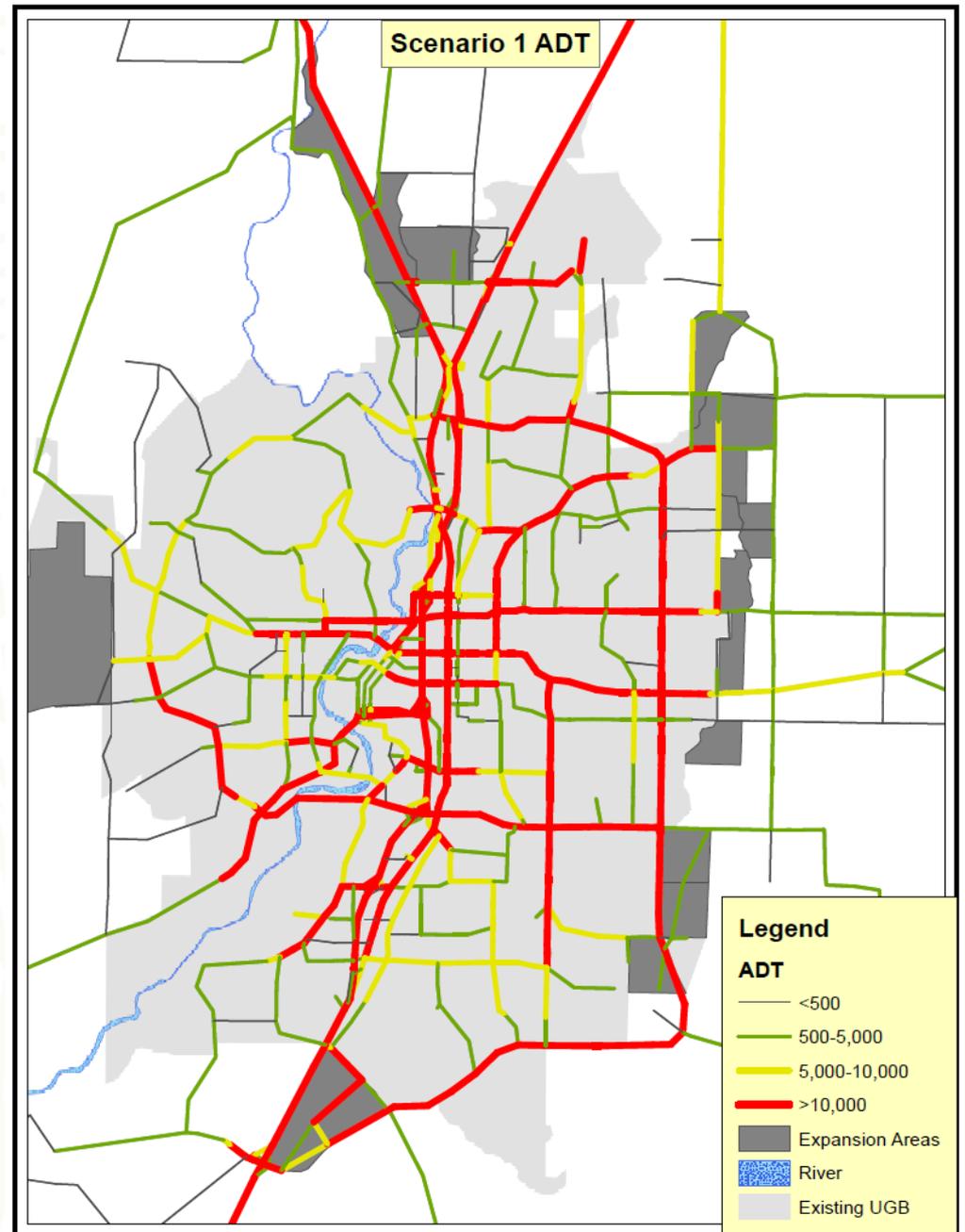
Key: = Very Good = Good = Fair = Poor = Very Poor

Community Outcome	Performance Measure	Scenario 1.2	Scenario 2.1	Scenario 3.1	SAAM-1	SAAM-2	SAAM-3
<i>Strong Diverse Economy (Economic Consequences)</i>							
(1)	Site suitability for large lot industrial use						
(2)	Site suitability for areas identified for industrial uses						
(3)	Site suitability for areas identified for commercial uses						

Average Daily Trips (ADT) and Commercial Viability

Lower rating for commercial areas on roads with under 5,000 ADT.

Scenarios with commercial in West / Shevlin areas rated slightly lower than others due to less pass-by visibility.



Factor 4: Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB



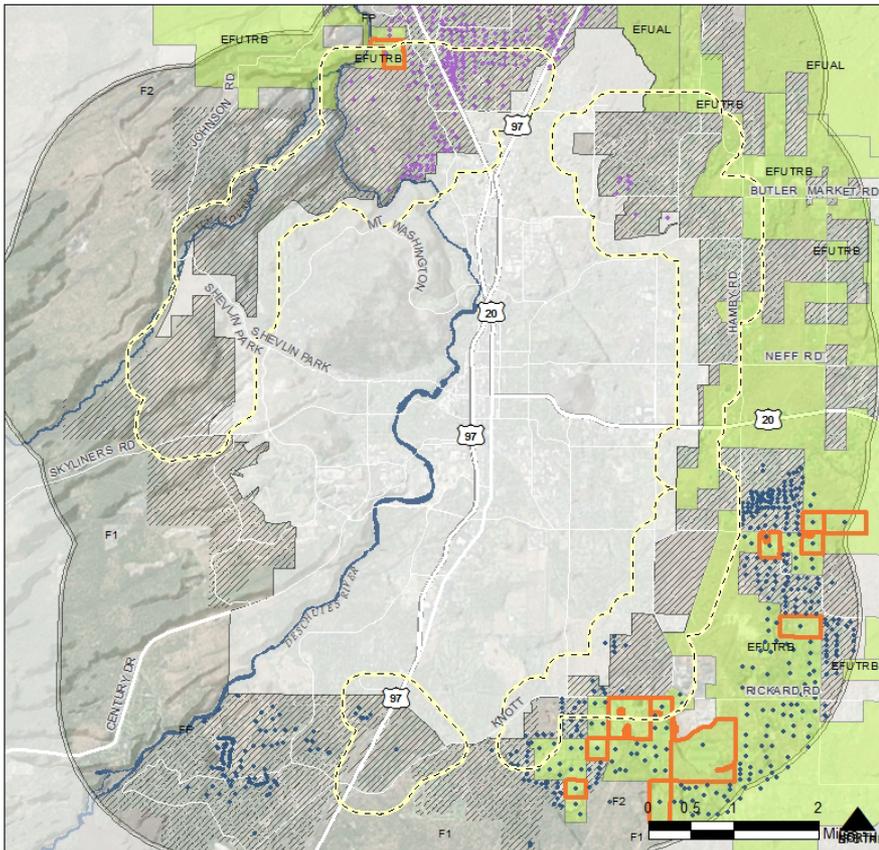
Key: = Very Good = Good = Fair = Poor = Very Poor

Community Outcome	Performance Measure	Scenario 1.2	Scenario 2.1	Scenario 3.1	SAAM-1	SAAM-2	SAAM-3
<i>Compatibility with Farms and Forests</i>							
	(1) Farm practices & high value farm land adjacent to expansion areas						
	(2) Impact to irrigation districts						
	(3) Proximity of expansion areas to designated forest land						

Farm and Forest Adjacency

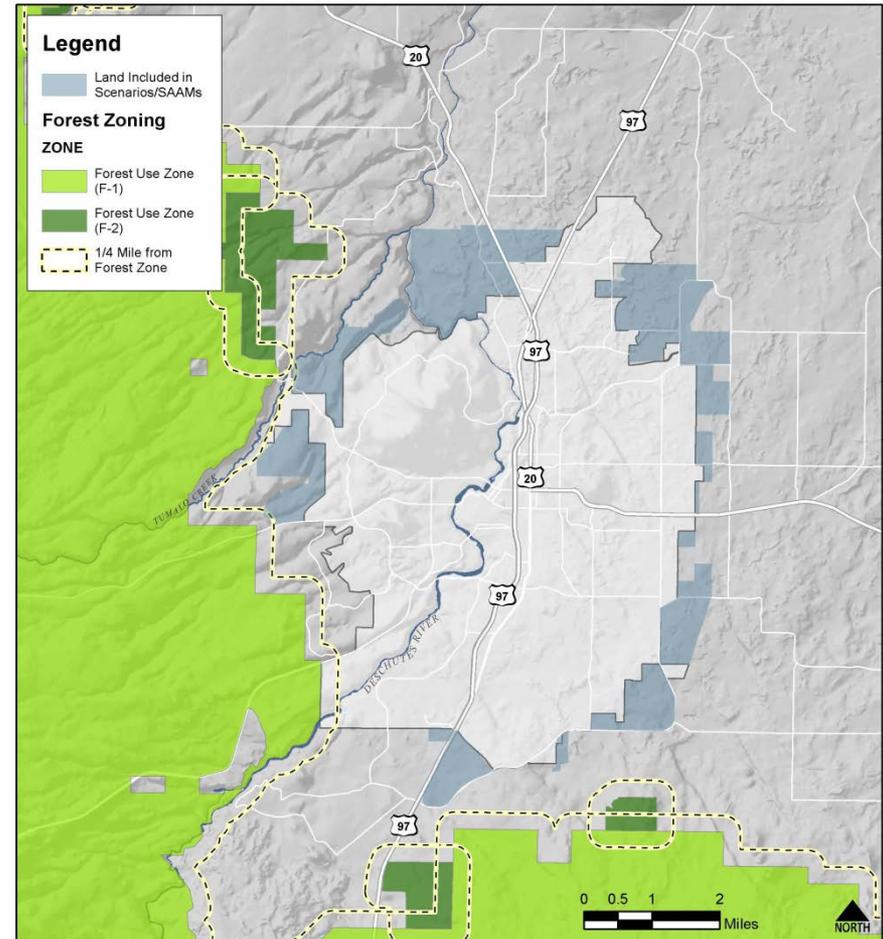


EFU Zoning, High Value Farm Land, and Irrigation Water Rights



Proximity to Forest Zones

Prepared 9/17/2015



MetroQuest Online Survey



WELCOME

Bend's Urban Growth Boundary How should we grow?

Bend Remand, Scenarios, Phase 2

Bend is a growing community. We will manage and accommodate this growth by using our remaining land wisely and through well-planned expansions of the Urban Growth Boundary (UGB).

2 PRIORITIES 3 SCENARIOS 4 STRATEGIES 5 STAY INVOLVED

WELCOME

2 Community Outcomes What matters to you?

Introduction

Order your top 5 priorities above this line

- Infrastructure
- Balanced Transportation
- Natural Environment
- Complete Communities**
- Farm/Forest Compatibility
- Strong Economy
- Housing Options
- Efficient Growth

Complete Communities and Great Neighborhoods

Bend has promote a designed, homes and parks, and

Suggest another priority

SCENARIOS 4 STRATEGIES 5 STAY INVOLVED

WELCOME

3 Scenarios Compare and Rate Growth Alternatives

Introduction

Scenario 1.2 Scenario 2.1 Scenario 3.1 Supplemental Areas Map 1 Supplemental Areas Map 2 Supplemental Areas Map 3

Scenario 1.2

Most residential growth is in the Northeast, Southeast, and South. Employment growth is near highways in the North and South. A small residential expansion is to the West.

More about this

Please rate this scenario:

★★★★★

Optional Comment

No priorities selected, at random:

- Infrastructure
- Balanced Transportation
- Natural Environment
- Complete Communities**
- Farm/Forest Compatibility

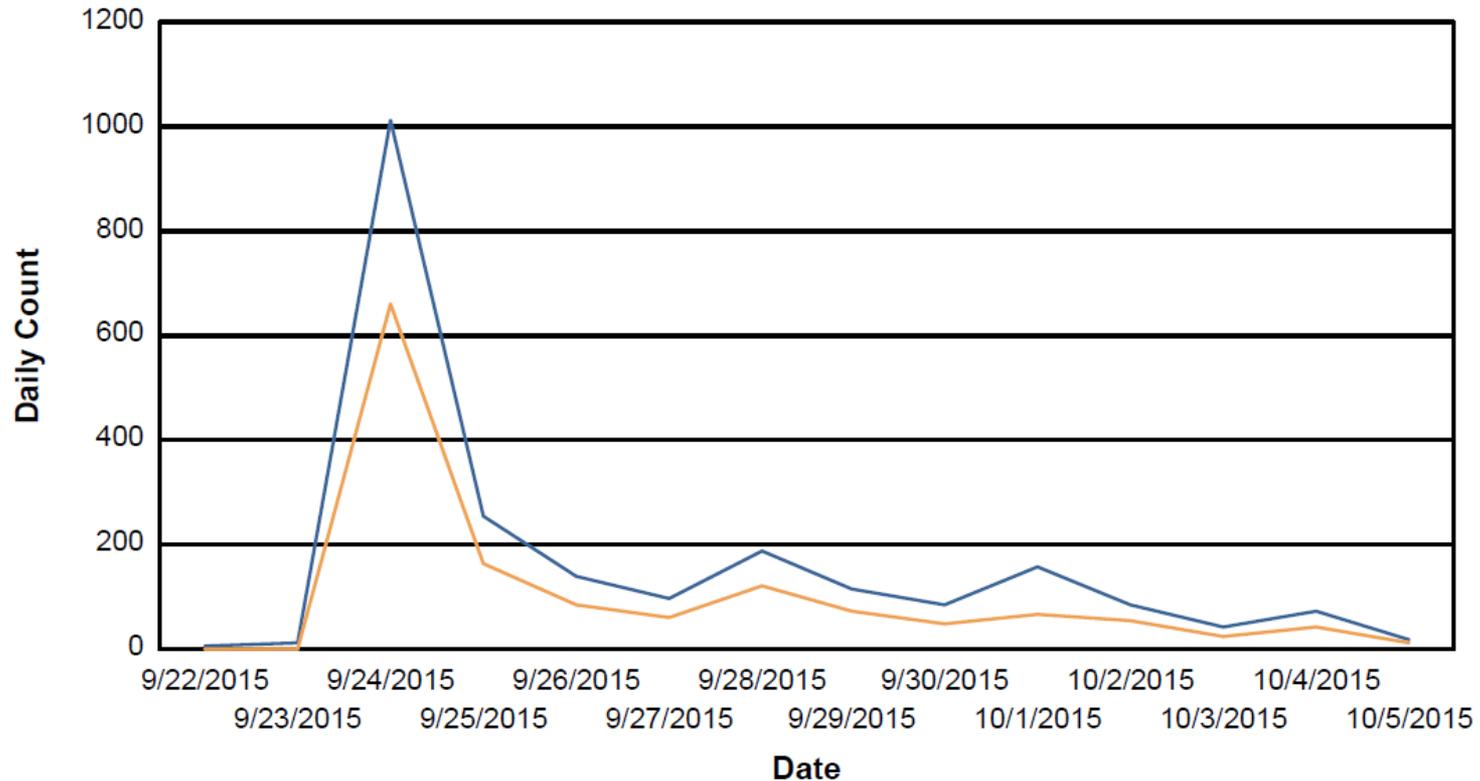
Relatively Worse Relatively Better

LONG-TERM STRATEGIES 5 STAY INVOLVED

Preliminary Metroquest Results

URBAN GROWTH
BOUNDARY REMAND
* * * *

Daily Visits and Data



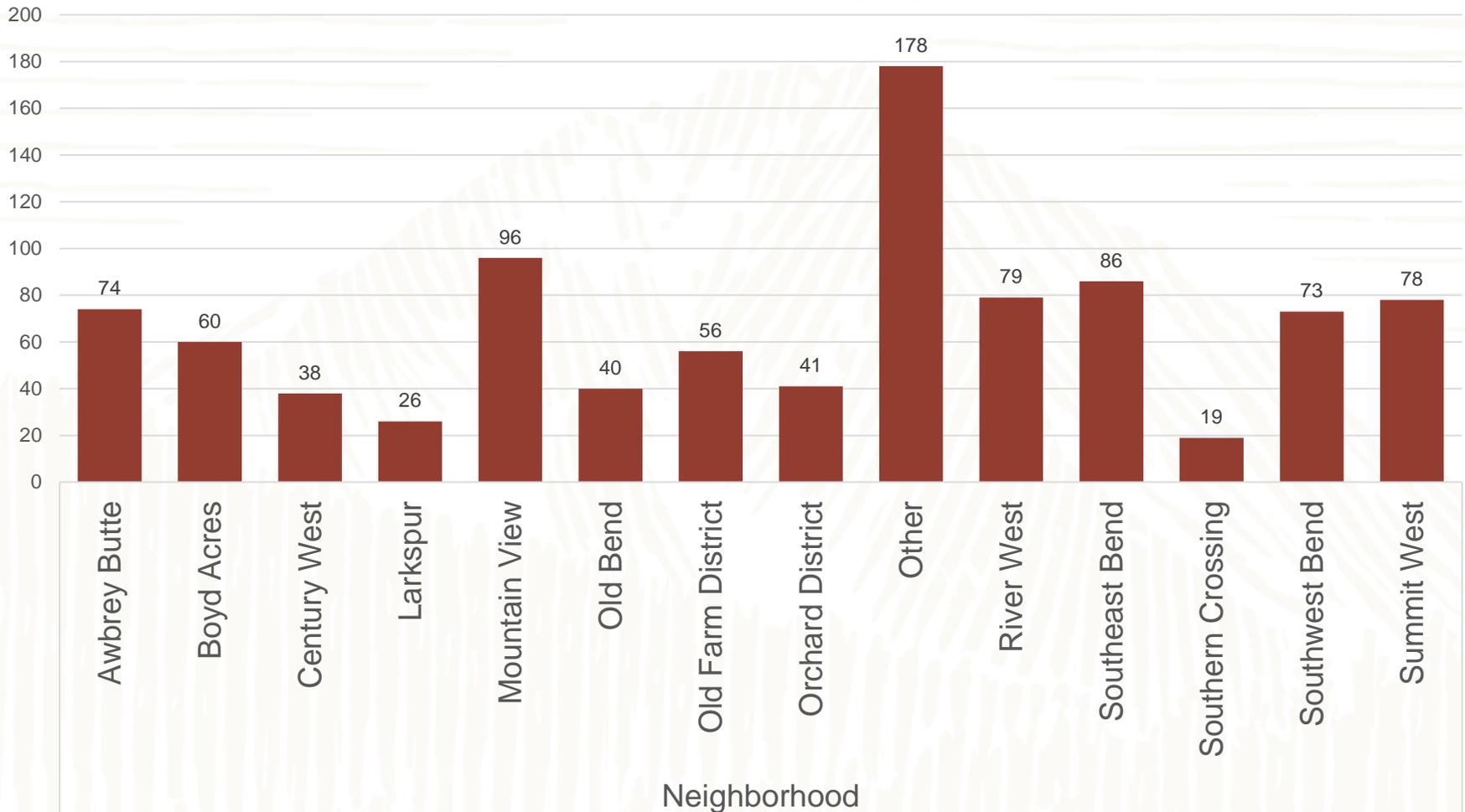
Total as of 9am, October 5 2015:

- 2254 overall
- 1390 visits with at least some data entered

Preliminary Metroquest Results



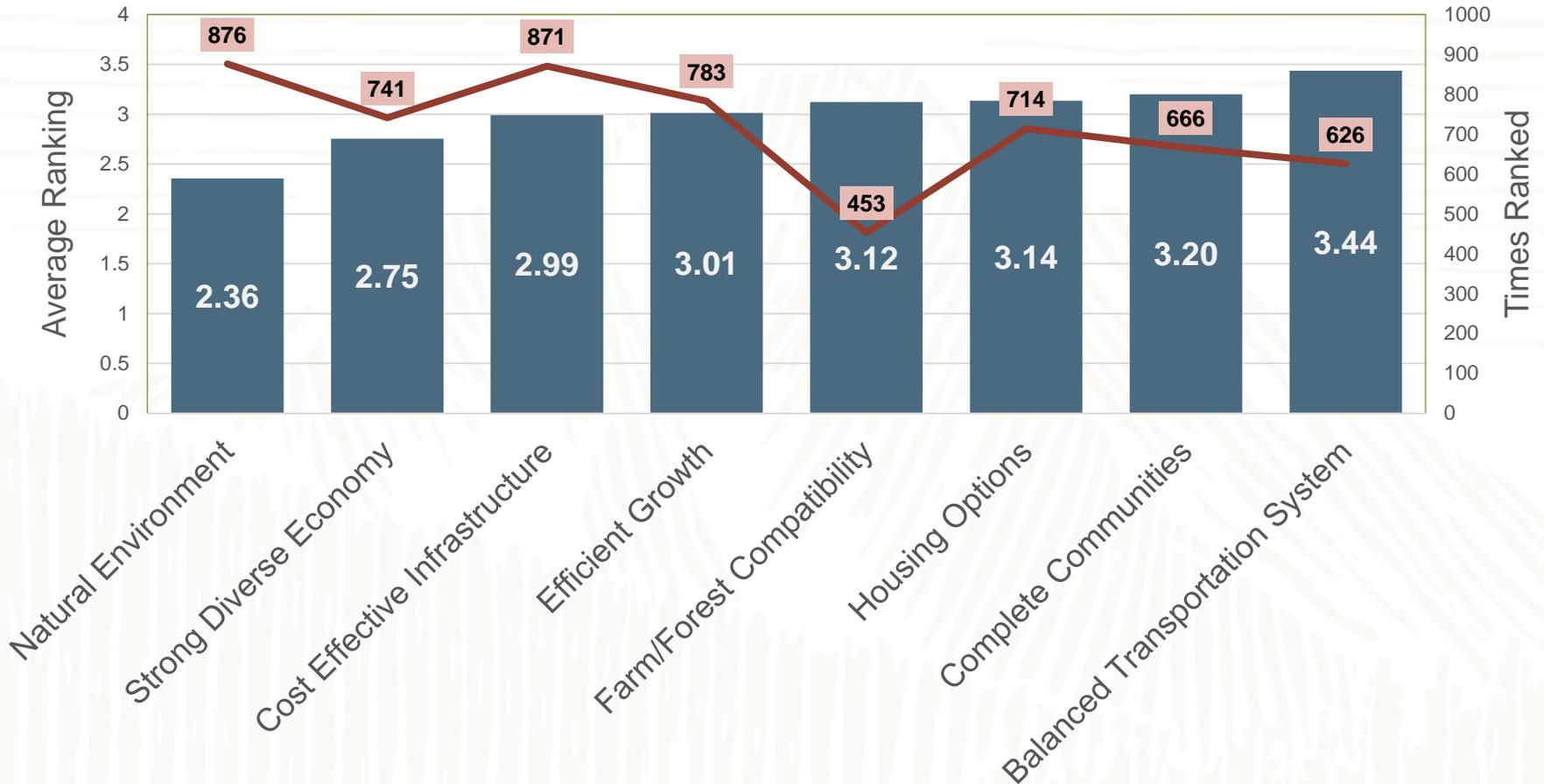
Demographic Information (As of 10/5/2015)



Preliminary Metroquest Results



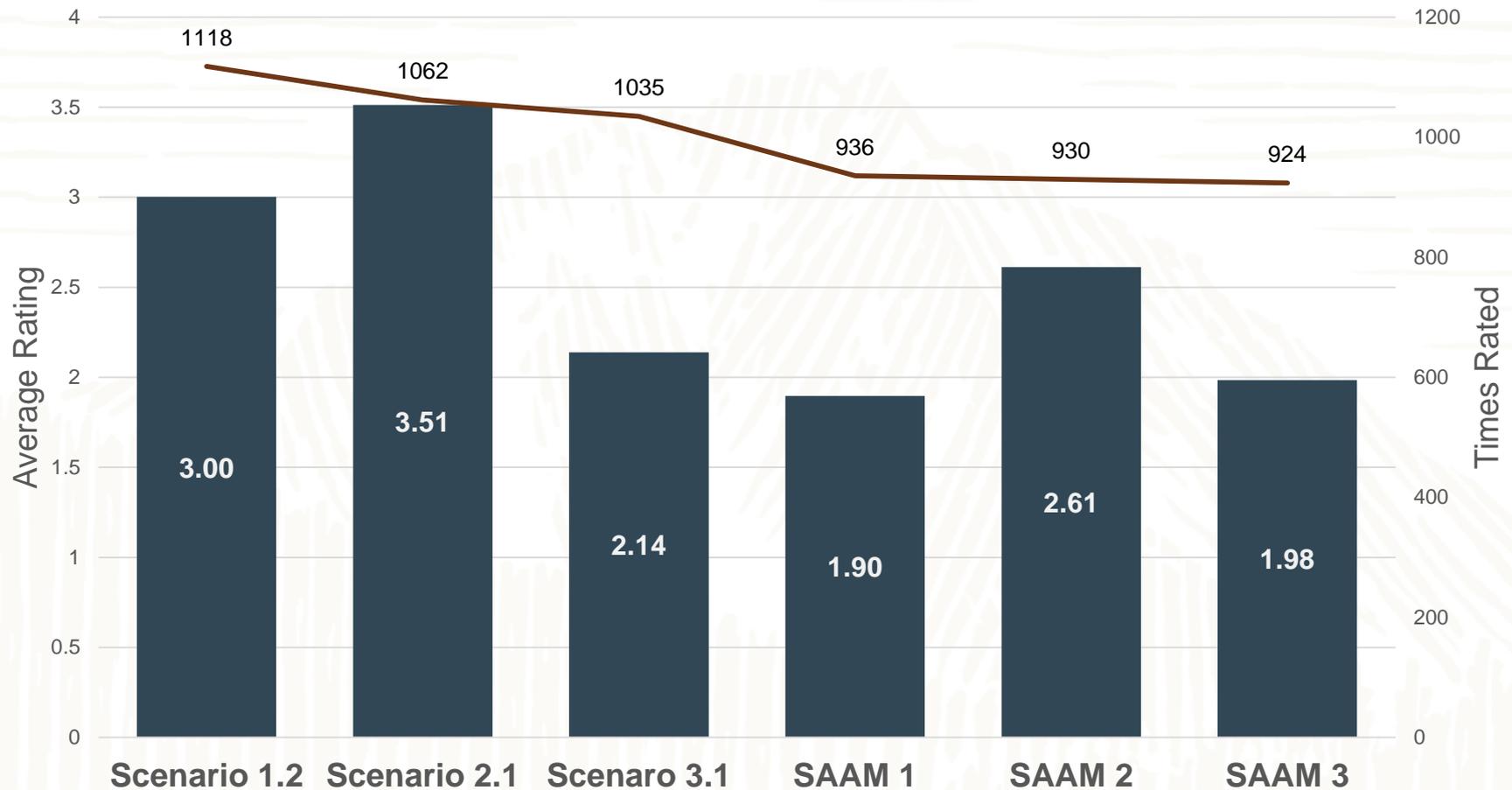
Priority Ranking (As of 10/5/2015)



Preliminary Metroquest Results



Scenario Ratings (As of 10/5/2015)



Preliminary Metroquest Results



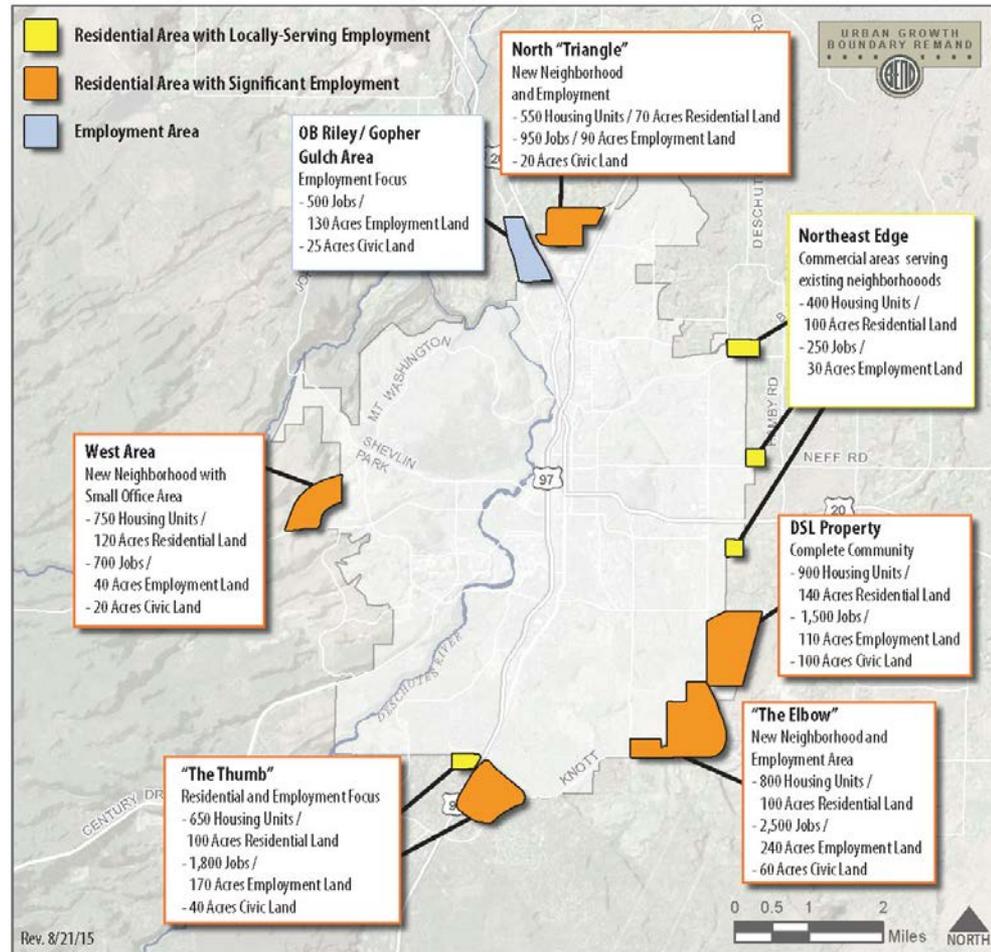
- Priority Rankings:
 - Natural Environment is the top priority by a wide margin
 - Cost-effective Infrastructure was chosen as a priority almost often
- Scenario Rating
 - Scenario 2.1 has the highest rating by a wide margin

Scenario Evaluation – High Level Results



- Scenario 2.1 performs best overall
- “Top tier” on:
 - Complete Communities and Great Neighborhoods
 - Efficient, Timely Growth
 - Balanced Transportation System
 - Cost-Effective Infrastructure
 - Quality Natural Environment
 - Housing Options and Affordability

Expansion Scenario 2.1



Key weaknesses of other alternatives



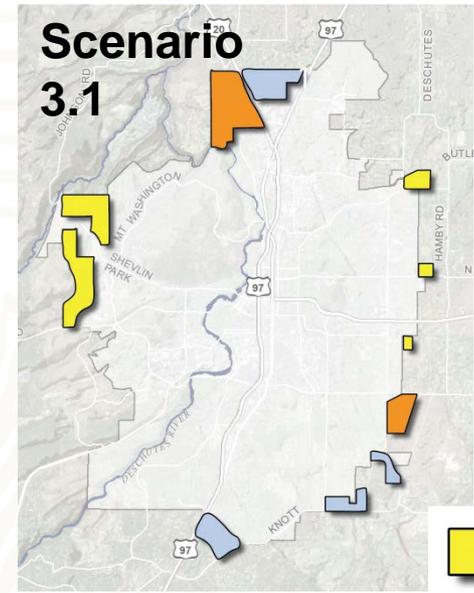
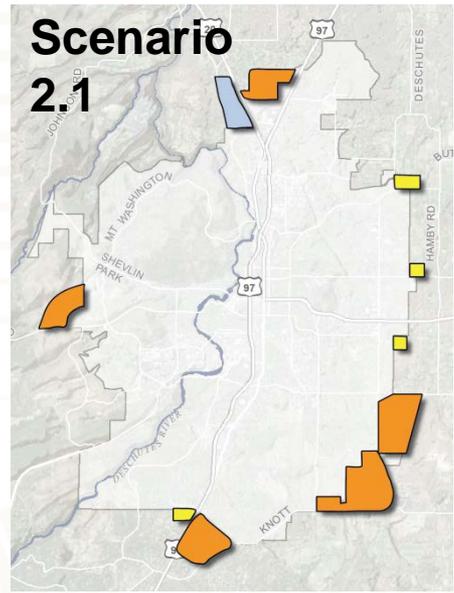
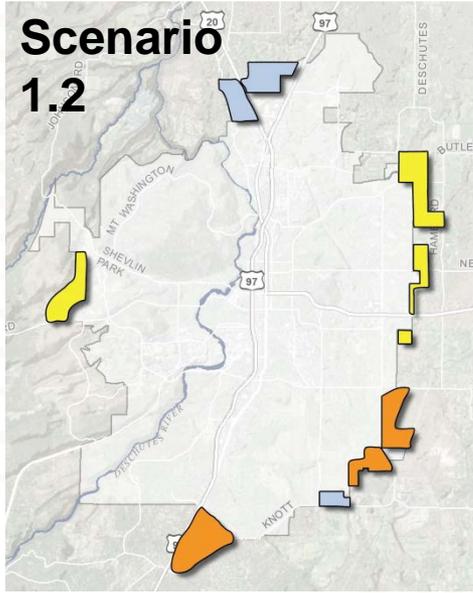
- Scenario 1.2
 - high transportation costs (connectivity & Knott Road widening)
- Scenario 3.1
 - impacts to Swalley Irrigation District
 - impacts to wildlife & riparian areas and greater wildfire hazard in Shevlin Area
 - high transportation connectivity costs
 - less affordable housing
- SAAM-1
 - impacts to wildlife & riparian areas and greater wildfire hazard in Shevlin Area
 - new regional sewer pump station
 - low housing density
 - less proximity to commercial services, schools, and parks
- SAAM-2
 - lack of connectivity to the existing UGB from Gopher Gulch
 - impacts to Swalley Irrigation District
 - farm proximity
- SAAM-3
 - less affordable housing
 - new regional sewer pump station

Potential Subarea Refinements

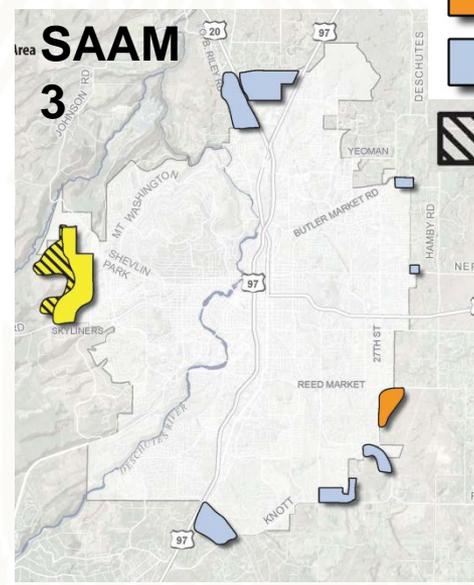
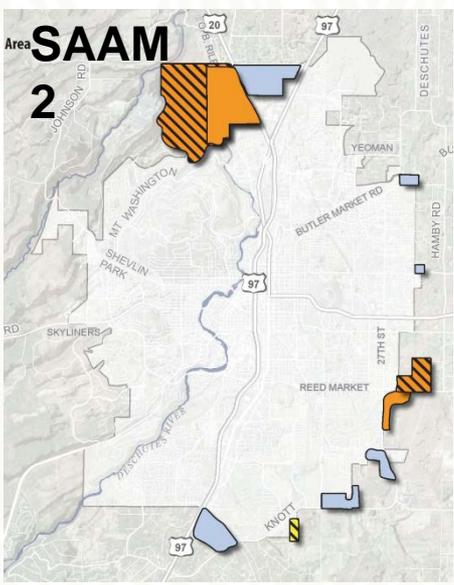
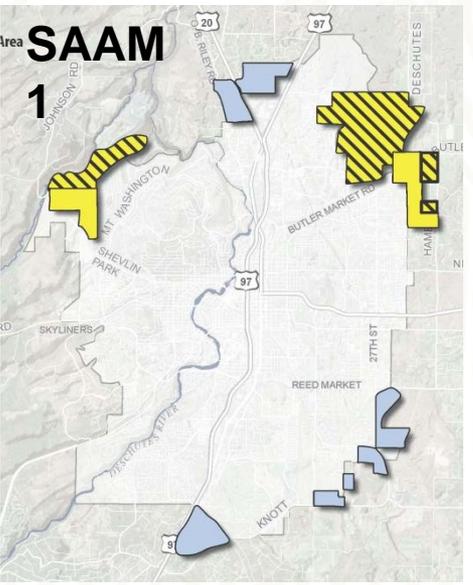


- **North Triangle:** employment-focused rather than including residential
- **Northeast Edge:** drop Bear Creek Road area, shift to Butler Market Village and/or Neff Road
- **DSL Property:** include large lot industrial site
- **The Elbow:** refine land uses along Knott Road to minimize impacts to adjacent farms
- **The Thumb:** mostly employment focus, include high school and community park, reduce total expansion area somewhat
- **West Area:** reduce commercial and industrial use
- **Shevlin Area:** none, follow Scenario 2.1 (area excluded)
- **OB Riley / Gopher Gulch:** remove large lot industrial (replace with other employment)

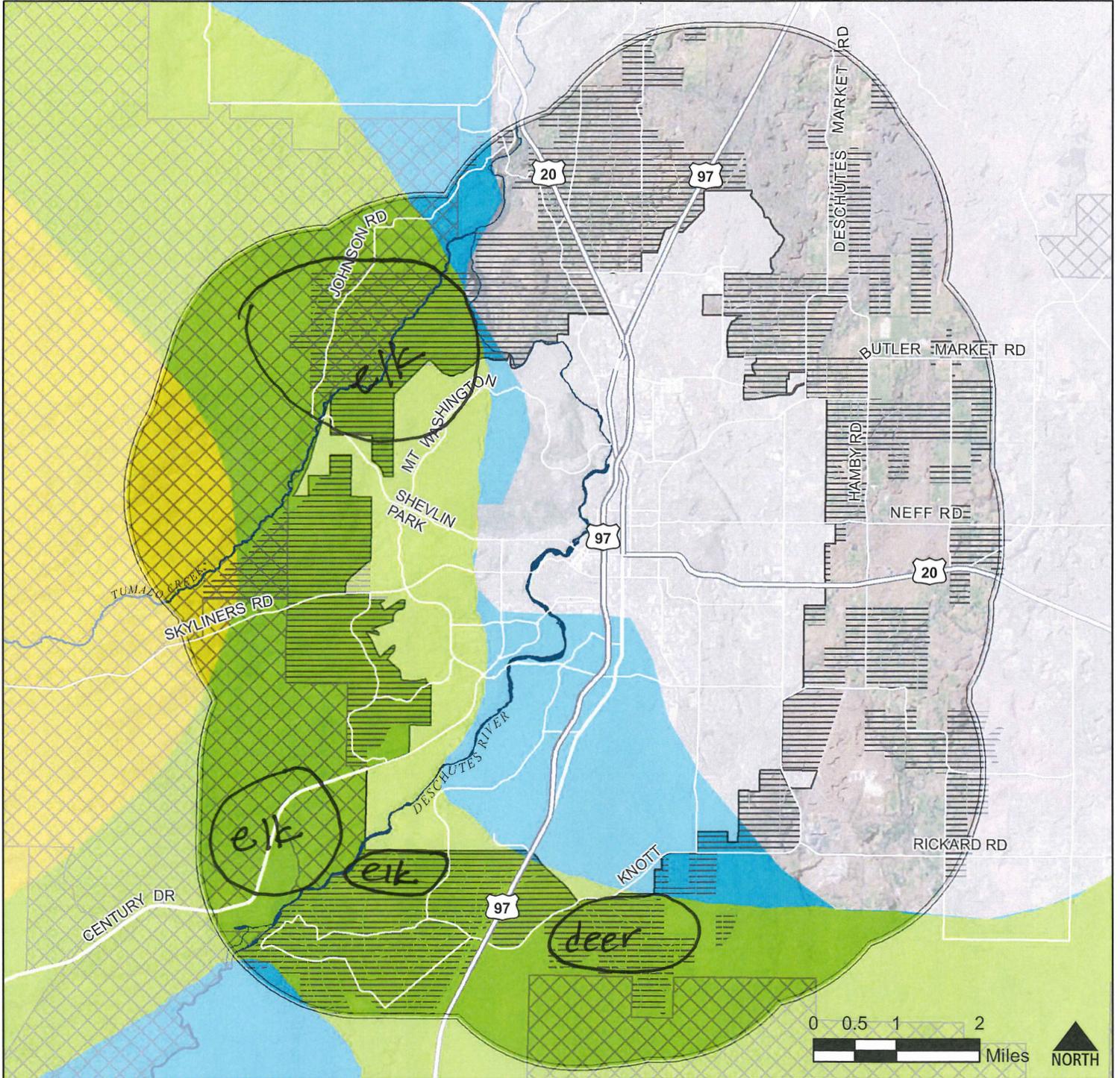
Expansion Scenarios and SAAMs



-  Residential Area with Locally-Serving Employment
-  Residential Area with Significant Employment
-  Employment Area
-  Supplemental Analysis Area



Exception Land & Big Game Winter Ranges



Service Layer Credits: Oregon Department of Fish and Wildlife

Prepared 1/2/2015



Updated Wildlife Information and Recommendations for the Deschutes County Comprehensive Plan Update

Prepared by: An Interagency Working Group
Jennifer O'Reilly (USFWS), Glen Ardt (ODFW)
Jan Hanf (BLM), Rick Demmer (BLM) and
Lauri Turner (USFS)

7/6/2009

Table of Contents	
Economic Value of Fish and Wildlife Recreation in Deschutes County	6
Oregon Conservation Strategy.....	7
ODFW Fish and Wildlife Habitat Mitigation Policy	8
Threatened and Endangered Species and Species of Concern	8
Riparian and wetland areas for wildlife and fish	9
Shrub-Steppe Habitat.....	13
Critical Bird & Mammal Sites	19
Game Species.....	20
Energy Development.....	23

Tables

Table 1: 2008 Fishing, Hunting, & Wildlife Viewing Expenditures in Deschutes County.....	7
Table 2: Threatened, endangered and species of concern dependent on floodplain areas in Deschutes County.	10
Table 3: Threatened, endangered and species of concern dependent on sagebrush steppe habitat in Deschutes County.....	14
Table 4: Big game population estimates, Deschutes County 2009.....	21

Figures

Figure 1: Winter deer population in Paulina Unit.....	22
Figure 2: Winter deer population in Upper Deschutes Unit	22

Appendices

Appendix A1: Bald eagle nest sites occupied and protected by Deschutes County.....	25
Appendix A2: Bald Eagle nest sites currently protected by Deschutes County and no longer in use.....	26
Appendix A3: Bald Eagle nest sites that are occupied and not protected by Deschutes County.	27
Appendix B1: Golden Eagle nest sites that are occupied and protected by Deschutes County.....	28
Appendix B2: Golden Eagle nest sites not protected by Deschutes County and currently in use.....	29

Appendix C1: Sage Grouse lek sites that are in use and currently protected by Deschutes County. 30

Appendix C2: Sage Grouse lek sites currently protected by Deschutes County and no longer in use. 31

Appendix C3 Sage Grouse lek sites not currently protected by Deschutes County and currently in use. 31

Appendix C4: Name change for Sage Grouse lek site currently protected by Deschutes County. 31

Appendix D: Prairie Falcon nest sites currently occupied and protected by Deschutes County. 32

Appendix E1: Heron Rookery site currently in use and protected by Deschutes County. 32

Appendix E2: Heron Rookery site currently protected by Deschutes County and no longer in use. 32

Appendix F: Great Grey Owl nest site currently in use and protected by Deschutes County. 32

Appendix G: Bat sites currently in use and protected by Deschutes County. 32

Appendix H: Use period, abundance and special status of select mammals, birds, amphibians and reptiles in Deschutes County 2009 33

LIST OF PREPARERS

Glen Ardt - ODFW Wildlife Habitat Biologist 61374 Parrell Road Bend, Oregon 97702 541-388-6444 ex 230	Chris Carey – ODFW Wildlife Diversity Biologist 61374 Parrell Road Bend, Oregon 97702 541-388-6350 ex 228
Rick Demmer Bureau of Land Management Prineville District 3050 NE Third Street Prineville, OR 97754 541-416-6738	Steven George – ODFW Wildlife Biologist 61374 Parrell Road Bend, Oregon 97702 541-388-6363
Jan Hanf Bureau of Land Management Prineville District 3050 NE Third Street Prineville, OR 97754 541-416-6721	Jennifer O’Reilly Fish and Wildlife Biologist US Fish and Wildlife Service -Bend Field Office 20310 Empire Avenue Suite A-100 Bend, OR 97701 541-312-6426
Lauri Turner Deschutes National Forest Forest Wildlife Biologist 1001 SW Emkay Drive Bend, Oregon 97702 541-383-5640	

Economic Value of Fish and Wildlife Recreation in Deschutes County

The Interagency Working Group recommends that Deschutes County consider the economic impact or benefit to wildlife resources when making a decision that could affect wildlife populations or their habitats to limit conflicting use.

Oregon Department of Fish and Wildlife and Travel Oregon contracted with Dean Runyan and Associates in 2008 to conduct an economic analysis by county of Fishing, Hunting, Wildlife Viewing, and Shellfishing Recreation in Oregon: 2008 Trip Characteristics and Expenditure Estimates. The survey identified two distinct type of expenditures related to fishing, hunting, shellfish and wildlife viewing trips. Travel related expenditures were for trips of more than 50-miles one way or included an overnight stay. Local recreation trips were less than 50-miles one way.

Preliminary results for the 36 county economic analyses revealed that travel generated expenditures for fishing, hunting, and wildlife viewing trips to Deschutes County generated nearly \$70-million. Expenditures for fishing trips in Deschutes County were the third highest in the state at \$20,410,000, the second highest for hunting at \$6,663,000, and the third highest for wildlife viewing at \$42,771,000. Dean Runyan and Associates also found that out of the \$478,781,000 expenditures generated by people traveling to Deschutes County that 14.6% came from fishing, hunting, and wildlife viewing activities.

Preliminary results also revealed for locally generated expenditures, that fishing trips in Deschutes County generated the fourth highest in the state at \$5,321,000, the fifth highest for hunting (\$1,817,000), and the ninth highest for wildlife viewing at \$1,520,000.

Additive, residents and non-residents spent \$25,731,000 on fishing trips in Deschutes County, \$8,480,000 on hunting trips, and \$44,291,000 on wildlife watching for a grand total of \$78,502,000. Compared to Oregon's 36 counties, Deschutes County ranked third highest for fishing, hunting, and wildlife viewing revenues, behind Lincoln County's \$102,605,000 and Clatsop County's \$84,967,000, both of which provide saltwater, salmon and steelhead, and shellfishing opportunities. Freshwater fishing trips in Deschutes County generated the highest fresh water revenues at \$25,731,000, with Lane and Tillamook Counties generating the second and third highest revenues at \$22,703,000 and \$15,557,000 respectively. Shellfishing generated an additional \$36,295,000 in revenue resulting in over one billion dollars being spent on fishing, hunting, wildlife viewing, and shellfishing activities in Oregon in 2008.

Table 1: 2008 Fishing, Hunting, & Wildlife Viewing Expenditures in Deschutes County

Activity	Fishing	Hunting	Wildlife Viewing	Total FHW	Total Travel Generated
Travel Generated Revenue	20,410,000	6,663,000	42,771,000	69,844,000	478,781,000 (14.6% FHW)
36 County Ranking	3	2	3	3	
Locally Generated Revenue	5,321,000	1,817,000	1,520,000	8,658,000	
36 County Ranking	4	5	9	4	
Deschutes Total	**25,731,000	8,480,000	44,291,000	78,502,000	
Statewide Total	341,510,000	136,032,000	495,260,000	972,802,000	

** Deschutes County generated the highest freshwater fishing revenues in the state.

Oregon Conservation Strategy

The Interagency Working Group recommends that Deschutes County utilize the Oregon Conservation Strategy as a guide and reference for the maintenance and enhancement of Oregon's wildlife resource to limit conflicting use.

In 2006 the Oregon Conservation Strategy was adopted by Oregon's Fish and Wildlife Commission for the state of Oregon. The focus of the Conservation Strategy is to use the best available science to create a broad vision and conceptual framework for long-term conservation of Oregon's native fish and wildlife, as well as various invertebrates and native plants. As a guide to conserving the species and habitats that have defined the nature of Oregon, this strategy can help ensure that Oregon's natural treasures are passed on to future generations. The Conservation Strategy emphasizes proactively conserving declining species and habitats to reduce the possibility of future federal or state listings. It is not a regulatory document, but instead presents issues and opportunities, and recommends voluntary actions that will improve the efficiency and effectiveness of conservation in Oregon.

Healthy fish and wildlife populations require adequate habitat, which is provided in natural systems and, for many species, in landscapes managed for forestry, agriculture, range and urban uses. The goals of the Conservation Strategy are to maintain healthy fish and wildlife populations by maintaining and restoring functioning habitats, preventing declines of at-risk species, and reversing declines in these resources where possible.

The Conservation Strategy is a broad strategy for all of Oregon, offering potential roles and opportunities for residents, agencies and organizations. It incorporates information and insights from a broad range of natural resources assessments and conservation plans, supplemented by the professional expertise and practical experiences of a cross-section of Oregon's resource managers and conservation interests. It is designed to have a variety of applications both inside and outside of state government.

Most important, perhaps, it establishes the basis for a common understanding of the challenges facing Oregon's fish and wildlife, and provides a shared set of priorities for addressing the state's conservation needs. The heart of the Conservation Strategy is a blueprint for voluntary action to address the long-term needs of Oregon's fish and wildlife. The future for many species will depend on landowners' and land managers' willingness to voluntarily take action on their own to protect and improve fish and wildlife habitat.

The Oregon Conservation Strategy is available online at <http://www.dfw.state.or.us/conservationstrategy>

ODFW Fish and Wildlife Habitat Mitigation Policy

Oregon Department of Fish and Wildlife recommends that Deschutes County require impact avoidance for development actions that will impact Category 1 habitat and development of a wildlife mitigation plan for development actions that will impact habitat Categories 2-5 to limit conflicting use.

Oregon Department of Fish and Wildlife's (ODFW) Fish and Wildlife Habitat Mitigation Policy (OAR 635-415) (http://www.dfw.state.or.us/lands/mitigation_policy.asp) provides direction for ODFW staff to review and comment on projects that may impact fish and wildlife habitat. This policy recognizes six distinct categories of wildlife habitat ranging from Category 1 – essential, limited, and irreplaceable habitat, to Category 6 – low value habitat. The policy goal for Category 1 habitat is no loss of habitat quantity or quality through avoidance of impacts by using development alternatives, or by not authorizing the proposed development action if impacts cannot be avoided. The Department recommends avoidance of Category 1 habitats as they are irreplaceable, and thus mitigation is not a viable option.

Categories 2-4 are for essential or important, but not irreplaceable habitats. Category 5 habitat is not essential or important habitat, but has high restoration potential.

Threatened and Endangered Species and Species of Concern

The interagency working group recommends that Deschutes County develop and adopt measures that will protect federal and state listed threatened and endangered species to limit conflicting use.

The US Fish and Wildlife Service (USFWS) is responsible for administration of the Endangered Species Act and multiple Federal wildlife laws that protect endangered species and migratory birds, respectively. For more information on legal authorities of the USFWS in the protection of migratory birds, please visit <http://www.fws.gov/migratorybirds/intrnltr/treatlaw.html>.

It is Oregon’s policy “to prevent the serious depletion of any indigenous species” (ORS 496.012). Oregon Department of Fish and Wildlife maintains a list of native fish and wildlife species in Oregon that have been determined to be either “threatened” or “endangered” according to criteria set forth by rule (OAR 635-100-0105) (<http://www.dfw.state.or.us/OARs/100.pdf>). Recovering species when their populations are severely depleted can be difficult and expensive, and socially and economically divisive. To provide a positive proactive approach to species conservation, a “sensitive” species classification was created under Oregon’s Sensitive Species Rule (OAR 635-100-040) (http://www.dfw.state.or.us/wildlife/diversity/species/docs/SSL_by_taxon.pdf).

Appendix H lists species in Deschutes County that are listed by either the Federal or State wildlife agencies under the above mentioned laws or authorities along with a list of wildlife species that occur in Deschutes County.

Riparian and wetland areas for wildlife and fish

The Interagency Working Group recommends that Deschutes County complete a Local Wetland Inventory and adopt it into the Deschutes County Comprehensive Plan to limit conflicting use.

Riparian areas support a greater diversity of wildlife than upland areas, and are particularly important and limited habitats in the arid Western U.S. Over 60 percent of the neotropical¹ migratory songbirds in the western U.S. use riparian areas at some point during the year. Approximately 80 percent of all wildlife species depend on riparian areas. Aquatic and fish productivity are directly related to properly functioning and healthy riparian habitat.

Deschutes County has limited riparian and wetland habitats. In 1985, the US Fish and Wildlife Service conducted a National Wetland Inventory for most of Deschutes County. However, due to the large spatial scale of the mapping effort (1:58,000) wetlands smaller than five acres in size were not identified as significant only because they were not mapped, not because they are insignificant. Most wetlands smaller than five acres in size provide significant habitat necessary for a suite of wildlife species as depicted in the introductory paragraph above. A Local Wetland Inventory would greatly improve the County’s ability to conserve wetland resources, which are vital to maintaining healthy fish and wildlife populations in the Upper Deschutes basin. Therefore, the Working Group strongly recommends that the County pursue the completion of a Local Wetland Inventory and its adoption into the Comprehensive Plan Update.

Sensitive fish and wildlife species dependent on riparian and wetland areas in the County include but are not limited to those in Table 2.

¹ Birds that reproduce and summer in North America and winter in South America.

Table 2: Threatened, endangered and species of concern dependent on floodplain areas in Deschutes County.

Species	State Oregon Dept of Fish and Wildlife	Federal US Fish and Wildlife Service	Deschutes County
Bull Trout	SC - OCS	Threatened	
Redband Trout	SV - OCS		
Summer Steelhead	SC - OCS	Threatened**	
Chinook Salmon	SV		
Columbia Spotted Frog	SC	Candidate	
Oregon Spotted Frog	SC - OCS	Candidate	
Western Toad	SV - OCS		
Cascade Frog	SV - OCS	SOC	
Coastal tailed frog		SOC	
Oregon slender salamander		SOC	
Great Blue Heron			Goal 5
Yellow-billed Cuckoo	SC	Candidate	
Lewis' Woodpecker	SC - OCS	SOC	
White-headed Woodpecker	SC	SOC	
American Bald Eagle	Threatened	EPA	Goal 5
Northern Goshawk	SV -OCS	SOC	Goal 5
Osprey			Goal 5
American Peregrine Falcon	SV	Delisted	Goal 5
Greater Sandhill Crane	SV - OCS		
Flammulated Owl	SV - OCS		
Great Gray Owl	SV- OCS		
Three-toed Woodpecker	SV - OCS		
Black-backed Woodpecker	SV - OCS		
Pileated Woodpecker	SV		
Olive-sided Flycatcher	SV - OCS	SOC	
Willow Flycatcher	SV	SOC	
Bufflehead	OCS		
Barrows Goldeneye	OCS		
Yellow-breasted chat		SOC	
Townsend's Big-Eared	SC - OCS		

Bat			
California Myotis	SV -OCS		
Long-legged Myotis	SV - OCS		
Hoary Bat	SV - OCS		
Silver-haired Bat	SV - OCS		
Pallid Bat	SV - OCS		
Mule Deer			Goal 5
Elk			Goal 5

** - National Marine Fisheries Service has regulatory authority for steelhead.

C – USFWS Candidate is warranted to be listed as Threatened or Endangered

SC – State Sensitive Critical

SV – State Sensitive Vulnerable

OCS – Oregon Conservation Strategy Species

SOC – USFWS Species of Concern

State Sensitive Species List -

http://www.dfw.state.or.us/wildlife/diversity/species/sensitive_species.asp

EPA – Bald and Golden Eagle Protection Act

Oregon Conservation Strategy Species List -

http://www.dfw.state.or.us/conservationstrategy/strategy_species.asp

Oregon Spotted Frog in the Upper Deschutes Basin

Oregon Spotted Frog Conservation Recommendations to Limit Conflicting Use

The Interagency Working Group recommends that Deschutes County add an Oregon spotted frog habitat area to the wildlife area combining zone map to include the floodplains along the Deschutes and Little Deschutes Rivers south of Bend (approximately from River Mile (RM) 173 to headwaters of the Deschutes River and from the confluence with the Deschutes River to the Klamath County line (~RM42.9) for the Little Deschutes River).

- *Oregon spotted frog habitat is essential and limited, and depending on the site, it could be irreplaceable. The mitigation goal for essential, limited, and irreplaceable habitat is no net loss of either habitat quantity or quality through avoidance (Oregon Department of Fish & Wildlife (ODFW) Habitat Category 1). The mitigation goal for essential and limited habitat if impacts are unavoidable is no net loss of either habitat quantity or quality and to provide a net benefit of habitat quantity or quality (ODFW Habitat Category 2).*
- *The Working group recommends a No Net Loss of wetlands within the Oregon spotted frog habitat area. Therefore, wetland fill permits should be sent to the ODFW and FWS for review and comment to the county on their findings.*

- *The working group recommends that Deschutes County complete a Local Wetland Inventory to properly protect wetland and inherent functions and values.*
- *Hydrologic connectivity should be maintained when wetlands will be filled. For example, culverts should be installed below roads, driveways, or other obstructions that may block hydrologic connectivity that allows for proper wetland function and dispersal of Oregon spotted frogs.*
- *Limit structures within floodplains. that could impact floodplain functions*
- *Maintain highest water quality standard in wetlands and rivers.*

The Oregon spotted frog (*Rana pretiosa*) is endemic to the Pacific Northwest and historically ranged from southwestern British Columbia to northeast California. There are less than 50 known sites inhabited by the species in southwestern British Columbia, western and south-central Washington, and western, central, and south-central Oregon; no populations are known to persist in California. Revisits of historic localities suggest the species is lost from 70-90% of its historic range (Cushman and Pearl 2007).

In Oregon, Oregon spotted frogs historically were found in Multnomah, Clackamas, Marion, Linn, Benton, Jackson, Lane, Wasco, Deschutes and Klamath counties. Currently, this species is only known to occur in Deschutes, Klamath, and Lane counties. In Deschutes County, Oregon spotted frogs occur within water bodies on the Deschutes National Forest, Prineville District Bureau of Land Management and private land.

The Oregon spotted frog is considered a Candidate species by the US Fish and Wildlife Service (FWS), which means that there is sufficient information to support a proposal to list this species as endangered or threatened under the Endangered Species Act. The FWS is currently completing a status assessment for the Oregon spotted frog.

The Upper Deschutes and Little Deschutes Rivers and associated wetlands are key habitat for the frog. In particular, riverine oxbows that contain permanent standing water but are no longer connected to the river provide essential overwintering and breeding habitat for Oregon spotted frog. The rivers and associated floodplains are connectivity corridors that must be maintained to allow populations of frogs to interbreed. Small ponds and isolated wetlands with emergent or floating aquatic vegetation and perennial water also provide habitat for the frog, particularly those that are devoid of predatory fish and bull frogs.

In the Upper Deschutes and Little Deschutes Rivers, Oregon spotted frog is threatened by the loss of marsh habitat due to vegetation succession and lodgepole pine encroachment into wetlands; alteration of riverine and wetland hydrologic regimes; interactions with non-native fish and bull frogs; and degraded water quality. Livestock grazing in high density may also pose a threat to Oregon spotted frog.

Development of Deschutes County “red lots” within the floodplain of the Upper Deschutes and Little Deschutes Rivers may pose a threat to Oregon spotted frog in the

future and could be considered conflicting uses relative to conservation of the Oregon spotted frog. Filling of wetlands will directly affect the habitat on which the frog is dependent. Additionally, the recent findings of the US Geological Survey suggest that development of lots with a high water table will increase nutrient loading (i.e., nitrate) in the rivers. Excess nitrate loading in the river, combined with a naturally occurring high level of phosphorous in the substrate, will greatly exacerbate eutrophication of the rivers and lead to excess algal growth and vegetative growth. Spotted frogs are dependent not only on the wetland habitat but the high quality of water within these wetlands.

References:

Cushman, K.A. and C.A. Pearl. 2007. A Conservation Assessment for the Oregon Spotted Frog (*Rana pretiosa*). USDA Forest Service Region 6 and USDI Bureau of Land Management, Oregon and Washington.

Shrub-Steppe Habitat

The Interagency Working Group recommends that Deschutes County consider impacts to wildlife populations and their habitat when a decision will result in degradation of shrub-steppe habitat to limit conflicting use.

Nationally, grassland and shrubland birds show the most consistent population declines over the last 30 years of any group of bird species. Across the U.S., the population of 63% of shrubland and shrub-dependent bird species and 70% of grassland species are declining. In the Intermountain West, more than 50% of grassland and shrubland species show downward trends (Paige 1999).

The sagebrush ecosystem has been reduced in area by greater than 40% since pre-European settlement, and less than 10% remains in a condition unaltered by human disturbance. Populations of many of the sagebrush-associated species are declining, and approximately 20% of the ecosystem's native plants and animals are considered imperiled (Wisdom 2005).

Invasion of exotic vegetation, altered fire regimes, road development and use, mining, energy development, climate change, encroachment of pinyon-juniper woodlands, intensive grazing by livestock, and conversion to agriculture, to urban use, and to non-native livestock forage all have contributed to the ecosystem's demise (Wisdom 2005).

Shrub-steppe habitat provides needed resources for over 100 bird species and 70 mammals included 12 Oregon state listed sensitive species, and one threatened species (Table 3). Large blocks of unfragmented functioning habitat with low human disturbance are needed to support shrub-steppe wildlife. If avoidance of these areas is not possible, providing for "no net loss" and a "net benefit" (restoration) of shrub-steppe habitat should be a vital component of any conservation plan.

References

Paige, C., and S.A. Ritter. 1999. Birds in a sagebrush sea: managing sagebrush habitats for bird communities. Partners in Flight Western Working Group, Boise, ID.

Wisdom, M.J., M.M. Rowland, and L.H. Suring, editors. 2005. Habitat threats in the sagebrush ecosystem: methods of regional assessment and applications in the Great Basin. Alliance Communications Group, Lawrence, Kansas, USA.

Table 3: Threatened, endangered and species of concern dependent on sagebrush steppe habitat in Deschutes County

Species	State Oregon Dept of Fish and Wildlife	Federal US Fish and Wildlife Service	Deschutes County
Greater Sage-Grouse	SV - OCS	SOC	Goal 5
American Bald Eagle	Threatened	EPA	Goal 5
Golden Eagle		EPA	Goal 5
Swainson’s Hawk	SV - OCS		
Ferruginous Hawk	OCS	SOC	
Prairie Falcon			Goal 5
American Peregrine Falcon	SV - OCS	DeListed	Goal 5
Burrowing Owl	SV	SOC	
Loggerhead Shrike	OCS		
Townsend’s Big-eared Bat	SC - OCS	SOC	
California Myotis	SV - OCS		
Long-legged Myotis	SV - OCS	SOC	
Hoary Bat	SV - OCS		
Silver-haired Bat	SV	SOC	
Spotted Bat	SV - OCS	SOC	
Pallid Bat	SV OCS		
Pygmy Rabbit	SV - OCS	SOC	
Mule Deer			Goal 5
Elk			Goal 5
Pronghorn			Goal 5

SC – State Sensitive Critical

SV – State Sensitive Vulnerable

OCS – Oregon Conservation Strategy Specie

SOC – USFWS Species of Concern

EPA – Federal Eagle Protection Act

State Sensitive Species List -

http://www.dfw.state.or.us/wildlife/diversity/species/sensitive_species.asp

Greater Sage Grouse in Deschutes County

Greater Sage-Grouse Conservation Recommendations to Limit Conflicting Use:

Establish a 3-mile radius (habitat protection area) around occupied leks. All habitat within the 3-mile radius is essential for greater sage-grouse, limited, and irreplaceable (ODFW Habitat Category 1). The mitigation goal for essential, limited, and irreplaceable habitat is no net loss of either habitat quantity or quality through avoidance.

Any sagebrush habitat identified as brood rearing or winter habitat for greater sage-grouse is essential and limited (ODFW Habitat Category 2). Where possible avoid development within 0.5 mile of these areas. The mitigation goal for essential and limited habitat if impacts are unavoidable is no net loss of either habitat quantity or quality and to provide a net benefit of habitat quantity or quality.

Transmission lines should be placed in existing right-of-ways to aggregate this disturbance; if not possible then transmission lines should be sited at least 2-miles from leks, and where possible 0.5 mile from brood rearing habitat and wintering areas.

Unimproved roads should be 0.5 mile from leks. Paved (or improved gravel) larger volume roads should be at least 1-mile from leks.

Ground level structures (i.e., residences, roads, buried power lines, natural gas lines) should not be sited within 0.5 mile of the nearest lek site.

Timing restrictions: construction and maintenance activity associated with any development or industrial and commercial activities (i.e., mineral extraction, shooting sports, paintball course, landfills, OHV systems) should be avoided from 15 February to 31 July time frame in sage-grouse habitat. If avoidance is not possible then activity should be restricted from 2 hrs prior to and 2 hrs after sunrise during this timeframe.

In August 2005, the Oregon Fish and Wildlife Commission adopted into rule the “Greater Sage-Grouse Conservation Assessment and Strategy for Oregon: A Plan to Maintain and Enhance Populations and Habitat.” Plan development was led by the Oregon Department

of Fish and Wildlife (ODFW), but was collaboratively agreed upon and written by the Oregon Sage-Grouse and Sagebrush Habitat Conservation Team (Sage-Grouse Team). Specifically, the Commission adopted the population and habitat goals into rule (OAR 635-140-0005 & -0010), and directed staff to implement these policies as described in the Plan. The statewide population objective is to maintain or enhance sage-grouse numbers and distribution at the 2003 spring breeding population level, approximately 40,000 birds (Hagen 2005:32).” The statewide habitat goal is to maintain 70% of the sagebrush steppe as sagebrush dominated (> 10% sagebrush cover) landscapes and allow for 30% of the landscape to occur in various stages of disturbance and transition. To achieve this goal, conservation guidelines were established to “...maintain (at a minimum) or enhance (optimum) the quality of current habitats (Hagen 2005: 70).”

Further, the population management objective for sage-grouse in this region (Prineville District), which includes portions of Deschutes and Crook Counties, is to restore sage-grouse numbers and distribution near the 1980 spring breeding population level, approximately 3,000 birds (Hagen 2005: 37). ODFW’s state estimate was at a low point in 2008, with figures showing populations levels at less than half the population estimate for 2005, (Hagen 2009 news release). In 2008, Prineville District alone showed a 38% decrease from the 2007 estimate (Hagen 2008 personal communication).

Sagebrush conversion to agricultural lands, wetland degradation, invasive plants, mining, transmission lines, grazing practices that affect necessary cover or forage, recreational disturbance - motorized and non-motorized, and residential and wind energy developments all can impact local sage-grouse populations and could be considered conflicting uses relative to conservation of greater sage-grouse.

Sage-grouse populations have declined since the 1960s across their range. The declines have been substantial enough to initiate 9 petitions to protect the sage-grouse under the Federal Endangered Species Act. The Sage-Grouse Plan was developed to maintain sustainable populations in Oregon, so that listing under the Endangered Species Act would not be warranted. To this end, the Plan established a “no net loss” objective for sage-grouse habitat conservation. This objective also provides benefits for a suite of other sagebrush obligate species (Hagen 2005, Rowland et al. 2005).

Breeding habitat (lekking, nesting habitat, and early brood-rearing) is critical to the life-history of sage-grouse (Johnson and Braun 1999, Walker 2008). Like many upland birds, sage-grouse rear only 1 brood of young in a breeding season. Thus, any hindrance to breeding activities (i.e., habitat loss or other disturbance) may be deleterious to production and ultimately recruitment into the population (Lyon and Anderson 2003, Holloran 2005, Walker et al. 2007).

Leks are used for breeding and the surrounding sagebrush habitat is used for nesting. Oregon research shows that nearly all nests occur within 5 miles of a lek, while 80 percent of nests occur within 3 miles of a lek. However, regional radio-telemetry data in Deschutes and Crook counties showed that 80 percent of hens nest within 4 miles of a lek. This distance becomes paramount when considering the sage-grouse population in

Deschutes County, which is on the fringe of the species range, and therefore is more susceptible to cumulative effects of habitat alteration and disturbance. Population models suggest that such a loss (20%) can be sustained by a large “healthy” population, but the carrying capacity will be diminished resulting in a smaller but viable population in the future (Walker et al. 2007).

A model, indicating where sage-grouse populations are more likely to persist in landscapes throughout the full range of the species, shows Deschutes county to be on the fringe of the species range and at risk of extirpation (Aldridge et al. 2008) These authors suggest that conservation efforts focused on maintaining large expanses of sagebrush habitat, enhancing the quality of existing habitat, and increasing connections between suitable habitat patches would be most beneficial to maintaining healthy sage-grouse populations. These conservation measures are key in Deschutes county due to the present low sage-grouse population levels, the species low reproductive rate, and the species limited ability to adapt to habitat changes (i.e. habitat loss, degradation, and fragmentation).

Breeding and nesting habitats are essential, limited, and irreplaceable. Based on Oregon’s research and elsewhere in the West, the biological dynamic that occurs between female nest site selection and movement patterns that drive males to establish a lek in these areas of female use has yet to be successfully recreated. Given the uncertainty and risk involved in trying to mitigate for the loss of these habitats (i.e., replace/restore), protection of breeding and nesting habitat is paramount.

Generally brood-rearing habitat is comprised of a mosaic of upland vegetation intermixed with wetland sites (e.g., playas, seeps, springs, wet meadows, riparian areas) where broods seek succulent vegetation and invertebrates. These areas can be greater than 10 miles from lek sites. Wetland sites in shrub-steppe habitats are an essential and limited habitat and “no net loss” and “net benefit” (restoration) are paramount if protection is not possible.

Winter habitat is comprised of low elevation flats in stands of Wyoming big sagebrush, basin big sagebrush, or stands of low sagebrush along windswept ridges or drainages. Winter habitat has not been adequately inventoried in Oregon, thus its distribution and abundance is unknown. However, in Deschutes County, some wintering areas are known and have been delineated. (Hanf, et al. 1994). These habitats have included extensive stands of mountain big sagebrush and low and early-flowering sagebrush. Depending on winter snow accumulations, some wintering areas become especially important, as heavy snowfall forces birds out of low sage areas into big sage areas where sagebrush is still accessible. Because of sage-grouse dependence on sagebrush for winter forage, losses to these areas can have severe impacts on winter survival and subsequent breeding population size (Swenson et al. 1987, Connelly et al. 2004).

Because of the essential and limited nature of winter habitat “no net loss” and “net benefit” (restoration) are paramount if avoidance is not possible.

References

- Aldrige, C.L., S.E.Nielsen, H. L. Beyer, M. S. Boyce, J. W. Connelly, S. T. Knick, M.A. Schroeder. 2008 Range-wide patterns of greater sage-grouse persistence. *Diversity and Distributions* 14, 983-994.
- Connelly, J. W., S.T. Knick, M. A. Schroeder, and S. J. Stiver. 2004. Conservation assessment of greater sage-grouse and sagebrush habitats. Unpublished report, Western Association of Fish and Wildlife Agencies, Denver, CO.
- Hagen, C.A. 2005. Greater sage-grouse conservation assessment and strategy for Oregon: a plan to maintain and enhance populations and habitat. Oregon Department of Fish and Wildlife. Salem, Oregon.
- Hagen, C.A. 2009. Sage grouse numbers dip, but biologists are hoping for a rebound. Bend Bulletin May 21, 2009 News Release.
- Hagen, C.A. 2008. Personal communication.
- Hanf, J.M., P.A. Schmidt, and E.B. Groshens. 1994. Sage grouse in the high desert of central Oregon: results of a study, 1988-1993. United States Department of Interior, Bureau of Land Management, Series P-SG-01, Prineville, OR.
- Holloran, M. J. 2005. Greater sage-grouse (*Centrocercus urophasianus*) population response to natural gas field development in western Wyoming. Dissertation, University of Wyoming, Laramie, Wyoming.
- Johnson, K. H., and C. E. Braun. 1998. Viability and conservation of an exploited sage grouse population. *Conservation Biology* 13: 77-84.
- Lyon, L. A., and S. H. Anderson. 2003. Potential gas development impacts on sage grouse nest initiation and movement. *Wildlife Society Bulletin* 31: 486-491.
- Rowland, M. M., M. J. Wisdom, C. W. Meinke, and L. H. Suring. 2005. Utility of greater sage-grouse as an umbrella species. (pages 232-249). *In* *Habitat Threats in the Sagebrush Ecosystem: Methods of Regional Assessment and Applications in the Great Basin* (Wisdom et al. eds). Alliance Communications Group, Lawrence, Kansas.
- Swenson et al. 1987. Decrease of Sage Grouse *Centrocercus urophasianus* after ploughing of sagebrush steppe. *Biological Conservation*. 41:125-132.
- Walker, B. L. 2008. Greater sage-grouse response to coal-bed methane natural gas development and West Nile virus in the Powder River Basin, Montana and Wyoming USA. Dissertation, University of Montana, Missoula, MT.

Walker, B. L., D. E. Naugle, and K. E. Doherty. 2007. Greater sage-grouse population response to energy development and habitat loss. *Journal of Wildlife Management* 71: 2644-2654.

Critical Bird & Mammal Sites

Oregon Department of Fish and Wildlife is not requesting additional or modification of existing protection criteria for site specific sensitive bird and mammal sites other than for sage grouse. Sage grouse protection criteria additions and modification are listed under Greater Sage-Grouse Conservation Recommendations to Limit Conflicting Use.

The sites adopted in the last periodic review have been examined and we recommend that the county consider updating their inventory to include new sites and remove old sites that are no longer used. Attached is a list of current and recommended critical bird and mammal site locations and protection measures (See Appendices A-G).

Site-specific protection recommendations

- *Continue to protect 30 bald eagle nest sites in Deschutes County (Appendix A1)*
- *Remove protection for 34 bald eagle nest sites that are no longer occupied (Appendix A2)*
- *Add protection for 22 eagle nest sites that are not currently protected under Deschutes County ordinance (Appendix A3).*
- *Maintain protection for 32 golden eagle nest sites are currently protected under Deschutes County ordinance (Appendix B1).*
- *Add one golden eagle nest site to the Deschutes County inventory for protection (Appendix B2).*
- *Continue to protect 32 sage grouse lek sites that are currently protected under Deschutes County ordinance (Appendix C1).*
- *Remove protection for 4 sage grouse lek sites that are currently protected under Deschutes County ordinance but are no longer in use (Appendix C2).*
- *Add 5 sage grouse lek sites to the Deschutes County inventory for protection (Appendix C3).*
- *Change the name of the sage grouse lek site, currently protected by Deschutes County, from Squaw Lake to Shaver Flat (Appendix C4).*
- *Continue to protect 8 prairie falcon sites under Deschutes County ordinance (Appendix D).*

- *Maintain protection for one heron site that is still in use (Appendix E1).*
- *Remove protection for heron site that is no longer in use (Appendix E2).*
- *Maintain protection for Great gray owl nest site (Appendix F).*
- *Maintain protection for two known bat sites in Deschutes County (Appendix G).*

Oregon Department of Fish and Wildlife identified a list of bird and mammal species that occur on private land in Deschutes county that are especially sensitive to human activity: bald and golden eagles, sage grouse, prairie falcon, great blue heron, great gray owl and Townsend’s big-eared bat.

The purpose of providing special protection for sensitive birds and mammals is to assure that their habitat areas are protected from the effects of conflicting uses or activities. Protection of bird sites can be achieved through the development of site specific management plans. Management plans assure that the proposed use and activities will not destroy or result in abandonment of the sensitive species from a nest site. The county previously adopted protection criteria for site specific sensitive bird and mammal sites.

Residential development, mining, and activities with high human disturbance and other actions that result in habitat loss and/or degradation are threats to these critical bird and mammal sites that could be considered conflicting uses relative to conservation of critical bird and mammal sites.

Game Species

Game Species Conservation Recommendations to Limit Conflicting Use:

Many new land uses have occurred that were not envisioned during the last periodic review. Oregon Department of Fish and Wildlife recommends that Deschutes County add the following uses with high human use and disturbance to the do not permit list:

1. *Guest ranch;*
2. *Outdoor commercial events (i.e. “Wedding Venues, Farmers Market”)*
3. *OHV course*
4. *Paintball course*
5. *Shooting range*
6. *Model airplane park*
7. *BMX course*

Oregon Department of Fish and Wildlife is not asking the county to change any of the existing big game wintering range and migration corridor maps currently in use by the county.

Existing county ordinances do not permit the following uses in a WA Zone designated as deer winter range, significant elk habitat, or antelope range.

1. Golf course;
2. Commercial dog kennel;
3. Church;
4. Public or private school;
5. Bed and breakfast inn;
6. Dude ranch;
7. Playground, recreation facility or community center owned and operated by a government agency or a nonprofit community organization;
8. Timeshare unit;
9. Veterinary clinic;
10. Fishing lodge;
11. Destination Resort

The above listed uses generate a high level of public activity, noise, and habitat alteration, which in turn can impact large geographic spaces and alter many acres of valuable wildlife habitat. Game species avoid areas with these uses, which results in reduced overall habitat effectiveness of these critical habitats.

Mule Deer, elk, antelope, cougar, black bear, and silver grey squirrel are species considered to be sensitive to human disturbance in Deschutes County by the Oregon Department of Fish and Wildlife. Cougar populations are increasing. Elk, antelope, black bear, and silver grey squirrel populations are stable. Mule deer populations continue to decline.

Table 4: Big game population estimates, Deschutes County 2009

Species	Number
Mule Deer	9,337*
Elk	1,500
Pronghorn	1,000
Cougar	~150
Black Bear	~150
Silver Grey Squirrel	~800

* The management objective for the Paulina and Upper Deschutes Wildlife Management Units, primarily located in Deschutes County, is an April adult population of 18,700 mule deer

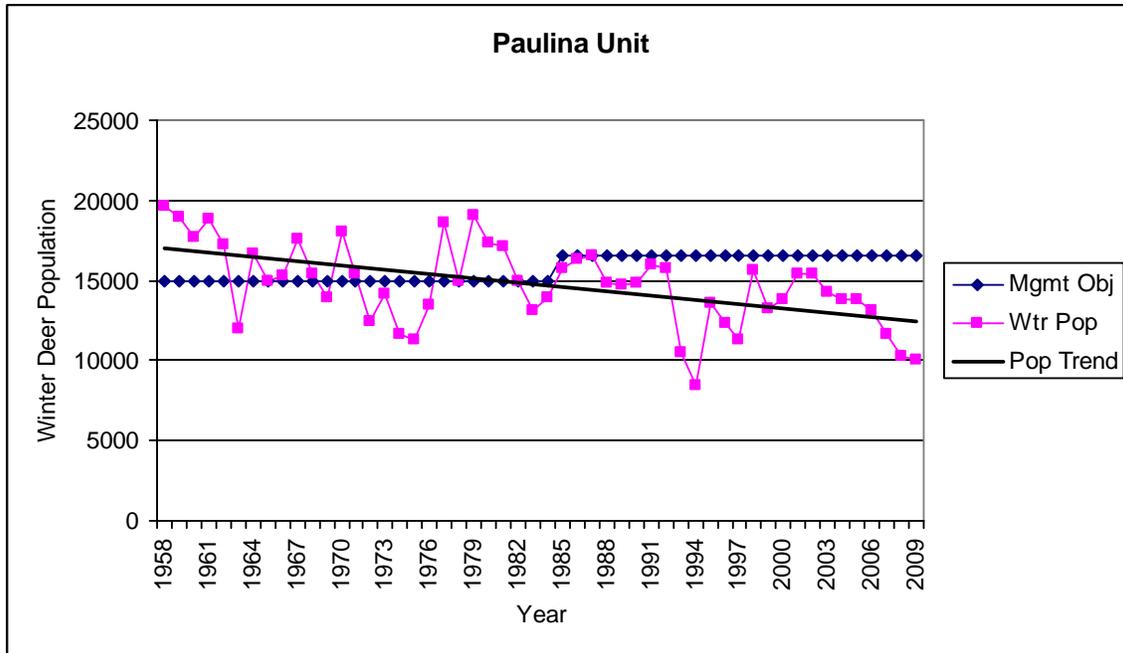


Figure 1: Winter deer population in Paulina Unit.

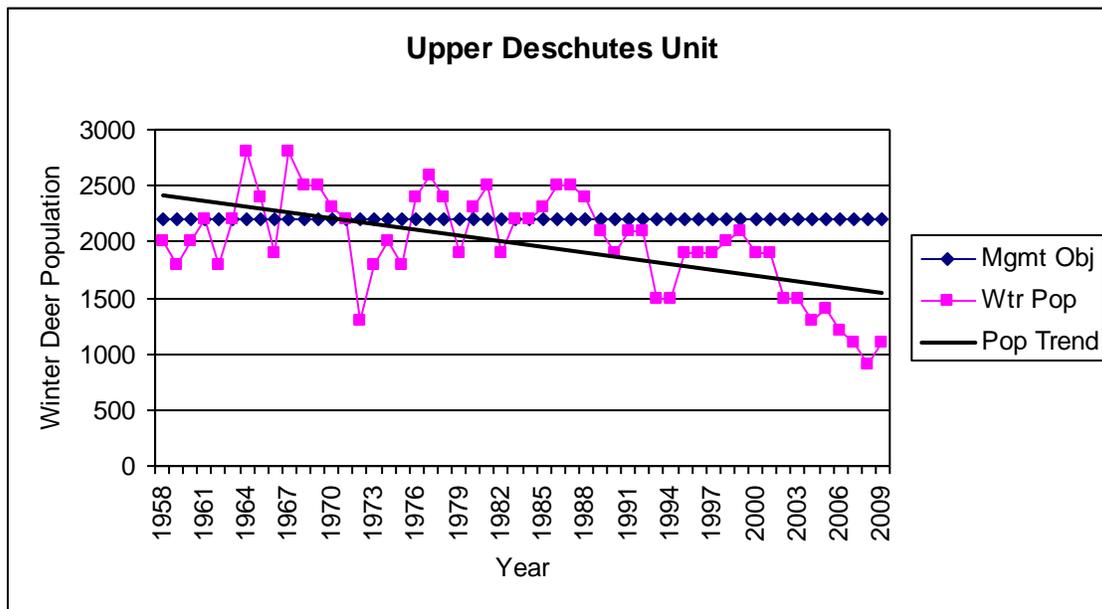


Figure 2: Winter deer population in Upper Deschutes Unit

Energy Development

Wildlife Conservation Recommendations to Limit Conflicting Use with Energy Developments:

The Interagency Working Group recommends that Deschutes County develop a wind energy ordinance that would include both pre and post construction wildlife surveys, monitoring, and mitigation requirements as outlined in the following documents. We also recommend the county require the developer to create a Technical Advisory Committee (TAC) that would provide wildlife oversight and recommendations to the county. Any TAC would minimally include an Oregon Department of Fish and Wildlife (ODFW) and a developer wildlife biologist. Resources of particular concern in Deschutes County are sage-grouse habitat, raptor nest sites, pygmy rabbit colonies, and big game winter range. Impacts to bats has also become an issue with wind energy development.

The Oregon Columbia Plateau siting guidelines recommend that a county wind project permitting process rely on ODFW's Fish and Wildlife Habitat Mitigation Policy (OAR 635-415-0000) for guidance on mitigation strategies. The interagency working group recommends the county require of a developer a map and classification of fish and wildlife habitat impacted by a wind development, and a plan outlining the proposed mitigation to any impacted habitat. Mitigation of impacted habitat is critical to the future of Deschutes County's wildlife.

The interagency working group recommends language be included in any ordinance that will provide information on impacts to the following wildlife species: 1) state or federally listed endangered, threatened, sensitive, and special status species, 2) bats and raptors, 3) species of local sport and economic importance such as big game, and any Goal 5 species.

Other Forms of Energy Production (e.g., geothermal, biomass, solar):

The interagency working group recommends that Deschutes County use the proceeding Wind Energy recommendations as a template when the county develops geothermal, solar, and biomass ordinances.

Wind Energy:

The Interagency Working Group supports wind energy as a renewable resource, and we support wind energy projects that are designed to conserve fish and wildlife populations and their habitat. To that end, the interagency working group recommends that Deschutes County consider several resources that are available to counties. The first is the “Oregon Columbia Plateau Ecoregion Wind Energy Siting and Permitting Guidelines”

(guidelines). This document was finalized in September 2008. Although the guidelines were targeted for wind projects in the Columbia Plateau Ecoregion, much of the information is applicable in other areas. The guidelines identify the kinds of surveys, monitoring and wildlife habitat mitigation that we and other agencies will be looking for from wind developers.
(http://oregon.gov/ENERGY/RENEW/Wind/docs/OR_wind_siting_guidelines.pdf).

The second resource the interagency working group recommends the county consider is the Oregon Department of Energy “*Model Ordinance for Energy Projects*”. This 2005 document has useful material for siting all types of energy projects.
(<http://oregon.gov/ENERGY/SITING/local.shtml>).

Appendix A1: Bald eagle nest sites occupied and protected by Deschutes County.

ODFW Site #	Location Town/Range/Sec/Quarter/TL	UTM's (NAD27)			General Location/Name	Land Owner
		Datum	Northing	Easting		
-	18S/08E/33/NE	10	598108	4869571	Hosmer Lake	Federal
-	20S/07E/35/SW	10	591800	4848990	Lemish Butte	Federal
-	20S/08E/16/SW	10	597983	4854608	Benchmark Butte - NE	Federal
-	20S/08E/33/SE	10	598952	4849706	Crane Pr Res NE	Federal
DE-0046-00	20S/10E/34/NWSE/03401	10	619554	4850162	Bates Butte	Non-Feder
-	21S/07E/01/NW	10	593554	4848658	Quinn River	Federal
-	21S/07E/01/SE	10	594165	4847608	Crane Pr Res W	Federal
-	21S/07E/01/SW	10	593100	4847710	Crane Pr Res W	Federal
-	21S/07E/01/SW	10	593907	4847852	Crane Pr Res W	Federal
-	21S/08E/04/NW	10	598296	4848291	Crane Pr Res E	Federal
-	21S/08E/04/W	10	597960	4848106	Crane Pr Res E-SW	Federal
-	21S/08E/04/W	10	598132	4848214	Crane Pr Res E-NW	Federal
-	21S/08E/05/SE	10	597792	4847934	Crane Pr Res E	Federal
-	21S/08E/07/SE	10	596119	4846116	Crane Pr Res S	Federal
-	21S/08E/08/SW	10	596830	4845816	Crane Pr Res SE	Federal
-	21S/08E/20/SE	10	597283	4843015	Browns Mountain	Federal
-	21S/08E/32/NE	10	597579	4840222	Browns Cr - E	Federal
-	21S/08E/34/SE	10	601283	4839680	Wickiup Res N	Federal
-	21S/08E/34/SW	10	600280	4840010	Wickiup Res N	Federal
-	21S/09E/13/SE	10	613976	4845233	Tetherow Mdw	Federal
-	21S/13E/19/S	10	643539	4844084	East Lake SE	Federal
-	22S/07E/26/S	10	592220	4831230	Davis Lake NW	Federal
-	22S/07E/26/SW	10	592227	4831231	Davis Lake NW	Federal
-	22S/07E/34/SW	10	590666	4829884	Davis Lake W-E	Federal
-	22S/08E/23/NW	10	601742	4834448	Wickiup Res S-N	Federal
-	22S/08E/25/NE	10	604111	4833069	Round Swamp - S	Federal
-	22S/09E/06/SE	10	605858	4838037	Wickiup Dam - E	Federal
-	22S/09E/20/NE	10	607220	4834070	Eaton Butte	Federal
-	22S/09E/20/NE	10	607295	4834050	Eaton Butte	Federal
-	22S/09E/20/SW	10	606469	4833721	Eaton Butte	Federal

Appendix A2: Bald Eagle nest sites currently protected by Deschutes County and no longer in use.

ODFW Site #	Location Town/Range/Sec/Quarter/TL	UTM's (NAD27)			General Location/Name	Land Owner
		Datum	Northing	Easting		
DE-0035-01	15S/10E/23/NENE/01400	10	620280	4901790	Cloverdale NE	Non-Federal
DE-0035-00	15S/10E/23/NWNE/01400	10	620000	4901700	Cloverdale NW	Non-Federal
-	18S/08E/32/NE				Elk Lake	Federal
-	19S/08E/27/SE				Lava Lake - E	Federal
-	19S/08E/27/SW				Lava Lake - W	Federal
-	20S/07E/35/S				Lemish Butte	Federal
-	20S/08E/08/SE				Benchmark Butte -W	Federal
-	20S/08E/33/NE				Crane Pr Res NE - NW	Federal
-	20S/08E/33/SE				Crane Pr Res NE-S	Federal
-	20S/08E/33/SE				Crane Pr Res NE-NE	Federal
-	21S/08E/08/SW				Crane Pr Res S	Federal
-	21S/08E/31/SE				Wickiup Res N	Federal
-	21S/08E/32/NE				Browns Cr - W	Federal
-	21S/08E/34/SE				Wickiup Res N	Federal
-	21S/08E/34/SE				Wickiup Res N	Federal
-	21S/08E/34/SE				Wickiup Res N	Federal
-	21S/09E/34/NE				Deschutesw R Ox	Federal
-	21S/13E/19/SE				East Lake E	Federal
-	21S/13E/19/SW				East Lake SW	Federal
-	22S/07E/34/SW				Davis Lake W-W	Federal
-	22S/08E/06/SE				Davis Cr - N	Federal
-	22S/08E/06/SE				Davis Cr	Federal
-	22S/08E/06/SE				Davis Cr - E	Federal
-	22S/08E/07/NE				Davis Cr - S	Federal
-	22S/08E/15/SE				Wickiup Res W-E	Federal
-	22S/08E/15/SW				Wickiup Res W-W	Federal
-	22S/08E/23/N				Wickiup Res S-S	Federal
-	22S/08E/23/NE				Wickiup Res S-E	Federal
-	22S/08E/23/NW				Wickiup Res S-W	Federal
-	22S/08E/24/S				Round Swamp - NE	Federal
-	22S/08E/24/SE				Round Swamp - NE	Federal
-	22S/08E/25/NE				Round Swamp - E	Federal
DE-0037-00	22S/09E/04/00500				Dilman Meadows	Federal
DE-0039-00	22S/09E/06/SESW/0500				Wickiup Dam	Federal

Appendix A3: Bald Eagle nest sites that are occupied and not protected by Deschutes County.

ODFW Site #	Location Town/Range/Sec/Quarter/TL	UTM's (NAD27)			General Location/Name	Land Owner
		Datum	Northing	Easting		
DE-0055-00	13S/13E/33/NWSW	10	644325	4917164	Crooked River	Non-Federal
DE-0055-01	13S/13E/33/NWSW	10	644434	4917456	Crooked River	Non-Federal
-	14S/10E/34/SE	10	618411	4907356	Camp Polk	Federal
DE-0035-02	15S/10E/23/SW	10	619270	4900750	Cloverdale	Federal
-	19S/08E/22/NW	10	599207	4863693	Lava L	Federal
-	20S/08E/16/NW	10	597914	4855364	Benchmark Butte	Federal
-	20S/08E/19/SE	10	595488	4852666	Cultus River	Federal
-	20S/08E/19/SE	10	595449	4852663	Cultus River	Federal
DE-0056-01	20S/11E/07/NWNE	10	624558	4857616	Harper Bridge	Non-Federal
-	21S/08E/04/NE	10	599280	4848938	Wuski Butte	Federal
-	21S/08E/04/NW	10	598015	4848393	Crane Pr Res E	Federal
-	21S/08E/07/SE	10	595963	4846315	Crane Pr Res SW	Federal
-	21S/08E/07/SW	10	595455	4845870	Crane Pr Res SW	Federal
-	21S/08E/17/SW	10	596783	4844633	Browns Peak	Federal
-	21S/08E/29/SE	10	597395	4841495	Browns Crossing	Federal
-	21S/09E/19/SW	10	604979	4842920	Pringle Falls Jct	Federal
-	21S/09E/34/NW	10	610220	4840711	Deschutes R Ox	Federal
-	21S/12E/25/NW	10	641568	4842817	Paulina Lk	Federal
-	22S/08E/07/NE	10	595845	4837161	Davis Cr	Federal
-	22S/08E/07/SE	10	595858	4836323	Davis Cr	Federal
-	22S/09E/05/SE	10	607483	4838049	Haner Park	Federal
-	22S/09E/07/SE	10	606001	4836688	Wickiup Butte	Federal

Appendix B1: Golden Eagle nest sites that are occupied and protected by Deschutes County.

ODFW Site #	Location Town/Range/Sec/Quarter/TL	UTM's (NAD27)			General Location/Name	Land Owner
		Datum	Northing	Easting		
DE-0015-01	14S/11E/03/NENW/0400	10	627156	4916522	Wychus Cr	Non-Federal
DE-0015-00	14S/11E/03/SESW/0400	10	627267	4915294	Rimrock Ranch	Non-Federal
DE-0012-01	14S/11E/26 SWNW	10	629711	4909656	Upper Deep Canyon	Non-Federal
DE-0009-00	14S/12E/23/NWSW/D00300	10	637991	4911031	N Odin Falls	Non-Federal
DE-0002-03	14S/13E/11/NWNE/0100	10	648447	4915134	Smith Rock St Park	Non-Federal
DE-0002-04	14S/13E/11/NWNE/0100	10	648723	4915118	Smith Rock St Park	Non-Federal
DE-0002-05	14S/13E/11/NWNE/0100	10	648728	4915160	Smith Rock St Park	Non-Federal
DE-0002-06	14S/13E/11/NWNE/0100	10	648919	4915159	Smith Rock St Park	Non-Federal
DE-0002-00	14S/13E/11/SESW/0100	10	648290	4914150	Smith Rock St Park	Non-Federal
DE-0002-01	14S/13E/11/SESW/0100	10	648270	4914301	Smith Rock St Park	Non-Federal
DE-0002-02	14S/13E/11/SESW/0100	10	648238	4914850	Smith Rock St Park	Non-Federal
DE-0034-00	15S/10E/15/SESW/01400	10	617590	4902865	Lazy Z/USFS	Non-Federal
DE-0034-01	15S/10E/15/SESW/01400	10	617904	4903075	Lazy Z/USFS	Non-Federal
DE-0012-00	15S/11E/03/NENE/0800	10	628023	4906651	Upper Deep Canyon	Non-Federal
DE-0003-00	15S/11E/07	10	624192	4902695	Freyrear Butte	Federal
DE-0003-01	15S/11E/16/SESW/02900	10	625649	4902342	Freyrear Butte	Federal
DE-0011-01	15S/12E/01/NESE/0100	10	640993	4906107	Radio Tower/Deschutes	Non-Federal
DE-0011-00	15S/12E/01/NWSE/0100	10	640858	4906085	Radio Tower/Deschutes	Non-Federal
DE-0006-05	15S/12E/35/NESE/01503	10	639433	4898053	Mid-Deschutes Riv	Non-Federal
DE-0006-00	15S/12E/35/SENE/01502	10	639580	4898411	Mid-Deschutes Riv	Non-Federal
DE-0006-01	15S/12E/35/SENE/01502	10	639680	4898477	Mid-Deschutes Riv	Non-Federal
DE-0006-02	15S/12E/35/SENE/01502	10	639606	4898473	Mid-Deschutes Riv	Non-Federal
DE-0006-04	15S/12E/35/SENE/01502	10	639519	4898406	Mid-Deschutes Riv	Non-Federal
DE-0014-00	16S/11E/29/NWSE/07800	10	625802	4890297	Tumalo Dam	Non-Federal
DE-0005-00	16S/12E/09				Mid-Deschutes Riv	Federal
DE-0005-01	16S/12E/09				Mid-Deschutes Riv	Federal
DE-0020-00	19S/14E/24				Horse Ridge/Dry River	Federal
DE-0018-00	20S/15E/19				Pine Mountain - West	Federal
DE-0019-00	20S/15E/25				Pine Mountain - East	Federal
DE-0029-00	20S/17E/36/NWSE/03801	10	690387	4851025	Twin Pines	Non-Federal
DE-0017-00	21S/16E/12				Pine Ridge	Federal
DE-0001-00	21S/19E/04				Imperial Valley	Federal

Appendix B2: Golden Eagle nest sites not protected by Deschutes County and currently in use.

ODFW	Location	UTM's (NAD27)				Land
Site #	Town/Range/Sec/Quarter/TL	Datum	Northing	Easting	General Location/Name	Owner
DE-0009-01	14S/12E/14/S	10	638709	4912157	N Odin Falls	Non-Federal

Appendix C1: Sage Grouse lek sites that are in use and currently protected by Deschutes County.

ODFW	Location	UTM's (NAD27)				Land
Site #	Town/Range/Sec/Quarter/TL	Datum	Northing	Easting	General Location/Name	Owner
DE0999-01	T19S/R14E/26	10	659867	4861510	MILLICAN BORROW PIT #1	Federal
DE0997-01	T20S/R16E/25	10	680609	4852538	MOFFIT RANCH #1	Non-Federal
DE0050-02	T20S/R17E/5	10	683188	4859265	AUDUBON #2	Federal
DE0050-01	T20S/R17E/6	10	682744	4858915	AUDUBON #1	Federal
DE0051-01	T20S/R18E/5	10	693837	4858816	CIRCLE F RESERVOIR #1	Non-Federal
DE0051-02	T20S/R18E/5	10	693278	4859064	CIRCLE F RESERVOIR #2	Non-Federal
DE0051-03	T20S/R18E/5	10	693690	4859114	CIRCLE F RESERVOIR #3	Non-Federal
DE0053-01	T20S/R19E/13	10	709289	4856180	TODD WELL #1	Federal
DE0053-04	T20S/R19E/13	10	710670	4856193	TODD WELL #4	Federal
DE0053-05	T20S/R19E/13	10	710587	4856642	TODD WELL #5	Federal
DE0053-06	T20S/R19E/14	10	708920	4857539	TODD WELL #6	Non-Federal
DE0053-07	T20S/R19E/15	10	707337	4857304	TODD WELL #7	Non-Federal
DE0053-02	T20S/R19E/24	10	709756	4855699	TODD WELL #2	Federal
DE0053-03	T20S/R19E/24	10	710628	4855359	TODD WELL #3	Federal
DE0052-01	T20S/R19E/6	10	702068	4859581	MERRILL ROAD #1	Non-Federal
DE0052-02	T20S/R19E/6	10	702354	4859516	MERRILL ROAD #2	Non-Federal
DE0052-03	T20S/R19E/7	10	702375	4858957	MERRILL ROAD #3	Federal
DE0879-01	T21S/R15E/12	10	671706	4847943	KOTZMAN BASIN	Federal
DE0879-02	T21S/R15E/2	10	670524	4849771	PRONGHORN	Federal
DE0992-02	T21S/R16E/13	10	681348	4846455	POWERLINE	Federal
DE0992-01	T21S/R16E/23	10	680809	4845470	THE GAP	Federal
DE0994-01	T21S/R17E/20	10	685352	4845889	WHISKEY SPRINGS #1	Federal
DE0886-02	T21S/R18E/16	10	696622	4846599	SOUTH WELL #2	Federal
DE0886-03	T21S/R18E/16	10	696002	4847560	SOUTH WELL #3	Federal
DE0886-01	T21S/R18E/22	10	697782	4846342	SOUTH WELL #1	Federal
DE0886-04	T21S/R18E/22	10	698011	4845728	SOUTH WELL #4	Federal
DE0996-01	T22S/R16E/12	10	682744	4839459	DICKERSON WELL	Non-Federal
DE0990-01	T22S/R17E/16	10	686349	4837447	THE ROCK	Federal
DE0995-01	T22S/R17E/2	10	689465	4840673	SPICER FLAT #1	Federal
DE0887-01	T22S/R18E/6	10	693382	4840952	LITTLE MUD LAKE	Federal
DE0880-01	T22S/R21E/32	10	724677	4832585	CANARY LAKE	Federal
DE0054-01	T22S/R23E/36	10	749557	4834190	NORDELL RIDGE	Federal

Appendix C2: Sage Grouse lek sites currently protected by Deschutes County and no longer in use.

ODFW	Location	UTM's (NAD27)				Land
Site #	Town/Range/Sec/Quarter/TL	Datum	Northing	Easting	General Location/Name	Owner
DE0998-01	T20S/R14E/10	10	657122	4857646	EVANS WELL #1	Non-Federal
DE0998-02	T20S/R14E/3	10	657109	4858692	EVANS WELL #2	Federal
DE0997-02	T20S/R16E/26	10	679540	4853374	MOFFIT RANCH #2	Non-Federal
DE0992-03	T21S/R16E/22	10	678936	4844497	MAHOGANY BUTTE	Federal

Appendix C3 Sage Grouse lek sites not currently protected by Deschutes County and currently in use.

ODFW	Location	UTM's (NAD27)				Land
Site #	Town/Range/Sec/Quarter/TL	Datum	Northing	Easting	General Location/Name	Owner
CR0128-01	T18S/R16E/32	10	673787	4869490	WEST BUTTE	Non-Federal
DE0999-03	T20S/R14E/2	10	659892	4858953	SMITH WELL	Non-Federal
DE0996-02	T21S/R16E/36	10	681774	4841319	DICKERSON GUZZLER	Federal
DE0992-04	T21S/R17E/18	10	683134	4847577	BLM POWERLINE #2	Federal
LA0800-01	T22S/R17E/5	10	684653	4831119	JAYNES WELL	Federal

Appendix C4: Name change for Sage Grouse lek site currently protected by Deschutes County.

ODFW	Location	UTM's (NAD27)				Land
Site #	Town/Range/Sec/Quarter/TL	Datum	Northing	Easting	General Location/Name	Owner
DE0888-01	T22S/R18E/11	10	700327	4839386	SHAVER FLAT	Federal

Appendix D: Prairie Falcon nest sites currently occupied and protected by Deschutes County.

ODFW	Location	UTM's (NAD27)				Land
Site #	Town/Range/Sec/Quarter/TL	Datum	Northing	Easting	General Location/Name	Owner
DE-0794-01	14S/13E/11/NWSW/0100	10	647745	4913940	Smith Rock St Park	Non-Federal
DE-0007-00	15S/12E/35				Mid-Deschutes Riv	Federal
DE-0031-00	16S/11E/20/NESE/05600	10	625812	4892106	Tumalo Natural Area	Federal
DE-0031-01	16S/11E/20/SESW/0400	10	625303	4891621	Tumalo Dam	Non-Federal
DE-0010-00	16S/12E/02	10	638929	4897371	Mid-Deschutes Riv	Federal
DE-0463-00	19S/12E/04				Imperial Valley	Federal
DE-0021-00	19S/14E/24				Horse Ridge/Dry River	Federal
DE-0016-00	22S/16E/12/SWSE/0100	10	682234	4838145	Dickerson Flat	Non-Federal

Appendix E1: Heron Rookery site currently in use and protected by Deschutes County.

ODFW	Location	UTM's (NAD27)				Land
Site #	Town/Range/Sec/Quarter/TL	Datum	Northing	Easting	General Location/Name	Owner
DE-0980-01	14S/09E/00/SENE/0100	10	608516	4914211	Black Butte Ranch	Federal

Appendix E2: Heron Rookery site currently protected by Deschutes County and no longer in use.

ODFW	Location	UTM's (NAD27)				Land
Site #	Town/Range/Sec/Quarter/TL	Datum	Northing	Easting	General Location/Name	Owner
DE-0981-01	21S/08E/03/NENW				Crane Pr Res	Federal

Appendix F: Great Grey Owl nest site currently in use and protected by Deschutes County.

ODFW	Location	UTM's (NAD27)				Land
Site #	Town/Range/Sec/Quarter/TL	Datum	Northing	Easting	General Location/Name	Owner
-	22S/09E/09/SESW				Dorrance Meadow	Federal

Appendix G: Bat sites currently in use and protected by Deschutes County.

ODFW	Location	UTM's (NAD27)				Land
Site #	Town/Range/Sec/Quarter/TL	Datum	Northing	Easting	General Location/Name	Owner
DE-0992-00	14S/09E/19/NWNE/0200	10	602445	4911183	Skylight Cave	Non-Federal
DE-0993-00	19S/13E/13/SWNE	10	651460	4865255	Stookey Flat	Non-Federal

Appendix H: Use period, abundance and special status of select mammals, birds, amphibians and reptiles in Deschutes County 2009

Species	Use Period	Relative Abundance	Special Status*	
			State Status	Federal Status
Mammals				
Allen's Chipmunk	X	U		
Badger	X	C		
Beaver	X	A		
Belding Ground Squirrel	X	C		
Big Brown Bat	S	U		
Black Bear	X	C		
Blacktail Jackrabbit	X	C		
Bobcat	X	C		
Bushytail Woodrat	X	C		
California Ground Squirrel	X	F		
California Myotis	X	F	V	
California Vole	X	F		
California Wolverine	X	U	T	SOC
Canyon Mouse	X	F		
Chickaree	X	C		
Coyote	X	A		
Dark Kangaroo Mouse	X	F		
Deer Mouse	X	A		
Dusky Shrew	X	U		
Fisher	X	U	C	
Fringed Myotis	S	U	V	
Golden-mantled Squirrel	X	A		
Gray Fox	X	U		
Great Basin Pocket Mouse	X	C		
Heather Vole	X	F		
Hoary Bat	S	F		

House Mouse	X	C		
Least Chipmunk	X	C		
Little Brown Myotis	S	U		
Long-eared Myotis	S	U		SOC
Long-legged Myotis	X	F	V	SOC
Longtail Vole	X	F		
Long-tail Weasel	X	F		
Merriam Shrew	X	U		
Mink	X	C		
Montane Vole	X	A		
Mountain Cottontail	X	C		
Mountain Lion	X	C		
Mule Deer	X	A		
Muskrat	X	F		
N. Grasshopper Mouse	X	F		
N. Pocket Gopher	X	U		
Northern Flying Squirrel	X	F		
Northern Water Shrew	X	F		
Norway Rat	X	F		
Ord's Kangaroo Rat	X	C		
Pacific Jumping Mouse	X	U		
Pacific Mole	X	U		
Pallid Bat	S	U	V	
Pine Marten	X	C		
Pinon Mouse	X	F		
Porcupine	X	C		
Preble's Shrew	X	U		SOC
Pronghorn Antelope	X	C		
Pygmy Rabbit	X	R	V	SOC
Raccoon	X	C		
Red Fox	X	F		
River Otter	X	C		
Rocky Mtn Elk	X	C		

Roosevelt Elk	X	C		
Sagebrush Vole	X	C		
Shorttail Weasel	X	F		
Silver-haired bat	S	F	V	SOC
Siskiyou Chipmunk	X	C		
Small-footed Myotis	S	U		SOC
Snowshoe Hare	X	F		
Spotted bat	X	R	V	
Striped Skunk	X	C		
Townsend's Chipmunk	X	C		
Townsend's Ground Squirrel	X	C		
Townsend's western big-eared bat	X	F	C	SOC
Trowbridge Shrew	X	F		
Vagrant Shrew	X	U		
Water Vole	X	C		
Western Gray Squirrel	X	C		
Western Harvest Mouse	X	C		
Western Jumping Mouse	X	F		
Western Pipitrel	S	U		
Whitetail Jackrabbit	X	R		
Wolverine	X	R		
Yellow Pine Chipmunk	X	C		
Yellow-bellied Marmot	X	C		
Yuma Myotis	X	F		SOC
Birds				
American Avocet	S	F	-	-
American Bittern	S	F	-	-
American Coot	X	C	-	-
American Dipper	X	F	-	-
American Goldfinch	S	C	-	-
American Kestrel	X	C	-	-
American Peregrine Falcon	X	R	V	DL

American Pipit	X	F	-	-
American Robin	X	C	-	-
American Wigeon	X	C	-	-
Anna's Hummingbird	S	F	-	-
Ash-throated Flycatcher	S	F	-	-
Bald Eagle	X	F	T	DL
Bank Swallow	S	F	-	-
Barn Owl	X	F	-	-
Barn Swallow	S	C	-	-
Barred Owl	X	R	-	-
Barrow Goldeneye	X	F	-	-
Belted Kingfisher	X	F	-	-
Bewick's Wren	X	R	-	-
Black tern	S	F	-	SOC
Black-backed Woodpecker	X	F	V	-
Black-billed Magpie	X	C	-	-
Black-capped Chickadee	W	R	-	-
Black-chinned Hummingbird	S	F	-	-
Black-crowned Night Heron	S	F	-	-
Black-headed Grosbeak	S	F	-	-
Black-necked Stilt	S	F	-	-
Black-throated Gray Warbler	S	F	-	-
Blue "Sooty" Grouse	X	F	-	-
Blue-winged Teal	S	F	-	-
Bohemian Waxwing	W	F	-	-
Boreal Owl	X	F	-	-
Brewer's Blackbird	X	C	-	-
Brewer's Sparrow	S	C	-	-
Brown Creeper	X	F	-	-
Brown-headed Cowbird	S	C	-	-
Bufflehead	X	C	-	-
Burrowing Owl	S	R	V	-
Bushtit	S	F	-	-

California Gull	S	C		
California Valley Quail	X	C	-	-
Calliope Hummingbird	S	F	-	-
Canada Goose	X	C	-	-
Canyon Wren	X	C	-	-
Caspian Tern	S	F		
Cassin's Finch	X	C		
Cassins Vireo	S	F		
Cedar Waxwing	X	C		
Chipping Sparrow	S	C		
Chukar Partridge	X	R		
Cinnamon Teal	S	C		
Clark's Nutcracker	X	C		
Cliff Swallow	S	C		
Common Bushtit	X	C		
Common Crow	X	C		
Common Goldeneye	X	C		
Common Loon	S	R		
Common Merganser	X	C		
Common Nighthawk	S	C		
Common poorwill	S	F		
Common Raven	X	C		
Common Snipe	S	F		
Common Yellowthroat	S	F		
Coopers Hawk	X	C		
Cordilleran Flycatcher	S	F		
Dark-eyed Junco	X	A		
Double-crested Cormorant	S	C		
Downy Woodpecker	X	C		
Dusky Flycatcher	S	F		
Eared Grebe	W	F		
Eastern Kingbird	S	F		
Eurasian Collared-Dove	X	F		

Evening Grosbeak	X	C		
Ferruginous Hawk	S	F	V	SOC
Flammulated Owl	S	F	V	
Fox Sparrow	S	C		
Franklin's Gull	S	F		
Gadwall	W	F		
Golden Eagle	X	F		
Golden-crowned Kinglet	X	F		
Golden-crowned Sparrow	W	C		
Gray Flycatcher	S	C		
Gray Jay	X	C		
Gray Partridge	X	R		
Gray-crowned Rosy Finch	S	F		
Great Blue Heron	X	C		
Great Gray Owl	X	F	V	
Great Horned Owl	X	C		
Greater Sage Grouse	X	F	V	SOC
Greater Yellowleg	S	F		
Green Heron	S	R		
Green-tailed Towhee	S	F		
Green-winged Teal	X	F		
Hairy Woodpecker	X	C		
Hammond's Flycatcher	S	F		
Hermit Thrush	S	F		
Hooded Merganser	X	F		
Horned Grebe	S	F		
Horned Lark	X	C		
House Finch	X	C		
House Sparrow	X	A		
House Wren	S	F		
Killdeer	X	C		
Lark Sparrow	S	F		
Lazuli Bunting	S	F		

Least Sandpiper	S	F		
Lesser Goldfinch	X	R		
Lesser Scaup	W	C		
Lewis' Woodpecker	S	F	C	SOC
Lincoln's Sparrow	X	F		
Loggerhead Shrike	X	F	V	
Long-billed Curlew	S	R	V	
Long-eared Owl	X	F		
MacGillivray's Warbler	S	F		
Mallard	X	C		
Marsh Wren	X	C		
Merlin	W	R		
Mountain Bluebird	X	C		
Mountain Chickadee	X	C		
Mountain Quail	X	R	V	SOC
Mourning Dove	X	C		
Nashville Warbler	X	F		
Northern Flicker	X	C		
Northern Goshawk	X	F	V	SOC
Northern Harrier	X	F		
Northern Oriole	S	F		
Northern Phalarope	S	R		
Northern Pintail	W	C		
Northern Pygmy Owl	X	F		
Northern Rough-winged Swallow	S	F		
Northern Saw-whet Owl	X	F		
Northern Shoveler	W	F		
Northern Shrike	W	F		
Northern Spotted Owl	X	R	T	T
Olive-sided Flycatcher	S	C	V	SOC
Orange-crowned Warbler	S	F		
Osprey	S	C		
Pied-billed Grebe	S	U		

Pileated Woodpecker	X	F	V	
Pine Grosbeak	X	R		
Pine Siskin	X	C		
Pinyon Jay	X	C		
Prairie Falcon	X	C		
Purple Finch	X	F		
Pygmy Nuthatch	X	C		
Red Crossbill	X	F		
Red-breasted Nuthatch	X	C		
Red-breasted Sapsucker	X	C		
Redhead	W	F		
Red-naped Sapsucker	X	F		
Red-tailed Hawk	X	C		
Red-winged Blackbird	X	C		
Ring-billed Gull	S	C		
Ring-neck Duck	W	F		
Ring-necked Pheasant	X	R		
Rock Dove	X	C		
Rock Wren	S	C		
Rosy Finch	X	R		
Rough-legged Hawk	W	C		
Ruby-crowned Kinglet	X	F		
Ruddy Duck	X	C		
Ruffed Grouse	X	F		
Rufous Hummingbird	S	F		
Rufous-sided Towhee	X	F		
Sage Sparrow	S	C		
Sage Thrasher	S	C		
Sandhill Crane	S	F		
Savannah Sparrow	S	C		
Say's Pheobe	S	F		
Scrub Jay	X	C		
Semipalmated Plover	S	R		

Sharp-shinned Hawk	X	C		
Short-eared Owl	S	F		
Snow Goose	W	F		
Snowy Egret	S	F		
Song Sparrow	X	C		
Sora	S	F		
Spotted Sandpiper	S	C		
Starling	X	C		
Steller's Jay	X	F		
Swainson's Hawk	S	R	V	
Swainson's Thrush	S	F		
Three-toed Woodpecker	X	F		
Townsend's Solitaire	X	C		
Townsend's Warbler	S	F		
Tree Swallow	S	C		
Trumpeter Swan	X	F		
Tundra Swan	W	F		
Turkey Vulture	S	C		
Varied Thrush	X	F		
Vaux's Swift	S	F		
Vesper Sparrow	S	F		
Violet-green Swallow	S	C		
Virginia Rail	S	F		
Warbling Vireo	S	F		
Western Bluebird	S	F		
Western Burrowing Owl	X	R		SOC
Western Grebe	S	C		
Western Kingbird	S	F		
Western Meadowlark	S	C		
Western Sandpiper	S	F		
Western Screech Owl	X	F		
Western Tanager	S	F		
Western Wood Pewee	S	F		

White-breasted Nuthatch	X	F		
White-crowned Sparrow	S	F		
White-headed Woodpecker	X	F	C	SOC
White-throated Sparrow	W	R		
White-throated Swift	S	F		
Wild Turkey	X	C		
Williamson's Sapsucker	X	F		
Willow Flycatcher	S	R	V	SOC
Wilson's Phalarope	S	F		
Wilson's Warbler	S	F		
Winter Wren	X	F		
Wood Duck	S	F		
Yellow Warbler	S	F		
Yellow-breasted chat	S	F		SOC
Yellow-headed Blackbird	S	F		
Amphibians and Reptiles				
Bullfrog	X	F		
Cascades Frog	X	F	V	SOC
Coastal tailed frog	X	F		SOC
Common Garter Snake	X	C		
Gopher Snake	X	C		
Great Basin Spadefoot Toad	X	F		
Long-toed Salamander	X	F		
Night Snake	X	U		
Northern alligator Lizard	X	F		
Northern Sagebrush Lizard	X	C		SOC
Northwestern Salamander	X	F		
Oregon slender salamander	X	F		SOC
Oregon Spotted Frog	X	F	S	C
Pacific Tree Frog	X	C		
Racer	X	F		
Roughskin Newt	X	R		

Rubber Boa	X	F		
Sharp-tailed Snake	X	U		
Short-horned Lizard	X	F		
Side-blotched Lizard	X	F		
Striped Whip-snake	X	F		
Tailed Frog	X	F		
Western Fence Lizard	X	C		
Western Pond Turtle	X	R	C	
Western Rattlesnake	X	F		
Western Skink	X	F		
Western Terrestrial Garter Snake	X	C		
Western Toad	X	C	V	

Use Period: X = Year Around S = Summer W = Winter

Relative Abundance Key: R = Rare F = Few C = Common A = Abundant
U = Unknown

Federal Status Key: E = endangered; T = Threatened; C = Candidate; SOC = Species of Concern; DL = Delisted

Federal ESA-listed Species: An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future.

Federal Candidate Species: Taxa for which the Fish and Wildlife Service has sufficient biological information to support a proposal to list as endangered or threatened.

Federal Species of Concern: Taxa whose conservation status is of concern to the US Fish and Wildlife Service, but for which further information is still needed.

Federal Delisted Species: A species that has been removed from the Federal list of endangered and threatened wildlife and plants.

State Status Key: T = Threatened; C = Critical; V = Vulnerable

State Endangered Species: Any native wildlife species determined by the commission to be in danger of extinction throughout any significant portion of its range within the state; or any native wildlife species listed as an endangered species pursuant to the federal ESA.

State Threatened: an animal that could become endangered within the foreseeable future within all or a portion of its range.

State Critical: species are imperiled with extirpation from a specific geographic area of the state because of small population sizes, habitat loss, or degradation and/or immediate threats.

Sensitive Vulnerable: species are facing one or more threats to their populations and/or habitats.

From: Edward Elkins [<mailto:thumper2@centurylink.net>]
Sent: Sunday, October 11, 2015 8:08 PM
To: Damian Syrnyk <dsyrnyk@bendoregon.gov>
Subject: UAR Lands

Damian:

Please include this email in the UGB Remand Record

In reviewing the latest Scenario maps and SAAM maps it appears that some of the lands included in these maps may not be UAR zoned lands. If this is infact the case would you kindly send me revised map(s) that shows the non UAR lands and their acreages. It is all but impossible to generate this information based on the maps located on the City's web site. Your prompt attention to this request would be greatly appreciated as I am in the process of preparing written testimony for the October 22, 2015 BATC meeting.

Respectfully,

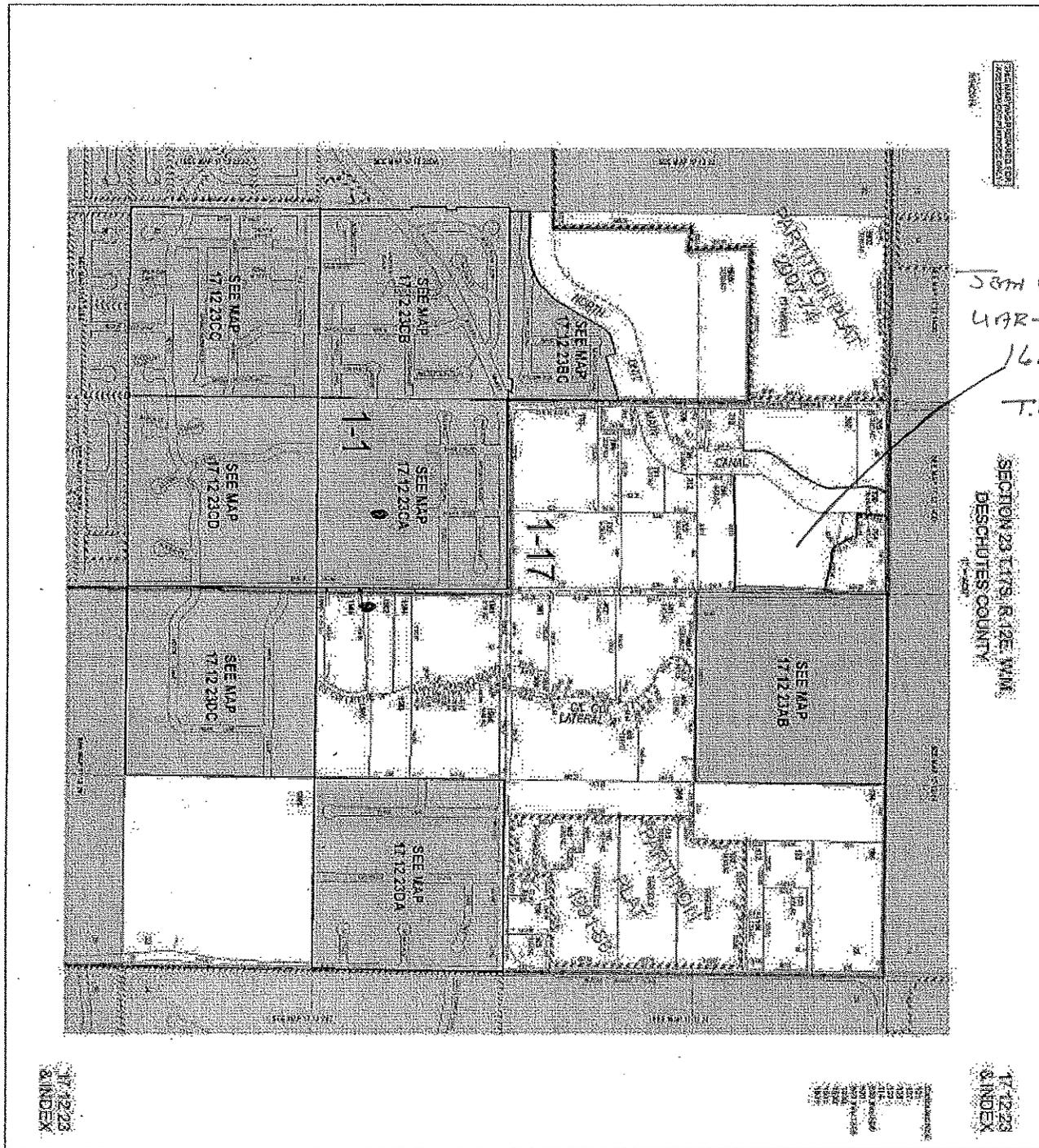
Edward J. Elkins
63613 O. B. Riley Road, Bend OR
541-647-7405
thumper2@centurylink.net

10/2/2015

KAREN

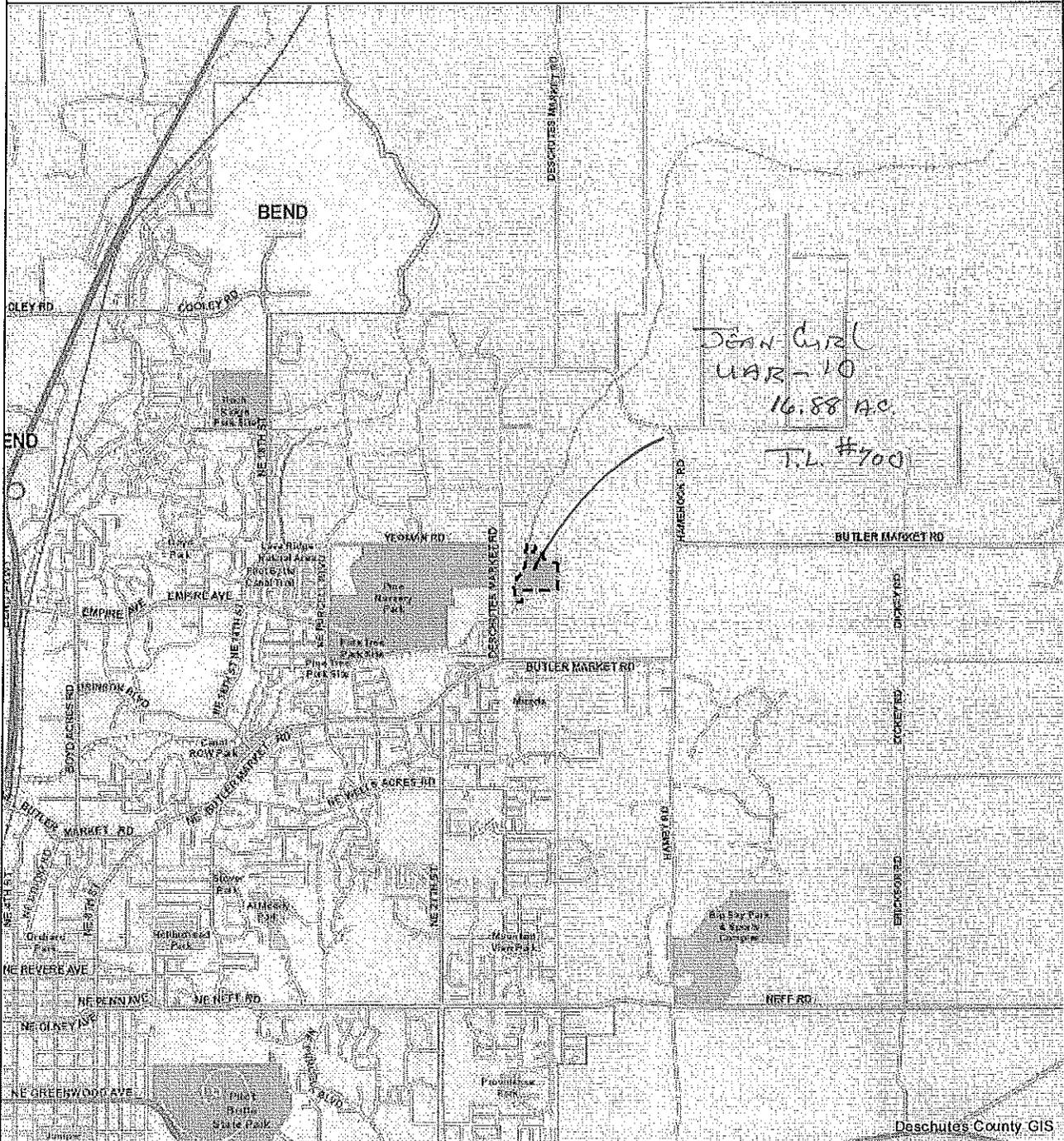
As per our discussion
last night, please let me
know the reasoning behind
the decision not to include
this strategy on the preferred
map # 2.1. Thanks

•
Jerry Curel
703 NW Strongline Dr
Bend, OR 97703
541-389-4562



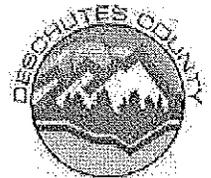
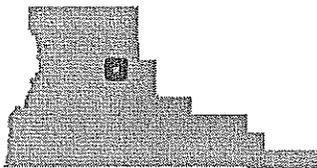
Deschutes County Property Information - Dial

Road Map



Deschutes County GIS

Map and Taxlot: 171223000700

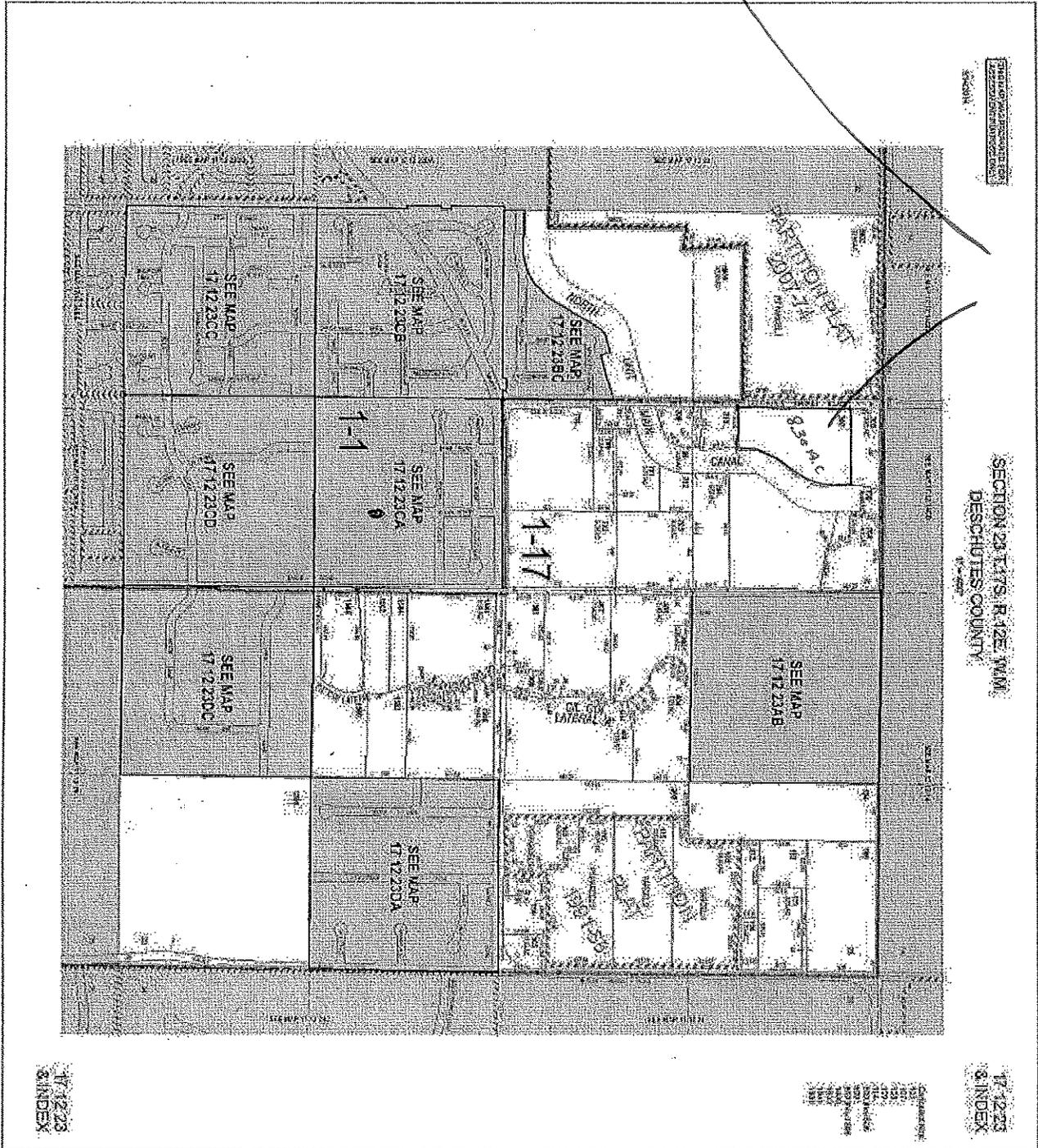


Tom Curl

UAR-10

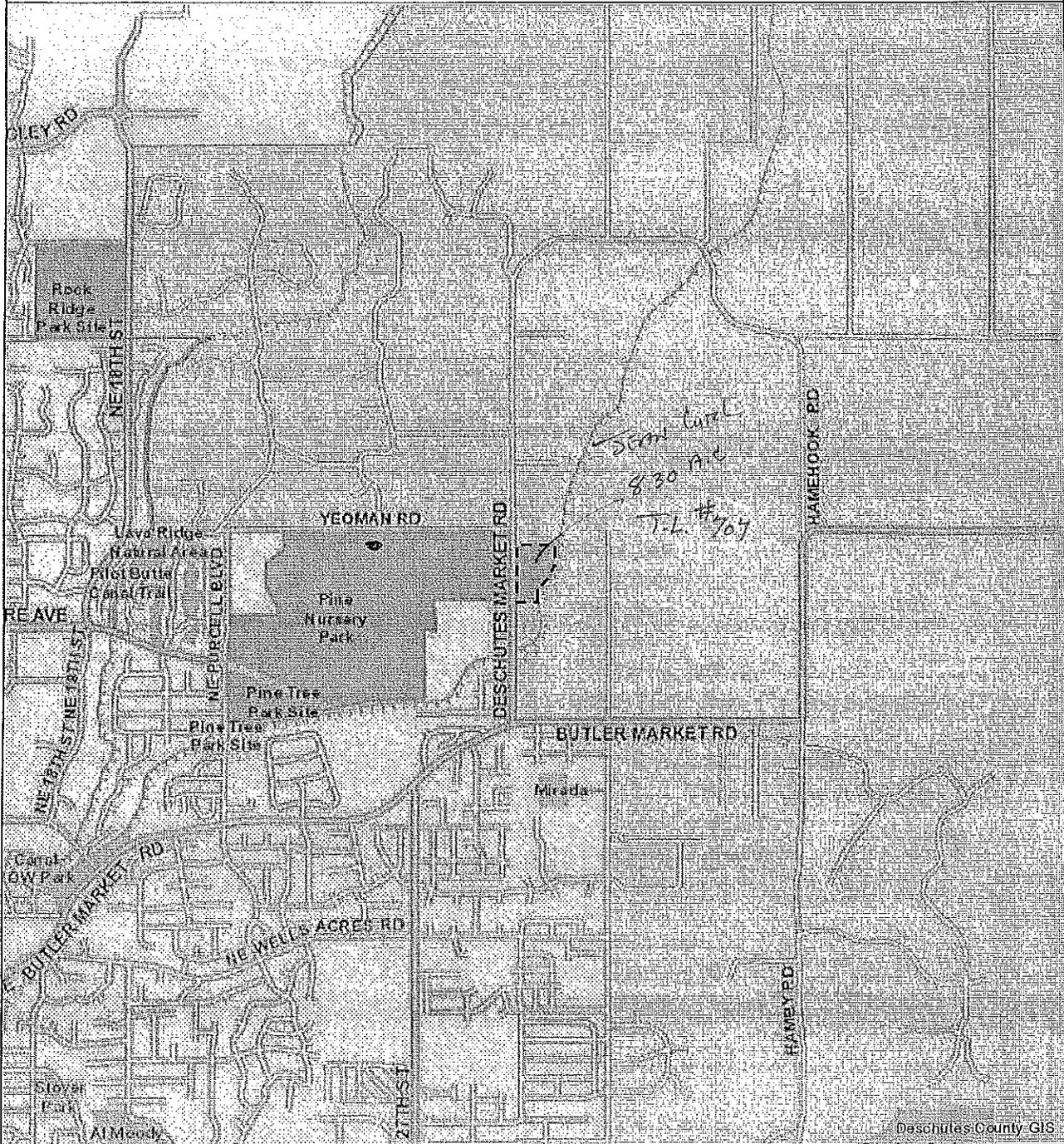
8.30 A.C

T.L. #707



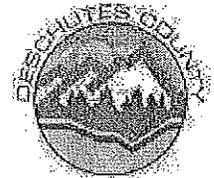
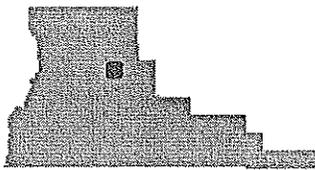
Deschutes County Property Information - Dial

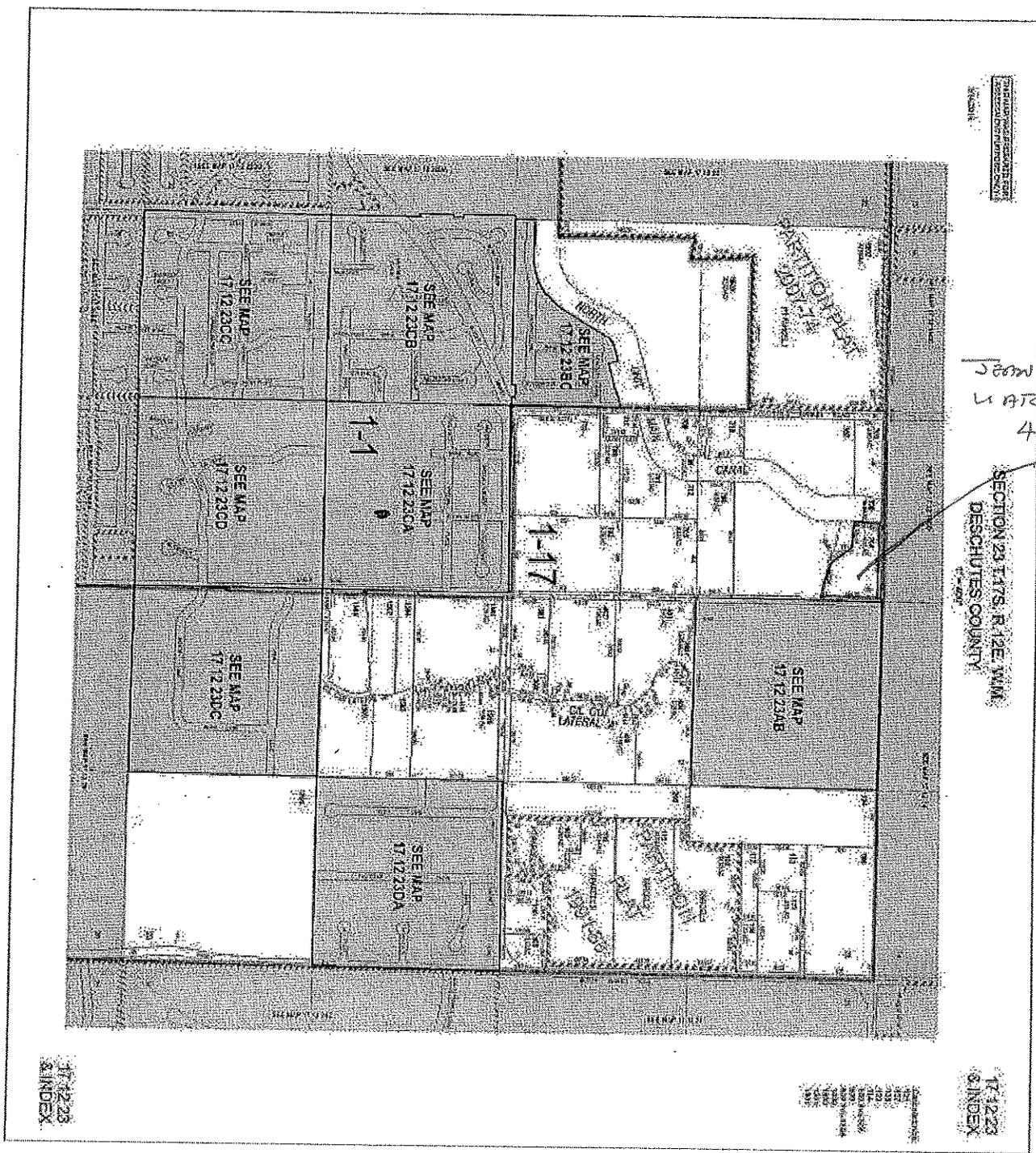
Road Map



Deschutes County GIS

Map and Taxlot: 171223000707



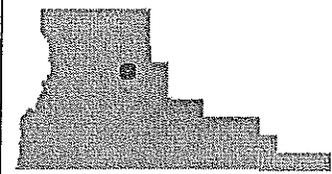
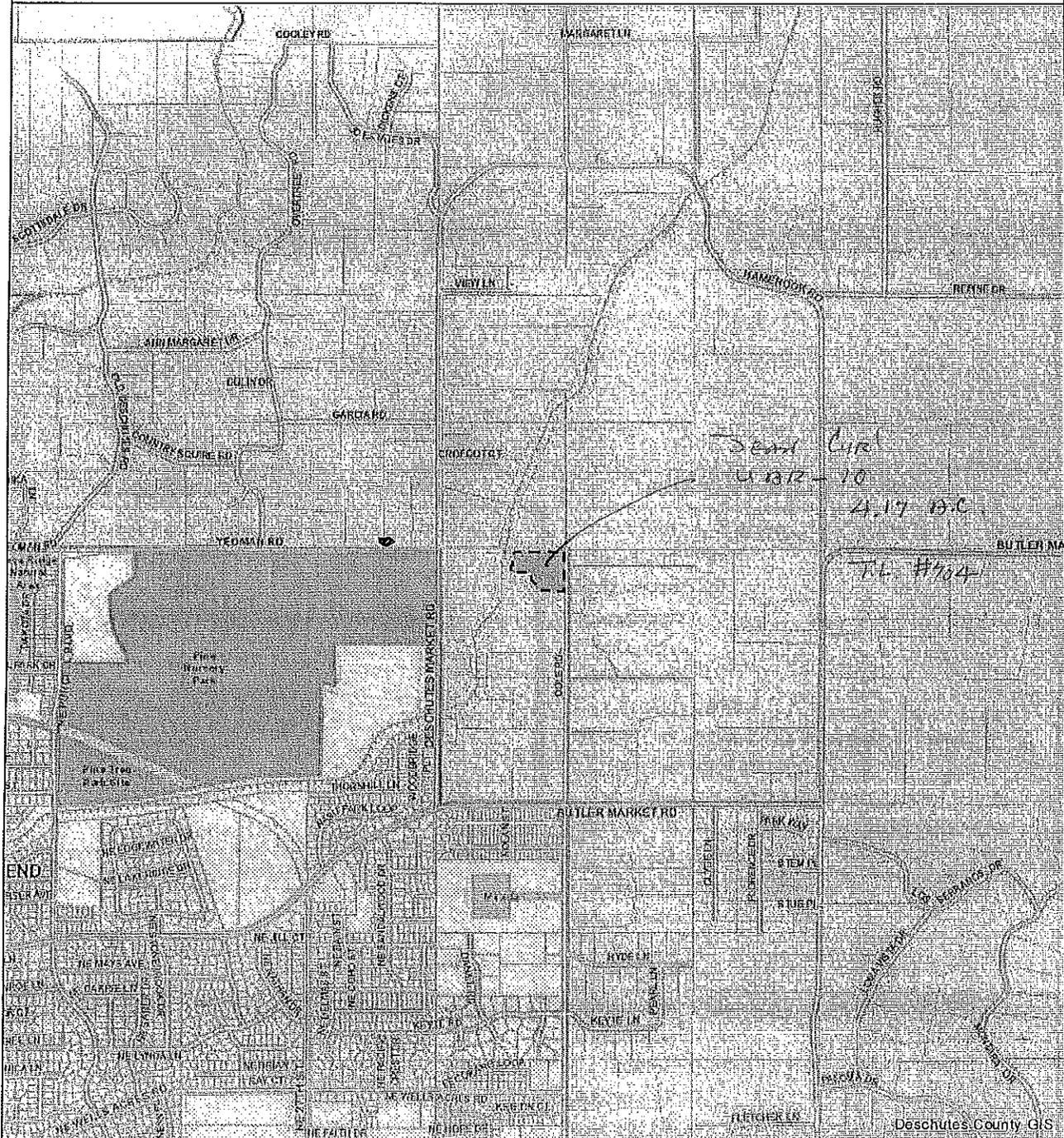


Jean Curc
 LAR-10
 4.17 AC.
 T.L. #704

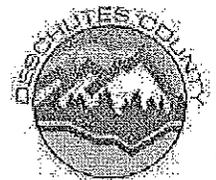
SECTION 23, T17S, R12E, W11E
 DESCHUTES COUNTY, OREGON

Deschutes County Property Information - Dial

Road Map



Map and Taxlot: 171223000704



From: Ed Elkins [<mailto:thumper2@centurylink.net>]
Sent: Tuesday, October 13, 2015 3:12 PM
To: Damian Syrnyk <dsyrnyk@bendoregon.gov>
Subject: Re: UAR Lands

Please include the following in the Record.

Damian:

I understand your position, however within in those exception lands there is a priority I.e.; UAR lands shall be considered first. There is no MUA priority mentioned. A real good review of Ordinance 80 -216 by the City's consultants is recommended. Also in the Remand Order LCDC acknowledged the UAR designations. In addition the DSL lands were not exception lands when the UGB expansion was submitted to LCDC.

Thanks for working with me on this issue.

Ed Elkins

Sent from Ed's iPad