

**AGENDA**

**WASHINGTON COUNTY BOARD OF COMMISSIONERS**

<b>Agenda Category:</b>	Public Hearing – Second Reading and Second Public Hearing Land Use & Transportation; County Counsel	(All rural CPOs and CPOs 9, 12F, 12C, 4B, 5, & 6)
-------------------------	--	---

---

**Agenda Title:**      **PROPOSED ORDINANCE NO. 740 – AN ORDINANCE AMENDING POLICY 29 OF THE RURAL/NATURAL RESOURCE PLAN TO MODIFY THE RURAL AND URBAN RESERVES MAP**

---

**Presented by:**      Andrew Singelakis, Director; Dan Olsen, County Counsel

---

**SUMMARY:**

On March 15, 2011, the Board held its first public hearing on proposed Ordinance No. 740. The hearing was preceded by a joint Board - Metro Council hearing, in which the two bodies adopted a Supplemental Intergovernmental Agreement (IGA) and final map showing Urban and Rural Reserves in Washington County. The adopted Supplemental IGA map contains amendments to the Reserves map adopted by the Board and Metro in May and June 2010. In addition to the map amendments described below, certain text revisions were made to reflect the expected completion date of the ordinance processes by Washington County and Metro and the projected date that the two agencies intend to submit their consolidated findings to LCDC.

During the hearing on the Supplemental IGA, the Board members and Metro Councilors separately voted on and reconsidered several iterations of a revised Reserves map before both bodies adopted the following changes to the IGA map adopted in mid-2010:

- North of Forest Grove: Change 28 acres east of Council Creek from Urban Reserve to Undesignated.

(continued)

**DEPARTMENT’S REQUESTED ACTION:**

Read Ordinance No. 740 by title only and conduct the second public hearing. At the conclusion of testimony, direct engrossment of the ordinance to include the changes described in the staff report. Continue the hearing to April 19 and 26, 2011 and direct staff to prepare and mail notice of the amendments consistent with requirements of Chapter X of the County Charter.

**COUNTY ADMINISTRATOR’S RECOMMENDATION:**

I concur with the requested action.

100-601000

Agenda Item No.	<b>3.a.</b>
Date:	03/29/11

**PROPOSED ORDINANCE NO. 740**

March 29, 2011

Page 2

- North of Cornelius: Change approximately 360 acres in the southern portion of former Urban Reserve 7I to Undesignated; change the remaining 260 acres located in the northern portion of the former Urban Reserve area to Rural Reserve.
- North of Highway 26: Change approximately 352 acres that are bounded on the west by Groveland Road, on the north by West Union Road, on the east by Helvetia Road and on the south by Highway 26 from Undesignated to Urban Reserve.
- West of the intersection of 209th Avenue and Farmington Road: Change approximately 383 acres from Rural Reserve to Undesignated.

Consistent with Board policy about public testimony, testimony about the ordinance is limited to 3 minutes for individuals and 12 minutes for a representative of a group.

Staff asks that you hold the second public hearing on Ordinance No. 740, and at the conclusion of testimony, order engrossment of the ordinance to include the changes identified above (a map of the areas will be provided in the staff report for the March 29, 2011 hearing).


Proposed Ordinance No. 740 is posted on the county's land use ordinance web page at the following link. The staff report will also be posted at this link prior to the hearing.

<http://www.co.washington.or.us/LUT/Divisions/LongRangePlanning/2011-land-use-ordinances.cfm>



March 23, 2011

To: Washington County Board of Commissioners

From: Brent Curtis, Planning Manager   
Department of Land Use & Transportation

Subject: **PROPOSED LAND USE ORDINANCE NO. 740 AMENDING THE  
COMPREHENSIVE PLAN TO MODIFY THE RURAL AND URBAN  
RESERVES MAP**

**STAFF REPORT**

**For the March 29, 2011 Board of Commissioners Hearing**  
*(The public hearing will begin no sooner than 6:30 PM)*

**I. STAFF RECOMMENDATION**

Open the second public hearing on Ordinance No. 740 and take testimony; at the conclusion of testimony, order engrossment of Ordinance No. 740 to include the changes shown on Attachment A and described in Attachment B to this staff report. Continue the hearing to April 19 and April 26, 2011 and direct staff to prepare and mail notice of the amendments consistent with the requirements of Chapter X of the County Charter.

**II. OVERVIEW**

Proposed Ordinance No. 740 follows action by the Board to enter into a Supplemental IGA with Metro concerning amendments to the Urban and Rural Reserves map originally adopted on June 15, 2010 through A-Engrossed Ordinance No. 733. On March 15, 2011, the Board and Metro Council conducted a joint public hearing on a Supplemental IGA intended to modify the Reserves map in response to an oral remand from the Land Conservation and Development Commission (LCDC). At the joint hearing, the Board and Metro Council heard testimony on the Supplemental IGA that was included in the record for Ordinance No. 740. Upon conclusion of public testimony and subsequent deliberation by the individual bodies, the Council voted 6-1 and the Board voted 3-2 to adopt the Supplemental IGA and accept the proposed map and text amendments as indicated in the attachments to this staff report.

### III. ANALYSIS

During the hearing on the Supplemental IGA, the Board members and Metro Councilors separately voted on and considered several iterations of a revised Reserves map before both bodies adopted the following amendments to the IGA map adopted in mid-2010:

- North of Forest Grove: Change 28 acres east of Council Creek from Urban Reserve to Undesignated.
- North of Cornelius: Change approximately 360 acres in the southern portion of former Urban Reserve 7I to Undesignated; change the remaining 260 acres located in the northern portion of the former Urban Reserve area to Rural Reserve.
- North of Highway 26: Change approximately 352 acres that are bounded on the west by Groveland Road, on the north by West Union Road, on the east by Helvetia Road and on the south by Highway 26 from Undesignated to Urban Reserve.
- West of the intersection of 209th Avenue and Farmington Road: Change approximately 383 acres from Rural Reserve to Undesignated.

The final Supplemental IGA map is included with this staff report as Attachment A. A matrix listing the five adjustment areas and their approximate acreages is included as Attachment B to the staff report.

In addition to the above map amendments, certain text revisions were made to reflect the expected completion date of the respective ordinance processes by Washington County and Metro and the projected date that the two agencies intend to submit their consolidated findings to LCDC.

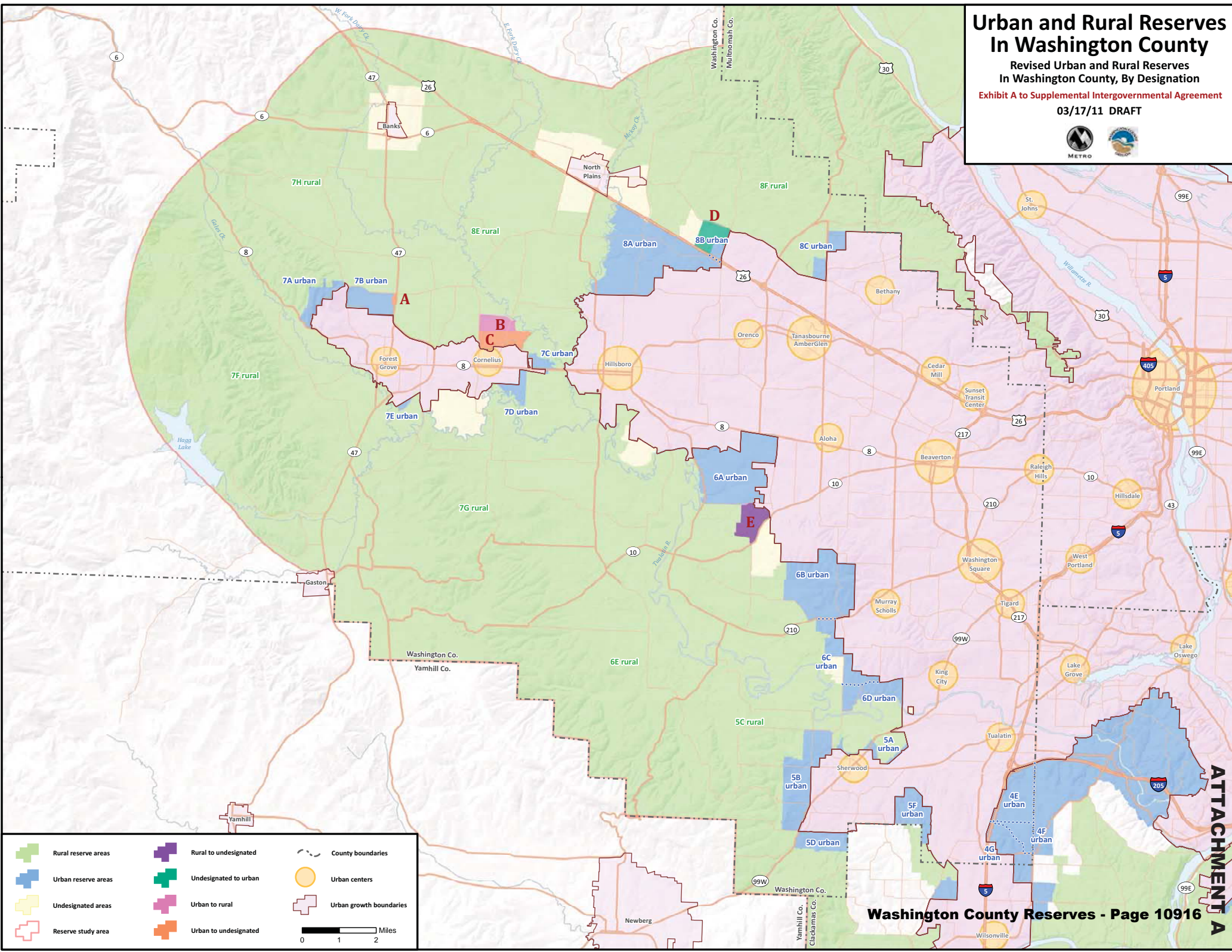
*S:\PLNG\WPSHARE\2011Ord\Ord740\_Reserves\Staff\_Reports\BCC\BCC\_03-29-11\BCC SR 3\_29.doc*

# Urban and Rural Reserves In Washington County

Revised Urban and Rural Reserves  
In Washington County, By Designation

Exhibit A to Supplemental Intergovernmental Agreement

03/17/11 DRAFT



	Rural reserve areas		Rural to undesignated		County boundaries
	Urban reserve areas		Undesignated to urban		Urban centers
	Undesignated areas		Urban to rural		Urban growth boundaries
	Reserve study area		Urban to undesignated		Miles

0 1 2

**Exhibit B to Supplemental Intergovernmental Agreement  
between Metro and Washington County**

**Adjustments to Proposed Urban and Rural Reserves Map for Washington County  
March 2011**

<b>Adjustment Area</b>	<b>Total Acres</b>
<p><b>Area A – Urban Reserve 7B</b> Change from Urban Reserve to Undesignated</p> <p>These 28 acres are located between Council Creek and Highway 47 in the vicinity of the intersection of NW Purdin Road/NW Verboort Road and Highway 47</p>	28
<p><b>Area B – North Portion of Former Urban Reserve 7I</b> Change from Urban Reserve to Rural Reserve</p> <p>This portion of former urban reserve 7I is north of undesignated Area C noted below, south of NW Long Road, extending from NW Cornelius-Schefflin Road to just east of NW Susbauer Road</p>	263
<p><b>Area C – South Portion of Former Urban Reserve 7I</b> Change from Urban Reserve to Undesignated</p> <p>This portion of former urban reserve 7I is located north of the City of Cornelius and south of the general location of NW Hobbs Road, between NW Cornelius-Schefflin Road and the floodplain of Dairy Creek</p>	360
<p><b>Area D – Adjacent to Urban Reserve 8B</b> Change from Undesignated to Urban Reserve</p> <p>This area is north of Highway 26, south of NW West Union Road and east of NW Groveland Road</p>	352
<p><b>Area E – South of SW Rosedale Road</b> Change from Rural Reserve to Undesignated</p> <p>This area is south of SW Rosedale Road, west of SW Farmington Road and includes the parcels along SW Riggs Road</p>	383

**MINUTES**

**WASHINGTON COUNTY BOARD OF COMMISSIONERS**

**MARCH 29, 2011**

**CONVENED:** 6:35 p.m.

**BOARD OF COMMISSIONERS:**

Chairman Andy Duyck  
Vice Chair Roy Rogers  
Commissioner Dick Schouten – absent on County Business  
Commissioner Greg Malinowski  
Commissioner Bob Terry

**STAFF:**

Robert Davis, County Administrator  
Rob Massar, Assistant County Administrator  
Dan Olsen, County Counsel  
Loretta Skurdahl, County Counsel  
Andrew Singelakis, Director, LUT  
Brent Curtis, Planning Division Manager, LUT  
Bob Cruz, Asst. General Manager, CWS  
Dennis Mulvihill, County Administration  
Linda Gray, CPO Coordinator  
Jim Thiessen, Audiovisual Technician  
Marian Larkin, Recording Secretary

**PRESS:**

Dana Tims, *The Oregonian*  
Kurt Eckert, *Hillsboro Argus*

**1. CONSENT AGENDA**

Chairman Duyck announced that item 1.c. would be removed and addressed at the end of the agenda.

A motion was made to approve the Consent Agenda as amended.

Motion – Rogers  
2<sup>nd</sup> – Terry  
Vote: 4-0

## **CLEAN WATER SERVICES**

1.a.

CWS MO 11-36

Award Contract for Construction of the Forest Grove Wastewater Treatment Facility Liquid Stream Upgrade Project Phase 2 (Project No. 6453) to Landis & Landis Construction, Llc (CPO 12F) (Approved under the Consent Agenda)

1.b.

CWS MO 11-37

Award Contract for Construction of the Hillsboro Wastewater Treatment Facility Aeration Basin Upgrade Project (Project No. 6373.014) to Stettler Supply Company (CPO 9) (Approved under the Consent Agenda)

## **LAND USE AND TRANSPORTATION**

1.c.

MO 11-63

Approve Bid Award and Authorize Execution of Contract for the NW 143<sup>rd</sup> Avenue Pedestrian Pathway Project (CPO 1,7) (Moved to the end of the Consent Agenda)

## **2. ORAL COMMUNICATION (2 MINUTE OPPORTUNITY)**

Bill Ganger, 844 NE Baldwin Drive, Hillsboro and Tom Black, 870 NW Garibaldi St., Hillsboro talked about the 2010 MOU between the Board of County Commissioners and the Fair Board. (A copy of a letter provided previously was given to the Board and Record). Mr. Black felt that there are still unresolved issues regarding the Fair Board and their legal obligations to oversee the County Fair. These concerns included: Fair Board compensation, dedicated monies, Fair staff, and access to Fairgrounds. Mr. Black stated that \$600K of motel/hotel tax was to be used for the Fair Event. At recent meetings, both County staff and Fair Board members indicated the money available is limited and is committed in the yearly budget. Mr. Black continued to raise the question on where the money has gone and where it is used for the Fair event.

Bill Ganger stated that since last month's meeting, he has been involved in event solicitation. He mentioned that there were events that the Fair Board could sponsor and noticed that the wash rack is not available. He noted that it is less than 100 days until the next fair. Tom Black commented that monies were allocated differently or put back in the community to promote the best of what the County has.

Commissioner Malinowski confirmed that there will be a wash rack and it will be ready by the time of the Fair. He stated his hope that there would be monies available for community sponsored events also.



Chairman Duyck stated this wasn't the appropriate forum to address things and the hotel/motel tax is used for Fairgrounds and the Fair. He noted this issue has been addressed previously with the speakers.

Micki Sparr, 15390 NW Wooded Way, Oak Hills read the following written submission into the record. Ms. Sparr cited a recent Oregonian article about the large number of Washington County citizens who believed they are not being heard. She noted the Bethany Blvd Project is a perfect illustration of that frustration. The first open house in March 2010 drew well over 350 citizens - a record for a transportation project open house. Staff ran out of comment cards and sign-in materials because of the large turnout at that first Open House. A majority of attendees strongly objected to a five lane road in their neighborhood. When Focus Group members were recruited, there was again an unprecedented response from the community. Later, so many citizens wanted to attend the Focus Group proceedings and make comments that a larger room had to be found to accommodate the crowds of 60 - 80 citizens who attended each meeting. At the December Focus Group meeting, members were asked to indicate their preference among the 4 designs that had been presented to them. A majority of Focus Group members chose the 3 lane option as their first choice. At the Open House held January 27, hundreds of citizens turned out. Nearly 87% chose the three lane option; all three of the remaining options received no more than 4 - 7% support.

After all this public involvement, the design submitted to this board was never seen by the public previously. It was not vetted by the Focus Group and it was not offered to the public for comment at either Open House. She found this very troubling.

Even more troubling is that after commissioners asked staff to present a 4 lane design, what was presented to commissioners on February 22 was a five lane design that was cynically labeled a four lane design. The drawings clearly show five lanes for 80% of its length and four lanes for just 20% of its length. That's a five lane road.

Ms. Sparr expressed that the citizens of Washington County diligently followed the process with respect and civility and now many felt deeply betrayed. Hundreds of good and responsible citizens spent literally thousands of collective hours on the process and were completely ignored. She concluded that the entire process was a sham designed not to solicit public opinion but to placate and patronize the taxpaying citizens. Ms. Sparr noted it was no wonder so many citizens in Washington County feel that their voices are not being heard.

### **3. PUBLIC HEARING - LAND USE AND TRANSPORTATION**

3.a.

MO 11-62

Proposed Ordinance No. 740 – an Ordinance Amending Policy 29 of the Rural/Natural Resource Plan to Modify the Rural and Urban Reserves Map (All Rural CPOs and CPOs 9, 12F, 12C, 4B, 5, & 6)

A motion was made to read the ordinance by title only.

Motion: Rogers  
2<sup>nd</sup> Malinowski  
Vote: 4-0

Dan Olsen read the ordinance by title. The public hearing was opened.

Brent Curtis provided a staff report. He stated that the hearing on March 15, 2011 with the Metro Council, involved both an IGA and first hearing on Ordinance 740. He stated that the Urban and Rural Reserves process requires that both Metro and Washington County have an agreement and each government conform their respective land use plans to the IGA. The culmination included a map and the ordinance was continued to 3/29/11 for an evening meeting of additional testimony. He reported the original ordinance would need to be engrossed with the changes made at the previous hearing. Brent asked that the public hearing and engrossment be conducted to incorporate the map included in the IGA and that would require filing and sending notices. A subsequent hearing on April 19 and April 26 would also be needed to finalize the ordinance. Mr. Curtis noted a staff report summarizing the changes that were provided and at work session, Attachment B which summarizes the changes to the IGA was distributed due to a noted error (mislabeled and wrong directional orientation in Area B and Area C). A series of 4 maps were included that showed Urban Reserve designations and their changes regarding engrossment. A series of maps for the rural areas were included also. The detailed maps in larger scale were submitted to the record. Mr. Curtis reminded the Board it was a public hearing and that if the Board chose not to follow the IGA map, then another discussion for an amended IGA map and additional land use hearings would continue. Mr. Curtis ended by sharing staff recommendation for engrossing the ordinance reflected in the staff report and in the maps provided and requested staff send notices and the Board schedule 2 additional public hearings.

Commissioner Malinowski stated appreciation for the process and asked about proposal rejection by the County or LCDC. Mr. Curtis mentioned that normally there would be a remand through a written order and since there is only an oral one, that an additional response would undergo periodic review and a hearings process. If LCDC found fault with a particular area, they could remand it back to the County and the process could be replicated again. The Board and region could then decide not to pursue urban and rural reserves in this particular manner.

Regarding the soils map, Commissioner Malinowski suggested that perhaps a smaller map with less area that was argumentative could have been found. He suggested that non-agricultural land could be found first. Brent Curtis stated that the prevailing process could be used in which a statutory hierarchy of lands would be used. The first priority would use urban reserves and the exception lands to Goals 3 and 4. The last priority would be to use farm lands. He noted one exception in managing this process -- the use of exception lands first that are identified as special need. The old process can continue to be used and presently remains in law.

Commissioner Malinowski asked about the LCDC opinion of the changes to both Forest Grove and Helvetia. Mr. Curtis stated that there isn't a process for LCDC to review the work in process. When the work is complete, then LCDC's review gets underway. Several discussions with Director Whitman and their field reps have kept them apprised of the County's work. Informal Metro communication has also been done. Mr. Curtis stated that the County has been

as clear as possible about the direction of LCDC's oral remand. The opportunities for both Metro and the County to respond won't be known until they deliberate into August of this year. Commissioner Malinowski concluded that he thought the County was reaching a bit and also taking a gamble.

Chairman Duyck asked about the question of whether or not the County would have reserves and the impacts. He suggested that if for some reason the map changed or LCDC does not approve it is not likely chosen to cycle once again. He asked if under the old process urbanization could occur any faster. Chairman Duyck thought it would not. Brent Curtis suggested that it may not be slower or faster and that the new process gives more certainty where growth will be. The older process is less certain and with the changing of decision making bodies, more or less land could be included. The benefit of reserves is the certainty of knowing where land is available for expansion and what lands will not be included in urban development. The Chairman concluded by asking for confirmation that the land brought in to reserves would be less than what was done in the previous 50 year period. Mr. Curtis stated that the expansion ahead would be less land and be much more infill and redevelopment of greater densities in any expansion areas.

Chairman Duyck stated any written submissions by individuals will be entered into the record.

Richard Meyer, City of Cornelius Planning Manager, spoke to the Board on behalf of the City Council. He asked the Board to refer to the letter provided by the City and highlighted that the Board could reconsider the decision made March 15, 2011. It appeared that the Metro Council and Board of Commissioners were both appearing to act on a final LCDC order. He stated the fact this decision was not a legal decision until written so people can continue to object and challenge the facts and findings. Mr. Meyers, noted LCDC's final decision that contained a changed rationale that was substituted for the region's and also contained contradictions that were in the record. He suggested a verbal LCDC vote was a small selective preference to substitute for the region's rationale that required 2-years of testimony and balancing. Mr. Meyer characterized that both Metro and the County decided to compromise on a map that does three things: 1) 300 fewer acres important to Washington County employment; 2) allows for no suitable land for future industry for one community; 3) gives 352 acres of urban reserves to a community that doesn't want it.

Mr. Meyers asked that a simple exchange of land be allowed that would allow for fewer people challenging, wasting taxpayers money, and that denies Cornelius justice. He suggested moving the land in question north of Sunset Hwy to the needs in Cornelius where it has been approved in the past over 5 times in one form or another. Richard Meyer stated that the old way (current practice of incorporating reserves into the UGB) Cornelius would be first in line with exception lands (165 acres north of Council Creek). He noted the folks living 30 years or more in this location have counted on this and the County has invested \$20 million in urban standard facilities – bridges, roads and utilities across Council Creek. Mr. Meyer concluded by asking that the Board consider changing their mind on their decision involving Cornelius.

Commissioner Rogers stated he hoped not to go north or 26 and it was unfortunate for Cornelius. He inquired about the difference of acreage on the GIS map. Mr. Meyers stated that it is virtually the same as the acreage that is unwanted in Helvetia and deferred to the County and

their numbers. Chairman Duyck stated the work that goes into the ordinance is very specific on lot lines and therefore reliable and accurate. Mr. Meyer suggested that LCDC is likely to approve whatever the County presented as they want this process done also.

Robert Bailey, 7455 NW Helvetia, spoke about a Save Helvetia public records request to LCDC after there was objection on moving forward on the oral remand. His concern was that the process didn't give citizen organizations enough concrete context (i.e., Save Helvetia's right to exercise their goal and communicate). He stated their interest in waiting for a written definition so that the Save Helvetia group can have standing and rights of appeal. A copy of the letter from LCDC was provided for the record and indicated that meetings with Dick Benner stated no notes were taken and no communication with Washington County was noted. Mr. Bailey concluded that since there has been no communication, that this matter is still undetermined.

Tom Black, 870 NW Garibaldi Street stated that after attending Planning Commission meetings and several hearings on this land use issue, he noted State Goal 3 and Goal 5 that he continue to object to Area 8A (2700 acres north of Evergreen). He wondered why significant soil type 1 land and the historical value of this area have been ignored. Mr. Black stated his objection of the entire area being included that contains the founding area of Joseph Meek, the father of Oregon. He asserted that if regard isn't given to our history and farmland, then we have to ask who we are then. Mr. Black hoped more reverence was given to this land that is this precious before consideration of paving over such areas.

Chairman Duyck mentioned that area 8A was acknowledged by LCDC. He asked what lands Mr. Black believed could be used. Mr. Black suggested there were more undesignated areas closer to urban areas and perhaps further south. Since he wasn't involved in meetings where maps were changed numerous times, Mr. Black didn't feel he got a chance to participate in this part of the process

Joe Rayhawk, 15280 NW Germantown Rd., stated his belief that the entire process is at risk because Washington County asked for more reserves than other counties felt were balanced and reasonable. After the first request, an increase was made including Peterkort property and more urbanizable land and less urban reserves was determined with this next stage. Mr. Rayhawk noted a switch of 383 acres from rural reserves to undesignated and suggested that these requests break the balance across the region. He also suggested that the appearance may be that the Board is attempting the sabotage the entire process. Mr. Rayhawk cited that at the 3/15/11 Joint Meeting with Metro, it was discussed that under special circumstances new UGB land could be selected from Undesignated lands. He noted this was how Genentech was brought in suggested it was an embarrassment and bad deal for the County and State. He likened it to something that a third world country desperate for jobs would do and such countries discovered these lessons back in the 90's. Mr. Rayhawk suggested the following: 1) There is enough industrial land within the UGB now and for the next 5 years; 2) Should the reserves process collapse, it will be more difficult to convert farmland into the UGB; 3) The last four years has experienced less growth in jobs and population than the assumptions in the reserves planning process which should lead to less urban reserves. Mr. Rayhawk expressed that he believed the County was in deep trouble due to a generation of underinvestment in the infrastructure for schools. He suggested the focus

on building industry and housing along core areas near Evergreen in Hillsboro. He also asserted that investing in industry in Cornelius did not make sense and development of industry along the Sunset Hwy other than from the core will add to the commute time that is already increasing with North Bethany and creates further damage the transportation system. Mr. Rayhawk concluded by suggesting the backing off of any urban development other than the core areas, placing N. Bethany and West Bull Mountain on the back burner until there are enough long-term good paying jobs.

Gary Virgin, 9910 SW Clark Hill Rd. Beaverton stated his opposition of the 383 acres of designation south of Rosedale Rd. He stated this area of agricultural activity will become undesignated and be questionable for future farming. Mr. Virgin suggested the undesignated label means that future politicians will be able to replace the now productive land with asphalt and concrete. For over 40 years, Mr. Virgin watched productive farms in N. Minnesota be consumed by development for housing. Much of the land is now fallow, growing brush and too small or difficult to farm. The import of feed rather than export of grain for livestock exists with a longer commute to the local equipment dealers. He suggested this will be the story in the County all too soon. In Santa Clara Valley, CA farmland has been paved over for housing and strip malls. Transportation and infrastructure is inadequate now and much of this region is crime ridden and dilapidated. Mr. Virgin recalled that Tualatin Valley had enough agriculture to support a cannery and several dairies years ago. He thought that it was a shame that the critical foodstuff items locally provided has tumbled despite the huge population increase in the area. He suggested that local development on farmland has already taken its toll and the future needs were unknown but food from direct consumables from local animals and farmers would be needed. Mr. Virgin concluded that future politicians will decide the needs of development if necessary and before this Board decided to send agricultural land to a purgatory of uncertainty to wait for developments timing.

Elizabeth Furse, 22485 NW Yungen Rd., spoke as a vineyard owner and resident for over 40 years. As a former congress member, she participated in a lot of hearings and felt this process was different than consensus building. She recommended the Board slow down a little bit and have the Farm Bureau, Save Helvetia and others like Cops work with the Board. Ms. Furse suggested that the statewide land use planning goals that require citizen input for long range planning helped create sensible decisions. She suggested this would save taxpayers from exposure to expensive litigation. Ms. Furse noted that the highest funding for the West Side Light Rail was found during her time in Washington because Oregon was known for long-term planning and had factors that would contribute to maximizing ridership. She noted that development other than in the corridors will reduce ridership and contribute to excessive traffic. These conditions will further erode opportunities for light rail monies. As a farmer, Ms. Furse stated that once farmland was covered, it is impossible to restore and foundation farm land is the most valuable in Oregon. She suggested there are better alternatives and that no hasty decisions need to be made. Ms. Furse reaffirmed that public hearings were not consensus building and that having the community support politician's decisions makes a big difference in people's feelings about government. She hoped the Board would make a better decision and ones citizens could support.

Chairman Duyck commented that the problems of building consensus are that the groups mentioned do not make a consensus but were part of a consensus. Cities, individual land owners and other groups were not mentioned and that were also concerned and that this matter was a difficult situation.

Cheri Amabisca, 13260 NW Bishop Rd., expressed desire to clear up some possible misperceptions about Save Helvetia from the 3/15/11 Joint Meeting with Metro Council. She stated Save Helvetia's objective created 2 years ago was to protect and preserve farmland for the entire area of unincorporated Washington County north of Highway 26. She held up a t-shirt that had this statement printed and restated that the mission and objective was still the same. Ms. Amabisca recounted that hundreds of pages were submitted into the record on how this area best qualifies for Rural Reserves under the factors for both agricultural and natural resources. A binder was shown that had been provided previously and noted the many who regard the term Helvetia as the countryside north of the Sunset Highway. She cited the City of Hillsboro's 2007 Helvetia Concept Plan in which 6 consulting firms refer to the area south of West Union Road and North of the Sunset as Helvetia. Ms. Amabisca noted 400 members of Intel's biking team ride through this countryside and don't refer to riding in the unincorporated area of Washington County North of 26. Instead, they refer to the area as Helvetia and that which represents the entire area. She reaffirmed that Save Helvetia is a grass roots citizen's movement that reaches across the region. Over 1400 letters and petitions have been received by the long standing Board of Commission members. The correspondence came from over 51 cities in Oregon in which 400 are in the book provided and the others in the record. Ms. Amabisca concluded that Save Helvetia has never recommended for or against reserves in other areas of the county, but have consistently advocated for rural reserves in the area north of the Sunset Hwy. Some supporters had given their opinion about other areas of the County, which is their first amendment right but did not necessarily reflect the views of the organization.

Alex Deley, 2162 NW Everett St., Portland talked about the natural beauty of the region and the Legislature's protection of the area. As an urban planner, he expressed that urban areas are best served when they are ringed by lands that supply food and green space. Oregon's comprehensive land-use management has been able to provide mitigation of urban sprawl and provide access to locally produced foods and wines. As fuel prices continue to rise and car dependent municipalities across the county are forced to contract in size, Portland's model proves all the more apparent.

Mr. Deley felt that Metro was making an error in designating 352 acres of Helvetia are into urban reserves. He expressed that this was the breadbasket for the Portland area with stunning beauty and well loved by those seeking respite from the city and is a popular destination for cyclists.

Mr. Deley did not quarrel with the need to allow for some urban growth beyond the current boundary and the urban and rural reserves process was a sound mechanism to do so. He also understood Hillsboro's desire to grow in some way. However, preserving agricultural land is a stalwart of the Oregon idea and encroaching into rural lands a rejection of the legacy of former governor Tom McCall and of Metro's reason to exist.

Mr. Deley recalled in Fall 2010, LCDC rejected 624 acres north of Council Creek identified as suitable for growth north of Cornelius. The compromise reached largely protected the Helvetia area from development. This vote was scheduled to occur this past November and the decision of Metro to enforce a Byzantine rule in order to prevent this vote has allowed the process to be reopened.

The current measure, Ordinance 740 was derived through a single meeting from which many of the affected stakeholders were absent. The new ordinance changes some 352 acres east of Groveland Rd from undesignated to urban reserves, leaving only around 233 acres west of Groveland Rd. This proposed process of urbanization would strip Helvetia of its sense of community or its agricultural riches and threatens to transform the area into featureless suburbia. Mr. Deley quoted James Howard Kunstler, in which he likened it to "the geography of nowhere." He concluded that there was an unease of numerous Metro councilors in adopting this process which speaks to the negative impacts of it. Councilor Colotta Collette was noted to vote with "deep reluctance." It was for these reasons that Mr. Deley strongly urged the Board to reject Ordinance 740. Anything else would hinder the long-term resilience of the greater Portland area while simultaneously depriving the region of one of its greatest natural assets.

Mikki Barnes, 48100 NW Dingheiser Rd. Banks spoke in support of keeping reserves land north of 26 as rural. She expressed her belief that there was an aggressive, perpetual growth strategy that may be a driving force behind too many decision made in the jurisdiction. Ms. Barnes stated that the underlying assumption is that all growth should be promoted.

Ms. Barnes noted that growth has a positive dimension and ready access to prime farmland is needed o support and encourage those who nurture, honor and tend the soil. She expressed that there is an essential balance and that growth can become excessive. There is often warning of extreme growth, which is out of proportion to an actual need. She likened this to obesity which is linked to diabetes and where there is consumption beyond the needs. Ms. Barnes also noted the example of cancer that can become an out of control growth process that needs proper treatment. On an environmental level, Ms. Barnes mentioned literature on climate changes has made it clear that current growth-oriented business as usual development practices are unsustainable and pose a significant threat to conditions on the planet.

She pointed out the issues were being raised as the County's decision making process seems increasingly out of balance in its focus on corporate and industrial growth over the greater good of the community. Ms. Barnes likened the condition to one in which an individual finds a serious disease in the system. She suggested this happens on a collective level where a status quo situation suddenly and unexpectedly becomes intolerable. Noted was the world stage in recent weeks with uprisings in Egypt, Libya, Tunisia and Yemen. Closer to home Wisconsin comes to mind where people in mass are demanding that their voices are heard.

Ms. Barnes ended by asking that the Board listen to the voice of the community to thoroughly consider decisions and to carefully analyze both short and long term ramifications and impacts. A paternalistic, top down approach that continues to devalue and marginalize the will of the people in favor of unnecessary and unwarranted expansion is out of step with the common good.

Phil Duyck, 36600 NW Long Rd., Cornelius talked about his family dairy and provided three slide pictures (prints provided to meeting file). Mr. Duyck wanted to demonstrate his family's property concerns located north of Cornelius. One picture from 1935 was of the rural area when there were no power poles. Another present day picture showed a housing development from 1960 (Farmside Lane). Additional housing was to be built but indications of septic leakage into the Council Creek tributary caused the County to pull the building permits. Mr. Duyck reported that much of the area has remained agricultural except for the subdivision. The dairy farm also has requirements to meet state and federal water samples and is a business that operates year round and sensitive to nearby urbanization. A major investment in capital has been made by the dairy in order to meet state and federal food safety guidelines. Non-farm related business on adjoining properties adversely affect the dairy livestock and food safety. Mr. Duyck stated that the area has changed and the air and Summit bio field composting plant emits odors a mile away. He further noted that urbanization close to farmlands leads to conflicts and impacts farming and dairies. The theft of crops, fuel and vandalism to farm machinery has been a problem. Homes and shops have been broken in to and 4-wheeler vehicles have driven through planted fields while illegal dumpsites are regular problems in the area. The last slide Mr. Duyck showed depicted the buffer area on Council Creek that separates their family dairy which he hoped could continue in the future. He asked the Board to protect his family's interest here.

The public hearing was closed.

Chairman Duyck restated the purpose was to accept the maps into the ordinance for engrossment and continue for two hearings in April (4/19 and 4/26). This would include having staff prepare notices as required by the County Charter.

A motion was made to direct engrossment of the ordinance to include the changes described in the staff report. Continue the hearing to April 19 and 26, 2011 and direct staff to prepare and mail notice of the amendments consistent with requirements of Chapter X of the County Charter.

Motion – Malinowski

2<sup>nd</sup> – Rogers

Vote: 3 ayes – Duyck, Rogers, Terry;

1 no - Malinowski

Commissioner Rogers mentioned that the Area C would be desirable for urban reserves but that there were not enough votes on the Board or at Metro. Area D would not be changed from undesignated to urban reserves north of 26. However, to keep the motion moving forward, Commissioner Rogers stated this was a compromise.

Commissioner Terry stated his concern for Cornelius and he hoped that his grandchildren had places to go to live and work in the future. As growth would continue, he expressed belief that the process of LCDC need be considered as consensus rather than starting over was important.

Commissioner Malinowski stated that he felt badly for Cornelius and that making the best use of the situation was important. He noted the reluctance by Metro Council members. With all



things being equal, Commissioner Malinowski expressed that his vote wouldn't make the difference.

The Chairman and Brent Curtis restated the department's recommended action for the ordinance to continue for hearings scheduled 4/19/11 and 4/26/11.

## **LAND USE AND TRANSPORTATION**

1.c.

MO 11-63

Approve Bid Award and Authorize Execution of Contract for the NW 143<sup>rd</sup> Avenue Pedestrian Pathway Project (CPO 1, 7) (Moved to the end of the Consent Agenda)

The Chairman noted the \$72,559.00 bid award to Pacific Rim Utility & Grading was to be awarded.

Mr. Rayhawk, 15248 NW Germantown Rd., spoke on the project as an appearance to improve a road leading to N. Bethany. Mr. Rayhawk suggested that there would be an impact to safety and that it would be minimal as very few walk on this section of road. He believed most children get rides from their families and it isn't close to any services. He suggested other areas need sidewalks more and where there is greater traffic than located on 143<sup>rd</sup> after the full build out of North Bethany. He noted Walker Road between Canyon and Murray and 185<sup>th</sup> South of TV Hwy. Mr. Rayhawk suggested that if the County goes ahead, he recommended the project be extended so the sidewalk can be used as a bike lane. He suggested that hardcore bike commuters would not use this as it is dangerous. Mr. Rayhawk concluded that \$45 million MSTIP funds will be spent on N. of Sunset for 2009-2013. This is more than 25% of the funds and only 12% of the County population lives in this area. Other areas that already live with dangerous and congestive areas are being ripped off. Commissioner Rogers, Terry and Schouten's constituents are being affected. He noted that projects such as Arbor Oaks and infill projects to the north and working children now living with their families. He asked the Board consider spending money in areas where there is more safety gained per dollar.

Commissioner Malinowski felt that this was a small amount for this area project and it would make it safer for kids and parents and it would receive good use.

A motion to award the bid was made.

Motion – Malinowski

2<sup>nd</sup> – Terry

Vote: 4-0

The Chairman stated there are many project that aren't any that are less important and many could be identified.

## **4. ORAL COMMUNICATION**

Mr. Rayhawk, 15248 NW Germantown Rd., spoke about Economic conditions for the County and suggested that trends continue at a frightening pace. He included two articles on the housing market with his written testimony. These articles noted that new houses are priced 48% than existing homes. This factored why home sales are decreasing. The other article new housing sales and prices have declined in the last five years. Foreclosures now reached 3 million and the optimistic view is it will take three years to clear the inventory of homes. All residential construction has been halted and permits have sunk to their lowest level in 50 years, with an increase of population (40%). He noted that there is an official double dip in housing nationally next reporting. Mr. Rayhawk highlighted his submission on Adjustable Rate Mortgages where payments are going to increase significantly when reset. Homeowners will have difficulty making their payments. Acquisition mortgages allow for the houses to be taken away without recourse. Given homeowners with little equity are looking at backbreaking payments with no hope of gaining equity in five year look like they are doing the intelligent thing in defaulting on their loans now. He concluded noting a traffic study for Saltzman-Cornell projected that east bound Cornell would back up in evening rush hour 2012. It is happening now and congestion continues to grow. Without infill or construction there is considerable back even with suppressed housing. He recommended no further building infill North of the Sunset where jobs and housing are far apart.

**5. BOARD ANNOUNCEMENTS**

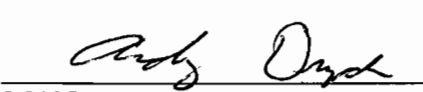
None.

**6. ADJOURNMENT: 7:57 p.m.**

Motion – Rogers  
2<sup>nd</sup> – Malinowski  
Vote – 4-0

MINUTES APPROVED THIS 19 DAY april 2011

  
RECORDING SECRETARY

  
CHAIRMAN

DATE: MARCH <sup>29</sup> 22, 2011

**PUBLIC HEARING  
SIGN-IN SHEET**

IF YOU WISH TO MAKE STATEMENTS TO THE BOARD ON PUBLIC HEARINGS  
PLEASE SIGN BELOW

NAME ADDRESS PUBLIC HEARING ITEM

- Richard Meyer City of Cornelius Ordinance 740
- Robert Bailey 7455 NW Helvelia Hillsboro, OR 97124 Ordinance 740
- Tom Black 870 NW Garibaldi St, Hillsboro, OR 97124 Ordinance 740 (Area "BA")
- JOE RAYHAWK 15280 NW SERMANTOWN (TL9723) OR 740
- Gary Virgin 9910 SW Clark Hill Rd Beaverton, OR 97007 ORD 740
- Cherry Amabisca 13260 NW Bishop Hillsboro 740
- Elizabeth Furrer 22485 NW Yungen Hillsboro 740
- Miki Barnes 48100 NE Dore Heiser Rd Banks Ordinance 740
- Phil Dreyck 36600 NW 20th Rd, Cornelius Ore 740

INDIVIDUAL SIGN-IN FORM

IF YOU WISH TO ADDRESS THE BOARD  
AND WERE UNABLE TO SIGN IN PRIOR TO THE MEETING,  
PLEASE CLEARLY PRINT YOUR NAME, ADDRESS AND  
TOPIC YOU WISH TO DISCUSS ON THIS SHEET.

PLEASE GIVE THIS FORM TO THE CLERK OF THE BOARD,  
LOCATED AT THE DESK TO THE LEFT OF THE DAIS.

THANK YOU.

PLEASE PRINT CLEARLY.

DATE: 3/29/11

FIRST NAME	LAST NAME
Alex	Deley

ADDRESS:

STREET	CITY	ZIP
2162 NW Everett #16	Portland	97210

STATE YOUR TOPIC:

Ordinance 740

INDIVIDUAL SIGN-IN FORM

IF YOU WISH TO ADDRESS THE BOARD  
AND WERE UNABLE TO SIGN IN PRIOR TO THE MEETING,  
PLEASE CLEARLY PRINT YOUR NAME, ADDRESS AND  
TOPIC YOU WISH TO DISCUSS ON THIS SHEET.

PLEASE GIVE THIS FORM TO THE CLERK OF THE BOARD,  
LOCATED AT THE DESK TO THE LEFT OF THE DAIS.

THANK YOU.

PLEASE PRINT CLEARLY.

DATE: 3/29/11

FIRST NAME	LAST NAME
Cherry	Amabisca

ADDRESS:

STREET	CITY	ZIP
13260 NW Bishop Rd	Hillsboro	97127

STATE YOUR TOPIC:

Ordinance 790



# CITY OF CORNELIUS

Honorable Washington County Commissioners:

March 29 Workshop

Please consider:

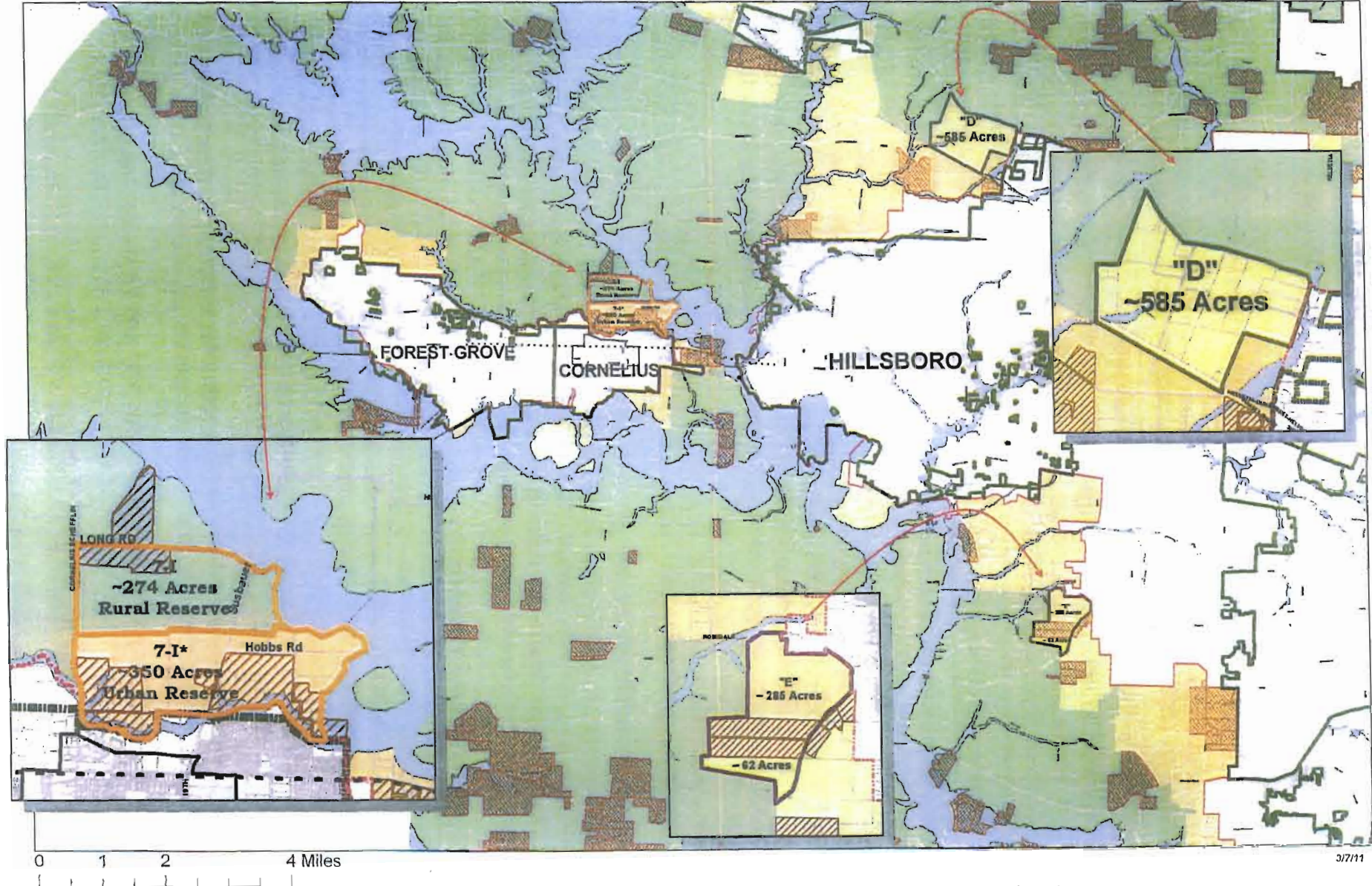
1. Staff recommended and elected officials of both Washington County and Metro approved Urban Reserves north of Cornelius in 2010. The reasons are clear, plentiful & in the record.
2. DLCD staff also recommended approval of Urban Reserves north of Cornelius to LCDC.
3. LCDC by a split vote that changed from 4-2 in favor of this Urban Reserve to a 4-2 vote selectively excluding Urban reserves north of Cornelius, after false information (that is information clearly contradicted by facts in the public record) was given as reasons.

The record shows and all well informed people know that the land north of Cornelius:

- Is not the best farmland in the County as reported by Washington County Farm Bureau,
  - Does not include significant flood plain as reported by 1000 Friends of Oregon,
  - Is not a protrusion into foundation farmland, as appeared on a map showing no floodplain or Exception Land,
  - Council Creek does not serve as a good boundary between urban and rural land use,
4. Because the reasons/findings for LCDC's verbal decision were faulty, LCDC never formalized their vote with a Final Order and legal basis for their extraordinary selective substitution of the Region's judgment. So their decision could not be challenged.
  5. Yet Metro and Washington County accepted this unsubstantiated verbal decision just like an order and therefore did not vote their true beliefs about Urban Reserves north of Cornelius in March 15.
  6. Not wanting to jeopardize the bigger reserves policy agreement by resubmitting a compromise to LCDC allowing a reduced Urban Reserve north of Cornelius, Washington County and Metro chose what appeared to be an easier compromise.
  7. Now there are even more groups lined up to challenge the overall effort. Taxpayer money stands to be wasted. Justice for the community of Cornelius stands to be denied.
  8. Please reconsider the verified public record of facts upon which last year's approval was based, and adopt the Community – Farming Compromise submitted by Cornelius for the March 15 hearing. That compromise both gives Cornelius some needed land for future jobs and protects the better farmland north of Highway 26 from future urban development.
  9. Please stand up for what you know to be the right thing. That will give Metro reason to do the same. That will give permission for LCDC to reconsider and approve a balanced plan.

10. Thank you for your efforts.

# Draft Community - Farmland Compromise



**Net acreage difference between Ord. 733 and Compromise**  
 -17 Urban Reserve Acres  
 -73 Rural Reserve Acres  
 +90 Undesignated Acres

**Legend**

- Area "7-I" to Rural and Urban
- Area "D" to Undesignated
- Area "E" to Urban and Undesignated
- Rural Reserve areas
- Urban Reserve areas
- Undesignated
- Exception Land
- UGB
- Town Center
- Future LRT

## **North of Council Creek – Reasons for Urban Reserve & UGB Expansion**

1. **Cornelius Already Is North of Council Creek**
  - a. Four lots within the City limits already extend north of C Crk.
  - b. City water service extends 1,000 ft to 12 houses north of C Crk.
  - c. Police, Fire and Library services are provided by the City area already
2. **Public Investment in Urban Expansion North of Council Creek = over \$20 million**
  - a. Two new bridges with urban sidewalks & utility connections over Council Creek
  - b. Arterial freight standard reconstruct of 10<sup>th</sup> Ave to Corn.Schef. Roundabout
3. **Private Disinvestment in Agriculture is Significant**
  - a. Over 300 Acres Are Already Partially Urbanized (Designated Exception Lands)
  - b. One meat packing & retail business, located north of Creek, wants to expand.
  - c. Another 12-acre industrial park is promised by owners north of C Crk
  - d. Majority of owners of 10 acres or more report they can't profit from farming
4. **Public Decisions Already Made to Urbanize North of Council Creek:**
  - a. 1982 Urban Reserves mapped to Dairy Creek north of Cornelius
  - b. 1980's City Limits extends 4 tax lots north of C Crk
  - c. 1990's Over 300 Acres of Exception Lands designated north of C Crk
  - d. 2004 Metro UGB decision to add 200 acres north of C Crk  
(Rescinded after 14 months on appeal by 1000 Friends)
  - e. 2007 Metro Hearings Officer recommends expansion of UGB north of C Crk.  
(Metro Council denies expansion on procedural grounds)
  - f. 2010 County/Metro approval of Urban Reserve designation for 624 acres  
(State LCDC remands decision based on 1,000 Friends objection)
5. **Urban Services Are Immediately Available**
  - a. Reconstructed urban standard bridges and arterials to Sunset Hwy
  - b. Clean Water Services sewer line along C Crk and sized for easy extension north
  - c. Cornelius City water service already north of C Crk and sized for extension north
  - d. Utility Master Plans & SDCs are up-to-date and capable of funding extensions
6. **City Demonstrated Need for Employment Land**
  - a. See City's Plans and Econ. Op. Analysis to be complete, livable, green and sustainable
  - b. City needs a housing / jobs balance for opportunities to walk & bike to work, and reduce traffic congestion & pollution from unnecessary commuting, like other cities
  - c. Over 100 acres north of Council Creek fall within ½ mile of town center & future LRT, while this State named "Severely Distressed City" lacks room for half the jobs it needs
  - d. Industry north would expand an existing industrial area and related infrastructure
  - e. Efficient use of the Council Creek Trail as a home to work and recreation connector
7. **Industrial Expansion must be Located North of Cornelius for Efficient Access** to Sub-regional Industry Clusters, Regional Services, and Larger Markets via the Sunset Hwy.
8. **Land Here is Not the Best Agriculture Land** See Zoning Map and Wash. Co. Analysis, which shows this land as Tier 2 in comparison to Tier 1 land north of Dairy Creek & other cities
9. **Dairy Creek Flood Plain is Better Buffer** (5-10 times wider than its tributary, Council Crk)
10. **Super Majority Support of Large (over 10 ac.) Lot Land Owners** (19 owners)



**Robert Bailey**  
**7455 N.W. Helvetia Road**  
**Hillsboro, Oregon 97124**

**March 29, 2011**

Washington County Board of County Commissioners  
Hillsboro, Oregon

**Testimony for a Hearing on Ordinance 740**

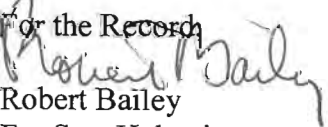
For the record, we (SaveHelvetia) asked the State of Oregon Department of Land Conservation and Development Department, through a public records request, to disclose the communication they had with Washington County commissioners and/or staff since the October 29, 2010 oral remand, and related to the remand of Ordinance 733 and what was to become Ordinance 740.

We were surprised that the county was moving forward in mid-December, without any written remand order. We testified then and since, that Washington County should await the written order. We expressed concern that moving forward without the written order lacked clarity but also did not allow community groups such as SaveHelvetia to sufficiently participate in their Goal One based citizen involvement and participation role.

The Washington County BOCC determined by vote, nonetheless, to move forward, based on their understanding of the oral remand. This occurred just before two commissioners were to leave their roles and a new commissioner was to begin. This gave the impression of a rapid vote while the votes might be in support of this course of action.

We were surprised to learn that the State Department of Land Conservation and Development indicates that they had NO communication with Washington County commissioners or staff as Washington County moved rapidly to create Ordinance 740.

We again express our concern that this rapidly moving context puts citizen involvement in an inappropriately reactive position, not knowing the detail of the remand, and not being fully able to determine our rights of appeal through our bona fide standing in this matter.

For the Record  
  
Robert Bailey  
For SaveHelvetia



# Oregon

John A. Kitzhaber, M.D., Governor

## Department of Land Conservation and Development

### Director's Office

635 Capitol Street NE, Suite 150

Salem, Oregon 97301-2540

Phone: (503) 373-0050

Fax: (503) 378-5518

[www.oregon.gov/LCD](http://www.oregon.gov/LCD)



March 9, 2011

Robert Bailey  
SaveHelvetia.org  
7455 N.W. Helvetia Rd.  
Hillsboro, Oregon 97124

Re: Public Records Request

Dear Mr. Bailey,

In accordance with ORS 192.440(2), this is to acknowledge our receipt on February 27, 2011, of your request for the following records:

- Written, audio, or video minutes of: The meetings (electronic, telephonic, video teleconference and/or face to face) between Washington County Board of County Commissioner's Chair, Andy Duyck, and/or Washington County Department of Land Use and Transportation staff, with Oregon DLCD's Richard Whitman and/or Oregon DLCD staff, and any Metro elected official and/or staff, from the date of the oral Remand of Washington County's Ordinance 733 on October 29, 2010 forward to the present.
- Description of public notice given to these public meetings.

Having reviewed your request, I can tell you that there have been no public meetings regarding this topic. Two meetings have occurred between DLCD Director Richard Whitman and Dick Benner of Metro. The two meetings occurred on November 4, 2010 and January 31, 2011. No notes or written records for either meeting were created.

If you have any questions feel free to contact me at 503-373-0050 ext. 322 or via email at [Casaria.r.tuttle@state.or.us](mailto:Casaria.r.tuttle@state.or.us).

Sincerely,

Casaria Tuttle  
Records Coordinator

Title: Input for Washington County Board of Commissioners Hearing  
Re: Item 3.a Ordinance 740  
Date: March 29, 2011  
Author: Joe Rayhawk

My name is Joe Rayhawk. I live at 15248 NW Germantown Road, Portland, OR 97231

I testified at the Joint meeting with Metro that I believe that the entire Reserves process is at risk because this county had originally asked for more Urban Reserves than the other counties believed was balanced and reasonable. After the first request, you increased the amount of Urban reserves, including Peterkort. After this go-around, you will end up with more Urban Reserves and undesignated and less Rural Reserves. This includes a little discussed switch of 383 acres from Rural Reserves to Undesignated. It is clear that your requests break the balance across the region.

I am starting to agree with others that that it appears that you are attempting to to sabotage the whole process.

As a side comment, at the joint meeting it was discussed that under special circumstances, you could select new UGB land from Undesignated. It was also discussed that something like this was done to get Genentech. I want to restate that the Genentech project is embarrassing in what a bad deal it was and is for the county and for the state. When I describe it to friends in high-tech, they describe it as the kind of deal the third-world country desperate for jobs would make. They also say that the third-world countries learned not to do those deals back in the early nineties.

Three side thoughts

- 1) It appears that you have more than enough industrial land inside the UGB now for the next five years.
- 2) It is my understanding that, if the Reserves process does collapse, you will actually find it harder to convert farmland to UGB. So, maybe this is a good thing.
- 3) The last four years have seen less growth in population and far less growth in jobs than used as assumptions for Reserves planning. Any reset in the Reserves process should lead to less Urban Reserves. After all, why go with Projections that we know are wrong?

I have testified repeatedly that the county is in deep trouble because of the underinvestment in infrastructure and schools for more than a generation and that you need to concentrate on building industry and housing along your core areas near Evergreen and Hillsboro.

I am sorry for Cornelius, but any development of industry there that requires any investment from the county is going to be detrimental for the majority of the county for at least 10 years. It is not clear if it will ever make sense.

Similarly, development of industry along the Sunset Highway the can attract employees from other than the core is going to add a few hundred thousand more hours to the annual commute time beyond the 1 million plus increase that North Bethany will cause. Further damaging your most important transportation system.

So, I request that you do the following to avoid crippling the county's competitiveness any further

- 1) Back off of the new requests for Urban and Undesignated away from the core areas.
- 2) Put North Bethany and West Bull Mountain on the back burner until such time as we are actually increasing the number of long-term good paying jobs.

3/29/2011

Testimony about the land use designation for 383 acres south of Rosedale Road.

Gary L. Virgin  
9910 SW Clark Hill Rd  
Beaverton, OR 97007

The subject piece of property now supports agricultural activities that include grains, berries, nursery stock, nuts and Christmas trees, providing proof the land is very suitable for agriculture. The "Undesignated" label means that the land is questionable for farming use from the political standpoint, not from the agricultural standpoint. The label truly means that future politicians will easily be able to replace the now productive land with asphalt and concrete.

For over 40 years I have watched the once contributing productive farms in Northern Minnesota be gobbled up with development for housing. Once these farms exported needed milk and beef to the nearby communities. Today that much of that land is fallow growing brush and little else, plots too small or difficult to farm. Other plots have horses, lama and other pets, requiring the import of feed. The once robust farming infrastructure is now gone. The previous 15 minute trip to John Deere and New Holland dealers now is well over 2 hours for the few farmers remaining. That will be the story here all too soon.

I lived in Santa Clara Valley, California in the mid 1960's. It was amazing watching the orchards and vegetable plots being paved for housing and strip malls. Transportation was a local nightmare due to inadequate infrastructure in most areas. Today many of those areas are crime ridden dilapidated slums. To what end was the land raped?

Tualatin Valley once had enough agriculture to support one or more canneries and several dairies. Isn't it strange that the number of these critical foodstuff items locally provided has tumbled despite the huge population increase in the area? Do you suppose that the development of our local farmland has already taken it toll?

None of us know what the next 15, 25 or 35 years brings in technology, housing trends and transportation and energy needs. All of in this room knows that all persons wishing to stay alive even 50 years from now will need food either in the form of direct consumables or for animals producing products in the food chain. Farmers need a predictable future to risk long term and costly development of orchards, vineyards and other crops. If situations change and it becomes obvious that development of the subject area is necessary, let the politicians of the day make that decision based on the past history and current conditions rather than today assigning the land to an agricultural purgatory of uncertainty in development timing.

The "Undesignated" label will make it very risky for farmers to invest in any long term, costly agricultural development. Farming is an established contributing industry in this valley. I do not support the pursuit of a future unidentified industry by destroying the resources (infrastructure) and assets (farmland) of another. It is only reasonable the land in question be designated "Rural Reserve" to support the needs for agricultural purposes 15, 25 or more years from now.

From: Cherry Amabisca  
13260 NW Bishop Road  
Hillsboro, OR 97124

Date: March 29, 2011

To: Washington County Chair and Board of Commissioners

Re: Ordinance 740

As I listened to your questions to Save Helvetia supporters at the hearing on March 15, I realized that some of you are new and coming to this reserves process late and I thought it would be a good idea to clear up some possible misperceptions about Save Helvetia.

When we formed Save Helvetia two years ago, our objective was to protect and preserve farmland for the entire area of unincorporated Washington County north of Highway 26.

Our message and objective is still the same after two years: Preserve all land north of Highway 26 as Rural Reserves. We have submitted into the record hundreds of pages of documentation showing how the area north of Highway 26 best qualifies for RURAL RESERVES under the factors for BOTH agricultural and natural resources. SEE BLUE BOOK.

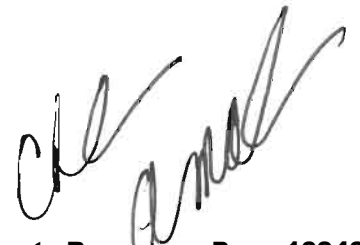
To many people in the region, Helvetia is a term that represents the countryside north of the Sunset. Even the City of Hillsboro and their 6 consulting firms referred to the area south of West Union Road and north of the Sunset as "Helvetia" when they wrote their "Helvetia Concept Plan" in 2007. SEE HELVETIA CONCEPT PLAN

The 400 members of Intel's biking team who regularly cross over the freeway to ride routes that take them through 25 miles of our countryside do not say, "Let's go ride in the unincorporated area of Washington County north of Highway 26"! They say, "Let's go ride in Helvetia!".

Save Helvetia is a grass-roots citizens' movement that reaches across the region. When you received over 1,400 letters, emails and petitions, asking for Rural Reserves north of the Sunset, they came from 51 cities in Oregon. SEE BOOK with 400 LETTERS.

Save Helvetia *as an entity* has never recommended for or against reserves in other parts of the county - we have resisted the political process that the reserves process has become, with various special interests *who have financial incentives lobbying* both you and Metro councilors. We have consistently advocated for rural reserves in the area north of the Sunset, which includes Helvetia. Some of our supporters have exercised their First Amendment rights and given their opinion about other areas of the county and it would be inappropriate of us to limit their free speech.

I hope I have clarified your questions about Save Helvetia.  
Thank you for your time and welcome to our newest commissioners!



From: Elizabeth Furse  
22485 NW Yungen Road  
Hillsboro, OR 97124

Date: March 29, 2011

To: Washington County Chair and Board of Commissioners  
Re: Ordinance 740

I am opposed to Ordinance 740 for the following reasons:

Washington County and the region does not need more urban reserve lands. There is sufficient available, buildable land within the urban growth boundary, as well as other lands that are not foundation farm lands.

Oregon's great strength has been our statewide land use plan. This plan calls for citizen input, long range planning and protection of farm lands, especially foundation farm land.

I believe that what is needed here is careful planning, consensus decision-making utilizing citizen groups, such as the Farm Bureau, CPO's and Save Helvetia, in order to reach sensible decisions that are supported by a wide range of citizens in order to protect taxpayers from exposure to expensive litigation.

In order to get the requisite funding for the West Side Light Rail, I was able to prove that Oregon is able to tell with certainty where urban centers will be located in order to maximize ridership. Locating urban reserves north of the Sunset, far away from existing urban centers, will make it more difficult to justify future lines. Building outside existing urban centers will ensure overcrowded roads and reduced ridership.

I recommend that that:

- 1) The County slow down the process
- 2) Not consider foundation farm land north of Highway 26
- 3) Consider alternatives that meet the needs of generations to come

We must remember that once valuable farm land is covered over with buildings, it is impossible to restore it to productivity. The modern trend is to making farming accessible to urban areas for recreation, food security and local food sources.

I urge Washington County to move away from wasteful, hasty decisions toward sensible, responsible decisions that bring our communities together.

Respectfully,

  
Elizabeth Furse

3. a.

Date: March 29, 2011

To: Washington County Commissioners

From: Miki Barnes

Topic: Testimony in favor of rural reserve designation for land north of Highway 26

From the outset, I would like to make it clear that I support designating all reserves north of 26 as rural including the 585 acres in Helvetia.

I would also like to comment on the strategy of aggressive, perpetual growth which seems to be a driving force behind far too many decisions made in this jurisdiction and to further explore the underlying assumption that all growth should be promoted.

Certainly growth has a positive dimension as anyone who has witnessed the birth and development of a child, the blossoming of a tree in preparation for setting fruit, freshly picked or home gardened fruits and vegetables swelling to their mature form. The foregoing examples are manifestations of the generous bounty of this earth and represent a process of growth that has sustained life on this planet since time immemorial. This, view, of course is predicated on having ready access to prime farmland and on providing support and encouragement to those who nurture, honor and tend the soil.

As with all things in the human realm, balance is essential, for there is a point where growth becomes excessive. In this land of abundance, we are often warned of extreme growth; that which is out of proportion to actual need. One example is the obesity epidemic which can lead to diabetes, a malady that is linked to loss of vision and heart disease and now poses a threat to the health of even young children. In this instance the growth is taken to extremes, when individuals consume well beyond what the body needs for optimal functioning. Diabetes is also associated with eating processed, low nutrient foods rather than fresh picked, locally grown produce.

Cancer is another disease which speaks of an out of control growth process, one that has become pathological. Fortunately with the proper treatment and significant life style changes, people can sometimes survive this devastating illness.

On an environmental level, the literature on climate change has made it very clear that current growth-oriented business as usual and development practices are unsustainable and as such pose a significant threat to the very conditions on this planet that have hitherto sustained human life.

I raise these issues because the Washington County decision making process seems increasingly out of balance in its focus on corporate and industrial growth over the greater good of the community. Sometimes an individual can feel healthy only to learn through an annual check-up or routine testing that a serious disease has entered their system. This can happen as well on a collective level wherein a status quo situation that seems to have maintained itself for many years suddenly and unexpectedly becomes intolerable. We are seeing this played out on the world stage in recent weeks with uprisings in Egypt, Libya, Tunisia, and Yemen. Closer to home Wisconsin comes to mind. These situations portend a collective shift. People in mass are demanding that their voices be heard.

Along the same vein, I urge you to listen to the voice of the community, to thoroughly consider your decisions and to carefully analyze both short and long term ramifications and impacts. A paternalistic, top down approach that continues to devalue and marginalize the will of the people in favor of unnecessary and unwarranted expansion is out of step with the common good.

I further recommend that if you feel a compelling need to add to the urban reserves, you should consider designating land for this purpose from the Hillsboro Airport property which, though farmland, has for the most part, already been taken out of production.

The notion that Hillsboro Airport serves primarily business jets is a myth. According to the Final Environmental Assessment on the third runway proposal, in 2007 the Hillsboro Airport logged 236,885 annual operations (pg 2-1). The Draft Environmental Assessment (EA) on the third runway (pg 5.1-6) notes that jet operations totaled 7,008 that year which equates to less than 3% of the total.

The EA (pg 3-6) also states "Local operations (consisting largely of training activity) currently represents about 68 percent of total operations at HIO." Based on the 2007 numbers this translates into 157,923 operations.

What the facts suggest is that Hillsboro Airport is primarily a taxpayer subsidized international training school on behalf of a for-profit company that recruits a substantial number of student pilots from outside the country. Instead of forcing taxpayers to subsidize this enterprise, I would suggest that a Peace Corps model be implemented by which flight training companies such as Hillsboro Aviation travel to the countries from which they recruit their students and offer training there. This would not only save millions in infrastructure costs but would also ease the noise and pollution burden currently shouldered by local residents.

As for the general aviation hobbyists who use this airport, According to the Oregon Department of Aviation (ODA) 2006-2008 Biennial Report, "As of 2008 there are 97 public use and over 350 private use airports (pg 5)" in Oregon for a total of 447. This figure does not include commercial or personal use airstrips. This same document states that there are 5,732 pilots in Oregon (5,173 registered pilots and 559 unregistered). This number, which represents 1/6 of 1 % of the state's total population, translates into a ratio of 12.82 pilots to each general aviation airport in the state.

Please note that the Oregon Blue Book states that Oregon operates 1,306 public schools for the 566,067 (almost 15% of the state's population) kindergarten through 12<sup>th</sup> grade students enrolled, a ratio of 433 students per school. Thus the proportion of airports per Oregon pilot exceeds the school to student ratio 33 times over. Obviously there are already plenty of facilities in this state to accommodate the pilot population.

Designating some or all of the Hillsboro Airport property as urban reserve solves two problems simultaneously: it saves taxpayer dollars that would otherwise be wasted on unnecessary expansion and it allows prime farmland north of Highway 26 to be designated for rural reserve. Thank you for your time and consideration.

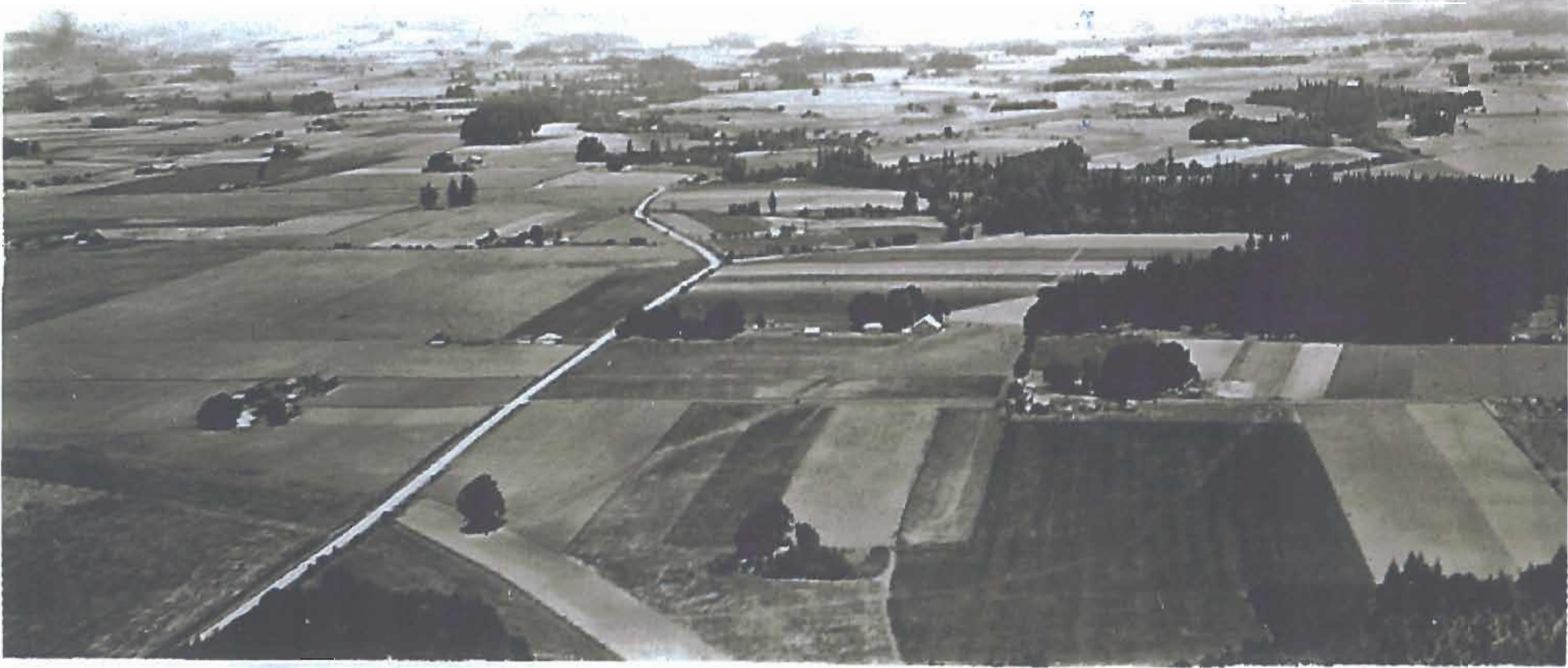
Respectfully Submitted,



Miki Barnes  
48100 NW Dingheiser Rd.  
Banks, Oregon 97106  
503-324-0291



3.a. Phil Dryck  
Presentation







Alex Deley

Commissioners:

As a transplant to Portland some 14 years ago, I am struck by the natural beauty of the surrounding region and the willingness of legislators to protect that natural beauty. Further, I feel that cities work best when they are ringed by agricultural lands that supply them food and green space. By protecting this land through comprehensive land-use management, the Portland area has been able to mitigate urban sprawl and provide access to locally produced foods and wines. As fuel prices continue to rise and sprawling, car dependent municipalities across the country find themselves forced to contract in size – the wisdom of the Portland model proves all the more apparent.

As a result, I feel that Metro is making an error of judgment in designating some 352 acres of the Helvetia area as an urban reserve. Helvetia is an important breadbasket for the Portland area. It is also, due to its stunning beauty, well loved by those seeking respite from the city and is a popular destination for cyclists.

I have no quarrel with the need to allow for some urban growth beyond the current boundary and I feel the urban and rural reserves designation process to be a sound mechanism by which to determine where future growth should take place. I also understand that Hillsboro feels compelled to grow in some way. However, agricultural land preservation is a stalwart of the Oregon idea, and the encroachment into rural areas, as currently proposed, is a rejection not only of the legacy of former governor Tom McCall, but also of Metro's very reason to exist.

Indeed, in the fall of last year, the state Land Conservation and Development Commission rejected the 624 acres north of Council Creek that the county and Metro identified in 2009 as suitable for growth north of Cornelius. Following this, the involved parties reached a compromise that largely protected the Helvetia area from development. All that remained was a final vote on the process, which was scheduled to occur this past November. The decision of Metro to enforce a Byzantine rule in order to prevent this vote from happening has allowed the process to be reopened.

The current measure, this version of Ordinance 740 was derived through a single meeting from which many of the affected stakeholders were absent. This new ordinance changes some 352 acres east of Groveland Road from undesignated to urban reserves, leaving only around 233 acres west of Groveland Road. This proposed process of urbanization would strip Helvetia of its sense of community, of its agricultural riches and threatens to transform the area into featureless suburbia – what James Howard Kunstler calls “the geography of nowhere”. Indeed, the unease of numerous Metro counselors in adopting this process speaks to the likely negative impacts of it. Councilor Carlotta Collette noted that: “It's only with deep reluctance that I do this.”

It is for these reasons that I strongly urge Washington County to reject Ordinance 740. To do anything else would hinder the long-term resilience of the greater Portland area while simultaneously depriving it of one of its greatest natural assets.

# *Washington County Farm Bureau*

March 29, 2011

Washington County Chair and Board of Commissioners  
155 North First Avenue, MS-21  
Hillsboro, OR 97124

Re: Ordinance No. 740 - For the record

Dear Chair Duyck:

The Washington County Farm Bureau would like to go on record as opposing Ordinance No. 740. The quantity of urban reserves is too high and takes too much farm land from the agriculture industry in Washington County. We are taking this opportunity to outline the areas of foundation farm land that are designated or proposed as urban reserves that we believe should be designated as rural reserves under the Reserves Rule OAR 660-027-0005 and 660-027-0060. Our recommendations are as follows:

**Areas A, 7B, B, C - north of Cornelius and north of Forest Grove**

Follow the directive of LCDC and designate all the lands north of Council Creek, in both Cornelius and Forest Grove, as rural reserves. (See attached map titled "WCFB Reserves Recommendations: North of Council Creek").

**Area 8B, Area D and adjacent undesignated - north of Highway 26**

Use the boundary of Waibel Creek and designate all land northwest of Waibel Creek as rural reserve. Only 5.05 acres is needed by ODOT for interchange improvements, negating the need for the full 88 acres of Area 8B as urban reserves. Follow the recommendation of the State Agency letter and designate Area D (352 acres) and adjacent undesignated (233 acres) as rural reserves. (See attached map titled "WCFB Reserves Recommendations: North of Evergreen Road").

**Area 8A - south of Highway 26**

Use the boundaries of Waibel Creek and designate all land north of Waibel Creek as rural reserves as recommended in the State Agency letter of October 14, 2009 and re-confirmed on January 22, 2010. (See attached map titled "WCFB Reserves Recommendations: North of Evergreen Road").

**Area E - South of Rosedale Road**

Retain the rural reserve designation for this 383 acres and do not redesignate it as urban reserves.

**Do not take more foundation farm land**

The Washington County Farm Bureau's position is that Washington County and the region have enough urban reserves without replacing the urban reserves north of Council Creek orally remanded by LCDC. *There should be no urban reserves on the foundation farm land north of Council Creek in Cornelius, north of Forest Grove, north of Highway 26 and north of Waibel Creek.* These areas provide natural buffers between urban and agricultural uses.

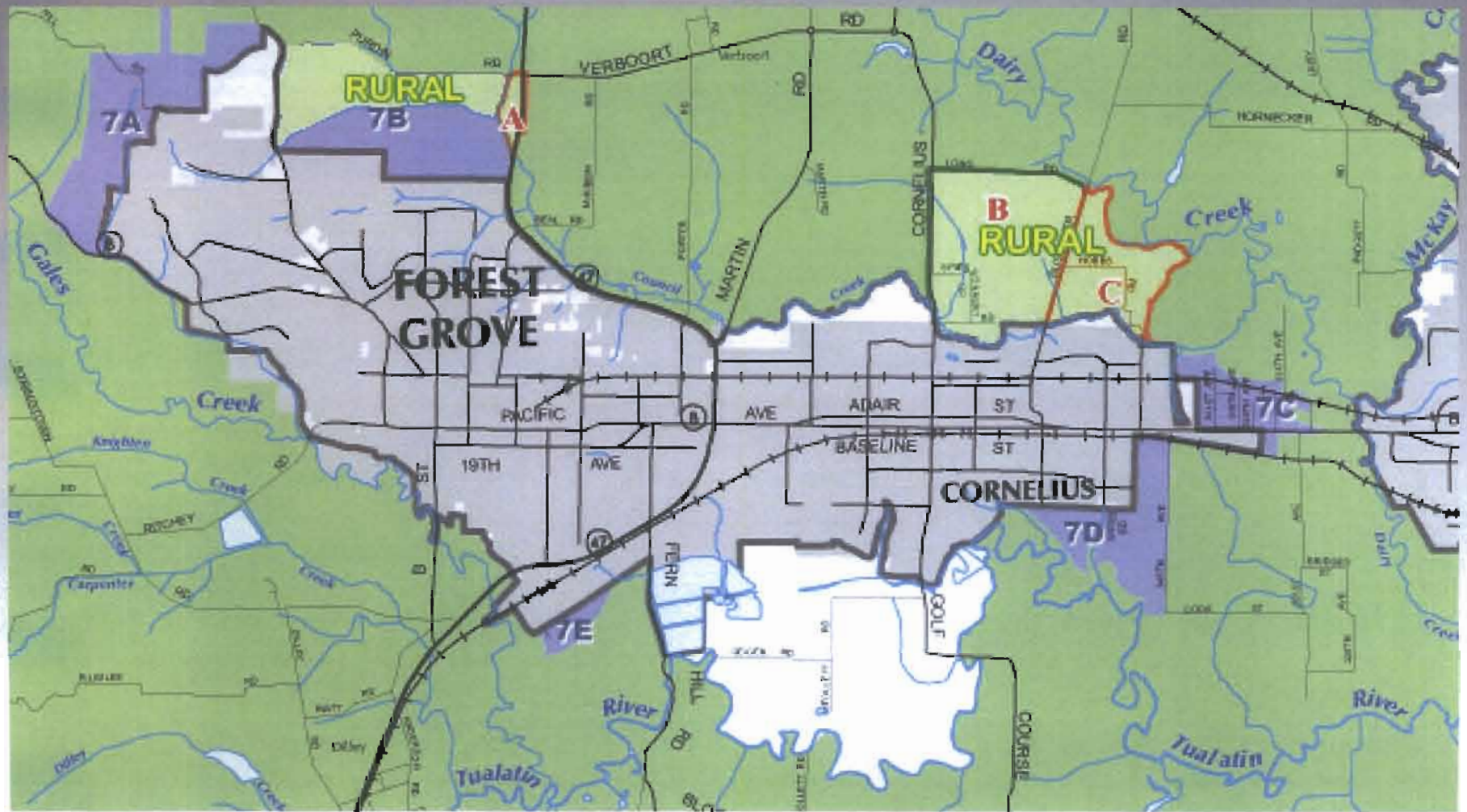
*If the region believes that urban reserves need to be "replaced" from north of Cornelius, our directive is to first look at land that is conflicted. A second alternative is to look at three areas of undesignated lands: south of Cornelius, south of Minter Bridge Road in Hillsboro and south of Area E. (See circled areas on attached map titled "Urban and Rural Reserves in Washington County dated 3/17/11"). We would welcome the opportunity to meet with you and your staff to discuss options that best meet the needs of the agriculture industry.*

Respectfully,

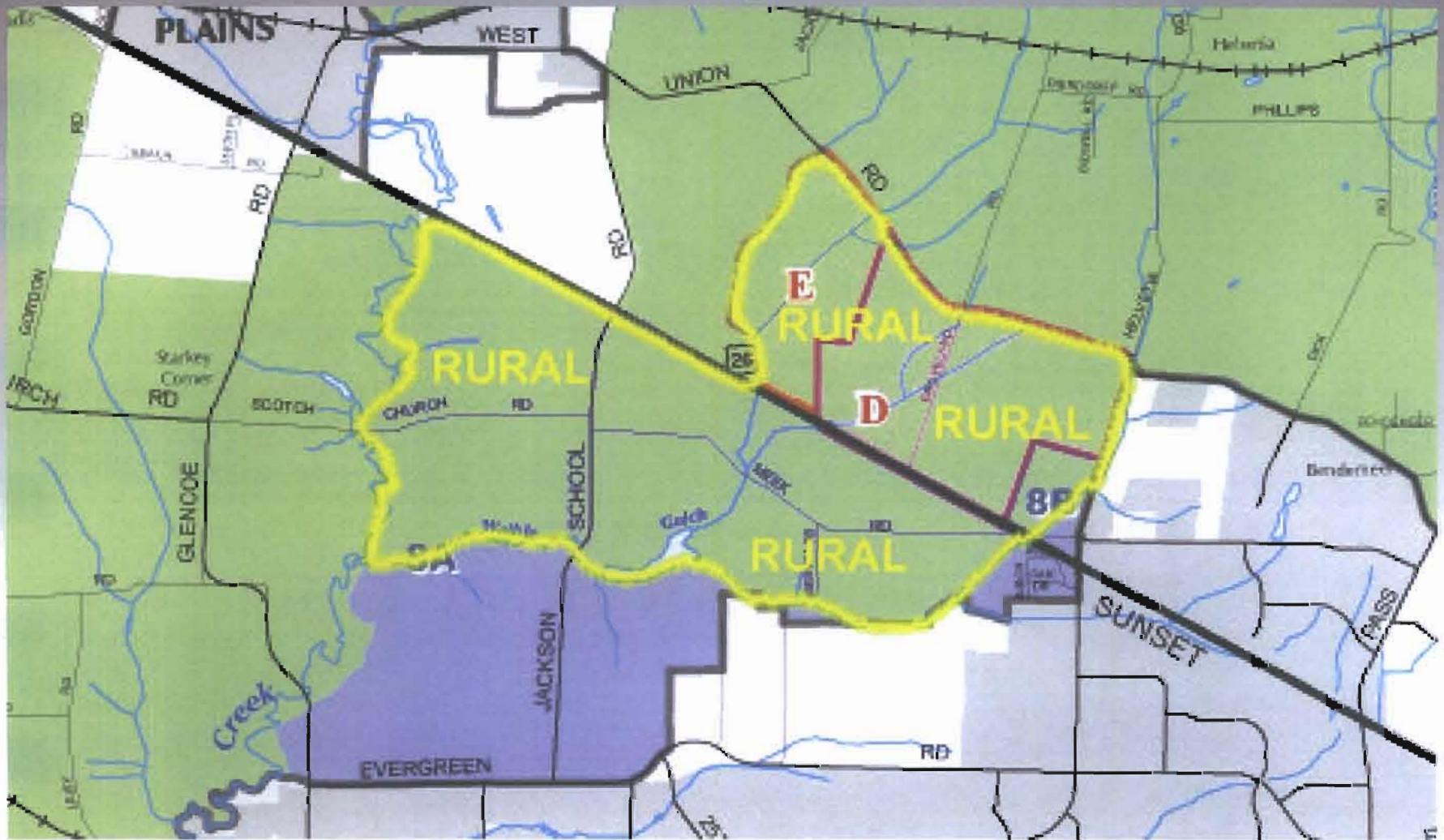


Washington County Farm Bureau  
Dave Vanasche, Chairman  
Washington County Farm Bureau Land Use Committee  
885 SW Baseline  
Hillsboro, OR 97124

# WCFB Reserves Recommendations: North of Council Creek



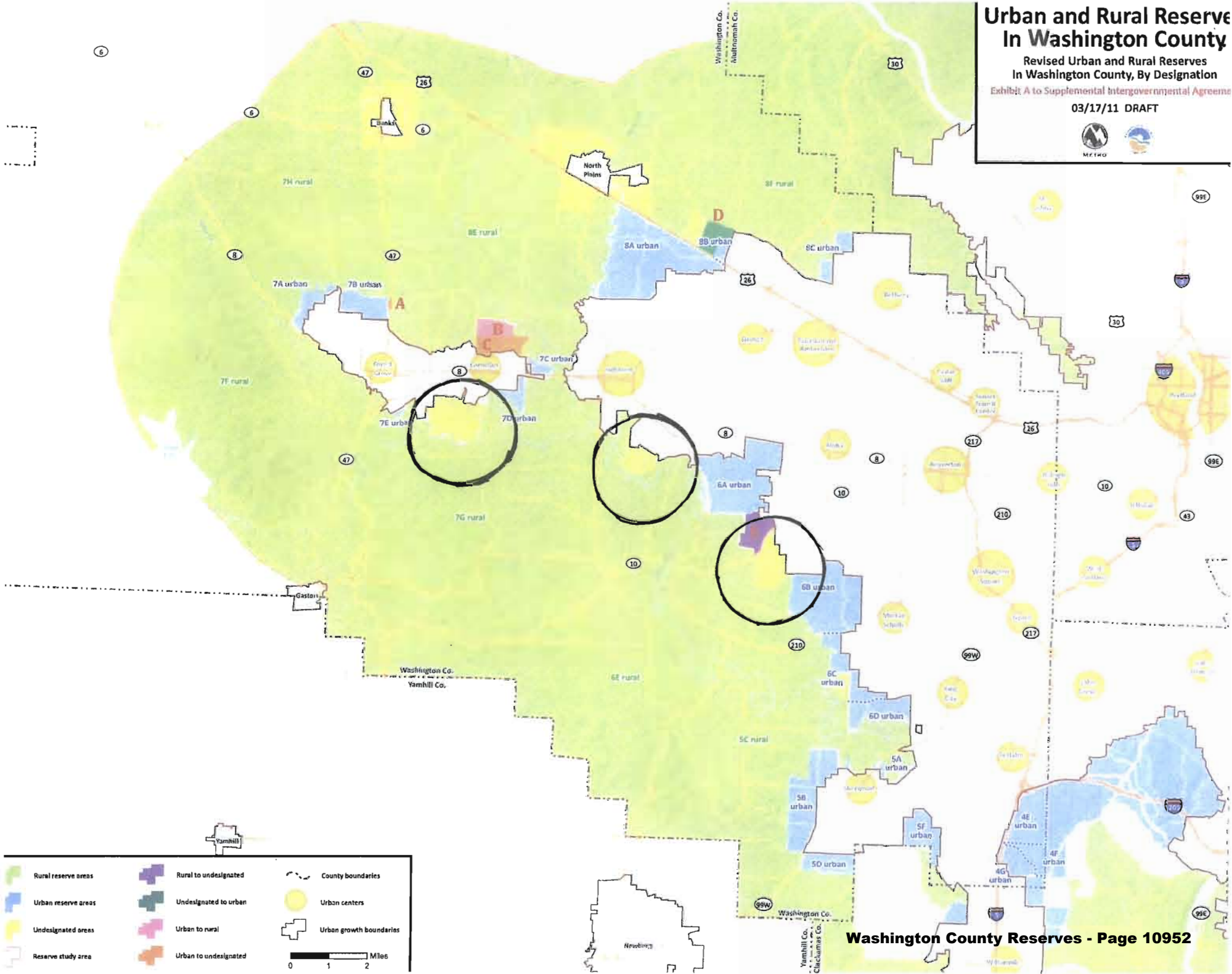
# WCFB Reserves Recommendations: North of Evergreen Road





# Urban and Rural Reserve In Washington County

Revised Urban and Rural Reserves  
In Washington County, By Designation  
Exhibit A to Supplemental Intergovernmental Agreements  
03/17/11 DRAFT



	Rural reserve areas		Rural to undesignated		County boundaries
	Urban reserve areas		Undesignated to urban		Urban centers
	Undesignated areas		Urban to rural		Urban growth boundaries
	Reserve study area		Urban to undesignated		0 1 2 Miles

RECEIVED

MAR 24 2011

WASHINGTON COUNTY  
BOARD OF COMMISSIONERS OFFICE

March 21, 2011

Mr. Dave Waffle, City Manager  
City of Cornelius  
1355 N Barlow Street  
Cornelius, OR 97113

Re: Ordinance 740 – Amendments to the Rural and Urban Reserves Map North of Council Creek

Dear Mr. Waffle:

I write to request your support in two areas involving the proposed Rural and Urban Reserves north of Cornelius (Council Creek).

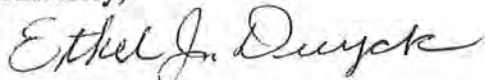
First, I've heard from neighbors who stated they received communication from the City of Cornelius regarding the Reserves issue in the past. I do not recall having ever received any written or verbal communication from the City of Cornelius regarding the request to include farmland north of Cornelius in Urban Reserves, and therefore want to request an update to the city's mailing list to include my address for future communications. I am both surprised and concerned that I have not been included in this communication, especially given that I am the owner of property within the proposed Reserve area. My mailing address is listed below.

Second, I am requesting a list of the property descriptions or map with tax lot information for properties included in the proposed Undesignated Reserve classification approved by the Board of County Commissioners and Metro Council on March 18. It is impossible to know how the 350 acre proposed Undesignated Reserve approved by the Board of Commissioners impacts local property owners as the map has no property boundaries, land marks or other clarifying markers.

Thank you for your support in these two matters. If you have questions regarding this request, please contact me.

In closing, our collective community will thrive when we preserve farmland from urban sprawl - today and for future generations. This can best be achieved through Rural Reserves for all farmland north of Council Creek.

Sincerely,



Ethel Duyck  
2125 NW Cornelius Schefflin Road  
Cornelius, OR 97113

Cc: Mayor Neil Knight  
Commissioner Bob Terry

RECEIVED

MAR 25 2011

WASHINGTON COUNTY  
BOARD OF COMMISSIONERS OFFICE

3/15/2011

7X

Re. David Hill

urban reserve

To whom it may concern,

For almost 70 years, Creekwood Place has been home to the Jarrell family. The children, grandchildren and the old folks would like it to remain as is.

The trees we planted in the 80's have grown into a beautiful forest. It is the home of some woodland animals even a bobcat, and many varieties of birds, some rarely seen here.

The forest is also a source of the good clean air that city enjoys.

Lets return this property to its first designation: rural reserve

Thanks for your time.

Burl + Edith Jarrell

2900 NW Creekwood Place

Forest Grove, OR 97116

## Birds seen in our forest


Hermit yellow warblers  
Cedar Waxwing  
Varied Thrush  
Hermit Thrush  
Golden crowned kinglet  
Brown creeper  
Red breasted nuthatch  
White breasted nuthatch  
Pileated woodpecker  
Downy woodpecker  
Hairy woodpecker  
Northern Flicker  
American Goldfinch  
House Finch  
Brown-headed cowbird  
White & golden crowned sparrow  
Vesper sparrow  
Lazuli Bunting  
Tree swallow  
Violet green swallow  
Mourning dove  
Band-tailed pigeon  
California quail  
American kestrel  
Turkey vulture  
Cack eyed junco  
Evening grosbeak  
Black headed grosbeak  
Western Tanager  
Black capped chickadee  
Chestnut backed chickadee

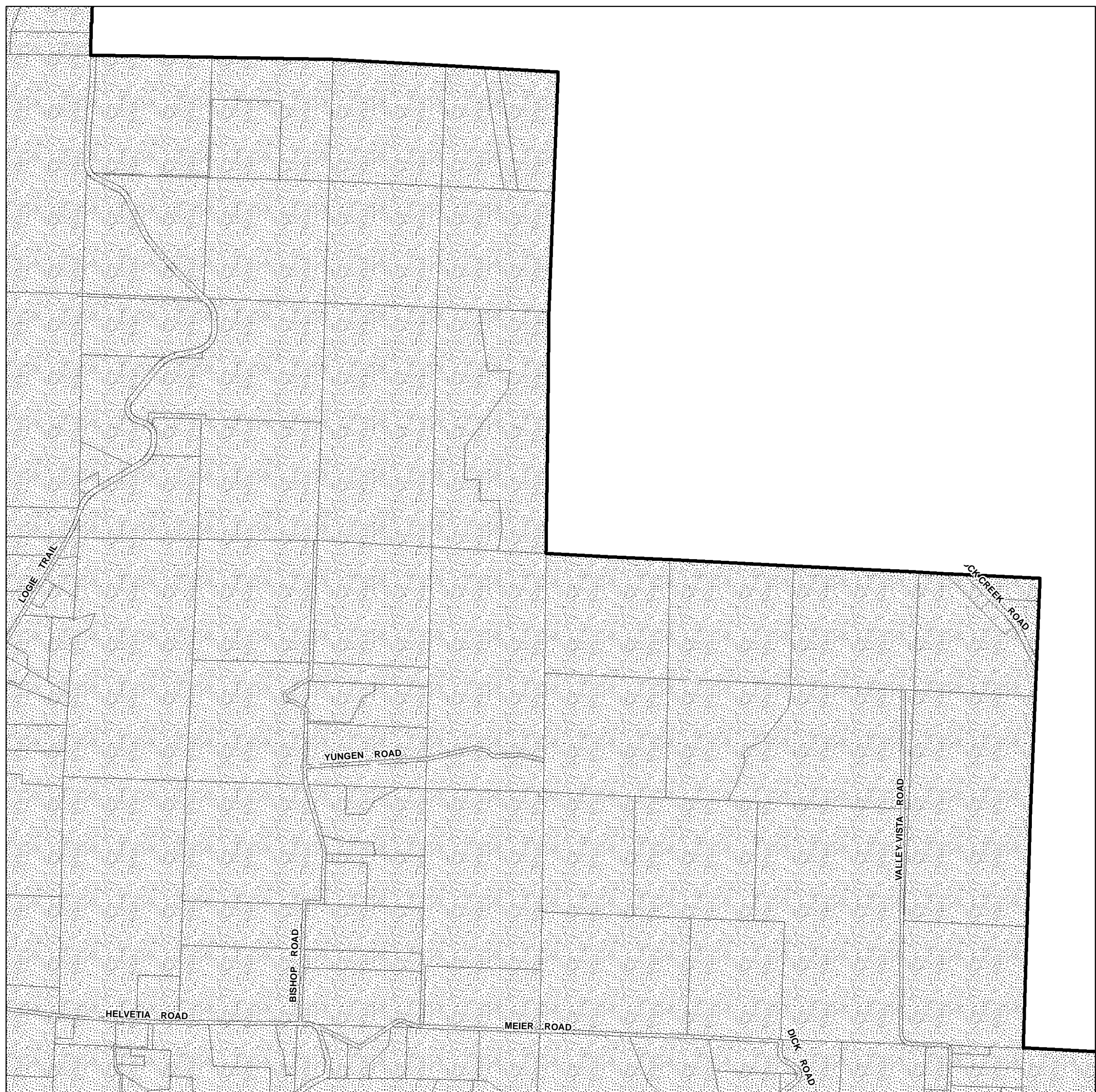
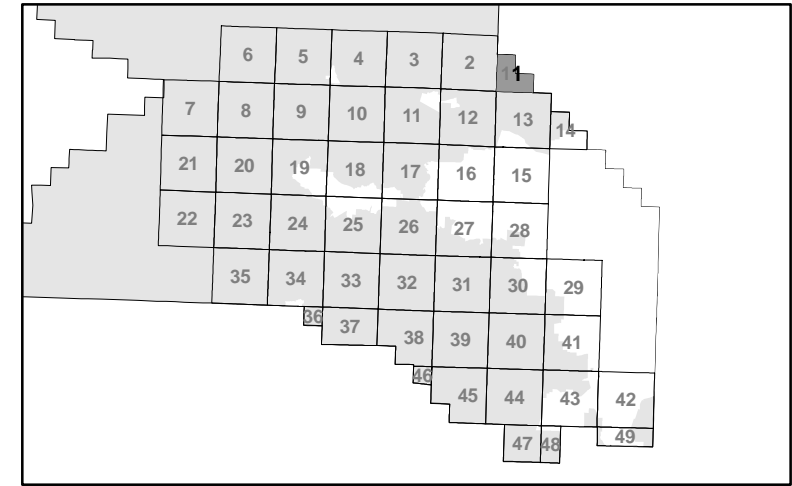
Red Breasted Sapsucker  
Fox sparrow  
Rufus-sided tree  
Scrub jay  
Stellar jay  
Great horned owl  
American crow  
Red tailed hawk  
Coopers hawk  
Pheasant - ring tailed  
last sighted in '0

## Animals seen in the forest

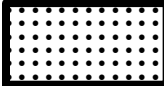
bob cat  
deer  
raccoon  
opossum  
red squirrels  
western gray squirrels  
chipmunk  
pine squirrels

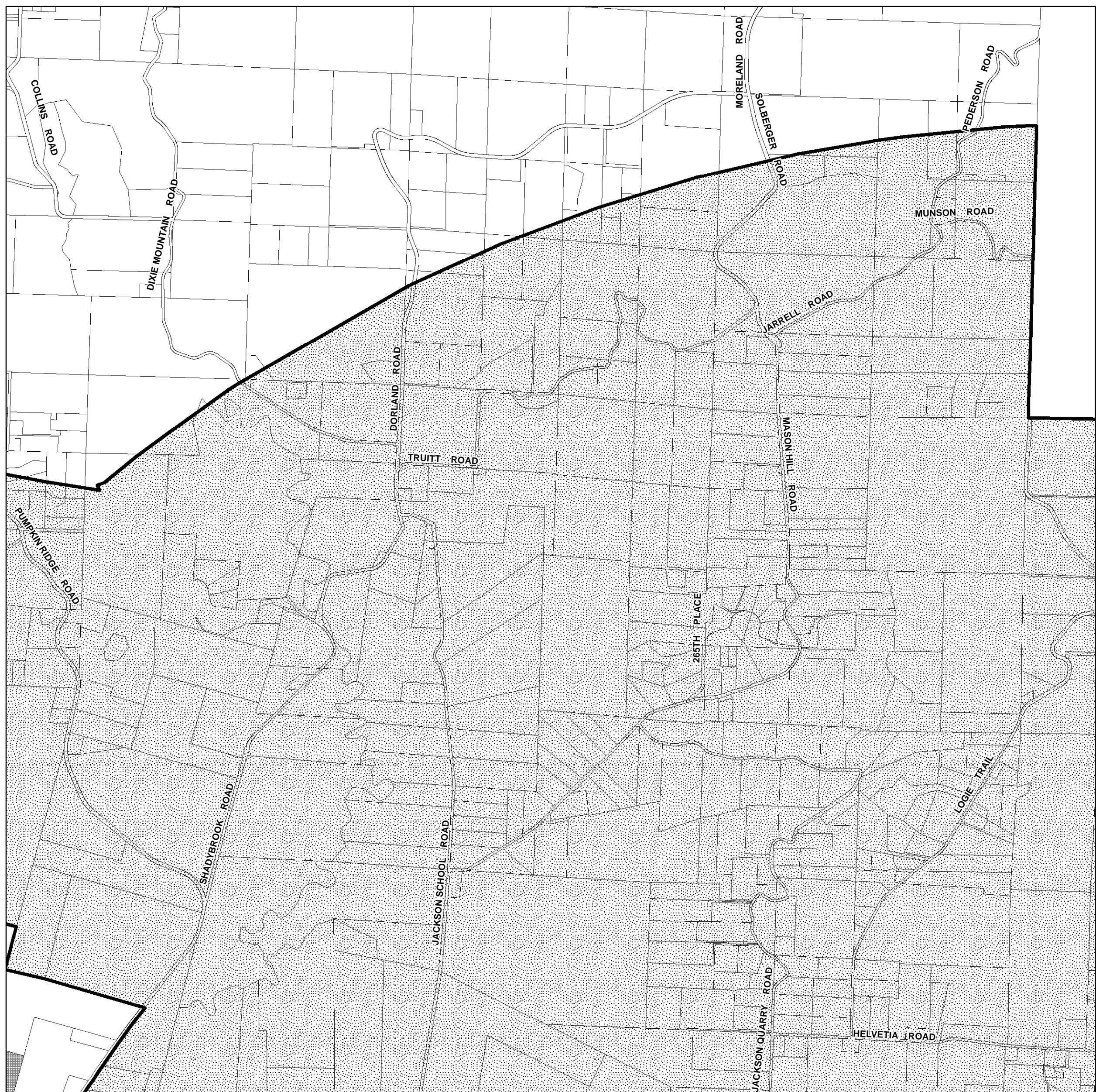
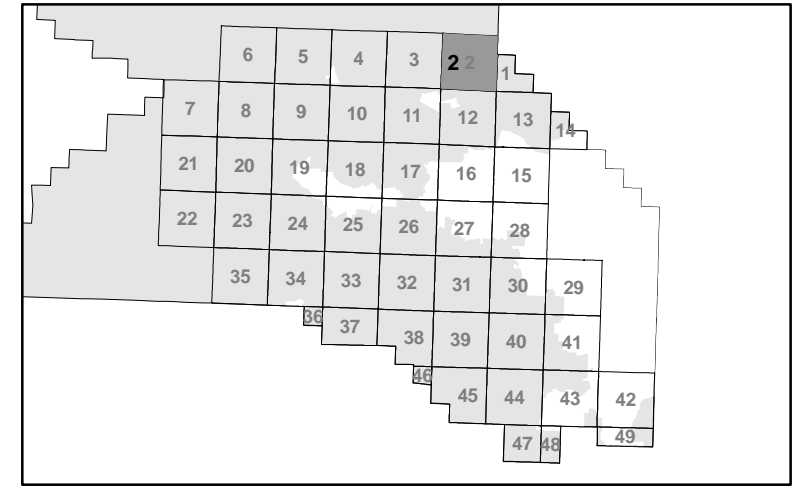
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



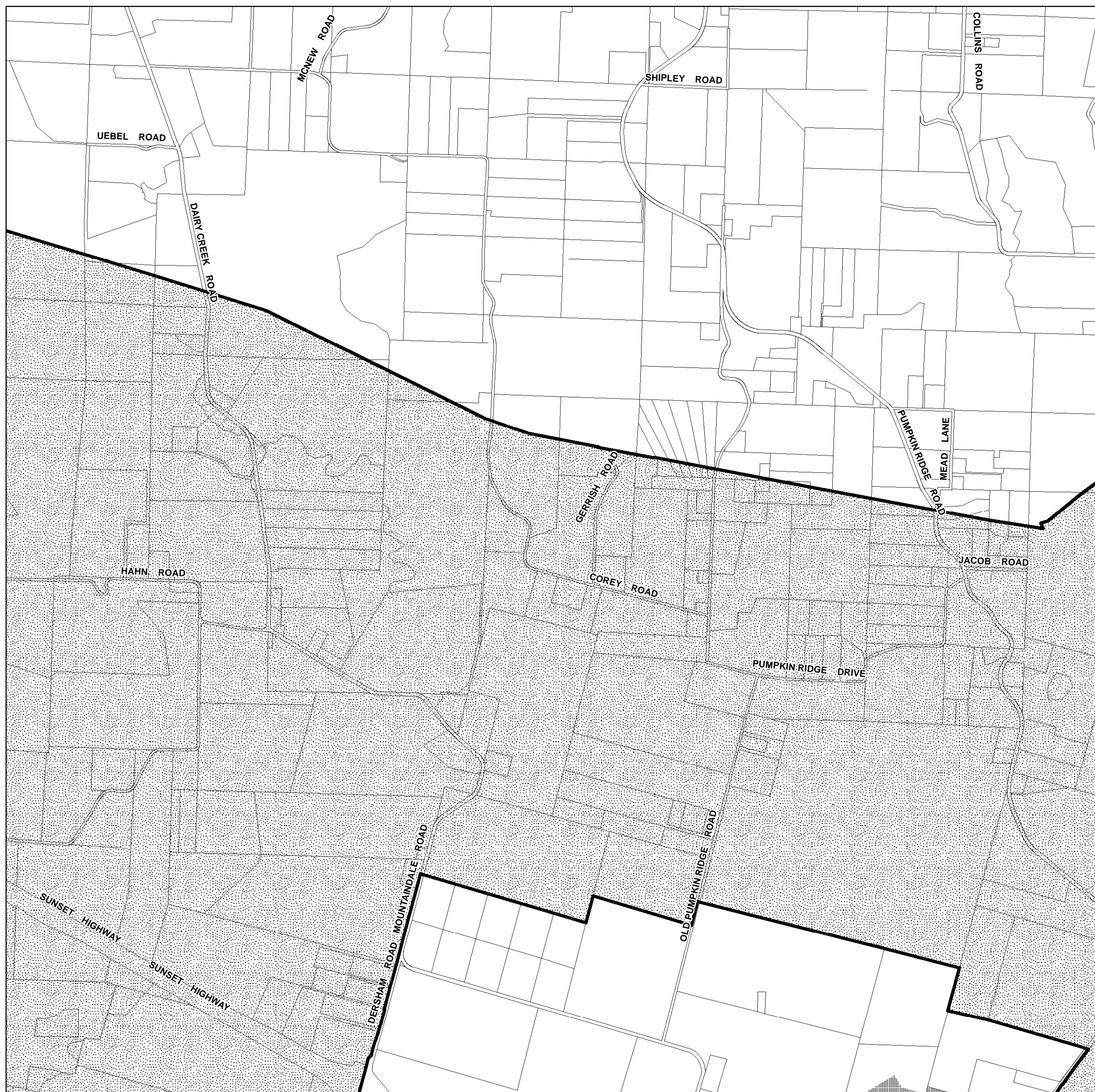
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

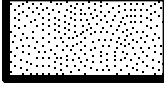


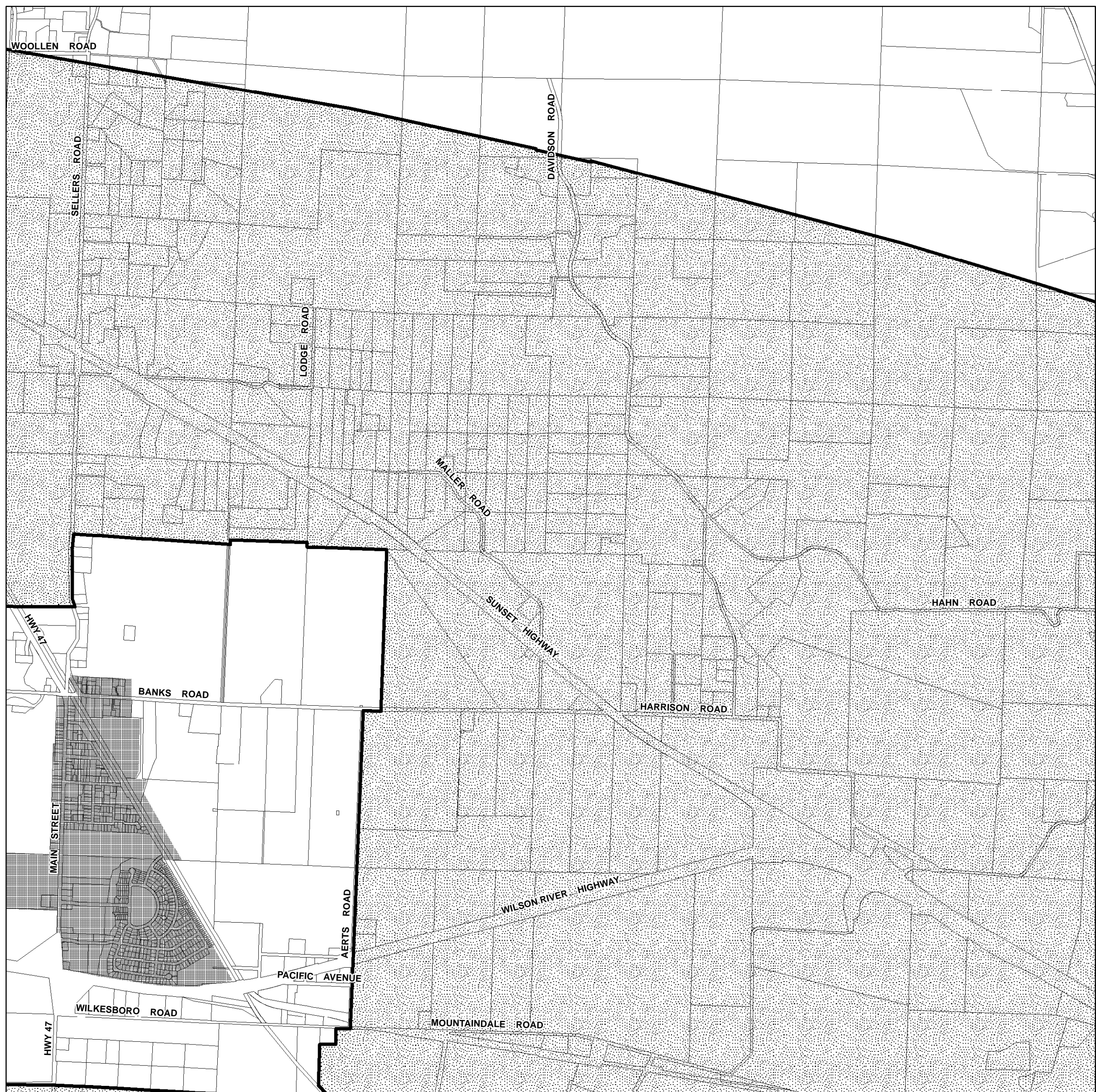
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



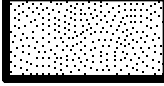
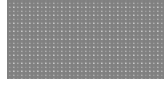
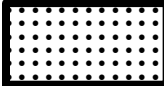
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

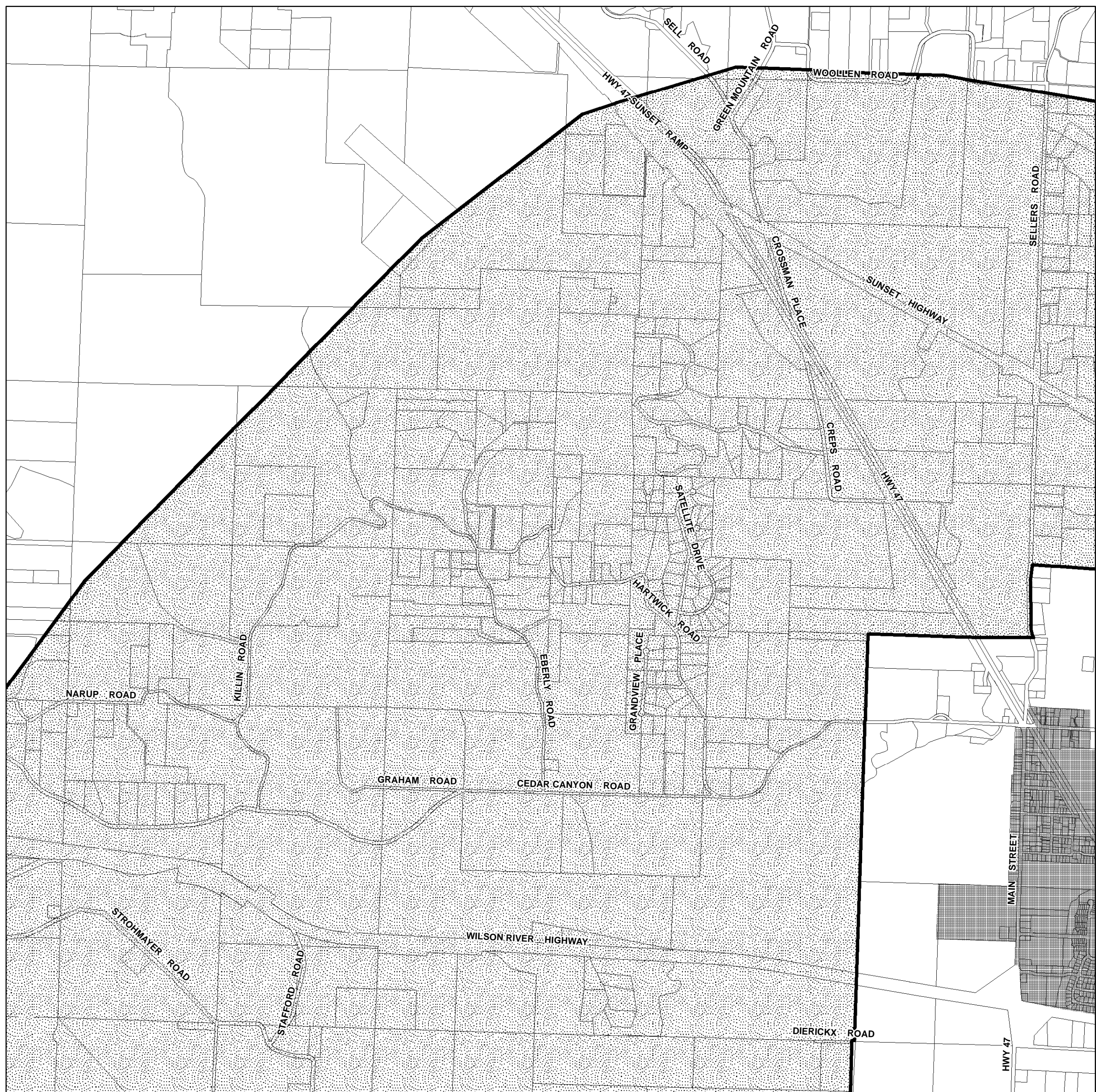
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



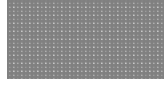
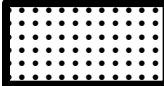


The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

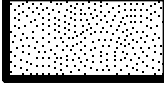


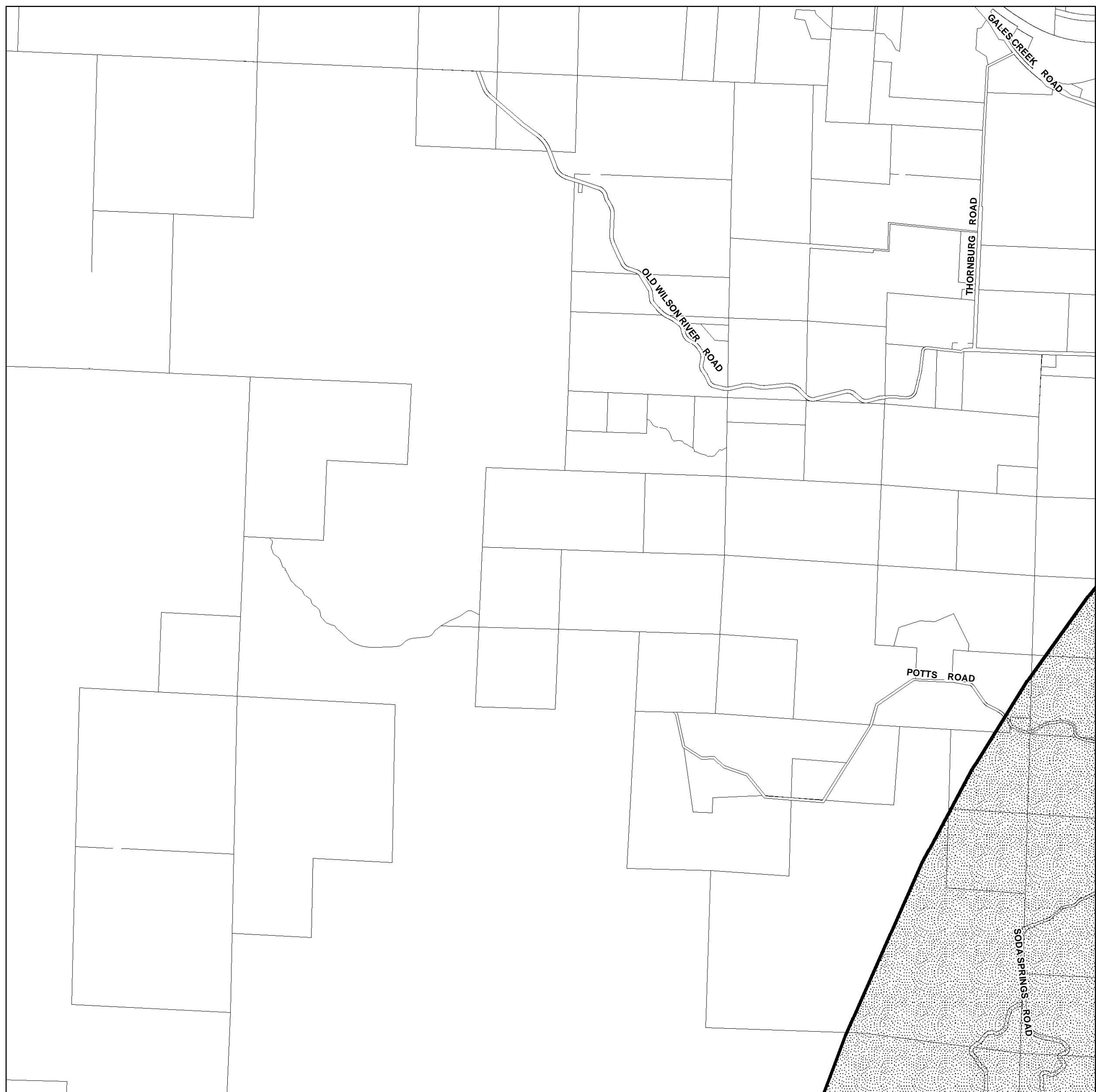
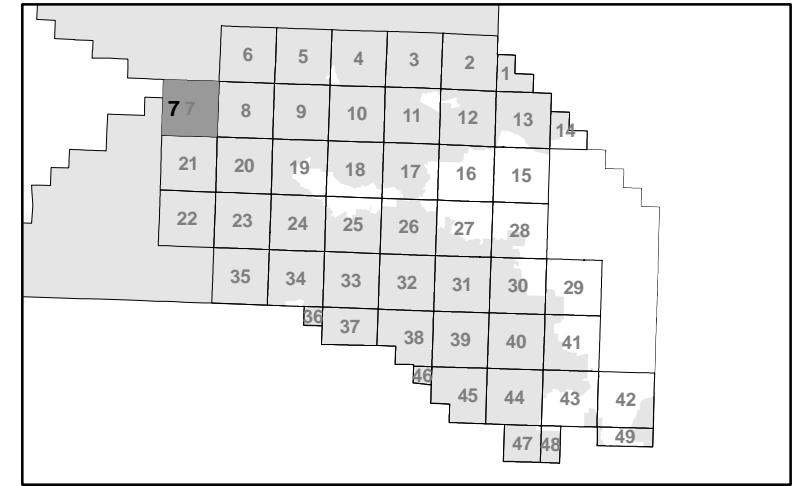
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



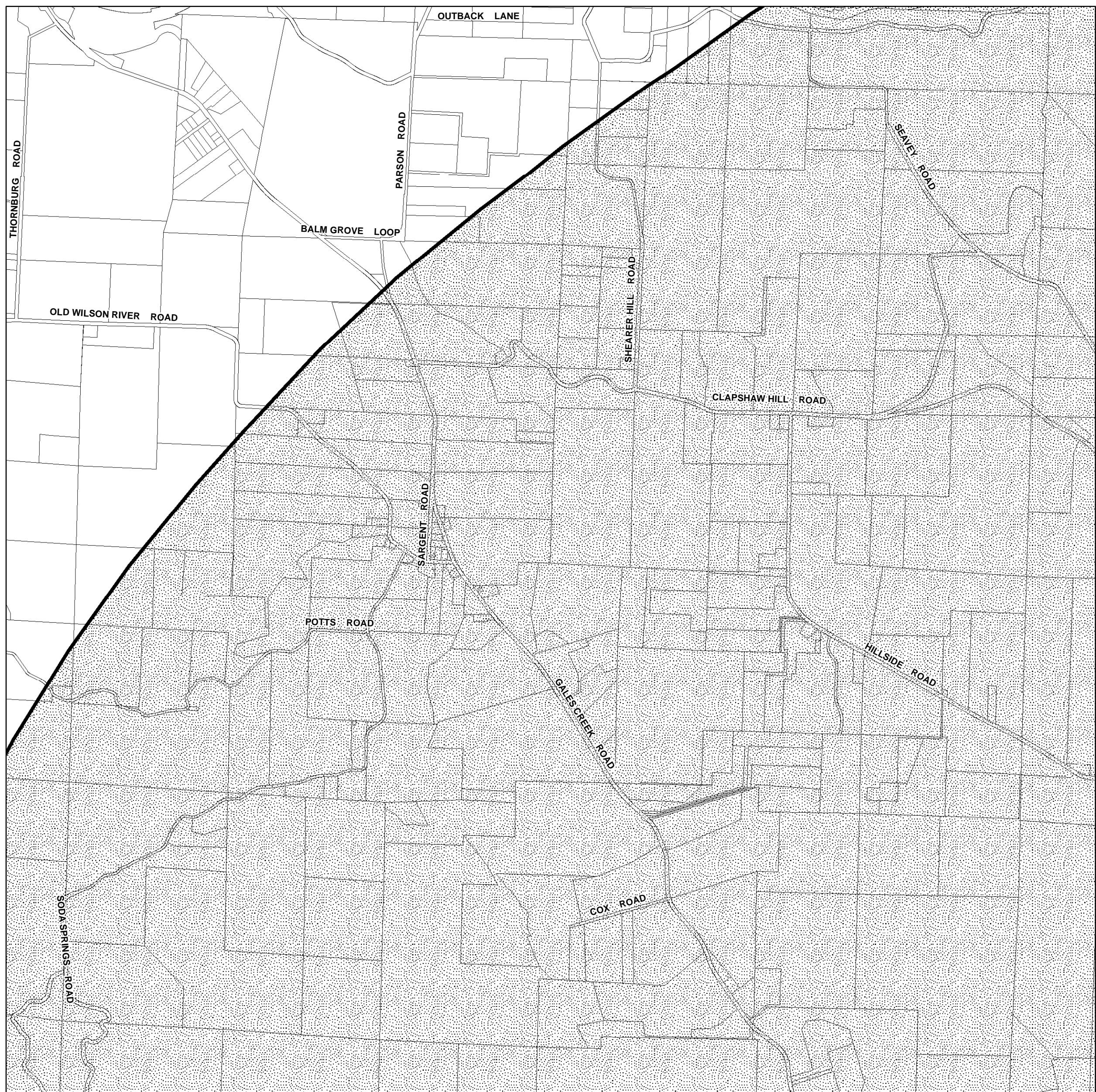
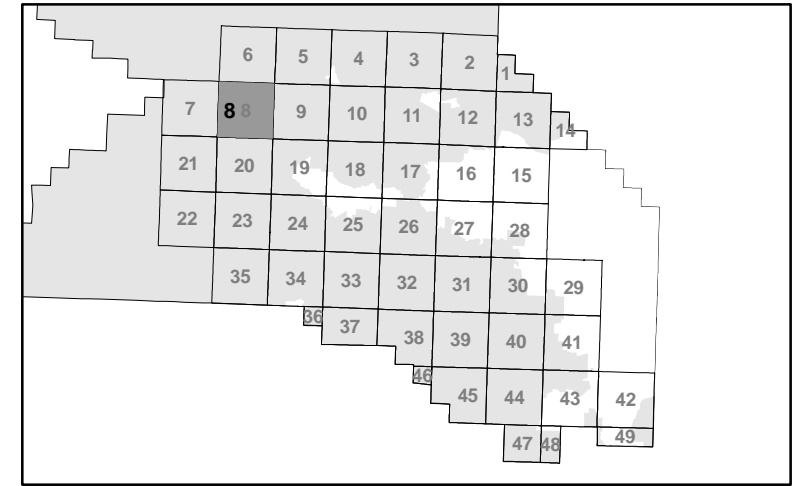
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

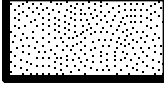


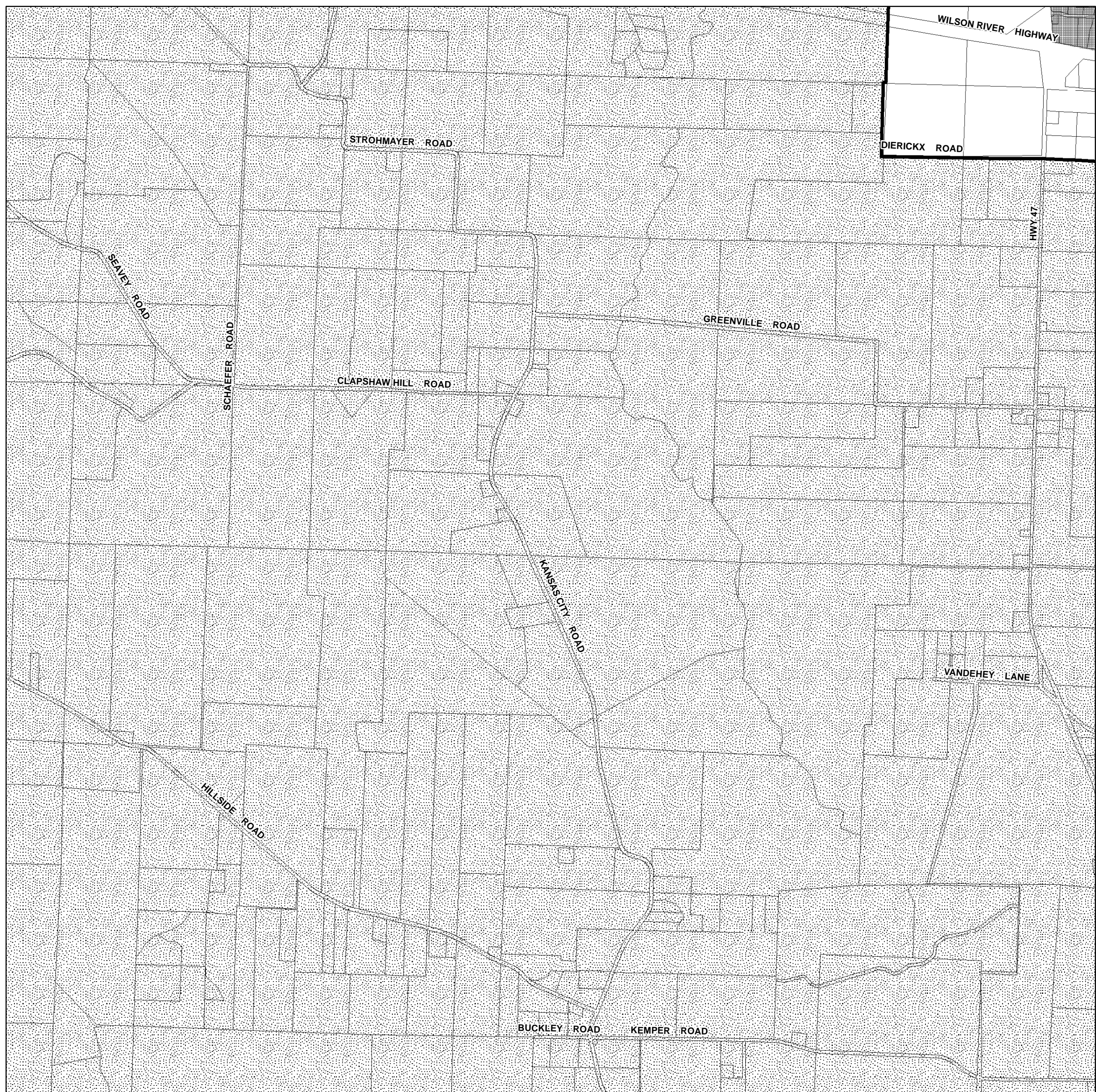
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

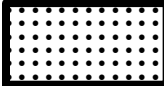


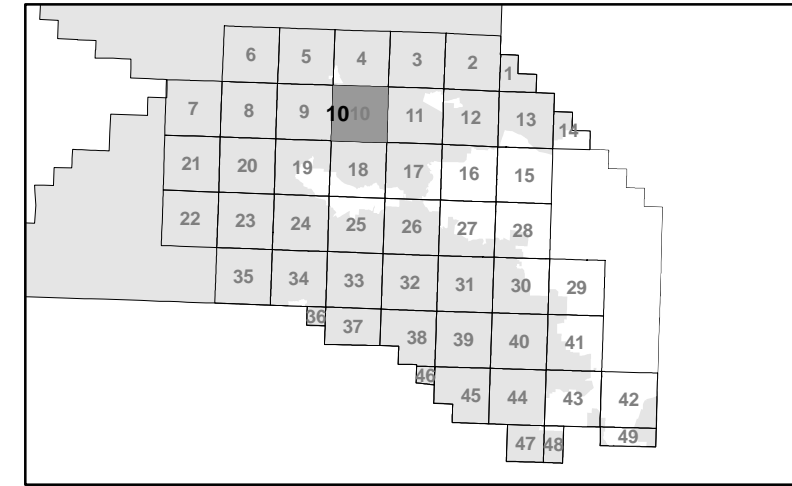
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



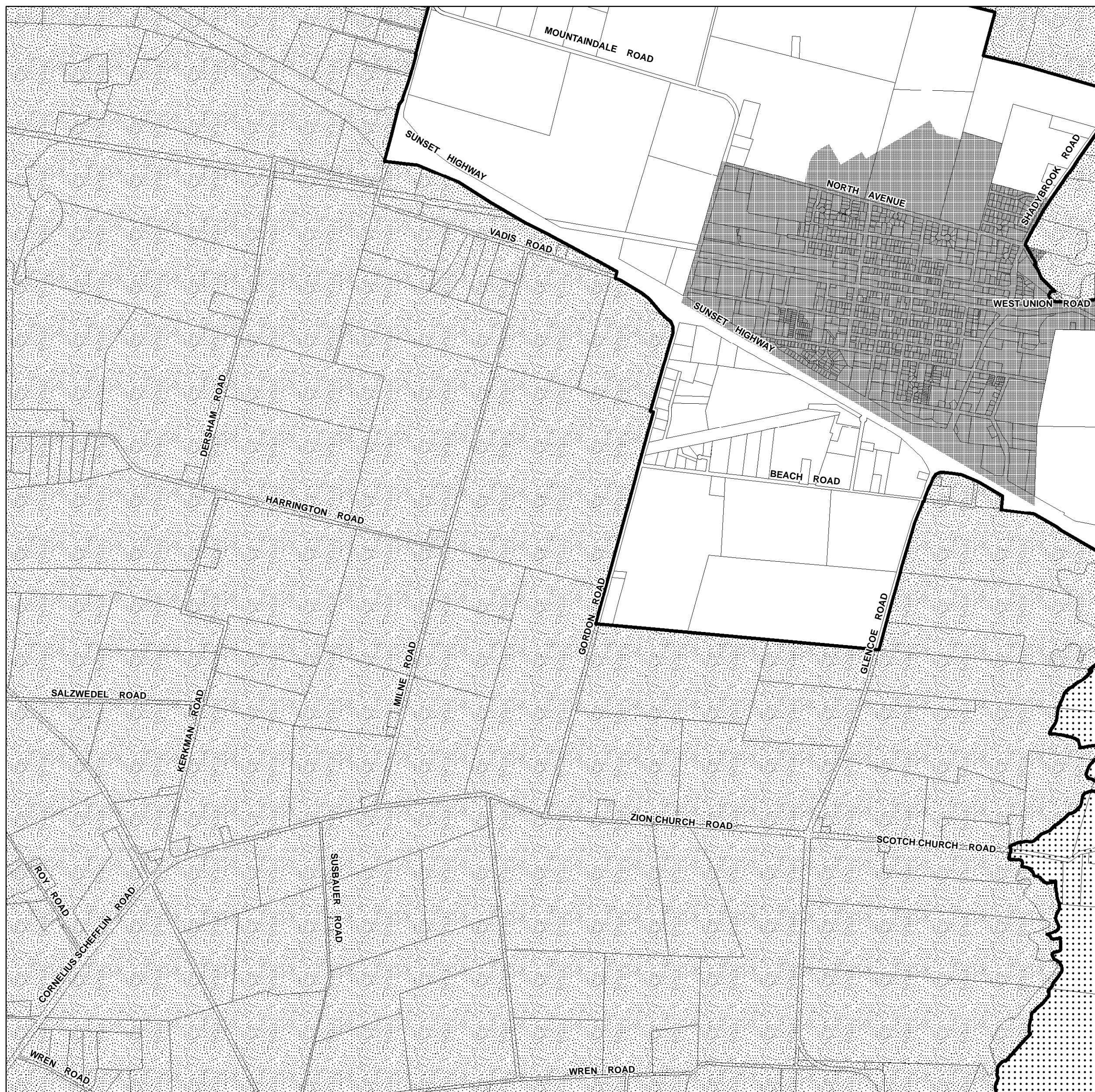
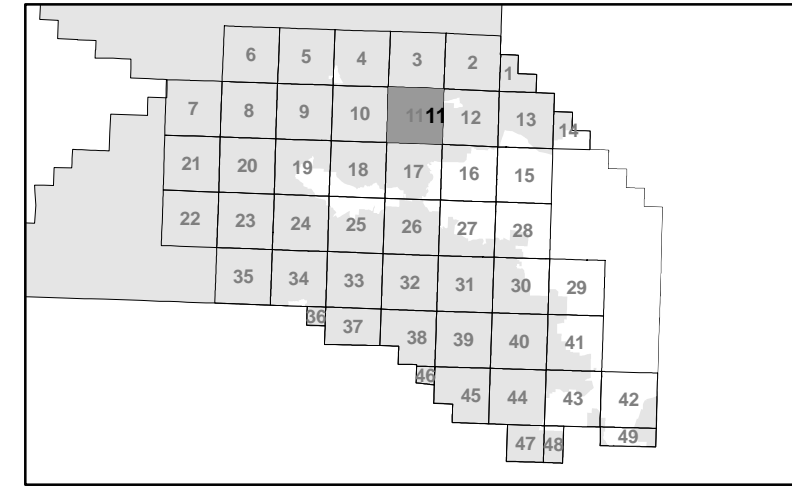
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

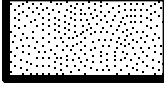


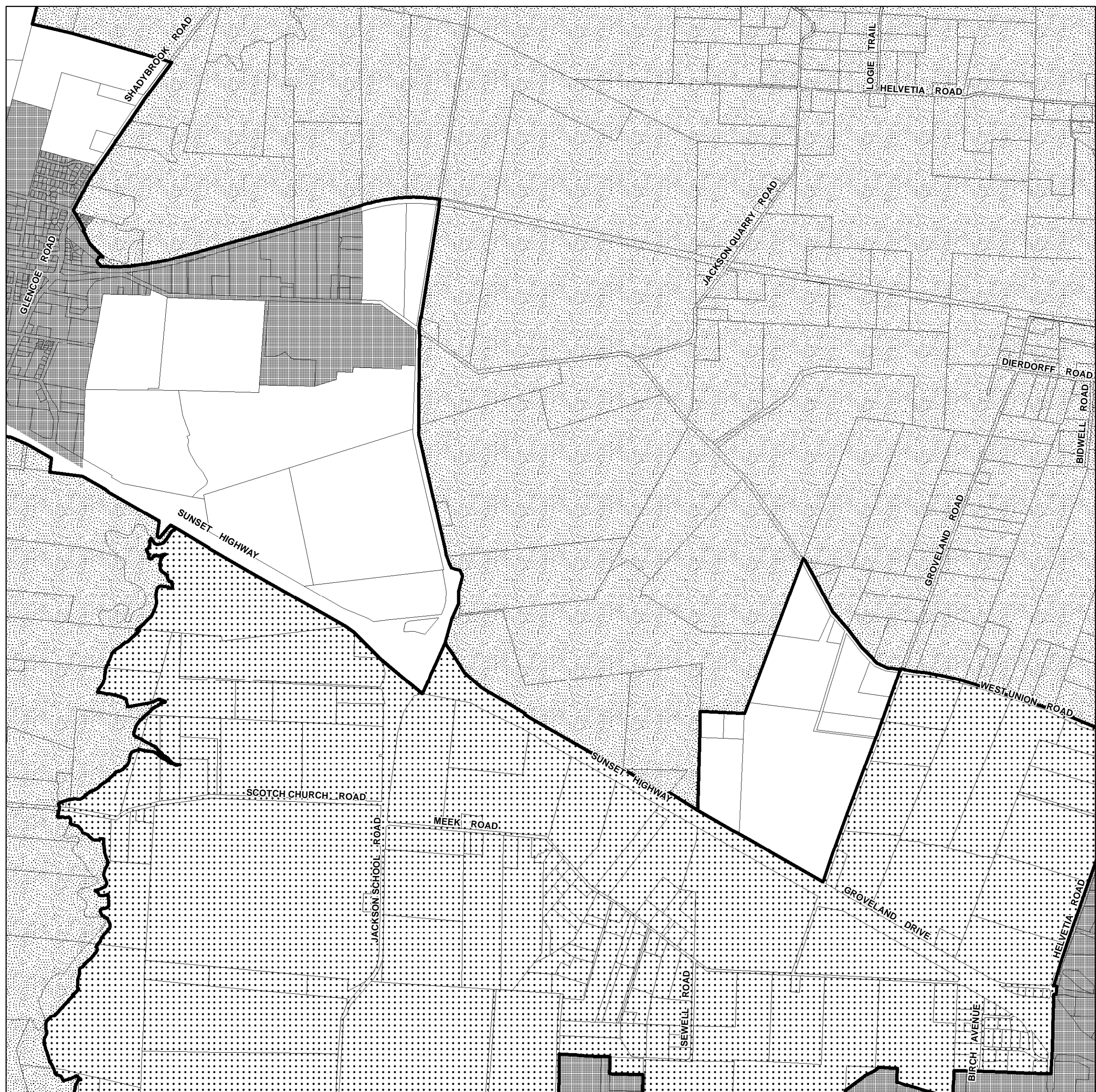
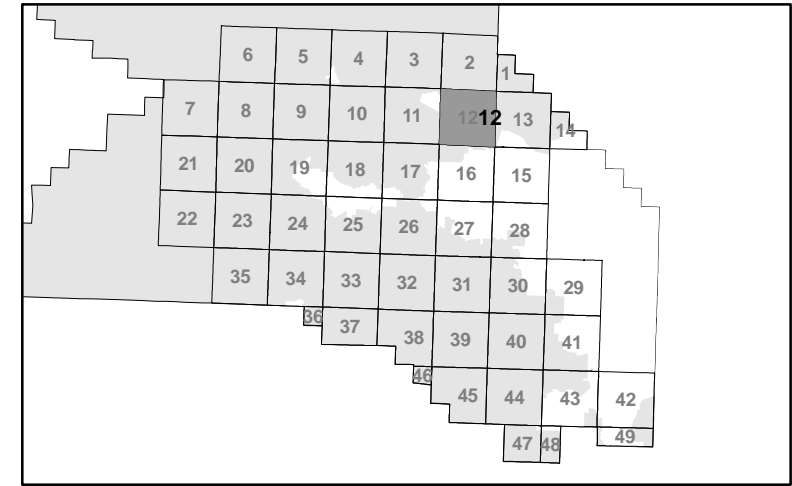
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



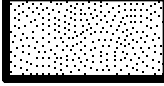
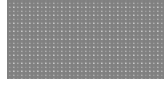
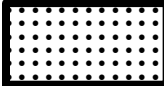
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

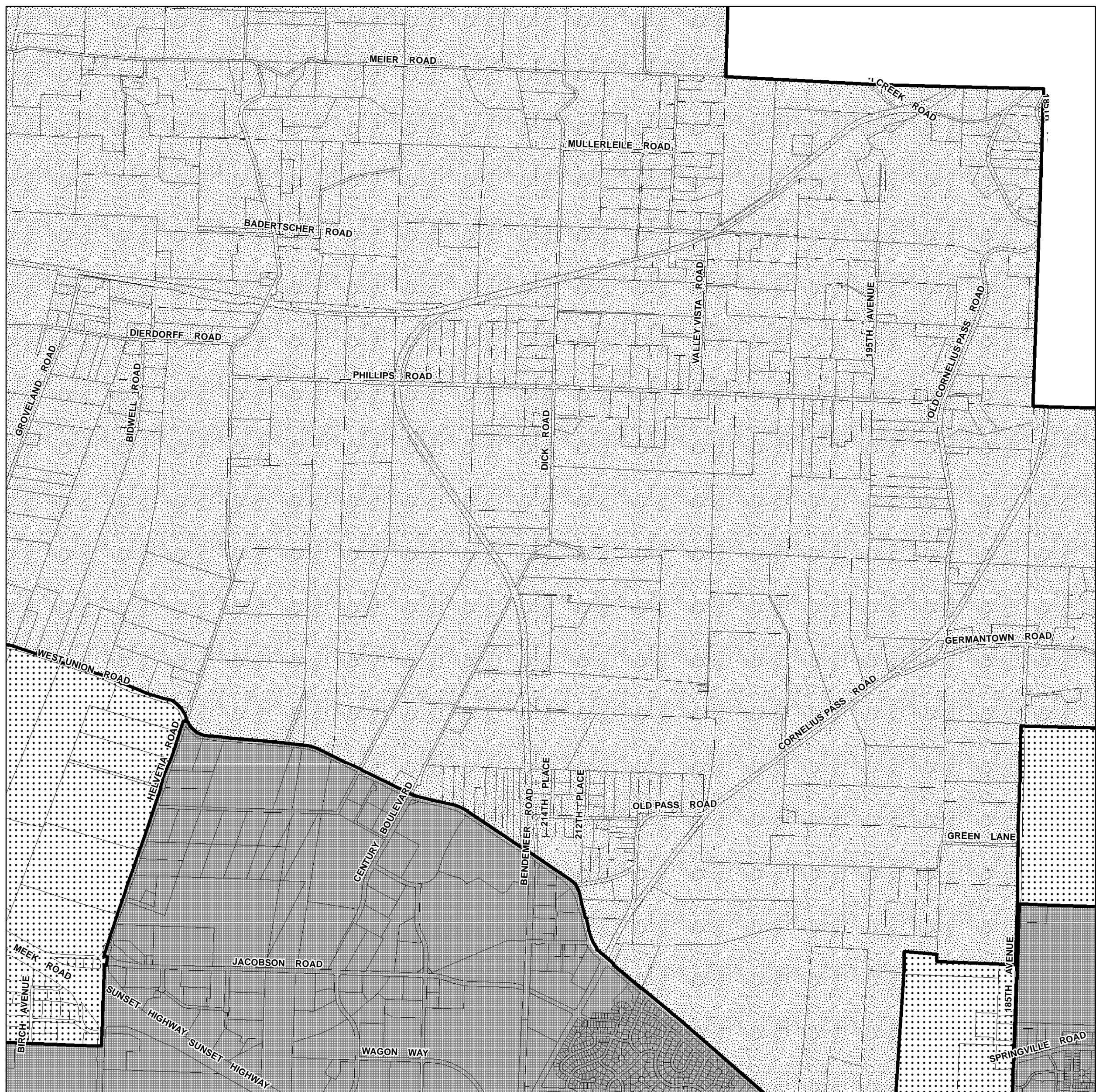
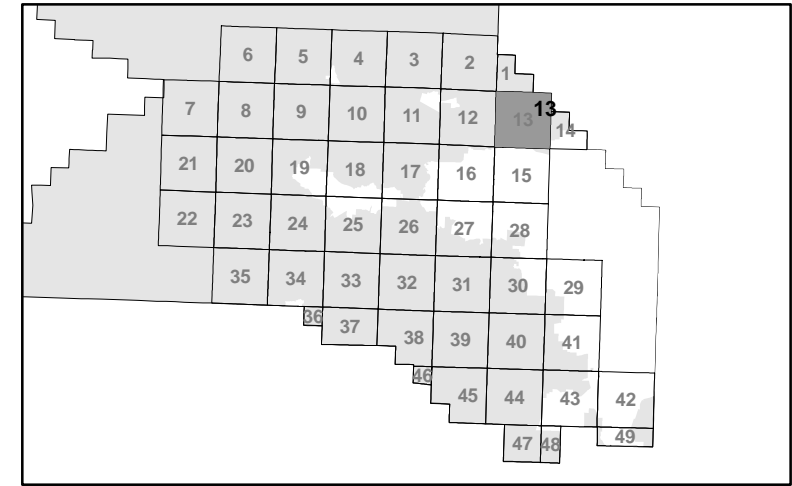
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve





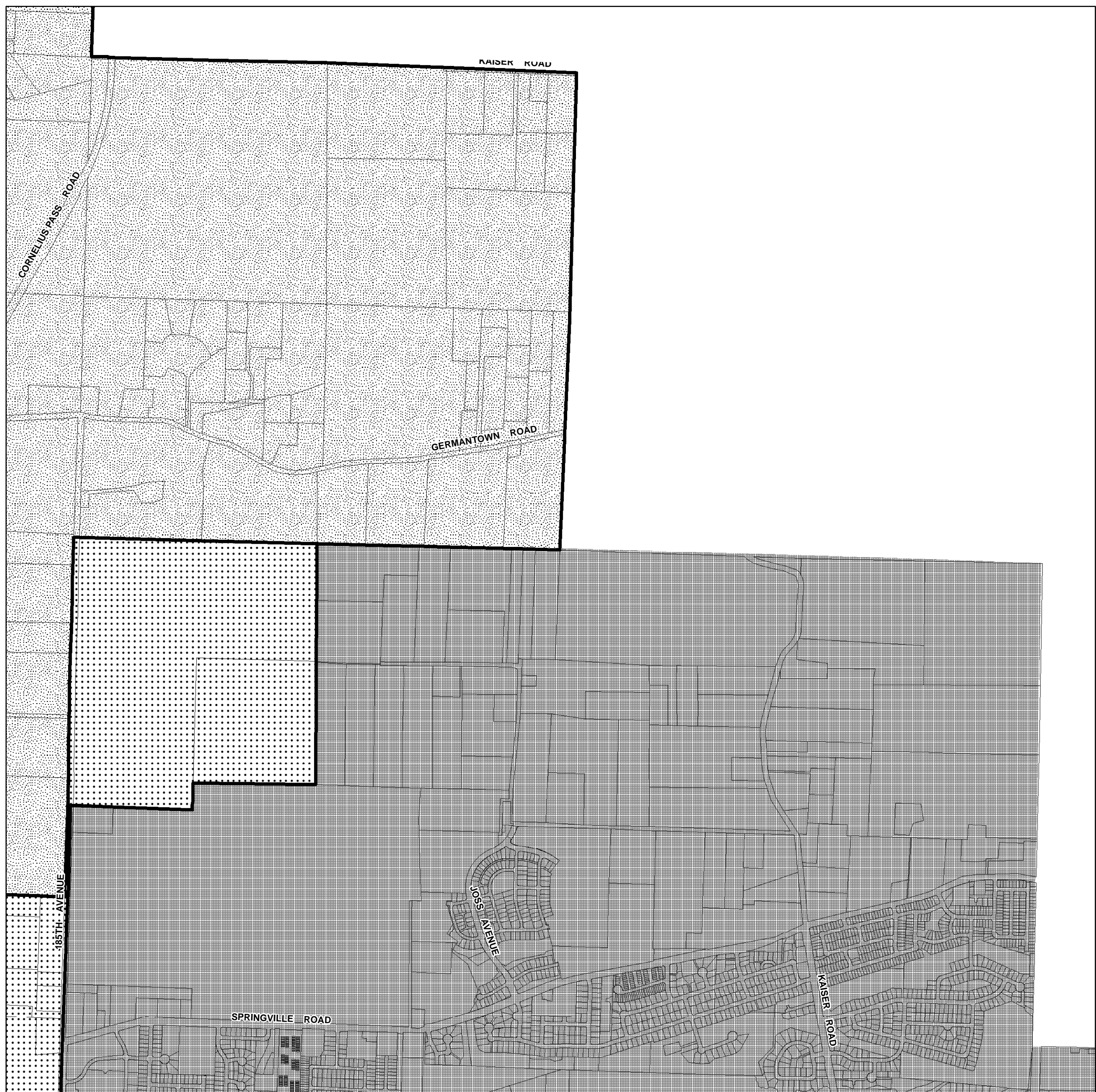
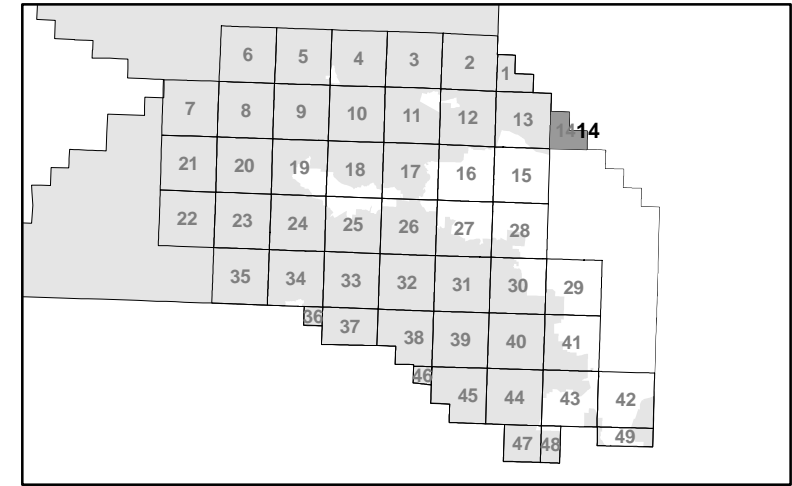
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

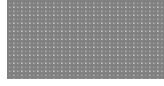


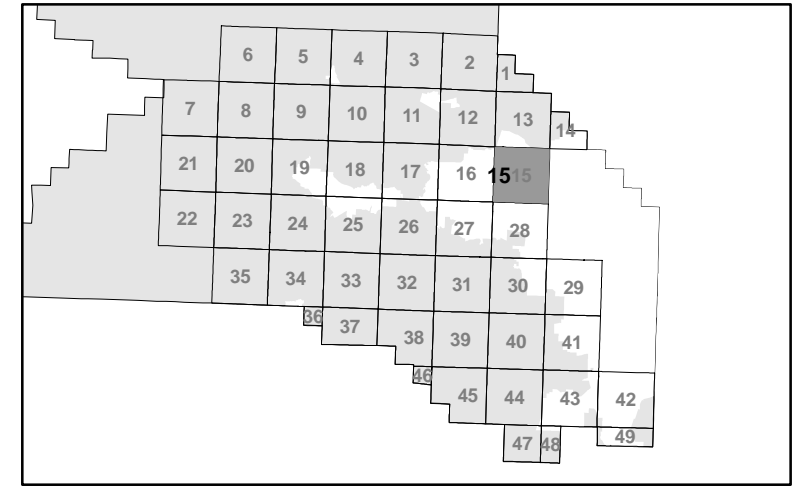
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



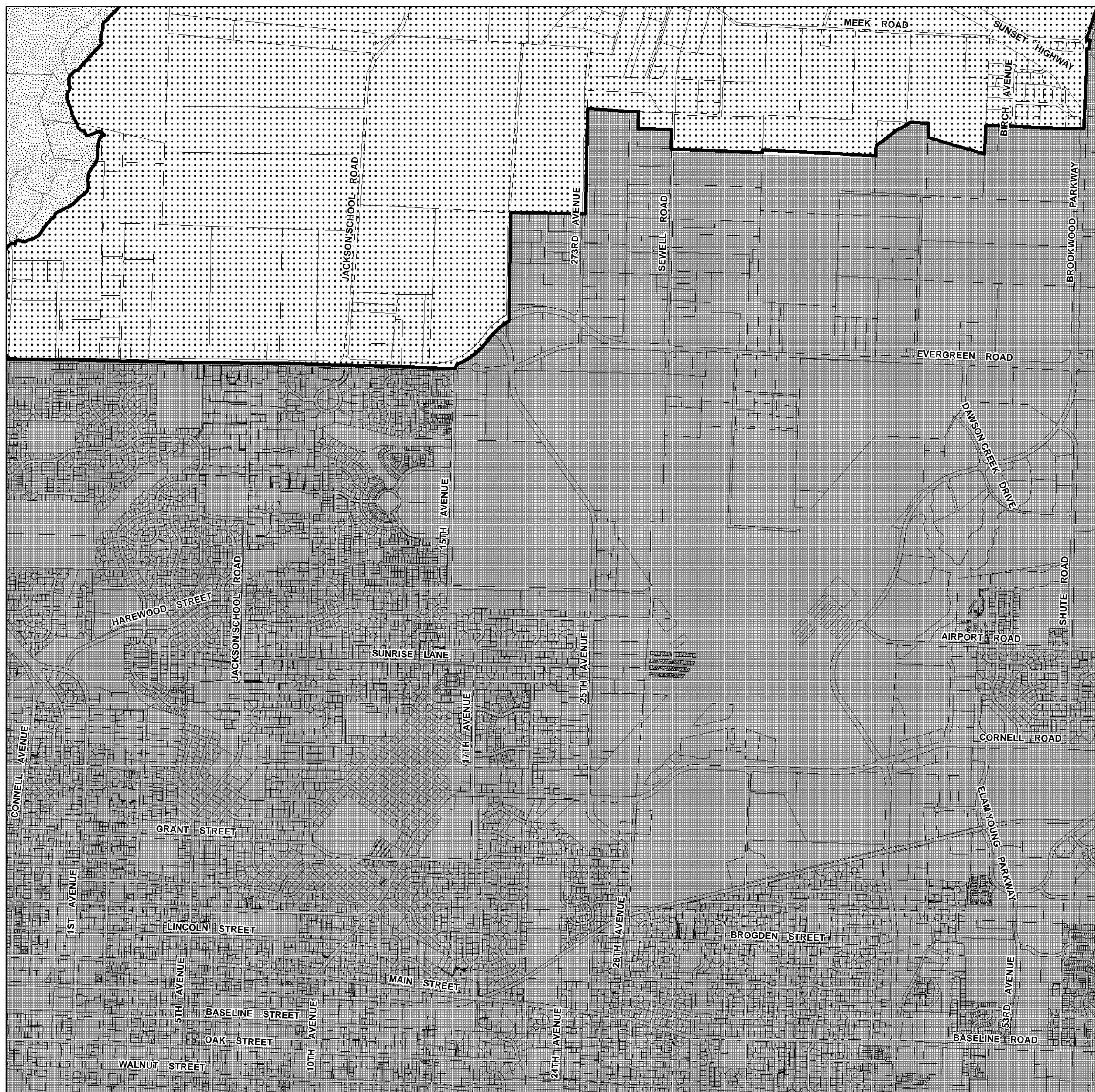
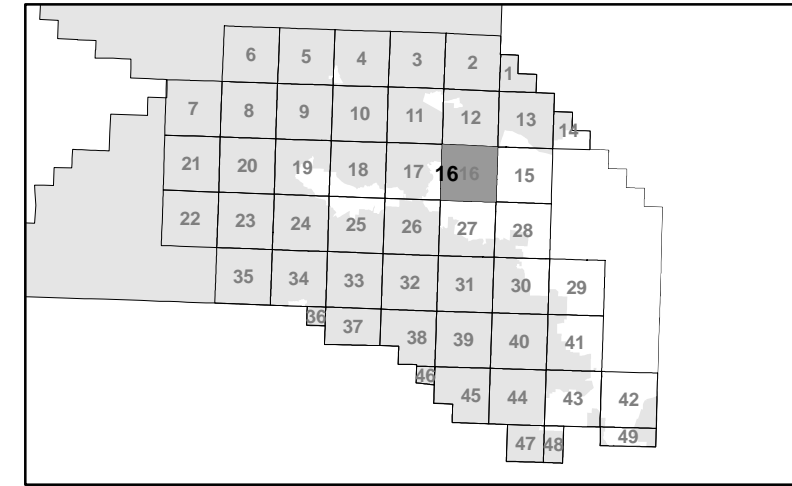
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

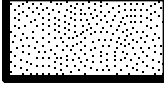


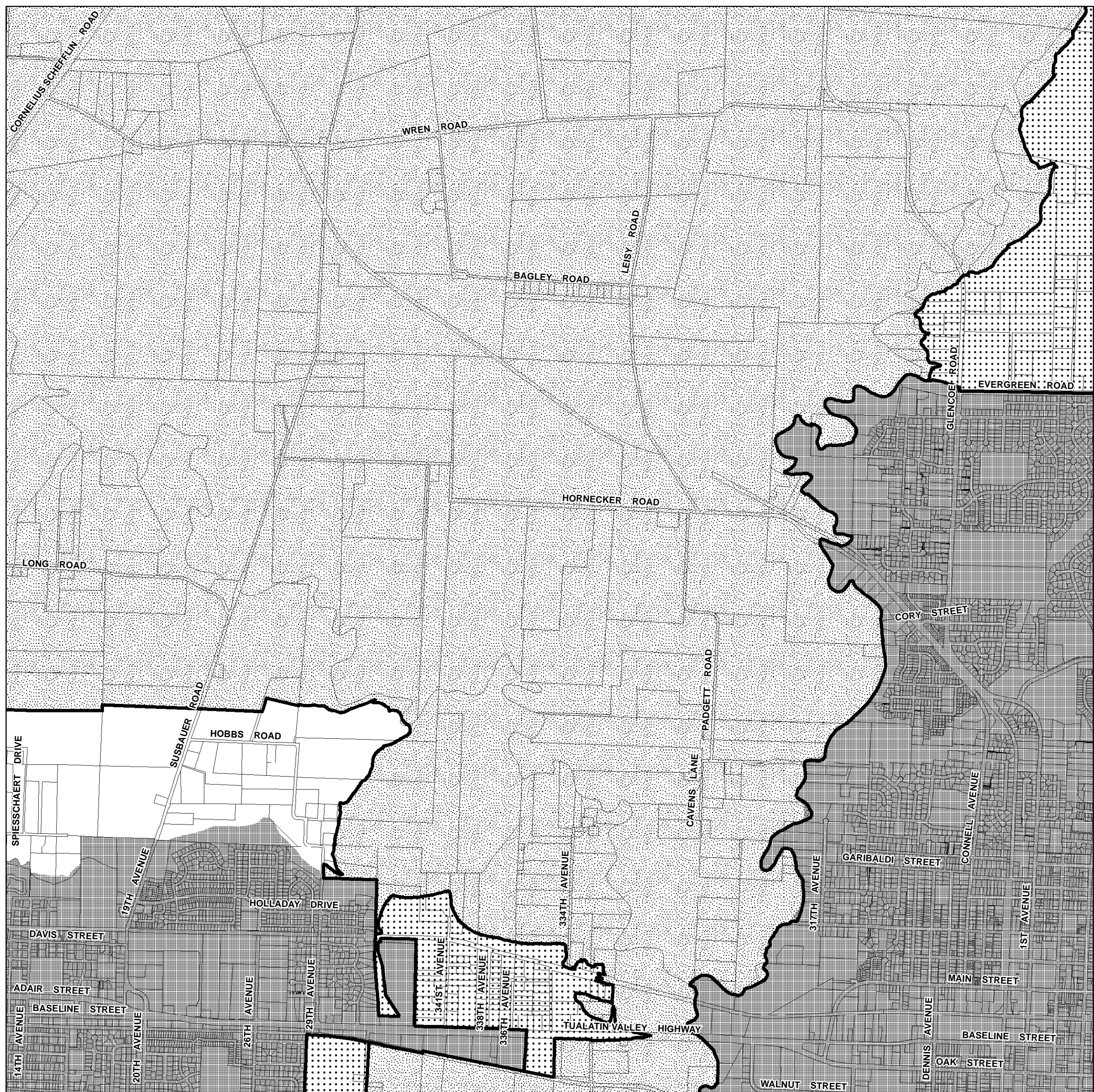
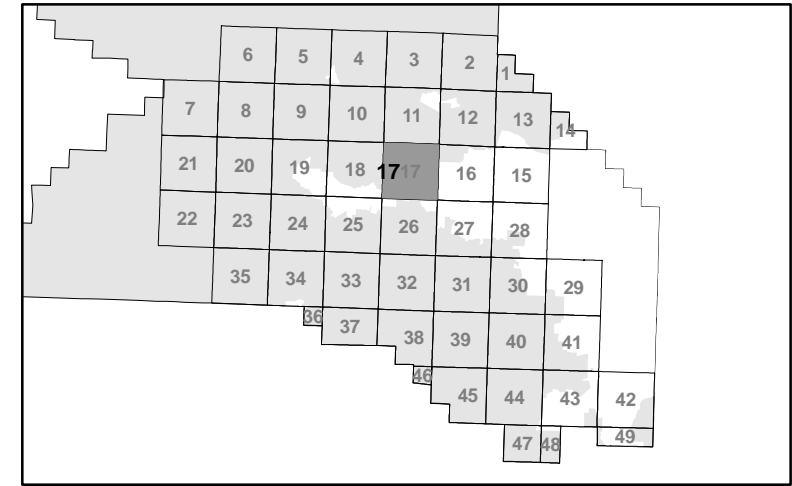
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

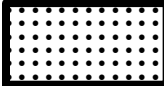


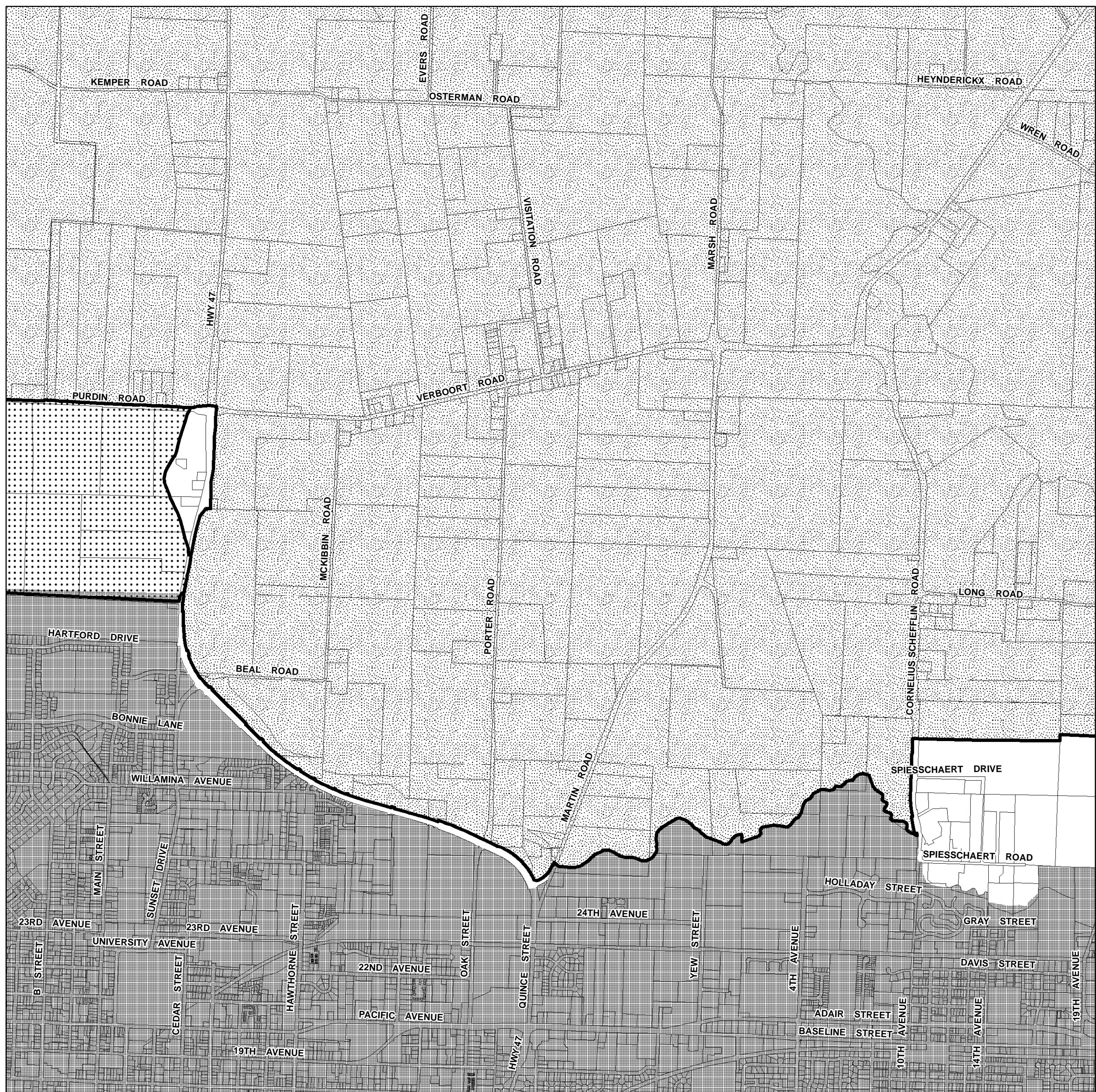
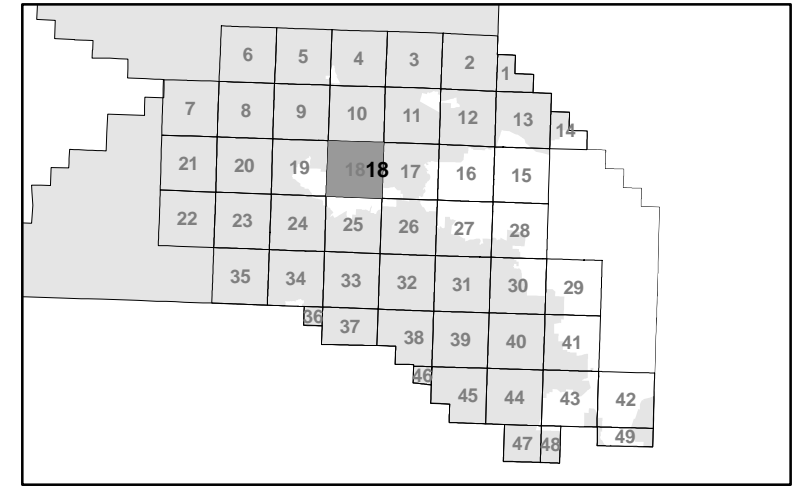
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



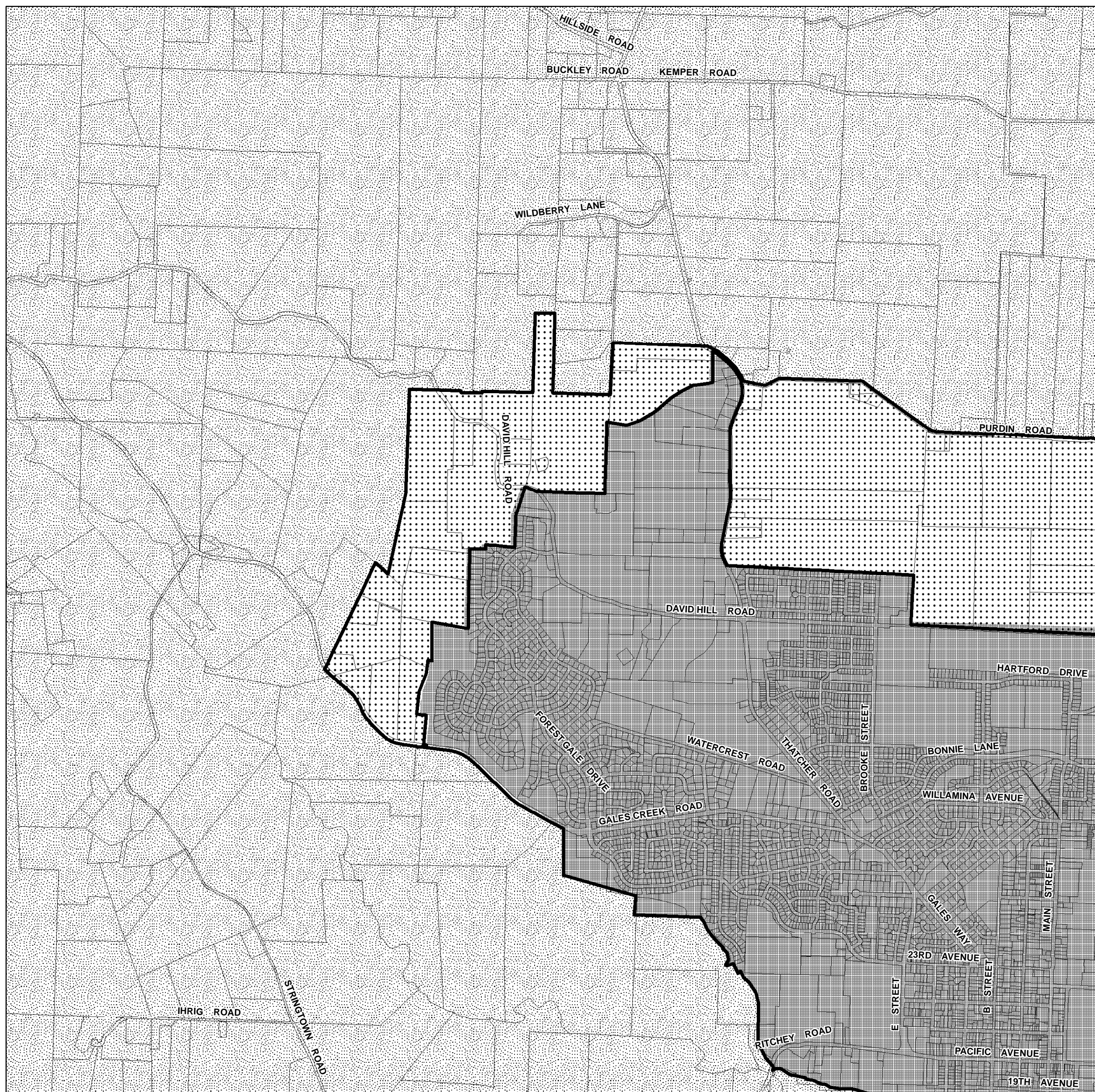
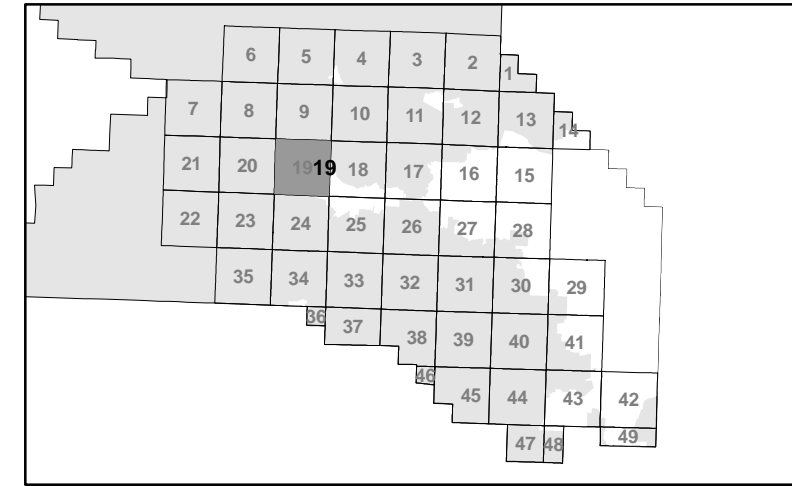
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

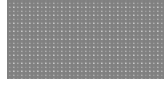


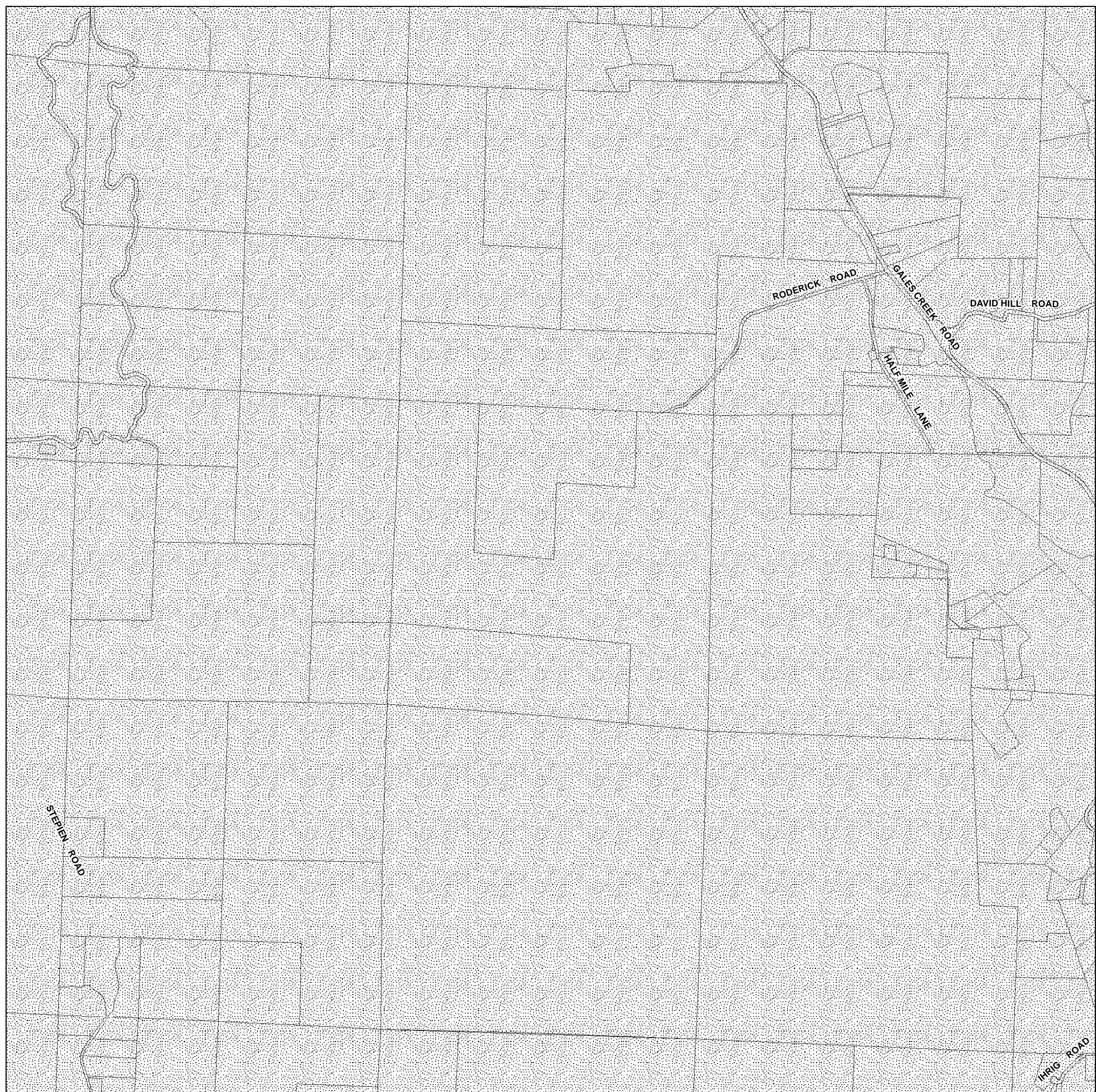
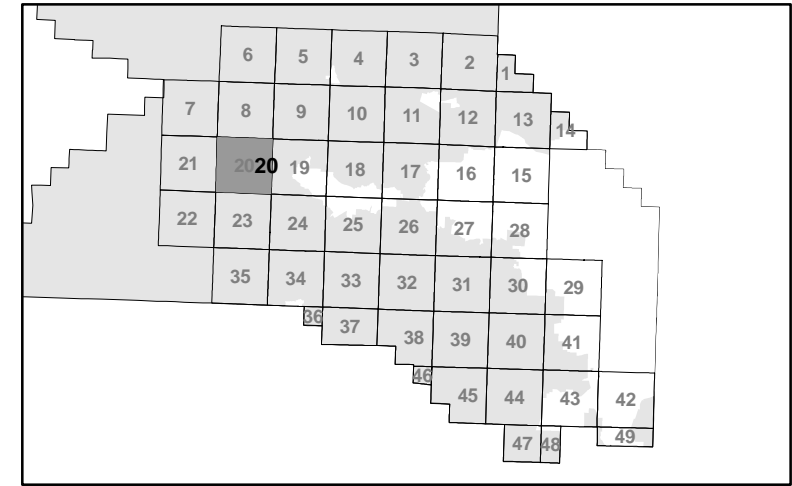
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



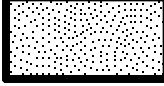

The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

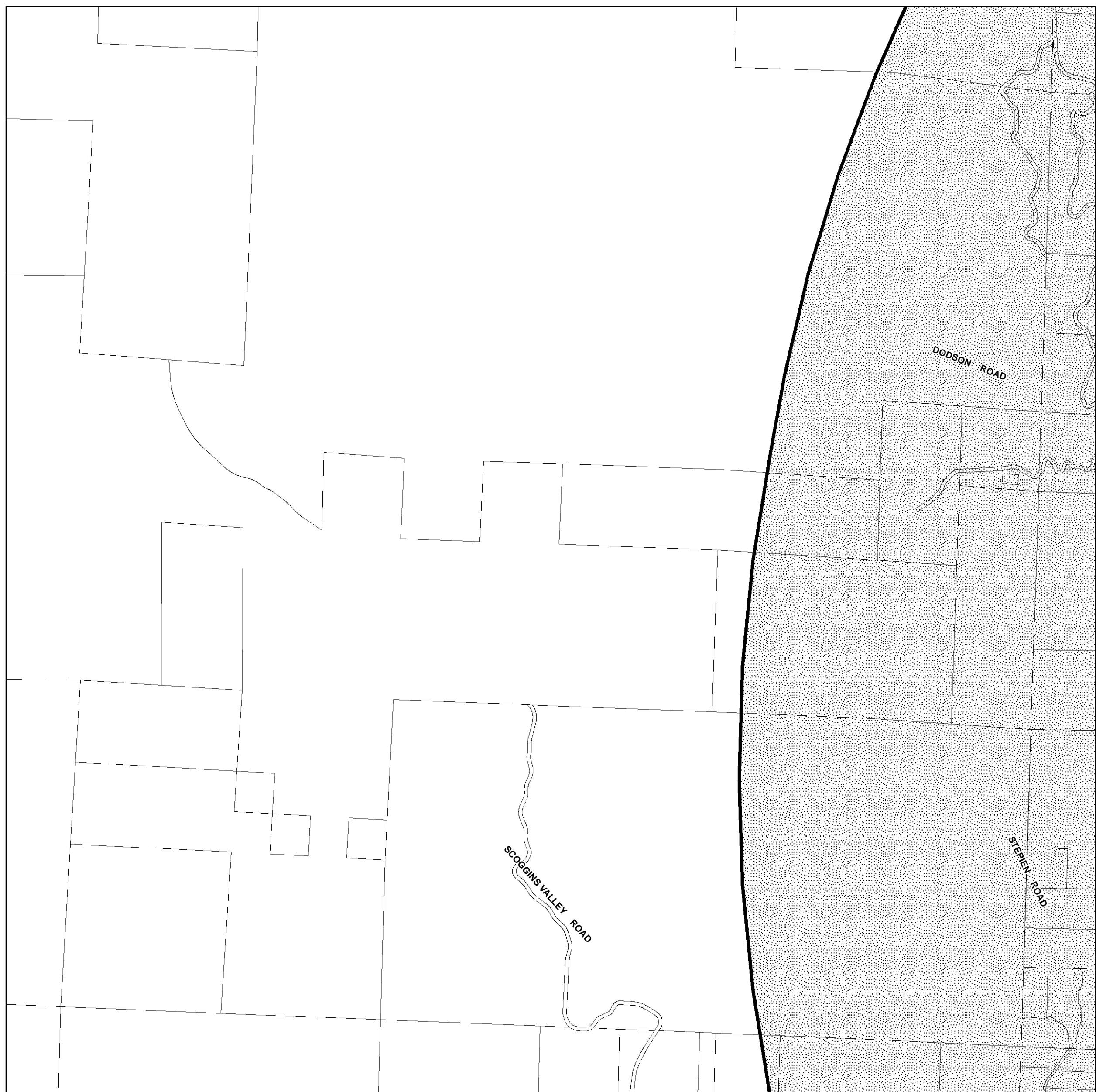
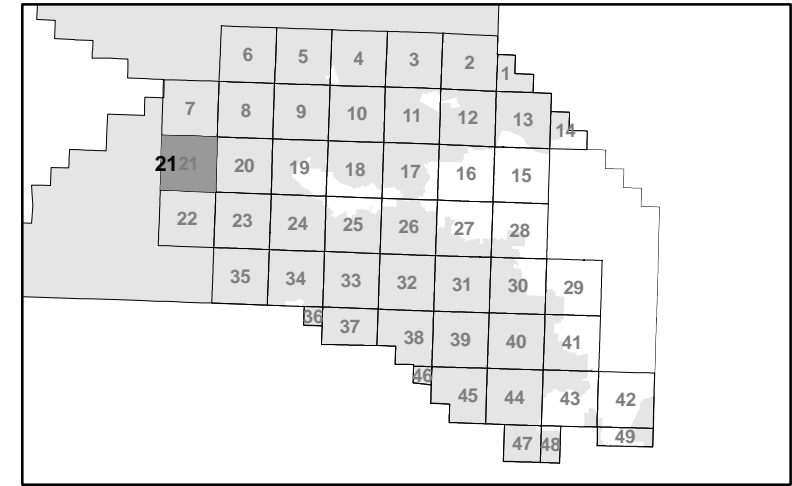
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve





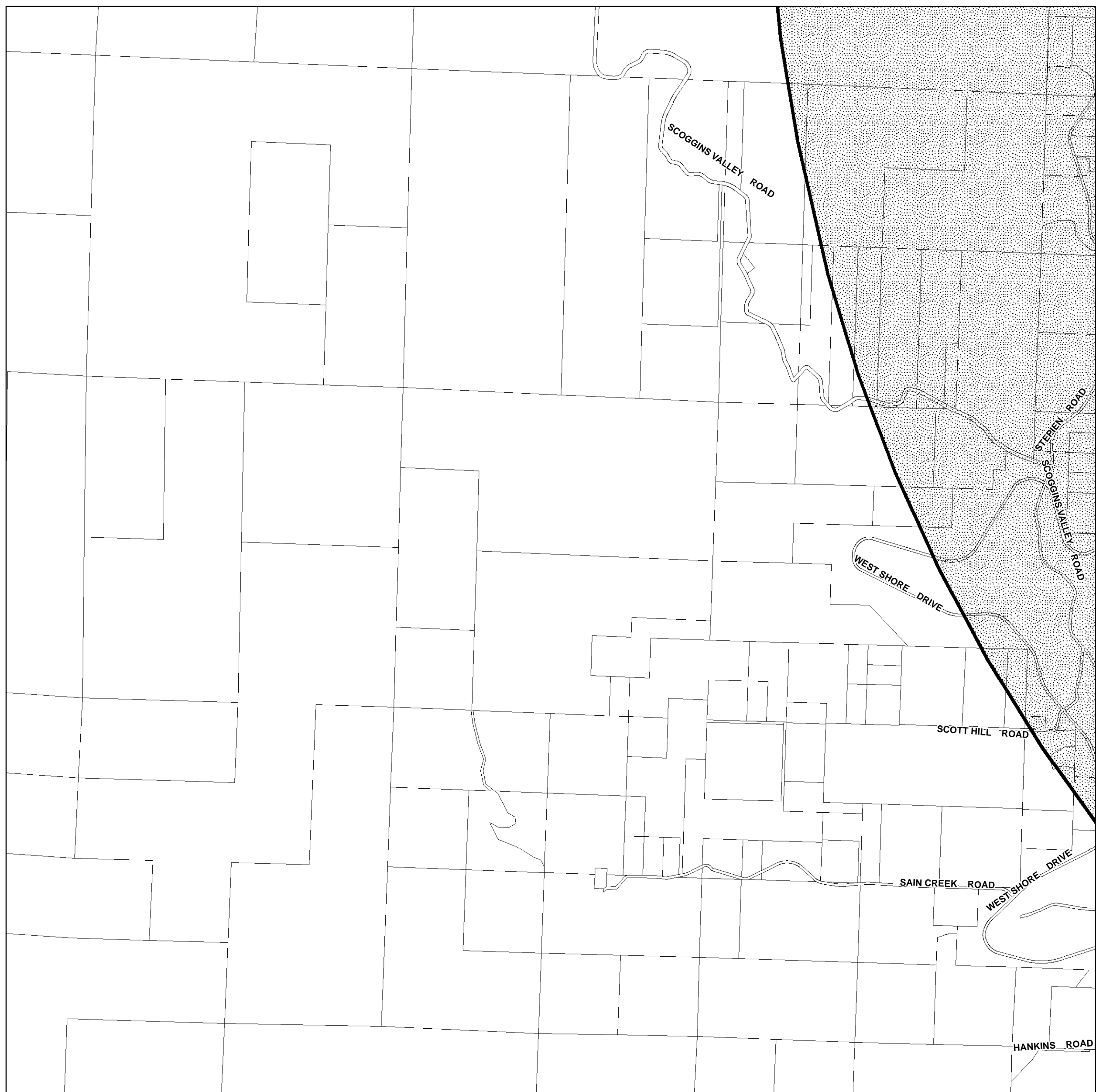
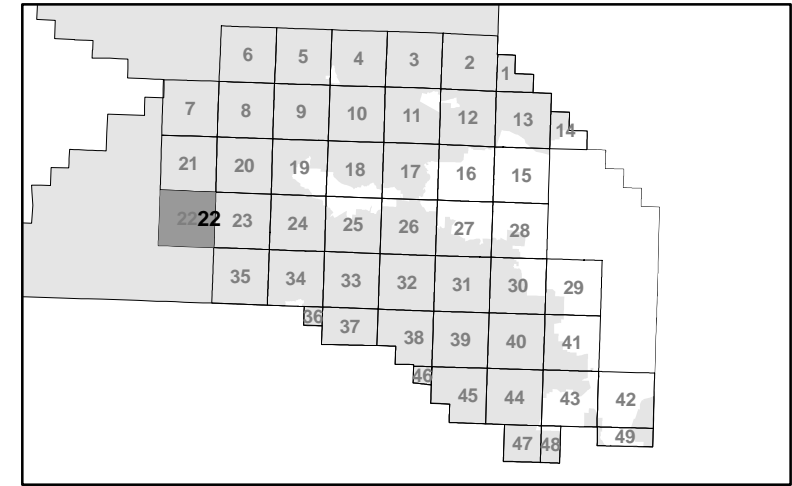
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

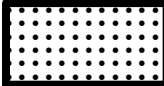


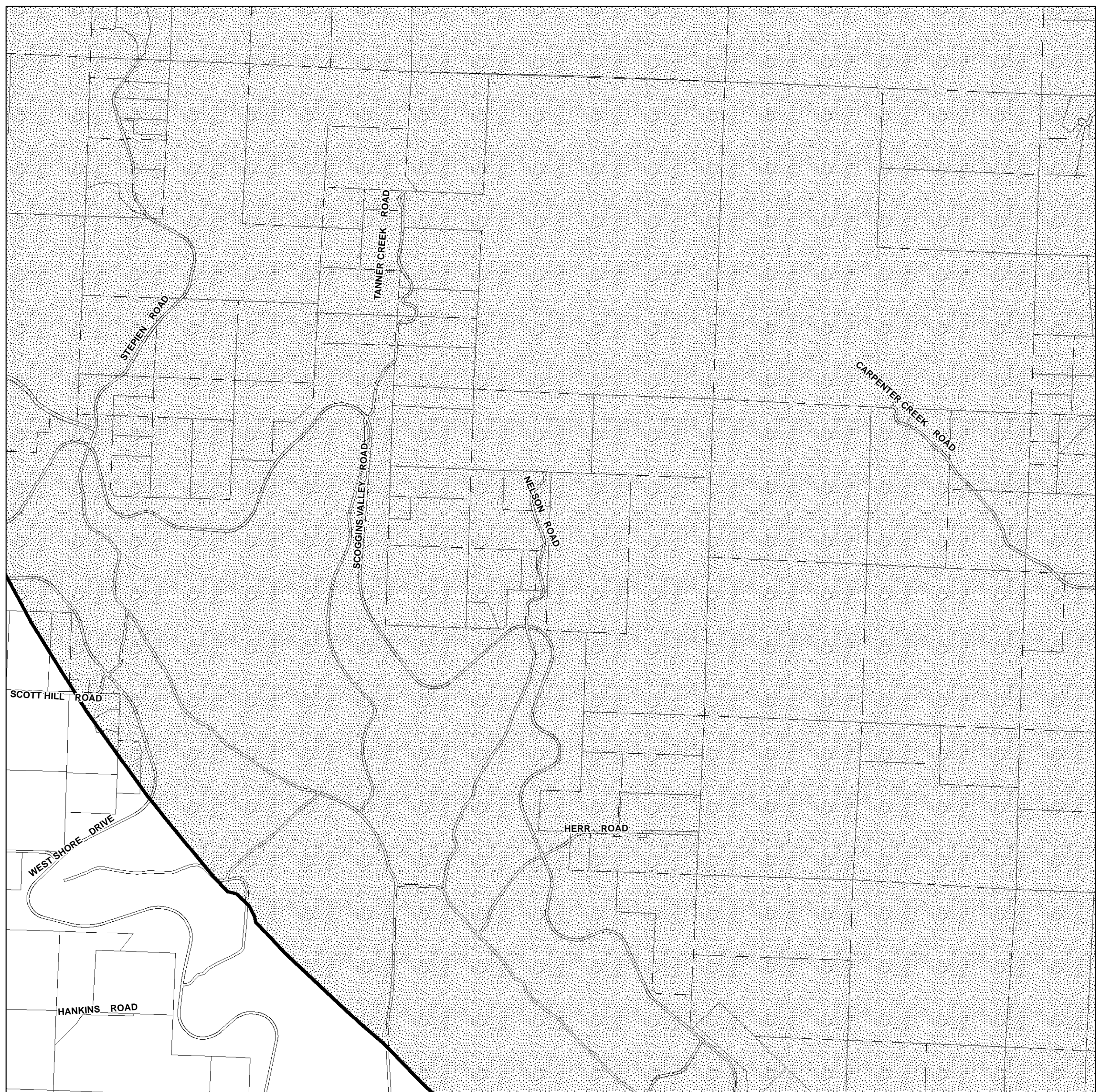
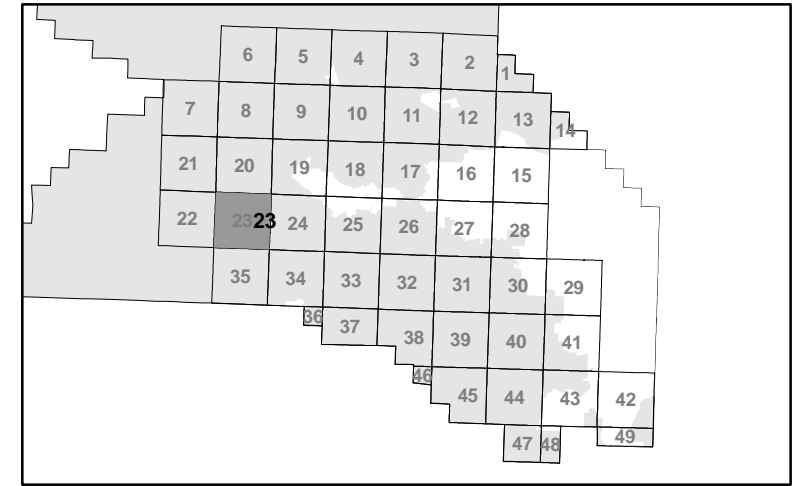
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



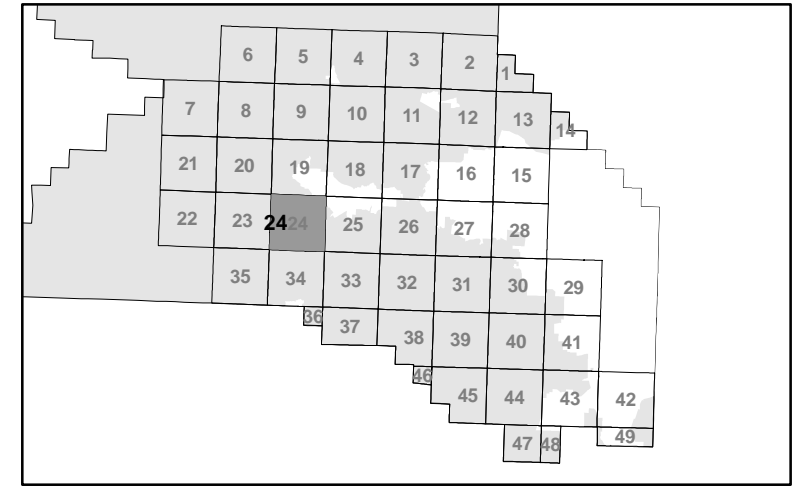
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

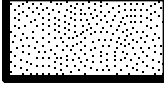


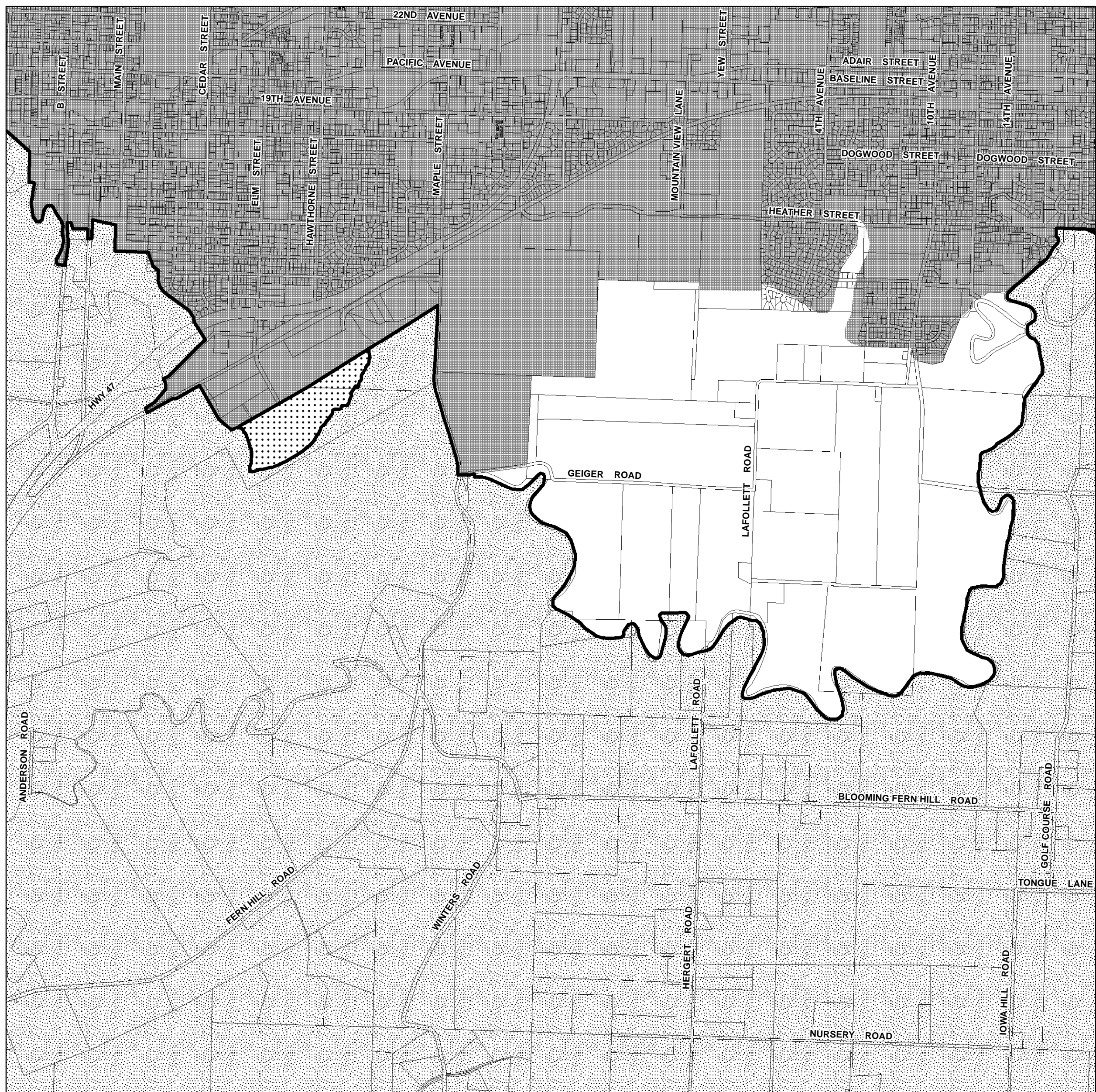
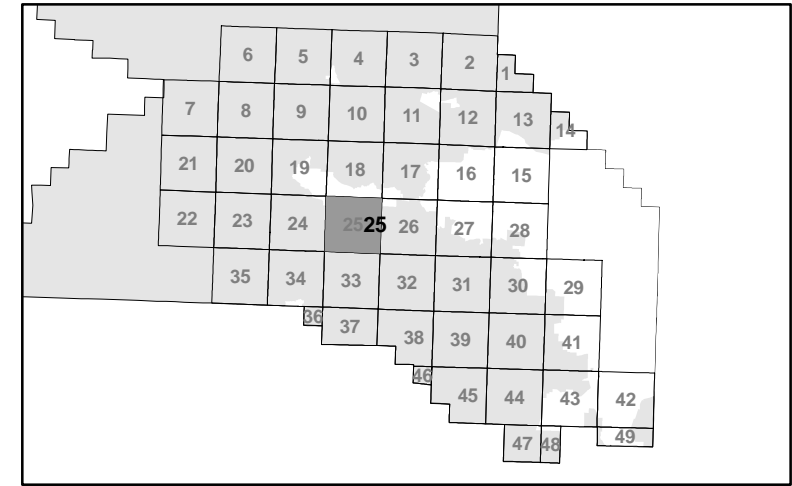
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

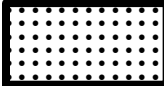


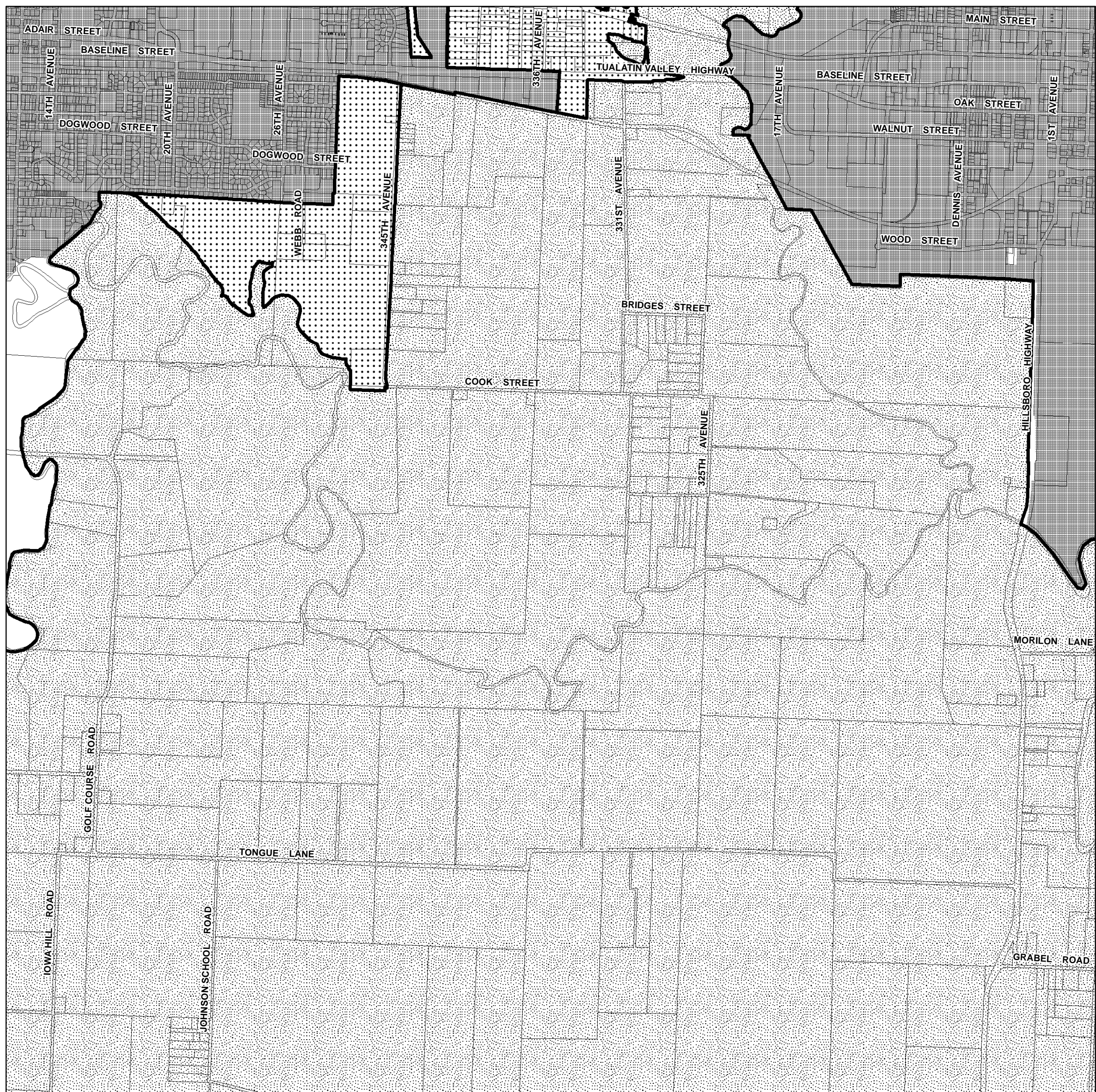
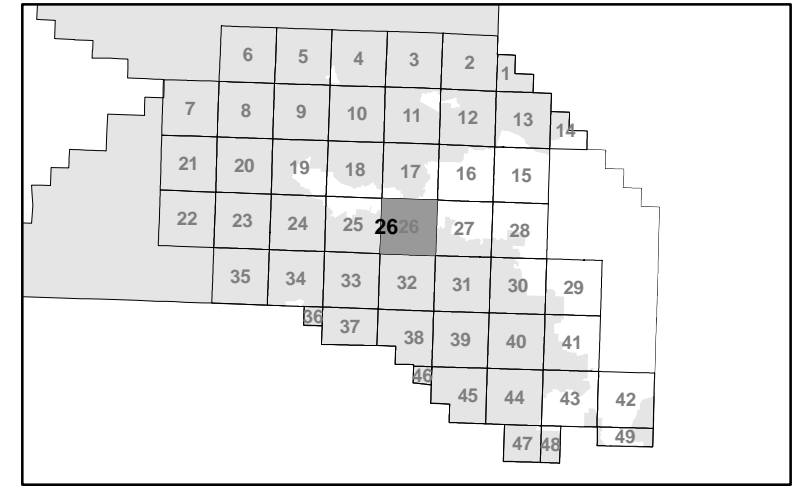
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



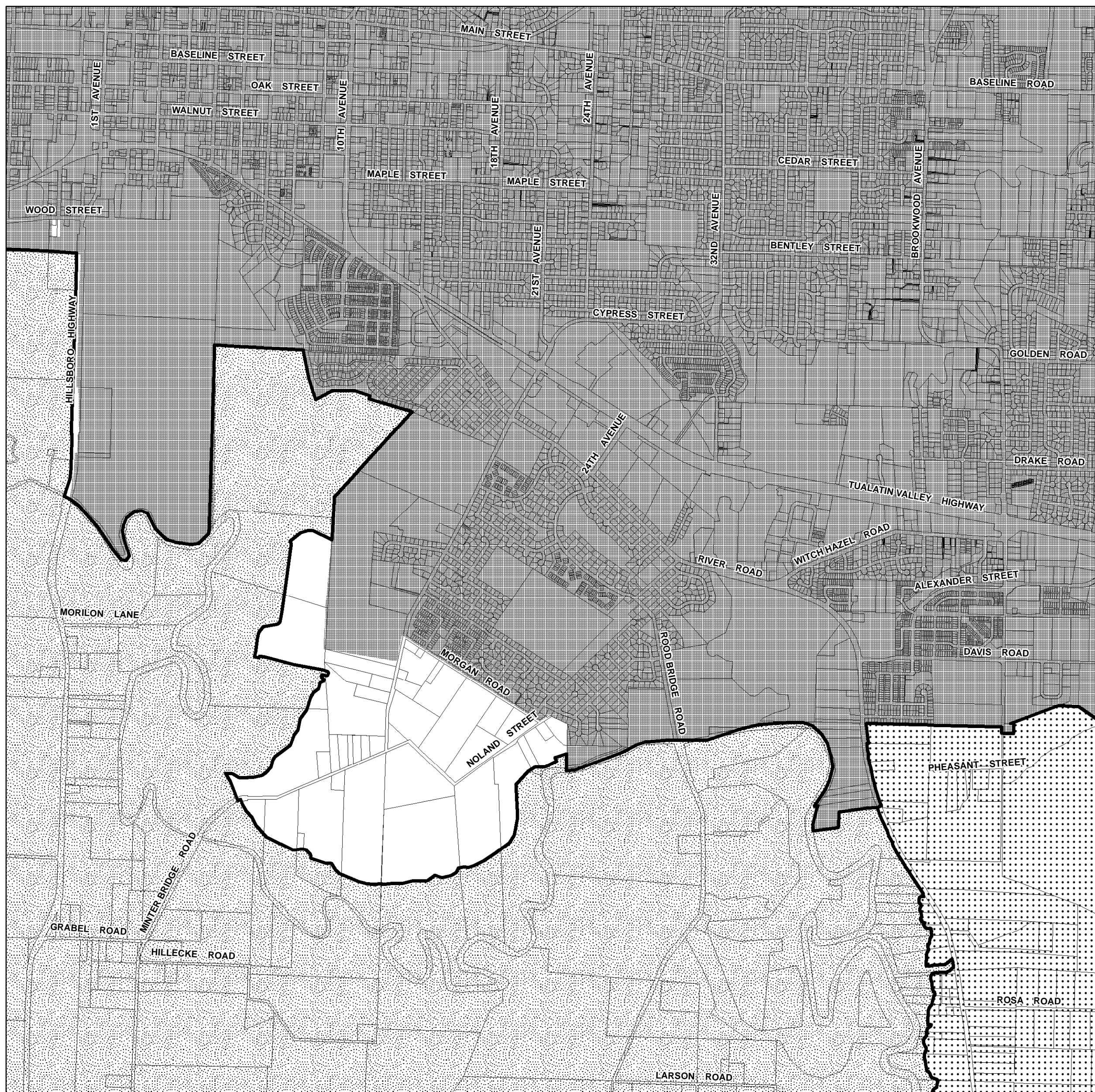
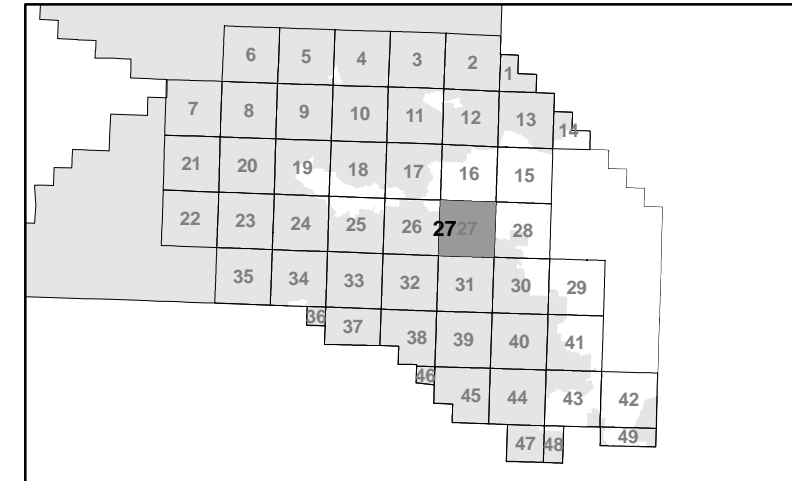
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

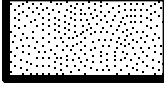


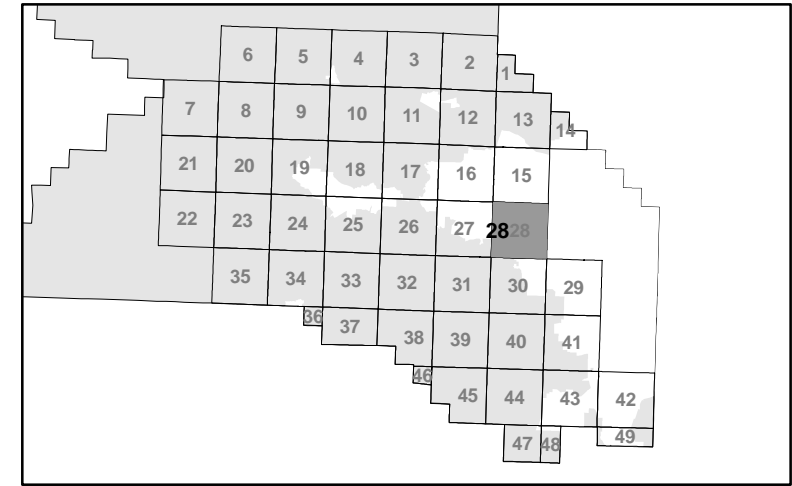
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



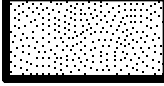
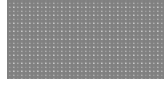
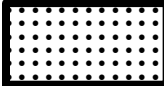
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

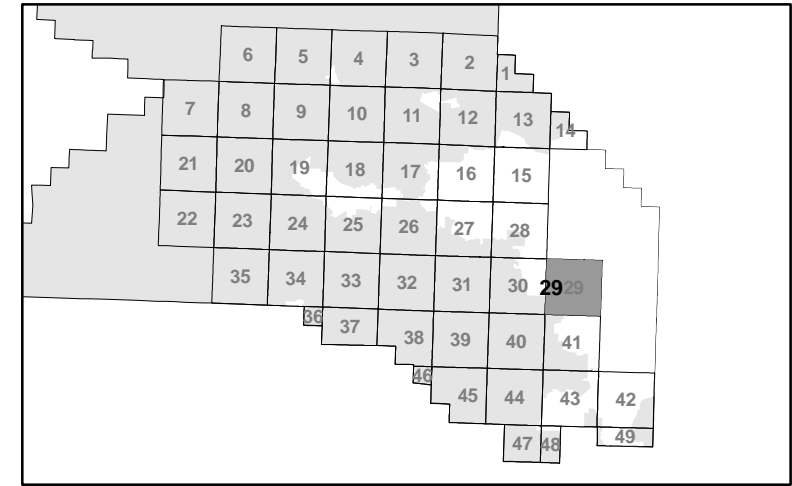
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



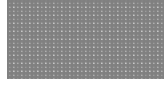
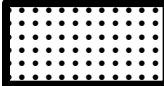


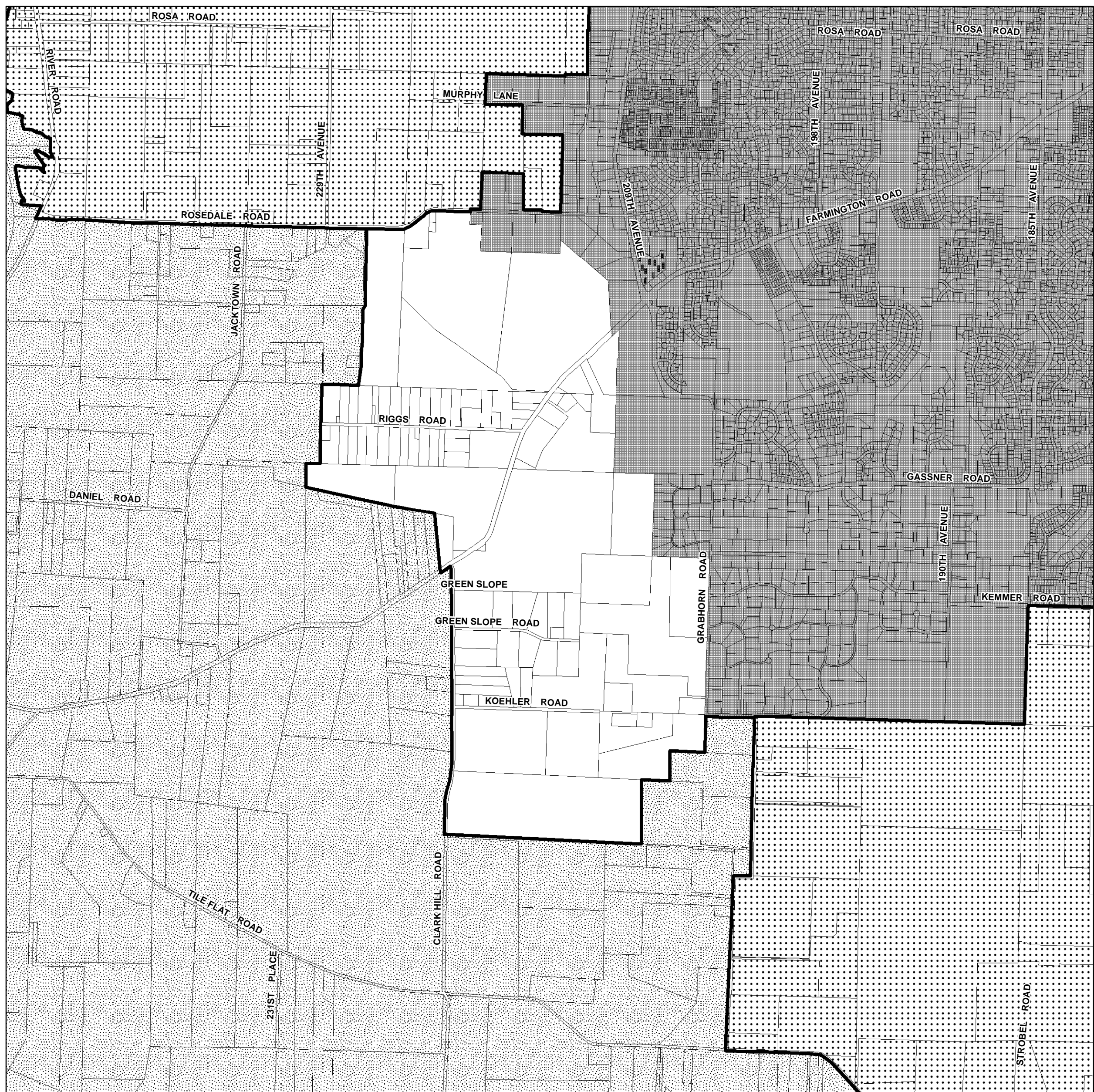
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

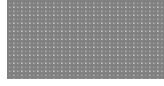


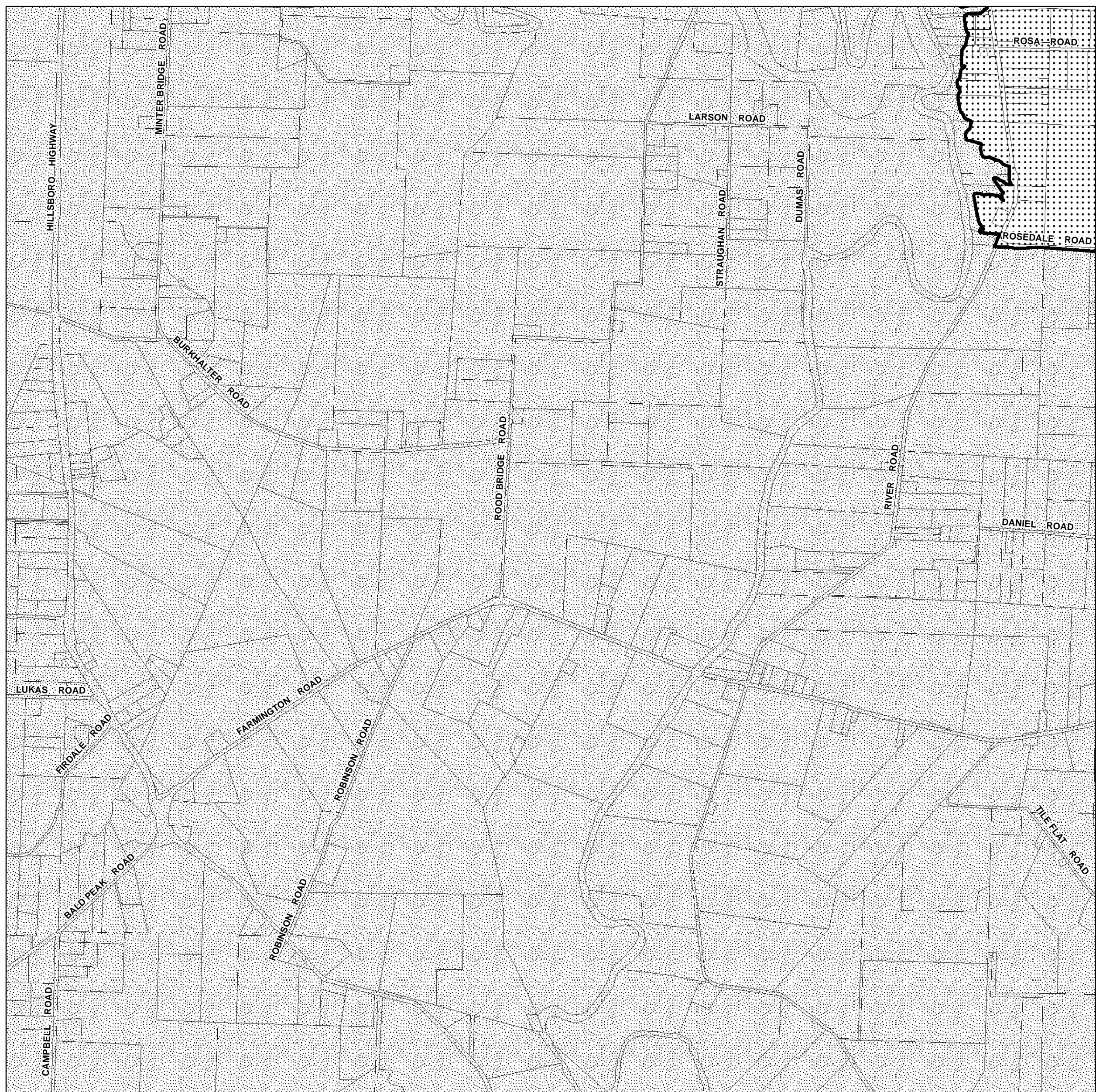
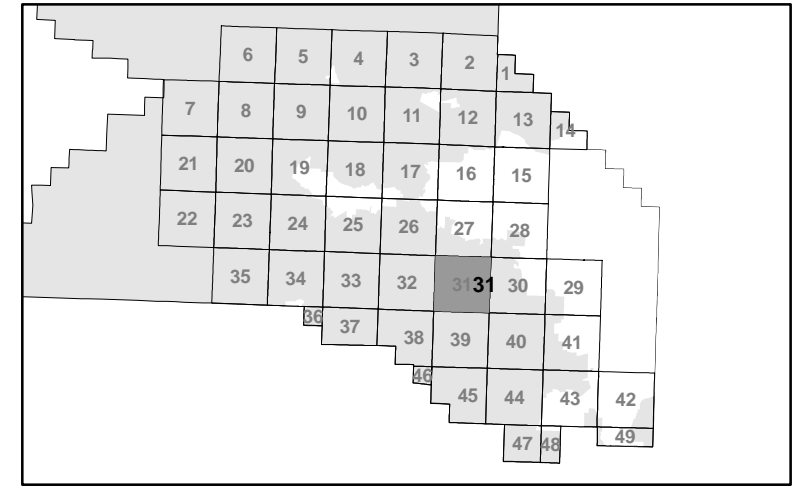
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



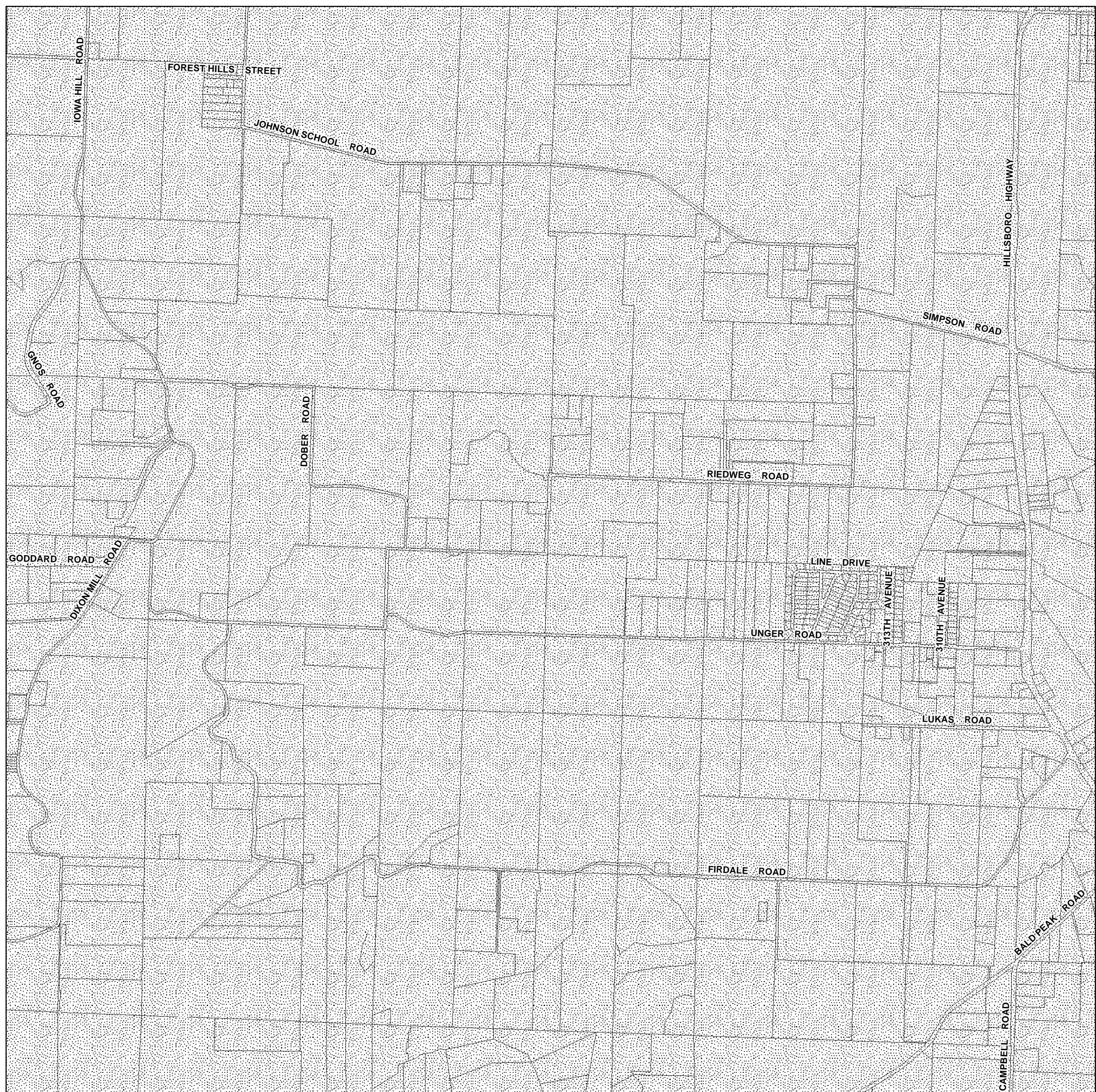
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

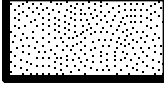


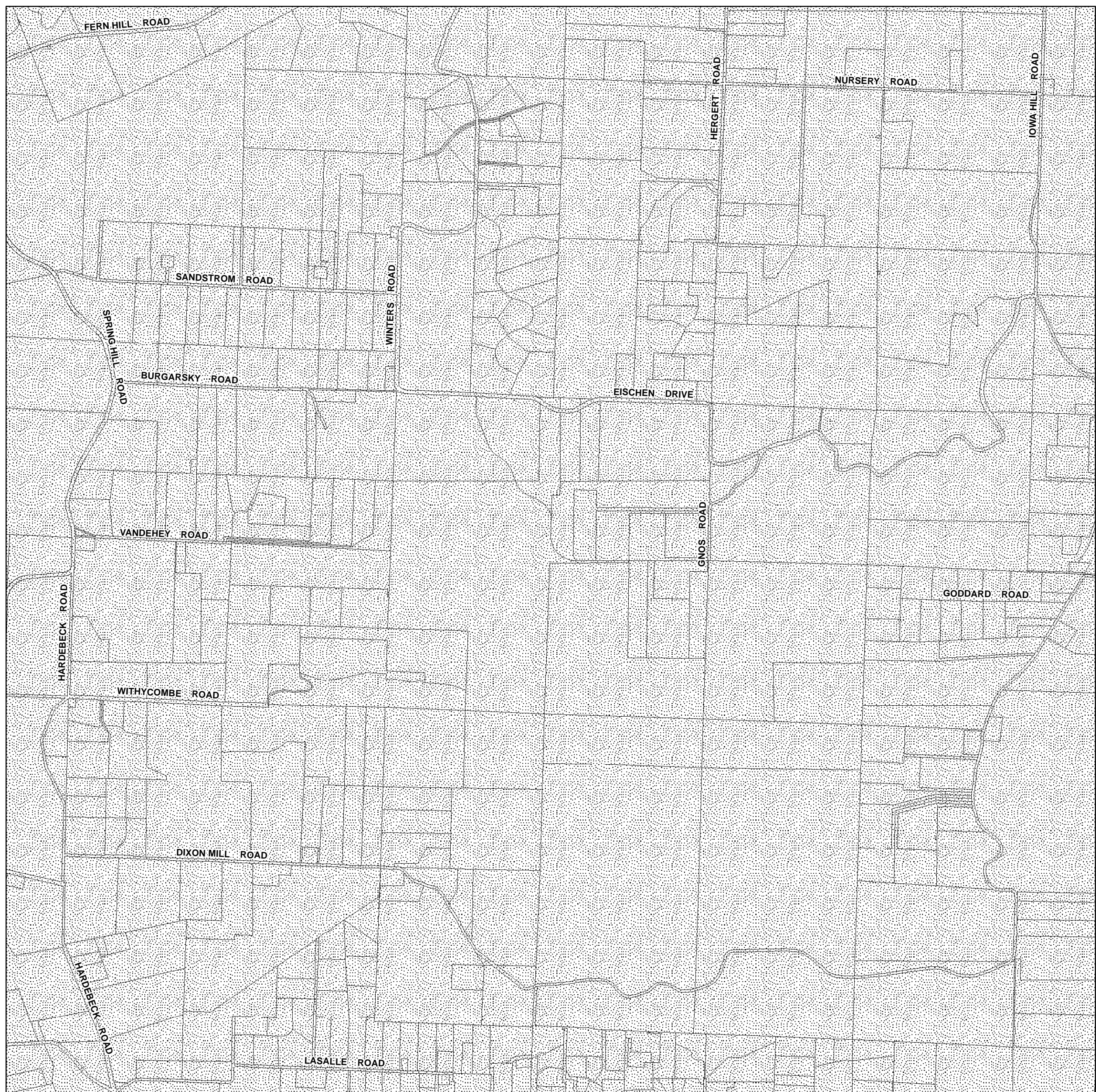
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

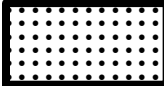


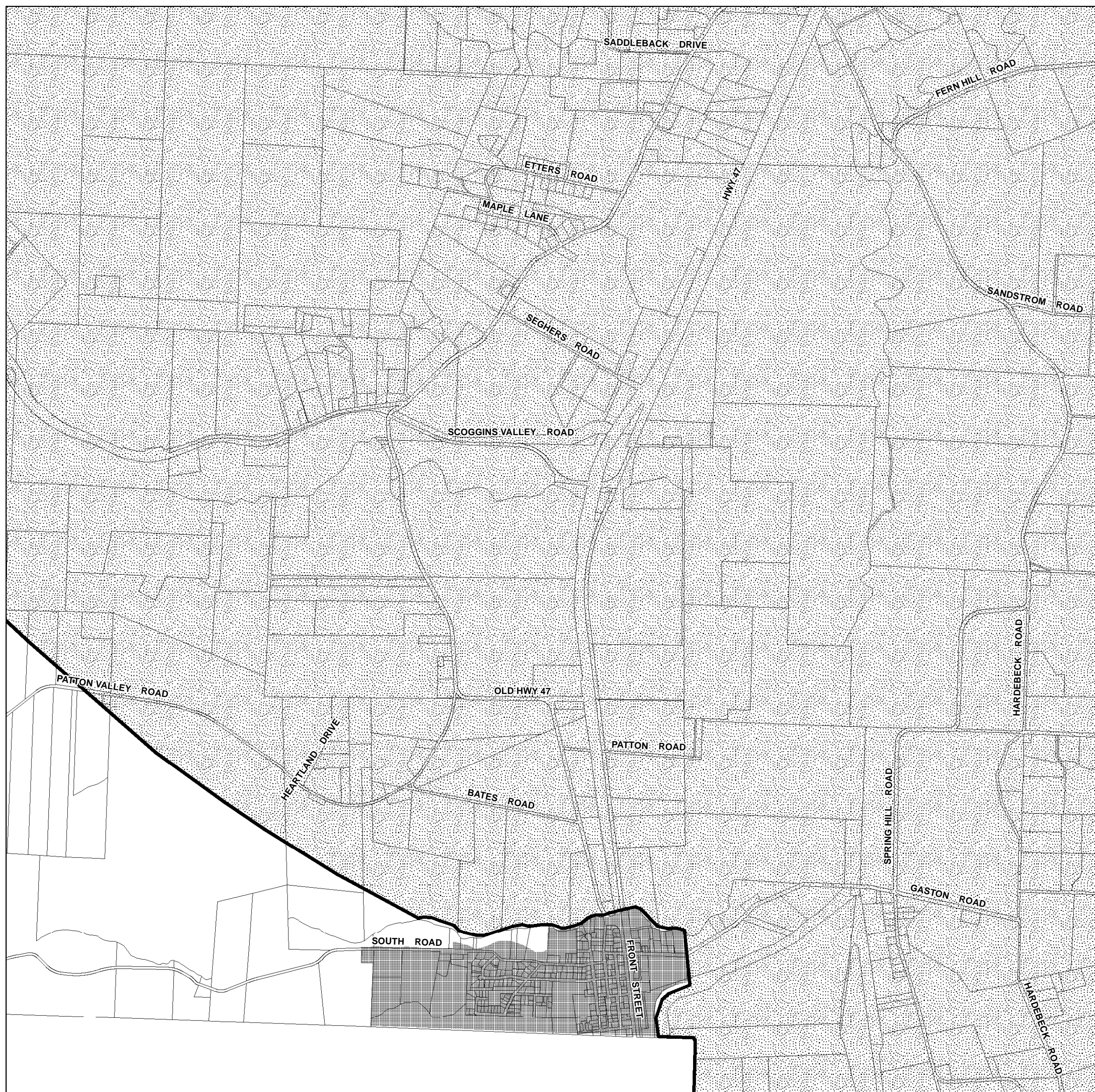
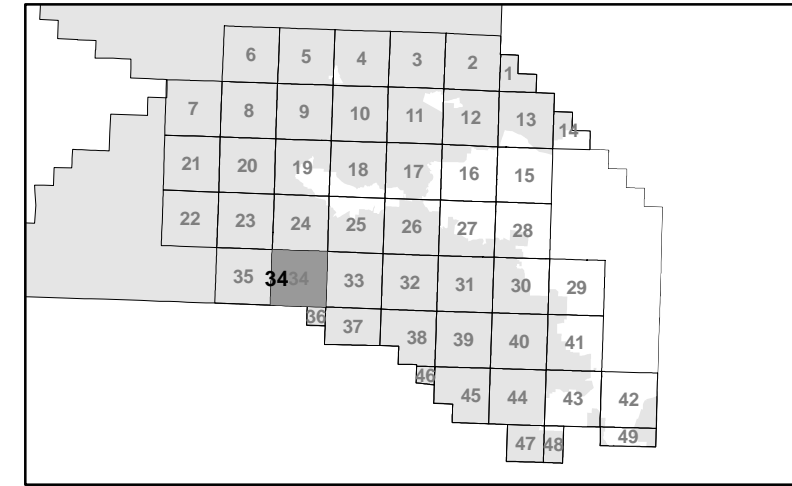
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



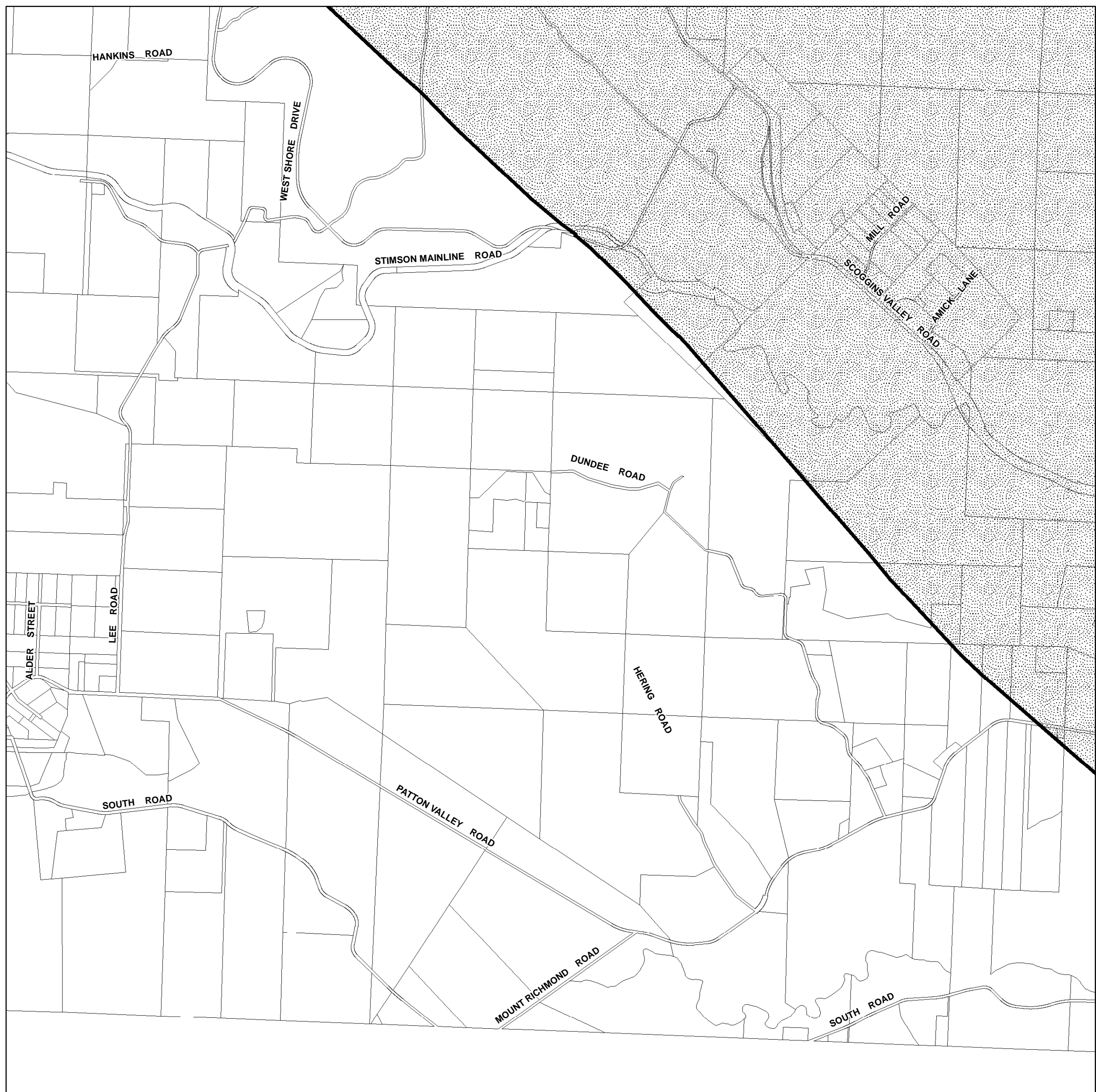
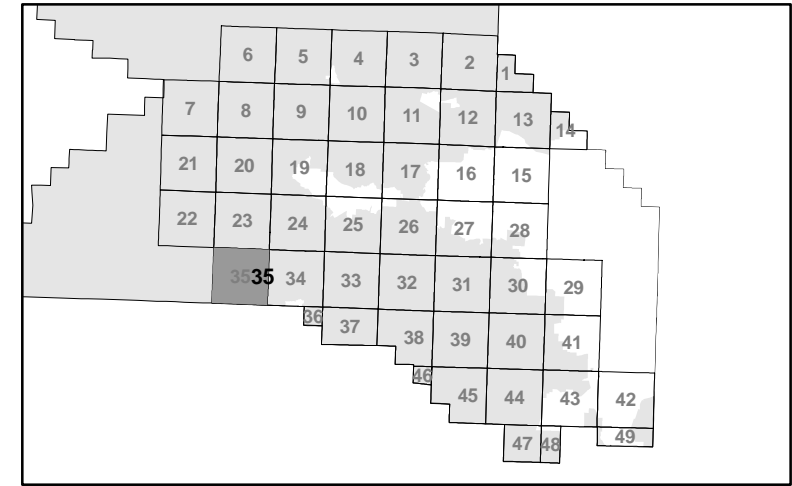
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve




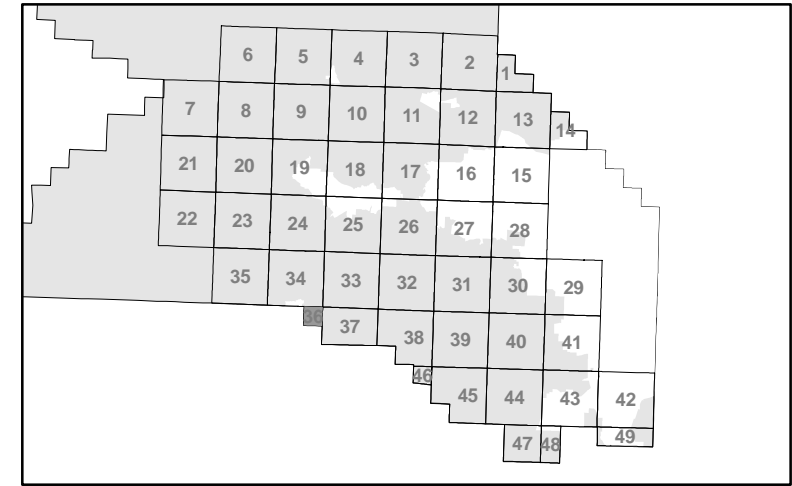
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

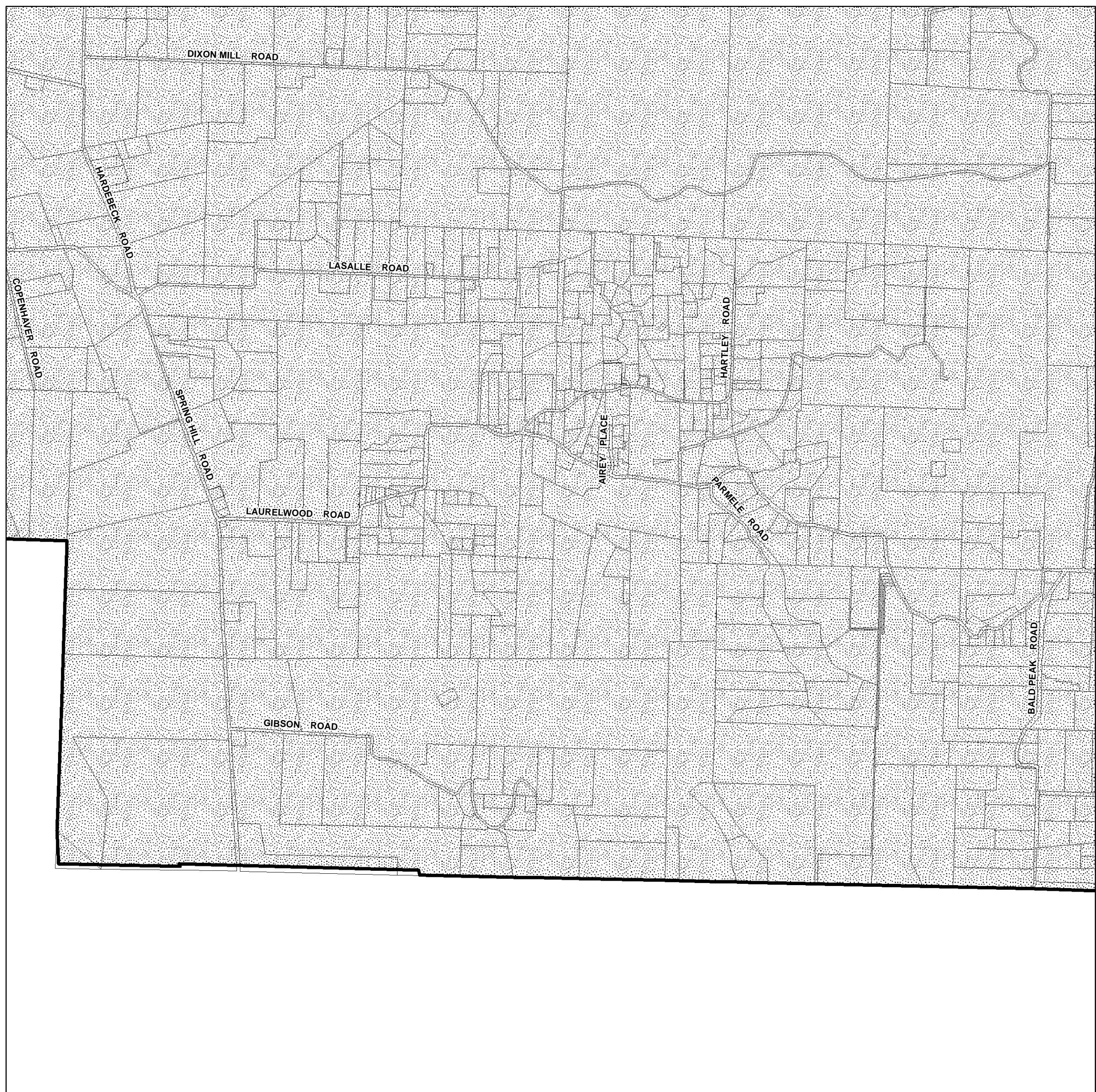
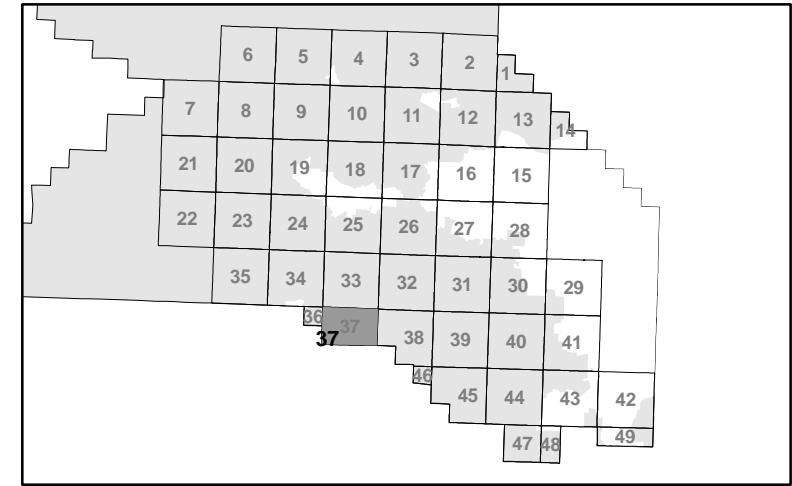
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



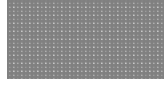
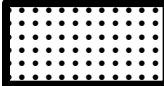


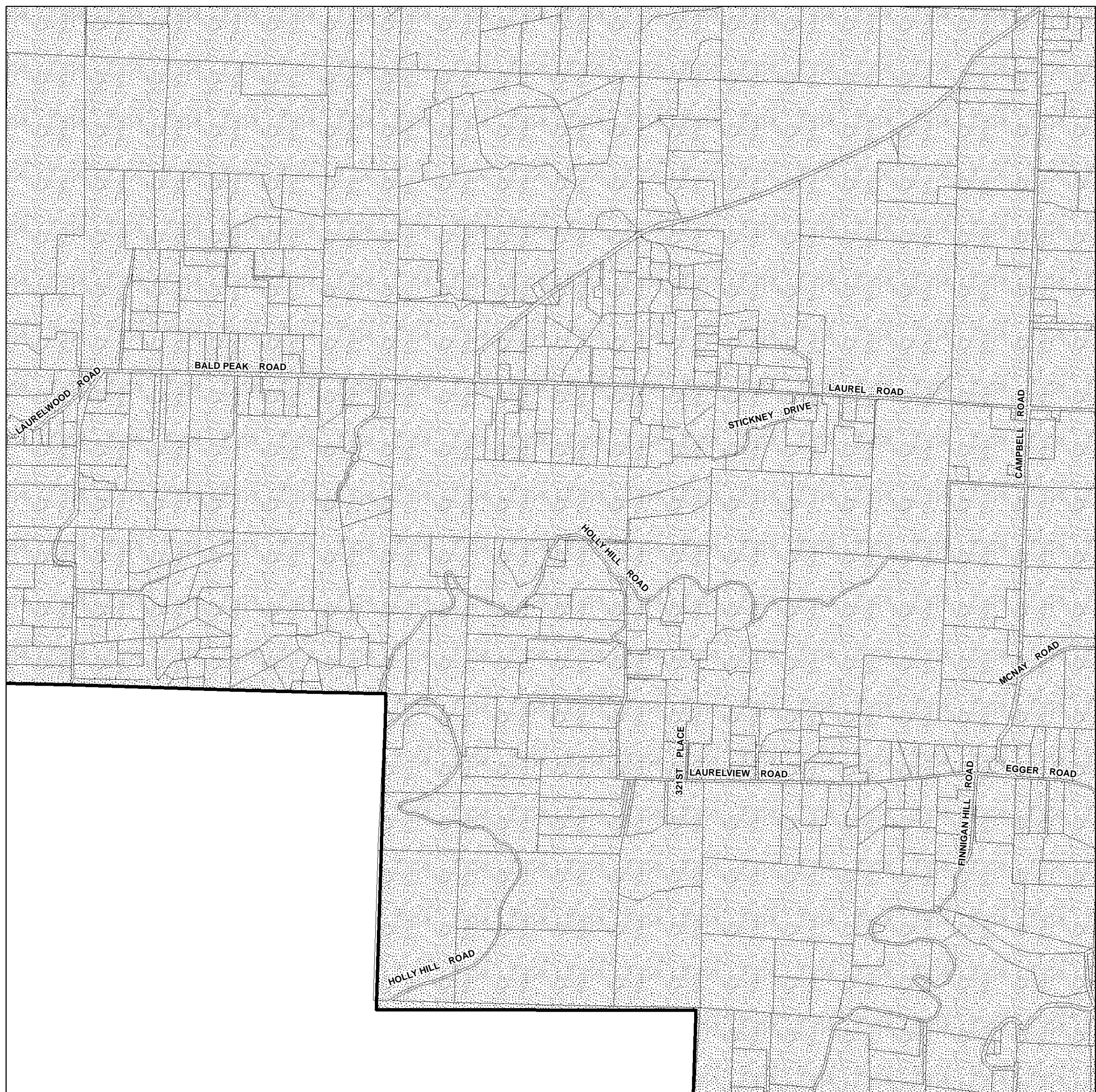
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

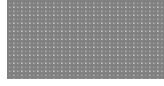


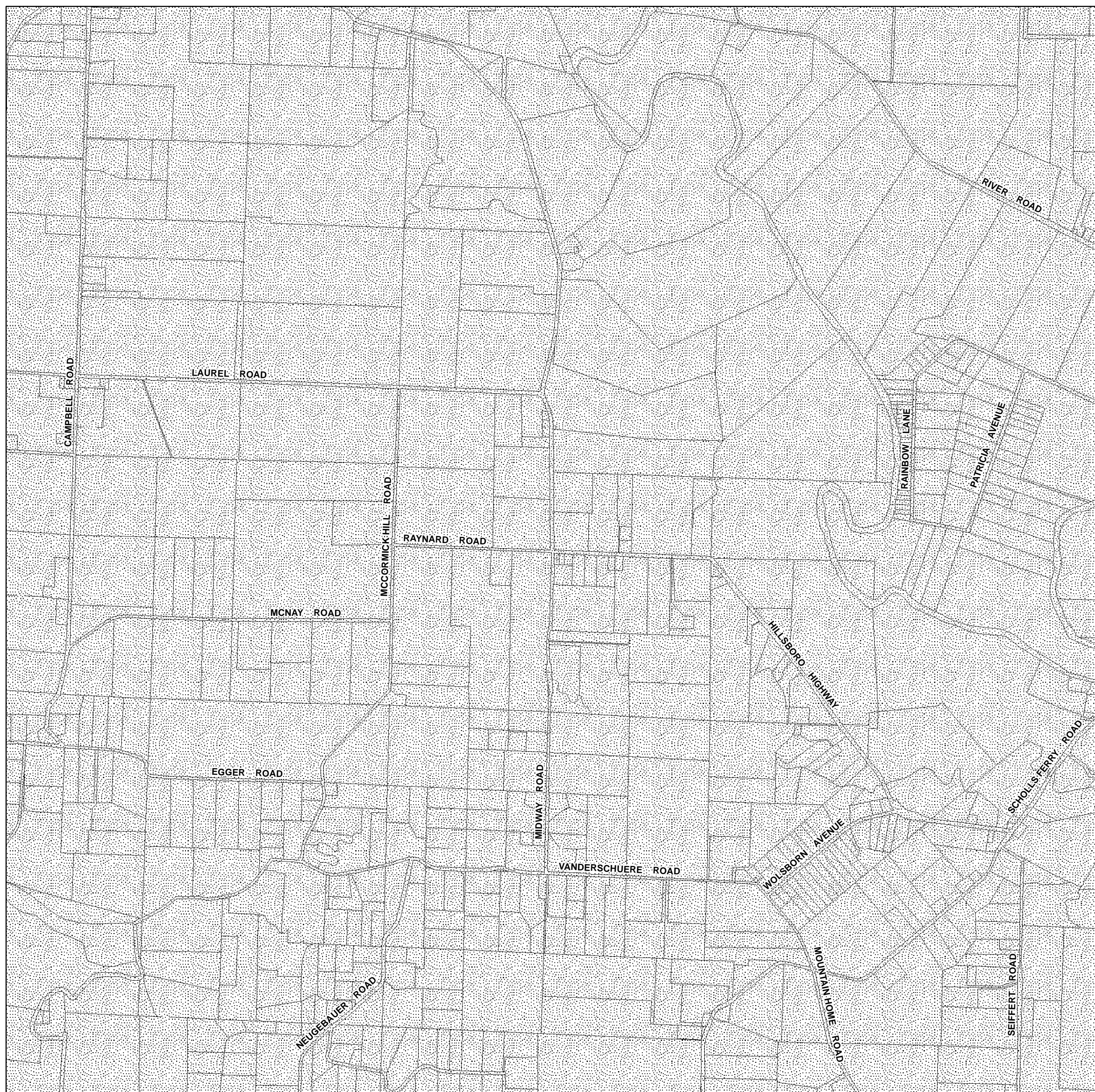
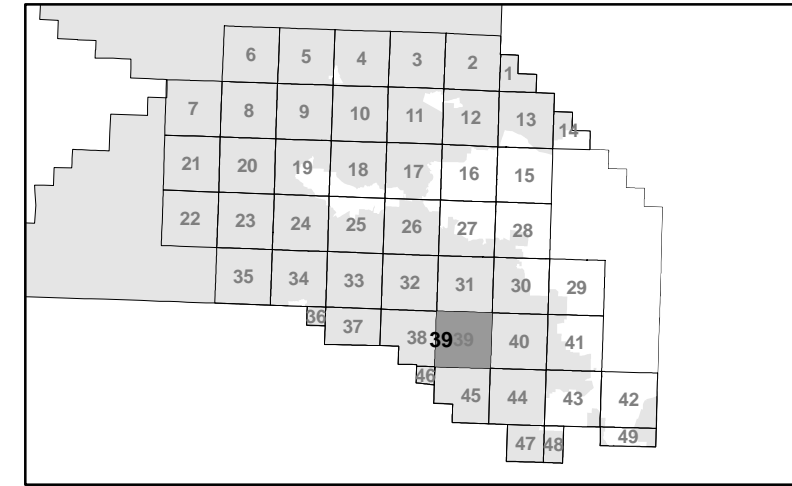
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



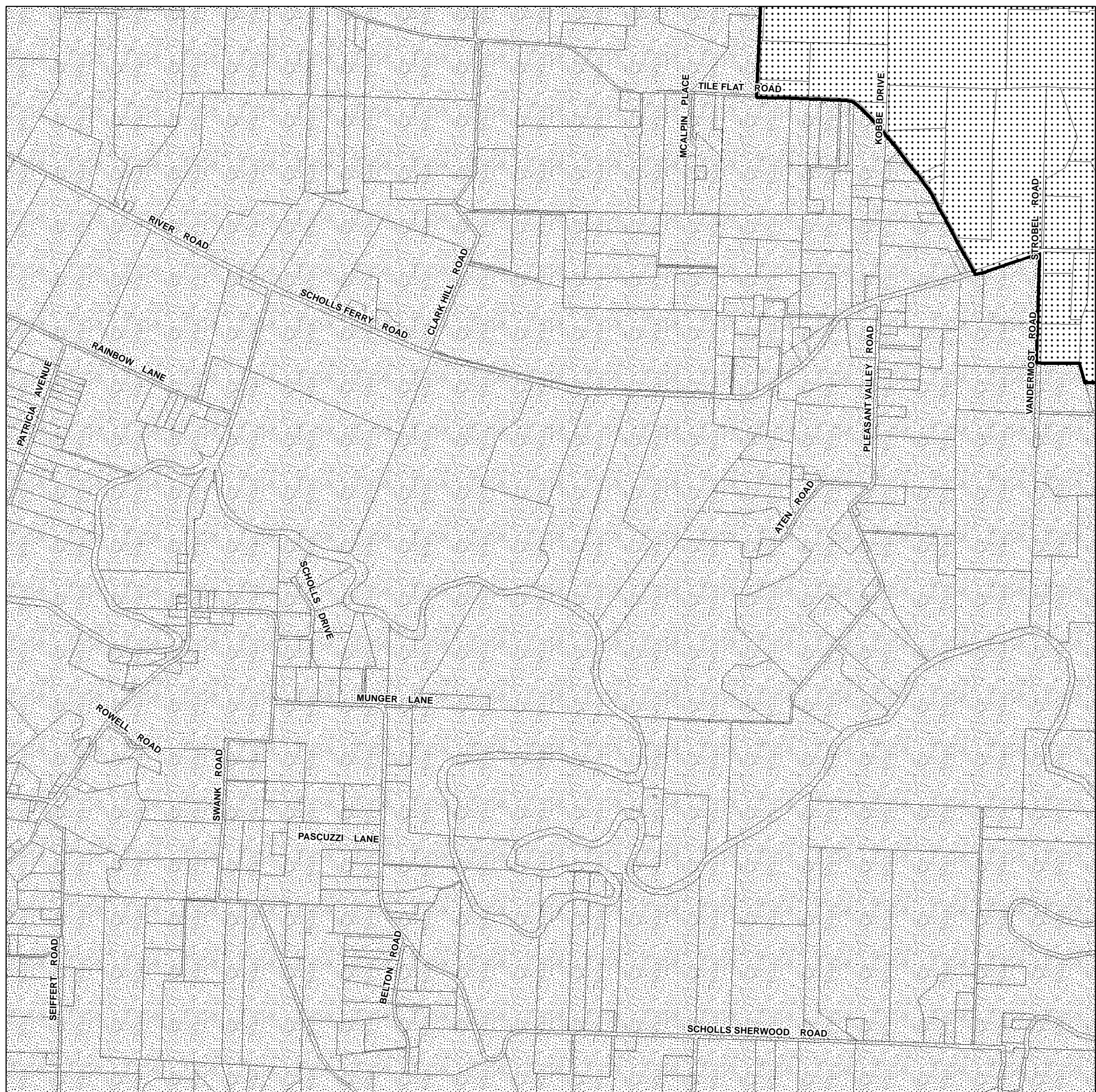
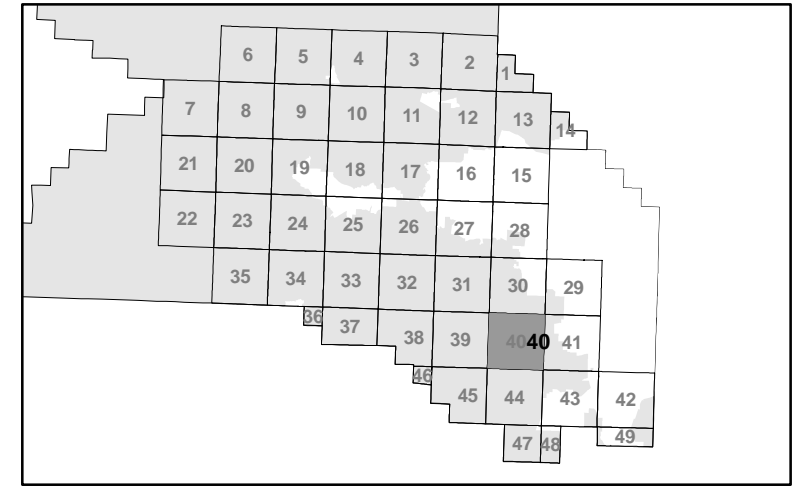
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

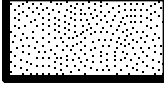


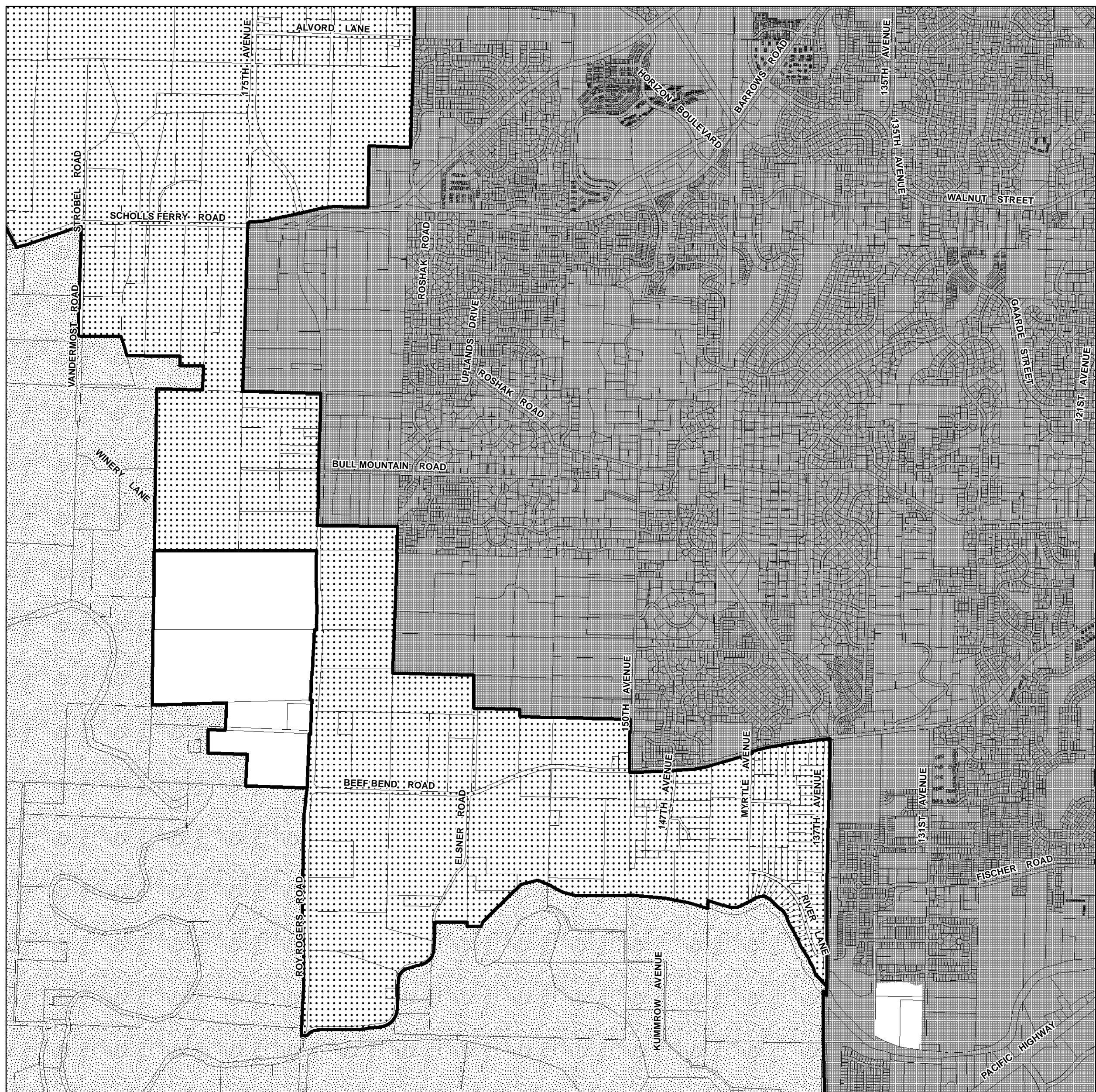
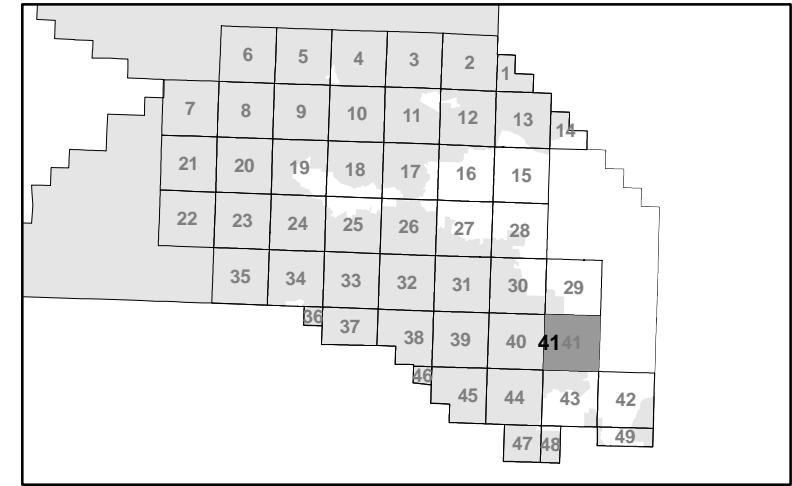
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

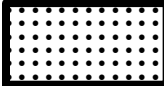


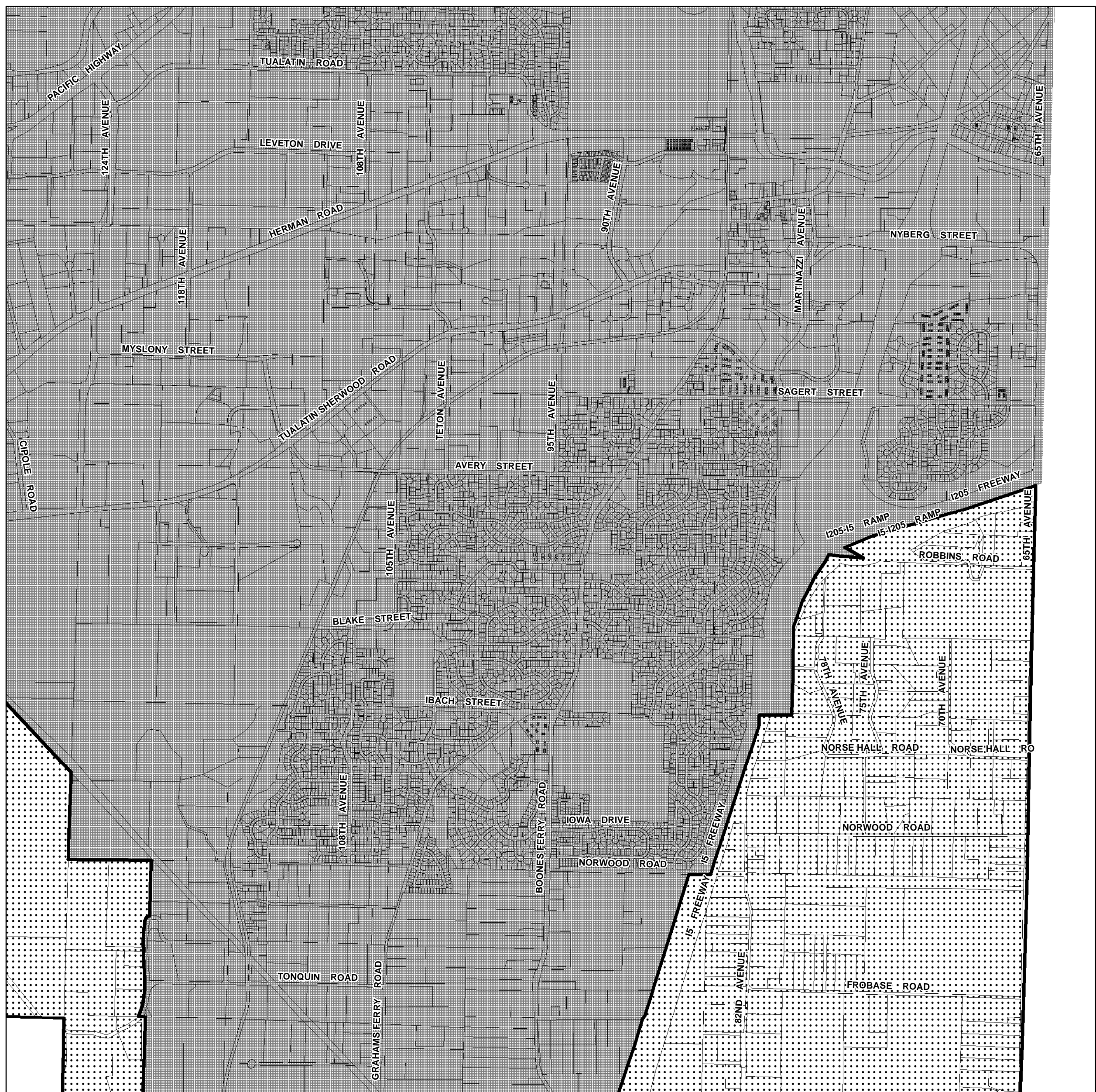
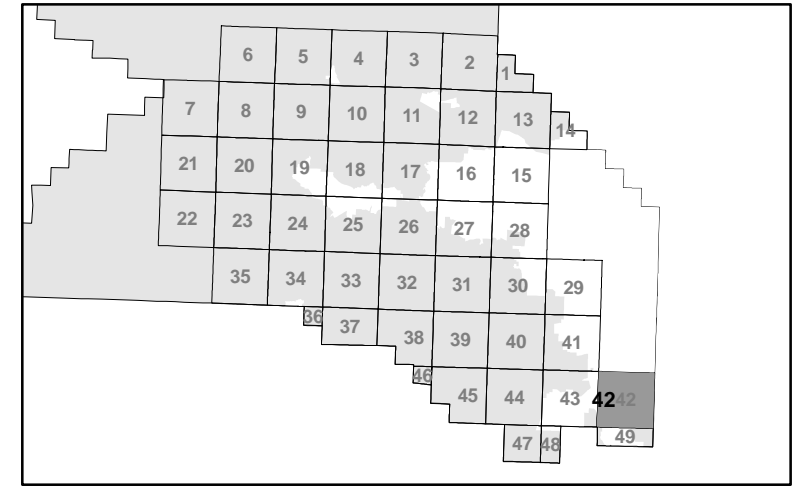
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



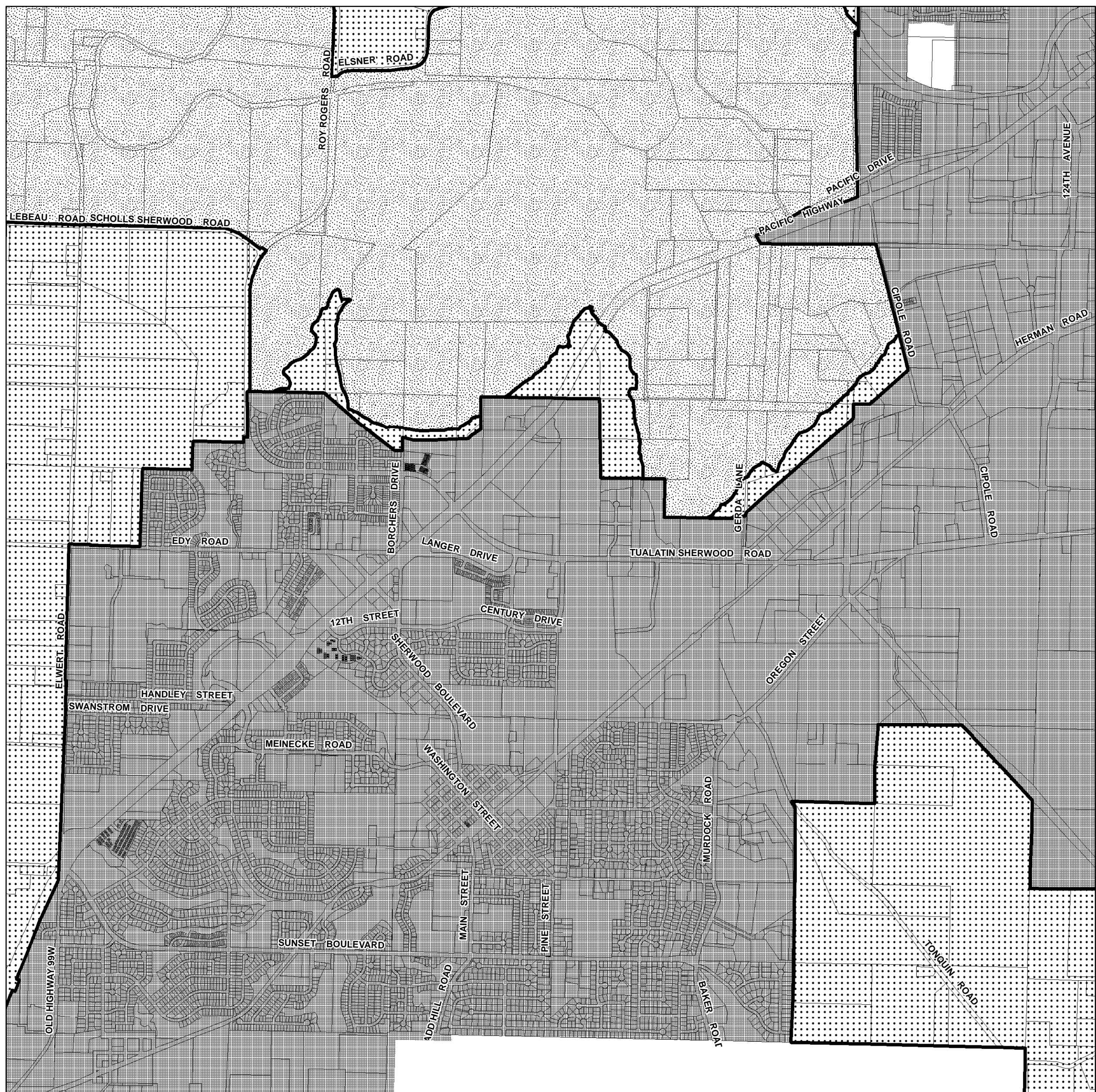
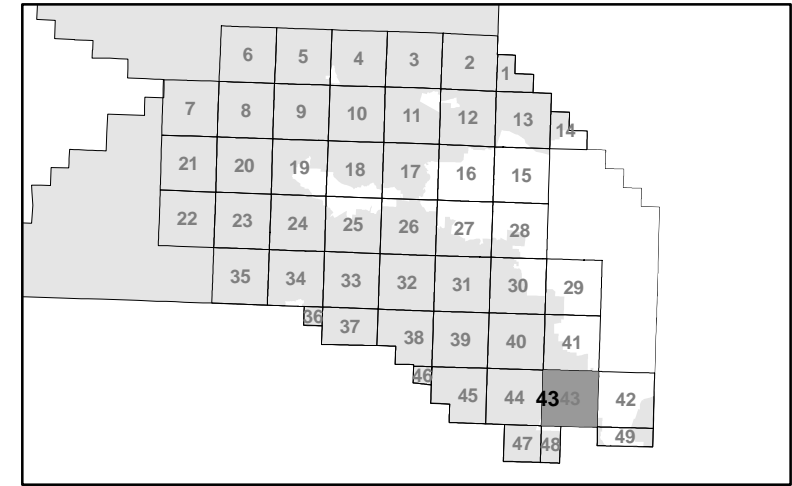
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

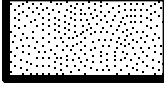


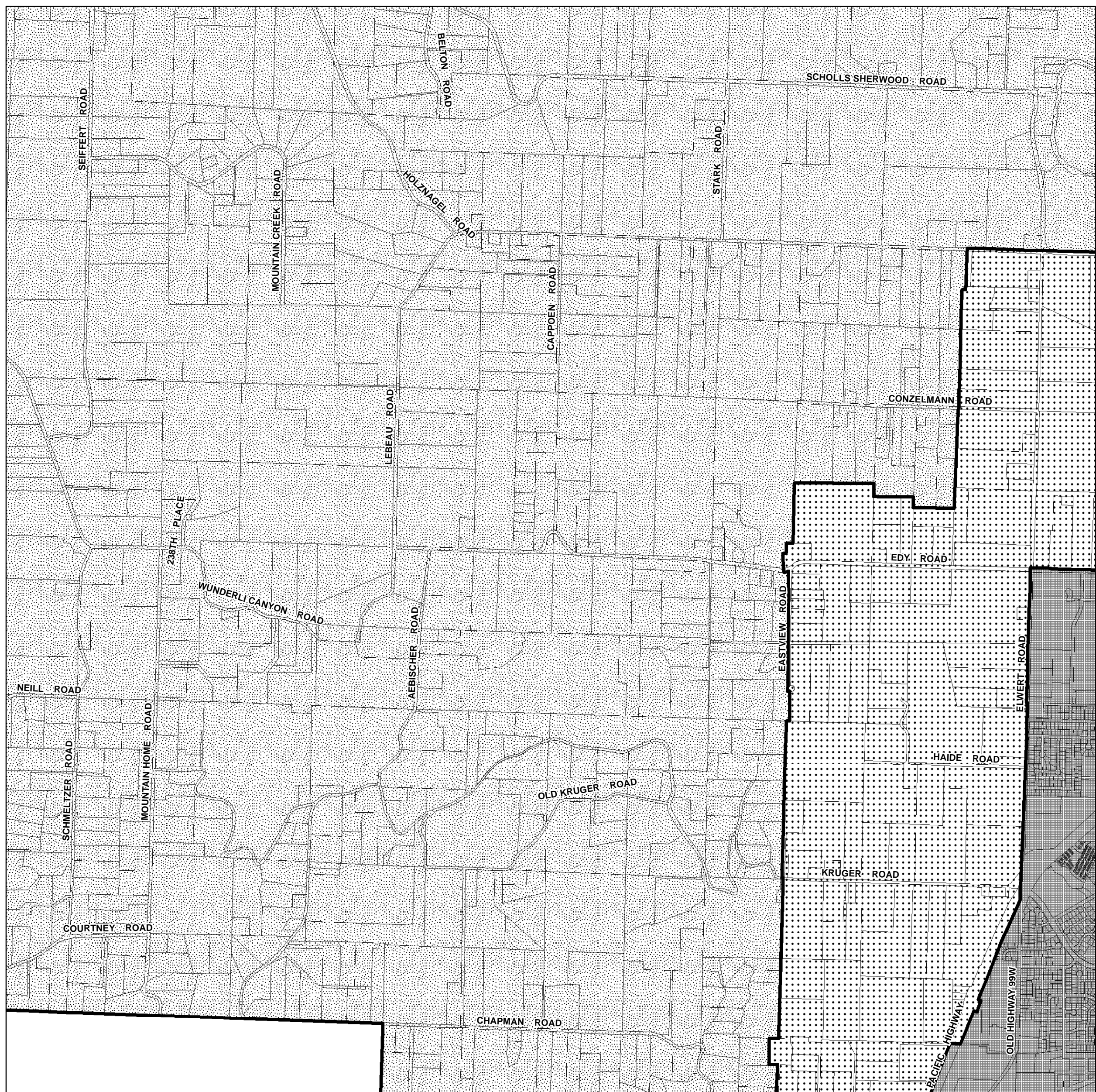
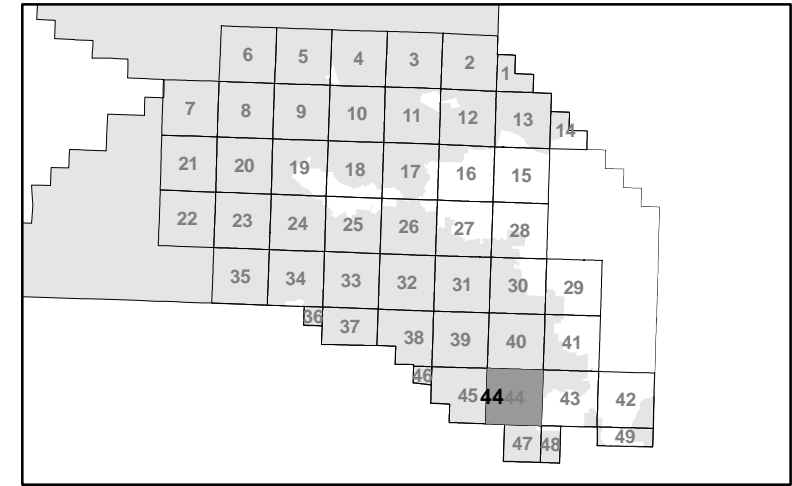
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

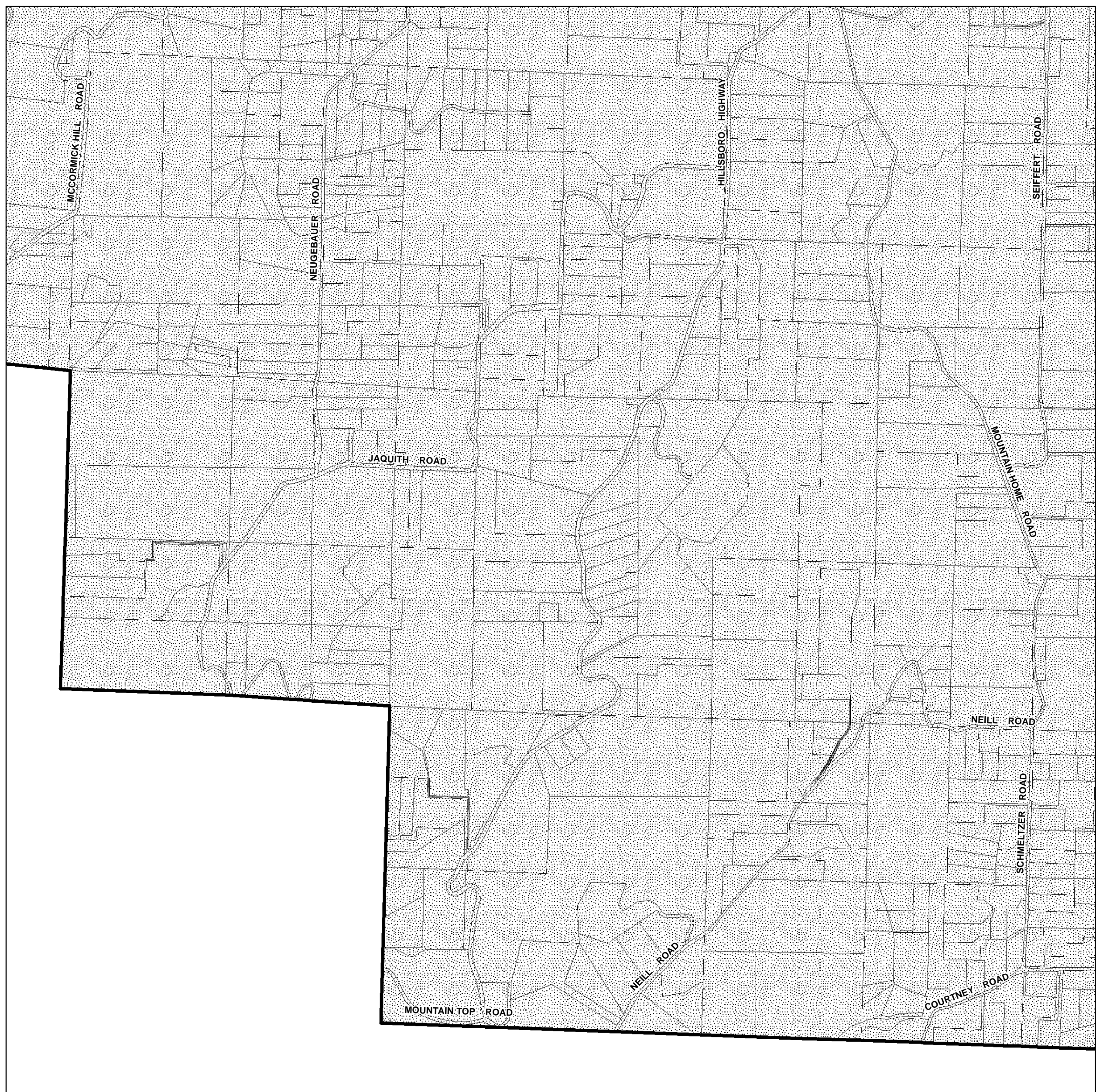
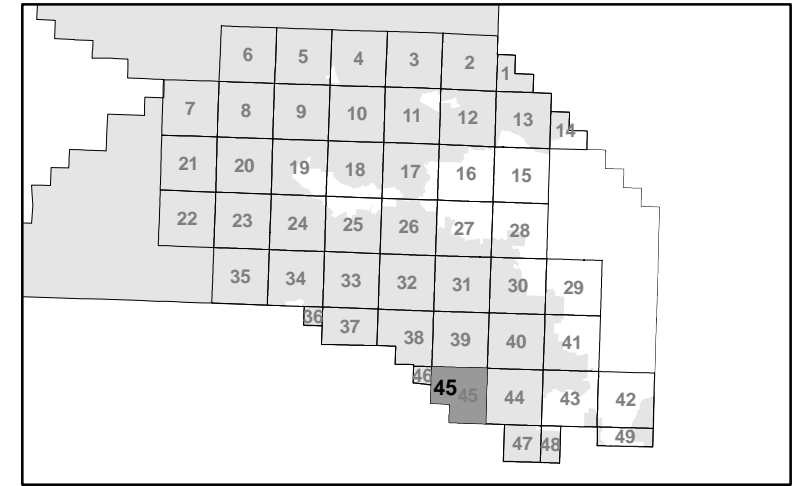
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






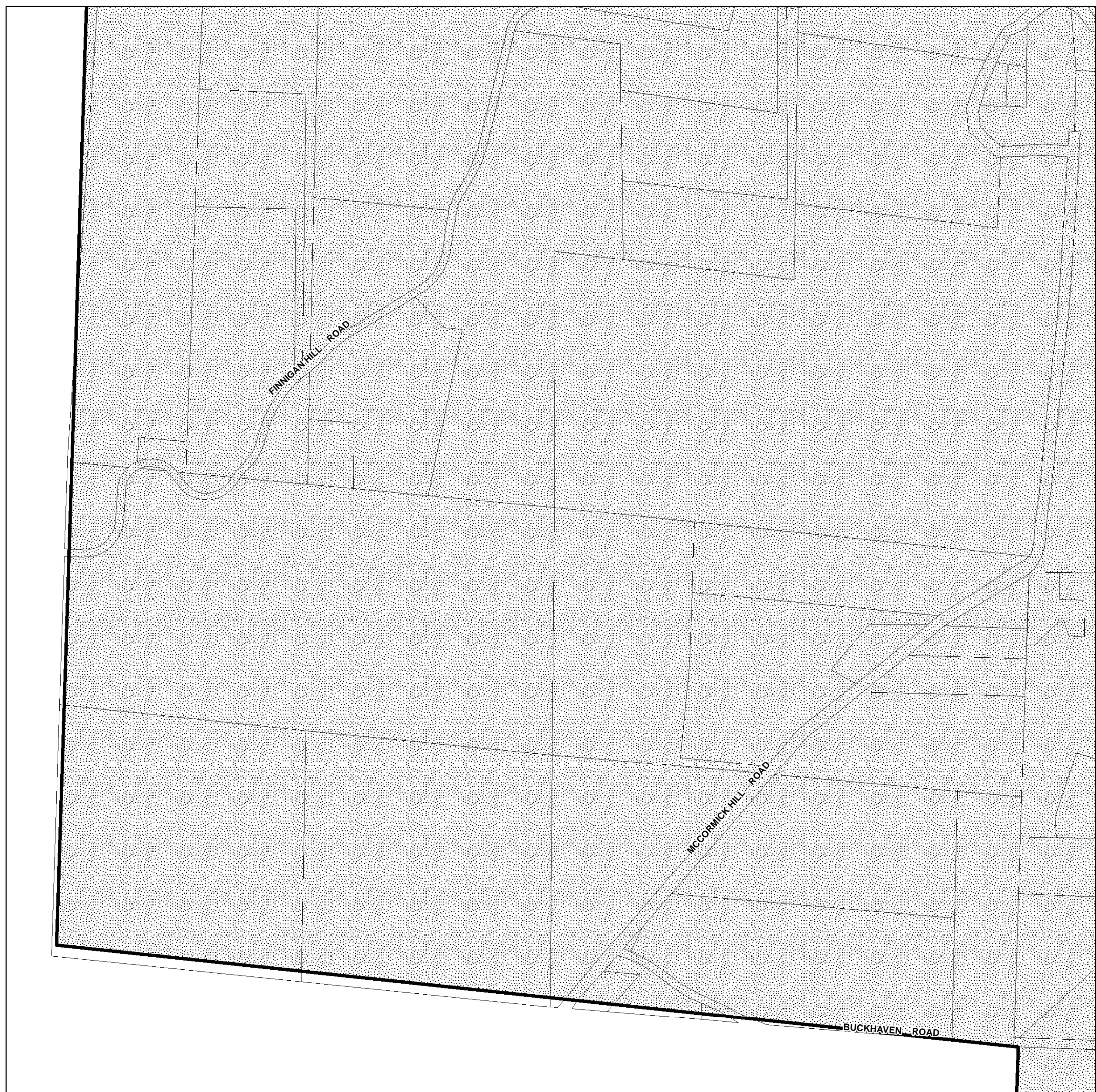
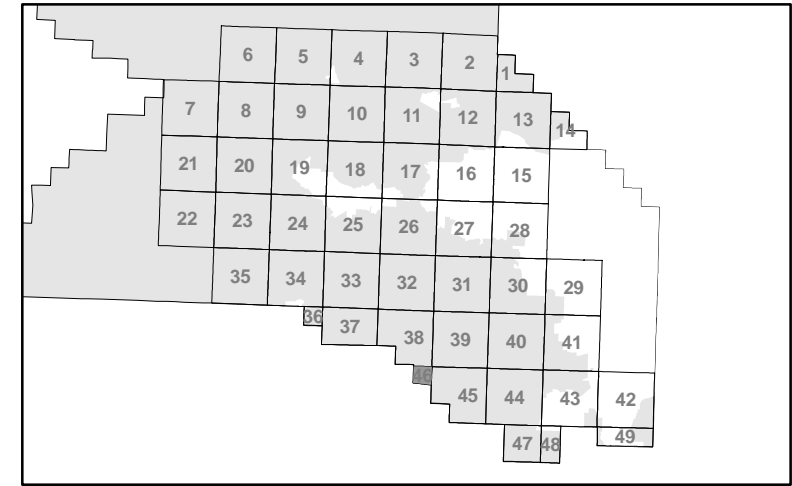
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

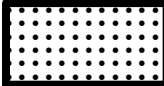


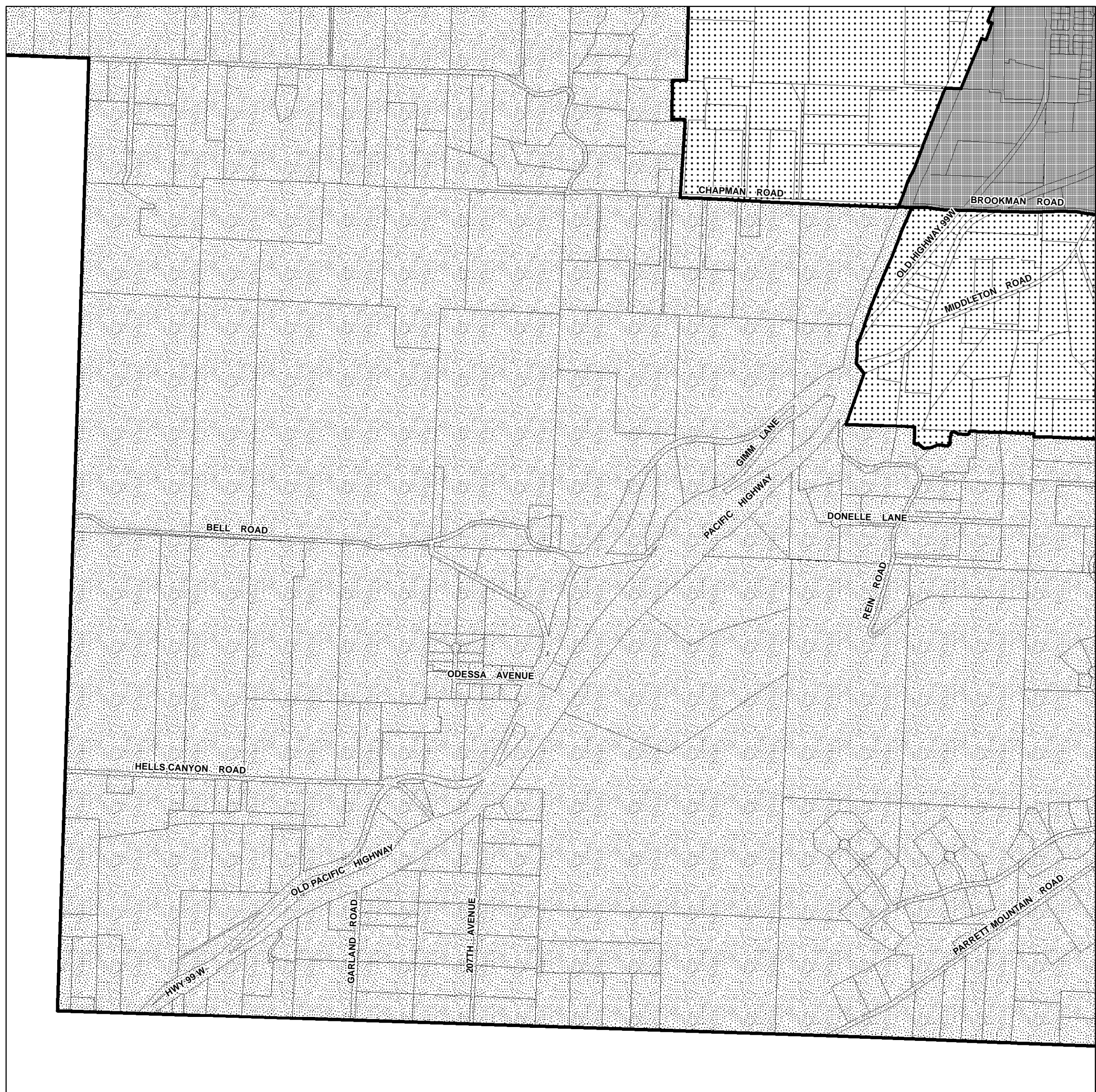
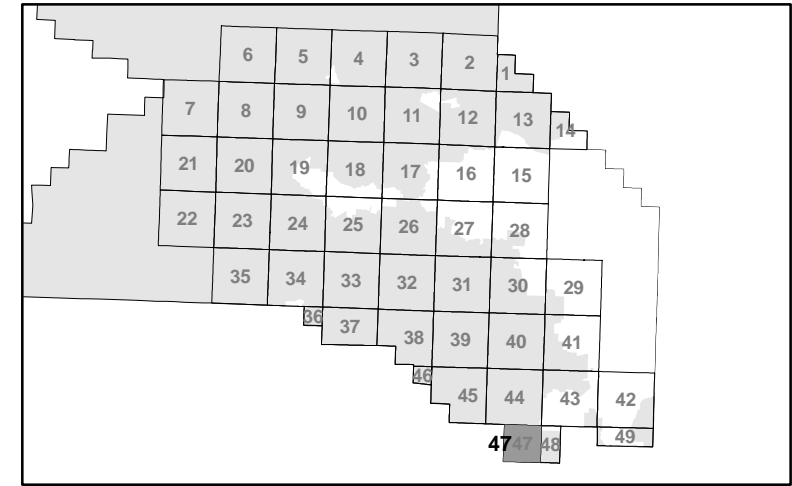
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



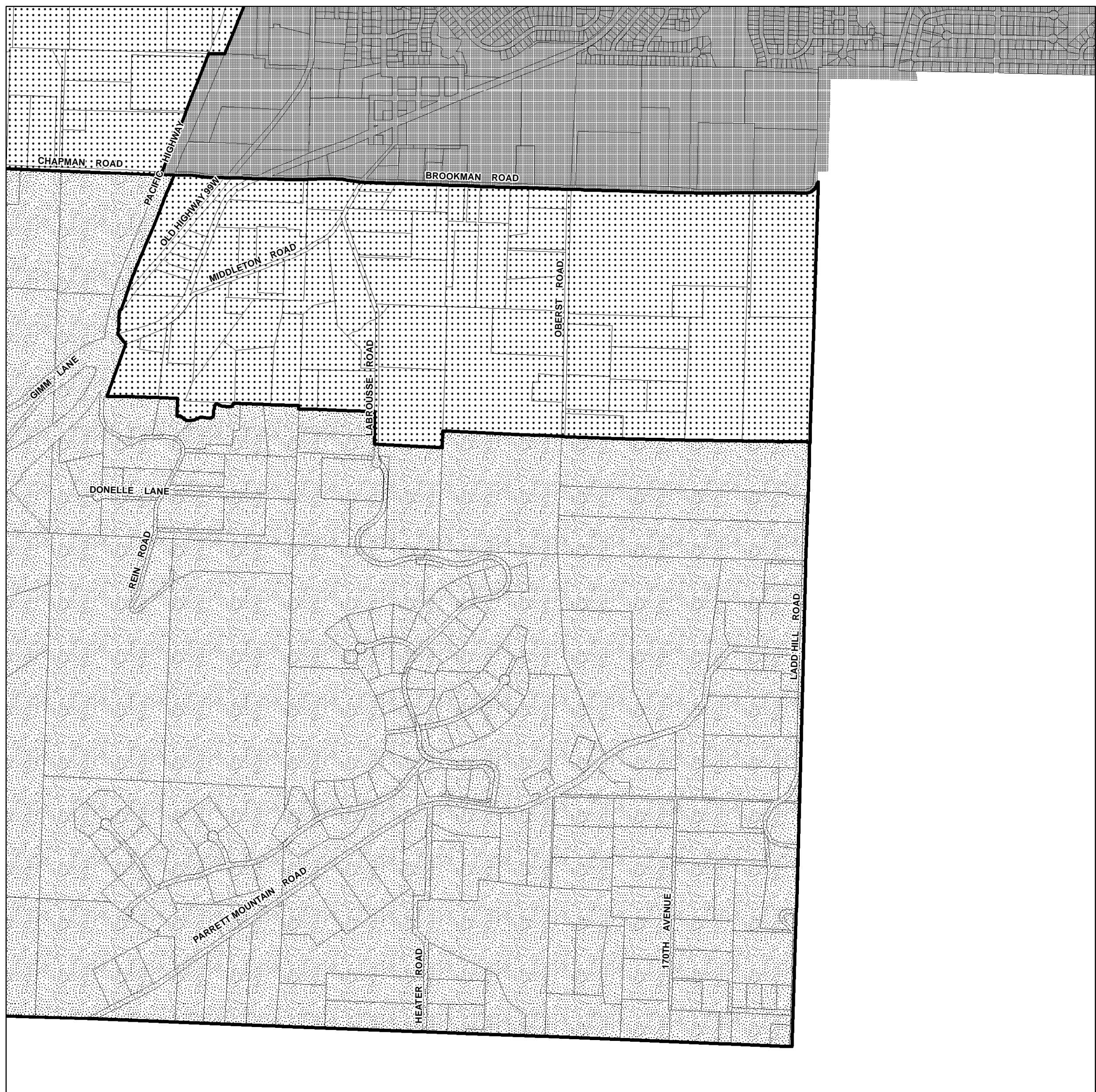
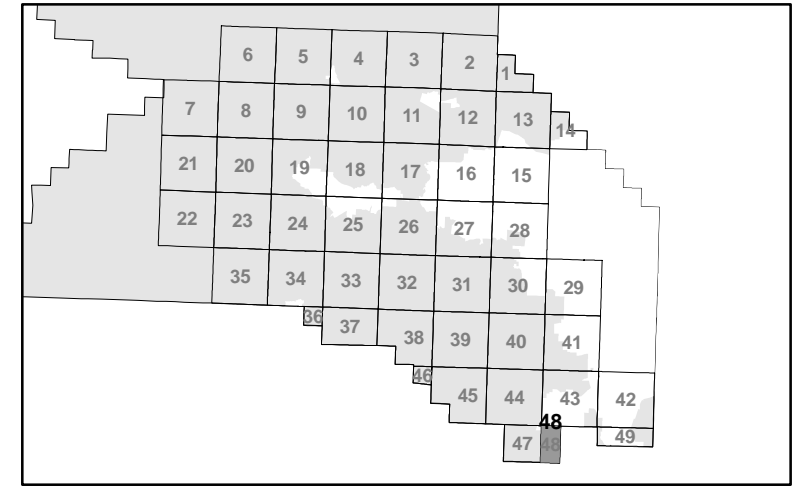
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

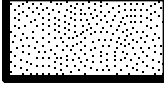


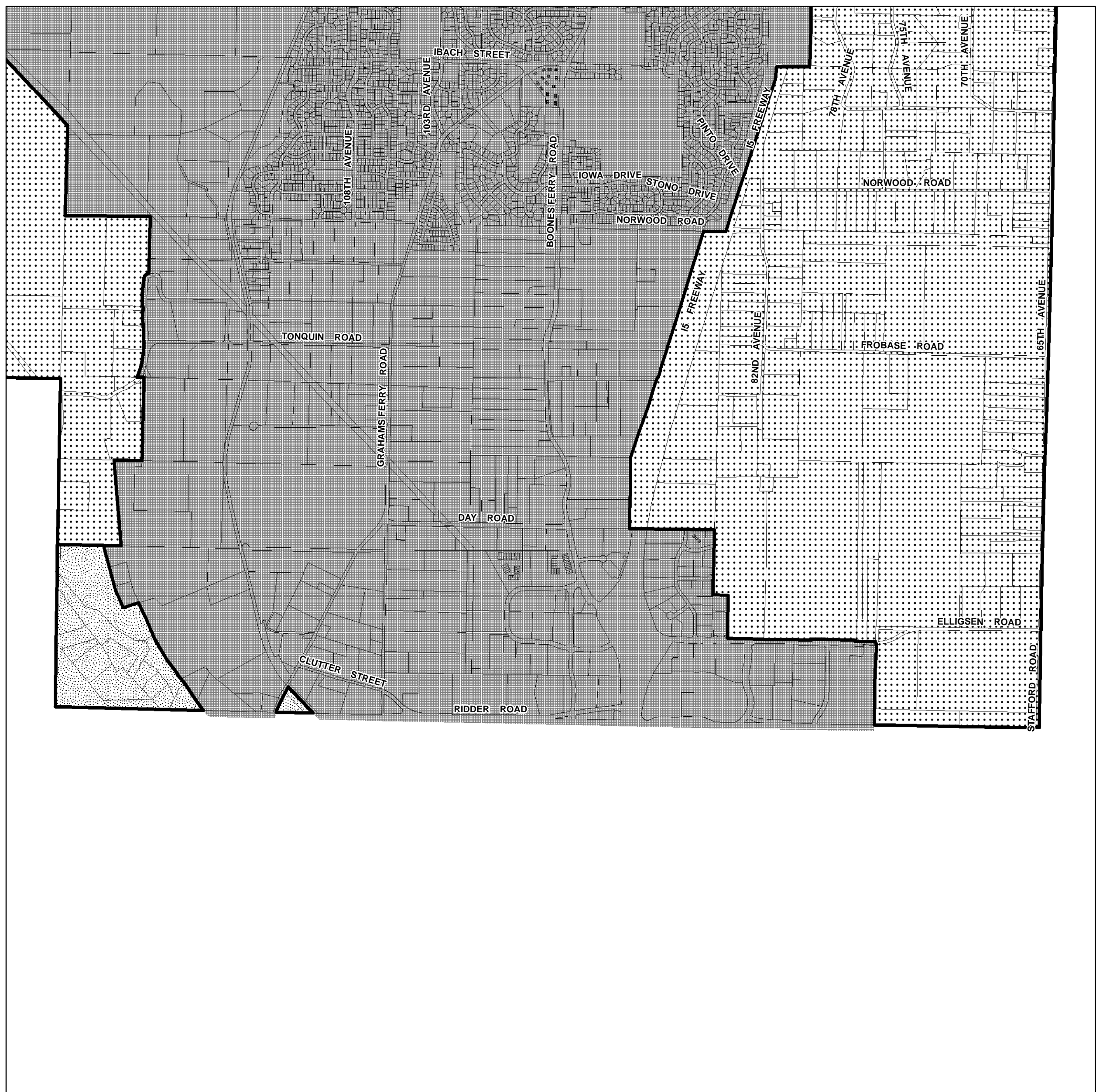
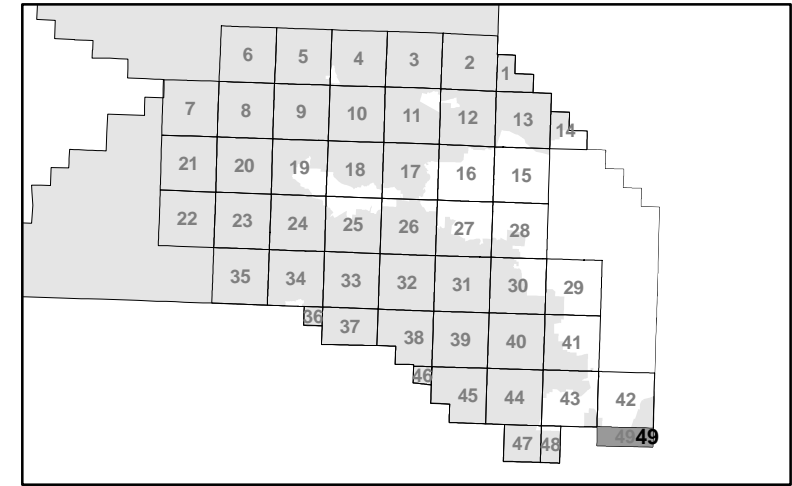
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



BEFORE THE BOARD OF COUNTY COMMISSIONERS

APR 05 2011

FOR WASHINGTON COUNTY, OREGON

Washington County  
County Clerk

A-ENGROSSED ORDINANCE NO. 740

An Ordinance Amending the Rural/Natural Resource Plan Element of the Comprehensive Plan by Modifying the Rural and Urban Reserves Map

The Board of County Commissioners of Washington County, Oregon ("Board") ordains as follows:

SECTION 1

A. The Board recognizes that the Rural/Natural Resource Plan Element of the Comprehensive Plan (Volume III) was readopted with amendments, by way of Ordinance No. 307, with portions subsequently amended by Ordinance Nos. 342, 383, 411, 412, 458, 459, 462, 480, 482, 499, 539, 547, 572, 574, 578, 588, 598, 606, 609, 615, 628, 630, 631, 637, 643, 648, 649, 653, 662, 671, 686 and 733.

B. After the Urban and Rural Reserves map was adopted on June 15, 2010 through Ordinance No. 733, the Land Conservation and Development Commission (LCDC) orally remanded two Urban Reserves in Washington County and, at the request of Washington County and Metro, all Washington County Rural Reserves to allow flexibility in redesignation of Urban Reserves.

C. On December 15, 2010, Washington County through its Board entered into a Supplemental Intergovernmental Agreement (IGA) with Metro for purpose of addressing the oral remand by LCDC of certain Urban Reserves and all the Rural Reserves in Washington County.

1 D. Upon further hearings and testimony, and in response to the oral remand by  
2 LCDC, Washington County and Metro have agreed on certain changes to the Urban and  
3 Rural Reserves map previously adopted by Ordinance No. 733 and as depicted on the  
4 attached exhibits 1 and 2 of this ordinance.

5 E. The Board takes note that from time to time such changes to the planning  
6 documents are necessary for the benefit of the residents of Washington County, Oregon.

7 F. Under the provisions of Washington County Charter Chapter X, the  
8 Department of Land Use and Transportation has carried out its responsibilities, including  
9 preparation of notices, and the County Planning Commission has conducted one or more  
10 public hearings on the proposed amendments and has submitted its recommendation to the  
11 Board. The Board finds that this Ordinance is based on that recommendation and any  
12 modifications made by the Board, as a result of the public hearings process.

13 G. The Board finds and takes public notice that it is in receipt of all matters and  
14 information necessary to consider this Ordinance in an adequate manner, and that this  
15 Ordinance complies with the Statewide Planning Goals and other relevant standards and  
16 criteria set forth in Chapters 197 and 215 of the Oregon Revised Statutes, the Washington  
17 County Charter, and the Washington County Community Development Code.

18 SECTION 2

19 The following exhibits, attached hereto and incorporated herein by reference, are  
20 adopted as amendments to the designated documents as follows:

21 A. Exhibit 1 (4 pages), amending the Rural and Urban Reserves map previously  
22 adopted by Ordinance No. 733; and

1 B. Exhibit 2 (49 pages), repealing the Rural and Urban Reserves map in Policy  
2 29 of the Rural/Natural Resource Plan adopted by Ordinance No. 733 and  
3 replacing it with the maps shown in this Exhibit ;

4 Except for those changes set forth in Exhibits 1 and 2, the reserves maps originally  
5 adopted by Ordinance No. 733 are unchanged.

6 SECTION 3

7 All other Comprehensive Plan provisions that have been adopted by prior ordinance,  
8 that are not expressly amended or repealed herein, shall remain in full force and effect.

9 SECTION 4 -

10 All applications received prior to the effective date shall be processed in accordance  
11 with ORS 215.427 (2009 Edition).

12 SECTION 5

13 If any portion of this Ordinance, including the exhibits, shall for any reason be held  
14 invalid or unconstitutional it shall be considered that it is the intent of the Board that the  
15 portion invalidated shall be severed and the remainder shall not be affected thereby and shall  
16 remain in full force and effect.

17 SECTION 6

18 The Office of County Counsel and Department of Land Use and Transportation are  
19 authorized to prepare planning documents to reflect the changes adopted under Section 2 of  
20 this Ordinance, including deleting and adding textual material and maps, renumbering pages or  
21 sections, and making any technical changes not affecting the substance of these amendments,  
22 as necessary to conform to the Washington County Comprehensive Plan format.



1 SECTION 7

2 This Ordinance shall take effect thirty (30) days after adoption.

3 ENACTED this \_\_\_\_\_ day of \_\_\_\_\_, 2011, being the \_\_\_\_\_ reading  
4 and \_\_\_\_\_ public hearing before the Board of County Commissioners of Washington  
5 County, Oregon.

6 BOARD OF COUNTY COMMISSIONERS  
7 FOR WASHINGTON COUNTY, OREGON

8 \_\_\_\_\_  
9 CHAIRMAN

10 \_\_\_\_\_  
11 RECORDING SECRETARY

12 READING

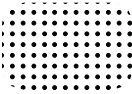
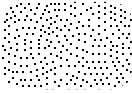
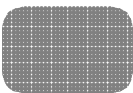
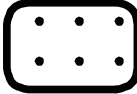
12 PUBLIC HEARING

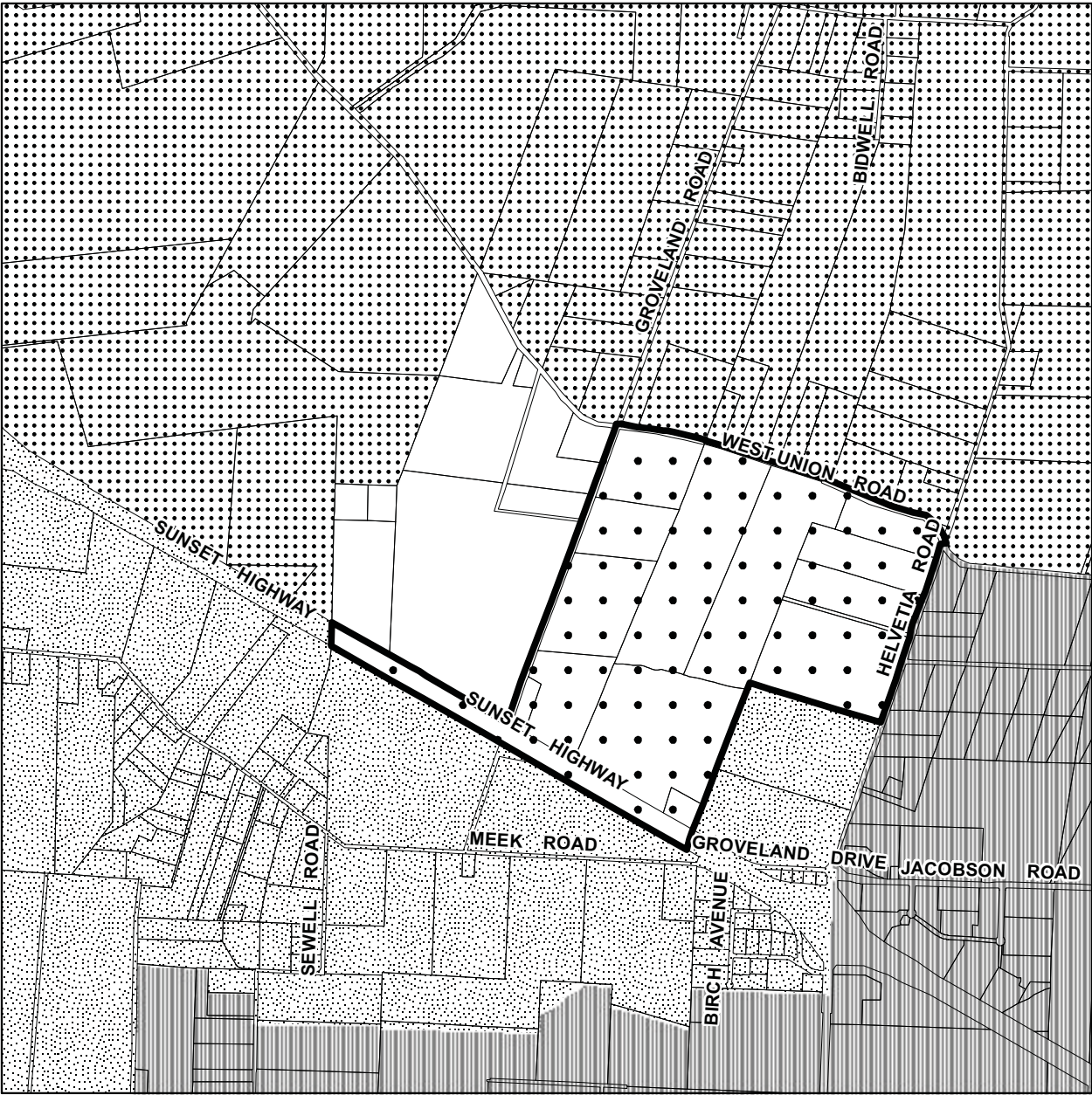
13 First \_\_\_\_\_  
14 Second \_\_\_\_\_  
15 Third \_\_\_\_\_  
16 Fourth \_\_\_\_\_  
17 Fifth \_\_\_\_\_  
18 Sixth \_\_\_\_\_  
19 VOTE: Aye: \_\_\_\_\_

13 First \_\_\_\_\_  
14 Second \_\_\_\_\_  
15 Third \_\_\_\_\_  
16 Fourth \_\_\_\_\_  
17 Fifth \_\_\_\_\_  
18 Sixth \_\_\_\_\_  
19 Nay: \_\_\_\_\_

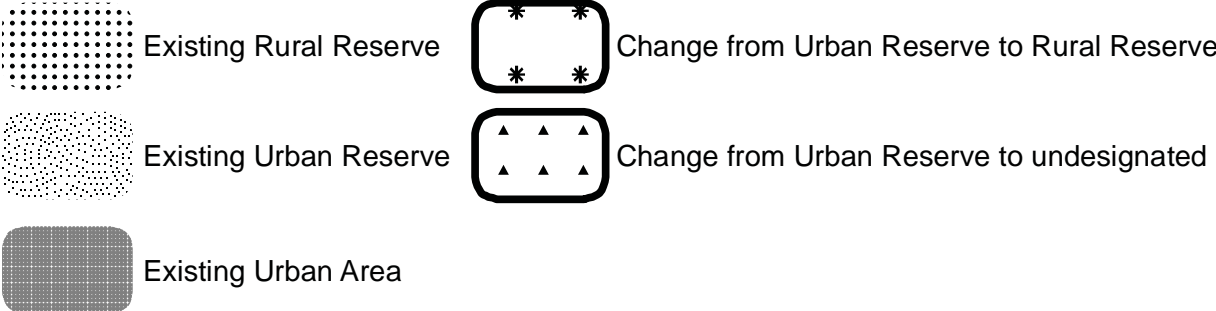

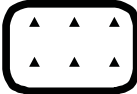
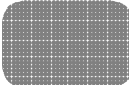
20 Recording Secretary: \_\_\_\_\_ Date: \_\_\_\_\_  
21  
22

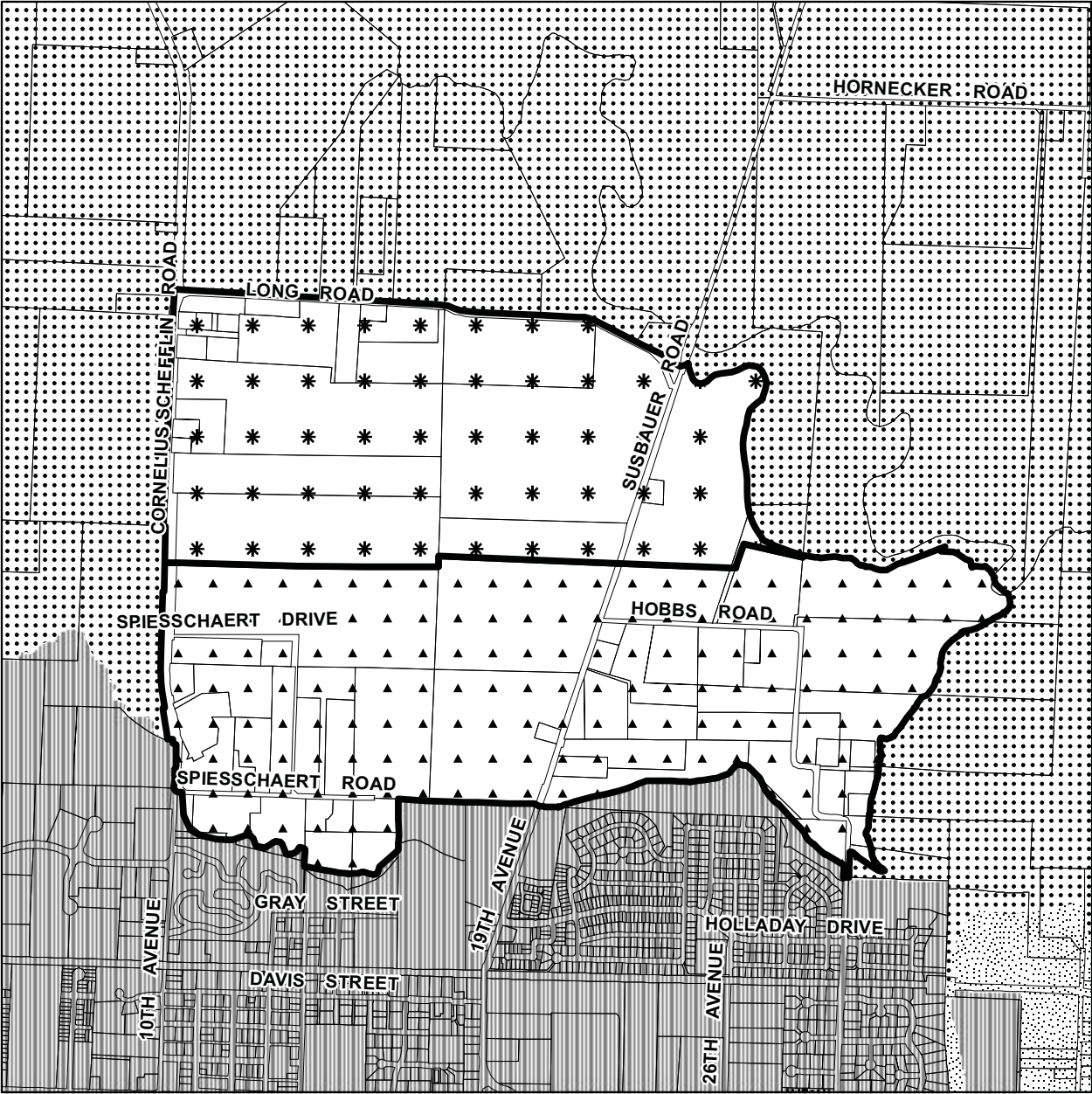
The following exhibit reflects changes made by A-Engrossed Ordinance No. 740 to the Rural and Urban Reserves map previously adopted by Ordinance No. 733.

-  Existing Rural Reserve
-  Existing Urban Reserve
-  Existing Urban Area
-  Change from undesignated to Urban Reserve

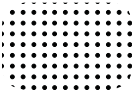
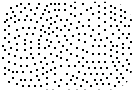
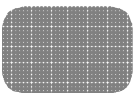



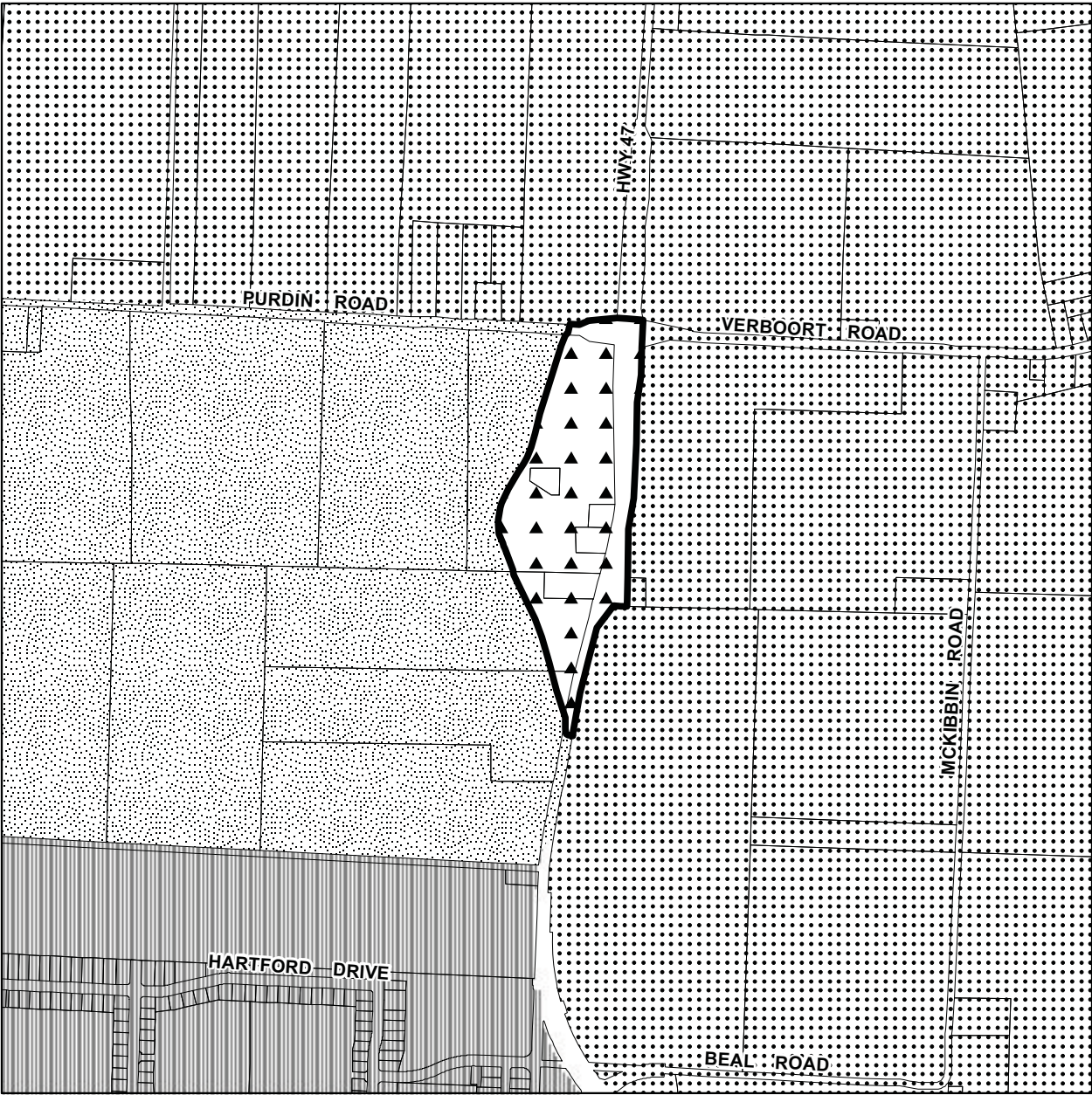
The following exhibit reflects changes made by A-Engrossed Ordinance No. 740 to the Rural and Urban Reserves map previously adopted by Ordinance No. 733.

  
Existing Rural Reserve  Change from Urban Reserve to Rural Reserve  
Existing Urban Reserve  Change from Urban Reserve to undesignated  
Existing Urban Area 

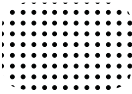
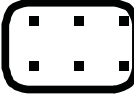
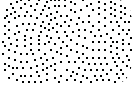
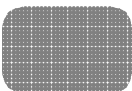


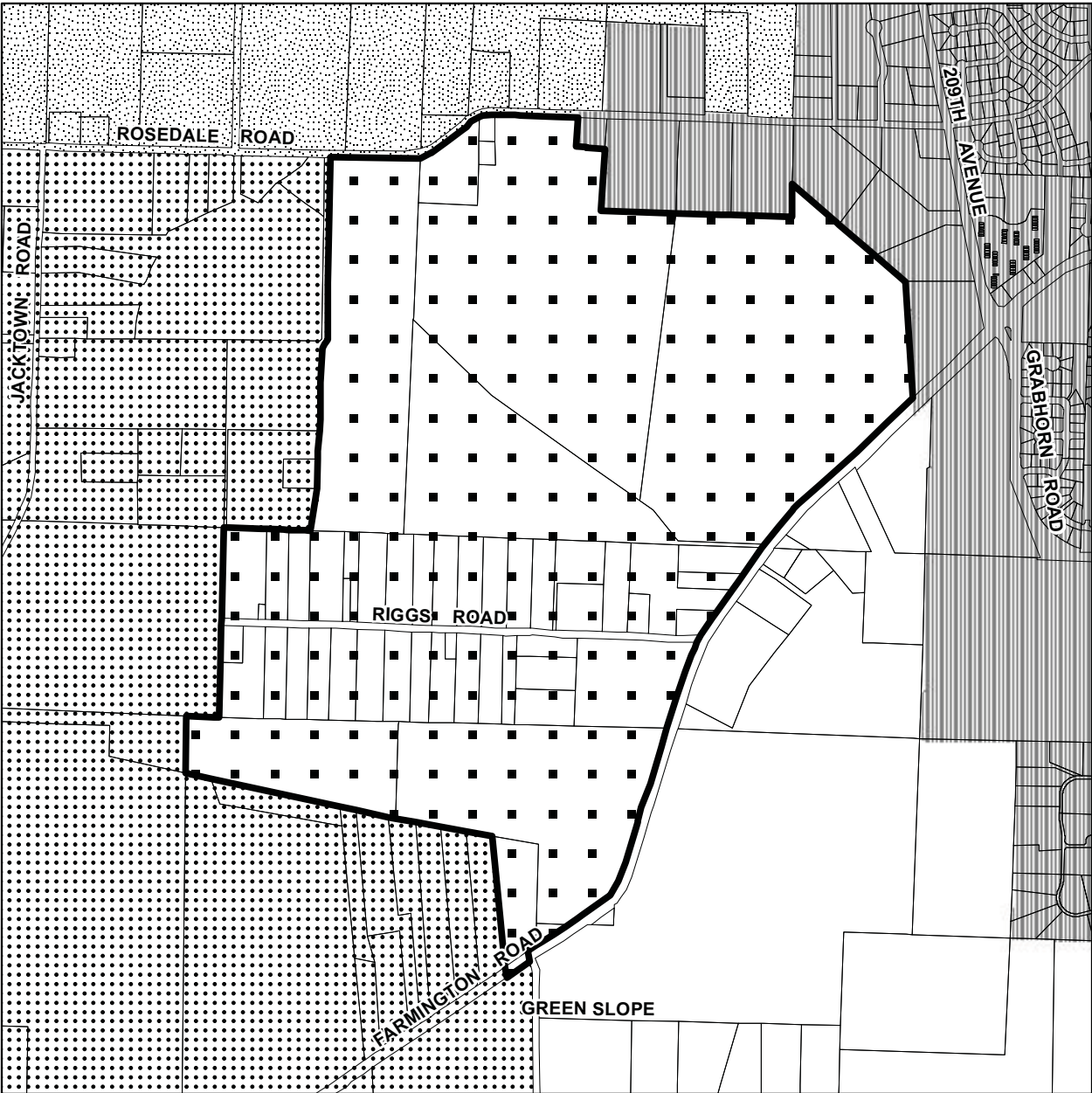
The following exhibit reflects changes made by A-Engrossed Ordinance No. 740 to the Rural and Urban Reserves map previously adopted by Ordinance No. 733.

-  Existing Rural Reserve
-  Existing Urban Reserve
-  Existing Urban Area
-  Change from Urban Reserve to undesignated






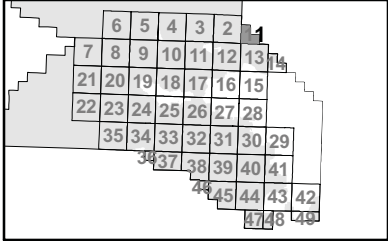
The following exhibit reflects changes made by A-Engrossed Ordinance No. 740 to the Rural and Urban Reserves map previously adopted by Ordinance No. 733.

-  Existing Rural Reserve
-  Change from Rural Reserve to undesignated
-  Existing Urban Reserve
-  Existing Urban Area






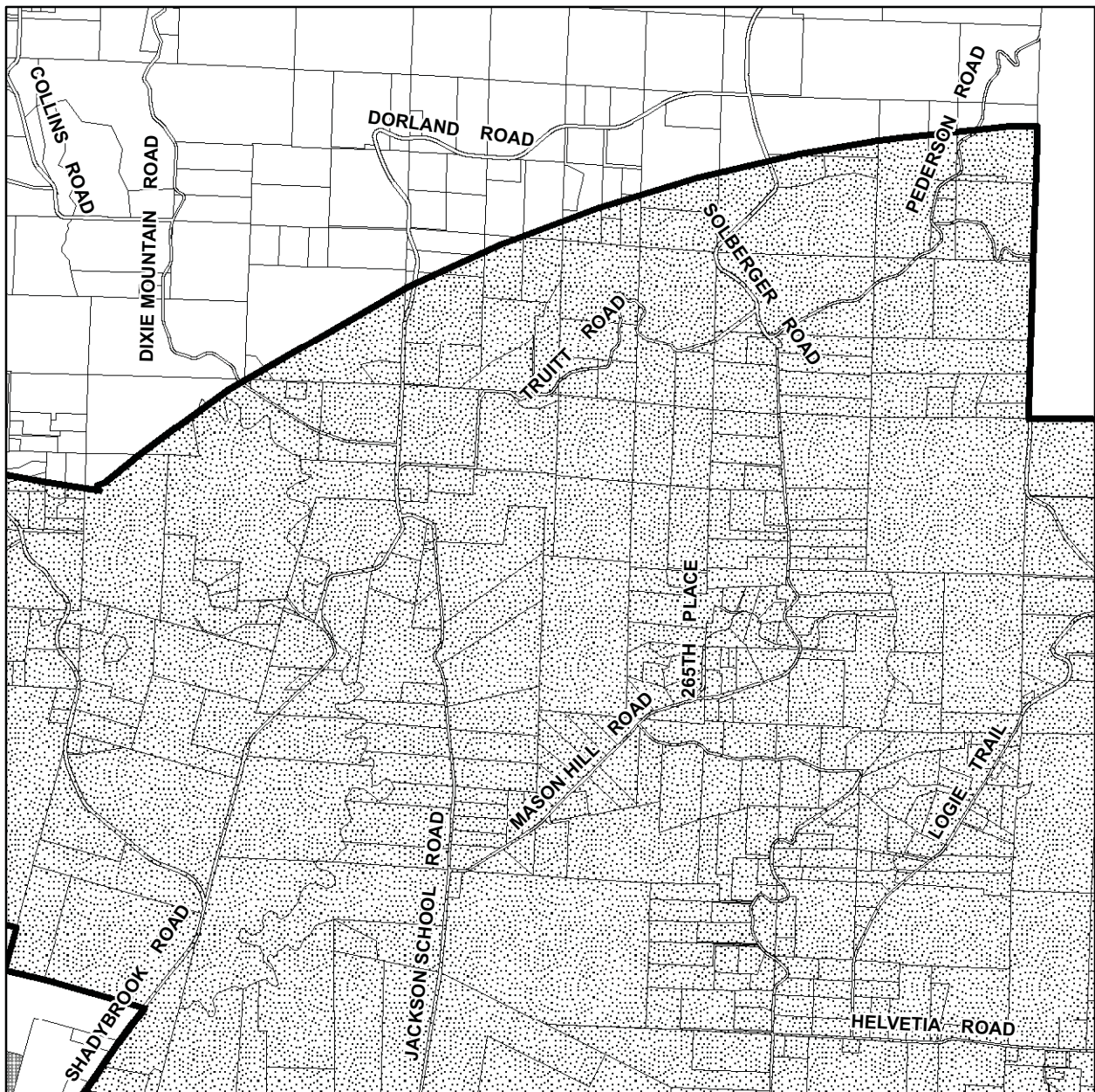
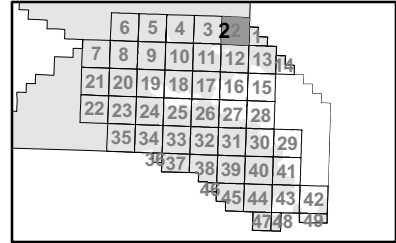
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






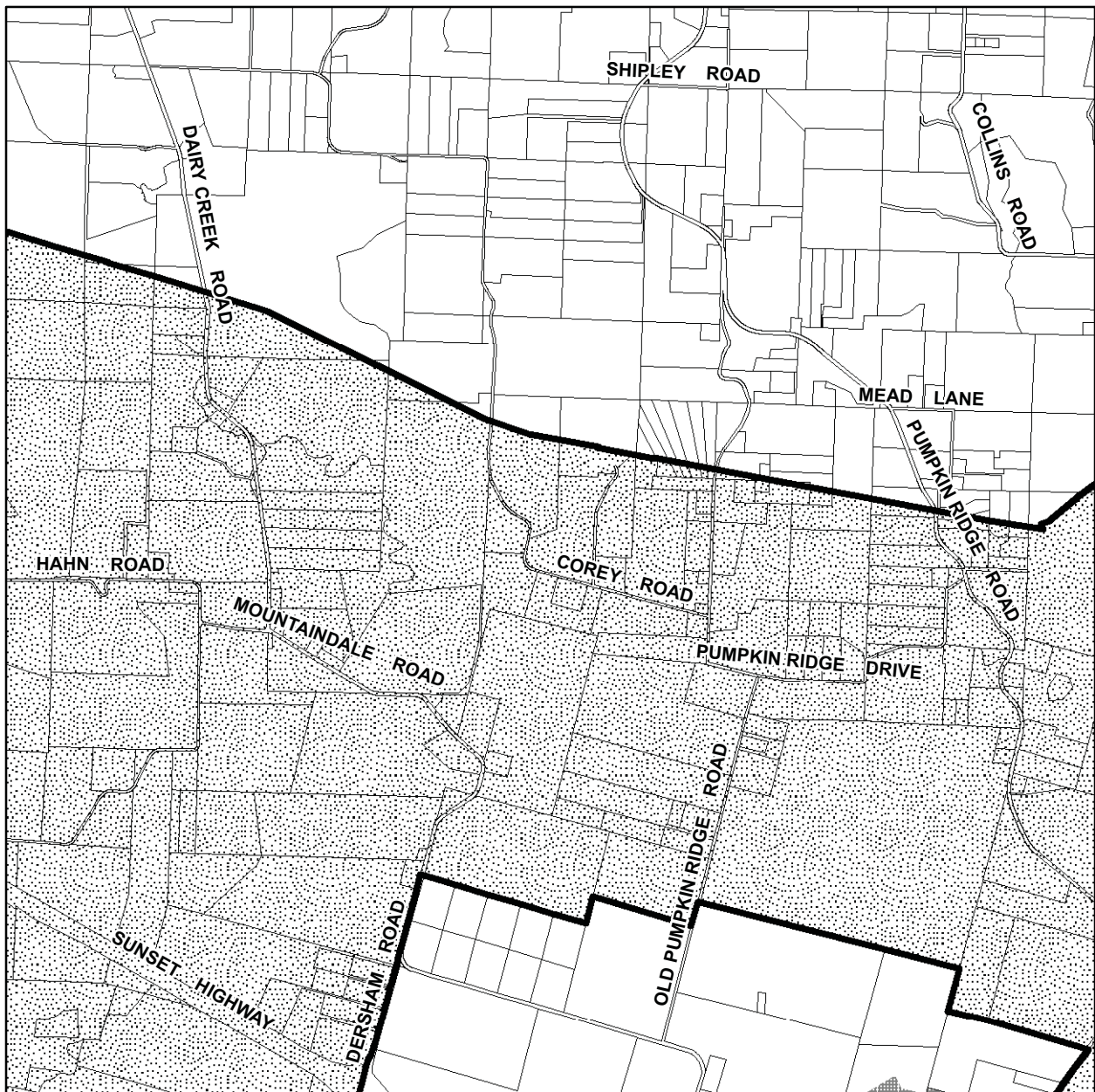
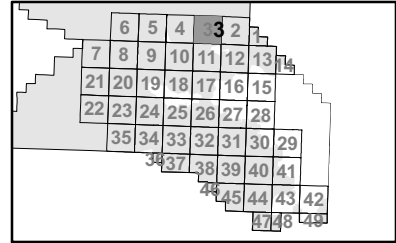
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

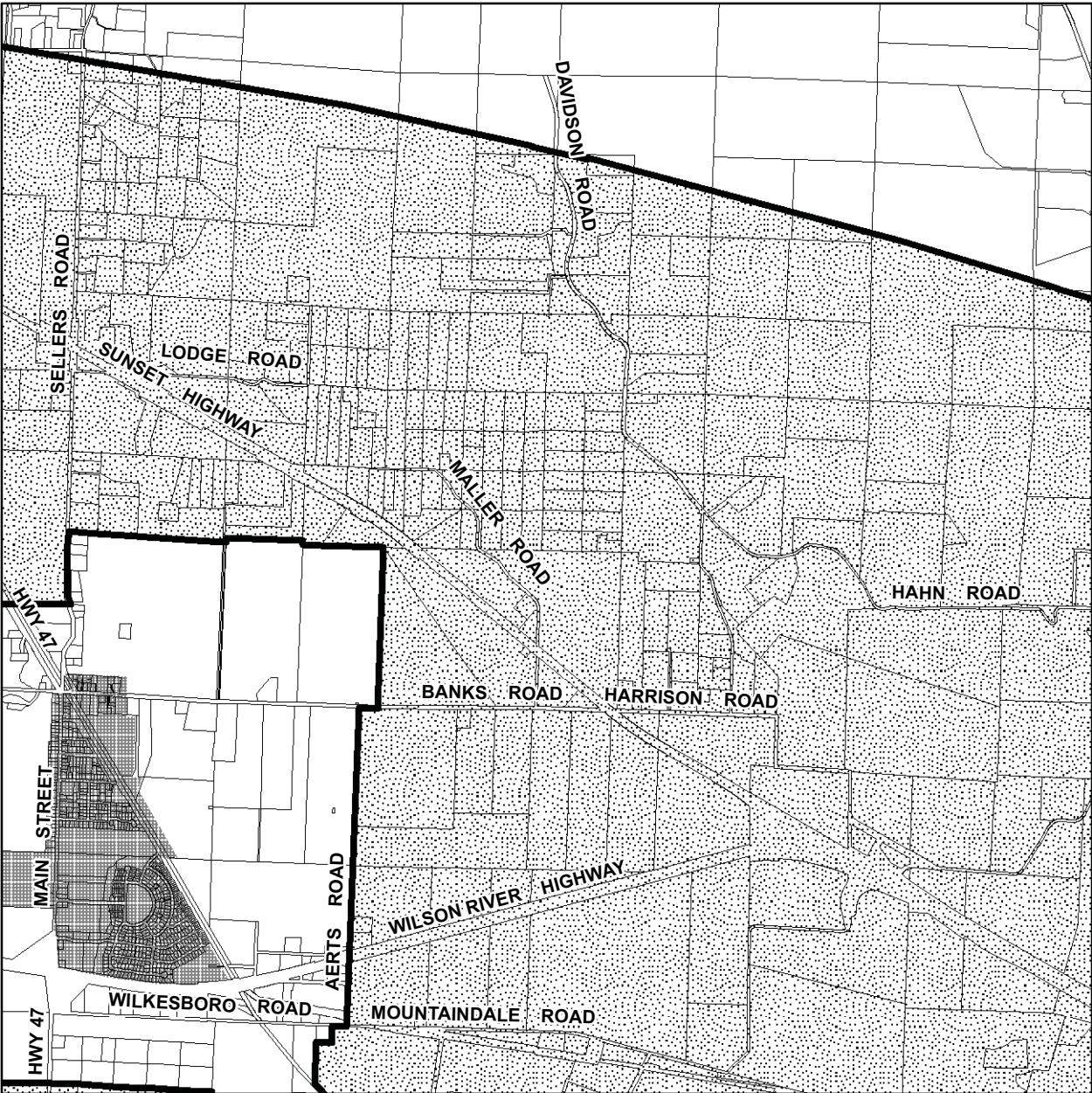
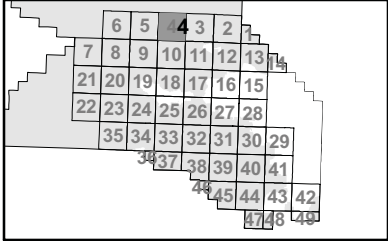
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve








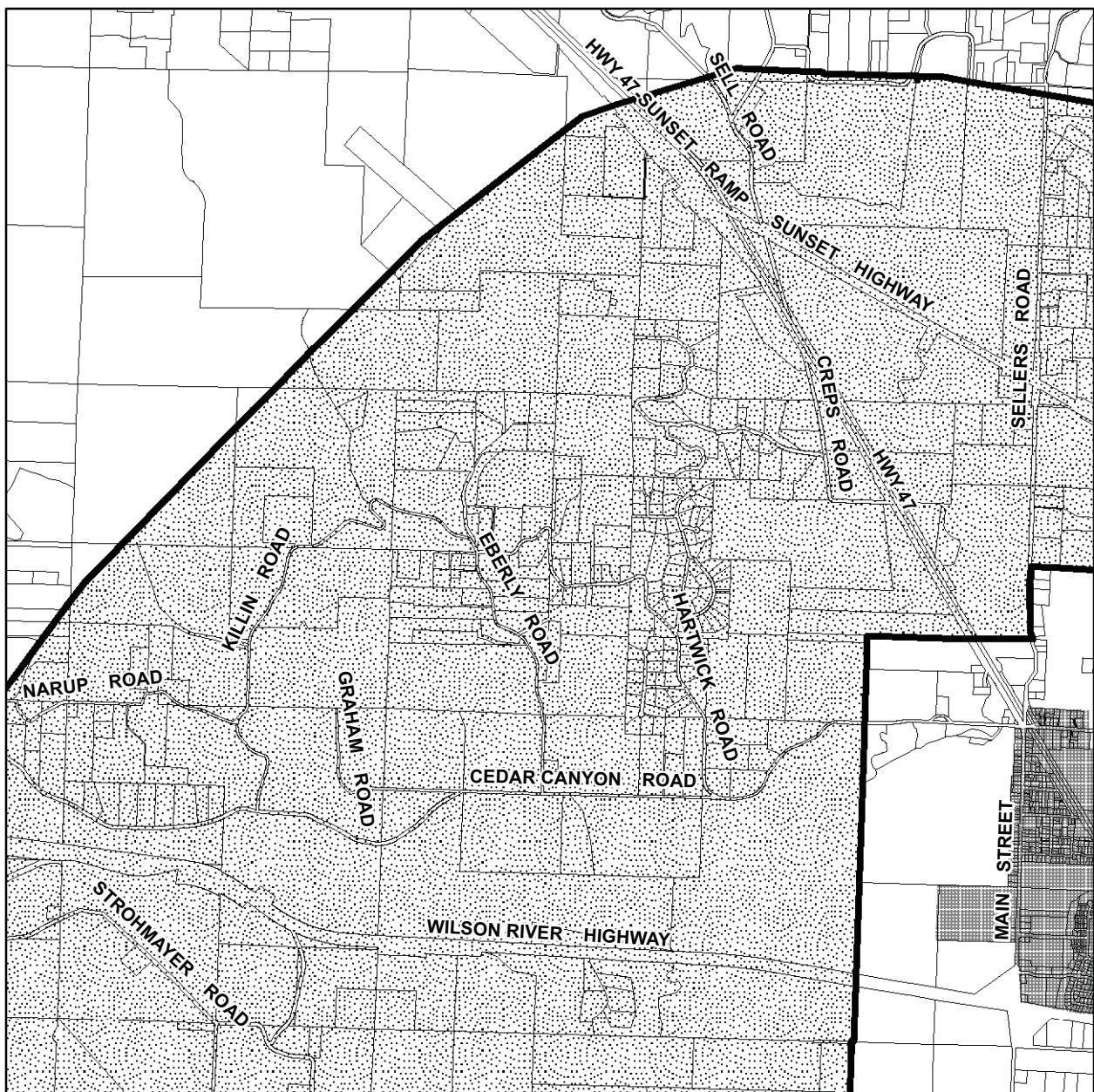
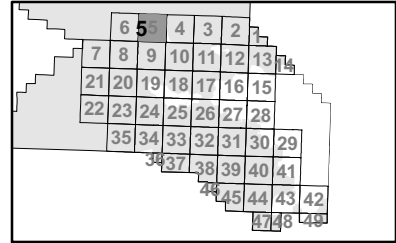
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






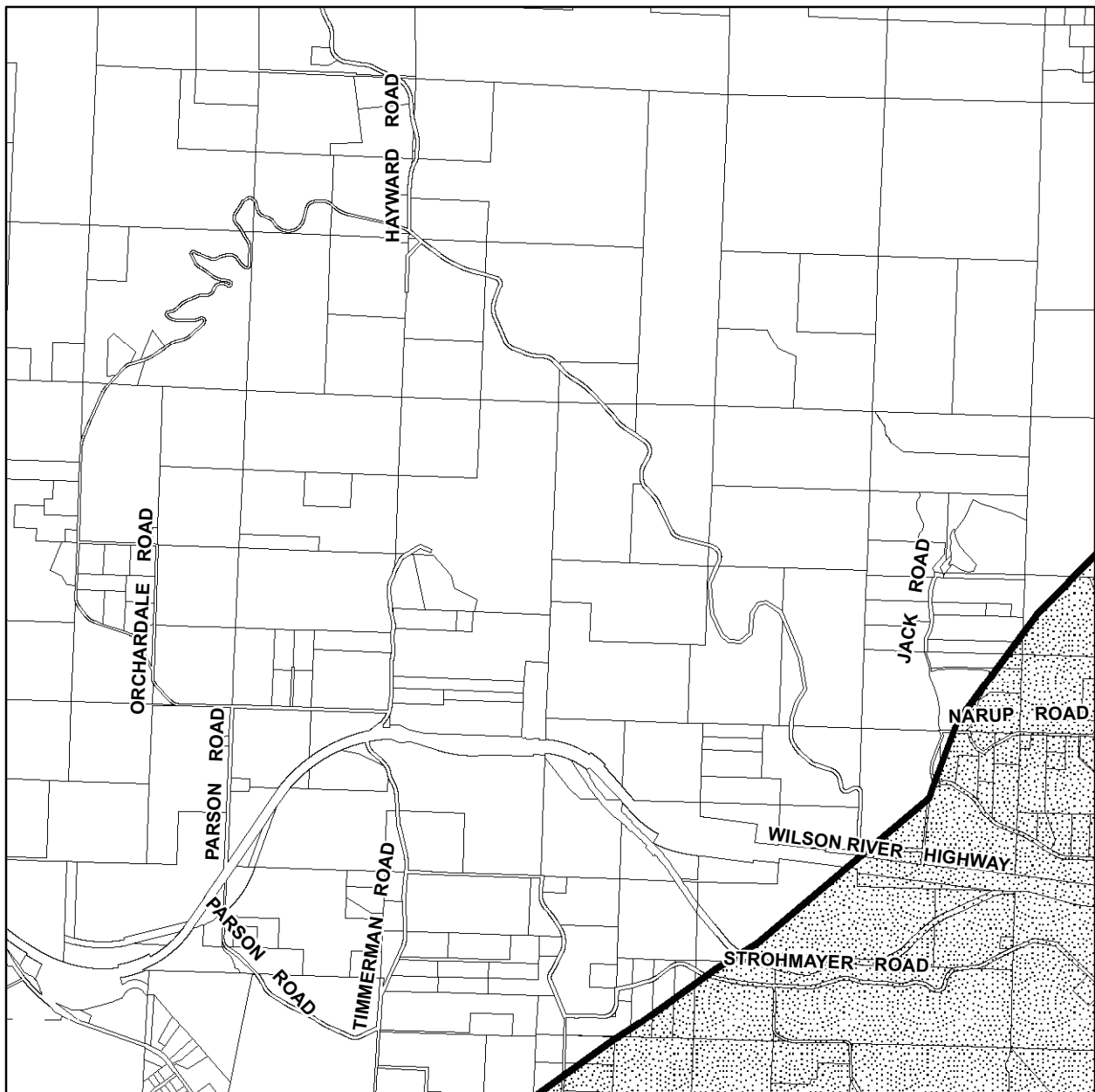
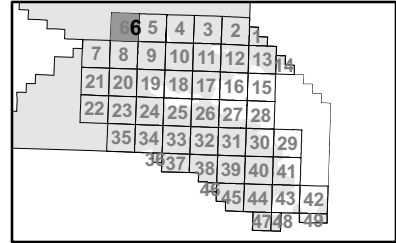
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






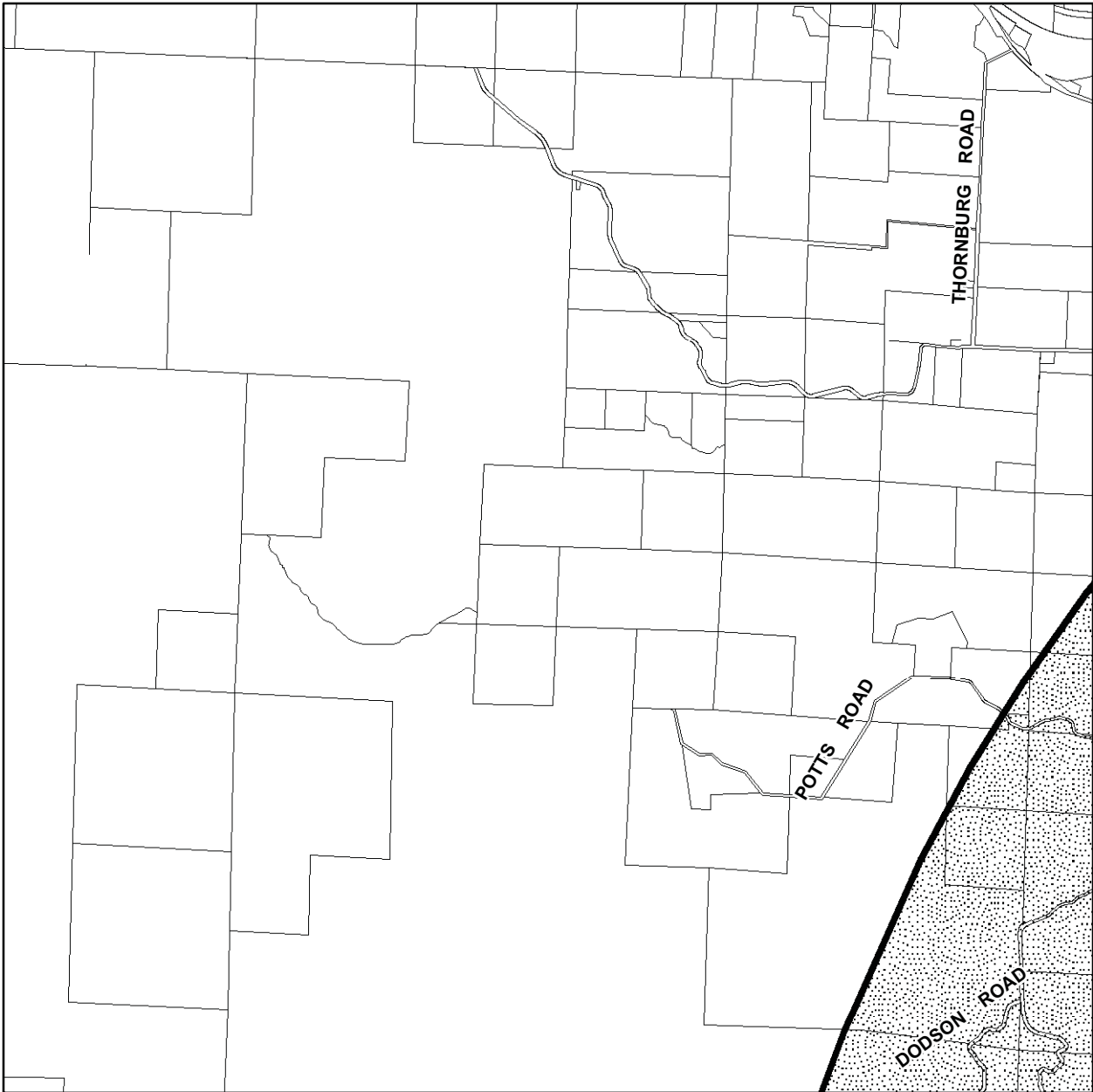
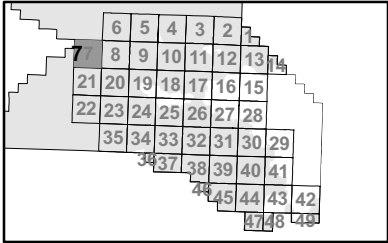
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






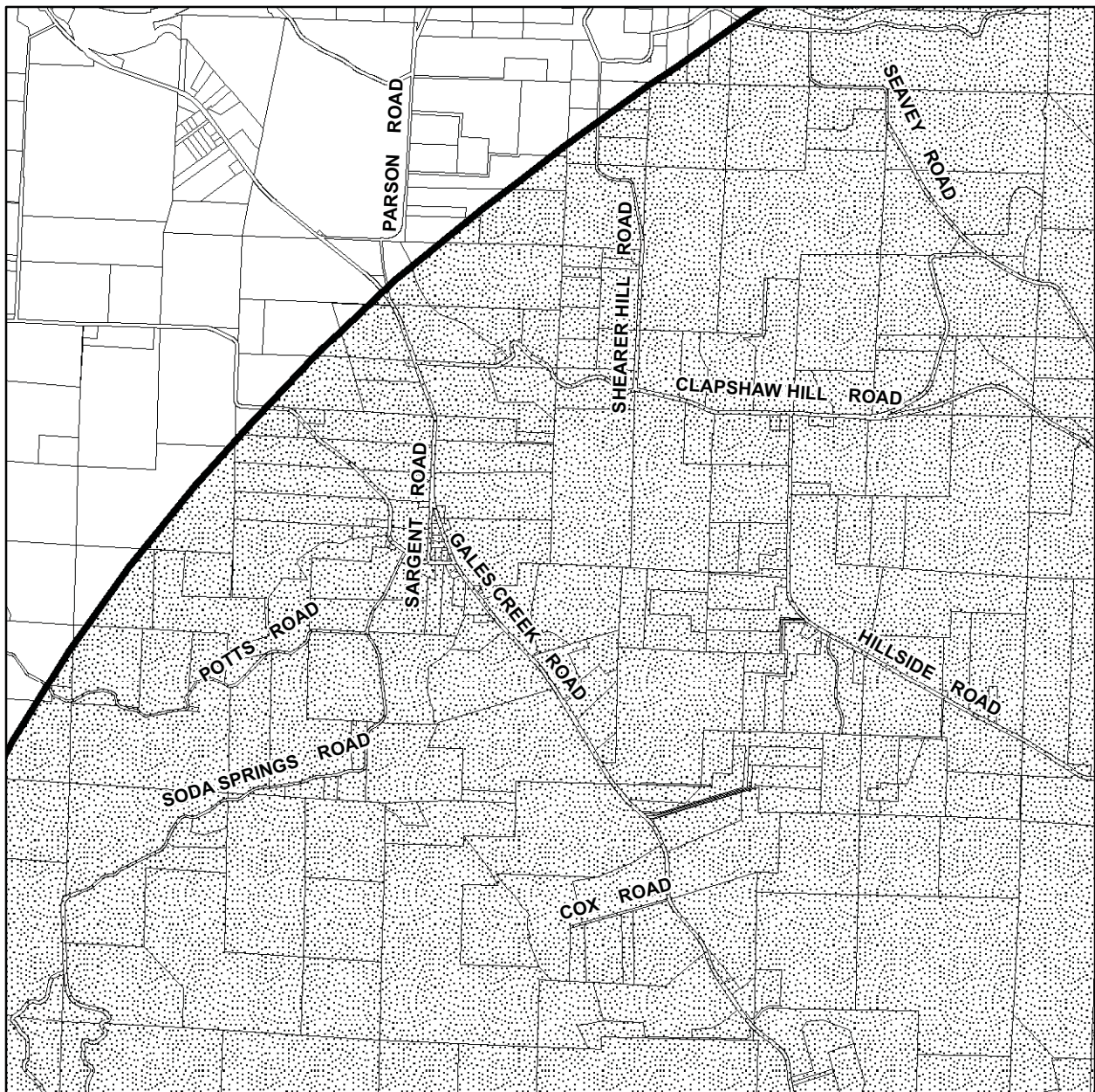
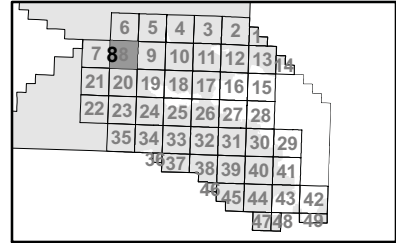
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






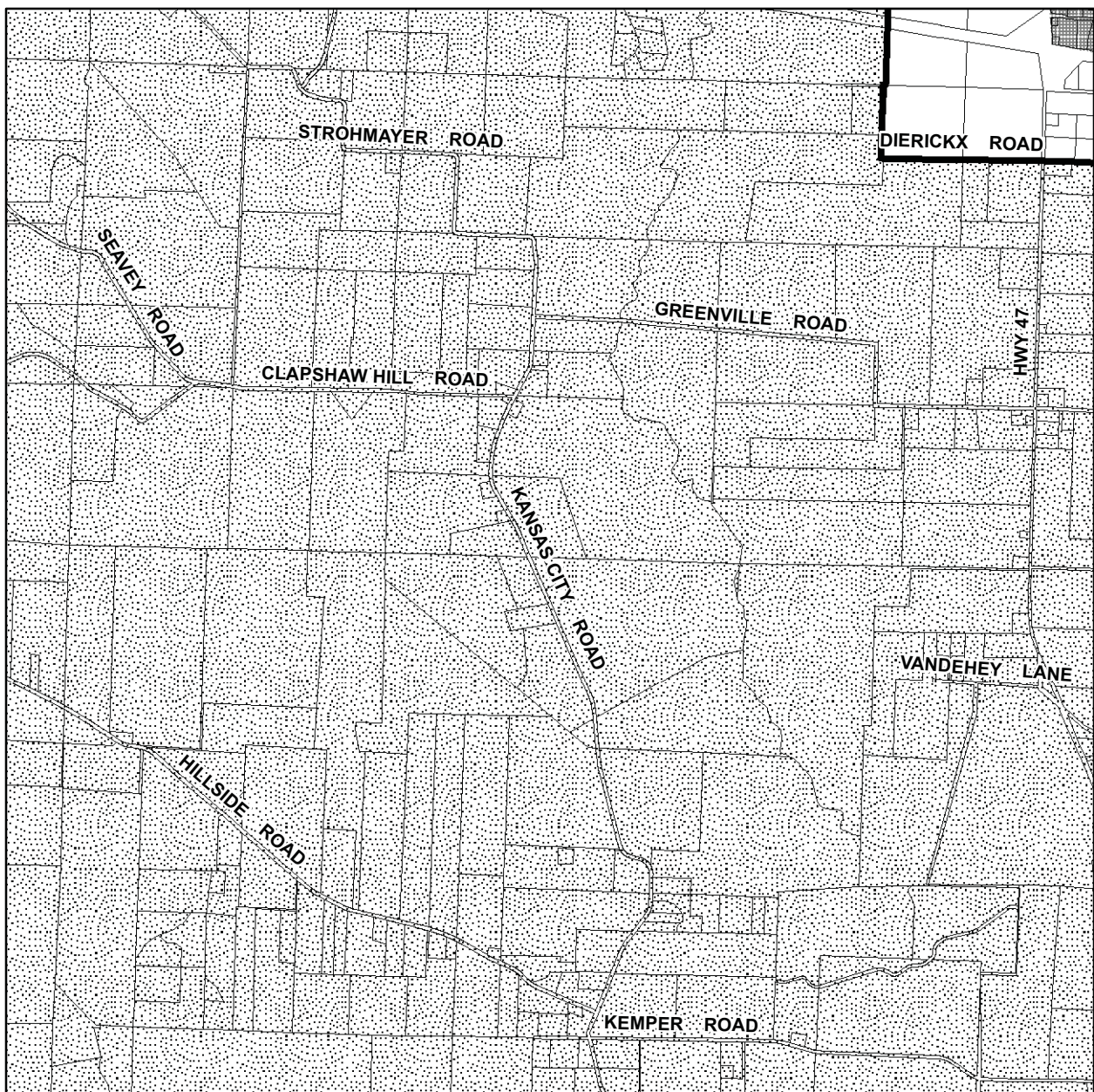
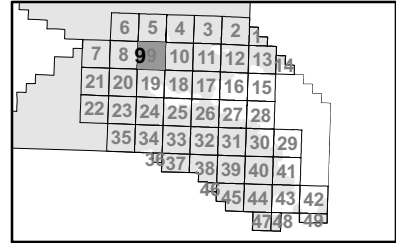
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






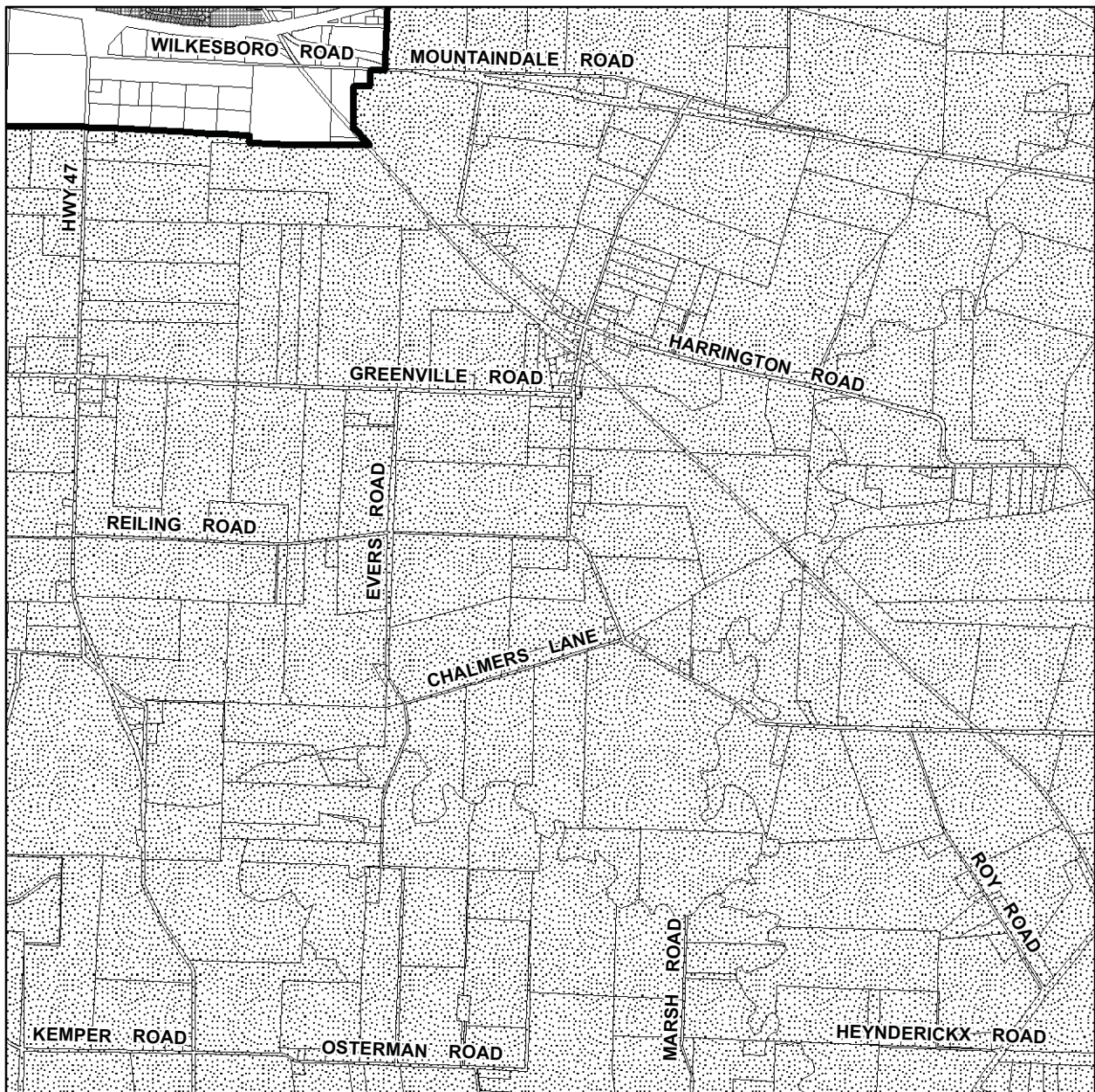
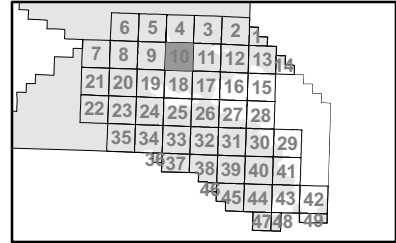
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






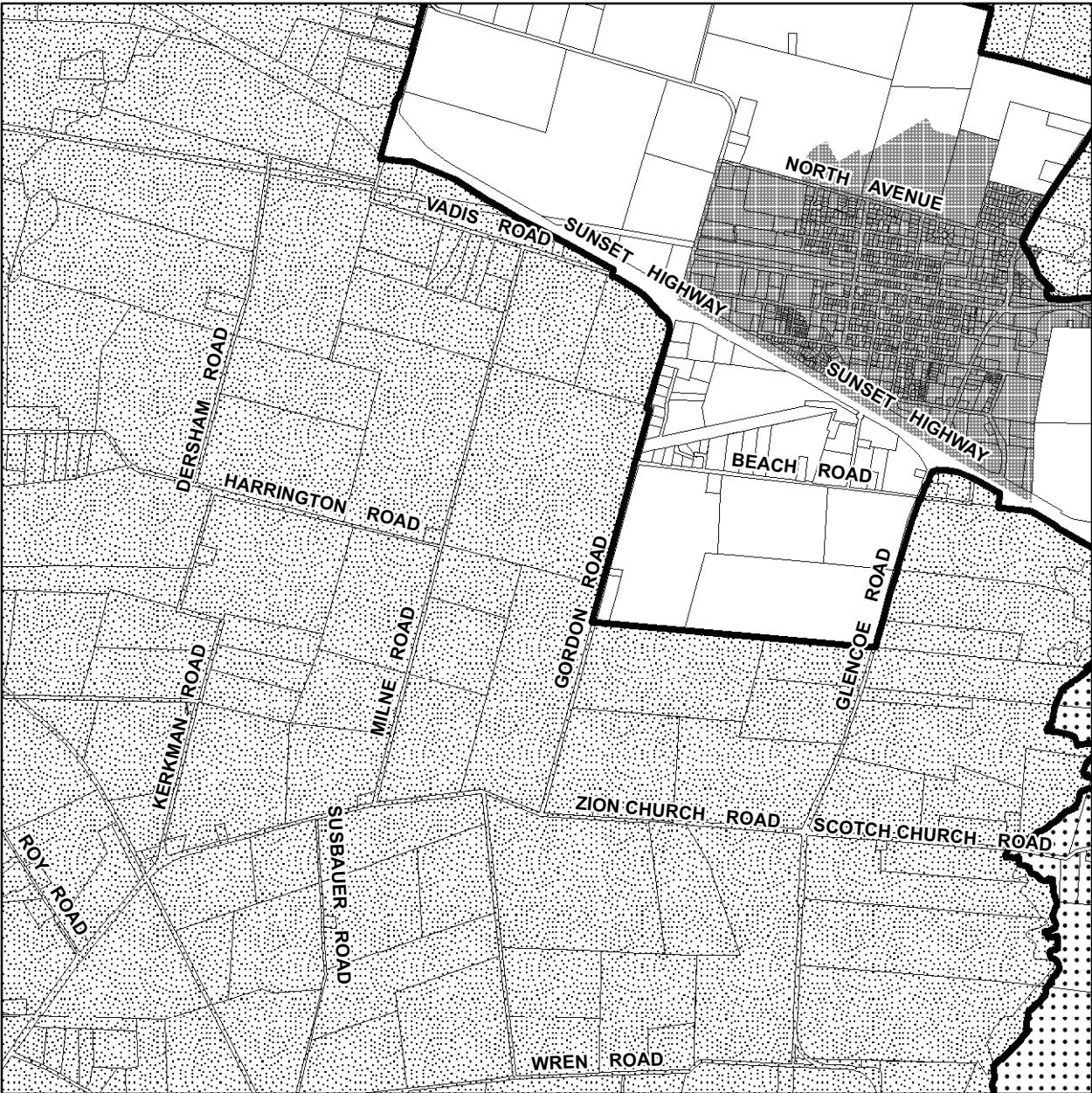
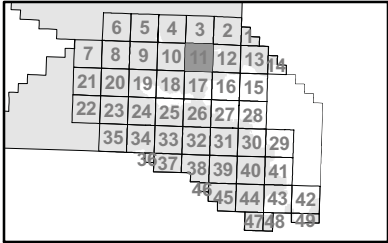
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

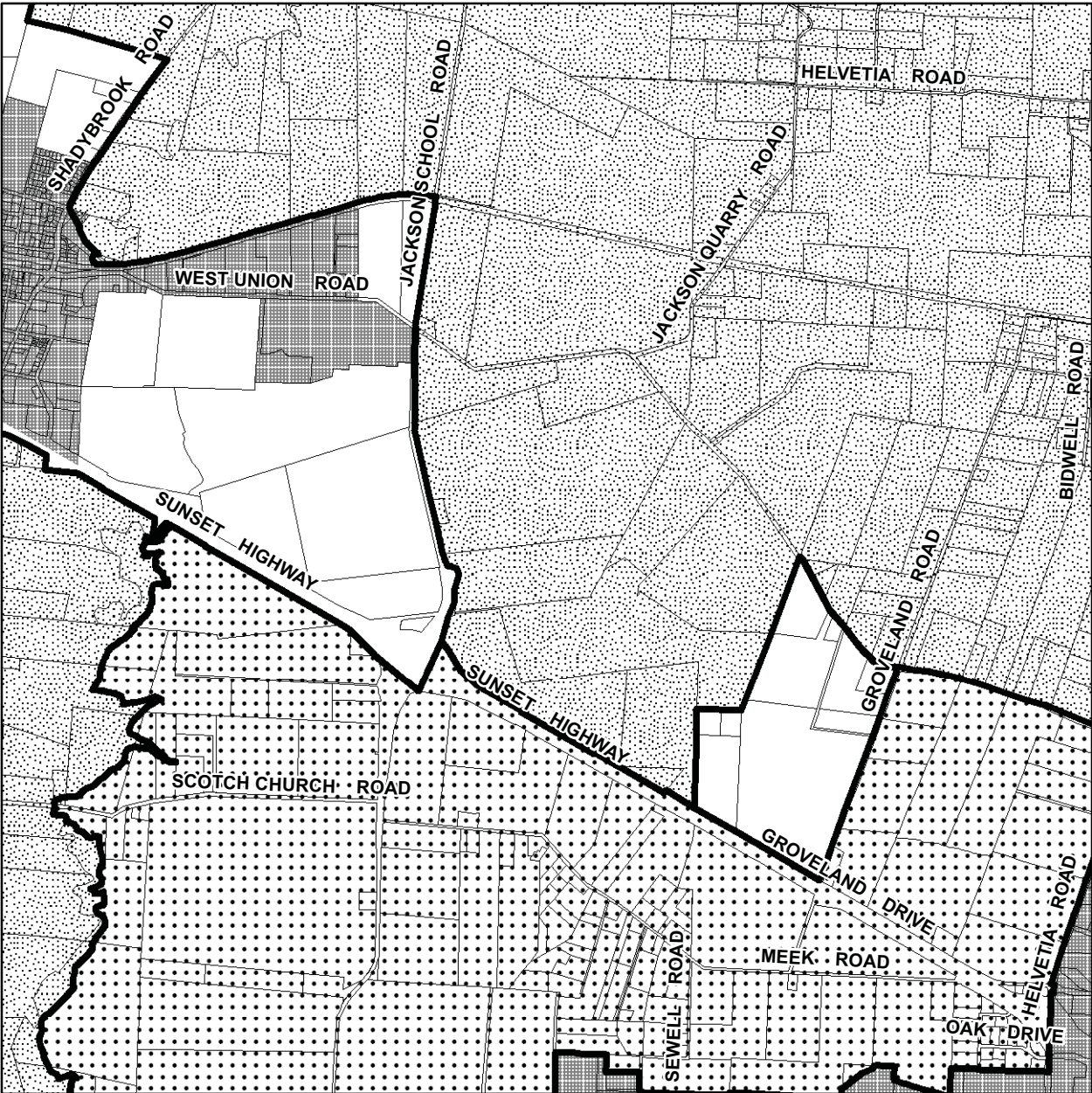
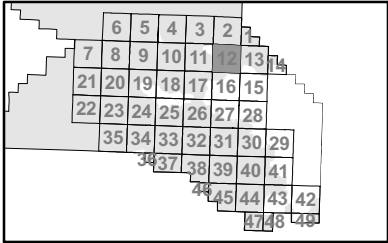
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve








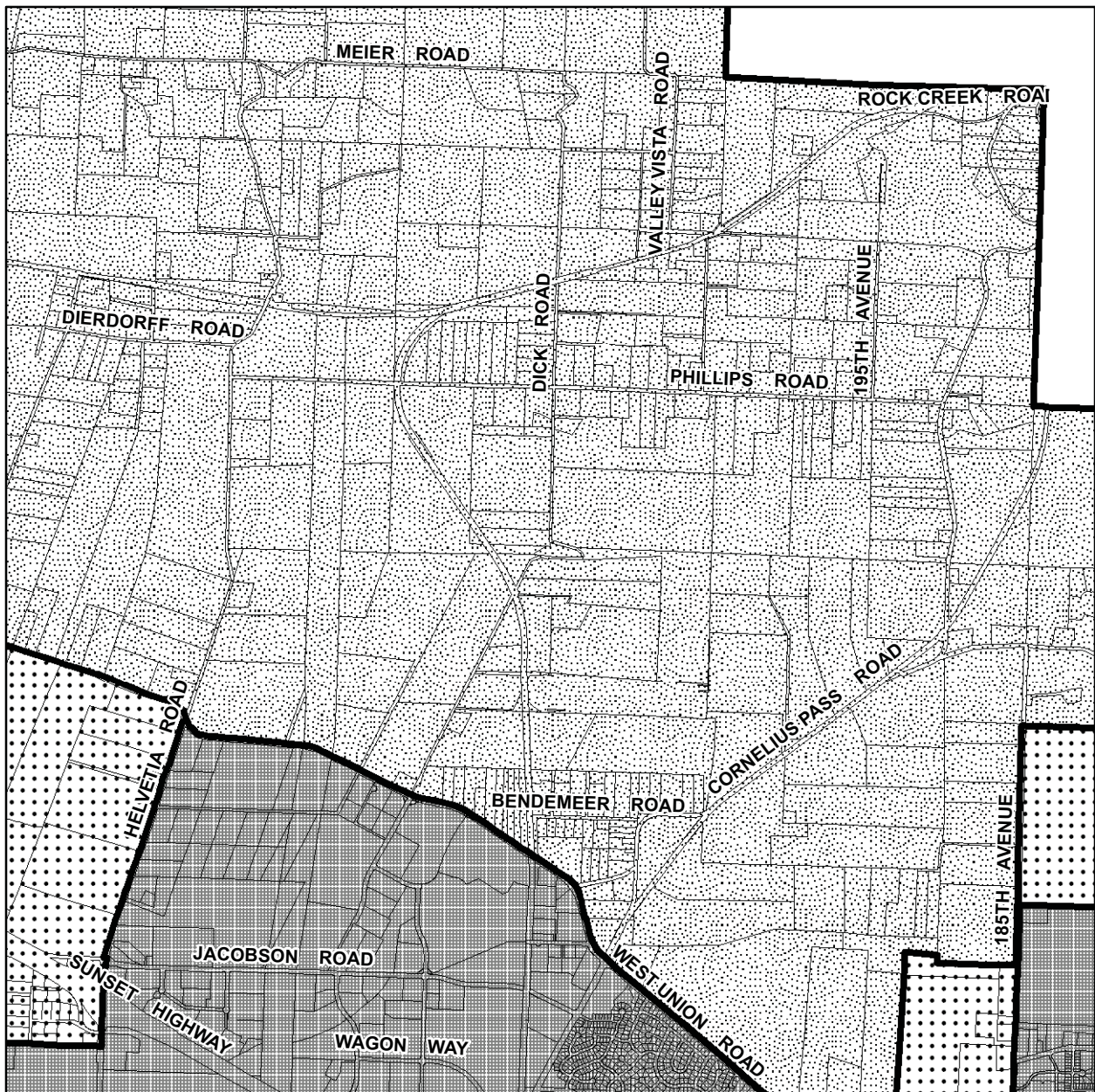
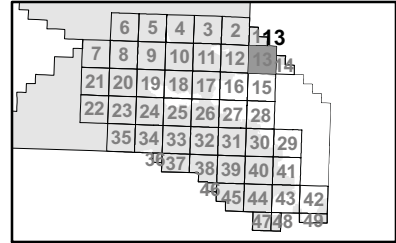
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






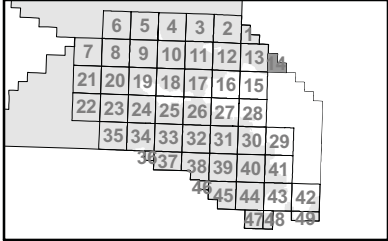
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






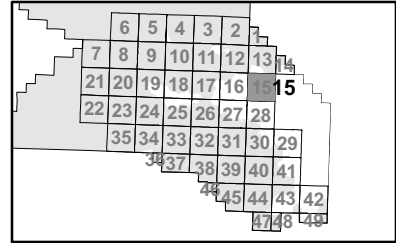
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






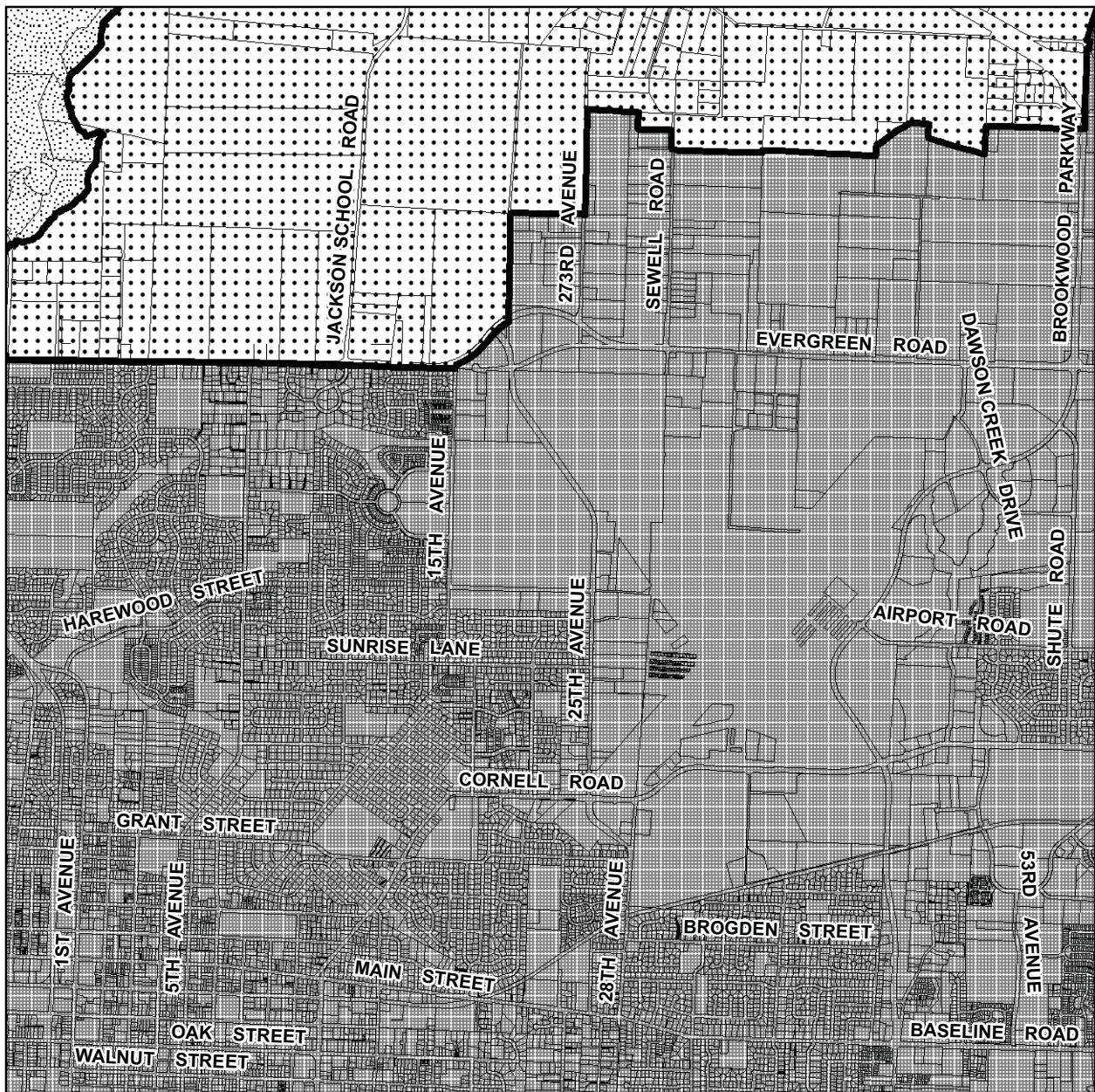
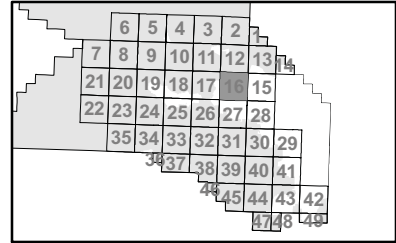
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






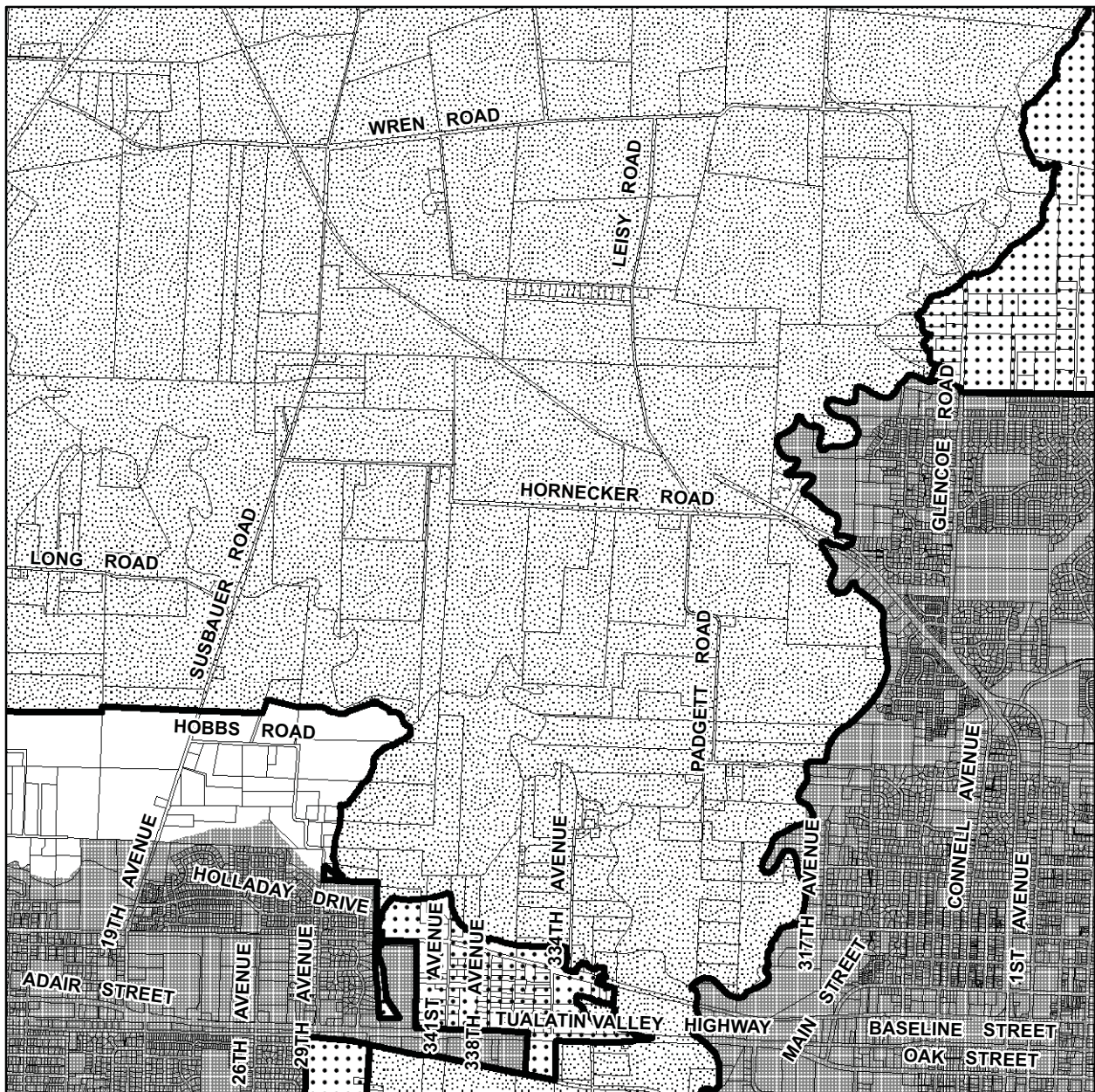
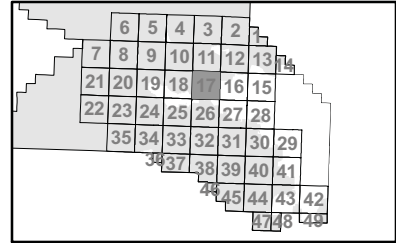
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






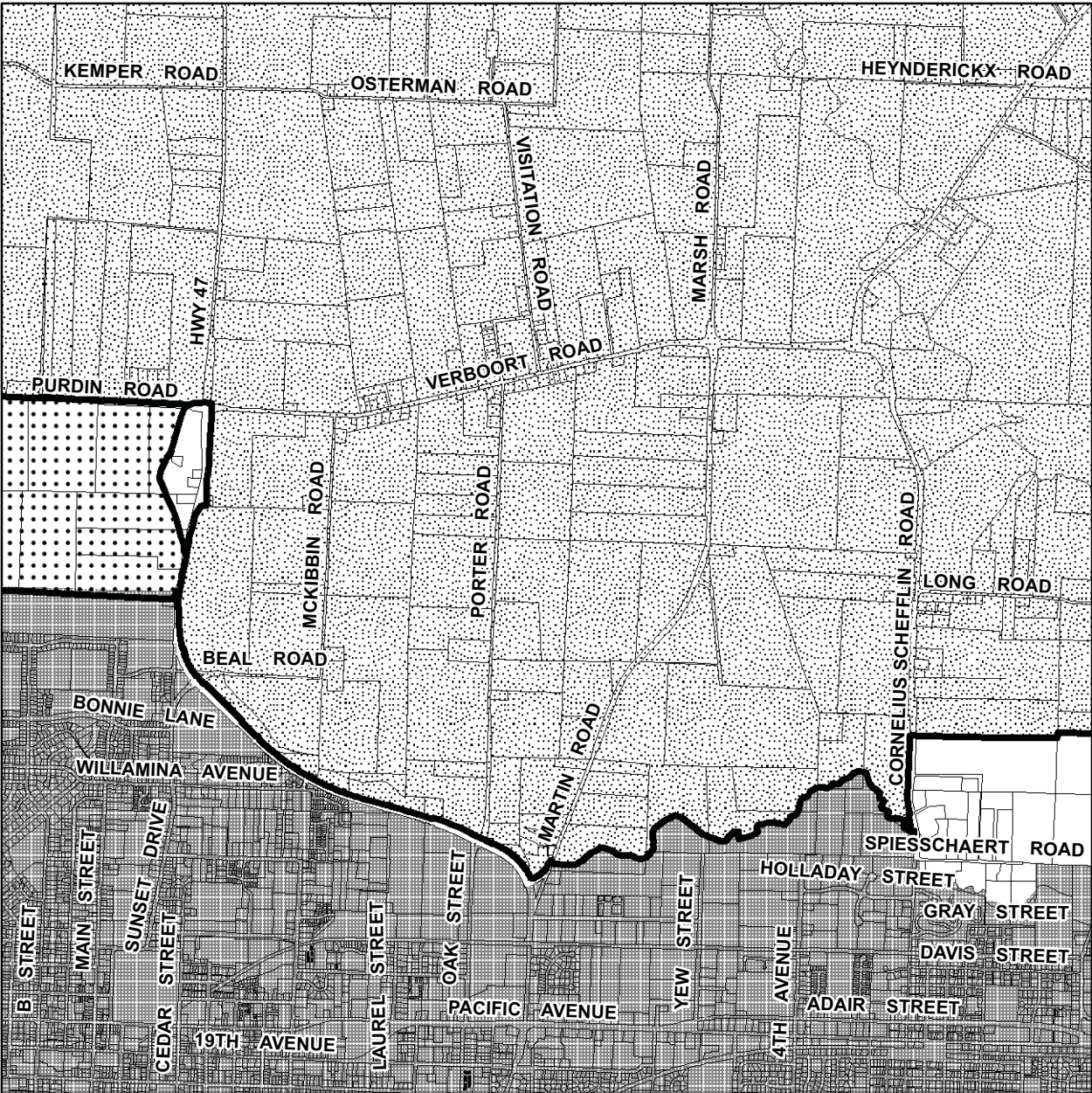
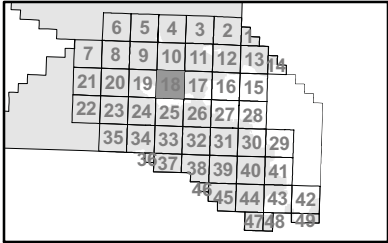
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






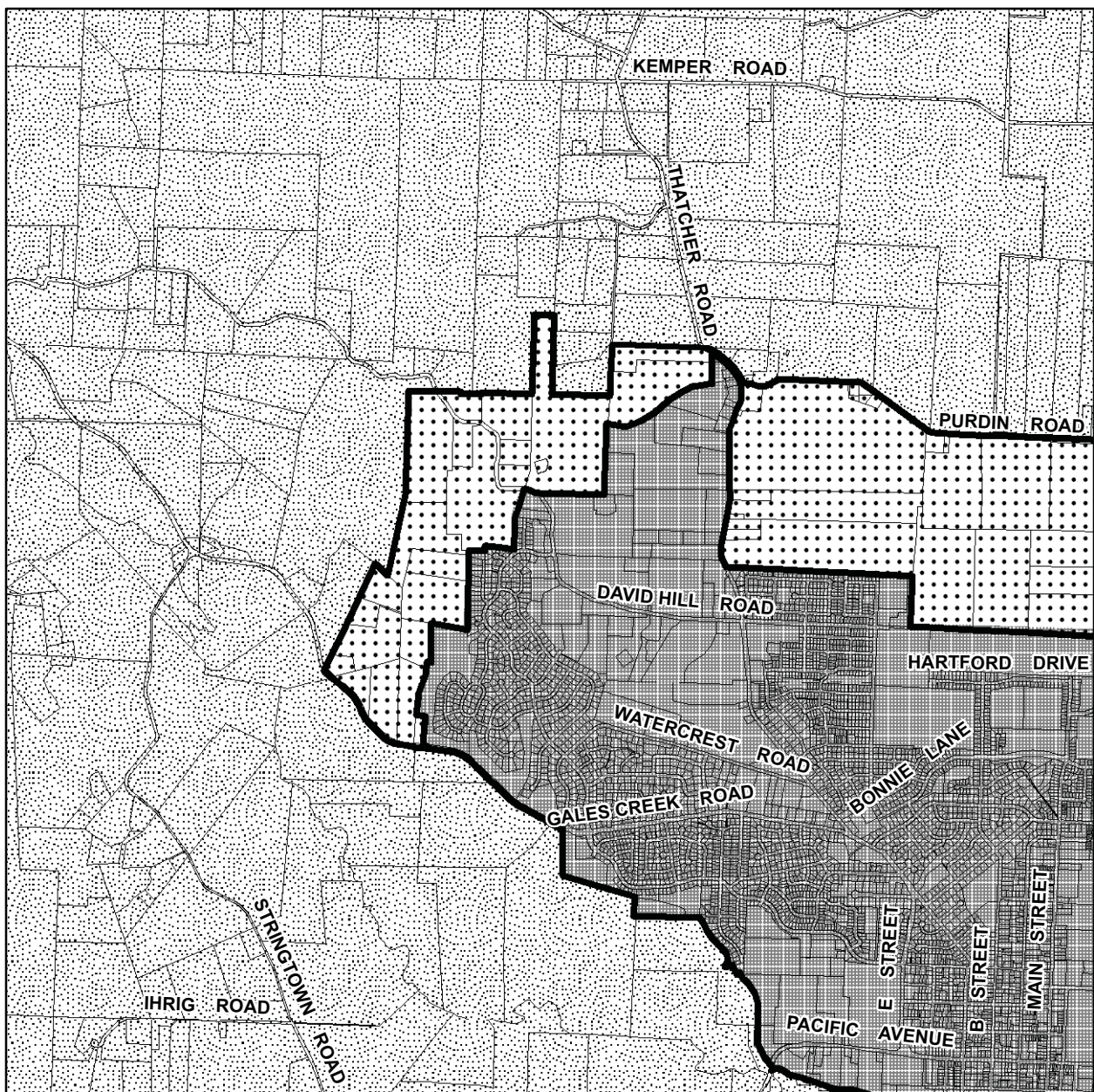
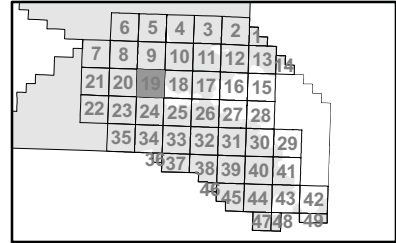
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

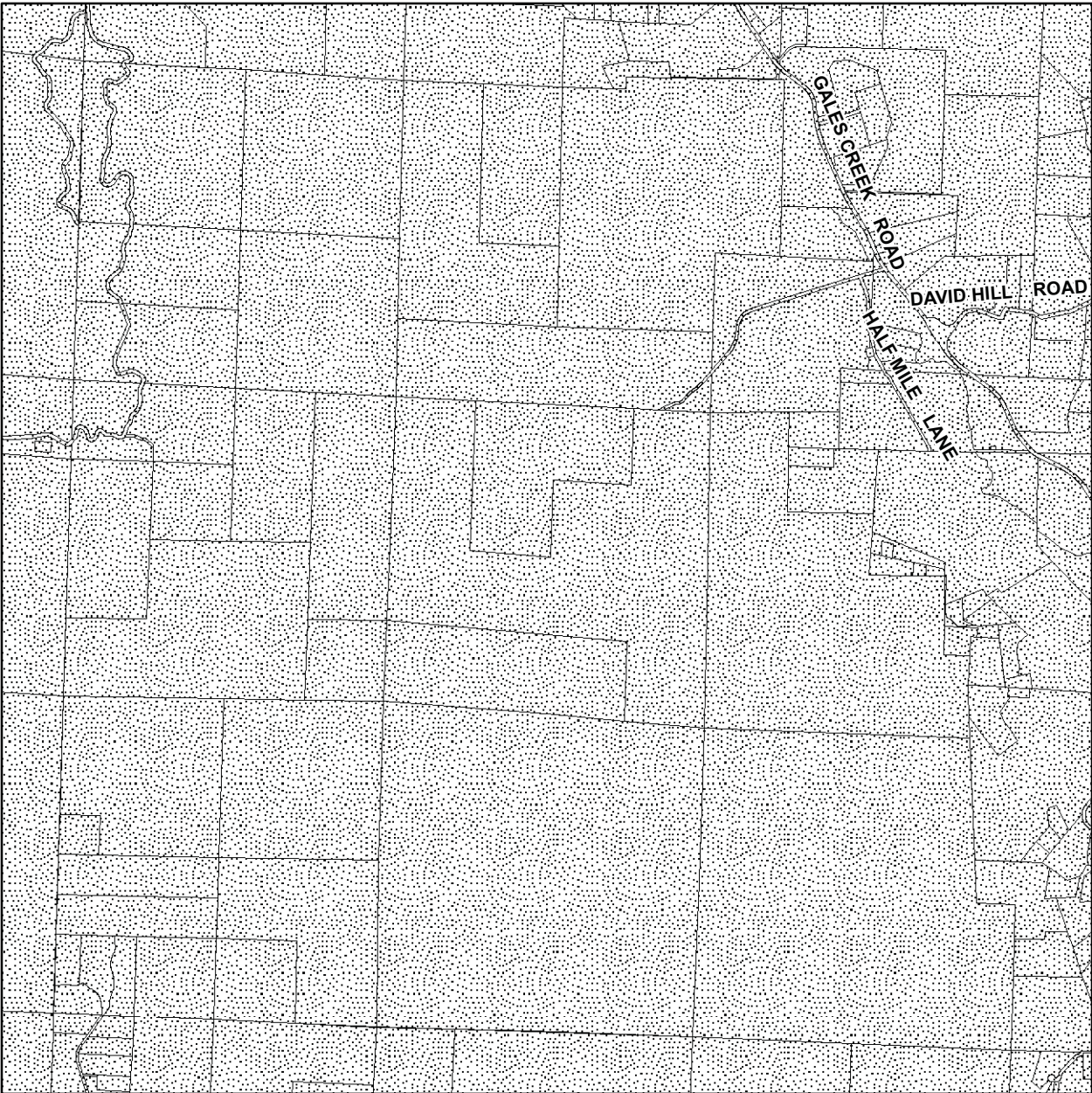
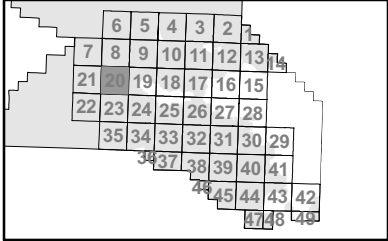
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve








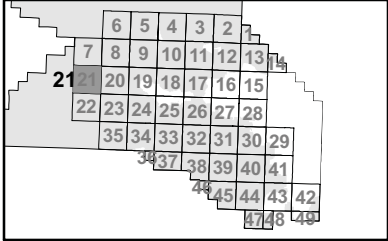
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






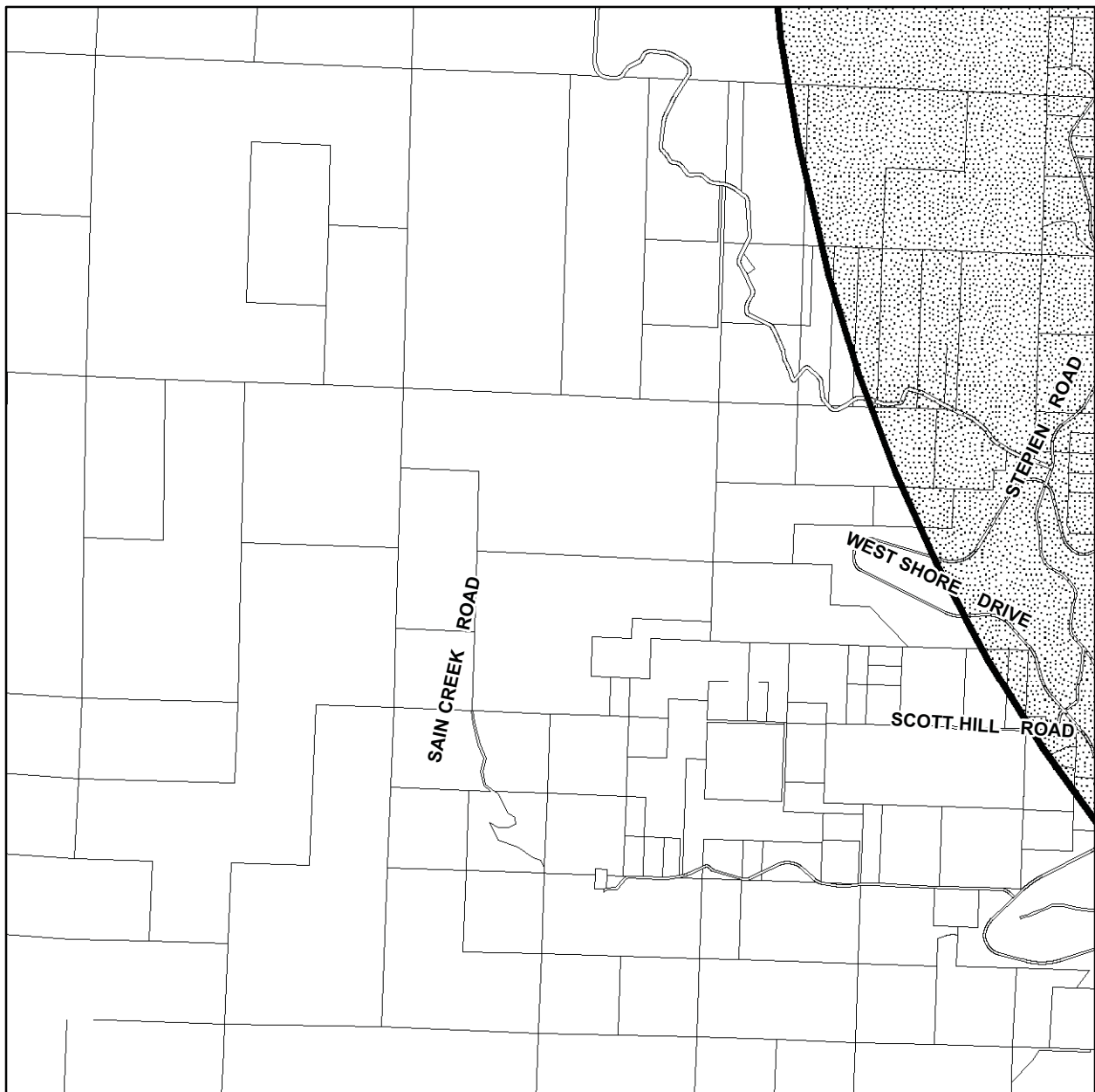
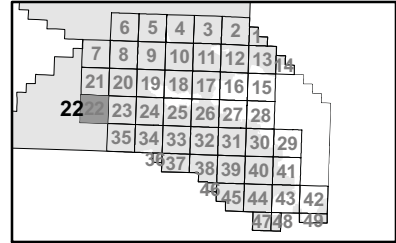
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






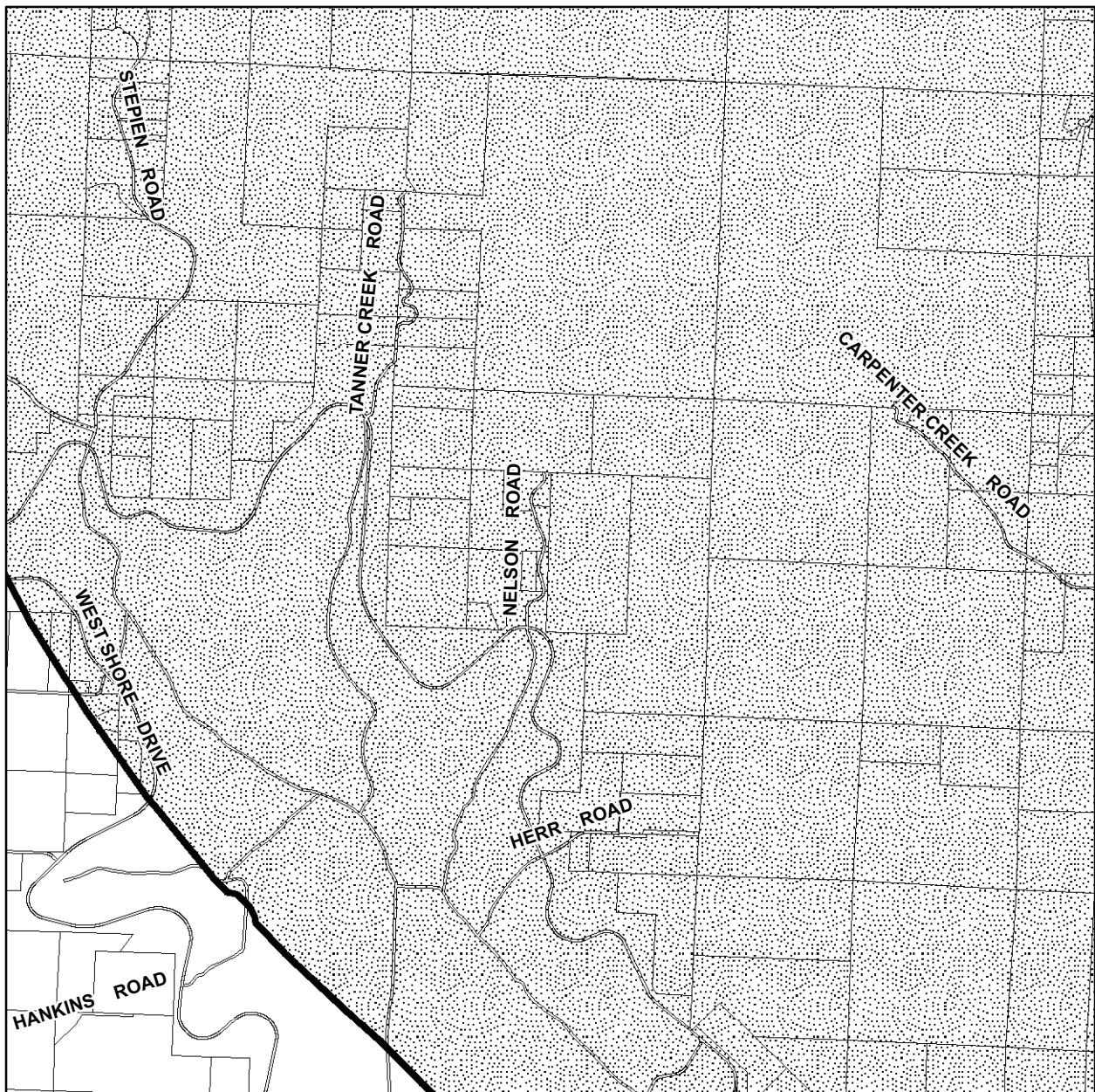
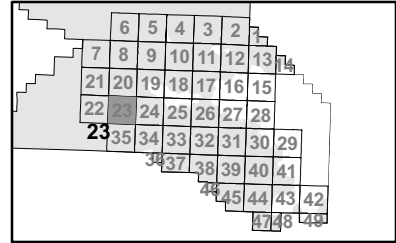
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






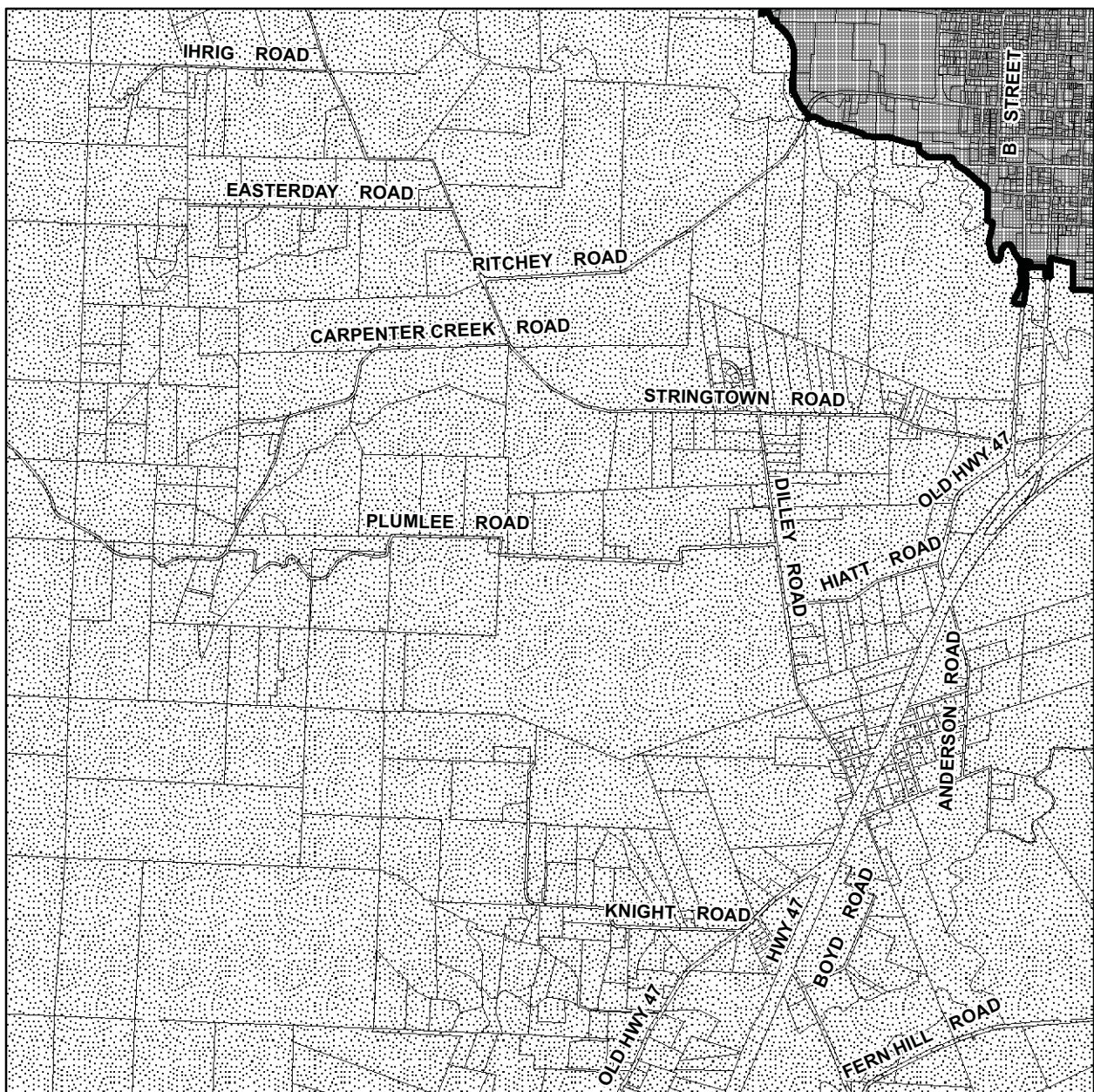
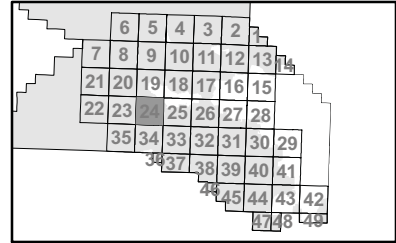
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






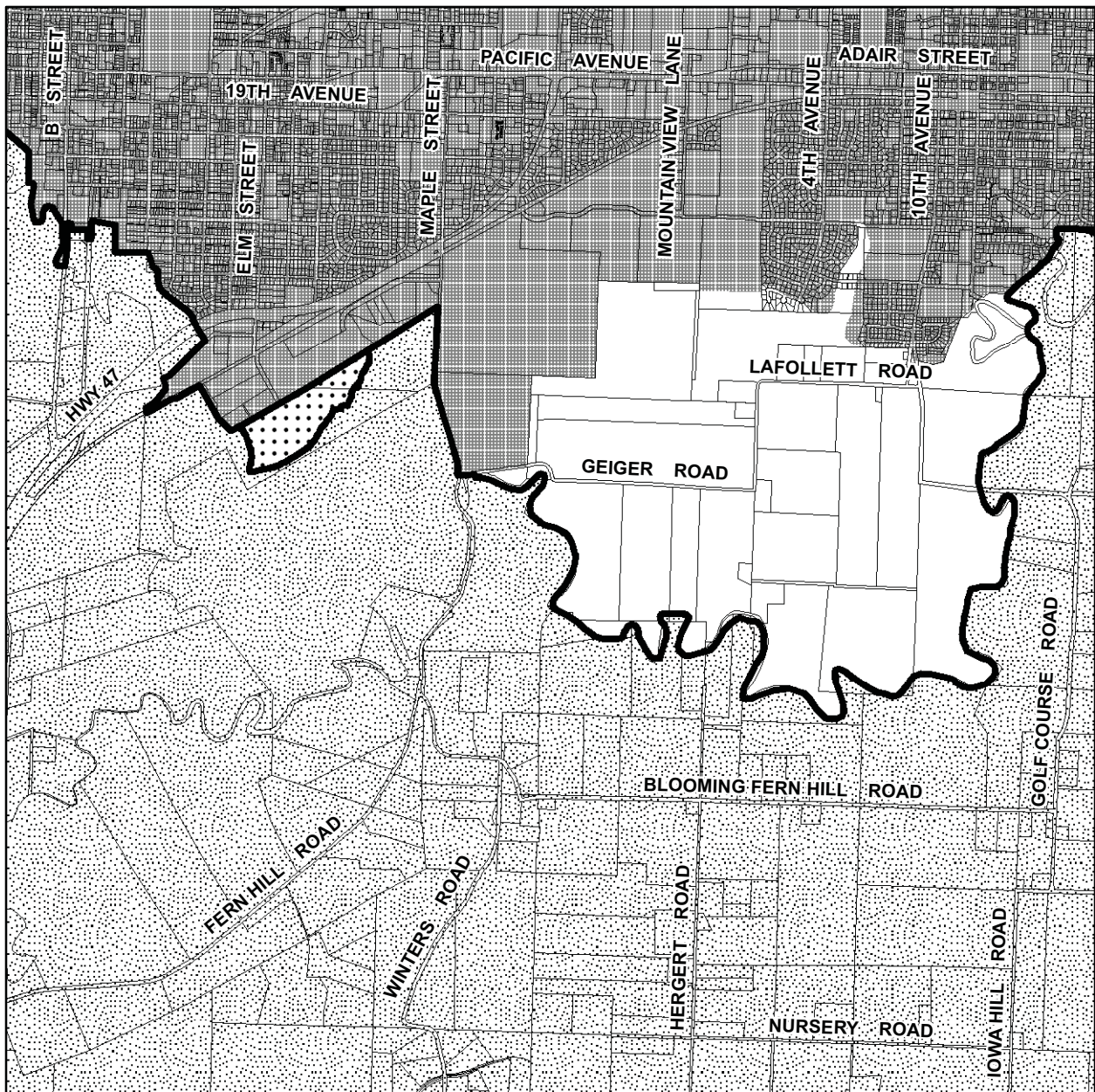
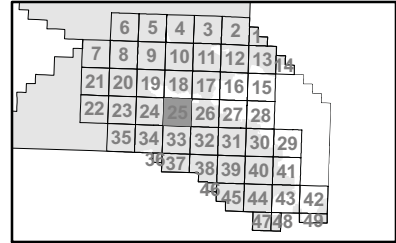
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






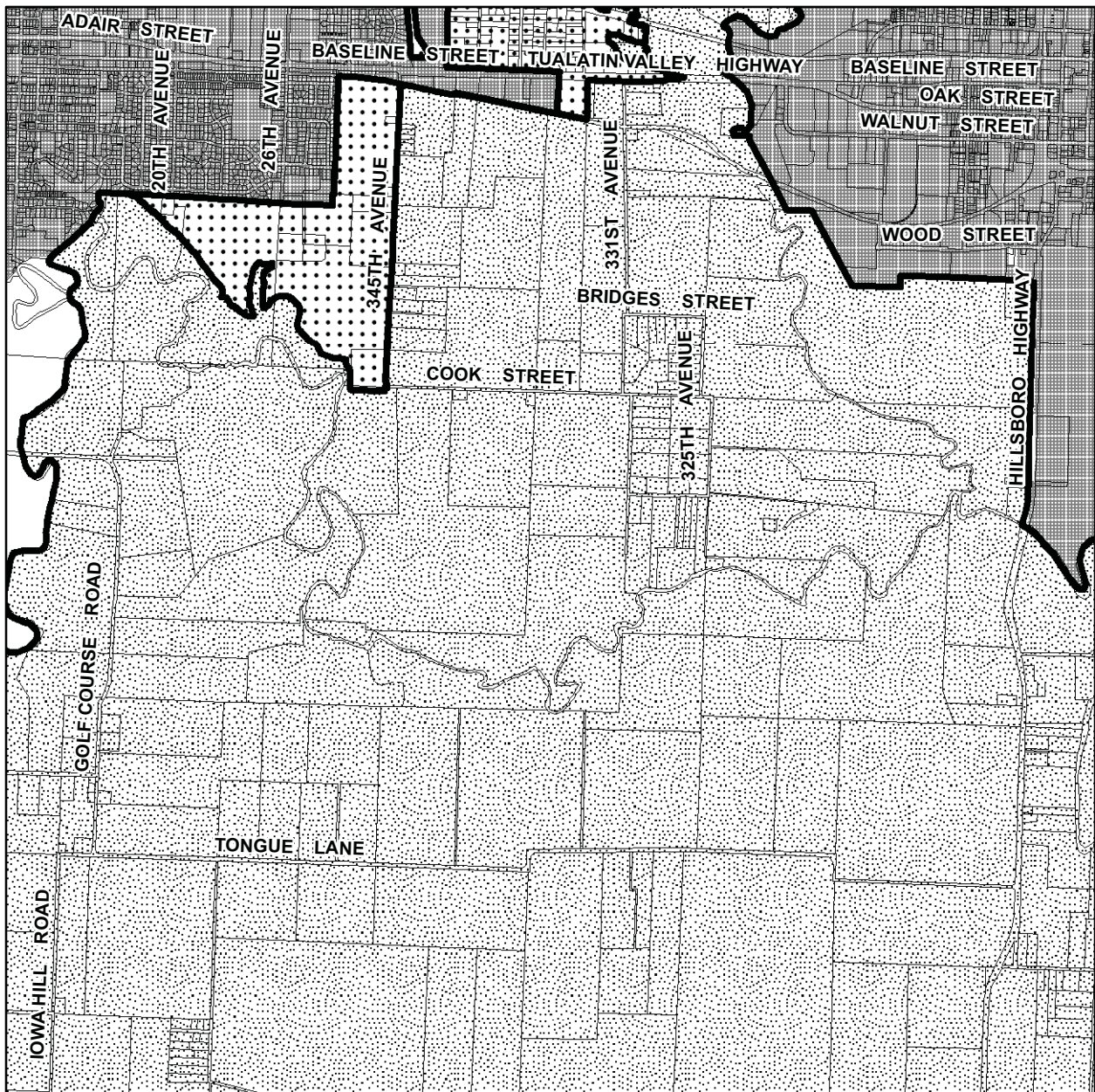
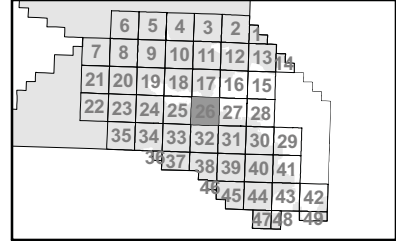
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






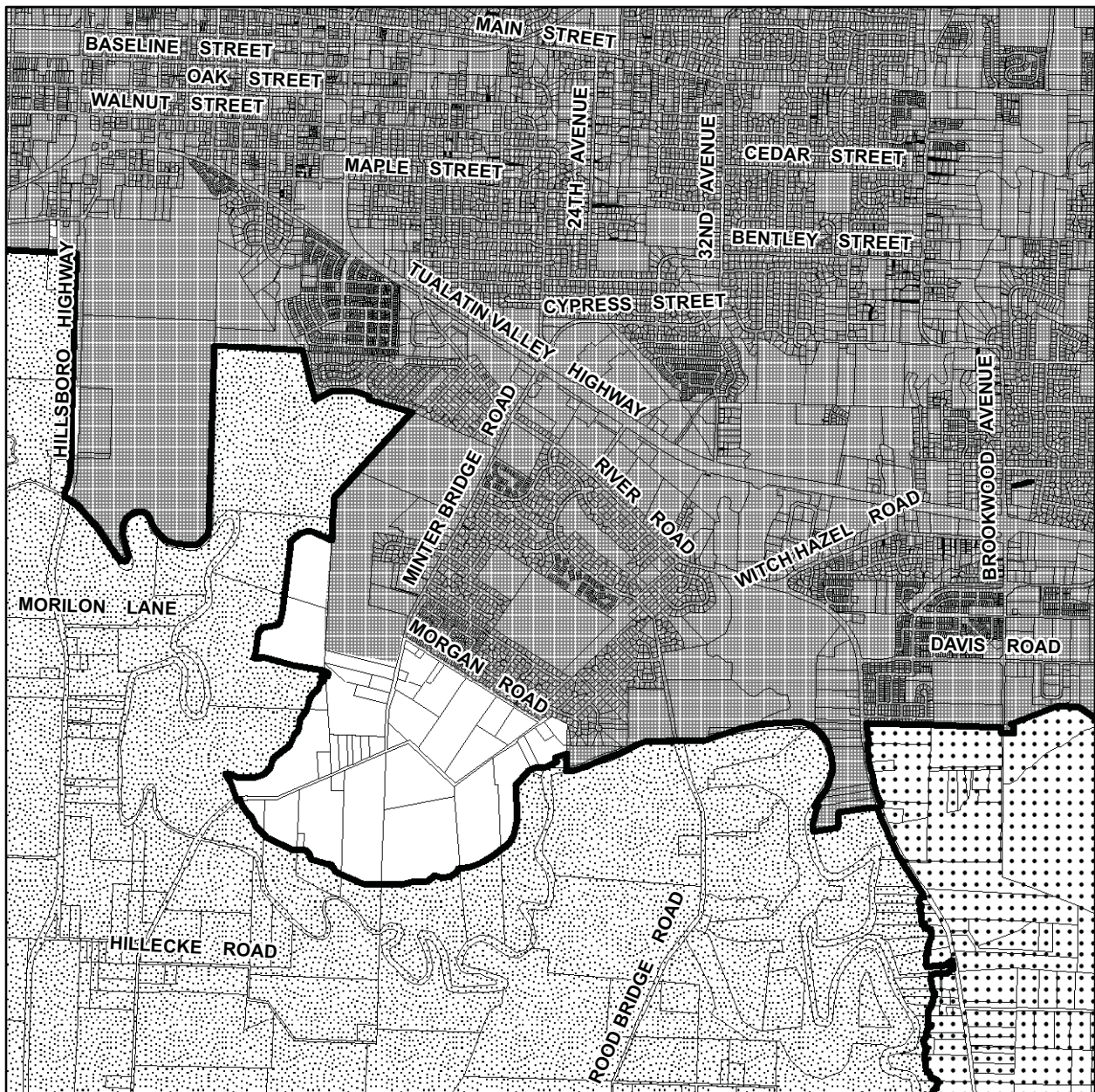
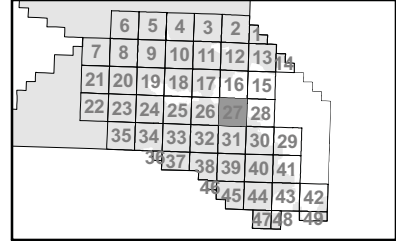
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

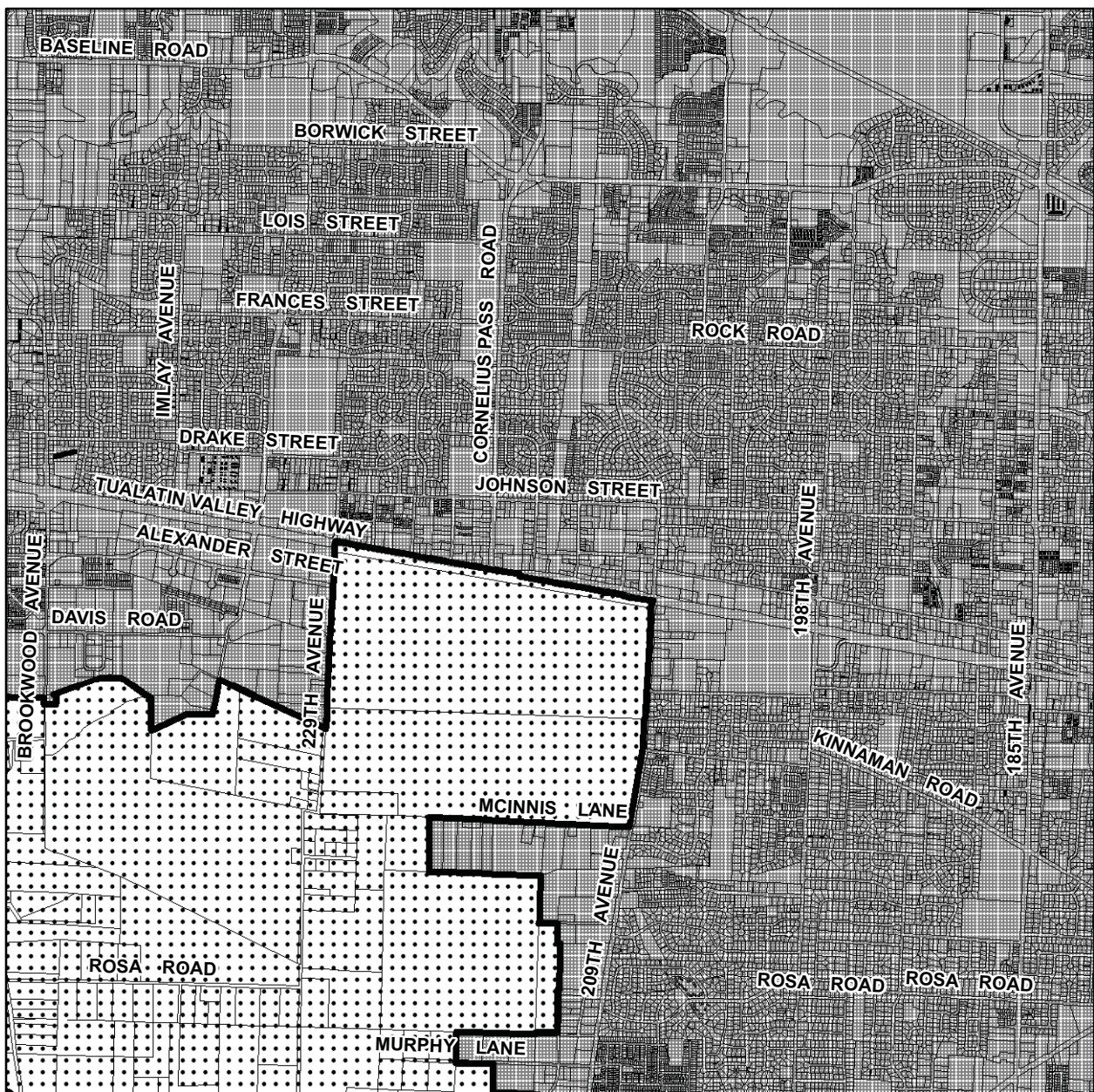
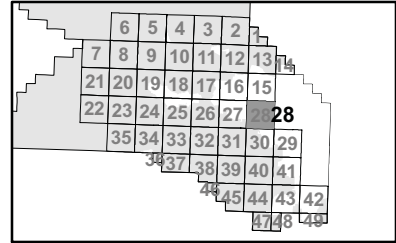
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve








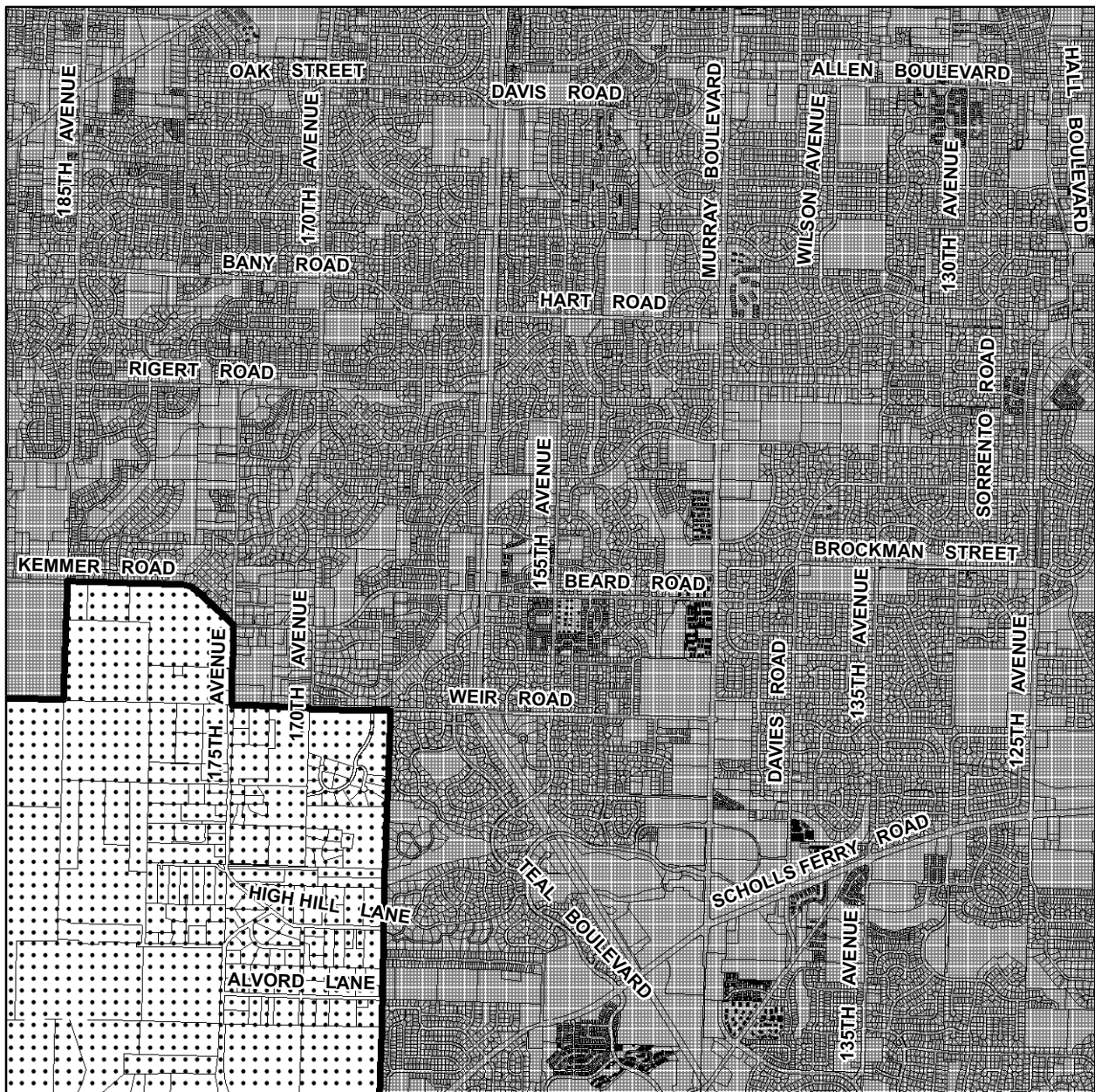
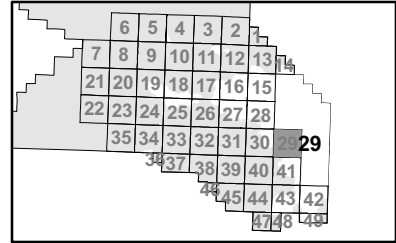
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






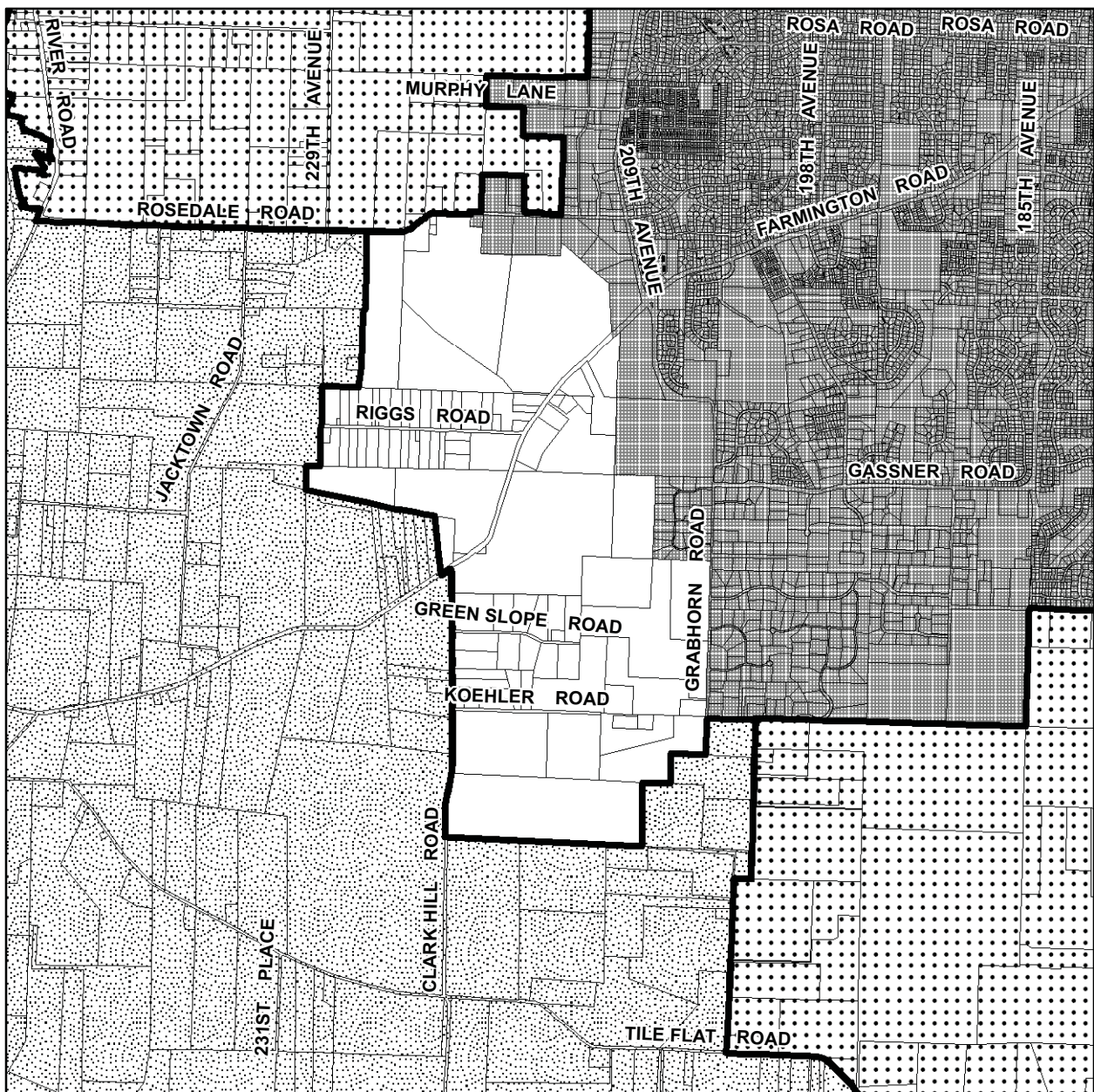
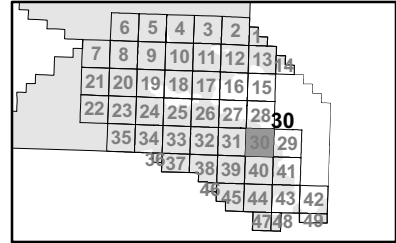
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






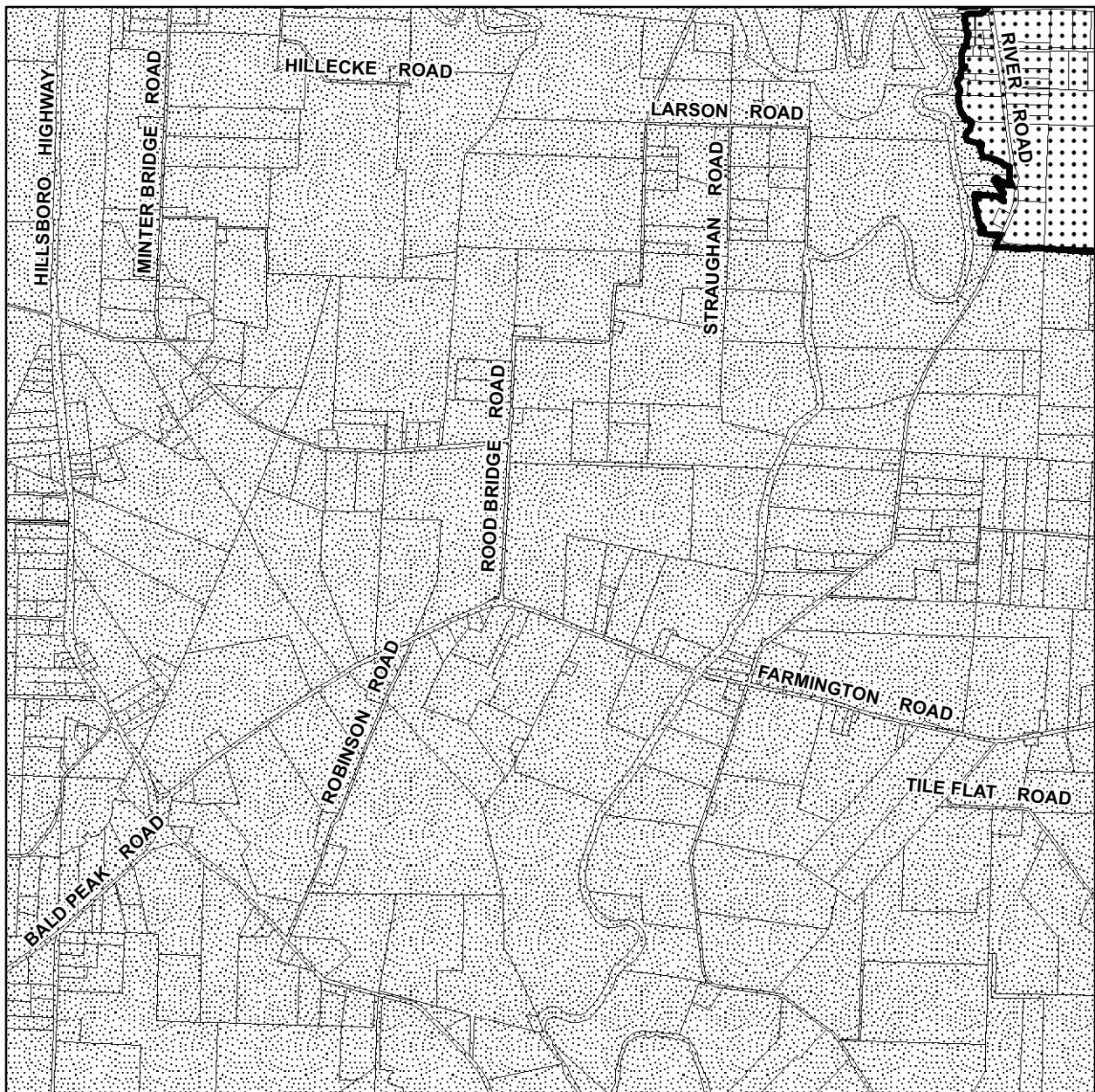
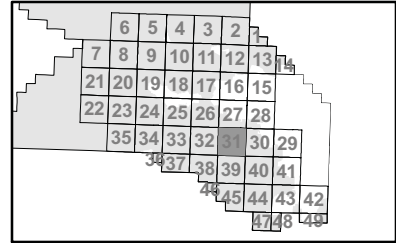
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






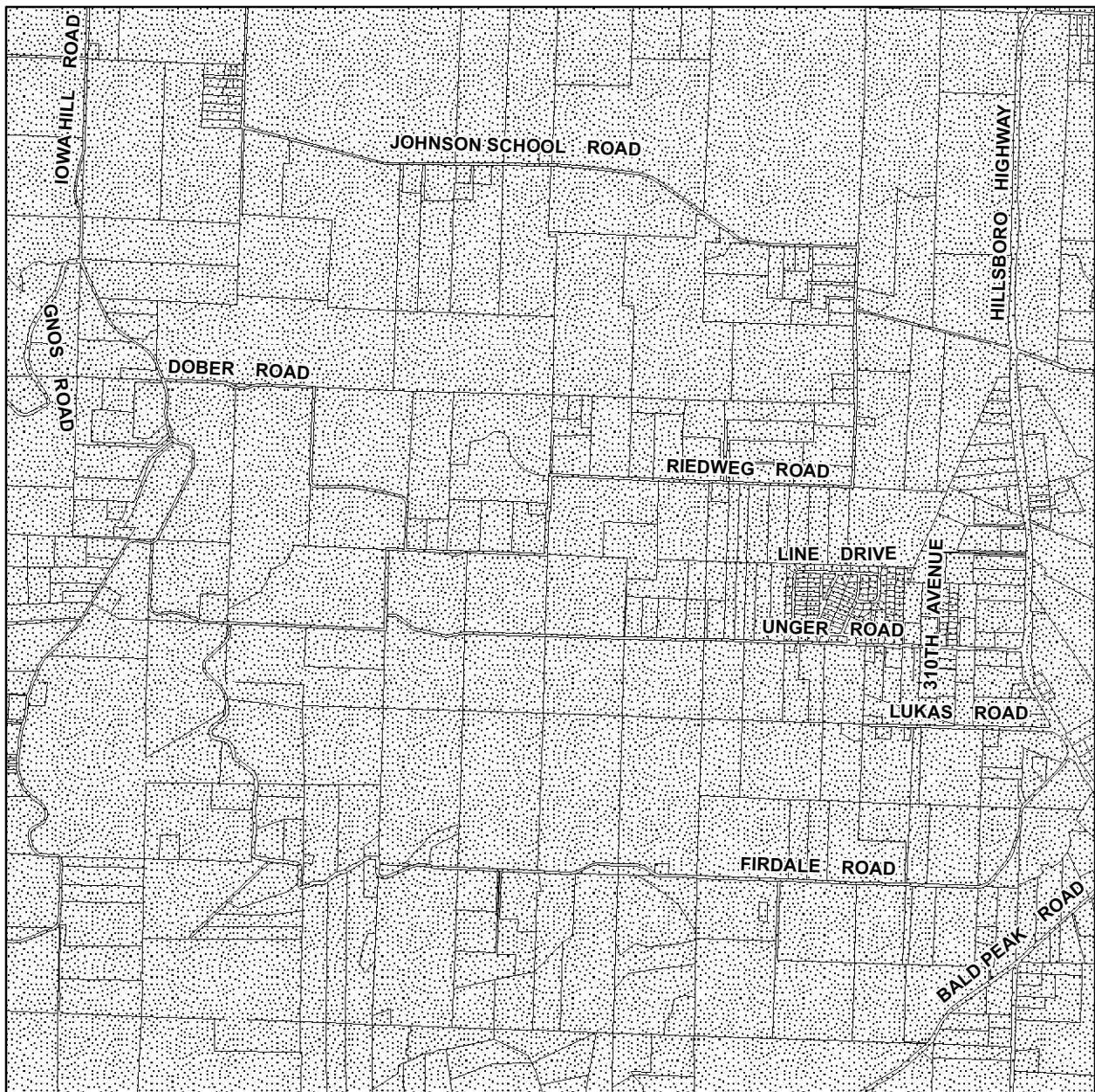
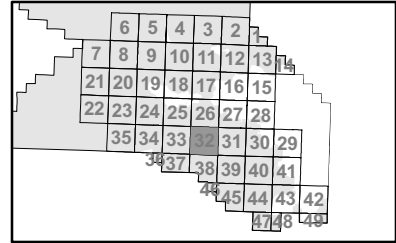
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






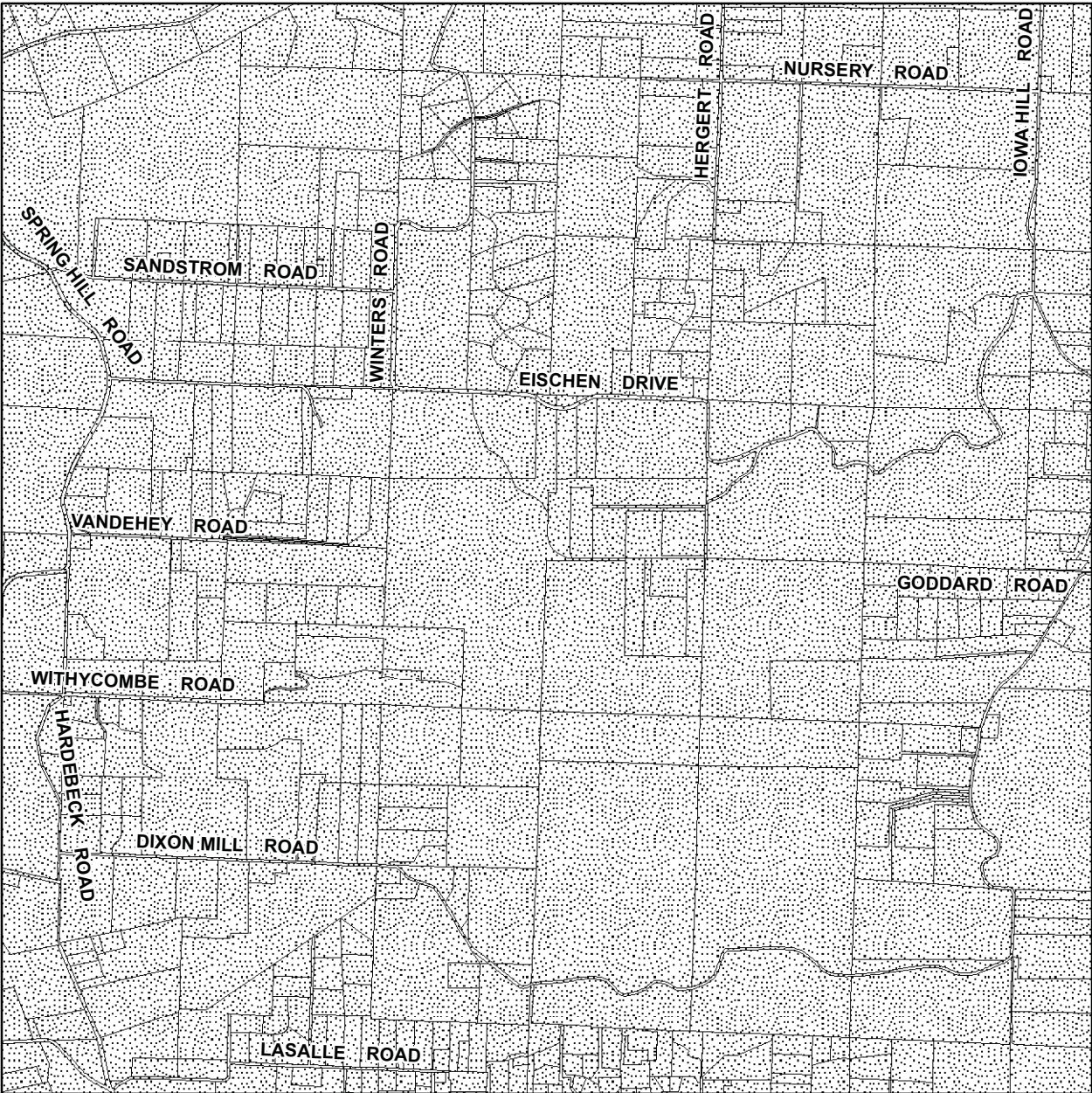
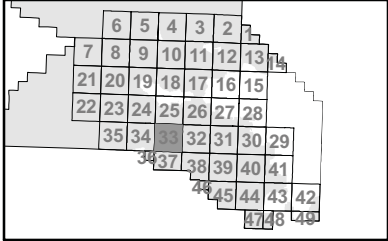
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






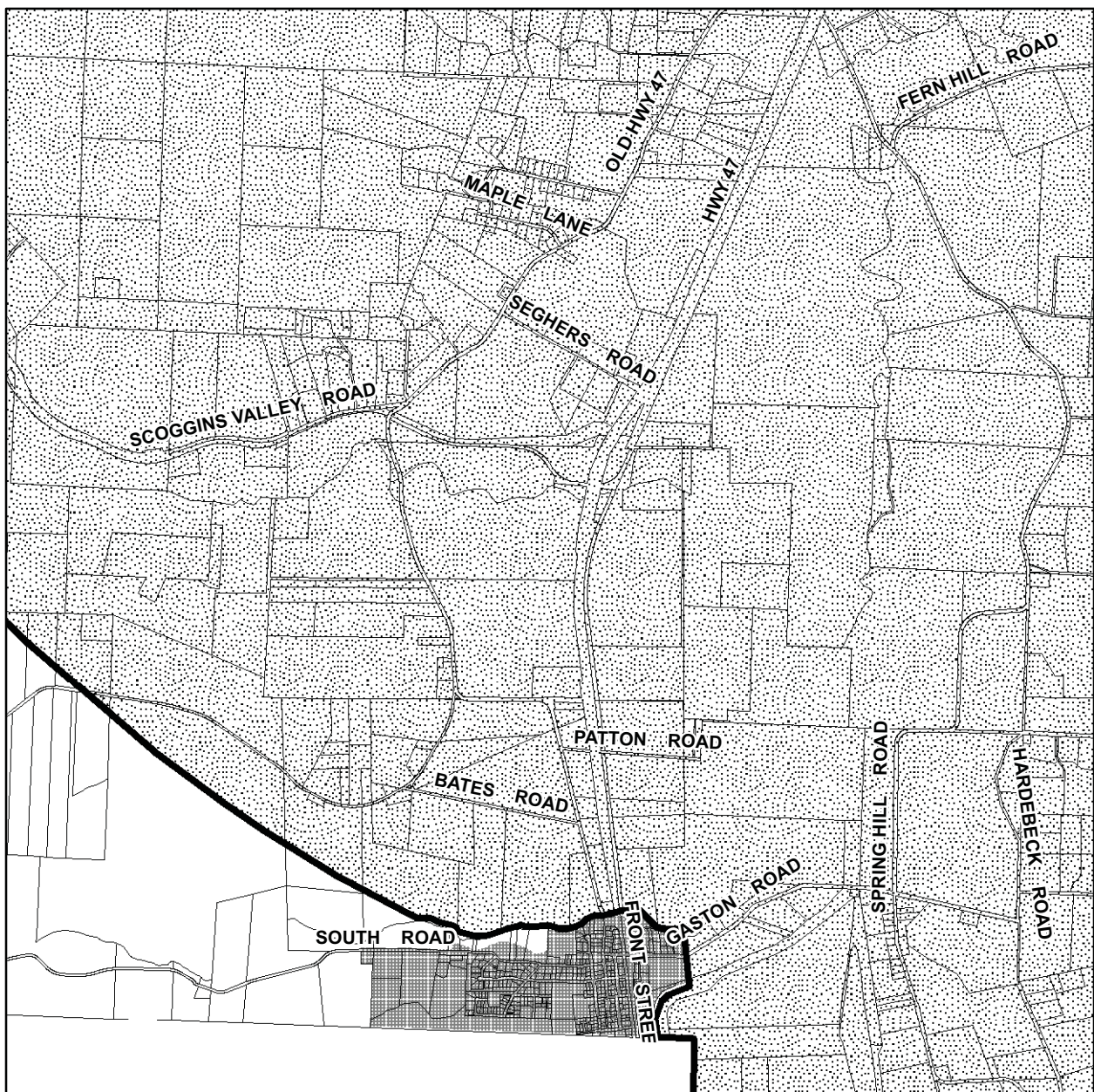
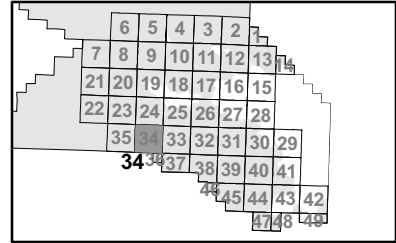
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






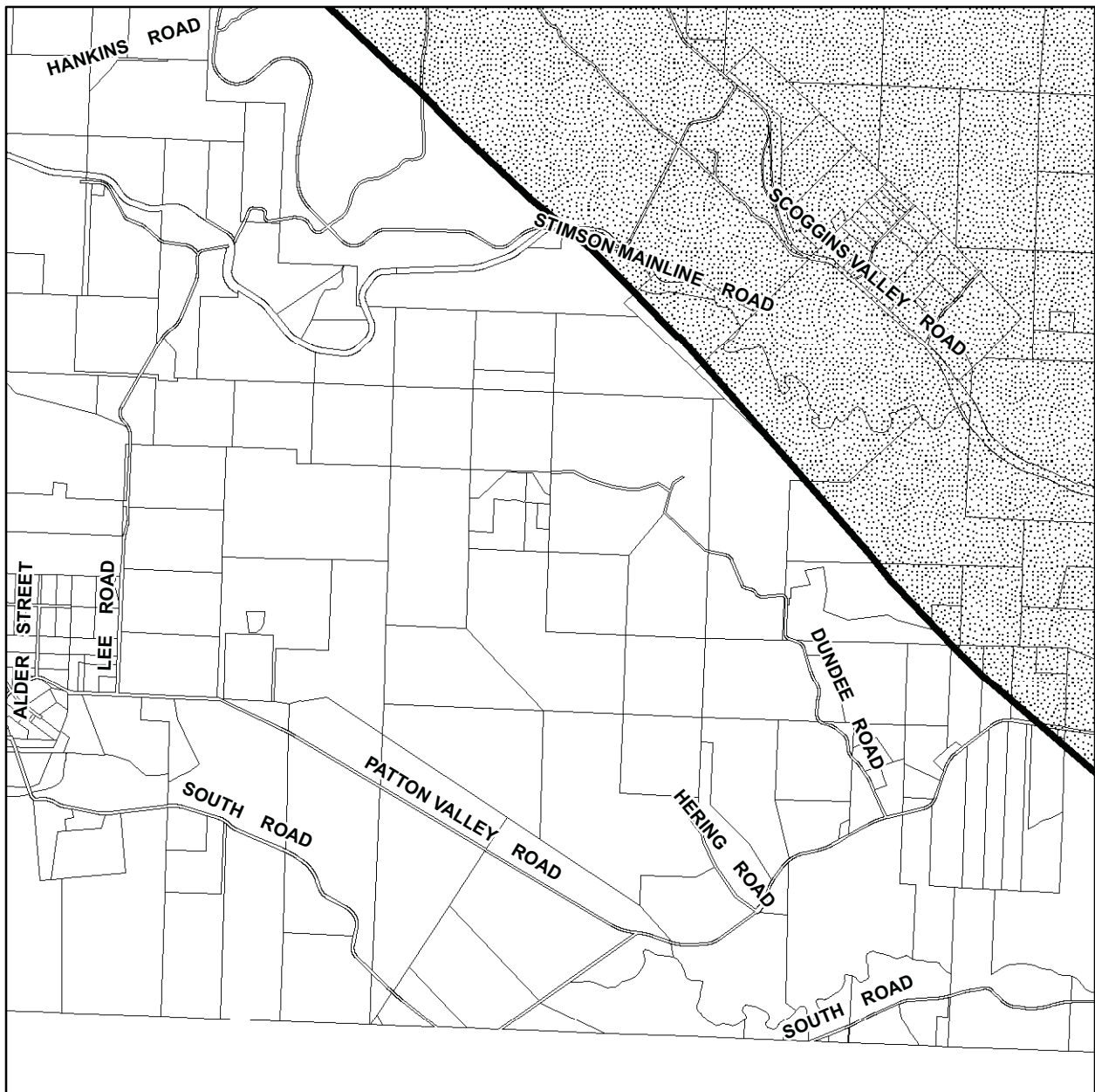
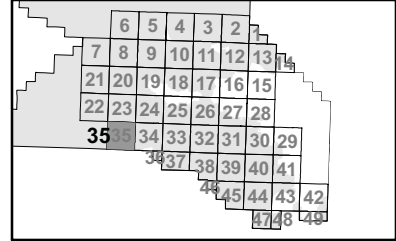
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

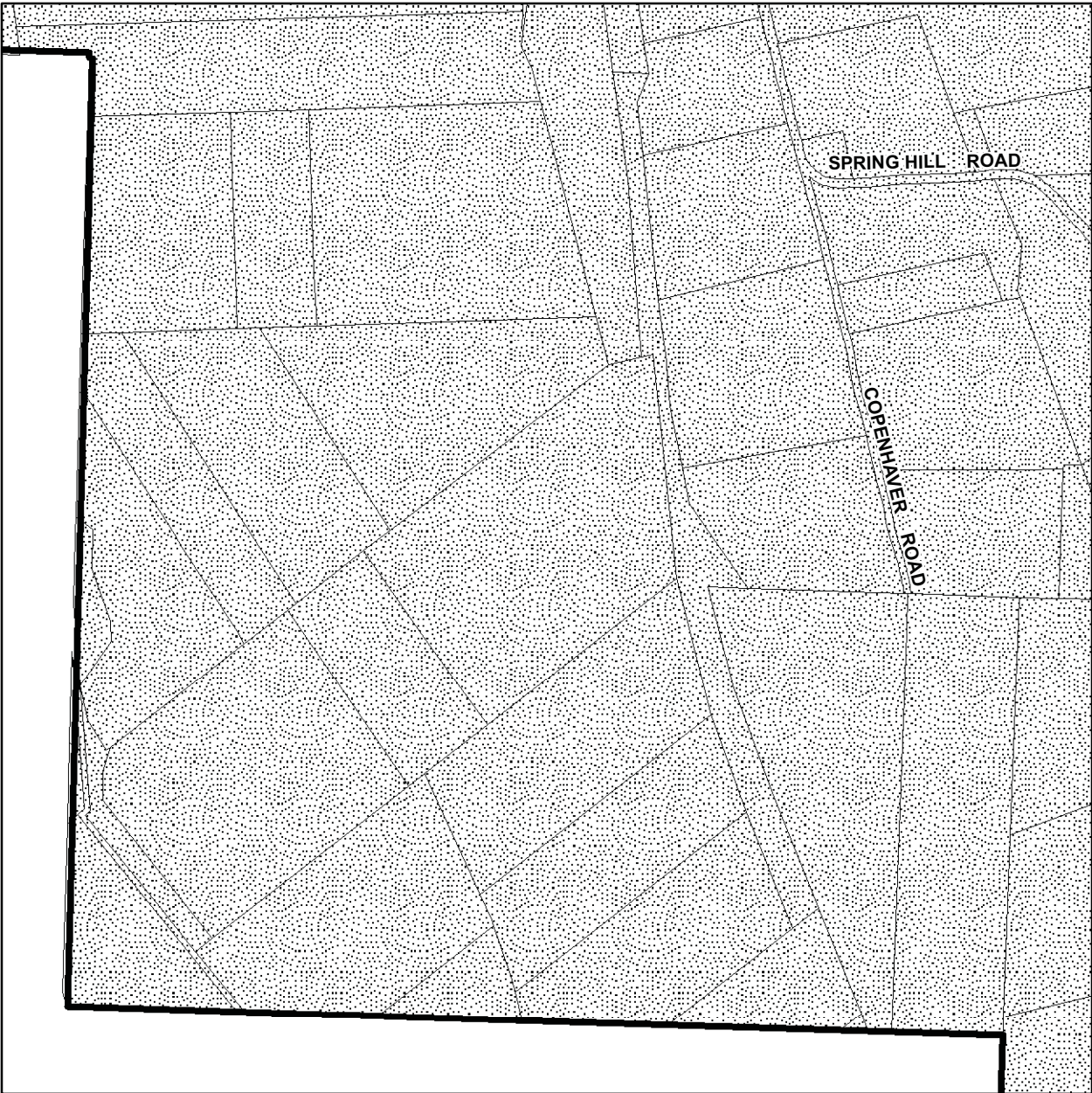
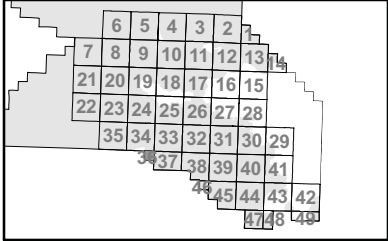
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve








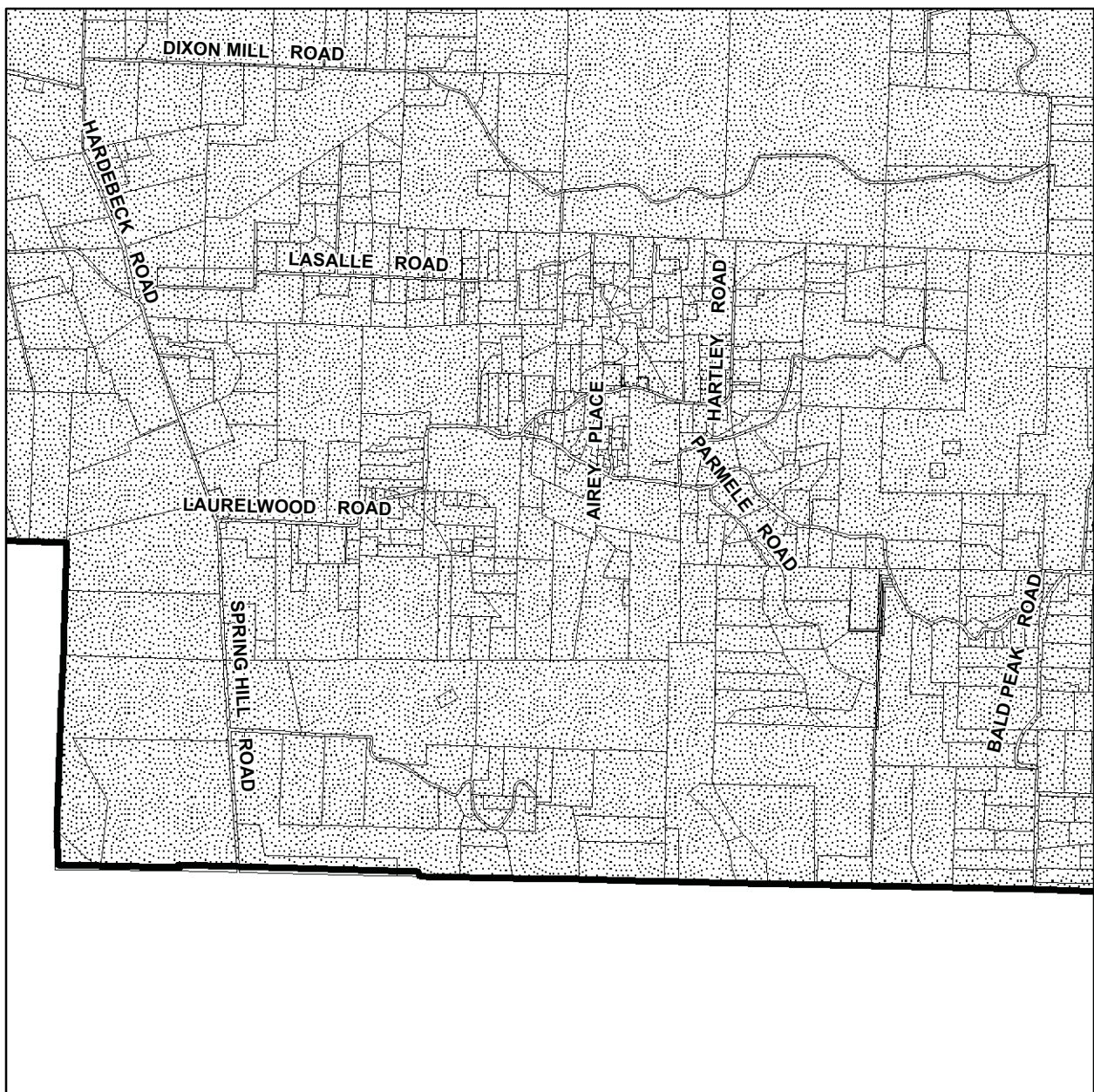
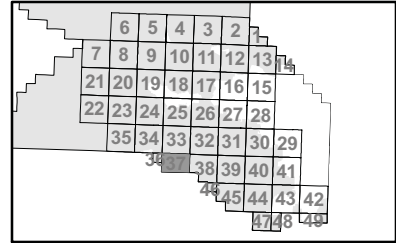
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






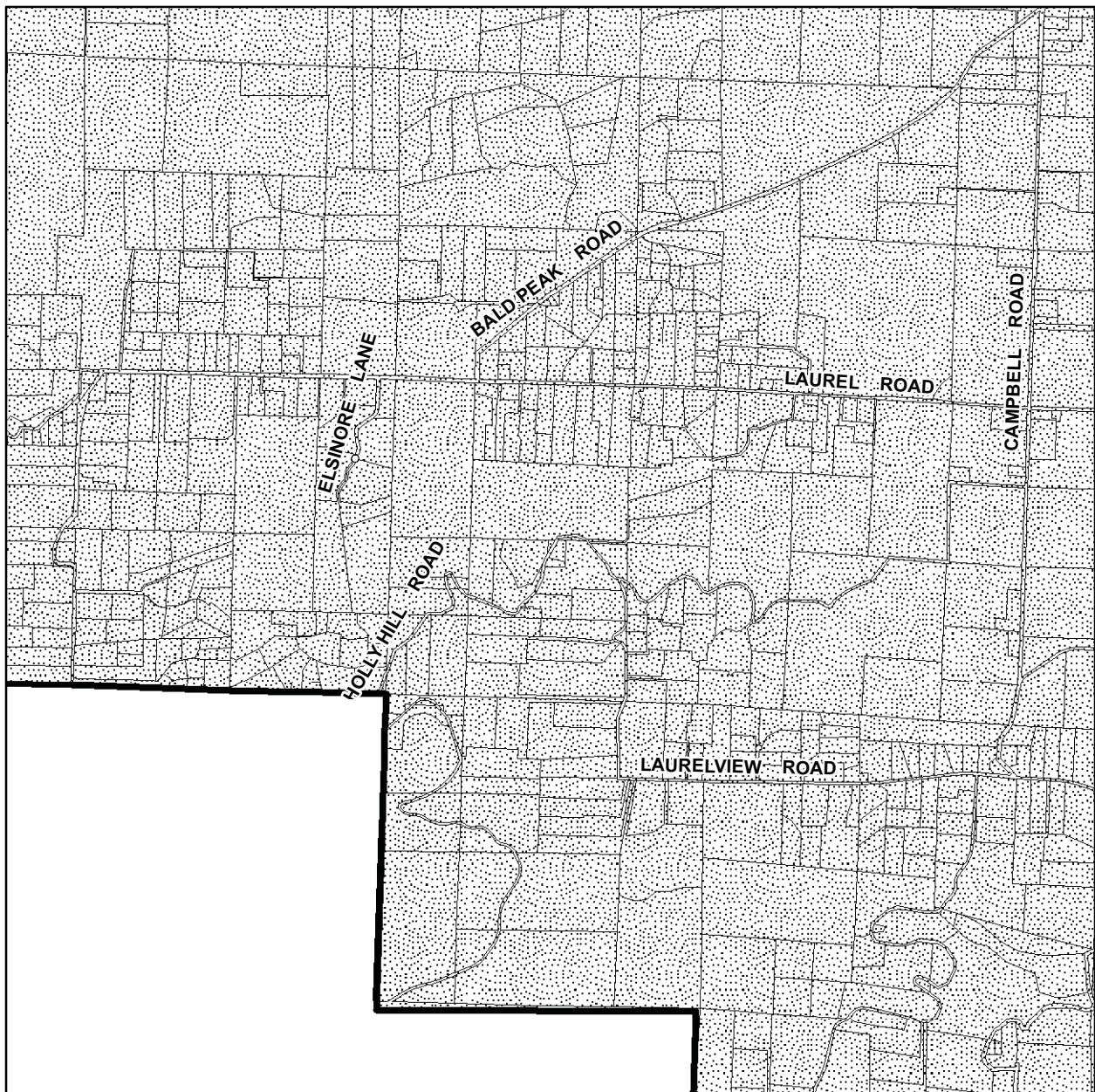
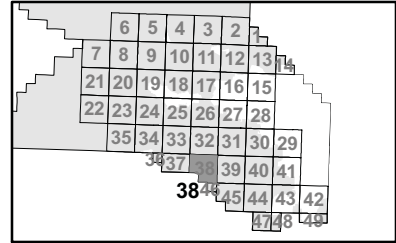
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






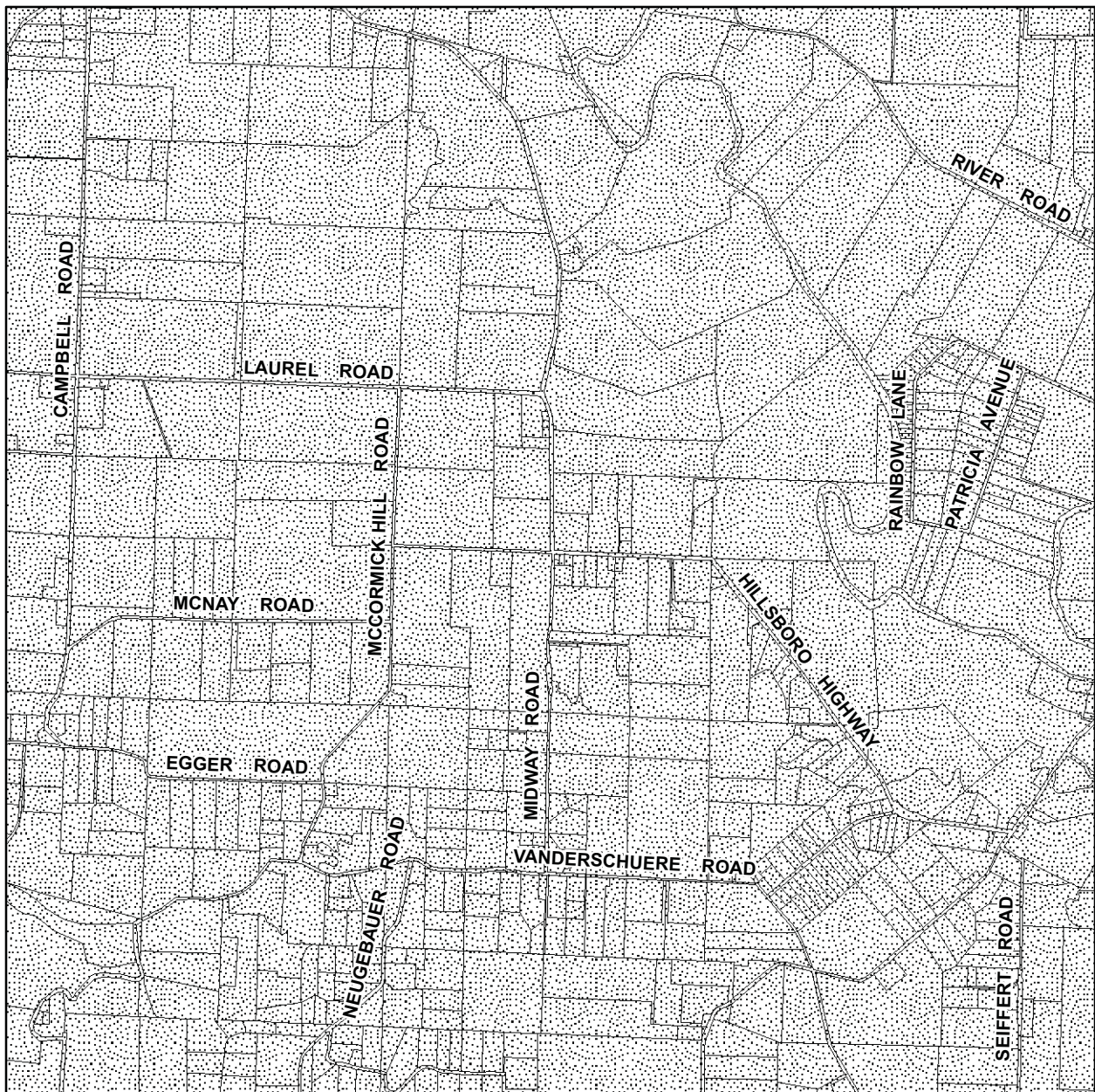
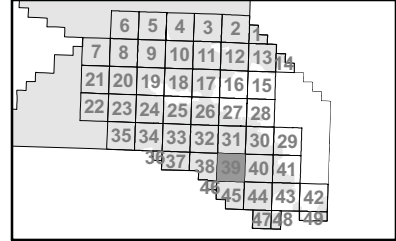
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






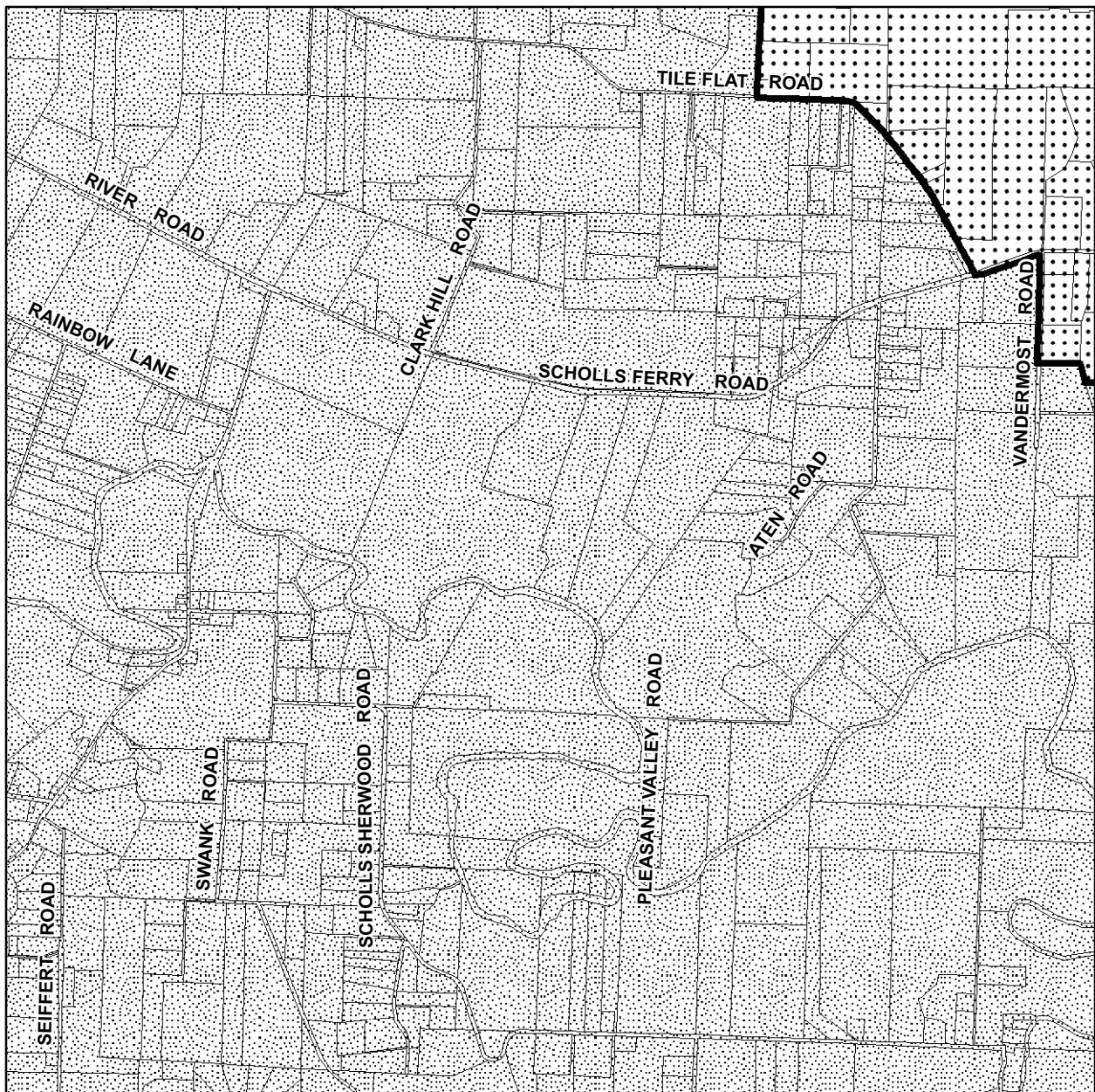
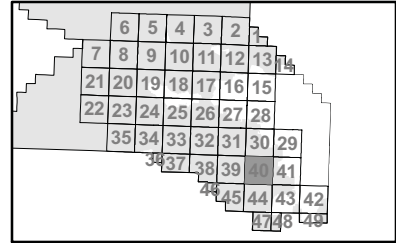
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






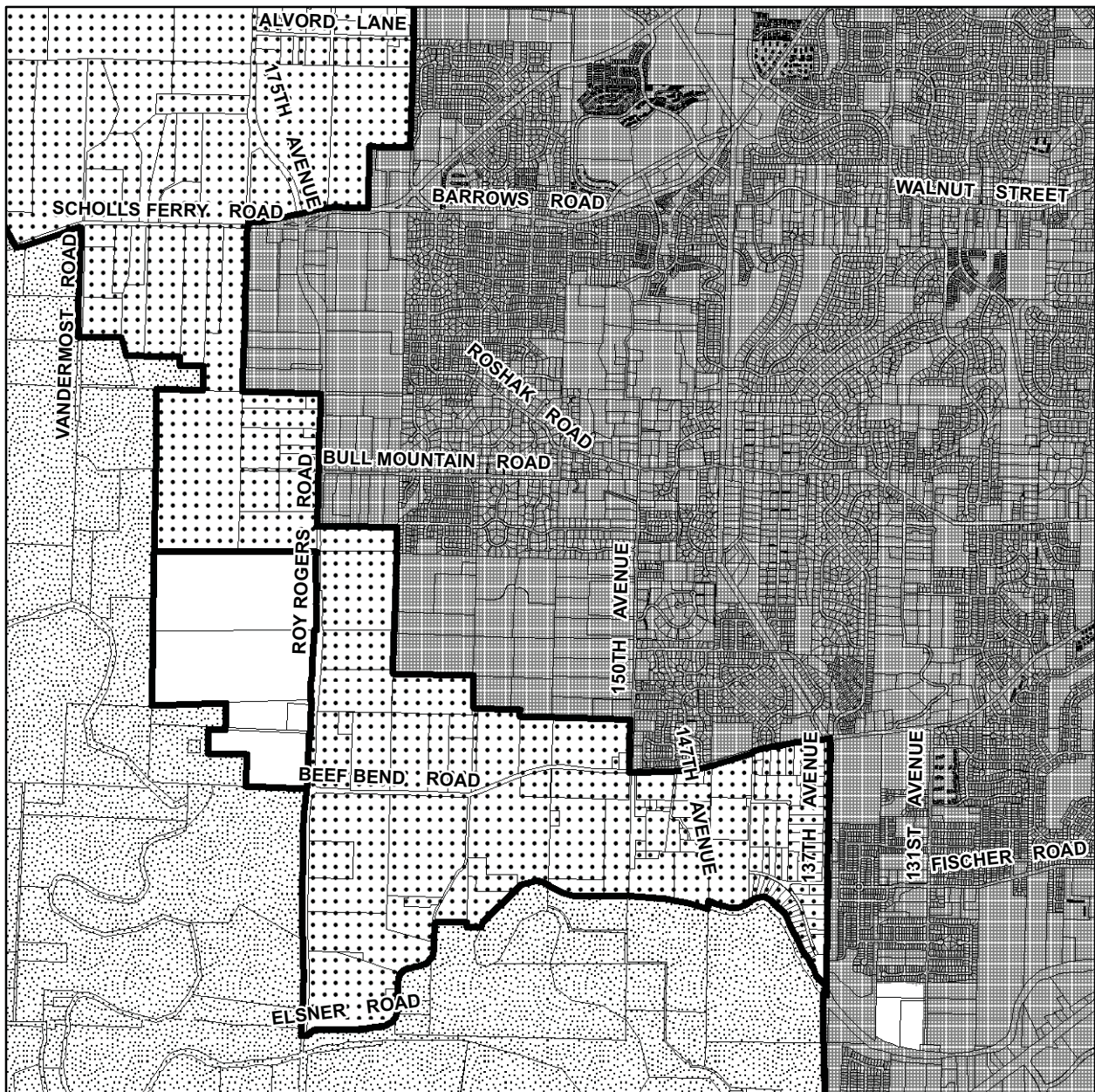
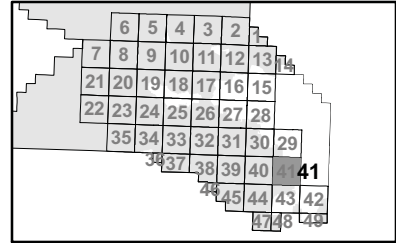
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






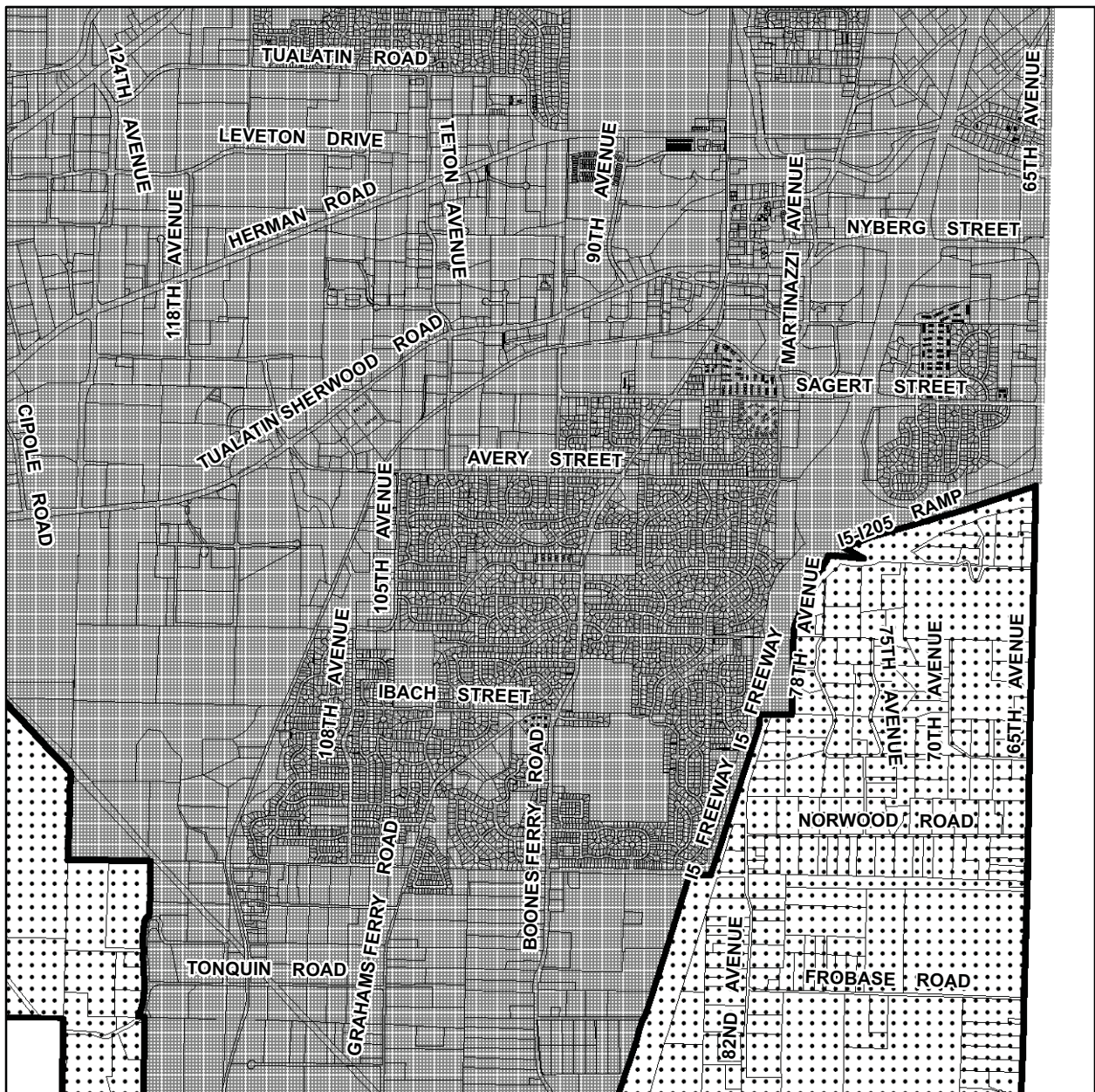
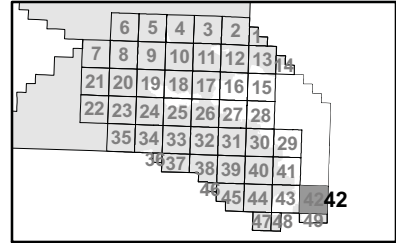
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






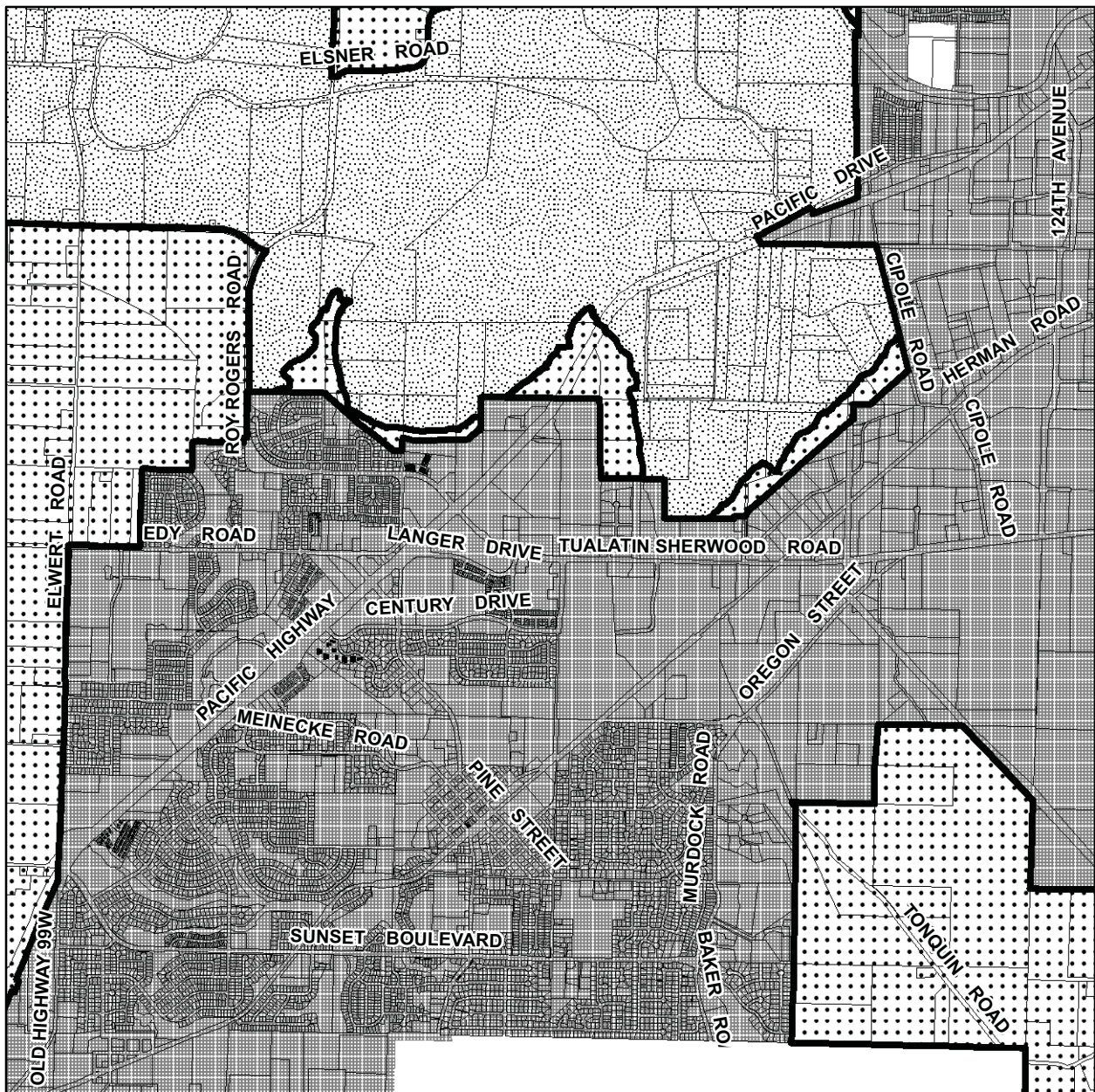
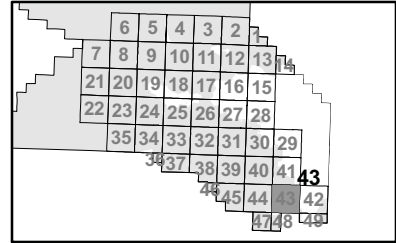
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

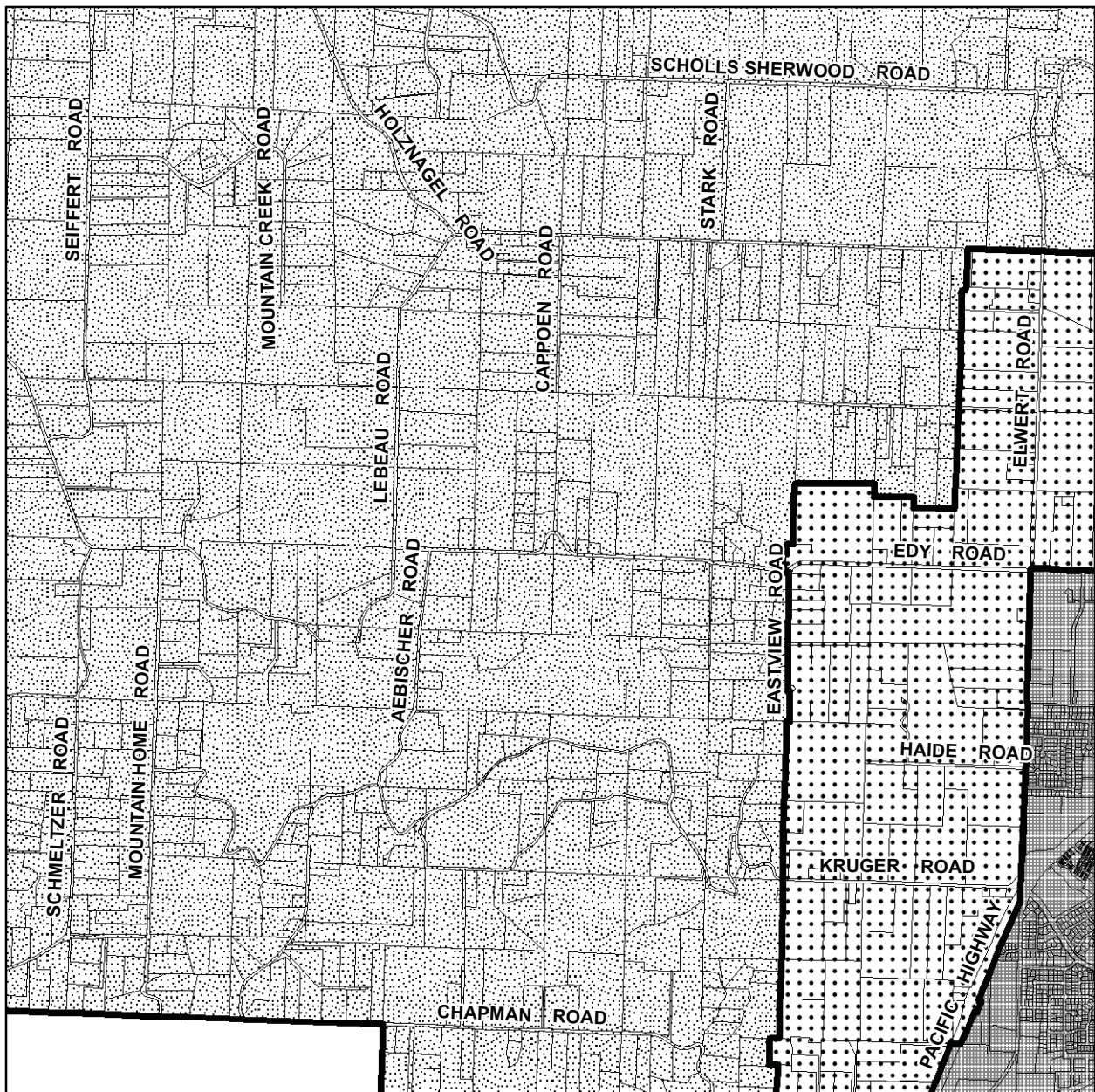
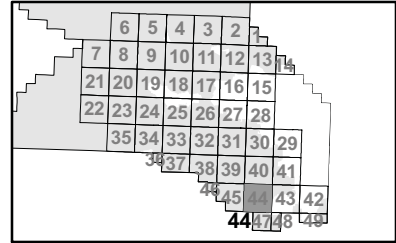
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve








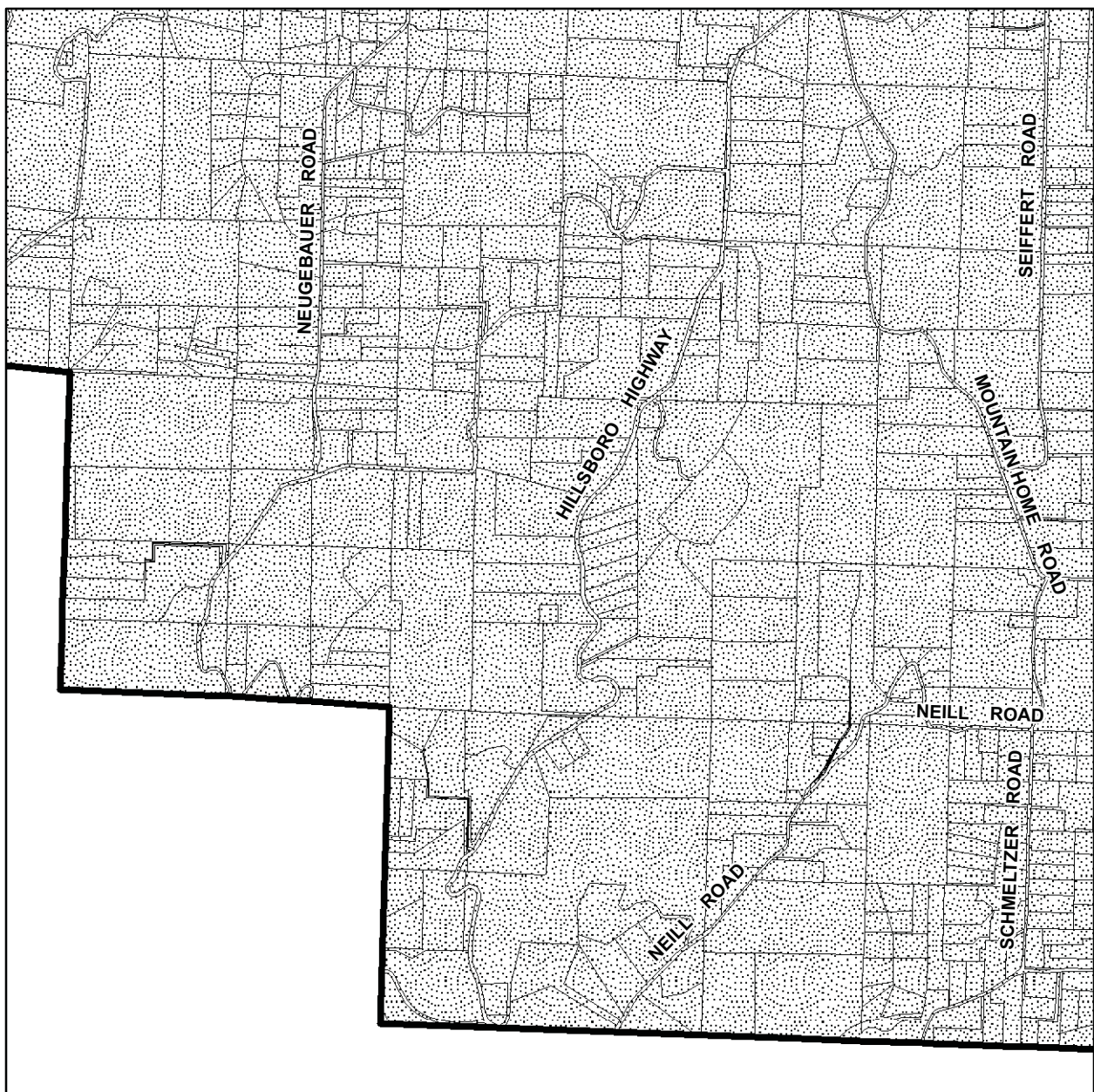
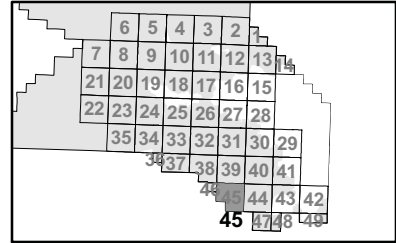
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






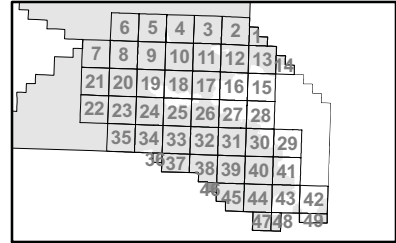
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






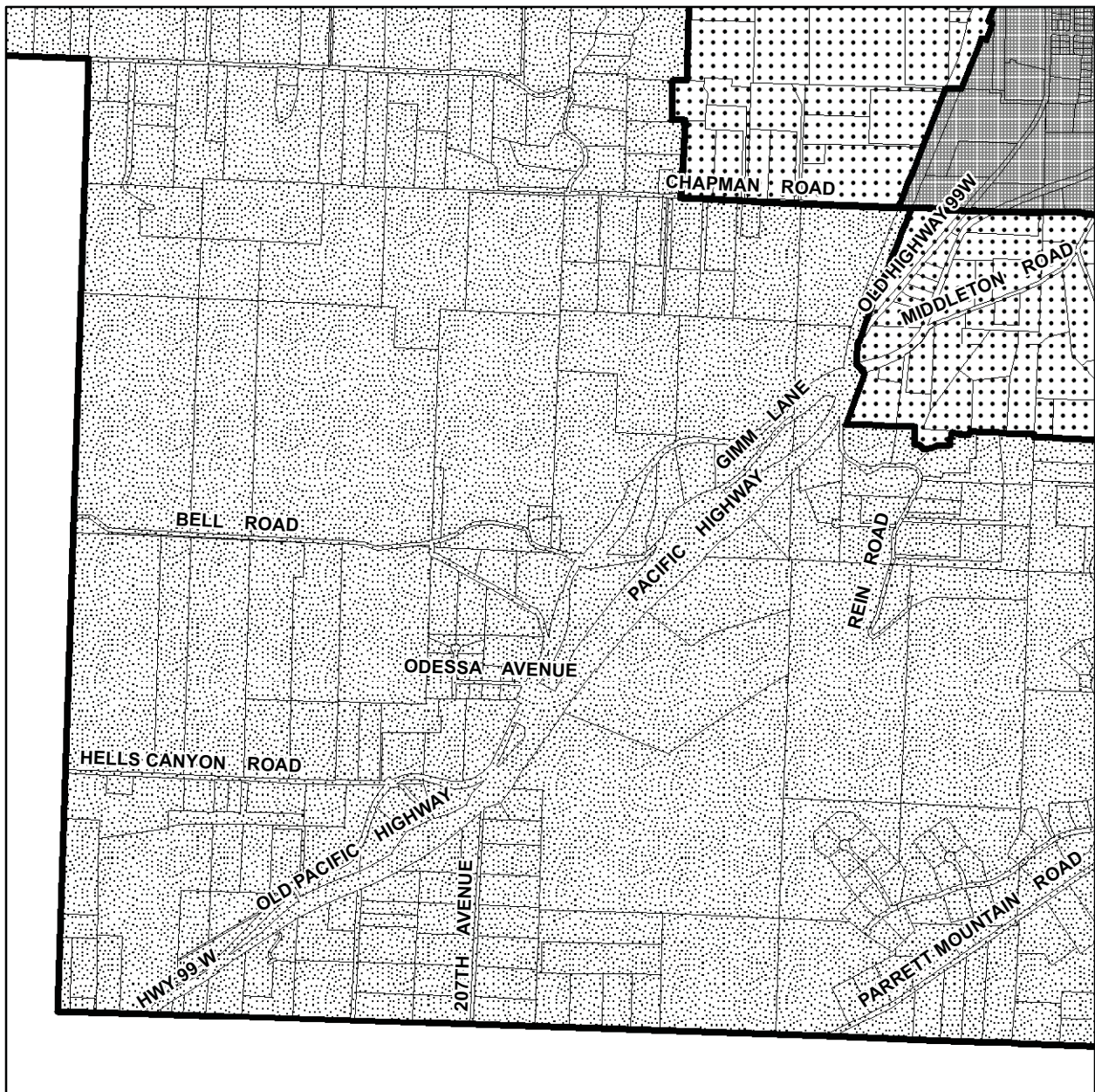
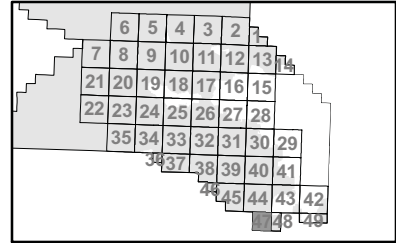
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






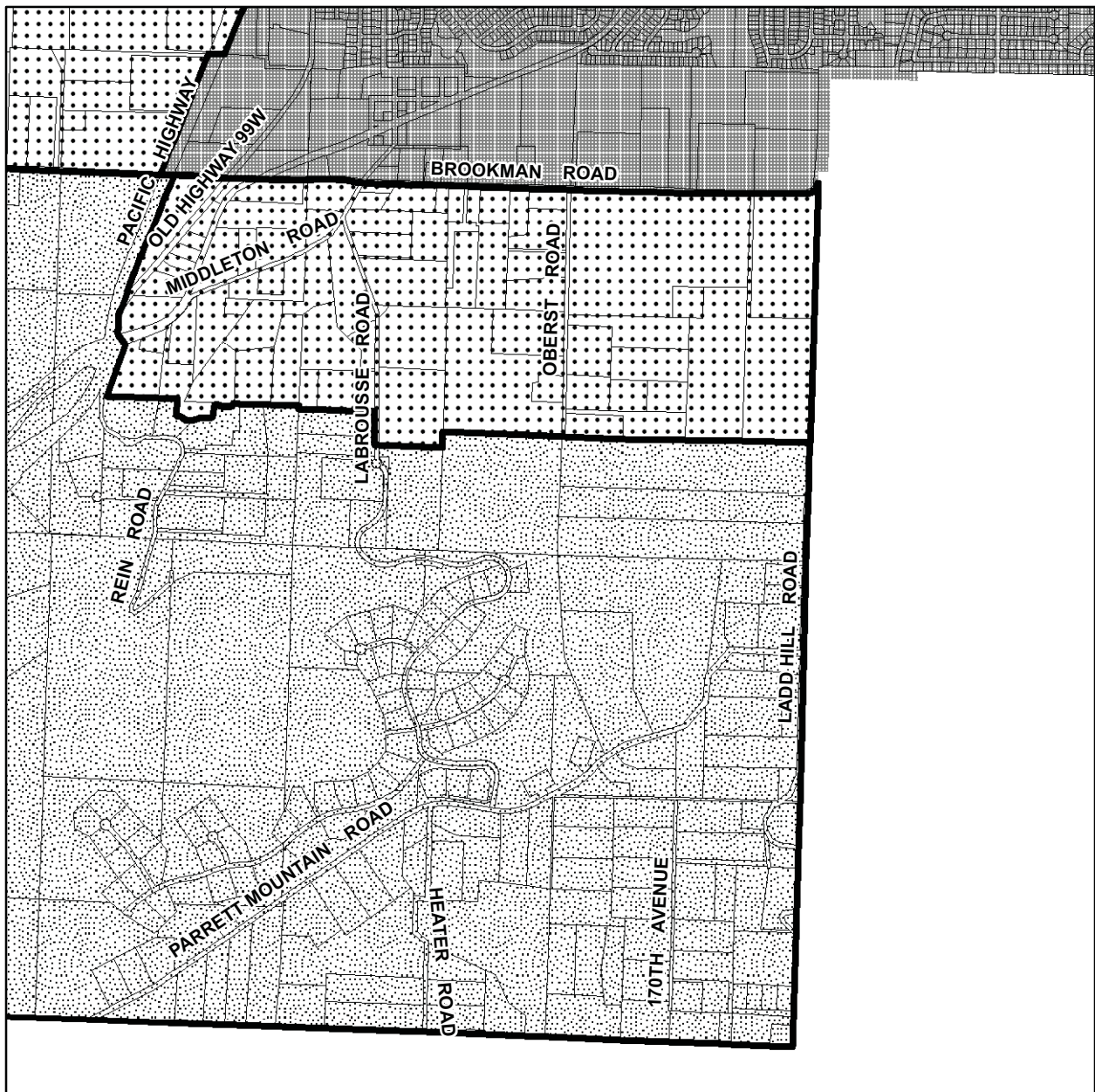
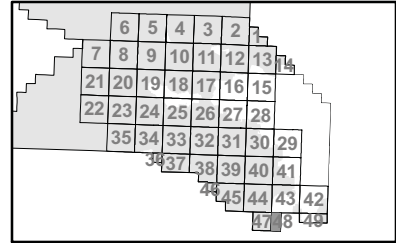
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve






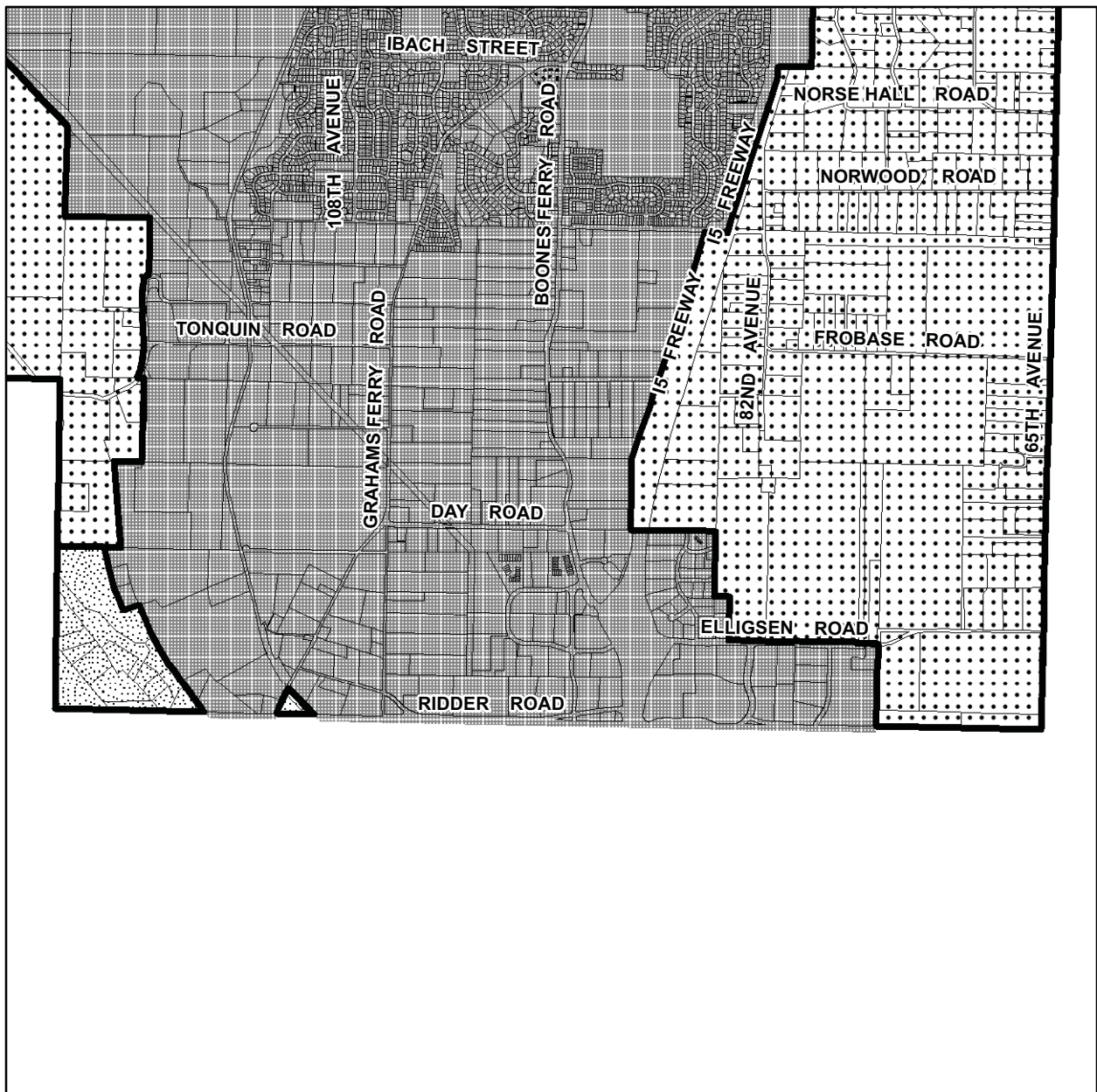
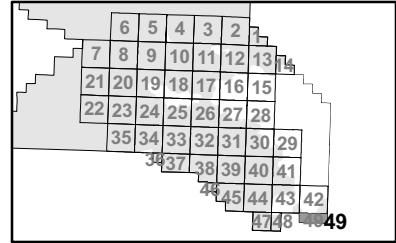
The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



The Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan is repealed and replaced by the maps shown in this exhibit. The following maps reflect the amendments shown in Exhibit 1 of this ordinance.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve





April 8, 2011

To: Citizen Participation Organizations and Interested Parties

From: Brent Curtis, Planning Manager *BC*  
Department of Land Use & Transportation

Subject: **PROPOSED A-ENGROSSED ORDINANCE NO. 740**

On January 21, 2011, you were notified about initial public hearings on proposed Land Use Ordinance No. 740 before the Planning Commission on March 2, 2011, and the Board of County Commissioners (Board) on March 15, 2011. On March 29, 2011 the Board ordered substantive amendments to this ordinance. These changes have been incorporated into proposed **A-Engrossed Ordinance No. 740** and are summarized below.

#### **Ordinance Purpose and Summary**

A-Engrossed Ordinance No. 740 amends the Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan element of the county's Comprehensive Plan. The map is amended to modify Reserves designations as described in the 'Proposed A-Engrossed Ordinance No. 740 Provisions' section below.

#### **Who Is Affected**

Owners of land whose property is located in the amended areas as shown in Exhibit 1 of A-Engrossed Ordinance No. 740.

#### **What Land is Affected**

Rural areas outside the Metro Urban Growth Boundary (UGB) and the cities of North Plains and Banks, as shown on the maps in A-Engrossed Ordinance No. 740.

#### **Original Ordinance No. 740 Provisions**

As originally filed, Ordinance No. 740 proposed the following amendments to the Rural and Urban Reserves map:

1. *North of Forest Grove:* Twenty-eight (28) acres of Urban Reserve Area 7B on the east side of Council Creek are changed from Urban Reserve to Undesignated.
2. *North of Cornelius:* Four hundred thirty (430) acres of former Urban Reserve Area 7I west of NW Susbauer Road are changed from Urban Reserve to Rural Reserve.
3. *North of Cornelius:* One hundred ninety-four (194) acres of former Urban Reserve Area 7I east of NW Susbauer Road are changed from Urban Reserve to Undesignated.
4. *North of Highway 26:* Five hundred eighty-five (585) acres adjacent to Urban Reserve Area 8B (on the west side of NW Helvetia Road) are changed from Undesignated to Urban Reserve.
5. *North of Highway 26:* Two hundred ninety (290) acres west of the area described in the preceding bullet item are changed from Rural Reserve to Undesignated.

### Proposed A-Engrossed Ordinance No. 740 Provisions

Proposed A-Engrossed Ordinance No. 740 makes the following changes to the county's Rural and Urban Reserves map, adopted by Ordinance No. 733 in June 2010. These changes are described below and refer to the lettered areas shown on the map on page 4.

*Area A: North of Forest Grove* - The 28 acres within Area 7B located east of Council Creek are changed from Urban Reserve to Undesignated. This area was unaffected by the engrossment of the ordinance.

*Area B: North of Cornelius* - Approximately three hundred sixty (360) acres in the southern portion of former Urban Reserve Area 7I are changed from Urban Reserve to Undesignated.

*Area C: North of Cornelius* - Two hundred sixty (260) acres in the northern portion of former Urban Reserve Area 7I are changed from Urban Reserve to Rural Reserve.

*Area D: North of Highway 26* - Approximately three hundred fifty-two (352) acres bounded on the west by Groveland Road, on the north by West Union Road, on the east by Helvetia Road, and on the south by Highway 26 are changed from Undesignated to Urban Reserve.

*Area E: South of SW Rosedale Road* - Three hundred eighty-three (383) acres located northwest of the intersection of SW 209th and SW Farmington Road are changed from Rural Reserve to Undesignated.

### Public Hearings - Time and Place

#### Board of County Commissioners

10:00 am  
April 19, 2011

6:30 pm  
April 26, 2011

Hearings will be held in the Shirley Huffman Auditorium in the Public Services Building, 155 North 1st Avenue, Hillsboro, Oregon.

On April 26, the Board of County Commissioners may choose to adopt the ordinance, make changes to it, or reject the ordinance. If it is adopted, it would become effective on May 26, 2011.

Rural/Natural  
Resource Plan Policies  
Amended

Policy 29 – Rural and Urban Reserves Map

How to Submit  
Comments

Submit oral or written testimony to the Board at one of the public hearings. Written testimony may be mailed or faxed to the Board in advance of the public hearings in care of the Long Range Planning Division. We are unable to accept e-mail as public testimony.

Washington County, Long Range Planning Division  
155 N. 1<sup>st</sup> Ave., Suite 350-14, Hillsboro, OR 97124-3072  
Fax: 503-846-4412

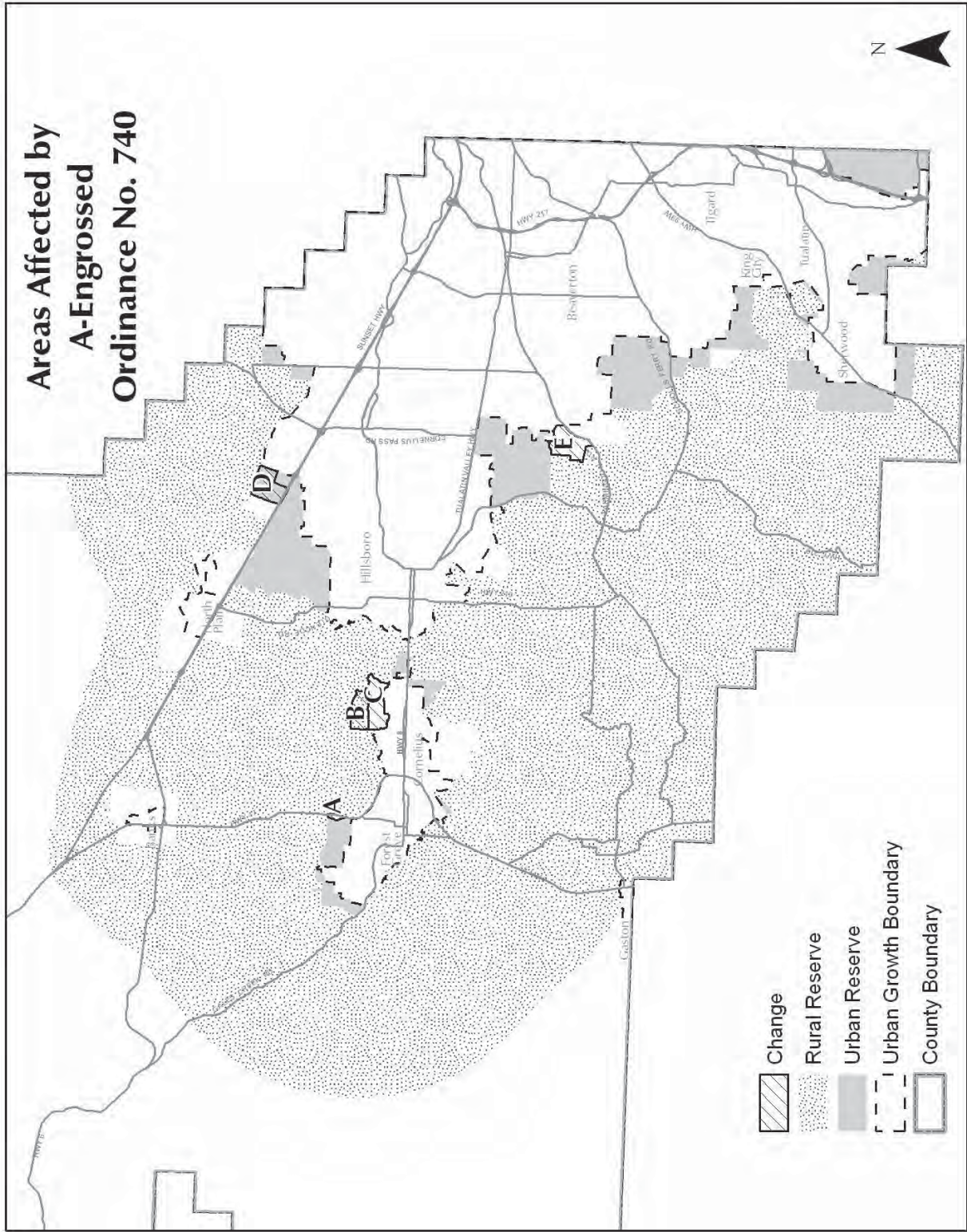


Staff Contact

Stephen Shane, Associate Planner  
155 North 1<sup>st</sup> Ave., Suite 350-14, Hillsboro, OR 97124-3072  
Telephone: 503-846-3717 Fax: 503-846-4412  
e-mail: Stephen\_Shane@co.washington.or.us

Proposed Ordinance is available at the following locations:

- Washington County Department of Land Use & Transportation Long Range Planning Division, 155 North 1<sup>st</sup> Ave. Hillsboro, OR 97124-3072 Telephone: 503-846-3519
- [www.co.washington.or.us/LUT/Divisions/LongRangePlanning/2011-land-use-ordinances.cfm](http://www.co.washington.or.us/LUT/Divisions/LongRangePlanning/2011-land-use-ordinances.cfm)
- Cedar Mill Community Library and Tigard Public Library
- Citizen Participation Organizations (CPOs); Call 503-821-1128 for a directory of CPOs.
- <http://www.co.washington.or.us/Reserves/>





April 8, 2011

To: Washington County Cities and Special Service Districts

From: Brent Curtis, Planning Manager *BC*  
Department of Land Use & Transportation

**Subject: A-Engrossed Land Use Ordinance No. 740**

The Washington County Board of Commissioners (Board) will soon consider proposed **A-Engrossed Ordinance No. 740**. After public hearings on this ordinance, the Board ordered substantive amendments. These changes have been incorporated into the proposed engrossed ordinance and are summarized below. The engrossed ordinance is available on the Washington County web site at:

[www.co.washington.or.us/LUT/Divisions/LongRangePlanning/2011-land-use-ordinances.cfm](http://www.co.washington.or.us/LUT/Divisions/LongRangePlanning/2011-land-use-ordinances.cfm)

If you would like a copy of this ordinance or additional information, please contact the Long Range Planning Division at (503) 846-3519.

The public hearings for these ordinances before the Board are listed below. The hearings will be held in the Shirley Huffman Auditorium in the Public Services Building, 155 North 1st Avenue, Hillsboro, Oregon.

**Public Hearings**

**Board of County Commissioners**

**10:00 am  
April 19, 2011**

**6:30 pm  
April 26, 2011**

**A-Engrossed Ordinance No. 740**

**A-Engrossed Ordinance No. 740** proposes to amend the Rural and Urban Reserves Map in Policy 29 of the Rural/Natural Resource Plan element of the county's Comprehensive Plan.

As originally filed, Ordinance No. 740 proposed the following amendments to the Rural and Urban Reserves map:

1. *North of Forest Grove:* Twenty-eight (28) acres of Urban Reserve Area 7B on the east side of Council Creek are changed from Urban Reserve to Undesignated.
2. *North of Cornelius:* Four hundred thirty (430) acres of former Urban Reserve Area 7I west of NW Susbauer Road are changed from Urban Reserve to Rural Reserve.
3. *North of Cornelius:* One hundred ninety-four (194) acres of former Urban Reserve Area 7I east of NW Susbauer Road are changed from Urban Reserve to Undesignated.

4. *North of Highway 26*: Five hundred eighty-five (585) acres adjacent to Urban Reserve Area 8B (on the west side of NW Helvetia Road) are changed from Undesignated to Urban Reserve.
5. *North of Highway 26*: Two hundred ninety (290) acres west of the area described in the preceding bullet item are changed from Rural Reserve to Undesignated.

Proposed **A-Engrossed Ordinance No. 740** makes the following changes to the county's Rural and Urban Reserves map, adopted by Ordinance No. 733 in June 2010. These changes are described below and refer to the lettered areas shown on the attached map.

*Area A: North of Forest Grove* - The 28 acres within Area 7B located east of Council Creek are changed from Urban Reserve to Undesignated. This area was unaffected by the engrossment of the ordinance.

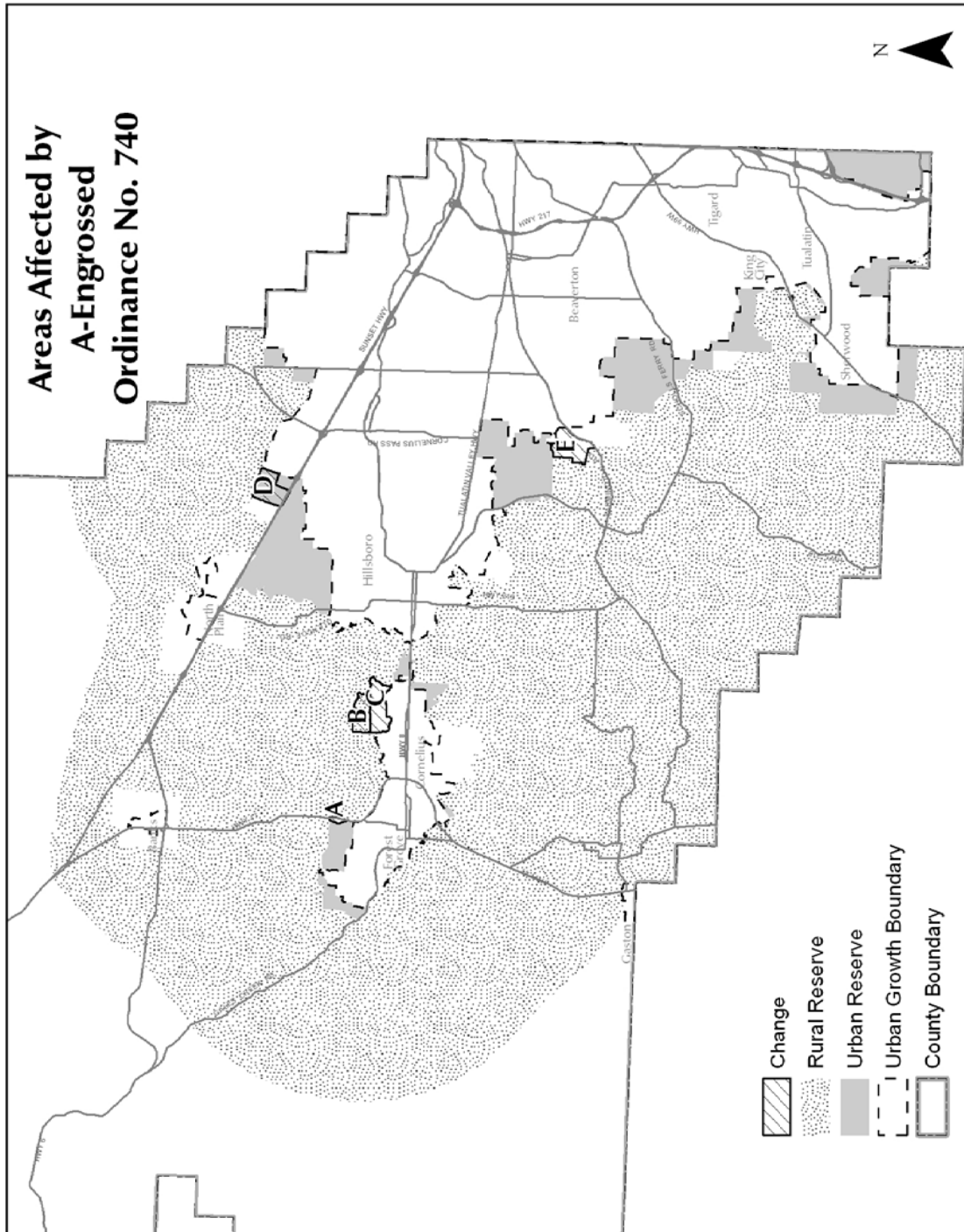
*Area B: North of Cornelius* - Approximately three hundred sixty (360) acres in the southern portion of former Urban Reserve Area 7I are changed from Urban Reserve to Undesignated.

*Area C: North of Cornelius* - Two hundred sixty (260) acres in the northern portion of former Urban Reserve Area 7I are changed from Urban Reserve to Rural Reserve.

*Area D: North of Highway 26* - Approximately three hundred fifty-two (352) acres bounded on the west by Groveland Road, on the north by West Union Road, on the east by Helvetia Road, and on the south by Highway 26 are changed from Undesignated to Urban Reserve.

*Area E: South of SW Rosedale Road* - Three hundred eighty-three (383) acres located northwest of the intersection of SW 209th and SW Farmington Road are changed from Rural Reserve to Undesignated.

Except for those specific changes set forth in this notice, the Reserves map and applicable policy provisions originally adopted by Ordinance No. 733 are unchanged.



**PROPOSED ORD MAILING LABELS**

updated 4/7/11 (LCS)

**A-ENG ORD 740**

**Mail CPO Notice & Ordinance in  
9"x12" envelopes to the following  
(OSU Extension Service in  
interoffice mail):**

Steve Franks and  
Sr. Current Planning Staff (7)  
MS 13

Joanne Rice (1)  
Long Range Planning Division

Bruce Bartlett, CPO 1  
P.O. Box 91582  
Portland, OR 97291-0582

CPO 3  
Garden Home Recreation Center  
7475 SW Oleson Road  
Portland, OR 97223

CPO 4B  
16200 SW Pacific Hwy, Ste H, Box 242  
Tigard, OR 97224-3494

Kathy Stalkamp, CPO 4K  
17635 131<sup>st</sup> Ave.  
Tigard, OR 97224

Jim Long, CPO 4M  
10730 SW 72nd Ave.  
Portland, OR 97223

Terri Wilson, CPO 5  
14880 SW Lowell Lane  
Sherwood, OR 97140

CPO 6  
P.O. Box 5607  
Aloha, OR 97006

CPO 7  
c/o OSU Extension Service  
MS 48

CPO 8  
P.O. Box 890  
North Plains, OR 97133-0890

Heather Robinson, CPO 9  
935 NE Birchaire Lane  
Hillsboro, OR 97124

Richard Smith, CPO 10  
12640 SW Clark Hill Road  
Hillsboro, OR 97123

**CPO 11 - Inactive**  
**CPO 12F - Inactive**  
**CPO 12C - Inactive**  
**CPO 13 - Inactive**  
**CPO 14 - Inactive**

CPO 15  
P.O. Box 330  
Cornelius, OR 97113

CCI Steering Committee (1)  
c/o OSU Extension Service  
MS 48

Linda Gray (1)  
OSU Extension Service  
MS 48

Margot Barnett (1)  
OSU Extension Service  
MS 48

Tigard Public Library (1)  
Attn: Technical Services  
13125 SW Hall Blvd.  
Tigard, OR 97223

Cedar Mill Library (1)  
12505 NW Cornell Road  
Portland, OR 97229-5688

Ray Valone (1)  
Metro  
600 NE Grand Avenue  
Portland, OR 97232-2736

Marah Danielson (1)  
ODOT Region 1  
Planning Section  
123 NW Flanders  
Portland, OR 97209-4037

**Mail Cities & Special Service  
District Notices in #10 envelopes  
to the following:**

Community Dev./Planning Director  
City of Banks  
P. O. Box 428  
Banks, OR 97106-0428

Community Dev./Planning Director  
City of Beaverton  
PO Box 4755  
Beaverton, OR 97076-4755

Community Dev./Planning Director  
City of Cornelius  
1355 N. Barlow Street  
Cornelius, OR 97113-8912

Ben Altman (Cornelius)  
RKA  
29515 SW Serenity Way, Apt. D  
Wilsonville, OR 97070-9538

Community Dev./Planning Director  
City of Durham  
17160 SW Upper Boones Ferry Rd  
Durham, OR 97281

Community Development Director  
City of Forest Grove  
P.O. Box 336  
Forest Grove, OR 97116

Community Dev./Planning Director  
City of Gaston  
P.O. Box 129  
Gaston, OR 97119-0129

Community Dev./Planning Director  
City of Hillsboro  
MS 60

Community Dev./Planning Director  
City of King City  
15300 SW 116th  
King City, OR 97224-2693

Keith Liden (King City)  
Parsons Brinckerhoff Quade & Douglas  
Inc.  
400 SW 6<sup>th</sup> Ave., Suite 802  
Portland, OR 97204

Community Dev./Planning Director  
City of Lake Oswego  
P.O. Box 369  
Lake Oswego, OR 97034

Community Dev./Planning Director  
City of North Plains  
31360 NW Commercial Street  
North Plains, OR 97133

Community Dev./Planning Director  
City of Portland  
1120 SW 5th, Rm. 1002  
Portland, OR 97204-1966

Community Dev./Planning Director  
City of Sherwood  
22560 SW Pine Street  
Sherwood, OR 97140

Community Dev./Planning Director  
City of Tigard  
13125 SW Hall Blvd.  
Tigard, OR 97223

Community Dev./Planning Director  
City of Tualatin  
18880 SW Martinazzi Ave.  
Tualatin, OR 97062-7092

Community Dev./Planning Director  
City of Wilsonville  
29799 SW Town Center Loop E  
Wilsonville, OR 97070

Banks Fire Protection District  
300 Main Street  
Banks, OR 97106

Chris Asanovic, Fire Chief  
Cornelius Rural Fire District  
1355 N. Barlow Street  
Cornelius, OR 97113-8912

Michael Kinkade, Fire Chief  
Forest Grove Fire & Rescue  
1919 Ash Street  
P.O. Box 326  
Forest Grove, OR 97116

Gaston Rural Fire District  
102 E. Main Street  
Gaston, OR 97119

Hillsboro Fire Department  
240 S. First Street  
Hillsboro, OR 97123

Mike Duyck, Fire Chief  
Tualatin Valley Fire & Rescue  
20665 SW Blanton Avenue  
Aloha, OR 97007

Dennis England, Fire Chief  
Washington Co. Fire District #2  
31370 NW Commercial Street  
North Plains, OR 97133

Bob Cruz  
Clean Water Services  
MS 10

General Manager  
Raleigh Hills Water District  
5010 SW Scholls Ferry Road  
Portland, OR 97225

General Manager  
Rivergrove Water District  
17661 Pilkington Road  
Lake Oswego, OR 97035

Mark Knudson, General Manager  
Tualatin Valley Water District  
1850 SW 170<sup>th</sup> Avenue  
Beaverton, OR 97006-4211

Tigard Water District/  
Tigard Water Service Area  
P.O. Box 230281  
Portland, OR 97281-0281

Jerry Arnold, General Manager  
West Slope Water District  
P. O. Box 25140  
Portland, OR 97225

Jillian Detweiler  
TriMet  
710 NE Holladay  
Portland, OR 97232

General Manager  
Tualatin Hills Park & Rec. Dist.  
15707 SW Walker Road  
Beaverton, OR 97006

Tualatin National Wildlife Refuge  
19255 SW Pacific Hwy.  
Sherwood, OR 97140

Oregon Dept. of Forestry  
Joe Misek, Forest Policy Analyst  
2600 State Street  
Salem, OR 97310

Oregon Dept. of Agriculture  
Jim Johnson  
635 Capitol Street, NE  
Salem, OR 97301

Oregon Water Resources Dept.  
Phillip Ward, Director  
725 Summer Street, Suite A  
Salem, OR 97301

Banks School District #13  
450 S. Main Street  
Banks, OR 97106

Jennifer Garland,  
Facilities Planning Coordinator  
Beaverton School District  
16550 SW Merlo Road  
Beaverton, OR 97006-5152

Richard Steinbrugge  
Executive Administrator for Facilities  
Beaverton School District  
16550 SW Merlo Road  
Beaverton, OR 97006-5152

Forest Grove School District #15  
1728 Main Street  
Forest Grove, OR 97116

Mike Scott, Superintendent  
Hillsboro School District  
3083 NE 49<sup>th</sup> Place, #200  
Hillsboro, OR 97124-6008

Sherwood School District #88J  
23295 SW Main Street  
Sherwood, OR 97140

Tigard School District #23J  
6960 SW Sandburg Street  
Tigard, OR 97223

Ernie Platt,  
Director of Local Govt. Affairs  
Home Builders Association  
15555 SW Bangy Road, Suite 301  
Lake Oswego, OR 97035

***Hand-deliver and/or send through  
interoffice mail the following  
internal staff copies of the CPO  
Notice & ordinance:***

ANDREW SINGELAKIS (1)

GARY STOCKHOFF (1)  
LUT CPM / ENGINEERING  
MS 18

PLANNING LIBRARY (1)

DAVE SCHAMP (1)  
LUT OPERATIONS  
MS 51

BRENT CURTIS (1)

ANDY BACK (1)

**Dan Olsen, County Counsel:**

(1)  
[Deliver in BCC Land Use Ordinance  
meeting notebook]

**Board of Commissioners:**

(5)  
[Deliver in BCC Land Use  
Ordinance meeting notebooks]

**Barbara Hejtmanek, Board Clerk:**

(1)  
[Deliver in BCC Land Use Ordinance  
meeting notebook]



**MAILING AFFIDAVIT FOR PROPOSED ENGROSSED  
LAND USE ORDINANCE A-Engrossed Ordinance No. 740**

**I = Immediately**

**A = As soon as possible**

**P = Upon return from print**

WHEN	WHO	DISTRIBUTION DATE
I	Long Range Planning Division – Joanne Rice (1)	04/08/11
I	Current Planning Division – Steve Franks & Sr. Current Plng Staff (7)	"
I	Planning Commission [email ordinance web page link]	"
A	CPOs (13)	"
A	CCI Steering Committee (1)	"
A	OSU Extension Service – Linda Gray (1) & Margot Barnett (1)	"
A	Cedar Mill Library (1) and Tigard Public Library (1)	"
A	City Planning Directors (17) [send memo only that describes ordinances and that they are available upon request]	"
A	Special Service Districts (15) [send memo only that describes ordinances and that they are available upon request]	"
A	Ore. Dept. of Forestry, Ore. Dept. of Agriculture, Oregon Water Resources Dept., Tualatin National Wildlife Refuge [Serv. Dist. Memo]	"
P	Metro – Ray Valone (1)	"
P	ODOT – Marah Danielson (1)	"
P	DLUT Director – Andrew Singelakis (1)	"
P	DLUT CPM & Engineering – Gary Stockhoff (1)	"
P	DLUT Operations – Dave Schamp (1)	"
P	Long Range Planning Division Staff [amount will vary]	"
P	Homebuilders Association – Ernie Platt [Service District memo only]	"
P	Beaverton School District – Richard Steinbrugge & Jennifer Garland [Service District memo only]	"
P	Hillsboro School District – Mike Scott [Service District memo only]	"
P	Banks School Dist., Forest Grove School Dist., Sherwood School Dist., Tigard School Dist. [Service District memo only]	"
P	Planning Library (1)	"
P	Extra copies for hearings & public [amount will vary; please see appropriate staff member]	"
P	Board of Commissioners (15) [must be sent prior to hearing]	04/14/11
P	CAO - Barbara Hejtmanek (1) [must be sent prior to BCC hearing]	04/14/11

- Total copies: 65 + extras; see appropriate staff member for additional copies required.
- See w\pshare\2011ord\General Info\Mailing Affidavits\Proposed Ord Mailing Lbl.2011 for mailing labels.

I, Linda Schroeder, certify the above information was mailed/distributed on the distribution days specified.

*Linda Schroeder*  
\_\_\_\_\_

Subscribed and sworn to before me on this 15<sup>th</sup> day of April, 2011.

*Traci Shirley*  
\_\_\_\_\_

My Commission expires: September 30, 2011





April 8, 2011

**Individual Notice No. 2011-02**

**At your request, the Long Range Planning Division is providing you with Individual Notice No. 2011-02, which describes changes that were made to proposed Land Use Ordinance No. 740.**

**These changes have been incorporated into proposed A-Engrossed Ordinance No. 740.**

**Initial Notice**

On February 16, 2011, persons on the General Notification List were mailed a notice from the Washington County Long Range Planning Division regarding initial public hearings before the Planning Commission and the County Board of Commissioners (Board) on proposed Land Use Ordinance No. 740.

After public hearings on Ordinance No. 740, the Board ordered substantive amendments to this ordinance. These changes have been incorporated into proposed **A-Engrossed Ordinance No. 740** and are summarized below. As required by Chapter X of the County Charter, the Board has directed staff to prepare and provide you with notice of these amendments. This notice, which describes the changes to proposed Ordinance No. 740, is the second Individual Notice you have received this year.

**Purpose and Description of Proposed Ordinance**

A-Engrossed Ordinance No. 740 amends the Rural and Urban Reserves map in Policy 29 of the Rural/Natural Resource Plan Element of the Comprehensive Plan. The map is amended to modify Reserves designations described in the 'Summary of Changes to the Rural and Urban Reserves Map' section below. These amendments are proposed in response to the Land Conservation and Development Commission's (LCDC) oral remand of the county's initial Reserves ordinance (Ordinance No. 733) adopted in June 2010. Except for those specific changes set forth in Exhibit 1 of A-Engrossed Ordinance No. 740, the Rural and Urban Reserves map and applicable policy provisions adopted by Ordinance No. 733 are unchanged.

**Who is Affected**

Owners of land whose property is located in the amended areas A through E below, as shown on the map on page 3.

**What Land Is Affected**

Rural areas outside the Metro Urban Growth Boundary (UGB) and the cities of North Plains and Banks, as shown on the maps in A-Engrossed Ordinance No. 740.

**Summary of Changes to the Rural and Urban Reserves Map**

The changes described below amend the county's Rural and Urban Reserves map, adopted by Ordinance No. 733 in June 2010. The changes are referenced by the letters A-E on the map on page 3 of this notice.

*Area A: North of Forest Grove* – Twenty-eight (28) acres within Area 7B located east of Council Creek are changed from Urban Reserve to Undesignated. This area was unaffected by the engrossment of the ordinance.

*Area B: North of Cornelius* - Approximately three hundred sixty (360) acres in the southern portion of former Urban Reserve Area 7I are changed from Urban Reserve to Undesignated.

*Area C: North of Cornelius* - Two hundred sixty (260) acres in the northern portion of former Urban Reserve Area 7I are changed from Urban Reserve to Rural Reserve.

**Summary of Changes to the Rural and Urban Reserves Map, cont'd.**

*Area D: North of Highway 26* - Approximately three hundred fifty-two (352) acres bounded on the west by Groveland Road, on the north by West Union Road, on the east by Helvetia Road, and on the south by Highway 26 are changed from Undesignated to Urban Reserve.

*Area E: South of SW Rosedale Road* - Three hundred eighty-three (383) acres located northwest of the intersection of SW 209th and SW Farmington Road are changed from Rural Reserve to Undesignated.

**Public Hearings Time and Place**

**Board of County Commissioners**  
**10:00 am**  
**April 19, 2011**

**Board of County Commissioners**  
**6:30 pm**  
**April 26, 2011**

Hearings will be held in the Shirley Huffman Auditorium in the Public Services Building, 155 North 1st Avenue, Hillsboro, Oregon.

On April 26, the Board may choose to adopt the ordinance, make changes to it, or reject the ordinance. If it is adopted, it would become effective on May 26, 2011.

**How to Submit Comments**

Submit oral or written testimony to the Board at one of the public hearings. Written testimony may be mailed or faxed to the Board in advance of the public hearings in care of the Long Range Planning Division. **We are unable to accept e-mail as public testimony.**

Washington County, Long Range Planning Division  
155 North 1st Ave., Suite 350-14, Hillsboro, OR 97124-3072  
Telephone: 503-846-3519 Fax: 503-846-4412

**Staff Contact**

Stephen Shane, Associate Planner  
155 N. 1st Ave., Suite 350-14, Hillsboro, OR 97124-3072  
Telephone: 503-846-3717 Fax: 503-846-4412  
e-mail: Stephen\_Shane@co.washington.or.us

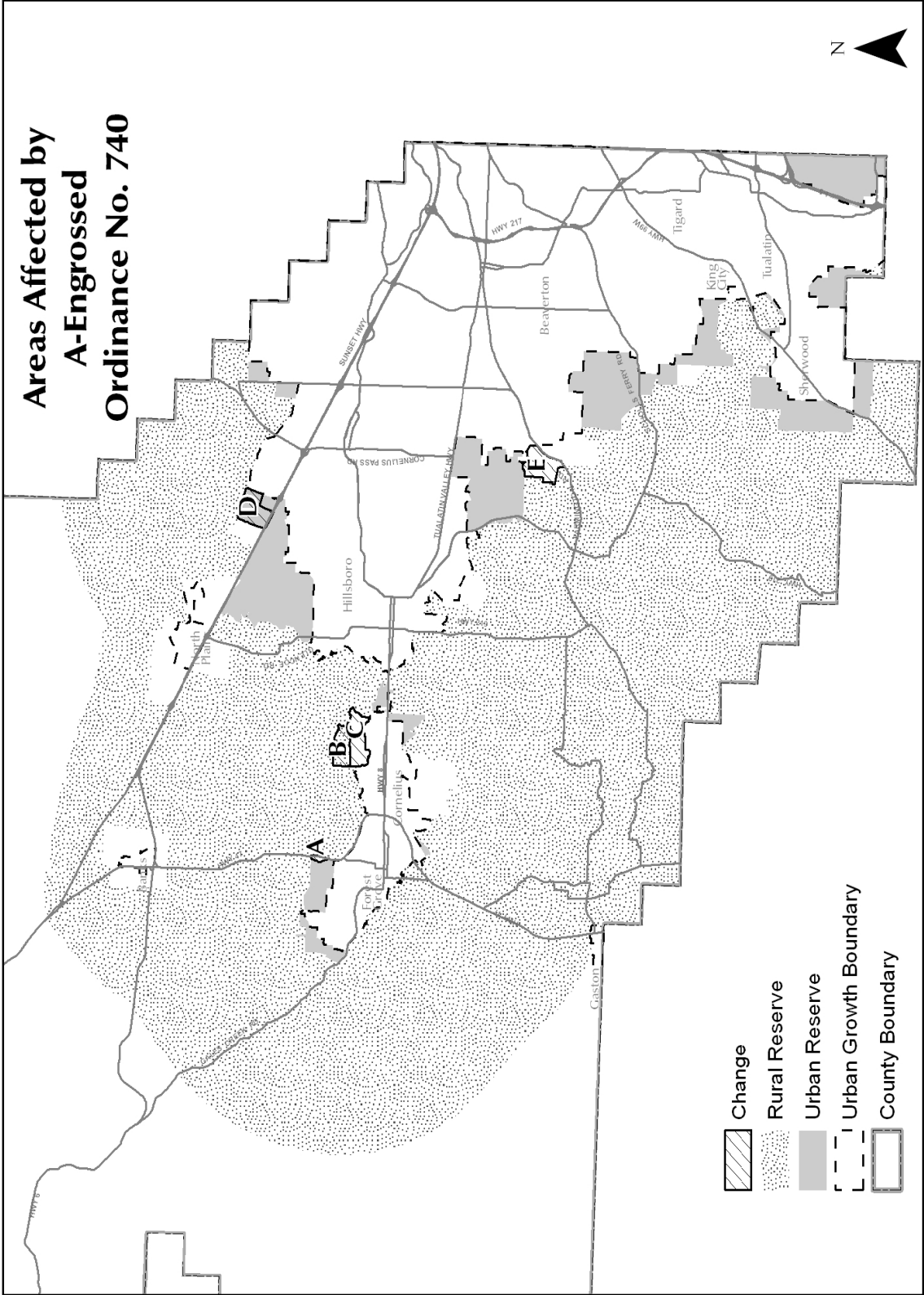
**Proposed Ordinance is available at the following locations**

- Washington County Department of Land Use & Transportation  
Long Range Planning Division, 155 N. 1st Ave., Hillsboro, OR 97124-3072  
Telephone: 503-846-3519
- [www.co.washington.or.us/LUT/Divisions/LongRangePlanning/2011-land-use-ordinances.cfm](http://www.co.washington.or.us/LUT/Divisions/LongRangePlanning/2011-land-use-ordinances.cfm)
- Cedar Mill Library and Tigard Public Library
- Citizen Participation Organizations (CPOs); Call 503-821-1128 for a directory of CPOs.
- <http://www.co.washington.or.us/Reserves/>

**Plan Documents Affected by A-Engrossed Ordinance No. 740**

*For more information about these plan documents, please call the Long Range Planning Division at (503) 846-3519.*

WASHINGTON COUNTY COMPREHENSIVE PLAN DOCUMENTS			
Comprehensive Framework Plan for the Urban Area	<input type="checkbox"/>	Rural/Natural Resource Plan	<input checked="" type="checkbox"/>
Urban Community Plans: <input type="checkbox"/>		Exceptions Statement Document	<input type="checkbox"/>
Community Development Code	<input type="checkbox"/>	Transportation Plan	<input type="checkbox"/>
		Public Facility Plan	<input type="checkbox"/>
		Urban Planning Area Agreements	<input type="checkbox"/>



First Name	Last Name	Company	Address	City	State
		Bhaktivedanta Society	10235 NW Cornelius Pass Road	Portland	OR
		CPO 8	PO Box 890	North Plains	OR
		CPO 6	PO Box 5607	Aloha	OR
		CPO 4M	10730 SW 72nd Avenue	Portland	OR
		CPO 4K	17635 131st Avenue	Tigard	OR
		CPO 4B	16200 SW Pacific Highway, Suite H-242	Tigard	OR
		CPO 3 - Garden Home Recreation Center	7475 SW Oleson Road	Portland	OR
		CPO 9	935 NE Birchaire Lane	Hillsboro	OR
		CPO 1	PO Box 91582	Portland	OR
		CPO 7 - OSU Extension Office	18640 NW Walker Road, Suite 1400	Beaverton	OR
		Knopp Castro, LLC	5318 E 2nd #247	Long Beach	CA
		FMR Investments, LLC	1601 NW Deerfern Street	Camas	WA
		Mt. Richmond Forest, Inc	2330 NW Belgrave Avenue	Portland	OR
		Cascadian Nurseries	8900 NW Dick Road	Hillsboro	OR
		KGRS LLC	12705 SW Beaverdamn Road, Suite C	Beaverton	OR
		FMR Investments, LLC	1601 NW Deerfern Street	Camas	WA
		CPO 2	8140 SW Foxglove Place	Beaverton	OR
		Farm Horticultural Parkplace, LLC	8900 NW Dick Road	Hillsboro	OR
		CPO 15	PO Box 330	Cornelius	OR
		LMP LLC	163 SW Freeman Avenue, Suite B	Hillsboro	OR
		CPO 5	14880 SW Lowel Lane	Sherwood	OR
		CPO 10	12640 SW Clark Hill Road	Hillsboro	OR
Terence & Sidney	Achurch		1768 NE 65th Avenue	Hillsboro	OR
Jaime	Adams		7365 SW 187th Place	Beaverton	OR
Brian	Addington		11709 Potomac Crossing Way, #23	Fairfax	VA
Donna	Ainslie		1020 S. Webb Road	Cornelius	OR
John	Aleskus		13815 NW Milburn Street	Portland	OR
Dan	Alexander		6470 NW Dingo Drive	Portland	OR
Matt	Alford		39360 SW Laurelwood Road	Gaston	OR
Candace	Allison		16395 SW 319th Place	Hillsboro	OR
Steve	Anderson		16200 SW Division	Beaverton	OR
Deborah	Anderson		11045 SW Tualatin Road	Tualatin	OR
Bruce	Anderson		11205 SW Gaarde Street	Tigard	OR

David & Karen	Anicker		PO Box 1277	North Plains	OR
Yvonne	Arnoldi		47155 NW Strohmayer Road	Forest Grove	OR
Dianne	Arnsten		7694 SW Aldrich Court	Beaverton	OR
Joseph	Bailey		1015 Pearl Street	Eugene	OR
Robert	Bailey		7455 NW Helvetia Road	Hillsboro	OR
John	Baker		18311 SW Handley Street	Sherwood	OR
Ronald	Barbee		12240 SW Whistlers Lane	Tigard	OR
Michele	Barber		4535 NW Glencoe Road	Hillsboro	OR
Cynthia	Barber		15901 SW Tuscany Street	Tigard	OR
Gertrude	Barnard		14260 SW Tonquin Road	Sherwood	OR
Margot	Barnett	OSU Extension Office	18640 NW Walker Road, Suite 1400	Beaverton	OR
Karen	Barton		13988 NW Greenwood Drive	Portland	OR
Michael	Basile		PO Box 394	North Plains	OR
Lindsay	Baska		PO Box 231	Vernonia	OR
Judith	Batchelor		761 NE Jackson School Road	Hillsboro	OR
Meg	Bateman		52490 NW Old Wilson River Road	Gales Creek	OR
Deborah	Bauders		1124 33rd Avenue	Forest Grove	OR
Sharka	Becvar		8889 SW Becker Drive	Portland	OR
Brian	Beinlich		PO Box 1417	North Plains	OR
Janice	Bentley		7273 SW Winters Road	Cornelius	OR
Robert	Beranek		1457 26th Avenue	San Francisco	CA
Ralph	Bergerson		2300 Masonic Way, #123	Forest Grove	OR
John	Berkey		15446 NW Graf Street	Portland	OR
Jeff	Berkowitz		3857 SE Bentley Street	Hillsboro	OR
Bonnie	Berneck		6655 SW 90th Avenue	Portland	OR
David	Blackorby		12700 Trigger Drive	Beaverton	OR
Dahrwynn	Blakemore		PO Box 113	Beaverton	OR
I.D.	Blume		1600 Ala Moana Blvd. #1912	Honolulu	HI
Roger	Bolmeir		18240 NW Collins Road	North Plains	OR
John	Boyd		4432 SW Fern Hill Road	Forest Grove	OR
Rich	Boyer		15475 NW Pumpkin Ridge Road	North Plains	OR
Richard	Brinkman		940 SW Huntington Avenue	Portland	OR
William	Brock		24526 Heavenly Court	West Hills	CA
Jane & James	Brown		3410 Grant Street	Eugene	OR
Lyle & Dianne	Brune		47980 SW Fluke Drive	Gaston	OR
Harry	Budke		32803 SW Riedweg Road	Cornelius	OR
Robert	Bullard		1280 N Adair Street	Cornelius	OR

Brenda	Buratti		23240 NW Meier Road	Hillsboro	OR
Stephanie	Burchfield		9495 SW Taylor Street	Portland	OR
Matthew	Burns		17873 SW Pars Place	Aloha	OR
James	Burns		5840 NW Sewell Road	Hillsboro	OR
Kay	Butler		245 SW 149th Avenue	Aloha	OR
Mike & Kate	Byrnes		5430 SW Ames Way	Portland	OR
Don	Callender		6145 SW 205th Avenue	Beaverton	OR
Jennifer	Cameron		PO Box 36	Silverton	OR
James	Cannon		5410 NW 196th Place	Portland	OR
Christina	Cappola		808 NW Wheelock Place	Beaverton	OR
Debra	Carlson		33640 SW Firdale Road	Cornelius	OR
Nita	Carr		18701 SW Kemmer	Beaverton	OR
Paul	Casavant		1809 SW 16th Street #5	Redmond	OR
Koni	Cash		4900 SW Griffith Drive, Suite 133	Beaverton	OR
Marjorie	Cate		41070 SW Laurelwood Road	Gaston	OR
James	Cayton		17890 SW Elsner Road	Sherwood	OR
Lindle	Celaya		6000 West Sunshine Lane	Marana	AZ
M.K.	Chamberlain		55575 SW Cherry Grove Drive	Gaston	OR
Eleanora	Chambers		2901 South Bayshore Drive	Coconut Grove	FL
Ron	Chan		6675 SW Wisteria Court	Beaverton	OR
Brandy	Chastain		30881 SW Bald Peak Road	Hillsboro	OR
Chung	Chi Lee		8440 SW Connemara Place	Beaverton	OR
Lorraine	Chittenden		10960 SW Meadowbrook Drive	Tigard	OR
Ken	Chuck		14989 SW Hillsboro Highway	Hillsboro	OR
Don & Ardith	Claeys		19813 NW Metolius Drive	Portland	OR
Jerry	Clancy		10326 SW 85th Avenue	Tigard	OR
Madeleine	Clancy		21855 SW Eastview Road	Sherwood	OR
Brian	Clare		12177 NW Blackhawk Drive	Portland	OR
Kim	Clark	Aloha Villa	3005 NW Cumberland Road	Portland	OR
Wesley	Clark		11165 SW Morgen Court	Tigard	OR
Claudia	Cloud		11285 SW Walnut Street	Tigard	OR
G.	Corsaro		17639 SW Middlesex Way	Beaverton	OR
Cindy	Cosenzo		3791 NE Brogden Street	Hillsboro	OR
Denora & Elwood	Coslett		33200 SW Bald Peak Road	Hillsboro	OR
Carolyn	Cotton		PO Box 1841	Beaverton	OR
Mary	Coucher		28001 NW Dorland Road	North Plains	OR
Helen	Cowan		7803 SE 27th Street #D501	Mercer Island	WA

Christopher	Cowell		1771 NW 143rd Acenue #34	Portland	OR
Carrie	Craft		3668 SW Anderson Road	Dilley	OR
Rex & Mary	Cray		23850 SW Delanois Place	Sherwood	OR
Agnes	Crocker		4306 SW Spratt Way #217	Beaverton	OR
Moe	Dajani		13610 SW Uplands Drive	Tigard	OR
Bennie	Daly		15596 SW Midway Road	Hillsboro	OR
Sharon	Daniels-Kyle		20821 NW Timber Road	Forest Grove	OR
Robert	Davidson		45535 NW Levi White Road	Banks	OR
Diane	Davis		PO Box 2740	Hillsboro	OR
PC	Delplanche		9095 SW Line Drive	Cornelius	OR
David	Demert		PO Box 1755	Lake Oswego	OR
Fran	Denley		6920 SW Ellingseu Road	Tualatin	OR
Patrick	Dignan		7117 SW Hunt Club Lane	Portland	OR
LaRoy	Dohn		5760 NW Toketee Drive	Portland	OR
Michael	Donovan		8080 SW Larch Street	Tigard	OR
Carole	Douglass		27745 NW Truitt Road	North Plains	OR
Karen	Downs		19220 SW Haide Road	Sherwood	OR
Kevin	Dressel		15455 SW Finis Lane	Tigard	OR
Timothy	Dressel		6706 234th Place	Mount Lake Terrace	WA
Inara	Drougas		5585 NW Tamarron Place	Portland	OR
Renee	DuBois		36505 SW Southwind Drive	Hillsboro	OR
Minh	Duong		4660 SW 170th	Aloha	OR
Cheryl	Edwards		21295 SW Mountain Home Road	Sherwood	OR
Dave & Vergene	Eischen		38660 SW Eischen Drive	Cornelius	OR
Stephen	Emory		20295 SW Hillsboro Highway	Newberg	OR
Michael	Ensign		PO Box 1653	Aptos	CA
Kathryn	Evers		13587 NW Logie Trail	Hillsboro	OR
Joanne	Fairchild		11080 SW Tonquin Loop	Sherwood	OR
Jan	Fancher		PO Box 66028	Vancouver	WA
Dale	Feik		3363 Lavina Drive	Forest Grove	OR
Darrell	Fincher		8213 SW Lori Way	Beaverton	OR
Elizabeth	Fischer		15500 SW Farmington Road	Beaverton	OR
Ruth	Fisher		13940 NW Burton	Portland	OR
Gerald	Fisher Sr.		840 SW Cornelius Pass Road	Hillsboro	OR
Bruce	Fitzwater Trust		PO Box 23623	Portland	OR
Michael	Fleming		1230 N Sweetzer Avenue #301	West Hollywood	CA
Bradford	Fletcher		01537 SW Comus Street	Portland	OR



Dierdre	Forbes		9801 SW Spring Crest Drive	Portland	OR
Joseph & Sharon	Foye		8025 SW Iowa Hill Road	Cornelius	OR
Susan	Frahler		19550 SW Kruger Road	Sherwood	OR
Ernest	France		10645 NW Lost Park Drive	Portland	OR
Jane	Frederick		13622 SW Pleasant Valley Road	Beaverton	OR
Jan	Fredrickson		6995 SW 78th Avenue	Portland	OR
Keith	Frutiger		2664 SW Lupine Court	Hillsboro	OR
Melvin	Frye		15260 SW Jaylee Street	Beaverton	OR
Bill	Funk		19850 SW Gassner Road	Beaverton	OR
Carolyn	Ganger		1640 SW 325th Avenue	Hillsboro	OR
Liles	Garcia		20215 SW Carlin Blvd.	Aloha	OR
Audrey	Garmire		10677 Franks Road	Huntingdon	PA
Paul	Gates		37245 SW Nature Drive	Cornelius	OR
Howard	Gentzkow		PO Box 26	Banks	OR
Martha	Gerity		8620 SW 80th Avenue	Portland	OR
Ethel	Gerlach		20877 SW Kruger Road	Sherwood	OR
Bill	Gilchrist		10497 SW 175th Avenue	Beaverton	OR
Colleen	Gildersleeve		14750 SW Spring Hill Road	Gaston	OR
Paul & Doreen	Gilliam		6905 SW King Blvd.	Beaverton	OR
Pamela	Glanz		1130 SE 37th Avenue	Hillsboro	OR
Anita	Goetz		PO Box 154	Kaaawa	HI
Dean	Goodding		PO Box 998	Sherwood	OR
M. Dennis	Goode		14970 Bull Mountain Road	Tigard	OR
Bob	Goodrich		22033 NW Sellers Road	Banks	OR
Monique	Goulet		20440 SW Rosa Drive	Aloha	OR
Douglas	Graf		16400 NW Springville Road	Portland	OR
Frederick & Lindamae	Grael		21946 NW Pihl Road	Banks	OR
Linda	Gray	OSU Extension Office	18640 NW Walker Road, Suite 1400	Beaverton	OR
Alan	Green		8920 SW Rosewood Way	Portland	OR
Jan	Grumbling	Corrine Heights HOA	9682 SW Whispering Fir Drive	Beaverton	OR
Robert	Gustafson		10265 NW Kansas City Road	Forest Grove	OR
Robert	Hall		21370 SW Eastview Road	Sherwood	OR
LaWanda	Hallam		16357 SW 126th Terrace	Tigard	OR
Darleen	Hansen		1860 Willamina Avenue	Forest Grove	OR
John	Harrison		14703 NW Killin Road	Banks	OR
Harold	Hartfeil		16575 S Hattan Road	Oregon City	OR
Steven	Haugen	Pioneer Veterinary Services	33845 SW Tualatin Valley Highway	Hillsboro	OR

Edward	Hedemann		13620 SW Beef Bend Road #21	Tigard	OR
Donna	Heppell		13700 SW 114th Avenue	Tigard	OR
Rebecca	Hervey		16227 NW Fescue Court	Portland	OR
H. Wesley	Herwick		12670 NW Filbert Street	Portland	OR
Wanda	Hess		PO Box 896	North Plains	OR
Carl	Hickerson		9061 E Carol Way	Scottsdale	AZ
Bryan	Hill		1170 NE 64th Lane #1204	Hillsboro	OR
Alice	Hinds		3485 SW 91st Avenue	Portland	OR
Herb	Hirst		PO Box 220	North Plains	OR
Marcia	Hobart		2030 Elm Street #430	Forest Grove	OR
Ron	Hochstein		38100 SW Gnos Road	Cornelius	OR
Janet & Richard	Hogue		16600 NW Joscelyn Street	Beaverton	OR
Jeff	Holmes		PO Box 295	Banks	OR
Veta	Holscher		PO Box 3112	Hillsboro	OR
Russell	Homewood		200 SW 88th Avenue	Portland	OR
Kari	Honbaum		14160 SW Fern Street	Tigard	OR
John	Hooson		16735 NW Mission Oaks Drive	Beaverton	OR
Bob	Horning		21277 NW Brunswick Canyon Road	North Plains	OR
Mr. & Mrs. Frederick	Hostettler		8891 SW Hillsboro Highway	Hillsboro	OR
Paul & Joanie	Huculak		14682 NW Vance Drive	Portland	OR
Jennifer	Hulse		11401 SW 107th Place	Tigard	OR
Ann	Humberston		6050 SW Old Scholls Ferry Road	Portland	OR
Edward	Hunziker		14822 NW Logie Trail	Hillsboro	OR
Crowin	Hymes		7490 NW 212th Place	Hillsboro	OR
Carter	Ingle		12765 SW Evergreen Street	Beaverton	OR
Francisco	Irlandez		16192 SW Cooper Lane	Tigard	OR
Faiza	Jama		3688 NW Poehler Terrace	Portland	OR
Darwin	Jansen		PO Box 151	Banks	OR
Lorenzo	Jaquez		20015 SW Farmington Road	Beaverton	OR
Burl	Jarrell		1900 NW Creekwood Place	Forest Grove	OR
Marilyn	Jasman		PO Box 166	Woodland	WA
David	Jay		16215 SW 319th Place	Hillsboro	OR
Tom & Mary	Jazwinski		30295 NW Evergreen Road	Hillsboro	OR
David	Jeans		17616 SW 192nd	Sherwood	OR
Mr & Mrs.	Jenkins		14225 NW Pioneer Road	Beaverton	OR
Margaret	Jensen		5470 SW Murray Blvd.	Beaverton	OR
Dorothy	Jensen		20260 SW Military Lane	Beaverton	OR

Catherine	Jette		17942 NW Andria Avenue	Portland	OR
Shelly	Johansen		57705 NW Johansen Lane	Gales Creek	OR
Alex	Johnson		3125 SW 82nd Avenue	Portland	OR
Clara	Johnson		PO Box 331	Forest Grove	OR
Linda	Jones		10700 NW Valley Vista Road	Hillsboro	OR
Shelley	Jones		13820 NW McLain Way	Portland	OR
Marilyn	Jones		5885 SW 152nd Avenue	Beaverton	OR
Donald	Jones		5190 NW Neakahnne Avenue, #18	Portland	OR
Bob	Jossy		31965 NW Beach Road	Hillsboro	OR
David	Jurasek		40607 NW Monarch Lane	Banks	OR
Sun	Kang		16293 NW Somerset Drive	Beaverton	OR
Richard	Kasper		570 10th Avenue, Space 103	Cornelius	OR
Margaret	Kehrli		9885 SW 170th Avenue	Beaverton	OR
John	Keith		6661 SW 229th Avenue	Beaverton	OR
Carol	Kelley		8644 SW Fairridge Way	Portland	OR
Donald & Hannelore	Kenner		24040 SW Durdal Drive	Sherwood	OR
Linda	Kepford	Rice Northwest Museum of Rocks & Minerals	26385 NW Groveland Drive	Hillsboro	OR
James	Kepner		15338 NW Aberdeen Drive	Portland	OR
Clara	Kielhorn		24970 SW Garden Acres	Sherwood	OR
Stewart	King		PO Box 1007	North Plains	OR
Linda	Kitchin		2465 NW 145th Avenue	Beaverton	OR
Richard	Kline		7487 SW Daisy Drive	Beaverton	OR
Cecelia	Klinkenberg		6133 SE Maple Street	Hillsboro	OR
John & Nina	Knight		48285 SW Morel Lane	Forest Grove	OR
Richard & Adela	Knight		15218 SW Pleasant Valley Road	Beaverton	OR
Lou Ella	Knight		5719 NW 205th Terrace	Portland	OR
Stan	Korinek		9700 SW Eagle Court	Beaverton	OR
Kenneth	Korngiebel		12096 NW Welsh Drive	Portland	OR
Paul & Kimla	Koziuk		23295 SW Mountain Home Road	Sherwood	OR
Thomas	Krause		3476 NW 313th Avenue	Hillsboro	OR
Mary	Krehbiel		125 NW 114th Avenue	Portland	OR
Kurt	Kreitzer		9805 SW Day Street	Sherwood	OR
Reta	Labrousse		25666 SW Labrousse Road	Sherwood	OR
Robert	LaDeRoure		PO Box 773	Hillsboro	OR
Virginia	Lang		10730 SW 85th Avenue	Portland	OR
Sue	Lanthrum		4875 SW 78th Avenue, #141	Portland	OR

Matthew	Larrabee		10961 NW Crystal Creek Lane	Portland	OR
Wayne	Law		14985 NW Logie Trail Road	Hillsboro	OR
Pat	Leach		1575 SE Brookwood Avenue	Hillsboro	OR
Rick	Lesniak		15125 SW Ashley Drive	Tigard	OR
Dwayne	Lott		4520 SW 198th Avenue	Aloha	OR
Ann	Lozo		2750 NW Monte Vista Terrace	Portland	OR
Diana	Ludlam		32 W 40th Street, #4-G	New York	NY
Sharlene	Ludwig		6475 SW 90th Avenue	Portland	OR
Kay	Mabry		20120 SW Scholls Ferry Road	Beaverton	OR
Adella	Macdonald		2150 Masonic Way	Forest Grove	OR
Clarann	Macherione		7627 SW Greenwood Drive	Portland	OR
Paul	Maduell		11005 SW Polsky Road	Beaverton	OR
Harold	Magnuson		29640 SW Enschede Drive	Hillsboro	OR
John & Pamela	Maher		718 Lacy Lane	Las Vegas	NV
Peter	Malen		1310 SW 181st Avenue	Beaverton	OR
Mary	Manseau		5230 NW 137th Avenue	Portland	OR
Patricia	Marco		9875 NW 316th Place	Hillsboro	OR
Sterling	Marsh		14090 SW 80th Court	Portland	OR
Bennie	Martin		17780 SW Washington Drive	Aloha	OR
Kathy & James	Mattern		10500 NW Greenview Lane	Portland	OR
Fred	Matthias		14853 SW Roy Rogers Road	Sherwood	OR
Michael & Anita	McCleskey		15590 SW April Lane	Tigard	OR
Don	McCoun		26321 SW VanderSchuere Road	Hillsboro	OR
Jeff	McKie		PO Box 91023	Portland	OR
Alan	McRobert		15030 167th Court NE	Woodinville	WA
Kathleen	Mead		15050 NW Gerrish Road	North Plains	OR
Franklin	Middleton		13790 SW Far Vista Street	Beaverton	OR
Phyllis	Middleton		1301 S 3rd Avenue, #12D	Sequim	WA
Richard	Miller		19885 SW Cappoen Road	Sherwood	OR
James	Milward		4745 SW 173rd Avenue	Aloha	OR
Don	Miner		PO Box 129	Sherwood	OR
Lara	Minor		16360 SW Hoops Court	Tigard	OR
Jake	Mintz		9849 SW Spring Crest Drive	Portland	OR
Virginia	Mitchell		7605 W Miller Hill Road	Beaverton	OR
Vern	Mock		24100 W Baseline Road	Hillsboro	OR
Sandra	Morehouse		174 NE 7th Avenue	Hillsboro	OR
Priscilla	Morehouse		7855 SW Willowmere Drive	Portland	OR

Allen & Claire	Morgan		16564 NW Vetter Drive	Portland	OR
John & Susan	Morrell		11715 NW Jericho Road	Portland	OR
Irene	Morris		8705 SW Barnes Road	Portland	OR
Michael	Moscarelli		1130 NW 91st Avenue	Portland	OR
Martha	Moyer		16638 NW Graf Street	Portland	OR
Ken	Moyle		24825 SW Daniel Road	Beaverton	OR
David	Muralt		7546 SW Joshua Place	Gaston	OR
Nancy	Myers		9855 SW Morrison Street	Portland	OR
John & Theresa	Nakai		6582 Corrine Circle	Huntington Beach	CA
Gwynneth	Neace		7800 NW 212th Place	Hillsboro	OR
Jean	Neufeld		78365 Highway 111, PMB#317	La Quinta	CA
Vu Anh	Nguyen		16163 NW Audrey Drive	Beaverton	OR
Daniel	Nichols		5050 NW 180th Terrace	Portland	OR
Edwin	Nutbrown		14365 SW Walton Street	Beaverton	OR
Lee	O'Banion		56145 NW Old Wilson River Road	Gales Creek	OR
Frankie	O'Connell		965 SW Murray Blvd.	Beaverton	OR
Patricia	Ogden		10715 SW Muirwood Drive	Portland	OR
Corrine	Oishi		3865 NW Gales Creek Road	Forest Grove	OR
John	Oleson		PO Box 203	Glenden Beach	OR
Debbie	Olson		13310 NW Jackson School Road	North Plains	OR
Wayne & Lillian	Ooley		3027 Raymond Street	Forest Grove	OR
Jack	Orchard		12878 NW Hartford Street	Portland	OR
Verlena	Orr		1907 NW Hoyt Street	Portland	OR
Thomas & Ingrid	Palm		18700 SW Hart Road	Beaverton	OR
Art & Barbara	Palmer		22755 SW Hillsboro Highway	Newberg	OR
John	Pangborn		23805 NW Dierdorff	Hillsboro	OR
Andrea	Pavlatos		3300 NW 185th, #135	Portland	OR
E.M.	Pearlman		PO Box 297	North Plains	OR
Pamela	Pederson		9090 SW Coral Street	Tigard	OR
Tim	Perri		4975 SW 65th Avenue	Portland	OR
Scott	Picker		PO Box 418	Newberg	OR
Dean	Pilkington		100 SW 195th Avenue, #120	Beaverton	OR
Ted	Pinkert		PO Box 310	Hillsboro	OR
James	Pointer, Jr.		8755 NW Irving Street	Portland	OR
Joyce	Poppert		11515 SW Hazel Brook Road	Tualatin	OR
Bruce	Powell		17770 SW Neugebauer Road	Hillsboro	OR
William	Powell		18240 SW Horse Tale Drive	Beaverton	OR

Dave & Claudia	Pratt		20825 NW Old Pass Road	Hillsboro	OR
David	Prentice		192 Augusta Circle	Waverly	IA
Norman	Preston		Box 20	Brookside	NJ
Molly	Prideaux		24305 SW Boones Ferry Road	Tualatin	OR
Craig	Prunty		19785 SW Cipole Road	Sherwood	OR
George	Pubanz		10627 NW 195th Avenue	Hillsboro	OR
David	Rabin		1595 NW 102nd Avenue	Portland	OR
Lisa	Ramsey		16430 SW Newport Place	Beaverton	OR
John	Ransom		16429 SW Leeding Lane	Tigard	OR
Patricia	Rehm		10695 NW Valley Vista Road	Hillsboro	OR
George	Reinheimer		4182 NW Gleneagles Place	Portland	OR
Barbara	Remington		6640 NW Marsh Road	Forest Grove	OR
John	Resko		1787 SE Brookwood Avenue	Hillsboro	OR
Peter	Reynolds		17092 NW Pumpkin Ridge Road	North Plains	OR
John	Richards		PO Box 4017	Beaverton	OR
Frank	Richardson		15055 Waseca Lane	Apple Valley	CA
Scott	Rickard		13890 SW Bull Mountain Road	Tigard	OR
Ed & Gale	Ritz		2095 SW Wynwood Avenue	Portland	OR
Layne & Julie	Rockford		17110 SW Watercrest Court	Beaverton	OR
Patrick	Rockford		28630 SW Burkhalter Road	Hillsboro	OR
Lee	Rockford		12885 SW Foothill Drive	Portland	OR
Leeanne	Rose		PO Box 1012	Cornelius	OR
Clarence	Rose		30101 SW Gravle Road	Hillsboro	OR
Gerritt	Rosenthal		7205 SW Norwood	Tualatin	OR
Lisa	Roskopf		51920 SW Dundee Road	Gaston	OR
Gary	Ross		11455 NW McDaniel Road	Portland	OR
Teresa	Ross		4900 SW 229th Avenue	Beaverton	OR
Robert	Ruedy		14185 SW 100th Avenue	Tigard	OR
Susan	Russell		10025 SW Allen Blvd.	Beaverton	OR
Robert	Sabbe		19803 SW Roy Rogers Road	Sherwood	OR
Deanna	Salisbury		44232 NW Breezy Lane	Forest Grove	OR
Joseph	Salta, Jr.		21180 SW Johnson Street	Aloha	OR
Marc	San Soucie		17970 NW Rapid Street	Beaverton	OR
Mrs. Teruko	Sato		9724 SE Reedway Street	Portland	OR
Patricia	Sawyer		2804 NE 40th Avenue	Portland	OR
Scott	Sayler		13317 SW Devonshire Drive	Beaverton	OR
Ronald	Schaefer, Sr.		22688 SW Kruger Road	Sherwood	OR

Stan	Schell		10001 SW 175th Avenue	Beaverton	OR
Leonard	Schiler		11800 NW Vaughn Court	Portland	OR
Donald	Schoen		7380 NW Groveland Road	Hillsboro	OR
Sally	Scholl-Brandes		16790 SW 113th Avenue	Tigard	OR
Linda	Schroeder		155 N. First Avenue, 350-14	Hillsboro	OR
Steve	Schultheis		17381 SW Kemmer Road	Beaverton	OR
Barbara	Schulties		4905 NW Kahneeta Drive	Portland	OR
Philip	Schwyhart		12720 SW Havencrest Street	Portland	OR
Gordon	Scott		PO Box 2594	Tualatin	OR
Eugene	Scratcher		60945 NW Agaard Road	Forest Grove	OR
Randy	Scurr		40967 SW Dixon Mill Road	Gaston	OR
Carl	Seaton		12303 NW Timmerman Road	Forest Grove	OR
Michael & Sue Anne	Seckova		2750 SW 325th Avenue	Hillsboro	OR
Robert	Selberg		5218 SW 229th Avenue	Beaverton	OR
Sheryl	Selee		671 Moonbeam Way	Turlock	CA
Barbara	Sem		2225 SW Filmont Avenue	Portland	OR
Thomas	Sheridan		17780 SW 111th Avenue	Tualatin	OR
Roger	Sherman		8555 SW Garden Lane	Portland	OR
Carolyn	Shonk		3520 SW 108th Avenue	Beaverton	OR
Larry	Shuman		7655 SW Millerglen Drive	Beaverton	OR
Jean	Simson		22466 SW Nottingham Court	Sherwood	OR
James	Singer		PO Box 1413	Sherwood	OR
Mary	Sipprell		PO Box 1383	Silverton	OR
James	Skidmore		7782 SW Landau Street	Tigard	OR
Craig	Smelter		PO Box 1609	Sherwood	OR
Jeanene	Smith		9060 SW Sunstead Lane	Portland	OR
Wayne	Smith		13740 SW Willow Top Lane	Portland	OR
Richard	Smith		47500 NW Strohmayer Road	Forest Grove	OR
Sunho	So		17022 SW Tookbank Court	Portland	OR
Nancy	Southard		21788 SW Mountain Home Road	Sherwood	OR
Patricia	Sperline		23945 SW Mountain Creek Road	Sherwood	OR
Kerrie	Standler		15399 SW Burgundy Street	Portland	OR
Rhiana	Stapelmann		5829 NE Farnham Street	Hillsboro	OR
Ana	Stapp		1900 NE 3rd Street, Suite 106-183	Bend	OR
Lori	Stargrove		25665 SW Wolsborn Avenue	Hillsboro	OR
Betty	Stark		12405 SW River Road	Hillsboro	OR
Lynn	Starkman		7447 SW Herbert Road	Cornelius	OR

Gary	Stephens		15120 SW 141st Avenue	Tigard	OR
Michael	Stephenson		22855 SW Noble Street	Beaverton	OR
Norm	Stern		PO Box 705	Forest Grove	OR
Bob	Stillson		13865 SW Parmele Road	Gaston	OR
Leianne	Stinton		20280 SW Seiffert Road	Sherwood	OR
Jathan	Stitch		5150 SW 180th Avenue	Beaverton	OR
John	Stott		10800 SW Berkshire Steet	Portland	OR
Tom	Stringfield		2160 NW 107th Place	Portland	OR
Jon & Barbara	Stroud		7410 SW 76th Avenue	Portland	OR
Les	Sturgis		5495 SE Davis Court	Hillsboro	OR
Millie	Susnjara		7780 SW Cedar Street	Portland	OR
Verona	Swain		3949 NW Murtaugh Road	North Plains	OR
Sally	Swope		2085 NW 11th Avenue	Portland	OR
Craig	Thiry		17226 SW Merlo Road	Beaverton	OR
Cindy	Thomas		16811 NW Avondale Drive	Beaverton	OR
Eric	Thompson		9891 SW Spring Crest Drive	Portland	OR
Tygh	Thompson		PO Box 2612	Hillsboro	OR
Suzanne	Thompson		19585 SW Cascadia Street	Aloha	OR
Richard	Tkacyk		9620 SW Barber Blvd.	Portland	OR
David & Elaine	Todd		20050 SW Quailrun Lane	Sherwood	OR
Kristin	Tomson		11775 SW 12th Street	Beaverton	OR
Janet	Treverton		19395 SW Rosedale Court	Aloha	OR
Tien	Trinh		6265 SW Timberland Place	Beaverton	OR
Tsuru	Tuenge		30336 SW Egger Road	Hillsboro	OR
John	Turner		PO Box 728	Banks	OR
Miklos	Ugrai		2705 NW 111th Avenue	Portland	OR
Gerald	Upchurch		14992 SW Roy Rogers Road	Sherwood	OR
Pamela	Valley		3438 SE Radcliff Court	Hillsboro	OR
Pat	Van Dyke		11370 SW Berkshire Street	Portland	OR
Derrick	Van Hoeter		17075 NW Somerset Drive	Beaverton	OR
Tom & Shannon	Van Loo		26735 NW Meek Road	Hillsboro	OR
Elmer	Vanloo		55920 NW Wilson River Highway	Gales Creek	OR
Marianne	VanThillo		29762 Preston Drive	Laguna Niguel	CA
Paul	Vargo		125 NW 139th Avenue	Portland	OR
Thomas	Vincent		23870 SW Pacific Highway	Sherwood	OR
Marilyn	Wagoner		17765 SW Cooper Mountain Lane	Beaverton	OR
Louise	Waitt		9601 NW Leahy Road #201	Portland	OR



Lewis	Walker		24100 SW Rosa Road	Hillsboro	OR
Erin	Wardell		14480 SW Downing Street	Beaverton	OR
Richard	Watson		17165 NW Country Ridge Drive	Portland	OR
Jay	Weil		PO Box 28	Hillsboro	OR
Karen	Weinbender		10061 NW Valley Vista Road	Hillsboro	OR
Juliana	Wellman		PO Box 1965	Lake Oswego	OR
Bob	Welton		40250 NW Bledsoe Creek Lane	Banks	OR
Scott	Wenzel		11520 SW Grabhorn Road	Beaverton	OR
Mike & Sherrie	White		18065 NW Pumpkin Ridge Road	North Plains	OR
Richard	White		2542 NW Willamina Avenue	Forest Grove	OR
Mardy	Widman		555 NW 114th Avenue	Portland	OR
M.	Wiesel		PO Box 872	Newberg	OR
LeGrande	Williams		1280 NE Davis Court	Hillsboro	OR
Marshall	Wills		4642 NW Tumalo Court	Portland	OR
David	Wilson		24110 SW Mountain Creek Road	Sherwood	OR
Walt	Wittke		19820 SW Gassner Road	Beaverton	OR
Mike & Shannon	Wrench		4270 SW River Road	Hillsboro	OR
Dianne	Yake		30100 SW Easystreet Lane	Hillsboro	OR
Mark	Yarbrough		18008 NW Dixie Mountain Road	North Plains	OR
Jack	Yinger		607 Meadow View Road	Forest Grove	OR
Robert	Young		856 SE 62nd Avenue	Hillsboro	OR
Patricia	Zandonatti		9360 Reiser Lane SE	Stayton	OR
Barbara	Zellner		21340 SW Green Slope Road	Beaverton	OR
Betty	Zuelke		2030 Tanner Creek Lane	West Linn	OR
LB	Zurcher		79-295 N Sunset Ridge Drive	LaQuinta	CA
Robert	Zurcher		Box 126	Cornelius	OR



WASHINGTON COUNTY  
 DEPARTMENT OF LAND USE  
 AND TRANSPORTATION,  
 PLANNING DIVISION  
 155 NORTH FIRST AVENUE  
 HILLSBORO, OREGON 97124  
 (503) 846-3519

**SUBJECT: INDIVIDUAL ORDINANCE  
 NOTICE MAILING  
 2011-02 (A-Engrossed Ord 740)**

# AFFIDAVIT OF MAILING

STATE OF OREGON  
 COUNTY OF WASHINGTON

SS

**Gretchen Olson**, declares as follows:

That at all times herein mentioned, she was an employee of the County of Washington; that acting for the County on the **8th** day of **April, 2011**, she did on that date, mail the attached information to the parties so designated.

Attached is a list of the parties to whom the information was sent.

I, **Gretchen Olson**, being first duly sworn depose and say that I am the party in the foregoing statement and that the same is true.




Subscribed and sworn to before me this 2<sup>nd</sup> day of **May, 2011**.

  
 \_\_\_\_\_  
 Notary Public for Oregon



APPROVED AS TO FORM

  
 \_\_\_\_\_  
 County Counsel  
 for Washington County, Oregon

**AGENDA**

**WASHINGTON COUNTY BOARD OF COMMISSIONERS**

**Agenda Category:** Public Hearing – Third Reading and Third Public Hearing (All rural CPOs and CPOs 9, 12F, 12C, 4B, 5, & 6)  
Land Use & Transportation; County Counsel

**Agenda Title:** **PROPOSED A-ENGROSSED ORDINANCE NO. 740 – AN ORDINANCE AMENDING POLICY 29 OF THE RURAL/NATURAL RESOURCE PLAN TO MODIFY THE RURAL AND URBAN RESERVES MAP**

**Presented by:** Andrew Singelakis, Director; Dan Olsen, County Counsel

**SUMMARY:**

On March 29, 2011, the Board held its second public hearing on proposed Ordinance No. 740. After consideration of the testimony provided, the Board ordered engrossment of the ordinance to include the map amendments identified in the staff report prepared for the March 29th hearing. These amendments are identical to the changes that were made to the Reserves map in the Supplemental Intergovernmental Agreement adopted by the Board and Metro Council at the March 15, 2011 joint public hearing in Hillsboro. The map amendments are described as follows:

- North of Forest Grove: Change 28 acres east of Council Creek from Urban Reserve to Undesignated.
- North of Cornelius: Change approximately 360 acres in the southern portion of former Urban Reserve Area 71 to Undesignated; change 260 acres located in the northern portion of the former Urban Reserve Area to Rural Reserve.

(continued)

**DEPARTMENT'S REQUESTED ACTION:**

Read A-Engrossed Ordinance No. 740 by title only and conduct the public hearing. After taking public testimony, continue the hearing to April 26, 2011 to conduct the second engrossment hearing required by Chapter X of the County Charter.

**COUNTY ADMINISTRATOR'S RECOMMENDATION:**

I concur with the requested action.

100-601000

APPROVED WASHINGTON COUNTY  
 BOARD OF COMMISSIONERS  
 MINUTE ORDER # 11-80  
 DATE 4-19-11  
 BY Barbara Heitmanek  
CLERK OF THE BOARD

Agenda Item No.	<u>6.a.</u>
Date:	<u>04/19/11</u>

**PROPOSED A-ENGROSSED ORDINANCE NO. 740**

April 19, 2011

Page 2

- North of Highway 26: Change approximately 352 acres that are bounded on the west by Groveland Road, on the north by West Union Road, on the east by Helvetia Road and on the south by Highway 26 from Undesignated to Urban Reserve.
- Northwest of the intersection of 209th Avenue and Farmington Road: Change approximately 383 acres from Rural Reserve to Undesignated.

Proposed A-Engrossed Ordinance No. 740 is posted on the county's land use ordinance web page at the following link. The staff report will be available at the Clerk's desk and posted at this link prior to the hearing.

<http://www.co.washington.or.us/LUT/Divisions/LongRangePlanning/2011-land-use-ordinances.cfm>

Consistent with Board policy about public testimony, testimony about the ordinance is limited to 3 minutes for individuals and 12 minutes for a representative of a group.

S:\PLNG\WPSHARE\2011Ord\Ord740\_Reserves\Agendas\A-EngOrd 740\_BCC Agenda\_041911.doc



April 13, 2011

To: Washington County Board of Commissioners

From: Brent Curtis, Planning Manager *BC*  
Department of Land Use & Transportation

Subject: **PROPOSED A-ENGROSSED ORDINANCE NO. 740 AMENDING THE  
COMPREHENSIVE PLAN TO MODIFY THE RURAL AND URBAN  
RESERVES MAP**

**STAFF REPORT**

**For the April 19, 2011 Board of Commissioners Hearing**  
*(The public hearing will begin no sooner than 10:00 AM)*

**I. STAFF RECOMMENDATION**

Open the public hearing on A-Engrossed Ordinance No.740 and take testimony. At the conclusion of testimony, continue the hearing to April 26, 2011 at 6:30 PM for the second engrossment hearing consistent with the requirements of Chapter X of the County Charter.

**II. OVERVIEW**

Proposed A-Engrossed Ordinance No. 740 follows action by the Board to enter into a Supplemental Intergovernmental Agreement (IGA) with Metro concerning amendments to the Rural and Urban Reserves map adopted on June 15, 2010 through A-Engrossed Ordinance No. 733. On March 15, 2011, the Board and Metro Council conducted a joint public hearing intended to modify the Reserves map in response to an oral remand from the Land Conservation and Development Commission (LCDC). Upon conclusion of public testimony and subsequent deliberation by the individual bodies, the Council voted 6-1 and the Board voted 3-2 to adopt the Supplemental IGA and accept the changes to the map.

On March 29, 2011, the Board heard public testimony and considered map amendments to Ordinance No. 740 as filed. Upon completion of public testimony and deliberation, the Board voted to engross Ordinance No. 740 to incorporate the changes reflected on the Supplemental Reserves IGA map adopted by the Board and Metro Council on March 15, 2011.

**III. ANALYSIS**

As originally filed, Ordinance No. 740 proposed the following amendments to the county's adopted Rural and Urban Reserves map:

1. *North of Forest Grove*: Change 28 acres of Urban Reserve Area 7B on the east side of Council Creek from Urban Reserve to Undesignated.
2. *North of Cornelius*: Remove 430 acres of former Urban Reserve Area 7I west of NW Susbauer Road from Urban Reserve designation; change to Rural Reserve.
3. *North of Cornelius*: Remove 194 acres of former Urban Reserve Area 7I east of NW Susbauer Road from Urban Reserve designation; change to Undesignated.
4. *North of Highway 26*: Change 585 acres adjacent to Urban Reserve Area 8B (on the west side of NW Helvetia Road) from Undesignated to Urban Reserve.
5. *North of Highway 26*: Change 290 acres west of the area described in the preceding bullet item from Rural Reserve to Undesignated.

Proposed A-Engrossed Ordinance No. 740 amends the Rural and Urban Reserves map to reflect the IGA map amendments adopted March 15, 2011 by the county and Metro. The changes are shown on Exhibit 1 of A-Engrossed Ordinance 740.

- 1) *North of Forest Grove* – The 28 acres within Area 7B located east of Council Creek are changed from Urban Reserve to Undesignated. This area was unaffected by the engrossment of the ordinance.
- 2) *North of Cornelius* – The 360 acres in the southern portion of former Urban Reserve Area 7I are changed from Urban Reserve to Undesignated.
- 3) *North of Cornelius* – The 263 acres in the northern portion of former Urban Reserve Area 7I are changed from Urban Reserve to Rural Reserve.
- 4) *North of Highway 26* – The 352 acres bounded on the west by Groveland Road, on the north by West Union Road, on the east by Helvetia Road and Urban Reserve Area 8B, and on the south by Highway 26 are changed from Undesignated to Urban Reserve. This acreage is added to the existing 88 acres of Urban Reserve Area 8B, which was designated through A-Engrossed Ordinance No. 733.
- 5) *South of SW Rosedale Road* – The 383 acres located northwest of the intersection of SW 209th and SW Farmington Road are changed from Rural Reserve to Undesignated.

Except for those specific changes set forth above, the Reserves map and applicable policy provisions originally adopted by Ordinance No. 733 remain unchanged.

RECEIVED

APR 11 2011

WASHINGTON COUNTY  
BOARD OF COMMISSIONERS OFFICE

April 7, 2011

Attn: Bob Terry, + Board Members

Re: David Hill Urban growth reserve

We would like to have our property added to the new Urban reserve. It is just West of another property (Turnbull's) that is in the new urban reserve.

I was not notified, and did not know a new Urban Growth Reserve was being formed until someone gave us a copy of the article and map from the News Times when we returned from Arizona.

Enclosed is a copy of map with our property outlined in Red.

Map + tax lot # 1N423-01000 Acd # R771310

Address: 45635 NW Davids Hill Rd

If you need any more information or have questions please call me.

Thank you

Mary Jo Vandichey

16700 NW Crossman Pl

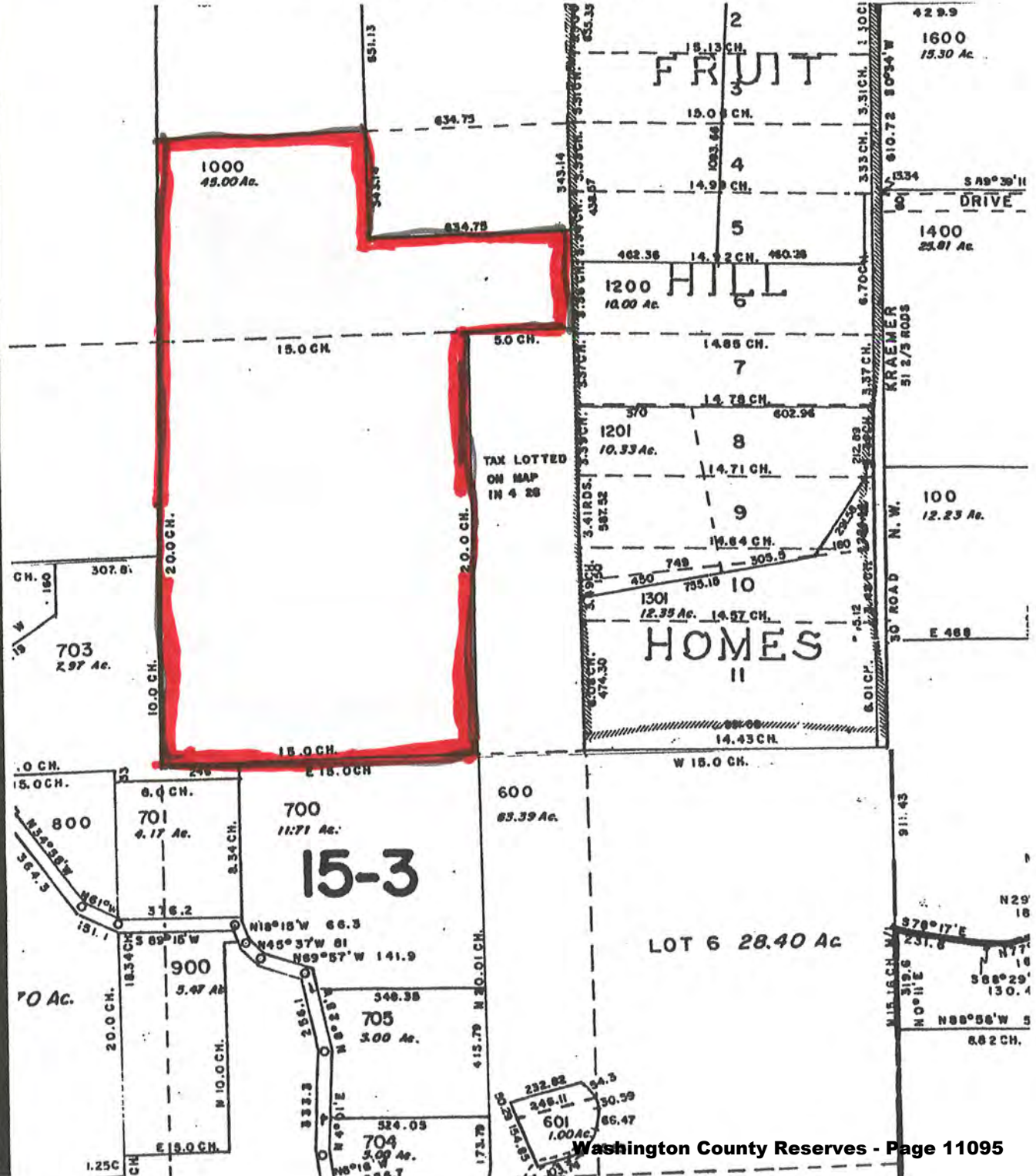
Banks Oregon 97106

ph: 503-324-9094

cell: 503-351-7220

# SECTION 23 T1 N R4W W.M.

WASHINGTON COUNTY OREGON





RECEIVED

APR 11 2011

1650 Northwest Susbauer Road  
Cornelius, Oregon 97113

April 10, 2011

WASHINGTON COUNTY  
BOARD OF COMMISSIONERS OFFICE

Washington County Board of Commissioners  
155 North First Avenue, Suite 300  
Hillsboro, Oregon 97124

Dear Chair Duyck and Members of the Commission:

My family, neighbors, and I object to the plan to have the land north of Council Creek in Cornelius be designated as an Urban Reserve. Nor do we want an "undesigned" label. Instead, we want the protection of a Rural Reserves designation.

We contend that Council Creek serves as an obvious, natural, beautiful boundary separating urban and rural populations. It makes no sense to extend the UGB beyond the creek, encroaching on valuable foundation farmland, potentially ruining the livability of the area.

These soils have been tested and found to be some of the richest in the state. The idea of paving over this fertile, historic farmland for industrial or commercial use is outrageous and a violation of common sense and decency!

The livability of the area would most certainly be ruined along with the beautiful vistas as acres of farmland are paved over for manufacturing plants, factories, and parking lots. Loss of farmland depletes natural resources and negatively affects the ecology of the area. Why would people choose to move to Cornelius without the draw of the charm afforded by the rural surroundings? Pave over farmland and it's gone forever. Gone is the chance for future generations to enjoy what it is to live the rural way of life. For what? To add to a city's tax revenue and pad developers' pockets? That's too high a cost and such an ill-conceived plan. And what of the loss of jobs associated with farming? Besides the farmers themselves, think of all the businesses that support them. There needs to be a balance. Right now, there is one. But crossing the creek, encroaching on valuable farmland takes away that balance.

Instead, we urge city planners to clean up and fully utilize property they already have zoned for development. Clean up the blight. Build up, not out. Urban sprawl must be stopped at Council Creek; another goal of land use planning is to use natural buffers wherever possible. Council Creek provides just that: an obvious, natural, beautiful boundary separating urban from rural ways of life.

Attached is a letter from Mayor Knight to Cornelius City Planner Richard Meyer, asking that my neighborhood, the area north of Council Creek and east of N.W. Susbauer Road, NOT be included in the UGB expansion as it would be "against the will of the people." Mr. Meyer agreed, as the letter shows. Another neighbor collected signatures west of Susbauer Road, while I revisited those east of the road. The attached petitions show that the vast majority of residents north of Council Creek are opposed to either an Urban Reserves designation or an undesigned

label. The petition reads as follows: “We, the undersigned, residents and/or property owners north of Council Creek in Cornelius urge the powers-that-be to protect valuable foundation farmland with a Rural Reserves designation, saving it from potential development for the next 50 years. We DO NOT want to be incorporated into the UGB, nor annexed by the city of Cornelius. We DO NOT want an Urban Reserves designation, nor do we want our land to be labeled as ‘undesignated.’ Farmland and the peaceful, eco-friendly way of ‘life in the country’ need to be preserved for future generations.” The mayor claims not to want to go against the will of the people, and the people most affected the residents north of Council Creek<sup>3/4</sup>have shown, by signing this petition, that it would be going against our will to expand the UGB beyond Council Creek.

We appreciate your support and hope you will protect and preserve the land north of Council Creek with a Rural Reserves designation. Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Melissa J. Jacobs" followed by a horizontal flourish.




Melissa J. Jacobsen, Friends of Council Creek  
Attachments

# Friends of Council Creek

We, the undersigned, residents and/or property owners north of Council Creek in Cornelius urge the powers-that-be to protect the valuable foundation farmland with a Rural Reserves designation, saving it from potential development for the next 50 years. We DO NOT want to be incorporated into the UGB, nor annexed by the city of Cornelius. We DO NOT want an Urban Reserves designation, nor do we want our land to be labeled as "undesigned." Farmland and the peaceful, eco-friendly way of "life in the country" needs to be preserved for future generations. Thank you for your support.

Signature	Address
1. Melissa J. Jacobsen	1650 N.W. Susbauer Rd., Cornelius, OR 97113
2. Mark J. Jurek	1650 NW SUSBAUER RD, CORNELIUS OR 97113
3. Phil Aguirre	1650 NW Susbauer Rd, Cornelius OR 97113
4. Emma L. Jacobsen	1650 NW Susbauer Road, Cornelius OR 97113
5. Sharon M Clay	1725 NW Hobbs Rd. Cornelius, Or. 97113
6. Donald L Clay	1725 NW Hobbs Rd Cornelius OR 97113
7. Joe Strasburg	1495 NW Hobbs Rd Cornelius OR 97113
8. R. McNulty	1710 NW HOBBS " " "
9. Peggy VanDerMoortele	1560 N.W. HOBBS RD CORNELIUS, OR 97113
10. LeVae D. Marshall	1560 NW Hobbs Rd Cornelius, OR 97113
11. Charles F. Kutilak	1675 N.W. HOBBS RD, CORNELIUS, OR, 97113
12. Paulette M. Dechleff	1450 NW Hobbs Rd Cornelius, OR 97113
13. Debra Severdine	1010 NW Hobbs Rd. Cornelius OR 97113
14. [Signature]	1010 NW Hobbs Rd Cornelius OR 97113
15. Cynthia Sirko	2200 NW SUSBAUER RD CORNELIUS, OR 97113
16. Pine Wolls	2200 N.W. SUSBAUER RD, CORNELIUS, OR 97113
17. Chuck [Signature]	2200 NW SUSBAUER RD CORNELIUS, OR 97113
18. Kathleen B. Tommy	1655 NW Hobbs Rd. Cornelius, OR 97113

We, the undersigned, residents and/or property owners north of Council Creek in Cornelius urge the powers-that-be to protect the valuable foundation farmland with a Rural Reserves designation, saving it from potential development for the next 50 years. We DO NOT want to be incorporated into the UGB, nor annexed by the city of Cornelius. We DO NOT want an Urban Reserves designation, nor do we want our land to be labeled as "undesignated." Farmland and the peaceful, eco-friendly way of "life in the country" needs to be preserved for future generations. Thank you for your support.

Signature	Address
19. 	1655 NW Hobbs Rd Cornelius
20. Dave True	1325 NW Hobbs Rd Cornelius
21. Tina True	1325 N.W. Hobbs Rd Cornelius
22. F. Alkayim	1290 NW Hobbs Rd Cornelius
23. 	1290 NW Hobbs Rd Cornelius
24. 	1785 NW Hobbs Rd Cornelius
25.	
26.	
27.	
28.	
29.	
30.	
31.	
32.	
33.	
34.	
35.	
36.	

We, the undersigned, residents and/or property owners north of Council Creek in Cornelius urge the powers-that-be to protect the valuable foundation farmland with a Rural Reserves designation, saving it from potential development for the next 50 years. We DO NOT want to be incorporated into the UGB, nor annexed by the city of Cornelius. We DO NOT want an Urban Reserves designation, nor do we want our land to be labeled as "undesigned." Farmland and the peaceful, eco-friendly way of "life in the country" needs to be preserved for future generations. Thank you for your support.

Signature	Address
1. <u>Lorraine Vanordenhagen</u>	<u>2865 NW Croft-Schefflin Cornelius, OR 97113</u>
2. <u>Michael Vandenberg</u>	<u>2785 NW C-Schefflin Cornelius OR 97113</u>
3. <u>Sandra Vanordenhagen</u>	<u>2785 NW Croft/Schefflin Rd Cornelius, OR 97113</u>
4. <u>Melissa Ackerman</u>	<u>2717 26<sup>th</sup> Avenue Forest Grove, OR 97116</u>
5. <u>Kenneth L. Mendenhall</u>	<u>35535 NW Long Rd. Cornelius, OR 97113</u>
6. <u>Margie Mendenhall</u>	<u>35535 NW Long Rd Cornelius OR 97113</u>
7. <u>Walter Vandenberg</u>	<u>36390 NW Long Rd. Cornelius, OR 97113</u>
8. <u>Marjorie Vandenberg</u>	<u>36390 NW Long Rd. Cornelius, OR 97113</u>
9. <u>David Vomey</u>	<u>36300 NW Long Rd. Cornelius, OR 97113</u>
10. <u>Tommy Vandenberg</u>	<u>36300 NW Long Rd Cornelius OR 97113</u>
11. <u>Janet E. Sims</u>	<u>36815 N-W Long Cornelius OR 97113</u>
12. <u>Paul J. Reed</u>	<u>37100 NW Long Rd Cornelius, OR 97113</u>
13. <u>Debra A. Dugick</u>	<u>2330 NW Cornelius-Schefflin Rd <sup>Cornelius OR</sup> 97113</u>
14. <u>Michael M. Dugick</u>	<u>2330 NW CORNELIUS Schefflin Rd 97113</u>
15. <u>Kirstine M. Dugick</u>	<u>2330 NW Cornelius Schefflin Rd 97113</u>
16. <u>Stephen D. Root</u>	<u>2270 NW Cornelius Schefflin Rd 97113</u>
17. <u>Janae King</u>	<u>3200 NW 366<sup>th</sup> Pl 97113</u>
18. <u>Ronda King</u>	<u>3200 NW 366<sup>th</sup> Pl 97113</u>

We, the undersigned, residents and/or property owners north of Council Creek in Cornelius urge the powers-that-be to protect the valuable foundation farmland with a Rural Reserves designation, saving it

from potential development for the next 50 years. We DO NOT want to be incorporated into the UGB, nor annexed by the city of Cornelius. We DO NOT want an Urban Reserves designation, nor do we want our land to be labeled as "undesignated." Farmland and the peaceful, eco-friendly way of "life in the country" needs to be preserved for future generations. Thank you for your support.

Signature

Address

19. Charles Remington 37085 NW Farmside Ln Cornelius, OR 97113
20. Becky J Remington 37085 NW Farmside Lane Cornelius, OR 97113
21. Juanita Dick 37140 NW Farmside Lane Cornelius 97113
22. Wayne M Dick 37140 Farmside Ln Cornelius 97113
23. Norma A Holte 37020 NW Farmside Ln, Cornelius, 97113
24. Jeff W Kennedy 3620 NW Cornelius Schoff Blvd Cornelius 97113
25. Andrew R. Lanthorn 36820 NW Long Rd Cornelius, OR 97113
26. Carolyn Lanthorn 36820 NW Long Road Cornelius OR 97113
27. Denise Duck 36600 NW Long Rd Cornelius OR 97113
28. Philip H. Duck 36600 NW LONG RD Cornelius 97113
29. \_\_\_\_\_
30. \_\_\_\_\_
31. \_\_\_\_\_
32. \_\_\_\_\_
33. \_\_\_\_\_
34. \_\_\_\_\_
35. \_\_\_\_\_
36. \_\_\_\_\_

We, the undersigned, residents and/or property owners north of Council Creek in Cornelius urge the powers-that-be to protect the valuable foundation farmland with a Rural Reserves designation, saving it from potential development for the next 50 years. We DO NOT want to be located near and/or incorporated into the UGB, nor annexed by the city of Cornelius. We DO NOT want an Urban Reserves designation for farmland north of Cornelius, nor do we want our land to be labeled as "undesignated." Farmland and the peaceful, eco-friendly way of "life in the country" needs to be preserved for future generations. Thank you for your support.

- | Signature                      | Address   |
|--------------------------------|---|
| 1. <i>Officia A. [unclear]</i> | 36495 NW Wren Rd. Cornelius, OR 97113           |
| 2. <i>William R Evans</i>      | 36495 N.W. Wren Rd. Cornelius                   |
| 3. <i>Annelle M Evans</i>      | 36495 NW Wren Rd, Cornelius                     |
| 4. <i>Mary Evans</i>           | 36495 NW Wren Rd, Cornelius, OR 97113           |
| 5. <i>Kathleen M Guenemann</i> | 37175 NW Farm side Ln Cornelius 97113           |
| 6. <i>Paul J Guenemann</i>     | 37175 NW FARMSIDE LN. CORNELIUS 97113           |
| 7. <i>[unclear]</i>            | 5160 NW Cornelius-Schefflin Rd Cornelius 97113  |
| 8. <i>[unclear]</i>            | 5160 NW Cornelius-Schefflin Rd Cornelius, OR    |
| 9. <i>[unclear]</i>            | 2995 NW Cornelius-Schefflin Rd Cornelius 97113  |
| 10. <i>[unclear]</i>           | 3000 Cornelius Schefflin Rd CORNELIUS, OR 97113 |
| 11. <i>[unclear]</i>           | 2995 NW Cornelius Schefflin Rd Corn. 97113      |
| 12. <i>Ethel J. Duyck</i>      | 2125 NW Cornelius Schefflin Rd Cornelius 97113  |
| 13.                            |   |
| 14.                            |   |
| 15.                            |   |
| 16.                            |   |
| 17.                            |   |
| 18.                            |   |

RECEIVED

APR 11 2011

April 10, 2011

WASHINGTON COUNTY  
BOARD OF COMMISSIONERS OFFICE

Washington County Board of Commissioners  
155 N 1<sup>st</sup> Avenue  
Hillsboro, OR 97123

Re: Metro Urban and Rural Reserves: Oppose Farmland Inclusion in Undesignated or Urban Reserves North of Council Creek, Cornelius

Dear Chair Duyck and Members of the Commission:

On October 29, 2010, LCDC orally remanded the Urban Reserve of farmland located north of Council Creek (Cornelius). Subsequently, the County Commission and Metro Council amended to include 350+ acres as Undesignated Reserves in Ordinance 740.

I feel the Reserves process has been one of "catering" or feeling "obligated" to the city of Cornelius for political and/or personal purposes. More than once during the public hearing process, city representatives reported that Cornelius has been "promised" this land. It is my feeling the Reserves process has already provided land for the city (Cornelius) to grow through prior Metro Reserve approval that identified Urban and Undesignated Reserve lands northeast, southeast and southwest of the city.

While my family has provided testimony at public hearings, I would like to share with you in my own words the concerns I have with the proposed Ordinance 740, and most specifically the inclusion of land north of Council Creek.

**As the owner of a 153 acre Grade-A dairy farm operated by our family since 1957 and located ¼ mile north of Council Creek, I write to oppose the inclusion of all farmland north of Council Creek into "Undesignated" or "Urban" Reserves.**

**Dairy farming is a 365 day a year business that is especially sensitive to nearby urbanization, more so than many other types of agriculture given the need to ensure the health and well-being of livestock, and subsequent food safety of our products. Dairy farming requires a major investment in immobile capital, and is highly regulated to meet the Oregon Confined Feeding Animal Operation (CAFO) permit program, state and federal water quality guidelines, and food safety regulations.**

Cornelius did not define in the Undesignated Reserve area what type of industry they seek to bring to this foundation farmland and sensitive environmental area. Non-farm related businesses on abutting properties adversely impact the well-being of dairy livestock and food safety. Our farm has already been impacted by Cornelius business expansions just south of Council Creek and any future development north will only compound these impacts.

The air around Cornelius stinks. The Summit bio-fuel ethanol processing plant emits an odor similar to French Onion soup on a daily basis. There is also a composting plant in the same area. We experience the noise and odors of these facilities on a regular basis. There has been a direct impact to our livestock on days when the fumes are extremely strong, as the dairy cattle run the pasture – resulting in harm to our livestock and a loss in milk production.







# Oregon

John A. Kitzhaber, MD, Governor

## Department of Transportation

Region 1 Headquarters  
123 NW Flanders Street  
Portland, Oregon 97209  
(503) 731.8200  
FAX (503) 731.8531

March 29, 2011

Washington County Commission Chair Andy Duyek  
155 North First Avenue  
Hillsboro, Or 97124

Metro President Tom Hughes  
600 NE Grand Avenue  
Portland, OR 97232

Subject: Washington County Urban and Rural Reserves, Ordinance 740

The Oregon Department of Transportation has the following comments regarding the latest proposed Urban and Rural Reserves designations in Washington County. Please enter this letter into the record of your proceedings.

ODOT has an interest in the designation of additional acres of Urban Reserves north of US 26, in the vicinity of the Brookwood Parkway /Helvetia Rd interchange. The interchange is a primary entry point to regionally significant high-tech employment centers. We are currently developing a project to reduce congestion and improve safety and freight mobility, to better serve economic development opportunities inside the UGB in this area. ODOT's indented primary function of this interchange is to provide access to the regionally significant industrial area to the south of US 26, and goods movement for the industrial lands inside the UGB on both sides of US 26. If Metro and Washington County choose to designate additional acreage at this location for Urban Reserves, ODOT recommends a stipulation indicating that the capacity needed to protect that function be maintained if the land is brought into the Metro urban growth boundary.

Also, we wish to set the record straight that ODOT does **not** need an urban reserve designation in order to make currently proposed or future improvements at this interchange. The Transportation Planning Rule sections -0065 and -0070 provide for certain transportation improvements to be made on rural lands without and with exceptions to Statewide Planning Goals 3, 4, 11, and 14. In fact, an Urban Reserves designation does not affect any of the applicable requirements for interchange improvements.

ODOT thanks you for this opportunity to comment.

Lainie Smith  
Senior Policy Advisor

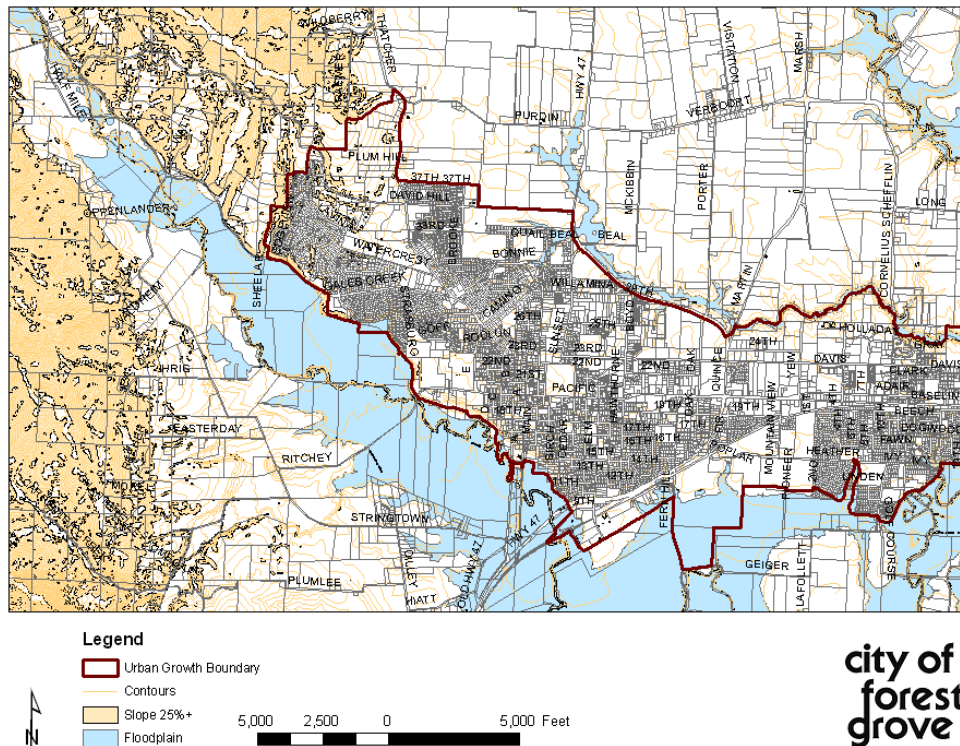
- CC: Jason Tell
- Rian Windsheimer
- Kirsten Pennington
- Andy Johnson
- Lidwien Rahman
- John Williams, Metro
- Jerry Lidz, Interim DLCD
- Jennifer Donnelly, DLCD
- Anne Debaut, DLCD



# Forest Grove Urban Reserve Analysis For Remand Consideration

## Overview

Forest Grove can only expand to the north or west. It cannot grow to the east because the community immediately abuts the City of Cornelius. It cannot grow to the south because of the presence of the Tualatin River and Gales Creek floodplains (see map below). The most logical direction for Forest Grove to expand is to the north for several reasons.



Expanding to the west would be encroaching further on David Hill and the Gales Creek Valley. Expanding in this direction would elongate the shape of the community. This would increase service costs by extending services, particularly emergency services. Fire service is based on response times. To meet the Fire Department response times, an additional station would be needed. To be functional, the City would have to hire additional staff, equipment and training to make the station operational. These additional services would impose additional capital and ongoing costs to the City.

By comparison, growth to the north results in the community being more spherical in shape. Distances from city hall would not increase when compared with the current Urban Growth Boundary (UGB). This situation eliminates the need for a new fire station or patrol area. The city would not have the capital and ongoing expenses that is required if there is a westward expansion. Thus, growth to the north continues a pattern of development that can be efficiently served.

There are other issues associated with going up David Hill. The David Hill area does not support the employment needs, particularly large lot industrial, required by the community.

There are slope and geological limitations for the David Hill area. A geologic report required that 18 out of 56 lots in the Summit Point final plat (one of the most recent developments in the David Hill area) required specially engineered foundations to address potential geologic constraints of the area.

Slopes represent potential unstable ground. Various areas on David Hill have experienced landslides. Further, emergency access, particularly fire response, is greatly hampered by steep slopes. For this reason, the Forest Grove Development Code (Section 10.8.610 M) limits residential streets generally to a slope no greater than 12% with a maximum slope no greater than 15% for a maximum distance of 250 feet. Given these limitations, the City is concerned with the ability to accommodate development on steep slopes. As can be seen by the map above, a substantial portion of the David Hill area has slopes 25% or greater.

The only option for urban expansion for Forest Grove is to grow northward. It is located in close proximity to the City's Town Center. The distance to the main intersection in the community, Pacific Avenue and Main Street, is between 1.35 to 1.94 miles from the closest and further point in the Urban Reserve area. This distance can be traversed by walking in about 27 to 39 minutes (assuming 3 mph speed) and 7 to 10 minutes by bicycle (assuming 12 mph speed). The topography is generally less than 10 percent slope, making walking and bicycling very feasible. In addition, it is due north of the Town Center area and road, pedestrian and bicycle connections can be achieved relatively easily with modest costs. This connection to the Town Center means that development of the area with land uses (industrial) complimentary to the Town Center would contribute to the development of the Town Center.

### **Urban Reserve Factors**

The following is a discussion of how the urban reserve factors (OAR 660-027-0050) apply to the Purdin Road area.

**(1) Can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments;**

Topography of the Purdin Road area is relatively flat with slopes generally 5 percent or less. The one exception is along Thatcher Road extending from the existing UGB northward where slopes reach up to 10 percent. These slopes are conducive to accommodate industrial and employment uses. As reflected in the most recent Concept Plans developed by the City, this is the primary urban use for the area. This demonstrates that there are no physical constraints in the area to preclude higher density development.

Forest Grove is a full service city providing water, electrical, police and fire protection, parks and recreation, municipal court, library services, land use planning, zoning, building inspection, street maintenance and general administrative services.

Sewer service is provided by the City in partnership with Clean Water Services. The City's Sewer Master Plan shows a planned 12 inch sewer trunk line along Thatcher Road from near Purdin Road and extending through Urban Reserve Area 7B before connecting with an existing sewer line on Brooke Street within the current UGB. Substantial municipal infrastructure lines end at or near the urban growth boundary. Clean Water Services Master Plan shows three future laterals and one future trunk line south of the Purdin Road and west of Highway 47 – Area 7b. There is also an existing trunk line that follows Council Creek and connects to Rock Creek treatment plant. Based on analysis prepared by waste water treatment providers in the region, both Rock Creek and Forest Grove treatment plants have room to expand. These are just part of the reasons why the area has been shown as a high sewer suitability area on the Metro Urban and Rural Reserve Preliminary Sewer Service Suitability Map (February, 2009). No major new facilities are needed to serve the area included within the potential urban reserve. As a result, the area can be efficiently served with sewer facilities.

Regarding water, the City's Water Master Plan (August 10, 2010), in part analyzed the adequacy of the City's water supply for the 40 year planning period of the plan. Taking into account water demand from projected development within the current UGB, the David Hill Urban Reserve area (Area 7A), the Purdin Road Urban (Area 7B), the South Industrial Urban Reserve area (Area 7E) and an additional area identified as the North Water Planning Area used as part of a high growth water demand alternative, the study concluded that the City does not need new sources of supply in the next 40 years, except possibly under the high growth scenario. In that scenario, the study identifies other options to augment water supply needs after the Year 2045.

Regarding water distribution, the City has 5 million gallon reservoir and 1 million gallon reservoir serving the community as well as 10 percent ownership in the 20 million gallon Joint Water Commission (JWC) reservoir. There is an existing 8" water line along Thatcher Road adjacent to UR Area 7b and 8" line along David Hill Road. For this reason, the Metro Urban and Rural Reserve Preliminary Water Service Suitability Map (February 2009) shows the proposed candidate urban reserve area as being within the high service suitability zone. This means that only typical extensions of service such as general distribution lines and reservoirs are needed. No major facilities are required to serve the candidate urban reserve area. As a result, the City has sufficient supply of water to serve the area and can also be efficiently served with water distribution facilities.

Efficient extension of transportation can be achieved. Highway 47 is an existing state facility that serves the area, and Main and B streets terminate near the candidate urban reserve area and can be easily extended to serve the area.

A preliminary analysis of providing transportation service within potential candidate urban reserve areas was completed in February 2009. The analysis shows that the Forest Grove potential candidate urban reserve area falls into the higher suitability category for system lane cost, added lane cost and connectivity. This means that the area is among the most suitable for providing a transportation system capable of accommodating urban levels of development.

Overall, Area 7B as proposed, meets Urban Reserve Criterion 1 based on the above analysis.

**B. Includes sufficient development capacity to support a healthy economy;**

The city views the Purdin Road Urban Reserve area (Area 7B) as the location for employment expansion, particularly industrial. The reason is that the David Hill Urban Reserve area (7A) is too hilly to accommodate any substantial employment growth and is too far away from main roads needed to connect to the regional transportation system for freight and employment movement. Area 7E is also contemplated for industrial development but is only 37 acres in size. Area 7B is the best location for significant employment expansion due to its size, flatness of the area, proximity to the Town Center and proximity to the regional road network. Further, there are large parcels to meet the City's large lot industrial needs.

The following two tables are taken from the City's Economic Opportunities Analysis (EOA). The first table was developed for the Reserves process and indicates the amount of land need beyond current supply in the community for

office, industrial, retail and other employment sectors. When taking into account current vacant land supply in the community, there is still a need for 168 to 1,317 acres of additional industrial land in order to meet the City's industrial need over the next 50 years. Thus, this land in Area 7B is needed to achieve a "healthy economy."

**FIGURE 33: RECONCILIATION OF FOREST GROVE EMPLOYMENT LAND ACREAGE DEMAND & SUPPLY (2060)**

<b>2060 Land Demand Reconciliation - Gross Acreage Needed</b>									
<b>Vacant Acres Reconciliation (Total)</b>					<b>Planning Horizon</b>				
	Typical Acreage	Demand Projections			Vacant Supply	Balance			
		Baseline	High	Medium		Baseline	High	Medium	
<b>Office</b>	Business Park	Over 40	88	186	129	0	88	186	129
	Medium	10 to 40	60	124	85	0	60	124	85
	Small	10 or less	62	127	88	2	60	125	85
	<b>SubTotal</b>		<b>211</b>	<b>436</b>	<b>302</b>	<b>2</b>	<b>209</b>	<b>434</b>	<b>299</b>
<b>Industrial</b>	Cluster Anchor	Over 100	81	284	118	0	81	284	118
	Anchor or Large Park	50 to 100	162	568	236	72	90	496	164
	Large User or Mid Park	20 to 50	97	341	141	70	27	271	71
	Medium User or Smaller Park	10 to 20	76	265	110	44	32	221	66
	Expanding User	5 to 10	32	114	47	60	(28)	54	(13)
	Small Businesses	5 or fewer	92	322	134	45	47	277	89
	<b>SubTotal</b>		<b>541</b>	<b>1,892</b>	<b>786</b>	<b>291</b>	<b>168</b>	<b>1,317</b>	<b>377</b>
<b>Commercial Retail</b>	Large	Over 20	72	178	101	0	72	178	101
	Medium	5 to 20	155	385	219	16	139	369	204
	Small	5 or fewer	102	254	145	15	88	240	130
	<b>SubTotal</b>		<b>329</b>	<b>817</b>	<b>466</b>	<b>31</b>	<b>298</b>	<b>787</b>	<b>435</b>
<b>Other</b>	Over Night Lodging	Not Estimated	34	55	46	Not Estimated	34	55	46
	Special Uses	Not Estimated	133	185	161	Not Estimated	133	185	161
	<b>Grand Totals</b>		<b>1,247</b>	<b>3,386</b>	<b>1,760</b>		<b>842</b>	<b>2,779</b>	<b>1,319</b>

Note: Figures may not sum due to rounding.

SOURCE: City of Forest Grove and Johnson Reid, LLC

Source: Figure 33 on Page 63 of "Economic Opportunities Analysis & Long-Term Urban Land Needs Assessment" prepared by Johnson Reid Consultants, August 27, 2009

The second table below is from the portion of the EOA that addresses the community's 20 year need by parcel size.

**FIGURE 28: RECONCILIATION OF FOREST GROVE EMPLOYMENT LAND SITE DEMAND & SUPPLY (2028)**

<b>2028 Land Demand Reconciliation - Site Need Count</b>									
<b>Number of Sites by Development Pattern</b>						<b>Planning Horizon</b>			
		<b>Demand Projections</b>				<b>Vacant Supply</b>	<b>Balance</b>		
		<b>Typical Acreage</b>	<b>Baseline</b>	<b>High</b>	<b>Medium</b>		<b>Baseline</b>	<b>High</b>	<b>Medium</b>
<b>Office</b>	Business Park	Over 40	0	0	0	0	0	0	0
	Medium	10 to 40	2	2	2	0	2	2	2
	Small	10 or less	2+	3+	2+	15	(13)	(12)	(13)
	<b>SubTotal</b>		<b>4+</b>	<b>5+</b>	<b>4+</b>	<b>15</b>	<b>(11)</b>	<b>(10)</b>	<b>(11)</b>
<b>Industrial</b>	Cluster Anchor	Over 100	0	0	0	0	0	0	0
	Anchor or Large Park	50 to 100	0	1	1	0	0	1	1
	Large User or Mid Park	20 to 50	2 - 4	2 - 4	2 - 3	5	(1)	(1)	(2)
	Medium User or Smaller Park	10 to 20	2 - 3	3 - 6	2 - 5	3	0	3	2
	Expanding User	5 to 10	1	2 - 3	2	8	(7)	(5)	(6)
	Small Businesses	5 or fewer	5+	9+	7+	15	(10)	(6)	(8)
	<b>SubTotal</b>		<b>10+</b>	<b>17+</b>	<b>14+</b>	<b>31</b>	<b>(18)</b>	<b>(8)</b>	<b>(13)</b>
<b>Commercial Retail</b>	Large	Over 20	1	1	1	0	1	0	1
	Medium	5 to 20	3 - 9	4 - 13	3 - 12	2	7	11	10
	Small	5 or fewer	6+	9+	8+	54	(48)	(45)	(46)
		<b>SubTotal</b>		<b>10+</b>	<b>14+</b>	<b>12+</b>	<b>56</b>	<b>(40)</b>	<b>(34)</b>

Note: Figures may not sum due to rounding.

SOURCE: City of Forest Grove and Johnson Reid, LLC

Source: Figure 28 on Page 54 of “Economic Opportunities Analysis & Long-Term Urban Land Needs Assessment” prepared by Johnson Reid Consultants, August 27, 2009

It indicates there is a need for at least one large lot industrial site (50 to 100 acres in size) sometime during the next 20 years for the medium or high scenarios (these scenarios assume influences from Hillsboro while the baseline scenario is limited to considering Forest Grove in isolation). Currently, no such site exists in the community. This is reinforced by the study when it found:

“Forest Grove is generally lacking in necessary industrial sites on the larger end of the industrial user spectrum (Cluster Anchor and Anchor/Large Park). While existing inventory does show sufficiency for medium and smaller-sized users, Forest Grove’s aspirations in agricultural processing and high-tech manufacturing as discussed earlier in this document would indicate an inability for the City to recruit/site larger users. To the extent that Forest Grove coordinates with other jurisdictions in Western Washington County in economic development initiatives, as a matter of policy Forest Grove may consider additional emphasis.” Source: Page 55, “Economic Opportunities Analysis & Long-Term Urban Land Needs Assessment” prepared by Johnson Reid Consultants, August 27, 2009

The only parcel within the study area that could accommodate this large-lot need without having to assemble the land is a 115 acre parcel located in the northwest portion of 7B. Further, the property owner has indicated that the orchard currently on the property is nearing the end of its useful life and would be available for development within the next 2 to 5 years.



Besides the large-lot industrial need, the candidate urban reserve area provides for a range of potential industrial sites for large, medium and small employers. In addition, locating industrial land near the Highway 47 corridor complements public investments in transportation made to improve traffic circulation in western-Washington County. Such improvements include construction of the Hwy. 47 Bypass, Martin Road/Verboort Road intersection improvements and road upgrades recently completed along Cornelius-Schefflin Road.

For the above reasons, Area 7B provides sufficient development capacity to support a healthy economy both for Forest Grove and the region.

**C. Can be efficiently and cost-effectively served with public school and other urban-level public facilities and services by appropriate and financially capable service providers;**

Forest Grove provides water, electrical services, police and fire protection, parks and recreation, municipal court, library, land use planning, street maintenance, building inspection and general administrative services. In addition, the City of Forest Grove partners with Clean Water Services for storm water and sanitary sewer services. The City of Forest Grove employs approximately 164 full time employees (FTE) including 34 FTE in the Police Department and 20 FTE in the Fire Department. The City's total General Fund resources amount to over \$16 million. Across all city funds total resources amount to over \$65 million. The City of Forest Grove has a long tradition of providing cost-effective municipal services over 130 years.

Financially capable service providers offering urban-level public facilities include the City of Forest Grove, Washington County, Washington County Clean Water Service District, and Forest Grove School District. The financial capacity of these organizations is illustrated from the Great Communities report as they characterize Clean Water Services capabilities:

*“On one hand, if Clean Water Services in Washington County, for example, invests in new sewer lines and treatment capacity for the Forest Grove/Cornelius area, the \$78 million cost over the next 10 to 15 years may be financially feasible. Last year they collected \$70.7 million in user fees and had a beginning fund balance of \$81.9 million. On the other hand, a small sanitary district-with total sewer revenues of \$3.056 million and beginning cash at \$5.6 million-may view a \$22 million investment in new sewer lines and treatment costs as too costly and risky to undertake by itself.”  
(See Page 7858 of the Washington County record)*

Since the area is primarily intended for employment use in general and industrial use in particular, the demand on school facilities is anticipated to be minimal. Any future school needs will be coordinated with the Forest Grove School District as part of comprehensive planning efforts (ORS 195.110).

Designating the proposed Concept Planning Area will optimize major public improvements to Martin Road and Hwy. 47. Martin Road, a Washington County facility, provides the most direct access to the Sunset Highway corridor via Verboort Road, Cornelius-Schefflin, Zion Church and Glencoe Roads. Martin Road was recently improved with two roundabouts at Verboort Road. Cornelius-Schefflin Road was improved in 2008 with new paving and striping and widened on some locations to better accommodate farm equipment.

Oregon Highway 47 was realigned during the late-1990s and serves as a bypass route around Forest Grove's Town Center. The potential candidate urban reserve area is adjacent to Highway 47. Highway 47 is a key corridor providing access to Banks, Oregon Highway 6, and Oregon Highway 26 to the north and Yamhill County to the south. The Oregon Department of Transportation has identified Highway 47 as having additional capacity to accommodate future growth. In addition, the City's recently approved Transportation System Plan incorporates improvements (traffic circle) to the Highway 47/Purdin Road intersection planned by ODOT to address safety issues. To make the traffic circle function properly, ODOT requested the City to plan for an extension of Main Street to Purdin Road through Area 7B.

The potential extension of Main Street and B Street to serve this candidate urban reserve area provides clear connectivity between the potential candidate urban reserve area and the existing City of Forest Grove. In addition, Main and B Streets provide direct access to the Forest Grove Town Center. This direct connection provides an efficient route for future transit service and provides additional support for investments in the Town Center. This efficiency is due to the relatively short distance between the area and the Town Center, as substantiated above and the flatness of the terrain between the area and the town center.

As indicated above, the area is shown to be within an area of high suitability for water service, high sewer suitability area with no need of major sewer facility improvements to provide service and higher suitability category for system lane cost, added lane cost and connectivity.

Based on the above discussion, the area can be efficiently and cost-effectively served with public school and other urban-level public facilities and services by appropriate and financially capable service providers.

**D. Can be designed to be walkable and served with a well-connected system of streets, bikeways, recreation trails and public transit by appropriate service providers;**

The proposed potential candidate urban reserve area can be designed to be walkable and integrated with the existing and planned system of well-connected streets, bikeways, recreation trails and public transit. The area is flat with no constraints that would prevent the development of a well served transportation network for the area. The City's Transportation System Plan proposes the extension of Main Street and B Street that can serve the candidate reserve area. Both Main and B Streets provide direct access to the Forest Grove Town Center. Due to its proximity to the Town Center as noted above, there is easy access for pedestrian and bike connections to the Town Center and the existing transit line on Pacific and 19<sup>th</sup> Avenues. Both streets also provide a direct route for future

Intermittent Streams draining:	Slopes < 25% Buffer Width	Slopes ≥ 25% Buffer Width
< 10 acres	0	0
≥10 to <50 acres	15 ft.	Variable from 50-200 ft.
≥50 to <100 acres	25 ft.	Variable from 50-200 ft.
≥100 acres	50 ft.	Variable from 50-200 ft.

transit service. A substantial portion of a potential transit route from the Town Center to this area is already planned for Medium (12 units per net acre) and High (20 units per net acre) density residential development. Based on input the City received from Tri-Met, these densities are of sufficient levels to support extension of transit service to the area. The higher intensity nodes of development can be integrated into the area to encourage a walkable, well-connected transportation system.

The subject area is proximate to the existing pedestrian pathway along Highway 47 as well as the planned Council Creek Regional Trail. In addition to the regional trail, the vegetated corridors in the candidate urban reserve area provide an opportunity for multi-use trail connections supporting recreation and commute trips.

Based on this discussion, Area 7B meets the Urban Reserve criterion D.

**E. Can be designed to preserve and enhance natural ecological systems;**

Clean Water Services regulations for vegetative corridors requirements will essentially restrict development (except for trails along the periphery of the corridor) along the stream areas and provide vegetative restoration. All the

water courses in this area are intermittent. The following table depicts the corridor width requirements on each side of an intermittent creek channel for non-redevelopment projects.

Source: Table 3-1 from CWS Design and Construction Standards

Although it has not been calculated, it is likely that the drainage area for Council Creek and its tributary drains more than 100 acres. It should be noted that based on measurements taken by staff, plowed areas adjacent to Council Creek and its tributaries are about seven feet from the channel edge.

Outside of the vegetative corridors, Article 5 of the Forest Grove Development Code implements Metro's Model Code developed for the Nature in Neighborhoods (Title 13). At this time, these provisions limit development intrusion and encourage the use of clustering. Further, both the CWS and Article 5 standards would require re-vegetation to appropriate species to enhance water quality which would reinforce animal habitat.

In addition, Article 4 of the Development Code provides the framework for planned developments for residential, commercial and industrial projects. Planned developments are required to preserve, to the greatest extent possible, existing landscape features and amenities. Planned developments also incorporate such features into the project's design. Planned unit developments also allow for clustering development to maximize the preservation of natural resources. In addition the relatively large parcel sizes in the area can allow for placement of industrial uses away from sensitive areas.

Based on the above analysis, existing requirements would require urban development to preserve and enhance ecological functions.

**F. Includes sufficient land suitable for a range of housing types;** The City intends for this area to be substantially developed for employment uses. However, a portion of the area next to an existing residential area on the western part of the area could be appropriately developed for residential uses. The City anticipates that the overall densities would be at least 10 units per acre accommodating a variety of housing types. This would allow the creation of nodal development with higher densities (upward to 20 units per net acre – the highest densities currently allowed by the City) mixed with supportive office and small commercial development. This approach would support the extension of transit into this area. This approach would provide opportunities for a variety of housing options. Further, it indicates that there are no anticipated constraints with the area to accommodate a variety of housing types.

After discounting for future development capacity within the current UGB, the City's Economic Opportunities Analysis shows a need for 1,073 to 3,905 acres for future residential development and 13,909 to 32,067 housing units. Within the current UGB, City staff estimates that current capacity for new development (including both raw land and redevelopment) would accommodate 4600 units. Thus, the inclusion of the Purdin Road area can help the City meet its long-term residential need.

**G. Can be developed in a way that preserves important natural landscape features included in urban reserves;** As discussed above, Clean Water Services vegetative corridors requirements will effectively restrict development (except for trails along the periphery of the corridor) along the stream areas and provide vegetative restoration. Outside of the vegetative corridors, Article 5 of the Forest Grove Development Code implements Metro's Model Code developed for the Nature in Neighborhoods (Title 13). At this time, these provisions limit development intrusion, encourage the use of clustering and where applicable require re-vegetation. In addition, Article 4 of the Development Code provides the framework for planned developments. Planned developments are required to preserve, to the greatest extent possible, existing landscape features and amenities. Planned developments also incorporate such features into the project's design. Planned unit developments allow for clustering development to maximize the preservation of natural resources. In addition, the large parcels would allow flexibility in the siting of industrial uses.

**H. Can be designed to avoid or minimize adverse effects on farm and forest practices and on important landscape features on nearby resource land, including land designated as rural reserves;** In discussing this issue with the Farm Bureau, there appears to be two concerns. First is to minimize conflicts between urban development and farm practices due to proximity and the nature of various land uses. Industrial and employment uses are intended for the Urban Reserve area for most of Area 7B and all of the properties along Purdin Road. According to testimony received from the Farm Bureau, industrial activities are the most compatible urban use with agriculture. Issues such as noise, time of operation, plowing and dust and spraying from agricultural activities would be less disturbing to industrial development than with other urban uses, particularly residential. In addition, it is the intent of the City to preserve this area for larger lot industrial. This provides the opportunities for additional buffering through increased setbacks. It should also be noted that this additional buffering can be utilized for parking areas and landscaping.

Buffering would also be achieved through the presence of Purdin Road. The road currently is 20 feet in width (from fog line to fog line) with a total pavement width of about 22 feet. The road is located on a 60 foot wide right-of-way. However, this road would need to be at least a three lane road with wide

shoulders and bike lanes. The wide shoulders would allow slower farm traffic to operate on the roadway. It would approach that of Cornelius-Schefflin Road in the vicinity of Wren Road, which is three lanes with wide shoulders (but lacks a bike lane). That road is 38 feet in width (fog line to fog line) with a total pavement width of 52 feet (back of curb to back of curb) on a 98 foot wide right-of-way. In addition to the paved width, there is additional room beyond the curb to accommodate wide farm equipment. The curb is beveled rather than at 90 degrees to make it easier to "jump the curb". This road design would provide an additional distance between the farm and urban activities. It should be noted that this road could be accommodated under the City's arterial standard which is from 66 to 96 feet right-of-way width. The following are photos of both roadways to provide comparison:



Purdin Road looking west from Council Creek



Cornelius-Schefflin Road

The Farm Bureau's second concern is the potential conflict of urban and agricultural traffic sharing the same road. Washington County has attempted to address this conflict by constructing roads with extra wide shoulders. This allows farm equipment to use the shoulders and allow faster traffic to safely pass. The portion of Cornelius-Schefflin Road noted above is an example of this approach. This additional width to allow "co-traffic" (urban and agricultural) can be accomplished relatively easily since most of the land holdings in 7B are large parcels intended for industrial and employment use.

However, it is important to recognize that Purdin Road is already carrying urban levels of traffic. County trip data indicates average daily trip count in 2008 for the road was 2,249. The City also recently completed an update to its Transportation System Plan. Current afternoon peak hourly trips are 370 vehicles per hour (or about 6 cars per minute).

The road is the primary route residents living on the west side of the Forest Grove community use when they leave the community. Within the current UGB, there is sufficient vacant land west of Thatcher Road and north of Gales Creek

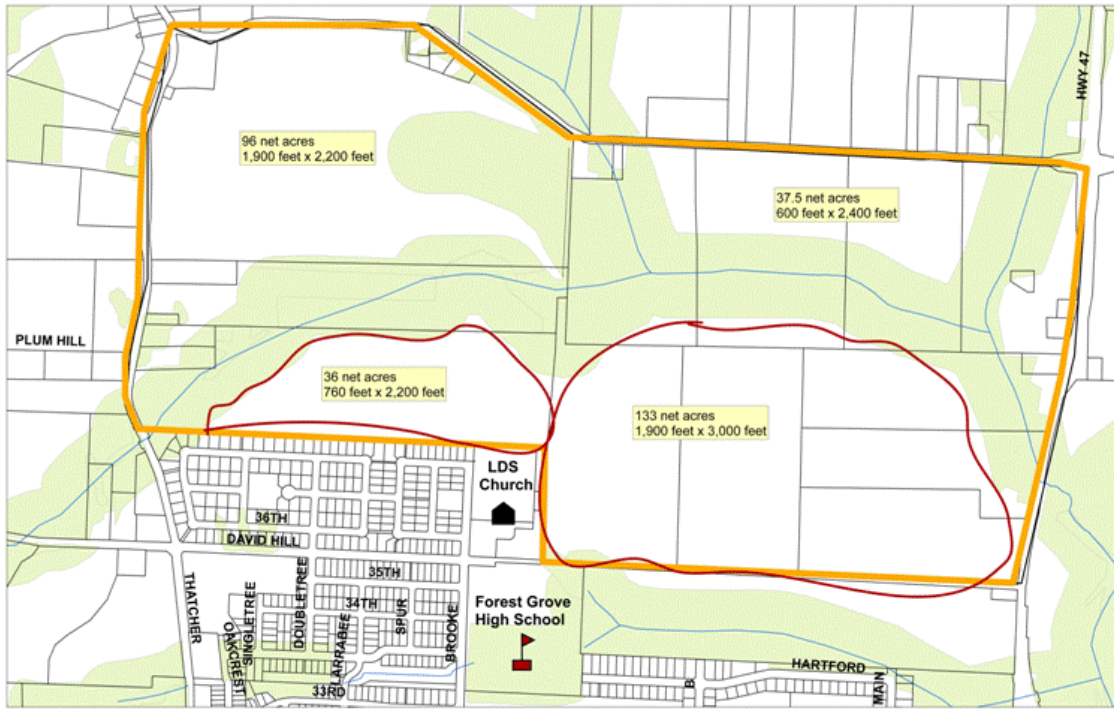
Road to accommodate an additional 1340 single family dwelling units. Based on the City's housing analysis, it is likely that this will develop within the next 20 years. Based on current trip generation rates, these additional units would add about an additional 13,400 average daily trips and an additional 1340 peak hourly trips. Based on observations of current traffic, at a minimum a substantial portion of the peak hourly trips would use Purdin Road to commute to jobs east of the community or into Forest Grove (staff estimates between 80 to 90 percent). This would result in a total peak hourly trip rate of 1442 to 1576 (or about 24 to 26 cars per minute). (Even if a conservative rate of 50 percent is used, the peak hourly trips would still total 1040 or 17 vehicles per minute.) Thus, any conflict already exists and will worsen without any development outside the current UGB. The benefit of the Urban Reserve area is that it can accommodate additional jobs and possibly reduce commute trips through rural areas as well as allow for needed future road improvements.

#### *Appropriate Boundary*

LCDC remanded Urban Reserve area 7B to determine the appropriate location of a north boundary. The two locations being considered is Purdin Road or a tributary of Council Creek which runs generally in an east-west direction through the area. The following map shows the Purdin Road area with the tributary bisecting the area. Based on City staff analysis, about 133 net acres are located north of the tributary and about 169 net acres are located south. Most importantly, to meet the need for large lot industrial, the one parcel that is over 50 acres in size (115 acres) lies north of the tributary and is available in the near term for industrial use. All the other parcels are between 21 to 39 acres in size (excluding the existing home sites) and properties would have to be aggregated to achieve the 50 acre size needed for large lot industrial.



Purdin Road Urban Reserve Area



city of  
forest  
grove

From a land use standpoint, the City intends to plan for residential development on the 36 net acre area south of the tributary. This would avoid placing industrial uses adjacent to an existing residential neighborhood. In addition, conversations with property owners in the entire area indicate that those owners with lands south of tributary prefer residential development if the land is to be developed. The following table estimates the job potential north and south of the tributary based on an employment rate for industrial uses provided in the City's Economic Opportunities Analysis.

North of the Tributary	2248 jobs
South of the Tributary	
All Industrial	2856 jobs
Only Eastern portion	2248 jobs
No industrial	0 jobs

Based on 16.9 employees per acre per the City's Economic Opportunities Analysis

Thus, there is from a City standpoint a need to allow the entire area into the Urban Reserve to meet future industrial and large lot industrial demands. This is particularly important when taking in the long-term needs of the community as

identified in the 2060 land area needs provided above under the discussion of Factor B.

However, the criterion is directed at minimizing impacts on agricultural operations. Thus, the issue from the regional and state perspective is which makes the best buffer between agriculture and urban. The following is photo of the tributary in the area of discussion.



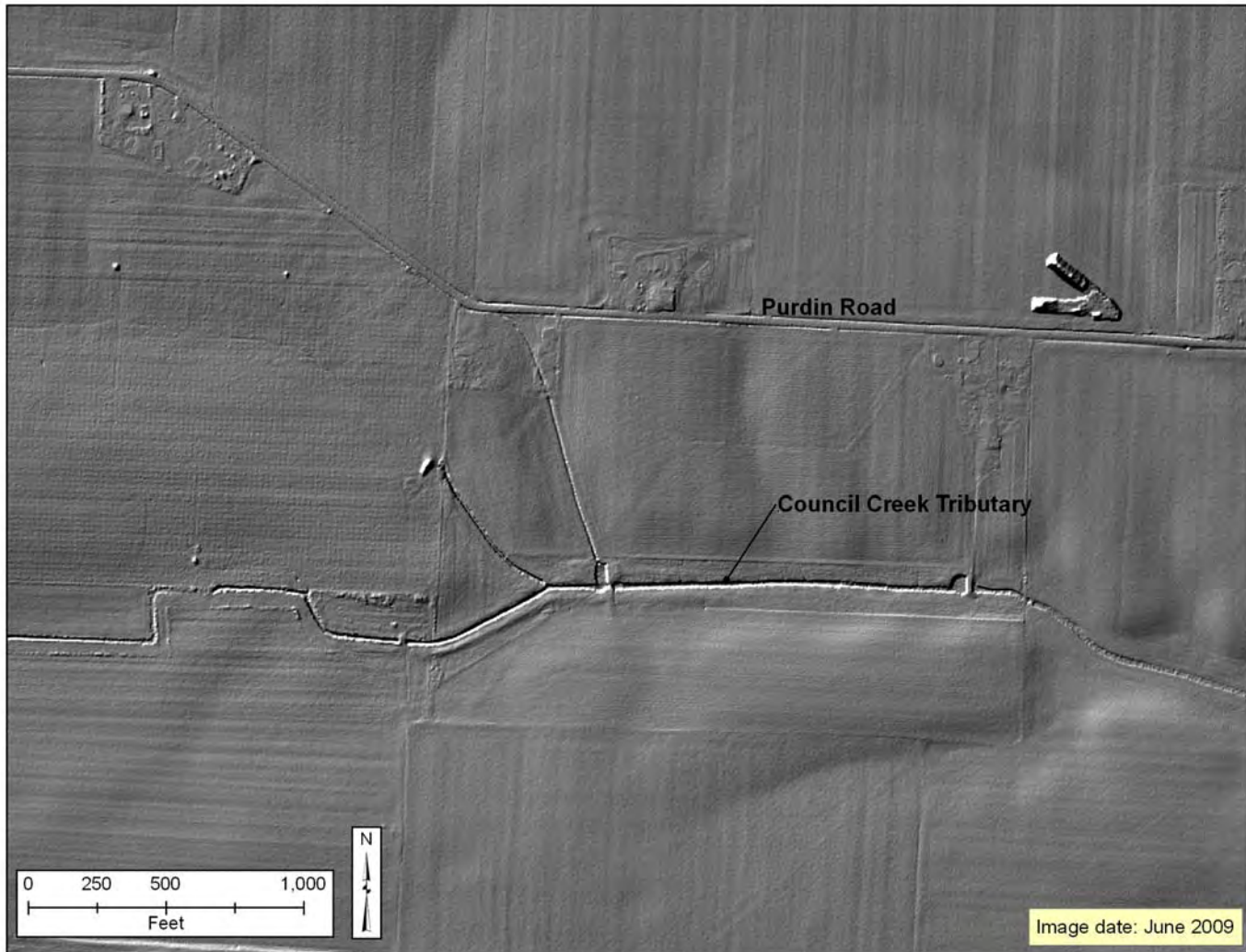
The following field measurements were taken:

Channel Width:	12 feet
Distance between outer edges of tall grass	22 feet
Distance between plowed fields on each side of the channel	26 feet

Disturbed soil is approximately seven feet from the edge of the channel which creates the opportunity for relatively high amounts of turbidity in the channel. By comparison, if this channel is within the urban reserve, buffer areas would be 50 feet from the channel edge with the requirement for replanting with appropriate vegetation to intercept suspended solids. Accordingly, there would

be an environmental benefit to place the entire tributary corridor into urban reserve.

Further, this channel has been modified or is not a natural channel. The following is a Lidar imagery of the channel.



As can be seen from the image, the tributary channel is fairly straight and takes a 90 degree turn in part of the channel course. These are indications of an unnatural stream course or at least highly modified.

To date, there has not been any explanation why a stream course makes a better buffer than a roadway. From a distance standpoint, the stream would offer a narrower buffer width, even taking CWS standards into account. The buffer width would be 69 feet from plowed areas to the outside edge of a

vegetative corridor on the urban reserve side of the tributary. This is based on the following:

Edge of plowing to channel edge	7 feet
Channel width	12 feet
Vegetative corridor width (on urban side of channel)	50 feet

By comparison, Purdin Road right-of-way would be 96 to 98 feet in width. This does not include any additional separation due to increased setbacks for development along Purdin Road which we would propose as part of the development requirements for this area. A reasonable distance would be 30 feet which is equal to the City's largest buffer requirements (which is between industrial and residential zoned properties).

The only explanation regarding the preference of the stream is that it avoids placing further traffic on a county road. However, as noted above, Purdin Road currently handles urban levels of traffic at least during peak hours that will substantially increase due to future development within the current UGB. By making Purdin Road the boundary, it will allow improvement to the road to minimize existing and future conflict between agricultural and urban traffic. This would be accomplished in two ways. Placing the road within the urban reserve area would allow for major improvement of the roadway itself without raising any issue related to road improvements outside Urban Growth Boundary.

In addition, development along the south side of Purdin Road would help defray the costs of the roadway improvement. The City would receive Transportation Development Tax funds from the development to assist in construction as well as developers also participating in the construction of the road improvements. Leaving this road within the Rural Reserve or undesignated would require the County to make future improvements which may be difficult due to other pressing needs for limited County funds. Improvement of this road would likely be a low priority given demands in the more urbanized (and urbanizing) portions of Washington County.

Another consideration is that the Purdin Road boundary would allow the City to meet ODOT's request noted above. That is, ODOT is planning to construct a traffic circle at the Purdin Road/Highway 47 intersection and requested the City to extend Main Street north to connect with Purdin Road. The intent of this connection is to assure the circle would be functioning properly with similar traffic levels on all four legs of the intersection. By limiting the boundary to the tributary, it would require at a minimum a Goal 2 exception or perhaps be prohibited if the area north of the tributary is designated rural reserve.

One other issue maybe using a roadway as opposed to a creek would be the "single" loading the street with urban development only on one side. The City currently is addressing this situation with the extension of David Hill Road and has not posed a significant obstacle either with either getting needed road improvements or farming the agricultural lands north of the roadway.

One other matter discussed by LCDC was the issue of urban reserve intrusion into agricultural areas. Currently, there is a disparity in the location of the UGB east and west of Thatcher Road. The UGB is about 0.75 miles further north on the west side of Thatcher Road. By establishing the urban reserve line to Purdin Road would extend the UGB essentially directly to the east of the existing UGB until reaching Council Creek. This straightening up the UGB allows for more logical growth patterns and allows urban development on both sides of Thatcher Road. This means that the urban reserve would be bounded by the current UGB on two sides to the west and south. Overall, about 51 percent of the perimeter of 7A to Purdin Road would be adjacent to the existing UGB. If the tributary is used as the boundary, about 46 percent of the perimeter is adjacent to the UGB on only one side.

If the tributary is used, then concerns noted above about conflicts between agriculture and urban still remains. The only difference is that the issue is transferred from Purdin to Thatcher Road since there would be no potential change in the UGB if the tributary is the northern boundary.

**Purdin Road Area**  
**Factors for Designation of Lands as Rural Reserves**  
**For Remand Consideration**

Rural Reserve Factors: When identifying and selecting lands for designation as rural reserves intended to provide long-term protection to the agricultural industry or forest industry, or both, a county shall base its decision on consideration of whether the lands proposed for designation. The following is an analysis of the rural reserve factors for the Purdin Road area. This area is bounded by Purdin Road to the north, Council Creek and Highway 47 to the east, the City of Forest Grove to the south and Thatcher Road to the west.

**(a) Are situated in an area that is otherwise potentially subject to urbanization during the applicable period described in OAR 660-027-0040(2) or (3) as indicated by proximity to a UGB or proximity to properties with fair market values that significantly exceed agricultural values for farmland, or forestry values for forest land.**

Washington County analysis and mapping indicates the Purdin Road area is highly suitable for urbanization. Specifically the Washington County "Candidate Urban Reserves Suitability map (Map 9) places the Purdin Road area in the Most Suitable for urbanization category. This analysis is based on proximity to the current urban growth boundary and transportation connectivity (Map13a).

In addition, the Washington County analysis shows that the Purdin Road area has high water and sewer service suitability. This analysis is presented by Washington County Maps included with the Washington County urban and rural reserve staff report made part of the reserve process record.

Forest Grove can only expand on the north or west. Forest Grove cannot expand to the east because the city is contiguous with the City of Cornelius. The city cannot expand to the south to meet land needs over the next fifty years due to the presence of the Tualatin River and Gales Creek floodplains. As such, the Purdin Road concept area is potentially subject to urbanization as land within the current urban growth boundary is absorbed.

The Forest Grove Economic Opportunity Analysis (2009) indicates a need for 13,910 to 32,070 housing units during the next fifty years (EOA - Figure 52, Page 87). City prepared estimates of buildable vacant and redevelopable land suggest that upwards of 4,900 housing units could be accommodated within the current urban growth boundary. Therefore, land within the current urban growth boundary will likely only accommodate 15% to 35% of the housing unit need during the fifty year planning period.

The EOA also indicates a need for employment land in excess of existing capacity within the current urban growth boundary. Job growth is forecast to grow from 9,000 jobs to almost 21,000 jobs in the baseline growth scenario. This translates into a need for as much as 960 gross acres for office, industrial and commercial needs during the next fifty years.

In addition, the Forest Grove portion of the regional urban growth boundary abuts the Purdin Road concept area on two sides. The urban growth boundary serves as the southern and western boundary of the reserve area. This proximity to the urban growth boundary is a significant factor contributing to the potential urbanization of the area.

In addition to proximity to the urban growth boundary, land within the concept area is adjacent to property with fair market values that significantly exceeds agricultural values for farmland. For example the market value of land within the reserve located at Hwy. 47 just north of the urban growth boundary is \$25,149 per acre. In contrast, land adjacent but within the urban growth boundary has a fair market value of \$72,206 per acre. This illustrative example shows that land just south of the reserves has 2.9 times the value of land within the concept area.

**(b) Are capable of sustaining long-term agricultural operations for agricultural land, or are capable of sustaining long-term forestry operations for forest land.**

Land within the Purdin Road area is capable of sustaining long-term agricultural operations. The Oregon Department of Agriculture report Identification and Assessment of the Long-Term Commercial Viability of Metro Region Agricultural Lands (2007) describes the type of farming activity taking place in the Tualatin Valley. The report describes the area as being diversified with hay land, annual grasses, grass seed, nursery land and orchards. Many of these activities take place within the reserve area. The area has been designated as Foundation Farmland by the study. In addition, mapping by Washington County rates this area as high value farmland (Map 21).

There are a number of small residential lots within the concept area. Residences are mostly prevalent along Highway 47 and Thatcher Road. The possibility of conflict between residential and agricultural operations is a possibility depending on type of agricultural operation within the reserve area.

**(c) Have suitable soils where needed to sustain long-term agricultural or forestry operations and, for agricultural land, have available water where needed to sustain long-term agricultural operations.**

The Purdin Road area has suitable soils needed to sustain long-term agricultural operations. Soils types within the reserve area include soil type 42 (Verboort silty clay loam) and 45A (Woodburn silt loam). These lands are predominately Class II capability and are designated as prime farmland.

Soil type 42 is described as being nearly level soil in narrow irregularly shaped, concave areas along drainage ways. Within the concept area this soil is found proximate to Council Creek and the east/west tributary. According to the Washington County Soil Survey, Verboort soils are used for grain, hay, irrigated pasture and wildlife habitat.

Soil type 45A (Woodburn silt loam) is described as nearly level soil with slight erosion and slow runoff characteristics. According to the Washington County Soil Survey, Woodburn soils are used for irrigated crops, pasture, recreation, home sites and wildlife habitat. The majority of the soil within the reserve area is Soil type 45A.

The Purdin Road area is also within the Tualatin Valley Irrigation District. Washington County has analyzed water service suitability for the reserve candidate areas. Map 11 included in the Washington County Urban and Rural Reserves Staff Report indicates that the Purdin Road area has water service suitability.

**(d) Are suitable to sustain long-term agricultural or forestry operations, taking into account:**

**(A) for farm land, the existence of a large block of agricultural or other resource land with a concentration or cluster of farm operations, or, for forest land, the existence of a large block of forested land with a concentration or cluster of managed woodlots.**

Taken together the concept area is a large block of agricultural resource land with a concentration of farm operations. The largest parcel within the concept area is 115 acres. The smallest parcel, a small cemetery is 0.13 acres in area. The average parcel size in the Purdin Road area is 19.4 acres. The smallest parcels contain dwellings along Purdin Road although small residential parcels less than one acre in area are also found along Highway 47 and Thatcher Road.

**(B) The adjacent land use pattern, including its location in relation to adjacent non-farm uses or non-forest uses, and the existence of buffers between agricultural or forest operations and non-farm or non-forest uses.**



The adjacent land use pattern directly to the south of the area is residential and vacant residential land. The area directly to the west is developing residential. Few manmade or natural buffers exist between the existing residential development and the analysis area.

Thatcher Road provides a buffer along the western boundary of the study area. A fence provides the only buffer between the study area and the residential land to the south within the Forest Grove city limits.

**(C) The agricultural or forest land use pattern, including parcelization, tenure and ownership patterns.**

The urban reserve area is comprised of 18 individual ownerships and 28 parcels. The smallest parcels are located along Highway 47 and Thatcher Road. The parcelization pattern and ownership patterns in the concept area do not preclude agricultural operations. Most residences within the concept area are owner-occupied and the land is farmed by the property owners.

**(D) The sufficiency of agricultural or forestry infrastructure in the area, whichever is applicable.**

Agricultural infrastructure in the area includes the irrigation delivery system provided by the Tualatin Valley Irrigation District. A report prepared by the Oregon Department of Agriculture in 2007 (Identification and Assessment of the Long-Term Commercial Viability of Metro Region Agricultural Lands) indicates the drainage infrastructure is well developed and being maintained and updated by area farmers.



JOHNSON REID  
LAND USE ECONOMICS

**ECONOMIC OPPORTUNITIES ANALYSIS  
& LONG-TERM URBAN  
LAND NEEDS ASSESSMENT**

Prepared For:  
CITY OF FOREST GROVE, OREGON

August 27, 2009



**FOREST GROVE**  
*Where Oregon pinot was born*



## TABLE OF CONTENTS

---

<b>STATEMENT OF PURPOSE</b>	<b>2</b>
URBAN LAND NEED ANALYSIS	2
<b>TRENDS ANALYSIS</b>	<b>4</b>
NATIONAL ECONOMIC TRENDS	5
STATE & REGIONAL TRENDS	8
STATE & REGIONAL INDUSTRY CLUSTER TRENDS	11
COMPETITIVE POSITION AND TARGET INDUSTRY OPPORTUNITIES	17
<b>ECONOMIC OPPORTUNITY STAKEHOLDER OUTREACH</b>	<b>21</b>
INTRODUCTION & ACKNOWLEDGEMENTS	21
STAKEHOLDER OUTREACH PROCESS & FOCUS	22
<b>20-YEAR EMPLOYMENT FORECAST</b>	<b>26</b>
INTRODUCTION	26
CREATING A BASE YEAR ESTIMATE	26
BASELINE FOREST GROVE EMPLOYMENT GROWTH	29
ALTERNATIVE GROWTH SCENARIOS	30
<b>20-YEAR EMPLOYMENT LAND NEEDS ANALYSIS</b>	<b>33</b>
INTRODUCTION	33
SUMMARY OF COMMERCIAL AND INDUSTRIAL LAND NEED FINDINGS	33
FIVE-YEAR DEMAND POTENTIAL	35
INDUSTRIAL AND OFFICE LAND NEED METHODOLOGY	36
RETAIL COMMERCIAL LAND METHODOLOGY	38
<b>20-YEAR EMPLOYMENT LAND DEMAND SITE QUALITIES</b>	<b>41</b>
INTRODUCTION	41
QUALITATIVE SITE REQUIREMENTS BY DESIGNATION & USE	41
PROJECTED NUMBER OF EMPLOYMENT SITES DEMANDED BY QUALITY	51
<b>50-YEAR ECONOMIC OPPORTUNITIES ANALYSIS</b>	<b>56</b>
INTRODUCTION	56
2060 FOREST GROVE POTENTIAL EMPLOYMENT FORECAST	59
2060 FOREST GROVE POTENTIAL EMPLOYMENT LAND DEMAND	61
2060 EMPLOYMENT LAND DEMAND & SUPPLY RECONCILIATION	63
<b>20-YEAR HOUSING NEED FORECAST</b>	<b>66</b>
CURRENT HOUSING NEEDS	66
FUTURE HOUSING NEEDS (2028)	71
<b>20-YEAR HOUSING LAND NEEDS ANALYSIS</b>	<b>78</b>
CURRENT RESIDENTIAL LANDS	78
FUTURE RESIDENTIAL LAND NEED (2028)	79
<b>50-YEAR HOUSING NEED FORECAST</b>	<b>81</b>
CURRENT HOUSING NEEDS	81
FUTURE HOUSING NEEDS (2060)	86
<b>50-YEAR HOUSING LAND NEEDS ANALYSIS</b>	<b>93</b>
CURRENT RESIDENTIAL LANDS	93
FUTURE RESIDENTIAL LAND NEED (2060)	94
<b>HOUSING POLICY CONSIDERATIONS</b>	<b>96</b>
<b>CITY OF FOREST GROVE SUGGESTED POLICY LANGUAGE</b>	<b>100</b>
<b>APPENDIX A – DETAILED ECONOMIC EXHIBITS</b>	<b>103</b>
<b>APPENDIX B – ECONOMIC PLANNING AREA DEFINED</b>	<b>103</b>

---



## STATEMENT OF PURPOSE

---

### INTRODUCTION

The City of Forest Grove is presently undertaking two critical land use planning exercises with long-reaching consequences for the city's physical and economic path of growth and development.

1. *Periodic Review* – The City is presently undergoing requisite, periodic land use review to account for twenty-year land need within the context of Metro partnership and urban growth boundary coordination.
2. *Urban Reserves Planning* - Along with all other jurisdictions in Washington County, Forest Grove is currently undertaking the State-mandated process of analyzing and planning 50-Year Urban and Rural Reserve designations for lands proximate, but outside of the present Portland metropolitan area Urban Growth Boundary.

As part of these efforts, the City of Forest Grove retained JOHNSON REID to provide research and analysis of potential urban growth scenarios with which the City may consider urban reserves needs over the fifty-year planning period. Several economic and planning issues indicated need for independent land need analysis over the planning horizon. These include:

- The adequacy of existing, available lands suitable for target industry uses within the current Urban Growth Boundary;
- The magnitude and type of residential land needs to support growing Forest Grove industries and agglomerated clusters in the context of a well-documented shortage of residential land within the City;
- The nature of commercial land need driven by new industry and population growth affected by primary industry and workforce growth over the planning horizons;
- Characterization of growth potential in the context of the physical and infrastructure qualities of lands within Urban Reserve consideration for the City; *and*
- Determination of the ability of Forest Grove to accommodate economic growth potential and how sub-regional coordination with the Cities of Hillsboro, Cornelius, North Plains and Banks may affect or enhance long-term high-tech industry growth in Washington County and the State of Oregon in general.

### URBAN LAND NEED ANALYSIS

To document the potential nature of urban lands required by the City of Forest Grove over a twenty-year period and a fifty-year period, JOHNSON REID formally utilized a methodology for long-range land need substantiation consistent with State of Oregon land use planning requirements. Specifically, employment land demand consistent with State Planning Goal 9 Economic Opportunities Analysis (“EOA”) methodology and documentation requirements, as well as residential land demand consistent with State Planning Goal 10 methodology and documentation requirements was used in this analysis.

### GOAL 9 – FOREST GROVE EMPLOYMENT LAND

The State Planning Goal 9 EOA methodology guidelines call for a six-step approach to economic development planning and resulting quantification of employment (industrial, retail, office, institutional, etc.) land need for urban growth boundary planning purposes. These six steps largely guide this resulting analysis of City of



Forest Grove’s need for urbanized land. The required Goal 9 analytical steps that roughly comprise the outline of this document are:

1. *Economic Planning Area Definition:* A determination of the geography of interest for 20-year and 50-year economic development potential, included as an appendix in this study.
2. *Economic Trends Analysis:* Identification of global, national, state, regional and local economic trends that have shaped recent economic performance as well as likely 20-year economic activity that will determine employment land need over the duration of the study period.
3. *Public/Stakeholder Input Process:* Outreach for this effort was limited to key Economic Stakeholders identified as being able to provide targeted, existing and emerging industry perspective.
4. *Industry & Job Growth Forecasts:* Detailed forecasts of job growth by industry within Forest Grove over the planning period that will in turn drive demand, if any, for different employment land categories.
5. *Land Need Forecasts:* Job growth forecasts translated into land demand forecasts based on industry and space type usage and floor area ratio (FAR) patterns anticipated into the future.
6. *Land/Parcel Need Quality:* A detailed treatment of employment land need in terms of specific parcel types, sizes, quantities and other qualities appropriate to economic growth anticipated by the jurisdiction.

#### **GOAL 10 – FOREST GROVE RESIDENTIAL LAND NEED**

In addition to providing estimates of residential land and residential unit demand characteristics over the 20-year and 50-year planning horizons consistent with State Planning Goal 10 documentation requirements, JOHNSON REID modeled residential land need as a direct, interactive function of economic opportunities analysis and resulting employment forecasts.



## TRENDS ANALYSIS

---

### INTRODUCTION

The Trend Analysis section provides the foundation of economic information that will shape realizable economic opportunity potential for a jurisdiction, resulting potential job growth scenarios, and ultimately employment land need over the determined planning horizon.

In conducting the Trend Analysis, it is underscored that during the course of analysis, economic circumstances at the global, national, state and local levels have significantly shifted and continue to do so significantly at the publication date of this document. Through March of 2008 and since, the economy has experienced the following:

- New Presidential administration and significant changes in federal economic policies, including in response to economic distress of recent months;
- Numerous federal bail-out proposals and agreements for numerous financial institutions and U.S. automakers;
- Continued credit crisis in the financial markets due to the uncertain future of “toxic” financial assets that include billions of dollars in “sub-prime” mortgages;
- A return of the Dow Jones Industrial Average to pre-1998 levels; and
- A fourth quarter 2008 drop in U.S. GDP of 6.2%, the worst since the severe 1980-82 U.S. recession.

Alternatively, the Federal government passed an unprecedented \$850 billion stimulus bill meant to help create jobs with targeted infrastructure investments, state and local government budget stop-gaps, and various tax credits and investment incentives for housing, alternative energy and numerous other targeted industries and economic activities nationwide.

Ultimately, current economic times make it virtually impossible to produce a highly timely national trend analysis. JOHNSON REID, therefore, has continued to utilize the economic forecast “of record” by the federal government, the non-partisan Congressional Budget Office biannual economic forecast. As that official forecast makes clear, economic times are uncertain, but Trend Analysis consistent with its findings – even those that have changed in only a few months – is preferable to constantly shifting speculation. Where appropriate, changes to economic performance or expectations have been updated for accuracy.



## NATIONAL ECONOMIC TRENDS

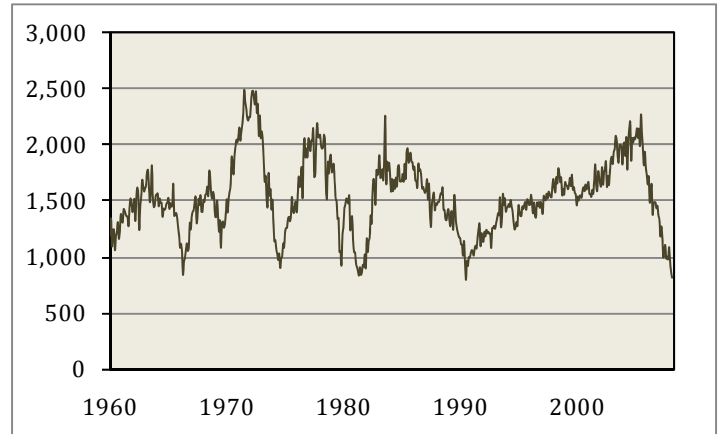
### SHORT-TERM OUTLOOK

Economic turbulence is likely to remain in the national economy in the near-term. The decline in housing prices has contributed both to slower consumer spending growth and a sharp falloff in residential construction activity. The effect of falling home values, slow real income growth and a sputtering economy will delay the recovery in housing construction until late 2009 as excess inventory is drawn down.

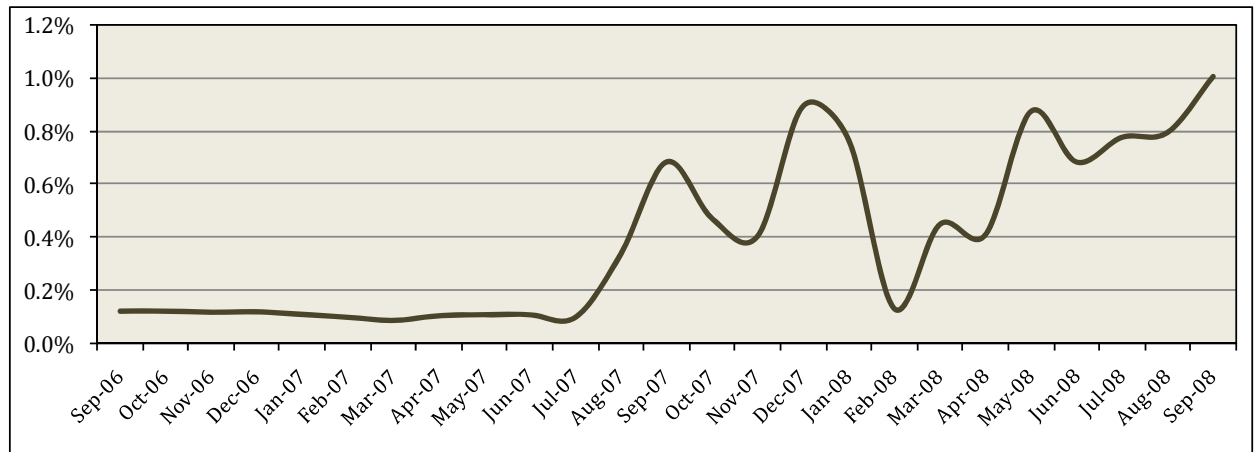
Foreclosures and delinquencies have created large losses for many financial institutions and holders of mortgage backed securities, thereby reducing capital value and limiting banks' ability to support new lending.

As a result, a climate of risk aversion has emerged in financial markets, as banks are tightening credit standards for new loans, not only for residential mortgages and consumer loans, but also for business loans, such as those for commercial real estate and industrial loans. Additionally, interbank lending has come to a halt, compounding liquidity problems among wavering banks, with the spread between the Federal Funds Rate and the 3-month LIBOR skyrocketing. However, the Federal government's financial bailout plan includes elements to foster liquidity, and the LIBOR has since fallen sharply, although Fed rate cuts have kept the spread high. Ultimately, lingering weakness in the housing market may lead to additional mortgage losses, forcing lenders to markedly curtail the availability of credit. If realized, this effect will delay the pace of economic recovery.

**FIGURE 1: HOUSING STARTS**



**FIGURE 2: SPREAD ON 3-MONTH LIBOR\* AND FEDERAL FUNDS RATE**



\*London Inter-Bank Offer Rate

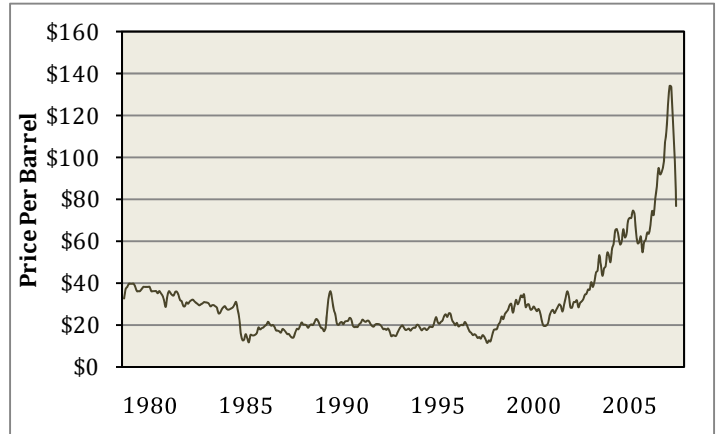
In addition to woes in the housing market, rising food and energy prices have seen notable escalation in recent years, further limiting real purchasing power and putting upward pressure on consumer prices. The higher price of agricultural products has had a smaller effect on the economy than oil, but the increased cost of food has constrained non-food spending. To many, the extent of the rise in agricultural food prices was



unexpected. As with oil, a steady increase in global demand played a key role in the run-up. Supply shocks as a result of poor weather (in the case of wheat) and rising demand for biofuel feedstocks also drove agricultural prices.

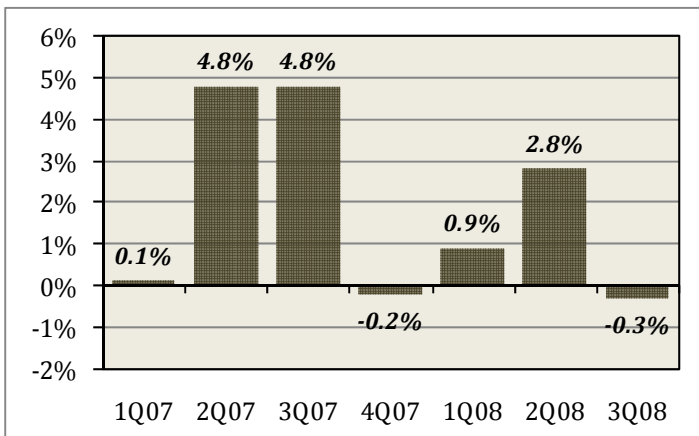
Nevertheless, energy and commodity prices are not likely to lead to persistently high inflation similar to the 1970's. During the 1970s large price hikes for commodities and import goods triggered higher inflation by igniting a wage-price spiral in which an initial price shock sets off higher wage growth. However, measures of wages and salaries from the U.S. Bureau of Labor Statistics (BLS) have not yet provided evidence that higher prices are affecting wages. Moreover, unlike the 1970s, the Federal Reserve is far more likely to utilize monetary influence to prevent such an outcome from transpiring. As a result, we find that inflation in both food and energy is likely to abate in the near term. The price of oil has fallen sharply since July 2008 and strong global harvests are likely to push food commodity prices lower. Prices for corn, wheat, and soybeans have already begun this trend. Additionally, slowing global economic growth is likely to curb demand for both food and energy in the near-term.

FIGURE 3: CRUDE OIL PRICE



The trade-weighted value of the U.S. dollar has been in decline since 2002. More recently, from July 2007 to March 2008 the U.S. dollar fell at an even more accelerated pace. This rapid fall was primarily a response to easing monetary policy both domestic and foreign, in addition to the Chinese Government's decision to allow the Chinese currency to appreciate more rapidly against the dollar than in the past. All together, Real GDP among the United States' major trading partners will grow more slowly, but still faster, on average, than Real GDP in the United States in the near-term. However, exports, which have been a rare bright spot in the economy in 2008, will likely fall off markedly in 2009 on declining global demand and a strengthening dollar.

FIGURE 4: GDP GROWTH



Taken together, the United States economy is thought to be roughly halfway through an extended period of slow economic growth. Preliminary estimates for the 3<sup>rd</sup> quarter of 2008 indicate a second of the last four periods posting negative economic growth. It is widely anticipated that the 4<sup>th</sup> quarter of 2008 will also be negative, marking two consecutive quarters of negative GDP growth and classifying the current cycle as recessionary under a standard rule of thumb. It is forecasted that Real GDP growth will average around an annual rate of 1% through the end of 2009 before recovery takes form in 2010. Employment growth is expected to remain weak through much of

2009, keeping unemployment measurably above 6% in the near-term. Anticipated near-term weakness in the economy is likely to further dampen spending by households, businesses, and State/Local governments. A sustained fall in the revenues of state and local governments as a result of the weak economy is likely to force spending cutbacks in that sector in coming years.



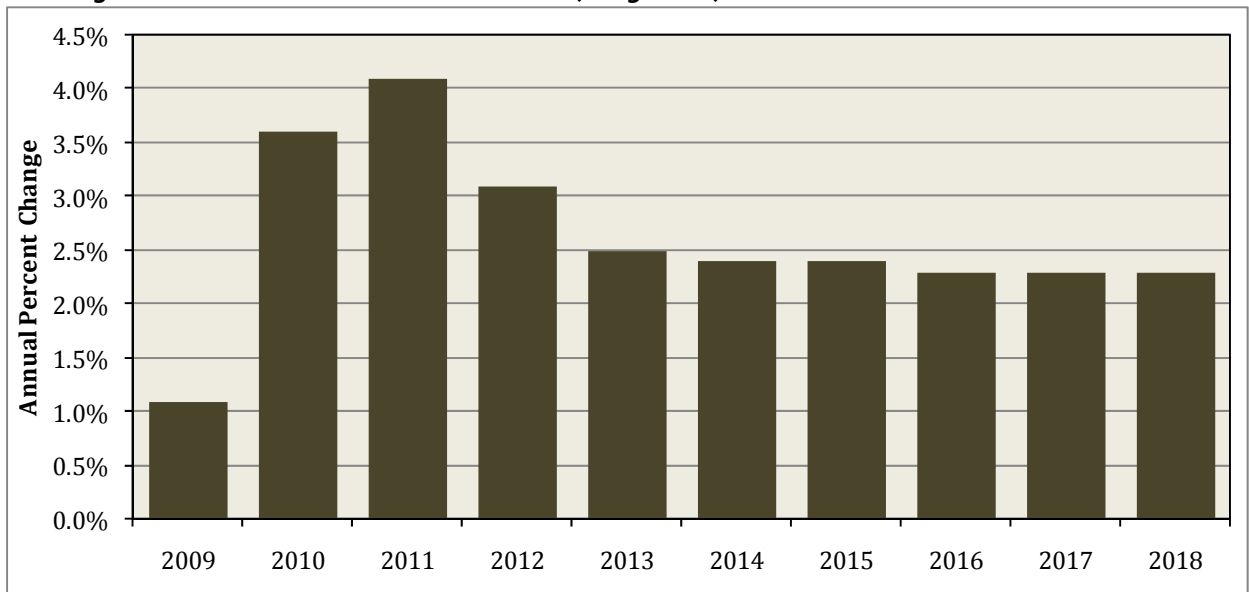


Concerns remain that the economy’s current challenges—falling housing prices, problems in financial markets, and high input prices could cause the current downturn to be deeper and more pronounced than recent recessionary periods. Many experts predict the current downturn to resemble that witnessed during 1990-91 recession. The economic outlook could deteriorate even further if many banks become insolvent or if the financial crisis spreads more widely to global financial markets. However, it appears that global coordinated efforts among central bankers and governments to foster stability in the financial sector have successfully abated structural failures of the financial system.

### LONG-TERM OUTLOOK

Beyond the near-term, the United States economy is expected to return to a typical growth cycle, averaging 2.7% annual GDP growth from 2010 to 2018—slightly faster than potential GDP, which will average 2.4% over the same interval. The widened gap between real GDP and its potential level created as a result of slow growth in 2008 and 2009 will be narrowed by accelerated growth from 2010 to 2012. Beyond 2012 real output is expected to grow at the same pace, on average, as potential GDP through 2018—keeping the output gap proximate to zero.

FIGURE 5: FORECASTED U.S. REAL GDP GROWTH (2009-2018)



SOURCE: Congressional Budget Office (CBO)

Nationally, employment is expected to grow at an average annual rate of 0.7% from 2010 to 2018, indicating further increase in worker productivity on the horizon. Over the long-term, the inflation rate will largely be determined by monetary policy decisions, specifically, that the Federal Reserve can, on average, maintain core inflation (as measured by the PCE price index) around 2% through 2018. Consumer inflation, as measured by the CPI-U is expected to average 2.2% annually over the same interval.

In the coming growth cycle, the United States’ commitment to renewable energy transition is expected to play a major role, a reality that is likely to garner greater political support following the outcome of the 2008 election cycle. In addition to environmental concerns, growth in domestic energy production—through both renewable and non-renewable sources, is being increasingly discussed through the prism of energy independence and energy security—the foundation of which is sufficient, reliable, and affordable energy. The



economic advantages of this transition encompass the macroeconomic benefits of investment in new technologies, greater economic productivity, and improvements in the U.S. balance of trade. At a microeconomic level, benefits include lower business costs and reduced household energy expenditures. Taken together, these advantages are manifested in job growth, income growth, and ancillary benefits to the environment.

Over the next ten years, green industries are expected to create over 2.5 million new jobs in the United States across a range of manufacturing and service industries. Over a longer 30-year horizon, forecasted job growth is expected to reach 4.2 million new jobs in the U.S. economy.

FIGURE 6: POTENTIAL NEW GREEN JOBS, (2008-2038)

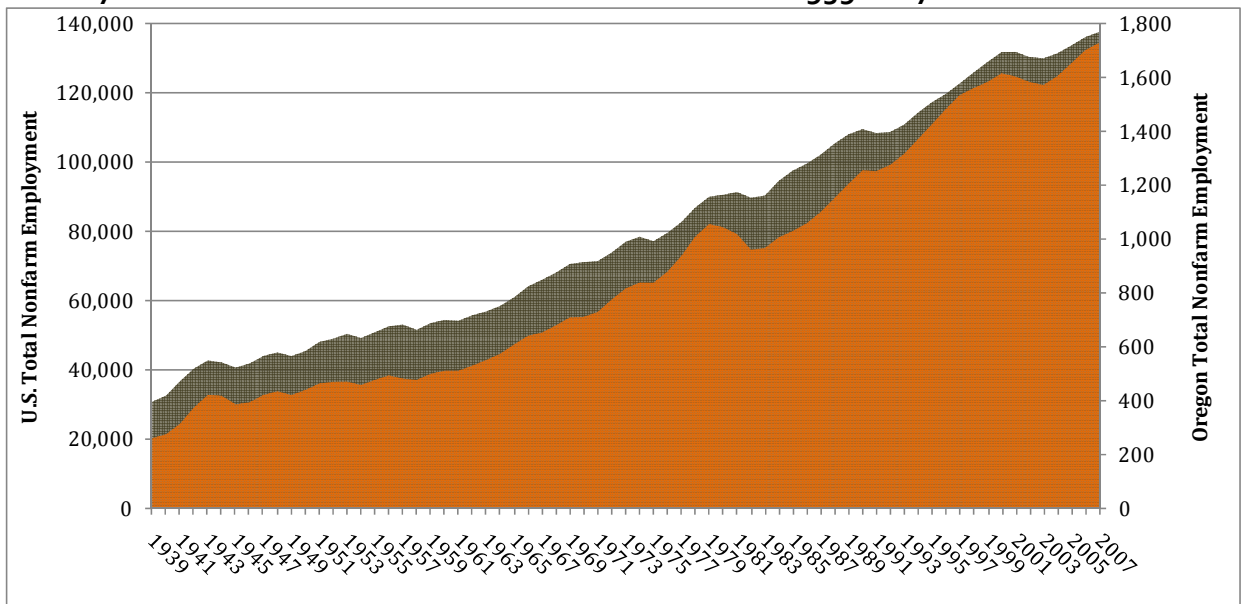
	2018	2028	2038
Renewable Power generation	407,200	802,000	1,236,800
Residential & Commercial Retrofitting	81,000	81,000	81,000
Renewable Transportation Fuels	1,205,700	1,437,700	1,492,000
Engineering, Legal, Research, & Consulting	846,900	1,160,300	1,404,900
<b>TOTAL</b>	<b>2,540,800</b>	<b>3,481,000</b>	<b>4,214,700</b>

SOURCE: Global Insight

### STATE & REGIONAL TRENDS

Oregon experienced exceptional employment growth between mid-2003 until 2007. Growth began slowing towards the end of 2006 and continued through 2007. The Oregon Employment Department’s employment decline estimates for second quarter 2008 indicate that Oregon is following the U.S. economy into a slowdown. Figure 7 demonstrates how closely tied the Oregon economy is to economic trends at the national level. Shaded in orange is the trend in Oregon’s annual non-farm employment levels,

FIGURE 7: U.S. AND OREGON HISTORICAL EMPLOYMENT TREND: 1939-2007





Since 1939, Oregon has tracked the peaks and valleys of the U.S. economy. While U.S. non-farm employment is shaded in gray. Also illustrated is improved diversity in Oregon's economy as evidenced by alleviation of the volatility that plagued Oregon during the 1980's recession.

The sectors contributing to job decline in Oregon are roughly parallel to sectors dragging down the U.S. economy, namely Construction, Manufacturing, Retail Trade, Information, Financial Activities and Leisure & Hospitality. Considering the turmoil and uncertainty in the financial markets at the National level, it is not surprising that employment across all sectors is forecasted to decline through the end of 2009. The Oregon Office of Economic Analysis (OEA) reports a jobs decline of 6.8% (2.5% year-over-year) during the fourth quarter of 2008. OEA projections for 2009 indicate an overall decline of 4.3% for the year with growth of 0.1% expected in 2010 as job losses stabilize. First and second quarters 2009 are expected to see job declines of 7.2% and 3.6%, respectively.<sup>1</sup>

The computer and electronics equipment sector declined by 4.5%, or nearly 39,000 jobs, during 2008. OEA forecasts further declines of about 10.9% in 2009's 2008 annual forecast for the sector is slightly less dismal at a 4.7% employment decline with a 1.1% decline in 2009. The sector is expected to rebound with jobs gains by 2010. Private education and health services, on the other hand, gained jobs at a rate of 3.9% during 2008 and is expected to experience 3.0% growth during 2009.

The Portland Metro area's job growth has been slowing since second quarter 2006 and estimates for the fourth quarter 2008 show job decline of 1.9%. The current weakness is largely due to the housing slowdown and its impact on construction which has rippled through to finance and other closely related sectors, such as wood products. In addition, high-tech manufacturers have been shedding workers with Washington County leading the decline—the County has lost 5% of its high-tech employment since mid-2007.

Oregon's economic growth since 2005 is due in large part to explosive growth in exports. For example, between first quarter 2007 and first quarter 2008, Oregon exports increased by 23.7%, more than six points higher than the U.S. growth during the same period. Oregon's export growth is primarily due to export growth in agricultural products which grew by 82.2% and computer and electronics products which grew by 24.8%. Computer and electronics account for nearly 40% of total Oregon exports. Several other industries experienced high growth in exports during the same period: Waste and Scrap (+71.6%), Nonmetallic Mineral Products (+54.0%), Chemicals (+47.6%), Primary Metal Manufacturing (+31.0%), Miscellaneous Manufactured Commodities (+26.0%) and Wood Products (+23.8%).

## STATE & REGIONAL OUTLOOK

Moving beyond 2010, the assumed year by which the economy pulls out of the current slowdown, Oregon's economic growth is expected to outpace growth at the National level. By 2016, the State's employment is expected to grow by 14%. Oregon's high growth prospects are due to a number of factors:

- ◇ Population growth, primarily due to net in-migration
- ◇ Relative location near Canada and Asian countries
- ◇ High commodity prices
- ◇ Export growth
- ◇ Affordable housing
- ◇ Quality of life
- ◇ Some of the lowest business costs in the nation

---

<sup>1</sup> Oregon Office of Economic Analysis, Economic and Revenue Forecast, Vol. 29, No. 1, March 2009.



In addition to the factors listed above are several State initiatives which may continue to change Oregon's economic landscape and drive growth in key sectors. The Oregon Innovation Council designed these initiatives as part of the 2007 Innovation Plan. Listed below, these initiatives are aimed at addressing key issues which have limited Oregon's ability to capture early stage and emerging industries in the past. For example, Oregon has lacked both "angels", investors who provide funding at the earliest stages of development, and venture capital firms. While Oregon has been closing the gap, venture capital funding is available at substantially greater levels in California and Washington. Further, Oregon has not had a strong research university and more importantly has not had strong collaboration between universities and private companies. Lastly, in many emerging industries Oregon has not had a critical mass or cluster of firms by which to attract similar companies or the management and technical workforce with the necessary experience. As mentioned above, the State initiatives below hope to address these critical vulnerabilities.

- **Manufacturing Competitiveness** - In the 2007 Oregon Innovation Plan, the Oregon Innovation Council proposed a State investment of \$5.37 million between 2007-2009 to expand workforce training programs and the Oregon University System's ability to enhance manufacturing industry innovation through equipment, top-notch faculty and partnerships with Oregon companies. As of the 2008 Oregon Business Plan Annual report, \$2.872 million had been invested into this initiative.
- **Innovation Accelerator Fund** - This plan calls for \$5 million to be invested in the "cultivation" of innovative ideas which arise every year from established and emerging firms, entrepreneurs and academic institutions.
- **Oregon Nanoscience and Microtechnology Institute (ONAMI)** - This proposal recommends an additional \$10 million investment between 2007-2009 for the continued support of this public-private partnership between the State's top public universities and leading Oregon high-technology companies. In addition to creating jobs and allowing Oregon to recruit talented researchers, already the State is realizing sizeable returns from ONAMI as technologies are transferred to the marketplace. To date an additional \$9 million has been invested into ONAMI.
- **Oregon Translational Research and Drug Development Institute (OTRADI)** - This public-private partnership seeks to support health care and biomedical research in the State by focusing on drug research and development for the treatment of infectious diseases which will feed into a separate innovation-to-market accelerator intended to support commercialization of products by Oregon companies. The State has invested \$5.25 million to date.
- **Bio-Economy and Sustainable Technologies (BEST) Center** - This public-private partnership intends to research and develop innovations related to bio-based technology, green buildings and clean energy. BEST is intended to enhance Oregon's competitive advantage in the growing "green" industry sector. To date, \$2.5 million has been invested.
- **Senate Bill 582** - The first of two Oregon Senate bills intended to promote innovation and emerging industry in the State, Senate Bill 582 increased the amount of allowable contributable funds University's may accept in order to establish the University Venture Development Fund. The Fund supports entrepreneurial training, education, research and startup companies.
- **Senate Bill 579** - Senate Bill 579 expanded the authority of the Oregon Growth Account allowing the Board to investment in emerging firms in early stages of development. In essence, the Senate Bill promotes growth in key target industries by providing early stage funding.
- **Transportation/Infrastructure** - Lastly are initiatives at the State and regional level to improve the State's transportation infrastructure including port districts, rail lines and airports. Included in this are highway expansion plans. Widening of Highway 217 has been approved by Metro and expansion plans are on-going for Highway 26.



## STATE & REGIONAL INDUSTRY CLUSTER TRENDS

### HIGH TECH<sup>2</sup>

Oregon’s high tech cluster was formed during the 1990s and experienced rapid growth until 2000. The industry employed just under 40,000 people in 1990 and by 2001 employed nearly 70,000 people. Following the dotcom era, the cluster went through a period of steep decline, shedding more than 10,000 jobs. However, since 2003 the cluster has shown moderate growth to reach a total employment of 57,900 people as of mid-2008.

Computer and electronics manufacturing accounts for a 69% share of the State’s high tech cluster. Nearly 66% of State employment in the sector is located in Washington County. In addition, the semi-conductor manufacturing sector is a predominant driver—accounting for three-quarters of total sector employment. Moreover, the computer and electronics manufacturing sector is characterized by relatively high wages. In 2007, the average wage per worker in the sector was \$88,222—more than double the \$39,566 Statewide average wage for all workers. The average wage for computer and electronics manufacturing workers in Washington County was \$98,068.

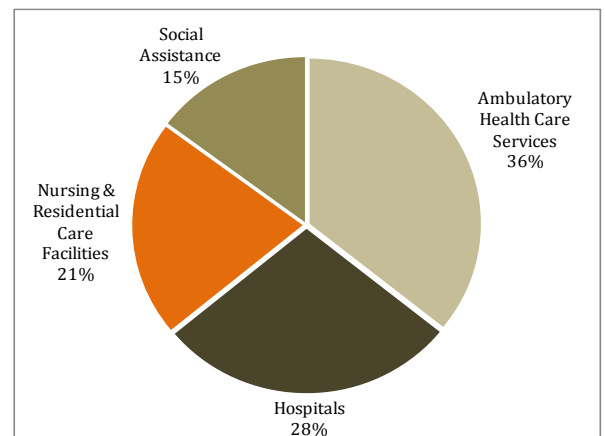
Systems design accounts for 16% of total State high tech employment or 9,200 jobs. Job growth in systems design is down nearly 20% from its 2001 high. Similar to computer and electronics manufacturing, the sector enjoys a relatively high average wage per worker of \$75,838. The third sector in the high tech cluster is software publishing. Unlike the computer and electronics manufacturing and systems design, it grew by 12.3% in 2007 after declining by a relatively negligible 1.1% between 2001 and 2006. It has a State high tech employment share of 15% or 9,100 employees. The sector’s average wage per worker is \$89,910.

The OED outlook for high tech is mixed. While computer and electronics manufacturing is expected decline by approximately 3% by 2016, systems design and software publishing are expected to grow by 14% and 18%, respectively. JOHNSON REID’S analysis of the outlook for high tech in Washington County and Forest Grove, departs from OED’s forecasts due in part to the indirect impacts of solar manufacturing in the region, as well as the outlook of major employers in the area. Regionally, Intel, a bellwether for high tech activity in the area has indicated that their capacity for two additional fabs at their Ronler Acres facility will most likely come online during the next 20 years. However, Merix Co. Forest Grove’s largest employer; is selling off excess land and their future expansionary efforts are likely to take place outside of Forest Grove.

### HEALTH CARE<sup>3</sup>

Oregon’s health care industry has shown astounding growth during the last 13 years, adding 61,000 employees or 51.2%. It has grown to be counted among Oregon’s largest sectors—capturing an 11.5% share of employment—roughly similar to Manufacturing, Retail Trade and Professional & Business Services. The projected Health Care sector employment gains of 51,300 employees (+29%) through 2016 far exceed statewide projections of 14% or projections for any other occupational group (the next largest group is Other Services, projected to grow by 19%). Of the sector’s included within Health Care: Ambulatory Health Care Services is projected to grow by 35%; Nursing and Residential Care Facilities

FIGURE 8: OREGON’S HEALTH CARE INDUSTRY



Source: Oregon Employment Department, 2007

<sup>2</sup> Unless otherwise cited, data in this section is from the Oregon Employment Department.

<sup>3</sup> Unless cited otherwise, data in this section is from the Oregon Employment Department.



by 30%; Hospitals by 26% and Social Assistance by 19%. Much of the expected growth in Health Care is driven by demographic changes as the U.S. population age 65 and older is expected to grow by 50% by 2020 and close to 125% by 2050.

The current composition of Oregon’s health care industry is shown in Figure 8. Ambulatory Health Care Services has an average annual salary of \$53,803 and Hospitals, \$49,942. The second two sectors have significantly lower annual wages: \$22,193 for Nursing and Residential Care Facilities and \$20,658 for Social Assistance.

Washington County has the second largest share of health care in the State as measured by employment. Multnomah County accounts for nearly 26.7% while Washington County accounts for 11.7% or 21,166 employees. Ambulatory and Health Care Services accounts for about 44% of Washington County’s health care industry. The Oregon Employment Department projects a gain of 18,500 health care workers by 2016 in Washington and Multnomah Counties. In Forest Grove, the industry has remained stable over the past five years, with negligible change or fluctuation of employment since 2002. Unique to Forest Grove among Washington County jurisdictions, the majority of health care employment is concentrated in Nursing and Residential Care Facilities, reflecting the City’s retirement age population base.

**SOLAR MANUFACTURING**

Oregon has witnessed explosive growth over the past couple years in Solar Photovoltaic (PV) manufacturing. This highly competitive industry is growing worldwide, but many European and Asian companies are choosing to locate in the U.S. Oregon has successfully recruited four manufacturers and is actively working with at least a half dozen more. Solar companies indicate interest in Oregon, and in particular, Washington County due to its semiconductor manufacturing cluster. The technological similarity of the two industries offer solar companies choosing to locate in Washington County a highly trained workforce with knowledge directly applicable to the Solar PV manufacturing process. Within Washington County, Hillsboro is most competitive in attracting Solar PV manufacturing firms interested in the region—offering better proximity to the metro area, suitable land supply, and an existing workforce. That said, considerable ancillary benefits are likely to impact the entire region, as suppliers, vendors, and support services to the process find expanded opportunities in the region—of which jurisdictions like Forest Grove are well suited to recruit.

**FIGURE 9: OREGON’S RECENT SOLAR PV MANUFACTURING ACTIVITY**

Company	Year Est. 1/	Location	Projected Jobs
PV Powered	2001	Bend	60 by 2008
Solaicx	2006	North Portland	100 by 2008
SolarWorld	2007	Hillsboro	2,000 by 2010
Peak Sun Silicon	2007	Millersburg	500 by 2011
XsunX	2008	Wood Village	160 by 2009
SpectraWatt	2008	Hillsboro	135 by 2009 2/
Sanya Electric Co.	2008	Salem	180 by 2009
<b>Total</b>			<b>3,135</b>

Source: Oregon Department of Energy, Oregonian

1/ Year company established operations in Oregon.

2/ SpectraWatt has indicated that their workforce may increase to 1,000 employees with the opening of a second plant in an undecided location.

Over the long-term, the solar industry’s success depends on its ability to continue to make cost and efficiency improvements—currently, solar cannot compete with wind power on a cost basis. Moreover, the industry’s continued growth is highly dependent on federal investment tax credits, which Congress recently extended for another eight years. The investment tax credit extension allows tax credits for residential and commercial



solar installations through 2016. The tax credits are seen as an economic driver, not only for solar manufacturing, but for the construction industry as well. The number of solar installations increased by 119% between 2005 and 2007. Since 2003, annual installed capacity has increased by about 250% sustaining an annual average growth rate of about 36%.<sup>4</sup>

Oregon manufacturers have the added benefit of the Business Energy Tax Credit (BETC), which offers a tax exemption up to 50% (limit \$10 million) of project costs for the construction of an alternative energy manufacturing facility. This tax credit was instrumental in recruiting SolarWorld and Sanyo Electric Co.

The solar industry is projected to add 62,000 jobs nationally by 2015 and about 10 million jobs worldwide by 2030.<sup>5</sup> Oregon is projected to add nearly 15,000 jobs by 2028, with most of the growth occurring in the next ten years.<sup>6</sup>

### **AGRICULTURE & FOOD PROCESSING**

Over the past year, Oregon has seen significant export growth, increasing to \$15.1 billion, a year-over-year increase of 25.8%. In addition to Computer & Electronics Manufacturing, Agricultural products are a large factor in Oregon's realized export growth. Among all of Oregon's export industries, Agriculture Products is second in export value, contributing \$2.3 billion or 15% of total export value. This represented an annual increase of 64.5%, the largest jump among Oregon industries. Food & Kindred Goods provided an additional \$300 million. While Agriculture and Food Products have benefited largely from recent high commodity prices, the last two quarters have seen food prices retreat notably, a trend that is likely to continue in coming periods.

The OED's outlook for Agriculture and Food Manufacturing in Oregon is rather bearish through 2016, with only 600 new jobs (0.25% AAGR) expected in Food Manufacturing. Non-farm agriculture employment is not forecasted by the OED.

### **DEMOGRAPHICS**

Forest Grove's population has grown by 16.5% (2.2% AAGR) since the 2000 Census, roughly consistent with overall County growth of 13.8% (1.86% AAGR). Likewise, Washington County has outpaced the Portland metro area's annual average growth of 1.34%.<sup>7</sup>

Unlike many Oregon counties, Washington County has not gained a large share of retirement age population. However, Forest Grove does have a higher share of population retirement-aged than Washington County. The issue will be further explored later in this document. In 2007, the Washington County share of population age 65 and older was significantly below State levels: 8.8% versus 12.5%. Washington County has a greater population age 19 and younger and 25 to 44 relative to the State distribution: 60.6% versus 53.2%.

An area's level of educational attainment is often used as a proxy for the skill level of the population base. From an Economic Development perspective, Washington County is at a slight competitive advantage regionally, with a higher distribution of higher educated persons—36.6% of local residents have a Bachelor's Degree or higher as compared to 34.7% at the Portland metro level. The City of Forest Grove has a 22.1% share of higher educated local residents according to the 2000 census. This is substantially less than the

---

<sup>4</sup> Solar Energy Industries Association and Prometheus Institute, "US Solar Industry Year in Review," 2007.

<sup>5</sup> Solar Energy Industries Association and Prometheus Institute, "US Solar Industry Year in Review," 2007 and Greenpeace International and European Photovoltaic Industry Association, "Solar Generation V," 2008.

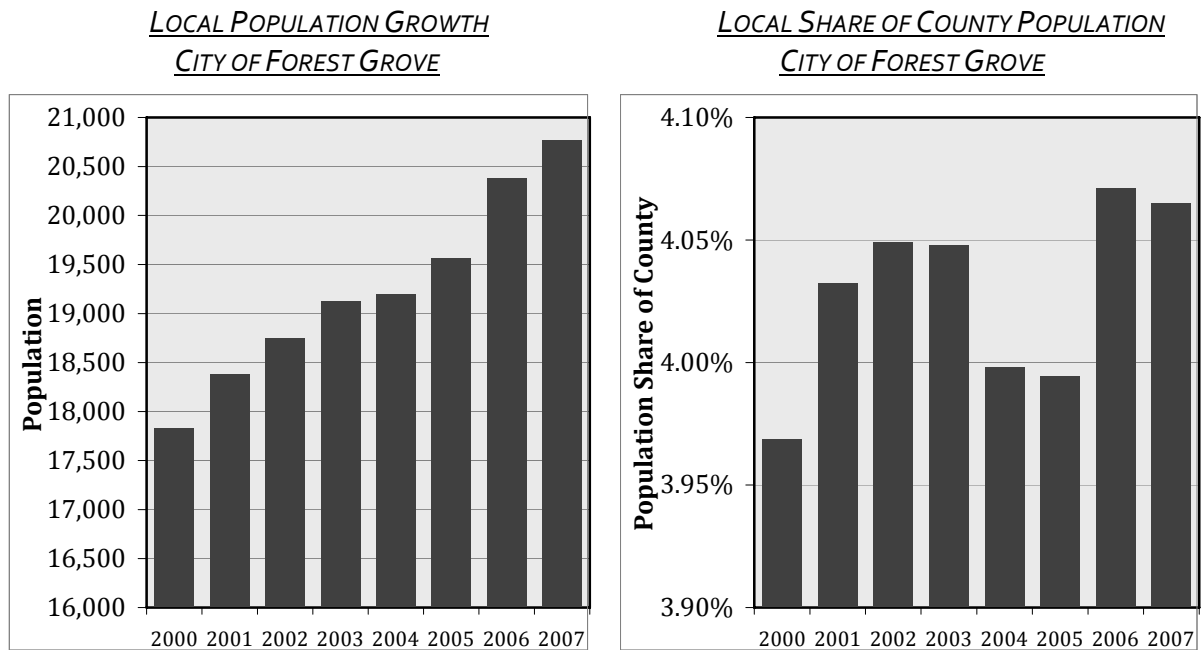
<sup>6</sup> Climate Solutions and Clean Edge, Inc., "Carbon-Free Prosperity 2025," October, 2008 and Oregon Department of Energy.

<sup>7</sup> Portland metro area includes Clackamas, Multnomah and Washington Counties



regional share and that of neighboring job centers, namely Hillsboro. This highlights concerns locally about the extent to which the local skill base matches the needs of high growth industry opportunities.

**FIGURE 10: LOCAL POPULATION GROWTH TRENDS**



SOURCE: Portland State University Population Research Center

Presumably reflecting the Portland metro area’s relatively younger demographic, all three metro counties have had a positive natural increase in population since 2000. However, net in-migration appears to be the larger contributor to demographic growth in Multnomah and Clackamas Counties by a share of 75% while natural increase is the larger contributor in Washington County by a share of 63%. Evaluating sources of in-migration is useful in understanding the interconnectedness of Washington County to the Portland metro area as well as to other regions in Oregon or elsewhere.

According to the United States Internal Revenue Service (IRS), Washington County is most closely associated with Multnomah and Clackamas Counties in terms of State in-migration patterns. In fact, up to 25% of in-migration to Washington County originates from Multnomah and Clackamas Counties. This follows anticipated logic given the geographical proximity of these areas. Lane, Benton, Jackson and Marion Counties also account for net in-migration, while Yamhill, Columbia, Deschutes and SW Washington Counties, such as Clark, Cowlitz and Skamania, account for a large portion of out-migration. However, the bulk of net in-migration originates from California, accounting for nearly 70% of net-migration. In aggregate, Washington County gained 10,043 migrants, about 2% of total population, between 2000 and 2006.

**EMPLOYMENT**

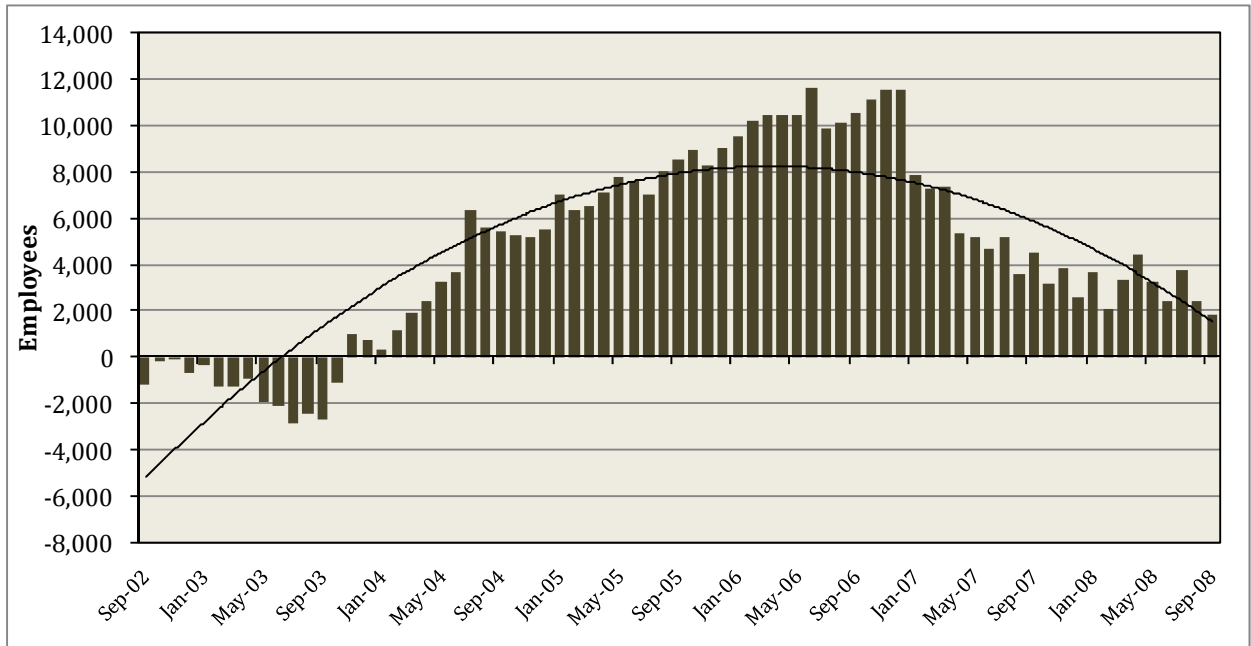
Unemployment in the Portland metro area has consistently remained lower than the broader State economy. In other words, regional volatility—as measured by unemployment—is significantly lower than at the State level. Similarly, unemployment in Washington County has consistently remained lower than that in the Portland metro area.





Since 2002, total employment growth in Washington County had remained strong, gaining 11.3%. The county's growth cycle, which began in late 2003, maintained momentum until early 2007. While the County is still demonstrating employment growth, it is measurably slower. Moreover, the slowing is expected to extend through early to mid-2009 and impact most industries.

**FIGURE 11: YEAR-OVER-YEAR EMPLOYMENT GROWTH IN WASHINGTON COUNTY: 2002-2008**



The largest sectors of the Washington County economy diverge somewhat from sector rankings of the State and metro area. For example, Manufacturing accounts for 19% of Washington County's economy whereas the share is nearly 12% at the State and metro area. On the other hand, Public Administration accounts for a correspondingly large share at the State (16.8%) and metro area (12.7%), but only an 8.5% share in Washington County. Portland metro and Washington County both have a relatively greater share of Professional & Business Services employment, 13.6% and 14.0%, respectively while the overall State share is 11.4%. However, in other sectors Washington County's employment share is roughly similar to State and metro levels. The City of Forest Grove generally adheres to Washington County's sector rankings, but is overwhelmingly driven by Manufacturing and Education & Health Services, which combine to account for over 60% employment in the City.

Washington County had numerous strong sectors during the five year period between 2002 and 2007, including Education & Health Services (+5,497 jobs), Public Administration (+3,821 jobs), Leisure & Hospitality Services (+3,606 jobs), Retail Trade (+3,246 jobs), Construction (+3,153 jobs), Professional & Business Services (+2,901 jobs), Wholesale Trade (+2,713 jobs) and Financial Activities (2,086 jobs) In all, the only industry to lose jobs was Transportation, Warehousing, & Utilities which shed about 827 jobs.

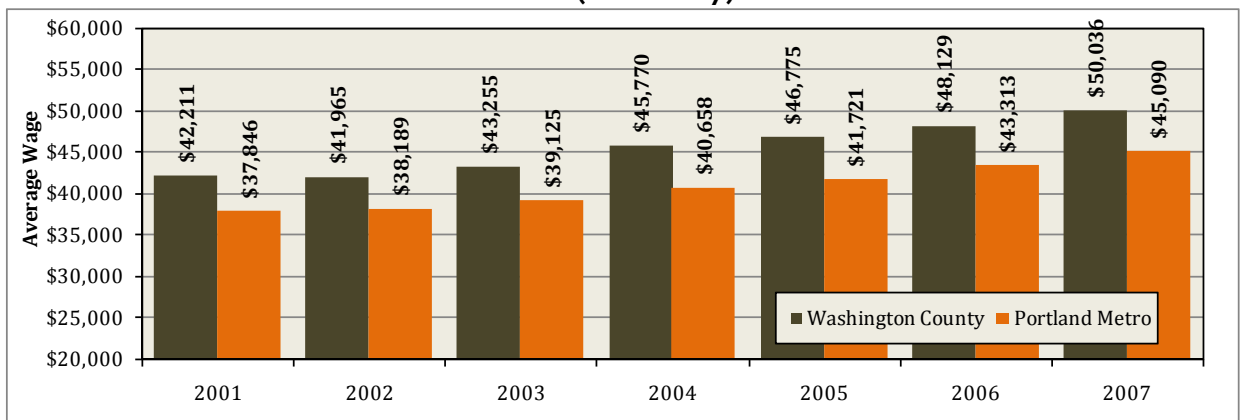
Between 2002 and 2007, the City of Forest Grove's employment grew very modestly, roughly 4.3% and accounted for a marginal share of Washington County's total covered employment. Over this five-year period, the City experienced its strongest job growth in Manufacturing (+143 jobs) and Education & Health Services (+80 jobs). Forest Grove lost roughly 140 jobs in Natural Resources, Information and Professional & Business Services combined.



## WAGES

With the exception of Public Administration, Leisure & Hospitality Services, Professional & Business Services and Financial Activities, average wage levels by sector in Washington County are at or above wage levels in the Portland metro area. Across all industries, Washington County wages averaged \$50,036, again 11.0% above the Portland metro \$45,090 average and 31.5% above the \$38,057 Oregon average. Since 2002, wage levels in Washington County have averaged 2.9% annual growth, slightly below the 3.3% annual growth at the State level. Similarly, at 3.2%, Forest Grove has remained roughly consistent with State wage growth. However, in 2007, the average wage in Forest Grove was \$33,732, well below the Washington County and Portland area averages.

**FIGURE 12: AVERAGE ANNUAL WAGE GROWTH (2002-2007)**



In Washington County, the highest paid industry sector is Wholesale Trade (\$90,315 annually), followed by Information (\$77,653) and Manufacturing (\$75,788). The lowest paid industries are Leisure & Hospitality (\$16,363) and Retail Trade (\$27,034). The City of Forest Grove’s highest paid industries are Wholesale Trade (\$65,236) and Natural Resources (\$49,913) followed by Manufacturing (\$40,010) and Construction (\$37,965). Its lowest paid industries are also Leisure & Hospitality (\$15,007) and Retail Trade (\$24,582).

## OTHER FACTORS FOR ECONOMIC DEVELOPMENT POTENTIAL

In addition to the demographic and economic trends analyzed above, other factors provide insight into the City’s economic development potential. These factors, together with their challenges and opportunities, are discussed briefly below:

- Amenity Values-** In land use planning parlance, amenity values are encompassed in the concept of livability. The term livability is rarely, if ever, used in economic terms. But amenity values are often characterized in the field of Economics and Economic Geography because amenity values have real economic consequences. For example, Jackson Wyoming is located in a remote area and has few of the typical economic assets required for a vibrant economy. It does, however, have high amenity values that translated into a vibrant economy (Teton County has a median household income of \$54,614 compared to \$52,122 in Washington County<sup>8</sup>). While amenity values are qualitative and subjective in nature which can make them challenging to effectively characterize in quantitative economic terms, their real economic consequences make them worth identifying. The City of Forest Grove and the greater Portland metro area have a countless amenities that create potential for economic opportunities. Forest Grove has a distinct advantage in Washington County with quality

<sup>8</sup> 2000 Census DP-3 Sample File



public schools, a revitalizing and attractive downtown core and a pleasant community atmosphere contributing to the appeal of the area.

- **Production Inputs (Non-Labor)** – In addition to rich soils and farmland suitable for agriculture, Forest Grove’s primary production advantage with respect to its industrial base has been plentiful, inexpensive power. Electricity in Forest Grove costs 40% less than in PGE-served areas. The low electricity prices have long been a competitive advantage, but the pricing is due to change. New rates from BPA will go into effect in October 2010, and new electricity demand, on the margin, will be subject to the new, higher rates. Therefore, the City cannot promise any new industry that the rates will continue to be low. The City has yet to decide how to manage the price change and that lack of certainty has made it difficult to attract new firms with a significant demand for power.
- **Educational and Technical Training Programs** – The Portland area offers multiple educational and training institutions which benefit the City of Forest Grove. In particular, Portland State University and Portland Community College design academic and outreach programs to meet the needs of the regional business community. Closer to home, Pacific University offers 36 undergraduate degrees among 19 different departments. The school is well known for its MFA in writing program and undergraduate programs in health related professions.

## COMPETITIVE POSITION AND TARGET INDUSTRY OPPORTUNITIES

Sound economies are best organized around a healthy set of industry clusters—similar and related businesses and industries that are mutually supportive, regionally competitive, attract capital investment, and encourage entrepreneurship. In his pioneering book “The Competitive Advantage of Nations”, Harvard Professor Michael Porter defines clusters as “geographic concentrations of inter-connected companies and institutions working in a common industry”. As an economic development strategy, specific clusters are targeted, and emerge, when a particular geography holds an innate competitive advantage in that industry—whether it is natural resources, human capital, political policies, or geography. For example, Oregon’s oldest industries—namely forestry and agriculture, emerged from physical and environmental attributes such as its climate, trees, soils, and access to shipping and distribution networks. In turn, these industries spawned interrelated clusters that include Food Processing & Manufacturing, Wood Product Manufacturing, Wholesaling & Distribution, Machinery Manufacturing, and host of other industries.

With shared ideas, concepts, and competition, knowledge spill-over within clusters encourages secondary effects—innovation, the creation start-ups and spin-off industries, and opportunities for suppliers, manufacturers, and customer. In turn, effects from job creation and wages support tertiary effects such as retail, services, construction, housing and institutional industries.

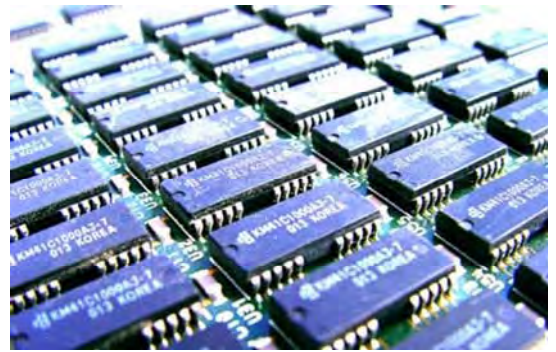
In light of the baseline economic analysis above, Johnson Reid reviewed Oregon Employment Department ES-202 employment data for the City of Forest Grove to determine industries and industry clusters in which the local economy is both regionally competitive and/or has growth potential. We have identified industry clusters with an existing competitive presence in Forest Grove and potentially emerging clusters. Identified targeted industries are evaluated in greater detail below.

### HIGH-TECH

In 1980, Tektronix moved its circuit board manufacturing plant to a site in Forest Grove and high-tech has played a major role in the local economy ever since. The Tektronix operation, later becoming Merix, has grown to become among the top three circuit board manufacturers in the United States and remains the largest employer in Forest Grove by a sizable margin. Additionally, Westak of Oregon is another circuit board manufacturer in the top ten list of employers in Forest Grove. The concentration of employment in High-Tech in Forest Grove is better than 15 times the national average.



While circuit board manufacturing is a significant part of the existing economy, its share of growth on the margin is not likely to be high. Rather, marginal high-tech growth is likely to be derived out of the firms that are connected to the cluster of high-tech industries centered in Hillsboro. Forest Grove’s livability in addition to utility rates makes it an attractive location to capture economic spillover from Hillsboro’s on-going development and economic growth in semiconductor and solar component manufacturing.



*Cluster Strengths*

- Proximity to Oregon’s largest High-Tech manufacturing center.
- Existing major High-Tech employers in Forest Grove.

*Cluster Challenges*

- Limited supply of industrial land, specifically shovel-ready large parcels.
- Forest Grove’s workforce composition does not match the needs of High-Tech firms.
- Uncertainty with respect to the future cost of utility rates have limited industrial marketability of Forest Grove.

**AGRICULTURE/FARM PRODUCTS**

The proximity of Forest Grove to high quality farmland and the City’s quality water supply has created opportunities for growth in food processing and specialty agriculture products. The city already has an existing economic base in food processing (J Lieb Foods), nursery & tree products (Hines Nursery), and specialty beverages (Sake One, McMenamins, wineries). On the margin, food processing in the region is not likely to realize significant growth, as agricultural land is shrinking over time. However, a specialty agriculture products cluster should be cultivated as growth opportunities exist. Moreover, the nature of Forest Grove’s specialty products—breweries, wineries, distilleries, etc. is closely related with leisure & tourism in the region.



*Cluster Strengths*

- Proximity to high-quality farmland and water supply.
- Existing Food Processing industry with workforce expertise.
- Has the ability to support a growing tourism industry.
- Geographic access to export markets.

*Cluster Challenges*

- Declining agriculture land will limit food processing growth on the margin.
- Declining food prices and rising input costs.
- Seasonality.



## TOURISM & WINERY DEVELOPMENT



The wine industry in Oregon is expected to continue its accelerated growth trend exhibited over the current decade. Since 2000 annual wine grape production has increased by over 66% in Oregon. Oregon's wine industry growth is largely attributed to growing worldwide popularity and increased market share of Pinot Noir. Oregon's climate is ideal for Pinot Noir grape growing. Pinot grapes account for over 55% of Oregon production. Forest Grove has the opportunity to become the center for wine based tourism in North Willamette Valley wine country.

The City of Forest Grove is currently undertaking efforts to "brand" the city, giving it a regional identity. The concept of Forest Grove as a "Gateway to Wine Country" is a popular option, facilitated both by Forest Grove's proximity to the metro area and by abundant outdoor recreation activities. Central to the development of Forest Grove's tourism industry is a proposed partnership between McMenamins Grand Lodge and the Washington County Visitors Association (WCVA). The partnership would see the development of the "North Willamette Valley Wine Center" on the Grand Lodge property in Forest Grove. The center would feature an expansion of additional and more amenitized hotel rooms, potential convention facilities, and tasting facilities for regional wine makers.

The development of a winery based tourism industry would likely prove supportive to other industries as well. For example, agritourism typically attracts a relatively affluent patronage that is likely to support higher-end restaurants and shops, enhancing the urban amenities and livability of the community.

### *Cluster Strengths*

- Geographic position in the Chehalem Mountain Wine District and outdoor recreation opportunities.
- An attractive downtown core, including Pacific University.
- Regionally drawing amenities such as Grand Lodge.
- Cluster development would provide tertiary benefits to other industries.
- Local wineries are currently small in scale, leaving high growth potential.

### *Cluster Challenges*

- Limited connectedness between the Grand Lodge and downtown.
- From a tourism perspective, Forest Grove is not necessarily an obvious wine country gateway.
- Regional competitiveness with other Willamette Valley wine districts.
- Wineries have noted that the permitting process in Washington County is difficult and convoluted, a competitive disadvantage relative to other wine counties.

## EDUCATION

In addition to an attractive sense of community, Forest Grove's livability is accentuated by its quality public school system. Increasingly considered a bedroom community, the public schools are a major employer in Forest Grove, collectively the third largest in 2007.

While employment in public education can be expected to grow commensurately with family households in the region, broader growth in the education sector will be born out of Pacific University. The school is currently in an expansionary phase. In 2005 the school complete an \$11 million LEED certified library, and new residence halls were completed in 2006 and 2008. In spring 2008, the University completed Berglund Hall, which now houses the School of Education. Employment at Pacific University (in Forest Grove) has grown by nearly 20% since 2002. The schools 2010 strategic plan outlines a goal to increase enrollment to



4,000 students, up from roughly 3,100 currently.

*Cluster Strengths*

- Population and enrollment growth on the horizon.
- Pacific University is an attractive asset to the Downtown Core.

*Cluster Challenges*

- Perceptions within the community of limited partnerships between Pacific University and Forest Grove at large.



**RETIREMENT SERVICES**



Largely the result of the general livability of the area and small-town community atmosphere, Forest Grove has an existing retirement aged population base far exceeding most jurisdictions in Washington County. According to the 2000 census, the percent of the population age 65 and older is over 55% higher in Forest Grove than in Washington County as a whole. Moreover, four of the City's top 25 employers are nursing care or elderly home facilities. Forest Grove's composition of employment in Nursing and Residential Care Facilities is nearly three times the national average.

In addition to direct retirement care services, roughly 20% of the City's population is aged 55 and older. These households provide broad support for leisure and financial activities in the local economy. Over the next five years the retirement age household population in Forest Grove is expected to increase by 16% (3% AAGR).

*Cluster Strengths*

- Livability and Leisure Activities
- Favorable Demographics



## ECONOMIC OPPORTUNITY STAKEHOLDER OUTREACH

---

### INTRODUCTION & ACKNOWLEDGEMENTS

During the course of assessing economic development opportunities for the City of Forest Grove and Western Washington County, JOHNSON REID sought input from both public and private economic and industry stakeholders at the State, regional and local level to provide valuable details about transition and outlook for the economy of Forest Grove, as well as the broader Western Washington County area. We wish to thank the following participants for their willingness to contribute, and the invaluable information they shared.

The Honorable Richard Kidd  
Mayor,  
City of Forest Grove

Michael Sykes  
City Manager,  
City of Forest Grove

Lisa Nakajima  
Forest Grove Planning  
Commission  
Ace Hardware

TJ Buehler  
President,  
Forest Grove Chamber of  
Commerce  
Drew & Buehler Financial  
Services

Jon Holan  
Director,  
City of Forest Grove Community  
Development

Jeff King  
Economic Development  
Coordinator,  
City of Forest Grove  
Mark Lewis  
President,  
Woodfold

Manny Berman  
Chief Operating Officer,  
Tuality Healthcare

Steve Krautscheid  
Vice President,  
Tuality Healthcare

Tim McCabe  
Director,  
State of Oregon Business  
Development Department

John (JJ) Johnston  
Vice President,  
Global Facilities & Environmental,  
Merix Corporation

Steve Boone  
CEO & President,  
Sake One

Jeffrey Grimm  
CFO,  
Gray & Co. Cherries

Jeff Duyck  
Commercial Property Owner,  
Agribusiness

Lyle Speisschart  
Farmer

Robin Klein  
Owner,  
Q&D Manufacturing

Dave Rasmussen  
Dax Construction

Don Jones  
Vice President/Branch Manager,  
Bank of the West

Amy Hansen  
Principal,  
WSC Insurance

Jason Roberts  
Cedar Canyon Water Company

Cindy Sturm  
Commercial Real Estate Broker

Patty Schmitz  
Realtor,  
John L. Scott

Brian Wilbur  
Pacific Insurance Partners

Tim McCabe  
Director,  
Oregon Economic & Community  
Development

Jonathan Schlueter  
Executive Director,  
Westside Economic Alliance

Tim Priest  
Director,  
Greenlight Greater Portland

Barry Starkman  
Project Manager,  
Genentech Hillsboro

Bob Beisner  
Vice President,  
SolarWorld Industries America

Mike Wells  
Government Affairs Chair,  
NAIOP  
Principal,  
Wells Otis Development

Bruce Carswell  
Former President,  
Portland & Western Railroad



## STAKEHOLDER OUTREACH PROCESS & FOCUS

In undertaking this Economic Opportunities Analysis process, the City of Forest Grove sought to understand the first-hand perspective of key economic agents, partners, and industry clusters that will drive long-term growth in Washington County and Hillsboro. Given the significant and rapid successes the State has begun to enjoy in the solar manufacturing and biotech industries, the City was also particularly interested in recent, new industries, their economic outlook for the region and the City, as well as their potential economic impact in terms of growth, ripple effects and other indirect economic benefits and resulting land need issues.

To this end, JOHNSON REID interviewed key economic stakeholders one-on-one and in focus group format regarding the future economic development potential of Forest Grove. For each participant, questions in the sessions focused on the following three key areas with emphasis on existing and likely future industry clusters in Forest Grove and Western Washington County:

- *5-year, 20-year and 50-year perspectives and outlook on economic and urbanized land need in the Forest Grove market area;*
- *Forest Grove and Washington County's competitive strengths and opportunities given short and long-term perspectives;*
- *Potential obstacles to short-term and long-term opportunities in Forest Grove and Washington County.*

The following summarizes the key themes we heard.

**Livability.** Many interviewees noted Forest Grove's quiet small-town atmosphere, and described it as an asset.

- It is isolated from the rest of the metropolitan area, and that helps maintain its quaint character.
- The small-town feel can help reduce red tape because everyone knows each other, and it is easy to reach City staff and elected officials.

**Sense of Community.** Connected to livability, most of the interviewees talked about the town being full of nice people and that there is a sense of community.

- No interviewee expressed an opposing opinion.
- Many interviewees noted that the people in Forest Grove work together for a common good.
- Some noted that the new more expensive homes built on the west side of town have been purchased by people who work in Hillsboro. The homes are not as physically connected to the rest of the City as older homes, and the residents have not become part of the fabric of the community.

**Transportation.** Forest Grove is physically isolated from the rest of the metropolitan area, which has helped create a strong community.

- The isolation has a cost. Forest Grove is far from the transportation network, so transport costs are high.
- A 'quick-turn' industry that ships every two or three days is unlikely to locate in Forest Grove.
- For manufacturers in Forest Grove, freight is the largest cost line item.
- The City is unlikely to attract manufacturing firms because of its transportation issues.





- Many interviewees noted that the problem is not completely fixable, but the region could improve the roads on the west side.

There is a freight rail line to Forest Grove that primarily hauls forest products. For the most part, interviewees did not think the rail line could solve the high transportation costs, because most firms rely on trucks.

- Some individuals mentioned that a commuter line could be added to the rail line, or Tri-Met may extend the light rail system to Forest Grove.
- Interviewees felt that either rail service would reduce commuter costs for workers coming to Forest Grove.

**Electricity rates.** Electricity in Forest Grove costs 40% less than in PGE-served areas. The low electricity prices have long been a competitive advantage, but the pricing is due to change.

- New rates from BPA will go into effect in October 2010, and new electricity demand will be subject to the new, higher rates. Therefore, the City cannot promise any new industry that the rates will continue to be low.
- The City has not yet decided how to manage the price change, and that lack of certainty makes it difficult to attract new firms with a significant demand for power.
- A few individuals would like to see the City generate its own electricity.
- Many interviewees expressed concern about keeping electricity rates down for businesses as an important economic development tool.

**Utilities.** The City has a large water supply, and the water is high quality. They have redundancy in electricity supply and fiber optic optics.

**High-tech industries.** Many interviewees think that the City is well positioned to attract firms that are connected the cluster of high-tech industries centered in Hillsboro.

- Its positive features, such as livability and utilities, make the City appealing.
- But the City should be pro-active, or opportunities to capture the high-tech 'spillover' will be lost.
- The focus group noted that the City needs to understand what these firms need, so the City can work to make it available.
- Two factors mentioned by many interviewees were large industrial sites and coordinated economic development efforts.

**Large industrial sites.** There are no large parcels of industrial land available, preventing the City from being able to capture larger firms spilling over from Hillsboro.

- The vacant industrial land is not ready or available.
- The lack of available large sites is a serious problem.
- The City needs contiguous industrial land, if it is to capture any high-tech spillover.
- They now have one 35-acre certified site, and that is an improvement. But there is no industrial park with flex space, and not enough certified 'shovel-ready' sites.
- It can take six months to a year to get the required permits from ODOT, CWS, the Army Corps of Engineers, and others, and it takes too long for businesses that want to establish a facility quickly.
- The industrial sites on the market are not particularly flexible, and will not appeal to a wide variety of buyers.



**City Government.** The focus group reported that the City is pro-active and works hard to resolve problems quickly.

- The City is responsive to complaints.
- Because it a small tight-knit community, it is easy to find the right person to fix a problem.
- But some interviewers noted that there is not enough effort on economic development.
- There is no staff person dedicated to industrial recruitment.
- New development outside the existing service area must pay for its own infrastructure, which can completely inhibit some development.
- The City is trending toward becoming a bedroom community, and it needs to focus on economic development to expand its industrial and commercial base.
- Some interviewees reported that the City is focused on the downtown, and can sometimes forget about other businesses.

**Workforce.** Most interviewees felt they can find low and medium-skilled workers. But it is difficult to attract workers with a specialized skill set. A few interviewees explained that the lack of urban amenities, such as good restaurants, make it difficult to attract very high-skilled workers.

**Downtown.** The downtown has improved in the last ten years, but there is plenty of room for improvement.

- There are a number of vacant buildings and lots of hobby businesses.
- There is room for more productive retail.
- Land tends to be underused in the downtown.
- Many interviewers argued that if the downtown were more vibrant, economic development would follow.
- The lack of a quality restaurant makes it difficult to entertain business customers.

**Pacific University.** The University contributes to the physical appearance of the town and its cultural activities add to the vibrancy of the downtown.

- The interviewees agreed that Pacific University is an asset to Forest Grove.
- Some reported there are missed opportunities to partner with it.
- Local retailers do not coordinate with the University to take advantage of events such as Parents Weekend.
- The students do not frequent restaurants or other businesses in town. Students have complained about having few places to go in town.

**Tourism and Winery Development.** The wine and tourism industry have an opportunity to partner and grow; a number of interviewees were optimistic about the potential for growth for both industries.

- The idea of establishing Forest Grove as the “Gateway to Wine Country” appeals to many, and the name may become part of the branding effort currently underway.
- The area has the potential to become a wine center of western metro-area wine-based tourism.
- It is at the edge of the metropolitan area and close to outdoor recreation.
- Expanded bike trails and path networks can add to the appeal of the area.

There are plans underway to establish a North Willamette Valley wine center in association with the McMenamin’s Grand Lodge and the Washington County Visitors Association (WCVA).



- The Grand Lodge is now financially successful, and some interviewees reported that the owners have plans to add more buildings and more hotel rooms, that are higher quality than the existing rooms. The expansion could include convention facilities and services focused on the local wineries (e.g., wine tasting and food/wine pairings).
- The McMenamín's facility was noted as an asset to the community, but that it is currently isolated from the rest of town. It has no clear connection to the downtown, and many guests never leave the grounds.
- Improving its connection to the rest of the town will enhance the community's opportunities to expand tourism-related businesses.

The wine business is growing and expected to continue growing.

- Demand is still greater than supply.
- One reason for expected growth is that pinot noir wine continues to carve out a bigger share of the wine market, and this area is ideal for pinot noir grapes.
- Many nearby wineries are small scale, and have potential to grow.
- It was noted that it is difficult to get a winery permit in Washington County—Yamhill County makes it much easier to obtain the necessary permits. The administrative difficulty in Washington is a serious impediment to new and growing wineries.

**Farm Products.** Some participants discussed the importance of industries tied to agriculture, though information was decidedly mixed.

- There area is well positioned to firms that make specialty agricultural products, such as J. Lieb Foods and Sake Wines.
- Some interviewees believe that these industries should be cultivated and they have growth potential.
- The proximity to high-quality farmland and the access to the City's quality water supply create an opportunity for food processors, breweries, and distilleries.
- Others said that the food-processing industries are not likely to grow, because agricultural land is shrinking.
- New growth opportunity was cited as depending upon entrepreneurial success, such as new value added uses of existing or easily suitable crops with pumpkin seed niche mentioned as an example with mixed results.
- Reading consumer and production trends was cited as being very important for identifying the next niche foodstuff product and staying ahead of the opportunity.
- Concern was expressed by some for the urbanized use of land north of Forest Grove because of production value of lands in the upper Council Creek watershed.
- Conflict between agricultural uses getting goods to market and urbanized road and highway uses was also expressed.



## 20-YEAR EMPLOYMENT FORECAST

---

### INTRODUCTION

This analysis outlines a forecast of employment within the City of Forest Grove Urban Area, referred to hereafter in this section simply as “Forest Grove.” The employment forecasts were generated through 2028. The primary source of data on current employment patterns since the 2002 Metro Urban Growth Report was derived from the State of Oregon Employment Department’s ES-202 reports.

Forest Grove’s employment forecast is estimated according to two varying methods. First, Forest Grove’s employment forecast is determined in terms of its “organic” growth potential consistent with the 2002 Metro Urban Growth Report metro area economic forecast. In other words, “organic” growth is what may be achieved based on Forest Grove’s own existing and future industries as well as its individual competitive advantage. The methodology used to reach this baseline forecast is expounded in detail below.

Second, two alternative employment forecasts are estimated based on the growth potential of the City of Hillsboro and that jurisdiction’s economic effect upon Forest Grove. During the course of completing its own Economic Opportunity Analysis, the City of Hillsboro determined that its growth potential exceeds its ability to provide sufficient land of the sizes and types that its targeted high-tech clusters will require, particularly over the fifty-year horizon. While the City of Hillsboro has decided that it will focus its economic development efforts on targeting “cluster anchor” industrial users, or those that generally require large industrial parcels, the coordination of economic development and employment land provision between the members of the Western Washington County subarea—Hillsboro, Forest Grove, Cornelius, North Plains and Banks—is integral to regional growth prospects.

Without the provision of industrial acreage in more moderate parcel and site sizes by the partner cities in Western Washington County, larger high-tech cluster industrial recruitment in general may likely be compromised. Although the impact of Hillsboro’s growth on the region is most important over the fifty-year planning period, the twenty-year horizon will require increasing coordination among the five cities as well as Forest Grove’s ability to accommodate spillover industry. These assumptions provide the basis of the alternative medium and high employment forecasts, which both assume Forest Grove captures a varying percentage of Hillsboro’s spillover growth. As with the baseline forecast, the methodology used to reach the medium and high forecasts is provided in detail below.

### CREATING A BASE YEAR ESTIMATE

#### TOTAL CURRENT EMPLOYMENT (2007)

For the year 2007, ES-202 reports estimate employment in Forest Grove to total 7,425 employees. However, our source ES-202 data reports “covered employment” only—employer firms tracked through unemployment insurance. Because this data omits a significant portion of the workforce that are not covered (i.e. sole-proprietors, self-employed, commission workers) we must revise our estimates to reflect true employment. Estimates from the Bureau of Economic Analysis (BEA) indicate that covered employment accounts for approximately 85% of total employment in Washington County, with individual estimates reported by broad sector. Assuming that Forest Grove roughly tracks regional trends, we estimate the *total* employed level in 2007 to be in the area 9,296 employees.



**FIGURE 13: CONVERSION OF COVERED EMPLOYMENT TO TOTAL EMPLOYMENT (2007)**

NAICS	2007 Observed 2/	Covered Share of Total Employment /2	Estimated Total Employment (2007)
Natural Resources	512	54.6%	937
Construction	370	81.9%	451
Manufacturing	2,274	97.8%	2,325
Wholesale Trade	60	88.9%	67
Retail Trade	520	85.5%	608
T.W.U. 1/	127	81.8%	155
Information	27	90.5%	30
Financial Activities	162	63.5%	255
Professional & Business	221	79.9%	276
Education & Health	2,196	73.4%	2,991
Leisure & Hospitality	578	87.2%	663
Other Services	200	56.0%	357
Public Administration	180	100.0%	180
<b>TOTAL</b>	<b>7,425</b>	<b>79.9%</b>	<b>9,296</b>

1/ Transportation, Warehousing, & Utilities

2/From Oregon Employment Department ES-202 Data

3/ Bureau of Economic Analysis (BEA), Share for Washington County

Source: JOHNSON REID

**TOTAL ESTIMATED EMPLOYMENT (2008)**

The second step to creating our base year estimate is updating our 2007 total employment estimate to the current period. This process involves the evaluation of countywide economic trends between 2007 and 2008 in addition to current knowledge about the local economic activity in Forest Grove. Outlined in Figure 14, we assume that between 2007 and 2008 the Forest Grove economy contracted slightly, by a margin of -2.2% to 9,092 employees. This estimate will be utilized as the basis of our long-term employment forecast.

**FIGURE 14: UPDATING 2007 TOTAL EMPLOYMENT TO THE CURRENT PERIOD (2008)**

NAICS	2007 Total Employment	Short-Term Annual Growth Assumption 2/	2008 Total Employment Estimate
Natural Resources	937	0.0%	937
Construction	451	-6.9%	420
Manufacturing	2,325	-5.5%	2,197
Wholesale Trade	67	0.0%	67
Retail Trade	608	-1.3%	600
T.W.U. 1/	155	0.0%	155
Information	30	2.5%	30
Financial Activities	255	-5.8%	240
Professional & Business	276	-3.7%	266
Education & Health	2,991	-0.4%	2,979
Leisure & Hospitality	663	1.0%	670
Other Services	357	-2.6%	348
Public Administration	180	0.9%	182
<b>TOTAL</b>	<b>9,296</b>	<b>-2.2%</b>	<b>9,092</b>

1/ Transportation, Warehousing, & Utilities

2/Assumes that growth in Forest Grove roughly tracks Washington County between 2007 and 2008

Source: JOHNSON REID



### ANTICIPATED EMPLOYMENT GROWTH

In fall 2002, Metro produced 2030 employment and population forecasts for the Portland Metropolitan Area (defined as the Oregon counties of Clackamas, Multnomah, Washington, and Yamhill in addition to Clark County in Washington State). In accordance to standards outlined in DLCD’s Goal 9 Handbook, our forecast of employment in Forest Grove will be coordinated with regional planning efforts put forth by Metro. Our methodology has three distinct steps:

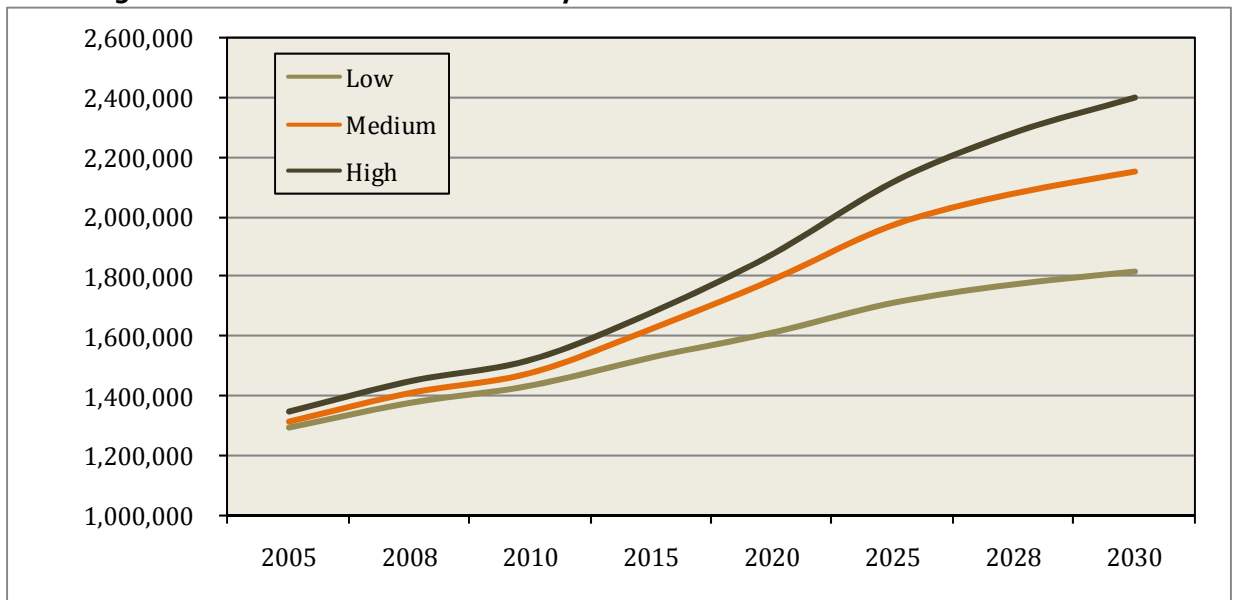
- 1) *Present ADOPTED regional growth forecasts for the Portland Metropolitan Area as produced by Metro;*
- 2) *Estimate Washington County’s share of anticipated future employment growth;*
- 3) *Forecast employment growth in Forest Grove based on its anticipated share of future economic growth in Washington County.*

### METRO’S REGIONAL FORECAST

Metro’s 2002 regional forecast of employment and population estimated a medium growth scenario of employment along with two alternative “pessimistic” and “optimistic” forecasts. The geographic region is for the then five-county metropolitan area. The methodology employed by Metro can be reviewed in the document available online.<sup>9</sup>

Using extrapolated estimates for 2008 and 2028, Metro’s forecast estimates, under a medium growth scenario, 668,467 new employment positions over the next 20-years, an increase of 47.4% (1.96% AAGR). Low and high growth scenarios round out a total forecast range of 398,691 to 835,842 new jobs over the 20-year planning period.

**FIGURE 15: REGIONAL EMPLOYMENT GROWTH, PORTLAND METROPOLITAN AREA**



SOURCE: Metro

### WASHINGTON COUNTY EMPLOYMENT GROWTH

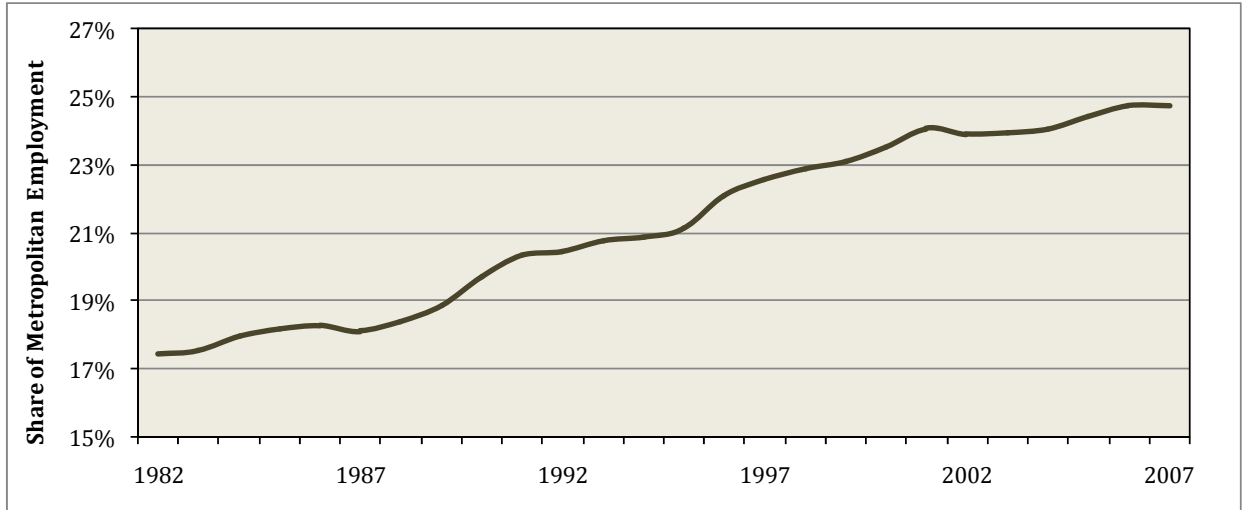
Since 1982, growth in the Washington County economy has exceeded that of any other county in the metropolitan area as measured by employment. Over this interval Washington County’s share of regional employment has increased markedly from 17.5% to 24.7% in 25 years, according to estimates from the Oregon Employment Department.

<sup>9</sup> [http://www.oregonmetro.gov/files/maps/2000\\_2030regionalforecastsept2002.pdf](http://www.oregonmetro.gov/files/maps/2000_2030regionalforecastsept2002.pdf)



Over the past quarter century, the Washington County employment base has nearly tripled, adding nearly 160,000 new payroll jobs. Over the last ten years, Washington County has captured 41% of total employment growth across the Portland Metropolitan Area. This interval includes the only period of economic contraction (2001-2002 following the tech bubble) Washington County has seen in the last 25 years.

**FIGURE 16: WASHINGTON COUNTY SHARE OF METROPOLITAN AREA EMPLOYMENT**



SOURCE: Oregon Employment Department and Johnson Reid

To estimate total employment capture in Washington County over the 20-year planning period, we assume that over the next ten years Washington County will at least continue to capture a similar share of economic activity. Over the broader 20-year planning period, we anticipate Washington County's capture of regional growth to trend toward its exhibited capture over the last 25-years, roughly 32% new employment growth.

Coupled with the fact that Washington County is home to a significant share of the region's employment land suitable for tomorrow's industry, we can conservatively expect this trend to continue into the foreseeable future. When applied to Metro's regional employment forecast, extrapolated to 2008 and 2028 periods, Washington County can expect to capture over 200,000 new jobs through 2028. We forecast annual growth in the range of 1.5% to 2.98% over the planning period with the creation of 116,000 to 252,000 new jobs.

### **BASELINE FOREST GROVE EMPLOYMENT GROWTH**

In 2007, the Forest Grove economy comprised roughly 2.75% of the Washington County economy as measured by employment. The Baseline forecast assumes Forest Grove will continue to capture a similar share of employment growth over the planning period. This assumption is conservative in light of Forest Grove's roughly 8% share of developable employment land in Washington County. Through 2028, the baseline forecast translates into 5,748 (2.45% AAGR) new jobs in Forest Grove based on Metro's adopted regional forecast.

### **BASELINE FOREST GROVE EMPLOYMENT FORECAST BY INDUSTRY SECTOR**

For the purposes of identifying land need, we now stratify total employment growth estimated above across employment sectors in the Forest Grove economy. This is an important step in the analysis as different industry sectors require varying types and characteristics of land. In Figure 17, the total baseline employment forecast is stratified across industry sectors based on Oregon Employment Department (OED) Region 2 forecasts, historical trends from ES-202 reports, interviews with major employers in the area and State and local officials and the policy goals and objectives outlined by the City.



Figure 17 presents a forecast of total employment for Forest Grove between 2008 and 2028. As shown, the baseline employment forecast anticipates an increase of 5,748 jobs, reflecting an average annual growth rate of 2.5%. Significant employment gains are expected in existing employment sectors including Manufacturing and Education & Health Services. Currently, the Professional & Business Services sector is grossly underrepresented in the Forest Grove economy, with an employment density for the sector roughly 20% of the national average. These services, which include everything from law services and administration to waste remediation are likely being provided by regional firms outside of Forest Grove, namely Hillsboro and Portland. Over the course of the planning period, we expect the maturation of the Forest Grove economy and potential spillover effects from on-going economic growth regionally to produce noteworthy growth in professional services on the margin.

**FIGURE 17: EMPLOYMENT FORECAST BY SECTOR, FOREST GROVE, OREGON (2008-2028)**

Baseline Growth Forecast NAICS	Base Year	Employment Forecast				2008-2028 Growth	
	2008	2013	2018	2023	2028	Jobs	AAGR
Natural Resources	937	937	937	937	937	0	0.0%
Construction	420	475	528	595	656	236	2.3%
Manufacturing	2,197	2,572	2,945	3,426	3,888	1,691	2.9%
Wholesale Trade	67	73	79	87	93	26	1.7%
Retail Trade	600	680	757	854	944	343	2.3%
T.W.U.	155	176	195	220	243	89	2.3%
Information	30	33	35	38	41	10	1.5%
Financial Activities	240	264	286	313	337	97	1.7%
Professional & Business	266	344	428	546	670	404	4.7%
Education & Health	2,979	3,460	3,933	4,540	5,118	2,139	2.7%
Leisure & Hospitality	670	783	896	1,041	1,180	510	2.9%
Other Services	348	380	410	446	479	131	1.6%
Public Administration	182	199	216	235	253	72	1.7%
<b>TOTAL</b>	<b>9,092</b>	<b>10,377</b>	<b>11,646</b>	<b>13,278</b>	<b>14,840</b>	<b>5,748</b>	<b>2.5%</b>

SOURCES: Oregon Employment Department Regional Forecasts, Oregon ES-202 reports, Local Interviews, and JOHNSON REID

### ALTERNATIVE GROWTH SCENARIOS

The baseline scenario evaluated above is based on the estimated Washington County share of Metro's adopted regional employment forecast, incorporating a share of growth allocated to Forest Grove based on historical capture and available land. However as discussed above, Hillsboro is establishing a policy objective to create a solar energy cluster in Hillsboro and Washington County. Considering the recent activity in Hillsboro with the operations of SolarWorld, including detailed plans underway for a second phase and already slated to bring 2,000-2,500 solar manufacturing jobs to Hillsboro in the next two years alone, this objective is increasingly viable. The City's policy is to plan for local growth similar to the tech boom that hit Hillsboro in the 1990's. This path could lead to the creation of thousands of manufacturing jobs in the local economy. Between 1987 and 2000 Washington County's high tech manufacturing employment nearly doubled, adding close to 15,000 jobs. During that period, the Washington County economy added over 115,000 jobs growing by an annual average rate of 5.7%.

The City has also targeted the biotech sector. Oregon's biotech projections are uncertain. For example, the industry faces challenges at the State level such as a lack of seed and venture capital funding, lack of major biomedical research university and agglomeration. With this said, the potential for Hillsboro to attract biotech companies has been greatly increased by the presence of Genentech. The most viable addition to Hillsboro is biotech contract manufacturing.

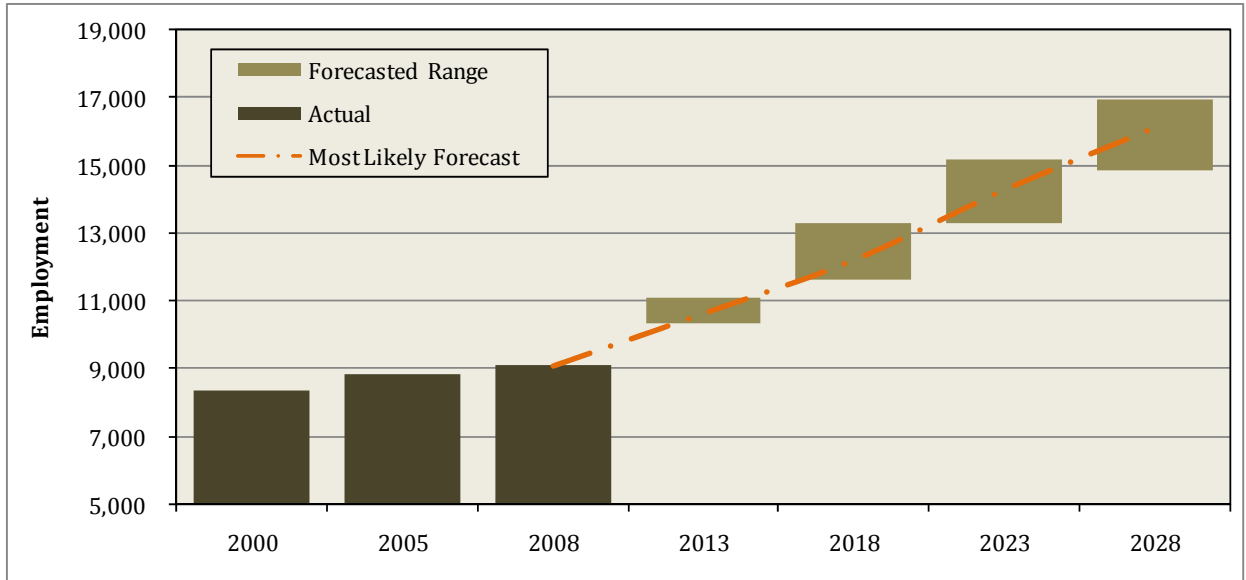
Current economic development research conducted by JOHNSON REID on behalf of the City of Hillsboro indicated emerging cluster economic development could translate into 8,121 to 13,810 new employment





positions when indirect and induced effects are considered. However, despite considerable economic development potential and an established industrial recruitment program, available employment land suitable for cluster development over the long term is not likely to be sufficient in Hillsboro to accommodate burgeoning demand. As a result, neighboring jurisdictions with geographical proximity, suitable land and strong community assets have the potential to capture spillover economic impacts from cluster emergence in Hillsboro. This analysis assumes Forest Grove has the ability to capture 15% of regional economic activity created by the emergence of solar and biotechnology clusters outlined in JOHNSON REID's Hillsboro analysis. This methodology translates into an additional 1,275 to 2,128 jobs beyond the baseline capture forecast presented in Figure 17.

**FIGURE 18: TOTAL EMPLOYMENT FORECAST, FOREST GROVE, OREGON (2008-2028)**



The alternative forecasts have the greatest impacts on the manufacturing sector, of which the majority of direct employment in the emerging cluster is expected to be concentrated. Additionally, Professional & Business Services also displays a notable uptick under the alternative scenarios, with an increase of 588 to 712 new jobs over the forecast period.



**FIGURE 19: ALTERNATIVE GROWTH FORECASTS BY SECTOR, FOREST GROVE, OREGON (2008-2028)**

High Growth Forecast NAICS	Base Year	Employment Forecast				2008-2028 Growth	
	2008	2013	2018	2023	2028	Jobs	AAGR
Natural Resources	937	937	938	938	938	1	0.0%
Construction	420	477	531	598	660	240	2.3%
Manufacturing	2,197	3,108	4,194	4,825	5,455	3,258	4.7%
Wholesale Trade	67	80	96	106	115	48	2.7%
Retail Trade	600	694	789	891	987	386	2.5%
T.W.U.	155	181	207	234	259	104	2.6%
Information	30	41	55	61	67	36	4.0%
Financial Activities	240	270	301	331	358	118	2.0%
Professional & Business	266	443	657	815	979	712	6.7%
Education & Health	2,979	3,476	3,970	4,582	5,167	2,187	2.8%
Leisure & Hospitality	670	797	926	1,077	1,221	551	3.0%
Other Services	348	389	430	470	506	158	1.9%
Public Administration	182	200	218	239	257	75	1.7%
<b>TOTAL</b>	<b>9,092</b>	<b>11,093</b>	<b>13,313</b>	<b>15,166</b>	<b>16,968</b>	<b>7,876</b>	<b>3.2%</b>

Medium Growth Forecast NAICS	Base Year	Employment Forecast				2008-2028 Growth	
	2008	2013	2018	2023	2028	Jobs	AAGR
Natural Resources	937	937	937	938	938	1	0.0%
Construction	420	476	529	596	659	239	2.3%
Manufacturing	2,197	2,766	3,364	4,163	4,827	2,630	4.0%
Wholesale Trade	67	76	85	97	106	39	2.3%
Retail Trade	600	686	769	874	969	369	2.4%
T.W.U.	155	177	200	228	253	98	2.5%
Information	30	36	42	50	56	26	3.1%
Financial Activities	240	266	291	322	350	110	1.9%
Professional & Business	266	382	510	691	855	588	6.0%
Education & Health	2,979	3,466	3,946	4,563	5,147	2,168	2.8%
Leisure & Hospitality	670	789	907	1,060	1,205	535	3.0%
Other Services	348	384	417	459	495	147	1.8%
Public Administration	182	200	217	237	256	74	1.7%
<b>TOTAL</b>	<b>9,092</b>	<b>10,639</b>	<b>12,214</b>	<b>14,279</b>	<b>16,115</b>	<b>7,023</b>	<b>2.9%</b>

SOURCES: Oregon Employment Department Regional Forecasts, Oregon ES-202 reports, Local Interviews, and JOHNSON REID



# 20-YEAR EMPLOYMENT LAND NEEDS ANALYSIS

## INTRODUCTION

This section summarizes the projected need for commercial and industrial land associated with the employment projections through 2028. Results are followed by a description of the methodology employed by JOHNSON REID to project the need for commercial and industrial space, and subsequently, commercial and industrial land.

Determining the City’s required site types involves qualitative and quantitative analysis. The qualitative analysis describes the site characteristics expected to be demanded by firms during the planning period. There are three components to the quantitative analysis. The first describes the types of firms likely to locate in the City of Forest Grove during the planning period. This component was completed through the Target Industry Opportunities Analysis above. The second component involves projections of employment. These employment projections were summarized in the previous section. The third component combines these employment projections with the qualitative component of the Site Requirements analysis to project the commercial and industrial land need and the demanded numbers of sites.

## SUMMARY OF COMMERCIAL AND INDUSTRIAL LAND NEED FINDINGS

The results summarized in Figure 20 highlight projections of net new demand within the Forest Grove Urban Area for commercial and industrial land between 2008 and 2028. Detailed findings by use type and growth scenario are included in the technical appendix. Over the next twenty years, net new demand for commercial and industrial land is expected to range from 311 to 451 net buildable acres, contingent upon Forest Grove’s realized growth pattern through 2028. The medium growth scenario indicates that Forest Grove can expect aggregate commercial and industrial land need in the vicinity of 397 acres through 2028; additional acreage may be necessary to accommodate particular numbers and types of sites expected to be demanded.

These projections reflect *net* developable land, required only for building and impervious surface space requirements. Roads, right-of-ways, parks and public facilities, among other things necessary to serve projected land development, are not included. While the methodology is not based on a set density per acre assumption, the output reflects the following average jobs per net acre by broad employment land development categories. The following table expresses the average number of jobs per net acre based on Forest Grove’s unique economy end employment forecast through 2020, as well as the resulting, twenty-year land demand net acreage for Forest Grove as expressed in Figure 20.

AVERAGE JOBS/NET ACRE	
OFFICE COMMERCIAL	37.9
INDUSTRIAL	16.9
RETAIL COMMERCIAL	11.0
OVERNIGHT LODGING	10.9
SPECIALIZED USES 1/	24.2

1/ Hospitals, Clinics, etc. for employment not otherwise categorized.

The forecast reflects an expectation that future employment space needs will reflect a fairly consistent allocation across commercial office and industrial uses.



**FIGURE 20: PROJECTED AGGREGATE NEED FOR COMMERCIAL AND INDUSTRIAL LAND IN THE FOREST GROVE URBAN AREA (NET BUILDABLE ACRES) (2008-2028)**

Use Type	Need For Land (Acres) By Scenario:		
	Baseline Growth	High Growth	Medium Growth
<b>OFFICE COMMERCIAL</b>	<b>44.7</b>	<b>56.5</b>	<b>51.8</b>
<b>INDUSTRIAL</b>	<b>113.5</b>	<b>203.7</b>	<b>167.6</b>
<b>RETAIL COMMERCIAL</b>	<b>77.5</b>	<b>113.4</b>	<b>101.1</b>
CITY RESIDENTS	62.0	90.7	80.9
REGION/TOURISTS 1/	15.5	22.7	20.2
<b>OVERNIGHT LODGING</b>	<b>11.7</b>	<b>12.7</b>	<b>12.3</b>
<b>SPECIALIZED USES 2/</b>	<b>63.8</b>	<b>65.2</b>	<b>64.7</b>
<b>TOTAL</b>	<b>311.2</b>	<b>451.5</b>	<b>397.4</b>

1/ Assumes regional/tourist demand normalizes at 20% of retail support, given targeted opportunities outlined in the EOA.

2/ Hospitals, Clinics, etc. for employment not otherwise categorized. Assumes 20 employees per acre

SOURCE: Johnson Reid

In addition to the demand for actual sites, the need for public rights of way and infrastructure must be estimated in order to project the total amount of lands that would be required in the event the Urban Growth Boundary were expanded to provide land for needed employment sites. The DLCDC Goal 9 guidebook recommends 25% for City's that would largely be extending infrastructure into new areas to serve new development. This would be the predominant pattern for the City of Forest Grove for lands outside the UGB and so the below figure converts the acreages from Figure 20 to total gross land demand by category. Figure 21 projects the total land demand for the City of Forest Grove.

**FIGURE 21: PROJECTED AGGREGATE NEED FOR COMMERCIAL AND INDUSTRIAL LAND IN THE FOREST GROVE URBAN AREA (GROSS BUILDABLE ACRES) (2008-2028)**

Use Type	Need For Land (Acres) By Scenario:		
	Baseline Growth	High Growth	Medium Growth
<b>OFFICE COMMERCIAL</b>	<b>55.8</b>	<b>70.7</b>	<b>64.7</b>
<b>INDUSTRIAL</b>	<b>141.9</b>	<b>254.6</b>	<b>209.4</b>
<b>RETAIL COMMERCIAL</b>	<b>96.9</b>	<b>141.7</b>	<b>126.4</b>
CITY RESIDENTS	77.5	113.4	101.1
REGION/TOURISTS 1/	19.4	28.3	25.3
<b>OVERNIGHT LODGING</b>	<b>14.6</b>	<b>15.8</b>	<b>15.3</b>
<b>SPECIALIZED USES 2/</b>	<b>79.7</b>	<b>81.6</b>	<b>80.8</b>
<b>TOTAL</b>	<b>389.0</b>	<b>564.4</b>	<b>496.7</b>

1/ Based on current ratios between locally supported and total sales, CE Survey from the BLS and Census of Retail Trade.

2/ Hospitals, Clinics, etc. for employment not otherwise categorized.

SOURCE: Johnson Reid



### FIVE-YEAR DEMAND POTENTIAL

The City of Forest Grove is further interested in potential land demand for various employment uses over a five-year period. Johnson Reid estimates potential five-year demand in Figure 22 utilizing two methodologies:

1. Five-Year Annual Average – Average annual demand over the twenty-year planning period summed for five years.
2. Land Investment Estimates – The Five-Year Annual Average plus at least 10% additional demand to account for the pattern of employment land purchase for gradual, phased development over a time period.

**FIGURE 22: FIVE-YEAR NEED FOR COMMERCIAL AND INDUSTRIAL LAND IN THE FOREST GROVE URBAN AREA (GROSS BUILDABLE ACRES) (2008-2013)**

Use Type	Average Annual Demand			Demand with Land Investment		
	Baseline Growth	High Growth	Medium Growth	Baseline Growth	High Growth	Medium Growth
Office Commercial	14	18	16	20	25	23
Industrial	35	64	52	50	89	73
Retail Commercial	19	28	25	27	40	35
Overnight Lodging	4	4	4	5	6	5
Specialized Uses	<u>20</u>	<u>20</u>	<u>20</u>	<u>28</u>	<u>29</u>	<u>28</u>
<b>Total 5-Yr Acreage</b>	<b>92</b>	<b>134</b>	<b>118</b>	<b>129</b>	<b>188</b>	<b>165</b>

SOURCE: Johnson Reid

Land “banking” or investment by firms or business and industrial park and commercial center developers that expect to expand over the long-term is a crucial assumption to include in any demand analysis, particularly for larger parcels. Retaining the capacity to “expand in place” is an integral part of employment land provision and business location decision-making, especially in the Portland metropolitan region that has a traditionally tight land supply. To account for the needs of industry to invest in land capacity in the short-term is to significantly ensure long-term growth plans and help to reduce key facility input costs.

In *2040 Means Business: Industrial Market Working Paper*<sup>10</sup>, a potential model for estimating land banking within industrial land demand was discussed. Below is a summary of the discussion regarding land banking from previous work:

- High-tech firms in the area have demonstrated a propensity for long-term investment or “land banking”, or purchasing property in excess of their anticipated immediate term needs in order to assure on-site expansion potential.
- The 2040 Means Business Industrial Working Paper sampled 18 owner/user occupied buildings, totaling 8,460,328 square feet of space on 1,505 acres of land. The average coverage ratio for these users was only 12.9%, reflecting the impact of land banking for potential future expansion on land consumption.
- Without this land banking/expansion capability, owner/users may be hesitant to locate in this region for several reasons. First, they perceive they will actually use the land for future expansion

<sup>10</sup> Hobson Johnson & Associates, 2040 Means Business: Industrial Market Working Paper, November 1996. Also treated in Aggregate Industrial Land Needs (Johnson Gardner, LLC, December 2002), which provided findings of fact in support of the special urban growth boundary amendment that brought in the “Shute Road” site, ultimately the recruitment location of Genentech in Hillsboro.



and do not want to be faced with the inefficiencies of multiple locations in the future. Second, they often desire a campus environment with major landscaping and open space.

- Operational characteristics of high-tech employers also contribute to a relatively high propensity to land bank in the industry. Raw industrial land cost is a relatively small component of a high-tech employer's overall capital improvement budget and operational costs. The cost of buildings and equipment is very high relative to general industrial improvements, as is the cost of labor.

## **INDUSTRIAL AND OFFICE LAND NEED METHODOLOGY**

Demand for industrial and office commercial land is a direct function of employment growth in industrial sectors that occupy this type of space. As a result, our projections of industrial and office demand are based on forecasted employment growth by industrial sector within the City of Forest Grove. Methodology for forecasting need for industrial and office commercial land follow a standard, multi-step process, summarized below. A number of exhibits are referenced, which are found in the technical appendix to this document.

### **Demand for Office Building Space**

Sector employment growth for each of the three economic scenarios is converted into growth in office employment based on typical percentages of jobs, or capture factors, by sector that will be located in office development rather than industrial development. Employment density ratios, the average space in square feet necessary per office job, were utilized to calculate total office space demand given projected employment growth. Ratios and densities utilized are from the Urban Land Institute.

[Exhibits 1.01 and 1.02]

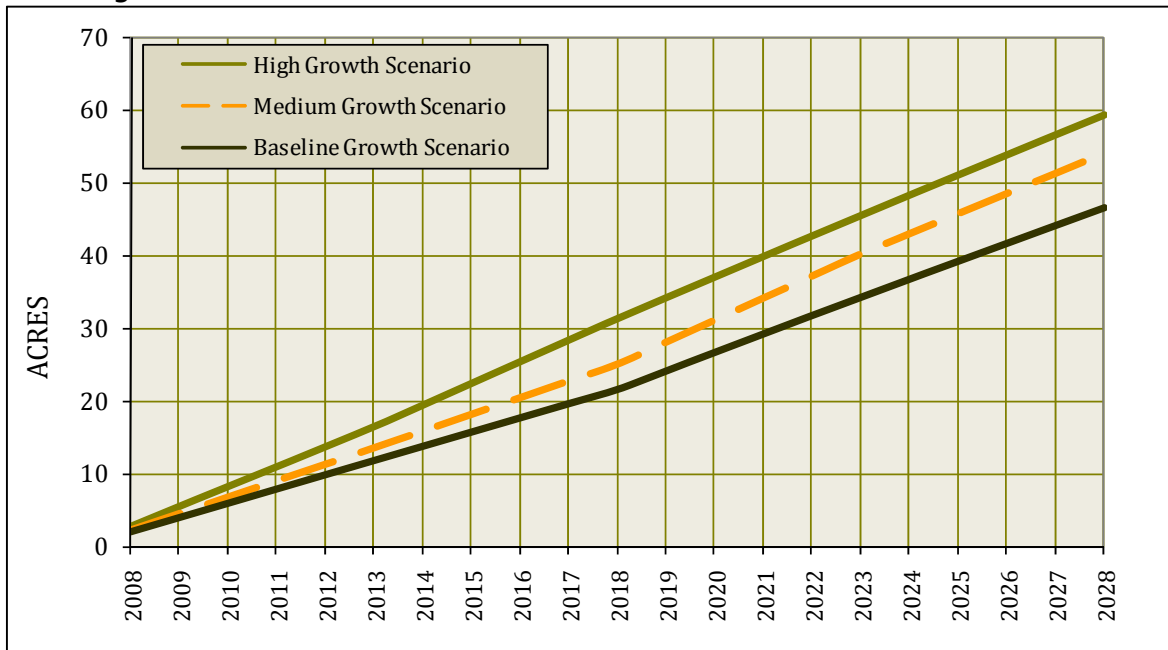
### **Demand for Office Commercial Land**

Demand for office land is a conversion of demand for space by an office floor area ratio (FAR). FAR is defined as the gross leasable building area divided by the buildable land area used. For example, a 5,000 square foot office building on a 10,000 square foot site would be an example of a 0.50 FAR. For projections under each of the three Forest Grove economic scenarios, JOHNSON REID assumed a relatively conservative 0.30 FAR. While surface parked office space can be produced at an FAR up to 0.50, the historic pattern in Forest Grove has included more single storey structures at a substantially lower ratio.

[Exhibit 1.03]



FIGURE 23: CUMULATIVE OFFICE LAND DEMAND BY SCENARIO



**Demand for Industrial Building Space**

Forest Grove’s industry employment growth for each of the three economic scenarios is converted into growth in industrial employment based on typical percentages of employment by sector that will be located in industrial space. Employment is then further stratified by type of space, including warehouse/distribution, general industrial and high-tech/flex space. Finally, employment density ratios, calculated as average square feet of space necessary per industrial job, were utilized to calculate total space demand by industrial space type given projected employment growth. These ratios and densities are based on industry standards.

[Exhibits 1.05 through 1.07]

**Demand for Industrial Land**

Demand for industrial land is a conversion of demand for space by floor area ratios (FARs) by industrial development type and the addition of non-industrial use demand for industrial land typical of business park space. Projections utilize the following FARs:

- Warehouse/Distribution: 0.31
- General Industrial: 0.30; and
- High-Tech/Flex: 0.26.

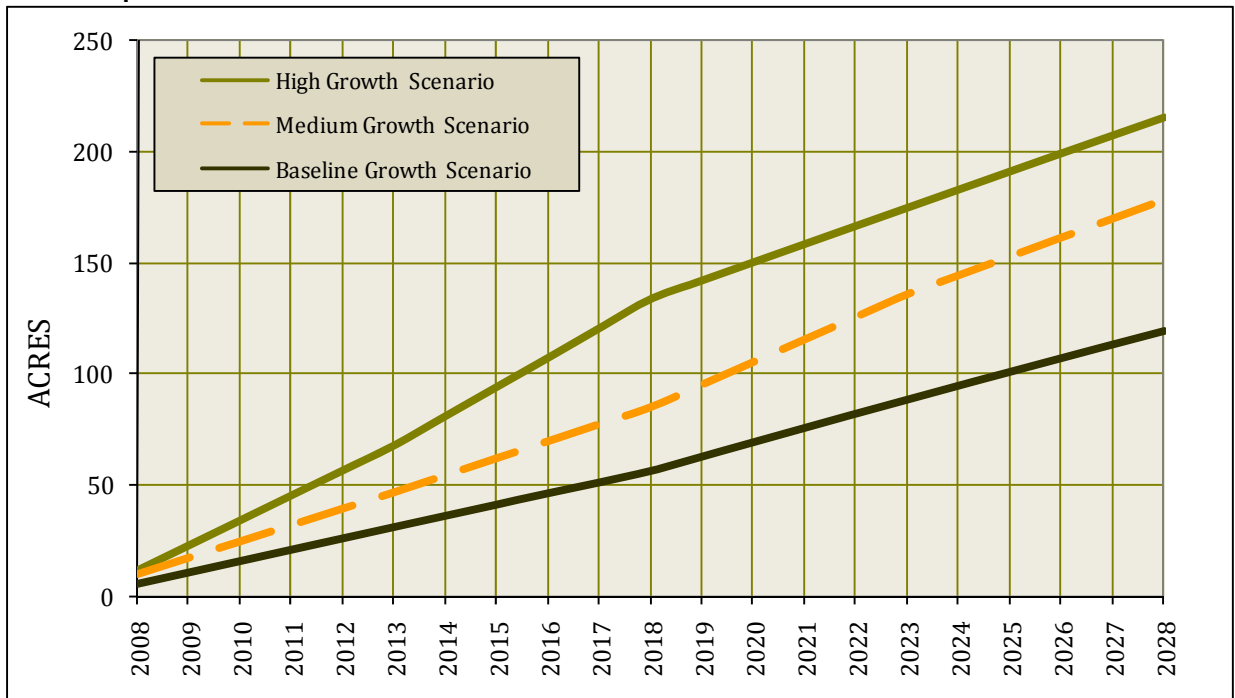
Second, a 20% non-industrial use demand for land was assumed for industrial land projections.<sup>11</sup>

[Exhibits 1.08 and 1.09]

<sup>11</sup> Non industrial uses in industrial districts include office space as well as support retail.



FIGURE 24: CUMULATIVE INDUSTRIAL LAND DEMAND BY SCENARIO



### RETAIL COMMERCIAL LAND METHODOLOGY

Unlike industrial and office commercial land need, retail land need is a direct function of households moving into Forest Grove, typical spending patterns by those households and visitor/tourist spending. Methodology for forecasting retail commercial land need is summarized below.

#### Household Growth Projections

For modeling growth in retail commercial land need driven by residential growth, JOHNSON REID utilized the City’s population growth projections in our residential land need analysis. Medium, high and low growth scenarios, and resulting household growth projections through 2028, were estimated as follows:

- *Baseline Growth Scenario: Assumes population growth rate of 2.14% annually.*
- *High Growth Scenario: Assumes population growth rate of 2.52% annually.*
- *Medium Growth Scenario: Assumes population growth rate of 2.76% annually.*

### ESTIMATE FOREST GROVE CITY PER-HOUSEHOLD RETAIL SPENDING

JOHNSON REID estimated per-household annual spending by retail category utilizing data derived from the US Bureau of Labor Statistics Consumer Expenditure Survey. Categories are as detailed in the following table by the North American Industry Classification System (NAICS).





FIGURE 25: AVERAGE HOUSEHOLD EXPENDITURES ON RETAIL GOODS, FOREST GROVE UGB

NAICS	Category	Per Household Expenditures 1/
441	Automotive Parts, Accessories and Tire Stores	\$8,067
442	Furniture and Home Furnishings Stores	\$943
443	Electronics and Appliance Stores	\$990
444	Building Materials and Garden Equipment	\$4,058
445	Food and Beverage Stores	\$5,334
446	Health and Personal Care Stores	\$1,876
448	Clothing and Clothing Accessories Stores	\$1,914
451	Sporting Goods, Hobby, Book and Music Stores	\$862
452	General Merchandise Stores	\$5,039
453	Miscellaneous Store Retailers	\$1,043
722	Foodservices and Drinking Places	\$3,936
<b>Totals/Weighted Averages</b>		<b>\$34,062</b>

**Estimate Future City of Forest Grove Resident-Driven Retail Sales**

Future retail sales originating within the City of Forest Grove were simply calculated as the product of future City of Forest Grove household counts under the medium, high, and low growth scenarios through 2028 and annual average retail sales by category.

[Exhibit 1.12]

**Demand for Retail Commercial Space**

Future retail sales are converted into need for developed retail space by calculating the product of future City of Forest Grove retail sales by category to a category-specific Sales Support Factor. The Sales Support Factor is the national average retail sales per square foot of space for each category of retail. Sales support factors are from the Urban Land Institute publication *Dollars & Cents*.

[Exhibit 1.13]

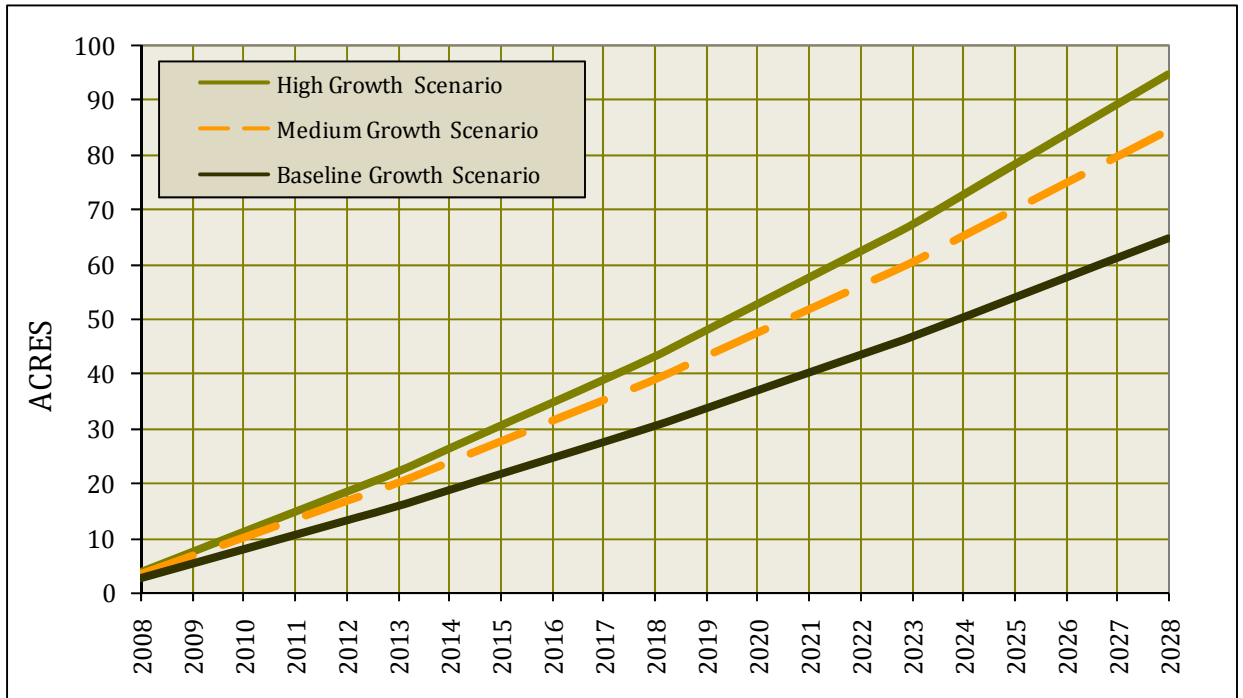
**Demand for Retail Commercial Land**

Demand estimates for developed retail space at different time points was then converted into demand for retail commercial land by applying the industry-standard retail Floor Area Ratio (FAR) of 0.25. The FAR assumes standard suburban retail space requiring one parking space per 1,000 square feet of retail floor area.

[Exhibit 1.14]



FIGURE 26: CUMULATIVE RETAIL LAND DEMAND BY SCENARIO



### Region/Visitor Spending Projections

The City of Forest Grove’s estimated retail sales are significantly below originating sales by a sizable margin, reflecting the City’s position as a bedroom community, failing to capture a typical share of general retail spending, particularly Food Services. In other words, residents in Forest Grove spend a sizable share of their retail dollars outside of Forest Grove. For this reason, calculating a current ratio of existing visitor/tourist spending is problematic. Given the sectors stated opportunities outlined in the EOA, we assume in this analysis that regional/visitor spending will drive at least 20% of new demand retail commercial land demand during the planning period given long-term economic development planning for winery/agricultural-based tourism as a growth market for Forest Grove.



## 20-YEAR EMPLOYMENT LAND DEMAND SITE QUALITIES

---

### INTRODUCTION

The previous section of this analysis provided cumulative, net and gross acreage estimates of employment land demand for the City of Forest Grove, based on economic opportunities identified, over the planning horizon through 2028. This section of the Economic Opportunities Analysis translates total, cumulative demand for employment land into crucial details of employment site needs by various physical and infrastructure criteria, among other qualities. This section is divided into two employment land need discussions:

- *Qualitative Site Requirements by Use:* Market, industry, and user-specific requirements for employment sites over the planning horizon based on known historical patterns and identified industry trends.
- *Employment Site Demand by Site Quality:* Cumulative land demand is translated into use and orientation demand categories including use type, user type, and site sizes consistent with site requirement findings. A reconciliation with existing City land supply is included, with conclusions of additional land need by use and site type discussed.

### QUALITATIVE SITE REQUIREMENTS BY DESIGNATION & USE

The qualitative component of the site requirements analysis identifies factors such as site sizes (acreage), loading, parking, storage, public facilities, utilities, ownership patterns, surrounding development patterns, proximity to labor, proximity to customers, access to transportation infrastructure, and other site amenities unique to the specific industry. The subsequent development matrix tables identify site improvement orientation requirements according to four major land use categories: Office, Commercial Retail, Industrial and Campus/Institutional.

The level of specificity provided in the required site types will inform land demand and supply analyses and land use designation category development.<sup>12</sup> These general development pattern categories are not intended to be exhaustive, but rather are intended to capture the typical patterns observed in the market today and expected for the future.<sup>13</sup> However, by identifying and planning for typical patterns, the widest range of development patterns have been considered in an effort to analyze demand from these many perspectives.

The subsequent description of site requirements does not include extensive discussions of environmental constraints. This is because employment land development patterns are generally less sensitive to environmental constraints than residential development patterns. Generally, the described acreages assume sites that are largely free from environmental constraints such as slopes, wetlands, and floodplains.

---

<sup>12</sup> The typical development pattern presented in this section do not equate to land use districts; nor are they intended to function as *Uses with Special Siting Characteristics* (As that term is used in OAR 660-009-0025(8)).

<sup>13</sup> Site sizes are actually continuous phenomena. The segmentation into size ranges is not statistically defined, but is nonetheless useful for analysis and planning purposes. Hybrid and overlapping development patterns already exist and are common; others hybrids and overlaps may emerge during the planning period including various high-tech uses.



**OFFICE DEVELOPMENT PATTERN TYPES MATRIX**

	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership/Leasing Patterns	Parking, Loading, Storage (Loading & Storage not major issues for Offices)
Large Office Users (150-1200+ Employees; 60k-500+k sq. ft. built space)	Main Branch/Headquarters Offices for Banking, Security and Commodity, Real Estate, and Insurance Carriers, Healthcare, Communications, Transportation Services, Back Office Processing	Transportation system that provides access to labor is essential and may require convenient connections to major arterial roadways and State Highways. Proximity to Government offices may be a factor. Convenient airport access is almost always important. Convenient public transportation may be a consideration, especially for a downtown site.	Water, sewer, and storm drainage must be adequate. Site must be able to be served by modern telecommunications. Multiple energy suppliers may be a consideration.	Downtown – Large users sometimes occupy high-rise structures in downtown areas. Site sizes are usually 0.75 to 4 acres per user arrayed among traditional downtown development patterns. Large tenants critical in pre-lease requirements for high-rise construction.	Typically own or long-term leases from affiliated real estate company. Sometimes independent long-term leases.	Parking must be reasonably adequate and convenient- Often structured. Usually a mix of private and public if structured.
				Business/Office Park- Usually two to three story buildings. Users usually have 3.5 to 15 acre sites clustered within a larger park of 50 to 400 hundred acres. Large users may also prefer a campus siting, and may land bank for potential future expansion.	Typically Own or lease from affiliated real estate company.	Usually uses on-site surface parking.
				Under-performing Commercial Sites – Usually adaptive reuse of an under-performing commercial site 2 to 20 acres arrayed within a larger commercial node of 20 to 500 acres.	Typically discount lease structure, but may own	Usually uses on-site existing surface parking
Medium Office Users (35-175 employees; 12k-70k sq. ft.)	Community Branches for Banking, Security and Commodity, Real Estate, and Insurance Carriers, and Community Healthcare Professional Business Services, Legal Services, Communications, Transportation Services	Transportation system that provides access to labor is important and will require convenient connections to at least a minor collector and may require convenient connections to major arterial roadways and State Highways. Proximity to Government offices may be a factor. High visibility access to customers is essential for the consumer oriented users. Airport access is important. Convenient public transportation may be a consideration, especially for a downtown site.	Water, sewer, and storm drainage must be adequate. Site must be able to be served by modern telecommunications.	Downtown- Medium users tend to utilize one or two floors of an existing building. Downtown can be cost-prohibitive for uses that require ground floor customer visibility. Site sizes come from existing configurations. The size of these tenants and their ability to pre-commit on space make building new speculative space difficult at the scale seen in more urban locations.	Limited ownership opportunities may be a limiting factor. Leases prevalent.	Tends to utilize public supplied parking downtown that may include leases of public spaces.
				Business/Office Park- Occupy buildings individually or with a group of tenants. Users often seek sites near campus development patterns with which they interact. Sites are typically 0.5 to 3 acres per user within a larger park of 30 to 100 acres.	Ownership or leases from affiliated companies common and may be deciding factor.	Usually uses on-site surface parking.
				Commercial Centers-These are the preferred development patterns for consumer oriented medium sized office users such as branch banks and real estate offices. Users often seek sites near campus development patterns with which they interact. Sites are typically 0.5 to 3 acres per user within a larger community commercial node of 10 to 200 acres.	Ownership varies with the user requirements.	Usually on-site, but may be shared parking with adjoining commercial uses.



	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership/Leasing Patterns	Parking, Loading, Storage (Loading & Storage not major issues for Offices)
Small (1-40 employees; 400 to 13k square feet)	Sole proprietor or small partnership of professional service offices for Banking, Security & Commodity, Real Estate, Insurance Agents and Brokers, Business Services and Legal Services	Access to customer base very important to consumer oriented users such as insurance agents/brokers and real estate agents/brokers. Transportation system that provides access to labor is important, but these users may have to compromise convenient access to labor as a cost saving measure. Executive housing concentrations are important for many small users, minimizing commute times for executives that don't rely upon specific locations. Proximity to Government offices may be a factor. These office uses can be served by all functional street functional classifications Airport access is important. Convenient public transportation may be a consideration, especially for a downtown site.	Water, sewer, and storm drainage must be adequate. Site should have, but may not always, require modern telecommunications.	Downtown- These small user companies absorb the smaller spaces downtown that are too small or have limitations for larger users. Site sizes downtown are predetermined by existing development patterns and to a lesser extent by redevelopment.	Most are done as leases. Some small ownerships available through condominiums.	Tends to utilize public supplied parking downtown that may include leases of public spaces.
				Business/Office Park- These small user companies absorb the smaller spaces in larger projects that are too small or have limitations for larger users or occupy expansion areas for medium and large users. Sites sizes are typically driven by larger users except when small companies pool resources to occupy sites. Sites are typically are typically 0.5 to 3 acres within a larger park of 30 to 100 acres.	Most space is leased. A collection of small users sometimes pool their resources to jointly own and lease back a 'medium' sized building /site or as a condominium/padlot.	Usually uses on-site surface parking.
				Commercial Centers - These small user companies absorb the smaller spaces in larger projects that are too small or have limitations for larger users or occupy expansion areas for medium and large users. These sites tend to be predetermined by the larger users. These sites are most important to consumer oriented users such as insurance agents.	Most space is leased.	Usually on-site, but may be shared parking with adjoining commercial uses.
				Residential to Office Conversions – These offices tend to be in older transitional areas where commercial and office uses are supplanting residential. Sites tend to be .12 to .75 acres	These are typically owned by the Company or the Companies' owner(s), often central issue in the decision.	Usually a combination of public on-street and private off-street. Parking can often be limiting factor.
				Home Based Businesses – These offices exist within residences and the use is considered accessory to the residence. Site sizes are dictated by residential standards.	Ownership through home ownership is often central to the decision to operate a home based office business.	Customer parking typically restricted or not allowed per residential standards.



COMMERCIAL RETAIL DEVELOPMENT PATTERN TYPES MATRIX

	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership/Leasing Patterns	Parking, Loading, Storage
Large Retail Users (45k-500+k sq. ft.; and/or 15+ acres of outdoor storage)	Retail Trade (Regional Retail);	Transportation system that provides convenient connections and very high visibility from major arterial roadways and state highways is essential. Convenient public transportation may be a consideration, especially for a downtown site. Pedestrian traffic on public sidewalks is very important to Downtown Sites and elevated pedestrian connections between buildings can be important as well, Internal pedestrian traffic is essential for Malls, and Lifestyle Centers.	Water, sewer, and storm drainage must be adequate. Site must be able to be served by modern telecommunication. Multiple energy suppliers may be a consideration.	Downtown – Downtown retail sites for large users typically occupy the ground floor and sometimes additional stories. They may occupy existing buildings or the lower floors of new multi-story office buildings. Large Downtown anchors are typically furniture stores and Department stores. Typical site sizes are .5 to 2 acres. Downtown anchors are no longer seen as vital to downtown revitalization, with smaller format unanchored specialty retail more common tenant types.	No known definitive ownership/leasing practices.	Parking is usually a combination of public and private and may be structured. Loading and storage needs can be limiting factor due to existing development patterns. Loading tends to be on-street or in alleys
				Regional Malls- Regional malls are a well-known development pattern and are large physical structures that contain a cluster of small and medium retailers anchored by three to seven large retail users in one to three stories. Large anchors are often Department stores. Some <i>outlet malls</i> are also configured in a traditional regional mall pattern. Typical site sizes are 3.5 to 10 acres within the larger 50 to 100+ acre mall site.	The large anchors sometimes own their building and portions of the Mall site – Otherwise they are done as Triple Net Leases from the Mall owner that is often a commercial REIT	Use on-site shared parking that is sometimes structured. Loading is generally off-hours in designated areas, loading docks and/or vacant parking spaces, storage is almost always indoors.
				Open –Air Centers – Lifestyle Centers are an example, which are a newer trend in retail development patterns that is a hybrid between an enclosed Mall and a Downtown. It has the concentration of retailers similar to an enclosed mall, but with open air pedestrian connections between stores similar to a Downtown. Some newer <i>outlet malls</i> are configured in a lifestyle center pattern. Typical site sizes are 2.5 to 7 acres within the larger 25 to 60+ acre. <sup>14</sup>	The large anchors sometimes own their building and portions of the Mall site – Otherwise they are typically done as Triple Net Leases.	Use on-site center-wide parking that is sometimes structured. Loading is generally off-hours in designated areas. Modern loading bays are one benefit of the lifestyle concept. Storage is almost always indoors.
				Large Format Retail – These are large auto oriented stores that house a collection of goods within a single store. A recent trend has seen smaller vendors co-locate within the larger store (Such as a McDonalds within a Wal-Mart) Individual user site sizes are typically 6 to 14 acres and large format retail tends to seek sites that are clustered with other large format retailers in regional commercial centers that are 55 to 350+ acres.	These sites are typically owned by the retail company or an affiliated real estate company.	Usually use on-site surface parking that is sometimes structured and may be shared with adjacent properties. Loading is generally non peak-hours in designated areas, storage is mostly indoors, but some out.
				Vehicle/Equipment Salesplex – These are large vehicle and equipment sales yards that serve a wide regional market area. Typical site sizes are 15 to 40+ acres often within a larger cluster of 50 to 200+ acres of similar uses.	These sites are typically owned by the retail company or an affiliated real estate company.	Outdoor storage areas are dominant feature with surface customer parking on-site. Loading is often in designated areas on-site.

<sup>14</sup> This definition is broader than the typical definition of “Lifestyle Center” in the retail industry.



	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership/Leasing Patterns	Parking, Loading, Storage
Medium Retail Users (12k-50k sq. ft./; and/or 3 to15 acres of outdoor inventory)	Retail Trade (Community Retail)	Transportation system that provides convenient connections and very high visibility from major arterial roadways and state highways is essential. Convenient public transportation may be a consideration, especially for a downtown site. Pedestrian traffic on public sidewalks is very important to Downtown Sites and elevated pedestrian connections between buildings can be important as well, Internal pedestrian traffic is essential for Malls, and Lifestyle Centers	Water, sewer, and storm drainage must be adequate. Site must be able to be served by modern telecom.	Downtown- Medium users tend to utilize one or two floors of an existing building. Downtown can be cost-prohibitive for some medium sized retail uses. Site sizes are dictated by existing development patterns or as a result of a large user or speculative development project. Second floor retail is typically seen as having limited appeal, unless a multi-floor tenant is found with ground floor presence.	Limited ownership opportunities may be a limiting factor. Leases prevalent.	Tends to utilize public and private supplied parking downtown that may include leases of public spaces. Downtown sites rarely have outdoor storage. Loading often done in alleys and may be a limiting factor.
				Neighborhood Shopping Centers- Typically use 3-10 acres, with leasable area of 30,000 to 100,000. Centers are typically anchored by grocers. These centers serve localized populations, and typically locate near population concentrations.	Ownership or leases from affiliated companies common and may be deciding factor.	Usually use on-site surface parking.
				Community Shopping Areas/Centers- Typically use 10 to 30 acres, with leasable area of 100,000 to 450,000. Anchors often include junior department stores, large variety, discount or department stores.	Ownership or leases from affiliated companies common and may be deciding factor.	Usually use on-site surface parking.
				Regional Malls- Regional malls are a well-known development pattern and are large physical structures that contain a cluster of small and medium retailers anchored by three to seven large retail users in one to three stories. Large anchors are often Department stores. Some <i>outlet malls</i> are configured in a traditional regional mall pattern. Typical site sizes are 3.5 to 10 acres within the larger 50 to 100+ acre mall site.	The medium anchors rarely own their building and portions of the Mall site – Otherwise they are done as Triple Net Leases from the Mall owner that is often a REIT	Use on-site mall-wide parking that is sometimes structured. Loading is generally off-hours in designated areas or vacant parking spaces, storage is almost always indoors.
				Open Air-Centers – Lifestyle centers are an example, which are a newer trend in retail development patterns that is a hybrid between an enclosed Mall and a Downtown. It has the concentration of retailers similar to an enclosed mall, but with open air pedestrian connections between stores similar to a Downtown. Some newer <i>outlet malls</i> are configured in a lifestyle center pattern. Typical site sizes are 2.5 to 7 acres within the larger 25 to 60+ acre site.	The medium anchors sometimes own their building and portions of the site – Otherwise they are typically done as Triple Net Leases.	Use on-site center-wide parking that is sometimes structured. Loading is generally off-hours in designated areas. Modern loading bays are one benefit of the lifestyle concept. Storage is almost always indoors.
				Vehicle/Equipment Dealership– These are medium sized vehicle and equipment sales yards that serve a community market area. Typical site sizes are 4 to 15 acres	Ownership varies with the user requirements.	Outdoor inventory storage areas are dominant feature with surface customer parking on-site. Loading is often in designated areas on-site.
				Truck Center– These are unique uses that serve regional shippers needs for quick services near statewide freight routes. Typical site sizes are 8 to 20 acres	Ownership varies with the user requirements.	Surface tractor trailer customer parking is usually the dominant feature. Limited outdoor storage. Stacking for fuel stations is important.



	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership/ Leasing Patterns	Parking, Loading, Storage
Small Retail and Commercial Services (200 to 15k square feet and/or less than 5 acres outdoor storage)	Retail Trade (Neighborhood and Specialty)	Transportation system that provides convenient connections and visibility from higher order roadways and state highways is important and essential for some users. Convenient public transportation may be a consideration, especially for a downtown site. Pedestrian traffic on public sidewalks is very important to Downtown Sites and elevated pedestrian connections between buildings can be important as well, Internal pedestrian traffic is essential for Malls, and Lifestyle Centers.	Water, sewer, and storm drainage must be adequate. Site must be able to be served by modern telecom.	Downtown-Small retailers tend to seek ground floor downtown sites. Users tend to be specialty retail, restaurants, bars and similar uses. Site sizes are dictated by existing development patterns or as a result of a large user or speculative development project.	Most space is leased. Some small ownerships available through condominiums.	Tends to utilize public supplied parking downtown that may include leases of public spaces. These uses have small amounts of inventory so loading and storage is rarely a limiting factor.
				Free-Standing Shopping Center Pads- These uses are typically service commercial uses such as restaurants, bars and convenience retail such as convenience marts and fuel stations. Sites are very highest visibility within larger projects. Site sizes are .5 to 2 acres co-located within larger projects such as lifestyle centers, regional malls, clusters of large format retailers and community shopping centers.	Space is leased and owned. Many uses are corporate and seek sites with ownership.	Usually uses on-site surface parking, may be shared parking with adjoining commercial uses. These uses have small amounts of inventory so loading and storage is rarely a limiting factor.
				Attached Boutique/Specialty- These retail sites are co-located within larger buildings that house anchor users in larger projects such as lifestyle centers, regional malls, clusters of large format retailers and community shopping centers. Small sites are the individual lease suites within larger site.	Most space is leased from larger building owners – often commercial REITS.	Usually on-site surface parking shared with adjoining commercial uses. These uses have small amounts of inventory so loading and storage is rarely a limiting factor.
				Neighborhood Commercial - These are small stand alone users that usually locate along higher order transportation facilities and sometimes cluster with a few other similar sized users. These uses are sometimes occur in residential to commercial conversion areas. These uses tend to be neighborhood service and convenience retail uses such as coffee shops and neighborhood markets. Sites are usually an acre or less within a smaller cluster that is up to three acres.	Space may be leased or owned.	Usually on-site surface parking. Pre-existing ratios may be a limiting factor. These uses have small amounts of inventory so loading and storage is rarely a limiting factor.
				Stand-Alone Legacy Commercial Sites - These are sites in older commercial areas that lack a cohesive development pattern or theme. This development pattern is often linear and arrayed along major transportation corridors. Sites are typically .5 to 4 acres arrayed in within areas containing similar uses along with small scale industrial uses.	Space may be leased or owned. Ownership patterns tend to be fractured.	Usually on-site surface parking. Pre-existing ratios may be a limiting factor. These uses have small amounts of inventory so loading and storage is rarely a limiting factor.
				Vehicle/Equipment Sales Lots- These are medium sized vehicle and equipment sales yards that serve a community market area. Typical site sizes are .5 to 3.5 acres	Space is usually leased, but may be owned.	Outdoor inventory storage areas are dominant feature with surface customer parking on-site.





**INDUSTRIAL DEVELOPMENT PATTERN TYPES MATRIX**

	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership/ Leasing Patterns	Parking, Loading, Storage
Large Industrial Users (90k-750+k sq. ft. built space/; and/or 20+ acres of outdoor inventory/production areas)	Lumber & Wood, Stone, Glass & Concrete, Trucking & Warehousing, Electric, Gas & Sanitation, Food Products, Transportation Equipment, Wholesale Trade, Air Transportation	Transportation system that provides convenient connections to state highways is very important- and especially Interstate 5. Proximity to natural resources can be important for uses that utilize natural resource inputs. Rail access is important to many uses and can be essential for some uses. Convenient access to air freight is important to many uses and may be essential for some. Convenient access to well trained and qualified workforce is essential and industry clustering for access to skilled labor force is common. Convenient access to ocean ports is important to many users and essential for some.	Water, sewer, and storm drainage must be adequate; some of these uses can consume very large quantities of water and produce large quantities of sewage requiring special facilities' plans. Site must be able to be served by modern telecomm. Multiple energy suppliers are important to most users and the ability purchase wholesale energy can be essential for some.	Indoor/Outdoor Industrial Processes - Including Manufacturing, Repair, Remanufacturing, Salvage Yards, Micro-Energy, Agri-business, etc. These development patterns typically process raw materials into intermediate industrial input materials and include lumber mills, plywood plants, aggregate processing plants and co-gen power plants. These uses typically have moderate to high levels of airborne emissions, noise production, and waste products. Access to rail can be essential. Site Sizes are typically 40 acres to 200+ acres and may cluster with similar uses in areas that are 1000+ acres.	Typically Corporate Owned (Or Affiliate)	Uses can typically accommodate employee parking easily. These uses typically require large outdoor storage areas for raw materials. Large loading areas are typically needed for trucks and/or railcars.
				Logistics/Warehousing/Transportation Hubs- These development patterns are extremely transportation infrastructure sensitive and require sites with efficient and direct access to the transportation facilities they utilize. Some of these uses may not require proximity to large labor forces. These uses typically produce moderate to high levels of airborne emissions and noise associated with high volumes of truck traffic, rail yard activities, etc. Site sizes are typically 50 to 400+ acres and can cluster with similar uses in freight centers that are 2,000+ acres.	Usually sites are corporate owned, but many will include flex space for smaller users.	Uses can typically accommodate employee parking easily. These uses are essentially one large storage and loading area with large amounts of land for indoor and outdoor storage and loading areas for trucks, railcars, and sometimes airplanes.
				Transmission-Regional utility transmission facilities such regional substations and 500kv lines. Noise, emissions and waste levels vary considerably from facility to facility. Site sizes are typically 20+ acres, although some uses can be very large such as solar arrays that cover thousands of acres.	Almost always Corporate Owned.	Parking, loading and storage needs are minimal.
				Enclosed Manufacturing - These development patterns contain a wide variety of uses from food production to microchip processors and typically process intermediate materials into finished goods and/or parts. Uses are predominantly indoors within enclosed buildings. Convenient access to skilled labor force is essential. These uses typically have low to moderate levels of airborne emissions, noise production, and waste products. Site Sizes are typically 20 to 200+ acres and users often require sufficient area to accommodate long-term expansion. Users may seek integration with office developments.	Typically Corporate Owned	These uses can have a large labor forces requiring large parking areas. Uses typically have large loading areas and some outdoor storage is usually required.
				Waste Handling - These development patterns include sanitary landfills, regional transfer stations, recycling plants, and sewage treatment plants and large salvage yards. Uses typically have large amounts of outdoor storage/processing. These uses typically have moderate to high levels of airborne emissions and noise production. Site sizes vary considerably from 20 acres to 150+ acres.	Typically Corporate Owned.	Uses can typically accommodate employee parking easily. These uses are essentially usually require large outdoor storage areas. Solid waste disposal facilities typically require large loading areas.
				Spec/Flex Space - Flex space development patterns are enclosed industrial uses where the buildings are developer/investor owned and space is rented to industrial tenants. Often multiple tenants occupy a single building. Low to very low levels of airborne emissions, noise production and waste products. Sites can be 4 to 25 acres.	REIT and Private Equity Ownership	Flex space typically has employee and customer parking and a loading door for each suite. Little outdoor storage is utilized.



	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership/ Leasing Patterns	Parking, Loading, Storage
Medium Industrial Users (25k-100k sq. ft. built space; and/or 4 to 25 acres of outdoor inventory/production areas)	Instruments, Electronic Equipment, Printing & Publishing Transit Transportation Services, Business Services Communications Construction, Lumber & Wood, Stone, Glass & Concrete, Trucking & Warehousing, Electric, Gas & Sanitation, Food Products, Transportation Equipment, Wholesale Trade Air Transportation	Transportation system that provides convenient connections to state highways is very important- and especially Interstate 5. Proximity to natural resources can be important for uses that utilize natural resource inputs. Rail access is important to many uses and can be essential for some uses. Convenient access to air freight is important to many uses and may be essential for some. Convenient access to well trained and qualified workforce is essential and industry clustering for access to skilled labor force is common. Convenient access to ocean ports is important to many users and essential for some.	Water, sewer, and storm drainage must be adequate; some of these uses can consume large quantities of water and produce large quantities of sewage requiring special facilities' plans. Site must be able to be served by modern telecommunications. Multiple energy suppliers are important to most users.	Indoor/Outdoor Industrial Processes - Including Manufacturing, Repair, Remanufacturing, Salvage Yards, Micro-Energy, Agri-business, etc. Uses typically contain indoor activities, but typically more than 25 percent of the site is devoted to outdoor inventory and processes on individual lots. Convenient access to skilled labor force is essential. These uses often have very unique site requirements specific to each industrial processes. These uses typically have moderate levels of airborne emissions, noise production, and waste products. Site Sizes are typically 6 to 25 acres and users often require sufficient area to accommodate medium-term expansion planning. Users often seek sites clustered in industrial areas of 100+ acres.	Mix of ownership and leasing	Uses can typically accommodate employee parking easily. These uses include large amounts of land for indoor and outdoor storage and loading areas for trucks, railcars, and sometimes airplanes.
				Trucking/Warehousing/Distribution/Waste Transfer Substations/Staging-These development patterns are transportation infrastructure sensitive and require sites with efficient and direct access to the transportation facilities they utilize. Some of these uses may not require proximity to large labor forces. These uses typically produce moderate levels of airborne emissions and noise associated with high volumes of truck traffic and rail yard activities. Site sizes are typically 4 to 20 acres and can cluster with similar uses in freight centers that are 2,000+ acres.	Sites are corporate or developer owned, but may include some leased space for smaller users.	Uses can typically accommodate employee parking easily. These uses are essentially one large storage and loading area with large amounts of land for indoor and outdoor storage and loading areas for trucks, railcars, and sometimes airplanes.
				Transmission-These are local and small regional substations, natural gas pressure reduction stations for local distribution, and micro power generation uses. These uses typically have low levels of airborne emissions, noise production, and waste products. These uses are typically 4 to 10 acres.	Almost universally corporate owned.	Parking and loading requirements are minimal. The facilities themselves are kind of outdoor storage.
				Enclosed Industrial Processes – Including Manufacturing, Repair, Remanufacturing, etc. Uses are predominantly indoors within enclosed buildings on individual lots with typically less than 30 percent of the site devoted to outdoor storage. Convenient access to skilled labor force is essential. These uses often have very unique site requirements specific to each industrial processes. These uses typically have low to moderate levels of airborne emissions, noise production, and waste products. Site Sizes are typically 4 to 20 acres and users often require sufficient area to accommodate medium-term expansion planning. Users often seek sites clustered in industrial/business parks of 100+ acres and some may seek integrated projects with commercial and office patterns.	Usually Corporate owned or affiliate owned.	These uses can have moderately sized labor forces requiring large parking areas. Uses typically have large loading areas and some outdoor storage is usually required. Rail and/or air loading areas are sometimes required.
				Personal Storage – Sites should be convenient for access from residential areas. Vehicle storage is typically outdoors while other storage is typically fully enclosed. Low to very low levels of airborne emissions, noise production and waste products. Sites can be 4 to 25 acres.	Some Corporate and Private Equity Ownership	Employees parking is minimal. Customer parking/loading must be provided for use of each unit
				Spec/Flex Space – Flex space development patterns are enclosed industrial uses where the buildings are developer/investor owned and space is rented to industrial tenants within a complex and usually there are multiple tenants occupying a single building. Low to very low levels of airborne emissions, noise production and waste products. Sites can be 4 to 25 acres.	REIT and and Private Equity Ownership	Flex space typically has employee and customer parking and a loading door for each suite. Little outdoor storage is utilized.



	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Ownership/ Leasing Patterns	Parking, Loading, Storage
Small (Less than 30k square ft built space and/or less than 5 acres outdoor inventory/production areas)	Instruments, Electronic Equipment, Printing & Publishing Transit Transportation Services, Business Services Communications Construction, Lumber & Wood, Stone, Glass & Concrete, Trucking & Warehousing, Electric, Gas & Sanitation, Food Products, Transportation Equipment, Wholesale Trade Air Transportation	Transportation system that provides reasonably convenient connections to state highways is important. Rail access is important to some uses and is occasionally essential. Convenient access to air freight is important to many uses and may be essential for some. Convenient access to well trained and qualified workforce is essential and industry clustering for access to skilled labor force is common. Convenient access to ocean ports is important to some and can be essential.	Water, sewer, and storm drainage must be adequate; Site must be able to be served by modern telecommunications. Multiple energy suppliers are important to some users.	Indoor/Outdoor Industrial Uses - Including Manufacturing, Repair, Remanufacturing, Salvage Yards, Micro-Energy, etc. Uses typically contain indoor activities, but typically more than 25 percent of the site is devoted to outdoor inventory and processes on individual lots. These uses typically have moderate levels of airborne emissions, noise production, and waste products. Site Sizes are typically 1 to 5 acres.	Mix of ownership and leasing	Uses can typically accommodate employee parking easily. These uses need some land for indoor and outdoor storage and loading areas for trucks rarely railcars and airplanes.
				Enclosed Industrial Processes - Including Manufacturing, Repair, Remanufacturing, etc. Uses are predominantly indoors within enclosed buildings on individual lots with typically less than 30 percent of the site devoted to outdoor storage. Convenient access to skilled labor force is essential. These uses typically have low to moderate levels of airborne emissions, noise production, and waste products. Site Sizes are typically .5 to 5 acres and users often require sufficient area to accommodate limited expansion. Users often seek sites clustered in industrial/business parks of 100+ acres and some may seek integrated projects with commercial and office patterns.	Usually Corporate owned or affiliate owned.	These uses can have moderately sized labor forces requiring large parking areas. Uses typically have large loading areas and some outdoor storage is usually required.
				Personal Storage - Sites should be convenient for access from residential areas. Vehicle storage is typically outdoors while other storage is typically fully enclosed. Low to very low levels of airborne emissions, noise production and waste products. Sites can be .5 to 5 acres.	Most are Private Equity Ownership	Employee parking is minimal. Customer parking/loading must be provided for use of each unit
				Flex Space - Flex space development patterns are enclosed industrial uses where the buildings are developer/investor owned and space is rented to industrial tenants. Often multiple tenants occupy a single building. Low to very low levels of airborne emissions, noise production and waste products. Sites can be .5 to 5 acres.	Most are Private Equity Ownership	Flex space typically has employee and customer parking and a loading door for each suite. Little outdoor storage is utilized.



**CAMPUS/INSTITUTIONAL DEVELOPMENT PATTERN TYPES MATRIX**

Campus/Institutional development patterns are just that. Campuses are large and medium sized developments usually with a single or very limited set of ownerships. While the many uses within a campus can vary considerably, all the uses within a campus/institutional development are usually aimed at a common purpose or goal. The nature of this common purpose or goal is what shapes the design, site requirements and other characteristics of each individual campus/institutional development. For this reason, the below table describes the site characteristics according to the principal goal of each campus/institution; some uses are merely identified because their requirements will vary too greatly for each particular use.

Type	Target Industries	Transportation; Access to Labor and Customers	Public Facilities/ Utilities	Site Sizes and Development Pattern Discussion	Parking, Loading, Storage
Intellectual/Academic	Intellectual and Academic Campuses support the development of intellectual labor capital. Over time, the organic process that is intellectual development tends to intertwine with and support the target industry opportunities in the communities where they exist.	The transportation needs for each campus depends on the type of campus and purpose of the campus. In general, intellectual campuses should have reasonably convenient connections to I-5 and have direct connections to two or more arterials. These uses are often served by public transit and can have high alternative transportation use if facilities are well planned. Good air transportation is essential for some.	Water, sewer, and storm drainage must be adequate; some of these uses can consume large quantities of water and produce large quantities of sewage requiring special facilities' plans. Site must be able to be served by modern telecomm and demands on telecomm facilities can be immense. Multiple energy suppliers can be important as can the ability purchase wholesale energy can be essential for some.	Major University/National Laboratory- These campuses serve statewide, national and international populations. These campuses are very large and are usually at least 50 acres and can be as large as a 1000+ acres. University campuses usually have on-site dormitories. A wide variety of accessory commercial uses is often necessary to serve the campus population. These uses need excellent connections to regional transportation systems and need convenient air service for passengers and freight.	Loading and storage needs are minimal as a percentage of the overall site sizes for Major Universities. National Labs sometimes require larger storage areas for outdoor scientific equipment. Significant amounts of parking are usually required and may be structured.
				Post-Grad Technology - These can be Private and/or Public and usually involve research and development. These campuses serve statewide, national and international populations. These campuses can vary in size considerably from less than 20 acres to 200+ acres. These uses need excellent connections to regional transportation systems and need convenient air service for passengers and freight	Loading and storage needs are not extensive, but some storage can be required for outdoor scientific equipment. Amount of parking is proportional to the campus.
				Small College/Community College - These campuses serve regional populations primarily. These may or may not have on-site dormitories. Campuses are typically 20 to 40 acres outside downtown areas. These campuses are sometimes arrayed like a large office user when they are located in a downtown area.	Some Community Colleges have trade programs that require loading and storage areas. Most do not require significant loading and storage. Significant amounts of parking are usually required and may be structured.
				Junior High School/High School - These campuses serve local and regional populations and can be public or private. Campuses are typically 15 to 40 acres. Findings Sites that balance the need to be near residential centers that have access to local and regional transportation networks can be challenging.	Storage needs are not extensive. Student drop-off/pick-up areas are important. High Schools demand more parking than Junior Highs. Parking demands can be reduced by extend of bus services.



## PROJECTED NUMBER OF EMPLOYMENT SITES DEMANDED BY QUALITY

The final step in establishing the City’s land demand projections is to arrive at the number of sites expected to be demanded according to the above described development pattern types during the planning horizon. Because there are subjective components to this analysis, it is important to understand basic assumptions utilized in the analysis. The principal assumptions relate to methodology for identifying and categorizing medium and large sites and these include the following:

- The vast proportion of the employment land base, from the standpoint of total acreage, is consumed by sites larger than half an acre. Some of these are held for speculation and will be divided further, but the vast majority of these parcels are developed and used by going concerns.
- It is much easier to divide employment land into small parcels to meet the needs of smaller users than it is to aggregate small parcels in fractured ownerships to meet the needs of a larger user.

In estimating employment site demand, no single, simple methodology was utilized for estimating Forest Grove’s need for industrial land by parcel size and quality. Industry-specific and even firm-specific needs indicate an even more diverse range of requirements for known and likely future industries. Accordingly, JOHNSON REID utilized all of the following to identify likely site requirements for parcel size distribution in the context of physical site requirements by general use type summarized in the Development Type Pattern Matrices:

- *Economic Stakeholder Outreach*: Emphasis was put on the City’s need for flexible, larger industrial sites to capture high-tech spillover from Hillsboro as well City goals to accommodate the agricultural product industry, tourism and commercial services.
- *OECD Industrial Site/Shovel Ready Guidelines*: Parcel quality and infrastructure need as documented by OECD for statewide industry recruitment with sector specifics also utilized for pertinent industries.
- *Industrial Development Standards*: NAIOP, among others, indicate design and size standards for industrial development utilized by multiple users instead of “anchor” single users, i.e. business, industrial, and flex park development.
- *U.S. Census of Business*: Washington County zip codes 97116 for distribution of firms by industry and employment were utilized to assist in distribution of need by industry type.
- *Professional Experience*: As a due diligence and feasibility service provider to industrial development throughout the Pacific Northwest, JOHNSON REID experience for private and public interests (Portland Development Commission, et al.) was also utilized.

This analysis then utilizes a two-step process:

1. Estimate acreage demand by site quality sizes based on the above industry and economic inputs;
2. Estimate demand for site sizes based on acreage demand by site size in Step 1.

Results are expressed below.

## PROJECTED GROSS ACREAGE NEED BY SITE QUALITY

Figure 27 provides detailed assessment of Forest Grove employment land demand and reconciled need (gross acres) by site quality through 2028. Results found in the column labeled “Balance” reflect either new acreage supply needed denoted as a positive number, or existing surplus capacity denoted as a number in parenthesis.



FIGURE 27: RECONCILIATION OF FOREST GROVE EMPLOYMENT LAND ACREAGE DEMAND & SUPPLY (2028)

2028 Land Demand Reconciliation - Gross Acreage Needed									
Vacant Acres Reconciliation (Total)						Planning Horizon			
	Typical Acreage	Demand Projections			Vacant Supply	Balance			
		Baseline	High	Medium		Baseline	High	Medium	
Office	Business Park	Over 40	23	30	28	0	23	30	28
	Medium	10 to 40	16	20	18	0	16	20	18
	Small	10 or less	17	21	19	2	14	18	16
	<b>Sub Total</b>		<b>56</b>	<b>71</b>	<b>65</b>	<b>2</b>	<b>54</b>	<b>68</b>	<b>62</b>
Industrial	Cluster Anchor		0	0	0	0	0	0	0
	Anchor or Large Park	50 to 100	45	81	67	72	(27)	9	(5)
	Large User or Mid Park	20 to 50	51	92	75	70	(19)	22	5
	Medium User or Smaller Park	10 to 20	34	61	50	44	(10)	17	6
	Expanding User	5 to 10	9	17	14	60	(51)	(43)	(46)
	Small Businesses	5 or fewer	24	43	36	45	(21)	(2)	(9)
	<b>Sub Total</b>		<b>164</b>	<b>294</b>	<b>242</b>	<b>291</b>	<b>(127)</b>	<b>3</b>	<b>(49)</b>
Commercial Retail	Large	Over 20	21	31	27	0	21	31	27
	Medium	5 to 20	46	67	60	16	30	51	44
	Small	5 or fewer	30	44	39	15	15	29	25
	<b>Sub Total</b>		<b>97</b>	<b>142</b>	<b>126</b>	<b>31</b>	<b>66</b>	<b>111</b>	<b>96</b>
Other	Over Night Lodging	Not Estimated	15	16	15	Not Estimated	15	16	15
	Special Uses	Not Estimated	80	82	81	Not Estimated	80	82	81
	<b>Grand Totals</b>		<b>411</b>	<b>604</b>	<b>529</b>		<b>87</b>	<b>280</b>	<b>205</b>

Note: Figures may not sum due to rounding.  
 SOURCE: City of Forest Grove and Johnson Reid, LLC

**2028 OFFICE COMMERCIAL LAND ACREAGE DEMAND FINDINGS**

- *Land Demanded:* Forest Grove growth potential is estimated to create demand for between 56 and 71 acres of office commercial land. Although demand is not sufficient for a single typical, 50-acre Business Park site, Business Park development is estimated as the largest category of demand among the three office space classes.
- *Land Supply:* The City of Forest Grove currently has a total of 2 vacant, buildable acres suitable for office commercial development, all in the “Small” category and all in Forest Grove’s CBD plan designation. It should be underscored that Forest Grove presently has no site availability suitable for larger, predominantly office business park development and outside of the City CBD.
- *Land Needed Reconciliation:* Given documented site demand and existing inventory, Forest Grove will require at least 54 acres and as many as 68 acres of office commercial land to meet economic need over the next twenty years.
- *Land Needed Concentration:* It should again be noted that all office availability is in the CBD of Forest Grove. Demand findings indicate that Business Park-class office uses will be the single largest category of demand, followed by Medium-sized office uses (25 acres typical), which are incompatible with the existing supply within the city CBD.



## 2028 INDUSTRIAL LAND ACREAGE DEMAND FINDINGS

- *Land Demanded:* Forest Grove economic growth is expected to generate demand for a minimum of 164 industrial acres to as many as 294 acres through 2028. Although the individual site demand has the greatest count in the “Small Businesses” category, total acreage demand is highest in the “Large User or Mid Park” class.
- *Land Supply:* The City of Forest Grove currently has 291 buildable industrial acres within the UGB. Available acreage is widely distributed by industrial class, though Anchor/Large Park and Large User/Mid Park each represent the largest individual shares of current acreage.
- *Land Needed Reconciliation:* Although Forest Grove has indicated existing acreage in every industrial site class but Cluster Anchor, existing acreage in four categories is insufficient depending upon growth scenario considered. Under the Baseline scenario, Forest Grove has sufficient industrial land, though this would be considered the “low” growth scenario. Assuming Forest Grove adopts a more proactive economic development approach, industrial land is lacking by up to 48 acres for the twenty-year period (High-Growth scenario unmet need for Anchor/Large Park, Large User/Mid-Park, and Medium User/Smaller Park).
- *Land Needed Concentration:* Forest Grove is generally lacking in necessary industrial sites on the larger end of the industrial user spectrum (Anchor/Large Park, Large User/Mid-Park, and Medium User/Smaller Park). While existing inventory does show sufficiency for medium and smaller-sized users, Forest Grove’s aspirations in agricultural processing and high-tech manufacturing as discussed earlier in this document would indicate an inability for the City to recruit/site larger users. To the extent that Forest Grove coordinates with other jurisdictions in Western Washington County in economic development initiatives, as a matter of policy Forest Grove may consider additional emphasis on larger parcels and acreage.

## 2028 RETAIL COMMERCIAL LAND ACREAGE DEMAND FINDINGS

- *Land Demanded:* Forest Grove demand for commercial acreage is estimated to range from 97 acres to 142 acres depending upon economic growth scenario. Medium sites, typically 10 acres in size, comprise the largest single share of acreage demand during the planning period.
- *Land Supply:* The City of Forest Grove currently has nearly 31 acres of buildable commercial retail acreage within the UGB. Forest Grove is completely lacking any Large commercial retail acreage to serve population growth retail and service needs. Existing supply is almost evenly spread between Medium and Small categories of retail development.
- *Land Needed Reconciliation:* Given documented site demand and existing inventory, Forest Grove will require anywhere from 66 to 111 additional acres to meet the needs of anticipated population growth through 2028. Unmet commercial retail land need is most concentrated in Medium-sized retail demand, followed by Large retail commercial types.

## 2028 EMPLOYMENT SITE BY QUALITY DEMAND FINDINGS

Figure 28 provides a detailed assessment of Forest Grove employment land demand through 2028 in terms number of sites demanded by site size, with a comparison to developable employment land supply by site quality within the existing Forest Grove urban growth boundary. Results are expressed for all three employment growth scenarios and directly correlate to employment site demand details provided in Figure 25.

It should be noted that when largest-site type demand for land in each general employment category (Office, Industrial, Retail) fails to reach the minimum size threshold for that type (e.g. Office Business Park, Anchor Industrial, and Large Retail), demand for acreage in that type expressed in Figure 27 is shifted to the next-smaller type.



FIGURE 28: RECONCILIATION OF FOREST GROVE EMPLOYMENT LAND SITE DEMAND & SUPPLY (2028)

2028 Land Demand Reconciliation - Site Need Count									
Number of Sites by Development Pattern						Planning Horizon			
	Typical Acreage	Demand Projections			Vacant Supply	Balance			
		Baseline	High	Medium		Baseline	High	Medium	
<b>Office</b>	Business Park	Over 40	0	0	0	0	0	0	0
	Medium	10 to 40	2	2	2	0	2	2	2
	Small	10 or less	2+	3+	2+	15	(13)	(12)	(13)
	<b>SubTotal</b>		<b>4+</b>	<b>5+</b>	<b>4+</b>	<b>15</b>	<b>(11)</b>	<b>(10)</b>	<b>(11)</b>
<b>Industrial</b>	Cluster Anchor	Over 100	0	0	0	0	0	0	0
	Anchor or Large Park	50 to 100	0	1	1	0	0	1	1
	Large User or Mid Park	20 to 50	2 - 4	2 - 4	2 - 3	5	(1)	(1)	(2)
	Medium User or Smaller Park	10 to 20	2 - 3	3 - 6	2 - 5	3	0	3	2
	Expanding User	5 to 10	1	2 - 3	2	8	(7)	(5)	(6)
	Small Businesses	5 or fewer	5+	9+	7+	15	(10)	(6)	(8)
	<b>SubTotal</b>		<b>10+</b>	<b>17+</b>	<b>14+</b>	<b>31</b>	<b>(18)</b>	<b>(8)</b>	<b>(13)</b>
<b>Commercial Retail</b>	Large	Over 20	1	1	1	0	1	0	1
	Medium	5 to 20	3 - 9	4 - 13	3 - 12	2	7	11	10
	Small	5 or fewer	6+	9+	8+	54	(48)	(45)	(46)
	<b>SubTotal</b>		<b>10+</b>	<b>14+</b>	<b>12+</b>	<b>56</b>	<b>(40)</b>	<b>(34)</b>	<b>(35)</b>

Note: Figures may not sum due to rounding.  
 SOURCE: City of Forest Grove and Johnson Reid, LLC

**2028 OFFICE EMPLOYMENT SITE DEMAND FINDINGS**

- *Sites Demanded:* Over a twenty-year period, Forest Grove growth potential is estimated to create demand for four sites at absolute minimum, the majority of which – depending upon parcelization - are classified as “Small” or sized five acres or less. Two sites will need to be Medium-sized, or between 10 and 40 acres.
- *Site Supply:* The City of Forest Grove currently has a total of 15 sites suitable for office commercial development, all in the “Small” category and all in Forest Grove’s CBD plan designation. It should be underscored that Forest Grove presently has no site availability suitable for larger, predominantly multi-tenant office business park development and outside of the City CBD.
- *Sites Needed Reconciliation:* Given documented site demand and existing inventory, Forest Grove will require at least one Medium-sized office commercial site and likely one Large-sized office commercial site to meet economic opportunities identified in this analysis.
- *Sites Needed Concentration:* It should be noted that all office availability is in the CBD of Forest Grove, therefore the City may consider need for Small sites outside of the CBD that are more compatible with and complimentary to office employment outside of downtown.

**2028 INDUSTRIAL EMPLOYMENT SITE DEMAND FINDINGS**

- *Sites Demanded:* Forest Grove economic growth is expected to generate demand for a minimum of 10 industrial sites to no less than 17 – depending upon parcelization - over the planning period. The great majority of sites demanded will be five acres or fewer in size (“Small Businesses”), however the second largest demand category is “Medium User/Smaller Park.”
- *Site Supply:* The City of Forest Grove currently has 31 sites suitable for industrial development within its UGB. Nearly half are in the “Small Business” category.





- *Sites Needed Reconciliation:* Given documented site demand and existing inventory, the City is currently lacking any suitable site in the Cluster Anchor category, Anchor/Large Park classification, the Medium User/Smaller Park category, and is marginally sufficient in the Large User/Mid Park category.
- *Sites Needed Concentration:* Forest Grove is generally lacking in necessary industrial sites on the larger end of the industrial user spectrum (Cluster Anchor and Anchor/Large Park). While existing inventory does show sufficiency for medium and smaller-sized users, Forest Grove’s aspirations in agricultural processing and high-tech manufacturing as discussed earlier in this document would indicate an inability for the City to recruit/site larger users. To the extent that Forest Grove coordinates with other jurisdictions in Western Washington County in economic development initiatives, as a matter of policy Forest Grove may consider additional emphasis

## 2028 RETAIL COMMERCIAL EMPLOYMENT SITE DEMAND FINDINGS

- *Sites Demanded:* Forest Grove population growth, resulting from economic growth opportunity, is expected to create demand for commercial sites ranging from at least 10 to at least 14 individual sites over the planning period, again depending upon parcelization. The great majority of sites demanded will be three acres or fewer in size (“Small”), followed by the “Medium” site category.
- *Site Supply:* The City of Forest Grove currently has 56 sites suitable for retail development within its UGB, 54 of which are parcels sized three acres or less. The City has no site availability for larger, community-serving retail development (25.0 acre average) for future growth during the planning period.
- *Sites Needed Reconciliation:* Given documented site demand and existing inventory, Forest Grove will require anywhere between seven and eleven new retail commercial sites concentrated in the Medium size category and at least one additional Large site of greater than 20 acres in size.



## 50-YEAR ECONOMIC OPPORTUNITIES ANALYSIS

---

### INTRODUCTION

The City of Forest Grove, along with all other jurisdictions within the Portland metropolitan area, has been charged with determining candidate Urban Reserves areas for long-term, 50-year urbanization potential in the context of Portland Metro Urban Growth Boundary planning. This section of the City’s Long-Term Economic Opportunities Analysis seeks to address economic development factors that will drive the need for urbanized employment lands through the planning year 2060. Analytical steps for identifying 50-year economic opportunities are analogous to those utilized for the preceding 20-Year (2028) Economic Opportunities Analysis.

Forest Grove’s long-term employment land is estimated in terms of Forest Grove’s “organic” growth: growth inherent to the City’s economic potential given existing and future industries and its individual competitive advantage. Second, it is estimated in relation to the long-term growth potential of the City of Hillsboro. During the course of completing its own Economic Opportunity Analysis, the City of Hillsboro determined that its long-term growth potential significantly exceeds its ability to provide sufficient land of the sizes and types that its targeted high-tech clusters will require. While the City of Hillsboro has decided that it will focus its economic development efforts on targeting “cluster anchor” industrial users, or those that generally require large industrial parcels, the coordination of economic development and employment land provision between the members of the Western Washington County subarea—Hillsboro, Forest Grove, Cornelius, North Plains and Banks—is integral to regional growth prospects. Without the provision of industrial acreage in more moderate parcel and site sizes by the partner cities in Western Washington County, larger high-tech cluster industrial recruitment in general may likely be compromised. The well-documented multiplier effects and dependent cluster of firms and sectors supporting and supported by new high-tech anchors will not be able to grow within a land-constrained Hillsboro over the long-term and must seek proximate industrial sites in nearby cities.

### 50-YEAR ECONOMIC FORECASTING ISSUES

Key differences do exist, however, between the 20-year analysis and analysis in support of employment land urbanization over the much longer planning period through 2060. Greater, myriad uncertainties over a fifty-year planning period significantly modify the analytical approach to identifying economic development opportunities for the City of Forest Grove. These most notably include, among others:

- *Economic & Financial Uncertainties;*
- *Geopolitical Uncertainties;*
- *Fiscal & Public Financial Unknowns;*
- *Climate Change Risks;* and
- *Possible Demographic & Migration Pattern Changes.*

Detailed speculation regarding all of the above is beyond the scope of this analysis. However, providing “bottom-up” specific forecasts of individual industries in the City of Forest Grove over a 50-year period, as conducted for the 20-year analysis, is rendered impractical.

### 50-YEAR ECONOMIC OPPORTUNITIES ANALYSIS METHODOLOGY

Despite the above outlined uncertainties, the following are available as tools for identifying Forest Grove growth issues over the 2060 planning horizon:

- Growth and land need projections for the City of Forest Grove through 2028;



- Economic Stakeholder/Industry perspectives for long-term growth in Forest Grove;
- Growth and land need projections for the Western Washington County subarea, particularly for the City of Hillsboro through 2060; and
- Portland metro area population and employment growth scenario forecasts conducted by Metro (Figure 15 in this document) as discussed previously in this document.

As discussed throughout this document, Forest Grove has distinct features and economic assets attractive for expanding industries. The current diversity of the Forest Grove economy, based both on natural resources as well as a strong high-tech presence, offers flexibility along with several opportunities for agglomeration connected to the City's existing industry as well as industry connected to the broader Western Washington County subarea.

Given these findings, JOHNSON REID made the following general assumptions about Forest Grove and the Portland metro area economy for fifty-year opportunities consideration:

1. *Long-term water and power capacity suitable for Forest Grove's industry competitive advantage will be retained and expanded over the long-term.*
2. *Land use planning regime in the State of Oregon and the Portland metropolitan area will not dramatically change over the 50-year period, ensuring retention and thoughtful planning of future, high-priority industrial lands.*
3. *Natural environment and amenities, urban amenities, and land use planning and policy intended to attract and retain an innovative workforce will be successful over the long-term.*
4. *The above policies and priorities will continue to retain and attract innovative firms in existing and identified emerging industry clusters.*
5. *Future modifications to the State and local fiscal system will not dramatically curb the funding and delivery of key public infrastructure serving both industry and households.*
6. *A coordinated approach to employment land provision and economic development initiatives in Western Washington County based on individual and joint Economic Opportunities Analysis findings.*

Through this concept of economic development and competitive advantage over the long-term, Forest Grove fifty-year economic growth is not solely dependent upon the potential of its specific target industries. Instead, Forest Grove economic opportunity can reasonably be linked to that of the Western Washington County subarea with the City of Hillsboro driving long-term growth potential.

The City of Hillsboro's long-term growth potential significantly exceeds its ability to provide sufficient land of the sizes and types that targeted high-tech clusters will require over the twenty-year and fifty-year period. The primary implication is that Hillsboro has decided that it will focus its economic development efforts, and resulting industrial land provision, targeting "cluster anchor" industrial users, or those that generally require large industrial parcels, i.e. 90-100 or more acres each. Hillsboro's infrastructure, physical qualities of industrial lands, technical expertise and existing cluster of high-tech firms have provided it with a competitive advantage in recruiting such users vis-à-vis elsewhere across North America.

Although large high-tech users may prefer to site in Hillsboro, Forest Grove power rates and provision may pose opportunity for Forest Grove as well. In addition, a wide array of industrial site types less than 100 acres in size will be demanded across the planning horizon by the various types of "ripple effect" job growth resulting from the attraction of a cluster anchor. These include vendors, service providers, competitors, and customers who may require anywhere from an individual five-acre facility to a 60-acre flex space business park of various engineering, light manufacturing and research uses.



### HIGH-TECH INDUSTRY GROWTH THROUGH 2060

Figure 29 provides a comparison of employment land demand potential in the City of Hillsboro along with the quantity of industrial land the City of Hillsboro seeks for urban reserves over the 2060 planning horizon for high-tech cluster anchors. The City of Hillsboro presently plans to seek up to 3,500 gross acres in urban reserves to strategically target high-tech industrial cluster anchors typically requiring sites 100 acres or greater in size. In contrast, industry growth demand could reach as high as 15,000 gross acres of industrial land by 2060 assuming maximum potential success in growing targeted industries.

**FIGURE 29: HILLSBORO URBAN AREA EMPLOYMENT LAND DEMAND (GROSS BUILDABLE ACRES 2008-2060)**

Use Type	Need For Land (Acres) By Scenario:			Urb. Reserve Request (Approx.)
	Baseline Growth	High Growth	Medium Growth	
OFFICE COMMERCIAL	1,728.5	4,979.1	3,077.9	
INDUSTRIAL	4,476.3	15,054.9	8,704.5	3,500.0
RETAIL COMMERCIAL	2,970.4	6,225.4	4,698.2	
CITY RESIDENTS	2,632.9	5,518.0	4,164.3	
REGION/TOURISTS 1/	337.5	707.4	533.9	
OVERNIGHT LODGING	48.3	117.8	82.9	
SPECIALIZED USES 2/	1,657.1	2,309.8	2,008.6	
<b>TOTAL</b>	<b>10,880.6</b>	<b>28,687.1</b>	<b>18,572.0</b>	<b>3,500.0</b>

1/ Based on current ratios between locally supported and total sales, CE Survey from the BLS and Census of Retail Trade.

2/ Hospitals, Clinics, etc. for employment not otherwise categorized.

SOURCE: City of Hillsboro and Johnson Reid

Because Hillsboro’s strategy is to target larger users based on its identified competitive advantage, overall success in fostering economic growth will greatly depend upon the availability of additional industrial land, in a wide array of site sizes, suitable for the various types of “ripple effect” economic growth associated with the presence of larger users and their industrial synergy.

Provided Forest Grove-area economic development emphasis balances coordination with the initiatives of the Western Washington County subarea with the goals and targets related to specific target industries in which the City has a competitive advantage over the long-term, we find it reasonable to assume that at worst, Forest Grove will retain its projected twenty-year growth path and comprise at least its recent, historical share of Portland metro area employment and economic activity.

This assumption, that Forest Grove at least retains its share of growth based upon its innovation competitive advantages, indicates that fifty-year growth (through 2060) will at least materialize as a continuation of trend established over the last ten years and projected through 2028 in the previous section.



## 2060 FOREST GROVE POTENTIAL EMPLOYMENT FORECAST

Figures 30 and 31 below provide industry employment forecasts for the City of Forest Grove through 2060 analogous to the forecast provided for the year 2028 (Figures 17 and 19). In this case, however, the 2060 industry forecast does not suppose to reasonably predict individual industry or cluster employment growth behavior over the urban reserve planning period. Rather, we depend upon the finding that Forest Grove’s industry base and connection to the City of Hillsboro enable the local economy to sustain industry trends established through 2028 by previous analysis.

Accordingly, Baseline, Medium Growth, and High Growth scenario forecasts have been established assuming the three analogous scenarios for the Twenty-Year analysis perpetuate. As in the Twenty-Year analysis, the Baseline forecast represents “organic” growth inherent in Forest Grove’s potential given its own existing and future industries and individual competitive advantage. The High and Medium Growth forecasts assume that City of Forest Grove captures varying shares of the City of Hillsboro’s growth potential.

Finally, it should be underscored that the resulting employment forecast should be interpreted as *potential opportunity* for Forest Grove planning purposes rather than supply-constrained, realized demand. This forecast does not attempt to model the exact timing or nature of such physical constraint, but rather attempts to document total possible demand the City may strategically accommodate based on its own analysis of physical and fiscal constraints to growth over the 2060 planning horizon.

### BASELINE LONG-TERM EMPLOYMENT GROWTH

The baseline long-term employment forecast maintains the Twenty-Year analysis assumption that Forest Grove will capture approximately 2.75% of Washington County’s economic activity. Implicit within this assumption is the success of the City’s economic development objectives; namely, the expansion of its target industries, potential transportation network improvements and the resolution of electricity pricing. In other words, it is the City’s potential long-term growth assuming it operates in isolation of other cities in the Western Washington County subarea.

Employment growth continues through 2060 at an annual average growth rate of 2.3% (vs. 2.5% from 2008 to 2028) with 20,984 jobs added, inclusive of the 5,748 jobs added through 2028. As in the Twenty-Year analysis, Forest Grove’s professional services sector is expected to continue significant growth through 2060, due both to maturation in the City’s economy as well as spillover effects from regional economic growth.

**FIGURE 30: EMPLOYMENT FORECAST BY INDUSTRY SECTOR, FOREST GROVE (2008-2060)**

Baseline Growth Forecast NAICS	Base Year	Employment Forecast							2008-2060 Growth	
	2008	2033	2038	2043	2048	2053	2058	2060	Jobs	AAGR
Natural Resources	937	937	937	937	937	937	937	937	0	0.0%
Construction	420	728	806	891	983	1,085	1,195	1,242	821	2.1%
Manufacturing	2,197	4,436	5,052	5,745	6,521	7,392	8,367	8,789	6,592	2.7%
Wholesale Trade	67	100	108	117	125	135	145	149	82	1.5%
Retail Trade	600	1,047	1,161	1,285	1,421	1,569	1,731	1,800	1,199	2.1%
T.W.U.	155	270	300	332	367	405	447	464	309	2.1%
Information	30	44	47	50	53	57	60	62	32	1.4%
Financial Activities	240	365	394	426	459	495	533	549	309	1.6%
Professional & Business	266	829	1,024	1,261	1,548	1,896	2,317	2,509	2,243	4.4%
Education & Health	2,979	5,681	6,298	6,972	7,708	8,512	9,389	9,762	6,782	2.3%
Leisure & Hospitality	670	1,345	1,531	1,739	1,972	2,233	2,525	2,651	1,982	2.7%
Other Services	348	516	554	596	639	686	735	755	407	1.5%
Public Administration	182	274	295	318	342	368	396	407	226	1.6%
<b>TOTAL</b>	<b>9,092</b>	<b>16,572</b>	<b>18,506</b>	<b>20,666</b>	<b>23,077</b>	<b>25,770</b>	<b>28,777</b>	<b>30,076</b>	<b>20,984</b>	<b>2.3%</b>



## ALTERNATIVE LONG-TERM GROWTH SCENARIOS

In determining Forest Grove’s long-term alternative growth scenarios, the City’s baseline “organic” growth is aggregated by expected growth at the regional level. As mentioned previously, the City of Hillsboro has the potential to drive significant regional growth during the next twenty to fifty-year period. To accomplish this, Hillsboro has devised a two-part strategy:

1. A focus on larger, “anchor” users that help to crystallize high-tech industry cluster presence in the City and Washington County in general.
2. Coordination with neighboring western Washington County jurisdictions on industry and cluster growth, specifically provision of various industrial parcels suitable for cluster anchor ripple effects, including vendors, suppliers, spin-offs, and competitors.

Over the fifty-year horizon, Hillsboro intends to seek up to 3,500 gross acres in urban reserves to strategically target high-tech industrial cluster anchors. However assuming Hillsboro achieves maximum success in growing targeted industries, demand could reach as high as 15,000 gross acres of industrial land by 2060. In keeping with the second part of their strategy, Hillsboro and Forest Grove along with Cornelius, North Plains and Banks have agreed to coordinate economic development efforts and industrial land provision in order to accommodate growth within the region.

For Forest Grove, this translates into the opportunity to provide industrial parcels less than 100 acres in size to allow for growth based on the ripple effects of a cluster anchor situating in Hillsboro. Therefore, it is reasonable for Forest Grove’s alternate growth scenarios to reflect a share of regional growth, which will likely become more important to the City’s economy over the 50-year period.

Figure 29 illustrates the high and medium growth scenarios. The high growth forecast assumes Forest Grove captures 15% of the growth opportunity estimated for Hillsboro through 2060 under its medium growth scenario outlined in JOHNSON REID’s Hillsboro analysis. According to the high growth forecast, job growth through 2060 occurs at a 3.6% annual average pace (vs. 3.2% from 2008 to 2028). On the other hand, Forest Grove’s medium growth forecast assumes the City captures 15% of Hillsboro’s growth opportunity created by the emergence of solar and biotechnology clusters alone. According to the medium growth forecast, employment growth continues at an annual average growth rate of 2.6% (vs. 2.9% from 2008 to 2028).



**FIGURE 31: ALTERNATIVE GROWTH FORECASTS BY INDUSTRY SECTOR, FOREST GROVE (2008-2060)**

High Growth Scenario NAICS	Base Year	Employment Forecast							2008-2060 Growth	
	2008	2033	2038	2043	2048	2053	2058	2060	Jobs	AAGR
Natural Resources	937	951	954	958	962	966	969	972	35	0.1%
Construction	420	1,170	1,372	1,597	1,851	2,135	2,395	2,591	2,171	3.6%
Manufacturing	2,197	9,056	10,860	12,918	15,265	17,942	20,434	22,373	20,176	4.6%
Wholesale Trade	67	319	386	460	542	633	709	779	712	4.8%
Retail Trade	600	2,076	2,472	2,915	3,412	3,967	4,460	4,860	4,259	4.1%
T.W.U.	155	549	656	777	915	1,071	1,212	1,328	1,173	4.2%
Information	30	103	122	143	165	190	211	230	200	4.0%
Financial Activities	240	465	521	583	650	723	792	838	598	2.4%
Professional & Business	266	1,595	2,000	2,482	3,057	3,740	4,446	4,923	4,656	5.8%
Education & Health	2,979	6,555	7,422	8,392	9,478	10,695	11,925	12,651	9,672	2.8%
Leisure & Hospitality	670	1,645	1,914	2,218	2,562	2,950	3,348	3,580	2,910	3.3%
Other Services	348	875	1,010	1,159	1,323	1,502	1,658	1,785	1,437	3.2%
Public Administration	182	422	483	549	619	694	759	809	627	2.9%
<b>TOTAL</b>	<b>9,092</b>	<b>25,781</b>	<b>30,171</b>	<b>35,151</b>	<b>40,799</b>	<b>47,210</b>	<b>53,318</b>	<b>57,718</b>	<b>48,626</b>	<b>3.6%</b>

Medium Growth Scenario NAICS	Base Year	Employment Forecast							2008-2060 Growth	
	2008	2033	2038	2043	2048	2053	2058	2060	Jobs	AAGR
Natural Resources	937	986	989	992	995	998	1,002	1,000	63	0.1%
Construction	420	764	848	941	1,042	1,153	1,274	1,326	906	2.2%
Manufacturing	2,197	4,941	5,654	6,460	7,371	8,400	9,561	10,091	7,894	3.0%
Wholesale Trade	67	121	133	145	159	174	190	198	131	2.1%
Retail Trade	600	1,127	255	1,395	1,550	1,720	1,907	1,989	1,389	2.3%
T.W.U.	155	294	327	364	405	450	499	521	366	2.4%
Information	30	65	71	79	87	97	108	113	83	2.6%
Financial Activities	240	397	432	469	509	553	600	620	380	1.8%
Professional & Business	266	1,091	1,337	1,635	1,996	2,433	2,960	3,220	2,954	4.9%
Education & Health	2,979	5,979	6,647	7,381	8,186	9,069	10,037	10,455	7,476	2.4%
Leisure & Hospitality	670	1,435	1,638	1,867	2,125	2,415	2,742	2,888	2,218	2.8%
Other Services	348	560	606	655	708	765	826	852	504	1.7%
Public Administration	182	289	313	339	366	395	427	440	258	1.7%
<b>TOTAL</b>	<b>9,092</b>	<b>18,049</b>	<b>19,250</b>	<b>22,722</b>	<b>25,499</b>	<b>28,622</b>	<b>32,133</b>	<b>33,713</b>	<b>24,621</b>	<b>2.6%</b>

SOURCES: Oregon Employment Department Regional Forecasts, Oregon ES-202 reports, Local Interviews, and Johnson Reid

## 2060 FOREST GROVE POTENTIAL EMPLOYMENT LAND DEMAND

### INTRODUCTION

An analysis of potential employment land demand through the year 2060 was conducted with methodology analogous to employment land need findings for the year 2028. For a detailed summary of land demand methodology as a function of employment growth, please refer to the section titled 2028 Employment Land Demand. The resulting total, potential demand estimates will be of use to the City for strategic planning purposes in deciding economic opportunities to engage once policy and physical constraints are introduced.

### SUMMARY OF EMPLOYMENT LAND DEMAND FINDINGS

The results summarized in Figure 32 highlight projections of gross, potential new demand within the Forest Grove Urban Area for commercial and industrial land through 2060. Detailed findings by use type and growth scenario are included in the technical appendix.

- Through 2060, potential new gross demand for employment land is expected to range from 1,247 to 3,386 gross buildable acres, contingent upon both Forest Grove’s realized growth pattern and economic development policy preferences as well as that at the regional level.
- The Organic scenarios indicate that Forest Grove can see employment land demand in the vicinity of roughly 1,247 to 1,434 acres through 2060.



- Under the Medium Growth scenario in which Forest Grove captures 15% of Hillsboro’s emerging growth through 2060, the City can realize employment land demand of 1,760 acres.
- Under the High Growth scenario in which Forest Grove captures 15% of Hillsboro’s total growth through 2060, the City can see employment land demand as much as 3,386 acres.
- Demand for industrial land represents the greatest percentage of total demand in each scenario ranging from 541 under the Organic Baseline scenario to 1,892 under the High Growth scenario.
- Potential office commercial demand is estimated to range between 211 and 437 acres during the period, but figures generally reflect maximums. Forest Grove will permanently be at a competitive disadvantage to the more centrally located areas for various office uses.
- Potential, gross retail commercial acreage demand is estimated to range from 329 to 817 acres through 2060. While some improvement is expected in Forest Grove’s retail commercial capture due to the development of target industries as well as regional spill over growth like office uses, more centrally-located areas will enjoy a competitive advantage for sizeable retail commercial development. As the in the Twenty-Year analysis, retail commercial demand figures reflect a static assumption that Forest Grove’s regional/visitor driven retail support will normalize at 20% of new demand on the margin.

**FIGURE 32: FOREST GROVE URBAN AREA EMPLOYMENT LAND DEMAND (GROSS BUILDABLE ACRES 2008-2060)**

Use Type	Need For Land (Acres) By Scenario:			
	Organic (Baseline)	Organic (Alternative)	High Growth	Medium Growth
<b>OFFICE COMMERCIAL</b>	<b>211.0</b>	<b>242.6</b>	<b>436.5</b>	<b>301.8</b>
<b>INDUSTRIAL</b>	<b>540.6</b>	<b>621.7</b>	<b>1,892.2</b>	<b>785.9</b>
<b>RETAIL COMMERCIAL</b>	<b>328.8</b>	<b>378.2</b>	<b>817.2</b>	<b>465.6</b>
CITY RESIDENTS	263.1	302.5	653.7	372.5
REGION/TOURISTS 1/	65.8	75.6	163.4	93.1
<b>OVERNIGHT LODGING</b>	<b>34.1</b>	<b>39.2</b>	<b>55.2</b>	<b>46.1</b>
<b>SPECIALIZED USES 2/</b>	<b>132.8</b>	<b>152.7</b>	<b>185.1</b>	<b>160.9</b>
<b>TOTAL</b>	<b>1,247.3</b>	<b>1,434.4</b>	<b>3,386.2</b>	<b>1,760.3</b>

1/ Based on current ratios between locally supported and total sales, CE Survey from the BLS and Census of Retail Trade.

2/ Hospitals, Clinics, etc. for employment not otherwise categorized.

SOURCE: Johnson Reid





## 2060 EMPLOYMENT LAND DEMAND & SUPPLY RECONCILIATION

In the 2028/20-year analysis of employment land demand for the City of Forest Grove, gross land demand figures were translated into industry demand by site qualities, namely uses and classes of parcel/site size. Utilizing analogous methodology, a determination of site needs by use and industry size categories was estimated. A more detailed discussion of the underlying methodology is found in the Projected Number of Sites Demanded subsection of the 20-YEAR EMPLOYMENT LAND DEMAND SITE QUALITIES section of this document.

### PROJECTED GROSS ACREAGE NEED BY SITE QUALITY

Figure 33 provides detailed assessment of Forest Grove employment land demand and reconciled need (gross acres) by site quality through 2060. Estimates reflect *potential*, unconstrained demand for sites in urbanized Forest Grove under the three growth path scenarios utilized in this analysis. The inventory of existing, vacant and developable employment land by site type within the current Forest Grove UGB is also expressed, along with an acreage need reconciliation for the three growth potential scenarios.

**FIGURE 33: RECONCILIATION OF FOREST GROVE EMPLOYMENT LAND ACREAGE DEMAND & SUPPLY (2060)**

2060 Land Demand Reconciliation - Gross Acreage Needed									
Vacant Acres Reconciliation (Total)						Planning Horizon			
		Demand Projections				Vacant Supply	Balance		
		Typical Acreage	Baseline	High	Medium		Baseline	High	Medium
Office	Business Park	Over 40	88	186	129	0	88	186	129
	Medium	10 to 40	60	124	85	0	60	124	85
	Small	10 or less	62	127	88	2	60	125	85
	<b>Sub Total</b>		<b>211</b>	<b>436</b>	<b>302</b>	<b>2</b>	<b>209</b>	<b>434</b>	<b>299</b>
Industrial	Cluster Anchor	Over 100	81	284	118	0	81	284	118
	Anchor or Large Park	50 to 100	162	568	236	72	90	496	164
	Large User or Mid Park	20 to 50	97	341	141	70	27	271	71
	Medium User or Smaller Park	10 to 20	76	265	110	44	32	221	66
	Expanding User	5 to 10	32	114	47	60	(28)	54	(13)
	Small Businesses	5 or fewer	92	322	134	45	47	277	89
	<b>Sub Total</b>		<b>541</b>	<b>1,892</b>	<b>786</b>	<b>291</b>	<b>168</b>	<b>1,317</b>	<b>377</b>
Commercial Retail	Large	Over 20	72	178	101	0	72	178	101
	Medium	5 to 20	155	385	219	16	139	369	204
	Small	5 or fewer	102	254	145	15	88	240	130
	<b>Sub Total</b>		<b>329</b>	<b>817</b>	<b>466</b>	<b>31</b>	<b>298</b>	<b>787</b>	<b>435</b>
Other	Over Night Lodging	Not Estimated	34	55	46	Not Estimated	34	55	46
	Special Uses	Not Estimated	133	185	161	Not Estimated	133	185	161
	<b>Grand Totals</b>		<b>1,247</b>	<b>3,386</b>	<b>1,760</b>		<b>842</b>	<b>2,779</b>	<b>1,319</b>

Note: Figures may not sum due to rounding.

SOURCE: City of Forest Grove and Johnson Reid, LLC

### 2060 OFFICE COMMERCIAL LAND ACREAGE DEMAND FINDINGS

- *Land Demanded:* Forest Grove growth potential is estimated to create demand for between 211 and 436 acres of office commercial land over the very long-term. Demand is sizeable for all three categories of office development orientation.



- *Land Needed Reconciliation:* Given documented site demand through 2060 and existing inventory, Forest Grove will require at least 209 acres and as many as 434 acres of office commercial land in excess of existing capacity to meet economic need. Net, new need is robust in all classes of office orientation.

### 2060 INDUSTRIAL LAND ACREAGE DEMAND FINDINGS

- *Land Demanded:* Forest Grove economic growth is expected to generate demand for a minimum of 541 industrial acres to as many as 1,892 acres through 2060. Over the very long-term, acreage demand in the Cluster Anchor category materializes in terms of economic need, particularly with coordination between Forest Grove and neighboring west County cities.
- *Land Needed Reconciliation:* Over the 50-year period, Forest Grove is estimated to see demand exceed existing industrial supply capacity within the UGB totaling 168 to 1,317 acres depending upon economic development scenario pursued. Acreage need is largest in the Cluster Anchor category, largely due to typical 100+ acre size, as well as the complete lack of availability within the current UGB.

### 2060 RETAIL COMMERCIAL LAND ACREAGE DEMAND FINDINGS

- *Land Demanded:* Forest Grove demand for commercial acreage is estimated to range from 329 acres to 817 acres depending upon economic growth scenario through 2060. Medium sites, typically 10 acres in size, comprise the largest single share of acreage demand during the planning period, though over the very long-term household growth is estimated to drive robust demand for Large retail commercial acreage of between 72 acres and 178 acres.
- *Land Needed Reconciliation:* Given documented site demand and existing inventory, Forest Grove will require anywhere from 298 to 787 additional acres to meet the needs of anticipated population growth through 2060. Unmet commercial retail land need is most concentrated in Medium-sized retail demand, followed by Large retail commercial types.

### 2060 EMPLOYMENT LAND DEMAND & SUPPLY BY SITE QUALITIES

Figure 34 below provides a matrix of fifty-year employment site demand by use and site quality that results from gross acreage demand by use and site quality analysis findings summarized in Figure 33.

#### 2060 Office Employment Site Demand Findings

- *Sites Demanded:* Over a fifty-year period, Forest Grove growth potential is estimated to create demand for at least ten to at least eighteen total office sites, the great majority of which are classified as “Small” or sized five acres or less.
- *Sites Needed Reconciliation:* Given documented site demand and existing inventory, over the long-term Forest Grove is estimated to require up to 13 additional office commercial sites in addition to existing capacity within the Urban Growth Boundary.
- *Sites Needed Concentration:* It should be noted that all office availability is in the CBD of Forest Grove, therefore the City may consider need for Small sites outside of the CBD that are more compatible with and complimentary to office employment outside of downtown. Additional need is roughly split between larger “Business Park” configuration and the Medium-sized configuration.

### 2060 INDUSTRIAL EMPLOYMENT SITE DEMAND FINDINGS

- *Sites Demanded:* Forest Grove economic growth is expected to generate demand for a minimum of 30 industrial sites to at least 102 sites over the 50-year planning period. The great majority of sites demanded will be five acres or fewer in size (“Small Businesses”), however the second largest demand category is “Medium User/Smaller Park.” It should further be noted that over a 50-year period and as part of a coordinated economic development effort in the west Washington County



area, “Cluster Anchor” acreage is expected. Demand for two sites over the very long-term should be expected.

**FIGURE 34: RECONCILIATION OF FOREST GROVE EMPLOYMENT LAND SITE DEMAND & SUPPLY (2060)**

2060 Land Demand Reconciliation - Site Need Count									
Number of Sites by Development Pattern					Planning Horizon				
	Typical Acreage	Demand Projections			Vacant Supply	Balance			
		Baseline	High	Medium		Baseline	High	Medium	
<b>Office</b>	Business Park	Over 40	2	3 - 4	2 - 3	0	2	3 - 4	2 - 3
	Medium	10 to 40	2 - 5	3 - 12	2 - 8	0	2 - 5	3 - 12	2 - 8
	Small	10 or less	6+	12+	8+	15	(9)	(3)	(2)
	<b>Sub Total</b>		<b>10+</b>	<b>18+</b>	<b>12+</b>	<b>15</b>	<b>(2)</b>	13	9
<b>Industrial</b>	Cluster Anchor	Over 100	0	2	1	0	0	2	1
	Anchor or Large Park	50 to 100	3 - 4	6 - 11	3 - 4	0	3 - 4	6 - 11	3 - 4
	Large User or Mid Park	20 to 50	2 - 4	6 - 17	3 - 7	5	(1)	(1)	(2)
	Medium User or Smaller Park	10 to 20	4 - 7	13 - 26	6 - 11	3	1 - 4	10 - 23	3 - 8
	Expanding User	5 to 10	3 - 6	11 - 22	5 - 9	8	(2)	3 - 14	0
	Small Businesses	5 or fewer	18+	64+	26+	15	3	49	11
	<b>Sub Total</b>		<b>30+</b>	<b>102+</b>	<b>44+</b>	<b>31</b>	<b>8</b>	<b>98</b>	<b>22</b>
<b>Commercial Retail</b>	Large	Over 20	4	9	5	0	4	5	0
	Medium	5 to 20	8 - 31	20 - 77	11 - 43	2	6 - 29	18 - 75	9 - 41
	Small	5 or fewer	21+	64+	26+	54	(32)	9	(28)
	<b>Sub Total</b>		<b>33+</b>	<b>93+</b>	<b>42+</b>	<b>56</b>	<b>1</b>	<b>89</b>	<b>13</b>

Note: Figures may not sum due to rounding.  
 SOURCE: City of Forest Grove and Johnson Reid, LLC

- *Sites Needed Reconciliation:* Given documented site demand and existing inventory, the City is currently lacking any suitable site in the Cluster Anchor category (100.0+ acres), Anchor/Large Park classification (50.0-100.0 acres), and is marginally sufficient in the Medium User/Smaller Park (10.0-20.0 acres) category. Overall, the City should plan for site demand to exceed current capacity by at least 8 to at least 98 sites depending upon City growth scenario.
- *Sites Needed Concentration:* In terms of number of sites demand beyond current capacity, Small Business-class industrial sites comprise the greatest share, followed by Medium User/Smaller Park. Cluster Anchor sites are absolutely lacking within the current UGB and should be planned for over the very long-term according to economic analysis.

**2060 RETAIL COMMERCIAL EMPLOYMENT SITE DEMAND FINDINGS**

- *Sites Demanded:* Forest Grove population growth, resulting from economic growth opportunity, is expected to create demand for commercial sites ranging from at least 33 to at least 93 individual sites over the planning period. The great majority of sites demanded will be three acres or fewer in size (“Small”), followed by the “Medium” site category.
- *Sites Needed Reconciliation:* Given documented site demand over the 50-year period and existing inventory, Forest Grove will require anywhere from at least one to at least 89 new retail commercial sites concentrated in the Small size category, followed by the Medium size category (5.0 to 20.0 acres). Over the very long-term, estimated population and workforce growth would indicate need for three to seven Large commercial retail sites to adequately serve local households over the planning period.



## 20-YEAR HOUSING NEED FORECAST

### INTRODUCTION

This analysis outlines a forecast of housing need within the City of Forest Grove/Urban Growth Boundary. Housing need and resulting land need are forecast to 2028 consistent with 20-year need assessment requirements of periodic review. The housing need analysis and the following residential land need analysis were prepared in coordination with a larger sub-regional economic assessment of five cities in western Washington County, Oregon.

The primary data sources used in generating this forecast were the U.S. Census, Claritas Inc. and the Employment Forecasts included in this report. Other sources are identified as appropriate.

Claritas Inc. is a third-party company providing data on demographics and market segmentation. It is owned by the Nielson Company which conducts direct market research including surveying of households across the nation. Nielson combines proprietary data with data from the U.S. Census, Postal Service, and other federal sources, as well as local-level sources such as Equifax, Vallassis and the National Association of Realtors. Claritas promotes a “bottom-up” and “top-down” analysis using these sources to produce annual demographic and economic profiles for individual geographies. Projections of future growth are based on the continuation of long-term and emergent demographic trends identified through the above sources.

### CURRENT HOUSING NEEDS

The profile of current housing conditions in the study area is based on certified 2008 estimates from the Population Research Center at Portland State University. Estimates of current population and households were cross referenced with estimates from Claritas, and the U.S. Census.

FIGURE 35: CURRENT HOUSING PROFILE (2008)

CURRENT HOUSING CONDITIONS (2008)		SOURCE
Total 2008 Population:	21,465	PSU Pop. Research Center
- Estimated group housing population:	1,583 (7.4% of Total)	City of Forest Grove
<b>Estimated 2008 Population:</b>	<b>19,882</b> (Total - Group)	
Avg. HH Size:	2.68	Claritas, Census
<b>Estimated 2008 Households:</b>	<b>7,419</b> (Pop/HH Size)	
<b>Total Housing Units:</b>	<b>7,768</b> (Occupied + Vacant)	
Occupied Housing Units:	7,419 (= # of HH)	
Vacant Housing Units:	350	
Current Vacancy Rate:	4.5%	Census, Johnson Reid

Sources: Johnson Reid, LLC, City of Forest Grove, PSU Population Research Center, Claritas Inc. U.S. Census

We estimate a current population of 21,465, living in 7,416 households. Average household size is 2.68 persons (compared to 2.66 in Washington County, and 2.5 statewide). The estimated 2008 vacancy rate of



housing units was 4.5% (Claritas, Census). (Vacancy rates have risen across the Portland Metro area since 2008. Therefore an assumed higher rate of 6% is used below to project *future* housing needs, reflecting the long-term historical average in western Washington County.)

**ESTIMATE OF CURRENT HOUSING NEED**

Following the establishment of the current housing profile, the current housing need was determined based upon the age and income characteristics of current households. The analysis considered the propensity of households in specific age and income levels to either rent or own their home, in order to derive the current need for ownership and rental housing units and the appropriate housing cost level of each. This presents a snapshot of current housing need equal to the number of households in the study area.

**FIGURE 36: ESTIMATE OF CURRENT HOUSING NEED (2008)**

Ownership				
Price Range	# of Households	Income Range	% of Total	Cumulative
\$0 - 50k	211	Less than \$10k	4.7%	4.7%
\$50k - 70k	135	\$10k - \$14.9k	3.0%	7.7%
\$70k - 90k	137	\$15k - \$19.9k	3.1%	10.8%
\$90k - 120k	143	\$20k - \$24.9k	3.2%	14.0%
\$120k - 160k	432	\$25k to \$34.9k	9.7%	23.7%
\$160k - 230k	701	\$35k to \$49.9k	15.7%	39.3%
\$230k - 350k	1,085	\$50k to \$74.9k	24.3%	63.6%
\$350k - 460k	779	\$75k - \$99.9k	17.4%	81.0%
\$460k - 690k	656	\$100k to \$149.9k	14.7%	95.6%
\$690k +	195	\$150k or more	4.4%	100.0%
<b>Totals:</b>	<b>4,474</b>		<b>% of All:</b>	<b>60.3%</b>

Rental				
Rent Level	# of Households	Income Range	% of Total	Cumulative
\$0 - 250	469	Less than \$10k	15.9%	15.9%
\$250 - 375	289	\$10k - \$14.9k	9.8%	25.7%
\$375 - 500	240	\$15k - \$19.9k	8.2%	33.9%
\$500 - 625	271	\$20k - \$24.9k	9.2%	43.1%
\$625 - 875	396	\$25k to \$34.9k	13.5%	56.6%
\$875 - 1,250	497	\$35k to \$49.9k	16.9%	73.4%
\$1,250 - 1,875	601	\$50k to \$74.9k	20.4%	93.8%
\$1,875 - 2,500	133	\$75k - \$99.9k	4.5%	98.4%
\$2,500 - 3,750	48	\$100k to \$149.9k	1.6%	100.0%
\$3,750 +	0	\$150k or more	0.0%	100.0%
<b>Totals:</b>	<b>2,945</b>		<b>% of All:</b>	<b>39.7%</b>

<b>All Households</b>
<b>7,419</b>

Sources: PSU Population Research Center, Claritas Inc., Census, Johnson Reid  
 Values are in 2008 dollars.

The price levels presented above assumes that an “affordable” housing payment equals 30% of a household’s gross income (HUD standard). The affordable price level for ownership housing assumes 30-year amortization, at an interest rate of 6.5%, with 15% down payment.



*[These assumptions are designed to represent prudent lending and borrowing levels for ownership households. The 30-year mortgage commonly serves as the standard. Down payment assumptions tend to range from 20% for older/established households, and 10% for first-time buyers. In recent years, down payment requirements have fallen significantly. The 15% used here represents both the average between newer and older households and recognition that despite currently tightening standards due to the 2009 credit crisis, over the long-run it is anticipated that down payment standards will remain sub-20% (i.e. a new “normal” has been established.) The interest rate of 6.5% reflects the average rate in 2008.]*

#### **CURRENT HOUSING INVENTORY**

The profile of current housing needs (Figure 36) represents the preference and affordability levels of households. In reality, the current housing supply (Figure 37 below) differs from this profile, meaning that some households find themselves in housing units which are not optimal, either not meeting the household’s own/rent preference, or being under- or over-affordable.

A profile of current housing supply in Forest Grove was determined using Census data from the 2006 American Community Survey, which provides a profile of current housing values, current rent levels, and current housing types (single family, attached, mobile home, etc.).

The following figure presents a profile of current housing supply of ownership and rental housing in the study area.

- An estimated 55.1% of housing units are ownership units, while an estimated 44.9% of housing units are rental units.
- This is a low ratio of ownership units compared to Washington County (63.8% ownership rate), adjacent cities, and the state. (The ratio of ownership units is projected to grow in future years, as explained in following sections.)
- Over 80% of ownership units are single family homes, while 50% of rental units are in structures of 5 units or more.



FIGURE 37: PROFILE OF CURRENT HOUSING SUPPLY (2008)

OWNERSHIP HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 50k	337	3	0	1	74	2	416	9.7%	9.7%
\$50k - 70k	126	1	0	0	28	1	156	3.6%	13.4%
\$70k - 90k	126	1	0	0	28	1	156	3.6%	17.0%
\$90k - 120k	127	1	0	0	28	1	157	3.7%	20.7%
\$120k - 160k	315	2	0	1	69	2	390	9.1%	29.8%
\$160k - 230k	1,182	9	0	3	260	8	1,462	34.2%	64.0%
\$230k - 350k	830	7	0	2	182	6	1,027	24.0%	88.0%
\$350k - 460k	255	2	0	1	56	2	315	7.4%	95.4%
\$460k - 690k	118	1	0	0	26	1	147	3.4%	98.8%
\$690k +	42	0	0	0	9	0	52	1.2%	100.0%
<b>Totals:</b>	<b>3,458</b>	<b>27</b>	<b>0</b>	<b>9</b>	<b>759</b>	<b>25</b>	<b>4,278</b>	<b>% of All Units:</b>	<b>55.1%</b>
<b>Percentage:</b>	<b>80.8%</b>	<b>0.6%</b>	<b>0.0%</b>	<b>0.2%</b>	<b>17.7%</b>	<b>0.6%</b>	<b>100.0%</b>		

RENTAL HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 250	10	4	6	20	0	0	40	1.1%	1.1%
\$250 - 375	34	12	21	68	1	0	138	3.9%	5.1%
\$375 - 500	41	15	25	81	1	0	163	4.7%	9.7%
\$500 - 625	232	84	145	464	6	3	933	26.7%	36.5%
\$625 - 875	289	105	181	578	7	3	1,163	33.3%	69.8%
\$875 - 1,250	160	58	100	319	4	2	642	18.4%	88.2%
\$1,250 - 1,875	82	30	51	164	2	1	330	9.4%	97.6%
\$1,875 - 2,500	20	7	13	41	0	0	82	2.4%	100.0%
\$2,500 - 3,750	0	0	0	0	0	0	0	0.0%	100.0%
\$3,750 +	0	0	0	0	0	0	0	0.0%	100.0%
<b>Totals:</b>	<b>868</b>	<b>316</b>	<b>542</b>	<b>1,734</b>	<b>21</b>	<b>10</b>	<b>3,490</b>	<b>% of All Units:</b>	<b>44.9%</b>
<b>Percentage:</b>	<b>24.9%</b>	<b>9.0%</b>	<b>15.5%</b>	<b>49.7%</b>	<b>0.6%</b>	<b>0.3%</b>	<b>100.0%</b>		

TOTAL HOUSING UNITS								
	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units
<b>Totals:</b>	<b>4,326</b>	<b>343</b>	<b>542</b>	<b>1,743</b>	<b>780</b>	<b>35</b>	<b>7,768</b>	<b>100%</b>
<b>Percentage:</b>	<b>55.7%</b>	<b>4.4%</b>	<b>7.0%</b>	<b>22.4%</b>	<b>10.0%</b>	<b>0.4%</b>	<b>100.0%</b>	

Sources: 2006 American Community Survey, PSU Population Research Center, Johnson Reid  
 Values are in 2008 dollars.

**COMPARISON OF CURRENT HOUSING NEEDS WITH CURRENT SUPPLY**

A comparison of estimated current housing needs with current supply identifies the existing discrepancies between needs and the housing which is currently available.

In general, this identifies a current surplus of inexpensive ownership units (including mobile home units) and a current need for more units in the median and upper price range. In other words, the current housing stock offers ample lower end units, and insufficient median and higher price units.

The analysis identifies a general need for rental units at the lower and upper price levels, and a surplus of rental housing in the middle price levels. This reflects that most housing stock will be found near the median



rent levels, with lower income households stretching to pay these prices, and higher income households who rent tend to live in homes costing somewhat less than they can afford based on our definition of “affordable.”

**FIGURE 38: COMPARISON OF CURRENT NEED TO CURRENT SUPPLY**

Ownership				Rental			
Price Range	Estimated Current Need	Estimated Current Supply	Unmet (Need) or Surplus	Rent	Estimated Current Need	Estimated Current Supply	Unmet (Need) or Surplus
\$0 - 50k	211	416	205	\$0 - 250	469	40	(429)
\$50k - 70k	135	156	21	\$250 - 375	289	138	(151)
\$70k - 90k	137	156	18	\$375 - 500	240	163	(77)
\$90k - 120k	143	157	14	\$500 - 625	271	933	662
\$120k - 160k	432	390	(42)	\$625 - 875	396	1,163	767
\$160k - 230k	701	1,462	762	\$875 - 1,250	497	642	145
\$230k - 350k	1,085	1,027	(58)	\$1,250 - 1,875	601	330	(271)
\$350k - 460k	779	315	(464)	\$1,875 - 2,500	133	82	(51)
\$460k - 690k	656	147	(510)	\$2,500 - 3,750	48	0	(48)
\$690k +	195	52	(143)	\$3,750 +	0	0	0
<b>Totals:</b>	<b>4,474</b>	<b>4,278</b>	<b>(196)</b>	<b>Totals:</b>	<b>2,945</b>	<b>3,490</b>	<b>546</b>

<b>Occupied Units:</b>	<b>7,419</b>
<b>All Housing Units:</b>	<b>7,768</b>
<b>Total Unit Surplus:</b>	<b>350</b>

Sources: PSU Population Research Center, Claritas Inc., Census, Johnson Reid  
 Values are in 2008 dollars.

Overall, the analysis identifies a total need for ownership units (196), and a current surplus of rental units (546). This is based on a model of general preferences of households in different age and income cohorts to either own or rent. The analysis indicates that currently there are some household which might be expected to own homes based on these demographic indicators, who nonetheless are currently renting. As mentioned above, Forest Grove currently has a high ratio of rental units to ownership units compared to the Washington County as a whole, and most nearby cities.

There are an estimated 350 units more than the current number of households (i.e. 350 vacant units.)





## FUTURE HOUSING NEEDS (2028)

The projected future (20-year) housing profile (Figure 39) in the study area is based on the current housing profile, multiplied by an assumed projected future population growth rate. The projected population growth rate is based on the 20-year Employment Forecast presented in a previous chapter of this report. As with the employment numbers, three growth scenarios were modeled:

**ANNUAL HOUSING GROWTH RATES: THREE SCENARIOS**

Baseline Growth Scenario:	2.0%
Medium Growth Scenario:	2.3%
High Growth Scenario:	2.6%

This analysis uses economic and employment growth as the primary determinant of the number of households seeking to locate in the study area. A jobs-to-household ratio is applied to represent the number of available jobs in an area per household. Generally, a higher jobs-to-housing ratio represents a more robust local employment and economic environment, as it represents the amount of business activity taking place in the community. The jobs-to-household ratio is a commonly-used indicator of whether there is a sufficient amount of housing to support area employment, and vice versa.

The current estimated jobs/household ratio in Forest Grove is 1.25, which is considered a relatively low level of employment opportunities for each household. Based on the latest Census data, there are currently enough Forest Grove residents in the labor force to support a jobs-to-housing ratio of 1.40. In other words, Forest Grove does not currently offer enough local employment to meet the job demand of current residents.

This analysis assumes an increased future jobs/household ratio of 1.5, meaning somewhat more available jobs per household. This assumptions results from examining western Washington County in a sub-regional context, particularly the finding from the Economic Opportunities Analysis that some high-tech and related manufacturing employment is likely to spread beyond its historical base in the Hillsboro area to the surrounding communities, such as Forest Grove.

The use of 1.5 jobs to households represents the assumptions that more residents of Forest Grove will be employed locally, rather than commute for employment. Applying a *lower* jobs/household ratio results in the need for *more* housing, and implies that more of the residents of that housing are commuting to employment.

The following table presents growth forecasts under Baseline, Medium Growth and High Growth Scenarios. Each scenario is based upon a corresponding growth scenario in employment.



FIGURE 39: FUTURE HOUSING PROFILE (2028)

	Baseline Growth Scenario	Medium Growth Scenario	High Growth Scenario
2008 Population*:	19,882	19,882	19,882
Annual Growth Rate:	2.0%	2.3%	2.6%
<b>Estimated 2028 Population*:</b>	<b>29,394</b>	<b>31,504</b>	<b>32,916</b>
<b>Estimated 2028 Households:</b>	<b>10,968</b>	<b>11,755</b>	<b>12,282</b>
<b>Total Housing Units:</b>	<b>11,668</b>	<b>12,506</b>	<b>13,066</b>
Occupied Housing Units:	10,968	11,755	12,282
Vacant Housing Units:	700	750	784
New Population ('08-'28):	9,512	11,622	13,034
New Households ('08-'28):	3,549	4,337	4,863
New Housing Units ('08-'28) <sup>1</sup>	3,900	4,737	5,298

\* Does not include Group Quarters population.

<sup>1</sup> New Housing Units = Total housing units, occupied and vacant.

Assumes average future household size of 2.68, and unit vacancy of 6% (historical average).

Sources: PSU Population Research Center, Claritas, Census, Johnson Reid LLC.

The growth scenarios project growth in the number of households over 20 years of between 3,549 and 4,863 households, with accompanying population growth of 9,512 to 13,034 new residents. (The number of households differs from the number of housing units, because the total number of housing units includes a percentage of vacancy. Projected housing unit needs are discussed below.)

**PROJECTION OF FUTURE HOUSING UNIT NEEDS (2028)**

The profile of future housing needs was derived using the same methodology used to produce the estimate of current housing need. It includes current and future households, and includes a vacancy rate assumption of 6% based on the historical average in Western Washington County. **Therefore, these projections represent the total number of housing units needed, occupied and vacant.**

The analysis considered the propensity of households at specific age and income levels to either rent or own their home, in order to derive the future need for ownership and rent housing units, and the affordable cost level of each. The projected need is for *all* 2028 households and therefore includes the needs of current households.

The percentage of units which are ownership rather than rental is expected to increase from 55% to 65% over the next 20 years, reflecting demographic shifts. This ratio of ownership to rental units would roughly match that found in Washington County as a whole.

The price levels presented below assume that an “affordable” housing payment equals 30% of a household’s gross income. The affordable price level for ownership housing assumes 30-year amortization, at an interest rate of 6.5%, with 15% down payment. Because of the impossibility of predicting variables such as interest rates 20 years into the future, these assumptions were kept constant from the estimation of current housing need. Income levels and price levels are presented in 2008 dollars.

The following three tables present the projected total future housing needs (current and new households, plus vacancy) in 2028, based on the Baseline, Medium and High Growth Scenarios.



FIGURE 40: PROJECTED TOTAL FUTURE HOUSING NEEDS (2028 )

**BASELINE GROWTH SCENARIO (2.0% ANNUAL POPULATION GROWTH)**

Ownership				Rental			
Price Range	# Units	% of Units	Cumulative	Rent	# Units	% of Units	Cumulative
\$0 - 50k	322	4.2%	4.2%	\$0 - 250	653	16.0%	16.0%
\$50k - 70k	186	2.4%	6.7%	\$250 - 375	365	9.0%	25.0%
\$70k - 90k	206	2.7%	9.4%	\$375 - 500	337	8.3%	33.3%
\$90k - 120k	217	2.9%	12.3%	\$500 - 625	332	8.1%	41.4%
\$120k - 160k	617	8.1%	20.4%	\$625 - 875	544	13.4%	54.8%
\$160k - 230k	1,038	13.7%	34.1%	\$875 - 1,250	671	16.5%	71.2%
\$230k - 350k	1,605	21.1%	55.2%	\$1,250 - 1,875	827	20.3%	91.5%
\$350k - 460k	1,387	18.3%	73.5%	\$1,875 - 2,500	233	5.7%	97.2%
\$460k - 690k	1,487	19.6%	93.1%	\$2,500 - 3,750	112	2.8%	100.0%
\$690k +	527	6.9%	100.0%	\$3,750 +	0	0.0%	100.0%
<b>Totals:</b>	<b>7,592</b>	<b>% of All:</b>	<b>65.1%</b>	<b>Totals:</b>	<b>4,076</b>	<b>% of All:</b>	<b>34.9%</b>
							<b>All Units</b>
							<b>11,668</b>

**MEDIUM GROWTH SCENARIO (2.3% ANNUAL POPULATION GROWTH)**

Ownership				Rental			
Price Range	# Units	% of Units	Cumulative	Rent	# Units	% of Units	Cumulative
\$0 - 50k	345	4.2%	4.2%	\$0 - 250	700	16.0%	16.0%
\$50k - 70k	199	2.4%	6.7%	\$250 - 375	391	9.0%	25.0%
\$70k - 90k	221	2.7%	9.4%	\$375 - 500	362	8.3%	33.3%
\$90k - 120k	233	2.9%	12.3%	\$500 - 625	355	8.1%	41.4%
\$120k - 160k	662	8.1%	20.4%	\$625 - 875	583	13.4%	54.8%
\$160k - 230k	1,112	13.7%	34.1%	\$875 - 1,250	719	16.5%	71.2%
\$230k - 350k	1,720	21.1%	55.2%	\$1,250 - 1,875	887	20.3%	91.5%
\$350k - 460k	1,487	18.3%	73.5%	\$1,875 - 2,500	250	5.7%	97.2%
\$460k - 690k	1,594	19.6%	93.1%	\$2,500 - 3,750	120	2.8%	100.0%
\$690k +	565	6.9%	100.0%	\$3,750 +	0	0.0%	100.0%
<b>Totals:</b>	<b>8,137</b>	<b>% of All:</b>	<b>65.1%</b>	<b>Totals:</b>	<b>4,368</b>	<b>% of All:</b>	<b>34.9%</b>
							<b>All Units</b>
							<b>12,506</b>

**HIGH GROWTH SCENARIO (2.6% ANNUAL POPULATION GROWTH)**

Ownership				Rental			
Price Range	# Units	% of Units	Cumulative	Rent	# Units	% of Units	Cumulative
\$0 - 50k	360	4.2%	4.2%	\$0 - 250	732	16.0%	16.0%
\$50k - 70k	208	2.4%	6.7%	\$250 - 375	409	9.0%	25.0%
\$70k - 90k	231	2.7%	9.4%	\$375 - 500	378	8.3%	33.3%
\$90k - 120k	243	2.9%	12.3%	\$500 - 625	371	8.1%	41.4%
\$120k - 160k	691	8.1%	20.4%	\$625 - 875	609	13.4%	54.8%
\$160k - 230k	1,162	13.7%	34.1%	\$875 - 1,250	752	16.5%	71.2%
\$230k - 350k	1,797	21.1%	55.2%	\$1,250 - 1,875	926	20.3%	91.5%
\$350k - 460k	1,554	18.3%	73.5%	\$1,875 - 2,500	261	5.7%	97.2%
\$460k - 690k	1,665	19.6%	93.1%	\$2,500 - 3,750	126	2.8%	100.0%
\$690k +	590	6.9%	100.0%	\$3,750 +	0	0.0%	100.0%
<b>Totals:</b>	<b>8,502</b>	<b>% of All:</b>	<b>65.1%</b>	<b>Totals:</b>	<b>4,564</b>	<b>% of All:</b>	<b>34.9%</b>
							<b>All Units</b>
							<b>13,066</b>

Sources: Claritas, Census, Johnson Reid.  
Values are in 2008 dollars.



**COMPARISON OF FUTURE HOUSING NEEDS TO CURRENT HOUSING INVENTORY**

The profile of total future housing need under the three growth scenarios was compared to the current housing inventory to determine the total future need for *new* housing units by type and price range (next page).

Baseline Growth Scenario

The results find a need for 3,900 new housing units by 2028, with a stronger emphasis on new ownership units. This is because analysis of the current supply finds a shortage of ownership units, and a surplus of rental units (Figure 41).

Therefore, to rebalance the supply with the projected future need profile, more *new* ownership units will be needed than rental units, while the current surplus of rental units needs to be absorbed. (In the medium and high growth scenarios, this ratio is improved somewhat as the rental surplus is occupied over time and new rental units are demanded.)

Of the new units needed, the largest share (85%) is projected to be single family types, due again to the stronger need for new ownership housing. The remainder will be some form of attached housing. The projected preferences for future unit types are based upon permitted units from the past 10 years, cross referenced with the profile of the current inventory of units, by owner vs. renter (HUD Building Permit Database, Census).

Duplex through four-plex units are projected to represent slightly more than 11% of the total need.

In balance, a low percentage of all needed units are projected to be multi-family in structures of 5+ attached units. This is because the identified surplus of rental units identified. Nevertheless, a growing part of the ownership demand (4%) is projected to be for attached units such as these (i.e. condominiums).

The following table summarizes the results for all three growth scenarios. Detailed tables for each scenario are presented on the following pages.

**FIGURE 41: NEW UNITS NEEDED BY 2028: THREE GROWTH SCENARIOS**

	<u>Baseline Growth Scenario</u>	<u>Medium Growth Scenario</u>	<u>High Growth Scenario</u>
New Ownership Units:	3,314	3,859	4,224
New Rental Units:	586	878	1,074
<b>Total New Units (2028):</b>	<b>3,900</b>	<b>4,737</b>	<b>5,298</b>

Sources: PSU Population Research Center, Claritas, Census, Johnson Reid.



FIGURE 42: PROJECTED FUTURE NEED FOR NEW HOUSING UNITS (2028 – BASELINE GROWTH SCENARIO)

OWNERSHIP HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 50k	-71	8	7	5	0	0	-51	-1.6%	-1.6%
\$50k - 70k	27	5	4	3	0	0	39	1.2%	-0.4%
\$70k - 90k	44	6	4	3	0	0	58	1.7%	1.4%
\$90k - 120k	52	6	5	3	0	0	66	2.0%	3.4%
\$120k - 160k	194	18	13	10	0	0	235	7.1%	10.5%
\$160k - 230k	-326	25	22	15	0	0	-264	-8.0%	2.5%
\$230k - 350k	494	47	34	25	0	0	600	18.1%	20.6%
\$350k - 460k	890	44	30	23	0	0	987	29.8%	50.4%
\$460k - 690k	1,108	49	32	25	0	0	1,214	36.6%	87.0%
\$690k +	393	17	11	9	0	0	430	13.0%	100.0%
<b>Totals:</b>	2,805	226	162	121	0	0	<b>3,314</b>	<b>% All Units:</b>	<b>85.0%</b>
<b>Percentage:</b>	84.6%	6.8%	4.9%	3.7%	0.0%	0.0%	100.0%		

RENTAL HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 250	209	53	85	262	0	0	609	104.0%	104.0%
\$250 - 375	88	19	30	89	0	0	226	38.6%	142.6%
\$375 - 500	72	15	22	64	0	0	173	29.6%	172.3%
\$500 - 625	-121	-55	-98	-321	0	0	-596	-101.7%	70.5%
\$625 - 875	-107	-58	-104	-343	0	0	-612	-104.6%	-34.1%
\$875 - 1,250	65	1	-6	-30	0	0	30	5.1%	-29.0%
\$1,250 - 1,875	195	42	65	192	0	0	494	84.4%	55.4%
\$1,875 - 2,500	57	13	20	59	0	0	150	25.6%	81.0%
\$2,500 - 3,750	38	10	16	48	0	0	111	19.0%	100.0%
\$3,750 +	0	0	0	0	0	0	0	0.0%	100.0%
<b>Totals:</b>	496	40	29	21	0	0	<b>586</b>	<b>% All Units:</b>	<b>15.0%</b>
<b>Percentage:</b>	84.6%	6.8%	4.9%	3.7%	0.0%	0.0%	100.0%		

TOTAL HOUSING UNITS								
	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units
<b>Totals:</b>	3,301	266	190	143	0	0	<b>3,900</b>	<b>100%</b>
<b>Percentage:</b>	84.6%	6.8%	4.9%	3.7%	0.0%	0.0%	100.0%	

Sources: PSU Population Research Center, Claritas Inc., Census, Johnson Reid  
 Values are in 2008 dollars.



**FIGURE 43: PROJECTED FUTURE NEED FOR NEW HOUSING UNITS (2028 – MEDIUM GROWTH SCENARIO)**

OWNERSHIP HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 50k	-52	10	8	6	0	0	-28	-0.7%	-0.7%
\$50k - 70k	39	6	5	3	0	0	53	1.4%	0.6%
\$70k - 90k	57	7	5	4	0	0	72	1.9%	2.5%
\$90k - 120k	65	7	5	4	0	0	82	2.1%	4.6%
\$120k - 160k	232	21	15	11	0	0	280	7.2%	11.9%
\$160k - 230k	-263	30	26	18	0	0	-190	-4.9%	7.0%
\$230k - 350k	591	55	40	30	0	0	715	18.5%	25.5%
\$350k - 460k	974	51	34	27	0	0	1,087	28.2%	53.7%
\$460k - 690k	1,199	56	37	29	0	0	1,321	34.2%	87.9%
\$690k +	425	20	13	10	0	0	468	12.1%	100.0%
<b>Totals:</b>	<b>3,266</b>	<b>264</b>	<b>188</b>	<b>141</b>	<b>0</b>	<b>0</b>	<b>3,859</b>	<b>% All Units:</b>	<b>81.5%</b>
<b>Percentage:</b>	<b>84.6%</b>	<b>6.8%</b>	<b>4.9%</b>	<b>3.7%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>100.0%</b>		

RENTAL HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 250	248	57	88	263	0	0	656	74.7%	74.7%
\$250 - 375	110	21	31	90	0	0	252	28.7%	103.4%
\$375 - 500	93	16	23	65	0	0	198	22.5%	125.9%
\$500 - 625	-101	-54	-97	-320	0	0	-572	-65.1%	60.8%
\$625 - 875	-74	-55	-103	-342	0	0	-573	-65.3%	-4.5%
\$875 - 1,250	106	4	-3	-28	0	0	78	8.9%	4.4%
\$1,250 - 1,875	245	46	68	195	0	0	554	63.0%	67.5%
\$1,875 - 2,500	72	14	21	60	0	0	166	18.9%	86.4%
\$2,500 - 3,750	44	10	16	49	0	0	119	13.6%	100.0%
\$3,750 +	0	0	0	0	0	0	0	0.0%	100.0%
<b>Totals:</b>	<b>743</b>	<b>60</b>	<b>43</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>878</b>	<b>% All Units:</b>	<b>18.5%</b>
<b>Percentage:</b>	<b>84.6%</b>	<b>6.8%</b>	<b>4.9%</b>	<b>3.7%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>100.0%</b>		

TOTAL HOUSING UNITS								
	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units
<b>Totals:</b>	<b>4,010</b>	<b>324</b>	<b>231</b>	<b>173</b>	<b>0</b>	<b>0</b>	<b>4,737</b>	<b>100%</b>
<b>Percentage:</b>	<b>84.6%</b>	<b>6.8%</b>	<b>4.9%</b>	<b>3.7%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>100.0%</b>	

Sources: PSU Population Research Center, Claritas Inc., Census, Johnson Reid  
 Values are in 2008 dollars.



**FIGURE 44: PROJECTED FUTURE NEED FOR NEW HOUSING UNITS (2028 – HIGH GROWTH SCENARIO)**

OWNERSHIP HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 50k	-38	11	9	6	0	0	-13	-0.3%	-0.3%
\$50k - 70k	46	7	5	4	0	0	62	1.5%	1.2%
\$70k - 90k	65	8	6	4	0	0	82	1.9%	3.1%
\$90k - 120k	74	8	6	4	0	0	93	2.2%	5.3%
\$120k - 160k	257	23	17	12	0	0	309	7.3%	12.6%
\$160k - 230k	-221	34	28	19	0	0	-140	-3.3%	9.3%
\$230k - 350k	656	60	44	32	0	0	792	18.8%	28.1%
\$350k - 460k	1,031	56	38	29	0	0	1,153	27.3%	55.4%
\$460k - 690k	1,259	61	40	32	0	0	1,392	33.0%	88.3%
\$690k +	446	22	14	11	0	0	493	11.7%	100.0%
<b>Totals:</b>	<b>3,575</b>	<b>288</b>	<b>206</b>	<b>155</b>	<b>0</b>	<b>0</b>	<b>4,224</b>	<b>% All Units:</b>	<b>79.7%</b>
<b>Percentage:</b>	<b>84.6%</b>	<b>6.8%</b>	<b>4.9%</b>	<b>3.7%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>100.0%</b>		

RENTAL HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 250	275	59	89	265	0	0	687	64.0%	64.0%
\$250 - 375	125	22	32	91	0	0	270	25.1%	89.1%
\$375 - 500	107	17	24	66	0	0	214	19.9%	109.1%
\$500 - 625	-87	-53	-97	-319	0	0	-556	-51.8%	57.3%
\$625 - 875	-52	-53	-101	-341	0	0	-547	-51.0%	6.3%
\$875 - 1,250	133	6	-2	-27	0	0	110	10.3%	16.6%
\$1,250 - 1,875	279	49	69	196	0	0	593	55.2%	71.8%
\$1,875 - 2,500	81	15	21	60	0	0	178	16.5%	88.4%
\$2,500 - 3,750	49	11	16	49	0	0	125	11.6%	100.0%
\$3,750 +	0	0	0	0	0	0	0	0.0%	100.0%
<b>Totals:</b>	<b>909</b>	<b>73</b>	<b>52</b>	<b>39</b>	<b>0</b>	<b>0</b>	<b>1,074</b>	<b>% All Units:</b>	<b>20.3%</b>
<b>Percentage:</b>	<b>84.6%</b>	<b>6.8%</b>	<b>4.9%</b>	<b>3.7%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>100.0%</b>		

TOTAL HOUSING UNITS								
	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units
<b>Totals:</b>	<b>4,484</b>	<b>362</b>	<b>258</b>	<b>194</b>	<b>0</b>	<b>0</b>	<b>5,298</b>	<b>100%</b>
<b>Percentage:</b>	<b>84.6%</b>	<b>6.8%</b>	<b>4.9%</b>	<b>3.7%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>100.0%</b>	

Sources: PSU Population Research Center, Claritas Inc., Census, Johnson Reid  
 Values are in 2008 dollars.



## 20-YEAR HOUSING LAND NEEDS ANALYSIS

### INTRODUCTION

This section summarizes the projected need for residential land associated with the household growth projections through 2028.

Residential land needs are determined by analyzing the area and achieved density of residentially-zoned land in Forest Grove. The potential development capacity of remaining vacant parcels was determined in a January 2009 analysis by the City of Forest Grove. The capacity of existing vacant parcels was compared to the overall future housing need presented in the previous section. This determined the amount of additional land which will be needed. As the zoning decisions on future lands are unknown at this time, this analysis assumes that future housing will have the same distribution across residential zones as is currently seen, and distributes land need accordingly.

### CURRENT RESIDENTIAL LANDS

The City of Forest Grove has nine Comprehensive Plan Designations which allow residential uses, ranging from low density to high density configurations, and three mixed-use Town Center designations. The target housing density across these zones is estimated to be 8.9 units per net acre. This is based on the target density of each zone, multiplied by the share of residential land that zone represents.

FIGURE 45: RESIDENTIAL COMPREHENSIVE PLAN DESIGNATIONS, CITY OF FOREST GROVE

ZONING DESIGNATION		Est. Current Share of Res. Zoned Land <sup>1</sup>	Target Density (Units/ Net Acre)
SR	Low Density Residential	0.5%	1.0
R-10	Low Density Residential	16.7%	4.4
R-7	Low Density Residential	47.0%	6.2
R-5	Low Density Residential	8.6%	8.7
RML	Medium Density Residential	8.7%	12.0
RMH	High Density Residential	17.0%	20.3
TC	Town Center designations (3)	1.5%	18.3*
<b>Totals/Averages:</b>		<b>100%</b>	<b>8.9</b>

<sup>1</sup> Estimates of current zone coverage were derived from Metro RLIS.

\* Target "Town Center" density reflects that average of minimum and maximum allowed.

Sources: City of Forest Grove, Metro RLIS, Johnson Reid LLC

GIS analysis of vacant unconstrained parcels in Forest Grove found 535 unconstrained parcels of varying sizes across all residential zones. The parcels include 479.3 net acres of developable land (not including redevelopment and infill opportunities), which will accommodate an estimated 4,014 housing units within the city limits, and on residentially-designated FD-10 land. In addition, the analysis found that redevelopment, infill and partially constrained parcels could accommodate an additional 686 units. (See the following figure).





FIGURE 46: VACANT RESIDENTIAL PARCELS & ESTIMATED HOUSING DEVELOPMENT CAPACITY

ZONING DESIGNATION		Net Buildable Acreage	Potential Units Accommodated
R-10	Low Density Residential	120.0	523
R-7	Low Density Residential	104.5	650
R-5	Low Density Residential	40.2	350
RML	Medium Density Residential	29.9	374
RMH	High Density Residential	69.55	1,424
FD-10	FD-10 Residentially Designated Redevelopment/Infill	115.2	693 686
<b>Totals/Averages:</b>		<b>479.3</b>	<b>4,700</b>

Source: City of Forest Grove, Growth Capacity Analysis 2009

### FUTURE RESIDENTIAL LAND NEED (2028)

The total future housing need presented in the last section, minus the capacity of existing developable parcels, leaves a need for lands to accommodate new housing units by 2028.

As the following table shows, there is currently sufficient residential capacity to accommodate new households under the Baseline Growth Scenario, based on the City of Forest Grove assessment of current development capacity (Figure 46). Under the Baseline Growth Scenario, there remains buildable capacity for 800 new units even after 20 years of growth.

The following table presents the projected future land need under the three growth scenarios. The scenarios range from the need for zero new gross acres (Baseline Scenario) to the need for 118 new gross acres (High Growth Scenario).

As the zoning decisions on future lands are unknown at this time, this analysis assumes that future housing will have the same distribution across residential zones as is currently seen, and distributes land need accordingly.



FIGURE 47: PROJECTED NEW RESIDENTIAL LAND NEED, FOREST GROVE (2028)

BASELINE GROWTH SCENARIO (2% Annual Pop. Growth)					
ZONING DESIGNATION	Total Future Unit Need - Vacant Lands <sup>1</sup>	Units Per Net Acre	Net Acreage Needed	Gross Acreage Needed	Distribution
SR Low Density Residential	0	1.0	0	0	NA
R-10 Low Density Residential	-159	4.4	0	0	NA
R-7 Low Density Residential	-447	6.2	0	0	NA
R-5 Low Density Residential	-96	8.7	0	0	NA
RML Medium Density Residential	-55	12.0	0	0	NA
RMH High Density Residential	-43	20.3	0	0	NA
TC Town Center designations (3)	NA*				
<b>Totals/Averages:</b>					
	<b>-800</b>	<b>8.9</b>	<b>0</b>	<b>0</b>	<b>NA</b>

MEDIUM GROWTH SCENARIO (2.3% Annual Pop. Growth)					
ZONING DESIGNATION	Total Future Unit Need - Vacant Lands <sup>1</sup>	Units Per Net Acre	Net Acreage Needed	Gross Acreage Needed	Distribution
SR Low Density Residential	0	1.0	0	0	0.0%
R-10 Low Density Residential	7	4.4	2	2	28.9%
R-7 Low Density Residential	21	6.2	3	4	57.1%
R-5 Low Density Residential	4	8.7	1	1	8.7%
RML Medium Density Residential	3	12.0	0	0	3.6%
RMH High Density Residential	2	20.3	0	0	1.7%
TC Town Center designations (3)	NA*				
<b>Totals/Averages:</b>					
	<b>37</b>	<b>8.9</b>	<b>6</b>	<b>7</b>	<b>100%</b>

HIGH GROWTH SCENARIO (2.6% Annual Pop. Growth)					
ZONING DESIGNATION	Total Future Unit Need - Vacant Lands <sup>1</sup>	Units Per Net Acre	Net Acreage Needed	Gross Acreage Needed	Distribution
SR Low Density Residential	0	1.0	0	0	0.0%
R-10 Low Density Residential	119	4.4	27	34	28.9%
R-7 Low Density Residential	334	6.2	54	67	57.1%
R-5 Low Density Residential	72	8.7	8	10	8.7%
RML Medium Density Residential	41	12.0	3	4	3.6%
RMH High Density Residential	32	20.3	2	2	1.7%
TC Town Center designations (3)	NA*				
<b>Totals/Averages:</b>					
	<b>598</b>	<b>0.0</b>	<b>94</b>	<b>118</b>	<b>100%</b>

<sup>1</sup> Assumes that Town Center designation, which is currently surrounded by incorporated land, will not expand, therefore its capacity is included in the capacity of current vacant lands.

Sources: City of Forest Grove, Metro RLIS, Johnson Reid LLC



# 50-YEAR HOUSING NEED FORECAST

## INTRODUCTION

This analysis outlines a forecast of housing need within the City of Forest Grove/Urban Growth Boundary. Housing need and resulting land need are forecast to 2060. The housing need analysis and the following residential land need analysis were prepared in coordination with a larger sub-regional economic assessment of five cities in western Washington County, Oregon.

Housing needs are also forecast to 2060 (the 50-year forecast). The 50-year Housing Need Forecast is based on the 50-year Employment Forecast included in this report. The employment and housing forecasts presented here over a 50-year timeframe project a substantial amount of growth which may eventually be addressed sub-regionally. For the sake of simplicity, this forecast assumes it is accommodated in Forest Grove and future City lands.

The primary data sources used in generating this forecast were the U.S. Census, Claritas Inc. and the Employment Forecasts included in this report. Other sources are identified as appropriate.

Claritas Inc. is a third-party company providing data on demographics and market segmentation. It is owned by the Nielson Company which conducts direct market research including surveying of households across the nation. Nielson combines proprietary data with data from the U.S. Census, Postal Service, and other federal sources, as well as local-level sources such as Equifax, Vallassis and the National Association of Realtors. Claritas promotes a “bottom-up” and “top-down” analysis using these sources to produce annual demographic and economic profiles for individual geographies. Projections of future growth are based on the continuation of long-term and emergent demographic trends identified through the above sources.

## CURRENT HOUSING NEEDS

The profile of current housing conditions in the study area is based on certified 2008 estimates from the Population Research Center at Portland State University. Estimates of current population and households were cross referenced with estimates from Claritas, and the U.S. Census.

FIGURE 48: CURRENT HOUSING PROFILE (2008)

CURRENT HOUSING CONDITIONS (2008)		SOURCE
Total 2008 Population:	21,465	PSU Pop. Research Center
- Estimated group housing population:	1,583 (7.4% of Total)	City of Forest Grove
<b>Estimated 2008 Population:</b>	<b>19,882</b> (Total - Group)	
Avg. HH Size:	2.68	Claritas, Census
<b>Estimated 2008 Households:</b>	<b>7,419</b> (Pop/HH Size)	
<b>Total Housing Units:</b>	<b>7,768</b> (Occupied + Vacant)	
Occupied Housing Units:	7,419 (= # of HH)	
Vacant Housing Units:	350	
Current Vacancy Rate:	4.5%	Census, Johnson Reid

Sources: Johnson Reid, LLC, City of Forest Grove, PSU Population Research Center, Claritas Inc. U.S. Census



We estimate a current population of 21,465, living in 7,416 households. Average household size is 2.68 persons (compared to 2.66 in Washington County, and 2.5 statewide). The estimated 2008 vacancy rate of housing units was 4.5% (Claritas, Census). (Vacancy rates have risen across the Portland Metro area since 2008. Therefore an assumed higher rate of 6% is used below to project *future* housing needs, reflecting the long-term historical average in western Washington County.)

**ESTIMATE OF CURRENT HOUSING NEED**

Following the establishment of the current housing profile, the current housing need was determined based upon the age and income characteristics of current households. The analysis considered the propensity of households in specific age and income levels to either rent or own their home, in order to derive the current need for ownership and rental housing units and the appropriate housing cost level of each. This presents a snapshot of current housing need equal to the number of households in the study area.

**FIGURE 49: ESTIMATE OF CURRENT HOUSING NEED (2008)**

Ownership				
Price Range	# of Households	Income Range	% of Total	Cumulative
\$0 - 50k	211	Less than \$10k	4.7%	4.7%
\$50k - 70k	135	\$10k - \$14.9k	3.0%	7.7%
\$70k - 90k	137	\$15k - \$19.9k	3.1%	10.8%
\$90k - 120k	143	\$20k - \$24.9k	3.2%	14.0%
\$120k - 160k	432	\$25k to \$34.9k	9.7%	23.7%
\$160k - 230k	701	\$35k to \$49.9k	15.7%	39.3%
\$230k - 350k	1,085	\$50k to \$74.9k	24.3%	63.6%
\$350k - 460k	779	\$75k - \$99.9k	17.4%	81.0%
\$460k - 690k	656	\$100k to \$149.9k	14.7%	95.6%
\$690k +	195	\$150k or more	4.4%	100.0%
<b>Totals:</b>	<b>4,474</b>		<b>% of All:</b>	<b>60.3%</b>

Rental				
Rent Level	# of Households	Income Range	% of Total	Cumulative
\$0 - 250	469	Less than \$10k	15.9%	15.9%
\$250 - 375	289	\$10k - \$14.9k	9.8%	25.7%
\$375 - 500	240	\$15k - \$19.9k	8.2%	33.9%
\$500 - 625	271	\$20k - \$24.9k	9.2%	43.1%
\$625 - 875	396	\$25k to \$34.9k	13.5%	56.6%
\$875 - 1,250	497	\$35k to \$49.9k	16.9%	73.4%
\$1,250 - 1,875	601	\$50k to \$74.9k	20.4%	93.8%
\$1,875 - 2,500	133	\$75k - \$99.9k	4.5%	98.4%
\$2,500 - 3,750	48	\$100k to \$149.9k	1.6%	100.0%
\$3,750 +	0	\$150k or more	0.0%	100.0%
<b>Totals:</b>	<b>2,945</b>		<b>% of All:</b>	<b>39.7%</b>

<b>All Units</b>
<b>7,419</b>

Sources: PSU Population Research Center, Claritas Inc., Census, Johnson Reid  
 Values are in 2008 dollars.



The price levels presented above assumes that an “affordable” housing payment equals 30% of a household’s gross income (HUD standard). The affordable price level for ownership housing assumes 30-year amortization, at an interest rate of 6.5%, with 15% down payment.

*[These assumptions are designed to represent prudent lending and borrowing levels for ownership households. The 30-year mortgage commonly serves as the standard. Down payment assumptions tend to range from 20% for older/established households, and 10% for first-time buyers. In recent years, down payment requirements have fallen significantly. The 15% used here represents both the average between newer and older households and recognition that despite currently tightening standards due to the 2009 credit crisis, over the long-run it is anticipated that down payment standards will remain sub-20% (i.e. a new “normal” has been established.) The interest rate of 6.5% reflects the average rate in 2008.]*

### **CURRENT HOUSING INVENTORY**

The profile of current housing needs (Figure 49) represents the preference and affordability levels of households. In reality, the current housing supply (Figure 50 below) differs from this profile, meaning that some households find themselves in housing units which are not optimal, either not meeting the household’s own/rent preference, or being under- or over-affordable.

A profile of current housing supply in Forest Grove was determined using Census data from the 2006 American Community Survey, which provides a profile of current housing values, current rent levels, and current housing types (single family, attached, mobile home, etc.).

The following figure presents a profile of current housing supply of ownership and rental housing in the study area.

- An estimated 55.1% of housing units are ownership units, while an estimated 44.9% of housing units are rental units.
- This is a low ratio of ownership units compared to Washington County (63.8% ownership rate), adjacent cities, and the state. (The proportion of ownership units is projected to grow in future years, as explained in following sections.)
- Over 80% of ownership units are single family homes, while 50% of rental units are in structures of 5 units or more.



**FIGURE 50: PROFILE OF CURRENT HOUSING SUPPLY (2008)**

OWNERSHIP HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 50k	337	3	0	1	74	2	416	9.7%	9.7%
\$50k - 70k	126	1	0	0	28	1	156	3.6%	13.4%
\$70k - 90k	126	1	0	0	28	1	156	3.6%	17.0%
\$90k - 120k	127	1	0	0	28	1	157	3.7%	20.7%
\$120k - 160k	315	2	0	1	69	2	390	9.1%	29.8%
\$160k - 230k	1,182	9	0	3	260	8	1,462	34.2%	64.0%
\$230k - 350k	830	7	0	2	182	6	1,027	24.0%	88.0%
\$350k - 460k	255	2	0	1	56	2	315	7.4%	95.4%
\$460k - 690k	118	1	0	0	26	1	147	3.4%	98.8%
\$690k +	42	0	0	0	9	0	52	1.2%	100.0%
<b>Totals:</b>	<b>3,458</b>	<b>27</b>	<b>0</b>	<b>9</b>	<b>759</b>	<b>25</b>	<b>4,278</b>	<b>% of All Units:</b>	<b>55.1%</b>
<b>Percentage:</b>	<b>80.8%</b>	<b>0.6%</b>	<b>0.0%</b>	<b>0.2%</b>	<b>17.7%</b>	<b>0.6%</b>	<b>100.0%</b>		

RENTAL HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 250	10	4	6	20	0	0	40	1.1%	1.1%
\$250 - 375	34	12	21	68	1	0	138	3.9%	5.1%
\$375 - 500	41	15	25	81	1	0	163	4.7%	9.7%
\$500 - 625	232	84	145	464	6	3	933	26.7%	36.5%
\$625 - 875	289	105	181	578	7	3	1,163	33.3%	69.8%
\$875 - 1,250	160	58	100	319	4	2	642	18.4%	88.2%
\$1,250 - 1,875	82	30	51	164	2	1	330	9.4%	97.6%
\$1,875 - 2,500	20	7	13	41	0	0	82	2.4%	100.0%
\$2,500 - 3,750	0	0	0	0	0	0	0	0.0%	100.0%
\$3,750 +	0	0	0	0	0	0	0	0.0%	100.0%
<b>Totals:</b>	<b>868</b>	<b>316</b>	<b>542</b>	<b>1,734</b>	<b>21</b>	<b>10</b>	<b>3,490</b>	<b>% of All Units:</b>	<b>44.9%</b>
<b>Percentage:</b>	<b>24.9%</b>	<b>9.0%</b>	<b>15.5%</b>	<b>49.7%</b>	<b>0.6%</b>	<b>0.3%</b>	<b>100.0%</b>		

TOTAL HOUSING UNITS								
	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units
<b>Totals:</b>	<b>4,326</b>	<b>343</b>	<b>542</b>	<b>1,743</b>	<b>780</b>	<b>35</b>	<b>7,768</b>	<b>100%</b>
<b>Percentage:</b>	<b>55.7%</b>	<b>4.4%</b>	<b>7.0%</b>	<b>22.4%</b>	<b>10.0%</b>	<b>0.4%</b>	<b>100.0%</b>	

Sources: 2006 American Community Survey, PSU Population Research Center, Johnson Reid  
Values are in 2008 dollars.

**COMPARISON OF CURRENT HOUSING NEEDS WITH CURRENT SUPPLY**

A comparison of estimated current housing needs with current supply identifies the existing discrepancies between needs and the housing which is currently available.

In general, this identifies a current surplus of inexpensive ownership units (including mobile home units) and a current need for more units in the median and upper price range. In other words, the current housing stock offers ample lower end units, and insufficient median and higher price units.



The analysis identifies a general need for rental units at the lower and upper price levels, and a surplus of rental housing in the middle price levels. This reflects that most housing stock will be found near the median rent levels, with lower income households stretching to pay these prices, and higher income households who rent tend to live in homes costing somewhat less than they can afford based on our definition of “affordable.”

**FIGURE 51: COMPARISON OF CURRENT NEED TO CURRENT SUPPLY**

Ownership				Rental			
Price Range	Estimated Current Need	Estimated Current Supply	Unmet (Need) or Surplus	Rent	Estimated Current Need	Estimated Current Supply	Unmet (Need) or Surplus
\$0 - 50k	211	416	205	\$0 - 250	469	40	(429)
\$50k - 70k	135	156	21	\$250 - 375	289	138	(151)
\$70k - 90k	137	156	18	\$375 - 500	240	163	(77)
\$90k - 120k	143	157	14	\$500 - 625	271	933	662
\$120k - 160k	432	390	(42)	\$625 - 875	396	1,163	767
\$160k - 230k	701	1,462	762	\$875 - 1,250	497	642	145
\$230k - 350k	1,085	1,027	(58)	\$1,250 - 1,875	601	330	(271)
\$350k - 460k	779	315	(464)	\$1,875 - 2,500	133	82	(51)
\$460k - 690k	656	147	(510)	\$2,500 - 3,750	48	0	(48)
\$690k +	195	52	(143)	\$3,750 +	0	0	0
<b>Totals:</b>	<b>4,474</b>	<b>4,278</b>	<b>(196)</b>	<b>Totals:</b>	<b>2,945</b>	<b>3,490</b>	<b>546</b>

<b>Occupied Units:</b>	<b>7,419</b>
<b>All Housing Units:</b>	<b>7,768</b>
<b>Total Unit Surplus:</b>	<b>350</b>

Sources: PSU Population Research Center, Claritas Inc., Census, Johnson Reid  
 Values are in 2008 dollars.

Overall, the analysis identifies a total need for ownership units (196), and a current surplus of rental units (546). This is based on a model of general preferences of households in different age and income cohorts to either own or rent. The analysis indicates that currently there are some household which might be expected to own homes based on these demographic indicators, who nonetheless are currently renting. As mentioned above, Forest Grove currently has a high ratio of rental units to ownership units compared to the Washington County as a whole, and most nearby cities.

There are an estimated 350 units more than the current number of households (i.e. 350 vacant units.)



## FUTURE HOUSING NEEDS (2060)

The projected future (50-year) housing profile (Figure 52) in the study area is based on the current housing profile, multiplied by an assumed projected future population growth rate. *The projected population growth rate is based on the 50-year Employment Forecast presented in a previous chapter of this report.* As with the employment numbers, three growth scenarios were modeled:

**ANNUAL HOUSING GROWTH RATES: THREE SCENARIOS**

Baseline Growth Scenario:	2.0%
Medium Growth Scenario:	2.1%
High Growth Scenario:	3.2%

[The 50-year Employment Forecast includes two fairly similar scenarios (Baseline and Medium) that find similar 50-year constraints on employment growth, and therefore find similar growth rates (2% and 2.1%). The High Growth Scenario models the effects of a significant employment shifts within Western Washington County, with Forest Grove participating heavily in the high-tech industrial clusters found in the Hillsboro area. Therefore, this scenario has an accelerated growth rate of 3.2%. Please see the Employment Forecast section of this report for more detail.]

This analysis uses economic and employment growth as the primary determinant of the number of households seeking to locate in the study area. A jobs-to-household ratio is applied to represent the number of available jobs in an area per household. Generally, a higher jobs-to-housing ratio represents a more robust local employment and economic environment, as it represents the amount of business activity taking place in the community. The jobs-to-household ratio is a commonly-used indicator of whether there is a sufficient amount of housing to support area employment, and vice versa.

The current estimated jobs/household ratio in Forest Grove is 1.25, which is considered a relatively low level of employment opportunities for each household. Based on the latest Census data, there are currently enough Forest Grove residents in the labor force to support a jobs-to-housing ratio of 1.40. In other words, Forest Grove does not currently offer enough local employment to meet the job demand of current residents.

This analysis assumes an increased future jobs/household ratio of 1.5, meaning somewhat more available jobs per household. This assumptions results from examining western Washington County in a sub-regional context, particularly the finding from the Economic Opportunities Analysis that some high-tech and related manufacturing employment is likely to spread beyond its historical base in the Hillsboro area to the surrounding communities, such as Forest Grove.

The use of 1.5 jobs to households represents the assumptions that more residents of Forest Grove will be employed locally, rather than commute for employment. Applying a *lower* jobs/household ratio results in the need for *more* housing, and implies that more of the residents of that housing are commuting to employment.

The following table presents growth forecasts under Baseline, Medium Growth and High Growth Scenarios. Each scenario is based upon a corresponding growth scenario in employment.





**FIGURE 52: FUTURE HOUSING PROFILE (2060)**

	Baseline Growth Scenario	Medium Growth Scenario	High Growth Scenario
2008 Population*:	19,882	19,882	19,882
Annual Growth Rate:	2.0%	2.1%	3.2%
<b>Estimated 2028 Population*:</b>	<b>54,608</b>	<b>58,013</b>	<b>100,353</b>
<b>Estimated 2028 Households:</b>	<b>20,376</b>	<b>21,647</b>	<b>37,445</b>
<b>Total Housing Units:</b>	<b>21,677</b>	<b>23,028</b>	<b>39,835</b>
Occupied Housing Units:	20,376	21,647	37,445
Vacant Housing Units:	1,301	1,382	2,390
New Population ('08-'60):	34,726	38,131	80,471
New Households ('08-'60):	12,958	14,228	30,027
New Housing Units ('08-'60) <sup>1</sup>	13,909	15,260	32,067

\* Does not include Group Quarters population.

<sup>1</sup> New Housing Units = Total housing units, occupied and vacant.

Assumes average future household size of 2.68, and unit vacancy of 6% (historical average).

Sources: PSU Population Research Center, Claritas, Census, Johnson Reid LLC.

The growth scenarios project growth in the number of households over 50 years of between roughly 13,000 and 30,000 households, with accompanying population growth of roughly 35,000 to 80,500 new residents. (The number of households differs from the number of housing units, because the total number of housing units includes a percentage of vacancy. Projected housing unit needs are discussed below.)

**PROJECTION OF FUTURE HOUSING NEED (2060)**

The profile of future housing needs was derived using the same methodology used to produce the estimate of current housing need. It includes current and future households, and includes a vacancy rate assumption of 6% based on the historical average in Western Washington County. **Therefore, these projections represent the total number of housing units needed, occupied and vacant.**

The analysis considered the propensity of households at specific age and income levels to either rent or own their home, in order to derive the future need for ownership and rent housing units, and the affordable cost level of each. The projected need is for *all* 2060 households and therefore includes the needs of current households.

The percentage of units which are ownership rather than rental is expected to increase from 55% to 65% over the next 50 years, reflecting demographic shifts. This ratio of ownership to rental units would roughly match that found in Washington County as a whole.

The price levels presented below assume that an “affordable” housing payment equals 30% of a household’s gross income. The affordable price level for ownership housing assumes 30-year amortization, at an interest rate of 6.5%, with 15% down payment. Because of the impossibility of predicting variables such as interest rates 20 years into the future, these assumptions were kept constant from the estimation of current housing need. Income levels and price levels are presented in 2008 dollars.

The following three tables present the projected total future housing needs (current and new households) in 2060, based on the Baseline, Medium and High Growth Scenarios.



FIGURE 53: PROJECTED TOTAL FUTURE HOUSING NEEDS (2060)

**BASELINE GROWTH SCENARIO**

Ownership				Rental			
Price Range	# Units	% of Units	Cumulative	Rent	# Units	% of Units	Cumulative
\$0 - 50k	598	4.2%	4.2%	\$0 - 250	1,214	16.0%	16.0%
\$50k - 70k	345	2.4%	6.7%	\$250 - 375	679	9.0%	25.0%
\$70k - 90k	383	2.7%	9.4%	\$375 - 500	627	8.3%	33.3%
\$90k - 120k	404	2.9%	12.3%	\$500 - 625	616	8.1%	41.4%
\$120k - 160k	1,147	8.1%	20.4%	\$625 - 875	1,011	13.4%	54.8%
\$160k - 230k	1,928	13.7%	34.1%	\$875 - 1,250	1,247	16.5%	71.2%
\$230k - 350k	2,981	21.1%	55.2%	\$1,250 - 1,875	1,537	20.3%	91.5%
\$350k - 460k	2,578	18.3%	73.5%	\$1,875 - 2,500	433	5.7%	97.2%
\$460k - 690k	2,763	19.6%	93.1%	\$2,500 - 3,750	208	2.8%	100.0%
\$690k +	980	6.9%	100.0%	\$3,750 +	0	0.0%	100.0%
<b>Totals:</b>	<b>14,105</b>	<b>% of All:</b>	<b>65.1%</b>	<b>Totals:</b>	<b>7,572</b>	<b>% of All:</b>	<b>34.9%</b>
							<b>All Units</b>
							<b>21,677</b>

**MEDIUM GROWTH SCENARIO**

Ownership				Rental			
Price Range	# Units	% of Units	Cumulative	Rent	# Units	% of Units	Cumulative
\$0 - 50k	635	4.2%	4.2%	\$0 - 250	1,290	16.0%	16.0%
\$50k - 70k	366	2.4%	6.7%	\$250 - 375	721	9.0%	25.0%
\$70k - 90k	407	2.7%	9.4%	\$375 - 500	666	8.3%	33.3%
\$90k - 120k	429	2.9%	12.3%	\$500 - 625	655	8.1%	41.4%
\$120k - 160k	1,219	8.1%	20.4%	\$625 - 875	1,074	13.4%	54.8%
\$160k - 230k	2,048	13.7%	34.1%	\$875 - 1,250	1,325	16.5%	71.2%
\$230k - 350k	3,167	21.1%	55.2%	\$1,250 - 1,875	1,633	20.3%	91.5%
\$350k - 460k	2,738	18.3%	73.5%	\$1,875 - 2,500	460	5.7%	97.2%
\$460k - 690k	2,935	19.6%	93.1%	\$2,500 - 3,750	221	2.8%	100.0%
\$690k +	1,041	6.9%	100.0%	\$3,750 +	0	0.0%	100.0%
<b>Totals:</b>	<b>14,984</b>	<b>% of All:</b>	<b>65.1%</b>	<b>Totals:</b>	<b>8,044</b>	<b>% of All:</b>	<b>34.9%</b>
							<b>All Units</b>
							<b>23,028</b>

**HIGH GROWTH SCENARIO**

Ownership				Rental			
Price Range	# Units	% of Units	Cumulative	Rent	# Units	% of Units	Cumulative
\$0 - 50k	1,099	4.2%	4.2%	\$0 - 250	2,231	16.0%	16.0%
\$50k - 70k	634	2.4%	6.7%	\$250 - 375	1,247	9.0%	25.0%
\$70k - 90k	703	2.7%	9.4%	\$375 - 500	1,152	8.3%	33.3%
\$90k - 120k	742	2.9%	12.3%	\$500 - 625	1,132	8.1%	41.4%
\$120k - 160k	2,108	8.1%	20.4%	\$625 - 875	1,858	13.4%	54.8%
\$160k - 230k	3,542	13.7%	34.1%	\$875 - 1,250	2,292	16.5%	71.2%
\$230k - 350k	5,479	21.1%	55.2%	\$1,250 - 1,875	2,824	20.3%	91.5%
\$350k - 460k	4,737	18.3%	73.5%	\$1,875 - 2,500	796	5.7%	97.2%
\$460k - 690k	5,077	19.6%	93.1%	\$2,500 - 3,750	383	2.8%	100.0%
\$690k +	1,800	6.9%	100.0%	\$3,750 +	0	0.0%	100.0%
<b>Totals:</b>	<b>25,920</b>	<b>% of All:</b>	<b>65.1%</b>	<b>Totals:</b>	<b>13,915</b>	<b>% of All:</b>	<b>34.9%</b>
							<b>All Units</b>
							<b>39,835</b>

Sources: Claritas, Census, Johnson Reid.  
 Values are in 2008 dollars.



**COMPARISON OF FUTURE HOUSING NEEDS TO CURRENT HOUSING INVENTORY**

The profile of total future housing need under the three growth scenarios was compared to the current housing inventory to determine the total future need for *new* housing units by type and price range (next page).

Baseline Growth Scenario

The results find a need for 13,909 new housing units by 2060, with a stronger emphasis on new ownership units (71%). This is because analysis of the current supply finds a shortage of ownership units, and a surplus of rental units (Figure 48).

Therefore, to rebalance the supply with the projected future need profile, more *new* ownership units will be needed than rental units, while the current surplus of rental units needs to be absorbed. (In the medium and high growth scenarios, this ratio is improved somewhat as the rental surplus is occupied over time and new rental units are demanded.)

Of the new units needed, the largest share (85%) are projected to be single family types, due again to the stronger need for new ownership housing. The remainder will be some form of attached housing. The projected preferences for future unit types are based upon permitted units from the past 10 years, cross referenced with the profile of the current inventory of units, by owner vs. renter (HUD Building Permit Database, Census).

Duplex through four-plex units are projected to represent 8% of the total need.

7.2% of total units are projected to be multi-family in structures of 5+ attached units. A growing part of the ownership demand is projected to be for attached units such as these (i.e. condominiums).

The following table summarizes the results for all three growth scenarios. Detailed tables for each scenario are presented on the following pages.

**FIGURE 54: NEW UNITS NEEDED BY 2060: THREE GROWTH SCENARIOS**

	<u>Baseline Growth Scenario</u>	<u>Medium Growth Scenario</u>	<u>High Growth Scenario</u>
New Ownership Units:	9,827	10,706	21,642
New Rental Units:	4,082	4,554	10,425
<b>Total New Units (2060):</b>	<b>13,909</b>	<b>15,260</b>	<b>32,067</b>

Sources: PSU Population Research Center, Claritas, Census, Johnson Reid.



**FIGURE 55: PROJECTED FUTURE NEED FOR NEW HOUSING UNITS (2060 – BASELINE GROWTH SCENARIO)**

OWNERSHIP HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 50k	163	19	14	29	0	0	225	2.3%	2.3%
\$50k - 70k	162	11	8	17	0	0	199	2.0%	4.3%
\$70k - 90k	194	13	9	19	0	0	234	2.4%	6.7%
\$90k - 120k	210	13	9	20	0	0	253	2.6%	9.3%
\$120k - 160k	643	38	27	57	0	0	765	7.8%	17.0%
\$160k - 230k	427	59	45	94	0	0	626	6.4%	23.4%
\$230k - 350k	1,659	100	70	148	0	0	1,977	20.1%	43.5%
\$350k - 460k	1,897	90	61	129	0	0	2,177	22.2%	65.7%
\$460k - 690k	2,188	97	65	139	0	0	2,490	25.3%	91.0%
\$690k +	775	35	23	49	0	0	882	9.0%	100.0%
<b>Totals:</b>	<b>8,317</b>	<b>475</b>	<b>332</b>	<b>703</b>	<b>0</b>	<b>0</b>	<b>9,827</b>	<b>% All Units:</b>	<b>70.7%</b>
<b>Percentage:</b>	<b>84.6%</b>	<b>4.8%</b>	<b>3.4%</b>	<b>7.2%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>100.0%</b>		

RENTAL HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 250	683	79	103	305	0	0	1,170	28.7%	28.7%
\$250 - 375	353	34	40	113	0	0	539	13.2%	41.9%
\$375 - 500	317	28	31	87	0	0	463	11.3%	53.2%
\$500 - 625	120	-43	-90	-299	0	0	-311	-7.6%	45.6%
\$625 - 875	288	-37	-90	-307	0	0	-146	-3.6%	42.0%
\$875 - 1,250	552	26	12	15	0	0	606	14.8%	56.9%
\$1,250 - 1,875	795	74	87	247	0	0	1,204	29.5%	86.3%
\$1,875 - 2,500	227	22	26	75	0	0	350	8.6%	94.9%
\$2,500 - 3,750	119	14	19	56	0	0	208	5.1%	100.0%
\$3,750 +	0	0	0	0	0	0	0	0.0%	100.0%
<b>Totals:</b>	<b>3,455</b>	<b>197</b>	<b>138</b>	<b>292</b>	<b>0</b>	<b>0</b>	<b>4,082</b>	<b>% All Units:</b>	<b>29.3%</b>
<b>Percentage:</b>	<b>84.6%</b>	<b>4.8%</b>	<b>3.4%</b>	<b>7.2%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>100.0%</b>		

TOTAL HOUSING UNITS								
	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units
<b>Totals:</b>	<b>11,772</b>	<b>672</b>	<b>470</b>	<b>996</b>	<b>0</b>	<b>0</b>	<b>13,909</b>	<b>100%</b>
<b>Percentage:</b>	<b>84.6%</b>	<b>4.8%</b>	<b>3.4%</b>	<b>7.2%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>100.0%</b>	

Sources: PSU Population Research Center, Claritas Inc., Census, Johnson Reid  
 Values are in 2008 dollars.



**FIGURE 56: PROJECTED FUTURE NEED FOR NEW HOUSING UNITS (2060 – MEDIUM GROWTH SCENARIO)**

OWNERSHIP HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 50k	194	20	15	32	0	0	262	2.4%	2.4%
\$50k - 70k	180	12	9	19	0	0	220	2.1%	4.5%
\$70k - 90k	214	14	10	21	0	0	258	2.4%	6.9%
\$90k - 120k	231	15	10	22	0	0	278	2.6%	9.5%
\$120k - 160k	703	42	29	62	0	0	836	7.8%	17.3%
\$160k - 230k	529	65	49	103	0	0	746	7.0%	24.3%
\$230k - 350k	1,816	109	76	162	0	0	2,163	20.2%	44.5%
\$350k - 460k	2,033	97	66	141	0	0	2,338	21.8%	66.3%
\$460k - 690k	2,334	106	71	152	0	0	2,662	24.9%	91.2%
\$690k +	827	37	25	54	0	0	943	8.8%	100.0%
<b>Totals:</b>	<b>9,061</b>	<b>517</b>	<b>362</b>	<b>766</b>	<b>0</b>	<b>0</b>	<b>10,706</b>	<b>% All Units:</b>	<b>70.2%</b>
<b>Percentage:</b>	<b>84.6%</b>	<b>4.8%</b>	<b>3.4%</b>	<b>7.2%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>100.0%</b>		

RENTAL HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 250	747	82	105	310	0	0	1,245	27.3%	27.3%
\$250 - 375	389	36	41	116	0	0	582	12.8%	40.1%
\$375 - 500	350	30	32	90	0	0	502	11.0%	51.1%
\$500 - 625	152	-41	-88	-296	0	0	-273	-6.0%	45.2%
\$625 - 875	341	-34	-88	-303	0	0	-83	-1.8%	43.3%
\$875 - 1,250	618	30	15	20	0	0	683	15.0%	58.3%
\$1,250 - 1,875	876	79	90	254	0	0	1,300	28.5%	86.9%
\$1,875 - 2,500	250	23	27	77	0	0	377	8.3%	95.2%
\$2,500 - 3,750	130	15	19	57	0	0	221	4.8%	100.0%
\$3,750 +	0	0	0	0	0	0	0	0.0%	100.0%
<b>Totals:</b>	<b>3,854</b>	<b>220</b>	<b>154</b>	<b>326</b>	<b>0</b>	<b>0</b>	<b>4,554</b>	<b>% All Units:</b>	<b>29.8%</b>
<b>Percentage:</b>	<b>84.6%</b>	<b>4.8%</b>	<b>3.4%</b>	<b>7.2%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>100.0%</b>		

TOTAL HOUSING UNITS								
	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units
<b>Totals:</b>	<b>12,915</b>	<b>737</b>	<b>515</b>	<b>1,092</b>	<b>0</b>	<b>0</b>	<b>15,260</b>	<b>100%</b>
<b>Percentage:</b>	<b>84.6%</b>	<b>4.8%</b>	<b>3.4%</b>	<b>7.2%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>100.0%</b>	

Sources: PSU Population Research Center, Claritas Inc., Census, Johnson Reid  
 Values are in 2008 dollars.



FIGURE 57: PROJECTED FUTURE NEED FOR NEW HOUSING UNITS (2060 – HIGH GROWTH SCENARIO)

OWNERSHIP HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 50k	586	43	31	65	0	0	725	3.4%	3.4%
\$50k - 70k	407	25	18	38	0	0	488	2.3%	5.6%
\$70k - 90k	465	28	20	42	0	0	555	2.6%	8.2%
\$90k - 120k	496	30	21	44	0	0	591	2.7%	10.9%
\$120k - 160k	1,456	85	59	126	0	0	1,726	8.0%	18.9%
\$160k - 230k	1,793	137	100	210	0	0	2,241	10.4%	29.2%
\$230k - 350k	3,772	220	155	327	0	0	4,474	20.7%	49.9%
\$350k - 460k	3,725	194	134	284	0	0	4,336	20.0%	69.9%
\$460k - 690k	4,147	209	143	305	0	0	4,804	22.2%	92.1%
\$690k +	1,470	74	51	108	0	0	1,703	7.9%	100.0%
<b>Totals:</b>	18,317	1,045	731	1,549	0	0	<b>21,642</b>	<b>% All Units:</b>	<b>67.5%</b>
<b>Percentage:</b>	84.6%	4.8%	3.4%	7.2%	0.0%	0.0%	100.0%		

RENTAL HOUSING									
Price Range	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units	Cummulative %
\$0 - 250	1,544	128	137	378	0	0	2,186	21.0%	21.0%
\$250 - 375	834	61	59	154	0	0	1,108	10.6%	31.6%
\$375 - 500	762	53	49	124	0	0	988	9.5%	41.1%
\$500 - 625	557	-18	-72	-262	0	0	205	2.0%	43.0%
\$625 - 875	1,005	4	-61	-247	0	0	701	6.7%	49.8%
\$875 - 1,250	1,436	77	48	90	0	0	1,650	15.8%	65.6%
\$1,250 - 1,875	1,885	136	130	340	0	0	2,491	23.9%	89.5%
\$1,875 - 2,500	534	39	38	101	0	0	712	6.8%	96.3%
\$2,500 - 3,750	267	23	25	68	0	0	382	3.7%	100.0%
\$3,750 +	0	0	0	0	0	0	0	0.0%	100.0%
<b>Totals:</b>	8,823	503	352	746	0	0	<b>10,425</b>	<b>% All Units:</b>	<b>32.5%</b>
<b>Percentage:</b>	84.6%	4.8%	3.4%	7.2%	0.0%	0.0%	100.0%		

TOTAL HOUSING UNITS								
	Single Family	Duplex	3- or 4-plex	5+ Units MFR	Mobile home	Boat, RV, other	Total Units	% of Units
<b>Totals:</b>	27,140	1,549	1,083	2,296	0	0	<b>32,067</b>	<b>100%</b>
<b>Percentage:</b>	84.6%	4.8%	3.4%	7.2%	0.0%	0.0%	100.0%	

Sources: PSU Population Research Center, Claritas Inc., Census, Johnson Reid  
 Values are in 2008 dollars.



# 50-YEAR HOUSING LAND NEEDS ANALYSIS

## INTRODUCTION

This section summarizes the projected need for residential land associated with the household growth projections through 2060.

Residential land needs are determined by analyzing the area and achieved density of residentially-zoned land in Forest Grove. The potential development capacity of remaining vacant parcels was determined in a January 2009 analysis by the City of Forest Grove.

The capacity of existing vacant parcels was compared to the overall future housing need presented in the previous section. This determined the amount of additional land which will be needed. As the zoning decisions on future lands are unknown at this time, this analysis assumes that future housing will have the same distribution across residential zones as is currently seen, and distributes land need accordingly.

## CURRENT RESIDENTIAL LANDS

The City of Forest Grove has nine Comprehensive Plan Designations which allow residential uses, ranging from low density to high density configurations, and three mixed-use Town Center designations. The target housing density across these zones is estimated to be 8.9 units per net acre. This is based on the target density of each zone, multiplied by the share of residential land that zone represents.

**FIGURE 58: RESIDENTIAL COMPREHENSIVE PLAN DESIGNATIONS, CITY OF FOREST GROVE**

ZONING DESIGNATION		Est. Current Share of Res. Zoned Land <sup>1</sup>	Target Density (Units/ Net Acre)
SR	Low Density Residential	0.5%	1.0
R-10	Low Density Residential	16.7%	4.4
R-7	Low Density Residential	47.0%	6.2
R-5	Low Density Residential	8.6%	8.7
RML	Medium Density Residential	8.7%	12.0
RMH	High Density Residential	17.0%	20.3
TC	Town Center designations (3)	1.5%	18.3*
<i>Totals/Averages:</i>		<b>100%</b>	<b>8.9</b>

<sup>1</sup> Estimates of current zone coverage were derived from Metro RLIS.

\* Target "Town Center" density reflects that average of minimum and maximum allowed.

Sources: City of Forest Grove, Metro RLIS, Johnson Reid LLC

GIS analysis of vacant unconstrained parcels in Forest Grove found 535 unconstrained parcels of varying sizes across all residential zones. The parcels include 479.3 net acres of developable land (not including redevelopment and infill opportunities), which will accommodate an estimated 4,014 housing units within the city limits, and on residentially-designated FD-10 land. In addition, the analysis found that redevelopment, infill and partially constrained parcels could accommodate an additional 686 units. (See the following figure).



FIGURE 59: VACANT RESIDENTIAL PARCELS & ESTIMATED HOUSING DEVELOPMENT CAPACITY

ZONING DESIGNATION		Net Buildable Acreage	Potential Units Accommodated
R-10	Low Density Residential	120.0	523
R-7	Low Density Residential	104.5	650
R-5	Low Density Residential	40.2	350
RML	Medium Density Residential	29.9	374
RMH	High Density Residential	69.55	1,424
FD-10	FD-10 Residentially Designated Redevelopment/Infill	115.2	693
			686
<b>Totals/Averages:</b>		<b>479.3</b>	<b>4,700</b>

Source: City of Forest Grove, Growth Capacity Analysis 2009

### FUTURE RESIDENTIAL LAND NEED (2060)

The total future housing need presented in the last section, minus the capacity of existing developable parcels, leaves a need for lands to accommodate new housing units by 2060.

The following table presents the projected future land need under the three growth scenarios. The scenarios range from the need for 1,796 new gross acres (Baseline Scenario) to the need for 5,338 new gross acres (High Growth Scenario).

As the zoning decisions on future lands are unknown at this time, this analysis assumes that future housing will have the same distribution across residential zones as is currently seen, and distributes land need accordingly. For instance, these projections find a significant need for future R-10 acreage. Thus, future changes in zoning policy could greatly affect the results seen here, by emphasizing higher-density zones for instance.





**FIGURE 6o: PROJECTED NEW RESIDENTIAL LAND NEED, FOREST GROVE (2060)**

<b>BASELINE GROWTH SCENARIO (2.0% Annual Pop. Growth)</b>					
<b>ZONING DESIGNATION</b>	<b>Total Future Unit Need - Vacant Lands<sup>1</sup></b>	<b>Units Per Net Acre</b>	<b>Net Acreage Needed</b>	<b>Gross Acreage Needed</b>	<b>Distribution</b>
SR Low Density Residential	0	1.0	0	0	0.0%
R-10 Low Density Residential	1,821	4.4	418	522	29.1%
R-7 Low Density Residential	5,124	6.2	824	1,030	57.3%
R-5 Low Density Residential	1,050	8.7	121	151	8.4%
RML Medium Density Residential	442	12.0	37	46	2.6%
RMH High Density Residential	772	20.3	38	48	2.6%
TC Town Center designations (3)	NA*				
<b>Totals/Averages:</b>	<b>9,209</b>	<b>8.9</b>	<b>1,437</b>	<b>1,796</b>	<b>100%</b>

<b>MEDIUM GROWTH SCENARIO (2.1% Annual Pop. Growth)</b>					
<b>ZONING DESIGNATION</b>	<b>Total Future Unit Need - Vacant Lands<sup>1</sup></b>	<b>Units Per Net Acre</b>	<b>Net Acreage Needed</b>	<b>Gross Acreage Needed</b>	<b>Distribution</b>
SR Low Density Residential	0	1.0	0	0	0.0%
R-10 Low Density Residential	2,088	4.4	479	599	29.1%
R-7 Low Density Residential	5,876	6.2	945	1,181	57.3%
R-5 Low Density Residential	1,204	8.7	138	173	8.4%
RML Medium Density Residential	507	12.0	42	53	2.6%
RMH High Density Residential	885	20.3	44	55	2.6%
TC Town Center designations (3)	NA*				
<b>Totals/Averages:</b>	<b>10,560</b>	<b>8.9</b>	<b>1,648</b>	<b>2,060</b>	<b>100%</b>

<b>HIGH GROWTH SCENARIO (3.2% Annual Pop. Growth)</b>					
<b>ZONING DESIGNATION</b>	<b>Total Future Unit Need - Vacant Lands<sup>1</sup></b>	<b>Units Per Net Acre</b>	<b>Net Acreage Needed</b>	<b>Gross Acreage Needed</b>	<b>Distribution</b>
SR Low Density Residential	0	1.0	0	0	0.0%
R-10 Low Density Residential	5,411	4.4	1,241	1,551	29.1%
R-7 Low Density Residential	15,228	6.2	2,448	3,060	57.3%
R-5 Low Density Residential	3,121	8.7	358	448	8.4%
RML Medium Density Residential	1,314	12.0	110	137	2.6%
RMH High Density Residential	2,293	20.3	113	141	2.6%
TC Town Center designations (3)	NA*				
<b>Totals/Averages:</b>	<b>27,367</b>	<b>0.0</b>	<b>4,270</b>	<b>5,338</b>	<b>100%</b>

<sup>1</sup> Assumes that Town Center designation, which is currently surrounded by incorporated land, will not expand, therefore its capacity is included in the capacity of current vacant lands.

Sources: City of Forest Grove, Metro RLIS, Johnson Reid LLC



## HOUSING POLICY CONSIDERATIONS

---

### INTRODUCTION

This section provides a summary discussion of some land use policy considerations which will impact the need for additional residential lands in the future. A major determinant of future land needs is the development pattern which takes place within the City's existing limits, and the Urban Growth Boundary. As with the Metro area in general, individual jurisdictions weighing expansionary or non-expansionary policies face trade-offs in the impact these decisions will have on current residents, the employment base, and the jurisdiction's fiscal climate.

50 years is a significant time frame. Since intensive settlement of Oregon began in the 1840's, roughly 165 years have passed. In that time, Oregon grew from a relative handful of homesteads to a state of 3.8 million people. 50 years represents a full 30% of this history. Clearly a large amount of development and growth will take place over the next 50-year period.

### DENSITY TRADE-OFFS

Given the certainty of population growth in all Metro jurisdictions, the main policy issue to consider in assessing future land needs is that of density. In essence, expansion outwards onto new lands will allow growth to be accommodated in new lower density neighborhoods, while a policy that constrains outward expansion will dictate that growth take place within existing limits.

In the Metro area, the consequences of development "sprawl" onto farm and forest land are often discussed. The Urban Growth Boundary system was established to combat unchecked sprawl and find a balance between development and our farm and forest resources. Over the last two decades, much policy has been aimed at reinforcing this system and limiting undue expansion of the UGB.

What has been less well discussed is the trade-offs created by these policies – namely the impacts of accommodating growth in existing neighborhoods. While the community may believe that a policy of no UGB expansion will help forestall growth in their city and maintain the status quo, it is more accurate to say that the policy redirects growth within the current boundaries.

By definition, housing more households within the same space increases the density of development in that space. Thus one component of regional growth planning has been the "up-zoning" of existing neighborhoods to generally allow more density.

Communities need to understand that the trade off with limited horizontal expansion is the densification of their current community. This generally means more attached multi-family housing. In the Metro region, this has taken many forms: from large apartment or condo complexes, to townhomes, to redevelopment of traditionally single-family neighborhoods with duplexes, triplexes, flag lots and "skinny houses."

Complicating the policy-making process is the fact that increased density can be as unpopular among existing residents as "sprawl." Density is often perceived as increasing traffic, demands on existing schools and services, noise and the general congestion level of a community. It may be difficult to expand existing infrastructure (i.e. broaden a street, or add a new school or park) even as additional households are added to an area.

The point of this discussion is not to discount the need for increased density and productive use of vacant and underused parcels within a jurisdiction's current boundaries. Such development is largely unavoidable and an important part of any growth plan. But the point to consider from a policy standpoint is that increased density may forestall sprawl, *but it is still growth, and in many cases it is growth that current residents experience more acutely in their daily lives.*



Between a policy of free expansion and no expansion, there is much grey territory. Each approach offers advantages and challenges. A community must decide where the balance lies between allowing new neighborhoods to develop on new lands, versus encouraging more density in existing neighborhoods.

## **TRANSIT-ORIENTED, STATION COMMUNITY DEVELOPMENT**

One approach to mitigating some of the effects of density discussed above is to encourage much more density within specific pockets of the jurisdiction. In the Metro area, these areas are generally found along major transit routes such as the MAX line, or in existing downtown areas. This policy is meant to protect existing neighborhoods somewhat by directing more growth to larger buildings placed near convenient transportation options.

Outside of Central Portland, the efforts to create these pockets of high density have produced mixed results. Many outlying communities have rezoned “Centers,” “Corridors,” and “Station Communities” only to find that the development community is not ready to build to the densities envisioned.

This is largely because these densities are not currently feasible given the achievable rent and price levels for real estate in these areas. Larger, denser, built forms generally are more expensive to build on a per-square-foot basis than low-rise, low-density structures because construction methods and materials change, and structured parking is very expensive compared to surface parking. In addition, smaller communities have less overall demand than Central Portland, making larger projects harder to fill, whether they be housing units or office developments.

The Station Community model is best understood as a long-term model. To come to fruition, such areas may require some help in the form of Urban Renewal or other public assistance, or simply the passage of time for the community to grow and build out to the point that larger developments become feasible.

In Forest Grove, new development greater than three stories with structured parking may be 20 years away. (This is outside of institutional settings such as hospitals or colleges who sometimes do provide more intensive development and structured parking in a suburban environment.) However, three-story development can increase density significantly in areas which have traditionally developed at one or two stories.

While such Centers develop over time, infill development may be directed to other existing neighborhoods. For reasons discussed above, it is important to consider the impact on residents in other areas if Centers are not yet living up to their potential.

## **SENIOR HOUSING DEVELOPMENT**

One key industry niche identified in this report is the senior housing and senior care industry in Forest Grove. This section provides an overview of some of the location and development parameters important to new senior housing development.

55+ Communities are perhaps the fastest-growing segment of senior housing development nationwide as a number of demographic, economic, and health care issues evolve, including:

- Recognition that “Aging In Place”, or at-home health care is preferable to individuals, as well as far less expensive than nursing home/institutional care.
- Advances in health care and economic well-being have extended lifespans, thus extended the time period that individuals live at home prior to more intensive health services need.
- Longer lives have translated into longer need to stay within the workforce, even part-time, thus the need to extend time span of independent living.



- The Baby Boom generation is only now beginning to reach age 60 as a larger percentage of that demographic cohort.

55+ Community development, which provides more traditional residential choices with key differences from existing housing stock, has emerged from niche market status to an increasingly common product type nationwide. This product type is relatively lacking in availability in Washington County, specifically in the face of overwhelming demographic transition over the next ten years.

The figure on the following page provides a summary of key features and needs of the 55+ Community product type. In a nutshell, however, the following summarizes the essence of such development:

- *Age In Place:* As opposed to existing housing stock, new community development requires the ability of the resident to feasibly live longer independently from pre-retirement through anticipated decline in health through “Visibility” and “Universal Design” architectural features but within significant changes in residential environment, i.e. detached residential home transition to high-density senior facilities.
- *Community Integration:* Younger retirees/55+ households put strong premiums on proximity to existing employment, urban commercial services, high-quality health care services, and likely cultural, social and volunteer opportunities. Projects themselves are clustered in ways that maximize community feel, integrated and central common areas, and social connectedness.
- *Safety:* 55+ Communities are populated by residents increasingly concerned about day-to-day safety as well as households that are increasingly absent for extended vacations, visits to family, and other activities. Low maintenance, security, and residential visibility all translate in the ability of the resident to “Lock & Leave.”
- *Affordability:* Residential purchases are made with a higher percentage of existing residential equity/wealth than younger demographics and plan to spend a decreasing percentage of declining income on mortgage expense. Retirees generally plan for health care, greater travel, leisure time, and social activity to represent a greater share of spending in later years.

#### Characteristics of Suitable Land for Senior Community Development

- *Affordability:* Many in the 55+ retiree demographic and seeking smaller homes with unique qualities suitable for retirement years. Housing in the general housing market becomes not only less desirable, but less affordable. In for-sale senior communities, smaller lots (2,500 to 4,500 square feet) insure that land cost will be a smaller percentage of home price and provide a lower-maintenance lifestyle.
- *Physical Suitability:* Flat or gentle topography for accessibility, avoidance of long and narrow parcels for home/community clustering and central common space, and sufficient size to provide a clustered and secure community environment.
- *Geographic Suitability:* Proximity to public transportation, employment, quality health services, commercial services, and cultural opportunities.



FIGURE 61: KEY NEEDS AND CHARACTERISTICS OF 55+ HOUSING DEVELOPMENT

Housing Characteristics	
<b>Age In Place</b>	Desire and financial need to live later years in existing home/community Need for home to accommodate significant changes and extend pre-nursing facility lifespan
<b>Lock &amp; Leave</b>	Privacy and security for extended absences Low daily maintenance need Premium on storage
<b>Universal Design</b>	At least once entrance with no step At least one full bathroom on main floor Wide doorways Wheelchair turning radius "Eyes on the Street" windows at sidewalk level High amenity quality but downsized/easy to maintain
<b>Affordability</b>	Declining income Non-housing spending priorities Greater travel expenses Equity/wealth-based purchases
Community Characteristics	
<b>Integration</b>	Desire for community integration into existing urban areas Aversion to isolation from surrounding community Proximity to commercial/social centers of high value
<b>Safety</b>	Community design enhancing security "Eyes on the Street" high visibility between units facilitates Lock & Leave Sidewalk/walkable streetscapes Well-lighted Traffic-calming measures
<b>Support Services</b>	Community-based activities service and other age-in-place services Accessibility by ADA bus Community associations desirable Lawn maintenance service
<b>Community Space</b>	Community meeting space Central park/recreation space Centrality of space enhances "Eyes on the Street" security
Locational Characteristics	
<b>Transportation</b>	Overwhelmingly private vehicle owners Premium on quality public transport nearby due to decline of auto use Short ride times/easy public transport access to services desired
<b>Employment</b>	Many still employed and require proximity to work opportunity High percentage married and require spouse employment opportunity
<b>Health Services</b>	High value on proximity to quality health care services
<b>Commercial Services</b>	High value on proximity to quality shopping and services Diversity of commercial services important due to greater leisure time
<b>Cultural Opportunities</b>	High interest in local cultural opportunities
<b>Social/Volunteer Opportunities</b>	Greater leisure time and need for social networks for volunteerism Professional/social interests translate into strong desire for volunteerism

SOURCE: AARP Public Policy Institute, Partners for Livable Communities, National Association of Area Agencies on Aging, and Johnson Gardner, LLC



## CITY OF FOREST GROVE SUGGESTED POLICY LANGUAGE

---

The following Goal and Policy language are suggested for City of Forest Grove consideration in light of EOA and residential land need findings. Much language suggested is similar to text both suggested by JOHNSON REID and adopted by other jurisdictions in the State of Oregon with similar economic development aspirations as a result of Goal 9 update efforts. The following are only meant as suggestions, are not comprehensive, and may be rendered unnecessary due to existing goals and policies.

**GOAL A: TO ACTIVELY STIMULATE ECONOMIC DEVELOPMENT AND GROWTH THAT WILL DIVERSIFY AND STRENGTHEN THE MIX OF ECONOMIC ACTIVITY IN THE LOCAL MARKETPLACE AND PROVIDE EMPLOYMENT OPPORTUNITIES FOR LOCAL RESIDENTS.**

**Policy A: The City of Forest Grove will continually strive to strengthen the community's its industry, business, financial, medical, tourist and retail activities and to capitalize on its comparative advantages in the local and regional marketplace.**

- Implementation (a)** Identify opportunities and incentives to encourage value-adding, family-wage business to expand or locate in the community.
- Implementation (b)** Support the retention and attraction of firms with high wage rates for all industries, but also encourage the attraction and retention of firms with high wage rates within their respective industry classifications.
- Implementation (c)** Participate in a joint public/private business development program to provide retention services and identify opportunities for the growth of existing businesses and the attraction of new firms to the community, in order to diversify the mix of employment opportunities.
- Implementation (d)** In recruiting new companies to the area, market comparative advantages, such as City-owned utilities, sales tax benefits, enterprise zone, quality of life, future growth path of the "Silicon Forest," and education/research infrastructure.
- Implementation (e)** Work with Pacific University and Portland Community College to strategically encourage labor-training programs that match personnel needs of firms now operating in the community and those industries which City aspires to bring in.
- Implementation (f)** Work with Pacific University and Portland Community College to encourage retraining programs to transitions the current workforce to match skills needed in the firms operating in the community and those industries which City aspires to bring in.
- Implementation (g)** Continue to support and participate in West Washington County subregional economic development relationships, industry recruitment and retention partnerships, and common policy and infrastructure issues.
- Implementation (h)** Support State, regional and local retention, expansion, and attraction efforts in the four key, Forest Grove industry opportunity sectors of High-Tech, Agriculture/Farm Production, Tourism/Winery Development, Education, and Retirement Services.
- Implementation (i)** Foster relationships with the medical community to create opportunities for additional local health care services, particularly those complementary to the Retirement Services industry cluster.
- Implementation (j)** Coordinate the City's economic development programs with the citizen of the City of Forest Grove, and community development based organizations, West Washington County City partners, and other local regional, state and federal agencies.



**GOAL B: TO RETAIN AND SUPPORT THE EXPANSION OF EXISTING BUSINESSES IN FOREST GROVE**

**Policy A:** The City of Forest Grove recognizes that the expansion and/or redevelopment of existing employment sites is often more challenging than the development of vacant sites and shall consider ways to encourage the expansion and/or redevelopment of existing employment sites.

**Implementation (a)** Consider adopting regulations that differentiate between the development of vacant sites and the expansion and/or redevelopment of existing sites.

**Implementation (b)** Consider urban renewal planning to provide resources to fund infrastructure upgrades, beautification, and other appropriate employment site redevelopment feasibility assistance.

**GOAL C: ASSURE AN ADEQUATE COMMERCIAL AND INDUSTRIAL LAND BASE TO ACCOMMODATE THE TYPES AND AMOUNT OF ECONOMIC DEVELOPMENT AND GROWTH ANTICIPATED IN THE FUTURE, WHILE ENCOURAGING EFFICIENT USE OF LAND AND PUBLIC FACILITIES WITHIN THE KLAMATH FALLS URBAN AREA.**

**Policy A:** The City of Forest Grove will rely upon its Medium Employment Growth Scenario in the City's Economic Element 20-year Employment Projections, Land Demand Projections, and Site Demand Projections when planning its employment land base.

**Policy B:** The City considers short-term (five-year) employment land demand to be equal to one quarter (25 percent) of the amount of land projected to be demanded over the twenty-year planning horizon plus an additional 10 percent to account for land investment and banking need by industry, particularly key industrial, office, and commercial-utilizing sectors.

**Implementation (a)** Update the buildable lands inventory every five years to ensure adequate employment sites are available.

**Policy C:** The City of Forest Grove will maintain a Short-Term Supply of employment land consistent with the Economic Opportunities Analysis in the Economic Element.

**Policy D:** The City of Forest Grove will meet subregional land needs by maintaining a Short-Term Supply of employment land consistent with subregional demand estimates.

**Policy E:** The City of Forest Grove recognizes important differences among sites with respect to the site characteristics demanded by respective industry.

**Implementation (a)** Assure demand projections for medium and large Commercial, Industrial and Office sites are captured in aggregate land demand projections.

**Implementation (b)** The City shall protect large commercial and industrial sites by limiting land divisions except where part of larger development.

**Implementation (c)** Consider the transportation infrastructure needs of target industry opportunities when preparing Transportation System Plan updates and corridor plans to implement the City's Goal 9 objectives.

**Policy F:** The City of Forest Grove may assist in the identification of sites for businesses that have unique requirements.

**Policy G:** The City of Forest Grove shall place limits on commercial uses that are or can be permitted in industrial zones.



**Policy F: The City of Forest Grove shall encourage higher density industrial and/or commercial development forms than have historically been exhibited in the city and better reflect emerging targeted industries and businesses.**

**Implementation (a)** Consider re-designation of industrial zones to “employment zones” to better meet the needs of key, significant healthcare and education services industry growth as identified in the Economic Opportunities Analysis.

**Implementation (b)** Consider studying key, long-underutilized industrial as candidate for re-zone to potential “employment zone” or commercial zoning designations.

**Policy H: The City of Forest Grove shall maintain at least one Anchor (50 to 100 acres) or Cluster Anchor (100 or more acres) industrial site to actively pursue key City industry cluster growth opportunities with State, regional and local economic development partners.**





DRAFT

APPENDIX A – DETAILED ECONOMIC EXHIBITS  
APPENDIX B – ECONOMIC PLANNING AREA DEFINED

---

**EXHIBIT 1.01**  
**PROJECTIONS OF OFFICE SPACE-UTILIZING EMPLOYMENT BY INDUSTRY SECTOR**  
**FOREST GROVE, OREGON**  
**2008-2028**

<b>Baseline Growth Scenario</b>		<b>Total Employment 1/</b>					<b>Office</b>	<b>Office Space-Utilizing Employment</b>					
<b>Employment Sector</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>Share 2/</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>'08-28</b>	
Construction	420	475	528	595	656	2%	8	10	11	12	13	5	
Manufacturing	2,197	2,572	2,945	3,426	3,888	5%	110	129	147	171	194	85	
Wholesale Trade	67	73	79	87	93	5%	3	4	4	4	5	1	
Retail Trade	600	680	757	854	944	5%	30	34	38	43	47	17	
Transportation, Warehousing & Utilities	155	176	195	220	243	30%	46	53	59	66	73	27	
Information	30	33	35	38	41	90%	27	30	32	34	37	9	
Financial Activities	240	264	286	313	337	90%	216	237	257	282	304	88	
Professional & Business Services	266	344	428	546	670	90%	240	309	385	491	603	363	
Education & Health Services	2,979	3,460	3,933	4,540	5,118	40%	1,192	1,384	1,573	1,816	2,047	856	
Leisure & Hospitality	670	783	896	1,041	1,180	25%	167	196	224	260	295	128	
Other Services	348	380	410	446	479	40%	139	152	164	179	192	52	
Government	182	199	216	235	253	85%	154	169	183	200	215	61	
<b>Total</b>	<b>8,155</b>	<b>9,440</b>	<b>10,709</b>	<b>12,341</b>	<b>13,903</b>	<b>29%</b>	<b>2,334</b>	<b>2,706</b>	<b>3,077</b>	<b>3,559</b>	<b>4,025</b>	<b>1,691</b>	
<b>High Growth Scenario</b>		<b>Total Employment 1/</b>					<b>Office</b>	<b>Office Space-Utilizing Employment</b>					
<b>Employment Sector</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>Share 2/</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>'08-28</b>	
Construction	420	477	531	598	660	2%	8	10	11	12	13	5	
Manufacturing	2,197	3,108	4,194	4,825	5,455	5%	110	155	210	241	273	163	
Wholesale Trade	67	80	96	106	115	5%	3	4	5	5	6	2	
Retail Trade	600	694	789	891	987	5%	30	35	39	45	49	19	
Transportation, Warehousing & Utilities	155	181	207	234	259	30%	46	54	62	70	78	31	
Information	30	41	55	61	67	90%	27	37	49	55	60	33	
Financial Activities	240	270	301	331	358	90%	216	243	271	298	322	106	
Professional & Business Services	266	443	657	815	979	90%	240	399	592	734	881	641	
Education & Health Services	2,979	3,476	3,970	4,582	5,167	40%	1,192	1,390	1,588	1,833	2,067	875	
Leisure & Hospitality	670	797	926	1,077	1,221	25%	167	199	232	269	305	138	
Other Services	348	389	430	470	506	40%	139	156	172	188	202	63	
Government	182	200	218	239	257	85%	154	170	186	203	218	64	
<b>Total</b>	<b>8,155</b>	<b>10,156</b>	<b>12,375</b>	<b>14,228</b>	<b>16,030</b>	<b>28%</b>	<b>2,334</b>	<b>2,852</b>	<b>3,416</b>	<b>3,952</b>	<b>4,474</b>	<b>2,141</b>	
<b>Medium Growth Scenario</b>		<b>Total Employment 1/</b>					<b>Office</b>	<b>Office Space-Utilizing Employment</b>					
<b>Employment Sector</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>Share 2/</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>'08-28</b>	
Construction	420	476	529	596	659	2%	8	10	11	12	13	5	
Manufacturing	2,197	2,766	3,364	4,163	4,827	5%	110	138	168	208	241	131	
Wholesale Trade	67	76	85	97	106	5%	3	4	4	5	5	2	
Retail Trade	600	686	769	874	969	5%	30	34	38	44	48	18	
Transportation, Warehousing & Utilities	155	177	200	228	253	30%	46	53	60	68	76	29	
Information	30	36	42	50	56	90%	27	32	38	45	51	23	
Financial Activities	240	266	291	322	350	90%	216	240	262	290	315	99	
Professional & Business Services	266	382	510	691	855	90%	240	343	459	622	769	530	
Education & Health Services	2,979	3,466	3,946	4,563	5,147	40%	1,192	1,386	1,579	1,825	2,059	867	
Leisure & Hospitality	670	789	907	1,060	1,205	25%	167	197	227	265	301	134	
Other Services	348	384	417	459	495	40%	139	153	167	184	198	59	
Government	182	200	217	237	256	85%	154	170	184	202	217	63	
<b>Total</b>	<b>8,155</b>	<b>9,702</b>	<b>11,277</b>	<b>13,341</b>	<b>15,177</b>	<b>28%</b>	<b>2,334</b>	<b>2,761</b>	<b>3,197</b>	<b>3,770</b>	<b>4,294</b>	<b>1,960</b>	

1/ Johnson Reid, LLC

2/ Share of industry employment that utilizes office space. From the Urban Land Institute converted to NAICS by Johnson Reid, LLC.

\* Estimate

**EXHIBIT 1.02  
DEMAND PROJECTIONS FOR COMMERCIAL OFFICE SPACE BY INDUSTRY SECTOR  
FOREST GROVE, OREGON  
2008-2028**

Baseline Growth Scenario Employment Sector	Local Area Jobs in Office Space 1/						Avg. Space Per Job 2/	Projected Office Space Need 3/					
	2008	2013	2018	2023	2028	'08-28		2008	2013	2018	2023	2028	'08-28
Construction	8	10	11	12	13	5	366	3,383	3,827	4,254	4,788	5,285	1,902
Manufacturing	110	129	147	171	194	85	366	44,225	51,782	59,282	68,964	78,258	34,034
Wholesale Trade	3	4	4	4	5	1	366	1,349	1,478	1,597	1,743	1,875	526
Retail Trade	30	34	38	43	47	17	366	12,088	13,696	15,245	17,185	18,994	6,906
Transportation, Warehousing & Utilities	46	53	59	66	73	27	366	18,715	21,206	23,603	26,607	29,408	10,693
Information	27	30	32	34	37	9	366	10,978	11,908	12,768	13,803	14,732	3,754
Financial Activities	216	237	257	282	304	88	366	86,944	95,536	103,568	113,361	122,242	35,299
Professional & Business Services	240	309	385	491	603	363	366	96,477	124,486	154,941	197,862	242,798	146,321
Education & Health Services	1,192	1,384	1,573	1,816	2,047	856	366	479,785	557,195	633,432	731,128	824,223	344,438
Leisure & Hospitality	167	196	224	260	295	128	366	67,431	78,857	90,185	104,791	118,797	51,367
Other Services	139	152	164	179	192	52	366	56,066	61,236	66,042	71,871	77,128	21,062
Government	154	169	183	200	215	61	366	62,181	68,169	73,755	80,551	86,702	24,521
<b>Total</b>	<b>2,334</b>	<b>2,706</b>	<b>3,077</b>	<b>3,559</b>	<b>4,025</b>	<b>1,691</b>	<b>366</b>	<b>939,620</b>	<b>1,089,376</b>	<b>1,238,671</b>	<b>1,432,654</b>	<b>1,620,443</b>	<b>680,822</b>
<b>High Growth Scenario</b>	<b>Local Area Jobs in Office Space 1/</b>						<b>Avg. Space Per Job 2/</b>	<b>Projected Office Space Need 3/</b>					
<b>Employment Sector</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>'08-28</b>		<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>'08-28</b>
Construction	8	10	11	12	13	5	366	3,383	3,837	4,278	4,816	5,317	1,934
Manufacturing	110	155	210	241	273	163	366	44,225	62,565	84,432	97,124	109,800	65,575
Wholesale Trade	3	4	5	5	6	2	366	1,349	1,620	1,928	2,130	2,318	969
Retail Trade	30	35	39	45	49	19	366	12,088	13,976	15,892	17,943	19,863	7,775
Transportation, Warehousing & Utilities	46	54	62	70	78	31	366	18,715	21,807	24,993	28,235	31,274	12,559
Information	27	37	49	55	60	33	366	10,978	14,943	19,788	22,028	24,157	13,180
Financial Activities	216	243	271	298	322	106	366	86,944	97,923	109,091	119,831	129,657	42,713
Professional & Business Services	240	399	592	734	881	641	366	96,477	160,483	238,223	295,426	354,616	258,139
Education & Health Services	1,192	1,390	1,588	1,833	2,067	875	366	479,785	559,712	639,256	737,950	832,043	352,257
Leisure & Hospitality	167	199	232	269	305	138	366	67,431	80,179	93,241	108,372	122,901	55,470
Other Services	139	156	172	188	202	63	366	56,066	62,642	69,296	75,682	81,496	25,430
Government	154	170	186	203	218	64	366	62,181	68,575	74,695	81,653	87,965	25,784
<b>Total</b>	<b>2,334</b>	<b>2,852</b>	<b>3,416</b>	<b>3,952</b>	<b>4,474</b>	<b>2,141</b>	<b>366</b>	<b>939,620</b>	<b>1,148,262</b>	<b>1,375,112</b>	<b>1,591,190</b>	<b>1,801,406</b>	<b>861,786</b>
<b>Medium Growth Scenario</b>	<b>Local Area Jobs in Office Space 1/</b>						<b>Avg. Space Per Job 2/</b>	<b>Projected Office Space Need 3/</b>					
<b>Employment Sector</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>'08-28</b>		<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>'08-28</b>
Construction	8	10	11	12	13	5	366	3,383	3,831	4,262	4,803	5,304	1,921
Manufacturing	110	138	168	208	241	131	366	44,225	55,674	67,710	83,806	97,161	52,936
Wholesale Trade	3	4	4	5	5	2	366	1,349	1,532	1,716	1,951	2,140	791
Retail Trade	30	34	38	44	48	18	366	12,088	13,803	15,476	17,593	19,513	7,426
Transportation, Warehousing & Utilities	46	53	60	68	76	29	366	18,715	21,436	24,101	27,484	30,524	11,809
Information	27	32	38	45	51	23	366	10,978	13,069	15,281	18,230	20,370	9,392
Financial Activities	216	240	262	290	315	99	366	86,944	96,449	105,545	116,843	126,678	39,734
Professional & Business Services	240	343	459	622	769	530	366	96,477	138,257	184,761	250,375	309,681	213,204
Education & Health Services	1,192	1,386	1,579	1,825	2,059	867	366	479,785	558,158	635,517	734,800	828,900	349,115
Leisure & Hospitality	167	197	227	265	301	134	366	67,431	79,363	91,279	106,719	121,252	53,821
Other Services	139	153	167	184	198	59	366	56,066	61,774	67,207	73,922	79,741	23,675
Government	154	170	184	202	217	63	366	62,181	68,324	74,092	81,144	87,457	25,276
<b>Total</b>	<b>2,334</b>	<b>2,761</b>	<b>3,197</b>	<b>3,770</b>	<b>4,294</b>	<b>1,960</b>	<b>366</b>	<b>939,620</b>	<b>1,111,670</b>	<b>1,286,947</b>	<b>1,517,669</b>	<b>1,728,721</b>	<b>789,101</b>

1/ From Exhibit 1.01

2/ Average office employment density by industry sector based on Urban Land Institute guidelines.

3/ Assumes a market-clearing 10% office space vacancy rate.

\*Estimate

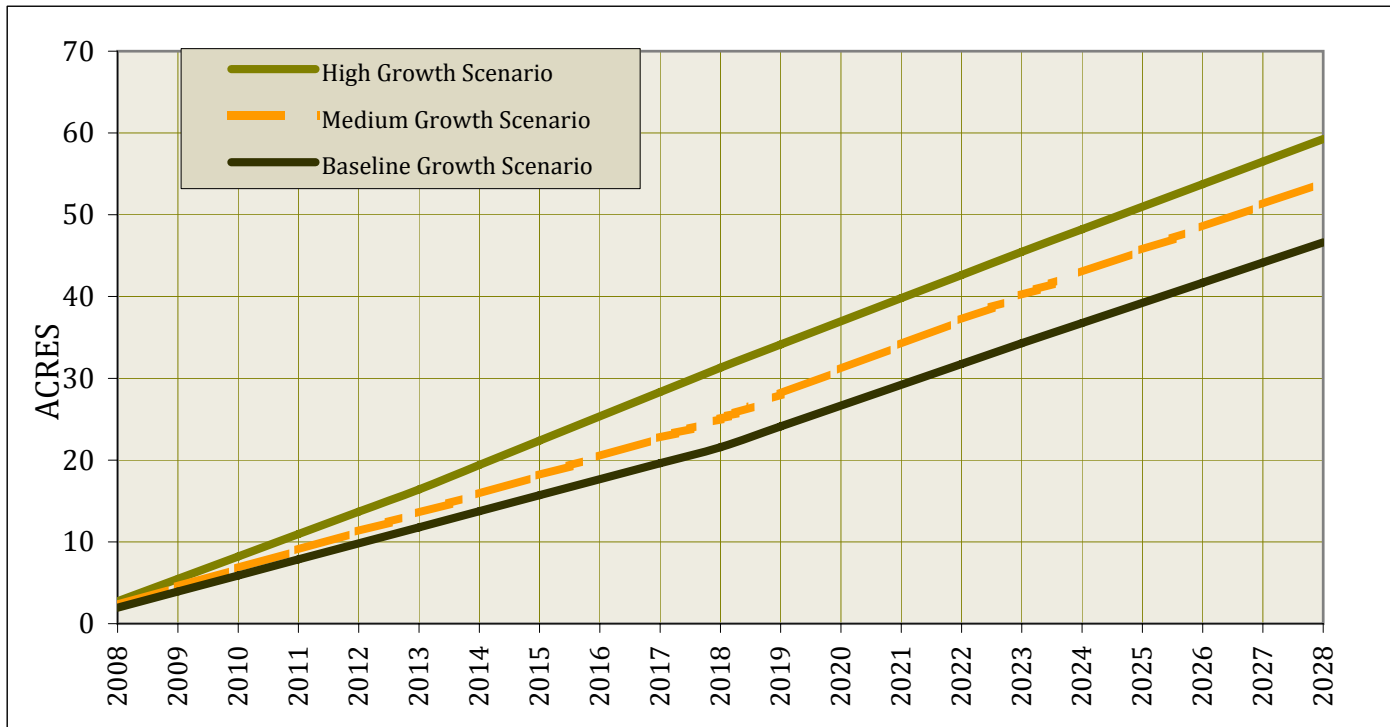
**EXHIBIT 1.03  
DEMAND PROJECTIONS FOR COMMERCIAL OFFICE LAND BY INDUSTRY SECTOR  
FOREST GROVE, OREGON  
2008-2028**

<b>Baseline Growth Scenario</b>		<b>Projected Office Space Need 1/</b>					<b>Floor to</b>		<b>Predicted Land Need (Acres)</b>				
<b>Employment Sector</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>'08-28</b>	<b>Area Ratio</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>'08-28</b>
Construction	3,383	3,827	4,254	4,788	5,285	1,902	0.35	0.2	0.3	0.3	0.3	0.3	0.1
Manufacturing	44,225	51,782	59,282	68,964	78,258	34,034	0.35	2.9	3.4	3.9	4.5	5.1	2.2
Wholesale Trade	1,349	1,478	1,597	1,743	1,875	526	0.35	0.1	0.1	0.1	0.1	0.1	0.0
Retail Trade	12,088	13,696	15,245	17,185	18,994	6,906	0.35	0.8	0.9	1.0	1.1	1.2	0.5
Transportation, Warehousing & Utilities	18,715	21,206	23,603	26,607	29,408	10,693	0.35	1.2	1.4	1.5	1.7	1.9	0.7
Information	10,978	11,908	12,768	13,803	14,732	3,754	0.35	0.7	0.8	0.8	0.9	1.0	0.2
Financial Activities	86,944	95,536	103,568	113,361	122,242	35,299	0.35	5.7	6.3	6.8	7.4	8.0	2.3
Professional & Business Services	96,477	124,486	154,941	197,862	242,798	146,321	0.35	6.3	8.2	10.2	13.0	15.9	9.6
Education & Health Services	479,785	557,195	633,432	731,128	824,223	344,438	0.35	31.5	36.5	41.5	48.0	54.1	22.6
Leisure & Hospitality	67,431	78,857	90,185	104,791	118,797	51,367	0.35	4.4	5.2	5.9	6.9	7.8	3.4
Other Services	56,066	61,236	66,042	71,871	77,128	21,062	0.35	3.7	4.0	4.3	4.7	5.1	1.4
Government	62,181	68,169	73,755	80,551	86,702	24,521	0.35	4.1	4.5	4.8	5.3	5.7	1.6
<b>Total</b>	<b>939,620</b>	<b>1,089,376</b>	<b>1,238,671</b>	<b>1,432,654</b>	<b>1,620,443</b>	<b>680,822</b>	<b>0.35</b>	<b>61.6</b>	<b>71.5</b>	<b>81.2</b>	<b>94.0</b>	<b>106.3</b>	<b>44.7</b>
<b>High Growth Scenario</b>		<b>Projected Office Space Need 1/</b>					<b>Floor to</b>		<b>Predicted Land Need (Acres)</b>				
<b>Employment Sector</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>'08-28</b>	<b>Area Ratio</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>'08-28</b>
Construction	3,383	3,837	4,278	4,816	5,317	1,934	0.35	0.2	0.3	0.3	0.3	0.3	0.1
Manufacturing	44,225	62,565	84,432	97,124	109,800	65,575	0.35	2.9	4.1	5.5	6.4	7.2	4.3
Wholesale Trade	1,349	1,620	1,928	2,130	2,318	969	0.35	0.1	0.1	0.1	0.1	0.2	0.1
Retail Trade	12,088	13,976	15,892	17,943	19,863	7,775	0.35	0.8	0.9	1.0	1.2	1.3	0.5
Transportation, Warehousing & Utilities	18,715	21,807	24,993	28,235	31,274	12,559	0.35	1.2	1.4	1.6	1.9	2.1	0.8
Information	10,978	14,943	19,788	22,028	24,157	13,180	0.35	0.7	1.0	1.3	1.4	1.6	0.9
Financial Activities	86,944	97,923	109,091	119,831	129,657	42,713	0.35	5.7	6.4	7.2	7.9	8.5	2.8
Professional & Business Services	96,477	160,483	238,223	295,426	354,616	258,139	0.35	6.3	10.5	15.6	19.4	23.3	16.9
Education & Health Services	479,785	559,712	639,256	737,950	832,043	352,257	0.35	31.5	36.7	41.9	48.4	54.6	23.1
Leisure & Hospitality	67,431	80,179	93,241	108,372	122,901	55,470	0.35	4.4	5.3	6.1	7.1	8.1	3.6
Other Services	56,066	62,642	69,296	75,682	81,496	25,430	0.35	3.7	4.1	4.5	5.0	5.3	1.7
Government	62,181	68,575	74,695	81,653	87,965	25,784	0.35	4.1	4.5	4.9	5.4	5.8	1.7
<b>Total</b>	<b>939,620</b>	<b>1,148,262</b>	<b>1,375,112</b>	<b>1,591,190</b>	<b>1,801,406</b>	<b>861,786</b>	<b>0.35</b>	<b>61.6</b>	<b>75.3</b>	<b>90.2</b>	<b>104.4</b>	<b>118.2</b>	<b>56.5</b>
<b>Medium Growth Scenario</b>		<b>Projected Office Space Need 1/</b>					<b>Floor to</b>		<b>Predicted Land Need (Acres)</b>				
<b>Employment Sector</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>'08-28</b>	<b>Area Ratio</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>'08-28</b>
Construction	3,383	3,831	4,262	4,803	5,304	1,921	0.35	0.2	0.3	0.3	0.3	0.3	0.1
Manufacturing	44,225	55,674	67,710	83,806	97,161	52,936	0.35	2.9	3.7	4.4	5.5	6.4	3.5
Wholesale Trade	1,349	1,532	1,716	1,951	2,140	791	0.35	0.1	0.1	0.1	0.1	0.1	0.1
Retail Trade	12,088	13,803	15,476	17,593	19,513	7,426	0.35	0.8	0.9	1.0	1.2	1.3	0.5
Transportation, Warehousing & Utilities	18,715	21,436	24,101	27,484	30,524	11,809	0.35	1.2	1.4	1.6	1.8	2.0	0.8
Information	10,978	13,069	15,281	18,230	20,370	9,392	0.35	0.7	0.9	1.0	1.2	1.3	0.6
Financial Activities	86,944	96,449	105,545	116,843	126,678	39,734	0.35	5.7	6.3	6.9	7.7	8.3	2.6
Professional & Business Services	96,477	138,257	184,761	250,375	309,681	213,204	0.35	6.3	9.1	12.1	16.4	20.3	14.0
Education & Health Services	479,785	558,158	635,517	734,800	828,900	349,115	0.35	31.5	36.6	41.7	48.2	54.4	22.9
Leisure & Hospitality	67,431	79,363	91,279	106,719	121,252	53,821	0.35	4.4	5.2	6.0	7.0	8.0	3.5
Other Services	56,066	61,774	67,207	73,922	79,741	23,675	0.35	3.7	4.1	4.4	4.8	5.2	1.6
Government	62,181	68,324	74,092	81,144	87,457	25,276	0.35	4.1	4.5	4.9	5.3	5.7	1.7
<b>Total</b>	<b>939,620</b>	<b>1,111,670</b>	<b>1,286,947</b>	<b>1,517,669</b>	<b>1,728,721</b>	<b>789,101</b>	<b>0.35</b>	<b>61.6</b>	<b>72.9</b>	<b>84.4</b>	<b>99.5</b>	<b>113.4</b>	<b>51.8</b>

1/ From Exhibit 1.02

\*Estimate

**EXHIBIT 1.04**  
**COMPARISON OF CUMULATIVE DEMAND FOR OFFICE LAND**  
**MEDIUM, HIGH AND LOW EMPLOYMENT GROWTH SCENARIOS**  
**2008-2028**



SOURCE: Johnson Reid, LLC

**EXHIBIT 1.05**  
**PROJECTIONS OF INDUSTRIAL SPACE-UTILIZING EMPLOYMENT BY INDUSTRY SECTOR**  
**FOREST GROVE, OREGON**  
**2008-2028**

<b>Baseline Growth Scenario</b>		<b>Total Employment 1/</b>					<b>Industrial</b>	<b>Industrial Space-Utilizing Employment</b>					
<b>Employment Sector</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>Share 2/</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>08-28</b>	
Construction	420	475	528	595	656	30%	126	143	158	178	197	71	
Manufacturing	2,197	2,572	2,945	3,426	3,888	95%	2,087	2,444	2,798	3,255	3,693	1,606	
Wholesale Trade	67	73	79	87	93	95%	64	70	75	82	88	25	
Retail Trade	600	680	757	854	944	0%	0	0	0	0	0	0	
Transportation, Warehousing & Utilities	155	176	195	220	243	70%	108	123	137	154	170	62	
Information	30	33	35	38	41	10%	3	3	4	4	4	1	
Financial Activities	240	264	286	313	337	0%	0	0	0	0	0	0	
Professional & Business Services	266	344	428	546	670	10%	27	34	43	55	67	40	
Education & Health Services	2,979	3,460	3,933	4,540	5,118	0%	0	0	0	0	0	0	
Leisure & Hospitality	670	783	896	1,041	1,180	0%	0	0	0	0	0	0	
Other Services	348	380	410	446	479	60%	209	228	246	268	287	78	
Government	182	199	216	235	253	15%	27	30	32	35	38	11	
<b>Total</b>	<b>8,155</b>	<b>9,440</b>	<b>10,709</b>	<b>12,341</b>	<b>13,903</b>	<b>33%</b>	<b>2,651</b>	<b>3,075</b>	<b>3,493</b>	<b>4,031</b>	<b>4,546</b>	<b>1,894</b>	
<b>High Growth Scenario</b>													
<b>Employment Sector</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>Share 2/</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>08-28</b>	
Construction	420	477	531	598	660	30%	126	143	159	179	198	72	
Manufacturing	2,197	3,108	4,194	4,825	5,455	95%	2,087	2,953	3,985	4,584	5,182	3,095	
Wholesale Trade	67	80	96	106	115	95%	64	76	91	101	109	46	
Retail Trade	600	694	789	891	987	0%	0	0	0	0	0	0	
Transportation, Warehousing & Utilities	155	181	207	234	259	70%	108	126	145	164	181	73	
Information	30	41	55	61	67	10%	3	4	5	6	7	4	
Financial Activities	240	270	301	331	358	0%	0	0	0	0	0	0	
Professional & Business Services	266	443	657	815	979	10%	27	44	66	82	98	71	
Education & Health Services	2,979	3,476	3,970	4,582	5,167	0%	0	0	0	0	0	0	
Leisure & Hospitality	670	797	926	1,077	1,221	0%	0	0	0	0	0	0	
Other Services	348	389	430	470	506	60%	209	233	258	282	304	95	
Government	182	200	218	239	257	15%	27	30	33	36	39	11	
<b>Total</b>	<b>8,155</b>	<b>10,156</b>	<b>12,375</b>	<b>14,228</b>	<b>16,030</b>	<b>38%</b>	<b>2,651</b>	<b>3,610</b>	<b>4,742</b>	<b>5,433</b>	<b>6,117</b>	<b>3,466</b>	
<b>Medium Growth Scenario</b>													
<b>Employment Sector</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>Share 2/</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>08-28</b>	
Construction	420	476	529	596	659	30%	126	143	159	179	198	72	
Manufacturing	2,197	2,766	3,364	4,163	4,827	95%	2,087	2,627	3,195	3,955	4,585	2,498	
Wholesale Trade	67	76	85	97	106	95%	64	72	81	92	101	37	
Retail Trade	600	686	769	874	969	0%	0	0	0	0	0	0	
Transportation, Warehousing & Utilities	155	177	200	228	253	70%	108	124	140	159	177	68	
Information	30	36	42	50	56	10%	3	4	4	5	6	3	
Financial Activities	240	266	291	322	350	0%	0	0	0	0	0	0	
Professional & Business Services	266	382	510	691	855	10%	27	38	51	69	85	59	
Education & Health Services	2,979	3,466	3,946	4,563	5,147	0%	0	0	0	0	0	0	
Leisure & Hospitality	670	789	907	1,060	1,205	0%	0	0	0	0	0	0	
Other Services	348	384	417	459	495	60%	209	230	250	275	297	88	
Government	182	200	217	237	256	15%	27	30	32	36	38	11	
<b>Total</b>	<b>8,155</b>	<b>9,702</b>	<b>11,277</b>	<b>13,341</b>	<b>15,177</b>	<b>35%</b>	<b>2,651</b>	<b>3,269</b>	<b>3,913</b>	<b>4,770</b>	<b>5,487</b>	<b>2,836</b>	

1/ From Exhibit 1.01

2/ Share of industry employment that utilizes industrial space. Regional Industrial Land Study Phase III (EcoNorthwest and Otak, Inc., 2001) converted to NAICS by Johnson Reid, LLC.

\* Estimate

**EXHIBIT 1.06**  
**INDUSTRIAL EMPLOYMENT DENSITY WORKSHEET BY INDUSTRY SECTOR**  
**FOREST GROVE, OREGON**  
**2008-2028**

Industrial Space Density  Employment Sector	Distribution by Building Type 1/			Square Feet per Job 2/			Average Space per Job			Weighted Average
	Warehouse, Distrib.	General Industrial	Tech/ Flex	Warehouse, Distrib.	General Industrial	Tech/ Flex	Warehouse Distrib.	General Industrial	Tech/ Flex	
Construction	0%	75%	25%	1,350	533	467	0	400	117	<b>517</b>
Manufacturing	0%	75%	25%	1,350	533	467	0	400	117	<b>517</b>
Wholesale Trade	90%	0%	10%	2,746	533	467	2,471	0	47	<b>2,518</b>
Retail Trade	0%	0%	0%	1,350	533	467	0	0	0	<b>0</b>
Transportation, Warehousing & Utilitie	100%	0%	0%	1,707	533	467	1,707	0	0	<b>1,707</b>
Information	0%	0%	100%	1,350	533	467	0	0	467	<b>467</b>
Financial Activities	0%	0%	0%	1,350	533	467	0	0	0	<b>0</b>
Professional & Business Services	0%	0%	100%	1,350	533	467	0	0	467	<b>467</b>
Education & Health Services	0%	0%	0%	1,350	533	467	0	0	0	<b>0</b>
Leisure & Hospitality	0%	0%	0%	1,350	533	467	0	0	0	<b>0</b>
Other Services	0%	75%	25%	1,350	533	467	0	400	117	<b>517</b>
Government	50%	0%	50%	1,350	533	467	675	0	234	<b>909</b>

1/ Regional Industrial Land Study Phase II (Otak, Inc. et al, 1999) converted to NAICS by Johnson Reid, LLC.

2/ Regional Industrial Land Study Phase III (EcoNorthwest and Otak, Inc., 2001) converted to NAICS by Johnson Reid, LLC.

**EXHIBIT 1.07**  
**DEMAND PROJECTIONS FOR COMMERCIAL INDUSTRIAL SPACE BY INDUSTRY SECTOR**  
**FOREST GROVE, OREGON**  
**2008-2028**

<b>Baseline Growth Scenario</b>		<b>Local Area Jobs in Industrial Space 1/</b>						<b>Avg. Space</b>		<b>Projected Industrial Space Need 3/</b>					
<b>Employment Sector</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>08-28</b>	<b>Per Job 2/</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>08-28</b>		
Construction	126	143	158	178	197	71	517	71,608	81,010	90,044	101,351	111,876	40,268		
Manufacturing	2,087	2,444	2,798	3,255	3,693	1,606	517	1,185,786	1,388,415	1,589,515	1,849,126	2,098,330	912,544		
Wholesale Trade	64	70	75	82	88	25	2,518	176,365	193,167	208,827	227,863	245,078	68,713		
Transportation, Warehousing & Utilities	108	123	137	154	170	62	1,707	203,666	230,774	256,860	289,554	320,031	116,365		
Information	3	3	4	4	4	1	467	1,556	1,688	1,810	1,957	2,089	532		
Professional & Business Services	27	34	43	55	67	40	467	13,678	17,649	21,966	28,051	34,422	20,744		
Other Services	209	228	246	268	287	78	517	118,680	129,625	139,799	152,136	163,265	44,585		
Government	27	30	32	35	38	11	909	27,238	29,861	32,308	35,285	37,979	10,741		
<b>Total</b>	<b>2,651</b>	<b>3,075</b>	<b>3,493</b>	<b>4,031</b>	<b>4,546</b>	<b>1,894</b>	<b>617</b>	<b>1,798,577</b>	<b>2,072,188</b>	<b>2,341,128</b>	<b>2,685,324</b>	<b>3,013,069</b>	<b>1,214,492</b>		
<b>High Growth Scenario</b>		<b>Local Area Jobs in Industrial Space 1/</b>						<b>Avg. Space</b>		<b>Projected Industrial Space Need 3/</b>					
<b>Employment Sector</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>08-28</b>	<b>Per Job 2/</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>08-28</b>		
Construction	126	143	159	179	198	72	517	71,608	81,228	90,548	101,941	112,552	40,944		
Manufacturing	2,087	2,953	3,985	4,584	5,182	3,095	517	1,185,786	1,677,551	2,263,855	2,604,167	2,944,051	1,758,265		
Wholesale Trade	64	76	91	101	109	46	2,518	176,365	211,823	251,991	278,429	303,031	126,666		
Transportation, Warehousing & Utilities	108	126	145	164	181	73	1,707	203,666	237,310	271,983	307,271	340,336	136,670		
Information	3	4	5	6	7	4	467	1,556	2,118	2,805	3,123	3,425	1,869		
Professional & Business Services	27	44	66	82	98	71	467	13,678	22,752	33,774	41,883	50,275	36,597		
Other Services	209	233	258	282	304	95	517	118,680	132,601	146,685	160,203	172,511	53,831		
Government	27	30	33	36	39	11	909	27,238	30,039	32,720	35,767	38,532	11,294		
<b>Total</b>	<b>2,651</b>	<b>3,610</b>	<b>4,742</b>	<b>5,433</b>	<b>6,117</b>	<b>3,466</b>	<b>617</b>	<b>1,798,577</b>	<b>2,395,424</b>	<b>3,094,360</b>	<b>3,532,785</b>	<b>3,964,713</b>	<b>2,166,135</b>		
<b>Medium Growth Scenario</b>		<b>Local Area Jobs in Industrial Space 1/</b>						<b>Avg. Space</b>		<b>Projected Industrial Space Need 3/</b>					
<b>Employment Sector</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>08-28</b>	<b>Per Job 2/</b>	<b>2008</b>	<b>2013</b>	<b>2018</b>	<b>2023</b>	<b>2028</b>	<b>08-28</b>		
Construction	126	143	159	179	198	72	517	71,608	81,093	90,225	101,669	112,280	40,672		
Manufacturing	2,087	2,627	3,195	3,955	4,585	2,498	517	1,185,786	1,492,769	1,815,487	2,247,067	2,605,163	1,419,376		
Wholesale Trade	64	72	81	92	101	37	2,518	176,365	200,304	224,282	255,080	279,742	103,377		
Transportation, Warehousing & Utilities	108	124	140	159	177	68	1,707	203,666	233,274	262,275	299,090	332,177	128,510		
Information	3	4	4	5	6	3	467	1,556	1,853	2,166	2,585	2,888	1,332		
Professional & Business Services	27	38	51	69	85	59	467	13,678	19,601	26,194	35,496	43,904	30,227		
Other Services	209	230	250	275	297	88	517	118,680	130,763	142,265	156,478	168,795	50,115		
Government	27	30	32	36	38	11	909	27,238	29,929	32,455	35,544	38,310	11,072		
<b>Total</b>	<b>2,651</b>	<b>3,269</b>	<b>3,913</b>	<b>4,770</b>	<b>5,487</b>	<b>2,836</b>	<b>617</b>	<b>1,798,577</b>	<b>2,189,587</b>	<b>2,595,348</b>	<b>3,133,010</b>	<b>3,583,259</b>	<b>1,784,682</b>		

1/ From EXHIBIT 1.05

2/ From EXHIBIT 1.06

3/ Assumes a market-clearing 10% industrial space vacancy rate.

\*Estimate



**EXHIBIT 1.08**  
**INDUSTRIAL FLOOR-TO-AREA RATIO (FAR) WORKSHEET BY INDUSTRY SECTOR**  
**FOREST GROVE, OREGON**  
**2008-2028**

Baseline Growth Scenario Employment Sector	Distribution by Building Type 1/			FAR by industry sector 2/			Average Space per Job			Weighted Average
	Warehouse, Distrib.	General Industrial	Tech/ Flex	Warehouse, Distrib.	General Industrial	Tech/ Flex	Warehouse/ Distrib.	General Industrial	Tech/ Flex	
Construction	0%	75%	25%	0.31	0.30	0.26	0.00	0.23	0.07	<b>0.29</b>
Manufacturing	0%	75%	25%	0.31	0.30	0.26	0.00	0.23	0.07	<b>0.29</b>
Wholesale Trade	90%	0%	10%	0.31	0.30	0.26	0.28	0.00	0.03	<b>0.31</b>
Retail Trade	0%	0%	0%	0.31	0.30	0.26	0.00	0.00	0.00	<b>0.00</b>
Transportation, Warehousing & U Information	100%	0%	0%	0.31	0.30	0.26	0.31	0.00	0.00	<b>0.31</b>
Information	0%	0%	100%	0.31	0.30	0.26	0.00	0.00	0.26	<b>0.26</b>
Financial Activities	0%	0%	0%	0.31	0.30	0.26	0.00	0.00	0.00	<b>0.00</b>
Professional & Business Services	0%	0%	100%	0.31	0.30	0.26	0.00	0.00	0.26	<b>0.26</b>
Education & Health Services	0%	0%	0%	0.31	0.30	0.26	0.00	0.00	0.00	<b>0.00</b>
Leisure & Hospitality	0%	0%	0%	0.31	0.30	0.26	0.00	0.00	0.00	<b>0.00</b>
Other Services	0%	75%	25%	0.31	0.30	0.26	0.00	0.23	0.07	<b>0.29</b>
Government	0%	0%	0%	0.31	0.30	0.26	0.00	0.00	0.00	<b>0.00</b>

1/ Regional Industrial Land Study Phase II (Otak, Inc. et al, 1999) converted to NAICS by Johnson Reid, LLC.

2/ Regional Industrial Land Study Phase III (EcoNorthwest and Otak, Inc., 2001) converted to NAICS by Johnson Reid, LLC.

**EXHIBIT 1.09**  
**DEMAND PROJECTIONS FOR COMMERCIAL INDUSTRIAL LAND BY INDUSTRY SECTOR**  
**FOREST GROVE, OREGON**  
**2008-2028**

Baseline Growth Scenario Employment Sector	Projected Industrial Space Need 1/					Floor to Area		Predicted Land Need (Acres) 3/					
	2008	2013	2018	2023	2028	08-28	Ratio 2/	2008	2013	2018	2023	2028	08-28
Construction	71,608	81,010	90,044	101,351	111,876	40,268	0.29	6.8	7.7	8.6	9.6	10.6	3.8
Manufacturing	1,185,786	1,388,415	1,589,515	1,849,126	2,098,330	912,544	0.29	112.6	131.9	151.0	175.7	199.3	86.7
Wholesale Trade	176,365	193,167	208,827	227,863	245,078	68,713	0.31	15.9	17.4	18.9	20.6	22.1	6.2
Transportation, Warehousing & Utilities	203,666	230,774	256,860	289,554	320,031	116,365	0.31	18.1	20.5	22.8	25.7	28.4	10.3
Information	1,556	1,688	1,810	1,957	2,089	532	0.26	0.2	0.2	0.2	0.2	0.2	0.1
Professional & Business Services	13,678	17,649	21,966	28,051	34,422	20,744	0.26	1.4	1.9	2.3	3.0	3.6	2.2
Other Services	118,680	129,625	139,799	152,136	163,265	44,585	0.29	11.3	12.3	13.3	14.5	15.5	4.2
<b>Total</b>	<b>1,798,577</b>	<b>2,072,188</b>	<b>2,341,128</b>	<b>2,685,324</b>	<b>3,013,069</b>	<b>1,214,492</b>		<b>166.4</b>	<b>191.9</b>	<b>217.0</b>	<b>249.2</b>	<b>279.9</b>	<b>113.5</b>
High Growth Scenario Employment Sector	Projected Industrial Space Need 1/					Floor to Area		Predicted Land Need (Acres) 3/					
2008	2013	2018	2023	2028	08-28	Ratio 2/	2008	2013	2018	2023	2028	08-28	
Construction	71,608	81,228	90,548	101,941	112,552	40,944	0.29	6.8	7.7	8.6	9.7	10.7	3.9
Manufacturing	1,185,786	1,677,551	2,263,855	2,604,167	2,944,051	1,758,265	0.29	112.6	159.4	215.1	247.4	279.7	167.0
Wholesale Trade	176,365	211,823	251,991	278,429	303,031	126,666	0.31	15.9	19.1	22.8	25.1	27.4	11.4
Transportation, Warehousing & Utilities	203,666	237,310	271,983	307,271	340,336	136,670	0.31	18.1	21.1	24.2	27.3	30.2	12.1
Information	1,556	2,118	2,805	3,123	3,425	1,869	0.26	0.2	0.2	0.3	0.3	0.4	0.2
Professional & Business Services	13,678	22,752	33,774	41,883	50,275	36,597	0.26	1.4	2.4	3.6	4.4	5.3	3.9
Other Services	118,680	132,601	146,685	160,203	172,511	53,831	0.29	11.3	12.6	13.9	15.2	16.4	5.1
<b>Total</b>	<b>1,798,577</b>	<b>2,395,424</b>	<b>3,094,360</b>	<b>3,532,785</b>	<b>3,964,713</b>	<b>2,166,135</b>		<b>166.4</b>	<b>222.5</b>	<b>288.4</b>	<b>329.5</b>	<b>370.0</b>	<b>203.7</b>
Medium Growth Scenario Employment Sector	Projected Industrial Space Need 1/					Floor to Area		Predicted Land Need (Acres) 3/					
2008	2013	2018	2023	2028	08-28	Ratio 2/	2008	2013	2018	2023	2028	08-28	
Construction	71,608	81,093	90,225	101,669	112,280	40,672	0.29	6.8	7.7	8.6	9.7	10.7	3.9
Manufacturing	1,185,786	1,492,769	1,815,487	2,247,067	2,605,163	1,419,376	0.29	112.6	141.8	172.5	213.5	247.5	134.8
Wholesale Trade	176,365	200,304	224,282	255,080	279,742	103,377	0.31	15.9	18.1	20.3	23.0	25.3	9.3
Transportation, Warehousing & Utilities	203,666	233,274	262,275	299,090	332,177	128,510	0.31	18.1	20.7	23.3	26.6	29.5	11.4
Information	1,556	1,853	2,166	2,585	2,888	1,332	0.26	0.2	0.2	0.2	0.3	0.3	0.1
Professional & Business Services	13,678	19,601	26,194	35,496	43,904	30,227	0.26	1.4	2.1	2.8	3.8	4.7	3.2
Other Services	118,680	130,763	142,265	156,478	168,795	50,115	0.29	11.3	12.4	13.5	14.9	16.0	4.8
<b>Total</b>	<b>1,798,577</b>	<b>2,189,587</b>	<b>2,595,348</b>	<b>3,133,010</b>	<b>3,583,259</b>	<b>1,784,682</b>		<b>166.4</b>	<b>203.0</b>	<b>241.1</b>	<b>291.6</b>	<b>333.9</b>	<b>167.6</b>

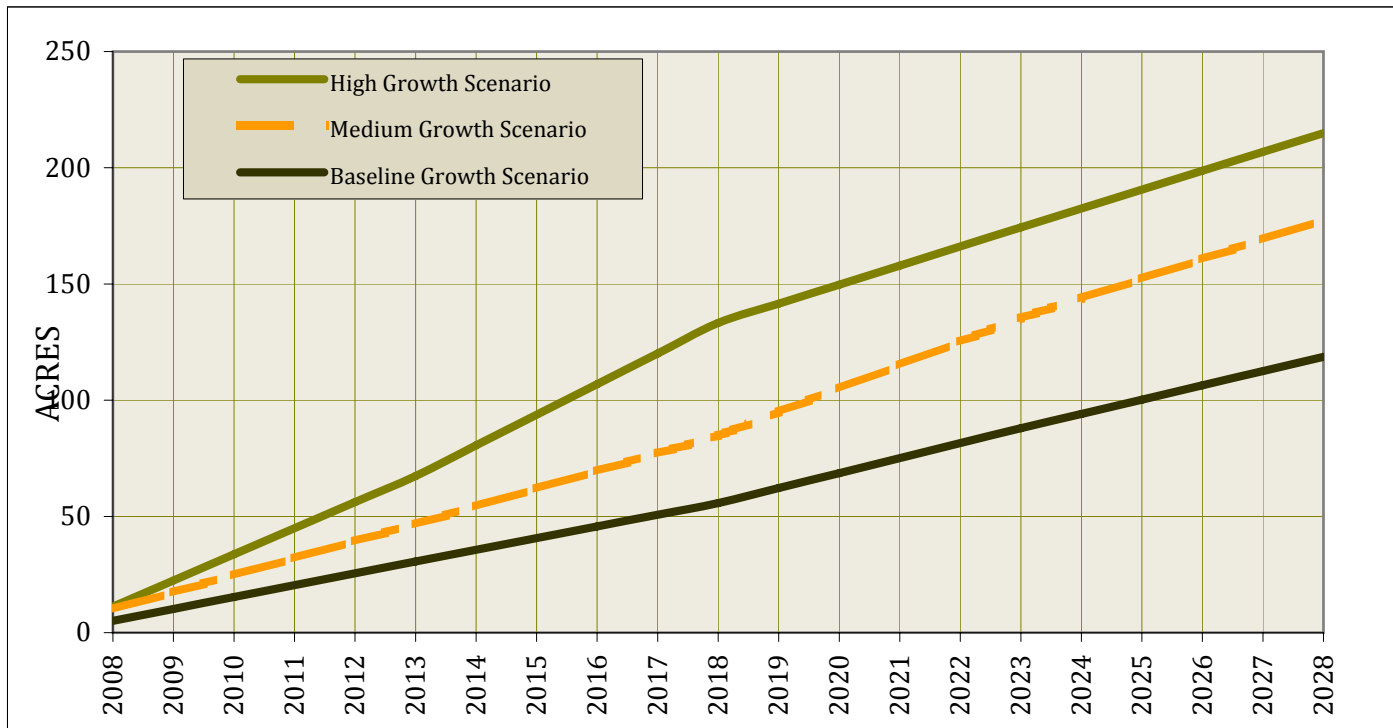
1/ From Exhibit 1.07

2/ From Exhibit 1.08

3/ Assumes a non-traditional industrial land use factor of 10% from Regional Industrial Land Study Phase II (Otak, Inc., et al, 1999).

\*Estimate

**EXHIBIT 1.10**  
**COMPARISON OF CUMULATIVE DEMAND FOR INDUSTRIAL LAND**  
**MEDIUM, HIGH AND LOW EMPLOYMENT GROWTH SCENARIOS**  
**2008-2028**



SOURCE: Johnson Reid, LLC

**EXHIBIT 1.11**  
**PROJECTIONS OF HOUSEHOLD RETAIL SALES**  
**FOREST GROVE, OREGON**  
**2008-2028**

NAICS Category	Per Household Expenditures 1/	Household Retail Spending in Millions (Households)					
		2008	2013	2018	2023	2028	'08-'28
441 Motor Vehicles and Parts Dealers	\$8,067	\$58.6	\$65.2	\$72.4	\$80.5	\$89.5	\$30.9
442 Furniture and Home Furnishings Stores	\$943	\$6.9	\$7.6	\$8.5	\$9.4	\$10.5	\$3.6
443 Electronics and Appliance Stores	\$990	\$7.2	\$8.0	\$8.9	\$9.9	\$11.0	\$3.8
444 Building Materials and Garden Equipment	\$4,058	\$29.5	\$32.8	\$36.4	\$40.5	\$45.0	\$15.5
445 Food and Beverage Stores	\$5,334	\$38.8	\$43.1	\$47.9	\$53.2	\$59.2	\$20.4
446 Health and Personal Care Stores	\$1,876	\$13.6	\$15.2	\$16.8	\$18.7	\$20.8	\$7.2
448 Clothing and Clothing Accessories Stores	\$1,914	\$13.9	\$15.5	\$17.2	\$19.1	\$21.2	\$7.3
451 Sporting Goods, Hobby, Book and Music Stores	\$862	\$6.3	\$7.0	\$7.7	\$8.6	\$9.6	\$3.3
452 General Merchandise Stores	\$5,039	\$36.6	\$40.7	\$45.3	\$50.3	\$55.9	\$19.3
453 Miscellaneous Store Retailers	\$1,043	\$7.6	\$8.4	\$9.4	\$10.4	\$11.6	\$4.0
722 Foodservices and Drinking Places	\$3,936	\$28.6	\$31.8	\$35.3	\$39.3	\$43.7	\$15.1
<b>Totals/Weighted Averages</b>	<b>\$34,062</b>	<b>\$247.5</b>	<b>\$275.1</b>	<b>\$305.9</b>	<b>\$340.0</b>	<b>\$378.0</b>	<b>\$130.5</b>

High Growth Scenario		Per Household Expenditures 1/	Household Retail Spending in Millions (Households)					
NAICS Category			2008	2013	2018	2023	2028	'08-'28
441 Motor Vehicles and Parts Dealers	\$8,067	\$58.6	\$67.2	\$76.9	\$88.1	\$101.0	\$42.4	
442 Furniture and Home Furnishings Stores	\$943	\$6.9	\$7.8	\$9.0	\$10.3	\$11.8	\$5.0	
443 Electronics and Appliance Stores	\$990	\$7.2	\$8.2	\$9.4	\$10.8	\$12.4	\$5.2	
444 Building Materials and Garden Equipment	\$4,058	\$29.5	\$33.8	\$38.7	\$44.3	\$50.8	\$21.3	
445 Food and Beverage Stores	\$5,334	\$38.8	\$44.4	\$50.9	\$58.3	\$66.8	\$28.0	
446 Health and Personal Care Stores	\$1,876	\$13.6	\$15.6	\$17.9	\$20.5	\$23.5	\$9.9	
448 Clothing and Clothing Accessories Stores	\$1,914	\$13.9	\$15.9	\$18.2	\$20.9	\$24.0	\$10.0	
451 Sporting Goods, Hobby, Book and Music Stores	\$862	\$6.3	\$7.2	\$8.2	\$9.4	\$10.8	\$4.5	
452 General Merchandise Stores	\$5,039	\$36.6	\$41.9	\$48.1	\$55.1	\$63.1	\$26.5	
453 Miscellaneous Store Retailers	\$1,043	\$7.6	\$8.7	\$9.9	\$11.4	\$13.1	\$5.5	
722 Foodservices and Drinking Places	\$3,936	\$28.6	\$32.8	\$37.5	\$43.0	\$49.3	\$20.7	
<b>Totals/Weighted Averages</b>	<b>\$34,062</b>	<b>\$247.5</b>	<b>\$283.5</b>	<b>\$324.8</b>	<b>\$372.1</b>	<b>\$426.4</b>	<b>\$178.9</b>	

Medium Growth Scenario		Per Household Expenditures 1/	Household Retail Spending in Millions (Households)					
NAICS Category			2008	2013	2018	2023	2028	'08-'28
441 Motor Vehicles and Parts Dealers	\$8,067	\$58.6	\$66.4	\$75.2	\$85.1	\$96.4	\$37.8	
442 Furniture and Home Furnishings Stores	\$943	\$6.9	\$7.8	\$8.8	\$9.9	\$11.3	\$4.4	
443 Electronics and Appliance Stores	\$990	\$7.2	\$8.1	\$9.2	\$10.4	\$11.8	\$4.6	
444 Building Materials and Garden Equipment	\$4,058	\$29.5	\$33.4	\$37.8	\$42.8	\$48.5	\$19.0	
445 Food and Beverage Stores	\$5,334	\$38.8	\$43.9	\$49.7	\$56.3	\$63.7	\$25.0	
446 Health and Personal Care Stores	\$1,876	\$13.6	\$15.4	\$17.5	\$19.8	\$22.4	\$8.8	
448 Clothing and Clothing Accessories Stores	\$1,914	\$13.9	\$15.7	\$17.8	\$20.2	\$22.9	\$9.0	
451 Sporting Goods, Hobby, Book and Music Stores	\$862	\$6.3	\$7.1	\$8.0	\$9.1	\$10.3	\$4.0	
452 General Merchandise Stores	\$5,039	\$36.6	\$41.5	\$47.0	\$53.2	\$60.2	\$23.6	
453 Miscellaneous Store Retailers	\$1,043	\$7.6	\$8.6	\$9.7	\$11.0	\$12.5	\$4.9	
722 Foodservices and Drinking Places	\$3,936	\$28.6	\$32.4	\$36.7	\$41.5	\$47.0	\$18.4	
<b>Totals/Weighted Averages</b>	<b>\$34,062</b>	<b>\$247.5</b>	<b>\$280.3</b>	<b>\$317.4</b>	<b>\$359.4</b>	<b>\$407.0</b>	<b>\$159.5</b>	

1/ Claritas, Inc. average retail sales figures for Forest Grove, Oregon in 2007 dollars.

**EXHIBIT 1.12**  
**PROJECTIONS OF COMMERCIAL RETAIL SPACE NEED**  
**FOREST GROVE, OREGON**  
**2008-2028**

Baseline Growth Scenario		Household Retail Spending (millions) 1/					Sales Support	Spending-Supported Retail Demand (SF) 3/						
NAICS	Category	2008	2013	2018	2023	2028	'08-'28	Factor 2/	2008	2013	2018	2023	2028	'08-'28
441	Automotive Parts, Accessories and Tire Stores	\$58.6	\$65.2	\$72.4	\$80.5	\$89.5	<b>\$30.9</b>	\$171	377,179	419,310	466,147	518,215	576,099	<b>198,920</b>
442	Furniture and Home Furnishings Stores	\$6.9	\$7.6	\$8.5	\$9.4	\$10.5	<b>\$3.6</b>	\$213	35,422	39,378	43,777	48,667	54,103	<b>18,681</b>
443	Electronics and Appliance Stores	\$7.2	\$8.0	\$8.9	\$9.9	\$11.0	<b>\$3.8</b>	\$246	32,154	35,745	39,738	44,177	49,111	<b>16,958</b>
444	Building Materials and Garden Equipment	\$29.5	\$32.8	\$36.4	\$40.5	\$45.0	<b>\$15.5</b>	\$157	206,011	229,022	254,604	283,043	314,658	<b>108,648</b>
445	Food and Beverage Stores	\$38.8	\$43.1	\$47.9	\$53.2	\$59.2	<b>\$20.4</b>	\$384	111,100	123,510	137,306	152,643	169,694	<b>58,593</b>
446	Health and Personal Care Stores	\$13.6	\$15.2	\$16.8	\$18.7	\$20.8	<b>\$7.2</b>	\$283	53,015	58,936	65,519	72,838	80,974	<b>27,959</b>
448	Clothing and Clothing Accessories Stores	\$13.9	\$15.5	\$17.2	\$19.1	\$21.2	<b>\$7.3</b>	\$267	57,310	63,712	70,828	78,740	87,535	<b>30,225</b>
451	Sporting Goods, Hobby, Book and Music Stores	\$6.3	\$7.0	\$7.7	\$8.6	\$9.6	<b>\$3.3</b>	\$240	28,721	31,929	35,495	39,460	43,868	<b>15,147</b>
452	General Merchandise Stores	\$36.6	\$40.7	\$45.3	\$50.3	\$55.9	<b>\$19.3</b>	\$171	235,602	261,919	291,175	323,699	359,856	<b>124,254</b>
453	Miscellaneous Store Retailers	\$7.6	\$8.4	\$9.4	\$10.4	\$11.6	<b>\$4.0</b>	\$236	35,301	39,244	43,628	48,501	53,919	<b>18,617</b>
722	Foodservices and Drinking Places	\$28.6	\$31.8	\$35.3	\$39.3	\$43.7	<b>\$15.1</b>	\$290	108,395	120,503	133,963	148,926	165,561	<b>57,166</b>
<b>Totals/Weighted Averages</b>		<b>\$247.5</b>	<b>\$275.1</b>	<b>\$305.9</b>	<b>\$340.0</b>	<b>\$378.0</b>	<b>\$130.5</b>		<b>1,280,210</b>	<b>1,423,209</b>	<b>1,582,180</b>	<b>1,758,908</b>	<b>1,955,377</b>	<b>675,167</b>
High Growth Scenario		Household Retail Spending (millions) 1/					Sales Support	Spending-Supported Retail Demand (SF) 3/						
NAICS	Category	2008	2013	2018	2023	2028	'08-'28	Factor 2/	2008	2013	2018	2023	2028	'08-'28
441	Automotive Parts, Accessories and Tire Stores	\$58.6	\$67.2	\$76.9	\$88.1	\$101.0	<b>\$42.4</b>	\$139	463,883	531,447	608,851	697,529	799,122	<b>335,239</b>
442	Furniture and Home Furnishings Stores	\$6.9	\$7.8	\$9.0	\$10.3	\$11.8	<b>\$5.0</b>	\$213	35,422	40,581	46,491	53,263	61,020	<b>25,599</b>
443	Electronics and Appliance Stores	\$7.2	\$8.2	\$9.4	\$10.8	\$12.4	<b>\$5.2</b>	\$246	32,154	36,837	42,202	48,349	55,391	<b>23,237</b>
444	Building Materials and Garden Equipment	\$29.5	\$33.8	\$38.7	\$44.3	\$50.8	<b>\$21.3</b>	\$157	206,011	236,016	270,391	309,733	354,891	<b>148,880</b>
445	Food and Beverage Stores	\$38.8	\$44.4	\$50.9	\$58.3	\$66.8	<b>\$28.0</b>	\$384	111,100	127,282	145,820	167,059	191,391	<b>80,290</b>
446	Health and Personal Care Stores	\$13.6	\$15.6	\$17.9	\$20.5	\$23.5	<b>\$9.9</b>	\$283	53,015	60,736	69,582	79,717	91,327	<b>38,313</b>
448	Clothing and Clothing Accessories Stores	\$13.9	\$15.9	\$18.2	\$20.9	\$24.0	<b>\$10.0</b>	\$267	57,310	65,657	75,220	86,176	98,727	<b>41,417</b>
451	Sporting Goods, Hobby, Book and Music Stores	\$6.3	\$7.2	\$8.2	\$9.4	\$10.8	<b>\$4.5</b>	\$240	28,721	32,904	37,696	43,187	49,477	<b>20,756</b>
452	General Merchandise Stores	\$36.6	\$41.9	\$48.1	\$55.1	\$63.1	<b>\$26.5</b>	\$171	235,602	269,917	309,230	354,269	405,867	<b>170,265</b>
453	Miscellaneous Store Retailers	\$7.6	\$8.7	\$9.9	\$11.4	\$13.1	<b>\$5.5</b>	\$236	35,301	40,443	46,333	53,082	60,813	<b>25,512</b>
722	Foodservices and Drinking Places	\$28.6	\$32.8	\$37.5	\$43.0	\$49.3	<b>\$20.7</b>	\$290	108,395	124,183	142,270	162,991	186,730	<b>78,335</b>
<b>Totals/Weighted Averages</b>		<b>\$247.5</b>	<b>\$283.5</b>	<b>\$324.8</b>	<b>\$372.1</b>	<b>\$426.4</b>	<b>\$178.9</b>		<b>1,366,914</b>	<b>1,566,002</b>	<b>1,794,087</b>	<b>2,055,392</b>	<b>2,354,756</b>	<b>987,843</b>
Medium Growth Scenario		Household Retail Spending (millions) 1/					Sales Support	Spending-Supported Retail Demand (SF) 3/						
NAICS	Category	2008	2013	2018	2023	2028	'08-'28	Factor 2/	2008	2013	2018	2023	2028	'08-'28
441	Automotive Parts, Accessories and Tire Stores	\$58.6	\$66.4	\$75.2	\$85.1	\$96.4	<b>\$37.8</b>	\$139	463,883	525,301	594,851	673,610	762,796	<b>298,913</b>
442	Furniture and Home Furnishings Stores	\$6.9	\$7.8	\$8.8	\$9.9	\$11.3	<b>\$4.4</b>	\$213	35,422	40,111	45,422	51,436	58,246	<b>22,825</b>
443	Electronics and Appliance Stores	\$7.2	\$8.1	\$9.2	\$10.4	\$11.8	<b>\$4.6</b>	\$246	32,154	36,411	41,232	46,691	52,873	<b>20,719</b>
444	Building Materials and Garden Equipment	\$29.5	\$33.4	\$37.8	\$42.8	\$48.5	<b>\$19.0</b>	\$157	206,011	233,287	264,174	299,151	338,758	<b>132,747</b>
445	Food and Beverage Stores	\$38.8	\$43.9	\$49.7	\$56.3	\$63.7	<b>\$25.0</b>	\$384	111,100	125,810	142,467	161,330	182,690	<b>71,590</b>
446	Health and Personal Care Stores	\$13.6	\$15.4	\$17.5	\$19.8	\$22.4	<b>\$8.8</b>	\$283	53,015	60,034	67,982	76,983	87,176	<b>34,161</b>
448	Clothing and Clothing Accessories Stores	\$13.9	\$15.7	\$17.8	\$20.2	\$22.9	<b>\$9.0</b>	\$267	57,310	64,898	73,491	83,221	94,239	<b>36,929</b>
451	Sporting Goods, Hobby, Book and Music Stores	\$6.3	\$7.1	\$8.0	\$9.1	\$10.3	<b>\$4.0</b>	\$240	28,721	32,523	36,830	41,706	47,228	<b>18,507</b>
452	General Merchandise Stores	\$36.6	\$41.5	\$47.0	\$53.2	\$60.2	<b>\$23.6</b>	\$171	235,602	266,796	302,120	342,120	387,417	<b>151,815</b>
453	Miscellaneous Store Retailers	\$7.6	\$8.6	\$9.7	\$11.0	\$12.5	<b>\$4.9</b>	\$236	35,301	39,975	45,268	51,261	58,048	<b>22,747</b>
722	Foodservices and Drinking Places	\$28.6	\$32.4	\$36.7	\$41.5	\$47.0	<b>\$18.4</b>	\$290	108,395	122,747	138,998	157,402	178,242	<b>69,847</b>
<b>Totals/Weighted Averages</b>		<b>\$247.5</b>	<b>\$280.3</b>	<b>\$317.4</b>	<b>\$359.4</b>	<b>\$407.0</b>	<b>\$159.5</b>		<b>1,366,914</b>	<b>1,547,893</b>	<b>1,752,835</b>	<b>1,984,911</b>	<b>2,247,713</b>	<b>880,800</b>

1/ From Exhibit R.01

2/ Based on national averages derived from "Dollars & Cents of Shopping Centers," Urban Land Institute, 2000.

3/ Assumes a market-clearing retail space vacancy rate of 10%.

\* Estimate

**EXHIBIT 1.13  
PROJECTIONS OF COMMERCIAL RETAIL SPACE NEED  
FOREST GROVE, OREGON  
2008-2028**

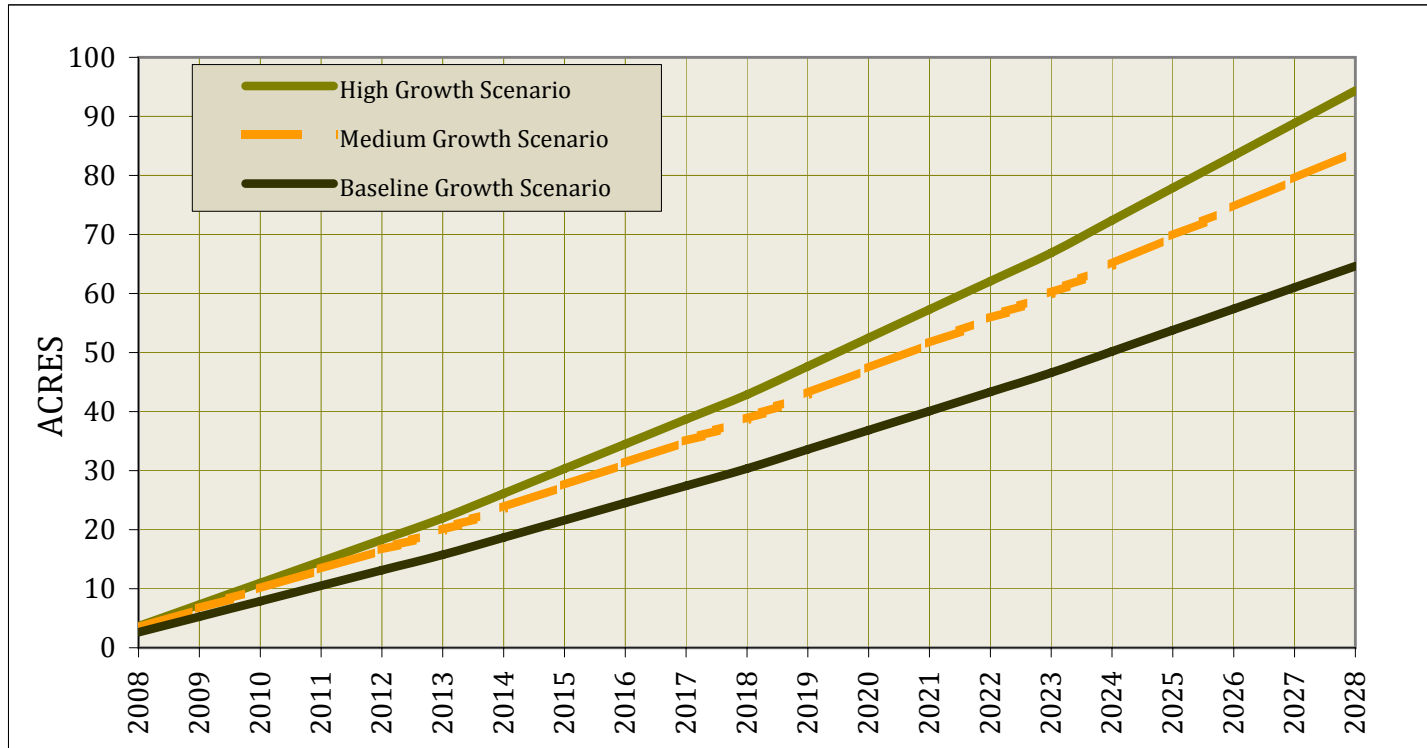
Baseline Growth Scenario		Spending-Supported Retail Demand (SF) 1/					Retail	Commercial Retail Land Need (Acres)						
NAICS	Category	2008	2013	2018	2023	2028	'08-'28	F.A.R 2/	2008	2013	2018	2023	2028	'08-'28
441	Automotive Parts, Accessories and Tire Stores	377,179	419,310	466,147	518,215	576,099	<b>198,920</b>	0.25	34.6	38.5	42.8	47.6	52.9	<b>18.3</b>
442	Furniture and Home Furnishings Stores	35,422	39,378	43,777	48,667	54,103	<b>18,681</b>	0.25	3.3	3.6	4.0	4.5	5.0	<b>1.7</b>
443	Electronics and Appliance Stores	32,154	35,745	39,738	44,177	49,111	<b>16,958</b>	0.25	3.0	3.3	3.6	4.1	4.5	<b>1.6</b>
444	Building Materials and Garden Equipment	206,011	229,022	254,604	283,043	314,658	<b>108,648</b>	0.25	18.9	21.0	23.4	26.0	28.9	<b>10.0</b>
445	Food and Beverage Stores	111,100	123,510	137,306	152,643	169,694	<b>58,593</b>	0.25	10.2	11.3	12.6	14.0	15.6	<b>5.4</b>
446	Health and Personal Care Stores	53,015	58,936	65,519	72,838	80,974	<b>27,959</b>	0.25	4.9	5.4	6.0	6.7	7.4	<b>2.6</b>
448	Clothing and Clothing Accessories Stores	57,310	63,712	70,828	78,740	87,535	<b>30,225</b>	0.25	5.3	5.9	6.5	7.2	8.0	<b>2.8</b>
451	Sporting Goods, Hobby, Book and Music Stores	28,721	31,929	35,495	39,460	43,868	<b>15,147</b>	0.25	2.6	2.9	3.3	3.6	4.0	<b>1.4</b>
452	General Merchandise Stores	235,602	261,919	291,175	323,699	359,856	<b>124,254</b>	0.25	21.6	24.1	26.7	29.7	33.0	<b>11.4</b>
453	Miscellaneous Store Retailers	35,301	39,244	43,628	48,501	53,919	<b>18,617</b>	0.25	3.2	3.6	4.0	4.5	5.0	<b>1.7</b>
722	Foodservices and Drinking Places	108,395	120,503	133,963	148,926	165,561	<b>57,166</b>	0.25	10.0	11.1	12.3	13.7	15.2	<b>5.2</b>
<b>Totals/Weighted Averages</b>		<b>1,280,210</b>	<b>1,423,209</b>	<b>1,582,180</b>	<b>1,758,908</b>	<b>1,955,377</b>	<b>675,167</b>	<b>0.25</b>	<b>117.6</b>	<b>130.7</b>	<b>145.3</b>	<b>161.5</b>	<b>179.6</b>	<b>62.0</b>
High Growth Scenario		Spending-Supported Retail Demand (SF) 1/					Retail	Commercial Retail Land Need (Acres)						
NAICS	Category	2008	2013	2018	2023	2028	'08-'28	F.A.R 2/	2008	2013	2018	2023	2028	'08-'28
441	Automotive Parts, Accessories and Tire Stores	463,883	531,447	608,851	697,529	799,122	<b>335,239</b>	0.25	42.6	48.8	55.9	64.1	73.4	<b>30.8</b>
442	Furniture and Home Furnishings Stores	35,422	40,581	46,491	53,263	61,020	<b>25,599</b>	0.25	3.3	3.7	4.3	4.9	5.6	<b>2.4</b>
443	Electronics and Appliance Stores	32,154	36,837	42,202	48,349	55,391	<b>23,237</b>	0.25	3.0	3.4	3.9	4.4	5.1	<b>2.1</b>
444	Building Materials and Garden Equipment	206,011	236,016	270,391	309,773	354,891	<b>148,880</b>	0.25	18.9	21.7	24.8	28.4	32.6	<b>13.7</b>
445	Food and Beverage Stores	111,100	127,282	145,820	167,059	191,391	<b>80,290</b>	0.25	10.2	11.7	13.4	15.3	17.6	<b>7.4</b>
446	Health and Personal Care Stores	53,015	60,736	69,582	79,717	91,327	<b>38,313</b>	0.25	4.9	5.6	6.4	7.3	8.4	<b>3.5</b>
448	Clothing and Clothing Accessories Stores	57,310	65,657	75,220	86,176	98,727	<b>41,417</b>	0.25	5.3	6.0	6.9	7.9	9.1	<b>3.8</b>
451	Sporting Goods, Hobby, Book and Music Stores	28,721	32,904	37,696	43,187	49,477	<b>20,756</b>	0.25	2.6	3.0	3.5	4.0	4.5	<b>1.9</b>
452	General Merchandise Stores	235,602	269,917	309,230	354,269	405,867	<b>170,265</b>	0.25	21.6	24.8	28.4	32.5	37.3	<b>15.6</b>
453	Miscellaneous Store Retailers	35,301	40,443	46,333	53,082	60,813	<b>25,512</b>	0.25	3.2	3.7	4.3	4.9	5.6	<b>2.3</b>
722	Foodservices and Drinking Places	108,395	124,183	142,270	162,991	186,730	<b>78,335</b>	0.25	10.0	11.4	13.1	15.0	17.1	<b>7.2</b>
<b>Totals/Weighted Averages</b>		<b>1,366,914</b>	<b>1,566,002</b>	<b>1,794,087</b>	<b>2,055,392</b>	<b>2,354,756</b>	<b>987,843</b>	<b>0.25</b>	<b>125.5</b>	<b>143.8</b>	<b>164.7</b>	<b>188.7</b>	<b>216.2</b>	<b>90.7</b>
Medium Growth Scenario		Spending-Supported Retail Demand (SF) 1/					Retail	Commercial Retail Land Need (Acres)						
NAICS	Category	2008	2013	2018	2023	2028	'08-'28	F.A.R 2/	2008	2013	2018	2023	2028	'08-'28
441	Automotive Parts, Accessories and Tire Stores	463,883	525,301	594,851	673,610	762,796	<b>298,913</b>	0.25	42.6	48.2	54.6	61.9	70.0	<b>27.4</b>
442	Furniture and Home Furnishings Stores	35,422	40,111	45,422	51,436	58,246	<b>22,825</b>	0.25	3.3	3.7	4.2	4.7	5.3	<b>2.1</b>
443	Electronics and Appliance Stores	32,154	36,411	41,232	46,691	52,873	<b>20,719</b>	0.25	3.0	3.3	3.8	4.3	4.9	<b>1.9</b>
444	Building Materials and Garden Equipment	206,011	233,287	264,174	299,151	338,758	<b>132,747</b>	0.25	18.9	21.4	24.3	27.5	31.1	<b>12.2</b>
445	Food and Beverage Stores	111,100	125,810	142,467	161,330	182,690	<b>71,590</b>	0.25	10.2	11.6	13.1	14.8	16.8	<b>6.6</b>
446	Health and Personal Care Stores	53,015	60,034	67,982	76,983	87,176	<b>34,161</b>	0.25	4.9	5.5	6.2	7.1	8.0	<b>3.1</b>
448	Clothing and Clothing Accessories Stores	57,310	64,898	73,491	83,221	94,239	<b>36,929</b>	0.25	5.3	6.0	6.7	7.6	8.7	<b>3.4</b>
451	Sporting Goods, Hobby, Book and Music Stores	28,721	32,523	36,830	41,706	47,228	<b>18,507</b>	0.25	2.6	3.0	3.4	3.8	4.3	<b>1.7</b>
452	General Merchandise Stores	235,602	266,796	302,120	342,120	387,417	<b>151,815</b>	0.25	21.6	24.5	27.7	31.4	35.6	<b>13.9</b>
453	Miscellaneous Store Retailers	35,301	39,975	45,268	51,261	58,048	<b>22,747</b>	0.25	3.2	3.7	4.2	4.7	5.3	<b>2.1</b>
722	Foodservices and Drinking Places	108,395	122,747	138,998	157,402	178,242	<b>69,847</b>	0.25	10.0	11.3	12.8	14.5	16.4	<b>6.4</b>
<b>Totals/Weighted Averages</b>		<b>1,366,914</b>	<b>1,547,893</b>	<b>1,752,835</b>	<b>1,984,911</b>	<b>2,247,713</b>	<b>880,800</b>	<b>0.25</b>	<b>125.5</b>	<b>142.1</b>	<b>161.0</b>	<b>182.3</b>	<b>206.4</b>	<b>80.9</b>

1/ From Exhibit 1.12

2/ Assumes typical suburban retail profile: single-story with four parking spaces per 1,000 square feet of developed space.

\*Estimate

**EXHIBIT 1.14**  
**COMPARISON OF CUMULATIVE DEMAND FOR COMMERCIAL RETAIL LAND**  
**MEDIUM, HIGH AND LOW GROWTH SCENARIOS**  
**2008-2028**



SOURCE: Johnson Reid, LLC

**EXHIBIT 1.15**  
**GROSS NEED FOR COMMERCIAL AND INDUSTRIAL LAND**  
**FOREST GROVE, OREGON**  
**2008-2028**

Use Type	Need For Land (Acres) By Scenario:		
	Baseline Growth	High Growth	Medium Growth
<b>OFFICE COMMERCIAL</b>	<b>44.7</b>	<b>56.5</b>	<b>51.8</b>
<b>INDUSTRIAL</b>	<b>113.5</b>	<b>203.7</b>	<b>167.6</b>
<b>RETAIL COMMERCIAL</b>	<b>77.5</b>	<b>113.4</b>	<b>101.1</b>
CITY RESIDENTS	62.0	90.7	80.9
REGION/TOURISTS 1/	15.5	22.7	20.2
<b>OVERNIGHT LODGING</b>	<b>11.7</b>	<b>12.7</b>	<b>12.3</b>
<b>SPECIALIZED USES 2/</b>	<b>63.8</b>	<b>65.2</b>	<b>64.7</b>
<b>TOTAL</b>	<b>311.2</b>	<b>451.5</b>	<b>397.4</b>

1/ Assumes regional/tourist demand normalizes at 20% of retail support, given targeted opportunities outlined in the EOA.

2/ Hospitals, Clinics, etc. for employment not otherwise categorized. Assumes 20 employees per acre

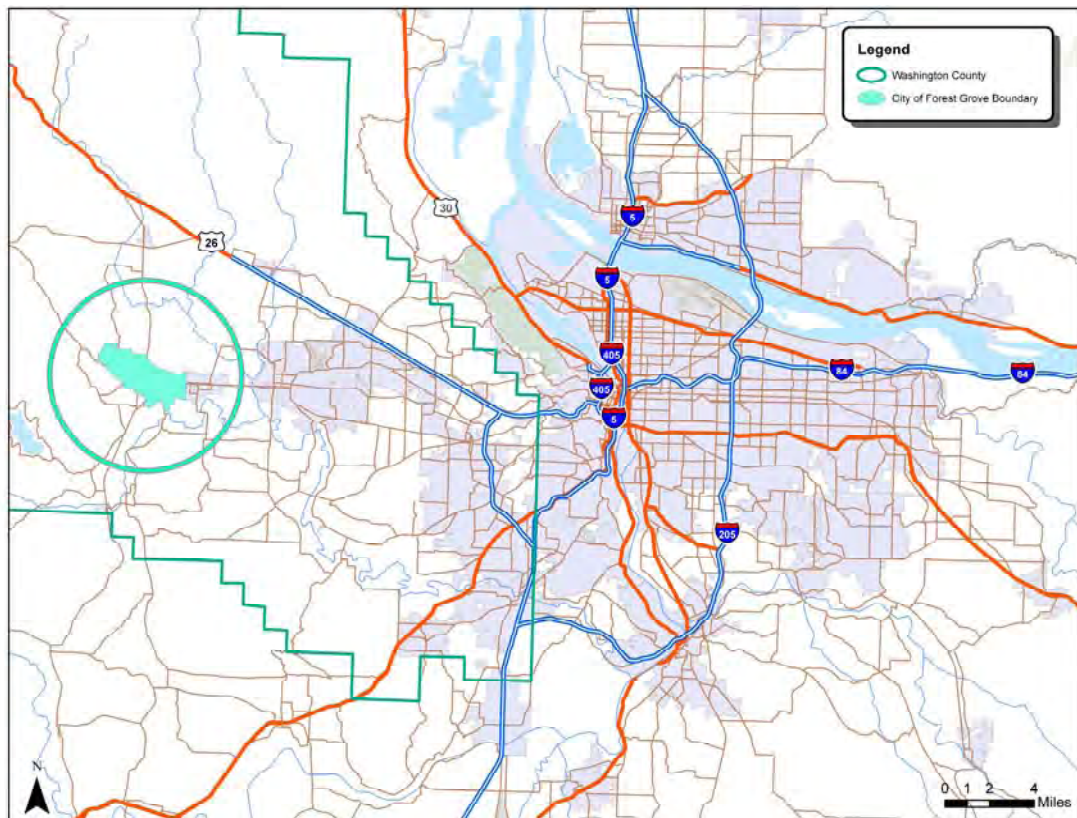
SOURCE: Johnson Reid, LLC



## APPENDIX B: ECONOMIC & PLANNING AREA DEFINED

In accordance with OAR 660-009-0005 a planning area is defined as: “The area within an existing or proposed urban growth boundary. Cities and counties with urban growth management agreements must address the urban land governed by their respective plans as specified in the urban growth management agreement for the affected area.” This is particularly true as it relates to the Forest Grove Economic Study Area as the study area should encompass any jurisdictions, which share inter-dependent economic activity. Additionally, the planning area should include the existing Urban Growth Boundary areas as well as potential expansion and urban reserves.

FIGURE B1: CITY OF FOREST GROVE ECONOMIC STUDY AREA

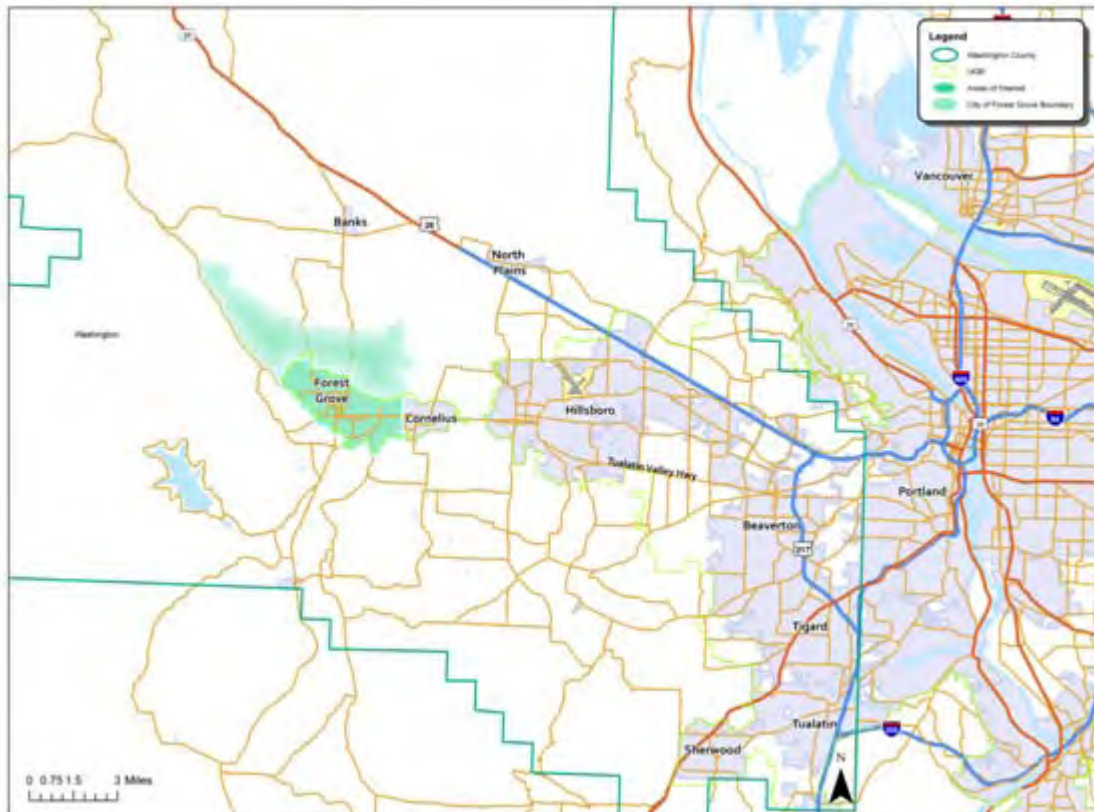


Forest Grove is part of the Portland Metro area, located within Washington County on the west side of the metro area. Some of the largest Portland Metro employers in the State are located in nearby Hillsboro, approximately 9 miles from Forest Grove, making Forest Grove a potentially significant player in regional dynamics over the long-term.

Taking the lead from Metro, the entire region must be considered when studying the implications of growth in Forest Grove. This report encompasses the region as defined by Metro to include the 25 jurisdictions that reside within the three counties of Clackamas, Multnomah and Washington. A regional perspective, particularly in relation to economic development, will aid Forest Grove in its understanding of the City’s role in the larger economic field of the entire region. Forest Grove relies

on its relationship to other jurisdictions in the region, particularly those in Washington County. For example, Forest Grove is home to several large employers, including Merix and Pacific University. Washington County has outpaced the other Metro counties in terms of growth, maintaining its place as a crucial player in regional economic activity. Forest Grove will continue to grow as a commercial center related to Washington County's thriving agriculture industry, particularly nursery stock, vineyards and wineries, and other crop and value-added agriculture.

FIGURE B2: CITY OF FOREST GROVE ECONOMIC PLANNING AREA



The planning areas of interest are generalized estimates of potential geographic growth as Forest Grove expands to meet employment and residential needs for housing, services and employment on 20 and 50 year time scales. While there is no definitive size or land uses applied to these planning areas, they serve as an illustrative view of where urban reserves would likely be best located. They are based on current growth and expansion patterns, land suitability, access to existing infrastructure and geographic constraints. They are not official or adopted areas for reserves, but rather provide a visual concept of future growth. Forest Grove is considering an area to the north and northwest of the existing Urban Growth Boundary, expanding north to Hillside, Kemper, Osterman Roads to just east of Martin Road. The southern boundary of the planning area follows Gales Creek Road (Highway 8) from Clapshaw Hill Northwest of the city back towards the Urban Growth Boundary. All land under consideration adjoins County land.

# ***LiDAR Remote Sensing Data Collection:***

***Department of Geology & Mineral Industries***

***Oregon Department of Forestry***

***Puget Sound LiDAR Consortium***

*Submitted to:*



**Puget Sound Regional Council  
1011 Western Avenue, Suite 500  
Seattle, Washington 98104-1035**



**Phyllis A. Mann  
Kitsap County  
911 Carver Street  
Bremerton, Washington 98312**



**Ian Madin, Chief Scientist  
Oregon Department of Geology &  
Mineral Industries  
800 NE Oregon St. Suite 965  
Portland OR 97232  
(971) 673-1542**



**Emmor Nile, GISP  
GIS Coordinator  
Oregon Department of Forestry  
2600 State Street, Building E  
Salem, Oregon 97310  
(503) 945-7418**

*Submitted by:*



**Watershed Sciences  
215 SE Ninth Avenue, Suite 106  
Portland, Oregon 97214  
(971) 223-5152**

***November 1, 2007***

The following is an analysis of the application of urban reserve factors (OAR 660-027-0050) to the 352 acres in north of Highway 26 identified by Metro and Washington County to be designated as urban reserves (hereinafter referred to “Area 8B”).

In August 2009, the City of Hillsboro (“Hillsboro”) submitted as part of the record a preliminary concept plan and findings in support of proposed urban reserves in north Hillsboro of 7,890 gross acres and 4,261 net developable acres (WashCo Rec. at 3115 & 3451). These reserves proposals were considered by the Washington County Reserves Coordinating Committee (WCRCC) and the Metro Council over the course of two years at documented WCRCC and Metro Council Reserves open houses and public hearings in Washington County and at the Metro Council Chambers documented in the Reserves Record. As a result of that Reserves review and deliberation processes, the urban reserves approved in 2010 for north Hillsboro in Areas 8A and 8B reduced this area to 2,754 gross and 1,744 net developable acres (see WashCo Rec. at 90 & 91). Findings and evidence in support of designated urban reserves for the North and South Hillsboro areas previously submitted are hereby incorporated by reference in to these findings and conclusions pertaining to “Area 8B” as identified in the attached Map Exhibit H.

Area 8B contains 352 total acres and \_\_\_ buildable acres. The area is bounded by Highway 26 to the south, West Union Road to the north, Helvetia Road to the east and Groveland Road to the West. There is 233 acres of undesignated land that separates Area 8B from rural reserves to the west. This undesignated area contains riparian and upland State Goal 5 areas and resources to the west (Exhibit E).

*(1) Urban Reserve Factors: When identifying and selecting land for designation as urban reserves under this division, Metro shall base its decision on consideration of whether land proposed for designation as urban reserves, alone or in conjunction with the land inside the UGB:*

*(a) Can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments;*

Hillsboro’s Pre-Qualifying Concept Plan (PQCP) for north Hillsboro outlines the City’s infrastructure service availability to Area 8B and the entire North Hillsboro urban reserves areas. (WashCo Rec. at 3117 to 3122). Highlights of the PQCP for Area 8B include:

- **Water:** The updated Hillsboro Water Department Master Plan (50-year planning horizon) includes shorter-term plans for a new reservoir to be constructed near the intersection of NW Evergreen and NW Glencoe Road to serve existing underserved area customers, in addition to serving north to Highway 26. This reservoir will be built regardless of whether Area 8B is designated as urban reserves for future urban growth boundary expansion, and only the size of the reservoir will be impacted based on potential future boundary expansion. (WashCo Rec. at 3120 & 3306);
- **Sanitary sewer:** For areas north of Hwy 26, the City is exploring options for piping waste to North Plains or to the Columbia River treatment plant. (WashCo Rec. at 3118);
- **Storm Water:** City will consider applying methodologies in Metro’s “Green Streets” manual, as well as other methods identified as part of the North Hillsboro Industrial

Development Strategy, currently underway to provide for Area 8B storm water management and drainage (WashCo Rec. at 3121).

- **Electricity, Gas & Cable:** Electricity service in the existing surrounding industrial areas is designed to meet the unique needs of high-tech manufacturers and companies with power-sensitive operations, such as Intel’s Ronler Acres (WashCo Rec. at 3119). PGE is in the process of locating two new substations in the Evergreen industrial area that will further enhance the reliability of power needed for existing and future industrial areas in North Hillsboro, including Area 8B.
- **Transportation:** Location adjacent to Highway 26 serves freight movement. Through the Oregon Jobs and Transportation Act, \$45,000,000 has been allocated toward the estimated \$70 million needed to improve the Brookwood Parkway interchange area to address existing capacity issues related to full development of North Hillsboro industrial lands within the existing UGB (*see* WashCo Rec. at 3112 referencing capacity expansions along Hwy 26; HB 2001 Sec. 64(2)(d)(2009)). Area 8B abuts this interchange.

Metro’s studies of serviceability made the following conclusions regarding serviceability for Area 8B:

- **Water:** Highly suitable for water service, meaning it will only require typical extensions of service, including general distribution lines and reservoirs with no major facilities needed;
- **Sewer:** Area 8B was ranked as efficient – being an area that is the easiest and least costly to serve, requiring only upsizing of existing trunk lines or adding new trunk lines.
- **Transportation:** Metro studies show high connectivity suitability (the area is among the most suitable for providing a transportation system capable of accommodating new urban development) (WashCo Rec. at 3120-3122 & 3308 - 3338).

Located at the northwest quadrant of the intersection of Helvetia Road and Highway 26 and adjacent to existing industrial areas, Area 8B is uniquely suitable for industrial development, as it is in the heart of Silicon Forest, and has the necessary infrastructure readily available (WashCo Rec. at 3119-3122 & 3163). Hillsboro has a track record of successfully delivering infrastructure services to UGB expansion areas, and based on preliminary studies, it will be able to provide services to Area 8B.

***(b) Includes sufficient development capacity to support a healthy economy;***

A recent study by Johnson Reid indicated that, over the next 20 years, the West Washington County “Silicon Forest” will need approximately 1200 acres for large lot industrial use north of Hillsboro (e.g., 50 acres or more) (Metro Rec. at 1641; WashCo Rec. at 3208-3216; see also Exhibit A – testimony of Bill Reid, Johnson Reid, before the State Legislature on SB 766<sup>1</sup>). This is consistent with Metro’s forecast need for 3,000 acres of industrial land region-wide over 50

---

<sup>1</sup> According to Mr. Reid,  
...if a full 1,200 acres of large sites – assembled and/or single-tax lot – were made available consistent with the recent City of Hillsboro Economic Opportunities Analysis, the Silicon Forest would potentially have a competitive acreage supply from which to plan development-ready market choice for employers.”

<b>PROJECT</b>	<b>LEAST ACRES</b>	<b>MOST ACRES</b>
Sonnershien	450	800
Apricus	250	300
Tahoe	80	150
Parkway II	75	200
Hot	75	75
Parkway	65	75
Million	65	75
Sunbelt	50	75
Bright	50	75
August	50	100
Boss	50	60
Bee	40	50
Bright	40	50
Valencia	40	50
Monarch	40	50
DT/Apollo	35	40
MIT	30	40
Reddy	26	40
Harvester	25	25
GM	20	25
David II	20	50
Overview	20	30
SpectraWatt	20	25
Jade	20	50
Innovate	15	25
Ark	15	20
Cell	10	25
Cambridge	10	20
SAV	10	20
Champion	10	15
MS	10	20
Wick	8	10
Edison	8	25
Ferro	5	10

years, as well as a study for Western Washington County Cities indicating a 50-year need for 3,500 acres for industrial use in the West Washington County area to accommodate the long-term employment land needs of the five cities located there. (Exhibit C). The need for large lot industrial uses is further supported by inquiries fielded by the city's Economic Development Department between 2007 and 2009, which includes inquiries for 11 sites of 50 acres or more (Tables 1 & 2; Metro Rec. at 1860).

	<b>Least Acres</b>	<b>Max. Acres</b>	<b>Percent</b>	
100+ Acres	2	5	15%	*
50-99 Acres	9	12	35%	*
25-49 Acres	8	10	29%	
< 25 Acres	15	7	21%	
Total Sites	34	34	100%	

*\*50% of total site inquiries for parcels over 50 acres in size*

In 2010, Metro's MPAC Employment Subcommittee acknowledged that "attracting and retaining traded-sector industrial companies is critical to the region's economic prosperity" (Metro Rec. at 172-178). Likewise, in their comments into the record, the State agencies emphasized "the need for an adequate supply of employment lands in the Metro urban growth boundary" noting that the region "often 'seeds' traded-sector technologies and businesses that disperse throughout the state" (WashCo Rec. at 1988-1989).

The Economic Productivity of Employment Land, Economic Mapping Pilot Project, prepared by the Oregon Business Development Department (June 2009; WashCo Rec. at 3429-3450), demonstrates the contribution of industrial uses in the North Hillsboro Area to the economy. Economic benefits of industrial

lands, such as those currently located in North Hillsboro, include:

- Double the County average of market value/acre for industrial lands;
- Annual payroll yield of \$616,150 per net usable acre;

- Annual Property Tax Revenue of an average \$6,220/acre tax assessment land value as a result of State Measure 47/50 valuation constraints.
- Creation of high wage jobs in the existing industry clusters (pre State Employment data, the 2008, the average payroll per employee working in the three industry clusters was \$77,275.00) and each direct job in this traded sector generated 2.0-2.5 indirect jobs in the Regional/Statewide Economies (*WashCo Rec.* at 3126 & 3429-3450).

Similarly, interviews with leaders for the three industry clusters in Washington County (high-tech, bio-tech/biopharma and photovoltaic solar panel manufacturing) and other economic experts identified the following seven key qualities crucial to attracting firms to the County’s “Silicon Forest”):

*“According to interviewees, the question of “Why Hillsboro?” yielded a distinct mix of qualities highly desirable, if not integral, to a specific segment of the nation’s high tech industry. The following qualities were frequently cited in a not replicable combination as distinct inputs required by targeted industry:*

1. ***High-Capacity, Continuous Electrical Power at Competitive Rates***
2. ***High-Capacity, High-Quality Water Supply***
3. ***Highly-Skilled/Educated Workforce with Existing High-Tech Cluster Investment***
4. ***Flat, Seismically Stable Land without Brownfield Costs & Risks***
5. ***Proximate, Diverse Transportation Infrastructure (Freeway, Air, Rail)***
6. ***Specialized, Existing Industrial Material Supply Infrastructure (Chemicals, Gases)***
7. ***Unique Expertise and Experience of the City of Hillsboro***

*All of the above factors are individually attracted to a wide swath of industry, including high-tech, but **the unique combination of all of the above distinguish Hillsboro from elsewhere in the State of Oregon and uniquely competitive with other markets in North America for high-tech industry that intrinsically depend heavily upon power, water, and highly-skilled labor.**”* (Exhibit A, emphasis added).

A recent city review of large industrial lots currently available showed:

- West Washington County is presently uncompetitive for large lot industrial employers with only two State Certified large lots available for development and a maximum site assembly potential of 531 acres in the current UGB. The two development ready sites are:<sup>2</sup>
  - Approximately 128 gross acres (total of 110 net developable acres) along Brookwood Parkway just north of Genentech;<sup>3</sup> and
  - Approximately 73 (65.21 net developable) acres located at Brookwood Parkway and Huffman Roads (the “Nike” property)(Exhibit B).

<sup>2</sup> The Oregon prospector ([www.oregonprospector.com](http://www.oregonprospector.com)) also lists a 51 gross acre site north of Hwy 26. However, development of this site for high tech will require upgrades to the nearby West Union substation.

<sup>3</sup> This site is challenged due to a 150’ wide BPA easement running east-west on the northern portion of the property. The result is 52 net acres to the south of the easement and 58 net acres to the north (Exhibit B). The area north of the BPA easement is further bifurcated by Waible Creek.

- Competitive markets typically do not have constraints on the amount of land they can offer for development. Development ready sites offered by competitors range from 1,125 to 2,000 acres and 11 to 25 sites of 50 acres or more.
- To remain competitive, there is a need for 1,214 acres dedicated to industrial use in West Washington County for the next 20 years (Exhibit A).

CH2MHill has identified a total of ten (10) potential large industrial sites in and around the North Hillsboro Urban Reserves, including a site in Area 8B, that contain location, geographic, infrastructure serviceability and other physical and geo-political features that make them highly competitive/attractive for purely market reasons to new industrial companies seeking large sites (Exhibit D). Per CH2MHill, Area 8B ranks highest comparatively among the ten sites in terms of containing such site features.

The PQCP illustrates the potential for industrial development within Area 8B (WashCo Rec. at 3125 & 3163). The addition of Area 8B to the urban reserves will provide for an additional 392 acres of large, seismically stable, vacant sites for industrial uses located near

- A major highway interchange that is slated for improvements;
- Existing and planned infrastructure;
- Existing and planned housing, including the Tanasbourne/AmberGlen 2040 Regional Center;
- Skilled workforce; and
- Existing industrial clusters.

***(c) Can be efficiently and cost-effectively served with public school and other urban-level public facilities and services by appropriate and financially capable service providers;***

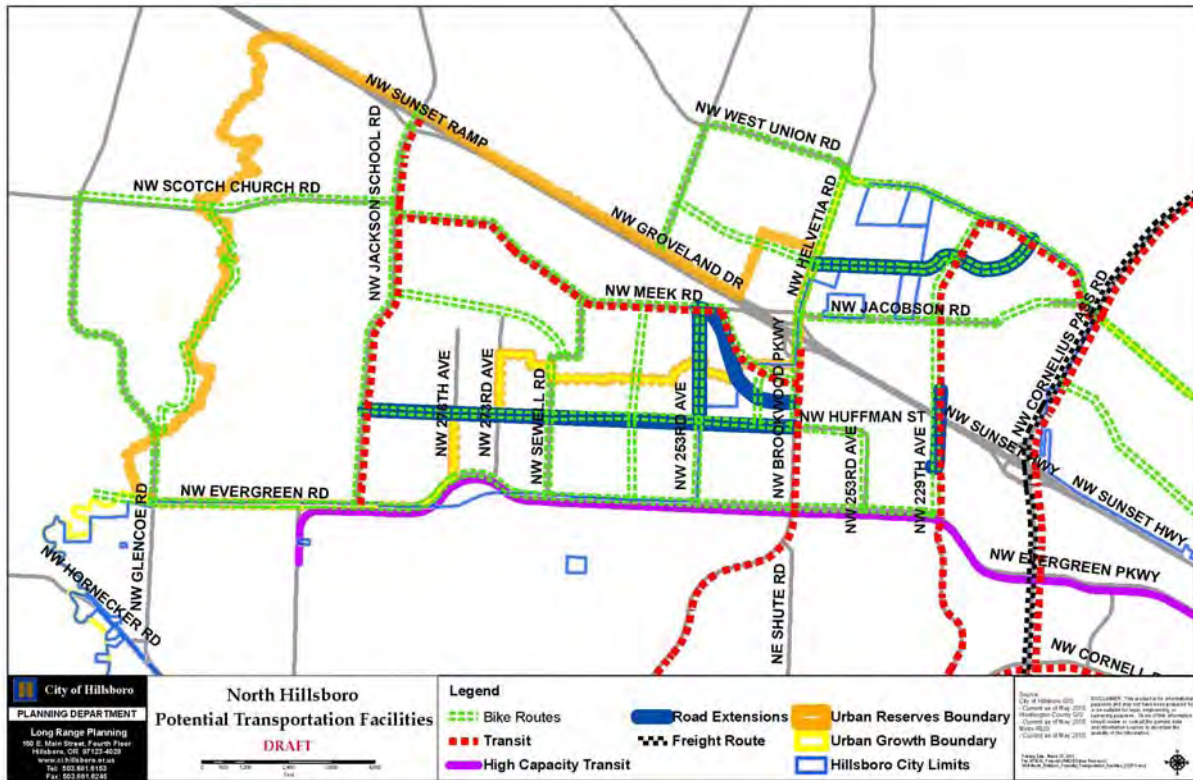
Area 8B would be targeted for industrial uses and, as such, schools and parks would be prohibited in the area by applicable provisions in the Metro Code and City Industrial Zoning rules. (The Hillsboro School District, as well as Hillsboro Parks and Recreation Department, participated in the PQCP Charette hosted by the Planning Department to assist in the preparation of the PQCP.) As noted in the PQCP, the Hillsboro Comprehensive Plan requires that essential services be available within five (5) years of development approval (WashCo Rec. at 3129). The ability of the city to service the area with public services is addressed at WashCo Rec. pp. 3129-3130.

***(d) Can be designed to be walkable and served with a well-connected system of streets, bikeways, recreation trails and public transit by appropriate service providers;***

Figure 1 is a refinement of the preliminary transportation systems set forth in the Hillsboro PQCP. Figure 1 generally illustrates how north Hillsboro proposed urban reserves, including Area 8B, could be served with multi-modal transportation (WashCo Rec. at 3122 & 3132).



Figure 1 – North Hillsboro Potential Transportation Facilities



Note – Concept planning will study opportunities to bring transit to Area 8B and further refine transportation to accommodate large-lot industrial use within Area 8B.

Additionally, Area 8B is important to the Brookwood Parkway interchange improvements, as well as surrounding roads that support the interchange and neighborhoods.

(e) Can be designed to preserve and enhance natural ecological systems;

An outline identifying natural resources within Area 8B is provided in the PQCP (WashCo. Rec. at 3133). It is Hillsboro’s intent to preserve and incorporate these areas as open space into future neighborhoods (WashCo. Rec. at 3133-34). The City has adopted and enforces its Significant Natural Resource overlay zone to protect wildlife habitats, upland forest resources, riparian resources and corridors and other like-kind significant “Goal 5” natural resources located within area annexed to the City. Any development in these areas will be required to address preservation of wildlife habitat, natural vegetation, wetlands, water quality, open space and other natural resources important to the ecosystem (WashCo Rec. at 3136) Moreover, these extensive natural areas along the westerly edges of Area 8B will provide a strong, protected and enduring buffer between future industrial activities in the balance of Area 8B and the agricultural uses/activities north and west of, and beyond these natural areas.

The undesignated area to the immediate west of Area 8B will also serve to further this factor, as the undesignated area contains riparian and upland resources (Exhibit E). Not only will these

resources remain untouched, they will serve as a buffer between potential urban uses to the east and rural reserves to the west.

***(f) Includes sufficient land suitable for a range of housing types;***

While a small portion of Area 8B was initially shown in the PQCP as including Employment/Mixed Use (WashCo Rec. at 3451), because of the reduction of the proposed urban reserves from the PQCP, this area would be targeted for large-lot industrial and employment uses if urbanized and annexed to the City. As addressed in subsection (h) below, targeting this area for industry, as opposed to housing development, will help alleviate potential conflict between urban and rural uses (*see* Exhibit G, p. 7-8, recognizing that industrial/business parks create less of a conflict between urban and rural uses; *see also* Exhibit F, p. 5-3, “Local or regional long-range planning *should avoid, as far as is practicable, locating urban sensitive receptors, primarily residential development, in proximity to rural agricultural land.* Where urban sensitive receptors must be located near rural agricultural land, buffering mechanisms should be used to minimize potential conflicts.” Emphasis added.)

The city will be able to provide an adequate mix of housing to support future industrial uses in Area 8B and the rest of the North Hillsboro urban reserves area as new housing developments come into the local housing market in the adopted Tanasbourne/AmberGlen Regional Center (high-density housing), downtown and South Hillsboro (mixed densities and housing types).

***(g) Can be developed in a way that preserves important natural landscape features included in urban reserves, and;***

Hillsboro’s Natural Resources Management Program includes a map that generally identifies the extent and location of significant wetlands, riparian corridors and wildlife habitat areas and their impact areas, as identified in the adopted “List of Significant Goal 5 Natural Resource Sites in the City of Hillsboro” and its supporting document the “City of Hillsboro Goal 5 Natural Resources Inventory and Assessment Report”, and the ESEE analyses, completed pursuant to the Goal 5 and Oregon Administrative Rules 660, Division 23 provisions. Natural resources in annexed areas are inventoried and those determined to be significant and their Impact Areas are added to the Significant Natural Resource Ordinance District as part of the rezoning process. These protection/preservation provisions would apply to the extensive natural resource areas along the west edges of Area 8B if it is urbanized with industrial activity.

Development projects located in or partially within the overlay area for the Natural Resources Management Program Ordinance map must address preservation of wildlife habitat, natural vegetation, wetlands, water quality, open space and other natural resources important to the ecosystem in the vicinity of the proposed development site. Also, in accordance with the Tualatin Basin Fish & Wildlife Habitat Program, land developers and property owners are encouraged to incorporate habitat friendly practices in their site design where technically feasible and appropriate.

The undesignated area to the immediate west of Area 8B will also serve to further this factor, as the undesignated area contains riparian and upland resources (Exhibit E). Not only will these

resources be preserved, they will serve as a buffer between potential urban uses to the east and rural reserves to the west.

*(h) Can be designed to avoid or minimize adverse effects on farm and forest practices and on important natural landscape features on nearby resource land, including land designated as rural reserves.*

Although Oregon has long been a leader in creating an urban/rural divide through the use of urban growth boundaries, there is a surprising lack of research from the state on how to create transitions between these often conflicting uses. This subsection has been used throughout the urban/rural reserve process to promote the use of natural features to create such buffers.

In the past, there has been little consideration to the urban/rural divide when expanding the UGB, often resulting in urban uses directly abutting farmland (Exhibit E). The designation of urban reserves affords the region the opportunity to look to other jurisdictions to learn how to enhance natural buffers, as well as plan for manmade transitional buffers (*see* Exhibits F & G).

One such example is the Greater Bear Creek Valley Regional Plan (Exhibit F). The following relevant agricultural buffering standards have potential and suitable application to future urban use of Area 8B if it is designated Urban Reserves, added to the UGB and annexed to the City for industrial activities:

1. *The central concept in buffering is adequate separation between conflicting uses. There are a number of strategies for achieving this separation through planning decisions and the use of planning controls:*
  - *A well-designed vegetative buffering element will reduce the amount of land required for an effective buffer.*
  - *Man-made or natural features should be incorporated in buffers whenever possible, such as infrastructure rights-of-way, roads, nonresidential structures, watercourses, wetlands, ridge lines, rock outcrops, forested areas, and steep slopes. (Exhibit F, p. 5-3.)*

Area 8B can be adequately buffered through the following:

1. Natural features. To the immediate west of Area 8B is 233 acres of undesignated land. This undesignated area contains several Goal 5 features, including riparian corridors and upland features, such as flood plain, and a thickly forested wooded area (see Exhibit E). These natural features will serve a buffer between the urban reserves of Area 8B and rural reserves to the west.
2. Industrial use. Industrial uses create less of a conflict with surrounding agricultural industrial uses (see Exhibits F, p. 5-3 & G, p. 8). It is customary for industries, such as those currently located in Washington County, to use landscaping and berms to buffer operations from roads and surrounding uses (Exhibit E).
3. Man-made buffering. As suggested in Exhibits F and G, man-made buffering, including West Union Road and vegetative buffering can further reduce potential conflict between the urban and rural industrial uses. The planning process for urban reserves required by

Title 11 of Metro's Urban Growth Management Functional Plan, can include provisions for road improvements and buffering on the urban side of development.

## CONCLUSION

Area 8B is uniquely suited to help accommodate the regional urban industrial needs for the next 50 years. Area 8B, as with Urban Reserve Area 8A, offers the characteristics sought by existing and emerging industry clusters in Washington County. The city has a proven track record of providing services and has demonstrated the ability to continue to do so in Area 8B and the surrounding urban reserves. In combination with on-going efforts inside the existing city, as well as in urban reserves in the north and south of the city, the city will be poised to provide an appropriate amount and mix of housing and jobs, complemented by multi-modal transportation. Both natural and man-made features will provide buffering between expected industrial and surroundings agricultural uses.

### Exhibits:

- A. Testimony of Bill Reid to the Senate Committee on Business, Transportation and Economic Development for SB 766 (March 10, 2011)
- B. Map of large State-Certified Industrial Sites in North Hillsboro
- C. March 5, 2009 Johnson Reid Memorandum on *Long-Term Economic Development & Land Need Coordination Opportunity*
- D. May 17, 2010 Johnson Reid/CH2MHill Memorandum on *North Hillsboro Area: Potential Large Industrial Sites Evaluation*
- E. Photographs of existing urban/rural divide and Area 8B
- F. Excerpts from the *Draft Regional Plan for the Greater Bear Creek Valley, Jackson County, Oregon* (November 2009)
- G. *Guide to Edge Planning, Promoting Compatibility Along Urban-Agricultural Edges* (British Columbia Ministry of Agriculture and Lands, June 2009)
- H. *Urban and Rural Reserves in Washington County, Ordinance 740 Map* (March 17, 2011)

## Area D Urban Findings EXHIBIT A

### WEST WASHINGTON COUNTY (SILICON FOREST) LARGE INDUSTRIAL SITE LAND NEED

Western Washington County, also known as the “heart of the Silicon Forest” in Hillsboro, has emerged as a crucial industrial base for three high-technology industry clusters crucial to the Oregon economy:

- “High-Tech” Electronic Components (“High-Tech” silicon-based, etc.);
- Photovoltaic Solar Panel Manufacture (silicon-based, etc.); and
- Biotech/Biopharma.

The High-Tech Electronic Components cluster established the region as the “Silicon Forest” most noticeably in the 1990s. The latter two have emerged over the last five years, in large part due to West Washington County’s *international* reputation as a positive environment for large, technology-related firms, led by the likes of Intel, SolarWorld, and Genentech among many others.

Over the past three years, the City of Hillsboro and its **public and private industry economic stakeholders have studied the competitiveness of the Silicon Forest area to maintain, not just grow, high-wage jobs in these existing clusters, as well as other potential new industries. Findings again and again point to a simple and critical shortcoming: THE AREA LACKS SUFFICIENT LARGE INDUSTRIAL SITES TO MAINTAIN COMPETITIVENESS FOR EXISTING INDUSTRY AS WELL AS NEW INDUSTRY TO LOCATE IN OREGON AND GROW.**

The following, four key questions are answered in turn

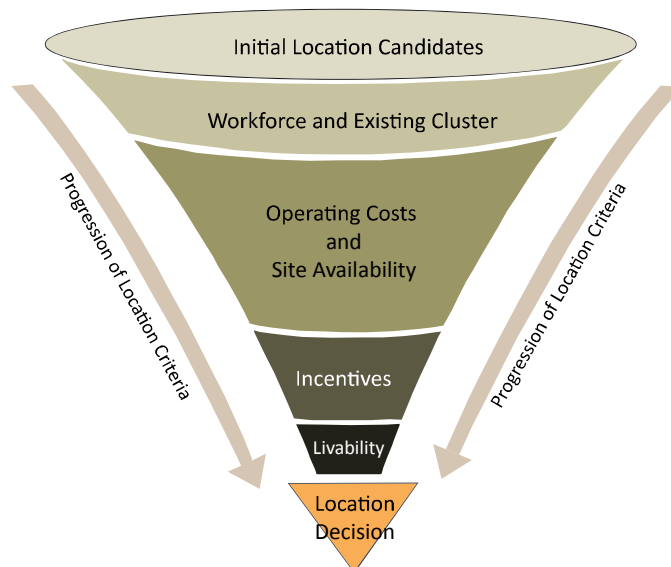
1. *What is the Competitive Environment for the Clusters?*
2. *Why the Silicon Forest Area for the Clusters?*
3. *How Do Our National Competitors Address Large Employer Land Need?*
4. *Is the Silicon Forest Competitive?*

#### What is the Competitive Environment for the Clusters?

Recent expert interviews reveal that **the Silicon Forest area is “uniquely competitive with other markets in North American for high-tech industry...” particularly those that depend upon the seven qualities cited.** Subsequent research of high-tech cluster competition commissioned by the City of Hillsboro has confirmed the highly competitive nature of high-tech industry recruitment elsewhere across the country.

The model below demonstrates **the site selection decision-making process of large cluster employers as experienced collectively by economic development entities in the tech-competitive markets of:**

Figure 1 – Site Selection “Funnel” Model



- Albuquerque, New Mexico,;
- Austin, Texas;
- Colorado Springs, Colorado; and
- Raleigh, North Carolina.

To maximize competitiveness for large, high-tech cluster employers, **the above competitive markets were found to specifically focus on maximizing a supply of large industrial sites that are “development-ready” for construction to begin within 180 days of development application.**

**WITHOUT INITIAL SITE LOCATION CANDIDATES AVAILABLE IN A MARKET, THE COMMUNITY IS “OUT OF THE GAME” IN RECRUITING A MAJOR NEW EMPLOYER.** Figure 2 below provides a summary of development-ready large site supply that Silicon Forest competitors presently offer high-tech industry. All

competitors for high-tech manufacturing offer at least three development-ready sites for firms to choose from.

**Figure 2 – National Cluster Competitor Large “Development-Ready” Site Supply**

	Albuquerque	Austin	Colorado Springs	Raleigh, NC	Seattle/King County
<b>50-100 Acres</b>	2-3 retrofit sites	380 acs in a "Featured Property Profile"	20 shovel-ready 15 not certified	60 ac, 66 ac	None
<b>100+ Acres</b>	8-10 100 ac	5-6 100 ac - 185 ac 140-acre park for clean energy agglomeration	500 acres with rail	472 ac, 998 ac	None
<b>Other</b>	18,000 acres of planned communities with significant dedicated employment land	Over 1,000 acres of large lot sites in total, many like Albuquerque in planned communities	Rail-served supply capacity increase still in progress	Larger, supersites intended for larger users but can and will be subdivided if necessary.	Capitalizes on Fred Hutchison Cancer Research Center and University of Washington for research/innovation jobs.

**Why the**

**Why the Silicon Forest Area for the Clusters?**

Representatives from the industry clusters themselves, high-tech industry experts, alternative energy experts, State of Oregon economic development, and other economic stakeholders were interviewed and identified a combination of seven key qualities crucial to large technology firms and unique to Hillsboro in the State of Oregon.

*“According to interviewees, the question of “Why Hillsboro?” yielded a distinct mix of qualities highly desirable, if not integral, to a specific segment of the nation’s high tech industry. The following qualities were frequently cited in a not replicable combination as distinct inputs required by targeted industry:*

1. ***High-Capacity, Continuous Electrical Power at Competitive Rates***
2. ***High-Capacity, High-Quality Water Supply***
3. ***Highly-Skilled/Educated Workforce with Existing High-Tech Cluster Investment***
4. ***Flat, Seismically Stable Land without Brownfield Costs & Risks***
5. ***Proximate, Diverse Transportation Infrastructure (Freeway, Air, Rail)***
6. ***Specialized, Existing Industrial Material Supply Infrastructure (Chemicals, Gases)***
7. ***Unique Expertise and Experience of the City of Hillsboro***

*All of the above factors are individually attracted to a wide swath of industry, including high-tech, but the unique combination of all of the above distinguish Hillsboro from elsewhere in the State of Oregon and uniquely competitive with other markets in North America for high-tech industry that intrinsically depend heavily upon power, water, and highly-skilled labor.”*

In conclusion, the unique *combination* of all of the above physical land quality, infrastructure, workforce, existing technology firm investment, and City of Hillsboro large tech facility expertise were identified as a cumulative, compelling attractor to large cluster employers in the past and into the future.

**Is the Silicon Forest Competitive?**

Presently, the answer is no. The following is what the Silicon Forest area present can offer large, high-tech industry now and for the foreseeable future.

- ***Total Large Site (50-acre+) Supply:*** A single 78-acre tax lot exists in Hillsboro on the east side of Brookwood Parkway south of Highway 26. The site is currently constrained by Brookwood/Highway 26 interchange capacity limitation and the site has a significant Goal 5 resource area that sizably reduces buildable area.
- ***Total “Development Ready” Large Site Supply:*** The single 78-acre site already described.

In other words, the Silicon Forest presently has a single site suitable for high-tech cluster expansion compared to the numerous sites available and marketed by competitive regions elsewhere across the country. Figure 3 summarizes this comparison.

**Figure 3 – West Washington County (Silicon Forest) Large Industrial Site Supply Competitiveness**

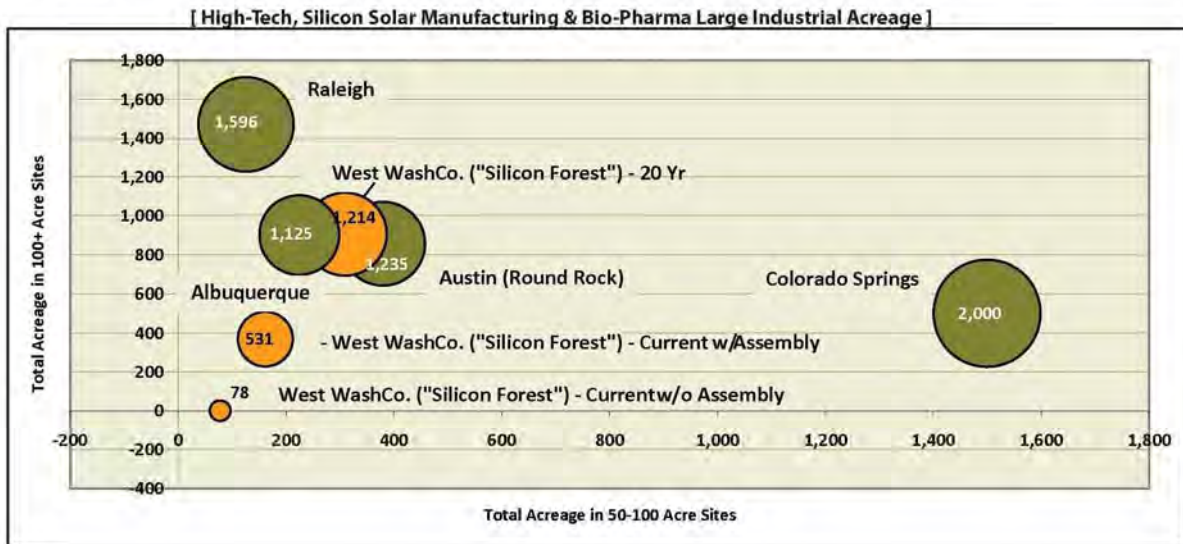
	<u>50-100 Acre Sites</u>		<u>100+ Acre Sites</u>		<u>50+ Acre Sites</u>	
Colorado Springs	20	1,500	5	500	<b>25</b>	<b>2,000</b>
Raleigh	2	126	12	1,470	<b>14</b>	<b>1,596</b>
Austin (Round Rock)	5	380	6	855	<b>11</b>	<b>1,235</b>
<i>West Wash. Co. - Medium Demand (20 yr)</i>	<i>4</i>	<i>310</i>	<i>7</i>	<i>904</i>	<i><b>11</b></i>	<i><b>1,214</b></i>
Albuquerque	3	225	9	900	<b>12</b>	<b>1,125</b>
<i>West Wash. Co. - Current Buildable Supply</i>	<i>3</i>	<i>162</i>	<i>3</i>	<i>369</i>	<i><b>6</b></i>	<i><b>531</b></i>

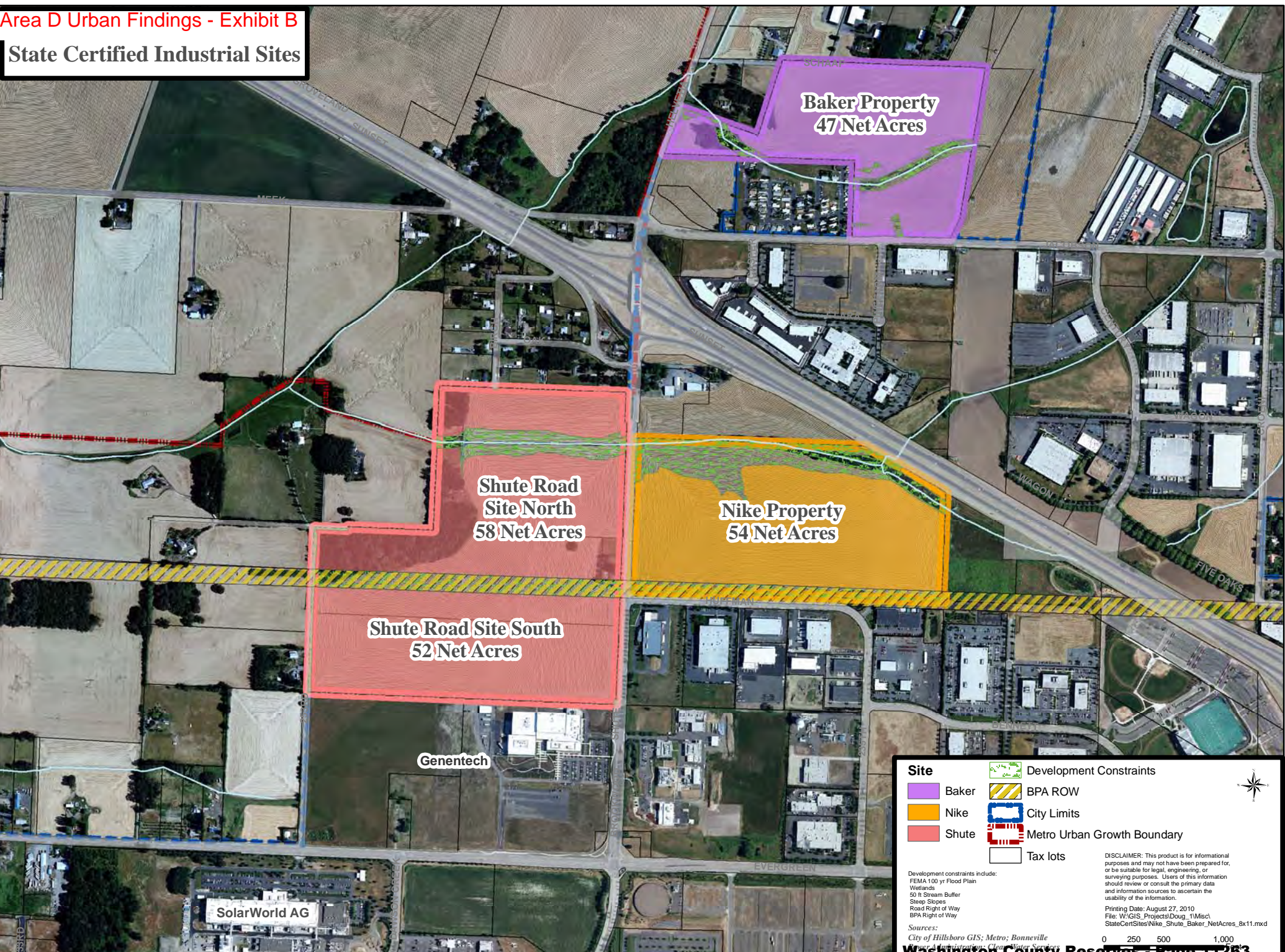
SOURCE: City of Hillsboro Vacant Lands Inventory (Dec. 2008), City of Hillsboro EOA (Mar. 2009), Johnson Reid (Feb. 2010)  
 : City of Hillsboro Vacant Lands Inventory (Dec. 2008), City of Hillsboro EOA (Mar. 2009), Johnson Reid (Feb. 2010)

- All national competitors currently market no less than 1,125 acres of development-ready sites (Albuquerque) for key industry clusters.
- At the same time, the Silicon Forest area offers only a single, 78-acre development-ready site and additional acreage with no suitable infrastructure, assembly, or marketability for the foreseeable future.
- Finally, if a full 1,200 acres of large sites – assembled and/or single-tax lot – were made available consistent with the recent City of Hillsboro Economic Opportunities Analysis, the Silicon Forest would potentially have a competitive acreage supply from which to plan development-ready market choice for employers.

The three orange bubbles in Figure 4 indicate Silicon Forest industrial land supply potential given all findings. In order from the smallest to largest: Current development-ready acreage (78 acres); Maximum large site acreage in the Silicon Forest optimistically assuming maximum site assembly and infrastructure extension (531 acres); and Hillsboro’s identified 20-year need resulting from economic analysis and industry stakeholder input (1,214 acres).

## West Washington County ("Silicon Forest")/ Portland Region Large Industrial Site Competitiveness - Market Comparison





Site		Development Constraints	
	Baker		FEMA 100 yr Flood Plain
	Nike		Wetlands
	Shute		50 ft Stream Buffer
	Tax lots		Slopes
			Road Right of Way
			BPA Right of Way
			City Limits
			Metro Urban Growth Boundary

Development constraints include:  
 FEMA 100 yr Flood Plain  
 Wetlands  
 50 ft Stream Buffer  
 Slopes  
 Road Right of Way  
 BPA Right of Way

Sources:  
 City of Hillsboro GIS; Metro; Bonneville  
 Washington County Reserves - Page 11263

DISCLAIMER: This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.  
 Printing Date: August 27, 2010  
 File: W:\GIS\_Projects\Doug\_1\Misc\StateCertSites\Nike\_Shute\_Baker\_NetAcres\_8x11.mxd

0 250 500 1,000





**MEMORANDUM**

---

DATE: March 5, 2009

TO: Pat Ribellia, Hillsboro Director of Planning  
Jon Hollan, Forest Grove Community Development Director  
Richard Meyer, Cornelius Development & Operations Director  
Don Otterman, North Plains City Manager  
Jim Hough, Banks City Manager

FROM: Bill Reid, Principal  
JOHNSON REID, LLC

SUBJECT: Long-Term Economic Development & Land Need Coordination Opportunity

---

This memorandum is intended as a guiding document for the five Cities of Hillsboro, Forest Grove, Cornelius, North Plains, and Banks in considering economic development and employment land provision opportunities as a distinct subregion of the Portland metro area economy.

#### City of Hillsboro Land Demand & Broad Strategy Response

Long-term employment land need has been estimated for each of the above cities individually, i.e. assuming each city operates in isolation of one another. Resulting forecasts have been labeled “Organic” growth scenarios implying how each jurisdiction may grow on its own given existing and future industries and individual competitive advantages of each city. However, during the course of work for City of Hillsboro Economic Opportunities Analysis, it has been found that Hillsboro’s long-term growth potential significantly exceeds its ability to provide sufficient land of the sizes and types that targeted high-tech clusters will require over a twenty-year and fifty-year period.

The primary implication is that Hillsboro has decided that it will focus its economic development efforts, and resulting industrial land provision, targeting “cluster anchor” industrial users, or those that generally require large industrial parcels, i.e. 90-100 or more acres each. Hillsboro’s infrastructure, physical qualities of industrial lands, technical expertise and existing cluster of high-tech firms have provided it with a competitive advantage in recruiting such users vis-à-vis elsewhere across North America.

In doing so, however, the City of Hillsboro will require greater economic development and employment land coordination with its neighbor cities in Western Washington County. Although large users may choose to site in Hillsboro, a wide array of industrial site types less than 100 acres in size will be demanded across the planning horizon by the various types of “ripple effect” job growth resulting from the attraction of a cluster anchor. These include vendors, service providers, competitors, and customers who may require anywhere from an individual five-acre facility to a 60-acre flex space business park of various engineering, light manufacturing and research uses.

Without the provision of industrial acreage in more moderate parcel and site sizes by the partner cities in Western Washington County, larger high-tech cluster industrial recruitment in general may likely be compromised. The well-documented multiplier effects and dependent cluster of firms and sectors supporting and supported by new high-tech anchors will not be able to grow within a land-constrained Hillsboro over the long-term and must seek proximate industrial sites in nearby cities.



HILLSBORO DEMAND POTENTIAL & CLUSTER ANCHOR STRATEGY

HIGH-TECH INDUSTRY GROWTH THROUGH 2035

Figure 1 below provides a comparison of the three primary economic growth scenarios estimated for the City of Hillsboro through 2035. In total, targeted industries and resulting achievable growth trajectories indicate Hillsboro could see demand for industrial land ranging from 1,600 acres to as high as 3,560 acres through 2035. Estimates reflect total demand potential, regardless of ability to site growth or existing capacity within the existing Hillsboro UGB.

**FIGURE 1: HILLSBORO URBAN AREA EMPLOYMENT LAND DEMAND (GROSS BUILDABLE ACRES 2008-2035)**

Use Type	Demand For Land (Acres) By Scenario:			UGB Request (Approx.)
	Baseline Growth	High Growth	Medium Growth	
<b>OFFICE COMMERCIAL</b>	421.9	1,383.6	1,093.4	
<b>INDUSTRIAL</b>	1,601.4	3,558.6	2,583.9	1,200.0
<b>RETAIL COMMERCIAL</b>	1,169.9	2,296.5	1,965.0	
CITY RESIDENTS	1,037.0	2,035.5	1,741.7	
REGION/TOURISTS 1/	132.9	261.0	223.3	
<b>OVERNIGHT LODGING</b>	22.6	35.8	29.6	
<b>SPECIALIZED USES 2/</b>	537.4	749.1	651.4	
<b>TOTAL</b>	<b>3,753.2</b>	<b>8,023.6</b>	<b>6,323.3</b>	<b>1,200.0</b>

1/ Based on current ratios between locally supported and total sales, CE Survey from the BLS and Census of Retail Trade.

2/ Hospitals, Clinics, etc. for employment not otherwise categorized.

Figure 1 also demonstrates that the City of Hillsboro has identified the additional quantity of industrial acreage it will pursue for its cluster anchor strategy of economic development, specifically 1,200 acres for growth through 2035.

In total, anywhere from 400 to 2,360 acres of industrial demand in support of high tech cluster anchor growth will be required through 2035 with a strong preference for proximity to the City of Hillsboro. Accordingly, findings suggest that a coordinated “Five Cities” will be crucial for attracting and retaining not only the anticipated 1,200 acres of industry cluster anchor growth, but up to nearly 2,400 acres of additional ancillary industrial growth associated with high-tech industry expansion in Western Washington County.

HIGH-TECH INDUSTRY GROWTH THROUGH 2060

Over the urban reserves planning horizon through 2060, land demand analysis suggests that inter-jurisdictional coordination will be even more crucial to overall high-tech industry retention and expansion in Western Washington County. Figure 2 on the following page provides a similar comparison of employment land demand potential in the City of Hillsboro along with the quantity of industrial land the City of Hillsboro seeks for urban reserves over the 2060 planning horizon for high-tech cluster anchors.

The City of Hillsboro presently plans to seek up to 3,500 gross acres in urban reserves, inclusive of the 1,200 UGB request displayed in Figure 1, to strategically target high-tech industrial cluster anchors typically requiring sites 100 acres or greater in size. In contrast, industry growth demand could reach as high as 15,000 gross acres of industrial land by 2060 assuming maximum potential success in growing targeted industries.



**FIGURE 2: HILLSBORO URBAN AREA EMPLOYMENT LAND DEMAND (GROSS BUILDABLE ACRES 2008-2060)**

Use Type	Need For Land (Acres) By Scenario:			Urb. Reserve Request (Approx.)
	Baseline Growth	High Growth	Medium Growth	
<b>OFFICE COMMERCIAL</b>	1,728.5	4,979.1	3,077.9	
<b>INDUSTRIAL</b>	4,476.3	15,054.9	8,704.5	3,500.0
<b>RETAIL COMMERCIAL</b>	2,970.4	6,225.4	4,698.2	
CITY RESIDENTS	2,632.9	5,518.0	4,164.3	
REGION/TOURISTS 1/	337.5	707.4	533.9	
<b>OVERNIGHT LODGING</b>	48.3	117.8	82.9	
<b>SPECIALIZED USES 2/</b>	1,657.1	2,309.8	2,008.6	
<b>TOTAL</b>	<b>10,880.6</b>	<b>28,687.1</b>	<b>18,572.0</b>	<b>3,500.0</b>

1/ Based on current ratios between locally supported and total sales, CE Survey from the BLS and Census of Retail Trade.

2/ Hospitals, Clinics, etc. for employment not otherwise categorized.

Because Hillsboro strategy is to target larger users based on its identified competitive advantage, overall success in fostering economic growth will greatly depend upon the availability of additional industrial land, in a wide array of site sizes, suitable for the various types of “ripple effect” economic growth associated with the presence of larger users and their industrial synergy. We find the need for such a strategy even more crucial over the 2060 planning period as the discrepancy between planned new supply and potential demand is very significant.

**NEXT STEPS**

It is the understanding of JOHNSON REID that the Five Cities have expressed interest in a coordinated approach to employment land provision and economic development initiatives in Western Washington County based on individual and joint Economic Opportunities Analysis findings. We would recommend the following in response:

- A multi-city work session(s) to identify which city, where and when will best provide different types of industrial land in a coordinated economic development approach *above and beyond* the individual “organic” growth potential of each city; and
- City endorsement of a coordinated employment land provision plan for the 2035 and 2060 planning horizons for UGB and urban reserve planning purposes.



Date: May 17, 2010

To: Patrick Ribellia, Esq., Planning Director, City of Hillsboro

FROM: Dick Sheehy, CH2M HILL  
Steve Petersen, CH2M HILL  
Bill Reid, Principal, Johnson Reid, LLC

SUBJECT: **NORTH HILLSBORO AREA: POTENTIAL LARGE INDUSTRIAL SITES EVALUATION**

---

As part of the City of Hillsboro ongoing effort to attract and retain industry in its 3 target cluster areas, the City has retained CH2M HILL and JOHNSON REID LLC to:

- Review and understand the current supply of large industrial sites in Hillsboro area
- Research availability of large sites in markets competitive with Hillsboro
- Identify and evaluate potential large sites within the proposed Urban Reserve and Undesignated areas that could potentially be added to the current supply

## I. WEST WASHINGTON COUNTY LARGE INDUSTRIAL SITE LAND NEED

### Introduction

Western Washington County (aka the “heart of the Silicon Forest” in Hillsboro) has emerged as a successful location for three high-technology industry clusters that are important to the regional and state economies:

- High-Tech Electronic Components (“High-Tech” silicon-based, etc.);
- Photovoltaic Solar Panel Manufacture (silicon-based, etc.); and
- Biotech/biopharma.

The High-Tech cluster established the region as the “Silicon Forest” and its economic importance for the region cannot be overstated. The latter two have emerged over the last five years, in large part due to the reputation for West Washington County as positive environment for large, technology-related firms. Growth prospects for all three industry clusters, specific to Western Washington County, were documented in detail in the May 2009 City of Hillsboro Economic Opportunities Analysis. Long-term growth prospects in all three clusters were identified as having significant implications for current and future large industrial site supply in particularly, West Washington County.

To understand the nature of 20-year demand for large industrial sites (50 acres or greater) driven by the three industry clusters and resulting land supply policy issues in West Washington County, the following topics are treated in this analysis:

1. *Why West Washington County/Hillsboro Area for the Clusters?*
2. *What is the Competitive Environment for the Clusters?*
3. *How Do National Competitors Specifically Address Large Cluster Employer Land Need?*
4. *Is West Washington County Competitive?*
5. *West Washington County Cluster Need Conclusions*

---

## Why West Washington County/Hillsboro Area for the Clusters?

As part of the May 2009 City of Hillsboro Economic Opportunities Analysis (“EOA”) process, representatives from the industry clusters themselves, as well as high-tech industry experts, alternative energy experts, State of Oregon economic development, and other economic stakeholders identified a combination of seven key qualities to the competitiveness of West Washington County, particularly in Hillsboro, for large technology cluster employers. The following is an excerpt from the EOA summarizing cluster stakeholder consensus.

*“According to interviewees, the question of “Why Hillsboro?” yielded a distinct mix of qualities highly desirable, if not integral, to a specific segment of the nation’s high tech industry. The following qualities were frequently cited in a not replicable combination as distinct inputs required by targeted industry:*

1. *High-Capacity, Continuous Electrical Power at Competitive Rates*
2. *High-Capacity, High-Quality Water Supply*
3. *Highly-Skilled/Educated Workforce with Existing High-Tech Cluster Investment*
4. *Flat, Seismically Stable Land without Brownfield Costs & Risks*
5. *Proximate, Diverse Transportation Infrastructure (Freeway, Air, Rail)*
6. *Specialized, Existing Industrial Material Supply Infrastructure (Chemicals, Gases)*
7. *Unique Expertise and Experience of the City of Hillsboro*

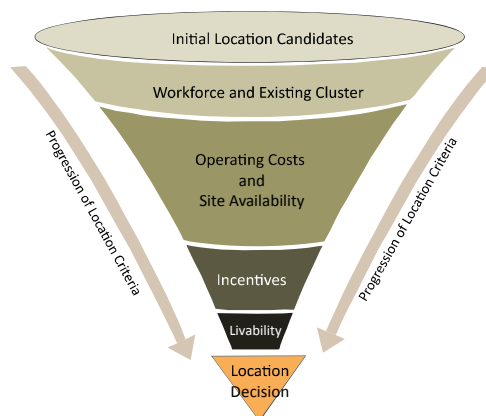
*All of the above factors are individually attracted to a wide swath of industry, including high-tech, but the unique combination of all of the above distinguish Hillsboro from elsewhere in the State of Oregon and uniquely competitive with other markets in North America for high-tech industry that intrinsically depend heavily upon power, water, and highly-skilled labor.”*

In conclusion, the unique *combination* of all of the above physical land quality, infrastructure, workforce, existing technology firm investment, and City of Hillsboro large tech facility expertise were identified as a cumulative, compelling attractor to large cluster employers in the past and into the future. The EOA process also identified a 20-year, large industrial site demand (50-acre+) of roughly 1,200 acres driven by the three key clusters. The demand estimate assumed a “medium growth” scenario, where growth and recruitment of the solar and biotech industries was “moderate” in nature.

## What is the Competitive Environment for the Clusters?

As the above EOA excerpt indicates, the West Washington County/Hillsboro area is “uniquely competitive with *other markets in North American* for high-tech industry...” particularly those that depend upon the seven qualities cited. Subsequent research of high-tech cluster competition commissioned by the City of Hillsboro has confirmed the highly competitive nature of high-tech industry recruitment elsewhere across the country. A result of the survey of national competitors to West Washington County for cluster employers was the “Funnel Model” displayed below.

**Figure 1 – Site Selection “Funnel” Model**



The model demonstrates the site selection decision-making process of large employers as experienced collectively by economic development entities in the tech-competitive markets of:

- Albuquerque, New Mexico,;
- Austin, Texas;
- Colorado Springs, Colorado; *and*
- Raleigh, North Carolina.

The above is not an exhaustive list of markets competitive to West Washington County for cluster growth, though the above are directly competitive for the three key clusters and are known to have successfully recruited prospects that were also considering the Hillsboro vicinity.

Among all of the variables considered during the site selection process, a city or region usually has the greatest, immediate power to affect *site availability* for large employers. All other factors considered are usually shaped by regions over a longer term (workforce, existing cluster, livability), or are greatly or completely out of the control of local or regional interests (transportation/utilities/operating costs, incentives).

To maximize competitiveness for large, high-tech cluster employers, the above competitive markets were found to specifically focus on maximizing a supply of large industrial sites that are “development-ready” for construction to begin within 180 days of development application.

**How Do National Competitors Specifically Address Large Cluster Employer Land Need?**

A survey of West Washington County’s selected competitors’ approach to industrial land supply was conducted and is summarized in the table on the following page. Key findings were as follows:

- Competing high-tech, alternative energy, and high quality-of-life markets that specifically recruit manufacturers, including Austin, Texas and Raleigh-Durham, North Carolina, are faced with far less rigorous land use planning process and do not face mandated site count minimums for adequate supply or “choice” nor maximum restrictions on the number of large industrial sites in their inventory.
- Large industrial site strategy by most competitors is an issue of providing significant, prospective supply and choice based not on any study, best practice or empirical approach, but rather regional or jurisdictional economic goals and objectives and market/land owner coordination. Survey of competitor large site supply is below.
- Great emphasis is placed by competitors on “development ready” acreage, or sites that can be development within 180 days of application. This requires sites be certified as having all physical, environmental, and other qualities documented and known, infrastructure/services guaranteed, and willing sellers with an understood price or likely price range to ensure transaction.

**Figure 2 – National Cluster Competitor Large “Development-Ready” Site Supply**

	Albuquerque	Austin	Colorado Springs	Raleigh, NC	Seattle/King County
<b>50-100 Acres</b>	2-3 retrofit sites	380 acs in a "Featured Property Profile"	20 shovel-ready 15 not certified	60 ac, 66 ac	None
<b>100+ Acres</b>	8-10 100 ac	5-6 100 ac - 185 ac 140-acre park for clean energy agglomeration	500 acres with rail	472 ac, 998 ac	None
<b>Other</b>	18,000 acres of planned communities with significant dedicated employment land	Over 1,000 acres of large lot sites in total, many like Albuquerque in planned communities	Rail-served supply capacity increase still in progress	Larger, supersites intended for larger users but can and will be subdivided if necessary.	Capitalizes on Fred Hutchison Cancer Research Center and University of Washington for research/innovation jobs.

- Large site quantity, diversity, and flexibility to give firms multiple options were universally viewed as essential to cluster competitors.
- Inadequate site provision can frequently eliminate a market from contention entirely early in the site selection process.
- Competitive markets supplied a balance of 50-100 acre sites with 100+ acre sites. Some markets emphasized “supersites” or collections of proximate sites that can be assembled in to a single site of several hundred acres.

**Is West Washington County Competitive?**

A review of currently available large industrial sites in the Hillsboro vicinity/West Washington County that are suitable for the three key industry clusters yields the following:

- Total Large Site (50-acre+) Supply:* A single 78-acre tax lot exists in Hillsboro on the east side of Brookwood Parkway south of Highway 26. The site is currently constrained by Brookwood/Highway 26 interchange capacity limitation and the site has a significant goal 5 resource area that sizably reduces buildable area.
- Total “Development Ready” Large Site Supply:* The single 78-acre site already described.

**It cannot be understated that the term “large site” is defined as either a single tax lot, or a pre-negotiated assembly of smaller parcels that together comprise at least 50 acres in size.** Multiple landowners with different preferences for land disposition can and have prevented land assembly for large employers in the past, specifically in the West Washington County area. Furthermore, competitive regions market substantial “development-ready” sites that have site size ensured or assured.

The City of Hillsboro has specifically undertaken a process to plan and successfully implement site assembly, specifically in the Evergreen and Helvetia Special Industrial Districts currently within the urban growth boundary. Should the City of Hillsboro have absolute success with site assembly in those districts, the West Washington County can offer the following:

- Total Large Site (50-acre+) Supply Assuming Maximum Site Assembly:* 531 acres in the Evergreen and Helvetia Special Industrial Districts, as well as the 78-acre site previously described.
- Total “Development Ready” Large Site Supply Assuming Maximum Site Assembly:* The single 78-acre site already described.

Therefore, within the current UGB, West Washington County can offer a minimum of a 78-acre “development-certified” site and a maximum of 531 acres, only 78 acres of which are development-ready, *should the City of Hillsboro have maximum site assembly success.*

To specifically answer the question of West Washington County competitiveness regarding large industrial site supply, the following table provides a comparison of current supply in West Washington County and the identified, cluster competitors elsewhere in the country.

**Figure 3 – West Washington County Large Industrial Site Supply Competitiveness**

Market	50-100 Acre Sites		100+ Acre Sites		50+ Acre Sites	
	Site Count	Acreage	Site Count	Acreage	Site Count	Acreage
Colorado Springs	20	1,500	5	500	25	2,000
Raleigh	2	126	12	1,470	14	1,596
Austin (Round Rock)	5	380	6	855	11	1,235
<i>West Wash. Co. - Medium Demand (20 yr)</i>	4	310	7	904	11	1,214
Albuquerque	3	225	9	900	12	1,125
<i>West Wash. Co. - Current Buildable Supply</i>	3	162	3	369	6	531

SOURCE: City of Hillsboro Vacant Lands Inventory (Dec. 2008), City of Hillsboro EOA (Mar. 2009), Johnson Reid (Feb. 2010)

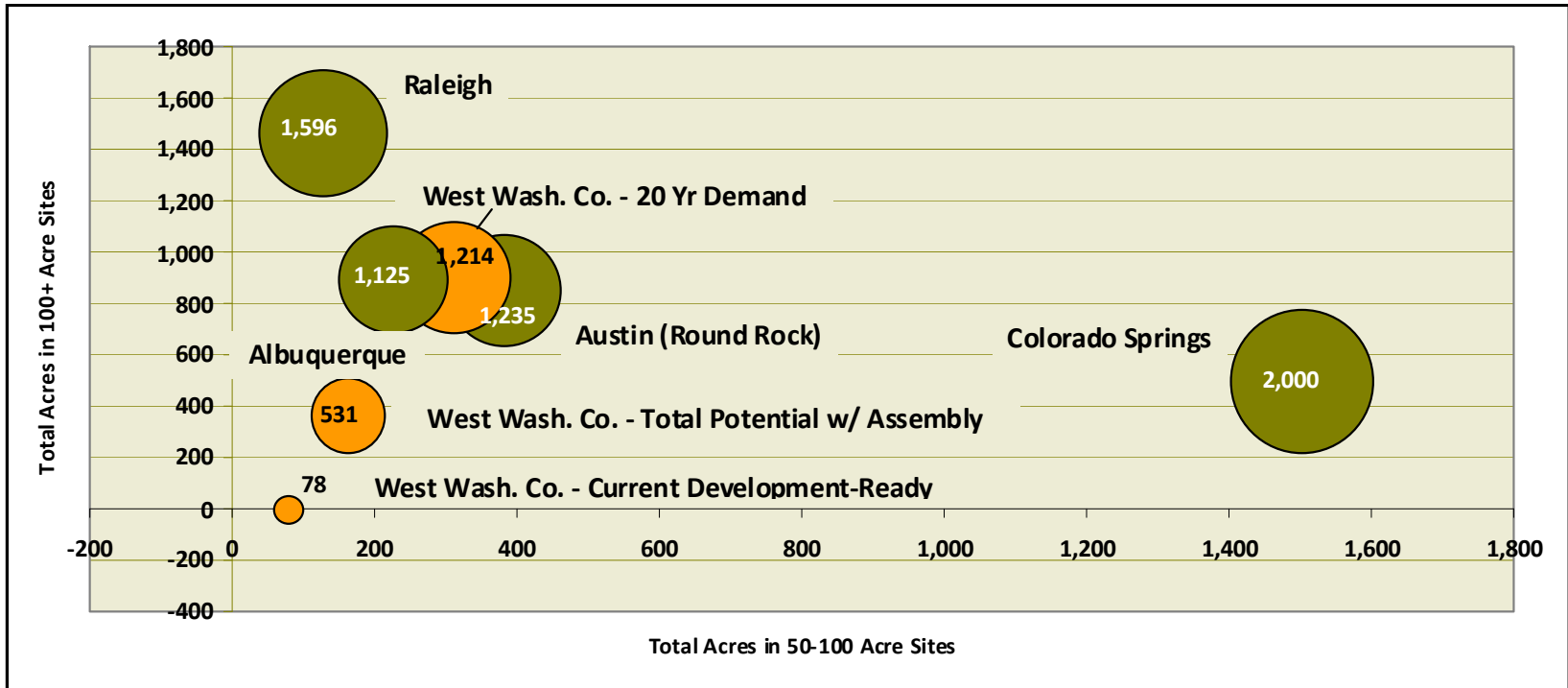
- All national competitors currently market no less than 1,125 acres of development-ready sites (Albuquerque) for key industry clusters.

- 
- Colorado Springs and Raleigh, who both specifically target more than the three West Washington County industry clusters, feature the greatest amount of development-ready large sites at between 1,600 to 2,000 acres.
  - At the same time, the West Washington County area uncompetitively offers only a single, 78-acre development-ready site.
  - Optimistically assuming the City of Hillsboro has maximum success with site assembly in the Evergreen and Helvetia Special Industrial Districts and all sites are development-ready certified, West Washington County clusters have less than half of the potential supply choices offered by the nearest competitor, Albuquerque.
  - Finally, if a full 1,214 acres of large sites – assembled and single-tax lot – were made available consistent with cluster large employer demand documented in the May 2009 City of Hillsboro EOA, West Washington County would potentially have a competitive acreage supply, though only a percentage at any time would likely be development-ready.

A graphic illustration of West Washington County large site supply competitiveness with the other cluster competitors documented is found in Figure 4 on the following page.



Figure 4 - Competitive Market Development-Ready Site Supply & West Washington County Total Supply Compared



SOURCE: City of Hillsboro Vacant Lands Inventory (Dec. 2008), City of Hillsboro EOA (Mar. 2009), Johnson Reid (Feb. 2010)

---

## West Washington County Cluster Need Conclusions

A review of all of the above findings indicates the following cluster large site need conclusions:

- West Washington County is presently uncompetitive regarding large cluster employer site supply with only one site “development ready” though transportation constrained.
- West Washington County is more competitive, but still disadvantaged with improbable maximum site assembly yielding 531 acres in the current UGB, the majority of which would not be site certified.
- Total supply of 1,214 acres matching 20-year cluster demand, including the 531 acres within the current UGB, would significantly enhance competitiveness as several sites could be certified as development-ready. Inventory would still, however, be hard-pressed to match development-ready site supply offered by competitors.

We therefore recommend the following for the heart of the Silicon Forest in Hillsboro to maximize competitiveness:

- A total buildable supply of no less than 1,214 acres consistent with 20-year estimated demand by the West Washington County clusters.
- Rapid pursuit of site certification or “development-ready” status for as many sites as possible.
- Potential “clustering” of site supply in 300+ acre areas or flexible “supersites” to allow greater flexibility and competitiveness with the markets identified above, as well as Tennessee and other solar competitors.
- Pursuit of large sites in West Washington County that have as many of the following qualities as possible:
  1. High-Capacity, Continuous Electrical Power at Competitive Rates;
  2. High-Capacity, High-Quality Water Supply;
  3. Highly-Skilled/Educated Workforce with Existing High-Tech Cluster Investment;
  4. Flat, Seismically Stable Land without Brownfield Costs & Risks;
  5. Proximate, Diverse Transportation Infrastructure (Freeway, Air, Rail);
  6. Specialized, Existing Industrial Material Supply Infrastructure (Chemicals, Gases);
  7. Unique Expertise and Experience of the City of Hillsboro in large site development review.

## II. WEST WASHINGTON COUNTY LARGE SITE IDENTIFICATION AND EVALUATION

### CH2M HILL SCOPE

Based on the foregoing description and evaluation, the long-term growth and viability of the traded sector high tech, solar energy manufacturing and bio-pharma/bio-medical clusters in West Washington County/Hillsboro requires an steady inventory of large sites (50-100 acres) to remain as a nationally competitive location for new companies investing in high technology electronics, solar manufacturing and bio-pharmaceuticals. Previous studies by the City and Johnson Reid have indicated there are currently a limited number of readily developable large sites greater than 50 acres in the region and specifically in Hillsboro.

As discussed in the previous sections compared to competitive markets, the area has fewer large sites (50 + acres) which places West WashCo/Hillsboro and the Portland Region at a competitive disadvantage. Companies prefer to have multiple sites to consider based on company specific criteria and in negotiating the purchase of a selected site.

As part of the City’s ongoing planning and economic development efforts, CH2M HILL was retained to identify and review potential large industrial sites (50 to 100 acres) within the proposed Urban Reserve and Undesignated areas in North Hillsboro that could be competitive nationally for new high tech, solar energy manufacturing and bio-pharma/medical anchor businesses based on their site characteristics and other site suitability features.

---

## **APPROACH**

CH2M HILL identified and reviewed/evaluated potential large industrial sites (50-100-acres in size) in the North Hillsboro Area utilizing the following review parameters:

- Evaluation was based on industry requirements within the 3 target clusters and site selection criteria developed through CH2M experience in working with these industries to find suitable sites for new companies
- Review was conducted at a high level using existing data and information
- Evaluation focused mainly on site characteristics, and not on other site selection criteria such as operating costs, labor, incentives etc.
- Sites were evaluated using CH2M acquired knowledge of, and experience nationally and internationally with industry requirements and knowledge of the North Hillsboro area
- Sites were identified in the proposed Urban Reserve and Undesignated areas in proximity to Highway 26 between Shute Road and Jackson School Road interchanges

## **SITE IDENTIFICATION**

To identify potential large industrial sites CH2M HILL:

- Reviewed maps of the area including
  1. Ownership
  2. Topography
  3. Environmental restrictions and other encumbrances
  4. Utilities
  5. Transportation
- Reviewed city plans for economic development, utilities, and transportation improvements
- Conducted a windshield survey of the area and all the potential sites identified

## **EVALUATION CRITERIA**

Based on the site requirements for the 3 target clusters described in the past by new companies in these clusters that have inquired into possible sites in the North Hillsboro area, CH2M HILL developed the high level site evaluation criteria below:

### **Site Suitability for development**

- *Topography*—relatively flat or gently sloping site is desirable
- *Configuration*—square or rectangular site is the most desirable for most efficient utilization of land
- *Sites size*---Minimum of 50 contiguous usable acres
- *Site constraints*---Free of environmental restrictions, easements or other encumbrances
- *Visibility*—easily visible site from highway or major street.

### **Deliverability**

- Minimal Number of property owners—affects ability to assemble suitable sites
- Proximity to existing Urban Growth Boundary
- Indication of support for development from owners in the area

### **Services**

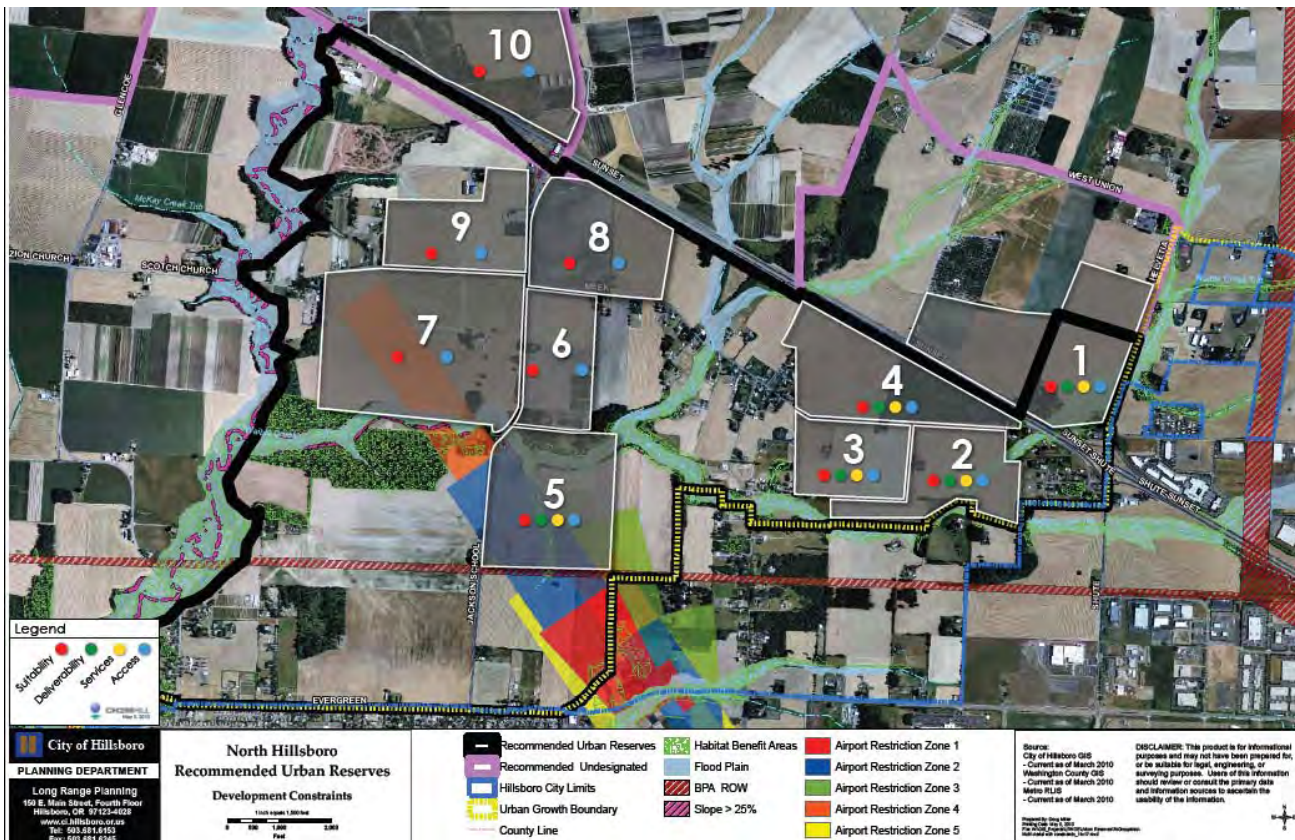
- Proximity to existing infrastructure (roads, utilities)
- Infrastructure expansion plans that could affect development of property
- Reasonable cost and timing to deliver services

### **Access**

- Good Highway access
- Efficient Local street access
- Understanding of planned access improvements

## IDENTIFIED SITES AND DISCUSSION

CH2M HILL identified and evaluation 10 potential large industrial sites within the proposed Urban Reserve and Undesignated Area's of the North Hillsboro Industrial Area (See Attached Map). The sites were reviewed using the evaluation criteria and are discussed below.



---

**Site No. 1**

Size: 200+/- acres

Description: This site is a combination of proposed Urban Reserve and Undesignated properties located adjacent to, and at the northwest quadrant of the Hwy 26/Brookwood Parkway Interchange. The site includes 2 (Jim Standing-owned) lots that are within the Urban Reserve combined with 1 lot north in Undesignated area along Helvetia Rd and 2 lots west along Hwy 26 also in the Undesignated area.

■ **Suitability:**

- To create a contiguous 50+ acre site requires the combination of the lots described above because the Southeast corner of the site directly adjacent to the Interchange is significantly impacted by environmental restrictions and the potential realignment of Groveland Road (to provide continued property access to public roadways and to support area traffic circulation) could bisect the site.
- Slope <10%
- Rectangular site or sites could be created depending upon Groveland Road realignment
- Good site visibility from Hwy 26

■ **Deliverability:**

- The 2 owners along Helvetia have indicated interest in Urban Reserve designation. Interest by the owners of property to the west in being designated Urban Reserve is mixed (support and oppose)
- Site is adjacent to current UGB boundary along Helvetia Road

■ **Services:**

- Public sewer and water infrastructure are available across Helvetia Rd to the east

■ **Access:**

- Good site access would further improve when planned Hwy 26 interchange improvements are built in the coming 2-3 years

**Site No. 2**

Size: 100 acres approx.

Description: Property owned by Erdman Living Trust west of the Meek Road rural residential area

■ **Suitability:**

- Total site configuration is not ideal but approx 60-70 acres create a relatively square, large site
- Site is impacted and divided by 100 year flood plain
- Site could be impacted and divided by potential Meek Rd Realignment

■ **Deliverability:**

- Single owner that has expressed interest in being included in the Urban Reserve
- Site adjacent to the UGB

■ **Services:**

- Infrastructure services could be extended from future Evergreen area development

■ **Access:**

- Site access from Meek Rd to Brookwood Parkway and Hwy 26 interchange
- Meek Road will require improvements to accommodate significant development

---

**Site No. 3**

Size: 80 acres approx.

Description: 3 lots owned by owned by Alderton, Cawrse and Bryan

- Suitability:
  - Relatively flat site
  - Site not contiguous to UGB but could be part of site 2. Separated from UGB by 100 year flood plain.
  - No obvious environmental restrictions on site
- Deliverability:
  - 2 owners have expressed interest in be included in Urban Reserve
  - Third owner's interest in Urban Reserves unknown
- Services:
  - Would tie into planned infrastructure services for the Evergreen area
- Access:
  - Access onto Meek Road to Brookwood Parkway to Hwy 26 interchange
  - Access onto Meek Road west to Jackson School Road to Hwy 26 could provide alternative access
  - Improvements to Meek Road would be required for significant development

**Site No. 4**

Size: 130 acres approx.

Description: 2 lots south of Hwy 26 owned by Tsai and Park

- Suitability:
  - Flat site
  - Site configuration is triangular but could provide a rectangular site of 50+ acres
  - Limited environmental restrictions or other encumbrances on site.
  - Good site visibility from Hwy 26
- Deliverability:
  - 2 owners who have expressed interest in being included in the Urban Reserve
  - Site not adjacent to the current UGB
- Services:
  - Infrastructure services would need to be provided from those planned in the Evergreen area
- Access:
  - Site access from Meek Road to Brookwood Parkway and Hwy 26 interchange or Meek Road to Jackson School Road to Hwy 26
  - Improvements to Meek Road required to accommodate significant development

**Site No. 5**

Size: 162 acres approx.

Description: Property owned by Gerald Vanderzanden east of Jackson School Rd.

- Suitability:
  - Flat site
  - Site configuration is square
  - Bisected by 100 year flood plain

- 
- Within Airport Approach Zone which may create development restrictions for the site
  - Environmental and Airport Zone restrictions impact useable acreage but a site of approx. 80 useable acres could be developed.
  - Deliverability:
    - Single owner that has indicated interest in being included in Urban Reserve
    - Southeast corner of site is adjacent to UGB
  - Services:
    - Infrastructure services could be provided from Evergreen Road or from new services planned for the Evergreen Industrial area
  - Access:
    - Site access to Jackson School Rd that connects to Evergreen to the south and Hwy 26 to the north

**Site No. 6**

Size: 70 acres approx.

Description: East of Jackson School Road owned by Christopher and Lee Hodges

- Suitability:
  - Flat site
  - Site has rectangular shape
  - South portion of site may be impacted by 100 year flood plain
  - 60-70 acres of usable site
  - No site visibility to highway 26
- Deliverability:
  - Ownership appears to be one family
  - Owners have indicated interest in being included in Urban Reserve
  - Site not adjacent to UGB
- Services:
  - Services would need to be extended from Evergreen along Jackson School Rd.
  - Extending services to site would have to be part of overall area development plan or would pass undeveloped sites
- Access:
  - Site access onto Jackson School Road to Hwy 26 interchange
  - Site access to Meek Road on north provides second access to Hwy26/Brookwood Parkway Interchange

**Site No. 7**

Size: 245 acres approx.

Description: Single property owner Thomas Vanderzanden

- Suitability:
  - Square/rectangular site
  - Relatively flat
  - Limited restrictions from Airport Overlay zone (Zone 5)
  - No apparent environmental restrictions
  - Not adjacent to UGB
- Deliverability:
  - Single owner that has expressed support for inclusion in Urban Reserve

- 
- Services:
    - Infrastructure services could be provided along Jackson School Road from the south
  - Access:
    - Site access onto Jackson School Road north to Hwy 26 and south to Evergreen Road

**Site No. 8**

Size: 160 acres approx.

Description: Site is located in southeast sector of Hwy 26-Jackson School Road Interchange. Consists of 3 lots (2 owned by Robert and Alys Zurcher and 1 owned by Leonard and Beverly Zurcher)

- Suitability:
  - Site relatively square
  - Excellent site visibility from Hwy 26
  - Flat site
  - Potential on-site environmental restriction with 100 year flood plain in northwest corner of the site
- Deliverability:
  - Within Urban Reserve designation with 1 owner supporting inclusion
- Services:
  - Infrastructure services could be extended from Evergreen Road thru Jackson School Road
- Access:
  - Site access from Jackson School Road on west and Meek Road on south
  - Immediate access to Hwy 26 from Jackson School Road

**Site No. 9**

Size: 80 acres

Description: West of Jackson School Rd and north of NW Scotch Church. 2 lots (Mike and Sue Management and Richard Vanderzanden)

- Suitability:
  - - Rectangular in shape
  - - Site is relatively flat
  - - Potential environmental restriction on north section( 100 year flood plain)
- Deliverability:
  - Two owners with one owner indicating interest in being included in Urban Reserve but interest by second owner along Jackson School is unknown
  - Site requires both owners to be over 50 acres
  - Site not adjacent to UGB
- Services:
  - Infrastructure services would need to be delivered along Jackson School Rd from Evergreen
  - Timing for service extension unknown at this time
  - Infrastructure extension would have to be part of a larger area plan
- Access:
  - Good site access from Jackson School Road to Hwy 26 interchange and possible access to Scotch Church Road



---

<b>Site No. 10</b>
--------------------

Size: 200+ acres

Description: This site at the northwest corner of the Jackson School Road- Hwy 26 Interchange could consolidate up to 3 lots

- Suitability:
  - Good site visibility to Hwy 26
  - Some environmental impact on west portion of site
  - Relatively flat site
  - Triangular in shape but large enough to create large square site of over 100 acres
- Deliverability:
  - Unknown as it is in Undesignated Area
- Services:
  - Urban infrastructure services don't appear to be readily available
- Access:
  - Site access to Hwy 26 is good at Jackson School Road/Hwy 26 Interchange

## **FINDINGS**

- Based on past new companies inquiries, Hillsboro and Western Washington County industrial subregion continue to be viewed as favorable potential locations for large-scale industrial developments by companies within the 3 Target Industry Clusters. (See attached 2008-2009 site inquiries list)
- Although this subregion is viewed favorably, there is not a sufficient choice of large sites within the subregion at this time: There is only one ready-to-go or "development ready" site greater than 50 acres.
- The subregion needs to have multiple options for sites that are development-ready to stay competitive in the global market.
- Companies have different and their own unique site requirements and prefer to have multiple site options when considering a new location. Alternative development-ready sites are needed to reduce the risk of a first-choice site failing and to improve the site price negotiations once a preferred site is identified.
- There are companies within the 3 Target Clusters that can use small sites, however, most large projects are looking for large sites that can accommodate future growth and expansion. Not having room to expand is a negative for most companies looking for new sites. Some examples of projects that have located or considered locating in west Washington County include:
  - Genentech: approximately 75 acres on Evergreen Road. Phase I is complete and expansion is capable with additional property available.
  - Intel – multiple campuses in Washington county ranging from approximately 80 acres in Aloha to 400 acres at Ronler Acres.
  - TOK – small supplier to the electronics industry on approximately 40 acres. Currently completing their 3rd phase of expansion.
  - Solar World – approximately 100 acres, existing facility purchase and have expanded once with additional capability.
  - Solar Manufacturing Prospect in Hillsboro (June 2008) – 100 acre requirement, no site large enough without restrictions of wetlands, encumbrances and price could be assembled.
  - Solar Manufacturing Prospect - (February 2009) – 75 acre site, interested in Brookwood parkway site, limited developable acreage impact from wetlands and flood plane.

---

## CONCLUSIONS AND RECOMMENDATIONS

Based upon our review and evaluation of the 10 identified sites (See map) and our recent experiences with companies in the 3 Target Clusters seeking large industrial lots we have concluded that the following sites are the most suitable and hold the best opportunity for development in the short term. They also offer the potential for the fastest turnaround for the provision of services and other necessary actions to make them “development ready”. Descriptions and evaluations of each site are discussed in an earlier section. The sites below are in order starting with the best.

- **Site 1.** *We consider this site to have the best attributes and holds good potential for development. It is relatively flat, good highway access, and freeway visibility. The site is adjacent to the UGB and existing utilities which, therefore, provides the opportunity to relatively quickly provide services and annex it into the city. This site is impacted by environmental restrictions so to reach its maximum potential it will need to include sites currently in the proposed Undesignated area as indicated in the site description*
- **Sites 2&3.** *Both sites meet most of the industry requirements and could be desirable large industrial sites. Improvements to Meek Road and utility extensions into the Evergreen area are currently being planned and would overcome development constraints on the properties. The sites are adjacent to the existing UGB which could provide easier annexation into the city.*
- **Site 4.** *From a development stand point this site has similar attributes to 2&3 but with the additional advantage of good Hwy 26 visibility. It is not currently adjacent to the UGB and the planned utilities in the Evergreen area but could be considered with Sites 2&3 as planned access and utility improvements are made.*
- **Site 5.** *This site meets many of the development criteria but could be more problematic than other sites in extending utilities and accommodating environmental and other restrictions.*

The additional 5 sites (6-10) we reviewed meet some of the criteria but require longer term plans to deal with development constraints and the provision of adequate services. None of these are adjacent to the UGB.

\*\*\*\*\*

<b>Hillsboro Industrial Siting Prospects 3 Years (2007-2009)</b>		
<b>PROJECT</b>	<b>LEAST ACRES</b>	<b>MOST ACRES</b>
Sonnershien	450	800
Apricus	250	300
Tahoe	80	150
Parkway II	75	200
Hot	75	75
Parkway	65	75
Million	65	75
Sunbelt	50	75
Bright	50	75
August	50	100
Boss	50	60
Bee	40	50
Bright	40	50
Valencia	40	50
Monarch	40	50
DT/Apollo	35	40
MIT	30	40
Reddy	26	40
Harvester	25	25
GM	20	25
David II	20	50
Overview	20	30
SpectraWatt	20	25
Jade	20	50
Innovate	15	25
Ark	15	20
Cell	10	25
Cambridge	10	20
SAV	10	20
Champion	10	15
MS	10	20
Wick	8	10
Edison	8	25
Ferro	5	10

<b>Hillsboro Industrial Site Recruitments Over 3 Years</b>			
	<b>Least Acres</b>	<b>Max. Acres</b>	<b>Percent</b>
100+ Acres	2	5	15% *
50-99 Acres	9	12	35% *
25-49 Acres	8	10	29%
< 25 Acres	15	7	21%
Total Sites	34	34	100%

*\*50% of total site inquiries for parcels over 50 acres in size*

Source: City of Hillsboro Ec. Dev. Dept.  
December 2009

## Area D Urban Findings - Exhibit E

### Buffering Area



Looking northwest from access road into undesignated area buffering urban reserves to east from rural reserves to west of tree line. Shows riparian and upland resources.



Rural residential creates conflicts with farming



Looking north into undesignated area – undesignated area and its natural resources, including streams, upland resources and trees, will serve as buffer between urban reserves to east and rural to west.



Looking west from Groveland Road into undesignated area (rural reserves buffered by this area and trees in background)

## Existing UGB urban/rural divide

Illustrations of existing divides between urban and rural uses without buffering.



## Industrial Buffering



Intel Ronler Acres (229<sup>th</sup> Avenue berm and landscape buffering)  
(Source: [www.oregonlive.com](http://www.oregonlive.com))



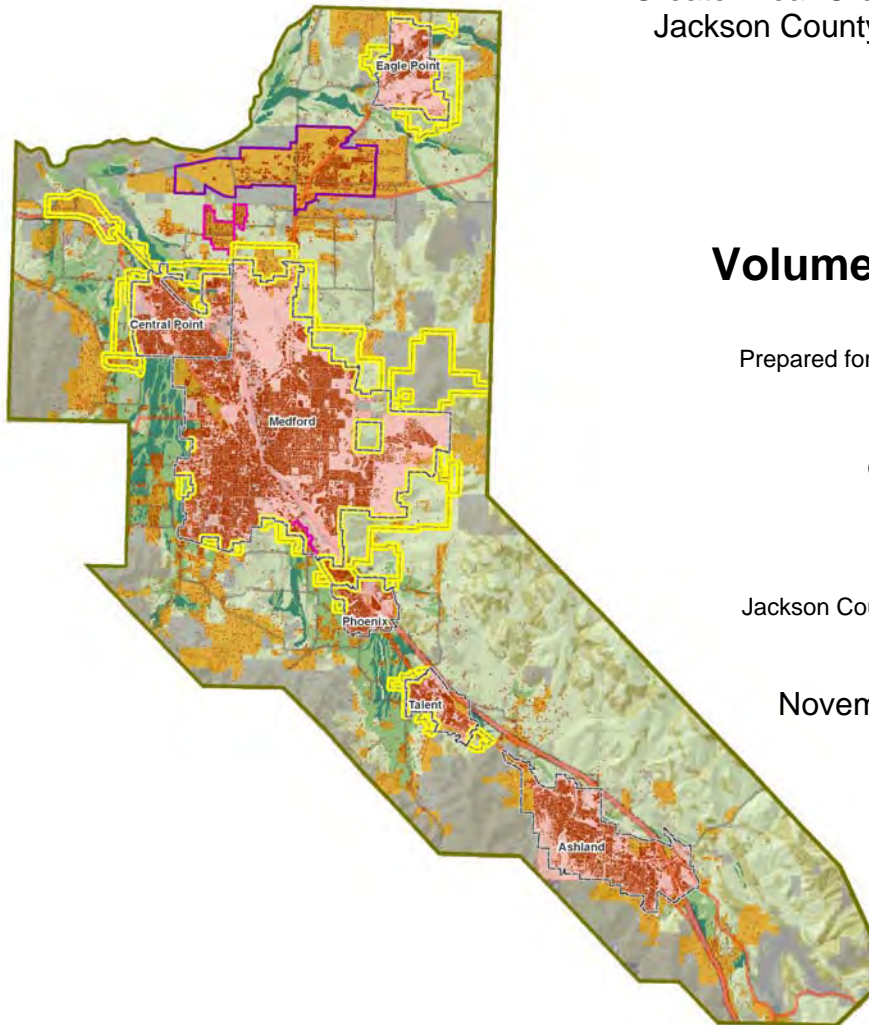
SolarWorld (landscape buffer and parking)  
(Source: <http://solarhope.wordpress.com/2007/03/>)

A Plan to Solve Regional Problems in Southern Oregon

# *Draft Regional Plan*

for the

Greater Bear Creek Valley  
Jackson County, Oregon



## **Volume 1 of 3**

Prepared for the Cities of

Medford  
Ashland  
Central Point  
Eagle Point  
Phoenix  
Talent  
and  
Jackson County, Oregon

November 2009



**GREATER BEAR CREEK VALLEY REGIONAL PLAN**

**Table of Contents**

---

<b><u>CHAPTER</u></b>	<b><u>PAGE</u></b>
<b>CHAPTER 1 RPS Overview</b>	
<b>1. REGIONAL CHALLENGES.....</b>	<b>1-1</b>
1.1 Regional Growth Factors	
1.2 Proximate Urban Locations	
1.3 Geophysical Conditions	
1.4 Agricultural Patterns and Productivity	
1.5 Historic Settlement Patterns and Infrastructure Development	
<b>2. WHAT IS REGIONAL PROBLEM SOLVING (RPS)?.....</b>	<b>1-4</b>
<b>3. WHY UNDERTAKE REGIONAL PROBLEM SOLVING (RPS)?.....</b>	<b>1-4</b>
3.1 Regional Planning Precursors in the Greater Bear Creek Valley	
<b>4. PROJECT STRUCTURE.....</b>	<b>1-6</b>
4.1 RPS Policy Committee	
4.2 Technical Advisory Committee (TAC)	
4.3 Resource Lands Review Committee (RLRC)	
4.4 Project Citizen Involvement Committee (pCIC)	
<b>5. REGIONAL PLAN CORE ELEMENTS.....</b>	<b>1-7</b>
5.1 Planning Area	
5.2 Planning Horizon	
5.3 Development of Problem Statements and Goals	
5.3.1 Formal Problem Statements	
5.3.2 Goals and Plan Policies	
<b>6. PLAN DEVELOPMENT.....</b>	<b>1-11</b>
6.1 Community Buffering Recommendations	
6.1.1 Community Buffer Geography	
6.2 Commercial Agricultural Land Base Recommendations	
6.3 Community Self-Definition	
6.4 Public Input	
6.4.1 City Outreach Activities	
6.4.2 Other Public Outreach	
6.4.3 2007 Fall Public Comment Meetings	
6.5 State Agency Input	
6.6 Regional Growth Planning Analysis	
<b>7. FINAL STEPS IN THE DEVELOPMENT OF THE REGIONAL PLAN.....</b>	<b>1-24</b>
7.1 RPS Participants' Agreement and Draft Plan	



- 7.2 Consistency Review
- 7.3 Final Plan Development [Reserved]

**CHAPTER 2 Regional Growth Planning**

- 1. REGIONAL POPULATION ALLOCATION..... 2-1**
- 2. ALLOCATING REGIONAL EMPLOYMENT GROWTH TO COMPARATIVE ADVANTAGES..... 2-4**
  - 2.1 Regional Employment Projections
  - 2.2 Allocating Regional Employment Projections
- 3. ALLOCATING REGIONAL LAND DEMAND TO COMPARATIVE ADVANTAGES..... 2-10**
  - 3.1 Residential Land Allocation
  - 3.2 Employment Land Allocation
- 4. REGIONAL GROWTH SOLUTIONS..... 2-16**
- 5. REGIONAL GROWTH PLANNING SUMMARY..... 2-19**
- 6. REGIONAL TRANSPORTATION ANALYSIS..... 2-19**
  - 6.1 Transportation Modeling Results
  - 6.2 Transportation Funding Strategies
- 7. GREATER COORDINATION WITH THE MPO..... 2-22**
  - 7.1 Regional Transportation Network Strategy

**CHAPTER 3 Urban Reserve Selection Process**

- 1. URBAN RESERVE RULE..... 3-1**
- 2. OAR DIVISION 21 URBAN RESERVE PROCESS OVERVIEW..... 3-1**
  - 2.1 Land Need Determination
  - 2.2 Preliminary Land Analysis/ Coarse Filter
  - 2.3 Suitable Lands Analysis/ Fine Filter
  - 2.4 Prioritization of Suitable Lands
- 3. GOAL 14 FACTORS..... 3-3**
- 4. APPLYING THE DIVISION 21 PROCESS TO THE REGIONAL PLAN..... 3-6**
  - 4.1 Land Need Determination
  - 4.2 Preliminary Land Analysis/ Coarse Filter
    - 4.2.1 Study Area Selection
    - 4.2.2 Coarse Filter/ Goal 14 Location Factors
  - 4.3 Suitable Lands/ Fine Filter
    - 4.3.1 Suitable Lands
    - 4.3.2 Fine Filter/ Goal 14 Location Factors
  - 4.4 Prioritization of Suitable Lands
    - 4.4.1 Priority (a)- Exception and Non-Resource Land
    - 4.4.2 Priority (b) - Marginal Land
    - 4.4.3 Priority (c) - Resource Land
    - 4.4.4 Elevation of Lower Priority Lands
  - 4.5 Summary of Suitable Lands
- 5. COMPARISON OF GREATER BEAR CREEK VALLEY RPS PROCESS**

<b>WITH DIVISION 21 PROCESS</b> .....	<b>3-14</b>
5.1 Greater Bear Creek Valley RPS Urban Reserve Selection Process	
5.2 Comparison of RPS Process with Division 21 Process— Overview	
<b>6. SELECTED URBAN RESERVE AREAS</b> .....	<b>3-17</b>
<b>7. ESTABLISHMENT OF URBAN RESERVE AREAS</b> .....	<b>3-17</b>
 <b>CHAPTER 4 Proposed URAs</b>	
<b>1. INTRODUCTION</b> .....	<b>4-1</b>
 <b>CENTRAL POINT (CP)</b>	
<b>1. CITY DESCRIPTION</b> .....	<b>4-2</b>
<b>2. CITY GROWTH GUIDELINES AND POLICIES</b> .....	<b>4-4</b>
<b>3. STUDY AREA SELECTION / COURSE FILTER</b> .....	<b>4-5</b>
<b>4. SUITABLE LANDS ANALYSIS / FINE FILTER</b> .....	<b>4-9</b>
4.1 Study Areas – Unsuitable	
4.2 Study Areas – Suitable	
<b>5. PRIORITIZATION OF SUITABLE LANDS</b> .....	<b>4-28</b>
5.1 Priority (a)- Exception and Non-Resource Land	
5.2 Priority (b) - Marginal Land	
5.3 Priority (c) - Resource Land	
<b>6. CENTRAL POINT URBAN RESERVE CONCLUSIONS</b> .....	<b>4-33</b>
 <b>EAGLE POINT (CP)</b>	
<b>1. CITY DESCRIPTION</b> .....	<b>4-34</b>
<b>2. CITY GROWTH GUIDELINES AND POLICIES</b> .....	<b>4-36</b>
<b>3. STUDY AREA SELECTION / COURSE FILTER</b> .....	<b>4-37</b>
<b>4. SUITABLE LANDS ANALYSIS / FINE FILTER</b> .....	<b>4-39</b>
4.1 Study Areas – Unsuitable	
4.2 Study Areas – Suitable	
<b>5. PRIORITIZATION OF SUITABLE LANDS</b> .....	<b>4-53</b>
5.1 Priority (a)- Exception and Non-Resource Land	
5.2 Priority (b) - Marginal Land	
5.3 Priority (c) - Resource Land	
<b>6. CENTRAL POINT URBAN RESERVE CONCLUSIONS</b> .....	<b>4-56</b>
 <b>MEDFORD (MD)</b>	
<b>1. CITY DESCRIPTION</b> .....	<b>4-58</b>
<b>2. CITY GROWTH GUIDELINES AND POLICIES</b> .....	<b>4-60</b>
<b>3. STUDY AREA SELECTION / COURSE FILTER</b> .....	<b>4-62</b>
<b>4. SUITABLE LANDS ANALYSIS / FINE FILTER</b> .....	<b>4-70</b>
4.1 Study Areas – Unsuitable	
4.2 Study Areas – Suitable	
<b>5. PRIORITIZATION OF SUITABLE LANDS</b> .....	<b>4-102</b>
5.1 Priority (a)- Exception and Non-Resource Land	

5.2 Priority (b) - Marginal Land  
 5.3 Priority (c) - Resource Land  
 6. **CENTRAL POINT URBAN RESERVE CONCLUSIONS..... 4-107**

**PHOENIX (PH)**

1. **CITY DESCRIPTION..... 4-108**  
 2. **CITY GROWTH GUIDELINES AND POLICIES..... 4-109**  
 3. **STUDY AREA SELECTION / COURSE FILTER..... 4-110**  
 4. **SUITABLE LANDS ANALYSIS / FINE FILTER..... 4-115**  
     4.1 Study Areas – Unsuitable  
     4.2 Study Areas – Suitable  
 5. **PRIORITIZATION OF SUITABLE LANDS..... 4-134**  
     5.1 Priority (a)- Exception and Non-Resource Land  
     5.2 Priority (b) - Marginal Land  
     5.3 Priority (c) - Resource Land  
 6. **CENTRAL POINT URBAN RESERVE CONCLUSIONS..... 4-138**

**TALENT (TA)**

1. **CITY DESCRIPTION..... 4-139**  
 2. **CITY GROWTH GUIDELINES AND POLICIES..... 4-140**  
 3. **STUDY AREA SELECTION / COURSE FILTER..... 4-141**  
 4. **SUITABLE LANDS ANALYSIS / FINE FILTER..... 4-146**  
     4.1 Study Areas – Unsuitable  
     4.2 Study Areas – Suitable  
 5. **PRIORITIZATION OF SUITABLE LANDS..... 4-165**  
     5.1 Priority (a)- Exception and Non-Resource Land  
     5.2 Priority (b) - Marginal Land  
     5.3 Priority (c) - Resource Land  
 6. **CENTRAL POINT URBAN RESERVE CONCLUSIONS..... 4-170**

**CHAPTER 5 Monitoring and Implementation**

1. **COMMUNITY BUFFER STRATEGY..... 5-1**  
     1.1. Purchase of Conservation Easements  
         1.1.1. Rural COSA  
         1.1.2. Urban COSA  
         1.1.3. Blended COSA  
 2. **REGIONAL AGRICULTURAL BUFFERING STANDARDS..... 5-3**  
 3. **PERFORMANCE INDICATORS..... 5-5**  
 4. **INCENTIVES AND DISINCENTIVES..... 5-6**  
 5. **MONITORING AND PLAN ADJUSTMENTS..... 5-7**  
 6. **RPS IMPLEMENTATION TECHNIQUES..... 5-10**

# Chapter 5

## Monitoring and Implementation

---

Chapter 1 of this plan outlined the Problem Statements, Goals, and Policies developed through this process as required by the Regional Problem Solving Statute. These Problem Statements, Goals, and Policies were used to provide guidance for decision-making throughout the development of this regional plan. Chapter 2 addressed one of the major inputs considered in defining the Regional Plan, which was Regional Growth Planning. Chapter 3 identified the methodology and process for establishing the proposed Urban Reserve Areas as well as the implications of Urban Reserve establishment. Chapter 4 then provided specifics regarding the individual cities choices for proposed Urban Reserve Areas.

This Chapter contains the remaining items produced by this regional planning process consistent with the requirement of the Regional Problem Solving statute. These items are contained in the Participants Agreement as required by the RPS statute and will be implemented through amendments to the County's and each participating cities' comprehensive plans, land use ordinances, and associated Urban Growth Management Agreements.

### 1. COMMUNITY BUFFER STRATEGY

#### 1.1. Purchase of Conservation Easements

Although the community buffer designation described in Chapter 1 imposes no downzoning or increased regulation on the lands within its area, it is important to note that the members of the pCIC were not in full agreement on the issue of providing the community buffers more permanent protection from long-term development pressures. Some members thought it critical to provide a guarantee that these areas of separation would have permanence, while others considered it sufficient to preserve them for the near future and allow future generations to determine whether it was still in their best interests to preserve them. It was only later in the project, once the pCIC had fulfilled its responsibilities and disbanded, that the Technical Advisory Committee revisited the issue. Through the work of a subcommittee established specifically to address the buffer issue, the TAC recommended a long-term mechanism of preservation to the Policy Committee whereby owners of rural critical open space could voluntarily sell conservation easements, and owners of future urban lands would provide the funding for those purchases. The strategy the TAC developed to complement the original pCIC buffer concept gives cities an option to employ a mechanism for long-term critical open space preservation.

The COSA strategies recommended by the TAC and finally approved by the Policy Committee stayed close to the original concepts put forth by the pCIC, addressing three different buffering concepts – Rural, Urban, and Blended. However, although the Rural COSA strategy does provide for an option of a voluntary program of easement purchase, currently cities are under no requirement in this RPS process to adopt any part of the COSA strategy.

The three categories of COSA's are as follows:

### 1.1.1. Rural COSA

To provide for long-term preservation of important open space areas in the Greater Bear Creek Valley, the TAC developed a strategy to complement the original pCIC buffer concept in order to offer an option for cities to employ a mechanism for long-term critical open space preservation.

#### Strategy Details

Eligible lands: There are two major classes of lands under this strategy – receiving and sending. The receiving areas are those lands added to a city’s UGB (or included in an urban reserve) after January 1, 2009. At a minimum, this program would impact the acreage dedicated to residential uses, but each city could also include, at its discretion, commercial and industrial acreages.

Concept: This mechanism provides for the purchase of conservation easements from willing “senders” in designated critical open space areas of the city’s choosing. These easements would be purchased by all lands (receiving areas) added to a city UGB, or established as part of an urban reserve after January 1, 2009. Participation by the receiving areas would be a condition of annexation. Although the strategy focuses on the purchase of easements on critical open space in the county, it also provides for some flexibility by allowing for some or all of the easement requirement to be replaced by an affordable housing guarantee.

### 1.1.2. Urban COSA

The purpose of an Urban COSA is to provide for a recognizable transition between contiguous urbanized areas. The design standards to create the urban COSA would be applied to urban land along major transportation corridors.

#### Strategy Details

Eligible lands: Existing or planned contiguous areas of urban land between jurisdictions. As proposed in the Regional Plan, these are lands between Phoenix and Medford, and between Central Point and Medford.

Master Plan: To create an urban COSA, the affected jurisdictions would collaboratively identify, plan, finance, and implement the recommended design standards through a mutually adopted refinement plan addressing the urban or parkway design of the separating transportation corridors.

### 1.1.3. Blended COSA

Blended COSAs provide for flexibility in situations in which neither rural nor urban COSAs would be the most appropriate choice. Although the primary focus of a blended COSA is on preservation of key open space as the predominant and driving planning focus, which is similar to the goal of the rural COSA, there is also a component of residential/commercial development significant enough to dictate the inclusion of the entire blended COSA in the city’s urban inventory. The primary advantage of the blended COSA is the ability to provide for an optimal level of residential/commercial development, while also preserving key open space values.

#### Strategy Details

Eligible lands: Urban reserves with key open space value, or with importance as a preservation area to facilitate regional infrastructure needs. Designated lands must be protected by a master plan that can only be approved and modified by regional agreement.

Master Plan: The blended COSA area will function as a microcosm of the rural COSA strategy. The portions of the blended COSA designated in the master plan as residential/commercial development is required to function as receiving areas to protect the sending areas within that same mixed use area. In the event that the receiving areas within the blended COSA cannot generate sufficient easements to protect the COSA’s sending areas, then the same areas eligible for use as receiving areas per the rural uses strategy would be used to protect the blended

COSA's sending areas. Within some single large properties, the sending and receiving areas may be located on the same parcel.

## **2. REGIONAL AGRICULTURAL BUFFERING STANDARDS**

The regional agricultural buffering standards are a research-based, regionally consistent set of standards designed to mitigate negative impacts arising from the interface between rural and urban uses. These standards were developed in 2006 by the RLRC to provide adequate consideration of potential conflict between existing rural agriculturally zoned lands and proposed urban levels of development. These standards will be required to be adopted by each participating city and the County as discussed in Section 3 of this Chapter. The proposed Buffering Standards are as follows:

1. Adequate consideration of potential conflict between existing rural agriculturally zoned lands and proposed urban levels of development is necessary during development assessment. Significant conflict is assumed to be likely in all cases where urbanization is proposed within 500 feet of Class I - IV rural agricultural land. In addition, some lesser level of conflict is assumed possible within the next 500 feet from the urban/rural boundary. Agricultural buffers that are appropriate to the realities of the region will not be successful in completely negating these potential conflicts, but can lessen their severity, frequency, and negative impact on both agriculture and urban quality of life.
2. Those individuals seeking to buy, rent, or lease urban properties within 1,000 feet of rural agricultural land should be informed in writing of the consequences of being located within a "rural agricultural impact zone."
3. Local or regional long-range planning should avoid, as far as is practicable, locating urban sensitive receptors, primarily residential development, in proximity to rural agricultural land. Where urban sensitive receptors must be located near rural agricultural land, buffering mechanisms should be used to minimize potential conflicts.
4. The central concept in buffering is adequate separation between conflicting uses. There are a number of strategies for achieving this separation through planning decisions and the use of planning controls:
  - A well-designed vegetative buffering element will reduce the amount of land required for an effective buffer.
  - Man-made or natural features should be incorporated in buffers whenever possible, such as infrastructure rights-of-way, roads, non-residential structures, watercourses, wetlands, ridge lines, rock outcrops, forested areas, and steep slopes.
  - A buffer area can provide public open space or purpose-designed buffer areas (public recreational/natural areas) if the location is appropriate for satisfying a portion of the community's open space needs, the use of the buffer area as public open space is compatible with adjoining uses, the buffer area is not the community's principle provider of recreational opportunities, and the impacts from the adjoining rural agricultural use do not overly restrict the planned recreational use of the open space.
  - Existing areas of rural residential zoning can provide the required buffering if and when the rural residential lots provide a minimum of 200 ft. of separation between the urbanizing and rural agricultural land.
  - Existing small-acreage farms (5 acres or less) can provide the required buffering if and when the small acreage farms provide at least 200 ft. of separation between the nearest farmable land (including animal enclosures) on the small-acreage farm land and the nearest planned urban sensitive receptor. The owners of these small-acreage farms must agree to the use of their property as a buffering mechanism.
  - There is a publicly owned right of way that could be incorporated as part of the buffer.

5. It is unreasonable for new urban uses to require a modification of rural agricultural activities practiced according to recognized industry standards, especially if those modifications would hamper efficient rural agricultural operations. The existing use has precedence.
6. Buffering mechanisms should be provided/funded by the proponent of the urban development. The buffering mechanisms will be physically located entirely on the urbanized property, unless:
  - there is a publicly owned right of way that could be incorporated as part of the buffer;
  - there is a naturally occurring area on the rural agricultural land that is permanently incapable of being farmed (rock formation, riparian area, etc.), is of sufficient depth, and is contiguous with the border of the urbanizing land or a publicly owned right of way;
  - the proponent of development purchases from the farm owner an easement on agricultural land of the appropriate length and depth, and pays for the establishment of whatever vegetative buffer, fencing, or irrigation system that would have been required on the urbanizing land; or
  - title to the area providing the physical portion of the buffer is transferred to the farm being buffered. If a vegetative buffer is indicated, it is installed by the developer. Whether a vegetative buffer is installed or not, the buffer is henceforth the responsibility of the farmer, and must be maintained as a buffer as long as the property remains zoned for resource use.
7. The buffering mechanisms must be included in the development application and must be approved by the city **before or concurrent with** final approval for the development project.
8. The city is responsible for enforcing compliance with all matters pertaining to the implementation of planned and approved buffering plans. The city shall permit developers flexibility in scheduling the establishment of the approved buffering mechanisms due to factors such as water availability, weather, and general logistics, although the buffer plan shall establish a sequencing of buffer mechanism implementation that demonstrates completion prior to either final plat sign off or—for larger lot buffers and in the event no land division occurs—final building inspection.
9. Although flexibility in the nature and design of buffering mechanisms can be provided for in the event of significant localized circumstances, customized (flexed) buffer designs must be at least as effective as the buffering options established herein. Proposed flexed buffer designs must be clearly justified, with the burden of proof being on the proponent of urban development to show that the flexed buffer design will not reduce the intended level of protection.
10. Class I – IV rural agricultural land is presumed to be of “high potential impact” due to the fact that it can be and often is used for a wide variety of different rural agricultural uses, and because new and as yet unforeseen uses and practices are likely to surface in the future. Therefore, these rural agricultural lands are assumed to require buffering mechanisms that mitigate the most likely high impact rural agricultural land use, regardless of present use. The only exception to this would be those Class I – IV rural agricultural lands that have a long and essentially unbroken history of rural agricultural inactivity or grazing use. These, as well as all Class VI rural agricultural lands, would be considered of “low potential impact”.
11. To mitigate a reduction of overall residential densities resulting from urban land dedicated to buffering mechanisms, a city shall permit the proponent of urban development to maintain planned densities through lot size averaging, clustering, planned development criteria, or similar techniques. The objective is to maintain minimum density across the development.
12. Where conflicts already exist between rural agricultural and urban land uses, mechanisms including mediation, source controls, and public outreach are encouraged.

The complete document containing the standards is located in Volume II, Appendix III of this Plan—*Agricultural Buffering Standards – Establishing Effective Buffers Between Rural Agricultural and Urban Uses (June 6, 2006)*.

### **3. PERFORMANCE INDICATORS**

Ongoing monitoring of progress following the signing of the Participants' Agreement will take place on a number of performance indicators to determine the level of compliance with this plan or the need to refine or amend it. The measurable performance indicators listed below are those identified as appropriate for monitoring the adopted Plan.

1. On a regular basis, every 10 years starting in 2020, the Plan's jurisdictions may, at their discretion, participate in a process of coordinated periodic review.
2. On a regular basis, every 5 years starting in 2015, all Signatories to the Agreement will participate in the regular Regional Plan review process. Jackson County shall initiate the Regional Plan review process by providing notice of the Regional Plan review to each Signatory to this Agreement and requiring that each Signatory submit a self-evaluation monitoring report addressing compliance with the performance indicators set out in this Section to the County within 60 days after the date of the notice. Jackson County will distribute these monitoring reports to all Signatories.
3. Participating cities will incorporate the portions of the Regional Plan that are applicable to each individual city into that city's comprehensive plan and implementing ordinances, and will reference the Plan as an adopted element of Jackson County's comprehensive plan. To incorporate applicable portions of the Regional Plan into their comprehensive plans and implementing ordinances, cities will adopt at least the following:
  - a) urban reserve areas;
  - b) target residential densities (for the urban reserve areas);
  - c) agricultural buffering standards (for the urban reserve areas);
  - d) implementing ordinances (for the urban reserve areas).
4. Signatory jurisdictions will comply with the general conditions as listed in Section X of the Participants' Agreement (found in Volume 2 of this Plan) and, as appropriate, the specific conditions of approval for selected urban reserves, as described in the adopted Plan.
5. Signatory jurisdictions serving or projected to serve a designated urban reserve will adopt an Urban Reserve Management Agreement (URMA).
6. Urban reserves identified in the adopted Plan are the first priority lands used for UGB expansions by participating cities.
7. Cities, when applying urban designations and zones to urban reserve land included in UGB expansions, will achieve, on average, at least the "higher land need" residential densities as described in the adopted Regional Plan.
8. Cities, when applying urban designations and zones to urban reserve land included in a UGB expansion, will be guided by the general distribution of land uses proposed in the adopted Regional Plan, especially where a specific set of land uses were part of a compelling urban-based rationale for designating RLRC land as part of a city's set of urban reserves.
9. Conceptual plans for urban reserves will be developed in sufficient detail to allow the Region to determine the sizing and location of regionally significant transportation infrastructure. This information should be determined early enough in the planning and development cycle that the identified regionally significant transportation corridors can be protected as cost-effectively as possible by available strategies and funding. Conceptual



plans for an urban reserve in the Regional Plan are not required to be completed at the time of adoption of a comprehensive plan amendment incorporating urban reserves into a city or county comprehensive plan.

10. The county's population element is updated per statute to be consistent with the gradual implementation of the adopted Plan.

#### 4. INCENTIVES AND DISINCENTIVES

The state requires that participants in an RPS process delineate the factors, mechanisms, or outcomes that constitute the most compelling reasons for participants to comply with the regional plan over the identified planning horizon.

Participants have listed the major incentives for adhering to the plan as follows:

1. Continued regional cooperation through the 10-year review process and coordinated periodic review may improve the region's ability to respond to challenges and opportunities more effectively than it does presently.
2. Adherence to the adopted Plan may provide the region with a competitive advantage, increase the attractiveness of the region to long-term investment, and improve southern Oregon's profile in the state.
3. Adherence to the adopted Plan may produce significant reductions in transportation infrastructure costs by minimizing future right-of-way acquisition costs and by improving the overall long-range coordination of transportation and land use planning.
4. Adherence to the adopted Plan will provide participating jurisdictions with population allocations that are predictable, transparent, and based on the relative strengths of the different participating jurisdictions.
5. The adopted Plan will offer compelling regional justifications and state agency support for Tolo and the South Valley Employment Center that may not have been available to an individual city proposal.
6. Adherence to the adopted Plan will permit jurisdictions to implement the flexibility provided by the concept of the "Regional Community", in which cities, in the role of "regional neighborhoods", enjoy a wide latitude in their particular mix, concentration, and intensity of land uses, as long as the sum of the regional parts contributes to a viable balance of land uses that is functional and attractive to residents and employers and in compliance with statewide goals.

The disincentives to not adhering to the regional plan largely mirror the incentives:

1. Cities that choose to expand their UGBs into land not designated as urban reserve will be required to go through the Regional Plan minor or major amendment process prior to or concurrent with any other process.
2. The region's failure to adhere to the adopted Plan may damage its competitive advantage, the attractiveness of the region to long-term investment, and southern Oregon's profile in the state.
3. Adherence to the Regional plan may be a rating factor for MPO Transportation Funding. Transportation projects of Jurisdictions not adhering to the adopted Plan may be assigned a lower priority by the MPO when considered for funding.
4. Jackson County may reconsider the population allocations of jurisdictions signatory to the Agreement not adhering to the adopted Plan.

5. Jurisdictions signatory to the Agreement not adhering to the adopted Plan may face issues over failing to observe their comprehensive plans, or may find it difficult to make modifications to their comprehensive plans that deviate from the adopted Plan.
6. Jurisdictions signatory to the Agreement failure to adhere to the adopted Plan will compromise its ability to implement the concept of the “Regional Community”, and will not provide the participating cities with as wide a latitude in their desired individual mix, concentration, and intensity of land uses.

## 5. MONITORING AND PLAN ADJUSTMENTS

Participating jurisdictions will maintain a monitoring system to ensure compliance with this plan and future amendments. Specific standards against which performance will be judged are listed in Section IV of the Participants’ Agreement (found in Volume 2 of this Plan). The regular monitoring system will consist of reports submitted by the participating jurisdictions every five years, starting in 2015. The reports will include descriptions of their jurisdiction’s activities pertinent to this plan for the preceding ten-year period, analysis as to whether and how well those activities meet performance standards in Section IV of the Participant’s Agreement, and a projection of activities for the next five-year period. Monitoring to ensure compliance with the adopted Plan will be a shared responsibility. Each city will be responsible for monitoring its adherence to the portion of the adopted Plan that is incorporated into its comprehensive plan. Jackson County, which will have the full adopted Plan incorporated into its comprehensive plan, will be responsible for overall monitoring.

Processing amendments to the adopted Plan will be the responsibility of Jackson County, and can only be proposed by the governing authority of a signatory jurisdiction. In acknowledgement of the collaborative process by which the adopted Plan was created, Jackson County will have available the assistance of the signatory entities to this Agreement through a Technical Advisory Committee and Policy Committee. Both committees serve on an as-needed basis, and both serve in an advisory capacity to Jackson County.

- **Technical Advisory Committee**

The TAC will be comprised of planners and senior-level staff from signatory jurisdictions and agencies, and each signatory will have one vote, irrespective of the number of participating representatives. Recommendations to the Policy Committee or directly to Jackson County will be made by at least a supermajority vote (simple majority plus one) of attending signatory jurisdictions and agencies.

- **Policy Committee**

The Policy Committee will be comprised of elected officials or executive staff from signatory jurisdictions and agencies. Each signatory jurisdiction will designate a voting and alternate voting member, and each signatory jurisdiction will have one vote. Recommendations to Jackson County will be made by at least a supermajority vote (simple majority plus one) of attending jurisdictions. State agencies, the MPO, and Rogue Valley Sewer Services, while Signatories, will not be voting members of the Policy Committee.

When an amendment to the adopted Regional Plan is proposed, Jackson County will make a preliminary determination regarding whether the proposed amendment is a Minor Amendment or Major Amendment, as defined below, will notify signatory jurisdictions and affected agencies (see exhibit 6-1) of the County’s preliminary determination, and will solicit input. Based on its preliminary determination, Jackson County will review the proposed amendment according to the procedures for Minor Amendments or Major Amendments set out below.

Proposed amendments to the adopted Plan will adhere to the following provisions:

A) **Minor Amendment**

A minor amendment is defined as any request for an amendment to the adopted Plan that:

- a) does not conflict with the general conditions listed in Section X of the Participants' Agreement or specific conditions of approval described in the adopted Regional Plan; and
  - b) does not propose an addition of more than 50 acres to a city's urban reserves established for a city in the adopted Regional Plan or more than a 50-acre expansion of the UGB into non-urban reserve rural land.
- In the case of Ashland, which did not establish urban reserves during the development of the Plan process, a proposal to establish an urban reserve or expand its UGB of not more than 50 acres will be considered a minor amendment.
  - Should a city exceed its limit of 50 acres for adding to its urban reserves during the term of the Agreement, it may not use the minor amendment process for further alterations to its urban reserves. Should a city exceed its limit of 50 acres for expanding its UGB into non-urban reserve rural land during the planning horizon, it may not use the minor amendment process for further expansions of its UGB into non-urban reserve land.
  - Any participant jurisdiction may initiate a minor amendment to the adopted Plan. The proposing jurisdiction must clearly identify the nature of the minor amendment, and specify whether the minor amendment would require any other signatory jurisdiction to amend its comprehensive plan. Should any signatory jurisdiction other than the proposing jurisdiction and Jackson County be required to amend their comprehensive plans as a result of the proposed minor amendment, the affected signatory jurisdiction will be a party to the minor amendment proceeding.
  - Jackson County's process, and the proposing jurisdiction's process, for a minor amendment to the Plan will be equivalent to the state and local required processes for a comprehensive plan amendment.
  - Signatories and agencies shall be provided with notice of the County's and proposing jurisdiction's final decision on each minor amendment request within five working days of the adoption of the final decision.

**B) Major Amendment**

A major amendment is defined as any requested amendment to the adopted Plan that does not meet the definition of a Minor Amendment.

- If multiple signatory jurisdictions are involved in a single request for a major amendment, a lead jurisdiction will be selected by the affected jurisdictions.
- Notice containing a detailed description of the proposed change will be forwarded by Jackson County to all signatories and affected agencies (see exhibit 6-1).
- Staff from signatory jurisdictions and agencies will meet as a Technical Advisory Committee and generate a recommendation to the Policy Committee by vote of at least a supermajority of those present (simple majority plus one).
- Decision-makers from signatory jurisdictions and agencies will meet as a Policy Committee and consider the proposal and the Technical Advisory Committee recommendation. Attending jurisdictions will constitute a quorum; and the Policy Committee will generate a recommendation to Jackson County by vote of at least a supermajority of those present (simple majority plus one).
- Jackson County's process, and the proposing jurisdiction's process, for a minor or major amendment to the Plan will be equivalent to the state and local required process for a comprehensive plan amendment, in addition to the Regional Plan-specific provisions. Signatories and affected agencies shall be provided with notice of the final decision on each major or minor amendment within five working days of the adoption of the final decision. Jurisdictions or agencies shall be noticed routinely or as needed according to Figure 5.1.

**Figure 5.1**

<b>JURISDICTIONS AND AGENCIES TO RECEIVE NOTIFICATION OF PROPOSED AMENDMENTS TO THE ADOPTED PLAN</b>		
Jurisdiction or Agency	Routine	As Needed
City of Eagle Point	X	
City of Central Point	X	
City of Medford	X	
City of Phoenix	X	
City of Talent	X	
City of Ashland	X	
Oregon Department of Transportation	X	
Oregon Department of Land Conservation and Development	X	
Oregon Department of Environmental Quality	X	
Oregon Economic and Community Development Department	X	
Oregon Department of Agriculture	X	
Oregon Housing and Community Development Department	X	
Rogue Valley Metropolitan Planning Organization	X	
Rogue Valley Sewer Services	X	
Medford Water Commission	X	
Rogue Valley Council of Governments	X	
City of Jacksonville		X
Oregon Department of Fish and Wildlife		X
Division of State Lands		X
Rogue Valley Transit District		X
Ashland School District #5		X
Central Point School District #6		X
Jackson County School District #9		X
Medford School District 549C		X
Phoenix-Talent School District #4		X
Eagle Point Irrigation District		X
Medford Irrigation District		X
Rogue Valley Irrigation District		X
Talent Irrigation District		X
Jackson Soil and Water Conservation District		X

## 6. RPS IMPLEMENTATION TECHNIQUES

The Regional Problem Solving Agreement contains “Optional Implementation Techniques”. This section explains how these optional techniques are applied in or through the Regional Plan to solve the Regional Problems and achieve the Regional Goals associated thereto. Implementation techniques noted here are organized according to Section V of the Regional Problem Solving Agreement (RPSA) found in Volume 2 of this Plan. The problem statement, associated goal and implementation technique from the RPSA are recited and are followed by the techniques’ execution by or through the plan.

### 6.1 *Optional Implementation Techniques*

**Problem No. 1.** Lack of a Mechanism for Coordinated Regional Growth Planning

**Goal No. 1** *Manage Future Regional Growth for the Greater Public Good*

#### Optional Implementation Techniques:

**1) Coordinated Periodic Review.** *Implementing Signatories may engage in a coordinated schedule of regular Periodic Reviews following the adoption of the plan. This regionally coordinated Periodic Review will begin in 2012, will take place every 10 years, and will coincide with the ten-year reviews of the adopted Plan. This coordinated Periodic Review will provide an opportunity to take advantage of an economy of scale in generating technical information, and to incorporate a regional perspective in the Periodic Review process, but it does not mandate a simultaneous or linked process among jurisdictions.*

This technique is given effect upon adoption of the Regional Plan. Execution of the technique, when utilized, will occur as a future action following Regional Plan adoption.

**2) Ten-year RPS Review.** *Implementing Signatories will abide by the review process described in Section VI of the RPSA. The review process complies with the monitoring requirement in the RPS statute, and affords participating jurisdictions flexibility in responding to changing regional and local circumstances by establishing a process and venue for amending the Plan.*

This technique is given effect upon adoption of the Regional Plan. Execution of the technique will occur as a future action following plan adoption and consistent with the procedures established in RPSA Section VI.

**3) Coordinated Population Allocation.** *Jackson County’s allocation of future population growth, a state-mandated responsibility of the County, will reflect the Implementing Signatories’ proportional allocation of future population within the Plan and its future amendments consistent with statute.*

The Regional Plan executes this strategy by extending the existing population allocations in the Jackson County Comprehensive Plan Population Element that end in 2040 out to the RPS Planning Horizon for participating jurisdictions. This is discussed further in Chapter 2 of this Plan.

**4) Greater Coordination with the MPO.** *As a proven mechanism of regional collaborative planning in the region, the MPO, as the federally designated transportation planning entity, will plan and coordinate the regionally significant transportation strategies critical to the success of the Plan. Of special focus will be the development of mechanisms to preserve rights-of-way for major transportation infrastructure, and a means of creating supplemental funding for regionally significant transportation projects.*

This technique is given effect upon adoption of the Regional Plan. Execution of the planning work to be accomplished by the technique is delegated to the Metropolitan Planning Organization (MPO). The MPO is a supporting signatory on the RPSA and an organization to which all Participants are a member.

**Problem No. 2**      Loss of Valuable Farm and Forest Land Caused by Urban Expansion

**Goal No. 2**          *Conserve resource and open space lands for their important economic, cultural, and livability benefits*

Optional Implementation Techniques:

**1) Long-Range Urban Reserves.** *The establishment of Urban Reserves sufficient to serve the doubling of the Region's urban population will allow long-term production decisions to be made on agricultural land not included in urban reserves.*

The Regional Plan executes this technique directly by establishing Urban Reserves for the participating jurisdictions. These reserves are discussed in Chapters 3 and 4 of this Plan.

**2) Regional Agricultural Buffering Standards.** *Implementing Signatories will apply the adopted Plan's set of agricultural buffering standards as a means of mitigating negative impacts arising from the rural/urban interface.*

This technique is executed after adoption of the Regional Plan through local land development ordinance amendments to be consistent with the standards in Volume 2, Appendix III of the Regional Plan.

**3) Critical Open Space Area (COSA) Preservation.** *The COSA strategies outlined in Appendix V of the Regional Plan are available as an option to Signatory jurisdictions interested in further accentuating or more permanently preserving areas of separation between communities (community buffers). These COSA strategies are not mandatory for any jurisdiction, and may be refined or expanded as individual jurisdictions see fit.*

This problem solving technique is supported but not independently established by the Regional Plan. The Regional Plan establishes a framework to undertake more specific open space preservation as part of future planning and acquisition efforts. The COSA strategies are outlined in this chapter above.

**Problem No. 3**     *Loss of Community Identity*

**Goal No. 3**     *Recognize and emphasize the individual identity, unique features, and relative competitive advantages and disadvantages of each community within the Region.*

Optional Implementation Techniques:

**1) Community Buffers.** *The establishment of Urban Reserves outside of the areas of critical open space provides for a basic level of preservation for the Region's important areas of community separation.*

The Regional Plan executes this technique directly by establishing Urban Reserves for the participating jurisdictions which do not include areas identified as critical open space.

**2) Allocating to Competitive Advantages.** *The Region agrees to a distribution of the calculated need of residential and employment lands among the Implementing Signatories necessary to support a regional doubling of the population. This distribution, which depends on a number of factors that relate to the comparative strengths and weaknesses of Implementing Signatories, allows each community to develop its own balance of viability and individuality within the larger regional matrix.*

This technique is implemented directly by the RPS Plan. This technique refines the regional growth planning into growth planning for population and employment for the individual participants according to the particular characteristics of the individual cities. The technique then extends this growth planning to land need for these individual growth planning activities.

**3) Critical Open Space Area (COSA) Preservation.** *The COSA strategies outlined in Appendix V of the Regional Plan are available as an option to Signatory jurisdictions interested in further accentuating or more permanently preserving areas of separation between communities (community buffers). These COSA strategies are not mandatory for any jurisdiction, and may be refined or expanded as individual jurisdictions see fit.*

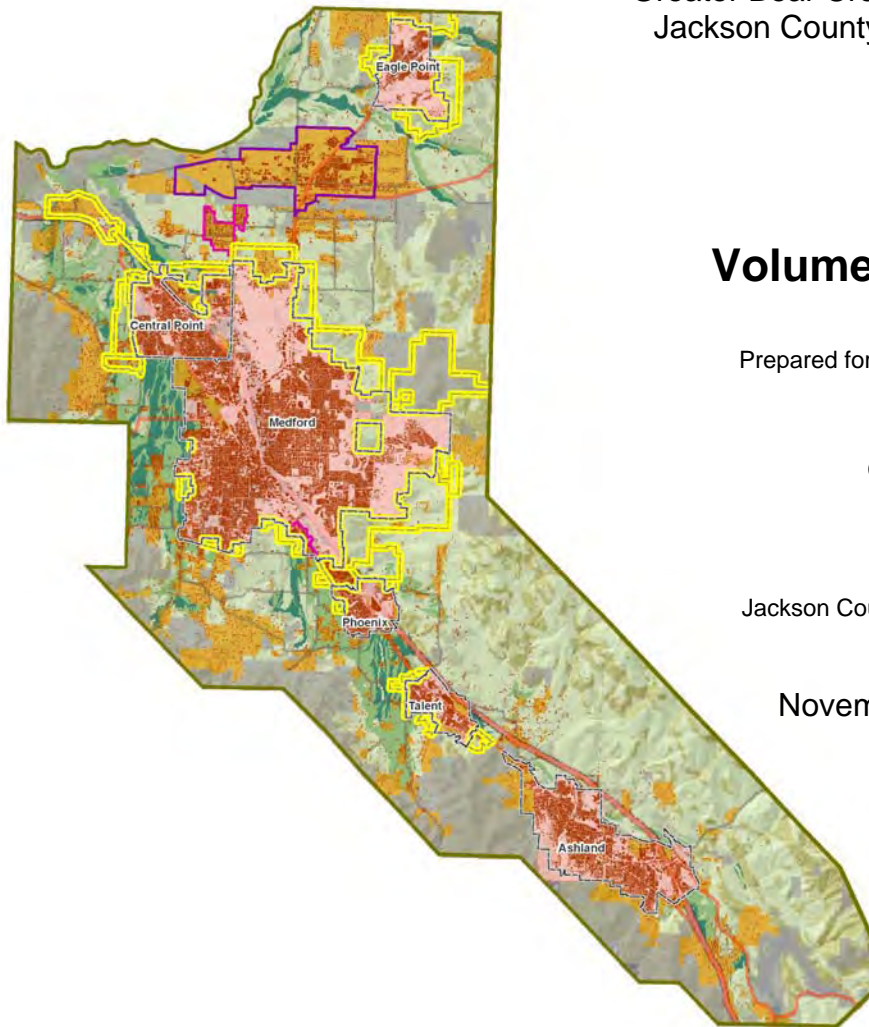
This problem solving technique is supported but not independently established by the Regional Plan. The Regional Plan establishes a framework that participants may undertake for specific open space preservation as part of future preservation efforts. The COSA strategies are outlined above in this chapter.

A Plan to Solve Regional Problems in Southern Oregon

# ***Draft Regional Plan Appendices***

for the

Greater Bear Creek Valley  
Jackson County, Oregon



## **Volume 2 of 3**

Prepared for the Cities of

Medford  
Ashland  
Central Point  
Eagle Point  
Phoenix  
Talent  
and  
Jackson County, Oregon

November 2009



# APPENDICES

---

DECEMBER 2002 “NOW X 2” NEWSPAPER INSERT .....	I
COMMERCIAL AGRICULTURAL LAND BASE CRITERIA .....	II
REGIONAL AGRICULTURAL BUFFERING STANDARDS.....	III
OPEN SPACE CHAPTER: GREATER BEAR CREEK VALLEY RPS PHASE ONE STATUS REPORT .....	IV
CRITICAL OPEN SPACE (COSA) STRATEGY .....	V
TRANSPORTATION PLANNING ANALYSIS UNIT (TPAU) MODELING REPORT .....	VI
REGIONAL ECONOMIC OPPORTUNITIES ANALYSIS .....	VII
REGIONAL HOUSING NEEDS ANALYSIS .....	VIII
REGIONAL LAND NEEDS SIMULATOR .....	IX
PARTICIPANTS’ AGREEMENT.....	X
MODEL URBAN RESERVE MANAGEMENT AGREEMENT (URMA).....	XI

# **Agricultural Buffering Standards – Establishing Effective Buffers Between Rural Agricultural and Urban Uses**

(June 6, 2006)

Prepared by the  
**Resource Lands Review Committee (RLRC)**  
of the  
**Rogue Valley Regional Problem Solving process**



# TABLE OF CONTENTS

<b>I</b>	<b>INTRODUCTION</b> .....	1
<b>II</b>	<b>PURPOSE</b> .....	1
<b>III</b>	<b>OBJECTIVES</b> .....	1
<b>IV</b>	<b>WORKING PRINCIPLES</b> .....	2
<b>V</b>	<b>APPLICABILITY OF THE STANDARDS</b> .....	3
<b>VI</b>	<b>BUFFER LONGEVITY</b> .....	4
<b>VII</b>	<b>MAJOR BUFFERING ELEMENTS</b> .....	4
	ELEMENT A – Chemical Spray Drift.....	6
	Problem Overview	
	Major Buffer Design Considerations	
	Solution Options	
	ELEMENT B – Noise .....	12
	Problem Overview	
	Assumptions	
	Noise Levels and Buffering Strategies	
	Solution Options	
	ELEMENT C – Sediment and Stormwater Run-Off.....	15
	Problem Overview	
	Buffering Considerations	
	Solution Options	
	ELEMENT D – Trespass and Vandalism.....	16
	Problem Overview	
	Buffering Considerations	
	Solution Options	
	ELEMENT E – Odor .....	17
	Problem Overview	
	Solution	
	ELEMENT F – Dust, Smoke, and Ash .....	18
	Problem Overview	
	Solution	
	BUFFERING DESIGN CRITERIA SUMMARY TABLES .....	19
<b>VIII</b>	<b>DEVIATING FROM THE STANDARDS</b> .....	24

# APPENDICES

<b>APPENDIX 1 – Spray Drift Buffer Criteria</b> .....	27
<b>SECTION A – TREE BUFFERS</b> .....	27
A1) Buffer Layout	
A2) Spacing and Number of Tree Rows	
A3) Tree Spacing within Rows	
A4) Tree Height at Planting	
A5) Tree Foliage Characteristics	
A6) Recommended Tree Species	
<b>SECTION B – BAMBOO BUFFERS</b> .....	34
B1) Buffer Layout	
B2) Bamboo Containment	
B3) Spacing and Number of Bamboo Rows	
B4) Bamboo Spacing within Rows	
B5) Height at Planting	
B6) Recommended Bamboo Species	
<b>SECTION C – TRESPASS-INHIBITING SHRUBBERY</b> .....	38
C1) Spacing and Number of Rows	
C2) Spacing within Rows	
C3) Foliage Characteristics	
C4) Overall Shrub Height	
C5) Recommended Trespass-Inhibiting Species	
<b>SECTION D – SCREENING SHRUBBERY</b> .....	39
D1) Spacing and Number of Rows	
D2) Spacing within Rows	
D3) Foliage Characteristics	
D4) Overall Shrub Height	
D5) Recommended Screening Shrub Species	
<b>SECTION E – TRANSITIONS BETWEEN DIFFERENT INTENSITY BUFFERS</b> .....	40
<b>SECTION F – NOISE MITIGATION FOR SENSITIVE RECEPTORS</b> .....	41
F1) Noise Zones	
F2) Minimum Criteria For Structural Noise Mitigation	
<b>SECTION G – FENCING</b> .....	44
G1) Fencing Specifications	
G2) Fencing Placement	
<b>SECTION H – OTHER DESIGN CONSIDERATIONS</b> .....	46
H1) Irrigation System	
H2) Road Placement	
<b>APPENDIX 2 – Definitions</b> .....	47
<b>APPENDIX 3 – Model Right to Farm Restrictive Covenant</b> .....	49
<b>APPENDIX 4 – Model Agricultural Buffering Ordinance</b> .....	51
<b>APPENDIX 5 – Reference Material</b> .....	57

# **Agricultural Buffering Standards – Establishing Effective Buffers Between Rural Agricultural and Urban Uses**

## **I – INTRODUCTION**

Good quality rural agricultural land is a finite and steadily shrinking state and regional resource that must be conserved and managed for the long term. A crucial element of Oregon's Statewide Planning Goals and Standards, developed out of Senate Bill 10 in 1969, is to "preserve and maintain rural agricultural lands" (Goal 3). The Oregon Legislature subsequently adopted policies (ORS 215.243 and 215.700) to further define how to preserve "the maximum amount of the limited supply of rural agricultural land", and the Department of Land Conservation and Development has developed numerous Administrative Rules in further support. Current state policies and law overwhelmingly mirror public opinion concerning rural agricultural land, with the most common reasons for preserving farmland having to do with its significant role in diversifying the regional economy, the important contribution it makes to the area's quality of life and culture, its ability to provide wildlife corridors, the protection it can provide to riparian areas, and even the temporizing effect it can have on the local microclimate.

One unintended consequence of the clear demarcation between rural and urban uses created by the statewide land use system in Oregon is the conflict often created by the sharpness of the transition from many urban uses to farming practices. Chemical spray drift, noise, dust, odor, and chemical run-off from the rural agricultural side affect new urban residents, and sediment, stormwater run-off, residential chemical spray drift, trespass, and vandalism impact the rural agricultural side. The closer the two uses are to each other, the more dramatic and long-term the problems are likely to be.

The most effective means of lessening the potential for conflict is separating the two uses. Although there are a variety of ways in which to achieve this separation, the most elemental is distance. The greater the distance, the greater the buffering effect. Unfortunately, land is at a premium in the Rogue Valley, and this region does not have the luxury of setting aside 1,000 feet or more of buildable urban land to mitigate potential conflicts between urban and rural uses. Therefore, buffer areas that are practical for this relatively narrow and densely populated valley will not totally eliminate all impacts of rural agricultural activities. The education of residents and farm operators, the employment of deed restrictions, siting requirements, construction standards, fencing, minimal separation distances, vegetative elements, and the use of best farming practices, including systems of spray notifications, are all useful mechanisms in avoiding as much conflict as possible.

## **II – PURPOSE**

The purpose of establishing a regionally applicable set of standards for buffering urban development from rural agricultural lands is to provide consistent technical guidance on reducing the potential for conflict between farming activities and urban uses (principally residential and institutional development). This purpose is in accordance with the Planning Guidelines of Statewide Planning Goal 3 (Agricultural Lands), which states that *urban growth should be separated from rural agricultural lands by buffer or transitional areas of open space*. The standards in this document are intended to assist local governments, developers, landholders, and consultants in arriving at the best buffering solution for urbanizing areas in juxtaposition to rural agricultural land.

### III – OBJECTIVES

These buffering standards seek to achieve the following objectives:

1. To ensure the continued use of farmland for farm uses.
2. To minimize potential conflict by developing, where possible, a well-defined boundary between rural agricultural and urban uses. The best boundary will be one that provides a sound transition in both directions, from rural to urban and urban to rural.
3. To minimize the impacts of urban development on rural agricultural production activities and land resources.
4. To minimize the potential for complaints about rural agricultural activities from urbanized areas.

### IV – WORKING PRINCIPLES

The buffering standards herein have been developed around the following considerations:

1. Adequate consideration of potential conflict between existing rural agricultural zoned lands and proposed urban levels of development is necessary during development assessment. **Significant conflict is assumed to be likely in all cases where urbanization is proposed within 500 feet of Class I - IV rural agricultural land. In addition, some lesser level of conflict is assumed possible within the next 500 feet from the urban/rural boundary.** Agricultural buffers that are appropriate to the realities of the region will not be successful in completely negating these potential conflicts, but can lessen their severity, frequency, and negative impact on both agriculture and urban quality of life.
2. Those individuals seeking to buy, rent, or lease urban properties within 1,000 of rural agricultural land should be informed in writing of the consequences of being located within a “rural agricultural impact zone.”
3. Local or regional long-range planning should avoid, as far as is practicable, locating urban sensitive receptors, primarily residential development, in proximity to rural agricultural land. Where urban sensitive receptors must be located near rural agricultural land, buffering mechanisms should be used to minimize potential conflicts.
4. The central concept in buffering is adequate separation between conflicting uses. There are a number of strategies for achieving this separation through planning decisions and the use of planning controls:
  - ◆ A well-designed vegetative buffering element will reduce the amount of land required for an effective buffer.
  - ◆ Man-made or natural features should be incorporated in buffers whenever possible, such as infrastructure rights-of-way, roads, non-residential structures, watercourses, wetlands, ridge lines, rock outcrops, forested areas, and steep slopes.
  - ◆ A buffer area can provide public open spaces or purpose-designed buffer areas (public recreational/natural areas) if the location is appropriate for satisfying a portion of the community's open space needs, the use of the buffer area as public open space is compatible with adjoining uses, the buffer area is not the community's principle provider of recreational opportunities, and the impacts from the adjoining rural agricultural use do not overly restrict the planned recreational use of the open space.
  - ◆ Existing areas of rural residential zoning can provide the required buffering if and when the rural residential lots provide a minimum of 200 ft. of separation between the urbanizing and rural agricultural land.
  - ◆ Existing small-acreage farms (5 acres or less) can provide the required buffering if and when the small acreage farms provide at least 200 ft of separation between the nearest farmable land (including animal enclosures) on the small-acreage farm land and the nearest planned urban sensitive receptor. The owners of these small-acreage farms must agree to the use of their property as a buffering mechanism.

- ◆ There is a publicly owned right of way that could be incorporated as part of the buffer.
5. It is unreasonable for new urban uses to require a modification of rural agricultural activities practiced according to recognized industry standards, especially if those modifications would hamper efficient rural agricultural operations. The existing use has precedence.
  6. Buffering mechanisms should be provided/funded by the proponent of the urban development. The buffering mechanisms will be physically located entirely on the urbanized property, unless:
    - ◆ there is a publicly owned right of way that could be incorporated as part of the buffer;
    - ◆ there is a naturally occurring area on the rural agricultural land that is permanently incapable of being farmed (rock formation, riparian area, etc.), is of sufficient depth, and is contiguous with the border of the urbanizing land or a publicly owned right of way;
    - ◆ the proponent of development purchases from the farm owner an easement on agricultural land of the appropriate length and depth, and pays for the establishment of whatever vegetative buffer, fencing, or irrigation system that would have been required on the urbanizing land; or
    - ◆ title to the area providing the physical portion of the buffer is transferred to the farm being buffered. If a vegetative buffer is indicated, it is installed by the developer. Whether a vegetative buffer is installed or not, the buffer is henceforth the responsibility of the farmer, and must be maintained as a buffer as long as the property remains zoned for resource use.
  7. The buffering mechanisms must be included in the development application and must be approved by the city **before or concurrent with** final approval for the development project.
  8. The city is responsible for enforcing compliance with all matters pertaining to the implementation of planned and approved buffering plans. The city shall permit developers flexibility in scheduling the establishment of the approved buffering mechanisms due to factors such as water availability, weather, and general logistics, although the buffer plan shall establish a sequencing of buffer mechanism implementation that demonstrates completion prior to either final plat sign off or - for larger lot buffers and in the event no land division occurs - final building inspection.
  9. Although flexibility in the nature and design of buffering mechanisms can be provided for in the event of significant localized circumstances, customized (flexed) buffer designs must be at least as effective as the buffering options established herein. Proposed flexed buffer designs must be clearly justified, with the burden of proof being on the proponent of urban development to show that the flexed buffer design will not reduce the intended level of protection.
  10. Class I – IV rural agricultural land is presumed to be of “high potential impact” due to the fact that it can be and often is used for a wide variety of different rural agricultural uses, and because new and as yet unforeseen uses and practices are likely to surface in the future. Therefore, these rural agricultural lands are assumed to require buffering mechanisms that mitigate the most likely high impact rural agricultural land use, regardless of present use. The only exception to this would be those class I – IV rural agricultural lands that have a long and essentially unbroken history of rural agricultural inactivity or grazing use. These, as well as all Class VI rural agricultural lands, would be considered of “low potential impact” (see *Element A - Chemical Spray Drift*).
  11. To mitigate a reduction of overall residential densities resulting from urban land dedicated to buffering mechanisms, a city shall permit the proponent of urban development to maintain planned densities through lot size averaging, clustering, planned development criteria, or similar techniques. The objective is to maintain minimum density across the development.
  12. Where conflicts already exist between rural agricultural and urban land uses, mechanisms including mediation, source controls, and public outreach are encouraged.

## V – APPLICABILITY OF THE STANDARDS

Although these buffering standards were developed to be applied to urbanizing lands originally selected as urban reserve lands identified through the Regional Problem Solving process “NOW X 2”, they can, at a city’s discretion, also be applied to future urban growth boundary expansions into non-urban



reserve lands, should changing conditions cause that to occur.

These standards can also be used by cities to buffer urban development occurring within already established urban growth boundaries from rural agricultural land outside the UGB (whether that rural land part of or not part of an Urban Reserve Area). The single greatest potential difficulty in applying these standards (which are generally more comprehensive than those presently in force in the region's cities) within existing UGBs is the possibility that there are single lots on the urbanizing side, not part of a larger development and less than 300 ft. in depth, which could suffer disproportionately from the economic impacts of the buffer requirements. In those cases, depending on the width of the lot, a proportionate buffering distance should be determined. Jackson County's **Alternative Setback Reduction Rules** (Jackson County 2004 Land Development Code chapter 8, Section 8.5.3(F)) provide an example of how such a proportionate distance could be calculated. An alternate means of buffering these relatively shallow parcels could be the use of a scaled-back bamboo-based vegetative buffer reduced to a minimum of 30' in width (a single rather than double row of bamboo spaced 10 ft. apart at planting), with an additional 5' width for a climb-resistant fence. Flexibility of this type is only permissible when applied to parcels within UGBs established prior to January 1, 2006.

## VI – BUFFER LONGEVITY

Depending on the location of the urbanization, whether it borders rural agricultural land that is either outside of the UGB but within an Urban Reserve, or wholly outside of an Urban Reserve, buffering mechanisms can be expected to have a shorter or longer useful life. There are two categories of buffers based solely on their projected longevities – **long-term and mid-term** buffers.

**Long-term Buffer:** Buffers providing protection to rural agricultural lands outside of Urban Reserve Areas. The rural agricultural lands being buffered are resource lands not identified for future urbanization in any state-recognized plan, either regional or municipal.

**Mid-term Buffer:** Buffers providing protection to rural agricultural lands within a city's Urban Reserve Area.

Long-term and mid-term buffers are closely related in their requirements, and both must be designed to preserve longer-term functionality. Nonetheless, because the rural agricultural land being protected by mid-term buffers is destined for conversion to urban uses within a distinct planning horizon, albeit a relatively long one, mid-term buffers must be designed for eventual conversion to urban uses. The specific buffering mechanism used in a mid-term buffer will depend on a number of factors: what is the most likely time period it will remain as a buffer; what are the important financial considerations affecting the proponent of development; and to what specific use will the buffer eventually be put once the rural agricultural land is urbanized – will the physical buffer eventually be converted to housing or to roads, or will it be used to provide a recreational use for the community?

For some mid-term buffers, *the simplest yet most effective solution to providing the buffer may be to defer the development of an appropriate portion of the urbanizing land bordering rural agricultural land until such time as that rural agricultural land is made urbanizable through its eventual incorporation into the UGB and subsequent annexation.*

## VII – MAJOR BUFFERING ELEMENTS

For the purposes of providing options for addressing the major potential sources of conflict between rural agricultural and urban lands, these sources of conflict have been grouped as follows:

**Chemical Spray Drift** – Principally this is rural agricultural chemical use, but can also apply to careless homeowner use of agrochemicals. Separation between urban and rural agricultural uses is the preferred tool, employing either simple distance or a combination of distance and a vegetative

buffer.

**Noise** – Noise is an impact arising from rural agricultural operations. A reasonable level of mitigation can be achieved through community design and construction standards for individual structures.

**Sediment and Stormwater Run-off** – These impacts arise from both the urban and agricultural sides, and can severely impact rural agricultural operations as well as urban health and livability. These negative impacts can be avoided or significantly reduced by appropriate erosion prevention and control measures during construction, and by an adequate stormwater master plan for the development that takes into account impacts from and on the adjoining rural agricultural land.

**Trespass and Vandalism** – Trespass and vandalism are considered by most farmers to be the most serious issue facing agricultural operations in proximity to urban areas. Climb-resistant fences and/or trespass-inhibiting shrubbery are means of reducing these impacts, as is placing the buffer into private ownership (the option of allowing larger urban lots with strict setback requirements).

**Odor** – One of the less important agriculture-related impacts in the Rogue Valley. Unless there are compelling, site specific reasons why this would be especially critical (such as the presence of a livestock feed lot), the occasional issues with odor should be sufficiently addressed by requiring that the owners, renters, and those leasing urban properties within 1,000 ft. of rural agricultural land receive notice through an explicitly worded restrictive deed covenant of the negative impacts to which they will likely be exposed as a result of living within 1,000 ft. of farm land (see Appendix 3).

**Dust, Smoke, and Ash** – Like odor, this grouping is one of the least important agriculture-related issues in the region, and, like odor, can addressed by the use of a restrictive deed covenant.

## **ELEMENT A – Chemical Spray Drift**

### **Problem Overview**

The off-target movement of rural agricultural chemicals can be a cause for concern to urban residents in proximity to farming areas based on fears of exposure, and/or due to associated odors. Currently there is no acceptable ambient air standard for rural agricultural chemical spray drift, which, along with noise and dust, is considered a common by-product of farming practices under Oregon's Right to Farm statute.

In Oregon, research and field trials have shown that spray drift from orchard airblast type sprayers over open ground can cover distances up to 500 feet, with most falling to earth within a 200 to 300 foot distance (less when applied under optimal conditions). Spray drift from tractor-mounted boom-type sprayers is usually significantly less. Although these Rogue Valley standards assume that farmers, as well as their employees and contractors, will use rural agricultural chemicals in accordance with reasonable and practicable measures as set out in the EPA-approved label and pesticide regulations of the state of Oregon, chemical spray drift can and will be affected by a variety of factors:

- chemical composition/formulation;
- method of application/release height;
- use of surfactants or other spray additives;
- spray technology;
- applicator experience;
- frequency of application;
- ability of target vegetation to capture spray droplets;
- target structure;
- weather conditions;
- microclimate;
- topography; and
- natural and man-made landscape features.

### **Major Buffer Design Considerations**

There are several major considerations affecting the design of buffers meant to mitigate chemical spray drift:

- ◆ Whether the adjoining agricultural land qualifies as "high potential impact" or "low potential impact";
- ◆ Whether the buffer will incorporate a vegetative element or not; and
- ◆ If a vegetative element is included in the buffer, whether it is designed to buffer "existing higher intensity" or "existing lower intensity" agricultural land.

**Differing Levels of Potential Impact** - The majority of the Class I – IV rural agricultural land to be buffered is considered to be of "high potential impact" due to the fact that it can be and often is used for a wide variety of different rural agricultural uses, and because new and as yet unforeseen uses and practices are likely to surface in the future. Nonetheless, there is a recognition that some rural agricultural land, by virtue of suitability and history, is of comparatively "low potential impact". The standards for buffering these rural agricultural lands are lower, based primarily on the reduced impacts of the rural agricultural practices on these lands – 50 to 100 ft. of separation between usable farmland and sensitive receptors, no vegetative buffers required, and just 50 ft. of separation for commercial and industrial uses, also without a requirement of vegetative buffers.

### When is Rural Agricultural Land Considered of “Low Potential Impact”?

Rural agricultural lands can be considered of low potential impact if they:

- 1) are composed of greater than 50% Class IV soils, can demonstrate an unbroken or essentially unbroken 25-year history of rural agricultural inactivity (fallow land) or grazing use, **and** which have one or more of the following (as determined by a certified soil scientist):
  - ▶ greater than 50% hydric soils;
  - ▶ greater than 50% shallow soils (surface to bedrock or permanent cemented hardpan) of less than 2 ft. in depth.

**OR**

- 2) are composed of greater than 50% Class VI or worse soil.

**OR**

- 3) are outside of an irrigation district’s zone of influence (defined as the area within an irrigation district’s present boundary, as well as areas presently lying outside, which cannot be considered ineligible on reasonable technical grounds – as determined by the most appropriate irrigation district - for a future expansion of an existing irrigation district).

**Buffers Without Vegetative Elements** - Buffers without vegetative buffers rely on sheer distance to control spray drift. In general in the Rogue Valley, in open ground conditions (without a vegetative buffering element), minimally effective buffers between urban sensitive receptors and high potential impact rural farmland should separate the two uses by between 100 and 200 ft. For non-sensitive receptors (commercial, professional, and industrial), that distance can be between 50 and 100 ft. While more land is necessary for a buffer without a vegetative element than for a buffer with one, the cost and complications associated with vegetative buffers, plus the long-term maintenance, can be avoided. Additionally, future urbanization is simplified.

There is flexibility in what can be included in a buffer to satisfy the required linear distances. For non-vegetative buffers, distance can be achieved by including one or more of the following components:

- ▶ Developable land devoted to buffering use;
- ▶ Man-made or natural features, such as infrastructure rights-of-way, roads, non-residential structures, watercourses, wetlands, ridge lines, rock outcrops, forested areas, and steep slopes;
- ▶ Non-farmable areas of the farmland being buffered (including yards, storage areas, roads, and all structures);
- ▶ Publicly owned land without significant present or projected public use (as determined by the public entity owning the land);
- ▶ Existing developed rural residential, rural commercial, or rural industrial parcels, within the urban reserve, and of at least 200’ in depth as measured from a shared property line with EFU-zoned land (these parcels to be used for buffering, if contiguous with the urban reserve/rural border, must be at least 300 ft. in depth to ensure future developability);
- ▶ A purchased easement (at least 200 ft. in depth) on agricultural land;
- ▶ A portion (at least 200 ft. in depth) of the proponent of development’s land temporarily withheld from development to provide a mid-term buffer. This temporarily withheld land (which could be zoned under any of the county’s designations) would be eligible for development upon the annexation of the rural agricultural land it buffers;

**Buffers With Vegetative Elements** - Research and field trials have shown well-designed vegetative buffers can be effective in capturing up to 80% of pesticide spray drift from an application upwind of even a single row of appropriate species of trees. The better designed the planting, the better the protection, and the more likely the effectiveness of the planting would be able to withstand the damage or death of individual trees. Where a vegetative buffer element can be satisfactorily established and maintained, or where one exists that is of acceptable width, composition, density (or optical porosity), and location, a minimum total width of 75 ft. to 100 ft. for urban sensitive receptors, and 50 ft. for commercial and industrial uses, will suffice.

A major advantage to the proponent of development in establishing a vegetative element is the ability to halve or more than halve the separation distance (50, 75, or 100 ft. instead of 100 to 200 ft.), which represents a savings to development. There can be further cost reductions in plant materials, labor, and material depending on whether the vegetative element is designed to buffer "existing higher intensity" or "existing lower intensity" agricultural land.

#### Existing Higher Intensity

Rural agricultural land would qualify for an "existing higher intensity buffer" if it includes existing plantings (or scheduled plantings within one year of projected buffer completion date, as determined by documented consultation with the owner/operator of the farming operation) of long-term crops with a height at maturity exceeding 4 ft. In the Rogue Valley, these are primarily vineyards and orchards (fruit or nut trees), but may also include other higher intensity crops as determined by the local Extension Service or the Oregon Department of Agriculture.

*Design Summary (see Sections A and B of Appendix 1 for full details):*

Tree-based buffer – 3 rows

Bamboo-based buffer – 3 rows (20 ft. between rows, 10 ft. between plants)

#### Existing Lower Intensity

Rural agricultural land would qualify for an "existing lower intensity buffer" if it includes fallow land, land of potential high impact presently being used for grazing, or crops of any type with a height at maturity below 4 ft. In the Rogue Valley these are primarily row crops and hay fields, and all uses other than those falling under the definitions of "Existing Higher Intensity".

*Design Summary (see Sections A and B of Appendix 1 for full details):*

Tree-based buffer – 2 rows

Bamboo-based buffer – 2 rows (20 ft. between rows, 10 ft. between plants)

While the presumption is that any rural agricultural lands of high potential impact could establish crops and institute practices of higher intensity in the future (such as orchards), and thus buffers appropriate for these lands must all eventually be capable of buffering higher intensity rural agricultural practices, present use is a good indicator of near-future practices. Existing higher intensity practices require a more robust buffer earlier than lower intensity uses, while buffers designed for initial lower intensity will suffice to serve less intense uses during their early development. At or near functional maturity, lower intensity buffers will also suffice to provide adequate mitigation of spray drift from higher intensity uses (should those eventually occur).

The primary advantage in allowing these initial differences in buffer design is a reduction in short-term (and some long-term) costs. In tree-based buffers, it is a reduction of one row of trees, from three rows in the higher intensity buffer to two rows in the lower intensity buffer (although spacing between trees is reduced slightly in the two-row buffer). In bamboo-based lower intensity buffers, there is a reduction of one row of plant materials, from three rows in the high intensity buffer to two in the lower intensity.

For tree-based vegetative elements of buffers of any intensity, the requirements can be partially or fully satisfied by existing areas of trees and brush, as long as their buffering effect is essentially the same as that intended by the requirements in Appendix 1. If the characteristics of the existing vegetation do not meet the requirements in Sections A – D of Appendix 1, and so cannot substitute in full or in part for an adequate vegetative buffer, then the area can either be incorporated into the buffer design at half its “value” (for example, a 20 ft. wide riparian area would be calculated as 10 ft. of vegetative buffer), or it can be left out of the vegetative element and calculated at its original width (20 ft. of existing vegetation would be considered as 20 ft. of bare land).

Due to the fact that structures, solid walls, and other impermeable or very dense objects force air flow around or over themselves, these are not considered substitutes for vegetative buffer elements – in fact, depending on their location and characteristics, their effects may actually be counterproductive.

In all cases, and under all conditions, the vegetative buffer must be designed, installed, and signed off on by licensed or certified professionals such as landscape architects, landscape contractors, arborists, irrigations systems contractors, and reforestation experts. Each buffer should be designed with consideration for the unique characteristics of each site, especially aspect, existing vegetation, soil quality and depth, topography, adjacent land uses, and the microclimate. Also important will be the local availability of plant materials and the use of native plants.

### Element A – Chemical spray drift

**Objective:** To locate new urban development so that the impact of rural agricultural chemical spray drift on health and amenity is avoided and complaints from residents regarding the use of rural agricultural chemicals is minimized.

**Performance Criteria:** Urban development to be located or incorporate measures such that chemical spray drift does not adversely affect community public health and safety, and does not lead to significant levels of complaints concerning adjacent rural agricultural operations.

#### Solution Options

##### HIGH Potential Impact Agricultural Land SENSITIVE Receptors

(1) 100 ft of separation between the outermost urban sensitive receptor and the nearest farmable rural agricultural land, with an adequate tree-based vegetative buffering element. The buffer must incorporate the criteria in Appendix 1, with the appropriate design keyed to the adjoining present use – *higher* or *lower intensity*. The vegetative element must be located between the urban sensitive receptors and adjacent rural agricultural land, preferably closer to the spray source than the receptor. The buffer can include or be entirely composed of rural agricultural land on which an easement has been purchased, and on which no agricultural activity that could lead to complaints from adjoining urban uses would be allowed.

The buffer must be:

- provided with a suitable watering system;
- composed of plant species that will not harbor pests or diseases damaging to the local agriculture (Appendix 1, the Extension Service, or the Oregon Departments of Agriculture or Forestry are the primary sources of information for determining this);
- acceptable to the owners of the adjoining rural agricultural land;
- provided with a legally enforceable long-term maintenance plan; and
- composed of native or locally acclimatized plants to the extent practicable.

or:

(2) 75 ft of separation between the outermost urban sensitive receptor and the nearest farmable rural agricultural land, with an adequate bamboo-based vegetative buffering element. The buffer must incorporate the criteria in Appendix 1, with the appropriate design keyed to the adjoining present use –

*higher or lower intensity.* The vegetative element must be located between the sensitive receptor and adjacent rural agricultural land, preferably closer to the spray source than the receptor. The buffer can include or be entirely composed of rural agricultural land on which an easement has been purchased, and on which no agricultural activity that could lead to complaints from adjoining urban uses would be allowed.

The buffer must be:

- provided with a suitable watering system;
- composed of plant species that will not harbor pests or diseases damaging to the local agriculture. (Appendix 1, the Extension Service, or the Oregon Departments of Agriculture or Forestry should be the primary sources of information for determining this);
- acceptable to the owners of the adjoining rural agricultural land;
- provided with a legally enforceable long-term maintenance plan; and
- composed of native or locally acclimatized plants to the extent practicable.

or:

(3) 200 ft of separation between the outermost urban sensitive receptor and the nearest farmable rural agricultural land without the presence of an adequate vegetative buffering element. The buffer can include or be entirely composed of rural agricultural land on which an easement has been purchased, and on which no agricultural activity that could lead to complaints from adjoining urban uses would be allowed.

or:

(4) 100 ft of separation with a vegetative buffer between the outermost sensitive receptor and the nearest farmable rural agricultural land through setbacks on larger individual urban lots adjoining the Urban Reserve Boundary where buffering is anticipated to be long-term. Lots should be designed to provide the appropriate separation, while allowing sufficient area available for normal residential use, and shall be possible only if their use will not cause the development's average density to drop below the zone's minimum. Additionally, this option shall be subject to the following:

- A minimum building setback of 100 feet from the agricultural land, within which structures such as living quarters, decks, patios, gazebos, carports, pools or children's play areas cannot be located. Fences may be located within this area, as may garages or storage outbuildings, provided they do not include workshop or living spaces.
- Except for fences and garden-related apparatus, no structures shall be located within 50 feet of the adjacent agricultural land. This area shall otherwise contain only a vegetative buffer of trees that meets the density and size requirements for *lower intensity* specified in Appendix 1. The buffer must be composed of plant species that will not harbor pests or diseases damaging to the local agriculture (Appendix 1, the Extension Service, or the Oregon Departments of Agriculture or Forestry are the primary sources of information for determining this), and must be provided with a suitable watering system. To the extent practicable, the buffer should be composed of native or locally acclimatized plants. Maintenance of the vegetative buffer is the responsibility of the urban property owner.
- The vegetated buffer shall be planted no later than the final inspection.
- An adequate watering system shall be installed no later than the final inspection.
- A fence with a minimum height of six feet and meeting the minimum specifications in Section G of Appendix 1 shall be constructed along the property line separating the urban and rural properties. The fence shall be constructed prior to final inspection. Maintenance of the fence is the responsibility of the urban property owner.
- The larger lots must be part of a development large enough that the loss in density can be compensated for in another portion of the development. In no circumstances shall the larger lot buffers cause the overall density of the development to fall below the minimum zone density.
- At the time of subdivision, restrictive covenants and/or plat notes shall provide notice of the above setbacks and buffering requirements through a statement similar to the following: "Lots \_\_\_\_\_ adjoin an Urban Reserve Boundary, separating urban and agricultural land. In order to preserve and protect the viability of the adjacent agricultural land, these lots are subject to additional restrictions as follows:...(reference to restrictions if a plat note or actual restrictions here if in covenants)..." Covenants shall also include the following: "These provisions are regulations of the City of \_\_\_\_\_, who may take enforcement action relative thereto. They may be modified or eliminated only through the recording of document(s) signed by appropriate representatives of the City of \_\_\_\_\_"

\_\_\_\_\_ and Jackson County. Modifications may occur only if appropriate to reflect changed regulations of the city, and termination shall take place only if the subject lots no longer adjoin agricultural land.”

**HIGH Potential Impact Agricultural Land  
NON-SENSITIVE Receptors**

(1) 50 ft of separation between the outermost urban industrial or commercial structure or area of regular concentrations of individuals on industrially or commercially zoned land and the nearest farmable rural agricultural land. A vegetative buffer designed for lower intensity use must be included within the buffer. The buffer can include or be entirely composed of rural agricultural land on which an easement has been purchased, and on which no agricultural activity that could lead to complaints from adjoining urban uses would be allowed. The buffer must incorporate the criteria in Appendix 1, and must be:

- provided with a suitable watering system;
- composed of plant species that will not harbor pests or diseases damaging to the local agriculture (Appendix 1, the Extension Service, or the Oregon Departments of Agriculture or Forestry should be the primary sources of information for determining this);
- acceptable to the owners of the adjoining rural agricultural land;
- provided with a legally enforceable long-term maintenance plan; and
- composed of native or locally acclimatized plants to the extent practicable.

or:

(2) 100 ft of separation between the outermost urban industrial or commercial structure or area of regular concentrations of individuals on industrially or commercially zoned land and the nearest farmable rural agricultural land. The buffer can include or be entirely composed of rural agricultural land on which an easement has been purchased, and on which no agricultural activity that could lead to complaints from adjoining urban uses would be allowed.

**LOW Potential Impact Agricultural Land  
SENSITIVE Receptors**

(1) 100 ft of separation between the outermost urban sensitive receptor and the nearest portion of low potential impact land suitable for any rural agricultural use. The buffer can include or be entirely composed of rural agricultural land on which an easement has been purchased, and on which no agricultural activity that could lead to complaints from adjoining urban uses would be allowed.

or:

(2) 50 ft of separation between the outermost urban sensitive receptor and the nearest portion of low potential impact land suitable for any rural agricultural use through setbacks on larger individual lots immediately adjacent to the rural farmland being buffered. The lots must be of sufficient size to allow a minimum setback of 50 ft., within which structures such as living quarters, decks, patios, gazebos, carports, pools or children’s play areas cannot be located. Fences may be located within this area, as may garages or storage outbuildings, provided they do not include workshop or living spaces.

**LOW Potential Impact Agricultural Land  
NON-SENSITIVE Receptors**

(3) 50 ft. of separation between the outermost urban industrial or commercial structure or area of regular concentrations of individuals on industrially or commercially zoned land and the nearest portion of low potential impact land suitable for any rural agricultural use. The buffer can include or be entirely composed of rural agricultural land on which an easement has been purchased, and on which no agricultural activity that could lead to complaints from adjoining urban uses would be allowed.



## **ELEMENT B – Noise**

### **Problem Overview**

There are several sources of noise generally associated with rural agricultural activity in the Rogue Valley that may lead to land use conflict. These are noises associated with intensive livestock facilities, constant or very long-term noise from fixed installations (e.g. pumps, refrigeration and processing plants), and occasional or intermittent noise from tractors, wind-generating frost control equipment, spray equipment, and other machinery. Of these, the most important are occasional or intermittent noises from wind machines, tractors, and spray equipment (especially airblast sprayers).

The recommendations that follow are designed to mitigate the most serious noise impacts, but will not fully resolve the issue. Noise from rural agricultural activities, especially the relatively occasional noise from wind machines, tractors, and spray equipment are part of the reality of rural life. Individuals choosing to live in proximity to rural agricultural land must understand that this proximity exposes them to inconveniences that are endemic to the area in which they have chosen to live.

Many noise-generating activities associated with agriculture are intermittent and may affect a particular adjacent residence for only a few hours several times a year (e.g. wind machines in orchards; bird cannons in berries or grapes). **However, it should be noted that many farm activities require operation of equipment in the evening or very early morning hours due to crop or livestock conditions or critical temperature and wind condition parameters that, despite the personal wishes of the farmer, effectively dictate the necessity and timing of such activities.** It should also be noted that the nighttime or very early morning operation of rural agricultural equipment on a given parcel can and will differ from year to year, depending on climatic conditions and the type of crop.

Due to the comparatively intensive settlement of the Rogue Valley, and the high level of urban intrusion into rural agricultural areas, the most effective and basic means of mitigating for noise—through separation distances that might have to measure in the several thousands of feet—is not feasible. On the other hand, noise from rural agricultural operations is one of the most controversial and polarizing issues within the residential/rural agricultural interface, and must be addressed as an issue in effective buffer designs. A reasonably effective, financially feasible means of buffering for noise in the Rogue Valley must be a compromise between cost and results.

### **Assumptions**

One strategy in addressing the issue of noise is a strong, explicit restrictive deed covenant directed at the owners of urban land in proximity to rural agricultural land. As stated previously, individual urban land owners must be informed, in detail, of the range of impacts they will be exposed to living within 1,000 feet of rural farmland, with noise being one of the most potentially significant of these. This notification is critical because noise from rural agricultural operations cannot be cost-effectively mitigated to the degree that spray drift can, and therefore will likely remain a contentious issue in the future in some parts of the valley.

One major reality of cost-effective noise buffering is a focus on “interior noise exposure” as the measure of noise level acceptability, rather than a combination of interior and exterior and/or day and night noise levels. The control of interior noise levels is practical with the use of strategies such as structure orientation, construction standards, noise mitigating materials, the distribution of rooms within the house, the use of auxiliary structures such as garages to block sound, and the use of terrain and natural features to affect the intensity of sound that reaches and is transmitted through the structure. While it is true that some of these, such as the orientation of structures, and the use of terrain and natural features of the area can also mitigate exterior noise levels, the effect will probably

not be as consistent across a property or in all situations.

The major reason that mitigating for exterior noise levels is not feasible is the cost-benefit of addressing rural agricultural noises that are intermittent at best, usually not exceeding 150 – 200 hours per year, and that are inherently and technically difficult to address. The few potential strategies to address exterior noise – distance, barriers, and reduction of source machine output - all present significant constraints to reasonable mitigation.

Relying on distance is not a viable option for much the same reason that it wasn't the mechanism of choice for spray drift – too land intensive. To achieve an exterior noise level of just a typical quiet daytime urban area would require approximately 1,500 ft. It could take another 500 ft. or more to reach the level of a quiet urban nighttime.

An alternative to distance in mitigating exterior noise levels would be a sound barrier of the type used alongside highways. Not only are the aesthetic drawbacks of such construction considerable (especially since most people locating on the urban fringes are doing so because of the attraction of the rural landscape), but the cost of such walls would be considerable. In addition, they are only effective if they interfere with the line of sight of receptor and source — taller buildings from the urban side, wind machines from the rural side, and significant slopes on either side would reduce the effectiveness of the barrier. Finally, because of its height and lack of permeability, a sound barrier could actually be counterproductive for spray drift mitigation.

The last major potential mechanism in noise mitigation would be the reduction of the source machines' output. To date, the only real effective means of mitigating noise source directly is the construction of a containment building, such as a pump house or a building for a generator, for fixed noise producers. Because the most significant agricultural noise producers are not small, fixed machines, but rather are large and fixed (such as a wind machine) or mobile (such as a tractor with or without spray equipment), the potential for direct noise mitigation is not significant.

The main advantage of using interior noise levels as a measure of adequate noise mitigation is the fact that the vast majority of complaints about rural agricultural noise occur when that noise is generated at night and in the early morning, between the hours of 10:00 PM and 6:00 AM, at which time potential complainants are invariably attempting to sleep. This means that the individuals to be buffered from the noise are usually in a controllable space that is relatively easily engineered. The main disadvantage of relying on interior noise levels is the human factor. For a noise mitigation strategy that incorporates a number of measures to reduce the total sound transmission into a living space to be effective, people must cooperate. Just one open window can defeat even the costliest noise mitigation measures. Nonetheless, it is a reasonable assumption that individuals with full knowledge that they are choosing to live in an area in which they will be exposed to certain noise levels on an intermittent basis (at any time of night and day), and who are provided with the means (such as their windows) to mitigate these occasional unacceptable levels of noise, should be expected to do so when it becomes necessary.

### **Noise Levels and Buffering Strategies**

In all circumstances in which buffering from chemical spray drift is required, noise mitigation is indicated for urban sensitive receptors within the first 500 feet of the rural/urban boundary. These 500 feet are divided into four Noise Zones (see section F of Appendix 1 for details). Each Noise Zone specifies Sound Transmission Class (STC) ratings for the exterior envelope sufficient to mitigate agricultural noise to an approximate interior nighttime level of 45 d(B)A. For all noise mitigating solution options, an agricultural noise source of 90 dB(A), of mid to higher frequencies, is used as the most likely higher-level rural agricultural noise. The agricultural noise source is assumed to be located

25 ft. from the rural/urban boundary, and is assumed to have attenuated (lessened) to 90d(B)A at the urban/rural boundary. The use of this noise standard of 90 dB(A) compares favorably with readings conducted in the Rogue Valley on the most commonly complained-about noise producers—tractors, airblast sprayers, and wind machines.

**Element B – Noise from rural agricultural activities**

**Objective:** To mitigate the interior noise impacts of rural agricultural activities.

**Performance Criteria:** Sensitive receptors to be located or incorporate measures such that rural agricultural noise does not adversely affect community public health and safety, and does not lead to significant levels of complaints concerning adjacent rural agricultural operations.

**Solution Options**

**HIGH or LOW Potential Impact Agricultural Land  
SENSITIVE Receptors**

(1) Construction and placement of urban sensitive receptors within 500 ft. of the rural/urban boundary will comply with the following criteria for the acoustic design of the exterior building envelope and for the ventilating system and its parts (see details in Section F of Appendix 1).

Noise Zone 1	0 to 50 ft. from rural/urban boundary	no new sensitive receptors
Noise Zone 2	51 to 175 ft. from rural/urban boundary	exterior walls = STC-45 exterior windows = STC-38 exterior doors = STC-33 roof/ceiling assembly = STC-49 ventilation = see F2 in Appendix 1 for details
Noise Zone 3	176 to 375 ft. from rural/urban boundary	exterior walls = STC-40 exterior windows = STC-33 exterior doors = STC-33 roof/ceiling assembly = STC-44 ventilation = see F2 in Appendix 1 for details
Noise Zone 4	376 to 500 ft. from rural/urban boundary	exterior walls = STC-35 exterior windows = STC-28 exterior doors = STC-26 roof/ceiling assembly = STC-39 ventilation = see F2 in Appendix 1 for details

**or:**

(2) Design measures from a qualified acoustic consultant will be incorporated in community and individual structure design to achieve a sound transmission loss sufficient to reduce exterior noise levels to a maximum of 45 dB(A) within sensitive receptor structures. A standard agricultural noise source of 90dB(A) of mid to higher frequencies, measured at the rural/urban growth boundary, and originating 25 ft. into the rural property, is assumed.

## **ELEMENT C – Sediment and Stormwater Run-off**

### **Overview**

Urban development affects land surface characteristics and the hydrological balance, with the impacts often occurring on farmland located lower in the landscape. The increase of impermeable surfaces and changes to drainage patterns can accelerate soil erosion, siltation and sedimentation; and increase the risk of flooding. Techniques to alleviate conflict due to downstream effects of residential development highlight suitable erosion, sediment, and stormwater control during the construction and operational stages of a development.

### **Buffering Considerations**

Whenever possible, the 50 to 200 ft. width of the spray drift buffers should be considered an important option for mitigating sediment and stormwater run-off. Options can include provisions for erosion controls during the construction and operation phases of the development, and permanent management of stormwater run-off. If the use of the buffer areas is not possible, all erosion control and permanent stormwater management must take place within the built portion of the development.

**Ongoing maintenance and enforcement must be identified and incorporated into the conditions of approval prior to the start of construction.**

### **Element C – Sediment and stormwater run-off from development**

**Objective:** To design new urban development so that the impact of run-off and sediment from urban development areas onto rural agricultural land is minimized.

**Performance Criteria:** Urban development to be located or incorporate measures to minimize the impact of urban-derived sediment and storm water run-off onto rural agricultural land.

### **Solution**

#### **HIGH or LOW Potential Impact Agricultural Land**

#### **SENSITIVE or NON-SENSITIVE Receptors**

Urban development proposals to include the following:

- (1) Urban development proposals to include the following:  
an erosion control and prevention plan for the construction and operation phases of the development that meet current federal, state, and local standards, especially as concerns the conveyance of stormwater run-off from all hard surfaces (including roads, roofs, driveways etc.) to stable waterways, and measures such as water detention and retention implemented within the buffer area and/or the built area to reduce peak flow during runoff events to levels acceptable for the existing stream.

## ELEMENT D – Trespass and Vandalism

### Overview

One of the most damaging effects of urban proximity to farmland is the issue of trespass and vandalism. Trespass is important not just because it is the necessary precursor to vandalism, but because of the significant liability issues connected with the accidental exposure of trespassers to chemicals and the danger of heavy machinery. Vandalism itself may be the single most common reason given by many agriculturists with land adjacent to urban areas for claiming that their land is no longer agriculturally viable. Interestingly, vandalism is often highest in areas with elevated levels of complaints from nearby residents about noise and chemical spray.

### Buffering Considerations

Although important in creating a physical separation between development and rural agricultural land, the width of the spray drift buffers themselves, even with a vegetative element, will not prevent trespass. In fact, without the inclusion of some element to frustrate trespass, buffers could be the object of vandalism themselves, thus potentially compromising their ability to appropriately mitigate spray drift. Unless there is a significant natural barrier to trespass incorporated into the buffer, such as a steep draw, a deep, permanent creek, a very dense, established stand of blackberries, a cliff, or something similar, a fence or other man-made barrier will have to be incorporated. As specified in Section G of Appendix 1, the recommended man-made barrier is a minimum 6 ft. chain link fence designed to be difficult to scale. If the fence is to be added to a larger lot residential setback buffer, it may be of other materials, but must be of the same minimum height and must be climb resistant. With the residential setback buffers, the fence is to be established at the urban/rural property line; with all other non-vegetative, non-setback buffers the fence should be on the development/buffer boundary (or, if there is some community use of part of the buffer, then between the community use and the rest of the buffer), and with vegetative buffers, on the development side of the vegetative element (or, if there is some community use of part of the buffer, then between the community use and the rest of the buffer). See Section G of Appendix 1 for potential fence placements. In lieu of a fence, trespass-inhibiting shrubs may be planted. These shrubs would become part of the buffer, and would have to be established at the same time the buffer is.

### **Element D – Trespass and vandalism from urban development**

**Objective:** To provide protection for rural agricultural land from trespass and vandalism.

**Performance Criteria:** Natural or man-made barriers to be incorporated in buffers to provide protection for rural agricultural land from trespass and vandalism originating from urban development.

### **Solution Options**

#### **HIGH or LOW Potential Impact Agricultural Land**

#### **SENSITIVE or NON-SENSITIVE Receptors**

(1) Incorporate significant natural barriers in buffer areas;

**or:**

(2) Establish a minimum 6 ft climb-resistant fence of durable materials either on the rural/urban property line of residential setback buffers, on the buffer/development boundary of non-vegetative, non-setback lot buffers (or, if there is some community use of part of the buffer, then between the community use and the rest of the buffer), and with vegetative buffers, on the development side of the vegetative element (unless there is an agreed-upon need for access to the vegetative element from the development side). See Section G of Appendix 1 for details.

**or:**

(3) Establish a planting of trespass inhibiting shrubs. These shrubs can be incorporated in a vegetative element, or can be stand-alone. They must adhere to the criteria in Section G of Appendix 1.

## **ELEMENT E – Odor**

### **Overview**

Odor has been determined to be of lesser importance in the majority of cases in the Rogue Valley. Odor in rural areas can arise from use of rural agricultural chemical sprays, fertilizers, effluent disposal, intensive livestock operations, and composting plants. Such odors can have a negative impact on urban residential quality of life, but rarely have the potential to affect public health. Confined animal feeding operations (CAFOs) are subject to their own set of regulations.

Odor is often a major factor in many complaints about off-site chemical spray drift where there is actually no real toxic exposure. Some rural agricultural chemicals contain 'markers' (strong odors) to allow easy identification, so it is these markers or mixing agents that are often detected at some distance from the target area and cause concern, even though in many instances only extremely low levels of the active ingredients may be present. Residents' association of the odor with the chemical is sufficient to raise fears of exposure.

Factors affecting complaints from odor are influenced by the frequency, intensity, duration and offensiveness of the odor. An objectionable odor may be tolerated if it occurs infrequently at a high intensity; however, a similar odor may not be tolerated at lower levels if it persists for a longer duration or more frequently. In addition, tolerance of rural agricultural odors is highly subjective and varies greatly among individuals.

Odor can be emitted from a variety of sources and is dispersed by the atmosphere, and typically seems worse during hot weather. Ground level concentrations of odor have been reported as being inversely related to wind speed and atmospheric conditions, i.e. the lower the wind speed and the more stable the conditions, the higher the concentration. The subjective nature of conflict resulting from exposure to odor makes the determination of design goals difficult. Unlike chemical spray drift that is in the form of liquid droplets, odors are in the form of gases and can thus travel and be detected at greater distances. Other than relying on the restrictive covenant, no feasible cost effective measures are available to the developing urban areas for mitigating most odor issues.

### **Element E – Odor**

**Objective:** Odor as a by-product of rural agricultural operations will have a minimal negative effect on rural agricultural operations.

**Performance Criteria:** Awareness of the probability of rural agricultural operations causing odor, and of their right to do so under Oregon law, will be emphasized.

### **Solution**

#### **HIGH or LOW Potential Impact Agricultural Land**

#### **SENSITIVE or NON-SENSITIVE Receptors**

- (1) All urban properties within 1,000 ft. of rural agricultural lands will have a restrictive covenant attached to their deeds clearly stating that urban residents in proximity to rural agricultural land will likely be exposed to a variety of odors from agricultural operations.

## **ELEMENT F – Dust, Smoke, and Ash**

### **Overview**

Dust, smoke, and ash, like odor, have been determined to be of lesser importance in the Rogue Valley. Although some rural agricultural activities, including cultivation prior to planting, tractor and transport movements, crop harvest, legal frost protection heaters, and prescribed fires for disease control can generate dust, smoke, and ash, this is considered to be of little importance as a rural/urban antagonist in the Rogue Valley. As with odor, above, the inclusion of the probability of exposure to dust, smoke, and ash in the restrictive covenant is considered sufficient mitigation.

### **Element F – Dust, smoke, and ash**

**Objective:** Dust, smoke, and ash, as a by-product of rural agricultural operations will have a minimal negative effect on rural agricultural operations.

**Performance Criteria:** Awareness of the probability of rural agricultural operations causing dust, smoke, and ash, and of their right to do so under Oregon law, will be emphasized.

### **Solution**

#### **HIGH or LOW Potential Impact Agricultural Land SENSITIVE or NON-SENSITIVE Receptors**

(1) All urban properties within 1,000 ft. of rural agricultural lands will have a restrictive covenant attached to their deeds clearly stating that urban residents in proximity to rural agricultural land will likely be exposed to dust, smoke, and ash from agricultural operations.

# Buffering Design Criteria Summary Tables



# HIGH Potential Impact Agricultural Land

## SENSITIVE Receptors (all residential uses, hotels, motels, schools, places of worship, medical centers, etc)

	CHEMICAL SPRAY DRIFT				TRESPASS AND VANDALISM	NOISE			SEDIMENT / STORMWATER RUN-OFF	ODOR, DUST, SMOKE, & ASH
	tree-based buffer	bamboo buffer	larger lot tree-based buffer	non-vegetative buffer	fencing / shrubbery	noise zone 2 criteria	noise zone 3 criteria	noise zone 4 criteria	erosion control and prevention plan	restrictive deed covenant
<b>Option 1</b>										
0 to 100 ft	✓				✓				✓	
101 to 175 ft						✓			✓	✓
176 to 375 ft							✓		✓	✓
376 to 500 ft								✓	✓	✓
500 to 1000 ft										✓
<b>Option 2</b>										
0 to 75 ft		✓			✓				✓	
76 to 175 ft						✓			✓	✓
176 to 375 ft							✓		✓	✓
376 to 500 ft								✓	✓	✓
500 to 1000 ft										✓
<b>Option 3</b>										
0 to 100 ft			✓		✓				✓	✓
101 to 175 ft						✓			✓	✓
176 to 375 ft							✓		✓	✓
376 to 500 ft								✓	✓	✓
500 to 1000 ft										✓
<b>Option 4</b>										
0 to 200 ft				✓	✓				✓	
201 to 375 ft							✓		✓	✓
376 to 500 ft								✓	✓	✓
500 to 1000 ft										✓

**NOTES:**

- The distances in this chart are linear distances from the rural/urban boundary, and assume that all buffering takes place on urbanizing land. If all or part of a buffer is located on rural land, distances will be measured from the beginning of the buffer, and not from the beginning of the boundary.
- Vegetative buffer elements will be maintained and protected through a variety of different agreements. If a restrictive covenant is used for this purpose, it would be in addition to the restrictive covenant used to mitigate odor, dust, smoke, & ash, chemical spray drift, and noise.
- Noise Zone 1 does not appear in this chart because no new sensitive receptors are permitted in that zone.
- Larger lot tree-based buffers are only allowed on urban lands adjacent to the outermost urban reserve boundary.

# HIGH Potential Impact Agricultural Land NON-SENSITIVE Receptors (commercial, industrial)

	CHEMICAL SPRAY DRIFT		TRESPASS AND VANDALISM	SEDIMENT / STORMWATER RUN-OFF	ODOR, DUST, SMOKE, & ASH
	tree or bamboo-based buffer	non-vegetative buffer	fencing / shrubbery	erosion control and prevention plan	restrictive deed covenant
<b>Option 1</b>					
0 to 50 ft	✓		✓	✓	
51 to 175 ft				✓	✓
176 to 375 ft				✓	✓
376 to 500 ft				✓	✓
501 to 1000 ft					✓
<b>Option 2</b>					
0 to 100 ft		✓	✓	✓	
101 to 175 ft				✓	✓
175 to 375 ft				✓	✓
376 to 500 ft				✓	✓
501 to 1000 ft					✓

**NOTES:**

- The distances in this chart are linear distances from the rural/urban boundary, and assume that all buffering takes place on urbanizing land. If all or part of a buffer is located on rural land, distances will be measured from the beginning of the buffer, and not from the beginning of the boundary.
- Vegetative buffer elements will be maintained and protected through a variety of different agreements. If a restrictive covenant is used for this purpose, it would be in addition to the restrictive covenant used to mitigate odor, dust, smoke, & ash, chemical spray drift, and noise.

# LOW Potential Impact Agricultural Land

## SENSITIVE Receptors

(all residential uses, hotels, motels, schools, places of worship, medical centers, etc)

	CHEMICAL SPRAY DRIFT / TRESPASS AND VANDALISM		TRESPASS AND VANDALISM	NOISE			SEDIMENT / STORMWATER RUN-OFF	ODOR, DUST, SMOKE, & ASH
	non-vegetative buffer	larger lot non-veg. buffer	fencing / shrubbery	noise zone 2 criteria	noise zone 3 criteria	noise zone 4 criteria	erosion control and prevention plan	restrictive deed covenant
<b>Option 1</b>								
0 to 50 ft		✓	✓				✓	✓
51 to 175 ft				✓			✓	✓
176 to 375 ft					✓		✓	✓
376 to 500 ft						✓	✓	✓
501 to 1000 ft								✓
<b>Option 2</b>								
0 to 100 ft	✓		✓				✓	
101 to 175 ft				✓			✓	✓
175 to 375 ft					✓		✓	✓
376 to 500 ft						✓	✓	✓
501 to 1000 ft								✓

**NOTES:**

- The distances in this chart are linear distances from the rural/urban boundary, and assume that all buffering takes place on urbanizing land. If all or part of a buffer is located on rural land, distances will be measured from the beginning of the buffer, and not from the beginning of the boundary.
- Vegetative buffer elements will be maintained and protected through a variety of different agreements. If a restrictive covenant is used for this purpose, it would be in addition to the restrictive covenant used to mitigate odor, dust, smoke, & ash, chemical spray drift, and noise.
- Noise Zone 1 does not appear in this chart because no new sensitive receptors are permitted in that zone.
- Larger lot tree-based buffers are only allowed on urban lands adjacent to the outermost urban reserve boundary.

# LOW Potential Impact Agricultural Land NON-SENSITIVE Receptors (commercial, industrial)

	CHEMICAL SPRAY DRIFT / TRESPASS AND VANDALISM	TRESPASS AND VANDALISM	SEDIMENT / STORMWATER RUN-OFF	ODOR, DUST, SMOKE, & ASH
	non-vegetative buffer	fencing / shrubbery	erosion control and prevention plan	restrictive deed covenant
<b>Option 1</b>				
0 to 50 ft	✓	✓	✓	
51 to 175 ft			✓	✓
176 to 375 ft			✓	✓
376 to 500 ft			✓	✓
501 to 1000 ft				✓

**NOTES:**

- The distances in this chart are linear distances from the rural/urban boundary, and assume that all buffering takes place on urbanizing land. If all or part of a buffer is located on rural land, distances will be measured from the beginning of the buffer, and not from the beginning of the boundary.
- Vegetative buffer elements will be maintained and protected through a variety of different agreements. If a restrictive covenant is used for this purpose, it would be in addition to the restrictive covenant used to mitigate odor, dust, smoke, & ash, chemical spray drift, and noise.

## VIII – DEVIATING FROM THE STANDARDS

Should the proponent of development elect to pursue a buffer design that proposes less linear separation or less of a vegetative element than specified in the minimally acceptable solutions, or that differs materially in other ways (other than increasing the linear distance or the amount of vegetative element) the buffer would be considered a “flexed” design.

### When is a Buffer Design Not Considered Flexed?

A buffer design is not considered flexed when existing elements consistent with the purpose of the buffer are incorporated in the buffer.

*For buffers without vegetative buffer elements*, the requirements of linear distance can be achieved by elements such as the following:

- Man-made or natural features such as infrastructure rights-of-way, roads, non-residential structures, watercourses, wetlands, ridge lines, rock outcrops, forested areas, and steep slopes.;
- Non-farmable areas of the farmland being buffered (including yards, storage areas, roads, and all structures);
- Publicly owned land without consistent present or projected public use (as determined by the public entity owner):
- An easement on agricultural land purchased by the proponent of development;
- Rural residential, commercial, or industrial land without a significant history of complaints related to adjoining farm use, whose owners agree in writing to the use of their land as part of the required buffer area; and
- Other open areas (except undeveloped rural residential, commercial, or industrial parcels) that are considered appropriate to the purpose of the buffer.

*For buffers with vegetative elements*, the requirements can be partially or fully satisfied by existing areas of trees and brush, as long as their buffering effect is essentially the same as that intended by the requirements in Appendix 1. If the characteristics of the existing vegetation do not meet the requirements in Appendix 1, and cannot substitute in full or in part for an adequate vegetative buffer, then the area can either be incorporated into the buffer design at half its “value” (for example, a 20 ft. wide riparian area would be calculated as 10 ft. of vegetative buffer), or it can be left out of the vegetative element and calculated at its original width (20 ft. of existing vegetation would be considered as 20 ft. of bare land).

**Whenever the proposed buffer design varies from the minimum buffering options described in these standards**, the proponent of development is responsible for the preparation of a **Conflict Assessment and Buffer Study (CABS)**. **If no material variation is sought from the minimum buffering standards, the CABS is not necessary.**

#### What must be included in the CABS?

The CABS must:

- a. Determine the present and likely future agricultural land use activities with the potential of causing problems for adjacent urban development. The determination of likely agricultural practices should be based on factors such as soil type; topography; parcel size, shape, and location; infrastructure; microclimatic conditions; regional rural agricultural practices and crops; and the farming history of the parcel and surrounding similar parcels.
- b. Determine how the proposed urban development will likely impact the management and

operation of nearby farmlands. All owners of resource land within 1,000 ft of the land proposed for development will be interviewed, and full transcripts of those interviews will be attached to the CABS.

- c. Identify the elements that may cause conflict and the extent of the conflict, from both the urbanizing as well as from the rural agricultural. The elements should be quantified, where possible, in terms of frequency and duration of activities to determine the element's impacts. As part of this evaluation, the CABS must consider the likely future uses determined in (a) above. The buffering mechanisms that are proposed must be sufficient to accommodate these potential future uses. NOTE: The current financial viability of a particular crop will not be considered an important limiting factor in determining potential future use.
- d. Propose a set of buffering measures that will achieve acceptable buffering outcomes – these may include, but not be limited to, the siting of residences, size and geometry of lots, separation widths, communal open space, vegetation, natural landscape features, acoustic features, etc.
- e. Propose the means by which the proposed buffering measures will be monitored and maintained. This should include responsibility for implementing and maintaining specific features of the buffer areas to ensure continued effectiveness. Acknowledgment of the authority responsible for ensuring compliance with any agreement will be plainly cited.
- f. Establish a timeline for the development that establishes when the buffer will be installed. It shall be assumed that the buffer will be established prior to either final plat sign off or final building inspection (for larger lot buffers and in the event no land division occurs).

The CABS must be prepared by appropriate experts under contract with the proponent of development, and upon completion of a final draft, must be submitted to the owners and operators of rural agricultural land within 1,000 ft of the boundary between the rural and proposed urban uses. These owners and operators will be given a month to provide input on the CABS, and such input will be attached to the CABS. All costs incurred in the preparation of the CABS will be the responsibility of the proponent of development. The non-refundable base fee for the CABS, payable to Jackson County to offset the costs of the Agricultural Buffering Committee, is \$1,000. Starting in 2010, this base fee will be increased annually for inflation or as deemed appropriate by the Jackson County Commissioners to offset real costs.

The draft CABS must be reviewed and a recommendation forwarded to the appropriate city planning commission by the Agricultural Buffering Committee, which will be populated by appropriate experts appointed by the Jackson County Board of Commissioners. The Agricultural Buffering Committee shall be considered an ad hoc advisory committee to the city planning commission in whose jurisdiction the development is proposed.

### **The Agricultural Buffers Committee**

The 10 to 15 members of the Agricultural Buffering Committee shall have expertise in as many of the following fields as possible:

*Soil Science; Agronomy; Dendrology and/or Forestry; Agrochemicals; Landscape Architecture; Animal Husbandry; Orchard Management; Horticulture; Farming; Ranching; and Parks and Recreation.*

In addition, there shall be a permanent member of the Jackson County Planning Department or Planning Commission, and an open non-voting position to be filled on an as-needed basis by a member of the affected city's planning department or planning commission. The Committee shall elect co-chairs from the non-jurisdiction membership.

---

Should the Agricultural Buffering Committee fail to recommend the CABS, a mediated solution between the city, county, proponent of development, and the co-chairs of the Agricultural Buffering Committee will be required before the planning and application process can proceed. The proponent is responsible for meeting the expenses of the mediation process. If a mediated settlement is not successful, the Agricultural Buffering Committee will forward a negative recommendation on the CABS to the city planning commission with the Committee's recommended changes to the flexed buffer design.

Should the Agricultural Buffering Committee, in the course of its review of the flexed buffer proposal, require expert assistance, the proponent of development will be notified of the cost of that technical assistance. The proponent of development may suggest an alternative to the identified technical assistance, but the Committee will make the final selection. If the proponent of development does not agree to the cost of the technical assistance, the flexed buffer design will receive a negative recommendation without any further analysis.

Should the city decide to favor the proponent's flexed design over the recommendations of the Agricultural Buffering Committee, a major regional review would then be triggered under the process set forth in the Greater Bear Creek Regional Problem Solving Plan Participants' Agreement.

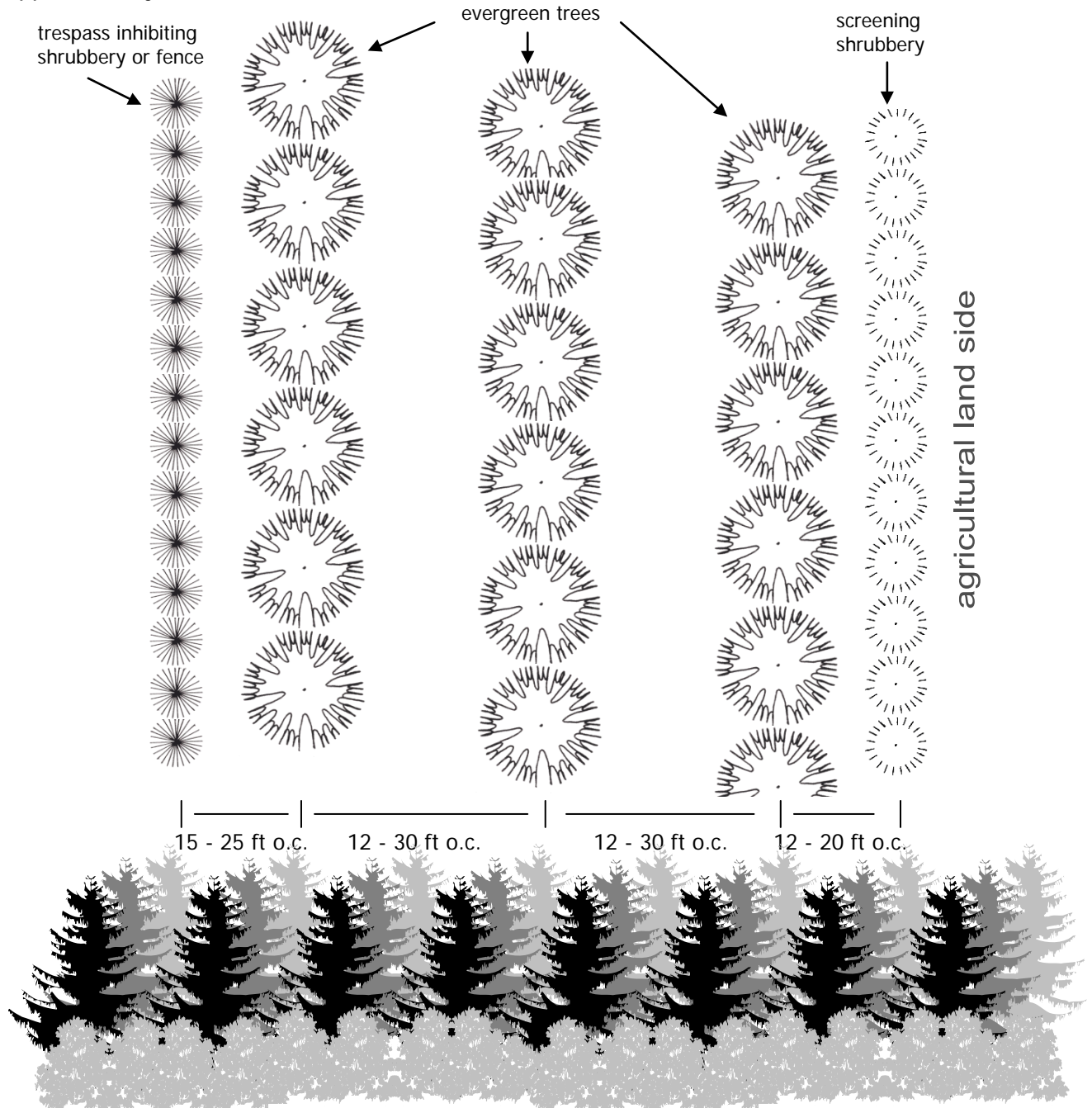
# APPENDIX 1 – Spray Drift Buffer Criteria

## SECTION A — TREE BUFFERS

### A1) BUFFER LAYOUT

#### Existing Higher Intensity Buffer

Depending on the tree and shrub species used, the minimum possible width of the planted portion is approximately 50ft., while the maximum can reach the full 100 ft. of total buffer width.

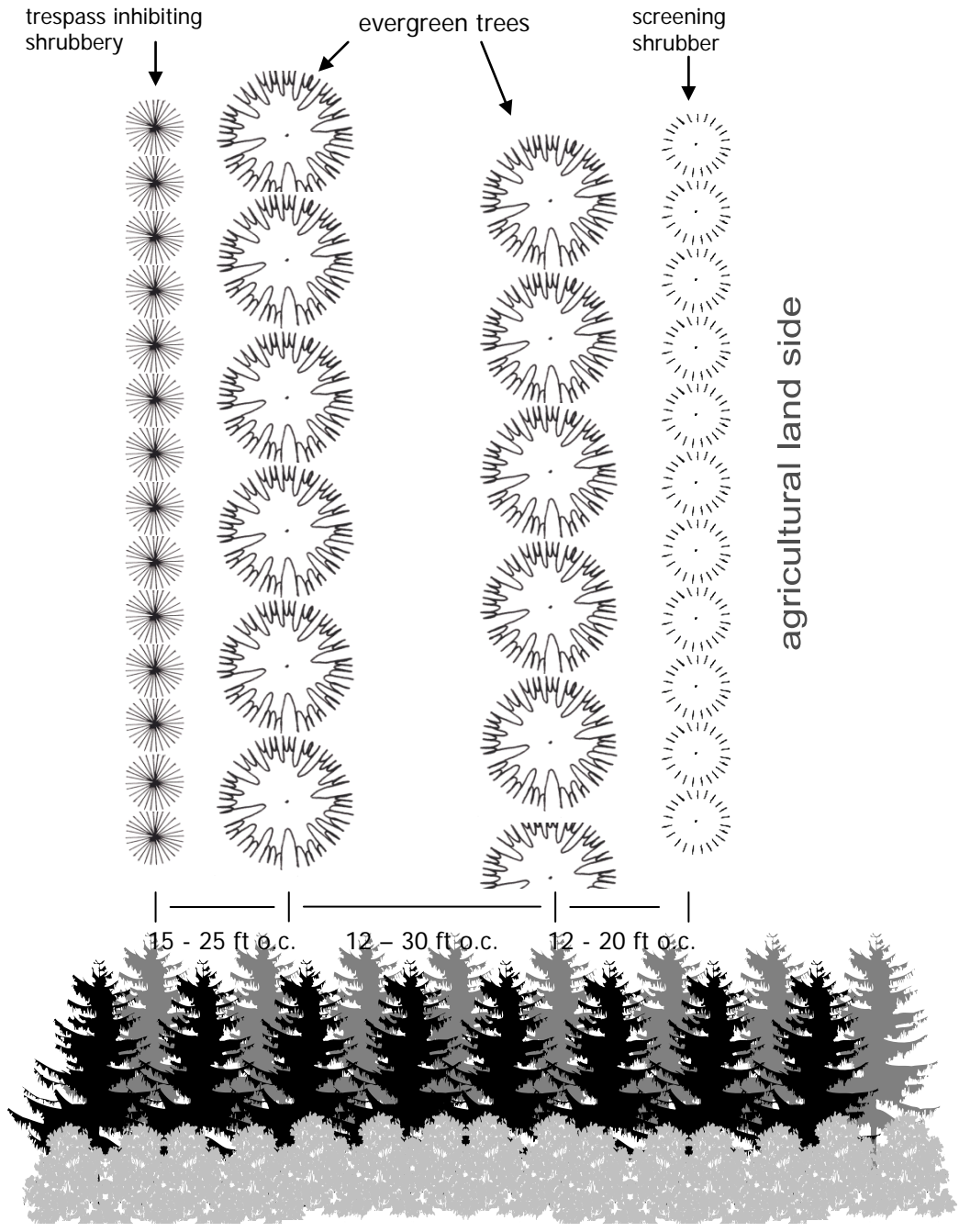


Buffer viewed from the agricultural side, screening shrubbery included.



### Existing Lower Intensity Buffer

Depending on the composition of the buffer and the tree and shrub species used, minimum possible width of the planted portion is approximately 40ft., maximum is approximately 65 ft.



Buffer viewed from the agricultural side, screening shrubbery included.

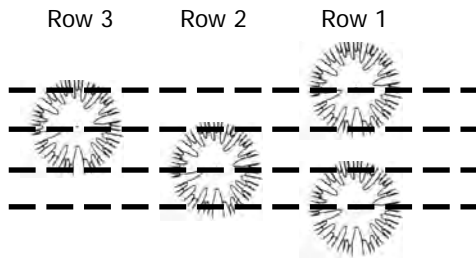
## A2) SPACING AND NUMBER OF TREE ROWS

### Existing Higher Intensity Buffer

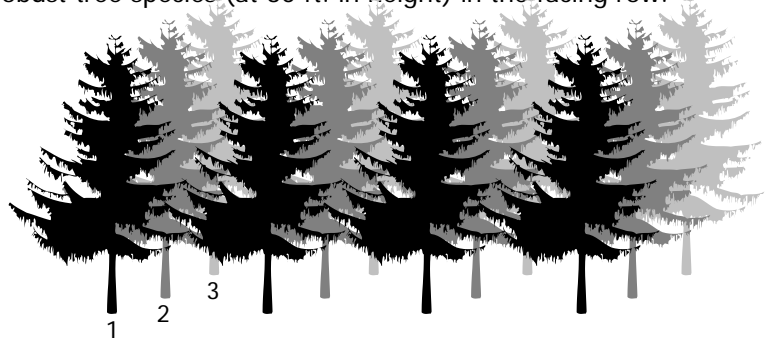
Three offset rows. To mitigate the effect of individual tree mortality as well as compensate for individual differences between trees, rows are offset to providing maximum overlapping between rows. Specific spacing between rows will depend on the species of trees being planted. Distance between rows (dr) at planting for all tree species is calculated by the following formula:

$$dr = \frac{(ts30' + ts30'')}{2} + 4 \text{ ft.}$$

where ts30' is widest spread in feet of the most robust tree species (at 30 ft. in height) in one row, and ts30'' is the widest spread in feet of the most robust tree species (at 30 ft. in height) in the facing row.



Trees within rows are equidistant (see A3). Rows 2 and 3 are offset in thirds, using the spacing between trunks of trees in row 1 as a guide.



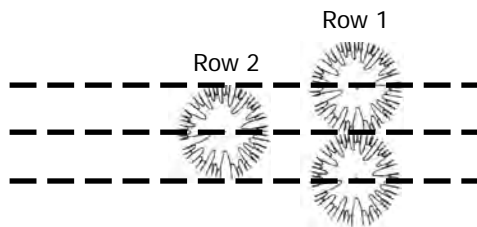
Buffer viewed from front. Screening shrubbery has not been included in this image so row spacing can be demonstrated.

### Existing Lower Intensity Buffer

Two offset rows. Distance between rows (dr) at planting for all tree species is calculated by the following formula:

$$dr = \frac{(ts30' + ts30'')}{2} + 4 \text{ ft.}$$

where ts30' is widest spread in feet of the most robust tree species (at 30 ft. in height) in one row, and ts30'' is the widest spread in feet of the most robust tree species (at 30 ft. in height) in the facing row.



Trees within rows are equidistant (see A3). The rows are exactly offset.



Buffer viewed from front. Screening shrubbery has not been included in this image so row spacing can be demonstrated.

### **A3) TREE SPACING WITHIN ROWS**

#### Existing Higher Intensity Buffer

Specific spacing from tree to tree within a row will differ depending on the natural form of the species of tree used. The two relevant tree shapes of the recommended evergreens are either a narrow pyramid (such as Atlas Cedar) or a broad pyramid (such as Norway spruce).

#### Narrow Pyramid Trees

Distance between trees at planting (dt) is calculated by the following formula:

In a single species row:

$$dt = \frac{ts_{30}}{2} \times 2.5$$

where  $ts_{30}$  is the widest spread in feet of the tree at 30 ft. in height

In a two species row:

$$dt = \frac{(ts_{30}^1 + ts_{30}^2)}{4} \times 2.5$$

where  $ts_{30}^1$  is the widest spread in feet of the first tree species at 30 ft., in height, and  $ts_{30}^2$  is the widest spread in feet of the second tree species at 30 ft. in height

#### Broad Pyramid Trees

Distance between trees at planting (dt) is calculated by the following formula:

In a single species row:

$$dt = \frac{ts_{30}}{2} \times 2.2$$

where  $ts_{30}$  is the widest spread in feet of the tree at 30 ft. in height

In a two species row:

$$dt = \frac{(ts_{30}^1 + ts_{30}^2)}{4} \times 2.2$$

where  $ts_{30}^1$  is the widest spread in feet of the first tree species at 30 ft., in height, and  $ts_{30}^2$  is the widest spread in feet of the second tree species at 30 ft. in height

#### Existing Lower Intensity Buffer

Specific spacing from tree to tree within a row will differ depending on the natural form of the species of tree used. The two relevant tree shapes of the recommended evergreens are either a narrow pyramid (such as Atlas Cedar) or a broad pyramid (such as a Norway spruce).

#### Narrow Pyramid Trees

Distance between trees at planting (dt) is calculated by the following formula:

In a single species row:

$$dt = \frac{ts_{30}}{2} \times 1.9$$

where  $ts_{30}$  is the widest spread in feet of the tree at 30 ft. in height

In a two species row:

$$dt = \frac{(ts_{30}^1 + ts_{30}^2)}{4} \times 1.9$$

where  $ts_{30}^1$  is the widest spread in feet of the first tree species at 30 ft., in height, and  $ts_{30}^2$  is the widest spread in feet of the second tree species at 30 ft. in height

## Broad Pyramid Trees

Distance between trees at planting (dt) is calculated by the following formula:

In a single species row:

$$dt = \frac{ts_{30}}{2} \times 1.6$$

where  $ts_{30}$  is the widest spread in feet of the tree at 30 ft. in height

In a two species row:

$$dt = \frac{(ts_{30}^1 + ts_{30}^2)}{4} \times 1.6$$

where  $ts_{30}^1$  is the widest spread in feet of the first tree species at 30 ft., in height, and  $ts_{30}^2$  is the widest spread in feet of the second tree species at 30 ft. in height

## **A4) TREE HEIGHT AT PLANTING**

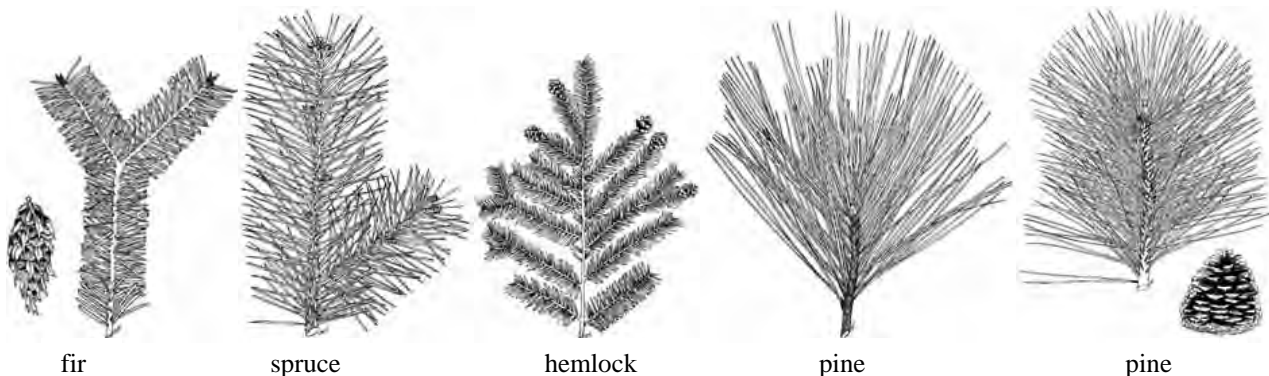
### Existing Higher or Lower Intensity Buffer

5' – 6', balled and burlapped.

## **A5) TREE FOLIAGE CHARACTERISTICS**

### Existing Higher or Lower Intensity Buffer

Because the smallest surface area captures the highest proportion of spray drift droplets, and because agricultural spraying in the Rogue Valley is practically year-round, evergreens with needles or needle-like foliage such as pine, fir, cedar, spruce, cypress, or hemlock are the most effective at trapping spray drift on a consistent basis. Among evergreens, needle surfaces that are rough or hairy are more efficient at capturing spray drift than those that are glossy or smooth.



## **A6) RECOMMENDED TREE SPECIES**

### Existing Higher or Lower Intensity Buffer

The following are recommendations for medium to tall evergreen trees that will grow under most local conditions. This should not be considered a complete list, as there may be other appropriate species. At least two different species are recommended for each buffer, with the preference being for multiple species, as well as species variety within rows. Due to spacing requirements, the effect of differing widths must be taken into account when laying out the geometry of the buffer. As holds true for all plant material in the buffer, they should not be prone to agriculturally harmful insects or diseases, and should come from locally acclimatized stock whenever possible.

<u>Botanical Name</u>	<u>Common Name</u>	<u>Pyramid Shape</u>	<u>H</u>	<u>W</u>	<u>Annual Growth</u>	<u>Needs Shrub Screen?</u>	<u>Shade Tolerant?</u>
<i>For typical valley sites</i>							
Abies pinsapo	Spanish Fir	broad	40'	20'	<12"	no	yes
Calocedrus decurrens	Incense Cedar	narrow	50'	25'	12-18"	yes(low)	yes
Cedrus atlantica glauca	Blue Atlas Cedar	narrow	50'	30'	12"	no	yes
Cedrus deodara	Deodar Cedar	narrow	60'	30'	12-18"	yes(low)	yes
Cedrus deodara	Golden D. Cedar	narrow	60'	30'	12-18"	yes(low)	yes
Cedrus brevifolia	Cyprian Cedar	narrow	40'	20'	12-18"	yes(low)	yes
Cedrus libani	Cedar of Lebanon	narrow	40'	20'	12"	no	yes
Cupressus arizonica	Arizona Cypress	broad	40'	20'	>18"	no	yes
Cupressus bakeri	Baker Cypress	narrow	40'	15'	<12"	yes	no
Cupressus sempervirens	Italian Cypress	narrow	60'	8'	12-18"	yes	yes
Pinus (attenuata x monteray)	KMX hybrid pine	narrow	80+	8'	>24"	no?	no
Pseudotsuga menziesii	Douglas Fir	narrow	60'	30'	12-18"	yes	np
Sequoia gigantea	Giant Sequoia	narrow	80'	20'	12-18"	yes	yes
Sequoia sempervirens	Coastal Redwood	narrow	80'	30'	>24"	yes	yes
Picea abies	Norway Spruce	broad	60'	30'	>12"	no	yes
Pinus ponderosa	Ponderosa Pine	narrow	60'	20'	12-18"	yes	no
Pinus jeffreyi	Jeffrey Pine	narrow	60'	15'	12-18"	yes	yes
Juniperus occidentalis	Western Juniper	broad	35'	15'	<12"	yes	no
Thuja (standishii x plicata)	Green Giant	narrow	60'	20'	12-18"	no	yes
<i>For higher moisture sites, riparian areas</i>							
Thuja plicata	W. Red Cedar	broad	60'	20'	>18"	no	yes

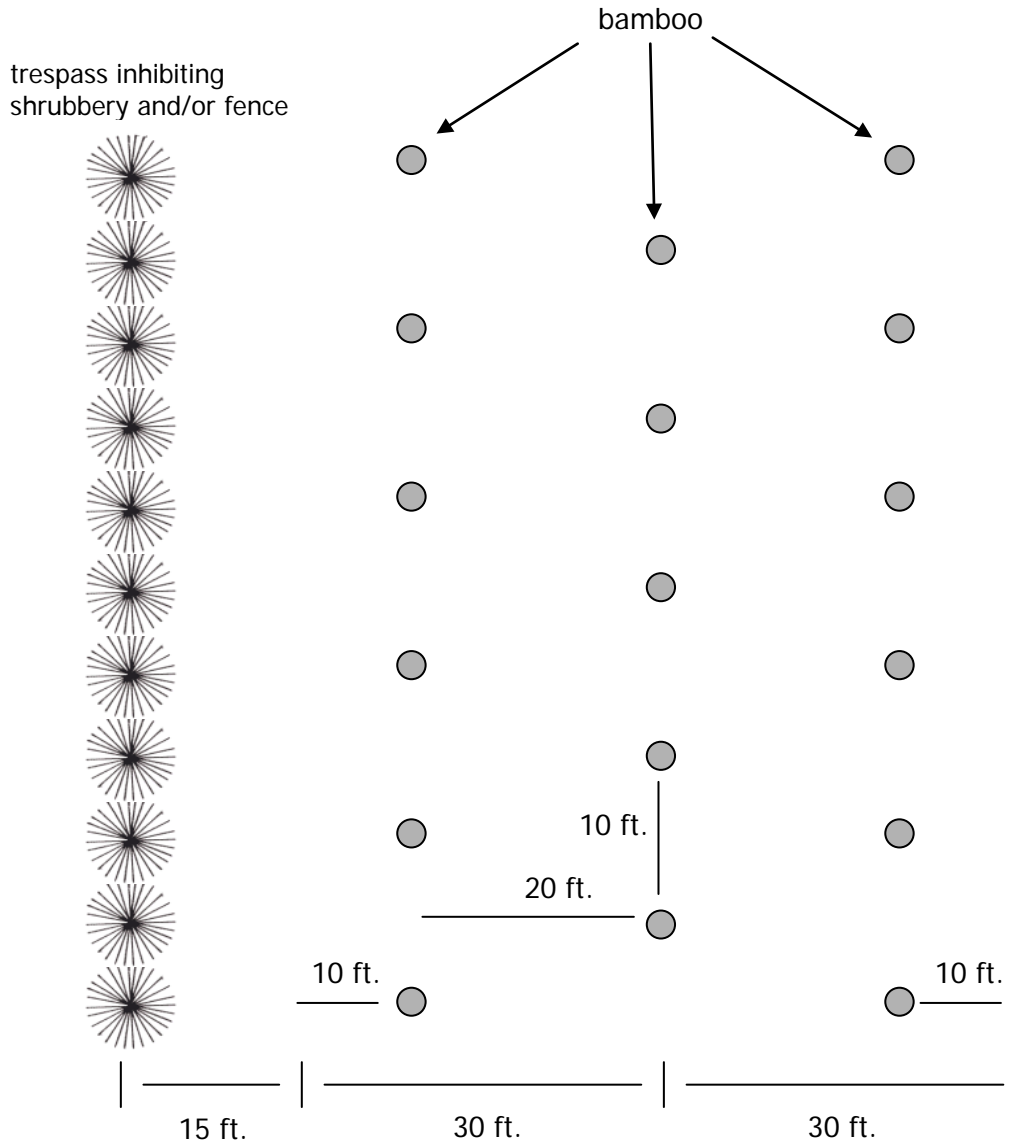
One species that has been used most frequently in the relatively few attempts in the valley to establish vegetative buffers, and one which is heavily used as an ornamental throughout southern Oregon, specifically as a screening element, is the **Leyland Cypress (Cupressocyparis leylandii)**. It has a high rate of growth, a height at maturity of 50 ft., dense and attractive foliage, and drought tolerance. Unfortunately, there are signs that the species is beginning to suffer from significant canker and root pathogen problems (Seiridium and Botryosphaeria cankers, Cercospora needle blight, and Phytophthora and Annosus root rots). With the existing relative overuse of the species to date in the valley, it is not recommended that the Leyland Cypress be employed in a buffer unless and until varieties are available that are resistant to these disease problems.

## SECTION B — BAMBOO BUFFERS

### B1) BUFFER LAYOUT

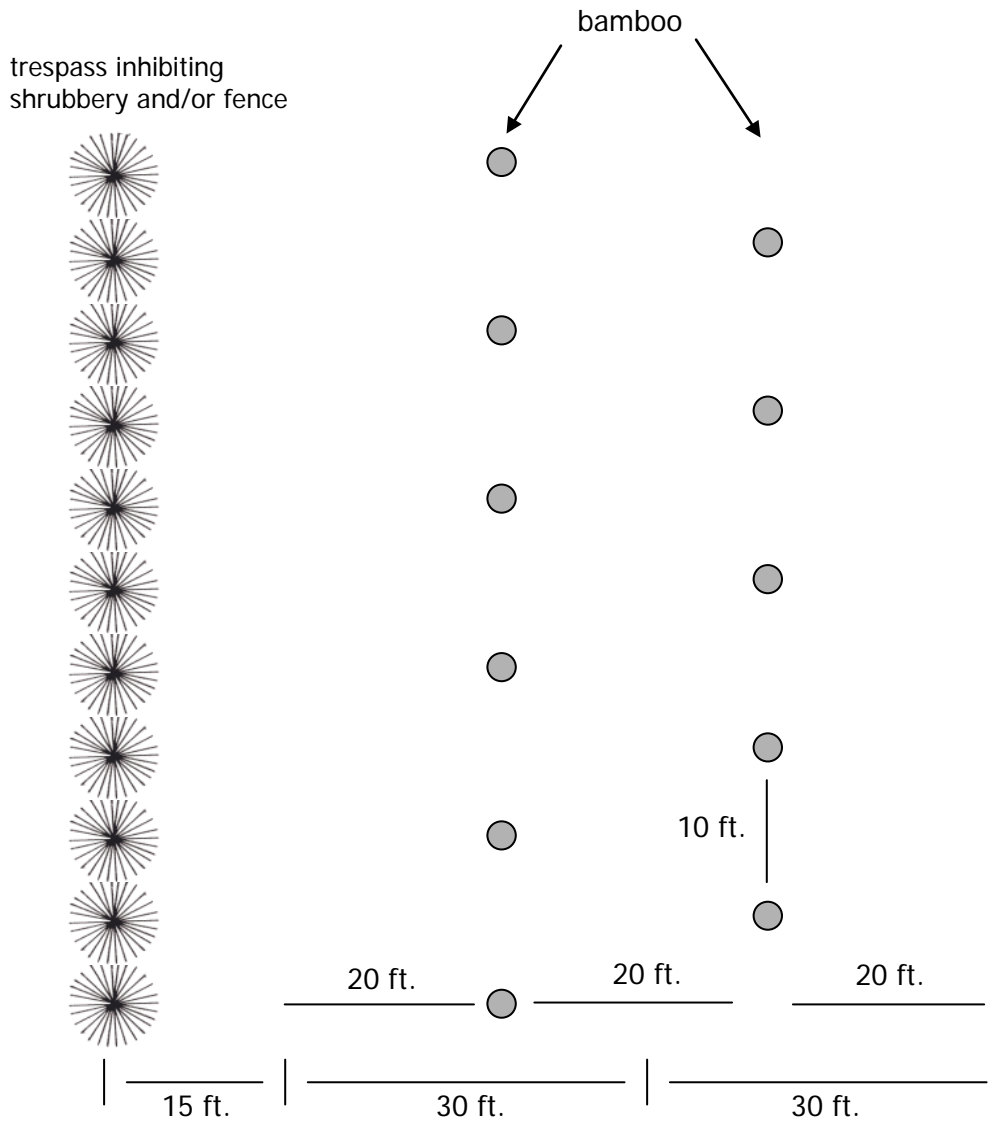
#### Existing Higher Intensity Buffer

The total width of the buffer is 75 ft. Of that, 60 ft. is dedicated to the bamboo area, and 15 ft. is reserved for a fence and/or trespass inhibiting shrubbery.



### Existing Lower Intensity Buffer

The rows of bamboo are reduced to two from three. Row and individual plant spacing, as with all other details and specifications, are the same as for the existing higher intensity buffer for bamboo.

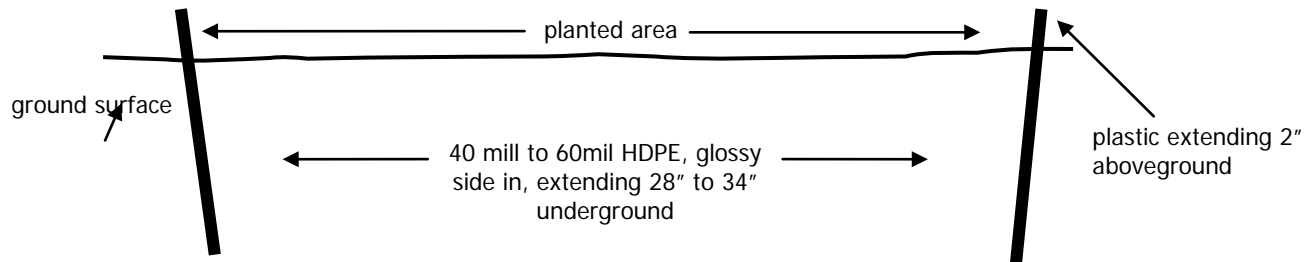


### **B2) BAMBOO CONTAINMENT**

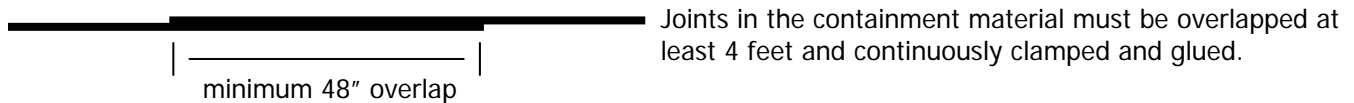
Because the recommended bamboo spreads by runners (rhizomes), the area to be populated by the bamboo must be contained and managed to prevent the spread of the bamboo outside the buffer area. There are a number of methods for accomplishing this, although it is likely that not every potential site will be suitable for bamboo due to issues with containment, as well as the degree of receptiveness to its use by the city and by adjoining agriculturalists.

#### Primary means of containment:

bury 40 mil to 60mil HDPE (high-density polyethylene), or an equivalent material, 28 to 34" deep (with an additional 2" of the HDPE extending above ground), establishing a 60 ft. wide barrier around the planting area. Place with glossy side towards the bamboo area. The only ongoing maintenance required subsequent to the installation of the barrier is the occasional need, once the planting is older, to cut any new rhizomes that succeed in growing across the top 2" of the rhizome barrier. While the use of the HDPE barrier is the preferred means of containment, there are other measures (see *Secondary Control Measures* below) that can substitute in part or in full.



NOTE: After excavating the trench and installing the rhizome barrier, return any clay or denser subsoil removed from the trench and compact the bottom well before any topsoil or lighter soil is returned.



Joints in the containment material must be overlapped at least 4 feet and continuously clamped and glued.

### Secondary Control Measures:

An HDPE barrier may not be necessary in part or in full should an equally effective natural or man-made barrier exist on-site, or should one or more of the additional control measures listed below be agreed to on an ongoing basis (through a homeowners association, for example, or with adjoining agriculturalists).

- Mow, disk, or employ some other mechanical means outside of the planting area to cut back on the new shoots and rhizome growth at least twice a year, spring and fall. If using a subsoil plow, the depth should be set to at least 15".
- Use cattle, sheep, or goats to graze the area outside of the planted area.
- Use existing natural conditions to provide containment. Rhizomes will not normally pass a permanent stream, creek, or wetland, an irrigation canal, or a standing body of water.
- Incorporate an additional area of at least 20 ft. that can be left unirrigated. Exposed dry soils, especially clays and other compacted soils, will not allow vigorous rhizome growth. Mechanical compaction of this dry soil buffer will further increase its effectiveness.
- Position the buffer planting against a dense stand of trees providing significant shade - the recommended bamboo species will not spread well into shade.
- Dig a ditch 24" - 36" deep on the edge of the buffer planting. The rhizomes must be cut on a yearly basis as they penetrate the side of the ditch.
- Concentrate irrigation in the middle portion of the buffer area. Growth will always shift toward the availability of water, and much less vigorously toward the drier periphery. This measure will not work on a site that, unirrigated, would not dry out completely during the summer.

## **B3) SPACING AND NUMBER OF BAMBOO ROWS**

### Existing Higher Intensity Buffer

At planting, 3 rows of bamboo spaced a maximum of 20 ft. apart.

### Existing Lower Intensity Buffer

At planting, 2 rows of bamboo spaced a maximum of 20 ft. apart.

## **B4) BAMBOO SPACING WITHIN ROWS**

### Existing Higher and Lower Intensity Buffers

At planting, maximum spacing is 10 ft. on center



**B5) HEIGHT AT PLANTING**

Existing Higher or Lower Intensity Buffer

Established plants in 3-gallon pots (or larger) from divisions at least 1 year old showing a minimum of two new shoots. New plants must be well irrigated and heavily mulched (at least three inches).

**B6) RECOMMENDED BAMBOO SPECIES**

Existing Higher or Lower Intensity Buffer

The following are tall species of larger running bamboo that will grow under most local conditions. This should not be considered a complete list, as there may be other appropriate species. As holds true for all plant material in the buffer, they should come from locally acclimatized stock whenever possible. Each buffer planting should have at least two different species or varieties due to the potential for mass flowering and die back.

<u>Botanical Name</u>	<u>Common Name</u>	<u>Maximum Height</u>	<u>Minimum Temp. (F)</u>	<u>Add. Uses</u>
Phyllostachys bambusoides	Japanese Timber Bamboo	72'	5	b c s m
P. b. castillon inversa		35'	5	o u c
P. dulcis	Sweetshoot Bamboo	40'	0	s
P. glauca		35'	0	u t s o
P. heterocyclus cv pubescens	Moso	75'	0	b c s y u m d
P. makinoi		60'	0	b p f u s
P. meyeri		35'	0	u t s
P. nigra 'Bory'	Snakeskin Bamboo	50'	0	c b o u
P. nigra 'Henon'		65'	0	b u c s m
P. nuda	Smoothsheath	30'	-20	u s
P. rubromarginata		55'	-5	u t b c s
P. viridis 'Robert Young'		40'	0	b c s o
Semiarundinaria fastuosa viridis		35'	-5	

Use Code

- |   |  |
|---|--|
| b – for building purposes                       | p – paper pulp   |
| c – crafts and handicrafts (other than weaving) | s – edible shoots                                      |
| d – fodder and shoots for animals               | t – basketry and woven materials                       |
| e – erosion control                             | u – tools, fences, corrals fishing rods, handles, etc. |
| f – furniture                                   | y – plybamboo, flooring, paneling, etc.                |
| m – medicine                                    |  |
| o – ornamental                                  |  |

## SECTION C — TRESPASS INHIBITING SHRUBBERY

For both bamboo and tree buffers. Trespass inhibiting shrubbery can serve in addition to, or in place of, specified fencing. More often than not, it will be located on the non-agricultural side of the buffer.

### C1) SPACING AND NUMBER OF ROWS

#### Existing Higher or Lower Intensity Buffer

One or more rows sufficient to create an 8 ft. minimum width at maturity.

### C2) SPACING WITHIN ROWS

#### Existing Higher or Lower Intensity Buffer

As appropriate to the variety to avoid spaces between plants within 3 years.

### C3) FOLIAGE CHARACTERISTICS

#### Existing Higher or Lower Intensity Buffer

The primary purpose of these shrubs is to frustrate trespass, not reduce spray drift. Their most important characteristics are very dense growth and/or the presence of thorns. If the trespass-inhibiting shrubbery must be on the agricultural side, and must fill the additional role of screening shrub for tree buffers (cover bare trunk space from the ground to the first branches), their foliage should be as fine as possible, and should be evergreen.

### C4) OVERALL SHRUB HEIGHT

#### Existing Higher or Lower Intensity Buffer

At least 5 ft. in height at maturity if used solely as a trespass inhibitor. If doubling as screening shrubbery for tree buffers, mature height should be 125% of anticipated ground-to-foliage bare space of average mature specimen of tree species being screened.

### C5) RECOMMENDED TRESPASS INHIBITING SPECIES

#### Existing Higher or Lower Intensity Buffer

The following are recommendations of some appropriate shrubs that will grow under most local conditions. This should not be considered a complete list, as there may be other appropriate species. As holds true for all plant material in the buffer, they should not be prone to agriculturally harmful insects or diseases.

<u>Botanical Name</u>	<u>Common Name</u>	<u>Height</u>	<u>Width</u>	<u>Growth Rate</u>	<u>Serve as Screen?</u>
Berberis x chenaultii	Chenault Barberry	4'	5'	mod	yes
Berberis darwinii	Darwin's Barberry	10'	10'	fast	yes
Berberis julianae	Wintergreen Barberry	6'	6'	fast	yes
Elaeagnus pungens	Thorny Elaeagnus	15'	20'	fast	yes
Ilex aquifolium	English Holly	15'	6'	mod	no
Mahonia aquifolium	Oregon grape	5'	3'	slow	no
Osmanthus armatus	Chinese Osmanthus	10'	15'	slow	yes
Rosa sp.	Shrub Roses	var.	var.	fast	no

## SECTION D — SCREENING SHRUBBERY

Only pertains to tree buffers, and only when tree species in the first row on the agricultural side will not provide sufficient foliage cover to ground level.

### D1) SPACING AND NUMBER OF ROWS

#### Existing Higher or Lower Intensity Buffer

One or more rows sufficient to create a 5 ft. minimum width at maturity.

### D2) SPACING WITHIN ROWS

#### Existing Higher or Lower Intensity Buffer

As appropriate to the variety to avoid spaces between plants within 3 years.

### D3) FOLIAGE CHARACTERISTICS

#### Existing Higher or Lower Intensity Buffer

Screening shrubs should have as fine and as dense a foliage as possible, and should be evergreen.

### D4) OVERALL SHRUB HEIGHT

#### Existing Higher or Lower Intensity Buffer

Mature height should be 125% of anticipated ground-to-foliage bare space of average 30 ft. specimen of tree species being screened.

### D5) RECOMMENDED SCREENING SHRUB SPECIES

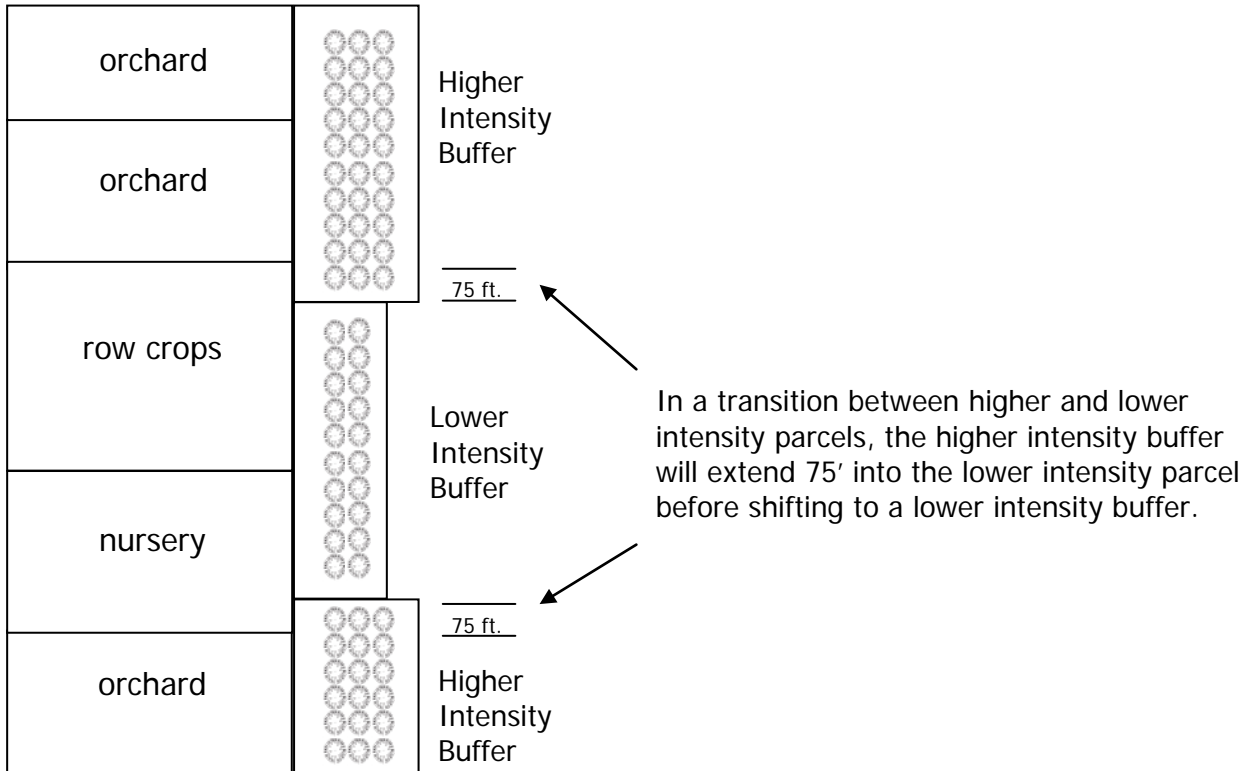
#### Existing Higher or Lower Intensity Buffer

The following are recommendations of shrubs that will grow under most local conditions. This should not be considered a complete list, as there may be other appropriate species. As holds true for all plant material in the buffer, they should not be prone to agriculturally harmful insects or diseases.

<u>Botanical Name</u>	<u>Common Name</u>	<u>Height</u>	<u>Width</u>	<u>Growth Rate</u>
Chamaecyparis lawsoniana <i>'Ellwoodii'</i>	Ellwood Cypress	8'	4'	slow
Cryptomeria japonica <i>'Elegans Compacta'</i>	Plume Cryptomeria	12'	6'	fast
Ligustrum ovalifolium	California Privet	15'	6'	fast
Osmanthus armatus	Chinese Osmanthus	10'	15'	slow
Photinia x fraseri	Photinia	15'	12'	fast
Prunus laurocerasus	English Laurel	15'	10'	
Prunus laurocerasus <i>'Schipkaensis'</i>	West Coast Schipkaensis	10'		fast
Prunus lusitanica	Portugal Laurel	12'	8'	
Taxus x media <i>'Hatfieldii'</i>	Hatfield Yew			
<i>'Hicksii'</i>	Hick's Yew	8'	3'	
Viburnum tinus <i>'Robustum'</i>	Laurustinus	10ft	6ft	

## SECTION E — TRANSITIONS BETWEEN DIFFERENT INTENSITY BUFFERS

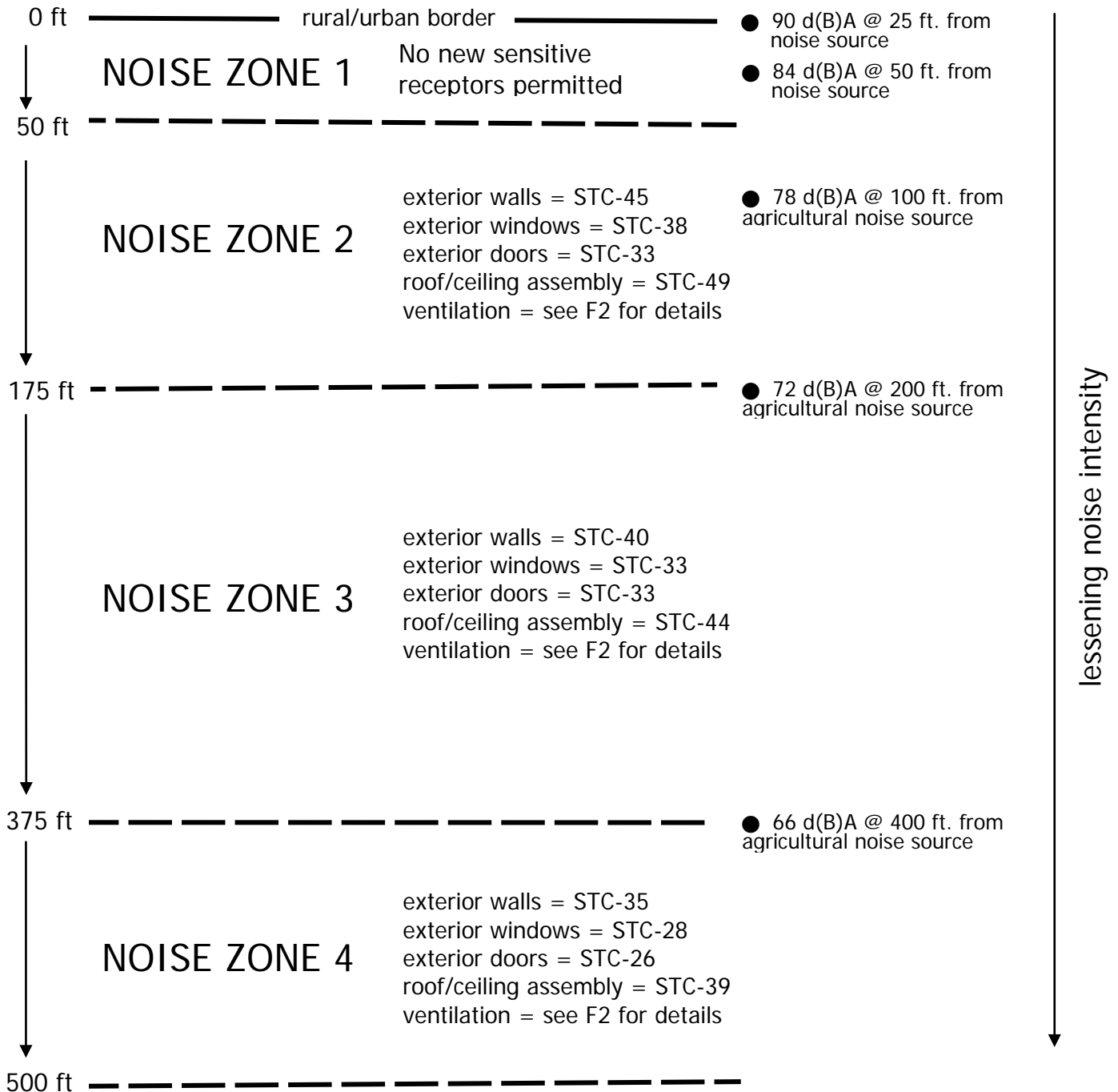
Because chemical drift mitigation is the principal factor behind the need for vegetative buffers, and because spray height is the prime factor in determining whether a given agricultural parcel at the time of buffer establishment requires a higher or lower intensity buffer, it is necessary to provide an overlap of the higher level of spray buffer to mitigate for spray being carried past a buffer transitioning too soon to a lower level of protection.



## SECTION F — NOISE MITIGATION FOR SENSITIVE RECEPTORS

Agricultural activity is assumed to create a noise level of 90 d(B)A at the rural/urban boundary. New sensitive receptor structures and remodels of existing structures will incorporate measures to mitigate sound transmission to interior living spaces.

### F1) NOISE ZONES



**NOTES:** 1) all sound transmission class (STC) ratings are laboratory values; 2) A sensitive receptor is considered to be in the highest intensity noise zone into which any portion of its building envelope intrudes. 3) If the buffer is provided on agricultural land rather than urban land, distances and noise zones would be calculated from the beginning of the buffer rather than the rural/urban boundary.

## **F2) MINIMUM CRITERIA FOR STRUCTURAL NOISE MITIGATION**

**Scope:** The following criteria establish the minimum requirements for acoustic design of the exterior envelope of buildings and for the ventilating system and its parts. The criteria apply to all new buildings or structures constructed or placed in use within city boundaries, which qualify as sensitive receptors, and which are located within 500 feet of the urban/rural boundary, where the rural land is zoned EFU and is within an urban reserve or the county. Additions to or remodels of existing buildings must follow the criteria, but the remainder of the existing building or structure need not comply. A change in use or occupancy of a structure previously unapproved for use as a sensitive receptor shall not be permitted unless the building or structure complies with the minimum criteria herein for structural noise mitigation.

**Definitions:** Sound Transmission Class (STC) is a single number rating for describing sound transmission loss of a roof/ceiling, wall, partition, window, or door. Sensitive receptor includes the following urban uses:

- dwelling, mobile home park, or other residential place in a residential development;
- motel, hotel, or hostel;
- places of worship and public meeting facilities;
- childcare center, kindergarten, school, university, or other educational institution; or
- medical center or hospital.

### **Design Requirements:**

**Noise Zone 1** — The construction or placement of new sensitive receptors are not permitted. Additions or remodels to existing buildings must comply with all criteria under Noise Zone 2.

**Noise Zone 2** — The exterior envelope of buildings in Noise Zone 2 shall be designed to meet the following minimum criteria:

- (a) Exterior walls shall have a laboratory sound transmission class rating of at least STC-45.
- (b) Exterior windows shall have a laboratory sound transmission class rating of at least STC-38.
- (c) Exterior doors shall have a laboratory sound transmission class rating of at least STC-33.
- (d) Roof/ceiling assembly combined shall have a laboratory sound transmission class rating of at least STC-49.
- (e) Ventilation shall be provided in accordance with existing codes, with the following:
  1. A ventilation system shall be installed that will provide the minimum air circulation and fresh air supply requirements for various uses in occupied rooms without the need to open any windows, doors, or other openings to the exterior. The inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least twenty gauge steel, which shall be lined with one-inch thick coated fiber glass or approved material, and shall be at least 10 feet long, with one 90-degree bend.
  2. Gravity vent openings shall be as close to code minimum in number and size as practical. The openings shall be fitted with transfer ducts at least six feet in length containing internal one-inch thick coated fiber glass sound absorbing duct lining or other approved material. Each duct shall have a lined 90-degree bend in the duct such that there is no direct line-of-sight from the exterior, through the duct, into the attic.
  3. Bathroom, laundry, and similar exhaust ducts connecting interior space to the outside, shall contain at least a 10-foot length of internal sound absorbing duct lining. Exhaust ducts less than 10 feet in length shall be fully lined and shall also meet the provisions of proper sealing of air leakage from the structure with approved weather-stripping and caulking compounds. Each duct shall be provided with a lined 90-degree bend in the duct such that there is no direct line-of-sight through the duct from the venting cross-section to the room-opening cross-section. Duct lining shall be coated fiber glass duct

- liner at least one inch thick.
4. Domestic range exhaust ducts connecting the interior space to the outdoors shall contain a self-closing baffle plate across the exterior termination that allows proper ventilation. The duct shall be provided with a 90-degree bend.

**Noise Zone 3** — The exterior envelope of buildings in Noise Zone 3 shall be designed to meet the following minimum criteria:

- (a) Exterior walls shall have a laboratory sound transmission class rating of at least STC-40.
- (b) Exterior windows shall have a laboratory sound transmission class rating of at least STC-33.
- (c) Exterior doors shall have a laboratory sound transmission class rating of at least STC-33.
- (d) Roof/ceiling assembly combined shall have a laboratory sound transmission class rating of at least STC-44.
- (e) Ventilation shall be provided in accordance with existing codes, with the following:
  1. A ventilation system shall be installed that will provide the minimum air circulation and fresh air supply requirements for various uses in occupied rooms without the need to open any windows, doors, or other openings to the exterior. The inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least twenty gauge steel, which shall be lined with one-inch thick coated fiber glass or approved material, and shall be at least five feet long, with one 90-degree bend.
  2. Gravity vent openings shall be as close to code minimum in number and size as practical. The openings shall be fitted with transfer ducts at least three feet in length containing internal one-inch thick coated fiber glass sound absorbing duct lining or other approved material. Each duct shall have a lined 90-degree bend in the duct such that there is no direct line-of-sight from the exterior, through the duct, into the attic.
  3. Bathroom, laundry, and similar exhaust ducts connecting interior space to the outside, shall contain at least a 10-foot length of internal sound absorbing duct lining. Exhaust ducts less than 10 feet in length shall be fully lined and shall also meet the provisions of proper sealing of air leakage from the structure with approved weather-stripping and caulking compounds. Each duct shall be provided with a lined 90-degree bend in the duct such that there is no direct line-of-sight through the duct from the venting cross-section to the room-opening cross-section. Duct lining shall be coated fiber glass duct liner at least one inch thick.
    - a. Domestic range exhaust ducts connecting the interior space to the outdoors shall contain a self-closing baffle plate across the exterior termination that allows proper ventilation. The duct shall be provided with a 90-degree bend.

**Noise Zone 4** — The exterior envelope of buildings in Noise Zone 4 shall be designed to meet the following minimum criteria:

- (a) Exterior walls shall have a laboratory sound transmission class rating of at least STC-35.
- (b) Exterior windows shall have a laboratory sound transmission class rating of at least STC-28.
- (c) Exterior doors shall have a laboratory sound transmission class rating of at least STC-26.
- (d) Roof/ceiling assembly combined shall have a laboratory sound transmission class rating of at least STC-39.
- (e) Ventilation shall be provided in accordance with existing codes, with the following:
  1. A ventilation system shall be installed that will provide the minimum air circulation and fresh air supply requirements for various uses in occupied rooms without the need to open any windows, doors, or other openings to the exterior. The inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least twenty gauge steel, which shall be lined with one-inch thick coated fiber glass or approved material, and shall be at least five feet long, with one 90-degree bend.

2. Gravity vent openings shall be as close to code minimum in number and size as practical.
3. Bathroom, laundry, and similar exhaust ducts connecting interior space to the outside, shall contain at least a 10-foot length of internal sound absorbing duct lining. Exhaust ducts less than 10 feet in length shall be fully lined and shall also meet the provisions of proper sealing of air leakage from the structure with approved weather-stripping and caulking compounds. Each duct shall be provided with a lined 90-degree bend in the duct such that there is no direct line-of-sight through the duct from the venting cross-section to the room-opening cross-section. Duct lining shall be coated fiber glass duct liner at least one inch thick.
4. Domestic range exhaust ducts connecting the interior space to the outdoors shall contain a self-closing baffle plate across the exterior termination that allows proper ventilation. The duct shall be provided with a 90-degree bend.



## SECTION G — FENCING

Used in place of or (most effectively) in addition to trespass-inhibiting shrubs or significant topographical features that inhibit trespass.

### G1) RECOMMENDED FENCING SPECIFICATIONS

#### Existing Higher or Lower Intensity Buffer

Fence height is 6' minimum. The following specifications are recommended for all buffers. Alternate specifications, or those not detailed below, should meet, at a minimum, a heavy residential/light industrial use test.

*Fence Fabric Coating* — GAW (galvanized after weaving). Can be plastic or powder coated.

*Fence Fabric Gauge* — 11 minimum

*Fence Fabric Mesh Size* — 2" maximum

*Fence Fabric ASTM Specifications* — Meets A 392-96 (Zinc Coated), F 1345-96 (Zinc-5% Aluminum-Mishmetal Alloy Coated)

*Framework Gauge* — 16 minimum

*Framework Tensile Strength* — 45,000 pounds per square inch minimum

*Framework Diameter*

*Toprail* — 1<sup>3/8</sup>" minimum (if toprail is omitted, use tension wire)

*Line Posts* — 1<sup>7/8</sup>" minimum

*Terminal Posts* — 2<sup>3/8</sup>" minimum

*Framework Coating* — Inline flow-coat or hot-dipped galvanized. Can have additional coatings.

*Framework ASTM Specifications* — Meets F 761-82 (Steel Posts and Rails), F 934-96 (Stand Colors for Polymer-Coated)

*Fittings* — All steel fittings hot-dipped galvanized. Tie wires made from aluminum or galvanized steel.

*Fittings ASTM Specifications* — F 626-96 (Fence Fittings)

*Gate* — Fence fabric and framework match fencing materials.

*Gate ASTM Specifications* — F 654-91 (Residential Chain-Link Fence Gates)

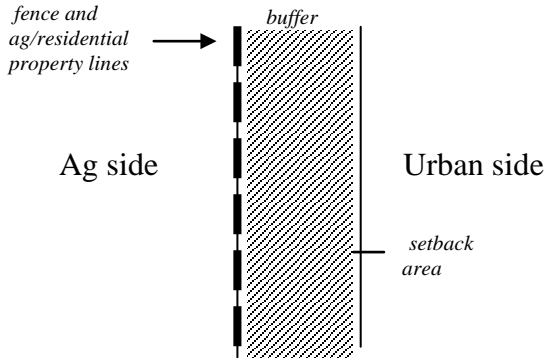
*Anti-Climbing Measures* — Fences resistant to climbing, either by incorporating slates in the mesh, incorporating angled barb wire (where permitted), or by using one of the following mixes of mesh size and wire gauges (in order from most to least recommended):

3/8"mesh/11 gauge, 1" mesh/9 gauge, 1" mesh/11 gauge, 2" mesh/6 gauge

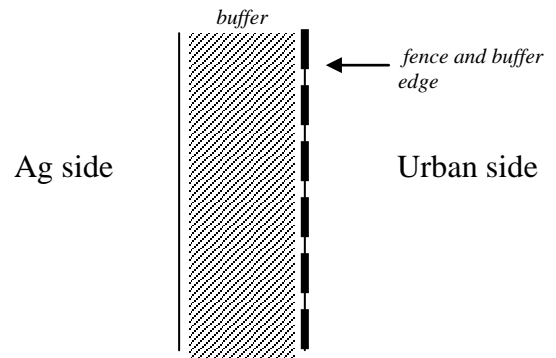
## G2) FENCING PLACEMENT

### Existing Higher or Lower Intensity Buffer

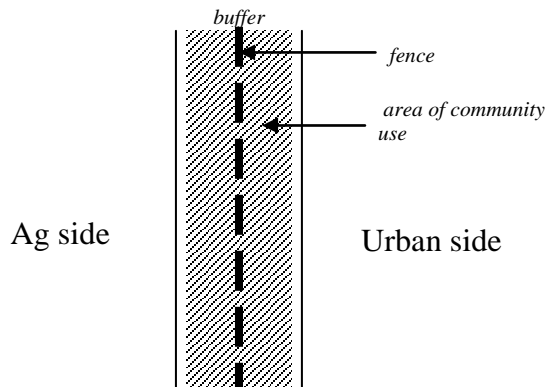
Fencing placement can be a critical issue due to conflicting interests of access. It should be clear that the primary purpose of the fence (as with trespass-inhibiting shrubbery) is to decrease trespass onto agricultural land. Gates should be at a minimum, and should be installed only where required as part of an approved recreational or maintenance plan for the buffer.



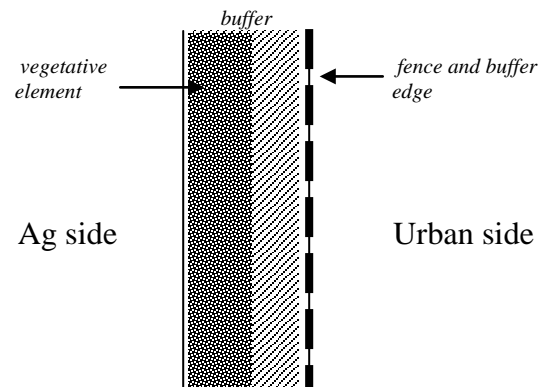
a) "Estate" lot buffer: no community use, individual property owner maintenance



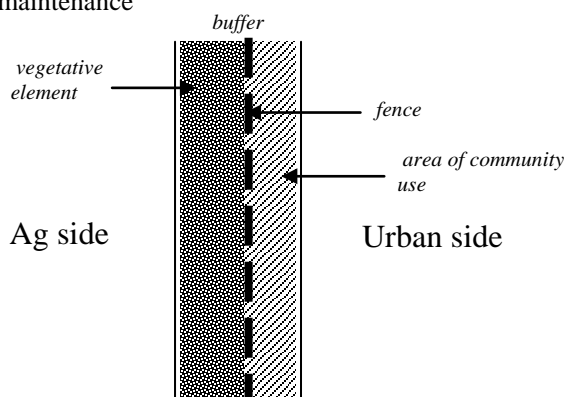
b) Buffer with no vegetative element: no community use, either community or farmer maintenance



c) Buffer with no vegetative element: with limited community use, shared or single-party maintenance



d) Buffer with vegetative element: no community use, either community or farmer maintenance



e) Buffer with vegetative element: with community use, either community or shared maintenance

NOTE: To reduce the potential of residents being exposed to chemical spray drift, the scenarios represented by a, b, d, and e, are the preferred options. It is **not** recommended that a considerable portion of a non-vegetative buffer adjoining agricultural land of high potential impact be dedicated to significant community use, as in scenario c.

## SECTION H — OTHER DESIGN CONSIDERATIONS

### H1) IRRIGATION SYSTEM

The establishment of an irrigation system is mandatory for vegetative buffers. Must be designed by a licensed professional, and should be site and species specific, as appropriate. The operation and maintenance of the irrigation system must be part of the buffer's overall maintenance plan.

### H2) ROAD PLACEMENT

#### Existing Higher or Lower Intensity Buffer

It is always preferable to not bisect buffers with roads due to the wind funneling effect they create. If a road is unavoidable, it should be as narrow as possible, not linear, and should not be oriented to the prevailing wind. It should be noted that even a road with an acceptable orientation and design will permit some degree of increased spray drift to pass through the buffer area, and will also pose a greater risk of trespass.

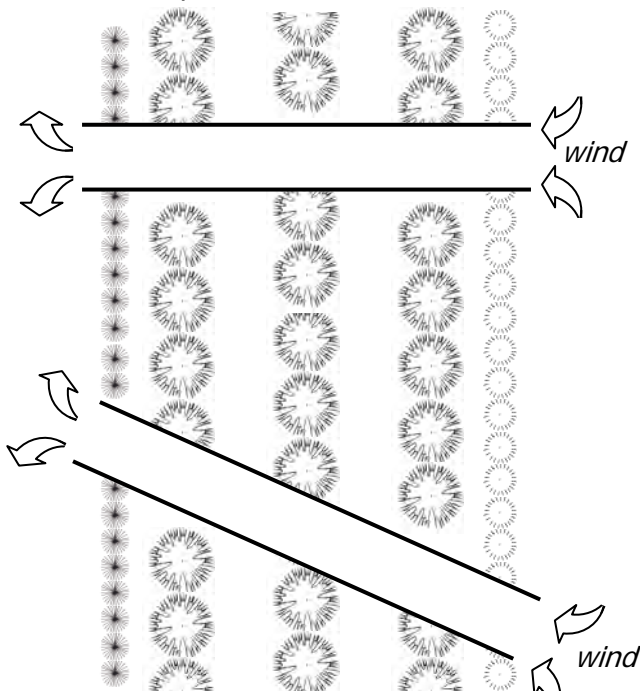


Figure 1 – Undesirable orientation of cross road.

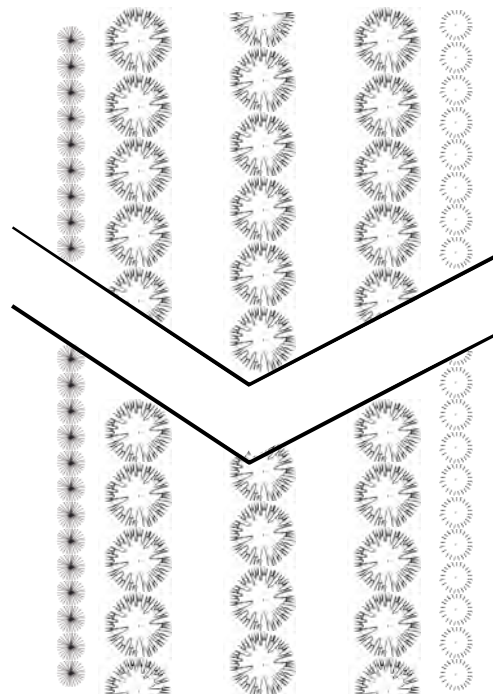


Figure 2 – Desirable orientation of cross road.

## APPENDIX 2 - Definitions

**Agricultural land use** — In general terms, refers to the use of land for the cultivation and husbandry of plant and animal products. In Oregon, it can also be described as all those agricultural activities permitted on rural lands zoned for Exclusive Farm Use. Agricultural land use is subject to constraints imposed by climate; slope, soil, and water limitations; processing requirements; economic conditions; zoning and land use; and aspect.

**Buffer area** — A management zone of varying size, shape, and characteristics which transitions between different land uses. Various combinations of buffering strategies and elements can be utilized in the management zone to provide separation between commercial agricultural/forestry and urban use (e.g., vegetation (grass, bushes, trees); utility corridors (roads, highways, railroads, powerlines), land use (hobby farms, large lots, parks); or natural barriers (hillsides, bluffs, canyons, creeks, rivers). Management requirements of buffers can differ significantly depending on the strategies employed, but management is always a crucial consideration, and always a long-term necessity. Buffers can be characterized, apart from their specific designs, on the basis of their relative permanence:

**Long-term Buffer:** Buffers providing protection to agricultural lands outside of an Urban Reserve, lands which are not destined for urbanization in any state-recognized plan, either regional or municipal. These buffers should be considered permanent in terms of their designs.

**Mid-term Buffer:** Buffers providing protection to agricultural lands within an Urban Reserve.

**Buffer element** — a natural or artificial feature within a buffer area that mitigates an adverse impact. A buffer element may consist of vegetation (grass, bushes, trees), utility corridors (roads, highways, railroads, power lines), rural residential areas, natural barriers (hillsides, bluffs, canyons, creeks, rivers, wetlands), or other natural or man-made features.

**Chemical drift** — airborne movement of agricultural chemicals onto a non-target area with the actual or perceived potential for risk of injury or damage to humans, plants, animals, environment, or property.

**Existing Higher Intensity Agricultural Land** — A subset of High Potential Impact Agricultural Lands, the definition is used to establish the initial design of a vegetative buffer element. The ag lands in this category support existing plantings (or scheduled plantings within one year of projected buffer completion date, as determined by documented consultation with the owner/operator of the farming operation) of long-term crops with a height at maturity exceeding 4 ft. In the Rogue Valley, these are primarily vineyards and orchards (fruit or nut trees), but may also include other higher intensity crops. To determine what qualifies as a higher intensity crop the local government will consult with the Extension Service or the Oregon Department of Agriculture.

**Existing Lower Intensity Agricultural Land** — A subset of High Potential Impact Agricultural Lands, the definition is used to establish the initial design of a vegetative buffer element. The ag lands in this category contain fallow land, land of potential high impact presently being used for grazing, or crops of any type with a height at maturity below 4 ft. In the Rogue Valley these are primarily row crops and hay fields, and all uses other than those falling under the definitions of "Existing Higher Intensity".

**Farmable Land** — The portion of an EFU-zoned parcel with no natural (wetland, riparian, topographic, geologic, etc) or man-made (yards, storage areas, roads, structures, etc) features that would provide a significant impediment to plant cultivation or animal husbandry.

**High Potential Impact Agricultural Lands** — The majority of Class I – IV agricultural lands. Because these agricultural lands can be and often are used for a wide variety of different agricultural uses, and will likely be suitable for new and as yet unforeseen uses and practices in the future, the assumptions are that they will require buffering mechanisms that mitigate the most likely high impact agricultural land use reasonably likely over time, regardless of present use. The only exception are those agricultural lands defined as of “low potential impact”.

**Irrigation District’s Zone of Influence** — The area within an irrigation district’s present boundary, as well as areas presently lying outside, which cannot be considered ineligible on reasonable technical grounds (as determined by the pertinent irrigation district) for a future expansion of an existing irrigation district.

**Low Potential Impact Agricultural Lands** — Agricultural lands can be considered of low potential impact if they:

- are composed of predominately Class IV soils, can demonstrate an unbroken or essentially unbroken 25-year history of agricultural inactivity or grazing use, **and** which have one or more of the following:
  - greater than 50% hydric soils;
  - greater than 50% shallow soils (surface to bedrock) of less than 2 ft. in depth.

**OR**

- are composed of greater than 50% of Class VI or worse soil.

**OR**

- are outside of an irrigation district’s zone of influence (the area within an irrigation district’s present boundary, as well as areas presently lying outside which cannot be considered ineligible on reasonable technical grounds by the pertinent irrigation district for a future expansion of an existing irrigation district).

**Sensitive receptor** —

- dwelling, mobile home park, or other residential place in a residential development;
- motel, hotel, or hostel;
- places of worship and public meeting facilities;
- childcare center, kindergarten, school, university, or other educational institution; or
- medical center or hospital.

**Separation distance** — the total linear distance between a source and a sensitive receptor.

## **APPENDIX 3 - MODEL RIGHT TO FARM RESTRICTIVE COVENANT**

**WHEREAS**, farming and the related agricultural businesses are an important industry in Jackson County, providing a substantial contribution to the economy of the County, enhancing the quality of life, promoting environmental quality, and exerting minimal demands upon services from local government; and

**WHEREAS**, it is the purpose of this document to maintain and enhance the agricultural industry of the County by minimizing potential conflicts between agricultural and non-agricultural land use, and by providing notice of potential effects of living near agricultural land; and

**WHEREAS**, this notice and restrictive covenant is applied to the real property described in Exhibit A, which is located within 1,000 (one thousand) feet of agriculturally zoned land designated within a municipal or county comprehensive plan; and

**WHEREAS**, this Right to Farm Restrictive Covenant shall run with the land until such time as no part of the property is located within 1,000 feet of agriculturally zoned land, actively farmed or not;

**THEREFORE**, the present and all subsequent owners of the subject property agree:

(1) That the property described in Exhibit A may be subjected to impacts from lawful agricultural or agricultural processing facilities operations that may cause inconvenience and/or discomfort. These impacts can include, but are not limited to, exposure at any time of night and day to

**NOISE;**

**ODORS;**

**FUMES;**

**DUST;**

**SMOKE and ASH;**

**WATER;**

**VIBRATIONS;**

**INSECTS;**

**BIRDS;**

**RODENTS; AND**

**CHEMICALS**

related to activities including, but not limited to, the cultivation and tillage of the soil; dairying; the production, irrigation, frost protection, cultivation growing, harvesting, and processing of any commercial agricultural commodity, including timber, viticulture, apiculture, or horticulture; the raising of livestock, fur-bearing animals, fish, or poultry; agricultural spoils areas; and any practices performed by a farmer or on a farm as incidental to or in conjunction with such operations, including the legal application of pesticides and fertilizers, use of farm equipment, storage or preparation for market, delivery to storage or to market, or to carriers for transportation to market.

(2) That to the extent that agricultural operations cause discomfort and inconvenience, but are in compliance with all applicable laws; employ practices that are generally accepted, reasonable, and prudent for the operation to be profitable; and use practices that are common on farms of like nature, then these operations are protected from any legal actions meant to restrict them.

(3) That a farm or farm operation that is in conformance with existing laws and accepted practices shall not be found to be a public or private nuisance as a result of a change in ownership or size; temporary cessation or interruption of farming; adoption of new technology; or a change in type of farm product being produced.

(4) That the present and subsequent owners agree to prohibit dogs, under their care or ownership, or under the care or ownership of an invited visitor on their property, from trespassing on agricultural property.

(5) In any legal action brought in which a farm or farm operation is alleged to be a nuisance, if the defendant farm or farm operation prevails, the farm or farm operation may recover from the plaintiff the actual amount of costs and expenses determined by the court to have been reasonably incurred by the farm or farm operation in connection with the defense of the action, together with reasonable and actual attorney fees.

(6) That this restrictive covenant does not exempt agricultural operators from compliance with federal, state, or local laws, nor protect them from legal recourse resulting from noncompliance.

(7) That Oregon Department of Agriculture regulations, criteria, and dispute resolution procedures may be utilized in determining whether a practice is generally acceptable and reasonable.

(8) That the state of Oregon or (Jackson County and/or the City of \_\_\_\_\_) may, in addition to any other available remedy, bring an action to enforce this restrictive covenant, or to restrain or prevent its violation in any way.

(9) That all individuals who purchase, rent, or lease subject property will receive a copy of this document.

(10) That this document shall be deemed to apply to the property described herein until a release is filed of record executed by an authorized representative of the City of \_\_\_\_\_ Planning Department or its successor. Such release shall be recognized as notice that the subject property is no longer located within 1,000 feet of agriculturally zoned land, but shall not be construed as an indication that other federal, state, or county protections to agricultural operations do not still apply.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

Record Owner

Record Owner

Record Owner

Record Owner

STATE OR OREGON     )  
  ) ss.  
County of Jackson     )

Personally appeared the above names \_\_\_\_\_ and  
acknowledged the foregoing instrument to be his/her voluntary act and deed before me this  
\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public for the State of Oregon  
My Commission Expires:

## APPENDIX 4 - Model Agricultural Buffering Ordinance

### Section I : Purpose

The purpose of establishing standards for buffering urban development from agricultural lands is to reduce the potential for conflict between farming activities and urban (residential, institutional, commercial, and industrial) uses. Buffering standards seek to achieve the following objectives:

1. To ensure the continued use of farmland for farm uses.
2. To minimize potential conflict by developing, where possible, a well-defined boundary between agricultural and urban uses. The best boundary will be one that minimizes conflict in both directions.
3. To minimize the impacts of urban development on agricultural production activities.
4. To minimize the potential for complaints about agricultural practices and activities.

### Section II : Applicability

Appropriate levels of agricultural buffering shall be required adjacent to all EFU-zoned lands as documented in *Agricultural Buffering Standards - Establishing Effective Buffers Between Rural Agricultural and Urban Uses*, and outlined in the attached buffering design criteria summary tables. Agricultural buffering standards can be applied at any time following annexation, but must be in place prior to a) final plat sign off; b) final building inspection in the event no land division occurs; or c) final occupancy for larger lot buffers.

Different degrees of buffering are required based on the following factors:

1. The proposed urban use: Whether the proposed urban use is residential, institutional, commercial, or industrial. The sensitivity of urban uses to agricultural practices declines from residential and institutional to commercial and industrial. Uses considered are those within 1,000 feet of the adjoining EFU land. If there are mixed uses present, those of the highest degree of sensitivity will determine the specific buffering design criteria.
2. The impact being buffered:
  - Chemical Spray Drift - within 50 to 200 ft of the rural/urban boundary;
  - Noise – within 500 ft of the boundary
  - Sediment and Stormwater Runoff – within 500 ft of the boundary;
  - Trespass and Vandalism - within 50 to 200 ft of the boundary
  - Odor, Dust, Smoke, and Ash – within 1,000 ft of the boundary
3. Whether the adjacent EFU land is of "high" or "low" potential impact:
  - (a) High potential impact EFU lands — Class I – IV agricultural lands are considered to be of high potential impact.
  - (b) Low potential impact EFU lands — Agricultural lands can be considered of low potential impact if:
    - they are composed of greater than 50% Class IV soils, can demonstrate an unbroken or essentially unbroken 25-year history of agricultural inactivity (fallow land) or grazing use, and have one or more of the following (as determined by the *Natural Resource Conservation Soil Survey for Jackson County* or a certified soil scientist):
      - Greater than 50% hydric soils;
      - Greater than 50% shallow soils (surface to bedrock or permanent cemented hardpan) of less than 2 ft. in depth.
    - OR
    - are composed of greater than 50% Class VI or worse soil.
    - OR
    - are outside of an irrigation district's zone of influence (the area within an irrigation district's present boundary, as well as areas currently lying outside, which could qualify on



reasonable technical grounds - as determined by the most appropriate irrigation district - for future expansion of the district).

4. Whether existing uses on the adjacent EFU land can be classified as existing higher or lower intensity:
  - (a) Existing Higher Intensity — Adjacent EFU land qualifies for an “existing higher intensity buffer” if it includes existing plantings (or scheduled plantings within one year of projected buffer completion date, as determined by documented consultation with the owner/operator of the farming operation) of long-term crops with a height at maturity exceeding 4 ft. In the Rogue Valley, these are primarily vineyards and orchards (fruit or nut trees), but may also include other higher intensity crops. To determine what qualifies as a higher intensity crop the local government will consult with Extension Service or the Oregon Department of Agriculture.
  - (b) Existing Lower Intensity — Adjacent EFU land qualifies for an “existing lower intensity buffer” if it includes fallow land, land of potential high impact presently being used for grazing, or crops of any type with a height at maturity below 4 ft. In the Rogue Valley these are primarily row crops and hay fields, and all uses other than those falling under the definitions of “Existing Higher Intensity”.
5. Whether the desired buffer is to be mid- or long-term:
  - (a) Mid-term buffer — Buffers providing protection to agricultural lands within an Urban Reserve Area.
  - (b) Long-term buffer — Buffers providing protection to agricultural lands outside of an Urban Reserve Area. The agricultural lands being buffered are resource lands not identified for future urbanization in any state-recognized plan, either regional or municipal. Long-term buffers shall be considered permanent in terms of their designs.

### **Section III : Buffering Standards**

Solution options for mitigating the impacts of adjoining urban and agricultural uses are detailed in the document *Agricultural Buffering Standards - Establishing Effective Buffers Between Rural Agricultural and Urban Uses*, and outlined in the attached buffering design criteria summary tables. Whenever the proposed buffer design varies from the solution options listed in the buffering standards document, the applicant shall prepare a Conflict Assessment and Buffer Study (CABS). For actual design and application of the criteria or guidance to prepare a CABS, reference shall be made to the document *Agricultural Buffering Standards - Establishing Effective Buffers Between Rural Agricultural and Urban Uses*.

# HIGH Potential Impact Agricultural Land

## SENSITIVE Receptors (all residential uses, hotels, motels, schools, places of worship, medical centers, etc)

	CHEMICAL SPRAY DRIFT				TRESPASS AND VANDALISM	NOISE			SEDIMENT / STORMWATER RUN-OFF	ODOR, DUST, SMOKE, & ASH
	tree-based buffer	bamboo buffer	larger lot tree-based buffer	non-vegetative buffer	fencing / shrubbery	noise zone 2 criteria	noise zone 3 criteria	noise zone 4 criteria	erosion control and prevention plan	restrictive deed covenant
<b>Option 1</b>										
0 to 100 ft	✓				✓				✓	
101 to 175 ft						✓			✓	✓
176 to 375 ft							✓		✓	✓
376 to 500 ft								✓	✓	✓
500 to 1000 ft										✓
<b>Option 2</b>										
0 to 75 ft		✓			✓				✓	
76 to 175 ft						✓			✓	✓
176 to 375 ft							✓		✓	✓
376 to 500 ft								✓	✓	✓
500 to 1000 ft										✓
<b>Option 3</b>										
0 to 100 ft			✓		✓				✓	✓
101 to 175 ft						✓			✓	✓
176 to 375 ft							✓		✓	✓
376 to 500 ft								✓	✓	✓
500 to 1000 ft										✓
<b>Option 4</b>										
0 to 200 ft				✓	✓				✓	
201 to 375 ft							✓		✓	✓
376 to 500 ft								✓	✓	✓
500 to 1000 ft										✓

**NOTES:**

- The distances in this chart are linear distances from the rural/urban boundary, and assume that all buffering takes place on urbanizing land. If all or part of a buffer is located on rural land, distances will be measured from the beginning of the buffer, and not from the beginning of the boundary.
- Vegetative buffer elements will be maintained and protected through a variety of different agreements. If a restrictive covenant is used for this purpose, it would be in addition to the restrictive covenant used to mitigate odor, dust, smoke, & ash, chemical spray drift, and noise.
- Noise Zone 1 does not appear in this chart because no new sensitive receptors are permitted in that zone.
- Larger lot tree-based buffers are only allowed on urban land adjacent to the outermost urban reserve boundary.

# HIGH Potential Impact Agricultural Land NON-SENSITIVE Receptors (commercial, industrial)

	CHEMICAL SPRAY DRIFT		TRESPASS AND VANDALISM	SEDIMENT / STORMWATER RUN-OFF	ODOR, DUST, SMOKE, & ASH
	tree or bamboo-based buffer	non-vegetative buffer	fencing / shrubbery	erosion control and prevention plan	restrictive deed covenant
<b>Option 1</b>					
0 to 50 ft	✓		✓	✓	
51 to 175 ft				✓	✓
176 to 375 ft				✓	✓
376 to 500 ft				✓	✓
501 to 1000 ft					✓
<b>Option 2</b>					
0 to 100 ft		✓	✓	✓	
101 to 175 ft				✓	✓
175 to 375 ft				✓	✓
376 to 500 ft				✓	✓
501 to 1000 ft					✓

**NOTES:**

- The distances in this chart are linear distances from the rural/urban boundary, and assume that all buffering takes place on urbanizing land. If all or part of a buffer is located on rural land, distances will be measured from the beginning of the buffer, and not from the beginning of the boundary.
- Vegetative buffer elements will be maintained and protected through a variety of different agreements. If a restrictive covenant is used for this purpose, it would be in addition to the restrictive covenant used to mitigate odor, dust, smoke, & ash, chemical spray drift, and noise.

# LOW Potential Impact Agricultural Land

## SENSITIVE Receptors (all residential uses, hotels, motels, schools, places of worship, medical centers, etc)

	CHEMICAL SPRAY DRIFT / TRESPASS AND VANDALISM		TRESPASS AND VANDALISM	NOISE			SEDIMENT / STORMWATER RUN-OFF	ODOR, DUST, SMOKE, & ASH
	non-vegetative buffer	larger lot non-veg. buffer	fencing / shrubbery	noise zone 2 criteria	noise zone 3 criteria	noise zone 4 criteria	erosion control and prevention plan	restrictive deed covenant
<b>Option 1</b>								
0 to 50 ft		✓	✓				✓	✓
51 to 175 ft				✓			✓	✓
176 to 375 ft					✓		✓	✓
376 to 500 ft						✓	✓	✓
501 to 1000 ft								✓
<b>Option 2</b>								
0 to 100 ft	✓		✓				✓	
101 to 175 ft				✓			✓	✓
175 to 375 ft					✓		✓	✓
376 to 500 ft						✓	✓	✓
501 to 1000 ft								✓

**NOTES:**

- The distances in this chart are linear distances from the rural/urban boundary, and assume that all buffering takes place on urbanizing land. If all or part of a buffer is located on rural land, distances will be measured from the beginning of the buffer, and not from the beginning of the boundary.
- Vegetative buffer elements will be maintained and protected through a variety of different agreements. If a restrictive covenant is used for this purpose, it would be in addition to the restrictive covenant used to mitigate odor, dust, smoke, & ash, chemical spray drift, and noise.
- Noise Zone 1 does not appear in this chart because no new sensitive receptors are permitted in that zone.
- Larger lot tree-based buffers are only allowed on urban land adjacent to the outermost urban reserve boundary.

# LOW Potential Impact Agricultural Land NON-SENSITIVE Receptors (commercial, industrial)

	CHEMICAL SPRAY DRIFT / TRESPASS AND VANDALISM	TRESPASS AND VANDALISM	SEDIMENT / STORMWATER RUN-OFF	ODOR, DUST, SMOKE, & ASH
	non-vegetative buffer	fencing / shrubby	erosion control and prevention plan	restrictive deed covenant
<b>Option 1</b>				
0 to 50 ft	✓	✓	✓	
51 to 175 ft			✓	✓
176 to 375 ft			✓	✓
376 to 500 ft			✓	✓
501 to 1000 ft				✓

**NOTES:**

- The distances in this chart are linear distances from the rural/urban boundary, and assume that all buffering takes place on urbanizing land. If all or part of a buffer is located on rural land, distances will be measured from the beginning of the buffer, and not from the beginning of the boundary.
- Vegetative buffer elements will be maintained and protected through a variety of different agreements. If a restrictive covenant is used for this purpose, it would be in addition to the restrictive covenant used to mitigate odor, dust, smoke, & ash, chemical spray drift, and noise

## APPENDIX 5 - Agricultural Buffering Standards Reference Material

- Agricultural Land Commission. 1993. Landscape buffer specifications. Provincial Agricultural Land Commission, British Columbia, Canada.  
<http://www.landcommission.gov.bc.ca/publications/buffer/lbs.pdf>
- Baker, D.E. 1997. Noise: The invisible hazard. University of Missouri-Columbia University Extension.  
<http://muextension.missouri.edu/xplor/agguides/agengin/g01962.htm>
- Bamboo World. 2001. Bamboo World – Species selection guide. Current year catalogues available at  
<http://www.bambooworld.com.au/pages/WhDownloads.htm>
- Brandle, J.R. and S. Finch. 1991. How windbreaks work. University of Nebraska Extension EC 91-1763-B
- Capelin, M. 2001. Buffer areas: minimizing conflict between agricultural and residential areas. Queensland Government National Resources and Mines NRM facts L49(2001)
- Chemical Standards Branch, Attwood. 2002. Using vegetation as a barrier to reduce spray drift. State of Victoria Department of Natural Resources and Environment, Australia. NRE Information Series.  
<http://pandora.nla.gov.au/pan/55667/20060127/AG0860.pdf>
- City of Arroyo Grande. Noise element. Arroyo Grande General Plan, California.  
[http://www.arroyogrande.org/comm\\_dev/general\\_plan/noise.pdf](http://www.arroyogrande.org/comm_dev/general_plan/noise.pdf)
- City of Berkeley. Section 13.40.060 Interior noise standards. City of Berkeley Municipal Code, California.  
[http://www.ci.berkeley.ca.us/bmc/Berkeley\\_Municipal\\_Code/Title\\_13/40/060.html](http://www.ci.berkeley.ca.us/bmc/Berkeley_Municipal_Code/Title_13/40/060.html)
- City of Brentwood. Agricultural Buffers. City of Brentwood, California.  
[http://www.ci.brentwood.ca.us/boards/aarg/enterprise/agricultural\\_buffers.cfm](http://www.ci.brentwood.ca.us/boards/aarg/enterprise/agricultural_buffers.cfm)
- City of Burien. City of Burien Building Code. City of Burien, Washington.  
<http://www.mrsc.org/mc/burien/burien15.pdf>
- City of Modesto. City of Modesto noise policies. City of Modesto General Plan, California.  
<http://www.modestogov.com/pwd/seir/pdf/MID%20SEIR%20Appendix%20G%20Modesto%20Noise.pdf>
- City of Riverside. Section 16.08.175 Exterior noise insulation standards. City of Riverside Municipal Code, California. [http://www.riversideca.gov/municipal\\_code/Title\\_16/08/175.html](http://www.riversideca.gov/municipal_code/Title_16/08/175.html)
- City of San Rafael. 2020. Draft Noise Element. San Rafael General Plan.
- City of Stanton. 9.28.060 Interior noise standards. City of Stanton Municipal Code, California.  
[http://www.qcode.us/codes/stanton/view.php?topic=9-9\\_28-9\\_28\\_060](http://www.qcode.us/codes/stanton/view.php?topic=9-9_28-9_28_060)
- City of Truckee. 1996. Chapter 6 – Noise element. Truckee General Plan, California.  
<http://www.truckee2025.org/96genlplan/vol1ch6.htm>
- Cleugh, H. 1997. Trees for shade and shelter, in Design Principles for Farm Forestry: A guide to assist farmers to decide where to plant trees and farm plantations on farms. Eds. Abel, N et al. RIRDC, Canberra, Australia, pp 39-52.
- Felsot, A. 2003. Do buffers make good neighbors? Minimizing pesticide exposure at the ag-urban interface. Agri. and Envi. News, July 2003, 207.  
<http://www.aenews.wsu.edu/July03AENews/July03AENews.htm#NoSprayBuffers>
- Government of British Columbia Provincial Agricultural Land Commission. 1993. Landscaped Buffer Specifications. [http://www.landcommission.gov.bc.ca/publications/buffer/lbs\\_main.htm](http://www.landcommission.gov.bc.ca/publications/buffer/lbs_main.htm)
- Hall, F. R. and R.D. Fox. 1996. The reduction of pesticide drift, p209-239. In: Foy, C.L. and D.W. Pritchard (editors). 1996. Pesticide formulation and adjuvant technology. CRX Press, New York.
- Hall, F.R. 1999. Precision Farming: Technologies and information as risk-reduction tools. P.96-116. In: Ragsdale, N.N. and J.N. Seiber (editors). 1999. Pesticides: Managing risks and optimizing benefits. American Chemistry Society Symposium Series, Washington, DC.
- Hall, F.R., J. Cooper, L. Kirchner, R. Downer, and R. Thacker. 1996. Assessment of off-target

- movement of orchard pesticides: Capture efficiencies of synthetic and biological biomarkers. *J. Environ. Sci. Health.* B31(4), 815-830(1996)
- Hammond, S.V. 2002. Can city and farm coexist? The agricultural buffer experience in California. Great Valley Center's Agricultural Transactions Program, California. 25 p.  
[http://www.greatvalley.org/pub\\_documents/2004\\_5\\_29\\_0\\_1\\_40\\_buffer\\_study.pdf](http://www.greatvalley.org/pub_documents/2004_5_29_0_1_40_buffer_study.pdf)
- Handel, M.E. 1994. Conflicts and solutions when agricultural land meets urban development. Master of Science thesis, Community Development, University of California at Davis.
- Handel, M.E. 1997. Buffers. pp. 47-51. In: Cappock, R. and M. Kreith, (editors). 1997. California's Future: Maintaining Viable Agriculture at the Urban Edge. UC Agricultural Issues Center.
- Heisler, G.M. and D.R. Dewalle. 1988. Effects of windbreak structure on wind flow. Elsevier Science Publishers B.V., Amsterdam. *Agriculture, Ecosystems and Environment*, 22/23 (1988) 41-69.
- Napa County. 2000. 8.16.060 Interior noise standards. Napa County Code, California.  
[http://www.co.napa.ca.us/Code2000/\\_DATA/TITLE08/Chapter\\_8\\_16\\_NOISE\\_CONTROL\\_REGU\\_LA/8\\_16\\_060\\_Interior\\_noise\\_standards.html](http://www.co.napa.ca.us/Code2000/_DATA/TITLE08/Chapter_8_16_NOISE_CONTROL_REGU_LA/8_16_060_Interior_noise_standards.html)
- Office of Industrial Hygiene. 2004. Requirements for determining and mitigating traffic noise impacts to residential structures. Riverside County Department of Public Health, California.  
<http://www.rivcoph.org/indhyg/traffic.htm>
- Perch, J. 1996. Subdivision near agriculture....a guide for approving officers. Ministry of Agriculture, Fisheries, and Food, and the Provincial Agricultural Land Commission. British Columbia.
- PFRA Shelterbelt Centre. 1999. Planning Field Shelterbelts. Prairie Farm Rehabilitation Administration Shelterbelt Centre Publications. <http://www.agr.gc.ca/pfra/shelterbelt/shbpub24.htm>
- PFRA Shelterbelt Centre. Trees and Shrubs for Prairie Shelterbelts. Prairie Farm Rehabilitation Administration Shelterbelt Centre Publications.  
[http://www.agr.gc.ca/pfra/shelterbelt/species\\_e.htm#table1](http://www.agr.gc.ca/pfra/shelterbelt/species_e.htm#table1)
- Porskamp, H.A.J., J.M.P.G. Michielsen, and Ir.J.F.M. Huijmans. 1994. The reduction of the drift pesticides in fruit growing by a windbreak. Dienst Landbouwkundig Onderzoek, Instituut voor Milieu-en Agritechniek, Rapport 94-29. Wageningen, 27pp.
- Queensland, Australia Department of Natural Resources. 1997. Planning guidelines, separating agricultural and residential land uses.  
[http://www.lgp.qld.gov.au/docs/ipa/pdf\\_doc/plng\\_guide\\_sep\\_ag.pdf](http://www.lgp.qld.gov.au/docs/ipa/pdf_doc/plng_guide_sep_ag.pdf)
- Raupach, M.R. and J.F. Leys. 1999. The efficacy of vegetation in limiting spray drift and dust movement. CSIRO Land and Water, technical report 47/99.  
<http://www.clw.csiro.au/publications/technical99/tr47-99.pdf>
- Raupach, M.R., J.F. Leys, and N. Woods. 2000. Modelling the effects of riparian vegetation on spray drift and dust: The role of local protection. CSIRO Land and Water, technical report 29/00.  
<http://www.clw.csiro.au/publications/technical2000/tr29-00.pdf>
- Rural Industries Research and Development Corporation. 1999. Growing trees on cotton farms. Rural Industries Research and Development Corporation, Australia. 76 pages.
- San Luis Obispo. 2000. 23.06.046 Interior noise level standards. San Luis Obispo County Code.  
[http://www.slclerkrecorder.org/countycode/\\_data/TITLE23/Chapter\\_23\\_06\\_OPERATIONAL\\_STANDARD/23\\_06\\_046\\_Interior\\_noise\\_level.html](http://www.slclerkrecorder.org/countycode/_data/TITLE23/Chapter_23_06_OPERATIONAL_STANDARD/23_06_046_Interior_noise_level.html)
- Santa Clara County. Sec. B11-153. Interior noise standards. Santa Clara County Code and Municipal Code Corporation, California.  
[http://services.sccgov.org/scc/assets/docs/scc\\_ordinance/31108004.HTM](http://services.sccgov.org/scc/assets/docs/scc_ordinance/31108004.HTM)
- Smith, R. 2000. All-year shrubs. <http://www.rodsgarden.50megs.com/shrall.htm>
- Smith, R. 2000. Trees. <http://www.rodsgarden.50megs.com/trees.htm>
- Sokolow, A.D. 2004. California's edge problem: Urban impacts on agriculture. University of California at Berkeley. <http://are.berkeley.edu/extension/giannini/Chapter12.pdf>
- Spray Drift Task Force. 1997. A summary of airblast application studies.

- [http://www.agdrift.com/PDF\\_FILES/airblast.pdf](http://www.agdrift.com/PDF_FILES/airblast.pdf)
- Spray Drift Task Force. 1997. A summary of ground application studies.  
[http://www.agdrift.com/PDF\\_FILES/ground.pdf](http://www.agdrift.com/PDF_FILES/ground.pdf)
- Timerson, B.J. 1999. A guide to noise control in Minnesota: Acoustical properties, measurement, analysis, regulation. Minnesota Pollution Control Agency.  
<http://www.pca.state.mn.us/programs/pubs/noise.pdf>
- Ucar, T and F.R. Hall. 2001. Windbreaks as a pesticide drift mitigation strategy: a review. *Pest. Manag. Sci.*57:663-675(2001)
- Ucar, T. and F. Hall. 1998. Windbreak technology for agrochemical drift mitigation. Proress Report 1 for the Laboratory for Pest Control Application Technology and the USDA-NRCS.
- Van de Zande, J.C., JMPG Michielsen, H Stallinga, and A de Jong. 2000. The effect of windbreak height and air assistance on exposure of surface water via spray drift. Part of the proceedings of the BCPC Conference – Pests & Diseases 2000. p. 91-96
- Wacker, M, A.D. Sokolow, and R. Elkins. 2001. County right-to-farm ordinances in California: An assessment of impact and effectiveness. AIC Issues Brief, Agricultural Issues Center, University of California. Number 15(2001)
- Wang, H., E.S. Takle, and J. Shen. 2001. Shelterbelts and windbreaks: Mathematical modeling and computer simulation of turbulent flows. *Ann. Rev. Fluid Mech.*, 33,549-586.
- Wight, B. and K. Stuhr. 2002. Windbreaks: An agroforestry practice. *Agroforestry Notes* (2002) AF Note – 25:1-4
- Wight, B., T.K. Boes, and J.R. Brandle. 1991. Windbreaks for rural living. University of Nebraska Extension EC91-1767-X
- Wilkenson, K and C. Elevitch. 1999. Multipurpose windbreaks: Design and species for pacific islands. *Agroforester*, Hawaii. <http://agroforestry.net/overstory/overstory32.html> (presently unavailable).
- Zhou, X., J.R. Brandle, E.S. Takle, and C.W. Mize. 2002. Estimation of the 3-dimensional aerodynamic structure of a green ash shelterbelt. *Agric. For. Meteorol.*, 111,93-108.



# Guide to Edge Planning



**Promoting Compatibility Along  
Urban-Agricultural Edges**





# Guide to Edge Planning

## Promoting Compatibility Along Urban-Agricultural Edges

**PUBLISHED BY:**



**June 2009 ISSUE (Working Copy)**

## Preface

The development of the “Guide to Edge Planning” involved extensive literature reviews, research and surveys, and consultation with BC Ministry of Agriculture and Lands commodity and resource management specialists. Input from local government planners and members of the agriculture community also played a significant role in shaping this guide. As a ‘Working Copy,’ the content of this guide will be subject to change as the BC Ministry of Agriculture and Lands continues to engage local government and agriculture industry stakeholders in future planning processes. Because edge planning is based on the concept of shared responsibility involving both urban and farm populations working together, it is important that all stakeholders are fully engaged at the start of any edge planning process. If farm-side and urban-side edge planning tools are to be effectively employed, local governments, the Ministry and the agriculture industry must work together to achieve the most positive outcome.

Finally, this guide provides a broad range of information to guide and assist in the development of official community plans, zoning bylaws and farm bylaws. An effort has been made to ensure accuracy and completeness of references. However, readers are cautioned to seek legal advice and refer to current versions of the statutes and regulations of BC to be sure of getting accurate information when drafting bylaws or for any legal proceedings.

Further information on the contents of this guide can be obtained by contacting Karen Thomas at the Sustainable Agriculture Management Branch, 604-556-3104.

<b>Introduction</b>	<b>1</b>
<b>Part 1 - Background</b>	<b>3</b>
<b>1. PLANNING THE URBAN-AGRICULTURAL EDGE</b>	<b>3</b>
Rationale	3
Objective	4
Strategy	4
<b>2. EDGE PLANNING AREAS DEFINED</b>	<b>5</b>
<b>3. LEGISLATIVE MECHANISMS TO PROMOTE EDGE COMPATIBILITY</b>	<b>5</b>
<b>Part 2 - Undertaking Edge Planning</b>	<b>7</b>
<b>4. PURPOSE</b>	<b>7</b>
<b>5. PARTICIPANTS</b>	<b>7</b>
<b>6. LOCATION AND SIZE OF EDGE PLANNING AREAS</b>	<b>7</b>
<b>7. EDGE PLANNING PROCESS</b>	<b>9</b>
Edge Planning's Place within Planning Processes	9
Steps to Undertaking Edge Planning and Establishing EPAs	10
<b>Part 3 - Urban-Side Edge Planning Tools</b>	<b>13</b>
<b>8. FARM-FRIENDLY URBAN DEVELOPMENT</b>	<b>15</b>
Subdivision, Road and building Design	15
Rainwater Control	17
<b>9. ENHANCING AGRICULTURAL AWARENESS</b>	<b>18</b>
Disclosure Statements	18
Other Agricultural Awareness Tools	19
<b>10. URBAN-SIDE BUFFERS</b>	<b>20</b>
Rationale for buffers	20
Application of Buffer Specifications	21
Buffer Plan Requirement	22
Buffer Installation and Maintenance	22
Urban-side buffer Design Criteria	23
Urban-Side Buffer A (no berm) – Design Specifications and Layout	24
Urban-Side Buffer B (with berm) – Design Specifications and Layout	24
Urban-Side Buffer A, Buffer B or Buffer D – Spacing	25
Urban-Side Buffer C (existing vegetation) – Design Specifications and Layout	26
Urban-Side Buffer D – Design Specifications, Layout and Spacing	27

<b>Part 4 - Farm-Side Edge Planning Tools</b>	<b>29</b>
<b>11. FARM-SIDE MANAGEMENT</b>	<b>31</b>
Application of Management and Siting Guidelines	31
Role of the Zoning and Farm Bylaws	32
Definitions	32
Minimum thresholds	33
Animal Limits	34
Manure Handling	36
Manure Storage	36
Solid Manure Application	36
Liquid Manure Application	36
On-farm Composting	37
On-farm Composting for Mushroom Operations	37
On-farm Composting for all Farm Operations except Mushroom	37
Noise, Odour and Dust Management	38
General – Noise, Odour and Dust Management	38
Commodity Specific – Noise, Odour and Dust Management	39
Light Management	40
Safety Measures	40
Setback Distances	41
Additional Management Requirements for Buildings and Structure located 60 – 99 metres from the ALR/Urban Boundary	42
<b>12. FARM-SIDE BUFFERS</b>	<b>43</b>
Farm-Side Buffer A (no berm) – Design Specifications and Layout	44
Farm -Side Buffer B (with berm) – Design Specifications and Layout	44
Farm -Side Buffer A or Buffer – Spacing	45
<b>List of Appendices</b>	<b>47</b>
<b>APPENDIX A - Development Permit Areas and Guidelines To Protect Farmland</b>	<b>49</b>
<b>APPENDIX B - Buffer Plant List</b>	<b>51</b>
<b>APPENDIX C - Fencing Specification</b>	<b>65</b>
<b>APPENDIX D - Definitions for Farm-side EPA Guidelines</b>	<b>71</b>
<b>APPENDIX E - Agricultural Units Conversion Table List</b>	<b>73</b>
<b>APPENDIX F - Reference List – Building the Guide to Edge Planning</b>	<b>75</b>

## Acronyms List

<b>AAC</b>	Agricultural Advisory Committee
<b>AAP</b>	Agricultural Area Plan
<b>ALC</b>	Agricultural Land Commission
<b>ALR</b>	Agricultural Land Reserve
<b>BC</b>	British Columbia
<b>BCMAF</b>	British Columbia Ministry of Agriculture and Food
<b>BCMAFF</b>	British Columbia Ministry of Agriculture, Food and Fisheries
<b>BCMAL</b>	British Columbia Ministry of Agriculture and Lands
<b>DPA</b>	Development Permit Area
<b>EPA</b>	Edge Planning Area
<b>FPPA</b>	Farm Practices Protection (Right to Farm) Act
<b>GIS</b>	Geographic Information System
<b>OCP</b>	Official Community Plan

## Additional Resources

The following publications offer further information on edge planning and can be found on the Ministry of Agriculture and Lands *Strengthening Farming* website:  
[www.al.gov.bc.ca/resmgmt/sf/edge/index.htm](http://www.al.gov.bc.ca/resmgmt/sf/edge/index.htm)

- [AgFocus: A Guide to Agricultural Land Use Inventory](#) (2004) [Overview](#)
- [Agricultural Drainage Criteria](#)
- [The Countryside and You - Understanding Farming](#) (1998) [Overview](#)
- [Planning for Agriculture](#) (1998) [Overview](#)
  - **Chapter 8** - Planning Along Agriculture's Edges
  - **Appendix 20** - A Check List of Common Urban / Agricultural Conflicts
- [Planning Subdivisions Near Agriculture](#) (1997) [Overview](#)
- [Subdivision Near Agriculture...A Guide for Approving Officers](#) (1996) [Overview](#)
- [Vegetative Buffers in BC. An Investigation of existing buffers and their effectiveness in mitigating conflict](#) (2003) [Overview](#)





## Introduction

The hallmark of British Columbia agriculture is its outstanding diversity – from the niche market vegetable farms in the Lower Mainland to the expansive grain farms in the Peace River to the internationally recognized vineyards and wineries in the Okanagan. With nearly 20,000 farms and ranches in BC, almost every part of the province makes a contribution to our agri-food sector. In 2006, farm gate receipts were approximately \$2.7 billion. Many of the over 200 different commodities produced in BC are exported around the world. Export sales of agricultural products across Canada and to over 100 countries are valued at \$2.4 billion.

Agriculture in British Columbia takes place on some of the highest quality land in Canada. However, the province's physiography makes most of BC unsuitable for farming – only 5% of the province is within the Agricultural Land Reserve (ALR). This combination of scarcity and high quality, coupled with a growing population and an expected increase in the limitations to long distance transport make BC farmland an extremely valuable resource, from a social, environmental, health and economic perspective.

Currently, land being farmed in BC produces just over half of our food requirements (BCMAL, 2006). There is, therefore, tremendous potential to expand agricultural production so that it plays a greater role in feeding our growing population. However, a major challenge we face is to effectively manage urban growth in a manner that protects existing farm operations and provides opportunities for the agriculture industry to continue to grow. Part of this challenge in ensuring urban and agricultural land uses can successfully co-exist will require that the interface between these land uses is effectively planned.

The *Guide to Edge Planning* offers tools and techniques that can be applied to the urban-agricultural interface to promote compatibility. By increasing public awareness, employing landscaping and spatial buffers and encouraging neighbourhood-friendly land management practices on both sides of the 'fence', concerns and complaints that may arise between farmers and their neighbours can be minimized and at the same time allow farming to operate in a viable manner.

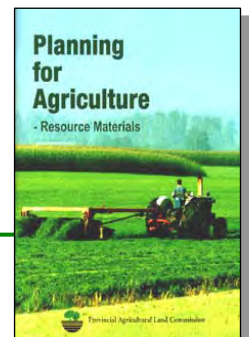
Information in this guide is organized into four parts:

- Part 1 provides background on edge planning and outlines the rationale, objectives and strategy;
- Part 2 explains how to undertake edge planning; and
- Parts 3 & 4 offer specific tools and techniques that can be applied to both sides of the interface to promote compatibility and optimize land use.

### Note:

In creating this guide, a substantial amount of information was drawn from "Planning for Agriculture", Chapter 8 'Planning Along Agriculture's Edge'. This guide does not replace the valuable information found in Chapter 8, but serves to complement it. Both documents should be referred to for the most comprehensive understanding of edge planning.

For a complete list of information used to develop the guide please see Appendix F.





## Part 1 – Background

### 1. Planning the Urban-Agricultural Edge

#### *Rationale*

The interface between urban and agricultural land uses is an area that is often vulnerable to conflict. Traditionally, it has not been the subject of focused planning efforts. This has largely been due to the historic fluidity of the urban-agricultural edge. In British Columbia, compared with many other jurisdictions, the Agricultural Land Reserve (ALR) provides a critical opportunity to reverse the long-standing assumption that it is natural and inevitable to compromise foodlands for the sake of urbanization. The ALR boundary provides a geographic point where local government policy makers can confidently apply land management techniques and guidelines that will ensure greater long term compatibility between urban and agricultural land uses and greater long term security for farming along the urban-agricultural edge.

At present, measures to promote compatibility along BC urban-agricultural interfaces have been limited. As a result, a variety of complaints can arise from both farmers and their neighbours. Farmers often experience trespass, property and equipment vandalism, crop damage and theft, livestock harassment and litter. Flooding of farmland by rainwater runoff from upland urban development is another impact many farmers have experienced. All of these problems often result in significant financial losses for farmers. On the urban side of the 'fence' complaints can be related to odour, pesticide spraying, dust, aesthetics, and noise from different farm activities. These complaints can involve normal and accepted farm practices. In other words, farmers are complying with established regulations, standards and practices that are unfamiliar to urban neighbours.

Until recently, there have been few tools available to local governments to promote compatibility. Many have attempted to minimize the potential for conflict and complaints by using zoning bylaws to restrict the types of agriculture that take place next to urban edges even within the ALR. Restrictions often require agricultural buildings to be set back such large distances from property lines that it makes it impossible to establish the operation. Alternatively, minimum lot size requirements or animal density controls may be set, restricting the level of intensity. Another method used is to completely prohibit certain types of agricultural commodities within specific areas. These methods unnecessarily restrict agricultural development opportunities.

In order to achieve high levels of compatibility and greater land use certainty, the urban-agricultural interface must be recognized as a distinct 'edge planning area' where specific policies and management techniques can be fairly applied to urban and agricultural land users alike. The introduction of new land use planning tools in 1996 provides an opportunity for local governments, the agriculture industry and the Province to jointly develop urban and farm-side techniques that will enable a wide range of farm operations to co-exist with neighbouring urban land uses.

## **Objective**

Given BC's limited habitable land base, expanding population and wide array of competing needs and interests, the likelihood of being able to use planning provisions to *prevent* incompatible land uses locating next to agricultural operations is low. Thus, effective methods that will heighten compatibility between neighbouring land uses must be employed. By increasing public awareness, developing landscape and spatial buffers and encouraging neighbourhood-friendly land management practices for both sides of the "fence", concerns and complaints that may arise between farmers and their neighbours can be minimized and at the same time allow farming to operate in a viable manner.

*The objective of edge planning is:  
To establish a framework of land use policies, regulations and programs that enhances optimum land use and compatibility along both sides of the urban/Agricultural Land Reserve boundary.*

## **Strategy**

The success of edge planning relies on *shared responsibility*. This requires that both urban and agricultural land users and decision makers look for opportunities and adopt approaches that will help ensure compatibility is successfully achieved. More specifically, successful urban/agricultural edge planning relies on:

1. recognition that it is reasonable for landowners along both sides of the urban/ALR boundary to share the benefits and impacts from edge planning implementation;
2. public education that increases agricultural awareness and promotes neighbourhood-friendly land use; and
3. the ability of landowners to realize optimum land use which ultimately leads to increased long term certainty and security for urban and agricultural land uses.

With these points in mind, an edge planning strategy for each community should include:

1. defining similarly sized edge planning areas on both sides of the ALR boundary for the application of edge planning techniques;
2. developing communication tools such as edge planning public information brochures, agricultural awareness signage along the ALR boundary, farm notification restrictive covenants on new land titles, and local government websites to enhance public awareness of edge planning objectives; and
3. amending and adopting bylaws that encourage more intensive land use with a strengthened land management regime along the edge planning area.

## 2. Edge Planning Areas Defined

Legally, intensive agriculture can exist anywhere within the Agricultural Land Reserve (section 915 of the *Local Government Act*). The *Farm Practices Protection (Right to Farm) Act* (FPPA) protects farmers from liability in lawsuits alleging nuisance and court injunctions provided they use “normal farm practices” and do not contravene other legislation listed under the Act. i.e. the *Environmental Management Act*, the *Health Act*, and the *Pesticide Control Act*, and any land use regulation (as defined under the FPPA). However, the BC Ministry of Agriculture and Lands (BCMAL) and the Agricultural Land Commission (ALC) recognize that certain areas within the ALR may require special management so that different interests are taken into account. These areas are considered to be part of edge planning areas (EPA) and are defined as:

**Urban and agricultural land situated near the ALR boundary that requires special management in the spirit of shared responsibility.**

*The information in this document is intended to apply only to those areas defined as edge planning areas*

Further information on the location and size of edge planning areas is provided on page 7.

## 3. Legislative Mechanisms to Promote Edge Compatibility

Although zoning bylaws and official community plans can promote compatibility to some degree, their broad-based nature does not give local governments a lot of flexibility to deal with potentially incompatible land uses. Changes to the *Land Title Act* and *Municipal Act* (now *Local Government Act*) in 1996 provided local governments with additional mechanisms to promote compatibility between urban development and farm operations. These mechanisms include revised decision making abilities for approving officers, development permit areas to protect farming, and farm bylaws to manage certain farm practices and operations. This guide provides a variety of tools that can be used in concert with these planning mechanisms and applied to edge planning areas. The edge planning tools include information on farm-friendly subdivision design and rainwater management to control runoff on farmland, examples of agricultural awareness disclosure statements and signage, urban-side buffer guidelines, and farm-side management and buffer guidelines. **All tools are meant to be flexible so that they can be adapted to different communities' unique circumstances.** Much of the information is referred to in this document as guidelines and serves as a baseline from which local governments can ultimately build standards unique to their community.

The existence of these new land use planning tools provides an opportunity for local governments, the agriculture industry and the Province to work together to implement urban and farm-side techniques that will enable a wide range of farm operations to co-exist with neighbouring urban land uses. Successfully addressing compatibility issues will hinge on local governments' and the agriculture industry's willingness to adopt the concept of *shared responsibility*. Achieving the greatest degree of compatibility will require all affected parties to work together. To simply rely on one party to adjust how they function is both unfair and much less effective. The onus must fall on both urban residents and farmers to develop a way of living and operating in a manner that considers each other's interests and needs. By making a commitment to sharing the responsibility, urban-rural compatibility can be achieved.



*People's contrasting perspectives on the function of rural areas have a significant effect on the perception of a nuisance and the ability to achieve compatibility. While most farmers consider the rural area to be a place of business, many non-farm residents believe the rural area is a place that offers a lifestyle of open space, peace and quiet. Changing people's point of view on what 'the countryside' represents may be a near impossible task. However, employing measures that 'soften' the hard ALR edge, such as buffering, sensitive subdivision design, and management of certain farm practices to minimize nuisance combined with an effective awareness strategy, will go a long way to lessening clashing perspectives and promoting compatibility.*

## Part 2 – Undertaking Edge Planning

Part 2 explains the purpose of edge planning, the types of participants to involve in the process, how to determine where edge planning would be beneficial, the size of the area it should encompass and the planning process itself.

### 4. Purpose

The purpose of edge planning is to:

- undertake an investigation of land uses at all or portions of the urban-agriculture interface, with a primary focus on the ALR boundary;
- become familiar with existing and potential land use conflicts; and
- determine practical means to heighten land use compatibility.

Edge planning is a ‘process’ that will lead to the development of a package of policies and recommendations that can be adopted by a local government and implemented through official community plans, sub-area plans, bylaws, signage and other means. The edge planning process will also serve to guide more detailed land use decisions associated with rezoning, development permits, subdivision layouts, densities, road patterns and the provision of other services as well as decisions related to land use change along the non-farm side of the edge.

### 5. Participants

Local governments should design and manage the edge planning process. They not only have the planning tools, but it is important that local governments become very familiar with their community’s agricultural edges in order to ensure that sound land management policies and decision making emerge and there is a commitment to the policies that may result from the edge planning process. Local governments with an agricultural advisory committee (AAC), can draw upon the committee to participate in the edge planning exercise. Alternatively, if an AAC does not exist, a steering committee that includes farmers could be appointed. In addition, BCMAL and ALC staff can provide technical assistance as requested.

### 6. Location and Size of Edge Planning Areas

Determining where to undertake edge planning and ultimately establish edge planning areas depends on a number of factors. The ALR boundary should be the initial focus of attention but there may be areas outside of the ALR that are also worthy of attention. Locating the most eligible areas will involve undertaking an overview inventory to broadly identify where the critical and non-critical edges are. This overview will ensure that effort is not wasted on areas where there is little possibility of future conflict.

Edges that do not require ‘special management’ may be isolated or have a physical characteristic or long term land use that has little existing or potential for conflict. Examples of these non-critical edges include agricultural land that abuts:

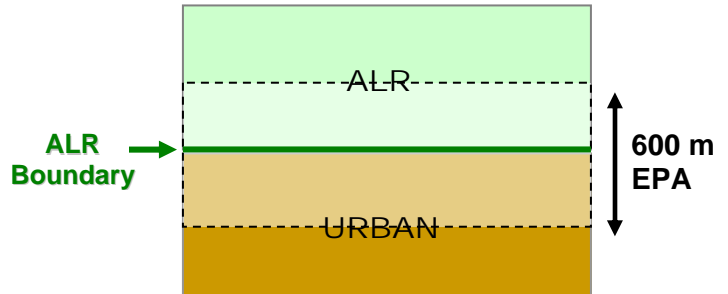
- a mountain side, large water body, steep embankment or ravine; or

## PART 2 - UNDERTAKING EDGE PLANNING

- existing low intensity land uses such as a suitably designed passive recreational park, crown rangeland, airport, gravel pit, cemetery, landfill, certain industrial/business parks, railway, BC Hydro right of way, or a major freeway.

It is important to ensure that the non-farm land use will not be subject to change to a more urban intensive use in the future. If changes are expected it would be prudent to have the EPA in place ahead of time.

The size of the EPA will vary not just in length but also in width. Ideally, the area should be set at a minimum of 600 metres spanning both sides of the ALR boundary. The minimum area on each side of the interface should be no less than 300 metres. The edge planning area is not a ‘no-go zone’ where agricultural or urban uses are prohibited. Rather the EPA is an area of study for the possible application of edge planning techniques to improve land use compatibility.



Various studies indicate that non-farm residents who live within 300 metres of an urban-agricultural edge can be significantly impacted by certain farming activities. However, if measures such as buffering and farm management are undertaken within 300 metres on either side of the interface, conflicts can be minimized. Depending upon the specific circumstances facing different communities, this 600 metre area may be subject to adjustment. Ultimately, each local government will need to undertake edge planning to determine the most appropriate size of their EPA. For further discussion on research related to the size of edge planning areas please refer to the Ministry’s “Edge Planning Areas” background paper.

There may be situations where an EPA lies across two communities. If possible, local governments should work together to mitigate any impacts generated from the urban development or agricultural activity.

Once the location and size of the edge planning area has been determined within a community (see the next section for the steps to undertaking edge planning) a map or schedule should be established and referred to. This map can be incorporated into the OCP and/or zoning bylaw.

*Will this hillside remain in forest or will it be urbanized? This is the type of question that should be asked to determine if this is an area for more detailed land use inventory work and the potential application of an EPA.*





## 7. Edge Planning Process

Edge planning is an investigative process where our understanding or awareness of the relationships between agricultural and other land uses and resources can be enhanced. This knowledge can then be applied to improving compatibility between the different land uses.

### ***Edge planning's place within planning processes***

Edge planning can be initiated as a stand-alone process or arise from a policy directive through an Official Community Plan (OCP). Communities that have a limited amount of farmland may find the OCP to be an appropriate vehicle to undertake edge planning. In other cases, the OCP may direct that a more detailed (sub-area) Agricultural Area Plan (AAP) be undertaken and the AAP could in turn direct that edge planning work be undertaken. An AAP represents a policy vehicle to examine in detail an area largely in agricultural use or with agricultural potential.

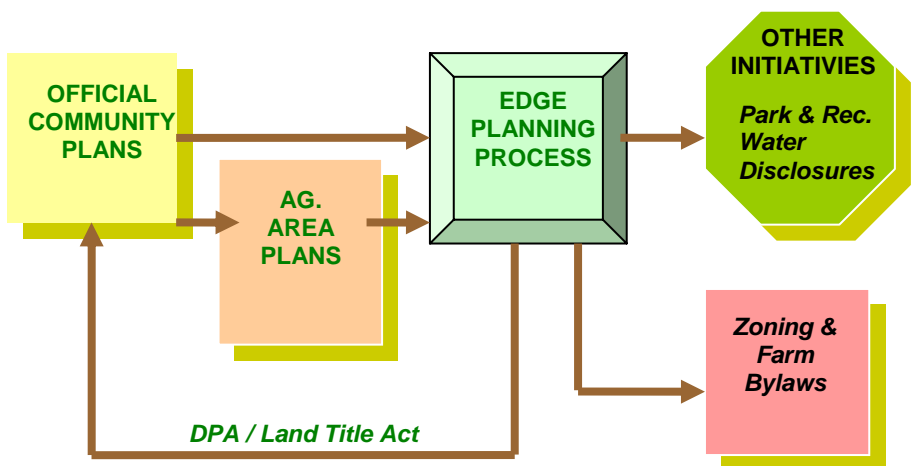
The edge planning process will influence plans and bylaws in a number of ways. It will provide the basis for the inclusion of Development Permit Areas (DPA) for the protection of farming within an OCP. The DPA in turn can provide direction in the design of subdivisions next to the ALR that can be dealt with under the *Land Title Act* section 86(1) (c) (x) & (xi). Edge planning will also influence zoning and farm bylaws by affecting setback distances, landscape requirements and farm management requirements. In addition, the process can influence other initiatives such as park and recreation planning that may happen at the agricultural edge, water issues involving drainage and the provision of disclosure statements on title.

### **BASIC PRINCIPLES**

Several principles provide context for planning along agriculture's interface:

1. The ALR boundary is fixed and should form the focal point of edge planning.
2. Both sides of the interface must be considered simultaneously.
3. An edge plan must anticipate land use change.
4. Edge planning techniques must be tailored to meet local situations.

### **Edge Planning... Where it Fits**



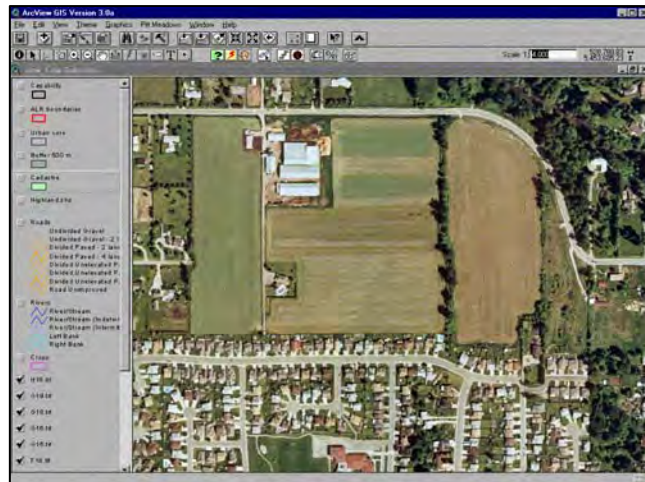
## Steps to undertaking edge planning & establishing EPAs

Official community or agricultural-area planning processes provide the opportunity to give policy direction for more focused edge planning. Before the actual detail for addressing the edge (e.g. buffer and farm management specifications) are applied within the plans and bylaws, a land use inventory should be undertaken. Combining this information with a geographic information system (GIS) will provide a practical means to clearly understand the land use dynamics on both sides of the edge<sup>1</sup>. Below are some suggested steps to undertaking edge planning.

1. Conduct an overview inventory to broadly identify where the critical and non-critical edges are.
2. Undertake a detailed land use inventory (via a drive-by survey) along both sides of the critical edges. Key features that should be noted include:

*An edge planning program should be based on detailed inventory work, consultation and the development of a package of policies implemented through OCPs, Agricultural Area Plans, zoning bylaws, farm bylaws and other less formal means, particularly in the area of awareness, such as signage.*

- existing land uses;
- freeways;
- hydro rights of way;
- railways;
- watercourses;
- existing vegetative cover (that may be retained as a buffer); and
- major topographic features.



3. Identify current zoning and designated land uses (in OCP) – determine whether land use is expected to change in the next 10-20 years and identify where the opportunity lies for development permit areas. Buffering features that are planned well in advance will be far easier to achieve than attempting to retrofit a situation after a conflict has occurred.
4. Determine parcel ownership – private versus government owned land, and possibly flag parcels being held for future development.
5. Identify existing or potential conflict areas.
6. Incorporate land use information into GIS so that maps can be generated, land use dynamics can be understood, and the potential effects of implementing the compatibility tools, particularly the EPA buffer and farm management guidelines, can be examined. Maps will also help to provide a visual of the edge planning areas and a greater appreciation may be gained by seeing the properties and land uses affected.

<sup>1</sup> See BCMAL's *AgFocus - Agricultural Land Use Inventories* and *AgFocus - An Agricultural GIS* for details on undertaking agricultural land use inventories [www.al.gov.bc.ca/resmgmt/sf/Publications.htm#GIS](http://www.al.gov.bc.ca/resmgmt/sf/Publications.htm#GIS)

7. Finalize the defining of the edge planning area, and depending on the 'compatibility tools' that are used, incorporate the final map as a schedule in the OCP and/or zoning bylaw.
8. With the edge planning area defined, an official community plan or agricultural area plan process can provide policy direction to undertake more focused edge planning. Within the edge planning process, consideration can then be given to applying appropriate land management policies and effective mitigation measures through plans and bylaws. Parts 3 and 4 offer a variety of 'compatibility tools' that can be applied within the edge planning area.

### **Edge Planning – The Complete Process**

- 1. Council / Board endorse edge planning process (possibly as a policy directive within an OCP or AAP).**
- 2. Informal inventory undertaken to determine critical and non-critical edges.**
- 3. Detailed land use inventory of critical edges undertaken.**
- 4. Edge Planning Areas (EPAs) defined.**
- 5. Edge planning policy package and directives drafted (DPA / Farm Bylaws / Zoning Bylaw changes).**
- 6. Consultation process implemented with land users within the EPA.**
- 7. Adoption process undertaken.**
- 8. Edge Planning tools are implemented – time period of implementation will vary depending on the tools used.**



## Part 3 – Urban-Side Edge Planning Tools

Part 3 contains the urban-side edge planning tools and implementation methods that can be used to promote urban-rural compatibility. These tools provide a starting point and body of information for local governments to explore their appropriate application. Each community will need to craft a package of tools that best suits their needs. Examples of how the compatibility tools can be applied within an EPA and varied according to the type of developed edge can be found in “Planning for Agriculture” Chapter 8 ‘Planning Along Agriculture’s Edge’, pp 8-15 to 8-18.

The information provided in Part 3 is geared towards residential development. Other types of development, like industrial, institutional and recreational can also draw on the information. However, each type of development and its impacts on and sensitivity to farming need to be considered when employing the most effective edge planning tools.

Below is a summary of the urban-side edge planning tools:

- Farm friendly subdivision, road and building design (page 15);
- Rainwater control (page 17);
- Disclosure statements (page 18);
- Edge signage and information package (page 19); and
- Buffers (page 20)

The diagram on the following page shows how some of the tools can apply within the urban-side EPA.

# Diagram 1: Urban-side Edge Planning Area Example



## 8. Farm-Friendly Urban Development

It is not uncommon to see subdivisions, road endings and the placement of sewer lines that have paid little, if any, attention to the needs or concerns of the agricultural community. Farm-friendly urban development can play a significant role in promoting compatibility and stabilizing the ALR boundary. Urban development that occurs within 300 metres of the boundary should take into account subdivision design, road layout, building design, and rainwater management and their effects on neighbouring farmland.

### ***Subdivision, road and building design***

The subject of subdivision, road and building design to mitigate conflict between urban residents and farm operations has not been extensively researched or explored. However, there are a number of practical approaches that can be taken to promote compatibility. Sensitive placement of backyards and patios, the installation of double paned windows or sound proofed windows, and the clustering of buildings to maximize buffering between residences and the ALR are all techniques that can be employed. In addition, effective road and public right-of-way layout can be used as part of the siting buffer although installation of a vegetative buffer is still required. Avoiding the use of half width roads and ensuring road endings are not pointed at the ALR are also extremely effective and easy steps that can be taken to strengthen the permanency of the ALR boundary and lessen the potential for trespass. It is important to note that even existing subdivisions with road endings currently pointed at the ALR boundary can be addressed through buffering (see next page for examples). This will help to lessen expectations of shifting the ALR boundary.

### **Implementation Tools**

Legislation exists to help local governments implement EPA related subdivision and building design. Under section 86 of the Land Title Act, an approving officer can refuse a subdivision if it would unreasonably interfere with nearby farming operations due to inadequate buffering or separation or its road patterns would unreasonably or unnecessarily increase access to land in the ALR. An approving officer can request that the subdivision applicant employ farm-friendly design requirements and incorporate EPA buffers (as outlined in Section 10 of this Guide) within the subdivision design prior to receiving approval. Details for the subdivision and building design can be housed within a subdivision and servicing bylaw. At the policy level, development permit areas within an OCP can be used to ensure the best possible design is achieved. See Appendix A for a sample of Development Permit Area design guidelines.

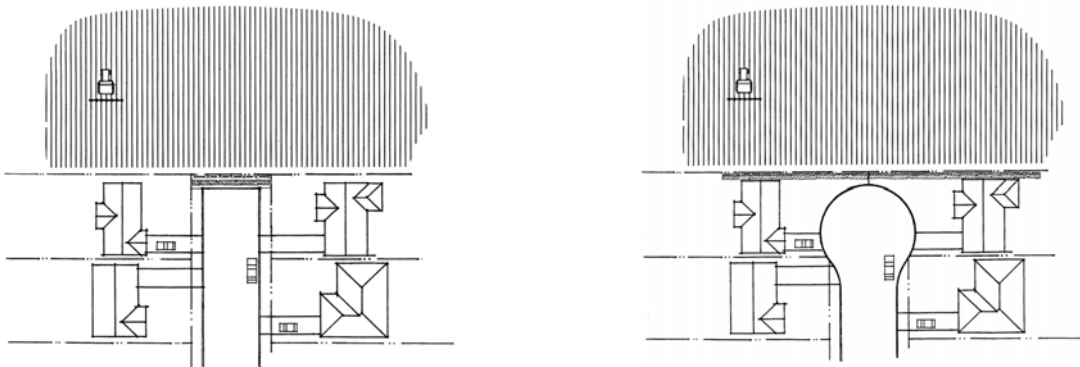
The following page shows some examples of possible subdivision designs that would have minimal impact on farmland. For further discussion on farm friendly subdivision development and examples of subdivision layout please refer to the *Subdivision Near Agriculture...a Guide for Approving Officers* and “Planning Subdivisions Near Agriculture”

[www.agf.gov.bc.ca/resmgmt/publist/800series/820500-1Subdivision-A-Guide.pdf](http://www.agf.gov.bc.ca/resmgmt/publist/800series/820500-1Subdivision-A-Guide.pdf)

[www.agf.gov.bc.ca/resmgmt/publist/800series/820500-2PlanningSubdivisions.pdf](http://www.agf.gov.bc.ca/resmgmt/publist/800series/820500-2PlanningSubdivisions.pdf)

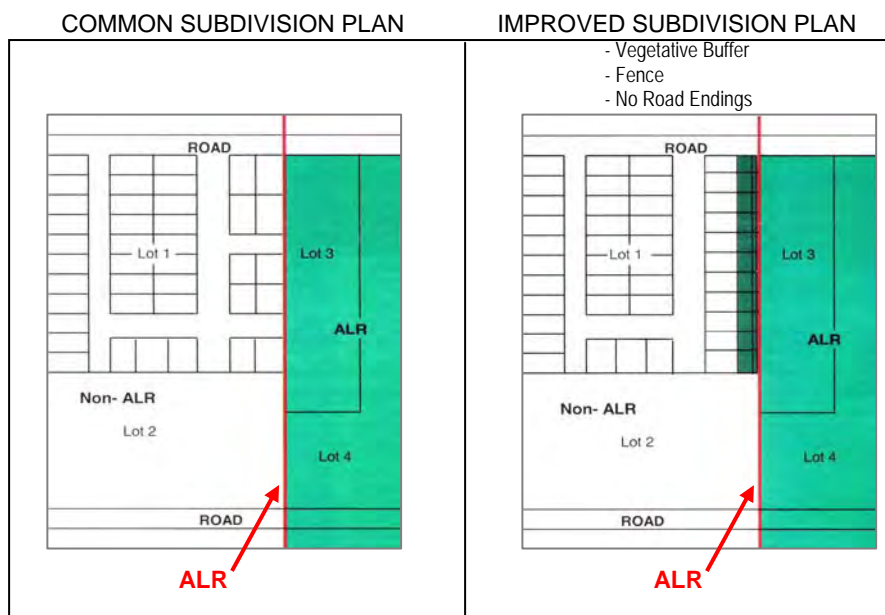
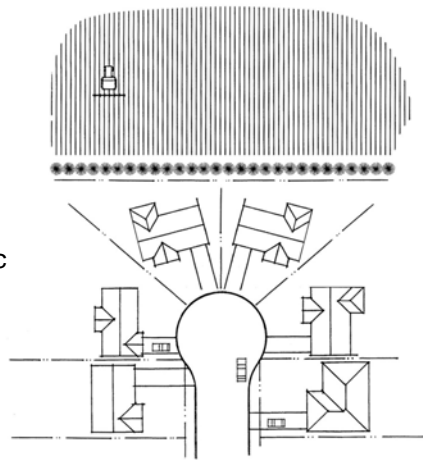


## Examples of Subdivision Design Retrofitted to be Farm-Friendly



**Examples 1 & 2 :** Existing road endings that can be buffered at the ALR boundary

**Example 3 :** Alternative cul de sac road ending design



**Example 4:** Before and after images showing typical and improved subdivision layouts



## ***Rainwater control***

Another aspect of urban development that needs to be considered is its impacts due to increased impermeable surfaces. The loss of permeable surfaces and changes to drainage patterns can affect the land surface characteristics and the hydrological balance, which may impact agricultural land if it is located lower in the landscape. Some of the potential impacts include accelerated soil erosion, siltation and sedimentation, and flooding.

Techniques that can help to alleviate these impacts include erosion, sediment and rainwater control during and after construction. Reducing the impacts of impervious surfaces by implementing source controls such as pervious pavers for driveways and patios, connecting roof downspouts into infiltration basins and utilizing deeper topsoil (at least 300 mm) in landscaped areas will help to achieve better rainwater management. Buffer areas can be designed to help break up overland flow and divert water, thereby reducing conflicts from rainwater run-off. These buffer elements should be used where necessary and should apply to all land being developed within the 300 metre edge planning area (i.e. not just parcels immediately adjacent to the ALR).



Stormwater detention ponds are often included as part of the design of parks and school play fields but they can also be incorporated as part of edge buffers where practical. They serve two purposes – they effectively control rainwater runoff from the urban development and they provide separation between urban development and farmland. The use of vegetative buffering must still be incorporated to ensure the most effective buffer is created.

### **Implementation Tools**

A subdivision and servicing bylaw or a development bylaw can be amended to adopt improved provisions concerning works needed at the time of development to enhance rainwater detention. Within the bylaw, a requirement for a comprehensive Stormwater Management Plan (SMP) can be made; the EPA's needs can be addressed through the SMP. In addition, development permit areas can specifically note the need for rainwater control and encourage the use of detention ponds as part of the edge buffer. See Appendix A for a sample of Development Permit Area design guidelines.

The Ministry of Agriculture and Lands will be developing a factsheet with more detailed information on rainwater control in the near future. In the mean time, the following links provide additional information on rainwater management:

[www.agf.gov.bc.ca/resmgmt/publist/500series/535100-2.pdf](http://www.agf.gov.bc.ca/resmgmt/publist/500series/535100-2.pdf)

[www.waterbalance.ca/waterbalance/home/wbnBCIndex.asp](http://www.waterbalance.ca/waterbalance/home/wbnBCIndex.asp)

## 9. Enhancing Agricultural Awareness

There are a number of communication tools that can be used to enhance compatibility. Whenever possible, they should be used in conjunction with the other compatibility mechanisms listed in this Guide. However, where urban development already exists, making it impractical to address subdivision and housing design, and even buffering, consideration can still be given to improving the distribution of information to urban residents living near the farm edge about impacts from normal farm practices that they may experience. Please refer to Appendix A for an example of how the tools in this section can be applied within Development Permit Area design guidelines.

### ***Disclosure statements***

A disclosure statement or section 219 covenant under the *Land Title Act* can be a very effective tool for informing the prospective land buyer that the property is in close proximity to an agricultural area and that as part of acceptable farm practices, there is potential for noise, dust, odour &/or other impacts associated with nearby farm operations to occur during certain times of the year. If new development occurs within 300 metres of the ALR boundary, a covenant can be placed on land titles disclosing the proximity of the agricultural area and the potential implications. Following is an example of wording that can be included in the disclosure statement:

***“The property owner acknowledges that the lots are in close proximity to the Agricultural Land Reserve where some or all of the following impacts arising from agricultural practices may occur:***

- a. noise from farm operations at various times of the day, including propane cannons and other devices used to deter wildlife;***
- b. farm smells and chemical spray;***
- c. aesthetic appearance of fields (unkempt fields, storage of materials, etc.);***
- d. light from greenhouses.”***



*The photo on the left is an example of a ‘built out’ urban area adjacent to the ALR. At first glance it may appear that nothing can be done to enhance this edge for greater compatibility. However, disclosure statements could be placed on the land titles to indicate to future owners of these single-family homes that they are living next to or in close proximity to a farming area. And a buffer could be installed along the road ending that abuts the farm edge.*

## Other agricultural awareness tools

### Signage

In addition to disclosure statements, local governments should consider using signage along the ALR boundary that informs residents and prospective purchasers of the proximity of farm operations within the immediate area and the possible activities associated with farm operations. Below is a sample buffer sign.



For a more detailed sign that explains the benefits of the buffer, here is some sample wording:

*“You are next to an active farming area. This buffer has been planted for the benefit of both you and our farmers.”*

*The buffer helps to:*

- *lessen the impacts from farming activities;*
- *protect farmers’ property from trespass & litter;*
- and*
- *provide wildlife with a source of food & shelter.*

*The buffer includes trails and seating areas. When using the buffer please keep to the trail, do not harm the vegetation and respect the neighbouring farmland.”*

### Information Package

One final ‘awareness tool’ that local governments may wish to develop is an information package for new and/or existing residents located within 300 metres of the ALR boundary. This package could include information on the Edge Planning Area and the benefits of the vegetative buffer (assuming one is installed) and a brief overview of the Provincial Farm Practices Protection legislation and acceptable farm practices. The information package should ensure local relevance by describing the types of farm operations commonly found in the area and use local references. Also, the BCMAL booklet *The Countryside and You* and contact numbers for the Ministry and the Farm Industry Review Board could be included. The Ministry could help local government staff and the local agriculture organization or Agricultural Advisory Committee in preparing the package if requested. This package will help to establish effective communication between farmers and their non-farm neighbours and ultimately assist in reducing potential conflict.

## 10. Urban-Side Buffers

Buffers provide a number of benefits for both residents and farmers. Extensive research on buffering has found that complaints about farming practices are often based as much on perception as reality; seeing the source of the nuisance may heighten the perception of that nuisance (DNR, 1997; BCMAFF, 2000). Thus, establishing a visual barrier between the development and agricultural land can significantly reduce the level of complaints by minimizing both the cause and the perception of a nuisance.

When designed and installed properly, buffers are extremely effective at preventing trespass and the associated problems of litter and crop damage. In addition, buffers can mitigate against the effects of noise, light, and dust or spray drift. They can also provide recreational and wildlife benefits without negatively impacting adjacent farm operations. Below is further explanation for why the specific buffer requirements are being recommended for the urban side.

*NOTE: Local governments should not consider these buffers to be alternative sites for meeting public greenspace requirements. Separate greenspace amenity areas should still be sought, preferably away from the ALR boundary.*

### **Rationale for buffers**

Research undertaken by the BC Ministry of Agriculture and Lands indicates that the most effective buffer combines separation, vegetation and fencing. This combination is the best way to mitigate the impacts from farming activities (noise, dust/spray drift, light) and urban activities (trespass, litter, crop damage, livestock harassment from dogs). The five points below provide further rationale for the recommended buffers in this guide. For additional information on the benefits of buffers, refer to Appendix B.

- A total minimum separation distance of 30 m (15 m of which is a vegetative buffer) between a housing unit and ALR boundary is required in order to most effectively mitigate the impacts of urban and farming activities. A greater separation distance of 50 metres would be optimal based on previous Ministry studies, but limited land availability and current development patterns have led to a compromise in the spatial setback. By including a barrier (fence), trespass and littering can be prevented.
- The vegetative buffer must reach a finished height of at least 6 m to effectively screen the farm operation from its urban neighbours – studies indicate people are less likely to complain about farming activities if they can not see them. This height will also ensure dust/spray drift is effectively captured.
- A mixed deciduous/coniferous planting with foliage from base to crown is required in order to ensure dust/spray drift is captured to the fullest extent possible.
- The crown density must be 50-75% - i.e. densely packed hedges are not desirable due to poor air circulation which can lead to ineffective buffering of dust/spray drift and odour.
- A 2 metre separation distance between the vegetative buffer and ALR boundary is desirable as it provides space for improved functioning on the ALR side – less shading, more air circulation and greater maneuverability for farm equipment.

## ***Application of buffer specifications***

The buffer specifications can be applied as guidelines within development permit areas and certain aspects of the specifications can be applied as regulation under zoning bylaws and /or subdivision and development control bylaws. Appendix A provides a sample of how a DPA can be used to specify the design requirements.

Establishing buffers through a DPA or bylaw should be considered a long-term policy initiative. Where urban development is already built to the farm edge the immediate value of establishing buffering guidelines may not be recognized in the short term. As urban land uses change through time, however, opportunities will be realized to apply buffering upon re-development.

*Establishing buffering guidelines represents a long-term commitment to improve land use harmony for both urban and farm neighbours.*

The fact that local governments can apply the buffer guidelines at their discretion and are not legally obligated to implement them creates the potential for only a farm bylaw to be in effect without the support of a development permit area or subdivision and development control bylaw. However, the most effective way to promote compatibility using EPA techniques is through the combined use of urban-side and farm-side mechanisms. As a result, it can be anticipated that when a farm bylaw is under consideration, the Minister of Agriculture and Lands will look for an appropriate urban/farm-side balance of EPA techniques.



*This image demonstrates an effective buffer with an elevation change and a well treed vegetative strip. Additionally, the street design does not suggest any further intrusion into the farming area. The ALR boundary runs along the base of the hill area. To ensure that this buffer remains effective, no further development along the hillside should occur.*

### ***Buffer plan requirement***

With a development permit area for the protection of farming and/or bylaw provisions in place, each application for a new development should include a buffer plan. Below are some of the elements that should be included in a plan. (See Appendix A for a sample of a DPA).

1. The plan should show existing and proposed grades, the extent of the buffer, constructed barriers, the location, spacing, size and quantity of proposed and existing trees and shrubs and a list of tree and shrub species to be planted.
2. The plan should note the subdivision and building design elements that will promote compatibility (e.g. road layout, location of patios, separation distances, rainwater management).

### ***Buffer installation and maintenance***

1. Ensure the buffer is installed prior to building construction.
2. Ensure the buffer is maintained:
  - Require a letter of credit whereby a portion (e.g. 70%) is returned to the landowner or developer after substantial completion of the landscaping contract. The remaining portion of the monies should be held for a two to three year period and returned if the buffer vegetation is deemed healthy. Irrigation and weeding should be undertaken to ensure survival of the buffer. If the buffer doesn't pass inspection, the security can be renewed until the buffer is approved or the security can be used to undertake the necessary work to complete the landscaping.
  - Establish a restrictive covenant on the land title requiring preservation of the buffer and prohibiting the construction of, or addition to, any buildings or structures within the buffer area.
  - If the buffer is dedicated to the local government then public maintenance is required. If the buffer is to be maintained by the developer or subsequent owner, a maintenance plan should be developed and signed off by a registered landscape architect or professional biologist. Periodic inspections should be conducted to ensure maintenance is being undertaken. The restrictive covenant could state the need for maintenance of the buffer.

## Urban-side buffer design criteria

Below are the setback distances for principal buildings and design criteria for installing an urban-side buffer along the ALR boundary. This is followed with four examples of design specifications and layouts.

Urban-Side Setback & Buffer Design Criteria for Urban-ALR EPAs			
	Setback Distance and Buffer Size	Buffer Height	Buffer Design Features
<p><b>Level 1</b></p> <p><b>Urban-side Residential Setback &amp; Buffer*</b></p> <p>* See Note 1 below</p>	<p><b>Setback</b></p> <p>30 m from ALR boundary</p> <p><b>Buffer Width</b></p> <p>15 m – buffer is located within the 30 m setback</p>	<p>6 m **</p> <p>(finished height)</p> <p>**See Note 2 below</p>	<ul style="list-style-type: none"> <li>Mixed planting of fast growing tree and shrub species with foliage from base to crown – long thin foliage desirable. Include at least 60% evergreen conifers to collect dust &amp; spray drift.</li> <li>No gaps in buffer and no tightly packed hedges; crown density of 50-75%. Design as wedge shaped if odour dilution desired.</li> <li>Design specifications and layout will be as per urban-side Buffer A or B (p.24); or existing vegetation may be retained as part of buffer (Buffer C, p.26).</li> <li>Leave 2 m of low growing or no vegetation from ALR boundary.</li> <li>If paths and passive recreational uses (e.g. picnic areas) are part of the landscaped buffer, the recreational features will not take up more than 1/3 the width of the buffer and they will be located away from the ALR boundary.<sup>2</sup></li> </ul>
<p><b>Level 2</b></p> <p><b>Urban-side Non-Residential Setback &amp; Buffer</b></p> <p>(e.g. passive recreation, industrial, or commercial)</p>	<p><b>Setback</b></p> <p>15 m from ALR boundary</p> <p><b>Buffer Width</b></p> <p>8 m – buffer is located within the 15 m setback</p>	<p>6 m**</p> <p>(finished height)</p> <p>**See Note 2 below</p>	<ul style="list-style-type: none"> <li>Either a double row of mixed deciduous/coniferous (with at least 60% evergreen conifers) or just coniferous, and hedging/screening shrub species with foliage from base to crown.</li> <li>Design specifications and layout will be as per urban-side Buffer D (p.27); or retain existing vegetation (Buffer C, p.26).</li> <li>Leave 2 m of low growing or no vegetation from ALR boundary.</li> </ul>

**Note 1:** Exception to Level 1 Residential Urban-side Buffer requirements:

Residential parcels that are separated from the ALR by a road allowance can reduce the size of the Level 1 buffer provided new driveway accesses from these parcels onto the subject road allowance are avoided or minimized. The siting of the residence should still be 30 m but the vegetative buffer can be reduced to a 7.5 metre width and located as near and parallel to the ALR boundary as possible.

**Note 2:**

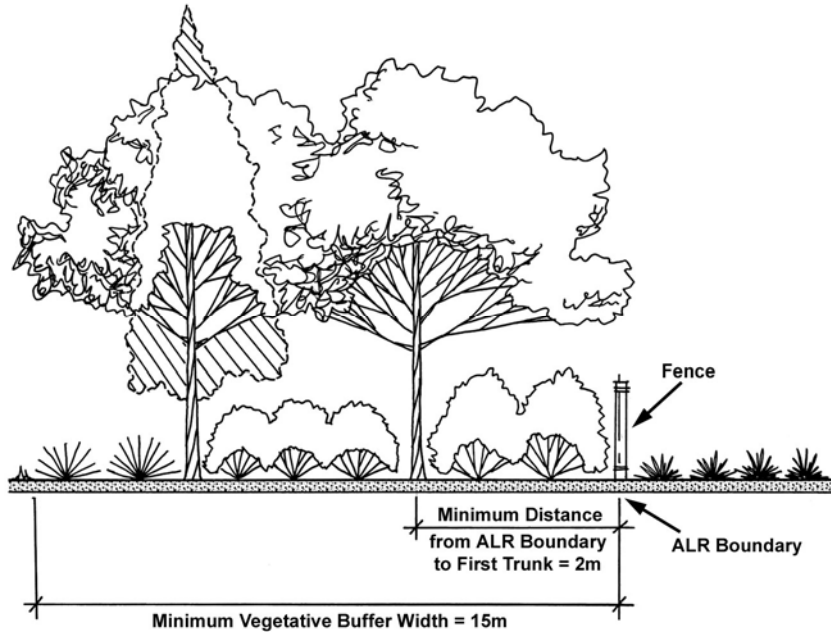
If spray drift is a concern, tree height should be 1.5 times the spray release height or target height, whichever is higher.

<sup>2</sup> Information about developing trails in farm and ranch areas, including “A Guide to Trail Development in Farm and Ranch Areas”, can be found at [www.agf.gov.bc.ca/resgmt/sf/trails/index.htm](http://www.agf.gov.bc.ca/resgmt/sf/trails/index.htm)

## Urban-Side Buffer A (no berm) - Design specifications & layout

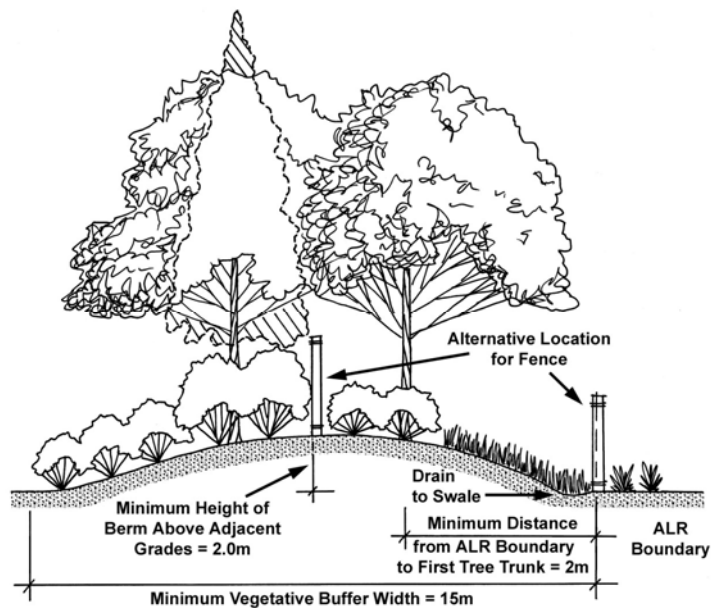
The Urban-side **Buffer A** includes:

- double row deciduous/coniferous trees (see Appendix B for plant list)
- triple row trespass inhibiting shrubs (see Appendix B for plant list)
- double row screening shrubs (see Appendix B for plant list)
- solid wood fence or chain link fence with a height of 6 feet (1.8 metres) and built as per Appendix C or as per the local government's fencing specifications.



## Urban-Side Buffer B (with berm) - Design specifications & layout

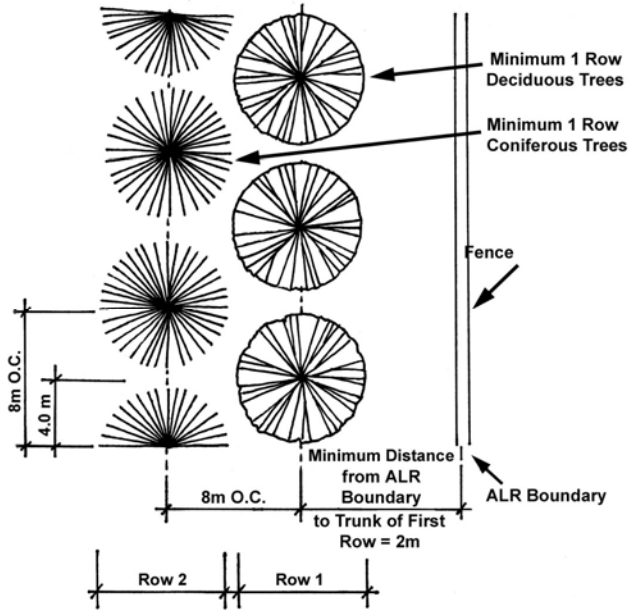
The Urban-side Buffer B includes all elements of Buffer A as well as a berm with minimum height 2 m above adjacent grades.



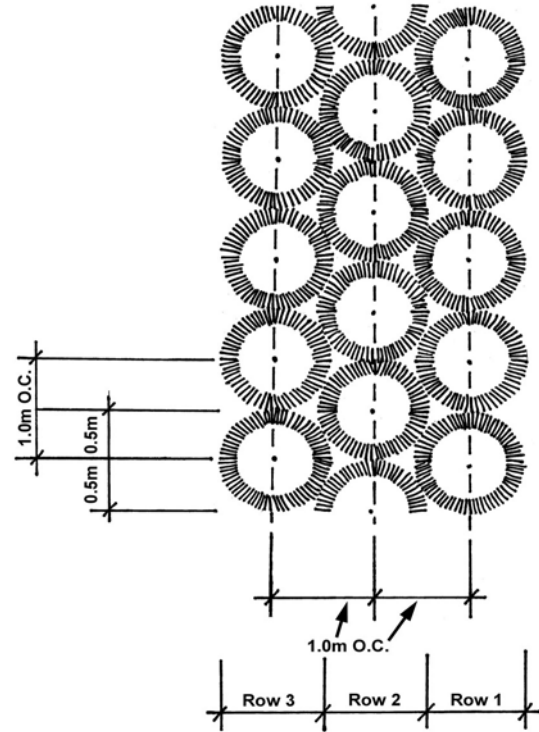


## Urban-Side Buffer A, Buffer B or Buffer D - Spacing

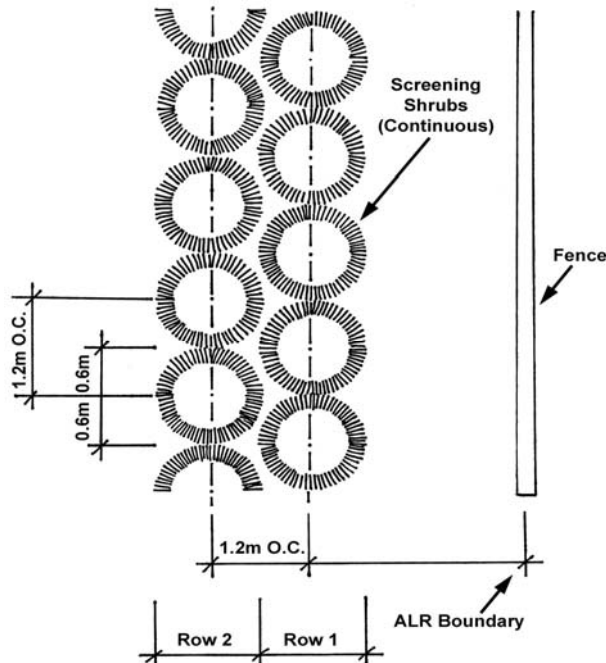
Double row deciduous/coniferous trees



Triple row trespass inhibiting shrubs

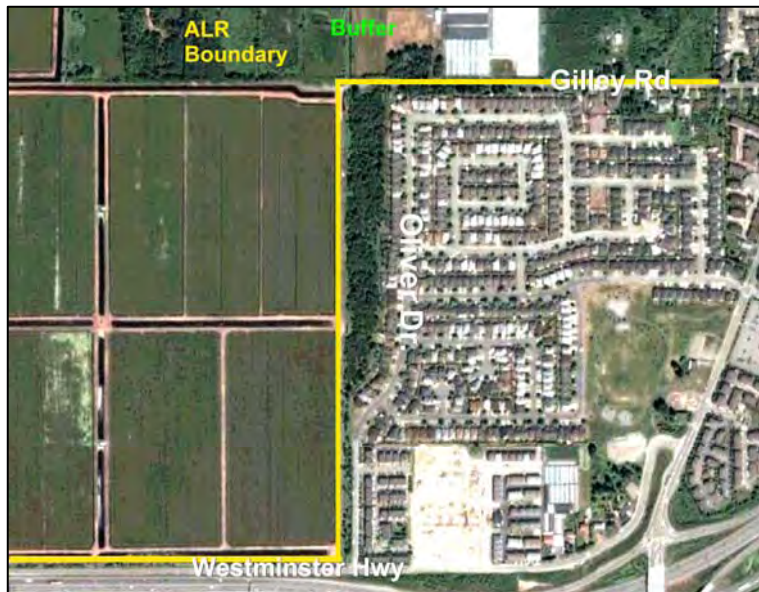
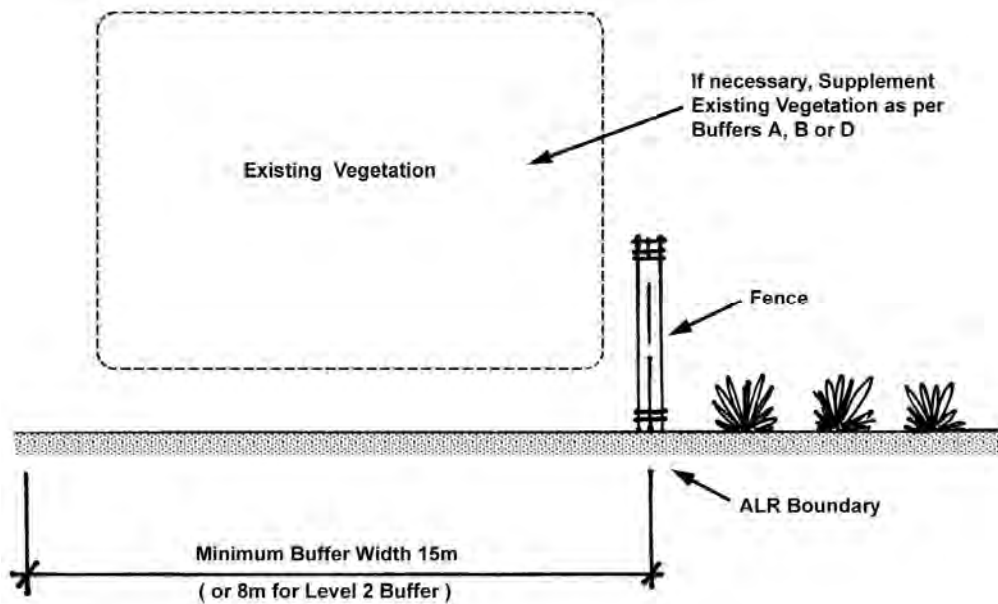


Double row screening shrubs



## Urban-Side Buffer C (Existing Vegetation) - Design specifications & layout

The Urban-side **Buffer C** should retain existing vegetation and install either a solid wood fence or chain link fence with a height of 6 feet (1.8 metres) and built as per Appendix C or as per the local government's fencing specifications.



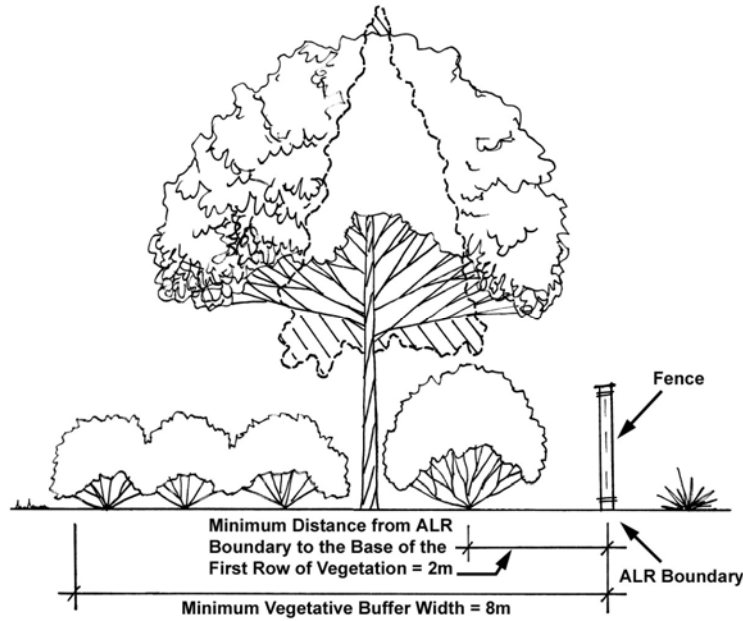
### *Hamilton area, Richmond, BC*

*An example of an existing area of vegetation maintained between residential development and cranberry fields. The width of most of this buffer is approximately 50 metres.*

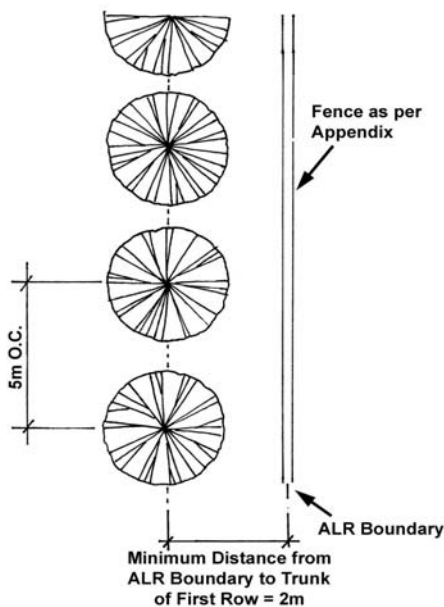
## Urban-Side Buffer D - Design specifications, layout & spacing

The Urban-side **Buffer D** includes:

- single row deciduous/coniferous or just coniferous trees (see Appendix B for plant list)
- triple row trespass inhibiting shrubs (see Appendix B for plant list)
- single row screening shrubs (see Appendix B for plant list)
- solid wood fence or chain link fence with a height of 6 feet (1.8 metres) and built as per Appendix C or as per the local government's fencing specifications.



### Single row deciduous/coniferous trees



### Single row screening shrubs





## Part 4 – Farm-Side Edge Planning Tools

Part 4 contains the farm-side edge planning tools and implementation methods that are available to promote compatibility. The tools address three aspects of the farm operation:

1. management practices that reduce the potential for nuisance concerns;
2. building setbacks that reduce the potential for nuisance concerns; and
3. landscaped buffering that relaxes the setback requirements for select buildings.

These tools provide a starting point for local governments to explore their appropriate application. Each community will need to craft a package of tools that best suits their needs.

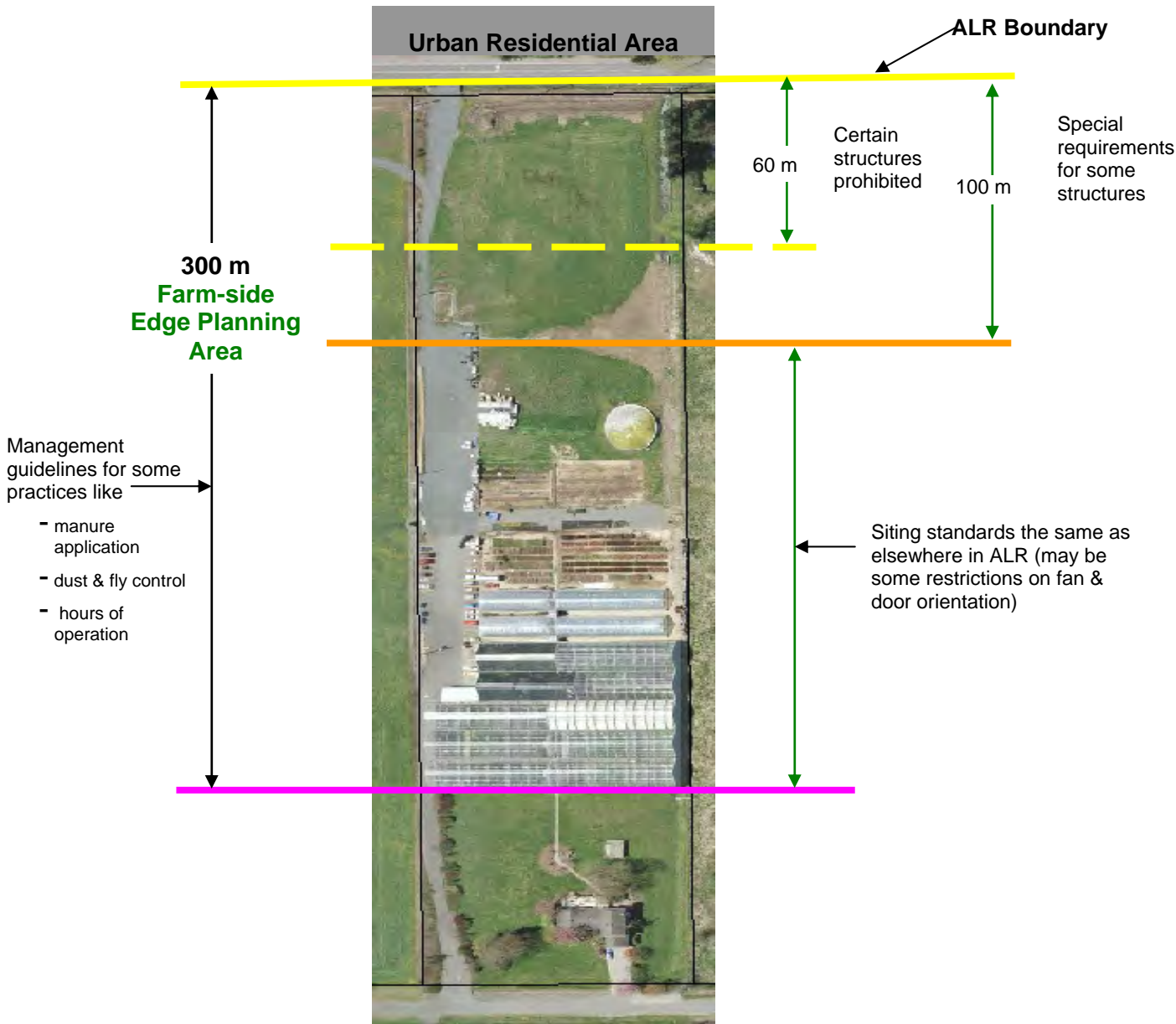
Below is a summary of the farm-side edge planning tools:

- Farm Management;
  - Minimum thresholds (p.33)
  - Animal limits (pp. 34 & 35)
  - Manure handling (p. 36)
  - On-farm composting (p.37)
  - Noise, odour and dust management (pp.38 & 39)
  - Light management (p.40)
  - Safety measures (p.40)
- Setback distances (p.41); and
- Buffers (p.43)

The diagram on the following page shows where some of the tools can apply within the farm-side EPA.

*Application of the tools in Part 4 will require the use of a farm bylaw. Therefore, local governments will need to engage the Ministry of Agriculture and Lands, as well as their local farmers, early in the process in order to develop and implement the most effective farm-side edge planning tools for their community.*

**Diagram 2: Farm-side Edge Planning Area Example**



## 11. Farm-Side Management

The EPA farm management guidelines focus on several farm management techniques *and* the siting of certain farm structures that will contribute to greater land use compatibility. This combined approach enables ALR lands at the urban edge to be utilized for farm purposes and not be subject to prohibition.

### ***Application of management and siting guidelines<sup>3</sup>***

The farm management and siting guidelines will affect farm operations located within designated EPAs typically within 300 metres of the ALR/Urban boundary and will apply to farm operations:

- that meet the minimum thresholds for each commodity as outlined on p.33; or
- that have various animal commodities totaling more than 10 agricultural units<sup>4</sup>.

The application of the farm-side edge planning techniques will vary within the EPA. Using the diagram on the page 30 as an example, within the first 60 m of the ALR boundary some agricultural structures, like manure storage would be prohibited. Within the first 100 m of the ALR boundary there would be restrictions on the siting of some structures combined with special management requirements directly related to lessening conflict (e.g. fan orientation). Beyond 100 m of the edge, structure standards would be the same as elsewhere in the ALR. In addition to the setback requirements from the edge, setbacks from lot lines not facing the ALR boundary will apply as per local government regulations. Throughout the entire 300 m EPA there would be special management requirements for certain activities (e.g. manure application).

These setback distances and management guidelines are designed to achieve compatibility with an urban residential land user. If other urban uses exist next to the ALR boundary such as industrial, commercial, institutional or recreational, and an EPA is deemed necessary, the setback distances and the level of farm management should be reduced to account for these differing or less intensive urban land uses. For example, the 60 m setback distance could be used along with the base set of management requirements (i.e. the management requirements currently associated with the 100 metre setback).

***The farm-side management techniques within the Guide are based on practices used by existing operations that are effective in mitigating land use conflict. These techniques will be subject to review and alteration as needed to account for changes in technology and management techniques. In order to ensure the most appropriate farm management and siting techniques are applied, BCMAL staff will work with local governments and their farm community to tailor the requirements for their EPA.***

---

<sup>3</sup> The edge planning techniques in this guide are considered to be guidelines. However, if they are implemented through a farm bylaw, which requires the approval of the Minister of Agriculture and Lands, the guidelines may be established and referred to as standards within the context of Section 916 of the *Local Government Act*. Section 916 refers to 'Provincial standards for farm bylaws'.

<sup>4</sup> An agricultural unit is defined as the live weight of 455 kg of livestock, poultry, farmed game or fur-bearing animals or any combination of them equaling 455 kg. Refer to Appendix E for a complete list of definitions.

## ***Role of the zoning and farm bylaws***

Implementing the edge planning techniques will require the combined use of a zoning bylaw and farm bylaw. Since the guidelines address both the siting of buildings and the management of farming activities, and a zoning bylaw can not regulate activity, a farm bylaw will need to be used as it is specifically designed to address activity. To elaborate further on the farm bylaw, as per section 917 of the *Local Government Act*, this type of bylaw allows local governments to address things like conduct of farm operations, types of buildings, machinery and equipment that are a prerequisite to conducting a farm operation, and the siting of stored materials, waste facilities, and stationary equipment. Before a local government can adopt a farm bylaw, it requires approval by the Minister of Agriculture and Lands. For further discussion on farm bylaws, please refer to the *Guide for Bylaw Development in Farming Areas*, pp.C-7 to C-9.

It is suggested that all **new** farm operations that locate within the EPA should comply with both the siting and management requirements outlined in the 'hybrid' bylaw.

**Existing** farms will need to be treated differently. With regard to setback requirements for farm structures, local governments could choose to exempt lots with existing farm structures or grandfather and treat them as non-conforming. Management requirements could be handled in a similar fashion. The local government may choose to exempt existing farms from complying with all or some of the requirements. A 'phase-in' approach could be taken whereby existing farms would have a certain number of years to come into compliance. Alternatively, some requirements may only apply if the land use or ownership changes. Local governments will need to work with their farm communities to develop the most effective approach for their area.

Farms that are exempted could be provided with a generic edge planning brochure that offers ideas and suggestions for enhancing urban-rural compatibility. The farmer can decide whether or not to incorporate these 'good neighbour ideas'. A mechanism could also be put in place that provides farmers with exempted farms the opportunity to discuss with local government or Ministry staff options for mitigating conflict.

## ***Definitions***

There are a number of terms listed in italics in Section 11. Please see Appendix D for a complete list of definitions.



## Minimum Thresholds

Minimum thresholds have been established for different farm commodities. For farm operations with less than the specified minimum thresholds please see the *Guide for Bylaw Development in Farming Area* Part C for applicable setback regulations - [Guide for Bylaw Development in Farming Areas](#)

The EPA guidelines only apply to farm operations with:

**Beef and Small Ruminants:** 8+ feeders or 7+ cows (10+ *agricultural units*);

**Dairy:** lactating animals, 7+ cows (10+ *agricultural units*);

**Fur:** 50+ animals;

**Hog:** 36+ grower/finishers; 10+ sows (farrow to wean); 4+ sows (farrow to finish);

**Horses:** 9+ horses (10+ *agricultural units*);

### **Poultry:**

- 250+ broilers, meat chickens, layers or layer breeders (1+ *agricultural unit*)
- 200+ broiler breeders (1+ *agricultural units*)
- 100+ ducks (0.8+ *agricultural units*)
- 300+ free range birds (1.26+ *agricultural units* of layers or meat chickens; 6+ *agl units* of turkeys)
- 150+ pheasants (1+ *agricultural units*)
- 200+ pigeons (0.5+ *agricultural units*)
- 350+ quail (0.25+ *agricultural units*)
- 200+ silkie chickens (0.5+ *agricultural units*)
- 200+ turkeys (4+ *agricultural units*)
- 100+ turkey breeders (4+*agricultural units*);

**Greenhouses:** 1000+ square metres;

**All Emu and Ostrich farm operations;**

**All Mushroom farm operations; and**

**All Soil-based cropping farm operations**

---

**Note:** For animal commodities not listed, the minimum threshold is 2 *agricultural units*.

## Animal Limits

Limits should be set for the maximum number of animals that can be housed at any one time in a building or structure on a lot within the EPA. The following information offers two sets of limits: the first set of limits applies to animal buildings and structures located **100-300 metres** from the ALR/Urban boundary; the second set of limits applies to buildings and structures located **60-99 metres** from the ALR/Urban boundary.

### 100-300 metres

#### Beef & Small Ruminants:

- 120 feeders or 114 cows (160 *agricultural units*) for uncovered *confined livestock areas*; and
- 175 feeders or 160 cows (230 *agricultural units*) for covered *confined livestock areas*.

#### Dairy:

- 114 cows (160 *agricultural units*) for uncovered *confined livestock areas*; and
- 250 cows (350 *agricultural units*) for covered *confined livestock areas*.

#### Fur:

- 500 animals

#### Hog:

- 220 grower/finishers);
- 90 sows (with piglets in a farrow to wean operation); or
- 25 sows (with piglets in a farrow to finish operation); or
- Any combination totaling 50 *agricultural units*.

#### Horse:

- 50 horses (60 *agricultural units*) for uncovered *confined livestock areas*

#### Poultry (unless otherwise indicated, numbers pertain to animals contained indoors):

- Chickens (Broiler Breeders): 60,000 birds (400 *agricultural units*)
- Chickens (Layers): 118,000 birds (490 *agricultural units*); Layer Breeders: 30,000 birds (140 *agricultural units*)
- Chickens (Meat): 225,000 broiler equivalents (950 *agricultural units*)
- Ducks: 5,000 ducks (38 *agricultural units*) and the density for ducks should not exceed:
  - Meat Ducks - 2.5 square feet (0.23 m<sup>2</sup>) per bird
  - Developing Duck Breeders – 2.7 square feet (0.25 m<sup>2</sup>) per bird
  - Layers / Breeders – 3 square feet (0.24 m<sup>2</sup>) per bird
- Emus contained outdoors: 200 birds (20 *agricultural units*)
- Ostriches contained outdoors: 100 birds (35 *agricultural units*)
- Pheasant: 65,000 birds (200 *agricultural units*)
- Pigeons: 8,000 birds (18 *agricultural units*)
- Quail: 350,000 birds (230 *agricultural units*)
- Silkie chickens: 130,000 birds (270 *agricultural units*)
- Turkeys: 50,000 birds (1000 *agricultural units*); Turkey Breeders: 20,000 birds (670 *agricultural units*)
- Free Range bird density must not be greater than 1 *agricultural unit* per 100 m<sup>2</sup>

---

**Note:** The number limit for animals not identified in this section is 50 *agricultural units* at the 100-300 metre building setback.

## Animal Limits *continued*

The following animal limits apply to buildings or structures housing animals that are located between 60 and 99 metres from the ALR/Urban boundary. **These setback distances are only applicable if the management requirements outlined on page 42 are met in addition to the management requirements on pages 36-40.**

### 60-99 metres

#### **Beef & Small Ruminants:**

- 45 feeders or 43 cows (60 *agricultural units*) for uncovered *confined livestock areas*; and
- 87 feeders or 82 cows (115 *agricultural units*) for covered *confined livestock areas*.

#### **Dairy:**

- 57 cows (80 *agricultural units*) for uncovered *confined livestock areas*; and
- 175 cows (245 *agricultural units*) for covered *confined livestock areas*.

#### **Fur:**

- 250 animals

#### **Hog:**

- 55 grower/finishers;
- 22 sows (farrow to wean operation); or
- 6 sows (farrow to finish operation); or
- Any combination totaling 12.5 *agricultural units*.

#### **Horse:**

- 25 horses (30 *agricultural units*)

#### **Poultry** (unless otherwise indicated, numbers pertain to animals contained indoors):

- Chickens (Meat): 30,000 broiler equivalents (130 *agricultural units*);
- Chickens (Broiler Breeders): 15,000 birds (110 *agricultural units*);
- Chickens (Layers / Layer Breeders): 15,000 birds (61 *agricultural units* / 50 *agricultural units*);
- Ducks: 2,500 birds (19 *agricultural units*)

**Emus** contained outdoors: 100 birds (10 *agricultural units*)

**Ostriches** contained outdoors: 50 birds (17 *agricultural units*)

**Pheasant:** 9,250 birds (28 *agricultural units*);

**Pigeons:** 1,800 birds (4 *agricultural units*);

**Quail:** 46,000 birds (30 *agricultural units*);

**Silkie chickens:** 15,000 birds (35 *agricultural units*)

**Turkeys:** 25,000 birds (500 *agricultural units*); Turkey Breeders: 10,000 birds (220 *agricultural units*)

**Free Range** bird density must not be greater than 1 *agricultural unit* per 100 m<sup>2</sup>

---

**Note:** *The number limit for animals not identified in this section is 30 agricultural units at the 60-99 metre building setback.*

## Manure Handling

Special management guidelines that apply throughout the designated EPA have been established for manure storage and application. The guidelines for manure storage were developed with the assistance of the BC Ministry of Agriculture and Lands resource management specialists. By addressing the type of manure, how it is stored, and how it is applied to land, the impacts of odour will be effectively mitigated.

### Manure Storage

- Only *solid manure* storage is permitted for all commodities except lactating dairy which can have either *solid manure* storage or *enclosed liquid manure storage*
- Cover manure in areas with more than 600 mm precipitation during the months of October and April as per Section 9 of the Code of Agricultural Practice for Waste Management
- **Beef** - clean feedlot loafing areas at least once every 9 months and dispose of manure
- **Horse** - remove manure from paddocks/turn out pens at least once a week and clean out the manure storage area at least once every 6 months and dispose of manure
- **Fur, Hog & Poultry** - maintain moisture content of manure in barns at 35% or less
- **Fur** – remove manure from pens at least once a week (this requirement can be relaxed during whelping season from April 20<sup>th</sup> to July 1<sup>st</sup>)

### Solid Manure Application

- **Beef, Hog & Poultry** - for bare soil application of *solid manure*, incorporate manure within 48 hours of applying to the soil
- **Fur** - for bare soil application of *solid manure*, incorporate manure within 4 hours of applying to the soil

### Liquid Manure Application

- No aerial application of *liquid manure*
- No liquid chicken or hog manure application
- Application on bare soil:
  - injection method **or**
  - surface application method if incorporated within 4 hours of application
- Application on crops (this includes pasture/grassland):
  - *sub-canopy manure deposition method* with a 5-10 year phase in period for existing farms

## On-farm Composting

Special management guidelines that apply throughout the designated EPA have been established for on-farm composting. These guidelines are separated into two categories - mushroom operations and all other farm operations. By addressing how the compost is handled, the types of waste composted, and the volume of production, the impacts of odour will be effectively mitigated.

### On-farm Composting for Mushroom Operations

- Use impermeable surfaces for all composting activities and compost storage
- Cover composting materials (except straw) and compost in areas with more than 600 mm precipitation during the months of October to April
- Blending, grinding and mixing of raw materials can occur in an uncovered area but should be transferred to an enclosed composting facility in the same calendar day
- House the *on-farm composting* process in an enclosed building
- Maintain *aerobic decomposition* through design, mechanical turning or porous ventilation
- Collect and treat the exhaust generated through the composting process with a wet scrubber and biofilter designed by a professional, BC licensed engineer; the wet scrubber and biofilter should remove a minimum of 90% of the odours
- Provide an air quality monitoring program developed by a BC licensed professional engineer. This program should provide easy verification that the system, including the biofilter, is operating as designed; monitor and submit reports annually and include a description of the composting facility and the treatment works, a statement as to whether the composting facility is operating as designed, and the annual compost production in cubic metres at the actual moisture content
- No *liquid manure* may be composted
- Manage *solid manure* used for composting according to the commodity-specific EPA guidelines
- Waste to be composted that is not generated on the farm unit is limited to *solid agricultural waste*
- The volume of compost produced, including unfinished and finished, is limited to 300 m<sup>3</sup> per week
- Manage storm water and waste water as per p. C-20 of the *Guide for Bylaw Development in Farming Areas* .

### On-farm Composting for all Farm Operations except Mushroom

- Use impermeable surfaces for all composting activities and storage
- Cover composting materials and compost areas with more than 600 mm of precipitation during the months of October to April
- Maintain *aerobic decomposition* through design, mechanical turning or porous ventilation
- No liquid hog or poultry manure may be composted
- Manage *solid manure* used for composting according to the commodity-specific EPA guidelines
- Agricultural waste to be composted that is not generated on the farm is limited to *agricultural solid waste*, excluding mortalities. Lawn clippings and branches may be composted if done in accordance with the *Environmental Management Act* or the Organic Matter Recycling Regulation (BC Reg 18/2002)
- The maximum total volume of compost production on site, including mixed and finished compost, is limited to 100 cubic metres at any one time

## Noise, Odour and Dust Management

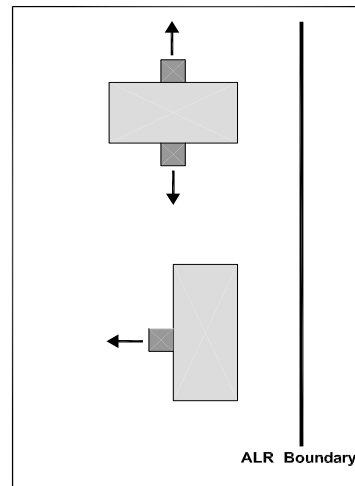
Special management guidelines that apply throughout the designated EPA have been established to deal with noise, odour and dust management. These guidelines are separated into two categories – general and commodity specific. By addressing management of specific farm activities, the impacts of noise, odour and dust will be effectively mitigated.

### General – Noise, Odour and Dust Management

- The following activities are limited to being conducted between 6 am and 10 pm:
  - Loading and unloading of hogs and beef; feed milling, all input deliveries (e.g. feed, woodwaste, mushroom compost)
- Cover or enclose *woodwaste* storage
- Locate on-farm feed mills on the opposite side of the farm building to the ALR/Urban boundary
- Hood all fans 36 inches or less
- Orient fans parallel to or away from the ALR/Urban boundary
- Fur farms must orient fans on the side of the building furthest away from the ALR/Urban boundary

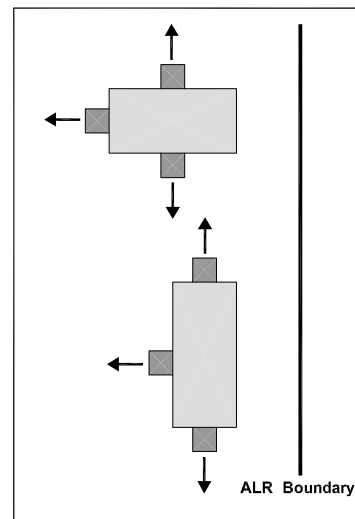
### Diagram 3: Fan Orientation

- Hog farms
- Poultry farms



### Diagram 4: Fan Orientation

- Greenhouses
- Mushroom farms
- Soil-based crops



## **Commodity Specific – Noise, Odour and Dust Management**

The following management requirements are categorized according to the commodity and must be employed in addition to the general management requirements.

### **Beef, Small Ruminant and Dairy Farm Operations**

- No *Category A noise scare devices*; *Category B noise scare devices* (see Appendix D for definitions) should be located 200 m or more from the ALR boundary
- Feed bunks and water troughs should have a minimum 2.5 metre concrete aprons that are sloped away to facilitate drainage
- Collect contaminated runoff from *confined livestock areas* and store with manure
- Collect & store silage effluent with manure

### **Fur Farm Operations**

- Contain all feed storage, mixing, thawing, barrel and utensil cleaning in a room with concrete floors sloped to a drain, then to a tank and field tile for final disposal. The room should be fly proof, rat proof, and contain smooth walls to a height of 2 metres to facilitate adequate cleaning

### **Hog Farm Operations**

- No free range hogs within 60 metres of the ALR/Urban boundary

### **Horse Farm Operations**

- Minimize dust generation in outdoor riding arenas by watering
- For outdoor riding arenas or exercise tracks that are less than 30 m from the ALR/Urban boundary, install a vegetative buffer between the arena or track and the ALR/Urban boundary to minimize dust drift as per buffer requirements in Section 12, page 43

### **Poultry Farm Operations**

- 6 am – 10 pm for:
  - Hatching egg pick up (Breeder Birds); egg pick up (Layers); poultry stock delivery
  - Clean-out and sanitization of buildings
- Turn off truck engines for adult bird loading; use of truck air brakes prohibited
- Use nipple drinkers for ducks
- No free range ducks within 60 metres of the ALR/Urban boundary
- Remove mortalities from barn daily and dispose of in sealed containers, incinerate or compost
- Broken eggs must either be stored in sealed containers and disposed of off-farm or applied to the land and incorporated into the soil within the same calendar day (Layers and Breeder Birds)
- Ensure all new or expanding production buildings have concrete floors

### **Mushroom Farm Operations**

- For mushroom buildings located between 30–100 m from the ALR/Urban boundary install a vegetative buffer between the mushroom building and the ALR boundary

### **Soil-based Crop Farm Operations**

- Operate *Category A* and *Category B noise scare devices* so they are consistent with BC Ministry of Agriculture and Lands Farm Practices Wildlife Damage Control guidelines

## Light Management

Special management guidelines that apply throughout the designated EPA have been established to deal with lighting from greenhouses. In addition, all greenhouses that are located within 15-100 metres of the ALR/Urban boundary need to install a vegetative buffer.

### Greenhouse Operations

- Night lighting designed to exceed 5000 lux must be set back at least 100 m from the ALR/Urban boundary; and either
  - ensure there is a **minimum** of 4 hours of continuous darkness starting at 6 pm or
  - install interior or exterior opaque screening of side walls to prevent horizontal light emissions of 25 lux (street lamp intensity) measured at the ALR/Urban boundary
- Already established greenhouses with currently existing night lighting must adapt to 100 m setback restrictions within 10 years
- For greenhouses located 15-100 m from the ALR/Urban boundary install a vegetative buffer between the greenhouse and the ALR/Urban boundary as per buffer requirements outlined in Section 12, page 43

## Safety Measures

Special management guidelines that apply throughout the designated EPA have been established to address safety issues associated with ostriches and emus as well as mink.

### Ostriches and emus

- Install a vegetative buffer (farm-side Buffer A or B) and a 2 metre high chain link or solid wood fence along the ALR/Urban boundary or install double fencing comprised of 2 metre chain link or solid fence along the ALR/Urban boundary and a second security fence inside the ALR with a minimum distance of 2 metres between the fences

### Mink

- Establish a security fence to contain animal escapes



## Setback Distances

The following setback distances apply to buildings and structures located within designated EPAs. Setback distances are measured from the ALR/Urban boundary.

### 15 metres for:

- Greenhouses
- Crop storage

### 30 metres for:

- Mushroom barns
- Spent compost storage

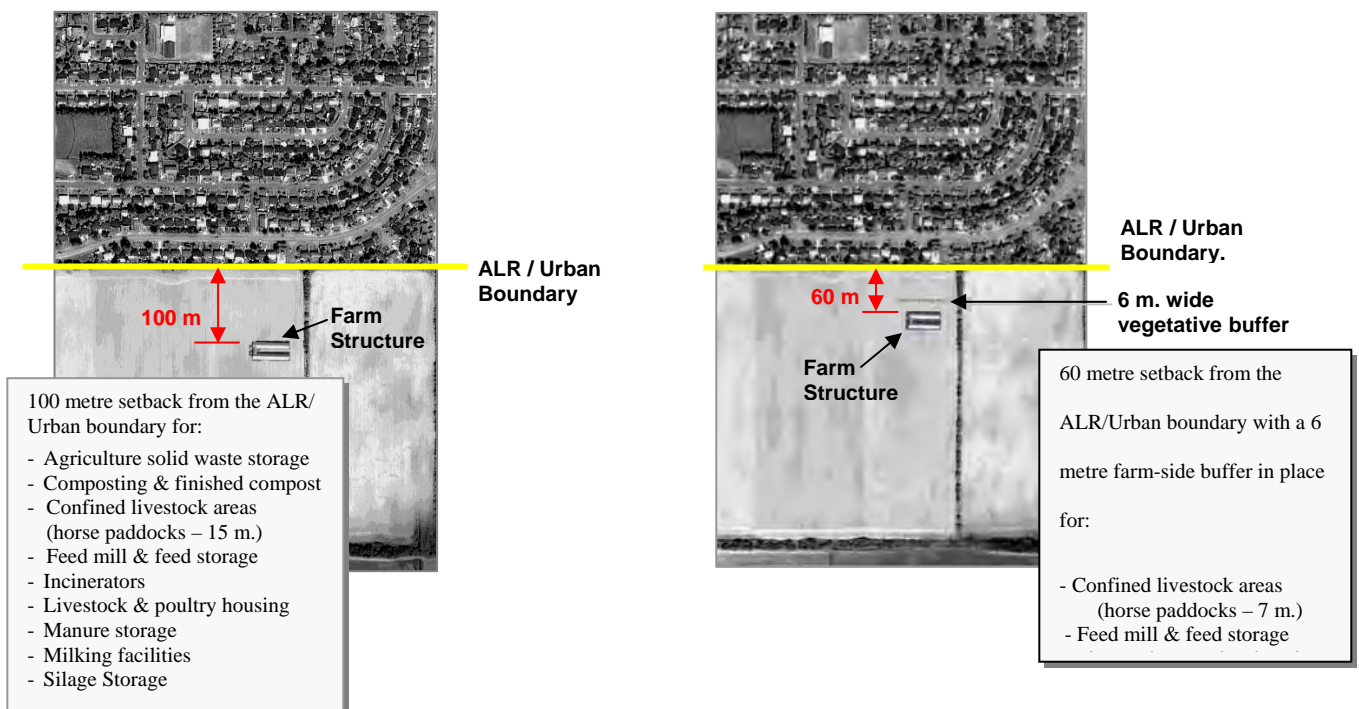
### 50 metres for:

- Boilers
- Open loading areas
- Refrigeration units

### 100 metres for:

- Agricultural solid waste storage
- Composting and finished compost storage
- Confined livestock areas (except horse paddocks which can be set back 15 m)\*
- Feed mill and feed storage\*
- Incinerators
- Livestock and poultry housing\*
- Manure storage\*
- Milking facilities\*
- Silage Storage\*

\* The setback for these buildings and structures can be reduced to **60 metres** (horse paddocks can be set back 7 metres) provided the additional management requirements on pages 42-44 are met.



## Additional Management requirements for Buildings and Structures located 60-99 metres from the ALR/Urban Boundary

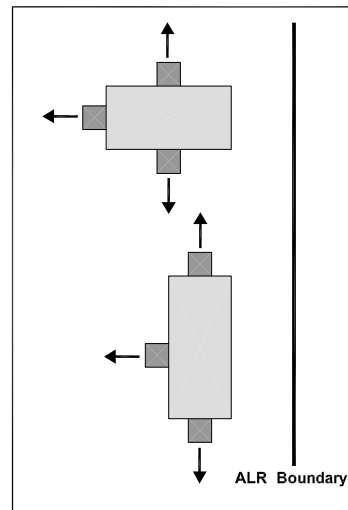
The 100 m setback requirement can be reduced to 60 m for certain buildings and structures provided the *additional* management requirements listed below are met, the size limits on page 35 are followed and a vegetative buffer is installed as per the guidelines in Section 12, page 43.

### Manure, Noise, Odour and Dust Management

- **Beef and Dairy** - cover confined livestock areas in areas with more than 600 mm of precipitation during October to April
- **Dairy** - handle and store manure as a solid only
- **Beef & Dairy** - orient fans parallel to or away from the ALR/Urban boundary
- **Fur, Hog and Poultry** - locate load out doors so they do not face the ALR/Urban boundary
- **Hog and Poultry** - orient fans on the side of the building furthest away from the ALR/Urban boundary

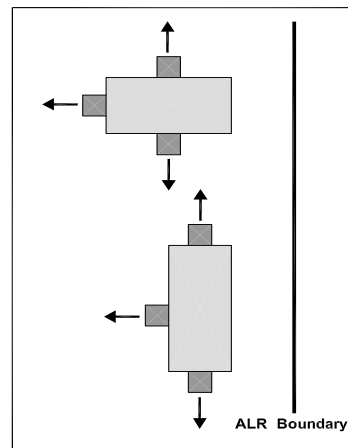
### Diagram 5: Fan Orientation

- Beef farms
- Dairy farms



### Diagram 4: Fan Orientation

- Hog farms
- Poultry farms
- Soil-based crops  
(with buildings 15-49 m from the ALR boundary)



## 12. Farm-Side Buffers

As noted on page 41, there is opportunity to reduce the setback for **certain buildings and structures** from the ALR/Urban boundary to 60 metres if certain management requirements are met, animal numbers are reduced and a vegetative buffer is installed. The following guidelines outline the design criteria for farm-side setbacks and vegetative buffers.

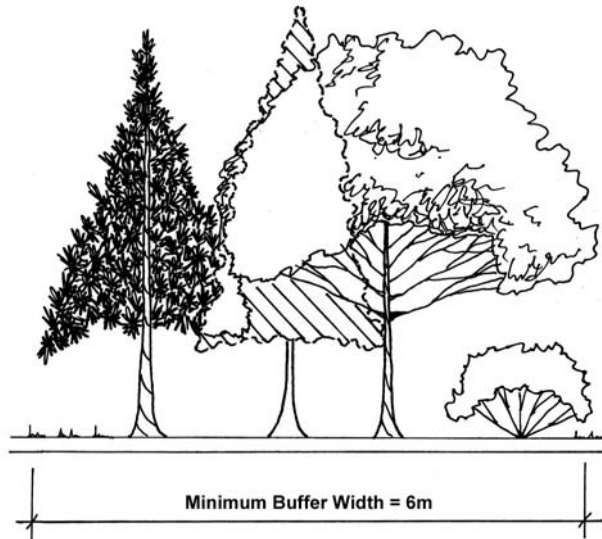
<b>Farm-Side Setback &amp; Buffer Design Criteria for Urban-ALR EPAs</b>			
	<b>Setback Distance and Buffer Size</b>	<b>Buffer Height</b>	<b>Buffer Design Features</b>
Farm-side Setback and Buffer	<p><b><u>Setback</u></b>  <b>60 m</b> from the ALR/Urban boundary (except horse paddocks = <b>7 m</b>)</p> <p><b><u>Buffer Width</u></b>  <b>6 m</b> - buffer is located within the 60 m setback</p> <p><b><u>Exception for Greenhouses:</u></b>            Buffer applies to greenhouses located <b>15-100 m</b> from the ALR/Urban boundary</p>	<p><b>6 m</b>            (finished height)</p>	<ul style="list-style-type: none"> <li>• The length of the vegetative buffer should be established within 15 m of the farm building or structure and extend a minimum of 5 m beyond the length of the wall facing the ALR/Urban boundary.</li> <li>• Plant either a double row of evergreen conifers or mixed planting of deciduous/coniferous tree and hedging/screening shrub species with foliage from base to crown – minimum of 60% evergreen conifers.</li> <li>• A berm with hedging/screening shrubs is also acceptable provided the target farm structures are screened.</li> <li>• Crown density of approximately 50-75%.</li> <li>• Design specifications and layout will be as per Farm-side Buffer A (p.44) or B (p.44).</li> </ul>

In addition to helping mitigate conflicts with urban neighbours, buffers can provide additional benefits and even economic opportunities for farm operations. Appendix B provides more information on these benefits.

## Farm-Side Buffer A (no berm) – Design specifications and layout

The Farm-side **Buffer A** shall include:

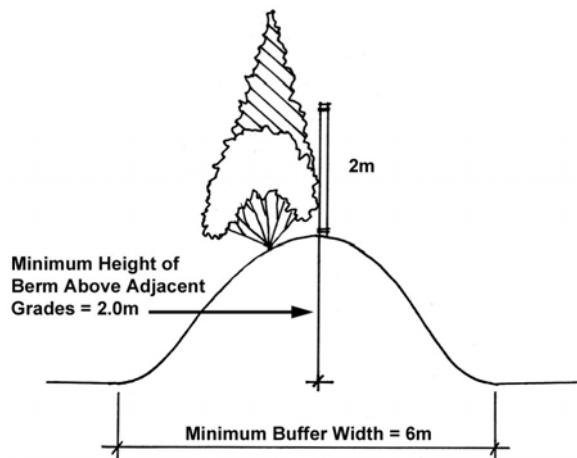
- double row coniferous or mixed deciduous/coniferous trees (See Appendix B for plant list)
- single row hedging/screening shrubs (See Appendix B for plant list)



## Farm-Side Buffer B (with berm) – Design specifications & layout

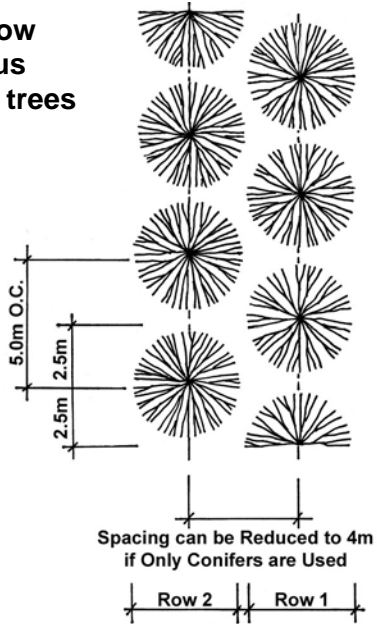
The Farm-side **Buffer B** shall include:

- single row hedging/screening shrubs (See Appendix B for plant list)
- berm with minimum height 2 m above adjacent grades
- for ostriches and emus, install solid wood fence or chain link fence with a height of 6 feet (1.8 metres) and build as per the fencing specifications outlined in Appendix C.



## Farm-side Buffer A or B – Spacing

Double row  
coniferous  
or mixed trees



Single row  
hedging/  
screening  
shrubs





## List of Appendices

Appendix A	Development Permit Area Guidelines to Protect Farmland
Appendix B	Buffer Plant List
Appendix C	Fencing Specifications
Appendix D	Definitions for Farm-side EPA Guidelines
Appendix E	Agricultural Units Conversion Table
Appendix F	Reference List – Building the Guide to Edge Planning





## Appendix A – Development Permit Areas and guidelines to protect farmland

Appendix A provides an example of development permit area (DPA) provisions that can be applied in identified edge planning areas to protect farmland and promote urban-rural compatibility. This is only an example and should be adapted to meet the specific needs of each community<sup>5</sup>.

### ***Sample DPA for the protection of farmland may have the following features:***

**Purpose:** To protect farmland by mitigating conflict between agriculture and its urban neighbours.

**Area:** The farmland protection Development Permit Area is shown on Map X – DPAs, and is measured 300 metres back from the Agricultural Land Reserve boundary.

**Justification:** This Development Permit Area is applicable to all lands adjoining the Agricultural Land Reserve (ALR), or separated by a right-of-way, a statutory right-of-way or a dedicated road. Lands located within the ALR require protection for long term use. Land use conflicts between farm operations in the ALR and non-farm uses on lands adjoining or reasonably adjacent to the ALR may compromise the agricultural use of the ALR lands. Addressing subdivision layout, building design and stormwater management, employing disclosure statements and signage, and incorporating landscaped and siting buffers between new subdivisions and ALR lands will protect the agricultural use of the ALR lands and minimize complaints due to farming activities for the benefit of both farm and urban residents.

**Application:** Prior to beginning a subdivision or development on lands adjoining the ALR or separated by a right-of-way, a statutory right-of-way or a dedicated road, the owner must:

1. obtain a development permit in accordance with the Farmland Protection Development Permit Area Design Guidelines.
2. include an assessment of the site and substantiate the need for a buffer and provide design measures that are most appropriate for the site – consider the type and intensity of the urban use and its relationship to farm uses.

---

<sup>5</sup> Development Permit Areas and policy guidelines are not the only ways to establish urban-side buffers. A local government may wish to have more regulative effect by applying the buffer requirements in a subdivision and development control bylaw.

## Farmland Protection Development Permit Area Design Guidelines (sample):

1. Subdivision design must minimize potential negative impacts that may occur between farm and non-farm land users. Avoid road endings or road frontage next to ALR except as may be necessary for access by farm vehicles. Subdivision design and construction will minimize erosion. Ground water quality and levels will be maintained through adequate rainwater management.
2. Open spaces with landscaped buffers that are designed with water retention capacity or adequate rainwater/storm drainage system should be located along the ALR edge.
3. For parcels located immediately adjacent to the ALR, a buffer must be established parallel to and along the ALR boundary in accordance with the following criteria:
  - *All buffers (type and size) must be established according to the BCMAL Guide to Edge Planning, section 10, urban-side buffer design criteria;*
  - If paths and/or passive recreational uses are part of the landscaped buffer, the recreational features will not take up more than 1/3 the width of the buffer and they will be located away from the ALR boundary.
  - All buffer areas must be landscaped using materials set out in Appendix B of the *BCMAL Guide to Edge Planning*. If appropriate vegetation already exists on the site it should be retained as part of the buffer. The existing vegetation may serve as the entire buffer as determined by the local government;
  - Plant layout, spacing and support must be in accordance with the *BCMAL Guide to Edge Planning*, section 10 design specifications and layout;
  - The design and construction of the landscaped buffer must be to the standard of the BC Society of Landscape Architects/BC Nursery Trades Association publication *BC Landscape Standards*, most recent edition;
  - If adequate fencing does not currently exist, fencing must be constructed where a subdivision adjoins the ALR boundary. Fencing must be constructed in accordance with local government standards or the *BCMAL Guide to Edge Planning*, Appendix C; and
  - The buffer should be installed prior to commencing building construction.
4. A buffer maintenance plan must be developed and signed off by a registered landscape architect or professional biologist.
5. A section 219 covenant as per the *Land Title Act* for the buffer specified in the *Farmland Protection Development Protection Area Design Guidelines* must be registered on title. This covenant will prohibit the removal of vegetation and the construction of, or addition to, any buildings or structures within the buffer area other than fencing in accordance with local government standards or the *BCMAL Guide to Edge Planning*. Under section 22 of the *Agricultural Land Commission Act*, this covenant may require the Commission's approval, prior to registration.

## Appendix B – Buffer Plant List

The plants in this list have been chosen for their fast growth, disease resistance, and hardiness. The 'Notes' column highlights special traits of certain species to aid in selecting the appropriate plant for a particular buffer. Species highlighted in yellow have leaf and form characteristics that make them good spray drift barriers. Species that are **native** are identified in the Notes column. Plants not included in this list may also be considered. Retention of existing vegetation when compatible with adjacent farm operations is encouraged. Ultimately, the selection of plants will depend on the site specific conditions.

### General Requirements

1. The following plant list indicates the minimum acceptable size for each species/variety at the time of planting. Where shortages occur, smaller size plant material may be considered.
2. All plants must be true to name, type and form. Plants must be compact and properly proportioned.
3. All plants must be healthy with vigorous root systems and free of defects, decay, disfigured roots, sun scald injuries, abrasions of the bark, plant diseases and insect pests.
4. Trees must have straight stems unless that is uncharacteristic and must be well branched for the species/variety.
5. Root balls and soil in containers must be free from noxious weeds.
6. Immediately following planting of trees, all trees shall be braced in an upright position, using stakes with ties as shown on the following page. Tree stakes and straps shall be removed once the trees are stable. Tree stakes and straps should remain for a maximum of two years.
7. A maintenance plan must be developed and procedures must be undertaken for all buffer plantings on a regular basis during the growing season.
8. Weeds in the planted areas must be prevented from becoming a problem; weed removal at least once per month during the growing season is recommended.
9. Pests and diseases that have the potential to damage or kill the trees or shrubs must be controlled.
10. If the area receives limited rainfall during the growing season, some form of irrigation must be used.

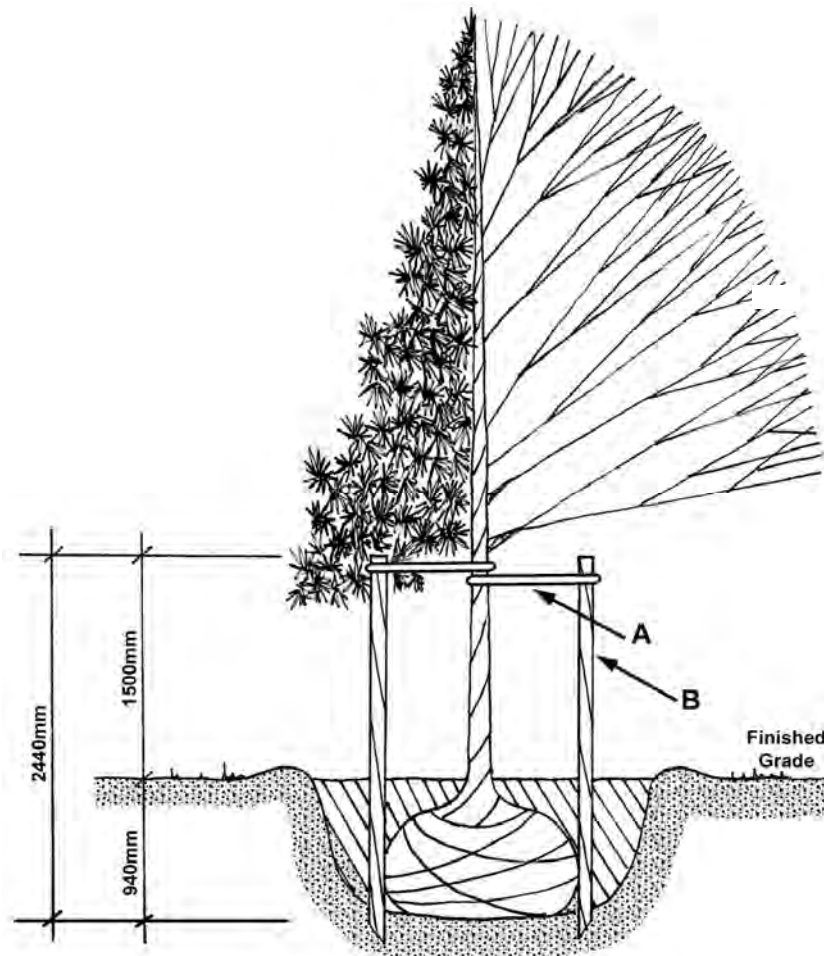
## Staking for Deciduous / Coniferous Trees

Applies to deciduous trees with <6 cm caliper; coniferous trees <2.5 m height

1. All support stakes shall be equally spaced about each tree, shall be pressure treated, be standard 50-70 mm round, and a minimum of 2440 mm in length.
2. Support stake shall be driven vertically into the ground a minimum of 940 mm and support at least 1500 mm of the tree stem.
3. Soft Strapping shall be used to connect each support stake to the tree trunk.

**A** 25 mm soft strapping

**B** 50-70 mm round pressure treated stakes



## Benefits of Buffers

### Farmland, Urban Areas and the Environment

- Provides a screen and separates farms from urban uses which can help to mitigate impacts related to trespass and farming activities.
- Protects soils, crops, pastures and livestock from the effects of damaging winds.
- Helps to reduce soil temperatures and retain soil moisture.
- Provides critical food and shelter for a variety of songbirds and small mammals.
- Provides linear habitat that may help connect or provide corridors for species to move through.

### Use of Native Plant Species in Buffers

- Native species are uniquely adapted to local soil and climactic conditions and as a result require less care than ornamental species.
- Many native species grow well in poor soils.
- Native plants are part of an interconnected web; they have evolved with the local bird, mammal, butterfly and insect populations and act as a source of food and shelter.
- Planting native species helps to protect BC's unique plant and animal communities.

### An Opportunity for Agroforestry

Agroforestry is a land management approach that integrates the management of trees and crops or livestock in interacting combinations which contribute to diversification and sustainability of income and production while enhancing environmental attributes and social parameters. Agroforestry is not a single commodity and involves mixing trees and or shrubs with non woody crops and sometimes livestock for the purpose of crop diversification, improved profitability and improved environmental and societal stewardship. Edge buffers present a unique opportunity to explore the potential for agroforestry applications to restore ecological functions that provide for stormwater management, wildlife habitat, recreational opportunities, and aesthetic enhancements, as well as a wide array of timber and non-timber forest products.

## Deciduous Trees – Tall (>15 m)

Botanical Name	Common Name	Hardiness	Planting Size	Notes
<i>Acer platanoides</i> 'Crimson King'	Norway Maple	to zone 3-4	7 cm. calliper	Fast growth, full sun
'Emerald Queen'	"	"	"	"
'Summershade'	"	"	"	"
<i>A. pseudoplatanus</i>	Sycamore Maple	to zone 5	"	Adaptable, full to partial sun
<i>A. rubrum</i> 'Armstrong'	Red Maple	to zone 3	7 cm. calliper	Fast growth, full sun
'October Glory'	"	"	"	"
'Schlesingeri'	"	"	"	"
'Shade King'	"	"	"	"
<i>A. saccharum</i>	Sugar Maple	to zone 3	7 cm. calliper	Full to partial sun
<i>Aesculus x carnea</i> 'briotii'	Red Horsechestnut	to zone 4	"	Drought tolerant, full sun
<i>Betula papyrifera</i>	Paper Birch	to zone 2	2 m ht.	Full to partial sun, <b>Native</b> , tolerates moist soil
<i>Cercidiphyllum japonicum</i>	Katsura Tree	"	"	Full sun
<i>Davidia involucrata</i>	Handkerchief or Dove Tree	to zone 6	"	Full to partial sun
<i>Fagus sylvatica</i>	European Beech	to zone 4	7 cm. calliper	Slow growth, full sun
'Laciniata'	Cutleaf Beech	"	"	"
'Purpurea'	Purple Beech	"	"	"
'Riversii'	Copper Beech	"	"	"
<i>Fraxinus pennsylvanica</i>	Green Ash or Red Ash	to zone 2	"	Full sun
<i>Larix kaempferi</i>	Japanese Larch	to zone 4	2.0 m ht.	"
<i>L. occidentalis</i>	Western Larch or Tamarack	to zone 4-5	"	Fast growth, full sun
<i>Liquidambar styraciflua</i> 'Palo Alto'	American Sweet Gum	to zone 5	7 cm. calliper	Fast growth; roots may damage sidewalks and drainage systems, full sun

Deciduous Trees - Tall (>15 m) continued

Botanical Name	Common Name	Hardiness	Planting Size	Notes
Magnolia kobus	Magnolia	"	"	Full to partial sun
Metasequoia glyptostroboides	Dawn Redwood	"	2.0 m ht.	Fast growth, takes up much space, full sun
Plantanus x acerifolia	London Planetree	"	"	Hardy, full sun
Populus tremuloides	Quaking Aspen	to zone 1	"	Fast growth. Has aggressive water-seeking roots - set well back from drainage systems, full sun, <b>Native</b>
Prunus sargentii	Sargent Cherry	to zone 4	"	Hardy, full sun
Quercus palustris	Pin Oak	"	7 cm. calliper	2' a yr growth, full sun
Q. rubra	Red Oak	to zone 3	"	2' a yr growth, full sun
Robinia pseudoacacia 'frisia'	Black Locust or Frisia Black Locust	"	"	Fast growth, very hardy. Has aggressive water-seeking roots - set well back from drainage systems

## Deciduous Trees - Small to Medium (<15 m)

Botanical Name	Common Name	Hardiness	Planting Size	Notes
<i>Acer campestre</i>	Field or Hedge Maple	to zone 5	5 cm cal.	Full to partial sun
<i>A. circinatum</i>	Vine Maple	to zone 4	2.0 m ht.	Full to partial shade, <b>Native</b>
<i>A. davidii</i>	David's Maple	to zone 5"	"	Full to part sun
<i>A. ginnala</i>	Amur Maple	to zone 2	"	"
<i>A. glabrum</i> var. <i>douglasii</i>	Douglas Maple	to zone 3	"	Part shade to full sun, tolerates dry conditions, <b>Native</b>
<i>A. negundo</i>	Boxelder	to zone 2	"	Fast growth: 15 - 20' in 4-6 yrs. Shade tolerant
<i>Amelanchier laevis</i>	Shadbush	to zone 4	"	Full sun
<i>Betula jacquemontii</i>	Whitebarked Himalayan Birch	to zone 1	5 cm cal.	Rapid suckering, full sun
<i>Carpinus betulus</i>	European Hornbeam	to zone 4	"	Good screening as a hedge, full to partial sun
<i>Cercis canadensis</i>	Eastern Redbud	to zone 5	"	Requires good drainage, full to partial sun
<i>Cornus mas</i>	Cornelian Cherry	to zone 4	"	Good screening as a hedge, full to partial sun
<i>C. nuttallii</i> 'White Wonder'	Pacific Dogwood	"	"	Full or partial sun, <b>Native</b>
<i>Fagus sylvatica</i>	European Beech	to zone 4	5 cm cal.	Trim as hedge to retain leaves through winter, full sun
'Dawyckii'	Dawyck Beech	"	"	"
'Zlatia'	Golden Beech	"	"	"
<i>Halesia monticola</i>	Mountain Silverbell	to zone 5	"	Full to partial sun
<i>Maackia amurensis</i>	Amur maackia	to zone 4	2.0 m ht.	Full sun, wet soil
<i>Magnolia dawsoniana</i>	Dawson Magnolia	to zone 7	2.0 m ht.	Full sun or full shade
<i>M. sieboldii</i>	Oyama Magnolia	"	"	Shade tolerant
<i>Oxydendron arboreum</i>	Sorrel Tree or Sourwood	to zone 5	2.0 m ht.	Full to partial sun
<i>Prunus emarginata</i>	Bitter Cherry		6 cm cal.	Full sun, moist soil, <b>Native</b>



Deciduous Trees – Small to Medium (<15 m) continued

Botanical Name	Common Name	Hardiness	Planting Size	Notes
Prunus padus	European Bird Cherry	to zone 3	6 cm cal.	Full sun, do not plant in tree fruit production areas
P. subhirtella	Higan Cherry	"	6 cm cal.	Full sun, do not plant in tree fruit production areas
P. x yedoensis 'Akebono'	Daybreak Cherry or Akebono Yoshino Cherry	to zone 6	"	"
Rhamnus purshiana	Cascara Buckthorn	to zone 7	1 m ht.	Shade, drought tolerant, <b>Native</b>
Salix discolor	Pussy Willow	to zone 4	1.5-2 m ht.	Fast growth, dry to moist sites, full to partial sun
Salix glauca	Gray Willow	to zone 4	1 m ht.	Full sun, moist soil, salt and compaction tolerant, <b>Native</b>
Salix lucida	Pacific Willow	to zone 5	"	Full to partial sun, moist soil, <b>Native</b>
Salix scouleriana	Scouler's Willow	to zone 6	"	Full to partial sun, moist soil, <b>Native</b>
Salix sitchensis	Sitka Willow	to zone 4	"	Full to partial sun, moist soil, <b>Native</b>
Sophora japonica 'Regent'	Regent Pagoda Tree or Japanese Pagoda Tree	to zone 4	5 cm cal.	Fast growth: 10 - 12' in 5 yrs. Hardy, full sun
Sorbus aucuparia 'Rosedale'	European Mountain Ash	to zone 3	"	Full sun, do not plant in tree fruit production areas
Stewartia pseudocamellia	Japanese Stewartia	to zone 5	"	Partial sun
Styrax japonicus	Japanese Snowdrop or Snowbell	"	"	Fast growth: 10' in 7 yrs, full to partial sun.
Tilia x euchlora	Crimean Linden	to zone 4	"	Full to partial sun

Coniferous Trees – Tall (>15 m)				
Botanical Name	Common Name	Hardiness	Planting Size	Notes
A. concolor	Colorado White Fir	to zone 4	"	Full sun
A. pinsapo	Spanish Fir	to zone 6	"	"
A. grandis	Grand Fir	to zone 6	2.0 m ht.	Full to partial sun, moist soil, <b>Native</b>
Calocedrus decurrens	Incense Cedar	"	2.0 m ht.	Full to partial sun
Cedrus atlantica	Atlas Cedar	"	2.0 m ht.	"
C. deodara	Deodar Cedar	"	"	Full sun
Chamaecyparis nootkatensis	Nootka Cypress or Alaska Yellow Cedar	to zone 4	"	Full sun, <b>Native</b>
'Lutea'	Yellow Cypress	"	"	Full sun
Cryptomeria japonica	Japanese Cryptomeria or Japanese Cedar	to zone 6	"	"
Picea abies	Norway Spruce	to zone 2	2.0 m ht.	Fast growth, full sun
P. glauca	White Spruce	to zone 1	"	Hardy, full sun, <b>Native</b>
P. pungens	Colorado Spruce	to zone 2	2.0 m ht.	Hardy; somewhat drought tolerant, full sun
P. stitchensis	Sitka Spruce	to zone 7	"	Full to partial sun, <b>Native</b>
Pinus contorta	Lodgepole Pine or Shore Pine	to zone 4	2.0 m ht.	Full sun, not suitable for coastal areas, <b>Native</b>
P. nigra	Austrian Pine	"	"	Hardy, full sun
P. ponderosa	Ponderosa Pine	to zone 3	"	Full sun, <b>Native</b>

Coniferous Trees - Tall (>15 m) continued

Botanical Name	Common Name	Hardiness	Planting Size	Notes
<b>P. strobus</b>	White Pine or Eastern White Pine	"	2.0 m ht.	Fast growth, full sun, use blister rust resistant stock
P. sylvestris	Scotch Pine	to zone 2	"	Full sun
<b>P. thunbergii</b>	Japanese Black Pine	to zone 5	"	Good wind break. Tolerates poor sandy soils; drought tolerant
Pseudotsuga menziesii	Douglas Fir	Rocky Mtn type to zone 4; Pacific type to zone 6	"	Full sun, very dry to moist montane sites, <b>Native</b>
Sequoia sempervirens	Coast Redwood	to zone 7	"	Full sun
Sequoiadendron giganteum	Giant Redwood or Sierra Redwood	to zone 6	"	"
<b>Thuja plicata</b>	Western Red Cedar	to zone 5	"	Few diseases and insects, <b>Native</b>
Tsuga heterophylla	Western Hemlock	"	"	Full sun, <b>Native</b>
T. mertensiana	Mountain Hemlock	to zone 4	2.0 m ht.	Full sun, <b>Native</b>
Tilia x euchlora	Crimean Linden	to zone 4	"	Full sun

### Hedging / Screening Shrubs (Deciduous)

Botanical Name	Common Name	Hardiness	Planting Size	Notes
<i>Amelanchier florida</i>	Saskatoon Berry	to zone 4	#2 pot	Prefers well drained sites, <b>Native</b>
<i>Buddleia davidii</i>	Butterfly Bush	to zone 5	"	Fast growth, full sun
<i>Caragana arborescens</i>	Siberian Peashrub	to zone 2	#5 pot	Hardy, full sun
<i>Clethra alnifolia</i>	Sweet Bush	to zone 4	#2 pot	Good shade plant
<i>Cornus alba</i>	Tartarian Dogwood	to zone 2	"	Fast growth, full to partial sun
<i>C. sanguinea</i>	Tartarian Dogwood	to zone 4	"	Full to partial sun
<i>C. stolonifera</i>	Red Osier Dogwood	to zone 2	"	Fast growth, full sun, <b>Native</b>
<i>Corylus cornuta</i> var. calif	Beaked Hazelnut	to zone 4	"	Full to partial sun, <b>Native</b>
<i>Cotinus coggygria</i> 'Royal Purple'	Smokebush	to zone 5	#5 pot	Drought resistant, full sun
<i>Cotoneaster acutifolius</i>	Peking Cotoneaster	to zone 2	#1 pot	Full to partial sun, do not plant in tree fruit production areas
<i>C. lucidus</i>	Hedge Cotoneaster	"	#1 pot	"
<i>Elaeagnus commutata</i>	Silverberry	"	#5 pot	Fast growth; suckers, full sun
<i>Euonymus alata</i>	Winged Burning Bush	to zone 3	"	Can be invasive, full to partial sun
<i>Forsythia x intermedia</i>	Border Forsythia	to zones 4-6	#2 pot	Fast growth, full to partial sun
<i>Hamamelis virginiana</i>	Common Witchhazel	to zone 3	#5 pot	Full to partial sun
<i>Holodiscus discolor</i>	Creambush	to zone 5	#2 pot	Full to partial sun, dry to moist sites, <b>Native</b>
<i>Hydrangea paniculata</i> 'grandiflora'	PeeGee Hydrangea	to zone 3	"	Fast growth, full to partial sun
<i>Kolkwitzia amabilis</i>	Beauty Bush	to zone 4	"	Full to partial sun
<i>Lonicera korolkowii</i> 'zabellii'	Zabel's Honeysuckle	to zone 2	#2 pot	"
<i>L. maackii</i>	Amur Honeysuckle	to zone 2	#2 pot	Full to partial sun
<i>L. tartarica</i> 'Rosea'	Tartarian Honeysuckle	"	"	Vigorous, full to partial sun

Hedging / Screening Shrubs (Deciduous) continued

Botanical Name	Common Name	Hardiness	Planting Size	Notes
Oemleria cerasiformis	Indian Plum	to zone 6	"	Full sun , dry to moist soil, <b>Native</b>
Philadelphus x virginalis	Mock Orange	to zone 4	"	Full to partial sun
Physocarpus capitatus	Pacific Ninebark	to zone 5	#5 pot	Tolerates drought on coast but prefers moist soil, full to partial sun, <b>Native</b>
Prunus tomentosa	Manchu Cherry	to zone 2	"	Full sun
P. triloba 'Multiplex'	Chin. Flwring Almnd	to zone 3	"	Full to partial sun
Ribes alpinum	Alpine Current	to zone 2	#2 pot	Very hardy, full to partial sun
R. sanguineum	Flowering Current	to zone 5	"	Full sun, drought tolerant, <b>Native</b>
Rubus parviflorus	Thimbleberry	to zone 3	"	Full sun, <b>Native</b>
Rubus spectabilis	Salmonberry	to zone 5	"	Full to partial sun, moist soil, <b>Native</b>
Salix hookeriana	Hooker Willow	to zone 6	#5 pot	Full sun, moist soil
Sambucus canadensis	American Elderberry	to zone 3	"	Fast growth, full or partial sun
S. racemosa	Red Elderberry	"	"	Full sun, wet soil, <b>Native</b>
Symphoricarpos albus	Snowberry	"	"	Full to partial sun, moist soil, <b>Native</b>
Sorbaria sorbifolia	Ural False Spirea	to zone 2	"	Fast growth, full to partial sun
Spiraea douglasii	Pacific Hardhack	to zone 5	#2 pot	Full to partial sun, moist to dry soil
Symphoricarpos albus	Common Snowberry	to zone 3	#2 pot	Full sun to full shade, moist to dry soil
Syringa vulgaris (cult.)	Common Lilac	to zone 3	#5 pot	Full sun
Viburnum x burkwoodii	Burkwood Viburnum	to zone 4	"	Full or partial sun
V. cassinoides	Witherod	to zone 2	"	"
V. dentatum	Arrowwood	to zone 3	"	"
V. opulus 'Roseum'	Snowball Bush	to zone 2	"	Easy to grow, full to partial sun
V. trilobum	Amricn Crnbry Bush	"	"	
Weigelia x 'Centennial'	Weigelia	to zone 4	"	Tolerates air pollution, full sun

### Hedging / Screening Shrubs - (Conifers & Broadleaf Evergreens)

Botanical Name	Common Name	Hardiness	Planting Size	Notes
Arbutus unedo	Strawberry Tree	to zone 8	#5 pot	Full sun
Camellia japonica (var.)	Japanese Camellia	"	"	Full or partial sun
Ceanothus velutinus	Snowbrush	to zone 5	"	Full sun, dry to moist soil, <b>Native</b>
Chamaecyparis lawsoniana 'Ellwoodii'	Ellwood cypress	to zone 5	#5 pot	Excellent hedge, even in exposed or shady positions
Cotoneaster salicifolius	Willowleaf Cotoneaster	to zone 6	"	Full to partial sun, do not plant in tree fruit production areas
Cryptomeria japonica 'Elegans'	Plume Cryptomeria or Plume Cedar	to zone 6	"	Vigorous, full to partial sun
Cupressus macrocarpa	Monterey Cypress	to zone 7	"	Full sun
Elaeagnus x ebbingei	Silverberry or Ebbinge's Silverberry	to zone 7	"	Ideal shelter belt; large leaves, full to partial sun
E. pungens 'Maculata'	Thorny Elaeagnus or Silverberry	to zone 6	"	Fast growth; drought tolerant, full to partial sun
Escallonia rubra	Escallonia	to zone 8	"	Full to partial sun
Juniperus virginiana	Eastern Red Cedar	to zone 2	"	Should not be used near orchards due to susceptibility to cedar-apple rust, full sun
Ligustrum japonicum	Japanese Privet	to zone 8	#2 pot	Fast growth, full to partial sun
Ligustrum ovalifolium	California Privet or Golden Privet	to zone 7	"	Loses leaves in cold areas, full sun
Lonicera tartarica 'Rosea'	Tartarian Honeysuckle	to zone 2	"	Vigorous, full to partial sun
Osmanthus armatus	Chinese Osmanthus	to zone 7	"	Dense habit, spiny teeth, full sun
Photinia x fraseri	Photinia	"	"	Fast growing, full sun
Pieris japonica	Japanese Andromeda or Japanese Pieris	to zone 5	"	Full or partial sun
Prunus laurocerasus	Cherry Laurel or English Laurel	"	"	Vigorous, full to partial sun
'Reynvaanii'	Russian Laurel			
Rhododendron varieties with mature height > 1.5 m	Rhododendron	most to zone 4	#7 pot	Can make good understory planting, partial sun

Hedging / Screening Shrubs - (Conifers & Broadleaf Evergreens) continued

Botanical Name	Common Name	Hardiness	Planting Size	Notes
<i>Syringa vulgaris</i>	Common Lilac	to zone 2	#5 pot	Suckers freely, full sun
<i>Taxus x media</i> 'Hatfieldii'	Hatfield Yew	to zone 4	1.5 m ht.	Tolerates shade
'Hicksii'	Hick's Yew	"	"	"
<i>Thuja occidentalis</i> 'Aureospicata'	White Cedar or American Arborvitae	to zone 2	"	Thrives in almost any well- drained soil, full sun
'Brandon'	"	"	"	"
'Fastigiata'	Pyramidal Cedar	"	"	"
<i>Tsuga canadensis</i>	Canada Hemlock or Eastern Hemlock	to zone 3	1.5 m ht.	Shade tolerant
<i>Vaccinium ovatum</i>	Evergreen Huckleberry	to zone 7	#2	Full to partial sun, <b>Native</b>
<i>Viburnum tinus</i> 'Robustum'	Laurustinus	to zone 8	#5 pot	Full to partial sun

APPENDIX B

Trespass Inhibiting Shrubs				
Botanical Name	Common Name	Hardiness	Planting Size	Notes
Berberis x 'Chenaultii'	Chenault Barberry	to zone 4	#5 pot	Dense habit, full to partial sun, can be host to wheat stem rust
B. darwinii	Darwin's Barberry	to zone 7	"	Full to partial sun, can be host to wheat stem rust
B. julianae	Wintergreen Barberry	to zone 6	"	Evergreen, full or partial sun, can be host to wheat stem rust
B. x mentorensis	Mentor Barberry	to zone 5	"	Fast growth; no fruit, full to partial sun, can be host to wheat stem rust
Chaenomeles speciosa	Flowering Quince	to zone 4	#5 pot	Full to partial sun, do not plant in tree fruit production areas
Elaeagnus pungens 'Maculata'	Thorny Elaeagnus or Silverberry	to zone 7	"	Evergreen. Fast growth; drought resistant, full to partial sun
Mahonia aquifolium	Oregon Grape	to zone 5	"	Evergreen, partial sun, can be host to wheat stem rust, <b>Native</b>
M. x 'Charity'	Oregon Grape	"	"	"
Osmanthus armatus	Chinese Osmanthus	to zone 7	"	Evergreen, full to partial sun
O. heterophyllus	Holly-Leaf Osmanthus	"	"	Full to partial sun
Pyracantha coccinea 'Kasan'	Scarlet Firethorn	to zone 6	"	Full to partial sun, do not plant in tree fruit production areas
P. fortuneana 'Cherri Berri'	"	"	"	"
P. x 'Mohave'	"	"	"	"
P. x 'O. Glow'	"	"	"	"
Rosa acicularis	Prickly Rose	to zone 1	#2 pot	Full sun, <b>Native</b>
Rosa gymnocarpa	Baldhip Rose	to zone 4	"	Full sun to full shade, dry to moist soils, <b>Native</b>
Rosa nutkana	Nootka Rose	"	"	Full to partial sun, <b>Native</b>
Rosa spp.	Shrub roses	to zones 2-4	"	Fast growers, full sun, do not plant in tree stone fruit production areas
Yucca filamentosa	Adam's Needle	to zone 4	#5 pot	Full to partial sun
Y. glauca	Soapweed	to zone 3	"	Full sun



## Appendix C – Fencing Specifications

### Solid Wood Fence

The following specifications are recommendations. A local government can use its own specifications if they meet or exceed the following specifications.

1. All posts and rails shall be rough sawn of "No. 1 Structural" grade, pressure treated with a wood preservative non-toxic to surrounding plant material, in accordance with CSA Standard 080.2 and compatible with staining requirements below.
2. All fence boards and planks shall be rough sawn of "Quality Fencing" grade, finished with penetrating stain with preservative, conforming to CGSB Standards 1-GP145M and 204M, applied to all surfaces prior to installation and on any cuts thereafter.
3. Line posts shall be minimum 8.0 ft. in length and at least (standard) 4"x 4".
4. Corner posts shall be minimum 8.0 ft. in length and at least (standard) 6"x 6".
5. Fence rails (min. 3) shall be maximum 7.5 ft. in length and at least (standard) 2"x 4".
6. Cap rails shall be at least (standard) 2"x 6". Cant to drain.
7. The finished height of opaque fencing shall be at least 6.0 ft.
8. All nails used in fence construction shall meet the following specifications:
  - Minimum gauge of nails used - #9, common in post/rail connections
  - Minimum gauge of nails used - #11.5, common in rail/fence board connections
  - Galvanized - CSA G164
9. Line posts shall be placed no more than 8.0 ft. O.C. and be firmly anchored in the soil to a depth of not less than 2.0 ft.
10. The fence shall be constructed in accordance with these specifications and details provided in Figure 1 – Solid Wood Fence.

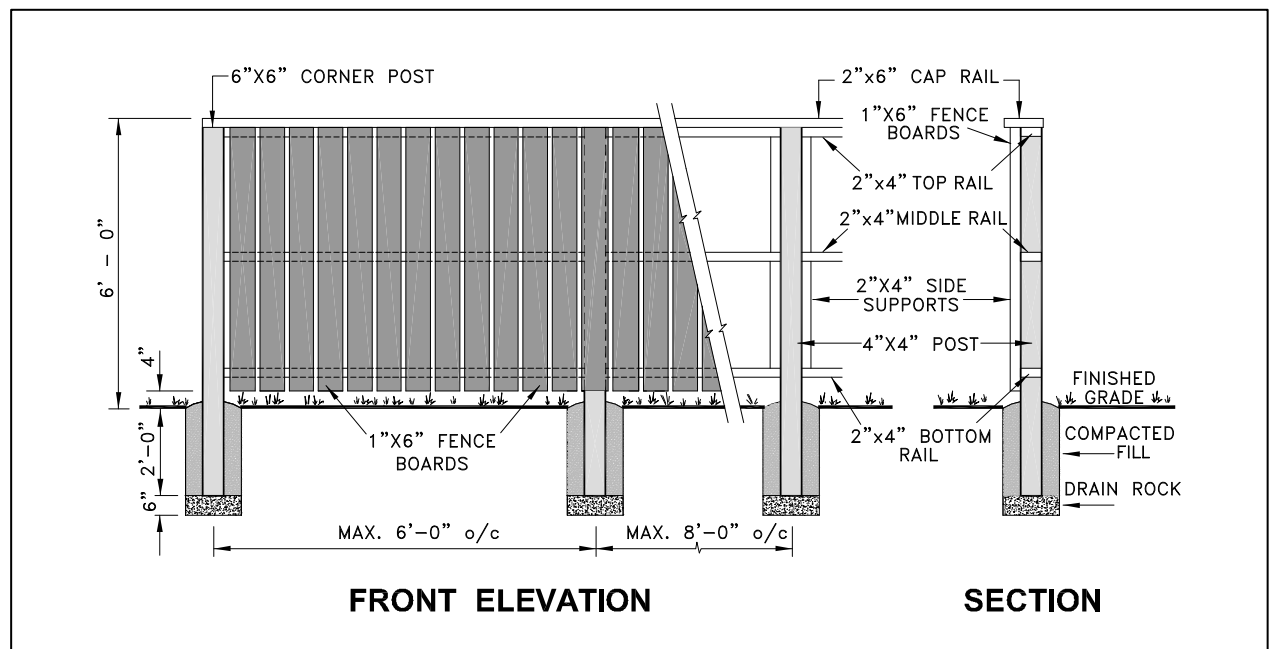


Figure 1 - Solid Wood Fence

## **2: Wire Fabric Fence with Two Strands Barbed Wire**

1. All posts and brace poles shall be pressure treated in accordance with CSA Standard 080.5, using a wood preservative non-toxic to surrounding plant material.
2. Line posts shall be 8.0 ft. in length and 4" - 5" in diameter.
3. Corner and brace posts shall be 8.0 ft. in length and 5" - 6" in diameter.
4. Bracing poles shall be 3" - 4" in diameter.
5. All line and corner posts shall be machine pointed to permit driving of posts.
6. The wire mesh fencing material shall meet the following specifications:
  - Minimum wire gauge - 12.5 A.W.G.
  - Overall Height - 48"
  - Min. number of horizontal strands – 9
  - Max. spacing between horizontal strands - 8"
  - Max. spacing between vertical stays - 16"
  - Wire intersections of non-slip design
  - Galvanized - CSA G164
7. The barbed wire fencing material shall meet the following specifications:
  - Number of strands – 2
  - Minimum wire gauge - 12.5 A.W.G.
  - Maximum spacing between barbs - 6"
  - Number of points per barb – 4
  - Galvanized - CSA G164
8. Brace wire shall meet the following specifications:
  - Number of strands – 2
  - Minimum wire gauge - 12.5 A.W.G.
  - Galvanized - CSA G164
9. The staples used in fence construction shall meet the following specifications:
  - Minimum wire gauge - 9.0 A.W.G.
  - Minimum length - 1.75"
  - Galvanized - CSA G164
10. Line posts shall be placed no more than 10.0 ft. apart and be firmly anchored in the soil to a depth not less than 30".
11. Corner brace assemblies shall be constructed as indicated in the drawings.
12. An intermediate brace assembly shall be constructed as shown in the drawings and spaced as required by terrain or every 660.0 ft.
13. Barbed wire shall be pre-stretched prior to tying off. Tension wire to 600 lbs., relax to 250 lbs., then staple securely to brace assemblies. Securely staple barbed wire to line posts allowing for wire movement.
14. Wire mesh shall be stretched and securely attached by staples at each wire intersection with the brace assembly posts. At line posts, wire mesh shall be attached by staples at alternate wire intersections with posts. Securely staple to line posts allowing for wire movement.

15. Wire mesh and barbed wire shall be spaced as shown in the drawings.

16. The fence shall be constructed in accordance with these specifications and details provided in Figure 2.

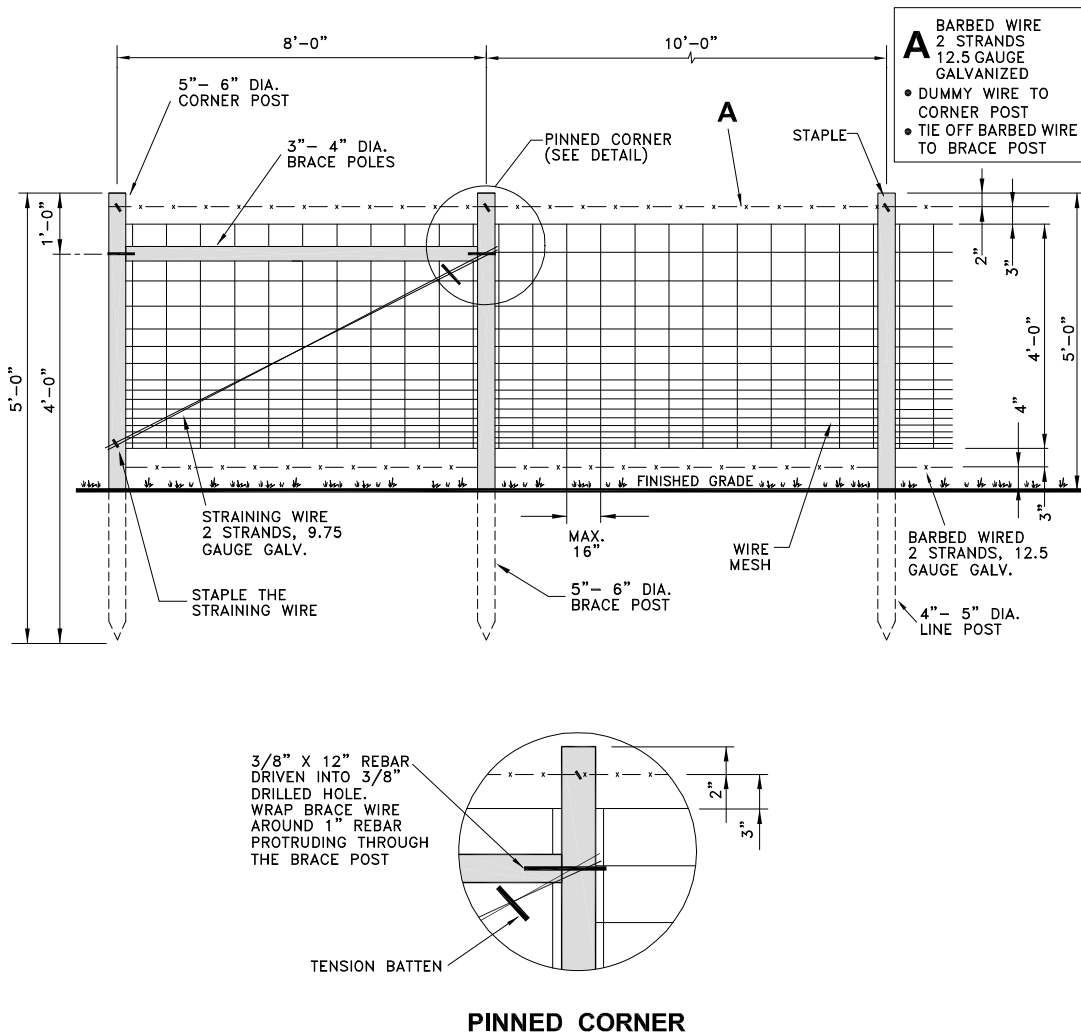


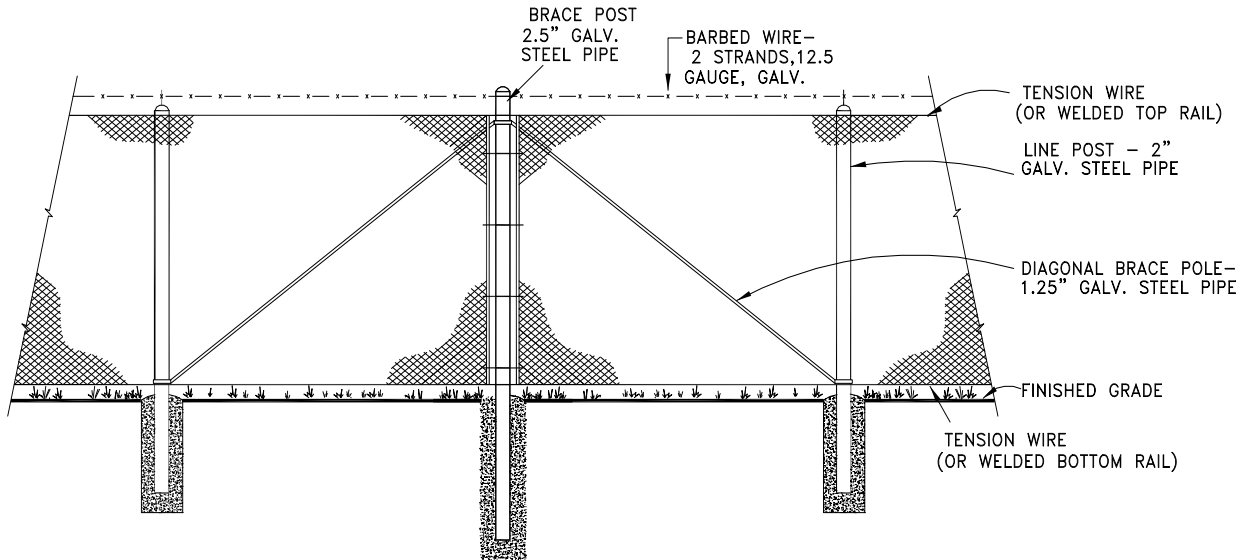
Figure 2 - Wire Fabric Fence with Two Strands Barbed Wire

### 3: Chain Link Fence

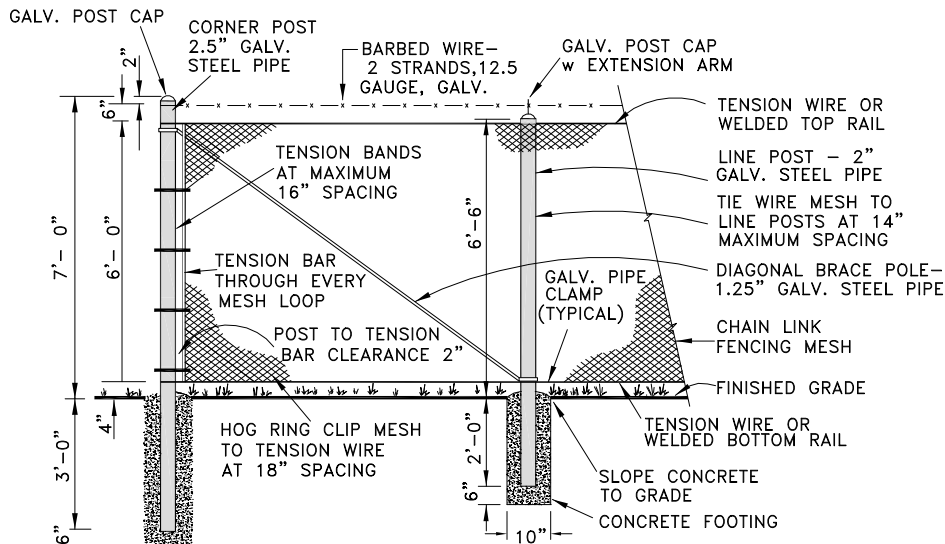
1. Line posts shall be constructed from 2" (50 mm) standard galvanized steel pipe (0.125" wall thickness), 8.5 ft. (2.5 m) in length. Galvanized to CSA G164 standard.
2. Corner and straining posts shall be constructed from 2.5" (64 mm) standard galvanized steel pipe (0.125" wall thickness), 10 ft. (3 m) in length. Galvanized to CSA G 164 standard.
3. Diagonal corner bracing shall be constructed from 1.25" (32 mm) standard galvanized steel pipe. Galvanized to CSA G164 standard.
4. Posts shall be securely anchored in the soil using 2,500 PSI concrete extending from the soil surface to 6" (15 cm) below the bottom of the post. Posts shall be spaced no more than 8.0 ft. (2.5 m) O.C.
5. The chain link fencing material shall meet the following specifications:
  - Minimum height: 5' 8" (1.8 m)
  - Minimum wire gauge: 11.0 AWG
  - Maximum mesh size: 2" (50 mm x 50 mm)
  - Be galvanized (to CSA G164) or plastic coated
6. If barbed wire is deemed necessary, the material shall meet the following specifications:
  - Number of strands: 2
  - Minimum wire gauge: 12.5 AWG
  - Maximum spacing between barbs: 6" (15 cm)
  - Number of points per barb: 4
  - Galvanized: CSA G164
7. All accessory materials shall meet the following specifications:
  - Post caps and extension arms: of pressed steel or cast or malleable iron and galvanized to CSA G164 standard.
  - Tension wire: bottom and top wires 6.0 gauge (5 mm) medium tensile galvanized wire.
  - Tie wire: 9.0 gauge aluminum wire for mesh fixing to line posts.
  - Hog ring clips: 9.0 gauge galvanized steel wire clips for mesh fixing to top and bottom tension.
  - Tension bar: minimum ¼" x ¾" (6.25 mm x 19 mm) galvanized mild steel flat bar.
  - Tension bands: 1/8" x ¾" (3 mm x 19 mm) galvanized formed mild steel flatbars with galvanized bolts and nuts for all tension bar fixing.
8. All terminal posts (posts at ends, corners or intersections), all line posts and any intermediate tensioning posts shall be set plumb into concrete footings in augured or dug holes to the depths and regular spacing.
9. All posts shall be securely fitted with the appropriate weather-tight caps and extension arms.
10. If top and bottom welded rails are not used, top and bottom tension wires shall be securely fixed taut and sag-free to terminal posts and any intermediate tensioning posts. Top tension wire shall pass through line post tops.
11. Intermediate tensioning assemblies shall be provided where terminal posts are more than 500.0 ft. (150 m) apart, and at any subsequent 500.0 ft (150 m) spacing to consist of a straining post with diagonal pipe braces to adjoining line posts each way.
12. Chain link fencing mesh shall be stretched between terminal posts and any intermediate tensioning posts using proper equipment, and secured with tension bars and bands, tie wire and clips. Joins in

the length of wire mesh shall be made by weaving the mesh together with a single wire picket to form a neat continuous mesh.

- If deemed necessary, barbed wire shall be installed in the slots of all extension arms and secured to extension arms at terminal and intermediate tensioning posts taut and free of sags.



ELEVATION



ELEVATION

Figure 3 - Chain Link Fence



## Appendix D – Definitions for Farm-side EPA Guidelines

<b>Aerobic Decomposition</b>	means the microbiological conversion of organic matter to methane in the absence of oxygen.
<b>Agricultural Solid Waste</b>	means a by-product of agriculture and includes manure, used mushroom medium and agricultural vegetation waste.
<b>Agricultural Unit</b>	means live weight of 455 kg (1000 lbs) of livestock, poultry, farmed game or fur-bearing animals or any combination of them equaling 455 kg, defined under the Code of Agricultural Practice for Waste Management, <i>Environmental Management Act</i> .
<b>Agricultural Waste Water</b>	means water which contains any unwanted or unused products or by-products of agriculture such as milk, fertilizers, pesticides, detergents, acids, phosphates, chlorine, and manures.
<b>Broiler Equivalents</b>	means 1.929 kg of live weight of chicken.
<b>Category ‘A’ Noise Scare Device</b>	means a device used to protect crops and feed that creates an impulse sound generated from impacts or explosions and includes propane-fueled cannons. Firearms and shell launchers such as orchard pistols are not included.
<b>Category ‘B’ Noise Scare Device</b>	means any stationary device used to protect crops and feed, not in Category ‘A’, which generates sounds to scare or disturb animals. Devices that broadcast animal calls or other sounds through loudspeakers are included in Category ‘B’. Firearms and shell launchers such as orchard pistols are not included.
<b>Confined Livestock Area</b>	means an outdoor, non-grazing area where livestock, poultry, or farmed game is confined by fences, other structures or topography, and includes feedlots, paddocks, corrals, exercise yards, and holding areas, but does not include seasonal feeding areas, free range poultry at a density of less than 1 agricultural unit per 100 m <sup>2</sup> , horse riding rings, or exercise yards.
<b>Enclosed Liquid Manure Storage</b>	means a liquid manure storage facility that excludes precipitation and is physically protected from wind.
<b>Feed Lot</b>	means a fenced area where livestock, poultry or farmed game are confined solely for the purpose of growing or finishing, and are sustained by means other than grazing.
<b>Feed Mill</b>	means a facility for processing and/or mixing animal feed inputs.
<b>Free Range Layers</b>	means birds housed the same as free run layers and have access to a contained outdoor environment.
<b>Free Run Layers</b>	means birds housed on the floor inside a barn with all litter or partial litter and total or partial raised wire or slatted flooring.
<b>Game Birds</b>	means the following birds: guinea fowl, pheasant, partridge, pigeon, quail, silkies, squab, and tinamou.
<b>Grazing Area</b>	means a pasture or rangeland where livestock, poultry or farmed game is primarily sustained by direct consumption of feed growing in the area.
<b>Greenhouse</b>	means a structure covered with translucent material, used for the purpose of growing plants, and is of sufficient size for persons to work within the structure.
<b>Manure</b>	means waste material excreted from animals including livestock, poultry, farmed game and fur bearing animals; and may include some agricultural waste water and/or associated bedding.

## Appendix D – Definitions for Farm-side EPA Guidelines continued

<b>Manure, Liquid</b>	means manure that has a moisture content of 80% or higher.
<b>Manure, Solid</b>	means manure that has a moisture content of less than 80%.
<b>Meat Chickens</b>	means broiler, cornish and roaster birds.
<b>Milk House</b>	means a farm building or farm structure used to cool or store milk or farm separated cream and to clean, sanitize, and store milking equipment used in the production and storage of milk or farm separated cream.
<b>Milking Facilities</b>	means farm buildings or structures used on a dairy farm, including milking barns, milking rooms, milking parlours and milk houses.
<b>Mushroom Medium</b>	means a composted mixture that is used for growing mushrooms.
<b>On-farm Composting</b>	means composting of agricultural waste or raw materials, which may include manure, straw, vegetative waste, woodwaste, ground paper, other sources of carbon and nitrogen, and bulking agents, to generate finished compost but does not include production of mushroom medium.
<b>Poultry</b>	means domesticated birds kept for eggs, meat, feathers, hide or cosmetic or medicinal purposes, and includes broilers, cornish, layers, breeding stock, replacement pullets, roasters, ducks, geese, turkeys, ostriches, emus and game birds.
<b>Propane Fueled Cannons</b>	means automatic exploders powered by a gas, such as propane or butane, that produce sounds similar to shotgun blasts, used to scare birds and other wildlife.
<b>Seasonal Feeding Area</b>	means an area <ul style="list-style-type: none"><li>(a) used for forage or other crop production and</li><li>(b) used seasonally for feeding livestock, poultry or farmed game that is primarily sustained by supplemental feed, but does not include a confined livestock area or grazing area.</li></ul>
<b>Shell Launchers</b>	means guns or orchard pistols that launch bird scaring shells instead of bullets to scare birds and other wildlife.
<b>Small Ruminants</b>	includes llamas, alpacas, sheep and goats.
<b>Soil Based Crops</b>	includes berry crops, vegetable crops, fruit trees, vineyards, forage crops, turf, specialty wood crops, nursery crops including nursery material grown in pots and excludes mushrooms and greenhouse crops.
<b>Specialty Wood Crops</b>	means salix and populus species as prescribed by the Minister of Agriculture.
<b>Sub-canopy Manure Deposition System</b>	means a method to apply liquid manure beneath the canopy of a growing crop and includes deep injection, shallow injection, and manure banding with or without soil aeration.
<b>Woodwaste</b>	means wood materials including hog fuel, mill ends, wood chips, bark, and sawdust, but excluding demolition waste, construction waste, tree stumps, branches, logs and log ends.



## Appendix E – Agricultural Units\* Conversion Table

Livestock	Sub-types	Information	Typical Top Weight		Agricultural Unit
			(lb's)	(kg's)	
Alpaca			110	50.0	0.11
Beef Cattle	Calf	0 to 8 months	506	230	0.51
	Feeder	9 mo to slaughter	1,320	600	1.32
	Cow		1,397	635	1.40
	Bull		3,300	1,500	3.30
Dairy Cattle	Calf	0 to 6 mo	359	163	0.36
	Heifer	7 to 26 mo	1,173	533	1.17
	Cow	over 26 mo	1,397	635	1.40
Emu			94.6	43.0	0.095
Game Birds					
	Pheasant		3.00	1.40	0.003
	Pigeon		2.20	1.0	0.002
	Quail		0.66	0.30	0.00065
	Silkie Chicken		1.98	0.90	0.002
Goat	Buck		130	59.0	0.13
	Doe		100	45.0	0.10
	Kid		50	23.0	0.05
Hog	Piglet	0 to 21 day	11	5.0	0.011
	Nursery (wean)	22 to 56 days	45	20.5	0.045
	Wean to Finish	57 to 165 days	45-140/140-240	20-64 / 64-109	0.23
	Sow		451	205	0.45
Horse			1200	545	1.20
	Foal		120	54.0	.12
Llama			400	182	0.40
Mink			5	2.3	0.005
Ostrich			350	160	0.35

\*1 agricultural unit = 455 kg

## Appendix E – Agricultural Units\* Conversion Table continued

Livestock	Sub-types	Information	Typical Top Weight		Agricultural Unit
			(lb's)	(kg's)	
Poultry					
Broiler			4.244	1.929	0.0042
Broiler Breeder	Pullet	0 to 23 wk	5.45	2.48	0.0054
	Layer	24 to 60 wk	9.34	4.24	0.0093
Layer	Pullet	0 to 18 wk	2.977	1.353	0.0030
	Layer	over 18 wk	4.180	1.900	0.0042
Duck	Pullet		7.24	3.29	0.0072
	Layer		7.55	3.43	0.0075
	Broiler		7.94	3.61	0.0079
Turkey			19.80	9.00	0.020
Turkey Breeder	Female		24.50	11.00	0.024
	Male		62.50	28.00	0.062
Sheep	Ewe		200	91.0	0.20
	Lamb	Spring	50	25	0.05
		Market	100	45	0.10

## Appendix F – Reference List – Building the Guide to Edge Planning

The consideration to develop ways to improve planning along the agriculture/urban edge began in 1997. Chapter 8 ‘Planning Along Agriculture’s Edge’ in *Planning for Agriculture* laid the initial groundwork for development of the edge planning tools and techniques found in this Guide. Below is a complete list of the literature and studies that helped to form the basis for the *Guide to Edge Planning*. Of particular note:

- Relevant federal and provincial legislation was reviewed to ensure that the guidelines and definitions were developed in a manner consistent with existing legislation;
- The ALC *Landscaped Buffer Specifications* formed the basis of the *Guide to Edge Planning* buffer specifications; and
- Extensive discussion and consultations was undertaken with BC Ministry of Agriculture and Lands staff when developing the farm-side management guidelines.

Agriculture and Agri-Food Canada. 1997. *Hog Environmental Management Strategy*.

Alberta Agriculture, Food and Rural Development. 2000. *2000 Code of Practice for Responsible Livestock Development and Manure Management*.

American Planning Association. 1990. ‘Buffering Can Prevent Headaches’. *Zoning News* American Planning Association, February issue.

Arendt, Randall. 1994. *Designing Open Space Subdivisions*. Natural Lands Trust through Environmental Protection Agency.

BC Agricultural Land Commission. 1993. *ALC Landscaped Buffer Specifications*. British Columbia.

BC Green Zone Committee. 1978. *Agricultural Zoning and Waste Management*. A Position Paper - Draft 1.

BCMAFF, 2003. *An Investigation of Existing Vegetative Buffers in BC and Their Effectiveness at Mitigating Conflict*. Resource Management Branch, unpublished.

BCMAFF. 2001. *Draft Agriculture and the Environment Reference Guide for Livestock Producers in BC*, unpublished.

BCMAFF. 2000. *Separating Agricultural and Residential Land Uses – An Investigation of the Effectiveness of Landscaped Buffers*. Resource Management Branch, unpublished.

BCMAFF. July 2000. ‘Integrated Bird Management’. *Blueberries Fact Sheet*. British Columbia.

BCMAF. December 1999. ‘Management of Dust in Broiler Operations’. *Poultry FactSheet*. British Columbia.

BCMAF. August 1999. ‘Management of Noise on Poultry Farms’. *Poultry FactSheet*. British Columbia.

BCMAF. 1998. *Bylaw Review*. Resource Management Branch, unpublished.

BCMAFF. 1995. Discussion paper on *Noise for Normal Farm Practices*..

BCMAFF. September 1994. *Agricultural Issues in the Fraser Valley*. Survey, Abbotsford.

## Appendix F – Reference List – Building the Guide to Edge Planning continued

- BCMAL, 2006. *B.C.'s Food Self Reliance – Can B.C.'s Farmers Feed Our Growing Population?*
- Berry, D., E. Leonardo, and K. Bieri. 1976. *The Farmer's Response to Urbanization*. University of Massachusetts at Amherst Regional Science Research Institute, discussion paper series (92).
- British Columbia Wetlands Network News (BCWNN). 1994. *Cates Hill on Bowen Island: Developer Consults with Local Nature Club to Preserve Wetland*, vol.1 No.1, Friends of Boundary Bay.
- Buckingham County, Virginia. 1997. Siting ordinance.
- Caldwell, Wayne J. and Michael Toombs. 1999. Draft. Rural Planning, *The community and Large Livestock Facilities: An Across-Canada Checkup*. Paper presented at the Canadian Institute of Planners annual conference, June 1999.
- Canadian Pork Council. 1996. *Code of Environmentally Sound Hog Production*. Manitoba.
- Canagir, Mevlut and Steven Kraft. 1983. 'Suburbia Meets Farm. R<sub>x</sub> for the Edge'. *Landscape Architecture*, July:79-80.
- Christian Farmers Federation of Ontario. November 15, 2000. *Standards for Agricultural Operations Act*. A policy statement of the Christian Farmers Federation of Ontario.
- City of London, Planning Division Liaison sheet. May 9, 2001. *Rural/urban interface policy – lands within 300 m of the northern municipal boundary*.
- City of Surrey, Planning and Development Department. 1996. *Surrey Official Community Plan By-law, No. 12900*.
- Coppock, Ray and Marcia Kreith. Editors. 1995. *Farmers and Neighbors: Land use, pesticides and other issues*. Summary report of a workshop at the Agricultural Issues Center University of California, Davis.
- Corporation of the District of Central Saanich. *Official Community Plan, Schedule A to By-Law No.773*.
- County of Huron, Ontario, Wayne Caldwell General comments about managing intensive livestock operations. 1999.
- Daniels, Tom and Deborah Bowers. 1997. *Holding Our Ground*. Island Press, Washington, D.C.
- Daughton, Kevin. 1984. *Presence of Farm and Non-farm Produced nuisances within the urban fringe of Eugene and Springfield, Oregon*. Master's Thesis.
- Department of Natural Resources. 1997. *Planning Guidelines: Separating Agricultural and Residential Land Uses*. The State of Queensland.
- Diamond, Lawrence. 1985. *The Interface between Farmland and Housing*. University of British Columbia.
- District of Chilliwack, 1993, *Zoning Bylaw 1841*.
- District of Pitt Meadows. *1992 Zoning Bylaw*.
- Environmental Defense Fund. 1998. *New Operations: Performance Standards*. Hogwatch website.

## Appendix F – Reference List – Building the Guide to Edge Planning continued

Faraca, Paul A. 1986. 'The public-private partnership for park preservation: The Massachusetts model'. In *Integrating Man in Nature in the Metropolitan Environment*. Proceedings of a National Symposium on Urban Wildlife. Adams, Lowell W. and Daniel L. Leedy. Eds., 15-17. Maryland, National Institute for Urban Wildlife.

Great Valley Centre, 2002. *Can City and Farm Coexist?* The agricultural buffer experience in California.

Hair, Jay D. 1986. 'Cooperation between Conservation Advocates and Corporate Interests'. In *Wildlife Conservation and New Residential Developments*. Proceedings of a National Symposium on Urban Wildlife. January 20-22, 1986. Eds. Stenberg, Kathryn and William W. Shaw, 2-7.

Hammond, Sonya. 2000? *Buffer Planning Workbook*, Draft.

Heber, Albert J. 2000. *Odour Based Setbacks*. Purdue Agricultural Air Quality Laboratory..

Henderson, Harold. 1998. 'Noxious Neighbors'. *Planning*, November issue.

Holland, Pat, Bill May and John Maber. 2000. 'Spray drift from Orchards'. *HortResearch*, New Zealand.

Hughes-Games, Geoff. 1995. Draft discussion paper on *Particulate Matter Emissions (Dust) for Normal Farm Practices*, Resource Management Branch, BCMAFF.

Kalmakoff, Jonathan J. 1999. 'The 'Right to Farm: A Survey of Farm Practices Protection Legislation in Canada'. *Saskatchewan Law Review*, Vol. 62: 225-268.

Kalmakoff, Jon. 1998. 'Discussion Paper on Separation Distances'. Agricultural Operations Review Board.

Kartez, Jack D. 1980. 'A zoning administrator's view of farmland zoning'. *Journal of Soil and Water Conservation*, November-December, Vol.35, No.6.

Kelsey, T.W. and G. Vaserstein. 2000. 'Farming and Non Farming Neighbors: Conflict, Coexistence, and Communication'. *Journal of Soil and Water Conservation*, Vol. 55, No. 4, 462-465.

King County, Washington. 1999. *Livestock Programs*. Eric Nelson, Livestock Program Manager, Department of Natural Resources.

Knack, Ruth Eckdish. 1999. 'Small is Fruitful'. *Planning*, June issue.

Knapp, Gerrit and Arthur C. Nelson. 1992. *The Regulated Landscape. Lessons on State Land Use Planning in Oregon*. Lincoln Institute of Land Policy, Cambridge, Massachusetts.

Lines, J.A., S.R. Lee and M.A. Stiles. 1994. 'Noise in the Countryside'. *J. agric. Engng Res.*, 57, 251-261.

Manitoba Agriculture, The Agricultural Guidelines Development Committee. 1998. *Farm Practices Guidelines for Hog Producers in Manitoba*. Winnipeg, Manitoba.

Marchand, Lynn and Ken McEwan. 1997. *The Impact of Township Zoning By-laws on Ontario Swine Farms*. Ridgetown College, University of Guelph.

Martens, M.J.M. 1981. 'Noise abatement in plant monocultures and plant communities'. *Applied Acoustics*, 14/3, 167-189.

## Appendix F – Reference List – Building the Guide to Edge Planning continued

Minnesota Department of Agriculture. 1996. *Planning and Zoning for Animal Agriculture in Minnesota: A Handbook for Local Government*. Minnesota.

National Farmers' Union. Date unknown. *NFU's new code of practice for bird scarers*. Bailey Litho, Dursley, Glos.

Natural Resources Conservation Service and United States Department of Agriculture. 1999. *Animal Feeding Operations*.

Nicholas School of the Environment. 1996. *Policy Recommendations for Management of Agricultural Animal Waste in North Carolina*. Duke University, North Carolina.

Nicolai, Richard E. 1996. *Managing Odours from Swine Waste*. University of Minnesota Extension Program. Publication AEU-8.

North Carolina State. 1995. *The Swine Farm Siting Act, 1995 Senate Bill 1080*.

Ontario Ministry of Agriculture, Food and Rural Affairs. McTavish, Gary and David Lee. 2000. *Farmer and Neighbour Relations- A Framework for Avoiding Farm-related Conflicts*. Queen's Printer for Ontario.

Ontario Ministry of Agriculture, Food and Rural Affairs. 1995. *Guide to Agricultural Land Use*. Ontario.

Ontario Ministry of Agriculture, Food and Rural Affairs. 1995. *Minimum Distance Separation I (MDS I)*. Ontario.

Ontario Ministry of Agriculture, Food and Rural Affairs. 1995. *Minimum Distance Separation II (MDS II)*. Ontario.

Prestbo, J., editor. 1975. *This abundant land*. Princeton: Dow Jones Books.

PEI Department of Fisheries, Aquaculture and Environment; PEI Department of Agriculture and Forestry; Environment; Agriculture and Agrifood Canada. 2000. *Best Management Practices for Agricultural Waste Management*. P.Jacobs & Associates Ltd. - writers.

Prince Edward Island. 1999. *Agricultural & Environmental Resource Conservation Program*.

Regional District of Nanaimo. 1999. *Arrowsmith Benson-Cranberry Bright Official Community Plan, Appendix A – DPAs, Bylaw No. 1148*

Richmond Planning Department. 1986. *Methods for Implementation of the Urban-Rural Interface in Richmond*. Document 4105K.

Schwab, Jim. 1999. 'Confining the Impacts of Confined Animal Feeding'. *Zoning News*, American Planning Association, April issue.

Sobering, Craig and Peter Andzans. 1990. *Urban-Rural Fringe Conflict Mitigation Techniques*. District of Matsqui Planning Department Report No. 90-240.

Sokolow, Alvin D. 2000. *Agriculture in Urbanizing Communities*. Outline of presentation to USDA Policy Advisory Committee on Farmland, Listening Forum, University of California, Davis.

Sokolow, Alvin D. 1999. 'Farmland Protection in City General Plans', segment from Chapter 5, *How Cities Look to the Future: General Plans in the Sacramento Region*. Sustainable Communities Consortium and the California Communities Program, University of California, Davis.

---

## Appendix F – Reference List – Building the Guide to Edge Planning *continued*

Smith, Barry. 1998. *Planning for Agriculture – Resource Materials*. Provincial Agricultural Land Commission.

Steiner, Frederick R. 1981. 'Farmland protection in the Netherlands'. *Journal of Soil and Water Conservation*, March-April, Volume 36, No. 2.

Township of Langley. 1994. 'Urban / Rural Interface Study'. Unseen. Referenced in *Review of Agricultural Regulations, Issues and Options in the Township of Langley*. 1997. Prepared by Gary Runka and George E. Penfold.

Tulare County, California. 1985. *California Zoning Ordinance*.

Tyndall, John and Joe Colletti, 2000. *Air Quality and Shelterbelts: Odor Mitigation and Livestock Production A Literature Review*. Forestry Department, Iowa State University.

United States Department of Agriculture & United States Environmental Protection Agency. 1999. *Draft Unified National Strategy for Animal Feeding Operations*. Washington, DC.

University of Minnesota, Extension Service, Department of Biosystems and Agricultural Engineering. 2000. *Livestock and Poultry Odor, Workshop I, Emissions, Measurement, Control, and Regulation*. University of Minnesota.

University of Minnesota, Extension Service, Department of Biosystems and Agricultural Engineering. 2000. *Livestock and Poultry Odor, Workshop II, Biofilters, Covers, OFFSET, and Odor Management Plans*. University of Minnesota.

Van Kleeck, R.J. and N.R. Bulley. 1982. *An Assessment of Separation Distance as a Tool for Reducing Farm / Neighbour Conflict*. Ministry of Agriculture and Food, Abbotsford.

Voris, John C. 1995. 'Reducing the Conflict: Current Approaches'. Part of proceedings of a workshop *Farmers and Neighbors. Land use, pesticides and other issues*. UC Kearney Agriculture Centre.

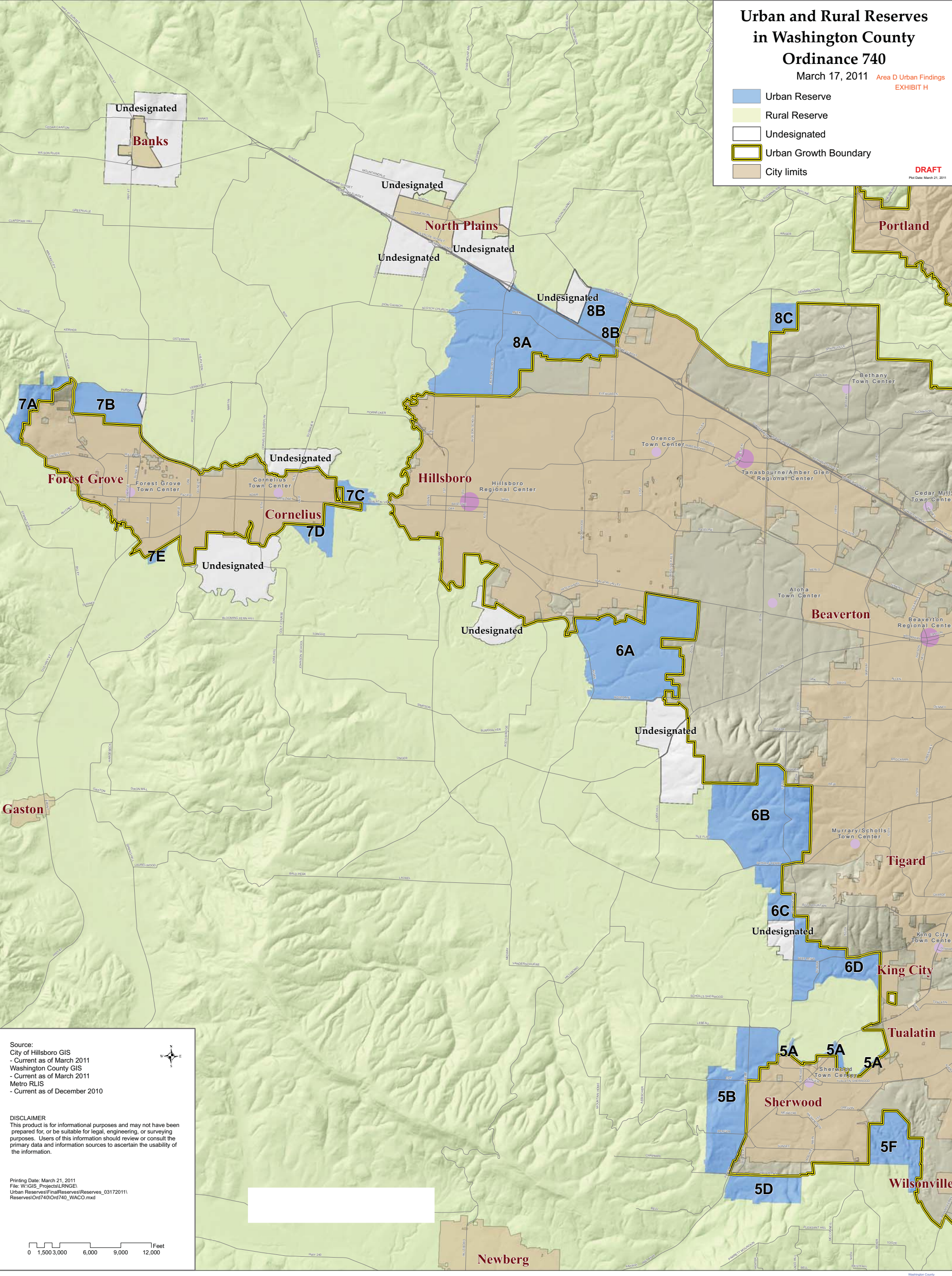
# Urban and Rural Reserves in Washington County

**Ordinance 740**

March 17, 2011 Area D Urban Findings  
EXHIBIT H

- Urban Reserve
- Rural Reserve
- Undesignated
- Urban Growth Boundary
- City limits

**DRAFT**  
Plot Date: March 21, 2011

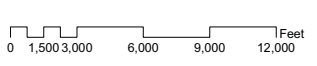


Source:  
City of Hillsboro GIS  
- Current as of March 2011  
Washington County GIS  
- Current as of March 2011  
Metro RLIS  
- Current as of December 2010



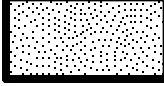
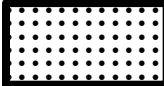
**DISCLAIMER**  
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

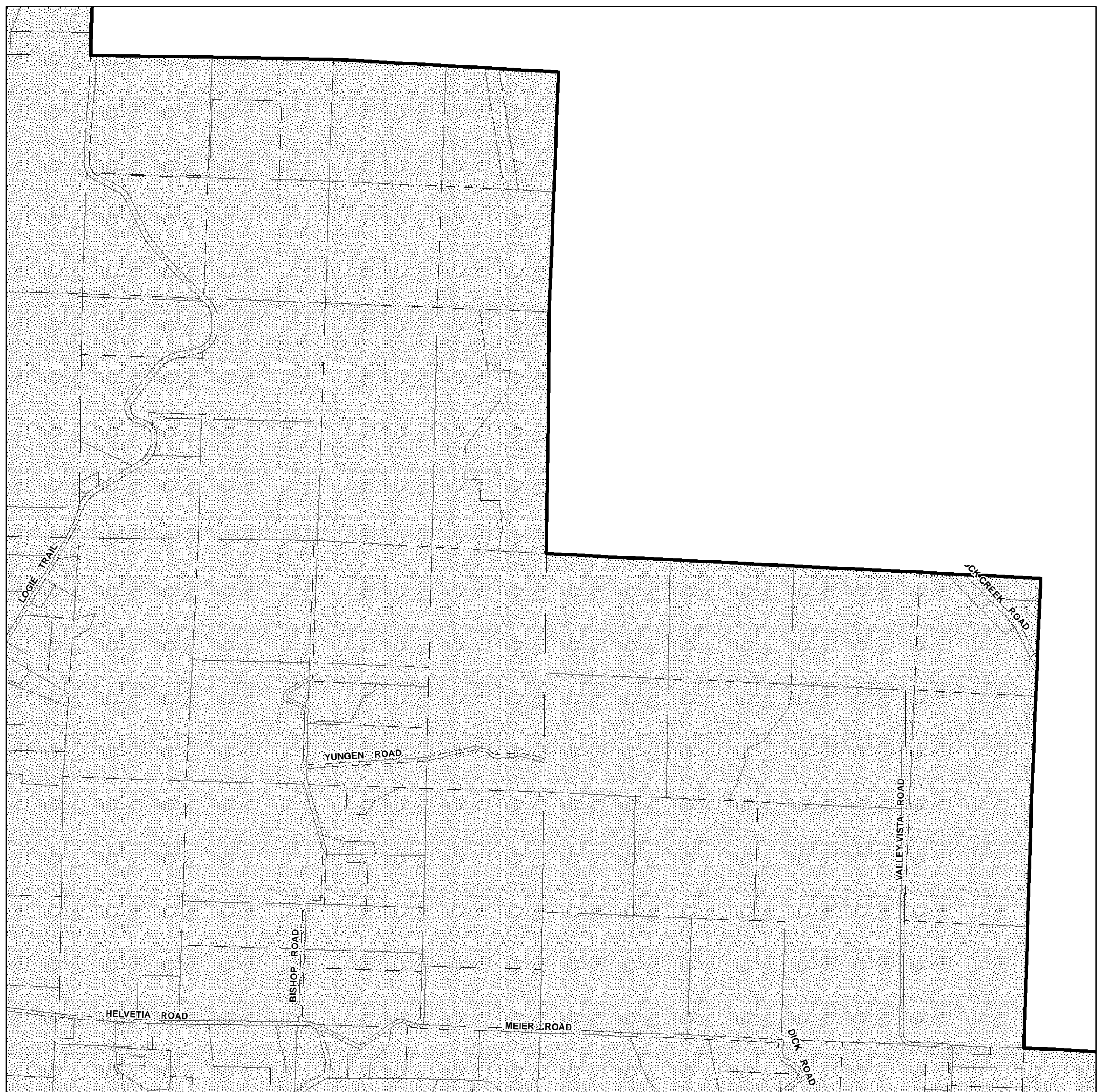
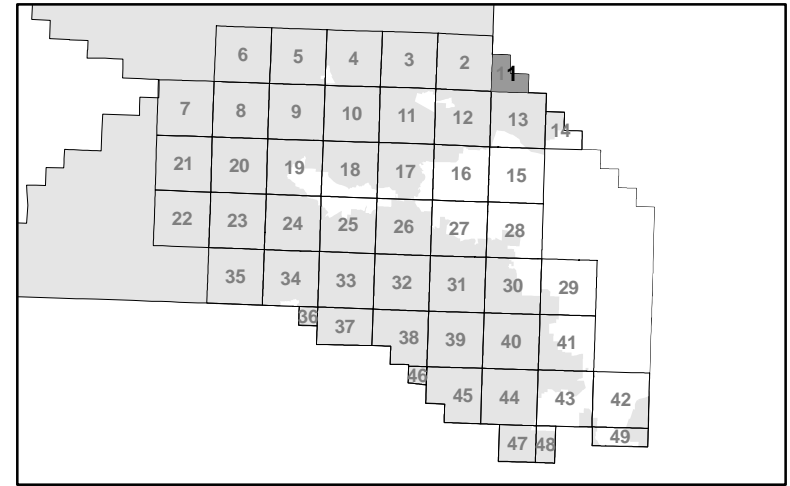
Printing Date: March 21, 2011  
File: W:\GIS\_Projects\LRNGE\Urban Reserves\FinalReserves\Reserves\_03172011\Reserves\Ord740\Ord740\_WACO.mxd



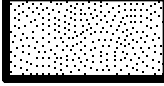


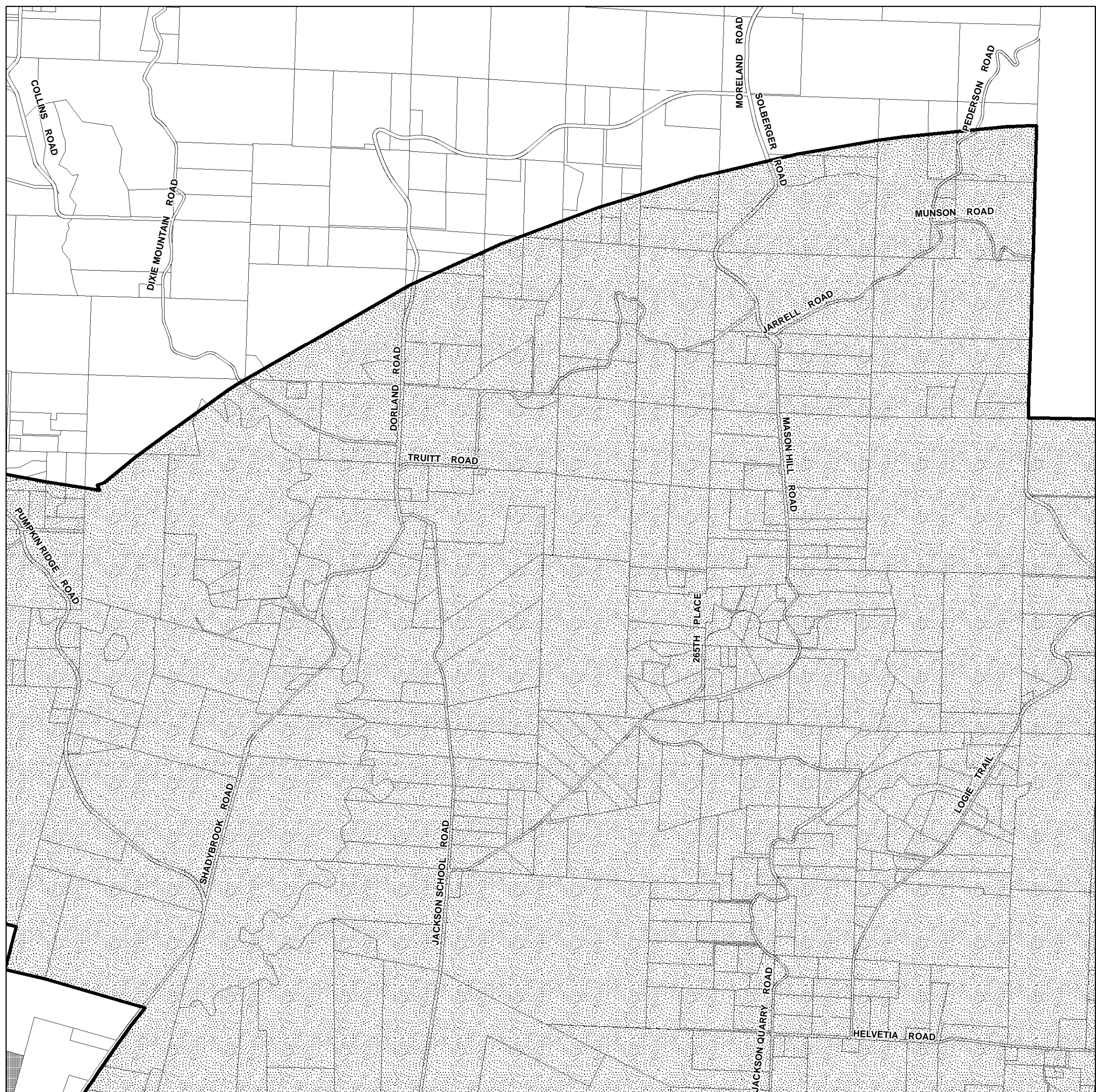
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

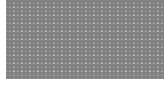


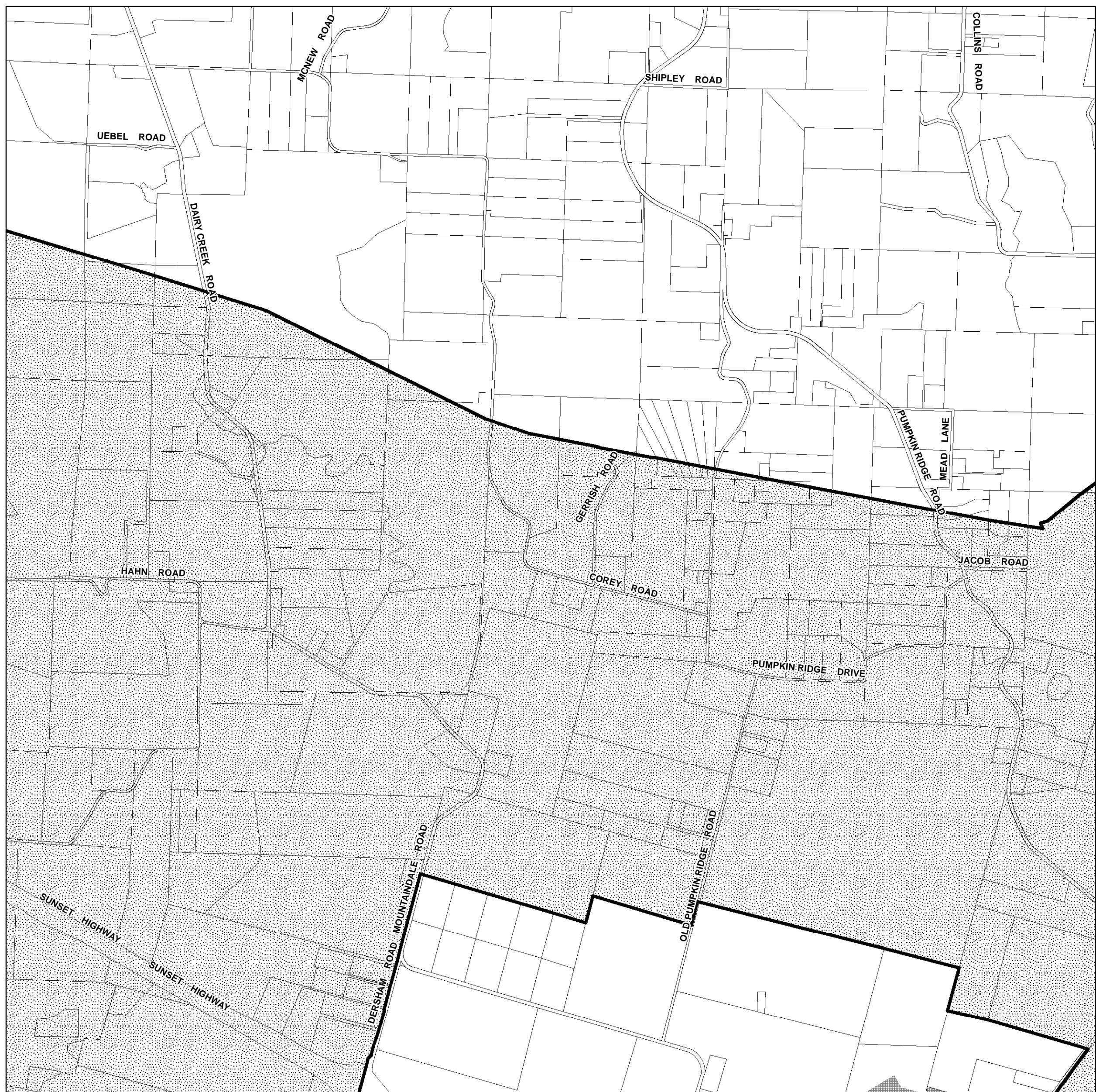
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

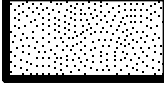


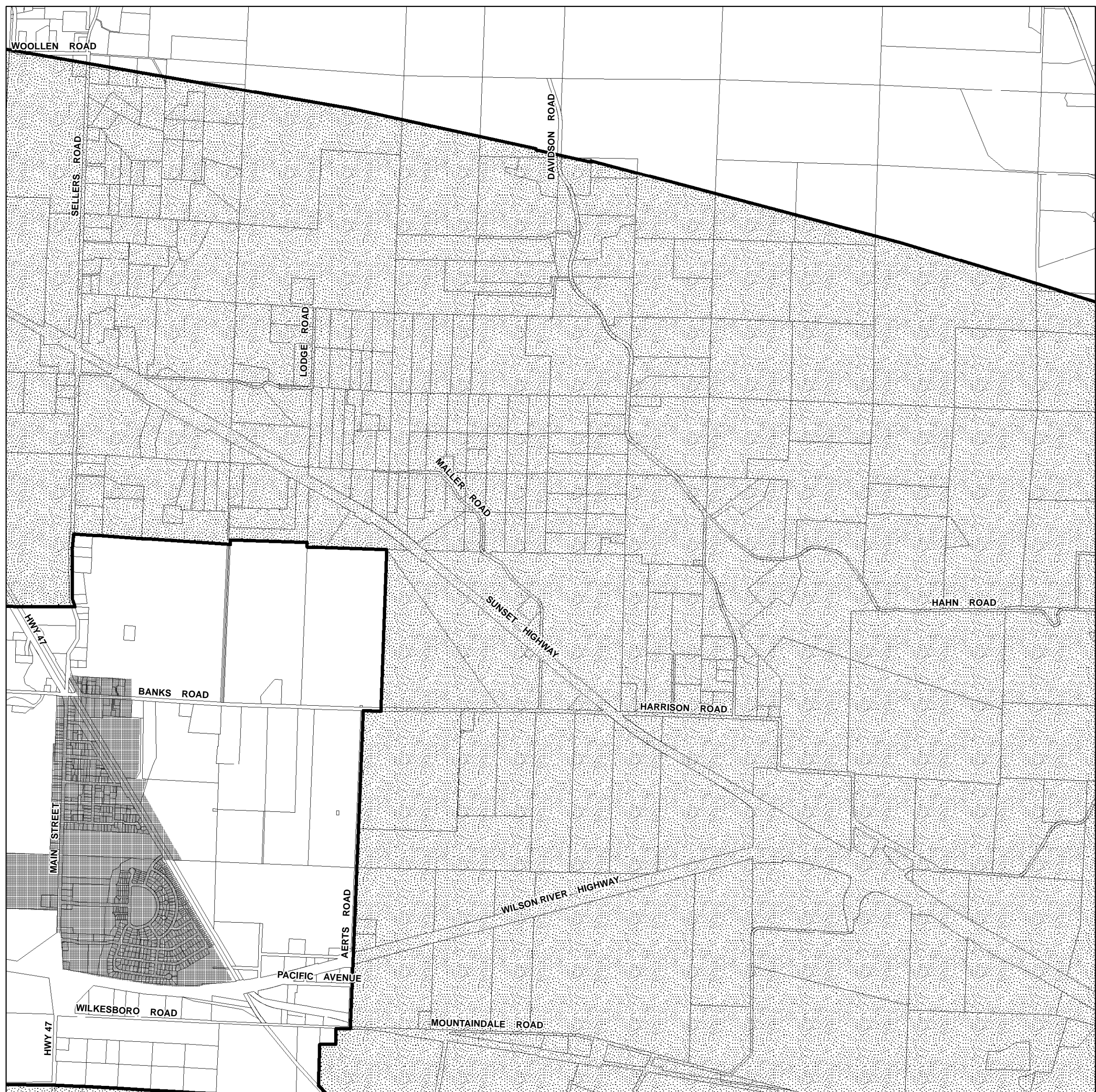
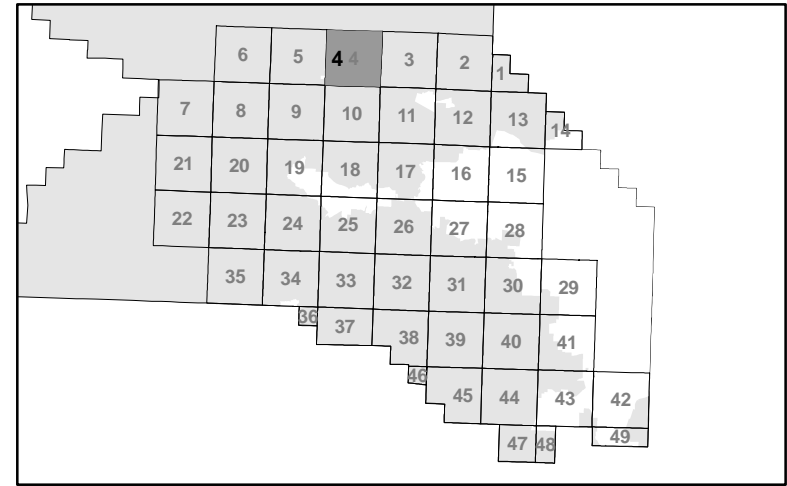
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



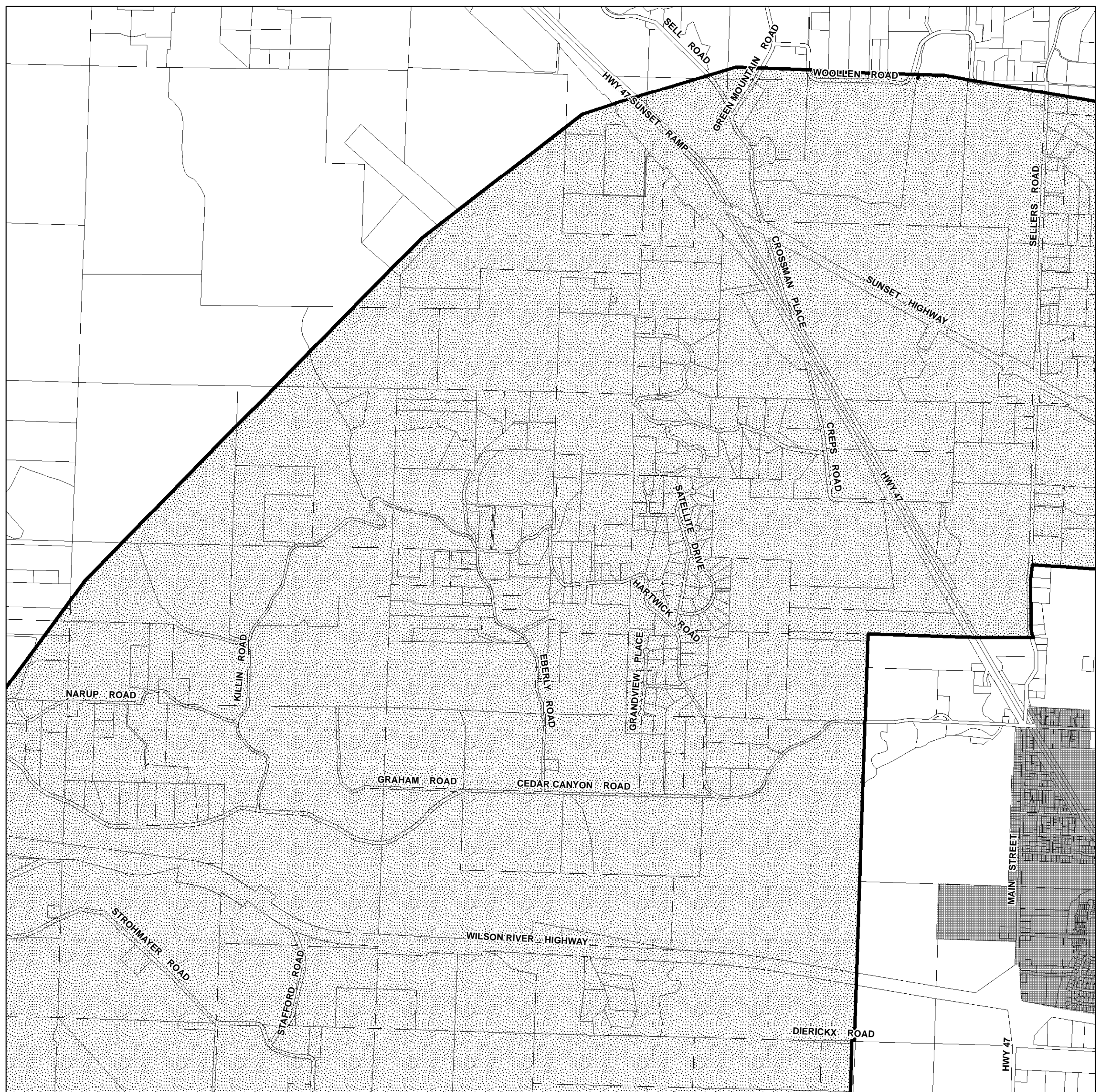
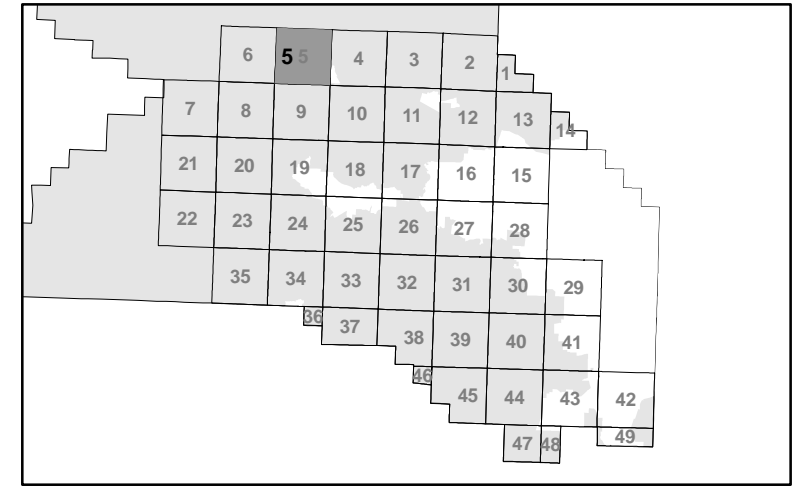
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



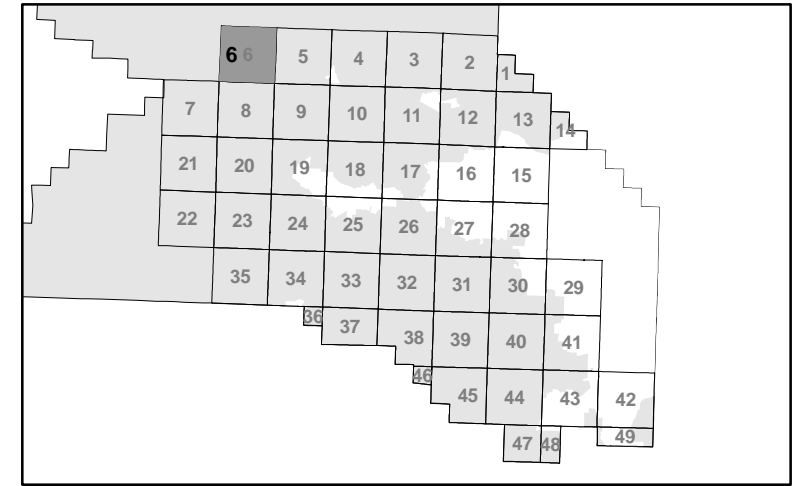
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



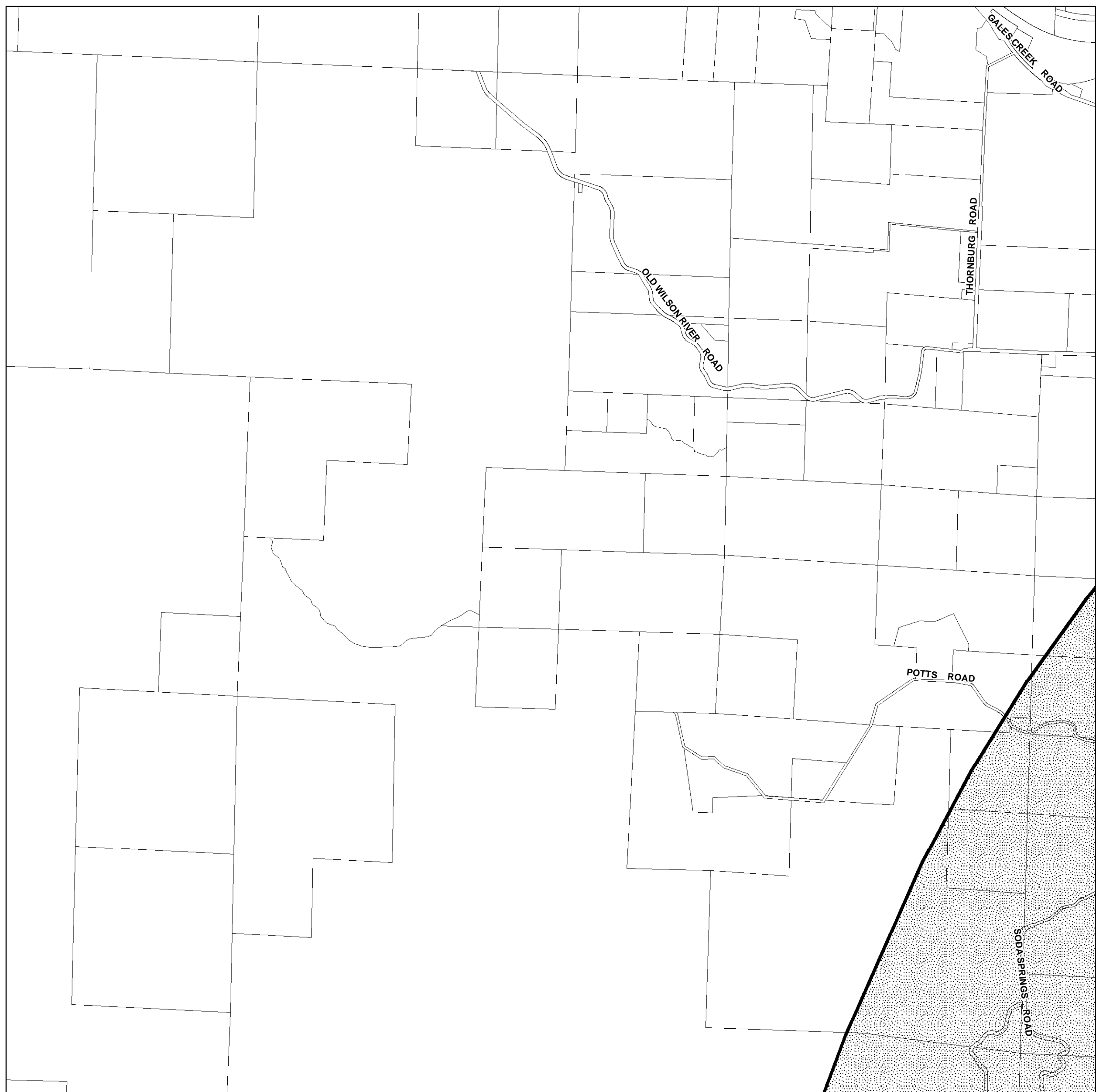
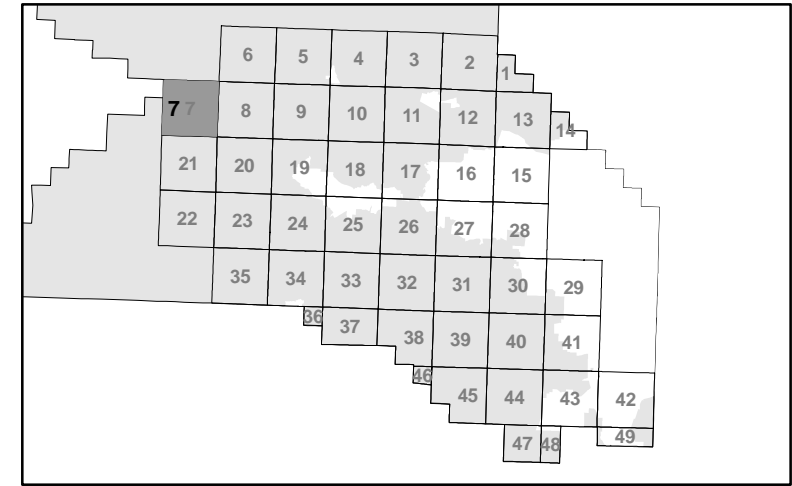
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

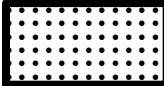


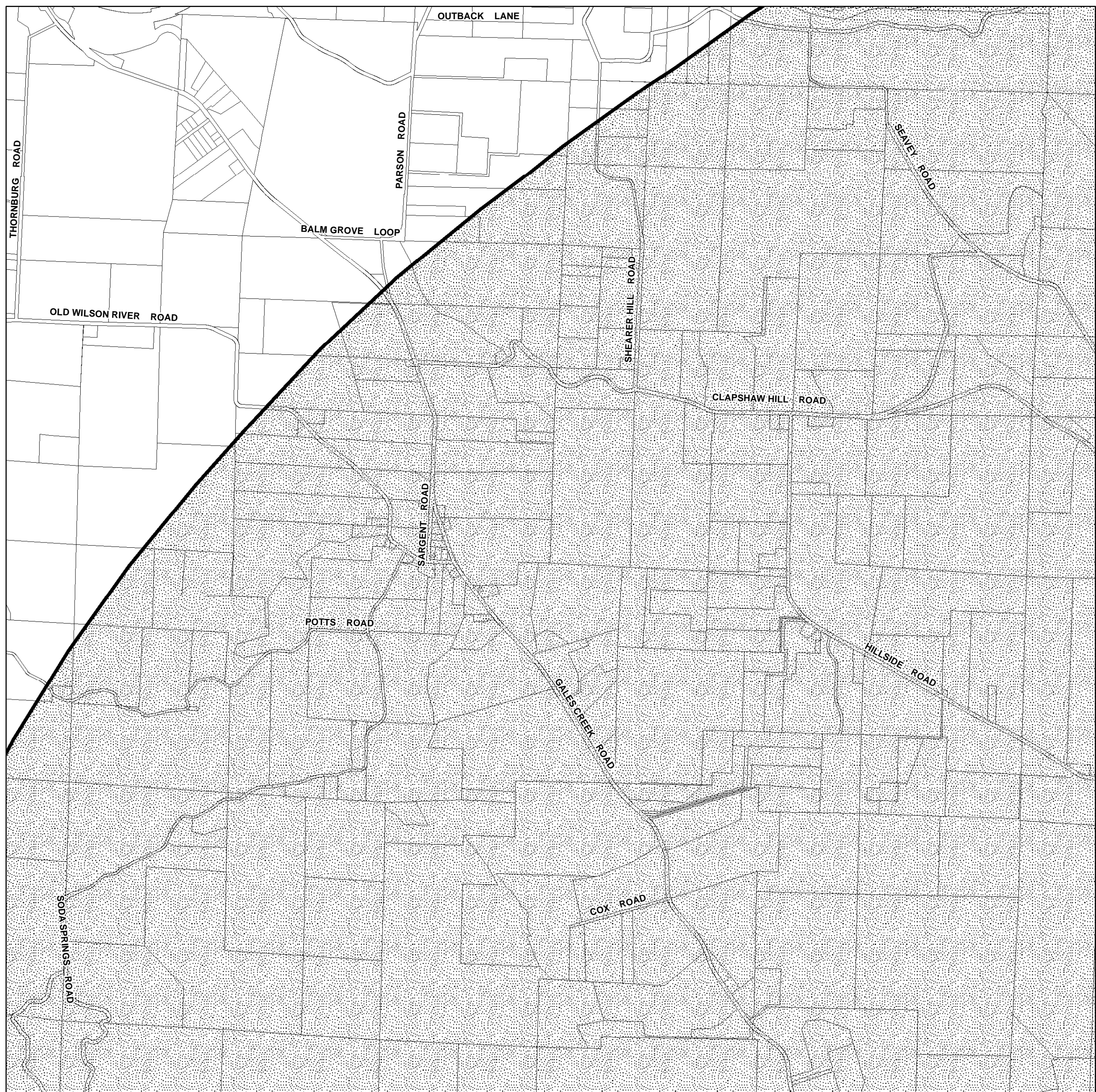
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



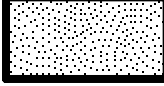
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

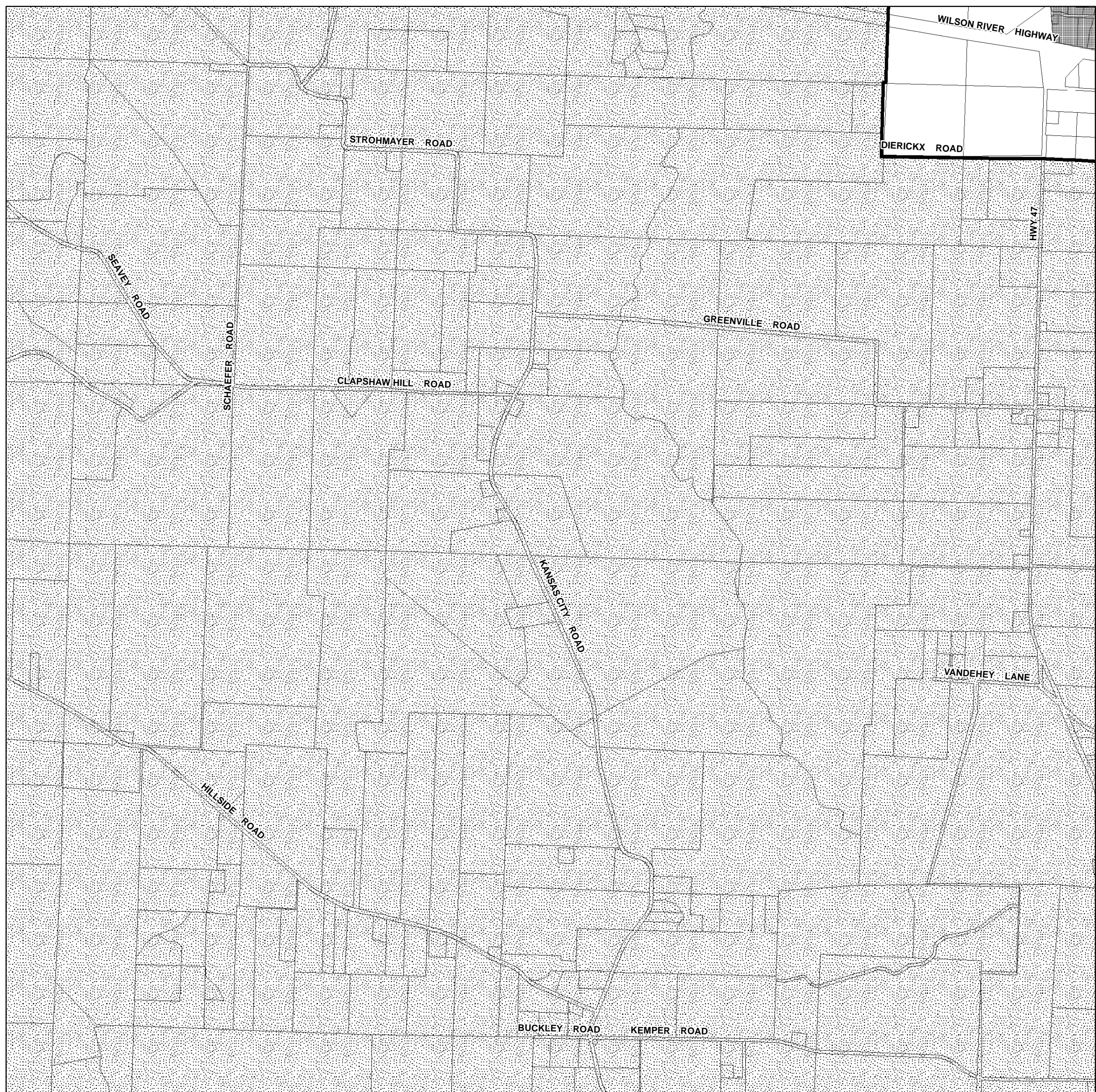
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



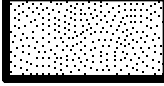


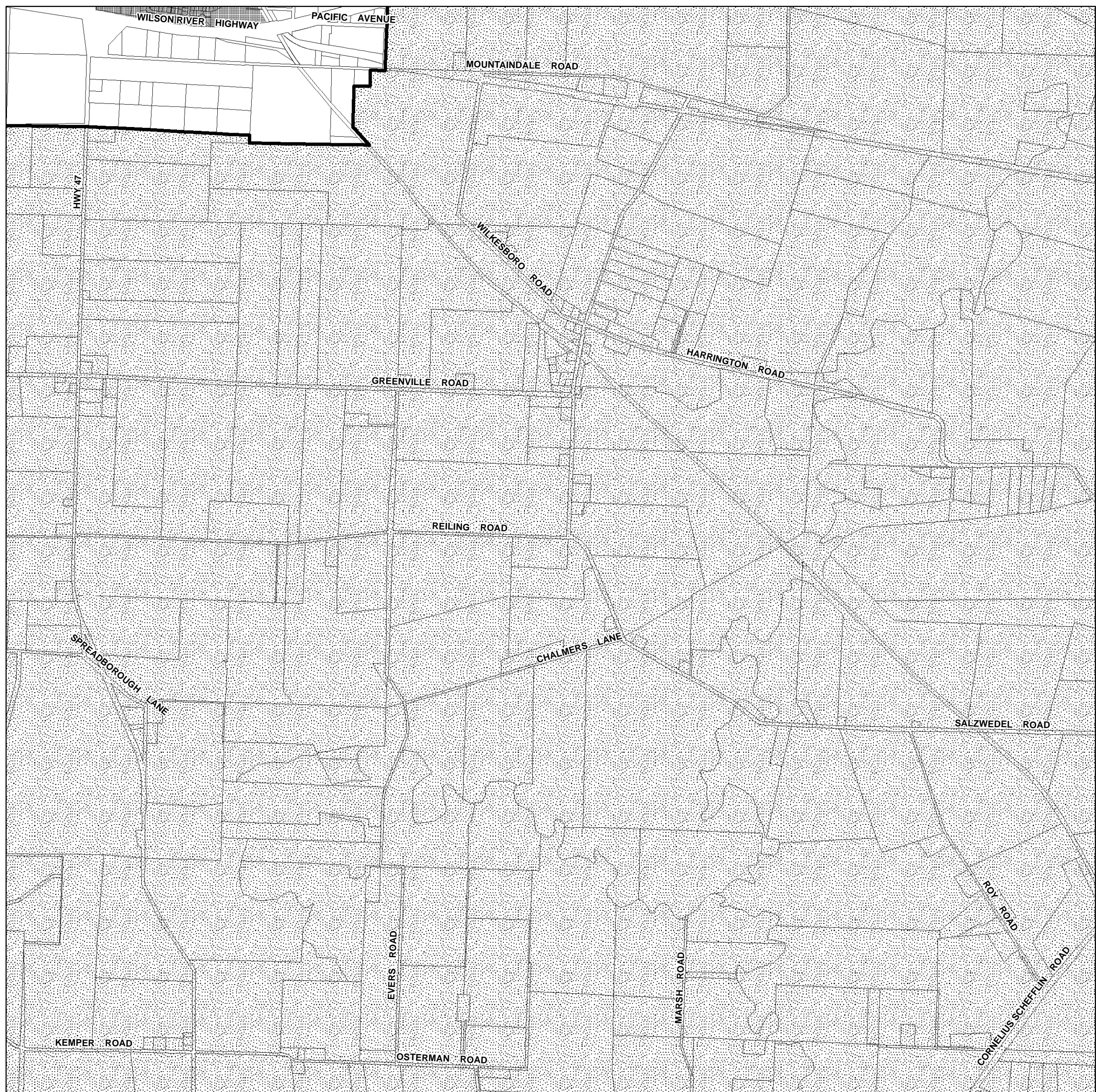
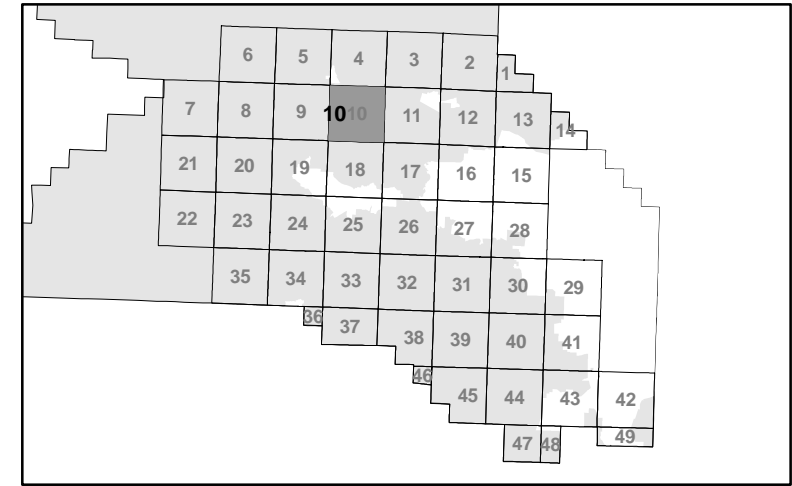
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

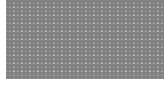


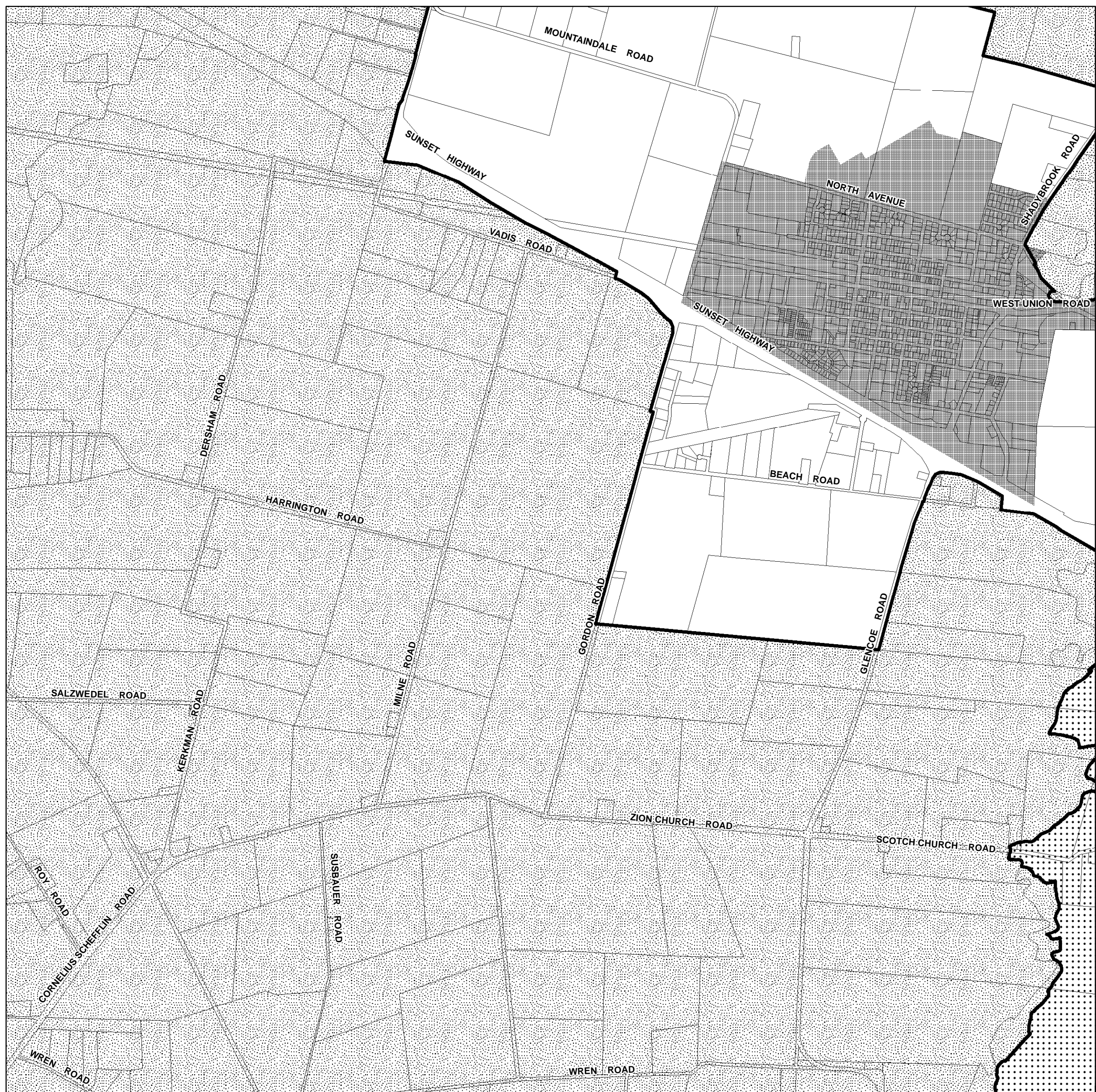
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

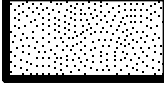


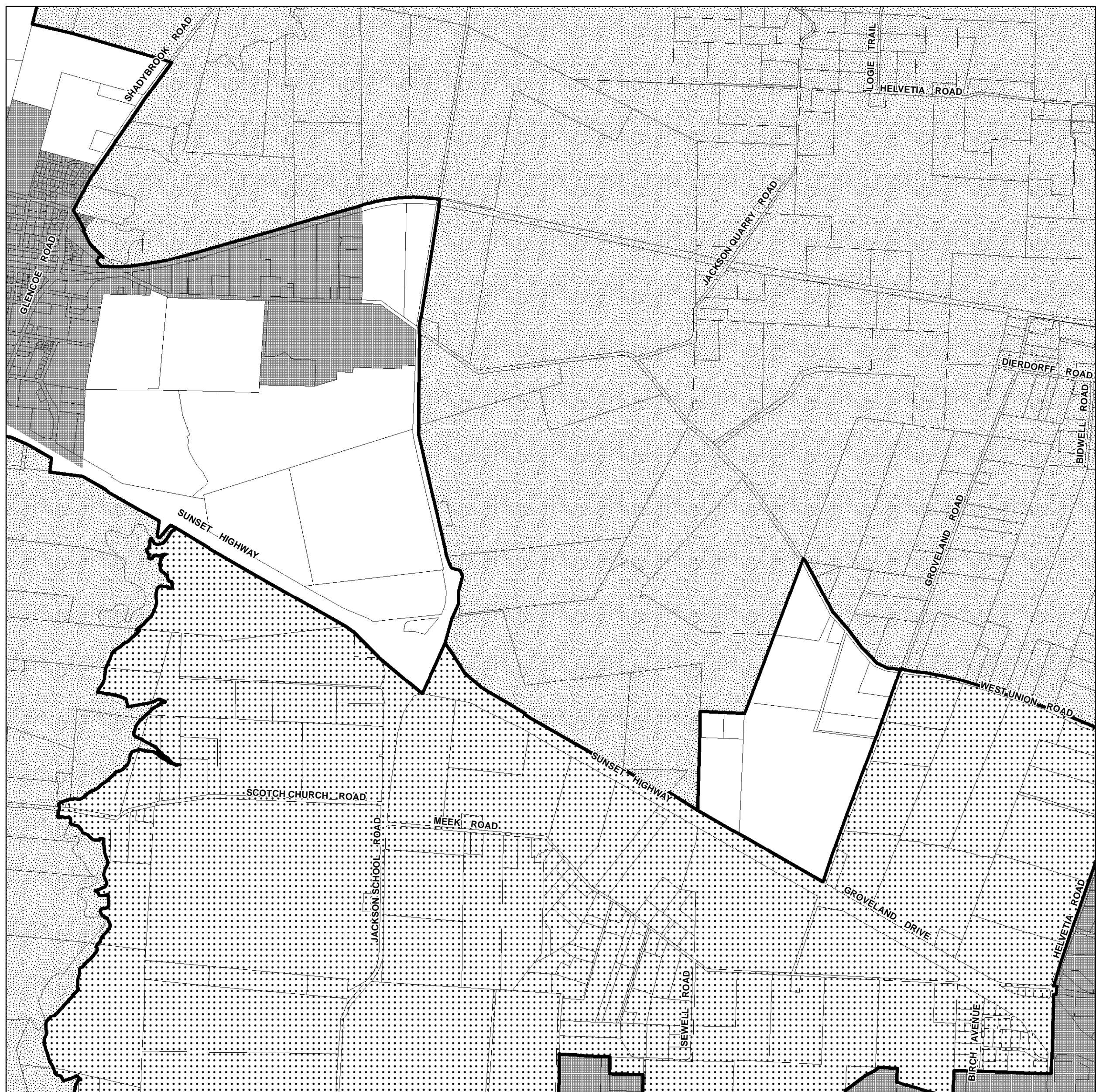
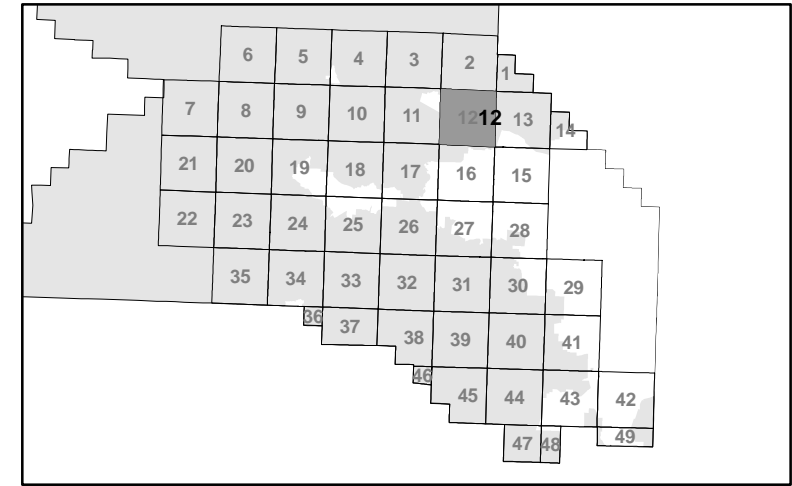
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



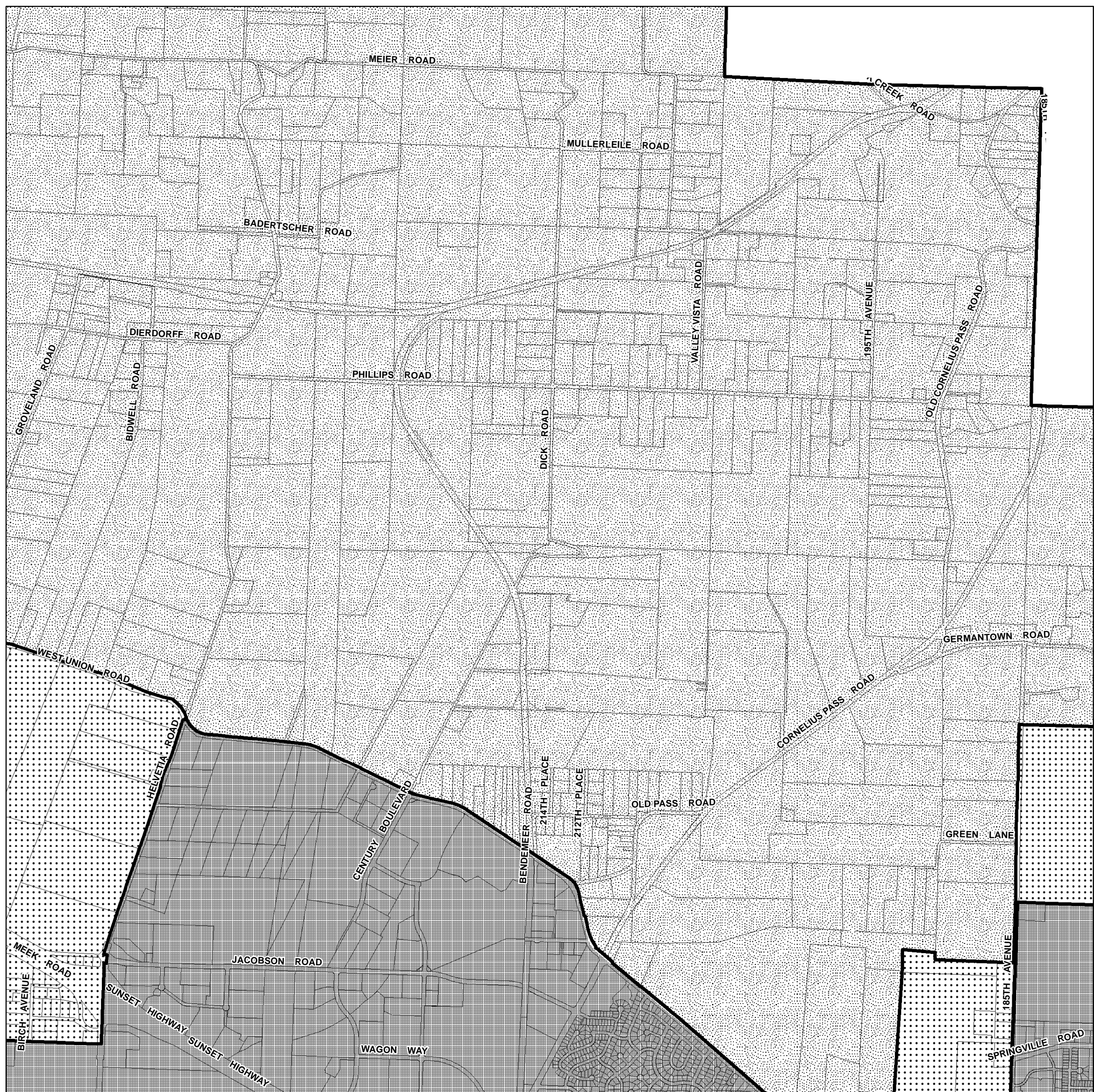
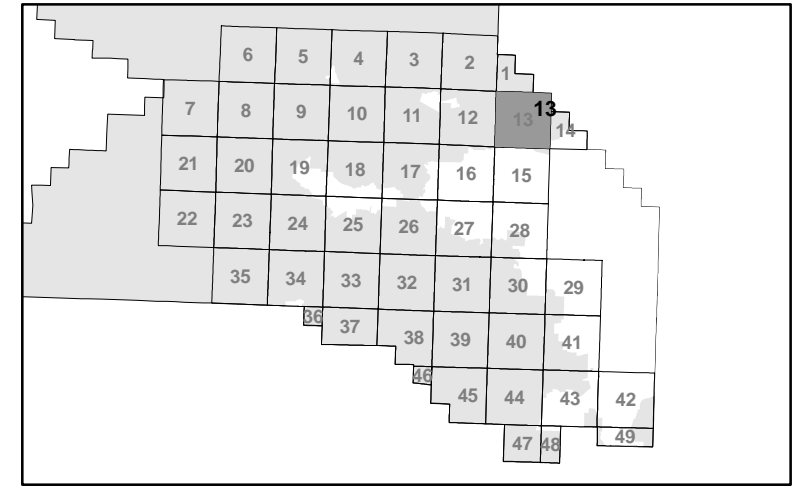
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

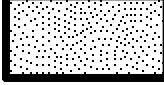


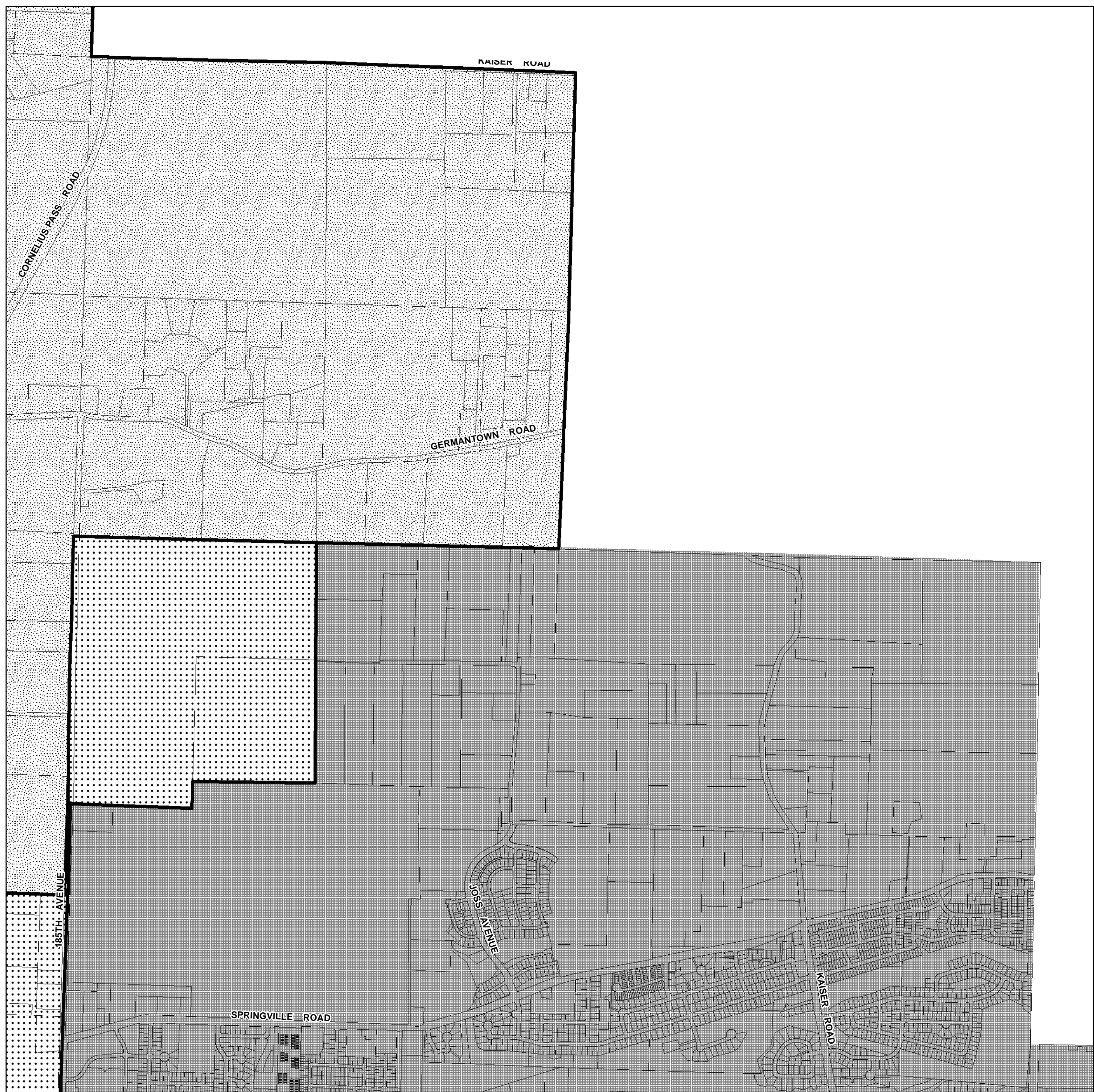
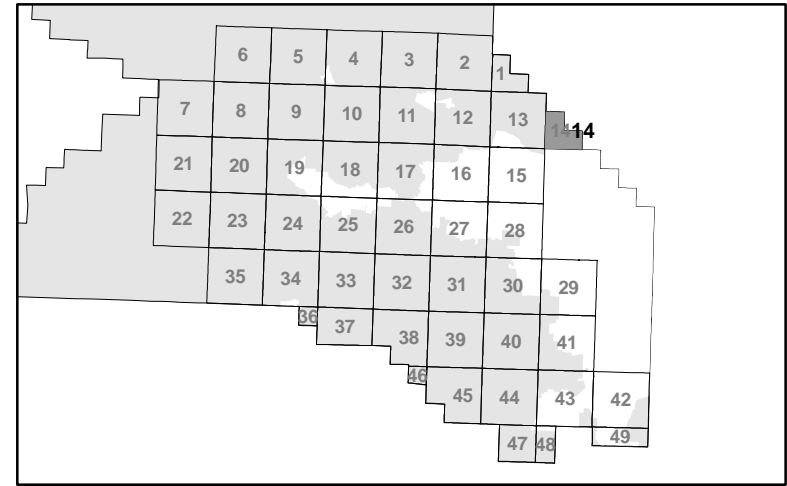
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



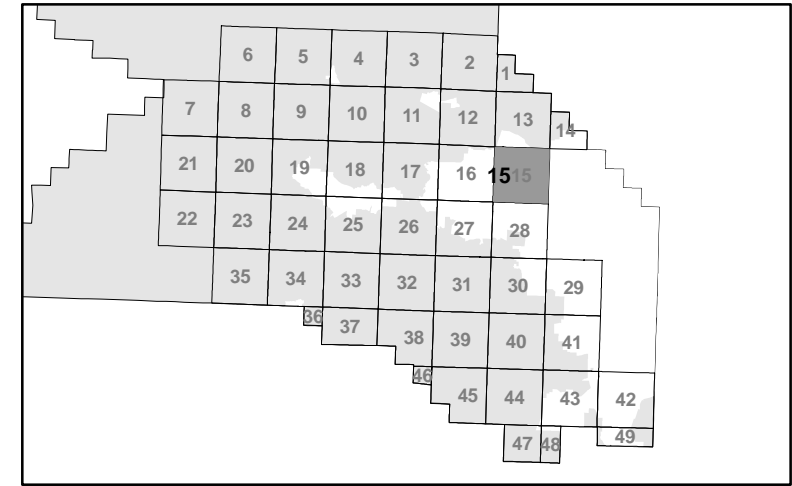
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

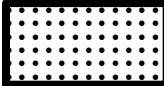


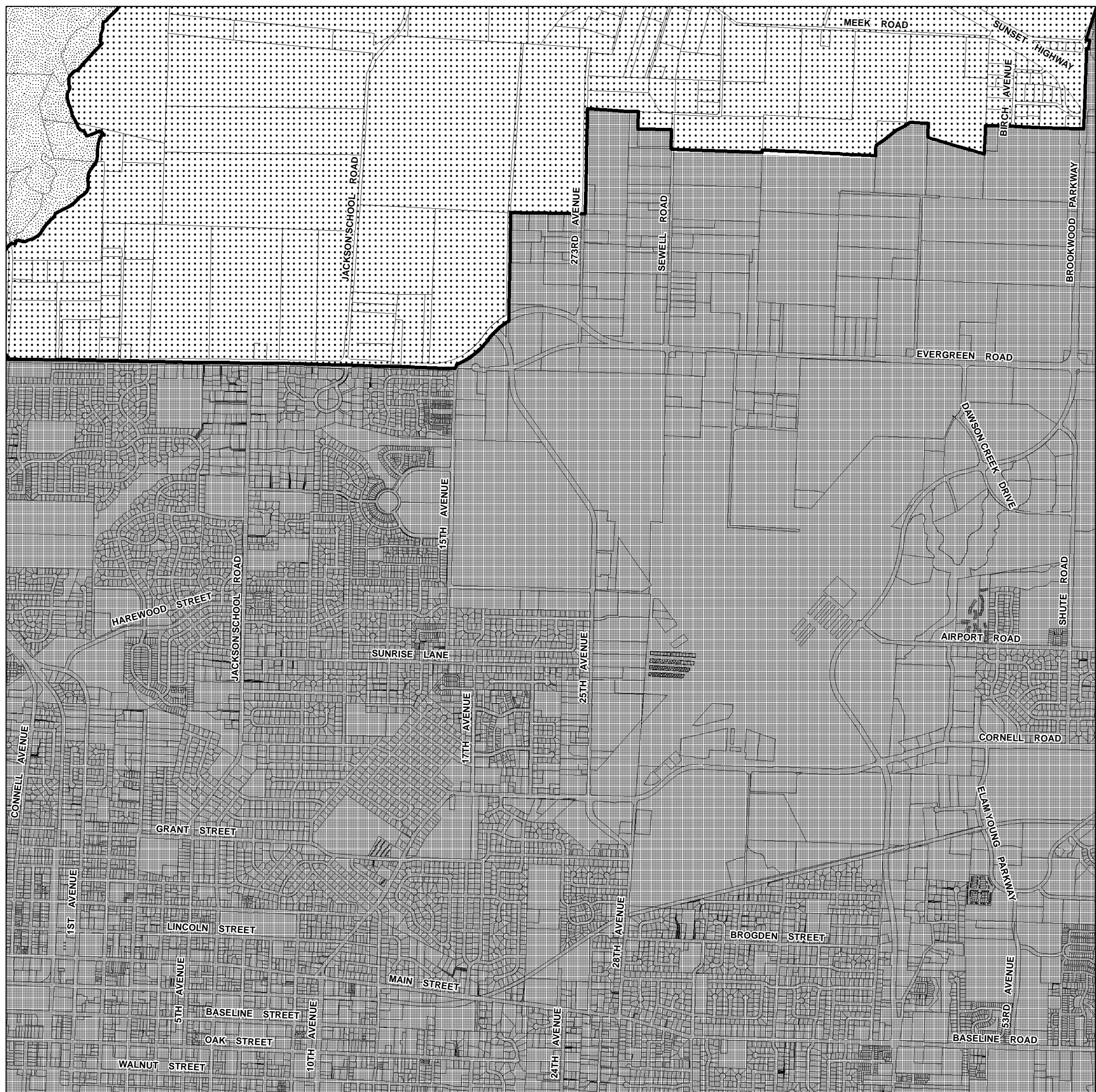
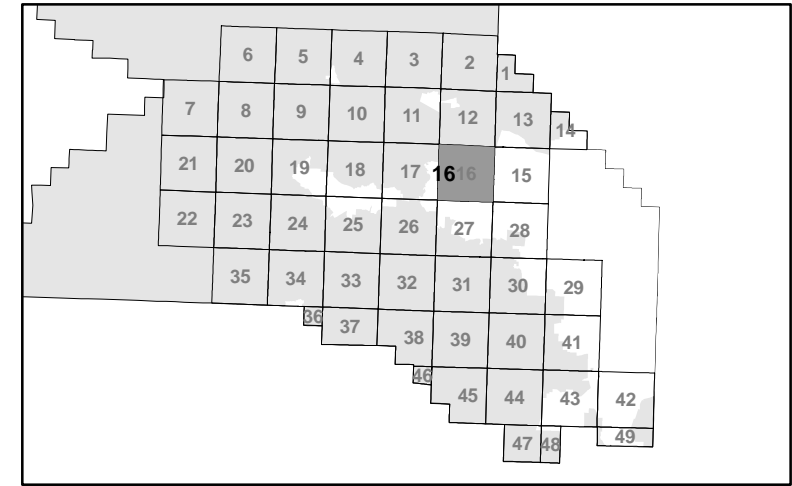
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



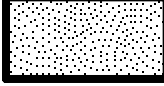
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

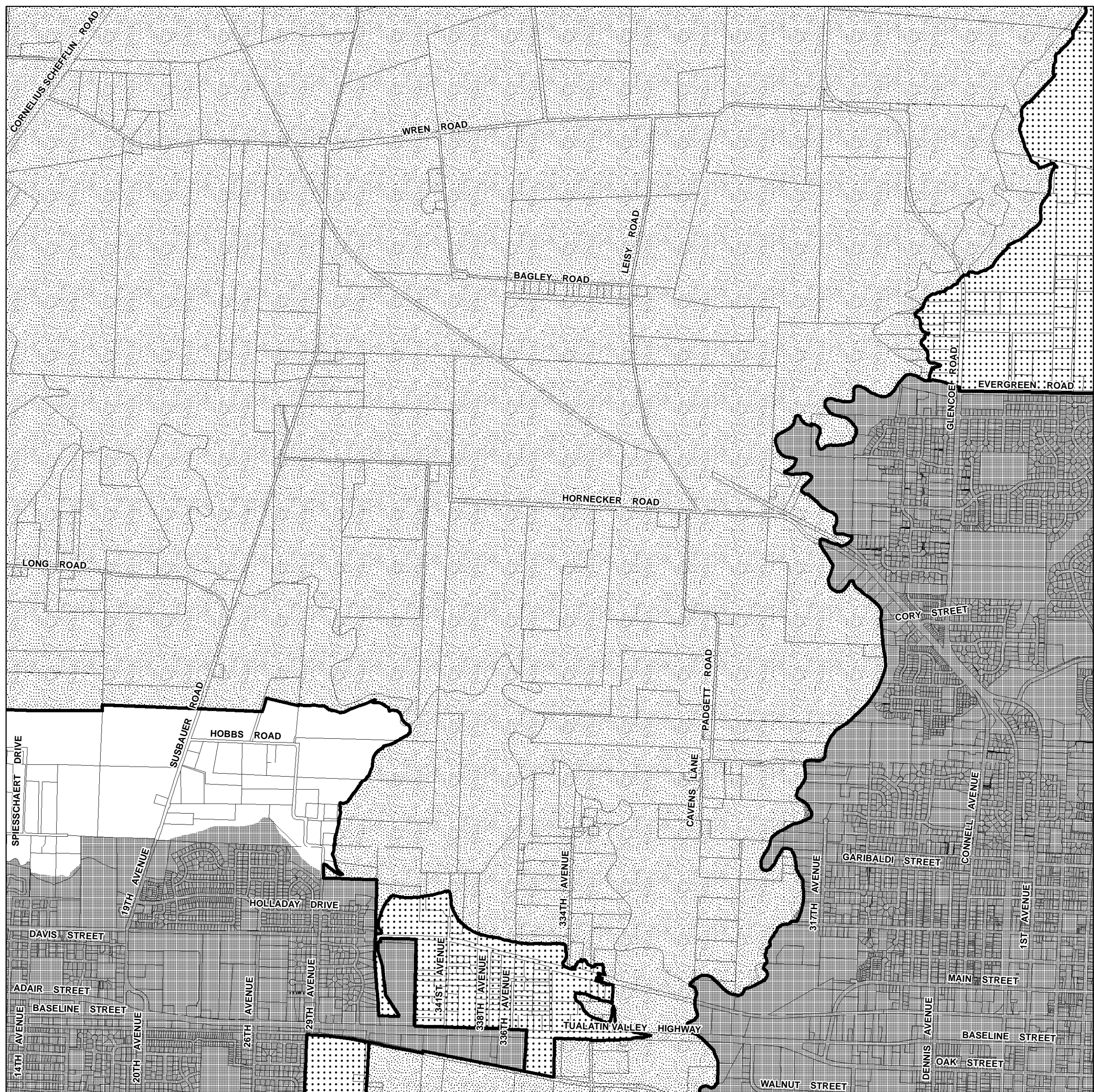
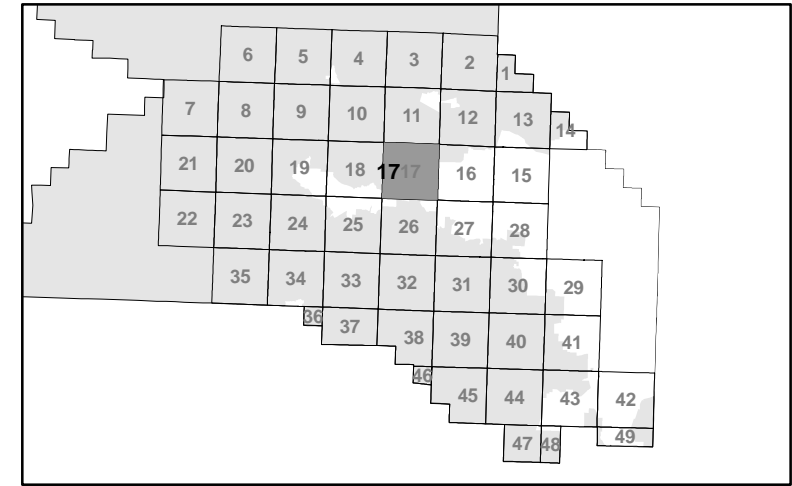
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



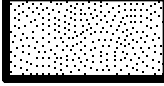


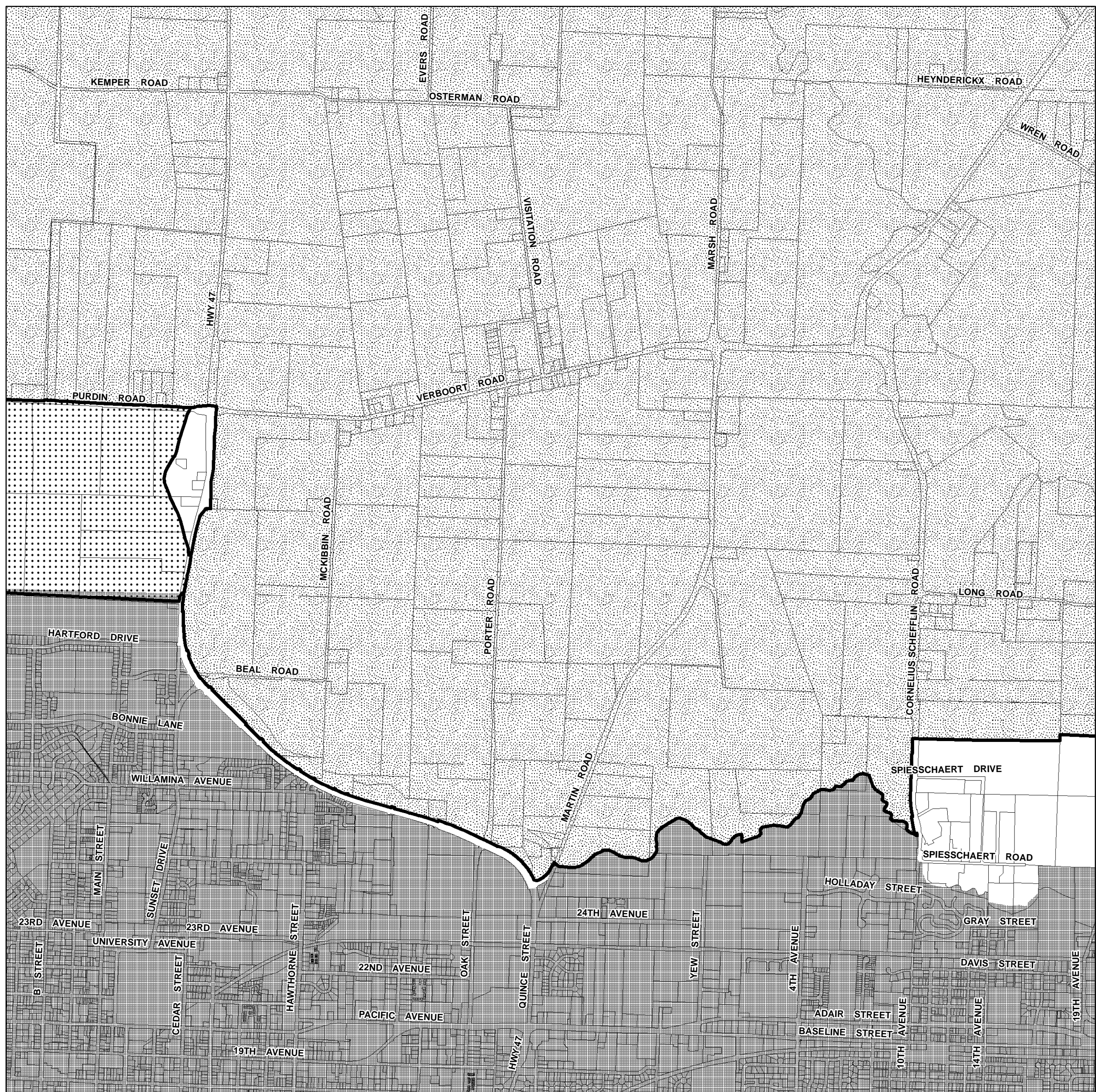
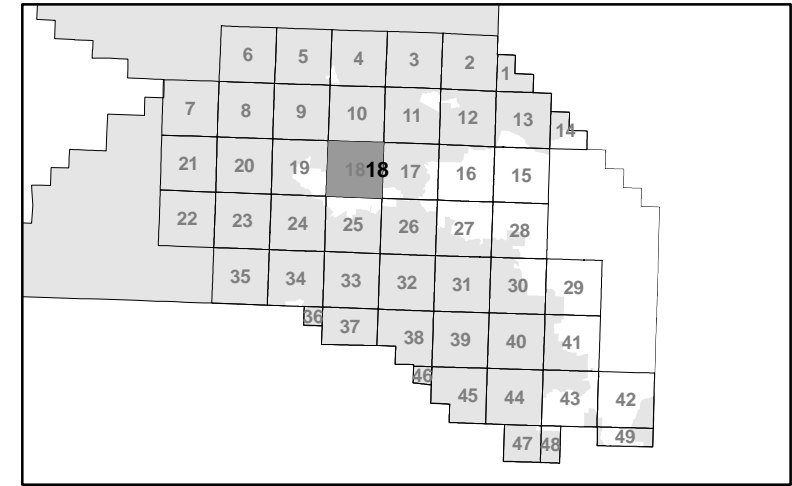
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

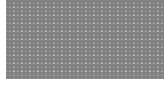


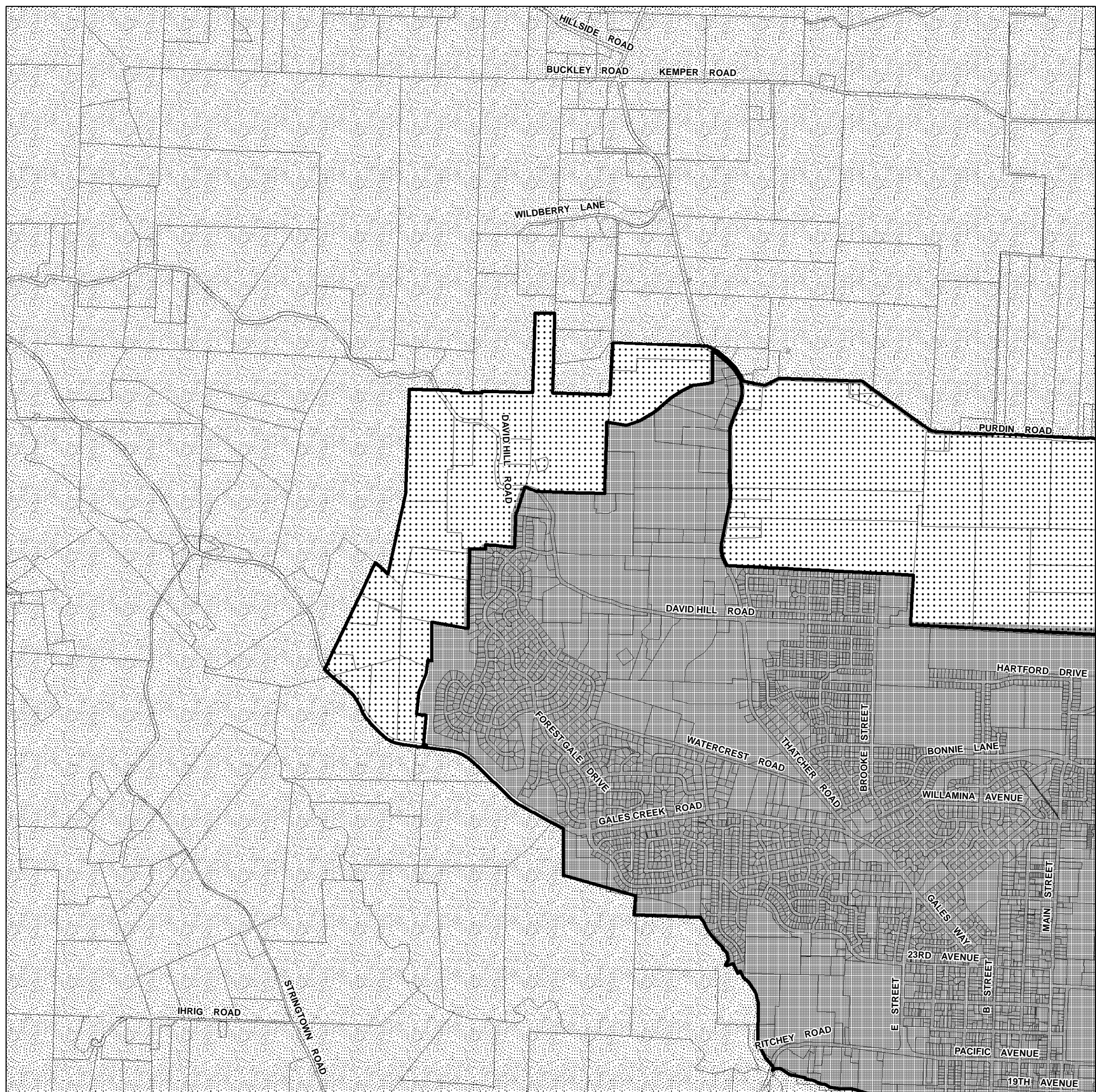
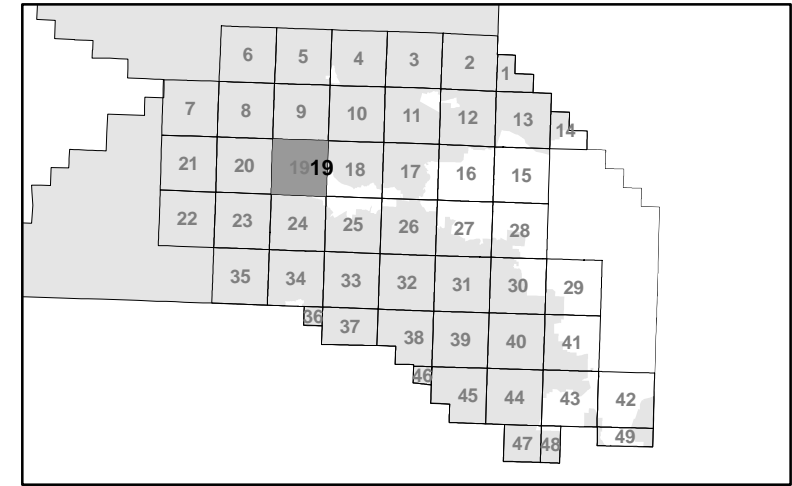
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

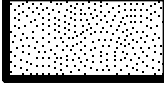


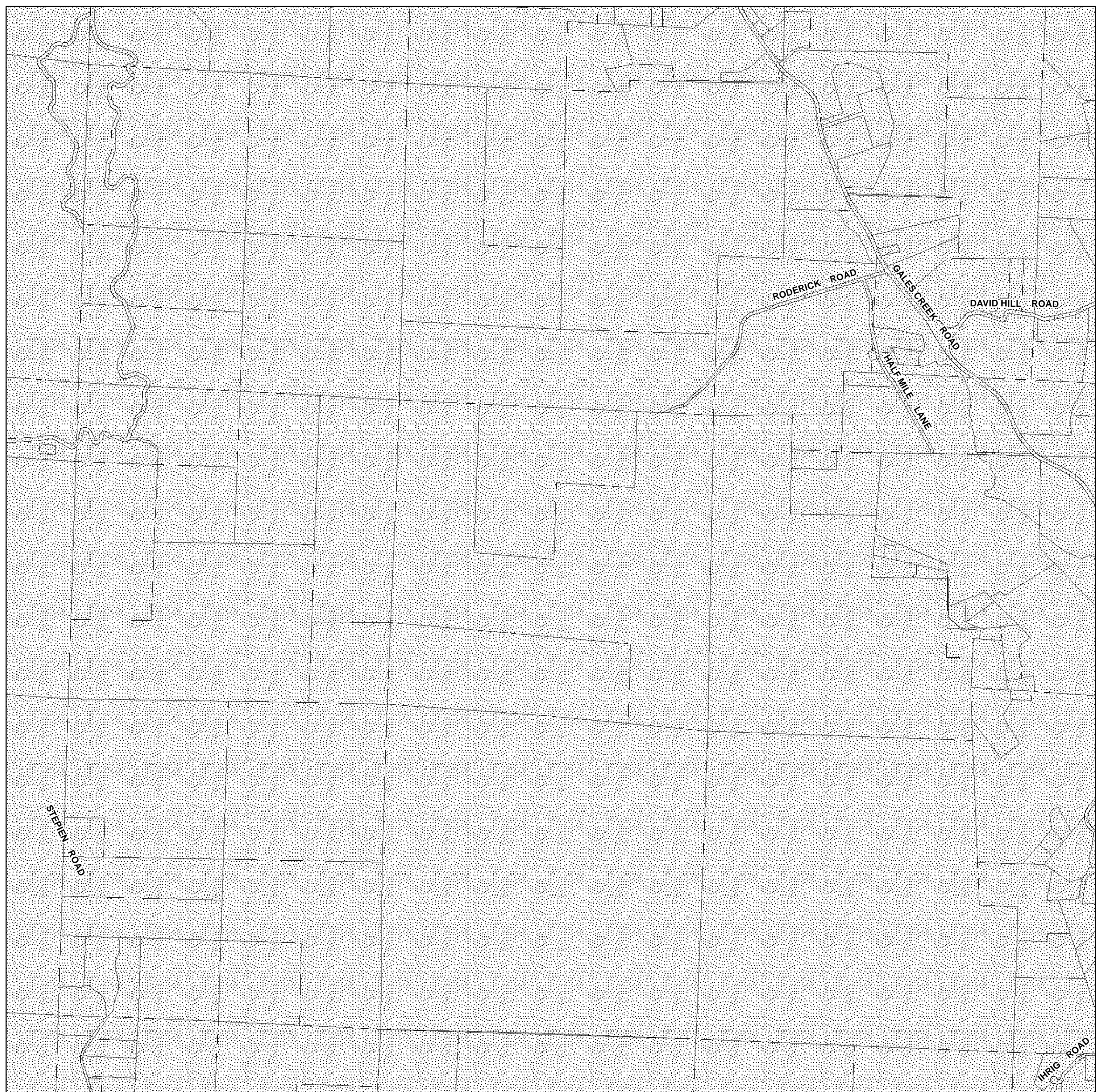
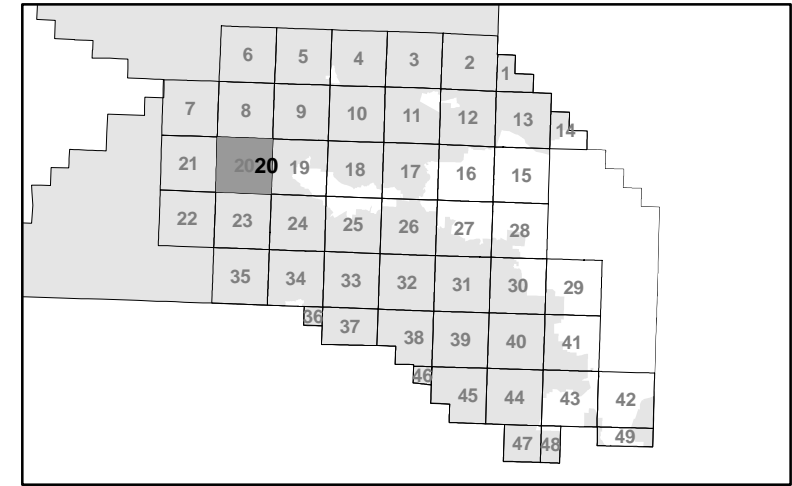
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



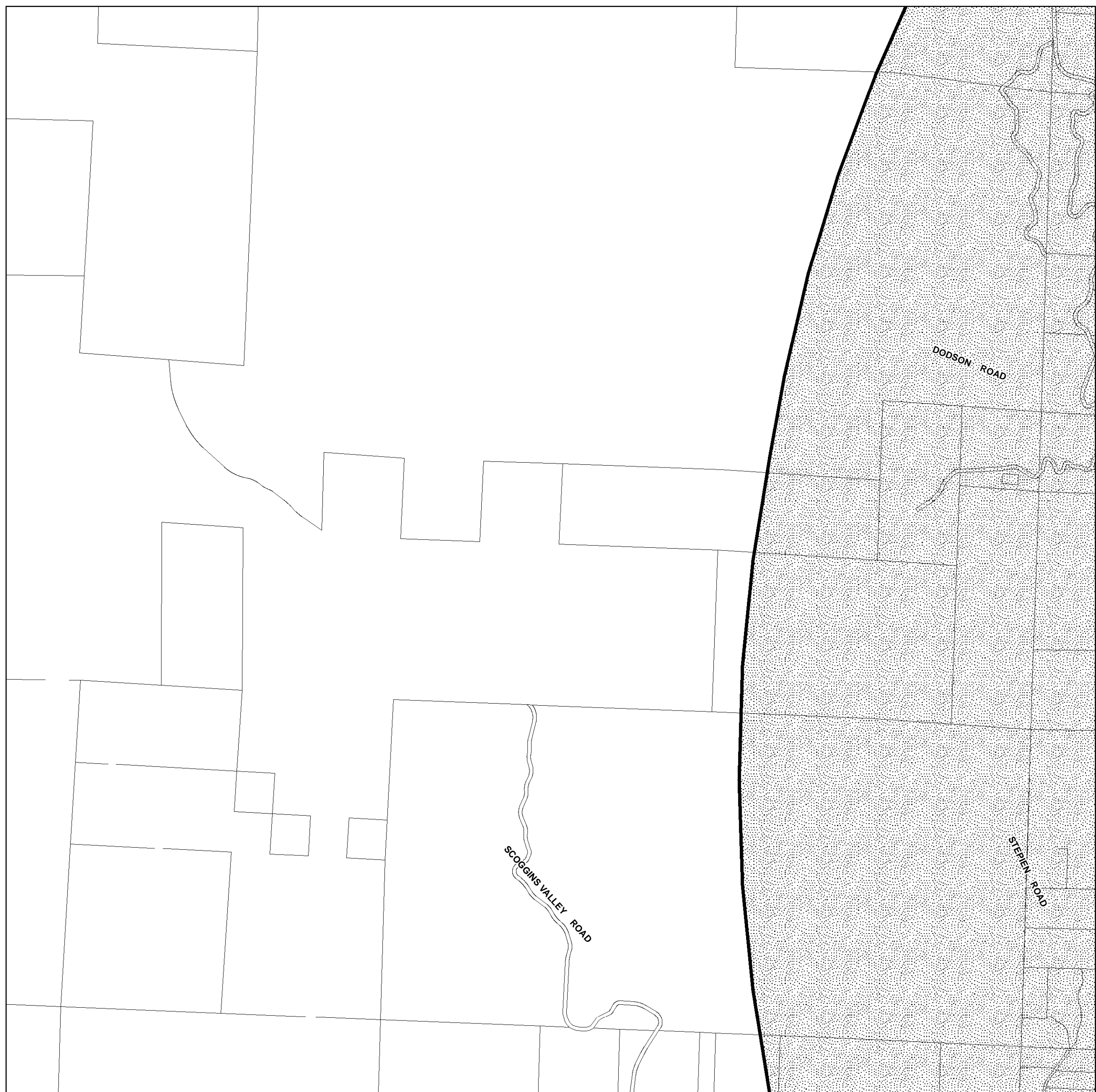
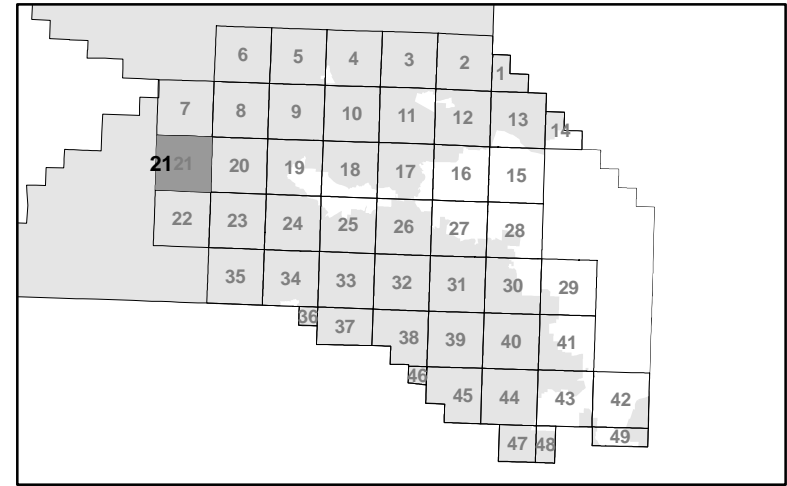
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



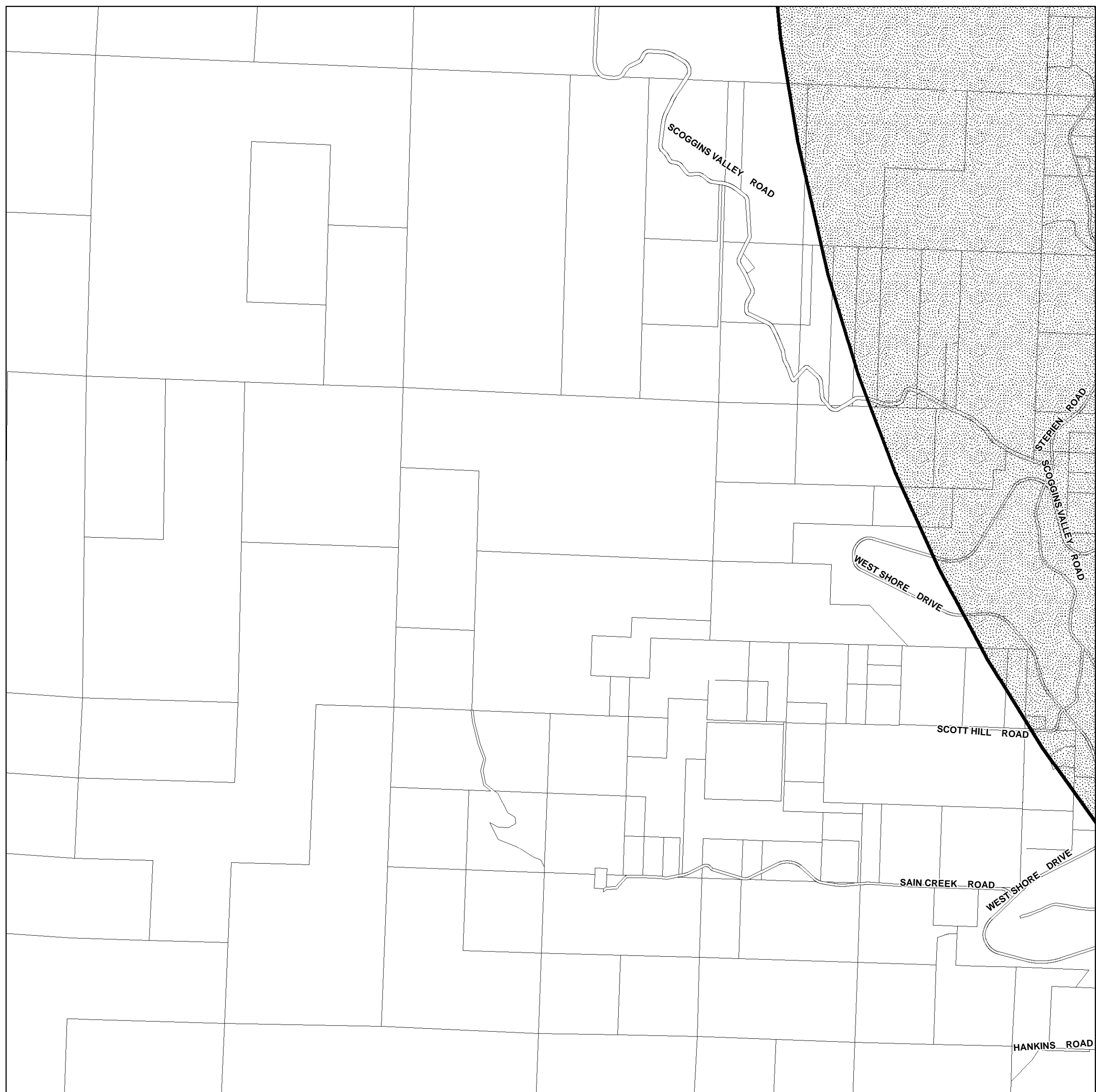
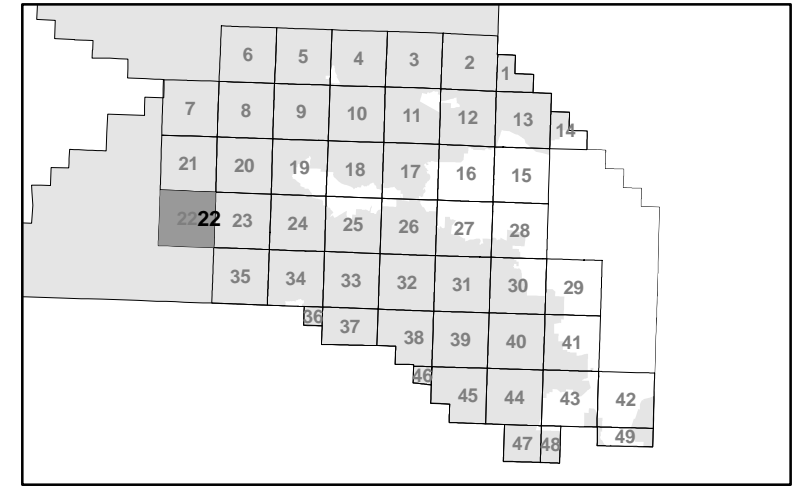
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve




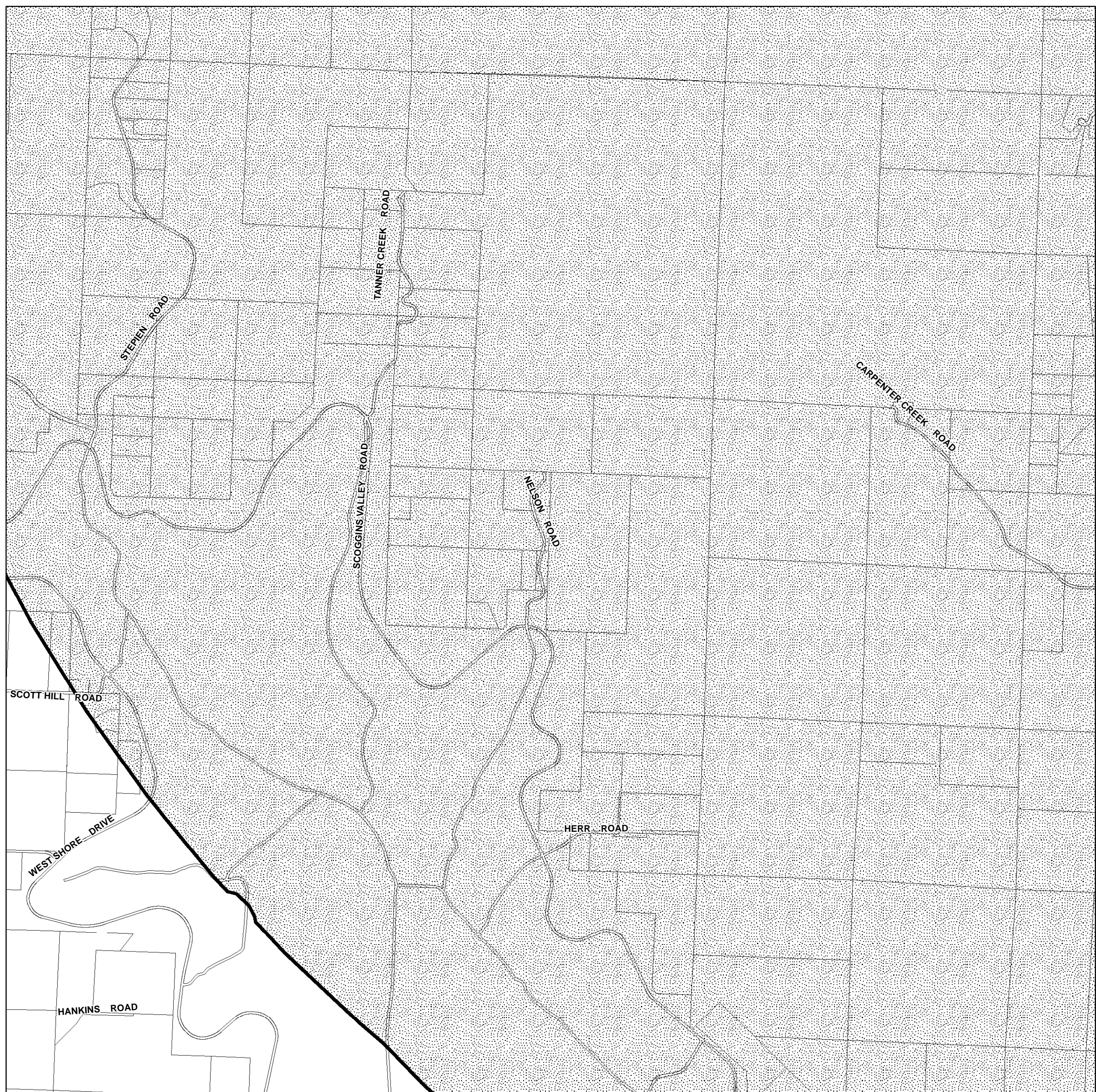
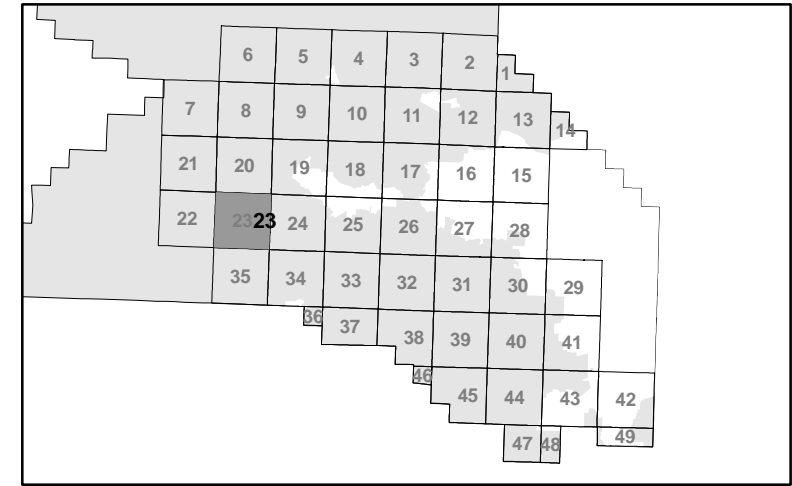
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



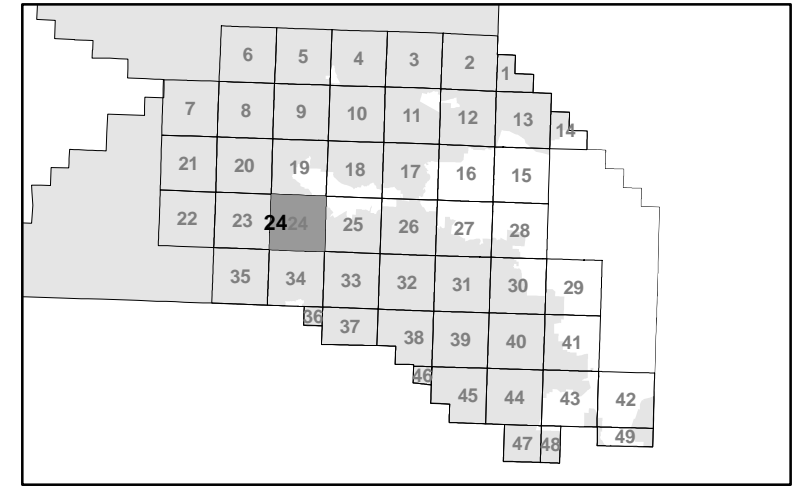
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



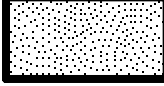
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

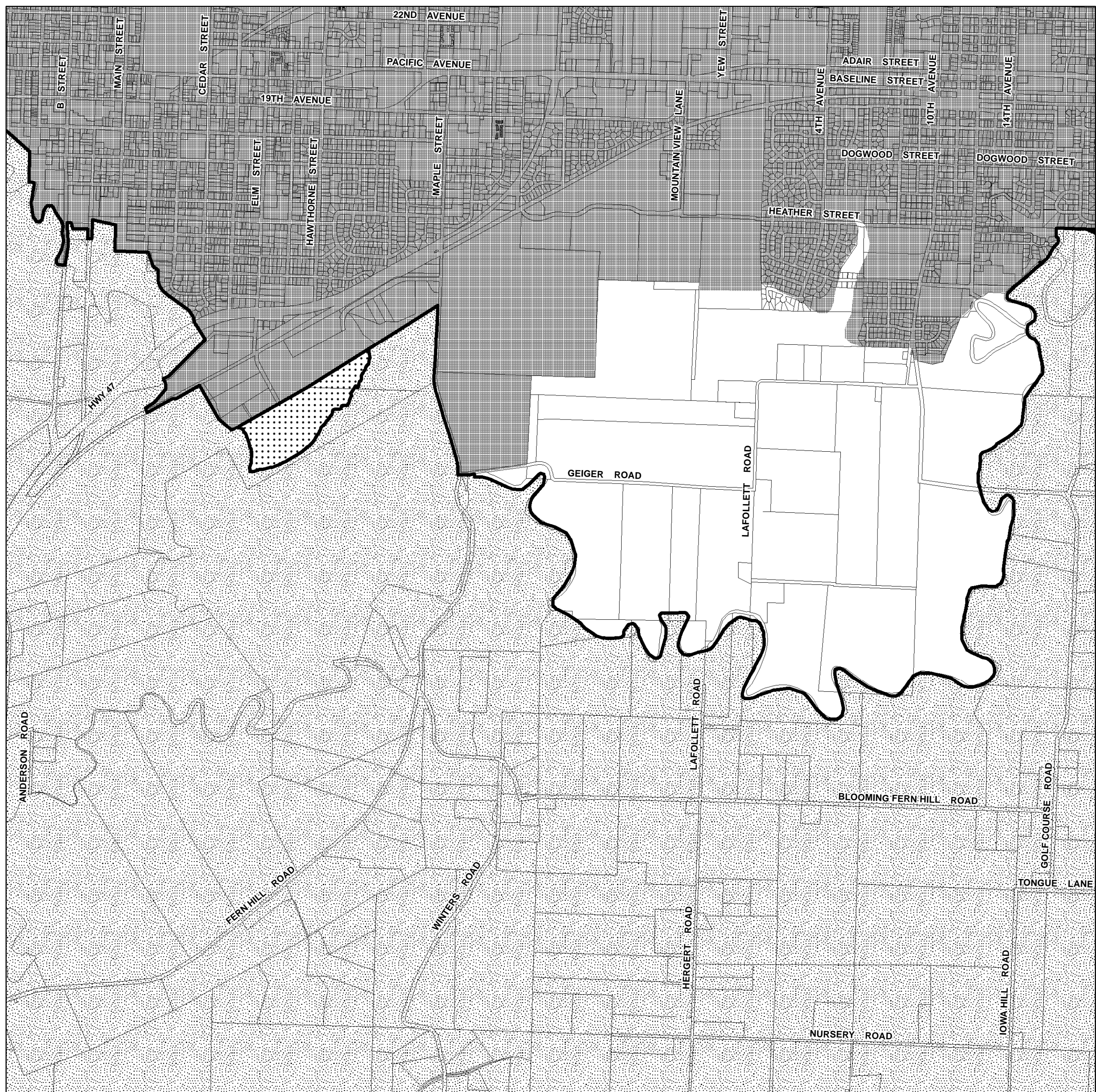
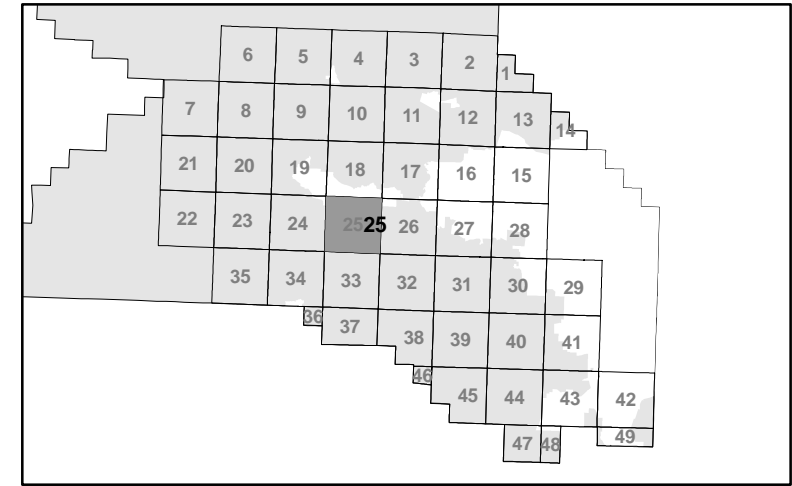
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



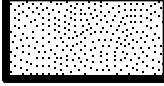
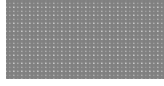
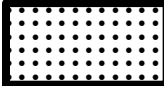


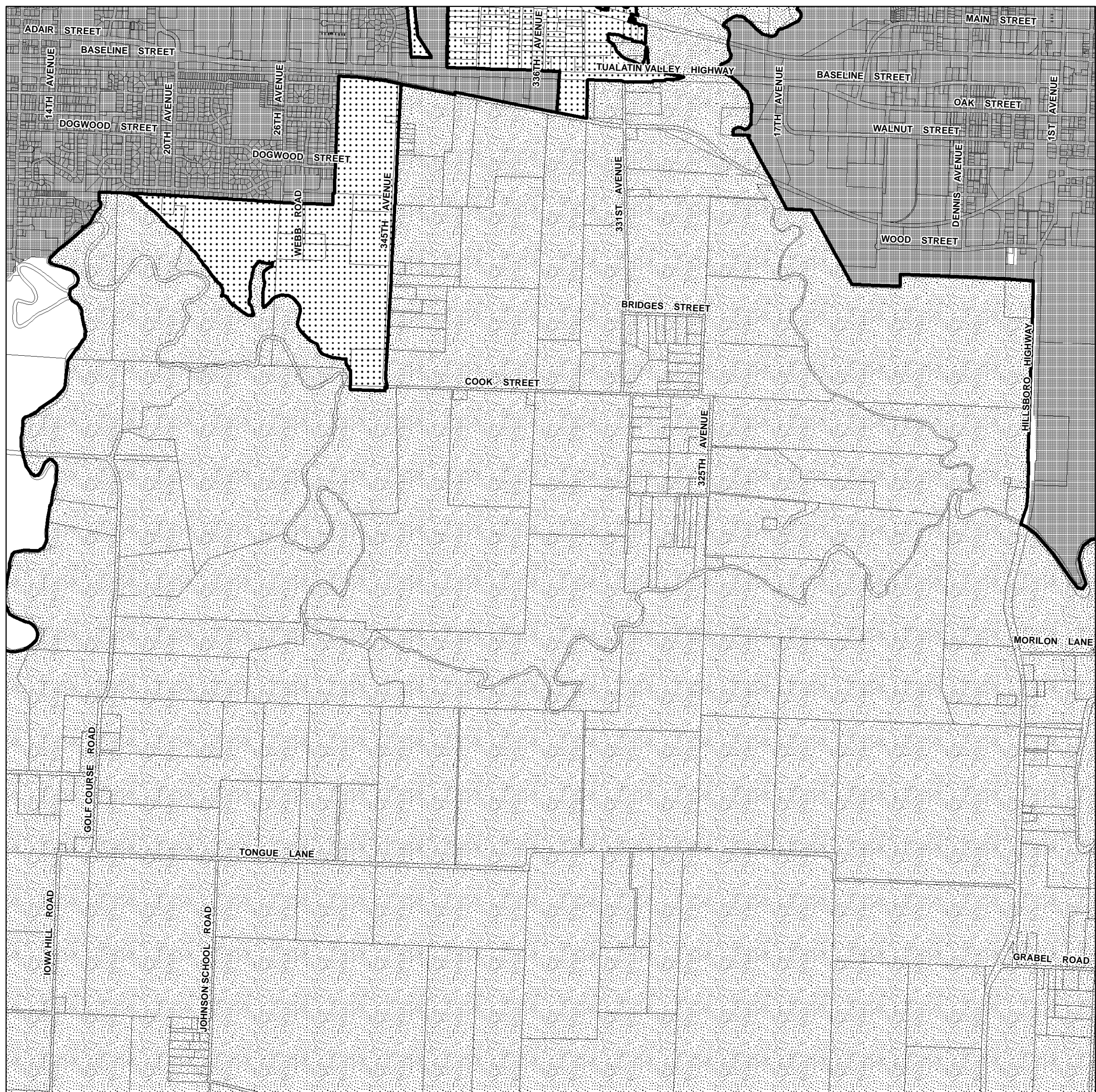
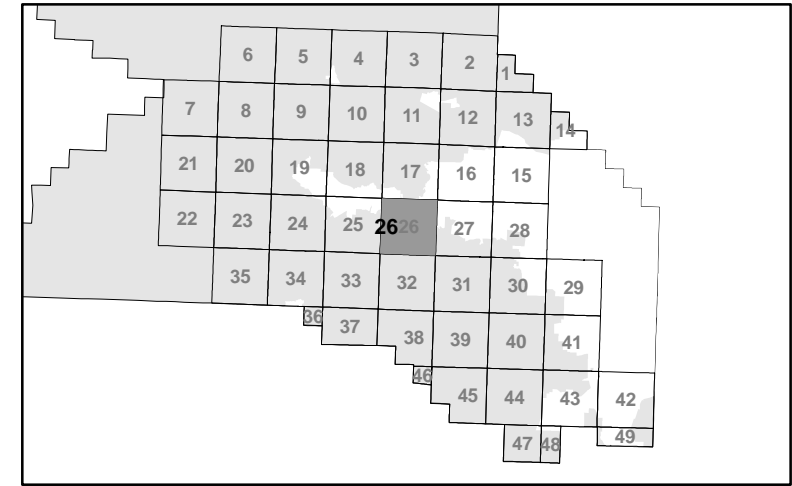
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

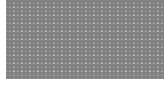


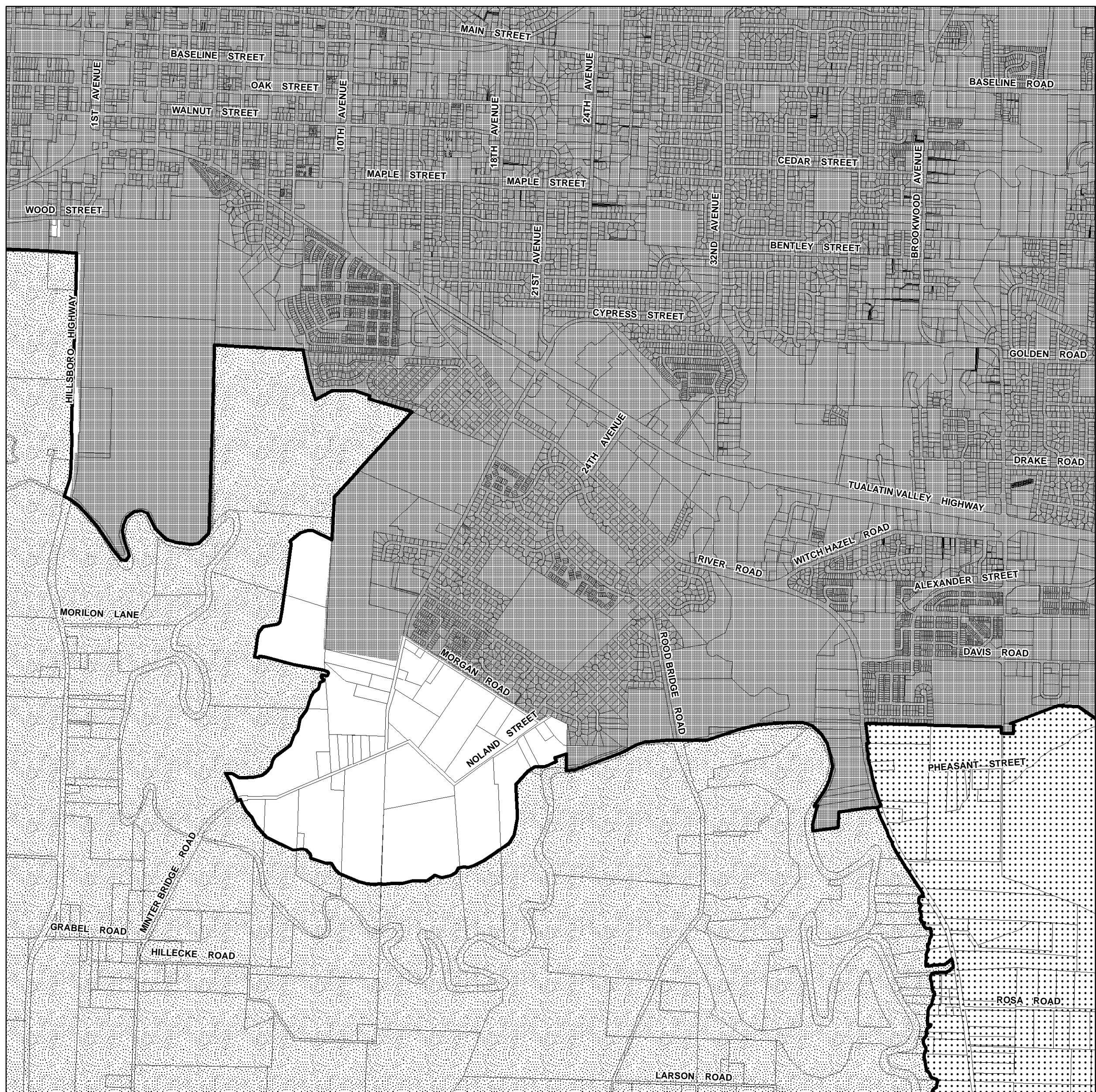
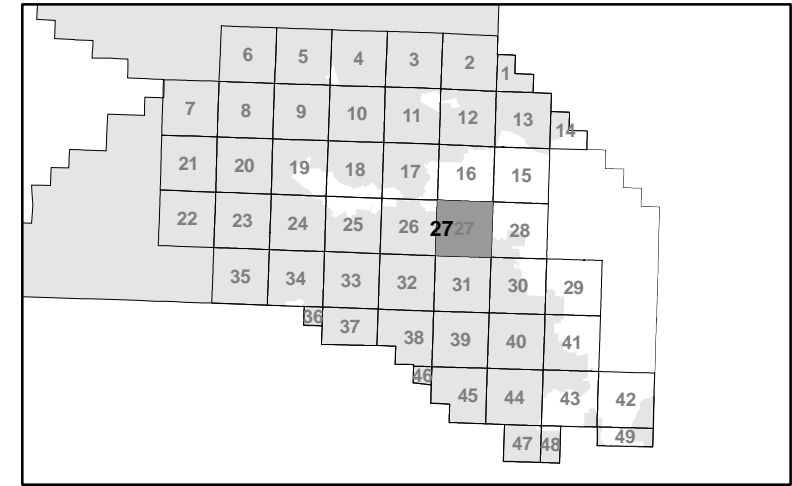
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

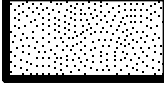


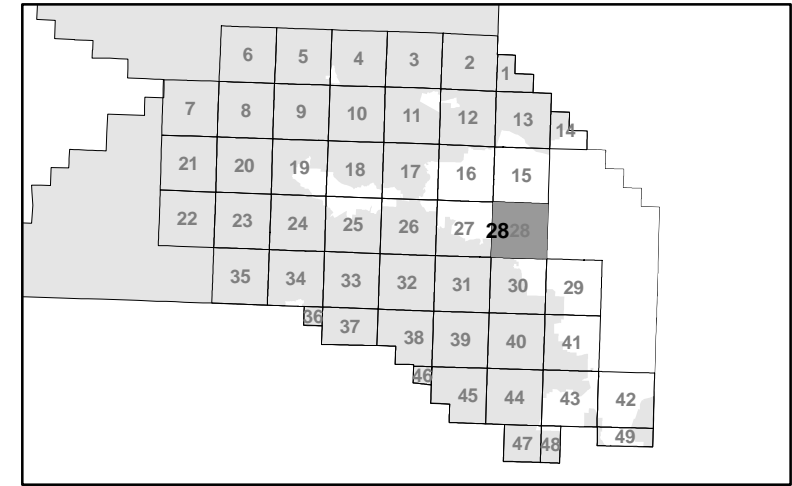
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



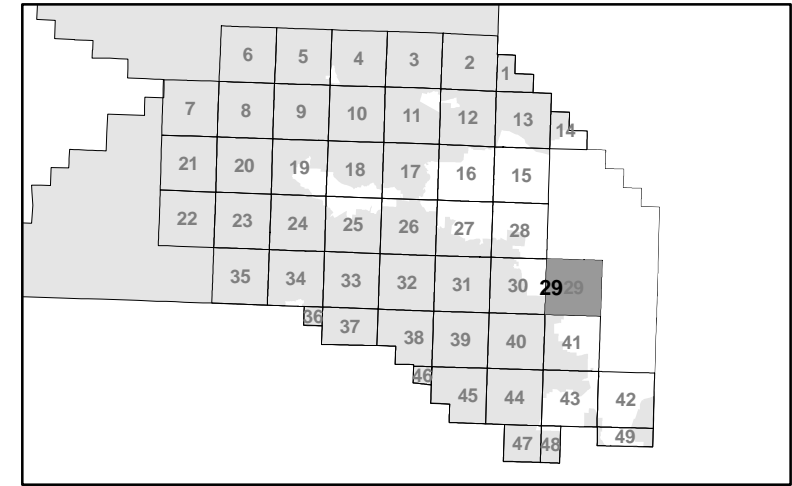
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



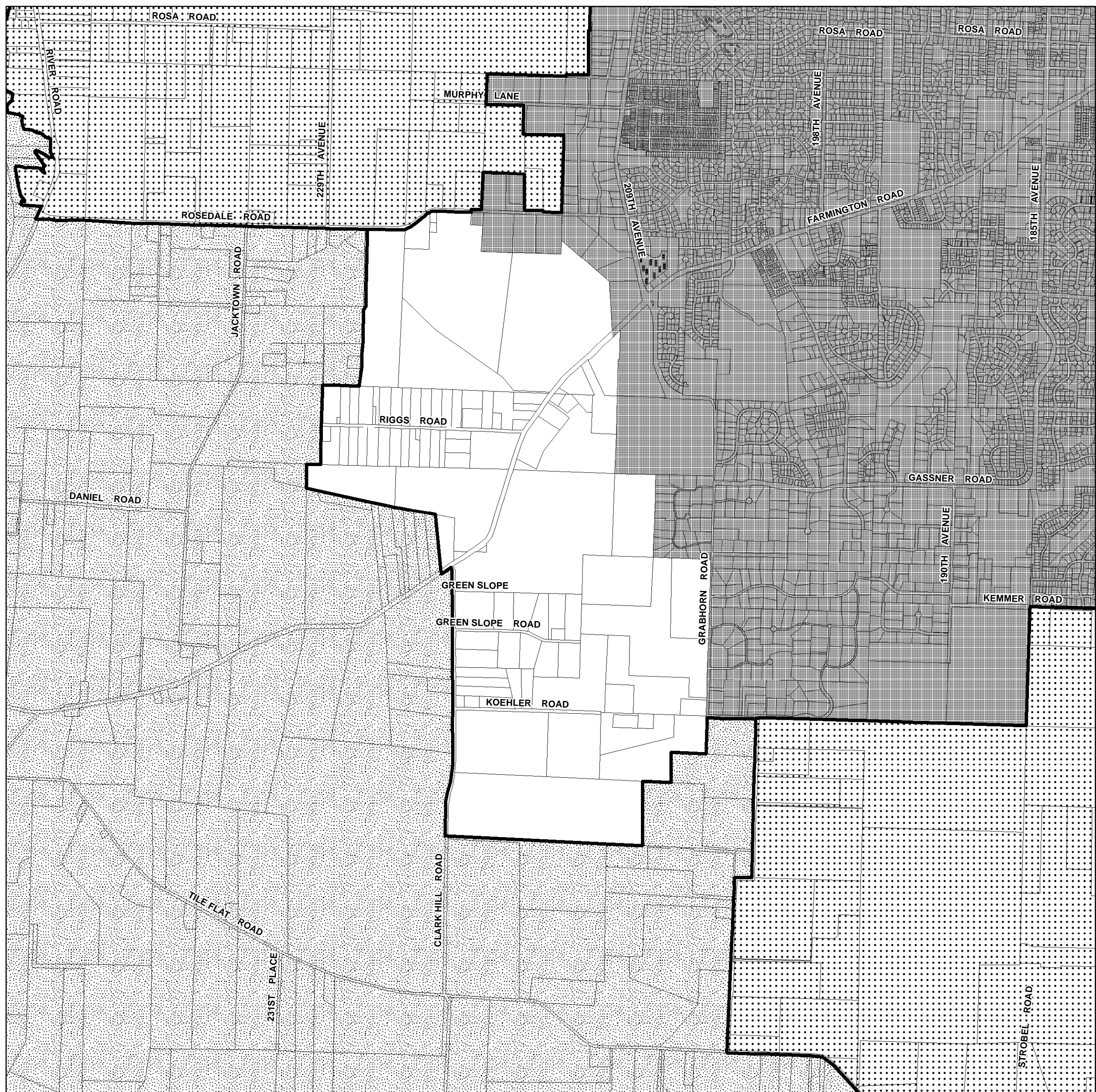
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



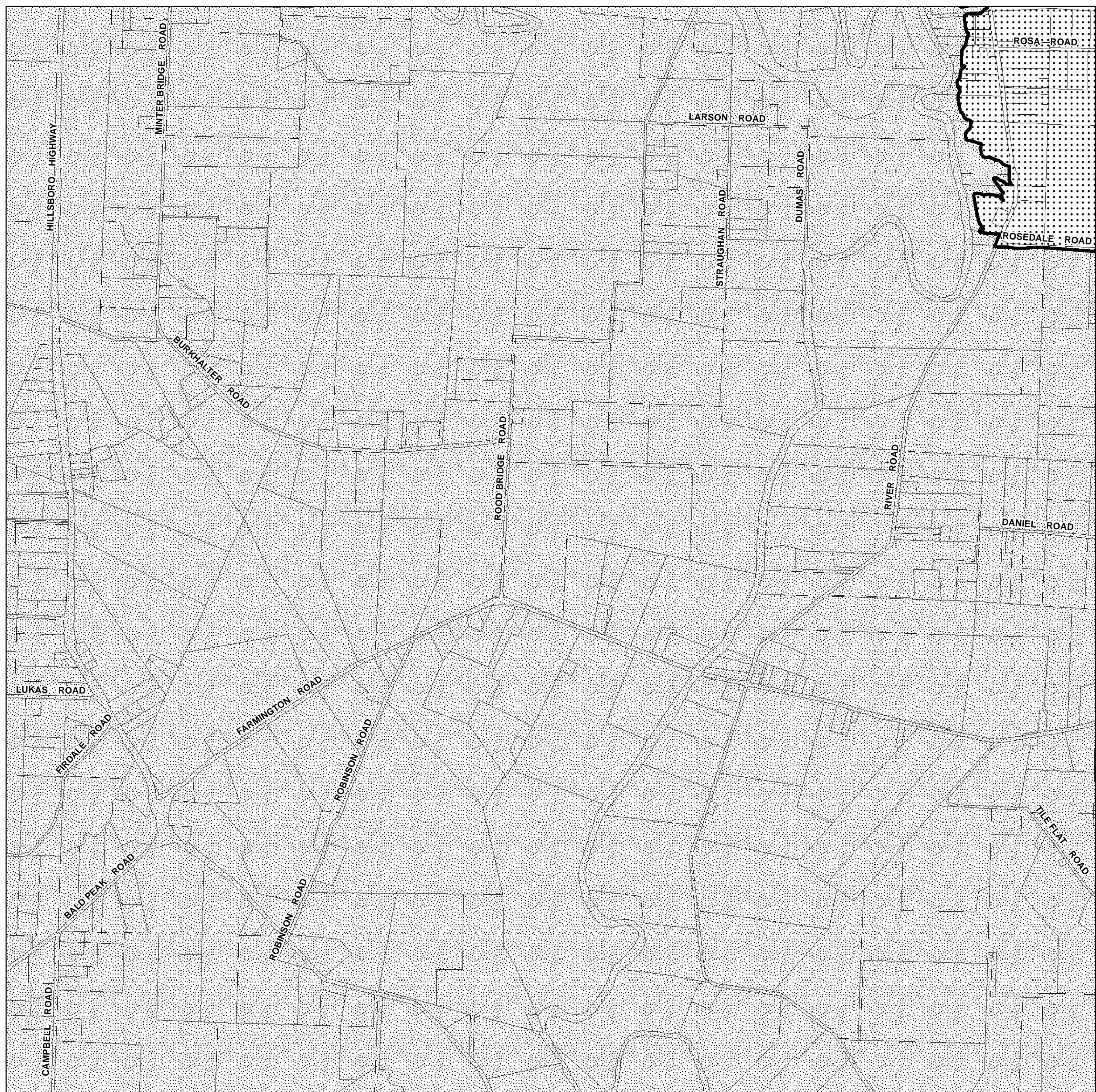
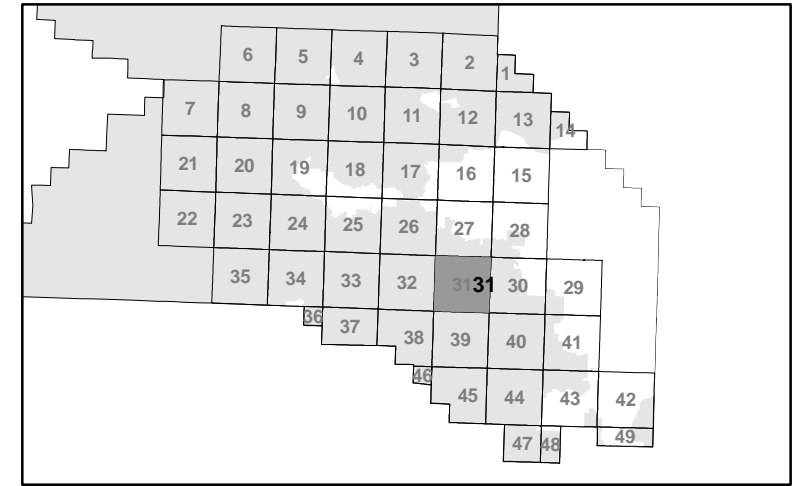
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

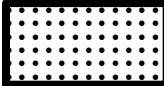


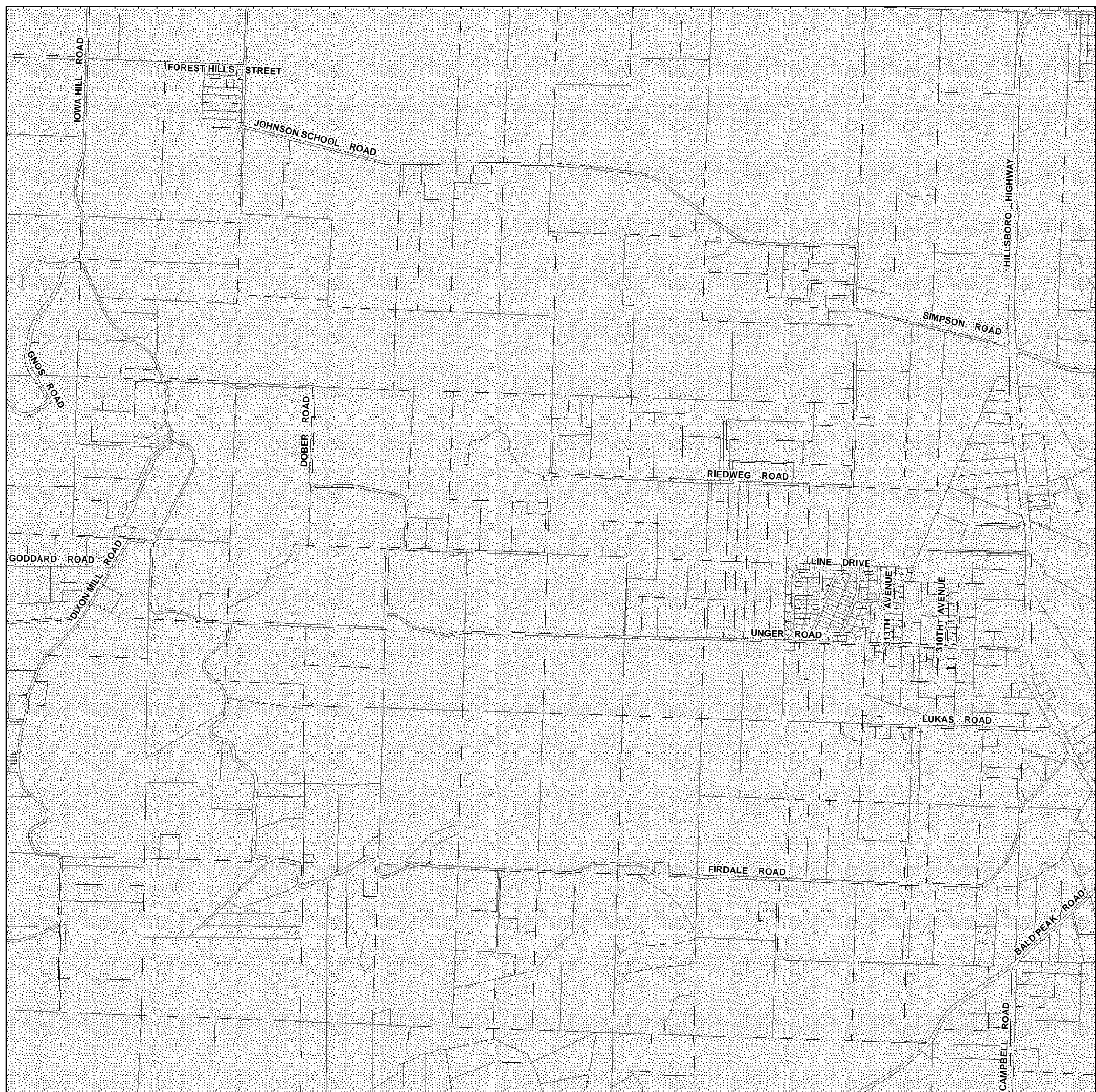
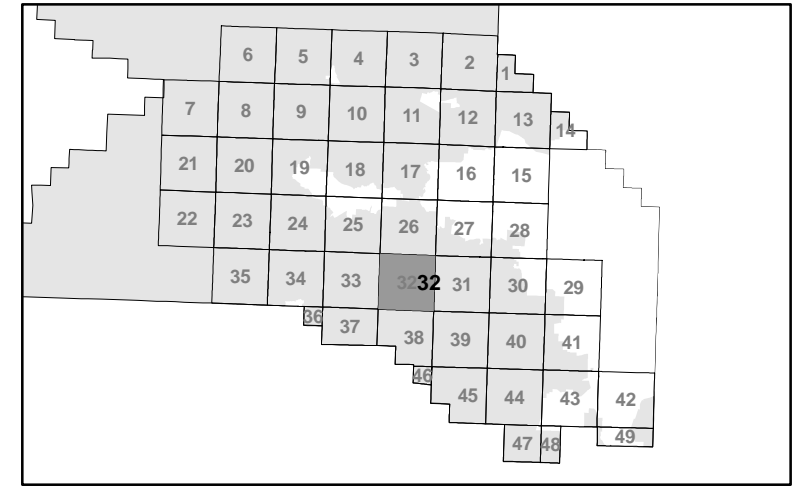
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

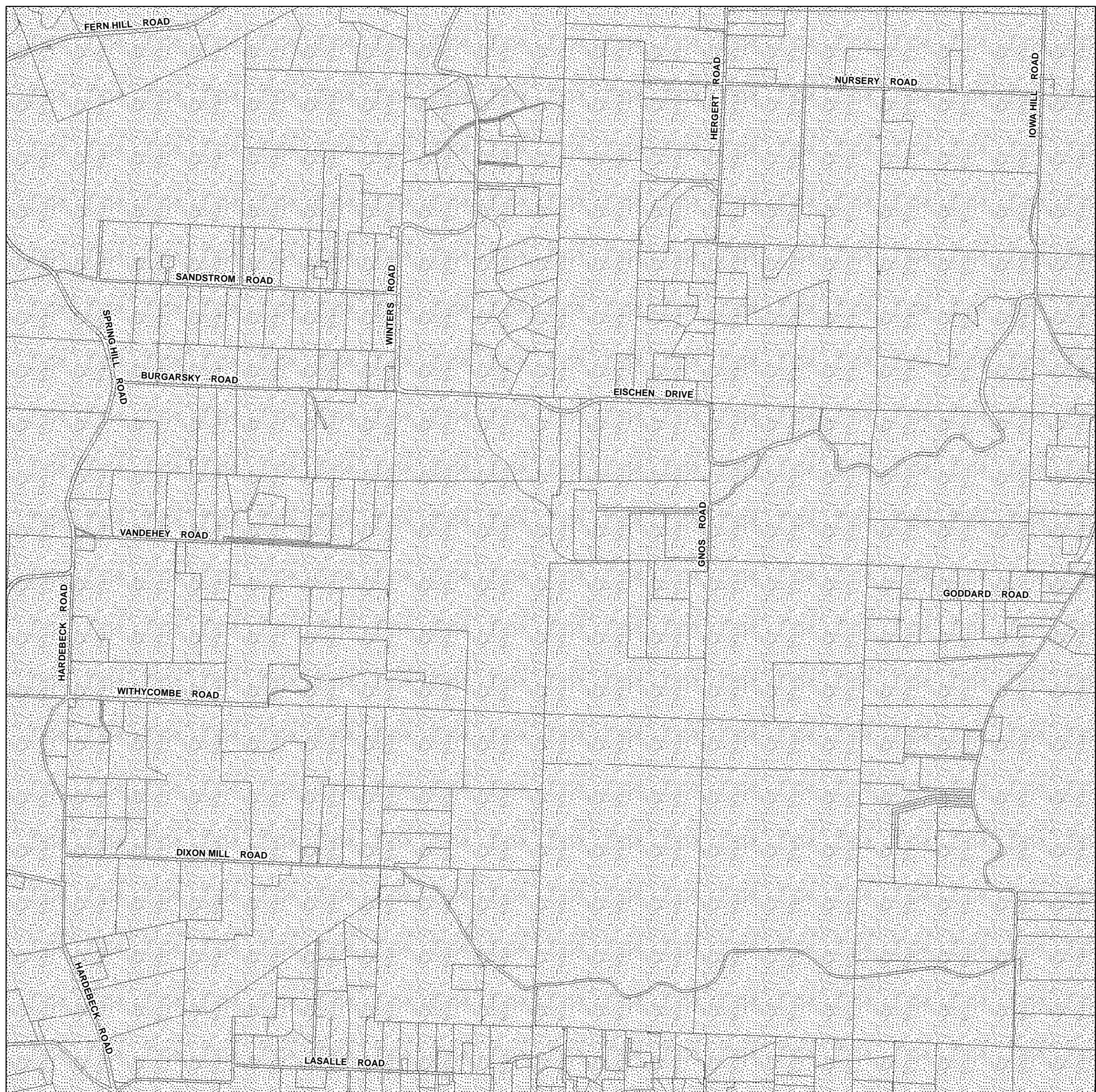
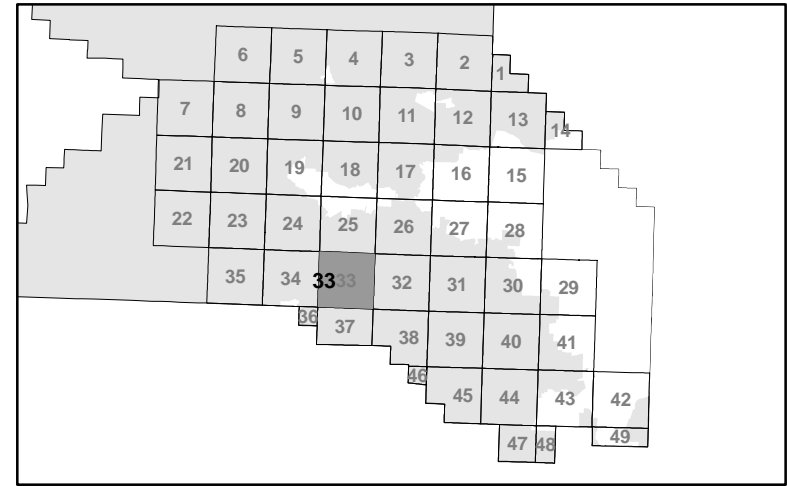
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



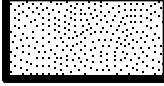
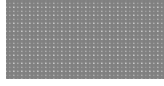
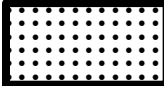


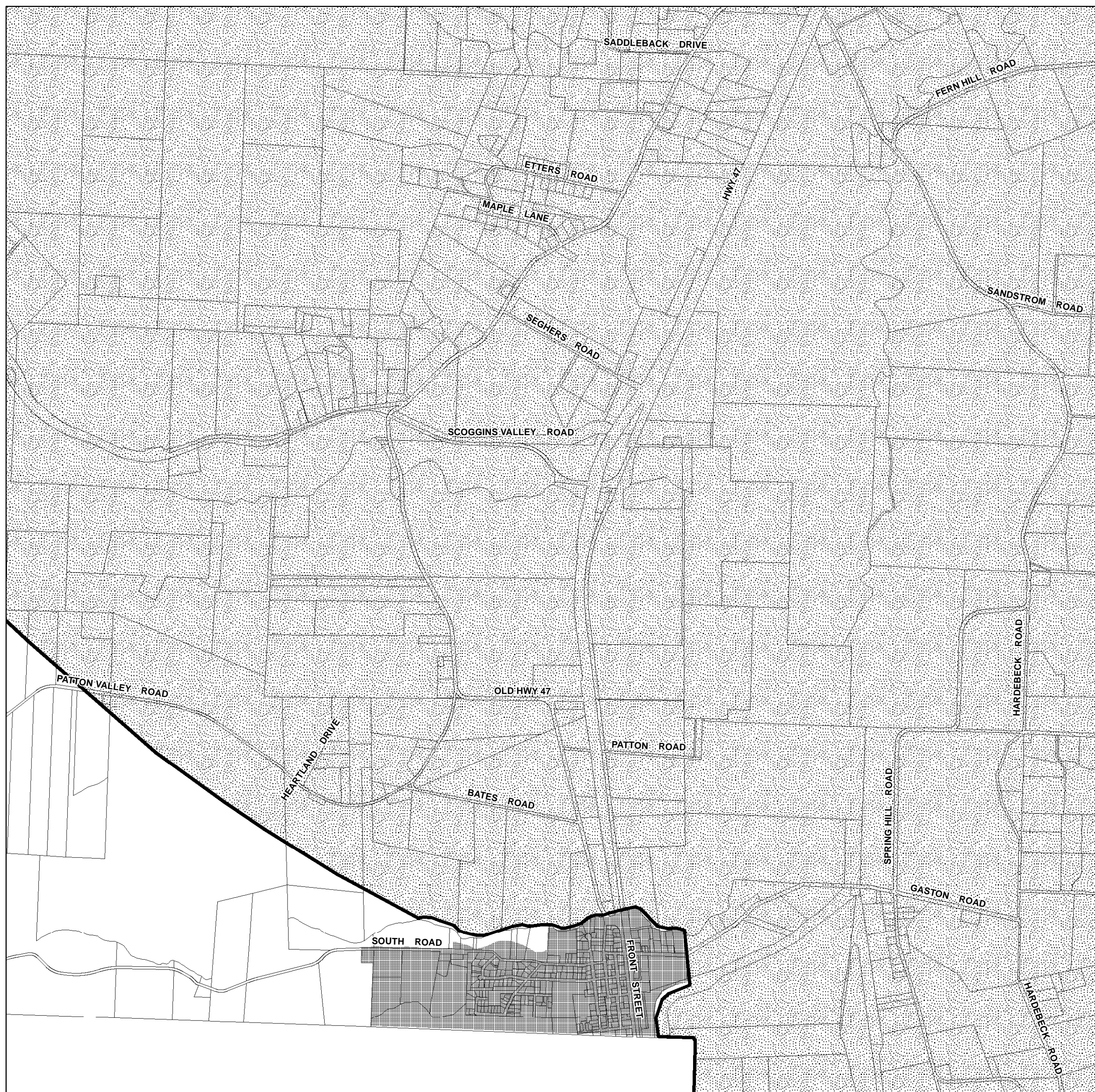
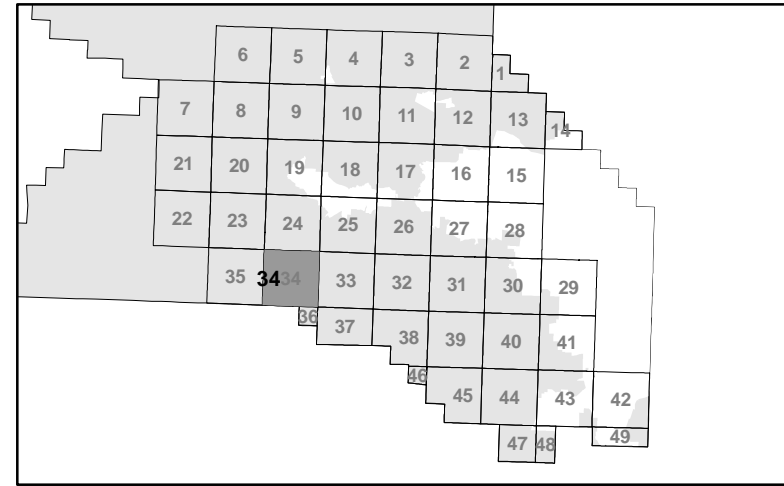
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

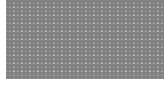


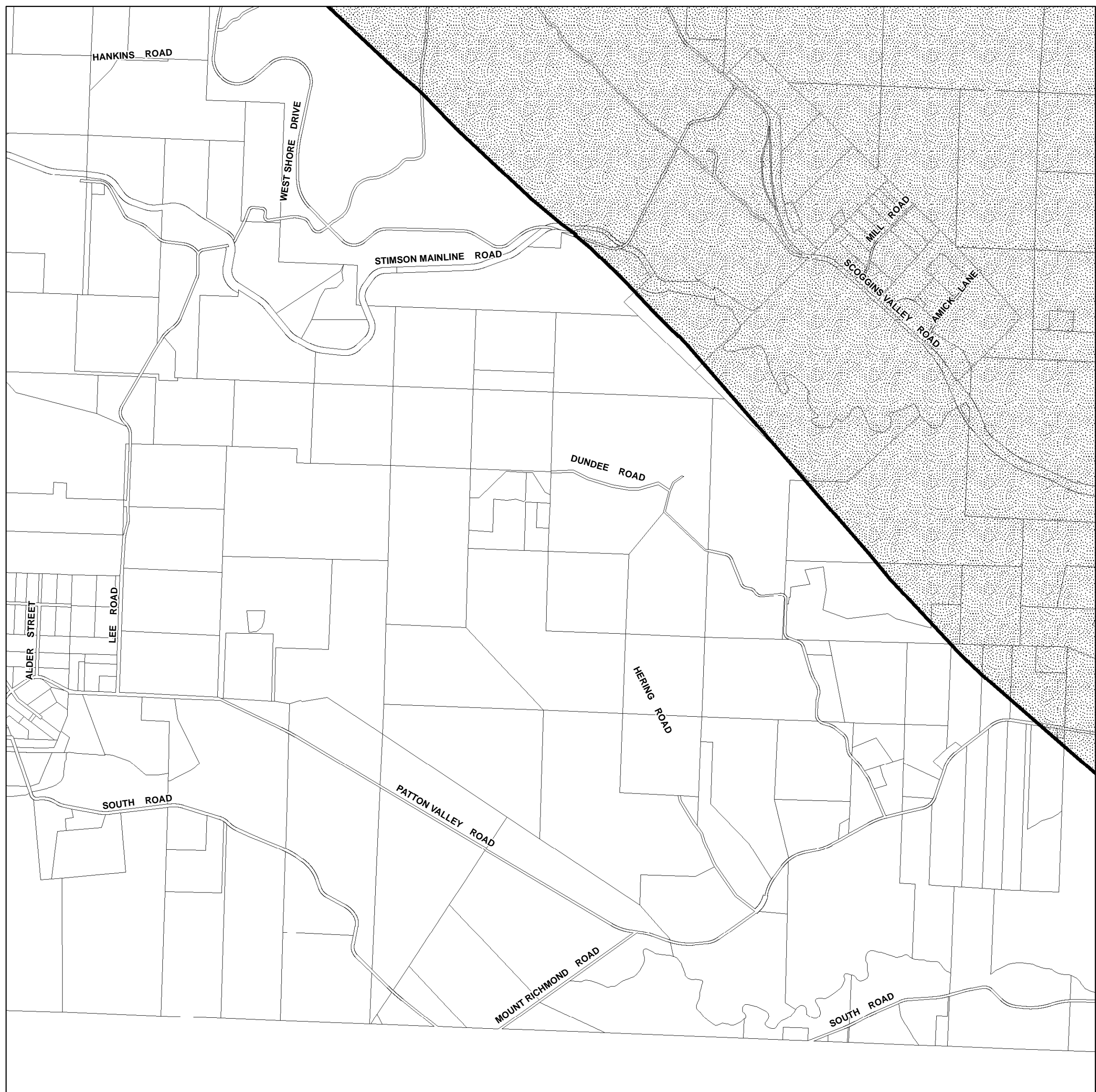
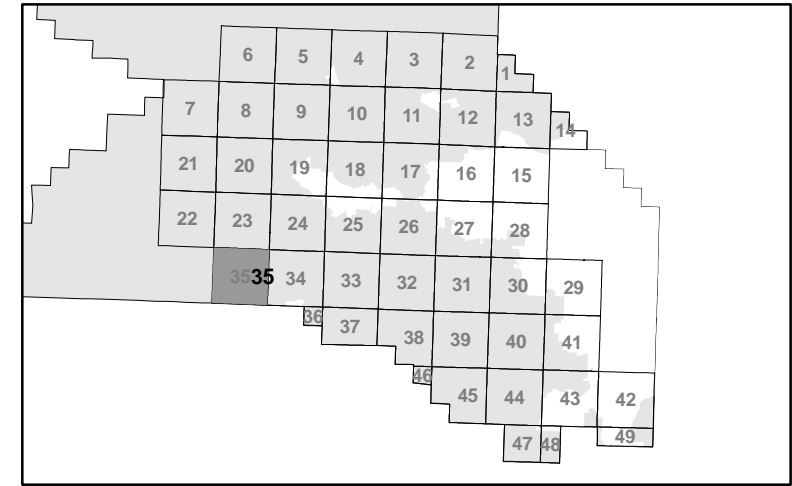
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

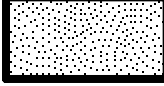
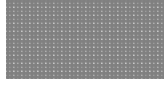
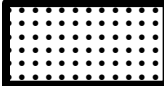


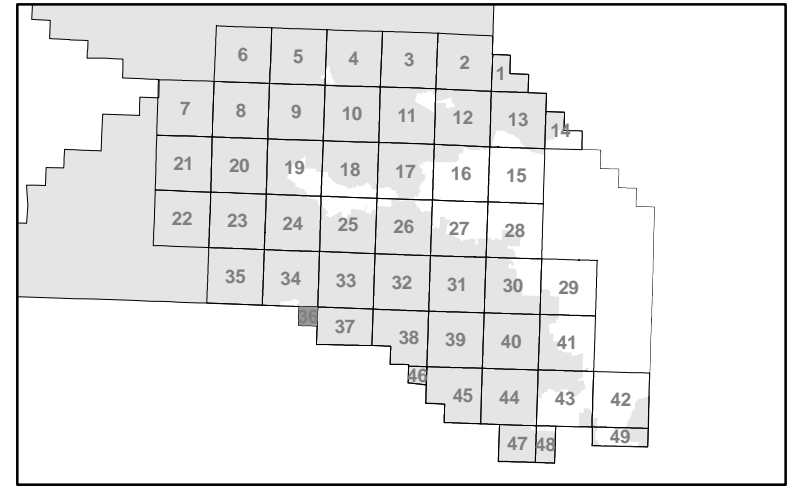
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



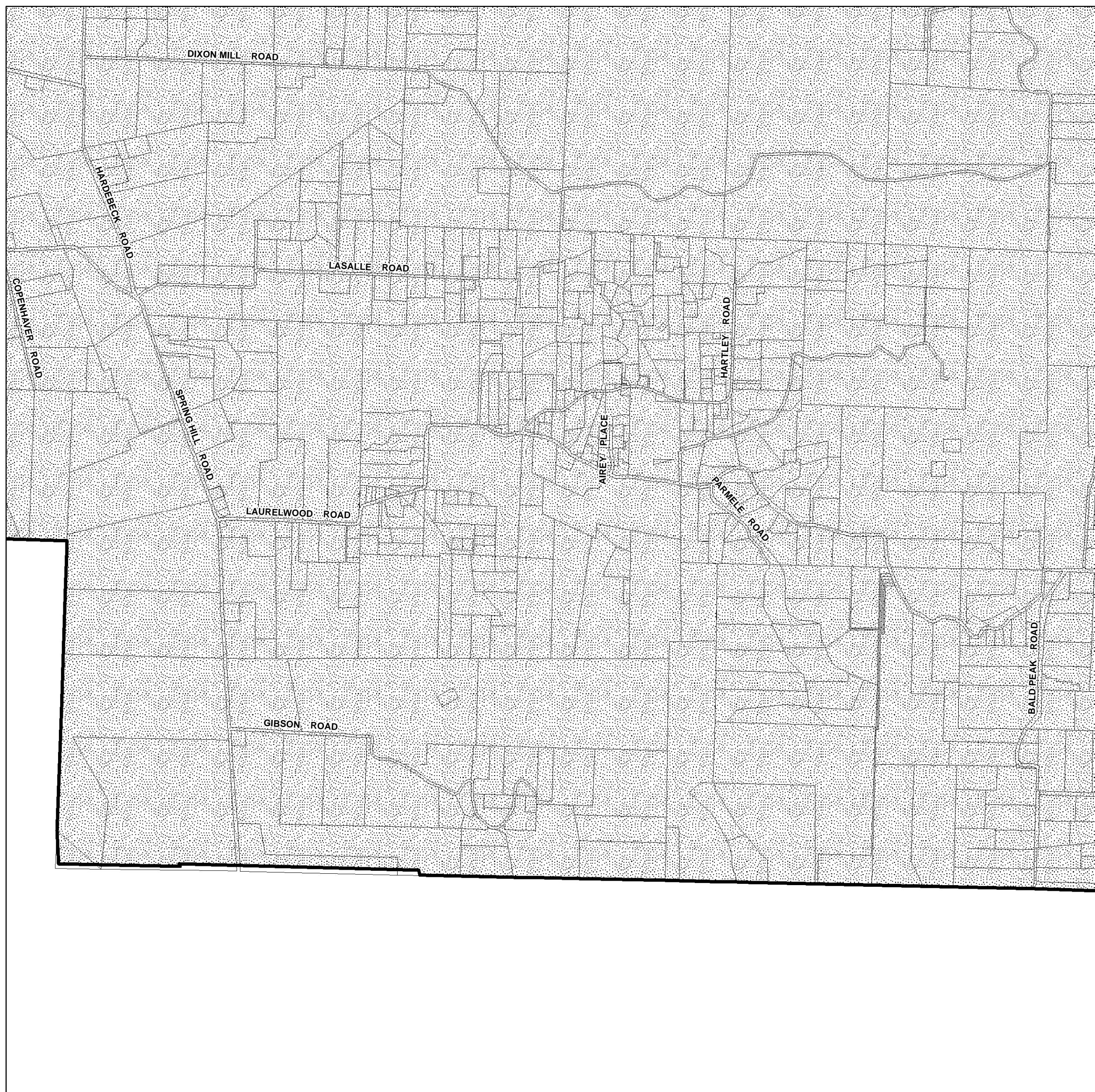
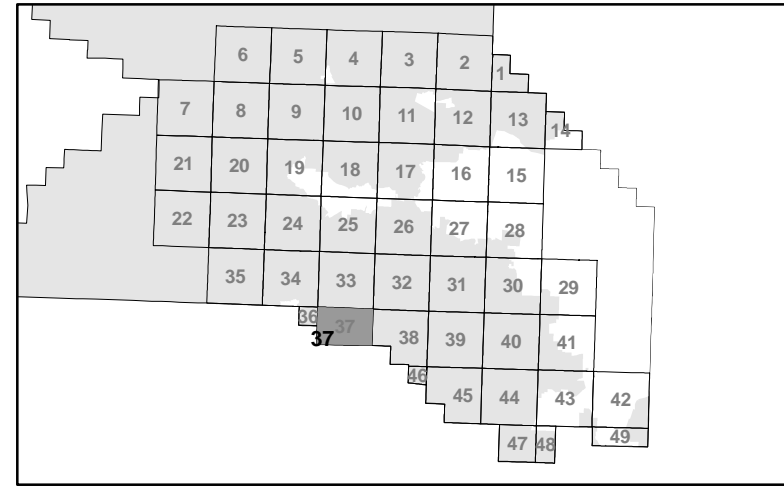
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



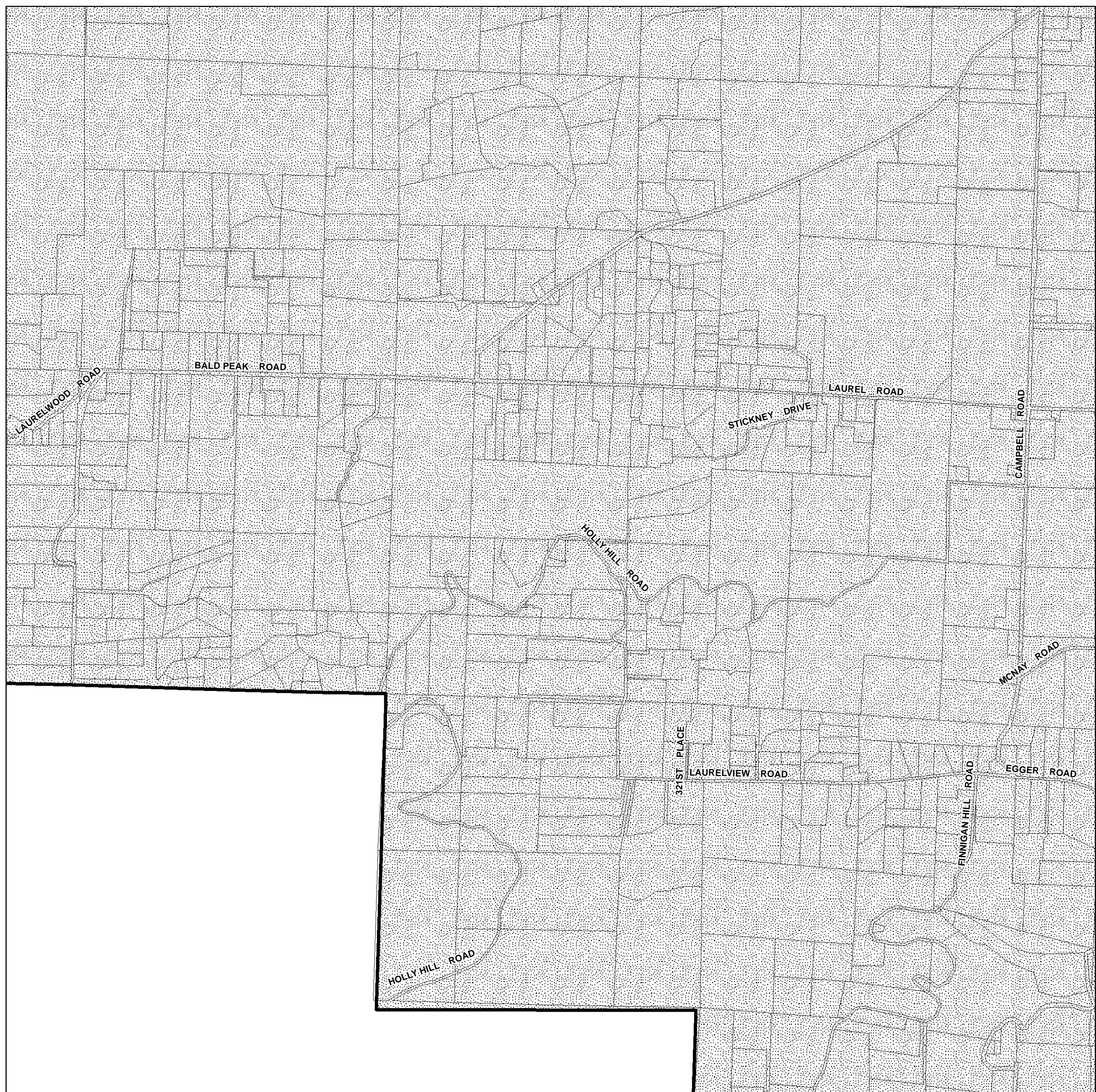
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



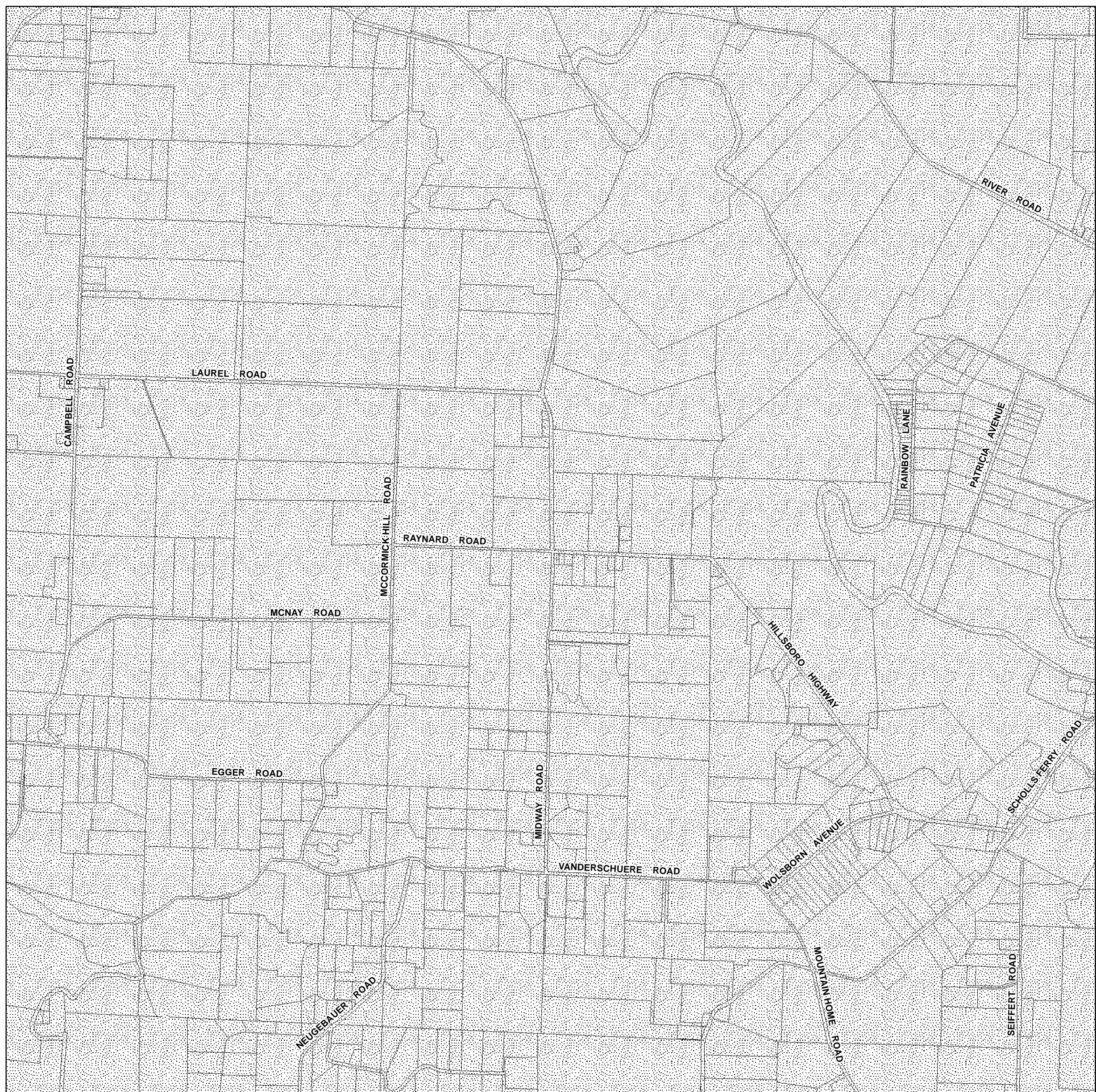
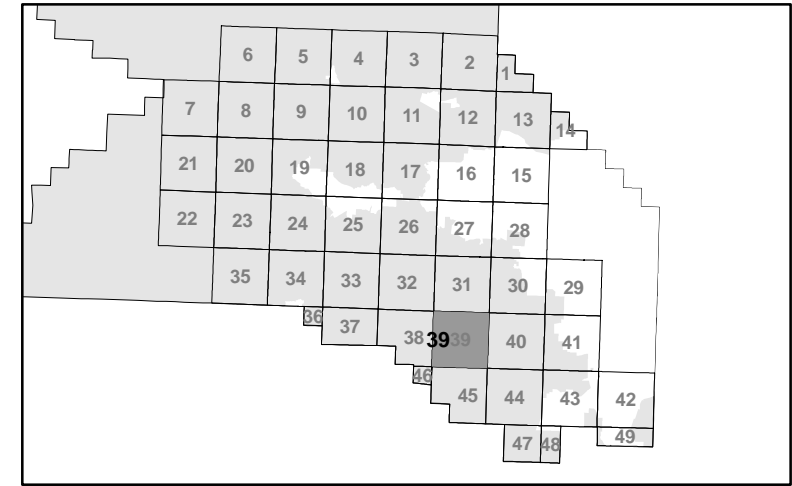
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

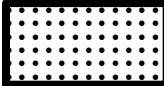


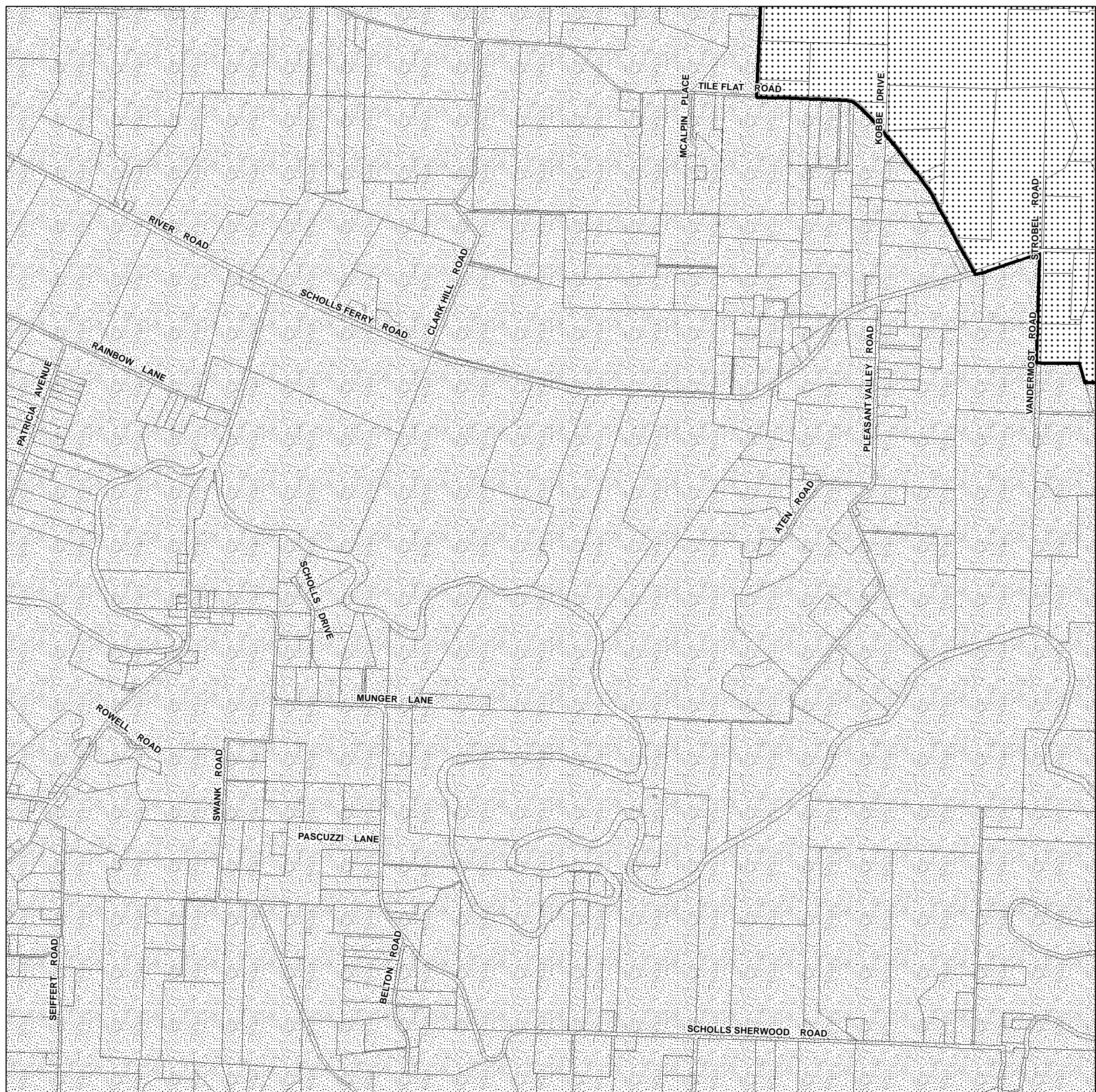
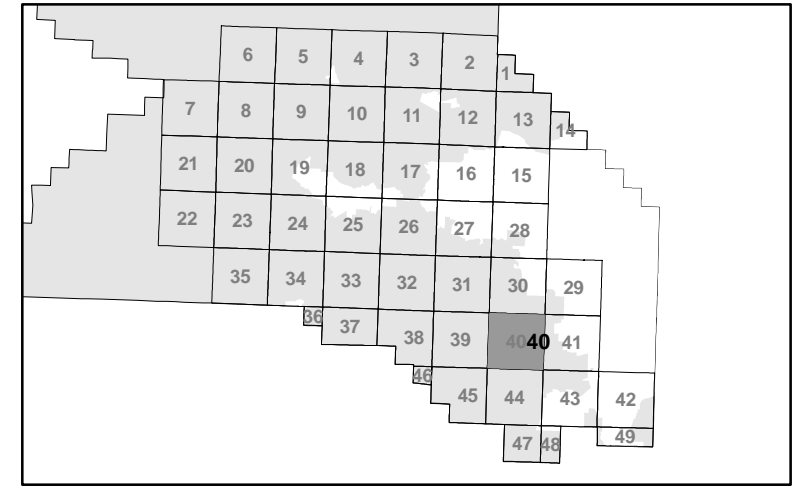
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



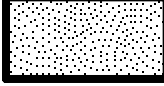
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

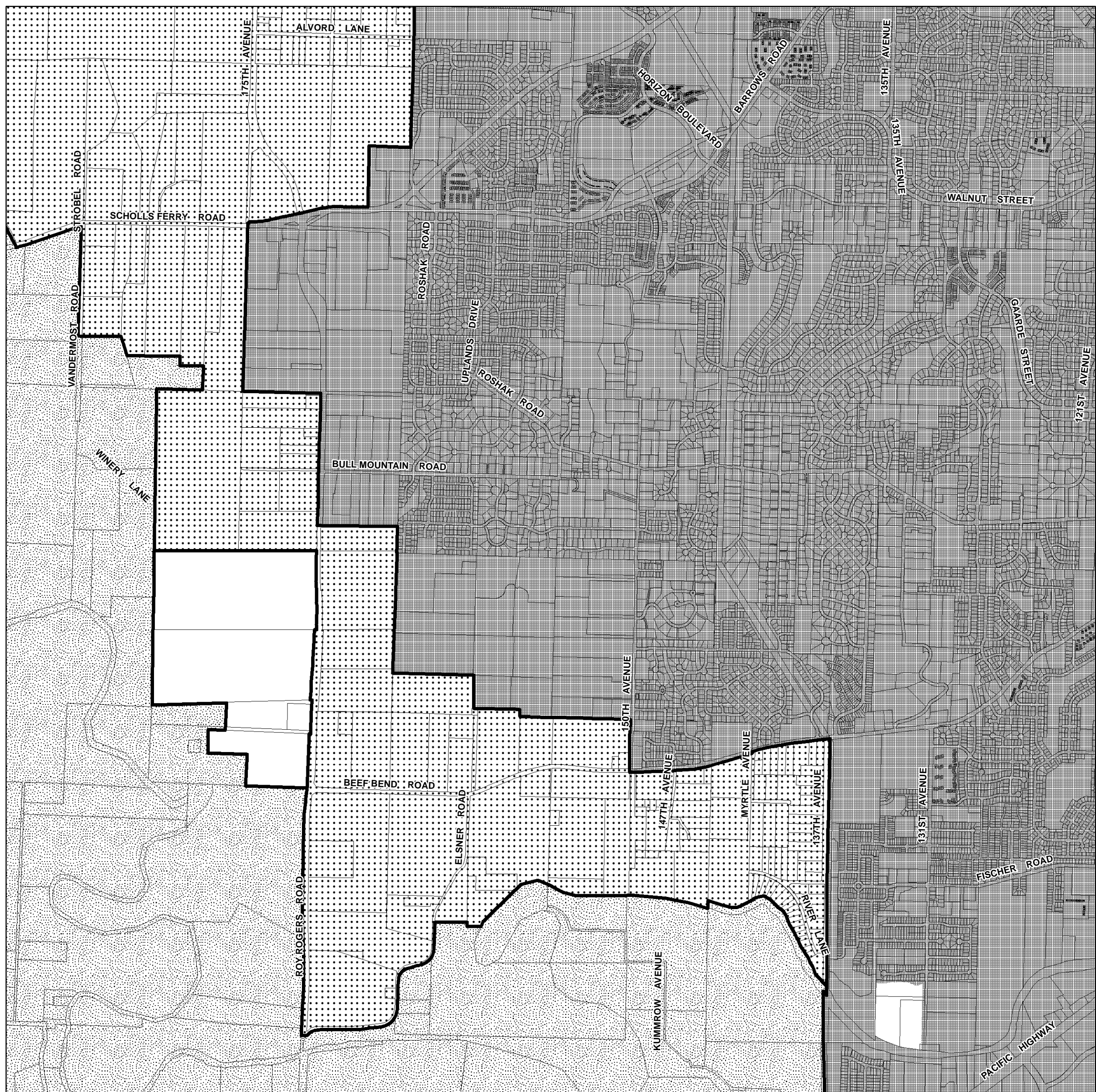
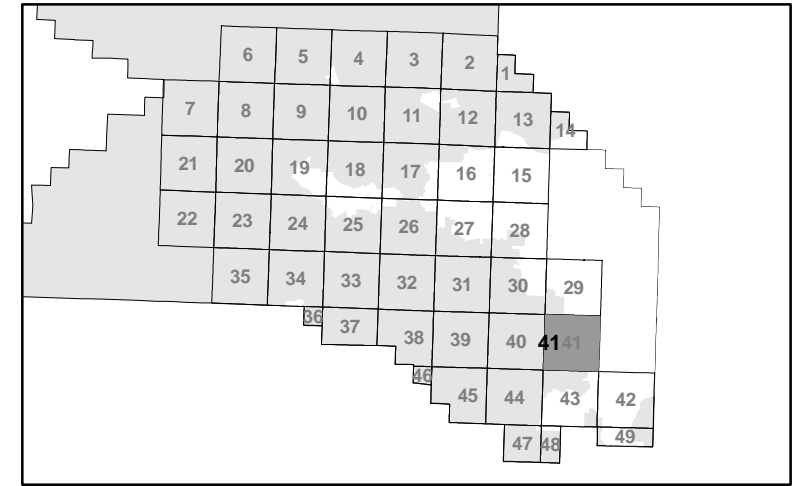
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



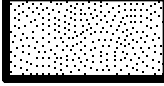


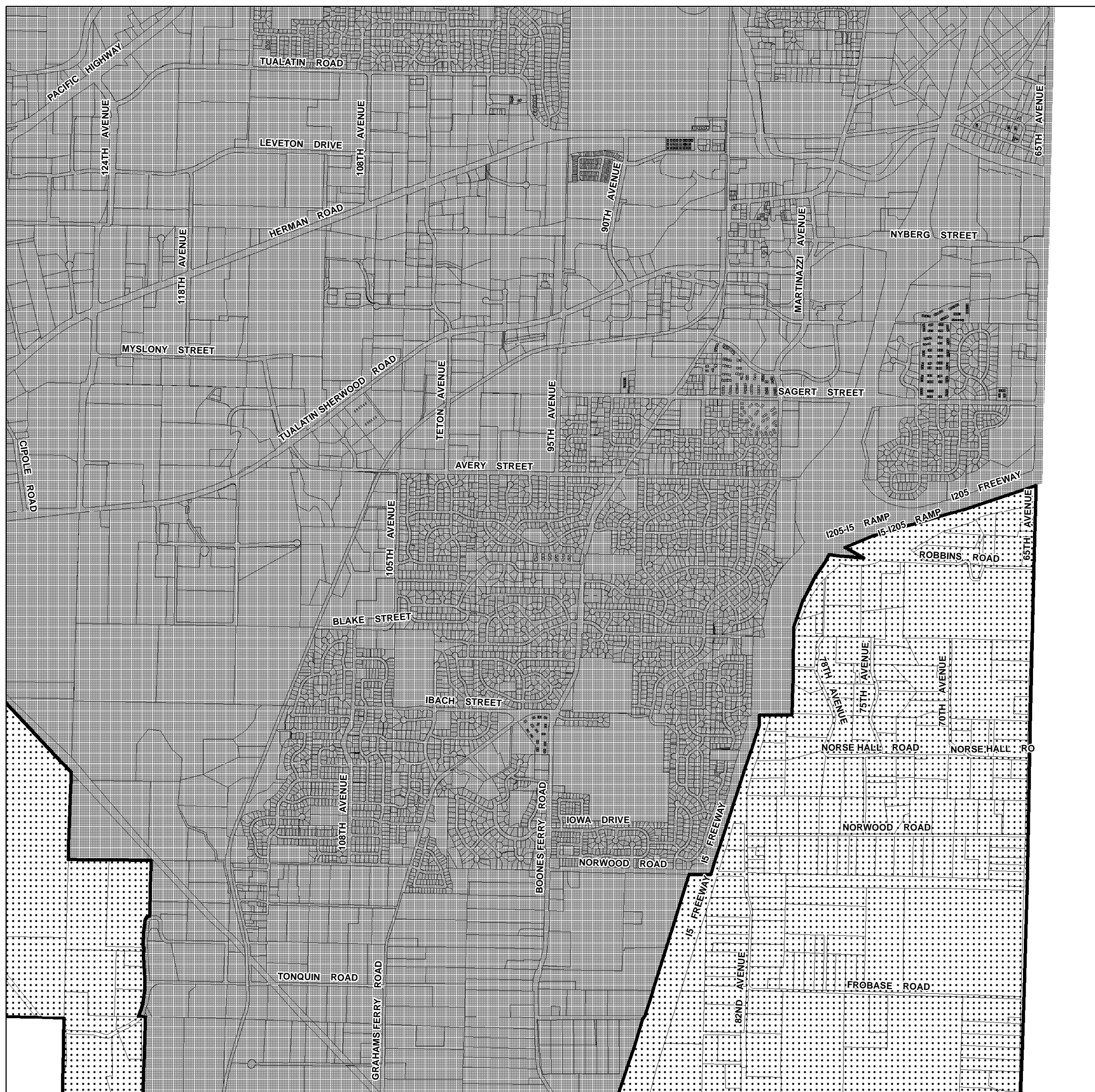
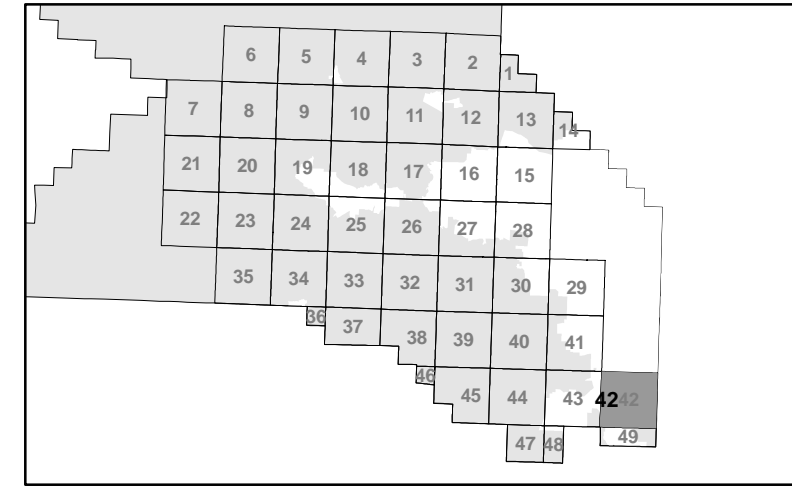
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

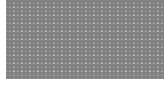


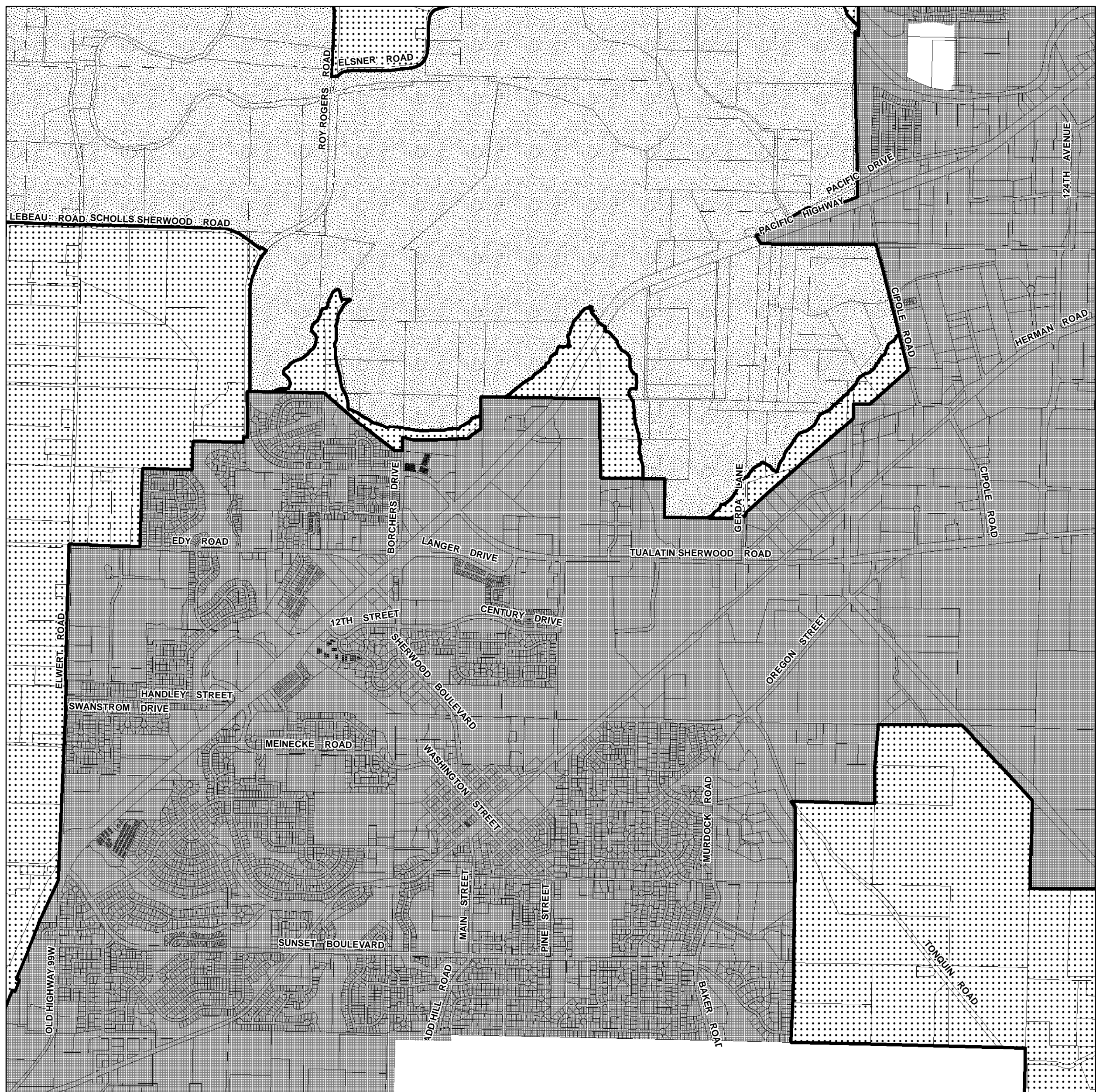
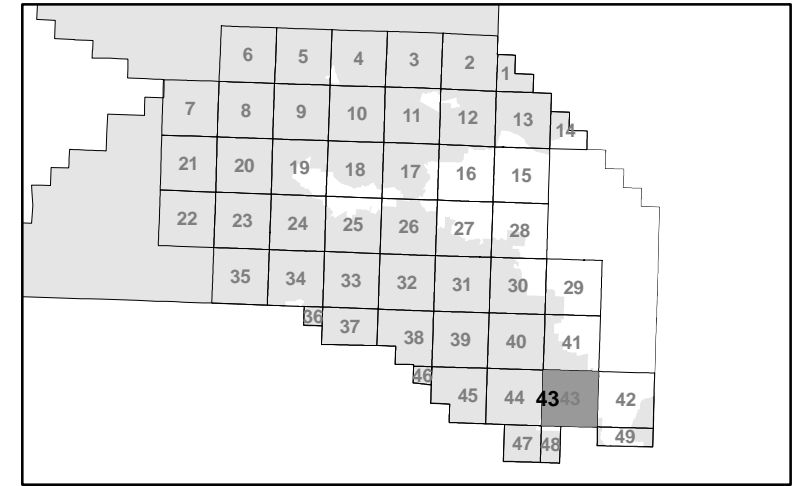
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

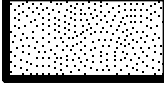


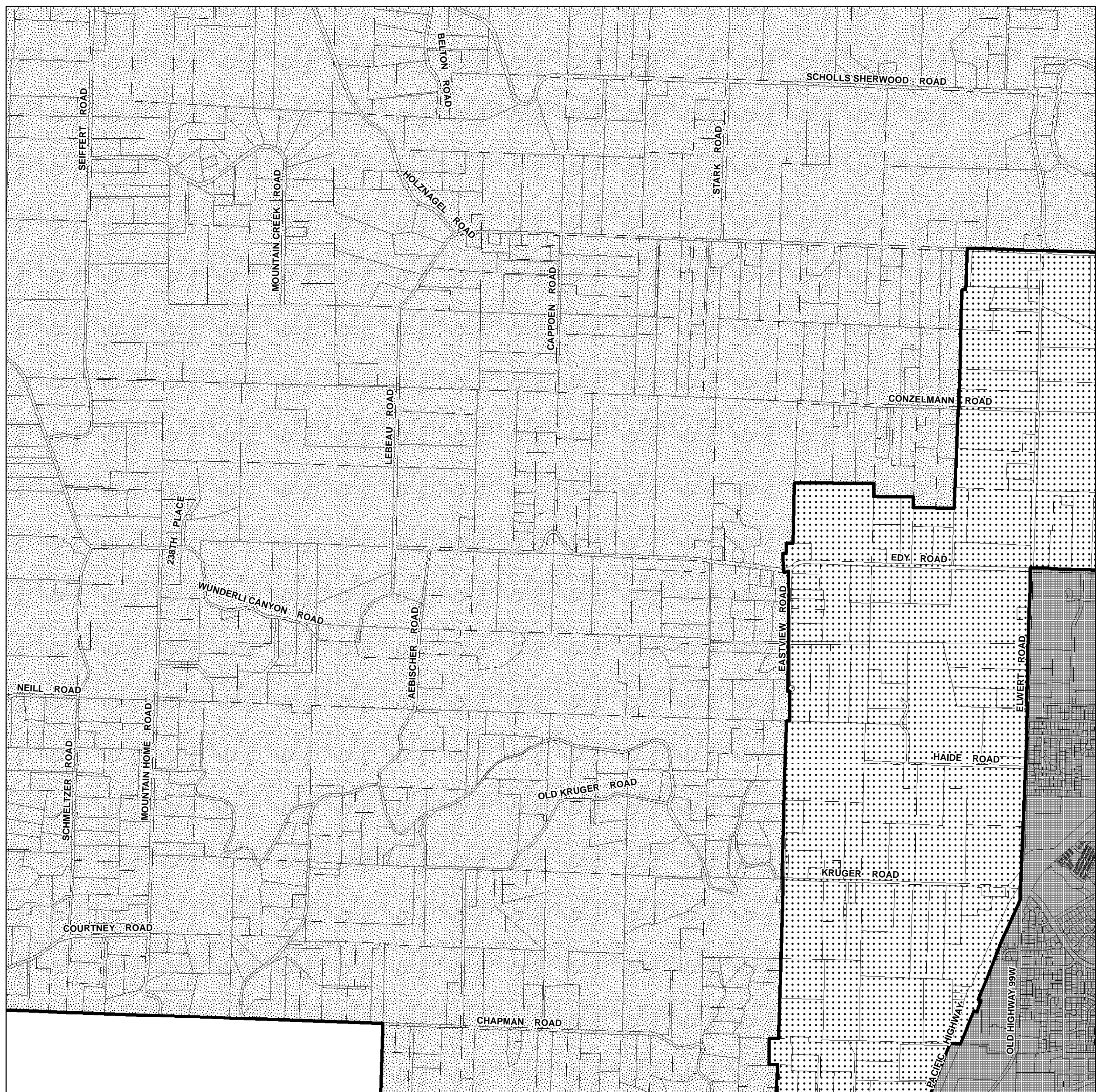
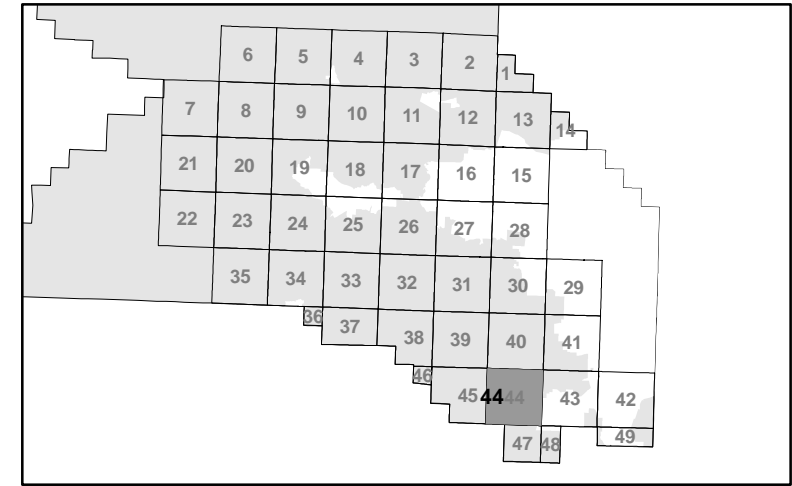
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



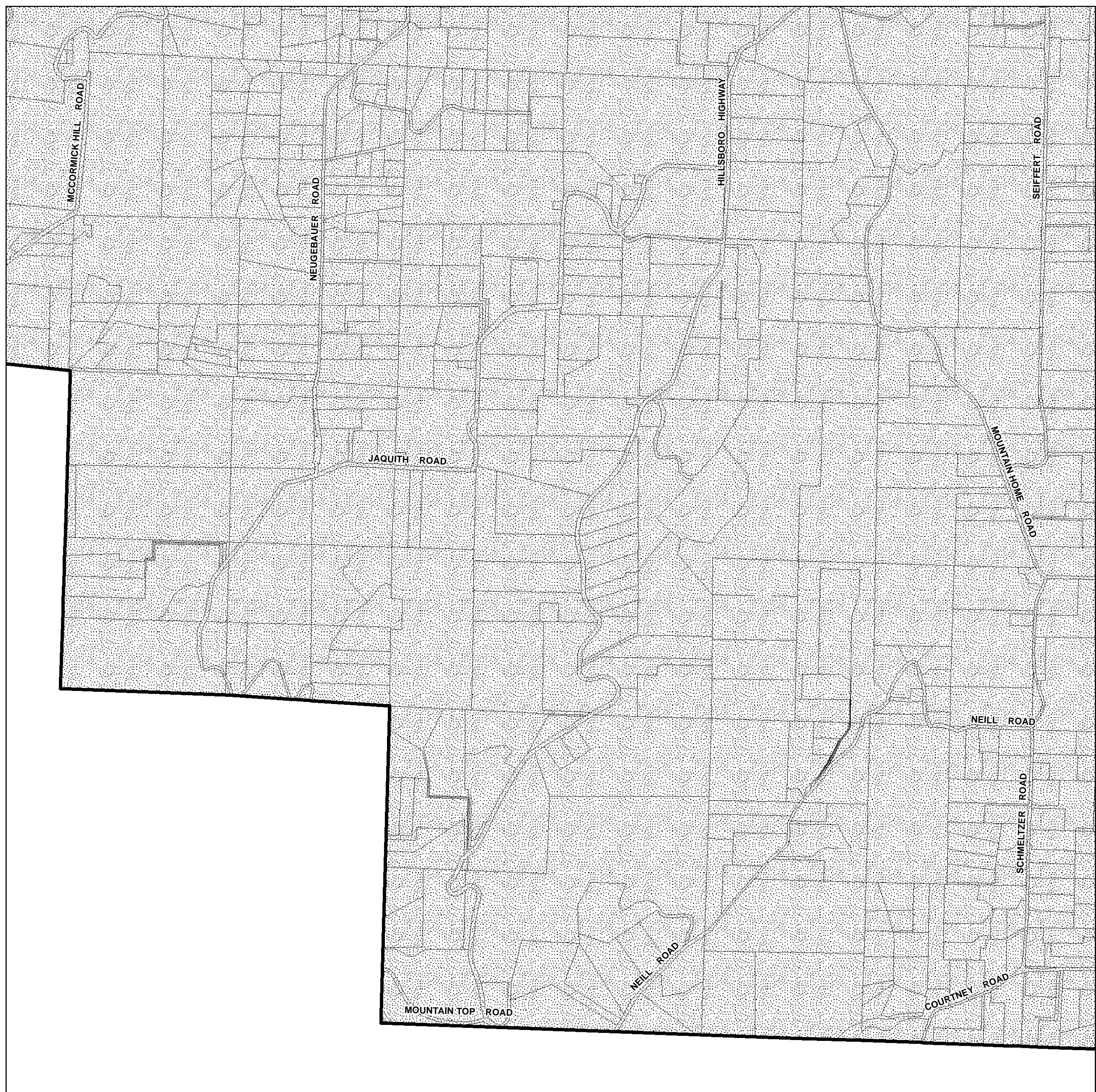
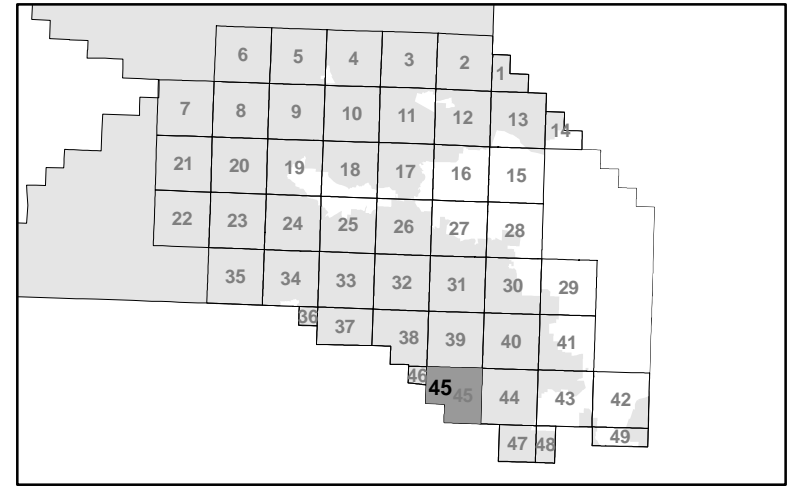
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve

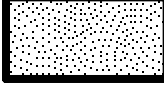
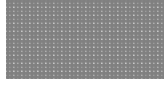
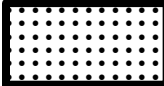


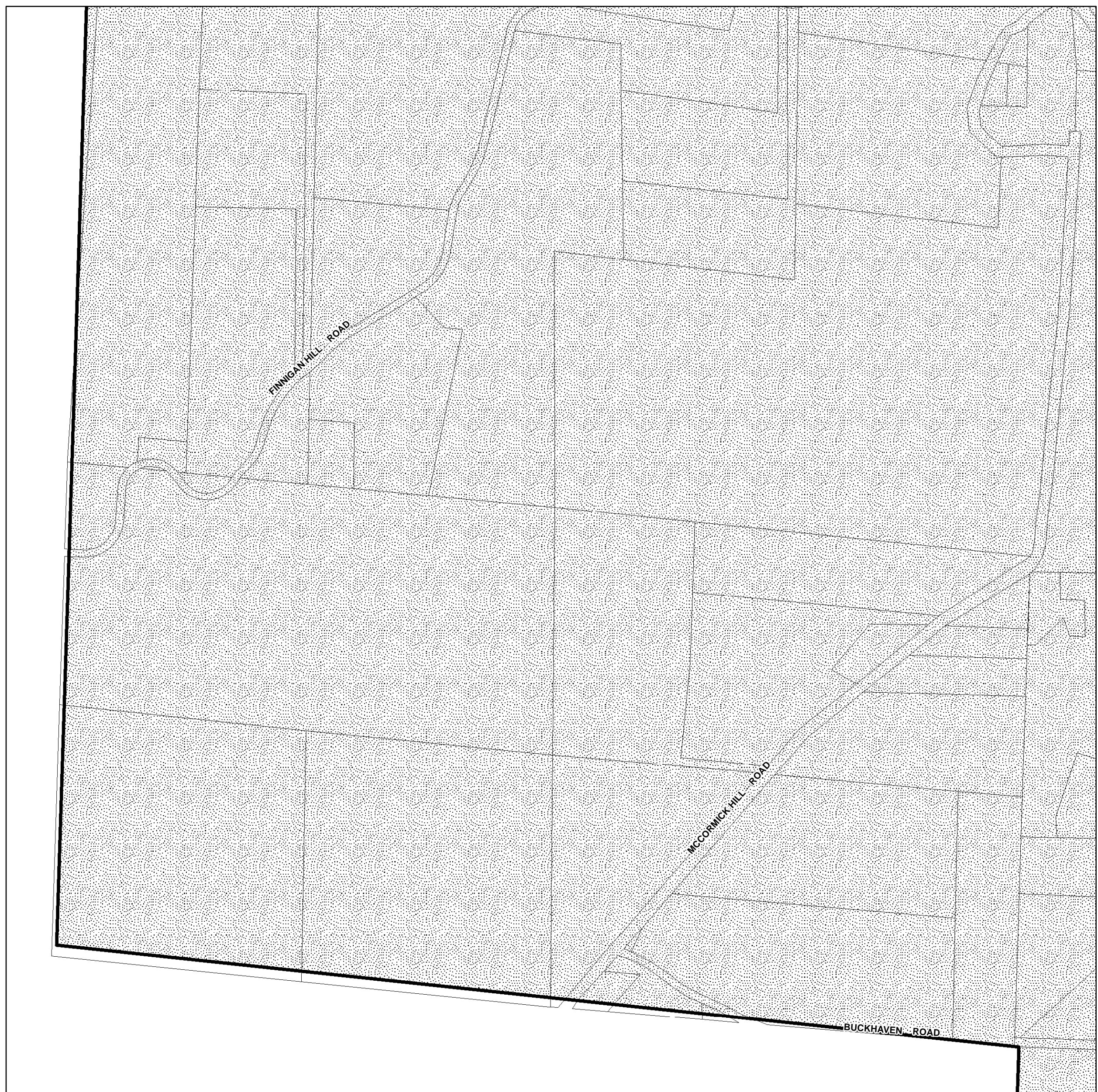
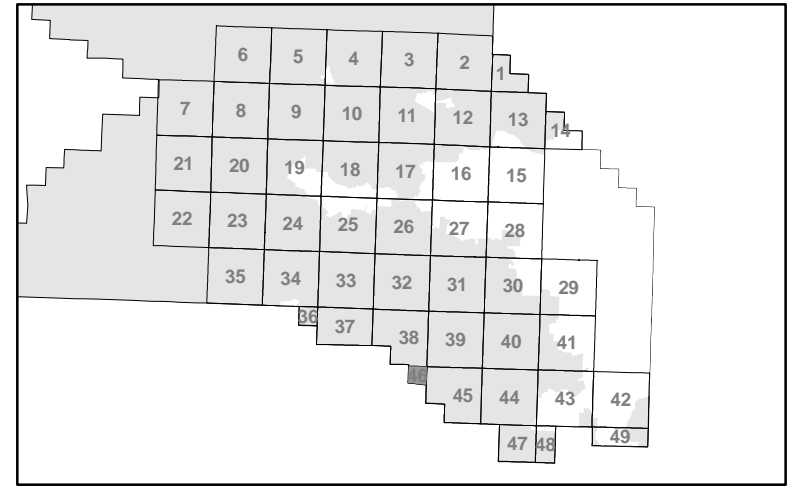
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



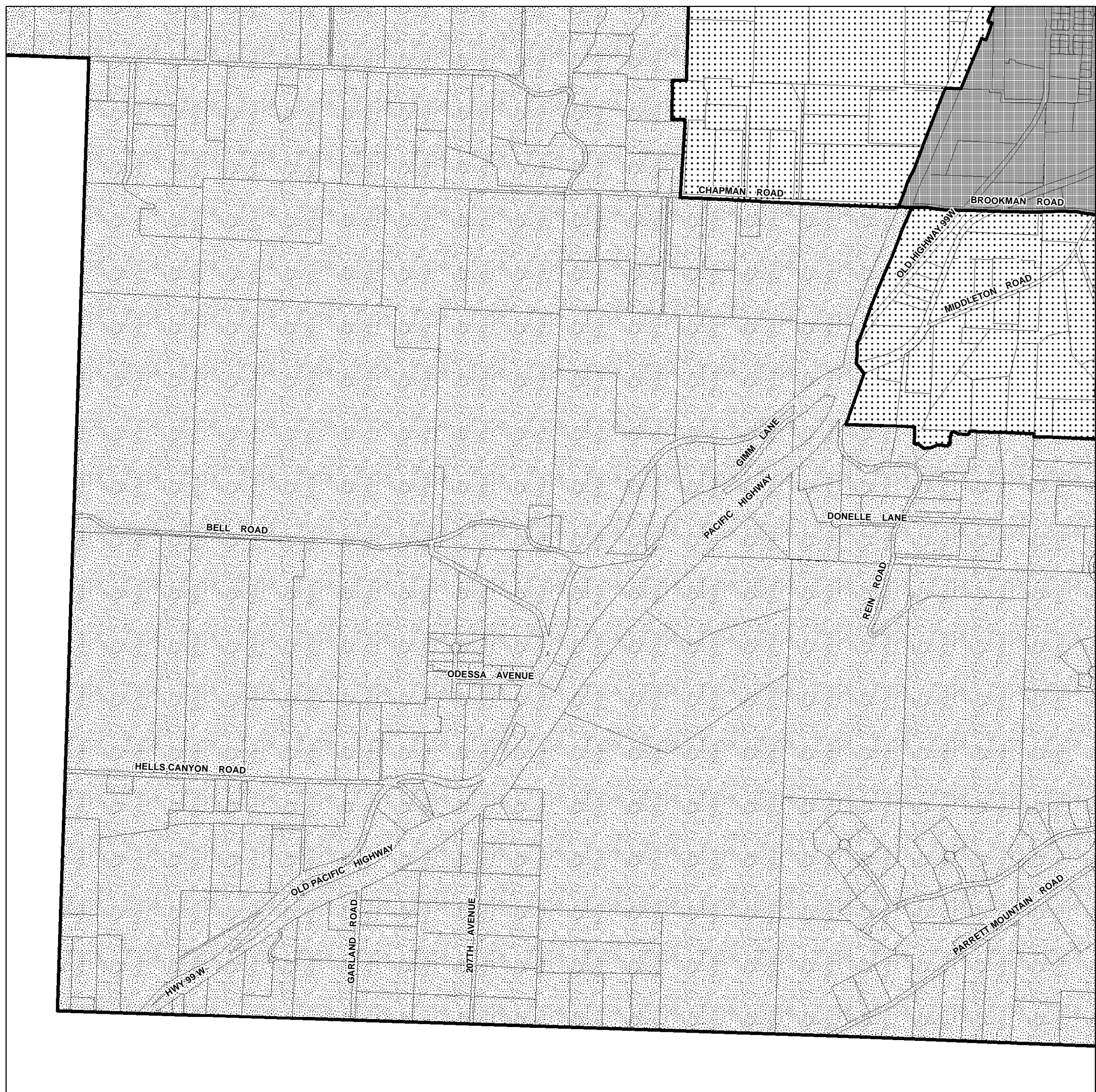
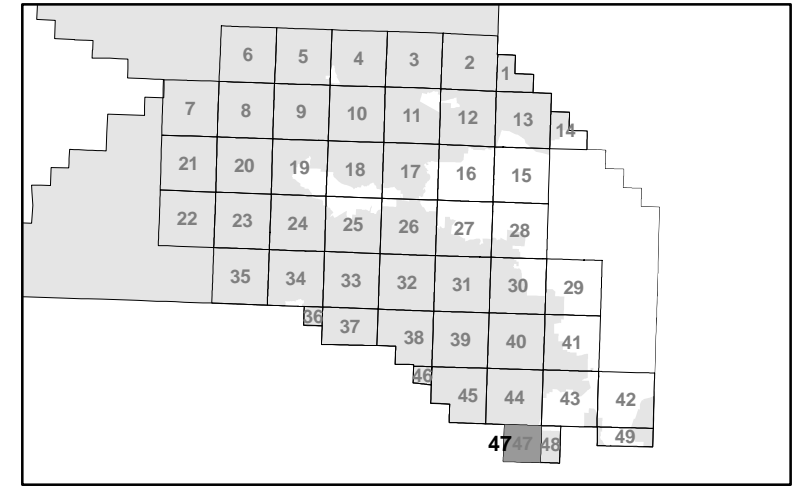
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



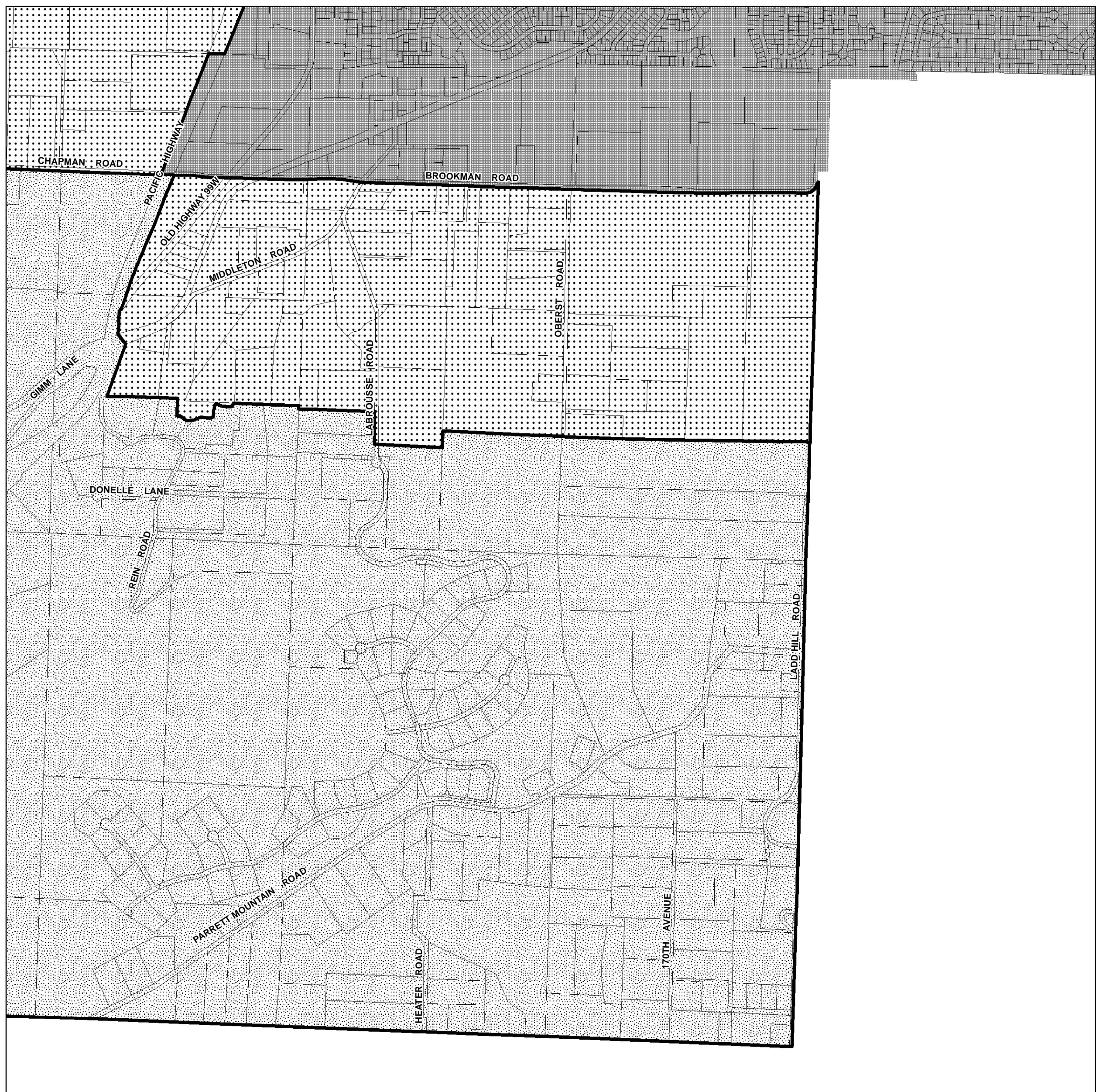
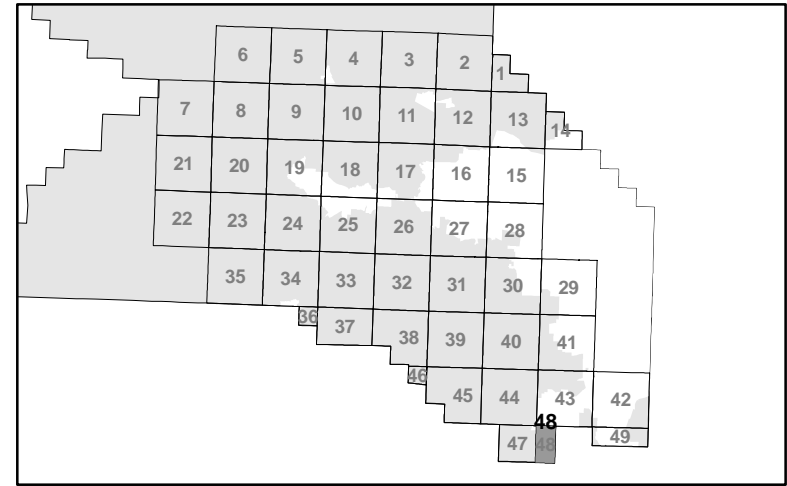
The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve



The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

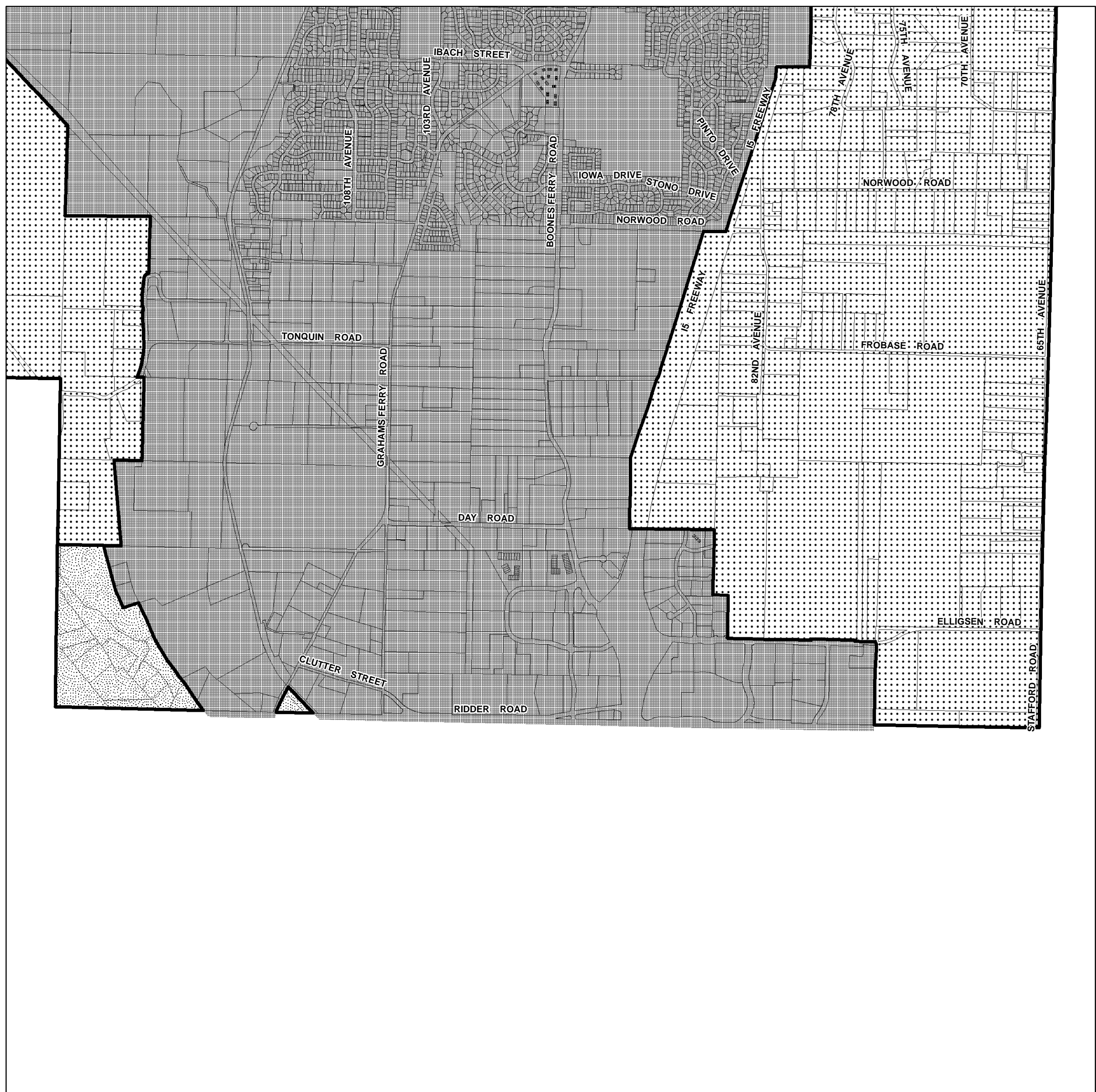
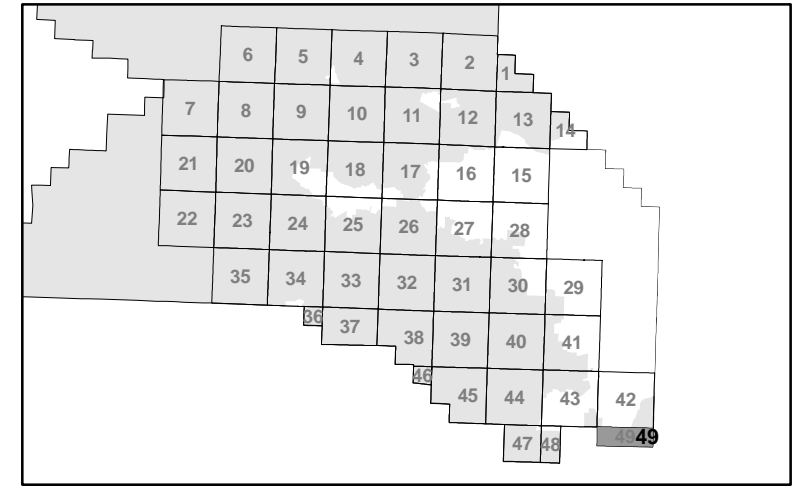
-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve





The Rural/Natural Resource Plan is amended by the creation of a new map entitled "Rural and Urban Reserves" in Policy 29.

-  Add as Rural Reserve
-  Existing Urban Area
-  Add as Urban Reserve







**INDIVIDUAL SIGN-IN FORM**

**IF YOU WISH TO ADDRESS THE BOARD  
AND WERE UNABLE TO SIGN IN PRIOR TO THE MEETING,  
PLEASE CLEARLY PRINT YOUR NAME, ADDRESS AND  
TOPIC YOU WISH TO DISCUSS ON THIS SHEET.**

**PLEASE GIVE THIS FORM TO THE CLERK OF THE BOARD,  
LOCATED AT THE DESK TO THE LEFT OF THE DAIS.**

**THANK YOU.**

**PLEASE PRINT CLEARLY.**

**DATE:** 9-19-11

FIRST NAME	LAST NAME
Linda	Peters

**ADDRESS:**

STREET	CITY	ZIP

**STATE YOUR TOPIC:**

Urban Rural Reserves

INDIVIDUAL SIGN-IN FORM

IF YOU WISH TO ADDRESS THE BOARD  
AND WERE UNABLE TO SIGN IN PRIOR TO THE MEETING,  
PLEASE CLEARLY PRINT YOUR NAME, ADDRESS AND  
TOPIC YOU WISH TO DISCUSS ON THIS SHEET.

PLEASE GIVE THIS FORM TO THE CLERK OF THE BOARD,  
LOCATED AT THE DESK TO THE LEFT OF THE DAIS.

THANK YOU.

PLEASE PRINT CLEARLY.

DATE: 4/19/11

FIRST NAME	LAST NAME
Tom	Black

ADDRESS:

STREET	CITY	ZIP
870 NW Garibaldi St.	Hillsboro, OR	97124

STATE YOUR TOPIC:

→ Proposed A-Engrossed Ordinance No. 740
Area #8A (2,700 Acres) Objection to Urban
Designation and BOC Disregard of State Goals "3 & 5"

INDIVIDUAL SIGN-IN FORM

IF YOU WISH TO ADDRESS THE BOARD  
AND WERE UNABLE TO SIGN IN PRIOR TO THE MEETING,  
PLEASE CLEARLY PRINT YOUR NAME, ADDRESS AND  
TOPIC YOU WISH TO DISCUSS ON THIS SHEET.

PLEASE GIVE THIS FORM TO THE CLERK OF THE BOARD,  
LOCATED AT THE DESK TO THE LEFT OF THE DAIS.

THANK YOU.

PLEASE PRINT CLEARLY,

DATE: 4/19/11

FIRST NAME	LAST NAME
Miki	BARNE S

ADDRESS:

STREET	CITY	ZIP
48100 NW Dinghiser Rd	Banks	97106

STATE YOUR TOPIC:

Urban/Rural Reserves

INDIVIDUAL SIGN-IN FORM

IF YOU WISH TO ADDRESS THE BOARD  
AND WERE UNABLE TO SIGN IN PRIOR TO THE MEETING,  
PLEASE CLEARLY PRINT YOUR NAME, ADDRESS AND  
TOPIC YOU WISH TO DISCUSS ON THIS SHEET.

PLEASE GIVE THIS FORM TO THE CLERK OF THE BOARD,  
LOCATED AT THE DESK TO THE LEFT OF THE DAIS.

THANK YOU.

PLEASE PRINT CLEARLY.

DATE: 4/19/11

FIRST NAME	LAST NAME
Richard	Meyer

ADDRESS:

STREET	CITY	ZIP
City of Cornelius	Staff	97113

STATE YOUR TOPIC:

Ord. 370 — Urban Reserves

740  
=

COPY

**Wendie L. Kellington**  
**Attorney at Law, P.C.**  
*Licensed in Oregon and Washington*

P.O. Box 1930  
Lake Oswego-Or  
97035

Phone (503) 624-7790  
Mobile (503) 804-0535  
Facsimile (503) 620-5562  
Email: [wk@wkellington.com](mailto:wk@wkellington.com)

April 19, 2011

Via Hand Delivery

Washington County Commissioners

Re: Rural Reserves/Washington County Ordinance 740

Dear Chair and Members of the Washington County Commission:

Please accept this letter and its attachments into the record of proposed County Ordinance 740 concerning designation of rural reserves. This firm represents Steve and Kelly Bobosky, the owners of a nearly ten (10) acre property at 21393 NW West Union Road (Tax Lot 1N2 14A 3000), which is zoned AF-5 and subject to an acknowledged exception to Goal 3 (Agriculture). The property is located in the "Bendemeer Area" of Washington County. Pursuant to ORS 197.615 (2)(B), please provide Steve and Kelli Bobosky and the undersigned with notice of decision or decisions regarding Ordinance 740 as required by ORS 197.615.

The undersigned has been advised by Metro legal counsel, Dick Benner, that the record of this matter above captioned includes the record of the previous decision designating rural and urban reserves. Accordingly, please accept this letter as one that reinforces the arguments the undersigned and its clients Steve and Kelli Bobosky have previously included in that record, which previous arguments are specifically incorporated herein having equal force to the proposed amendments as with the previous amendments to which they had been specifically addressed. Steve Bobosky also appeared and presented additional facts and arguments at the joint County/Metro hearings of the proposed IGA amendments on March 15, 2011, that are in the record of this proceeding and also incorporated herein.

We object to the subject property being designated Rural Reserve as proposed in County Ordinance 740. The subject 10 acre property should either be left as "Undesignated" or, given that Washington County's professional staff confirmed in the summer and fall 2009 staff reports that the property meets the factors for Urban Reserve designation, designated as "Urban Reserve". That the subject property meets the criteria for urban reserve means it should be at worst left undesignated so that if the region has guessed wrong about land needed for urbanization, this well situated exception land is available for that purpose rather than leaving only high quality agricultural land as is the case under the proposed decision. In any case, the subject 10 acre property neither meets the "Agriculture" nor "Natural Resources" basis for designation as Rural Reserve in OAR 660-027-0060. Therefore, the Rural Reserve category does not make legal or policy sense to apply to it.



Attached are several documents for inclusion in the record of County Ordinance 740. First, attached to this letter is a map showing the subject property is in an acknowledged exception area and located outside of the Metro jurisdictional boundary. Second, also attached for inclusion in the record, are documents indicating that this process of establishing Rural Reserves on a "remand" lacked required transparency. The LCDC "oral remand" never made it into the form of a final appealable order and the deliberations about why that is so, never made it into the public processes. A final LCDC order should never be superfluous. The selection of the decision reflected in Ordinance 740 occurred outside of the public process and this, respectfully, puts the proposed decisions out of compliance with Goal 1 Citizen Involvement, Goal 2 Land Use Planning and state, Metro and the County rules about citizen involvement. Third and finally, under separate cover our clients put the audio DVDs of the joint Metro County hearing on March 15, 2011, where it is reinforced that the subject property and the Bendemeer subdivision within which the subject property is located, has no real agricultural or natural resource value to justify a rural reserve designation.

The subject 10 acres exception property should not be classified as Rural Reserve and we strongly object to such proposed classification. Washington County staff was correct in their assessment that this parcel (and the approximately 130 area in which it is located) should be either "Urban Reserve" or "Undesignated". We believe the subject property was initially mistakenly identified for designation by policy makers as Rural Reserve in the first place and that mistake has not had a serious review in the context of legal requisites since. We searched the record and have been unable to see why this exception parcel and area were designated rural reserve. On the various websites there is nothing about why the property could legitimately be a "rural reserve" and the only evidentiary statement is a statement in County Issue Paper No. 10 saying: "virtually all exception lands (AF-10 and AF-5) adjacent to urban areas have been included in the urban reserve recommendations". We have similarly found no recognition of the legal significance of the undisputed fact that the area within which the subject 10 acre property exists (Bendemeer) is a designated acknowledged exception area. There may be something that exists, but our point is that the difficulty of locating anything along these lines suggests the decision makers were likely not initially or now fully cognizant that they were converting exception land to "Rural Reserves" while designating a great deal of high quality EFU Goal 3 Agricultural Land as Urban Reserves including in the same area. We see no legal or policy justification for making the subject 10 acres of exception land, located directly across the street from the existing UGB and the well known future Intel expansion site, to be locked up as "Rural Reserve." At a minimum the subject 10 acres of exception land should simply be left as "Undesignated."

We understand that whether exception land property like the subject is selected for classification as "Undesignated" or "Urban Reserve", is a policy choice. However, please understand that there is little room for policy choices for exception land like the subject 10 acres between leaving such land as "Undesignated" versus imposing the "Rural Reserves" category. In this regard, please understand that there is no allowed policy choice regarding whether exception land like the subject 10 acres is maintained as "Undesignated" versus imposing the

April 19, 2011

Page 3

“Rural Reserves” category upon it. Exception land will rarely if ever meet the legal tests for “Rural Reserves”. Here, the subject 10 acres do not meet the legal tests for Rural Reserves and there simply cannot be a serious legal argument that it does. Moreover, State law has already made the policy choice that exception lands like the subject 10 acres are (1) not Agricultural Lands, and (2) are the first lands to be urbanized (after urban reserves). Therefore, in the absence of the most extraordinary of circumstances (not present here) exception lands must be left as “Undesignated” to fulfill the state statutory role assigned by the legislature as potential UGB land if urban reserves are unavailable. ORS 197.298(1). Making exception land Rural Reserves is inconsistent with not only ORS 197.298(1), but also ORS 195.141 because exception lands area as a matter of law nonfarm lands incapable, also as a matter of law, of “providing long term protection to the agricultural industry.” ORS 197.141(3) and ORS 197.141(3)(d)(B). Exception land by definition is not “Agricultural Land.” OAR 660-033-020(1)(c). It should be obvious that exception lands will rarely if ever be appropriately made off limits to future decision makers as a source of urban land supply on the idea they are farmlands and therefore rarely, if ever, could be appropriately designated Rural Reserve. Rather, as noted above, exception land is the first place state law requires future decision makers to look for UGB amendments when there are not enough urban reserves. ORS 197.298(1). The proposed decision makes it impossible for the region to comply with ORS 197.298(1) when it comes time to expand the UGB. if exception lands are designated as “Rural Reserves” this sets up an untenable legal conflict between the requirement to draw from exception lands in ORS 197.298(1) and the rules about locked up rural reserves and policy favoring the protection of Goal 3 “Agricultural Land”. On the other hand, leaving exception lands as “Undesignated” serves both the policy of ORS 197.298(1) while leaving flexibility to future decision makers to chose exception land for future land needs rather than forcing them to urbanize high quality Agricultural Land.

Further, and importantly, pretending that exception land serves long term Agriculture does a disservice to the Agricultural industry because as a matter of law exception lands do no such thing, making set asides of exception land as Rural Reserves a charade that leaves Agriculture with nothing. One need only refer to the county’s Comprehensive Plan Exception Element to see that exception like the subject 10 acres, and indeed the Bendemeer area, has already been determined unsuited for, and unavailable to, agriculture due to “parcelization and ownership patterns”, “lot size”, “substantial \* \* \* development of existing lots in the area \* \* \*”, “existing and adjacent uses which create operational conflicts with farming and forestry practices”, “soil and terrain characteristics”, “productivity”, “irrigation potential” among others. See Washington county Comprehensive Plan Exceptions Document pages 3-4.

Maintaining the subject 10 acre of exception land (and the Bendemeer exception area) as “Undesignated” is not only consistent with the authority vested in the region under ORS 195.141 and OAR 660-027 to designated rural reserves within areas of Metro’s planning authority, but also consistent with law and good Agricultural Land policy. Making the subject 10 acres of exception land (and the Bendemeer exception area), also supplies important flexibility for future decision makers to choose exception land if more urban reserves or UGB land is needed than is

set aside in this process. This is particularly important here because the region is not proposing to set aside all the land that Washington County's professional staff anticipated will be needed over the 50 year planning horizon and is even short of Metro's anticipated land need range. Specifically, according to Washington County staff, this process will result in a 35,000+ acre shortage of land likely to be needed over the 50 year planning horizon in Washington County. This makes clear that there is a strong possibility that at some point future decision makers will be asked to find more land and they will be limited to looking to those lands that the region now leaves as "Undesignated." No one disputes that "Undesignated" lands provide the exclusive source of additional land that future decision makers may draw upon to meet future land supply needs if the designated "Urban Reserves" are unavailable or used up. The region should have readily available exception lands situated as the subject where it could and has been proposed for designation as urban reserves, able to be urbanized rather than looking to high quality agricultural land. No one disputes that the land that will be "off limits" to future decision makers as a source for identified unmet land needs, are the land current policy makers in this process tie up as "Rural Reserve." Well placed exception lands such as the subject land should never be designated as rural reserves.

While OAR 660-027-0060(3) allows Rural Reserve designation of areas identified in Metro's February 2007 "Natural Landscape Features Inventory" and "other pertinent information", the subject 10 acres are not on any such inventory (including in the most recent supplemental evaluation) and no such "pertinent information" has even been, nor could it be, identified to bring the subject 10 acres within this narrow "Rural Reserves" category. There are no natural resources on or associated with the subject 10 acres of exception land. Further, it does not make sense that the subject 10 acres of exception land containing no identified important or other natural resources, being across the street from an important Intel expansion site and having high quality transportation connections and public infrastructure investment, would be tied up on this narrow basis especially when nearby high quality agricultural land zoned EFU is proposed to be urbanized.

Accordingly, it seems obvious that it makes no legal or policy sense for current decision makers to designate the subject 10 acres as "Rural Reserves." Therefore, we write this letter to request that the Washington County Commission amend Ordinance No. 740 to reclassify the subject 10 acres as either "Urban Reserves or to leave it as "Undesignated."

#### BENDEMEER AREA DESCRIPTION

The subject property is located within the Bendemeer Area which is north of NW West Union Road, between NW Cornelius Pass Road and Dick Road. The subject property is in residential use.

This area is fully covered by an exception to Statewide Planning Goals 3 (Agriculture). By definition, "Agricultural Lands" do not include "land within acknowledged exception areas

for Goal 3 or 4.” OAR 660-033-0020(1)(c). Therefore, there are no “Agricultural Lands” within this area or on the subject 10 acres.

Bendemeer is a small area encompassing approximately 130 acres immediately adjacent to the North Hillsboro Industrial Area and Hillsboro’s northern Regional Urban Growth Boundary which is located on West Union Road, running along the southern edge of Bendemeer. The majority of lots contain homes or businesses served by shallow wells and septic tanks. Land use in the Bendemeer Area is primarily residential in nature.. Commercial development is located at the Cornelius Pass, West Union Road intersection. A railroad right-of-way bisects the area north-south. There are 58 tax lots in the Bendemeer area, with most lots being less than three acres in size, the smallest lot being .24 acres with three of the largest lots being approximately 5 acres and the largest being slightly smaller than 10 acres. More than 40 of the lots contain homes. A summary of lot sizes and dwellings is shown on Exhibit “B”.

#### CURRENT PLANNING DESIGNATIONS / EXCEPTION AREA

The County’s Rural/Natural Resource Plan – Land Use Districts designate the Bendemeer Area as AF-5, Agricultural and Forest (5 acre minimum lot size) with one lot located at the intersection of West Union and Cornelius Pass Roads zoned R-COM, Rural Commercial. None of these are exclusive farm use districts or implement Goal 3 (Agriculture) in any way.

Because of the historical small lot configuration and residential development in the Bendemeer Area, the County determined the Bendemeer Area an exception to the requirements of Statewide Planning Goal 3, Agriculture, which Goal 3 is designed to preserve contiguous, large lot prime agricultural areas. LCDC acknowledged this exception to Goal 3. Consequently the County’s Comprehensive Plan and state law recognizes that the subject property, as well as the Bendemeer Area within which the subject property is located, is an acknowledged exception to Goal 3, unsuited for Agriculture and set aside for residential and not Agricultural use. Sections of the County’s Rural/Natural Resource element of the Washington County Comprehensive Plan and the County’s Exception Statement Document, dated September 9, 1986 regarding the Bendemeer Area are in the record and describe the Bendemeer Area as an area that meets the definition of lands that are a “Physically Developed and Committed Area” and thus not suitable for agricultural protection.

ORS 197.298 establishes “Priority of land to be included within urban growth boundary”. This statutory provision creates a priority system for identifying which land should first be considered for inclusion within an urban growth boundary (UGB), requiring designated urban reserves and “exception land” be the first places to be drawn from for UGB amendments. Rural Reserves established by administrative rule cannot be selected ignoring this important statutory priority as a UGB land source that exception lands enjoy.

This is especially true when land mere yards away away is zoned EFU but proposed for designation as Urban Reserve . It is impermissible to select nearby and distant Goal 3

April 19, 2011

Page 6

“Agricultural Land” zoned EFU urban reserve but make perfectly acceptable exception land mere yards from a proposed “Urban Reserve” a “Rural Reserve.” To do so would have the legal framework exactly backwards. If there is a specific area land need then the region must draw from the exception land in the area to designate as urban reserve. The region cannot ignore the available and nearby exception land and take in Goal 3 Agricultural Lands. If the region has land supply needs, it must take those needs from exception lands. Here, the proposal is to designate large swaths of EFU zoned land as “Urban Reserve” and the subject 10 acres of exception land as “Rural Reserve.” This the region may not do. At a minimum the subject 10 acres must be left as “Undesignated.”

SUBJECT PROPERTY'S AREA PROXIMATE TO INDUSTRIAL AND INSTITUTIONAL LANDS; PUBLIC FACILITIES FOR INDUSTRIAL USES ARE INSTALLED ACROSS THE STREET

The Bendemeer Area is located immediately north of the North Hillsboro Industrial Area, one of the largest contiguous industrial areas in the State of Oregon. Served by the Sunset Highway and two major interchanges at NW Cornelius Pass Road and Shute/Helvetia Road, this industrial area is home to Intel Corporation's largest employment center, housed on three major campuses in the North Hillsboro Industrial Area. Bendemeer is located less than 2 miles from Intel's Ronler Acres Campus, which is one of the largest and most capital intensive industrial sites in the world. Across West Union Road from Bendemeer is another Intel campus site, held by Intel for its future needs. Many other industrial users large and small call the North Hillsboro Industrial Area home. Larger industrial companies such as Genentech and Solar World, Radysis, Tri-Quint Semiconductor and FEI are located in this area as well as smaller companies such as Accumed, Pinnacle Exhibits, Beaverton Foods, Estrogen, West Coast Coffee Company, Parr Lumber and Columbia Industries. The Bendemeer Area is located directly adjacent to a highly successful employment area with excellent prospects for creating additional employment in the future.

The Hillsboro School District's Liberty High School is also located close by in the North Hillsboro Industrial Area and serves the Bendemeer Area as do two local elementary schools, Lennox and West Union, which are located in the adjacent Rock Creek neighborhood and in the agricultural area west of Helvetia Road, respectively. Urban water and sanitary sewer utilities are located (across the West Union from) adjacent to Bendemeer and are provided by the Tualatin Valley Water District and the City of Hillsboro and are shown on Exhibit E.

WASHINGTON COUNTY URBAN AND RURAL RESERVES TECHNICAL ANALYSIS

The Washington County Department of Land Use and Transportation Long Range Planning Division submitted a technical analysis to the Washington County Reserves Coordinating Committee on August 3, 2009, titled “Urban and Rural Reserves Planning in Washington County / Staff Report Urban and Rural Reserves Recommendations”. This draft report was supplemented by September 1<sup>st</sup> and September 23<sup>rd</sup>, 2009 Staff Reports. These

reports were further supplemented by five appendices supporting and describing recommended Urban and Rural Reserves. These reports with their supplementary material, provided by Washington County cities and the public, provided the technical basis upon which the County based their Urban and Rural Reserve recommendations designating the Bendemeer Area as an Urban Reserve. A review of the August 3<sup>rd</sup> and September 23<sup>rd</sup> staff reports and appendices show why this conclusion was a logical assumption based upon the Urban and Rural Reserve Factors provided by Oregon Administrative Rule 660-027.

The Area within which the subject 10 acres of exception land exists ranked high as an eligible Urban Reserve on Map 2 primarily because of it is adjacent to the existing UGB and the associated existing urban utilities and their service providers. Map 4, depicts the Oregon Department of Forestry "Wildland Forest Inventory" describing the Area as "Low Density Residential/Commercial". Map 5 depicts the "Metro Natural Landscape Features Inventory". This map shows no major natural landscape features on the subject property or in the Bendemeer area. The County's Rural/Natural Resource Plan identifies a "Water Areas, Wetlands and Fish and Wildlife Habitat" along Holcomb Creek which runs through the east most 3 lots of the Bendemeer Area immediately west of Cornelius Pass Road, affecting less than 10 acres of the Area's 130 acres. This does not in any way affect the subject 10 acres.

Map 9 depicts the Area as highly suitable for an Urban Reserve designation. Maps 11, and 12 depict the Area ranking "Highly Suitable" for future sewer and water utility extensions. Map 13a, Transportation Connectivity Suitability, ranks the Area highest for transportation connectivity, relative to other areas. Map 18, Water Resources, show the subject 10 acres and its larger exception area is not within the Tualatin Valley Irrigation District Boundary, nor does it include properties with water rights.

Maps 23 and 24, show the relative size of land parcel and ownership patterns within the area confirming the smaller lot sizes within the Bendemeer Area. Maps 25 and 26 describe Rural Residential Dwelling Density, also confirming the individual ownership of the small lots within the Bendemeer exception area.

Maps 27 and 28, Farm Analysis Tiers and Sub-Areas define the relative suitability of land for Rural Reserve designation and this deserves some scrutiny. Out of four tiers, with Tier 1 being the most suitable for being classified as a "Rural Reserve" and Tier 4 the least suitable for being classified as a "Rural Reserve", the Bendemeer Area was ranked near the bottom for rural reserve suitability – being put into Tier 3 in Sub-Area 14. Sub Area 14 is defined on page 33 of the August 3<sup>rd</sup>, 2009 Urban and Rural Reserve Staff Report, as having higher urbanization potential and lower agricultural productivity primarily because of the smaller parcels and higher dwelling unit density of the area. This "Tier" analysis erroneously presumed that an exception area could be classified as "Agricultural Lands." However, as noted below this is impossible: OAR 660-033-0020(1)(c) specifically excludes exception lands from the definition of "Agricultural Lands." On the other hand, many of the areas proposed to be designated as Urban Reserves, are areas currently designated Exclusive Farm Use by Washington County's

April 19, 2011

Page 8

Rural/Natural Resource Plan and subject to Statewide Planning Goal 3 (Agriculture). Moreover, the Goal 3 Agricultural land proposed to be designated Urban Reserve in Area 8 and others nearby is located a stone's throw to Bendmeer being situated on the northwest corner of 185<sup>th</sup> and West Union Rd. If one excludes exception lands from the Agricultural analyses and includes only "Agricultural Lands" as defined in state law, then it is clear the subject 10 acres would have been "Tier IV" (lowest suitability) for becoming a "Rural Reserve." In this regard, Maps 19, 20 and 21 regarding agricultural suitability are only relevant for nonexception lands, given it is impossible for exception lands to be "Agricultural lands."

Maps 30, 31, 32 and 33 describe Forest Analysis Tiers, Metro Natural Landscape Features Inventory, Important Natural Landscape Features (INLF) Overlay and Important Natural Landscape Features Composite Tiers, respectively. This has been updated by maps in the supplemental record and in both there are still no such resources listed for the subject property, significant or otherwise.

#### GROWTH ESTIMATES AND FUTURE LAND NEEDS

Pursuant to Oregon Administrative Rule (OAR) 660-027-0040 (2), land designated Urban Reserve in the Metro Region must be based on estimated population and employment growth. To comply with this rule Washington County prepared population and employment forecasts for the County. This was a rigorous forecast process which is explained generally in the September 23<sup>rd</sup> Staff Report on pages 14-16. Also a memorandum in the record from the Washington County Planning Directors to the Washington County Reserves Coordinating Committee, titled "Addendum to May 11<sup>th</sup> Staff Report on Land Needs Estimates for Urban Reserves- Corrections to technical analysis", dated June 4, 2009 (hereinafter "Need Memorandum"). Land needs estimates are shown in Appendix 4-(A-1 and A-2) of this Need Memorandum. The conclusion of the County's forecasting work estimated a 2060 demand for additional residential and non-residential urban land of somewhere between a low range of 27,722 gross acres and high range of 66,934 gross acres. The 2050 demand for residential and non-residential land was estimated to be within a range of 17,734 and 50,411 gross acres.

Metro's "Urban and Rural Reserves 2009-2050/2060 Chief Operating Officer Recommendation", dated September 15, 2009 recommends a much smaller urban land need estimate based on the expectation that the Region will be able to efficiently utilize existing zoning capacity through redevelopment supported by targeted urban infrastructure investment in the region's downtowns, main streets and corridors. The Metro estimate of land need is based on the region's 2040 growth strategy and assumes that between 19 percent and 29 percent of future residential growth and key employment opportunities would occur on the land newly added to the existing UGB resulting in a Metro estimated urban reserve land need of between 15,700 and 29,100 acres. The total Urban Reserve acreage proposed for inclusion in this process for the entire Metro region is 28,165 acres, 1,165 acres short of the Metro high estimate of 29,000 acres.

Exhibits to the "Intergovernmental Agreement Between Metro and Washington County to Adopt Urban Reserves" describe the results of the Core 4 Urban and Rural Reserve

April 19, 2011

Page 9

deliberations, resulting in a 50 year Urban Reserve addition in Washington County of approximately 13,500 acres, far below the estimated land need supported by Washington County. The total Urban Reserve acreage proposed for the entire Metro region is 28,165 acres of urban reserves: Washington County having 13,500 acres; Clackamas County having approximately 13,700 acres and Multnomah County having 855 acres.

Given the range of assumed urban land to be needed over the next 50 years it would be consistent with both the Washington County and Metro land need estimates to designate the subject 10 acre "exception" parcel located directly adjacent to a highly successful industrial area as either urban reserves or "Undesignated". However, in no case is it consistent with law including the County's own analysis of it to make the subject 10 acres a "Rural Reserve."

#### URBAN AND RURAL RESERVE FACTORS

OAR 660-027-0050 and 0060 define the factors to be considered when determining whether an area within the Metro area should be classified as an Urban or Rural Reserve. Considering both Urban and Rural Reserve Factors, we believe that the Bendemeer Area is better suited for an Urban Reserve designation or left undesignated rather than being designated Rural Reserve. The Rural Reserve Factors express the intent to designate as Rural Reserves those lands most suitable for sustaining long-term agricultural and forestry operation on large blocks of land taking into account, parcelization, tenure and ownership patterns. As previously discussed, the subject property and indeed the 130 acre Bendemeer area within which it is situated is not consider "Agricultural Land" for long term agricultural (or forest) use as a matter of law. The subject 10 acres (and the Bendemeer area) is an acknowledged "exception area", not subject to Statewide Planning Goal 3, Agriculture. Rather, the subject 10 acres is an acknowledged residential area, that is highly parcelized composed of small residential lots with many ownerships.

The subject property has no indentified significant natural resources and is not located nearby to any identified significant natural resources to allow it to be designated as a "Rural Reserve" on any sort of extraordinary basis.

The subject 10 acres if anything meets the Urban Reserve factors: it is adjacent to existing urban utilities inside the UGB, making it relatively easy to efficiently extend public utilities. Water and sewer service are available from the City of Hillsboro, Clean Water Services and the Tualatin Valley Water District, all agencies among the most financially capable service providers in the Metro Region. The area is currently served by the Hillsboro School District, one of the largest school districts in the State.

Moreover, the existing street network (including NW Bendemeer Road, NW Old Pass Road and NW 212<sup>th</sup> and 214<sup>th</sup> Place) provide a strong foundation for future traffic and pedestrian circulation. Sidewalks within Bendemeer already exist along Cornelius Pass Road and West Union Road adjacent to the existing Bendemeer commercial area. As the areas within the existing UGB develop, sidewalks will be constructed adjacent to and connect the Bendemeer area with existing development south of West Union Road. Sidewalks adjacent to Bendemeer



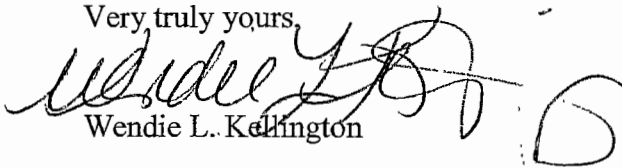
currently exist on NW Century Boulevard at the intersection of NW Dick Road and West Union, on NW Mauzey Road located east of West Union Road across from the Bendemeer commercial center and on Cornelius Pass Road south of West Union. These sidewalks and streets within the UGB connect the subject 10 acres (and its Bendemeer area) directly to the residential and industrial employment areas within the adjacent UGB.

If the County makes a policy choice not to make the subject 10 acres Urban Reserve, then it must simply leave it as "Undesignated." But there is no justification to make it a "Rural Reserve."

SUMMARY

The subject 10 acres is an acknowledged and designated "exception area". It is not subject to Goal 3 and as a matter of law does not contain "Agricultural Lands." It does not contain identified natural resources. It is located within a residential area containing a historical small lot pattern with varied ownerships. The subject property is well placed to provide additional housing capacity very close to a very highly developed employment area. Its location is so good for this purpose in fact that it was recommended for urban reserve designation by the county's professional staff and first planning commission recommendation. Adjacent utilities can be provided easily to the property and indeed the entire 130 acre exception area in which it is located and transportation access to the area can easily be connected to the adjacent employment area making easy access for pedestrians and bicyclists to get to work and schools. Thus, designating the subject property as "Urban Reserve" or leaving it as "Undesignated" are the only categories that could conceivably be consistent with law. However, in no way are we aware of any justification to make the subject property a "Rural Reserve." We request the county remove the proposed Rural Reserve designation of the subject 10 acres.

Very truly yours,



Wendie L. Kellington

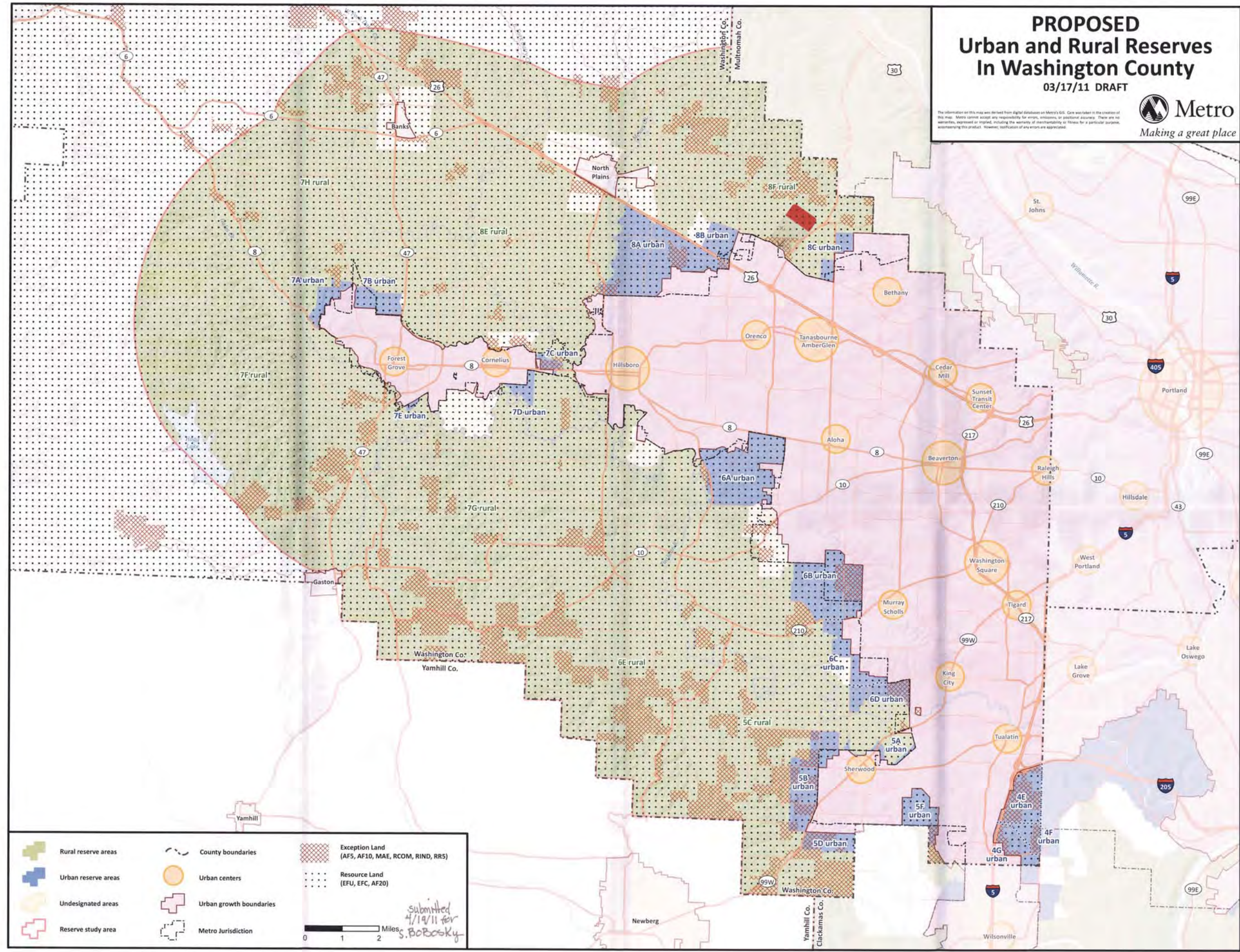
WLK:wlk  
Enclosures  
CC: Clients

# PROPOSED Urban and Rural Reserves In Washington County

03/17/11 DRAFT



The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose. However, notification of any errors are appreciated.



	Rural reserve areas		County boundaries		Exception Land (AFS, AF10, MAE, RCOM, RIND, RRS)
	Urban reserve areas		Urban centers		Resource Land (EFU, EFC, AF20)
	Undesignated areas		Urban growth boundaries		
	Reserve study area		Metro Jurisdiction		

0 1 2 Miles

*Submitted 4/19/11 for S. BoBosky*



SEARCH THE SITE [input field] [button]

- HOME
- CALENDAR
- PLACES AND ACTIVITIES
- GARBAGE AND RECYCLING
- SUSTAINABLE LIVING
- PLANNING AND CONSERVATION
- MAPS AND DATA
- GRANTS
- JOB AT METRO
- VOLUNTEER
- DOING BUSINESS
- NEWS
- ABOUT METRO
- METRO COUNCIL
- OFFICE OF THE AUDITOR
- COMMITTEES AND PUBLIC PARTICIPATION
- MISSION, CHARTER AND CODE
- FINANCES AND FUNDING
- MANAGEMENT AND WORK TEAMS
- HOW ARE WE DOING?
- PUBLIC RECORDS REQUESTS
- CONTACT METRO
- CONNECT WITH METRO

SUBSCRIBE TO FEED  
 RSS  
 SUBSCRIBE TO DIGEST  
 You can receive daily, weekly, or monthly e-mail digests of newsfeed posts. [Sign up for digest](#)

CONNECT WITH METRO  
 [Facebook icon] [Twitter icon] [LinkedIn icon]

503-797-1700  
 503-797-1804 TDD  
 503-797-1797 fax

# Rex Burkholder

METRO COUNCIL DISTRICT 5 NEWS  
 ABOUT METRO > METRO COUNCIL > COUNCILOR REX BURKHOLDER

March 17, 2011 9:38 AM

## After marathon meeting, Washington County and Metro agree on reserves plan

Tuesday the 15th the Metro Council and the Washington County Commission worked hard to make history—setting clear boundaries to guide the next 50 years of growth in this region. (full coverage below) The process was long—including seven hours of heartfelt testimony by citizens—but it was also transparent, open and characterized by 12 leaders striving in good faith to ensure the future health and prosperity of our citizens. It was a proud moment that gives lie to those who paint government as venal and under the thumb of special interests. Thanks to Washington County Chair Andy Duyck, Metro President Tom Hughes and my colleagues on both boards

—Rex Burkholder

*By Nick Christensen* This story was not subject to the approval of Metro staff or elected officials. Its content does not necessarily reflect the opinion of Metro staff or councilors

### Reporting from Hillsboro

Urban and rural reserves live

After a nine-hour meeting that at times resembled a cross between the board games Battleship and Clue, the Metro Council and Washington County Commission agreed on a plan for land reserves. The new urban and rural reserves proposal will be sent to the Land Conservation and Development Commission for consideration this summer

In 2010, the commission remanded part of the reserves proposal back to Washington County and Metro chiefly because of concerns about urbanization north of Council Creek near Cornelius

See also [State board's partial remand puts UGB decision in flux \(Oct. 29, 2010\)](#)

The new proposal kept most of what was accepted by the commission. But part of the proposed urban reserve north of Cornelius was changed to undesignated. Areas near Highway 47 north of Forest Grove went from urban to undesignated, and a new undesignated parcel was designated southwest of Aloha

The most controversial element of the proposal, however, was changing an undesignated area north of U.S. 26 and west of Helvetia Road from undesignated to urban

Thus begins Reserves: The Game. After taking public testimony for about seven hours, the boards met in joint session to try and hammer out a compromise each would accept. The baseline was the so-called Duyck/Hughes map, first proposed by Washington County Chair Andy Duyck and Metro Council President Tom Hughes after weeks of negotiations

[Click here to see the Duyck/Hughes map, before the changes agreed to at the March 15 meeting](#)

Up first were Metro councilors, each offering their own opinions on what the final map should look like. Many on the council expressed concern with the idea of designating urban reserves north of the Sunset Highway

"Are we, by adding this change north of 26, putting at risk this whole process?" asked Councilor Rex Burkholder. "We have nothing to judge whether this would be supported by the (state land use) commission or not"

It was up to Washington County Commissioners to start guessing what would be the winning combination on the map. But instead of Miss Scarlet in the library with the candlestick, commissioners were left to figure out what would get three votes on their own board plus pass muster at Metro

Commissioner Dick Schouten made the first guess — make the area north of 26 rural and accept the rest of the Duyck/Hughes map as is. That suggestion failed 4-1 out of concern it wouldn't give Washington County cities enough flexibility if the urban reserves do, one day, run out of suitable land

Next up was Commissioner Roy Rogers, taking the southern portion of the area north of Cornelius and making it an urban reserve, with rural north of Hobbs Road and leaving the area north of the Sunset Highway as undesignated.

April 2, 2011 7:28 AM

REX BURKHOLDER HOME

ABOUT

CONTACT

ISSUES



Rex Burkholder represents District 5, which includes Northwest Portland, North Portland, Northeast Portland, downtown Portland, a portion of Southwest Portland and a portion of Southeast Portland

### CATEGORIES

- activities
- climate change
- Community Investment Strategy
- development
- employment
- finances & funding
- grants
- natural areas
- news coverage
- parks and trails
- personal message
- planning and policy
- public comment
- solid waste
- sustainable living
- transportation
- urban and rural reserves
- urban growth boundary
- visitor venues
- volunteering

### MONTHLY ARCHIVES

- March 2011 (7)
- February 2011 (10)
- January 2011 (9)
- December 2010 (8)
- November 2010 (12)
- October 2010 (9)
- September 2010 (10)
- August 2010 (8)
- July 2010 (8)
- June 2010 (7)
- May 2010 (4)
- April 2010 (7)
- Newsletter archives

### LINKS

- Urban and rural reserves
- Regional Transportation Plan
- Regional infrastructure analysis
- Urban growth report



That motion didn't even get to a vote, after it was withdrawn by Rogers because of opposition on his own board

"As much as I would like to see an urban reserve in Cornelius, I have a fear of LCDC throwing it back," said Washington County Commissioner Bob Terry

Terry then moved to accept the Duyck/Hughes map as-is. That failed 3-2, prompting a break in the action

A 10 minute recess brought intense negotiations around the Shirley Huffman Auditorium. Metro staff and a few councilors met in the back room for a briefing. Joining Hughes and Duyck on the dais were Hughes' successor as Hillsboro Mayor, Jerry Willey, and Duyck's predecessor as county chair, Tom Bnan. Former Metro Councilor Rod Park worked the room.



Members of the Washington County Commission and Metro Council talk during a recess at the March 15 joint meeting. In the background, former Washington County Chair Tom Bnan stands on the dais, talking to his successor, Andy Duyck.

The dealings brought the boards no closer to a consensus. With the Metro Council taking the lead in the session that followed, Councilor Carl Hosticka moved to accept most of the Duyck/Hughes map, but with some of the area nearest Cornelius left undesignated, as with all of the land north of Council Creek.

The Metro Council passed that 7-0, and at 6:22 pm, recessed.

Schouten moved to accept Metro's proposal, but adding no new urban reserves wasn't good enough for the Washington County commissioners.

"I am not comfortable with the current proposal, with no urban reserves in any of it at all," Terry said. "I think some of it should be urban reserves."

Schouten's motion failed 3-2, with Commissioner Greg Malinowski the only supporting vote.

The next proposal, from Terry, was the same as the Metro proposal, but included the area north of U.S. 26 as an urban reserve. That passed 3-2, with Schouten and Malinowski opposed.

At 6:37 pm, the Washington County Commission recessed.

Metro Councilors expressed dismay that the proposal would have to include any urban reserves north of U.S. 26.

"I respect my colleagues' concern for changing any portion of Area D to urban reserve," said Councilor Kathryn Hamngton, who was Metro's lead negotiator on reserves until this year. "I don't get to make this decision by myself. I don't get to make a proposal to LCDC by myself. I do it as a member of the Metro Council and the Metro Council does so in association with our three county partners."

But with Washington County seemingly unbending, the council voted 6-1 to approve a motion, put forth by Councilor Carlotta Collette, to designate areas east of Groveland Road, between U.S. 26 and West Union Road, as an urban reserve. Councilor Shirley Craddick cast the lone dissenting vote.

The Washington County Commission voted 3-2 to support the Metro Council proposal. The meeting concluded at 6:59 pm, nine hours after it began.

The boards will have to vote on formal agreements next month, leading up to the anticipated review by the state land commission in August.

[Click here](#) to learn more about urban and rural reserves.

SHARE THIS:

METRO HOME | PLACES AND ACTIVITIES | GARBAGE AND RECYCLING | SUSTAINABLE LIVING | PLANNING AND STEWARDSHIP | MAPS AND DATA | GRANTS | JOBS AT METRO | VOLUNTEER | DOING BUSINESS | NEWS | CALENDAR | ABOUT METRO |

© 2011 Metro Regional Government. All rights reserved.  
Contact [feedback@oregonmetro.gov](mailto:feedback@oregonmetro.gov) with questions regarding this site.

2

Dan Olsen read the proposed ordinance by title.

Tom Tushner stated that Ordinance 738 is a revision of the County road standards. He explained that the road standards are used by the engineering community in the construction of capital improvements to the County's road-related infrastructure. Mr. Tushner indicated that Ordinance 738 contains housekeeping items and updates to the current Washington County Uniform Road Improvement Design Standards. He reviewed that road standards were last updated in 1998 and enumerated some of what the update will accomplish:

- Incorporate new graphics for typical sections
- Incorporate changes in materials, processes and technologies
- Provide clarifications of interpretations of standards encountered in the last 13 years
- Incorporate design standard changes that have taken place since 1998
- Encourage low-impact development approaches
- Set standards for roadways, pedestrian and bike facilities
- Add standards for both landscaping and illumination

Mr. Tushner informed the Board that the proposed standards have been widely circulated. He recommended that the Board adopt Ordinance 738, replacing Ordinance 524.

The public hearing was opened.

No public testimony was offered.

The public hearing was closed.

It was moved to adopt Ordinance No. 738.

Motion – Rogers

2<sup>nd</sup> – Malinowski

Vote – Terry

Vote – 5-0

Roll Call: All Aye

Commissioner Schouten stated that this is largely a housekeeping ordinance that does contain fairly detailed technical information. He said that there are some pieces in the ordinance that the Board needs to revisit at some point as it re-looks at the Transportation System Plan. Commissioner Schouten's understanding was that the Board will have the chance in the future to get into the policy implications, road design width, and other issues.

3

Andrew Singelakis confirmed that broader changes would come in through the Transportation System Plan update and be implemented later. He said that this ordinance is really intended to be housekeeping and to provide better graphics in the document.

Chairman Duyck commented that he appreciated that this is what the ordinance consisted of. He said that he looked through it to see whether this would add a lot of cost to the County's transportation projects and did not see that would be the case. Chairman Duyck noted that the ordinance mostly codifies standard practices.

Mr. Singelakis agreed with the Chair's assessment.

Commissioner Terry added that it appears that we are already doing some of what is in the ordinance now.

Commissioner Schouten asked if the ordinance reflects work done by Greg Miller.

Mr. Singelakis affirmed that this is the case. He announced that Greg Miller, who is retiring March 1, 2011 due to health reasons, was the primary author of this ordinance and wants it to move forward.

#### **4. LAND USE AND TRANSPORTATION**

4.a.

RO 11-12

Consider a Revision to Resolution and Order 10-118 to Extend the Deadline for Metro's Adoption of the Supplemental Intergovernmental Agreement Concerning Urban and Rural Reserves (All Rural CPOs and CPOs 9, 12F, 12C, 4B, 5 and 6)

Chairman Duyck offered to provide a history of this item for the benefit of new Board members. He reviewed that the Board adopted an IGA with Metro last summer and a subsequent ordinance put those changes into code. Chairman Duyck recalled that the IGA then went before LCDC, who remanded portions of it back to the County. He said that in adopting a subsequent IGA (which had a deadline of February 15, 2011), Metro had concerns about that IGA. Chairman Duyck stated that those concerns have not yet been resolved. He explained that the purpose of the extension is to give time to work with Metro to resolve them.

Brent Curtis said that the original Resolution and Order, which staff is asking the Board to amend today, was adopted by the Board on December 14, 2010. He stated that at the same time, the Board directed staff to file an ordinance which would conform our land use plan to the substance of the IGA. Mr. Curtis reported that staff has filed an ordinance and provided notice. He said that there will be a Planning Commission hearing on March 2, 2011 and a hearing before the Board on March 15, 2011.

Mr. Curtis stated that if the ultimate IGA between Metro and Washington County gets formulated in the next month, it may be different than this IGA and staff will have to

4

amend the IGA and engross the ordinance. He said that it is exactly parallel to what happened last year when the Board and Metro worked together to come up with Reserves.

Mr. Curtis clarified that this particular item today simply extends the deadline for the IGA from February 15 to March 15, 2011. He said that a parallel action that has already been put into motion has an ordinance going in front of the Planning Commission on March 2<sup>nd</sup> and the Board on March 15<sup>th</sup>. Mr. Curtis summarized that these all deal with Reserves and the oral remand that LCDC provided in October of last year.

Chairman Duyck asked if there is still time to engross the ordinance and meet the deadlines if the IGA is modified.

Mr. Curtis responded that staff is working with Metro on not only the substance of the IGA but also on the process. He said that depending on nuances about hearing times, locations, etc., we may end up taking a few more weeks than originally anticipated. Mr. Curtis stated that as a general matter, we believe that several extra weeks are very tolerable and would be consistent with moving the item forward to LCDC. He said that staff is continuing to explore and ensure that those options would meet LCDC's needs as well.

Chairman Duyck's understanding was that even if we adopt a new IGA and new ordinances, there is still time before LCDC takes it up—which gives us a little flexibility. He said that they are talking about doing it after the Legislative Session, which puts it sometime into August.

Mr. Curtis reviewed that the original timeframe in the original resolution had us being done with the IGA and ordinance by early April and then sending to LCDC. He said that LCDC would then have a number of months to consider it between the middle of April and early August. Mr. Curtis stated that if we happened to take several more weeks, we think that will still be consistent. He said that once the Board takes its action in terms of the IGA, both Metro and Washington County have to have similar actions; it's an IGA that has to have the singular content that both agree to. Mr. Curtis stated that we then conform our plan and Metro conforms their plan, following which we send it to LCDC. He specified that this is what LCDC evaluates. Mr. Curtis said that when we get to April and consider the land use ordinances and engross land use ordinances to conform to the ultimate agreement between Metro and Washington County, that will put in place the sentiment of Metro and Washington County (as well as the other two counties) and will go to LCDC for review. He stated that it is between now and whatever the schedule dictates in April that the Board and Metro will arrive at a response to the oral remand LCDC provided last year.

Commissioner Schouten asked when the Planning Commission meetings are held.

Brent Curtis responded that the Planning Commission typically meets twice a month; they meet in the afternoon on the first Wednesday of the month and they meet in the evening on the third Wednesday of the month.

Commissioner Schouten ascertained that the Planning Commission's meeting on March 2<sup>nd</sup> will be in the afternoon.

Mr. Curtis affirmed that the meeting has a 1:30 p.m. public hearing time on that date.

Commissioner Schouten asked if the Board will meet in the morning or evening on March 15, 2011.

Mr. Curtis replied that that will be a 10:00 a.m. meeting.

Commissioner Schouten asked how soon prior to March 2<sup>nd</sup> the public would have the ability to see the Planning Commission materials. He also wanted to know what the materials would consist of.

Mr. Curtis stated that the subject of the March 2<sup>nd</sup> Planning Commission hearing is the ordinance. He said that it conforms our land use plan to the substance of the IGA that the Board adopted on December 14, 2010. Mr. Curtis stated that the substance of the Board's hearing on March 15<sup>th</sup> is the same. He indicated that the map has been known since December 14, 2010 and is out there. Mr. Curtis remarked that the subject of today's meeting is to extend the deadline that was placed in the original amendment to the IGA, to provide another month for Metro and Washington County to work on this. He indicated that this lets Metro and Washington County see if, first, Metro agrees with the Board's original December 14<sup>th</sup> decision and, if it does not, potentially the Board could arrive at a new understanding of mutual agreement about the content of an IGA in this subsequent month.

Mr. Curtis stated that assuming the Board adopts this today, another month will be provided for Metro and Washington County to work together. He noted that we do not know exactly when that agreement will come together and felt that Chairman Duyck is in a better position to speculate about that. Mr. Curtis summarized that we do not know the substance of a decision and we cannot provide that to the public because it has not been arrived at by the parties (Metro Council and Washington County Board). He said that if it is a different map than adopted on December 14<sup>th</sup>, then staff will have to amend this IGA again in regard to substance and will have to engross Ordinance 740.

Chairman Duyck regarded the action item before the Board today as more of a courtesy to Metro. He said that we have to keep in mind that we have a new Metro Council and Metro is in the process of replacing one Councilor who has resigned. Chairman Duyck summarized that the Council is in flux and needs additional time; he felt that the Board should provide that time out of courtesy. He said that it is conceivable that, if the IGA was amended, it would come before the Board at the first meeting in March—the same

6



meeting where the Board would likely be taking action to engross the ordinance. Chairman Duyck observed that this does not give people a lot of time to see it but noted that we are under that time sequence that we are trying to stay on track with. He reported that the County is still talking with Metro. Chairman Duyck anticipated that Metro will probably make a proposal this week and, if it is acceptable, we will be able to roll it out to the public as soon as possible.

Commissioner Schouten stated that all indications are that Metro will not support the maps that came out of the December 14<sup>th</sup> meeting. He felt that the public is interested in seeing the new maps.

Commissioner Malinowski said he has always had concerns about the lack of public ability to help shape the decision on December 14, 2010. He admitted that people did have their say. Commissioner Malinowski's thought was that December 14<sup>th</sup> action was taken because time was of the essence as we tried to get something to Metro. He reflected that there was not time to involve the public. Commissioner Malinowski said that since it has turned out that Metro has not gotten to it, we did have more time. His concern going forward was that if Metro and the Board come to a deal, by the time we ask the public what they think, it will be a "yes or no and thanks for coming" kind of thing rather than a "okay let's shave this off and add this on". Commissioner Malinowski stated that if the public can be involved, they should be involved as we are actually cutting the maps and not just after the fact. He was not sure why we do not need to involve the public more.

Chairman Duyck summarized that the action today is whether the Board extends more time for Metro to make this decision.

It was moved to approve the date change to Resolution and Order 10-118 as described in the agenda item and to authorize the Chair to sign a new Resolution and Order memorializing the change.

Motion – Rogers  
2<sup>nd</sup> – Terry  
Vote – 4-0-1  
(Abstain – Malinowski)

Commissioner Rogers said that it is only fair to allow Metro to look at making changes. He recognized that this has been a very difficult process. Commissioner Rogers noted that this will be the third time that the Board has seen this. He respected the Metro Councilors and their opinions. Commissioner Rogers was very much in favor of extending the time. He wondered if this is adequate time and hoped that it is.

**OFFICE OF COMMUNITY DEVELOPMENT**

1.f.  
MO 11-24

7

Approve Lifeworks NW Request to Assume the CDBG Obligations of A Child's Place Public Facility Under Modified Terms of the CDBG Project Agreement and Trust Deed

It was moved to authorize the County Administrator to execute an amendment to the 2004 CDBG Project Agreement with A Child's Place to provide that the lien and restriction on the property will expire on June 30, 2015 and to authorize the County Administrator to execute an Assignment, Assumption and Consent Agreement allowing Lifeworks NW to assume the obligations of A Child's Place under the 1994 and 2004 CDBG award, as amended.

Motion – Rogers  
2<sup>nd</sup> – Schouten  
Vote – 4-0

Commissioner Terry was away from the dais at time of vote.

Commissioner Schouten was delighted for another organization to come in and provide services to children—something a little different at the site—and to be able to take advantage of the unique fixtures/appliances there geared toward use by small children. He stated that this allows us to be able to maintain value and to protect the private and public investments that were made there. Commissioner Schouten was pleased that we were able to find another purchaser and provider of services there.

**5. ORAL COMMUNICATION (5 MINUTE OPPORTUNITY)**

None.

**6. BOARD ANNOUNCEMENTS**

None.

**7. ADJOURNMENT: 10:40 a.m.**

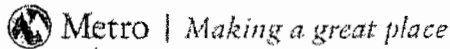
Motion – Terry  
2<sup>nd</sup> – Schouten  
Vote – 5-0

**MINUTES APPROVED THIS \_\_\_\_ DAY \_\_\_\_\_ 2011**

\_\_\_\_\_  
**RECORDING SECRETARY**

\_\_\_\_\_  
**CHAIRMAN**





SEARCH THE SITE  
Advanced Search

- HOME
- CALFNDAR
- PLACES AND ACTIVITIES
- GARBAGE AND RECYCLING
- SUSTAINABLE LIVING
- PLANNING AND CONSERVATION
- MAPS AND DATA
- GRANTS
- JODS AT METRO
- VOLUNTEER
- DOING BUSINESS
- NEWS
- ABOUT METRO
- METRO COUNCIL
- OFFICE OF THE AUDITOR
- COMMITTEES AND PUBLIC PARTICIPATION
- MISSION, CHARTER AND CODE
- FINANCES AND FUNDING
- MANAGEMENT AND WORK TEAMS
- HOW ARE WE DOING?
- PUBLIC RECORDS REQUESTS
- CONTACT METRO
- CONNECT WITH METRO

**SUBSCRIBE TO FEED**  
RSS

**SUBSCRIBE TO DIGEST**  
You can receive daily, weekly, or monthly e-mail digests of newsfeed posts. Sign up for digest.

**CONNECT WITH METRO**

503-797-1700  
503-797-1804 TDD  
503-797-1797 fax

# Kathryn Harrington

METRO COUNCIL DISTRICT 4 NEWS  
 ABOUT METRO » METRO COUNCIL » COUNCILOR KATHRYN HARRINGTON

March 10, 2011 4:55 PM

## Highlights of the revised Washington County reserves proposal

On Feb. 22, Metro Council President Tom Hughes and Washington County Chair Andy Duyck unveiled a revised proposal for urban and rural reserves in Washington County. This proposal was offered in response to direction provided by the Oregon Land Conservation and Development Commission (LCDC) last October, asking the two governments to revise the map they submitted for review and approval. (At the same time LCDC accepted proposed urban and rural reserve maps for Clackamas and Multnomah counties without changes.)



Specifically, LCDC rejected a proposed urban reserve north of Cornelius, 623 acres in size, citing its value to the agricultural community in northern Washington County. LCDC also asked Metro and Washington County to re-evaluate a proposed urban reserve north of Forest Grove and determine whether it meets established factors for designation as an urban reserve.

Because of the exclusion of the urban reserve north of Cornelius and the uncertainty over the amount of land that would be included as urban reserve, LCDC did not approve the proposed rural reserves in the county. This left Metro and Washington County with the flexibility to find appropriate and suitable urban reserves elsewhere in the county if the two governments chose to replace all or a part of the Cornelius urban reserve. LCDC instructed that the total amount of urban reserves in Washington County could not exceed the total amount from the map proposed last fall (13,884 acres).

Staff and elected officials from Metro and Washington County have worked to revise the map to follow LCDC's instructions and provide sufficient urban reserves to meet future growth needs while maintaining protections for valuable farm and forest lands. Since LCDC was supportive of the urban reserves proposed for Washington County, aside from the two areas north of Cornelius and Forest Grove, the revised map now under consideration includes all of the other original urban reserve areas proposed for Washington County. These urban reserve areas were designated after extensive analysis and public review over a period of more than two years.

Download the map that illustrates changes to the Washington County reserves proposal [PDF]

The new reserves map for Washington County features the following changes to last fall's proposal:



- Of the 623 acres of urban reserves proposed north of Cornelius (formerly labeled as "Urban Reserve 71"), 426 acres are now proposed as rural reserve that will be excluded from urban development for 50 years. The remaining 197 acres on the eastern side of this former urban reserve are proposed to be included as "undesignated" land that is neither urban nor rural reserve. This area includes what is known as "exception land" (lower-quality farmland), has existing non-farm uses, and generally consists of smaller parcels owned by multiple owners. As undesignated land, it would be of lower priority for future urban growth boundary expansions, as state law requires the Metro Council to look to urban reserve lands first. If the Metro Council wishes to expand the urban growth boundary onto undesignated land, it must demonstrate that undesignated land serves growth needs that cannot be met inside the urban growth boundary or on designated urban reserves across the region.
- In the proposed 508-acre urban reserve north of Forest Grove (Urban Reserve 7B), only 28 acres, between Council Creek and Highway 47, were removed and proposed to become undesignated land, while the rest of the proposed urban reserve remains intact. This addresses the primary area of concern expressed by LCDC about providing urban reserve land north of Council Creek and allowing the creek to serve as a natural buffer between farmland and future urban growth. This retains the remainder of the urban reserve area to meet future housing and employment needs.
- A new urban reserve of 585 acres is proposed on previously undesignated land

April 2, 2011 7:23 AM  
 KATHRYN HARRINGTON HOME  
 ABOUT  
 CONTACT



Kathryn Harrington represents District 4, which includes Northern Washington County, Cornelius, Hillsboro, Forest Grove, Northwest Beaverton, Aloha, Bonny Slope, Bethany, Raleigh Hills, West Slope, Cedar Mill and Cedar Hills.

- CATEGORIES**
- activities
  - climate change
  - Community Investment Strategy
  - development
  - employment
  - finances & funding
  - grants
  - natural areas
  - news coverage
  - parks and trails
  - personal message
  - planning and policy
  - public comment
  - solid waste
  - sustainable living
  - transportation
  - urban and rural reserves
  - urban growth boundary
  - visitor venues
  - volunteering

- MONTHLY ARCHIVES**
- March 2011 (9)
  - February 2011 (4)
  - January 2011 (7)
  - December 2010 (5)
  - November 2010 (7)
  - October 2010 (7)
  - September 2010 (28)
  - August 2010 (16)
  - July 2010 (4)
  - June 2010 (7)
  - May 2010 (1)
  - April 2010 (3)
  - Newsletter archives

- LINKS**
- Urban and rural reserves
  - Regional Transportation Plan
  - Regional infrastructure analysis
  - Urban growth report

9

north of and adjacent to Highway 26, south of Northwest West Union Road, and adjacent to previously designated Urban Reserves 8A and 8B. This land, with its flat topography and connections to existing transportation routes, provides a suitable alternative for future employment and housing to make up for the previously identified reserves north of Cornelius. Leaders from the City of Hillsboro and Washington County have also indicated that they have the willingness and financial capacity to provide essential public services to serve future growth in this area.

- A 383-acre undesignated area is proposed south of Southwest Rosedale Road and north of Southwest Farmington Road, adjacent to proposed Urban Reserve 6A. This land was previously proposed as rural reserve but is proposed as undesignated land to provide additional flexibility, if it should ever be needed, for urban development south of Hillsboro and west of Beaverton.

If these changes are adopted, along with the other urban and rural reserves proposed for Washington County, there will be a total of 13,745 acres of urban reserves and 151,372 acres of rural reserves in Washington County. (Note: these acreage totals are slightly different from what was announced in February. These revised numbers reflect refinements to the boundaries of urban and rural reserves to account for street right-of-ways, floodplains and alignment of tax lots.)

The proposed urban and rural reserves map for Washington County, and the contractual language between Metro and Washington County that administers the urban and rural reserves, must be approved by both the Metro Council and the Washington County Board of Commissioners. This agreement will be considered at a public meeting to be held on Tuesday, March 15, beginning at 10 a.m. in the auditorium of the Charles D. Cameron Public Services Building in Hillsboro. Public comment is welcome and encouraged on this reserves proposal through March 15.

Read more about how to provide comment on the Washington County reserves proposal.

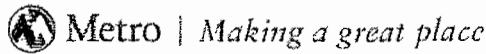
Following adoption of the intergovernmental agreement, the Washington County Board of Commissioners will adopt an ordinance that formally designates the rural reserves, and the Metro Council will adopt an ordinance that formally designates the urban reserves. These land use actions are expected to be completed before the end of April. The revised urban and rural reserves map for Washington County is expected to be reviewed and acknowledged by LCDC before the end of the summer, after which the Metro Council may consider targeted expansions of the urban growth boundary into urban reserves in any of the three counties as needed.

Read more about urban and rural reserves.  
**SHARE THIS:**

METRO HOME | PLACES AND ACTIVITIES | GARBAGE AND RECYCLING | SUSTAINABLE LIVING |  
PLANNING AND STEWARDSHIP | MAPS AND DATA | GRANTS | JOBS AT METRO | VOLUNTEER |  
DOING BUSINESS | NEWS | CALENDAR | ABOUT METRO |

© 2011 Metro Regional Government. All rights reserved.  
Contact [feedback@oregonmetro.gov](mailto:feedback@oregonmetro.gov) with questions regarding this site.

10



SEARCH THE SITE [input field]

# Kathryn Harrington

METRO COUNCIL DISTRICT 4 NEWS  
ABOUT METRO > METRO COUNCIL > COUNCILOR KATHRYN HARRINGTON

April 2, 2011 / 2:26 AM  
KATHRYN HARRINGTON HOME  
ABOUT  
CONTACT

- HOME
- CALENDAR
- PLACES AND ACTIVITIES
- GARBAGE AND RECYCLING
- SUSTAINABLE LIVING
- PLANNING AND CONSERVATION
- MAPS AND DATA
- GRANTS
- JOBS AT METRO
- VOLUNTEER
- DOING BUSINESS
- NEWS
- ABOUT METRO
- METRO COUNCIL
- OFFICE OF THE AUDITOR
- COMMITTEES AND PUBLIC PARTICIPATION
- MISSION, CHARTER AND CODE
- FINANCES AND FUNDING
- MANAGEMENT AND WORK TEAMS
- HOW ARE WE DOING?
- PUBLIC RECORDS REQUESTS
- CONTACT METRO
- CONNECT WITH METRO

## Remember to weigh in on Washington County reserves proposal

Metro and Washington County welcome your feedback and input on the revised urban and rural reserves proposal for Washington County. This proposal will be discussed by the Metro Council and the Washington County Board of Commissioners at a public hearing next Tuesday, March 15, beginning at 10 a.m. at the Charles D. Cameron Public Services Building in Hillsboro (155 N First Ave.).

Learn more about the revised urban and rural reserves proposal for Washington County

Learn more about what's changed on the map from last year, and why

If you cannot attend Tuesday's hearing, there are many other ways to share your views on the proposal:

- Send comments via e-mail to [reserves@oregonmetro.gov](mailto:reserves@oregonmetro.gov). Comments received by 5 p.m. on Friday, March 11 will be included in a public comment report that will be provided to Metro Councilors and Washington County Commissioners before the March 15 hearing and included in the public record.

- Call 503-813-7577 to leave a voice-mail message for the elected officials with views and perspectives on the revised urban and rural reserves proposal

- Call or write directly to members of the Metro Council and the Washington County Board of Commissioners with comments and views on the reserves proposal.

Find out how to reach individual Metro Councilors directly

Find out how to reach individual Washington County Commissioners directly

After Tuesday's hearing, there will continue to be ways to offer your comments:

- The Washington County Board of Commissioners will consider and vote on changes to the county's comprehensive land use plans that would formally designate rural reserves. This action is expected to be completed before the end of March.

- The Metro Council will consider and vote on changes to Metro's ordinances that would formally designate urban reserves. This action is also expected to take place at a public hearing to be held on Thursday, April 21.

- The Boards of Commissioners of Clackamas and Multnomah counties will adopt a revised set of findings that support the complete urban and rural reserves proposal for all three counties. These actions, which will also take place in public meetings, are also anticipated by the end of April.

- Once a revised joint set of findings is adopted by the four governments, that set of findings and the proposed Washington County reserves map will be sent to be reviewed and considered by the Land Conservation and Development Commission by the end of the summer.

Learn more about urban and rural reserves

SHARE THIS:



Kathryn Harrington represents District 4, which includes Northern Washington County, Cornelius, Hillsboro, Forest Grove, Northwest Beaverton, Aloha, Bonny Slope, Bethany, Raleigh Hills, West Slope, Cedar Mill and Cedar Hills

- CATEGORIES
- activities
  - climate change
  - Community Investment Strategy
  - development
  - employment
  - finances & funding
  - grants
  - natural areas
  - news coverage
  - parks and trails
  - personal message
  - planning and policy
  - public comment
  - solid waste
  - sustainable living
  - transportation
  - urban and rural reserves
  - urban growth boundary
  - visitor venues
  - volunteering

- MONTHLY ARCHIVES
- March 2011 (9)
  - February 2011 (4)
  - January 2011 (7)
  - December 2010 (5)
  - November 2010 (7)
  - October 2010 (7)
  - September 2010 (28)
  - August 2010 (16)
  - July 2010 (4)
  - June 2010 (7)
  - May 2010 (1)
  - April 2010 (3)
  - Newsletter archives

- LINKS
- Urban and rural reserves
  - Regional Transportation Plan
  - Regional infrastructure analysis
  - Urban growth report

SUBSCRIBE TO FEED

RSS

SUBSCRIBE TO DIGEST

You can receive daily, weekly, or monthly e-mail digests of newsfeed posts. Sign up for digest

CONNECT WITH METRO

503-797-1700  
503-797-1804 TDD  
503-797-1797 fax

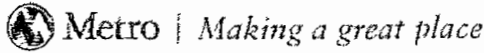


METRO HOME | PLACES AND ACTIVITIES | GARBAGE AND RECYCLING | SUSTAINABLE LIVING |  
PLANNING AND STEWARDSHIP | MAPS AND DATA | GRANTS | JOBS AT METRO | VOLUNTEER |  
DOING BUSINESS | NEWS | CALENDAR | ABOUT METRO |

---

© 2011 Metro Regional Government All rights reserved  
Contact [feedback@oregonmetro.gov](mailto:feedback@oregonmetro.gov) with questions regarding this site





SEARCH THE SITE  
[input field]  
[submit button]

# Carlotta Collette

METRO COUNCIL DISTRICT 2 NEWS  
ABOUT METRO > METRO COUNCIL > COUNCILOR CARLOTTA COLLETTE

Apr 2, 2011 / 31 AM  
CARLOTTA COLLETTE HOME  
ABOUT  
CONTACT

- HOME
- CALENDAR
- PLACES AND ACTIVITIES
- GARBAGE AND RECYCLING
- SUSTAINABLE LIVING
- PLANNING AND CONSERVATION
- MAPS AND DATA
- GRANTS
- JOBS AT METRO
- VOLUNTEER
- DOING BUSINESS
- NEWS
- ABOUT METRO
  - METRO COUNCIL
  - OFFICE OF THE AUDITOR
  - COMMITTEES AND PUBLIC PARTICIPATION
  - MISSION, CHARTER AND CODE
  - FINANCES AND FUNDING
  - MANAGEMENT AND WORK TEAMS
  - HOW ARE WE DOING?
  - PUBLIC RECORDS REQUESTS
  - CONTACT METRO
  - CONNECT WITH METRO

December 10, 2010 11:23 AM

## Statement from Metro Council President Carlotta Collette on urban and rural reserves

Metro is committed to protecting the region's farms and forests and to providing good jobs now and in the future. That's why the Metro Council and its partners recently approved an historic proposal that protects more than 266,000 acres of rural land from development and provides about 28,000 acres to provide jobs and housing for our growing population during the next 50 years.

After a very detailed review of our growth management and land protection strategy, the Oregon Land Conservation and Development Commission asked that our region reconsider just a few small areas in Washington County. On Monday, the Metro Council received a proposal, developed by the chairman and chairman-elect of Washington County, designed to address the LCDC's request

The Metro Council, at its work session today, briefly discussed this proposal. There is no support on the Metro Council for the proposed map.

The Metro Council is committed to reaching agreement on a new urban and rural reserves map for Washington County and completing this effort in a timely, thoughtful and inclusive manner. At multiple phases throughout the urban and rural reserves process, the Metro Council has provided many opportunities for public input. The Metro Council will continue to provide opportunities for the public to comment on any reserves proposal it has under consideration before making final decisions.

Learn more about urban and rural reserves  
**SHARE THIS:**



Carlotta Collette represents District 2, which includes the cities of Gladstone, Johnson City, Lake Oswego, Milwaukie, Oregon City, Rivergrove, West Linn, a portion of Southwest Portland and unincorporated parts of Clackamas County

- CATEGORIES**
- activities
  - climate change
  - Community Investment Strategy
  - development
  - employment
  - finances & funding
  - grants
  - natural areas
  - news coverage
  - parks and trails
  - personal message
  - planning and policy
  - public comment
  - solid waste
  - sustainable living
  - transportation
  - urban and rural reserves
  - urban growth boundary
  - visitor venues
  - volunteer

- MONTHLY ARCHIVES**
- March 2011 (7)
  - February 2011 (6)
  - January 2011 (8)
  - December 2010 (4)
  - November 2010 (4)
  - October 2010 (8)
  - September 2010 (11)
  - August 2010 (14)
  - July 2010 (2)
  - June 2010 (5)
  - May 2010 (12)
  - April 2010 (6)
  - Newsletter archives

- LINKS**
- Urban and rural reserves
  - Regional Transportation Plan
  - Regional infrastructure analysis
  - Urban growth report

**SUBSCRIBE TO FEED**  
RSS

**SUBSCRIBE TO DIGEST**  
You can receive daily, weekly, or monthly email digests of newsfeed posts. Sign up for digest

**CONNECT WITH METRO**  
[Facebook icon] [Twitter icon] [LinkedIn icon] [YouTube icon]

503-797-1700  
503-797-1804 TDD  
503-797-1797 fax

METRO HOME | PLACES AND ACTIVITIES | GARBAGE AND RECYCLING | SUSTAINABLE LIVING |  
PLANNING AND STEWARDSHIP | MAPS AND DATA | GRANTS | JOBS AT METRO | VOLUNTEER |  
DOING BUSINESS | NEWS | CALENDAR | ABOUT METRO |

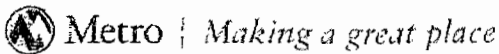
SPEECHES

Councilor Carlotta Collette's 2009  
inaugural remarks

© 2011 Metro Regional Government All rights reserved  
Contact [feedback@oregonmetro.gov](mailto:feedback@oregonmetro.gov) with questions regarding this site

14





SEARCH THE SITE [input field] [button]

- HOME
- CALENDAR
- PLACES AND ACTIVITIES
- GARBAGE AND RECYCLING
- SUSTAINABLE LIVING
- PLANNING AND CONSERVATION
- REGIONAL PLANNING AND POLICY
- URBAN DEVELOPMENT AND REVITALIZATION
- TRANSPORTATION
- NATURAL AREAS, PARKS AND TRAILS
- A BETTER ZOO
- NEW VISION
- IMPORTANCE OF MASTER PLAN
- DESIGN TEAM
- MANAGING GARBAGE AND RECYCLING
- POLICY AND PLANNING NEWS
- PLANNING LIBRARY
- MAPS AND DATA
- GRANTS
- JOBS AT METRO
- VOLUNTEER
- DOING BUSINESS
- NEWS
- ABOUT METRO

## Update on urban and rural reserves

PLANNING AND CONSERVATION > REGIONAL PLANNING AND POLICY > URBAN AND RURAL RESERVES > UPDATE

The Oregon Land Conservation and Development Commission approved urban and rural reserves designated in Clackamas and Multnomah counties. Learn more about efforts to complete urban and rural reserves in Washington County.

### What is the status of urban and rural reserves?

Updated March 21, 2011

On March 15, the Metro Council and the Washington County Board of Commissioners reached agreement on a proposal to designate urban and rural reserves in Washington County. The agreement between the two governments calls for the establishment of approximately 13,500 acres of urban reserves and more than 151,000 acres of rural reserves. If acknowledged by the Oregon Land Conservation and Development Commission (LCDC), these areas would be added to the urban and rural reserves already designated in Clackamas and Multnomah counties, for a total of more than 28,000 acres of urban reserve and nearly 267,000 acres of rural reserve across the region.

The new urban and rural reserves map for Washington County removes a 623-acre urban reserve north of Cornelius that was rejected by LCDC in October 2010. In its place, the map creates an "undesignated" area (neither urban nor rural reserve) of approximately 360 acres north of the Cornelius and Council Creek and an additional rural reserve of about 263 acres to the north of the undesignated area. The new agreement also changes a portion of an urban reserve, north of Forest Grove, to undesignated land, creates a new undesignated area out of previously rural reserve land south of SW Rosedale Road and west of SW Farmington Road, and adds a new urban reserve of approximately 352 acres in previously undesignated land north of Highway 26, south of NW West Union Road and east of NW Groveland Rd., while retaining some areas as undesignated land.

The urban and rural reserve maps for Clackamas and Multnomah counties were acknowledged by LCDC last October and have not changed.

[Download the proposed urban and rural reserves map for Washington County](#)

[Download the adopted reserves agreement between Metro and Washington County](#)

### What comes next, and how can I get involved?

The Metro Council and the Washington County Board of Commissioners will adopt land use ordinances to implement the agreement.

- The Washington County Board of Commissioners will consider and vote on Ordinance no. 740 that will amend the county's land use ordinances and comprehensive plan to account for the new urban and rural reserves map and formally designate rural reserves. The county is planning to hold public hearings in late March and April on the ordinance. [Learn more about Washington County's Ordinance no. 740 and upcoming public hearings](#)
- The Metro Council will consider and vote on an ordinance that changes the Urban Growth Management Functional Plan to formally designate the new urban reserves. A public hearing on this ordinance will be held on Thursday, April 21, beginning at 2 p.m. at Metro Regional Center, located at 600 NE Grand Ave. in Portland. [Learn more about the Metro Council meeting on April 21](#)
- The Boards of Commissioners of Clackamas and Multnomah counties will also adopt a revised set of findings that support the complete urban and rural reserves proposal for all three counties. These actions are expected by the end of April.
- Once a revised joint set of findings is adopted by the four governments, that set of findings and the proposed Washington County reserves map will be sent to LCDC for review and acknowledgment. It is expected that LCDC will hold a public hearing on the Washington County reserves proposal in August.

### What about the urban growth boundary?

The Metro Council is working to ensure the region is planning ahead for population and employment growth. While much of this region's anticipated growth is expected to happen in downtowns and main streets, there may be a need for targeted urban growth boundary expansions to accommodate future homes and jobs. If an urban growth boundary expansion is needed, the Metro Council intends to locate those expansions in urban reserve areas because these are the places most likely to develop into great communities.

In December 2010, the Metro Council adopted a set of policies that will focus more growth and public investments in existing communities already inside the urban growth boundary. The Metro Council has agreed to delay any decisions about whether to expand the urban growth boundary until Fall 2011, after all of the urban reserve areas are finalized.

[Read more about new policies to enhance the capacity of the urban growth boundary](#)

[Print-friendly version](#)  
[Send feedback to Metro](#)

CONNECT WITH METRO



503-797-1700  
503-797-1804 TDD  
503-797-1797 fax

15

- HOME
- CALENDAR
- PLACES AND ACTIVITIES
- GARBAGE AND RECYCLING
- SUSTAINABLE LIVING
- PLANNING AND CONSERVATION
- REGIONAL PLANNING AND POLICY
- URBAN DEVELOPMENT AND REVITALIZATION
- TRANSPORTATION
- NATURAL AREAS, PARKS AND TRAILS
- A BETTER ZOO
- NEW VISION
- IMPORTANCE OF MASTER PLAN
- DESIGN TEAM
- MANAGING GARBAGE AND RECYCLING
- POLICY AND PLANNING NEWS
- PLANNING LIBRARY
- MAPS AND DATA
- GRANTS
- JOBS AT METRO
- VOLUNTEER
- DOING BUSINESS
- NEWS
- ABOUT METRO

RELATED DOCUMENTS

- [Map of proposed urban and rural reserves in Washington County](#)  
1.2M Adobe Acrobat PDF | Published March 17, 2011
- [Map of proposed urban and rural reserves in Washington County, illustrating changes from 2010 proposal](#)  
1.2M Adobe Acrobat PDF | Published March 17, 2011
- [Washington County reserves agreement, adopted March 15, 2011](#)  
1.3M Adobe Acrobat PDF | Published March 21, 2011
- [Clackamas County reserves agreement, adopted in March 2010](#)  
568K Adobe Acrobat PDF | Published March 3, 2010
- [Multnomah County reserves agreement, adopted in March 2010](#)  
248K Adobe Acrobat PDF | Published March 17, 2010
- [Map of urban and rural reserves in Clackamas County \(acknowledged by LCDC\)](#)  
703K Adobe Acrobat PDF | Published February 25, 2010
- [Map of urban and rural reserves in Multnomah County \(acknowledged by LCDC\)](#)  
759K Adobe Acrobat PDF | Published February 25, 2010
- [Descriptions of changes to proposed Washington County reserves map](#)  
246K Adobe Acrobat PDF | Published March 29, 2011

To view PDF files, download free Adobe Reader To translate PDF files into text to assist visually-impaired users, visit Access Adobe.com

NEED ASSISTANCE?

Reserves information  
503-813-7577  
reserves@oregonmetro.gov

RELATED INTERNET LINKS

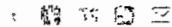
- [Washington County urban and rural reserves web site](#)

- REGIONAL VALUES
- 2040 GROWTH CONCEPT
- COMMUNITY INVESTMENT STRATEGY
- CAPACITY ORDINANCE
- URBAN GROWTH BOUNDARY
- URBAN AND RURAL RESERVES UPDATE
- RESERVES OVERVIEW
- PARTNER AND PUBLIC INPUT
- WHAT RESERVES MEAN FOR YOU
- ORDINANCES AND FINDINGS
- NEW URBAN AREA PLANNING

Print-friendly version  
Send feedback to Metro

HOME | CALENDAR | PLACES AND ACTIVITIES | GARBAGE AND RECYCLING | SUSTAINABLE LIVING | PLANNING AND CONSERVATION | MAPS AND DATA | GRANTS | JOBS AT METRO | VOLUNTEER | DOING BUSINESS | NEWS | ABOUT METRO |

PRINTED WITH METRO



503-797-1700  
503-797-1804 TDD  
503-797-1797 fax

© 2011 Metro Regional Government All Rights Reserved  
Contact [feedback@oregonmetro.gov](mailto:feedback@oregonmetro.gov) with questions regarding this site

16

17

**Robert Bailey  
7455 NW Helvetia Road  
Hillsboro, Oregon 97124**

**April 19, 2011**

**Washington County Board of County Commissioners  
Hillsboro, Oregon**

**For a Hearing re Engrossed Ordinance 740**

I testify today regarding Ordinance 733's area 8B, now engrossed into Ordinance 740. 8B is that area of 88 acres to the north of Highway 26 and to the west of NW Helvetia Road, sometimes referred to as the Standing parcels.

- During the Ordinance 733 reserves process, the findings asserted that this area was needed in its entirety for the Helvetia Interchange Project.
- The findings also asserted that this area needed to be designated as urban reserve to more easily accomplish the Helvetia Interchange Project.
- We have received definitive information that refutes these points.
- Area 8B also does not comply with Urban Reserve factors (OAR 660-027-0050) #s 5, 7, and 8.

**Acreage Needs for Helvetia Interchange Project**

We have been in ongoing communication with the Oregon Department of Transportation. They indicate a need for just a little over 5 acres to accomplish the Helvetia Interchange Project. These 88 acres includes critical drainage for central Helvetia farmlands. Fields upslope are field tiled into Waibel Creek as it drops from the highlands to this point. We provided field tile maps and the hydrologic profile of this. Photos have been submitted showing the substantial flooding on 8B, flooding to the extent of ponding nearly the entirety of 8B during the floods of 96. This acreage is old growth Oregon white oak with riparian habitat, and it is a natural buffer between the urbanization to the south and east and it includes a SHPO site

within. The Helvetia Interchange Project needs just over 5 acres to be accomplished.

### **Designation Required for Helvetia Interchange Project**

Please find attached the 3/29/2011 ODOT letter from their Lainie Smith, Senior Policy Advisor. It was directed to Chairman Duyck and Metro President Hughes so I presume you have had an opportunity to review it. The letter indicates that ODOT does **not** need an urban reserve designation to make currently proposed or future improvements at this interchange.

### **Re-designated 8B as Rural Reserve is Responsive to Taxpayers**

The rationale for including 8B as urban reserve has fallen away and no longer supports the designation. It would be irresponsible to spend tax dollars for more acreage than needed, and at a higher urban reserve price level. Acquiring only that land needed for the project, designate it as Rural Reserve, and be responsive to taxpayer dollars.

### **Factor-Based Objections**

When Ordinance 733 was before the LCDC in late October of 2010, Save Helvetia objected to the urban reserve designation for 8B, as follows:

“First, none of the urban reserve factors of OAR 660-027-0050 contemplate potential demands for urban freeway interchange expansion. To the contrary, the administrative rules authorize designating rural or urban lands for “roads, highways, and other transportation and public facilities and improvements.” OAR 660-027-0070 (4). Similarly, there is nothing in OAR 660-027-0050 that allows designating land urban reserves when necessary for a freeway. The policy of creating livable communities does not include any reference to expanding highway access.

Second, Area 8B does not have to be designated Urban Reserves in order to accommodate a roadway, interchange or provide sewer or storm water management. ORS 215.213(2) (q) expressly authorizes the expansion of travel lanes and roadways in areas zoned for exclusive farm use, which is presumably the designation that would remain on these lands if they were designated rural reserves. Similarly, utility facilities such as storm water collection or sewer pump stations are allowed outright on lands zoned for Exclusive Farm Use under ORS 215.283(1) (c).

To the contrary, it is more likely that re-designating the area for urban uses will not achieve the desired ends. An urban reserve designation will only increase the pressure for urban, non-utility-based uses, without any legal prohibition against construction of such non-utility uses. Rather, it is much more likely that the area would serve its utility and infrastructure function if it is designated rural where it would likely retain its Exclusive Farm use designation for the next 50 years and be protected to serve public infrastructure uses.

Considering the facts in the record, there is no evidence that operation of an urban-scale interchange is inconsistent with farming activities likely to occur if Area 8B is designated for rural reserves. The evidence in the record is that the overpass at NW Jackson School Road over Highway 26, the next interchange to the west of NW Helvetia Road Interchange, operates with minimum impact to the surrounding farm uses currently zoned for Exclusive Farm Use. Nothing in the urban/rural reserve factors provide that areas planned for roadway expansion must be zoned for urban use. Such land can be any designation.

Based on the above, Area 8B does not satisfy the factors of OAR 660-027-0050 and should not be designated for urban reserves.”

### **Urban Reserve Factors in Conflict**

Under OAR 660-027-0050, urban reserve factor #5, asks if the area can be designed to preserve and enhance natural ecological systems. Development in this area would be destructive of native, old growth Oregon white oak, potentially damage this designated and regionally significant riparian and upland habitat found in this section of Waibel Creek: listed by Metro as class one, two and three riparian habitat; listed by Metro as class B and C upland “wildlife habitat”. This section is an important drainage to thousands of upland acres, and development might contribute to damaging the century old drainage system for upland farmers, causing flooding to adjacent lands and roadways, and erosion into the downstream McKay Creek drainage.

Under OAR 660-027-0050, urban reserve factor #7, asks if the area can be developed in a way that preserves important natural landscape features included in urban reserves. Refer to the above.

Under OAR 660-027-0050, urban reserve factor #8, asks if the area can be designed to avoid or minimize adverse effects on farm and forestry practices, and adverse effects on important natural landscape features, on

nearby land, including land designated rural reserve. Again, this area is a critical drainage and recharge area for upland water resources and farming practices and field tiling systems that begin several miles to the north and shunts water from over 1000 acres of upland acreage. This natural landscape acts as a buffer to farming practice as it is.

The designation of urban reserve for Area 8B is not compliant to an urban reserve Designation and the area is better suited to a Rural Reserves designation.

Respectfully,

  
Robert Bailey  
Save Helvetia

#### Attachments

1. ODOT letter
2. Helvetia Interchange Conceptual Layout map, 10/28/2010
3. email from ODOT's Matt Gossett dated November 16<sup>th</sup>, 2010

----- Forwarded message -----

**From:** GOSSETT Matthew C <Matthew.C.Gossett@odot.state.or.us>

**Date:** Tue, Nov 16, 2010 at 9:25 AM

**Subject:** RE: Estimate of area for US26/Helvetia interchange?

**To:** Brian Beinlich <brian@beinlich.org>, JOHNSON Andrew \* Andy

<Andrew.JOHNSON@odot.state.or.us>, FULLER Dean M <Dean.M.FULLER@odot.state.or.us>,

KIM David <David.KIM@odot.state.or.us>

**Cc:** "Allen & Cherry Amabisca (E-mail)" <cherryamabisca@gmail.com>

Hi Brian,

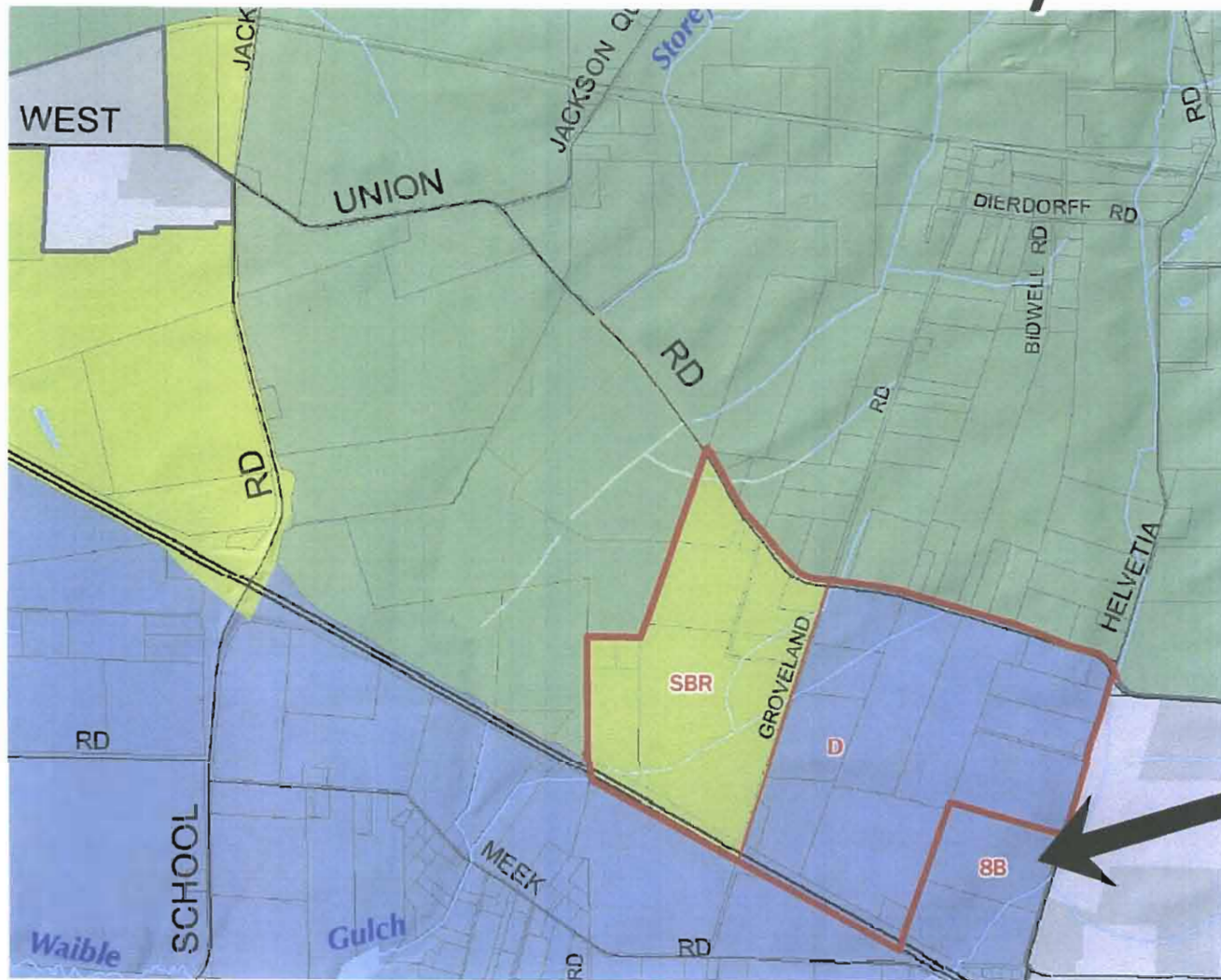
With the understanding that we are still in the preliminary design phase on this project, we have calculated approximately 5.05 acres of property (220,000 square feet) would be needed in fee for the proposed project in the northwest quadrant. This preliminary design includes the residences in the NW quadrant, south of Groveland; a strip of property running parallel to the north side of Groveland and; a strip of property running parallel to the west side of Helvetia.

Sincerely,

Matt Gossett

ODOT, Region 1  
Right of Way Project Manager  
503-731-8425

# Area 8B – North of Hwy. 26







# Oregon

John A. Kitzhaber, MD, Governor

## Department of Transportation

Region I Headquarters  
123 NW Flanders Street  
Portland, Oregon 97209  
(503) 731.8200  
FAX (503) 731.8531

March 29, 2011

Washington County Commission Chair Andy Duyck  
155 North First Avenue  
Hillsboro, Or 97124

Metro President Tom Hughes  
600 NE Grand Avenue  
Portland, OR 97232

Subject: Washington County Urban and Rural Reserves, Ordinance 740

The Oregon Department of Transportation has the following comments regarding the latest proposed Urban and Rural Reserves designations in Washington County. Please enter this letter into the record of your proceedings.

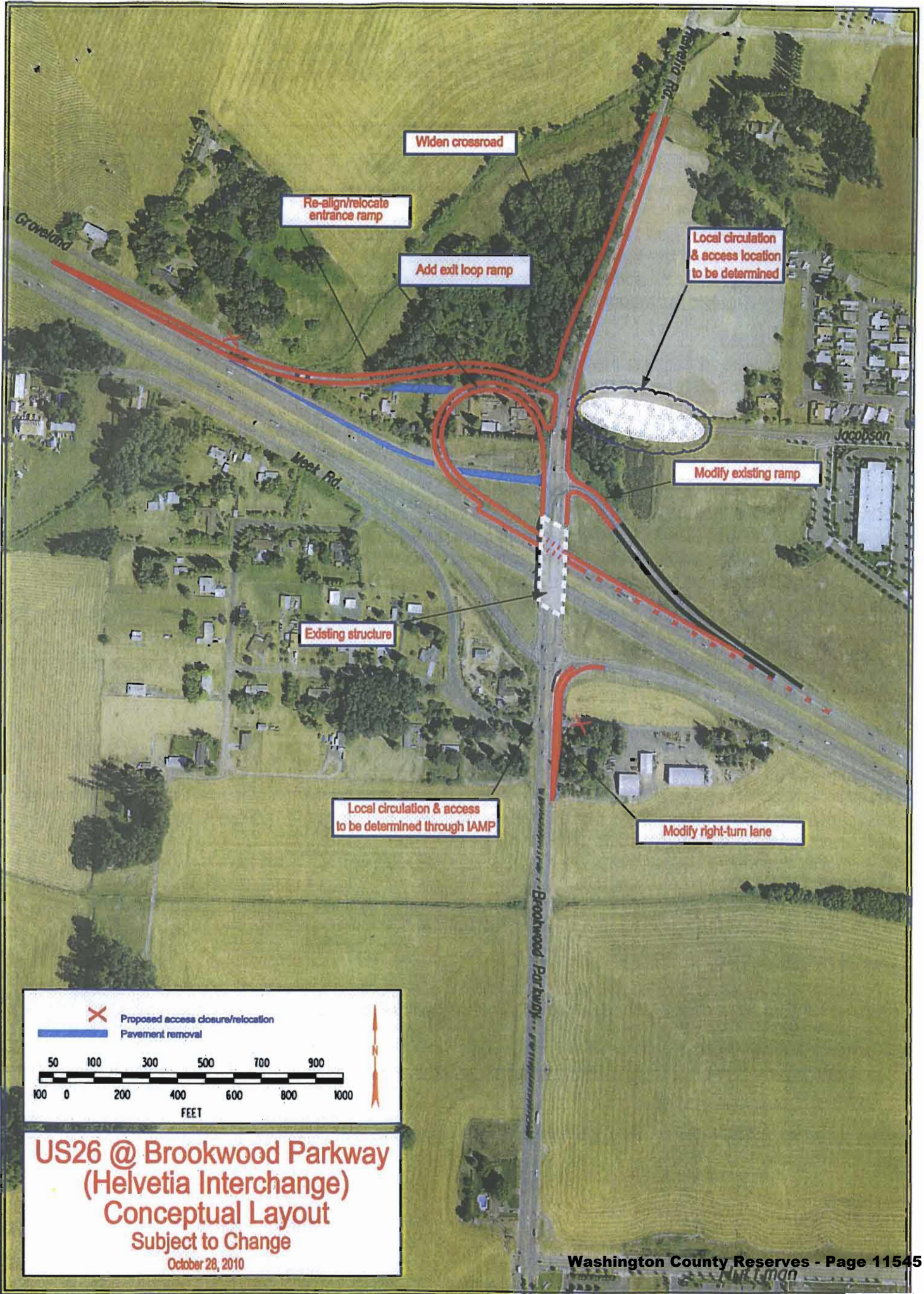
ODOT has an interest in the designation of additional acres of Urban Reserves north of US 26, in the vicinity of the Brookwood Parkway /Helvetia Rd interchange. The interchange is a primary entry point to regionally significant high-tech employment centers. We are currently developing a project to reduce congestion and improve safety and freight mobility, to better serve economic development opportunities inside the UGB in this area. ODOT's indented primary function of this interchange is to provide access to the regionally significant industrial area to the south of US 26, and goods movement for the industrial lands inside the UGB on both sides of US 26. If Metro and Washington County choose to designate additional acreage at this location for Urban Reserves, ODOT recommends a stipulation indicating that the capacity needed to protect that function be maintained if the land is brought into the Metro urban growth boundary.

Also, we wish to set the record straight that ODOT does **not** need an urban reserve designation in order to make currently proposed or future improvements at this interchange. The Transportation Planning Rule sections -0065 and -0070 provide for certain transportation improvements to be made on rural lands without and with exceptions to Statewide Planning Goals 3, 4, 11, and 14. In fact, an Urban Reserves designation does not affect any of the applicable requirements for interchange improvements.

ODOT thanks you for this opportunity to comment.

  
Lainie Smith  
Senior Policy Advisor

CC: Jason Tell  
Rian Windsheimer  
Kirsten Pennington  
Andy Johnson  
Lidwien Rahman  
John Williams, Metro  
Jerry Lidz, Interim DLCD  
Jennifer Donnelly, DLCD  
Anne Debaut, DLCD



Widen crossroad

Re-align/relocate entrance ramp

Add exit loop ramp

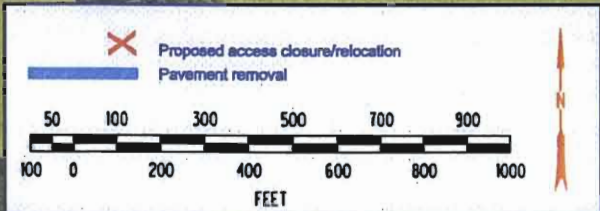
Local circulation & access location to be determined

Modify existing ramp

Existing structure

Local circulation & access to be determined through IAMP

Modify right-turn lane



**US26 @ Brookwood Parkway  
(Helvetia Interchange)  
Conceptual Layout  
Subject to Change**  
October 28, 2010

From: Cherry Amabisca  
13260 NW Bishop Road  
Hillsboro, OR 97124

Date: April 19, 2011

To: Washington County Chair and Board of Commissioners

Re: Opposition to Area 8D in Ordinance 740

Dear Chair Duyck and Commissioners:

Last year Save Helvetia was unhappy with your decision to include Area 8B in Ordinance 733 as urban reserves. As you have heard from Robert Bailey's testimony, the 88 acres is way bigger than the 5 acres needed by ODOT for interchange improvements and ODOT is on record as saying it does not need to be designated urban reserves to accomplish these improvements. We were debating whether to go ahead with a challenge but it's a lot of money to do an appeal and we're just a grass-roots citizens group. BUT, now that you've decided to add another 352 acres of urban reserves north of the Sunset, it makes our decision a whole lot easier.

There is no legal obligation to "make up" for the land remanded north of Cornelius in Helvetia or anywhere else. There is no legal ability to claim that the land north of Cornelius was for industrial use and so the make-up must also be. The actual use of any area is not done until concept planning when it comes into the UGB. I was at the MPAC meetings when Hillsboro Mayor Willey declined to commit the land in 8A as industrial - saying that some of it might be used for residential.

Hillsboro doesn't need the 440 acres of urban reserves north of the Sunset. That 440 acres is part of *Helvetia's* economic engine, has been for 150 years. Taking this land from the vibrant agriculture industry north of the Sunset and giving it to Hillsboro when Hillsboro already has 2.5 million square feet of empty warehouse and commercial space and 7,000 acres of available land including land in urban reserves, is a really bad decision.

With this decision, you have totally violated at least three factors regarding buffers:

You've left Area 8D with a ridiculously lame buffer of a one-lane, gravel road only 21 feet wide - Groveland Road. You've created another inadequate buffer of West Union Road, only 35 feet wide, which puts the agricultural land on the north side of West Union Road in jeopardy. Putting urban uses next to agricultural lands with inadequate buffers *magnifies* the adverse effects on farm practices - not *minimizes* them, thereby violating Urban Reserve Factor (8). You've ignored the natural buffer of Waibel Creek and its 200-foot wide floodplains, violating Rural Reserve Factors (2)d)(B) and (3)(f).

Designating Area 8D as urban reserves is a high-risk, low- return decision that puts the reserves at risk. Designating Area 8B as urban reserve is unnecessary for interchange improvements. An aggressive decision that grabs every last piece of land that Hillsboro covets is foolish. You need to dial back the urban reserves north of the Sunset just to the amount needed by ODOT and respect the historical buffers that seem to have worked pretty well for the last 150 years. You need to put a smarter decision before LCDC.

Thank you for your time.



# Area 8D: Really Lame Buffers



Groveland Road – 21 feet wide

West Union Road – 35 feet wide

A one-lane gravel road does NOT make a good buffer!

Date: April 19, 2011

To: Washington County Board of Commissioners

From: Miki Barnes

Topic: Protect Helvetia's rural reserves

I strongly urge you to designate as rural all land north of Highway 26. I further urge you to better utilize land currently within the urban growth boundary for industrial purposes instead of designating prime farmland as urban reserve.

Towards this end I suggest setting aside acreage at the Hillsboro Airport for future development. Though located on farmland, the airport property has for the most part, already been taken out of production.

The notion that Hillsboro Airport serves primarily business jets is misleading. According to the Final Environmental Assessment on the third runway proposal (pg 2-1), in 2007 the Hillsboro Airport logged 236,885 annual operations. Of that number 7,008 operations were listed as jet operations. (Draft Environmental Assessment on the HIO Third Runway Proposal, pg 5.1-6). This equates to less than 3% of the total,

The Draft EA (pg 3-6) also states "Local operations (consisting largely of training activity) currently represents about 68 percent of total operations at HIO." Based on the 2007 numbers this translates into 157,923 operations. According to the 2005 Hillsboro Master Plan "Future growth in local operations will be driven by training operations at Hillsboro Airport. This will be function of the businesses on the airport which provide pilot training services (pg 3-31)."

What the foregoing suggests is that Hillsboro Airport is a taxpayer subsidized international training school primarily on behalf of a for-profit company that recruits a substantial number of student pilots from outside the country. Instead of forcing taxpayers to subsidize this enterprise, I would suggest that a Peace Corps model be implemented by which flight training companies, such as Hillsboro Aviation, travel to the countries from which they recruit their students and offer training there. This would not only save millions in infrastructure costs but would also ease the noise, pollution, safety and security risks, as well as property devaluation and land use restrictions currently shouldered by local residents.

As for the general aviation hobbyists who use this airport, According to the Oregon Department of Aviation (ODA) 2006-2008 Biennial Report, "As of 2008 there are 97 public use and over 350 private use airports (pg 5)" in Oregon for a total of 447. This figure does not include commercial or personal use airstrips. This same document states that there are 5,732 pilots in Oregon (5,173 registered pilots and 559 unregistered). This number, which represents 1/6 of 1 % of the state's total population, translates into a ratio of 12.82 pilots to each general aviation airport in the state.

Please note that the Oregon Blue Book states that Oregon operates 1,306 public schools for the 566,067 (almost 15% of the state's population) kindergarten through 12<sup>th</sup> grade students enrolled, a ratio of 433 students per school. Thus the proportion of airports per Oregon pilot exceeds the school to student ratio 33 times over. Obviously there are already plenty of facilities in this state to accommodate the pilot population.

Setting aside some or all of the Hillsboro Airport property for future industrial growth solves two problems simultaneously. It saves taxpayer dollars that would otherwise be wasted on unnecessary expansion and it allows prime farmland north of Highway 26 to be designated for rural reserve.

It is worth noting that according to their website, Boeing Field, located five miles from Seattle, "is one of the busiest general aviation airports in the country...It receives no general tax dollars and is financed by rents, fees and FAA resources <http://www.kingcounty.gov/transportation/kcdot/Airport/About.aspx>."

Like HIO, its users included flight schools, charter operation, helicopter services, and general aviation hobbyists. This two runway airport, located on 594 acres, logs 375,000 flights annually. Hillsboro Airport by contrast, based on 2010 figures, logged 220,000 operations on 928 acres.

Thus Boeing Field is able to manage 155,000 more operations annually on acreage less than two-thirds the size of HIO. Clearly, this airport serves as a model of how Port of Portland owned and operated airports can use less acreage to manage aviation activity.

It is worth noting that Portland International Airport (PDX) with three runways and five times the acreage of Boeing Field logged around 240,000 flights in 2010, 135,000 fewer than Boeing Field.

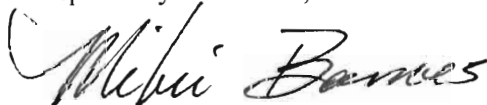
Regarding PDX, a Portland Airport Futures: Economic Development Inventory report prepared for the City of Portland Bureau of Planning and Sustainability and the Port of Portland, inventoried 8,600 acres designated for industrial and airport related uses at and around PDX. Of the land under consideration, the Port owned 3,250 acres.

What they found is that "there is still a relatively significant inventory of approximately 3,380 acres that remain undeveloped or lesser improved" - 702 acres were categorized as "vacant and owned by the Port" including three 50-100 acre parcels and four 25-50 acre parcels. "An estimated 585 acres were indicated as vacant with other (primarily private) ownership." And 1,387 acres were labeled as lesser improved including two 50+ acre parcels (pg 15).

Better utilizing Port of Portland property and setting it aside for future industrial development could go a long way towards mitigating the need to further compromise prime Washington County farmland.

Thank you for your time and consideration.

Respectfully Submitted,



Miki Barnes  
48100 NW Dingheiser Rd.  
Banks, Oregon 97106  
503-324-0291



# CITY OF CORNELIUS

April 19, 2011

Washington County Board of Commissioners  
155 N First Ave., Suite 350  
Hillsboro, Oregon 97124

RE: Urban Reserve for Jobs in Cornelius – A Simple Amendment to Ordinance 740

Chair Duyck and Washington County Commissioners:

I am Sheila Griffie, Chair of the Cornelius Planning Commission. Thank you for hearing our heart-felt request for room to grow future jobs. As this proposal stands, we are the only city in Washington County and Metro region that is being denied any Urban Reserve land suitable for future industry. The amendment to Ordinance 740 we present today is simple. (See Map)

Our request is simple: Move the 352 acres of Urban Reserve that is not wanted north of Sunset Highway in Helvetia to north of Cornelius where it is wanted and needed to build a complete and sustainable community. This move will satisfy Helvetia's wishes and, at the same time, meet Cornelius' needs. Both Metro and LCDC will be happy for a compromise that results in a finished product.

The barrier to this Community – Farmland Compromise is the worry that LCDC will not like any Urban Reserve north of Cornelius. We think this worry overblown. At their October 2010 meeting, LCDC voiced concerns about urban reserves north of Cornelius, . . . concerns for which they never formulated a set of findings for a legal decision. . . they only voiced a verbal remand based on their concerns; there are not even any Meeting Minutes of their discussion. (Because LCDC never wrote a final order, Cornelius did not have a chance to question or address their concerns.) None-the-less, Cornelius responds to the concerns voiced by LCDC's with this Community-Farmland Compromise.

In October, one LCDC Commissioner said that Area 7-I was a protrusion into prime farmland. Please note that this area has been significantly reduced and flattened to even out the northern border of Cornelius in our compromise.

They said this area was the "best of the best" farmland in the state – a "national treasure". This is simply not true. We summarized the facts about farmland suitability in the long public record, showing that the land north of Cornelius is documented as Class II & III soils and Tier II land in Washington County's study. Much better Class I soils and Tier I land are designated Urban Reserves elsewhere in the region, including north of Hillsboro, Forest Grove and outside of Sherwood.

The Commissioner said this land contained too much floodplain. So we show a flood plain map of this area bordered by the southern edge of the Dairy Creek floodplain and containing little floodplain. They had no simple floodplain map in front of them.

They repeated local advocate opinion that the Council Creek tributary is the best boundary and buffer between farmland and Cornelius. We present this map that LCDC didn't see (though it was in the record) showing that:

- ✓ Cornelius already extends north of Council Creek,
- ✓ \$20 million in public investments in urban development north of Council Creek,
- ✓ Most of this land is zoned Exception Land because its partially urbanized already,
- ✓ It's just a six-block distance from Cornelius' Town Center and future LRT station,
- ✓ And the broad floodplain natural boundary of Dairy Creek.

As misinformed as LCDC's concerns were, none-the-less, we drastically reduced 624 acres to this 360 acres of Urban Reserves – to respect their concerns and as a good faith compromise to reach agreement – a finished product. We believe that Metro and LCDC will support this reasoning and the facts in the public record and that both bodies will approve this Compromise if you send it to them.

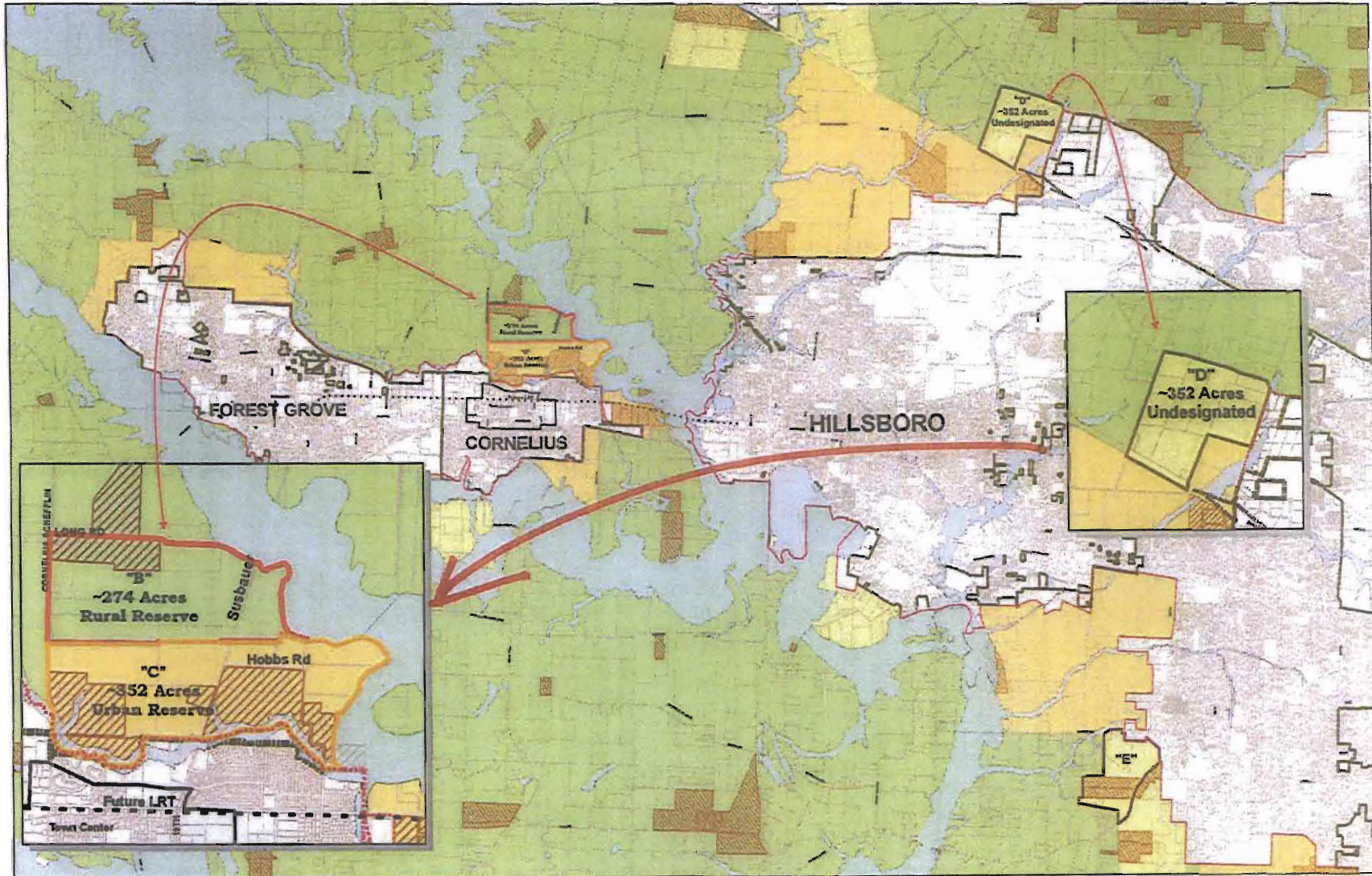
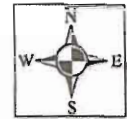
You know our case. Each of you has voiced support for some Urban Reserve north of Cornelius. Please stand up and do what is right and good for us all. Remove the Urban Reserve designation from Area D on your map and move it back north of Cornelius. You will remember this decision. Make it a good memory.

Thank you for your public service.

Sheila E. Griffie, Chair  
Cornelius Planning Commission



# Draft Community - Farmland Compromise



0 1 2 4 Miles

### Simple Trade

\* 352 Acres of Urban Reserve  
North of Sunset HWY. (Not wanted by Save Helvetia)

For

\* 352 Acres North of Cornelius (Wanted by Cornelius)

### Legend

- Area "B" to Rural
- Area "C" to Urban
- Area "D" to Undesignated
- Area "E" to Undesignated
- Rural Reserve areas
- Urban Reserve areas
- Exception Land
- UGS
- Town Center
- Future LRT
- Undesignated
- Floodplain

4/12

6.a.

Testimony before the Washington County Commission on Urban Reserves  
April 19, 2011

Chair Duyck and Commissioners

Thank you for this public hearing.

I am Robert Ferrie. I live at 2601 S Dogwood in Cornelius and serve on the City Planning Commission.

HERE IS A MAP OF THE COMMUNITY – FARMLAND COMPROMISE

NOTICE THE SIZE OF RECOMMENDED URBAN RESERVES AROUND CORNELIUS COMPARED TO HILLSBORO, FOREST GROVE, TIGARD AND ELSEWHERE.

NOTICE HOW OUR COMMUNITY HAS CUT THE URBAN RESERVE YOU APPROVED LAST SUMMER NEARLY IN HALF ON THE NORTH TO RETAIN SOME LAND SUITABLE FOR INDUSTRY.

NOTICE HOW A 352 ACRE URBAN RESERVE IS FLATENED AGAINST THE LANDSCAPE, OMITTING the 'PROTRUSION' INTO FARMLAND.

(flip to second map)

NOTICE ON THIS CLOSE-UP MAP OF AREAS B & C:

HOW THE REDUCED URBAN RESERVE IS TUCKED INTO THE LANDSCAPE (The URBAN GROWTH BOUNDARY ON THE WEST and the BROAD DAIRY CREEK FLOODPLAIN ON THE ~~WEST~~ EAST)

NOTICE THAT THE CITY OF CORNELIUS BOUNDARIES ALREADY EXTEND NORTH OF COUNCIL CREEK.

NOTICE THAT MUCH OF THE LAND IN THIS URBAN RESERVE IS ZONED 'EXCEPTION LAND' AND HAS BEEN PARTIALLY URBANIZED FOR 30 YEARS.

NOTICE THAT OUR TOWN CENTER AND FUTURE LIGHT RAIL LINE IS JUST SIX BLOCKS AWAY FROM THIS URBAN RESERVE LAND.

NOTICE WHERE THE BRIDGES OVER THE COUNCIL CREEK TRIBUTARY ~~ARE THAT~~ ARE BUILT TO URBAN STANDARDS WITH <sup>dollars</sup> BROAD SIDEWALKS AND ARE PART OF OVER \$20 MILLION ~~IN~~ IMPROVEMENTS MEANT TO SERVE URBAN DEVELOPMENT.

AND REMEMBER THAT OUR BOOT-STRAP COMMUNITY HAS NO OTHER LAND SUITABLE FOR INDUSTRY TO GROW INTO FOR 50 YEARS

---

PLEASE USE REASON AND FAIRNESS IN YOUR DECISION TODAY. DON'T LET PROCESS GET IN THE WAY OF GOOD JUDGEMENT.

THANK YOU.

**MINUTES**

**WASHINGTON COUNTY BOARD OF COMMISSIONERS**

**APRIL 19, 2011**

**CONVENED:** 10:07 a.m.

**BOARD OF COMMISSIONERS:**

Chairman Andy Duyck  
Vice Chair Roy Rogers  
Commissioner Dick Schouten  
Commissioner Greg Malinowski

Commissioner Bob Terry was absent in order to honor another obligation today.

**STAFF:**

Robert Davis, County Administrator  
Dan Olsen, County Counsel  
Andrew Singelakis, Director, LUT  
Brent Curtis, Planning Division Manager, LUT  
Aisha Willits, Senior Planner, LUT  
Suzanne Savin, Senior Planner, LUT  
Steve Franks, Development Services Manager, LUT  
Anne Kelly, Associate Planner, LUT  
Dave Schamp, Division Manager, Operations & Maintenance, LUT  
Greg Clemmons, Principal Engineer, LUT  
Theresa Koppang, Solid Waste Supervisor, HHS  
Bill Gaffi, General Manager, CWS  
Margot Barnett, CPO Coordinator  
Jim Thiessen, Audiovisual Technician  
Barbara Hejtmanek, Recording Secretary

**PRESS:**

Dana Tims, *The Oregonian*

**APPROVAL OF MINUTES:**

March 15, 2011 (withdrawn)  
March 29, 2011  
April 5, 2011

## **1. CONSENT AGENDA**

Chair Duyck announced the following modifications to the Consent Agenda:

- The minutes from March 15, 2011 are withdrawn from consideration today.
- An off docket item from the County Administrative Office entitled "Authorize Reimbursement of Legal Expenses" is added to the Consent Agenda. (MO 11-84)

It was moved to adopt the Consent Agenda.

Motion – Rogers

2<sup>nd</sup> – Schouten

Vote – 4-0

## **CLEAN WATER SERVICES**

1.a.

CWS MO 11-40

Accept Construction of the Rock Creek Advanced Wastewater Treatment Facility – Influent Pump Station Improvements and Release Retainage Bond to McClure and Sons, Inc. (CPO 9) (Approved Under Consent Agenda)

1.b.

CWS MO 11-41

Approve Ninth Amendment to Master Contract for Professional Services with Murray, Smith & Associates, Inc. for the North Plains Pump Station Relocation (CPO 9) (Approved Under Consent Agenda)

1.c.

CWS MO 11-42

Accept Completion of the 2010 Large Trunkline Cleaning and Release Retainage to Brave Environmental NW, Inc. (Various CPOs) (Approved Under Consent Agenda)

1.d.

CWS MO 11-43

Approve Fourth Amendment to Master Contract for Professional Services with Black & Veatch Corporation for Services During Construction for the Forest Grove and Hillsboro Wastewater Treatment Facilities Improvements (CPO 12F) (Approved Under Consent Agenda)

## **LAND USE AND TRANSPORTATION**

1.e.

MO 11-81

Accept Bid and Award Contract for Dust Abatement Services (All CPOs) (Approved Under Consent Agenda)

1.f.

MO 11-82

Accept Bid/Award Contract for Herbicide Spraying Services for the Department of Land Use and Transportation (All CPOs) (Approved Under Consent Agenda)

## **ASSESSMENT AND TAXATION**

1.g.

RO 11-25

Approve Assessment and Taxation Expenditures and Grant Document for FY 2011-12 (Approved Under Consent Agenda)

## **SUPPORT SERVICES**

1.h.

MO 11-83

Authorize Increase in Purchase Order to Department of Environmental Quality for Shadybrook Voluntary Remedial Investigation/Feasibility Study (Approved Under Consent Agenda)

## **2. ORAL COMMUNICATION (2 MINUTE OPPORTUNITY)**

John J. O'Dorn, 1288 NE Hawthorne Avenue, Hillsboro, Oregon, stated that a member of his family was arrested for DUI. He said that the contract between the tow companies and the Sheriff's Office regarding the tow fees is almost four times higher than what the normal charge would have been. Mr. O'Dorn reported that normal breakdown tow from where the family member was towed would have been \$60 plus \$5 per mile for a total of \$70. He stated that the tow company says that the contract requires them to charge \$175 plus the \$5 per mile plus \$7.25 fuel surcharge. Mr. O'Dorn stated that the Sheriff's Office told him that the tow company cannot charge more than \$175 for a normal tow. He said that a tow company should not be allowed to set a punishment until the person is found guilty. Mr. O'Dorn wanted the tow contract to be revised such that the fee should be \$60 if that is the cost for a normal tow. He said that he received a letter from the City of Cornelius saying that the fee would be \$135.

Commissioner Schouten wondered if this is something that staff should look at or if these questions are directed to the City of Cornelius.

Mr. O'Dorn said that this occurred in the City of Cornelius but that the Washington County Sheriff's Office sets the tow fees; it is a contract between the Sheriff's Office and all of the tow companies in Washington County.

Commissioner Schouten stated that this does raise an interesting due process question and added that he would like to see an answer to this.

Tom Black, 870 NW Garibaldi Street, Hillsboro, Oregon, addressed a parcel of about 28 acres off Highway 26. He said that someone is jumping the gun on the urban designation of Area 8A. Mr. Black stated that the private land owner apparently put in an application to make a pumpkin patch out of land already classified as Type I soil. He said that he is taking 150,000 cubic yards of material from an industrial site and placing it on top of good farming land in an effort to upgrade the property into a pumpkin patch. Mr. Black stated that the concept is to strip a foot of topsoil away, stockpile it and then put the 150,000 cubic yards on top of that. He regarded this as an eyesore and dust storm hazard next to the highway. Mr. Black identified this as Case #110036 and said that this should never have been approved. He stated that Land Use and Transportation has made extra efforts to monitor it but reiterated that it should never have been approved in the first place.

Commissioner Malinowski was disturbed that someone with Class I soil would improve it by dumping fill on it.

### **3. PROCLAMATION**

3.a.

MO 11-76

Proclaim April 25 – April 30, 2011 as National Community Development Week in Washington County

The Clerk of the Board read the proclamation into the record.

Chair Duyck thanked Commissioner Schouten for serving on this organization for a number of years, as he also did in the past. He regarded it as a great program and noted that it has built a lot of our tremendous infrastructure.

Commissioner Schouten agreed and said that this has been done with a relatively little amount of red tape and administrative cost. He announced that Peggy Linden, who has run the program for many years, will retire in a few weeks. Commissioner Schouten said that she has done an outstanding job.

It was moved to execute the proclamation to recognize National Community Development Week and to authorize copies to be sent to the County's congressional delegation.

Motion – Rogers  
2<sup>nd</sup> – Malinowski  
Vote – 4-0

#### **4. PRESENTATION**

4.a.

MO 11-77

Recycle at Work Program Milestone – Recognizing the First 50 Washington County Recycle at Work Award Winners

Theresa Koppang stated that the Recycle at Work Program is an education and outreach program that provides free technical assistance to the business community. She said that County staff works with organizations to help them set up recycling programs, to suggest purchasing and waste prevention policies, and to research office products that offer environmental benefits. Ms. Koppang stated that the Washington County Recycle at Work Award is a recognition of an organization's commitment to innovative recycling and waste prevention practices. She said that the program is a partnership with Metro and the cities, with important support provided by recycling collection companies and recycling processors. Ms. Koppang stated that in March of 2011, the Solid Waste and Recycling Program reached an important milestone by bestowing the 50<sup>th</sup> award. She specified that these first 50 organizations include businesses, non-profits and public agencies. Ms. Koppang reported that the first award was presented in 2008. She said that since then, staff has been given a unique opportunity to see first hand the inventive practices of these award recipients. Ms. Koppang stated that while the practices of these first 50 organizations are varied, they have all met the basic requirements in order to qualify for the award. She said that they all have a staff dedicated to overseeing their organization's program, everyone has recycling available at employee workstations, they all have robust recycling collection programs, they purchase recycled content office supply products and all have waste prevention strategies in place. Ms. Koppang stated that almost every type of business is represented among the first 50 recipients—including manufacturing, retail, accounting, insurance, landscaping, restaurants, medical and dental, construction, engineering and architecture and information technology businesses.

Ms. Koppang highlighted some of the Recycle at Work recipients and detailed their achievements in a PowerPoint, including:

- City of Cornelius
- Woodfold Manufacturing
- New Seasons
- Pacific Natural Foods
- Washington County



- Click Commerce
- Nike, Inc. World Headquarters
- Jones & Roth, CPAs
- DeAngelo's Catering & Events
- Marco Ideas Unlimited
- IKON Office Solutions, Inc.
- Solar World
- Norm Thompson Outfitters
- Tualatin Valley Water District
- Insomnia Coffee
- Swatco Sanitary Service
- City of Hillsboro Senior Center

Ms. Koppang indicated that the practices and accomplishments of these organizations are featured on the County's recycling website.

Amber Thiessen, Management Analyst, City of Cornelius, told the Board that the City of Cornelius is one of ten partners in the Recycle at Work Program. She said that a key component of that partnership is that the County staff conducts education and outreach to the business community. Ms. Thiessen reported that there are approximately 150 businesses located in the City of Cornelius, all of which have received some form of assistance from the Recycle at Work Program through personal site visits. She said that County staff has also gone the extra mile to help businesses in Cornelius in setting up recycling programs and finding outlets for hard to reach recycle items. Ms. Thiessen explained that the Recycle at Work Program partnership allows for the cities to pool funding and leverage resources to the highest and best use. She noted that the City of Cornelius is setting the example for the business community to follow.

Theresa Koppang thanked Washington County staff for working with the outstanding organizations being recognized today. She said that the award winners exemplify a commitment to the community that extends beyond the valuable services they provide to include stewardship of our natural resources and are to be commended for their leadership and advancements in recycling and waste prevention practices. Ms. Koppang congratulated the first 50 Recycle at Work organizations. She looked forward to awarding the next 50. Ms. Koppang asked the award recipients to stand for recognition and the audience applauded their efforts.

Chair Duyck remarked that this is a great start. He hoped that this will multiply many times over.

Photographs were then taken of the winners with their Commissioners, by district.

4.b.

MO 11-78

Presentation on the Land Use & Transportation Process Improvement Program (All CPOs)

Andrew Singelakis introduced Steve Franks, the Development Services Manager. He said that when Mr. Franks came here, Land Use and Transportation started a Process Improvement Program. Mr. Singelakis stated that this takes a look at customer service issues, communication and coordination. He said that the County also benchmarks with other jurisdictions around the region to try to figure out how we fare with regard to those issues. Mr. Singelakis stated that given the fact that we are in a downturn in the economy, this is a good chance to take a look at how we do business and to improve. He acknowledged that it is kind of tough to do with customer service in a government setting because the customer is not always right. Mr. Singelakis thanked Anne Kelly and Paul Seitz for their help in working on this. He also expressed appreciation to the Development Services staff, who have been through a lot in terms of downsizing of the organization while trying to maintain good customer service.

Steve Franks informed the Board that the whole goal of this process was for staff to identify opportunities in the County's development review process for areas of improvement and for acknowledging things that are being done well. He reported that Anne Kelly and Paul Seitz interviewed three different constituencies to gather information: customers, other jurisdictions to get a sense of what they are doing, and staff. Mr. Franks said that as a result of those interviews, four broad categories came up and under each, strategies were identified to address those issues. He emphasized that this report is very much a start and that the process will be ongoing and continual for the department. Mr. Franks shared some specific goals:

- To make sure that we are facilitating County goals
- To make sure that we are consistent with State law so that we have procedures, policies and processes that are effective
- To make our processes less complicated
- To ensure consistent delivery of good customer service
- To identify ways to bring our practices into best management practices

Mr. Franks said that four broad issues were identified:

- Leadership/Management. To address issues such as the culture at Washington County for development review, staff attitude, workload capacity. The goal is one team working together under a common goal.
- Financial. Like with any business, there are funding constraints.
- Accurate Applications and Consistent Reviews. We want to work with our customers so that when they submit an application, it is complete. That helps ensure a smooth process. We want to make sure that the County has a standard review process and that we are doing things consistently.

- Information Technology. We want to make sure that we are using technology well.

As to the format of the report, Mr. Franks said that there are issue statements and a long list of strategies underneath them which staff prioritized as:

- 1 = critical
- 2 = essential
- 3 = desirable

Mr. Franks stated that the process does focus primarily on the Development Services Division. He said that this is a department-wide Land Use and Transportation department initiative but it starts out focusing on Development Services and can certainly be expanded down the road to all of LUT.

Mr. Franks provided three examples, which the department is already doing:

- One is a Procedures Manual for the Development Services Division. It contains the County's mission statement, LUT's mission statement, it lists the Board's development philosophy, and procedures. It also contains simple tips about how to communicate well with customers and staff, how to avoid conflict, and how to get out of conflict when it occurs.
- One is a yellow customer service slip. Every customer who comes in is asked to fill this out before they leave if they are willing to do so. The slip asks for the customer's first name, the reason for their visit, and asks for permission to follow up with a phone call to ensure quality of service. This provides feedback from customers, acknowledges their importance and is simple.
- One is an organization chart that fits on one page. This chart shows the Building Services and Current Planning teams working together. A second version of the organization chart shows staff faces along with the names.

Vice Chair Rogers congratulated staff on a great job and thanked them.

Chair Duyck mentioned that this is something that Commissioner Terry had been interested in. He commended staff for taking this seriously. Chair Duyck said that this is part of the ongoing improvement that the County is known for.

Commissioner Malinowski heard positive feedback out in the community about this yesterday.

## **5. BOARDS AND COMMISSIONS**

5.a.

MO 11-79

Appointments to the Solid Waste Advisory Committee (All CPOs)

There was a motion to:

- Appoint Kathy Christy as a public member to the Solid Waste Advisory Committee for a term expiring March 31, 2014, and Darren Aakre as a public member for a term expiring March 31, 2015.
- Re-appoint industry members Dan Wilson and Dave White to the Solid Waste Advisory Committee each for a term expiring March 31, 2016, and industry member Jeff Murray to a term expiring March 31, 2015.
- Establish March 31 as the end date for all terms and re-stagger terms of existing members as outlined in the summary sheet of the agenda item.

Motion – Schouten

2<sup>nd</sup> – Malinowski

Vote – 4-0

5.b.

CWS MO 11-39

Appointment to Clean Water Services Advisory Commission

It was moved to appoint Sandy Webb to the Environmental 2 position on the Clean Water Services Advisory Commission effective immediately for the term that runs through October 31, 2013.

Motion – Schouten

2<sup>nd</sup> – Malinowski

Vote – 4-0

Commissioner Schouten mentioned that the Board had two great candidates. He said that the Board was looking for someone who brings a lot of background but who is new in terms of a volunteer. Commissioner Schouten noted that the other candidate, Ramsay Weit, has done a great deal of work but said it is good to get new people into this key position and Sandy Webb is also a resident of Washington County.

## **6. PUBLIC HEARING – LAND USE AND TRANSPORTATION**

6.a.

MO 11-80

Proposed A-Engrossed Ordinance No. 740 – an Ordinance Amending Policy 29 of the Rural/Natural Resource Plan to Modify the Rural and Urban Reserves Map (All Rural CPOs and CPOs 9, 12F, 12C, 4B, 5 and 6)

There was a motion to read Proposed A-Engrossed Ordinance No. 740 by title only.

Motion – Rogers

2<sup>nd</sup> – Schouten

Vote – 4-0

Dan Olsen read the proposed ordinance by title.

Brent Curtis asked the Board to enter into the record a lot of information that is relevant to this ordinance, which deals with the urban and rural reserve process. He said that along with that will go a Project Record Index, that indicates what is submitted. Mr. Curtis provided these items to the Clerk of the Board.

Mr. Curtis reviewed that the County has been working with Metro, Clackamas County, and Multnomah County for several years on urban and rural reserves. He recalled that the region together undertook the process following legislation and an administrative rule that was promulgated by LCDC, that laid out the requirements of urban and rural reserves. Mr. Curtis stated that the fundamentals of urban and rural reserves require an IGA between Metro and Washington County that comes to conclusions about which lands should be designated as urban reserves and which should be designated as rural reserves. He said that following the IGA adoption, each government (Metro and Washington County) has to conform its land use plans to the IGA requirements. Mr. Curtis stated that last year, Metro and Washington County did an IGA and each took an action to conform our plans through ordinances; the other two counties did that as well and that was submitted to LCDC. He said that in the fall of last year, LCDC reviewed it as part of two hearings that they held. Mr. Curtis reported that LCDC found that for the regional proposal that was submitted in regard to Clackamas County and Multnomah County, they accepted the original proposals. He stated that in Washington County, they accepted the vast majority of the urban reserve proposals; however, they found fault with several areas in Washington County that had been proposed urban reserves. Mr. Curtis said that LCDC remanded those through an oral remand to Metro and Washington County. He stated that LCDC also remanded all of the rural reserves to allow Metro and Washington County some degree of flexibility in responding. Mr. Curtis said that the Board adopted by Resolution an IGA on December 15, 2010 and at the same time directed staff to file an ordinance that would take the second step (to conform our land use plans to the content of the IGA). He indicated that this was the beginning of Ordinance 740. Mr. Curtis said that subsequent to that particular action, Metro and Washington County entered into a discussion that culminated in a joint public hearing on March 15, 2011, at which each government together arrived at a new IGA that was different from the one originally adopted by just the County the previous December. He stated that the March 15<sup>th</sup> IGA regarding urban and rural reserves requires our plans to be adjusted to conform with it. Mr. Curtis explained that this led to the Board engrossing the original Ordinance 740 to include the IGA content of March 15<sup>th</sup>. He said that when an ordinance is engrossed (changed), the County Charter requires that we send notice to those that, under the law, are due notice and also that the Board conduct two subsequent public hearings, one of which is in the evening. Mr. Curtis indicated that today is the first of the two public hearings on urban and rural reserves. He said that the content of the engrossed ordinance is the content that the Board agreed with Metro on in regard to map changes for urban and rural reserves. Mr. Curtis recommended that the Board conduct the public hearing today and then continue it to next week (April 26) at 6:30 p.m. for the second of the two required public hearings.

Vice Chair Rogers asked how the Board should accept the material into the record.

Mr. Curtis thought it would be adequate for the Chair to acknowledge that staff has entered this into the record and that it is material that the Board has either already seen or will be introduced today. He said that in some cases, staff will continue to supplement the record. Mr. Curtis spoke of findings that will be prepared for next week, that will go into the record as well. He wanted to do the submission today formally, with the Chair acknowledging that this has happened.

Commissioner Schouten regarded the act of orally putting this into the minutes as a positive.

The public hearing was opened.

Chair Duyck recognized the documents that staff offered as submitted into the public record.

Michelle Newell, Legal Assistant with Wendie L. Kellington Attorney at Law, 22020 SE Oak, submitted a letter and several attachments for the record on behalf of the firm's clients, Steve and Kelly Bobosky. She said that her submittals state objections to the designation as rural reserve of the Steve and Kelly Bobosky exception land property located at 21393 NW West Union Road. Ms. Newell indicated that the submittals are designed to show that their property should either be left undesignated or designated as urban reserve.

Robert Bailey, 7455 NW Helvetia Road, Hillsboro, Oregon, submitted written testimony, which may be found in the Meeting File. He remarked that supplemental reports being delivered next week would not allow citizen comment. Mr. Bailey today testified about Ordinance 733's Area 8B, now engrossed into Ordinance 740. He indicated that 8B is the area of 88 acres to the north of Highway 26 and to the west of NW Helvetia Road—sometimes referred to as the Standing parcels. Mr. Bailey made the following points:

- During the Ordinance 733 process, the findings asserted that the area was needed in its entirety for the Helvetia Interchange Project.
- The findings also asserted that this area was needed to be designated as urban reserve to more easily accomplish the Interchange Project.
- We have received definitive information that refutes these points.

Mr. Bailey said that Save Helvetia has had ongoing communication with the Oregon Department of Transportation. He stated that they indicate a need for just over five acres for the project. (Email may be found on page 4 of Mr. Bailey's submittal.) Mr. Bailey said that the assertion that the designation of urban reserve was needed for the Helvetia Interchange Project has also been refuted in a letter of March 29, 2011. (Letter is contained in Mr. Bailey's submittal.) He requested that the Board re-designate this area as rural reserve to be responsive to taxpayers. Mr. Bailey said that the Board would be

purchasing way more than required at an urban reserve inflated price when it could designate that area as rural and purchase a little over five for the project—saving taxpayer dollars. He stated that his written testimony includes objections to this area that were presented to LCDC on October 29, 2010. Mr. Bailey turned to the topic of urban reserve factors in conflict:

- Urban Reserve Factor 5 asks if the area can be designated to preserve and enhance natural ecologic systems. Save Helvetia concludes that it cannot.
- Urban Reserve Factor 7: Save Helvetia repeats the same concerns.
- Urban Reserve Factor 8 asks if the area can be designed to avoid or minimize adverse effects on farm and forestry practices. Save Helvetia reminds the Board that this particular drainage is responsible for the drainage of over 1,000 acres of the central Helvetia area. It has a century of tile system improvements that shunt water from the Waibel Gulch area into this area and change in development down there would have an adverse effect on current practice.

Mr. Bailey asked the Board to take another look, designate Area B as rural reserve, save the taxpayers money, and protect the habitats and natural resources that are present there.

Chair Duyck stated that this action does not require the County to purchase anything; in fact, it is not a land use action in that way.

Cherry Amabisca, 13260 NW Bishop Road, Hillsboro, Oregon, submitted written testimony, which may be found in the Meeting File. She said that last year, Save Helvetia was unhappy with the Board's decision to include Area 8B in Ordinance 733 as urban reserves. Ms. Amabisca stated that the 88 acres are way bigger than the five acres needed by ODOT for interchange improvements. She added that ODOT is on record as saying that it does not need to be designated urban reserves to accomplish these improvements. Ms. Amabisca said that Save Helvetia was debating whether to go ahead with a challenge. She remarked that it costs a lot of money to do an appeal for this grass roots citizen group. However, Ms. Amabisca stated that now that the Board has decided to add another 350 acres of urban reserves north of the Sunset Highway, that makes Save Helvetia's decision a lot easier. She said that there is no legal obligation to make up for the land remanded north of Cornelius in Helvetia or anywhere else. Ms. Amabisca stated that there is no legal ability to claim that the land north of Cornelius was for industrial use and so the make-up must be also. She said that the actual use of any area is not done until concept planning when it comes into the UGB. Ms. Amabisca mentioned that she was at the MPAC meetings when Mayor Willey declined to commit the land south of the freeway in 8A as industrial, saying that some of it might be used for residential. She stated that Hillsboro does not need the 440 acres of urban reserves north of the Sunset Highway and added that the Board has heard a lot of testimony about that. Ms. Amabisca said that that 440 acres is part of Helvetia's economic engine and has been for 150 years. She stated that taking this land from the vibrant agriculture industry north of the Sunset Highway and giving it to Hillsboro, when Hillsboro already has 2.5 billion square feet of empty warehouses and commercial space and almost 7,000 acres of available land

(including the land in urban reserves) is a really bad decision. Ms. Amabisca said that with this decision, the Board has violated at least three factors regarding buffers and has left Area 8D with a ridiculously inadequate buffer of a one-lane gravel road only 21 feet wide at Groveland Road. She stated that the Board has created another inadequate buffer of West Union Road only 35 feet wide, which puts the agricultural land on the north side of West Union Road in jeopardy. Ms. Amabisca said that putting urban uses next to agricultural lands with inadequate buffers magnifies—not minimizes—the adverse effects on farm practices, thereby violating Urban Reserve Factor 8. She stated that the Board has ignored the natural buffer of Waibel Creek and its 200-foot-wide floodplain, violating Rural Reserve Factors (2)(d)(B) and (3)(f). Ms. Amabisca said that designating Area 8D as urban reserves is a high risk, low return decision that puts the reserves at risk. She stated that designating Area 8B as urban reserves is unnecessary for interchange improvements. Ms. Amabisca said that an aggressive decision just does not make sense. She spoke of the need to put a smarter decision in front of LCDC and to respect the historical buffers that have worked for 150 years north of the freeway.

Commissioner Malinowski said that he especially appreciates the letter from ODOT, which was a part of Mr. Bailey's submittal. He stated that while we are not buying any property for an exchange, it appears that ODOT is buying an exchange. Commissioner Malinowski remarked that by making it an urban reserve, we may have cost the taxpayers a little extra money for this deal.

Anna Becker, address not intelligible, addressed the area of North Helvetia, which is east of Jackson School Road and west of Cornelius Pass. She said that the recent decision to ignore the voice of the majority of the residents regarding Metro's plan to urbanize North Helvetia is disastrous. Ms. Becker stated that she personally will greatly profit from this decision but recognized that there are much more important issues regarding this. She was having difficulty with her voice today and asked Cherry Amabisca to continue reading the rest of her letter. (Letter was not submitted.) Some of the points made in the letter were:

- Why do core centers and cities become slums? Slums follow whenever the adjacent area becomes developed.
- This is due to unsustainable, short term planning.
- Ms. Becker sees the opposite of a long-term 50-year plan in Metro's decision.
- This defaces our entire state and the concept of sustainable families living long-term within sustainable communities.
- North Helvetia is already a sustainable long-term community, complete with the goods and services essential for basic life because the land is already developed.
- Small businesses, co-op farms, prize farmland, historical artifacts, saving endangered plant and animal life are sustainability, already in place in Helvetia.
- Metro lies in the same bed with short-term land developers and are totally ignorant of proper long-term planning to keep Helvetia sustainable.
- Metro is exuding white lies and purposely propagandizing their own agenda of short-term thinking and profit—nothing sustainable.



- Metro's decision reflects short ten-year-or-less planning before developers move in elsewhere, thus creating Helvetia's slums.
- Where is the critical thinking in Metro's decision?
- Ms. Becker will lead others to vote out corrupted County Commissioners.

Abbie Assefa, 22740 SW Rosedale Road, Beaverton, Oregon, asked that her property—and that of five of her neighbors totaling 78.87 acres—be included in Area E. She said that she and these neighbors were never notified about the IGA. Ms. Assefa stated that she has been relentless in working with Chair Duyck and Metro President Hughes' office to try—without positive move forward—to meet her and her neighbors' needs. She said that they are asking to be included. Ms. Assefa stated that in the IGA, the acreage needed is down by 410 acres and that hers (and neighbors) is 78.8. She said that their lawns are small parcels—much smaller than the ones included in Area E. Ms. Assefa asked that this issue be re-examined.

Miki Barnes, 48100 NW Dingheiser Road, Banks, Oregon, submitted written testimony, which may be found in the Meeting File. She urged the Board to designate all of the area in Helvetia north of Highway 26 as rural reserve. Ms. Barnes further urged the Board to better utilize the land already within the Urban Growth Boundary for future industrial use. She suggested that the Board take acreage out of the Hillsboro airport. Ms. Barnes compared the Hillsboro airport to Boeing field, which is considered one of the busiest GA airports in the country. She said that on less than 600 acres, Boeing manages 375,000 operations per year. Ms. Barnes stated that Hillsboro airport has 928 acres and had 220,000 operations in 2010. She said that the sense that Hillsboro serves corporate jets is false; according to the draft environmental assessment, only 3% of operations at Hillsboro in 2007 were corporate jets. Ms. Barnes reported that 68% of the operations are flight training—primarily for Hillsboro Aviation and some for Mike Applebee. She concluded that taxpayers are subsidizing an international flight school there. Ms. Barnes said that she has asked Hillsboro airport how many people from foreign countries are coming in and they say that they do not track that information. She stated that Hillsboro Aviation claims to be a private company and does not track this information either but the public is supposed to give \$13.5 million to foot the bill for their private company. Ms. Barnes said that we need to re-assess how taxpayers are being treated in the state and in this county. She reported that there is currently one general aviation airport in this state for every 13 pilots; she asked the Board to compare that to K – 12, where there is one school for every 433 students. Ms. Barnes said that the proportion of airports per Oregon pilot exceeds the school to student ratio 33 times over. She advised the Board to look at that land and to set it aside for future industrial growth and to preserve prime farmland. Ms. Barnes also advised the Board to ask the Port to be much more forthright with the public about what is really going on in this county.

Commissioner Schouten did not want to sound like an alarmist but wondered if someone is keeping track of the kind of people and from where they are coming in terms of flight training. He remembered that some of the people involved with 9/11 were people that were taking flight training.

Miki Barnes responded that the Vice President of Oregon Aviation Watch (a new group that is forming) was told by a spokesperson at Troutdale airport that at any given time, there are 200 student pilots from China who are being subsidized by the Chinese airlines and who are here because they want to become commercial jet pilots. She found a report on Hillsboro Aviation's blog a couple of years ago relative to a 2009 agreement with the Germany Ministry of Defense allowing German veterans to come here to train in their last year of service.

Chair Duyck observed that this is getting off the subject of urban and rural reserves.

Commissioner Schouten wondered if this is being addressed by Homeland Security or elsewhere.

Miki Barnes said that she was directed to contact the Transportation Security Administration, who provided her with a website that she has not had much chance to explore yet. She agreed that this is troubling. Ms. Barnes said that there is no mandated security at Hillsboro airport.

Sheila Griffie, Chair, Cornelius Planning Commission, 3012 N. Holiday Drive, Cornelius, Oregon, submitted written testimony, which may be found in the Meeting File. She said that this is about a request for room to grow in Cornelius, room for future jobs. Ms. Griffie stated that as the proposal stands, Cornelius is the only city in Washington County and Metro region that is being denied any urban reserve land suitable for future industry. She said that her proposed amendment to Ordinance 740 today is simple and will be addressed in detail by Mr. Ferrie. Ms. Griffie stated that the request is to move the 352 acres of urban reserve that is not wanted north of Sunset Highway in Helvetia to north of Cornelius, where the land is wanted and needed to build a complete and sustainable community. She said that this move will satisfy the wishes of Helvetia and at the same time meet Cornelius' needs. Ms. Griffie believed that both Metro and LCDC will be happy for a compromise that results in a finished product. She said that the barrier to the Community Farmland Compromise is the worry that LCDC will not like any urban reserve north of Cornelius. Ms. Griffie thought that that worry is overblown. She recalled that at the October, 2010 meeting, LCDC voiced concerns about urban reserves north of Cornelius—concerns for which they never formulated or presented a formulated set of findings for a legal decision; they only voiced a verbal remand based on their concerns. Ms. Griffie stated that there are no meeting minutes of their discussion. She said that because LCDC never wrote a final order, Cornelius did not have a chance to question or address their concerns. Ms. Griffie stated that nonetheless, Cornelius responds to the concerns expressed by LCDC with the Community Farmland Compromise. She said that in October, one LCDC Commissioner said that Area 7I was a protrusion into prime farmland. Ms. Griffie noted that this area has been significantly reduced and flattened to even out the northern boundary of Cornelius in the compromise. She said that they said that this area was the best of the best farmland in the state—a national treasure. Ms. Griffie stated that this is simply not true. She said that these facts about farmland suitability is summarized in a long public record, showing the land north

of Cornelius as documented as Class II and Class III soils and Tier III land in a Washington County study. Ms. Griffie stated that much better Class I soils and Tier I land are designated urban reserves elsewhere in the region, including north of Hillsboro, Forest Grove and outside of Sherwood. She said that the Commissioner said that this land contained too much floodplain and so she has a floodplain map of this area bordered by a southern edge of Dairy Creek floodplain and containing little floodplain. Ms. Griffie stated that there was no simple floodplain map in front of them. She said that they repeated local advocate opinion that Council Creek Tributary is the best boundary buffer between farmland and Cornelius. Ms. Griffie presented a map that LCDC did not see, though it was in the record, showing that Cornelius already extends north of Council Creek. She said that \$20 million in public investments and urban development north of Council Creek have been accomplished. Ms. Griffie stated that most of this land is zoned exception land because it is partially urbanized already, its six block distance from Cornelius' town center and future light rail station, and the broad floodplain natural boundary of Dairy Creek. She said that as misinformed as LCDC's concerns are, nonetheless Cornelius respects their concerns and in good faith compromised to reach the agreement of a finished product. Ms. Griffie asked the Board to make a decision that is right both for the County and for Cornelius.

Robert Ferrie, 2601 S. Dogwood Street, Cornelius, Oregon, told the Board that he serves on the City of Cornelius' Planning Commission. He displayed a map on an easel of the Community Farmland Compromise. Mr. Ferrie pointed out the size of the recommended urban reserves around Cornelius compared to those in Hillsboro, Forest Grove, Tigard and elsewhere. He said that the map shows how Cornelius has cut the urban reserve approved last summer nearly in half on the north to retain some land suitable for industry. Mr. Ferrie stated that a 352-acre urban reserve is flattened against the landscape, omitting the protrusion into farmland. He now displayed a second map, which portrayed a close-up of Area B and C. Mr. Ferrie stated that the reduced urban reserve is tucked into the landscape, with Urban Growth Boundary on the west and the broad Dairy Creek floodplain on the east. He said that the City of Cornelius' boundaries already extend north of Council Creek. Mr. Ferrie stated that much of the land in the urban reserve is zoned "exception land" and has been partially urbanized for 30 years. He said that the town center and future light rail line is just six blocks away from this urban reserve land. Mr. Ferrie noted that the bridges over the Council Creek Tributary are built to urban standards with broad sidewalks and are part of over \$20 million in improvements meant to serve urban development. He said that the boot-strapped Cornelius community has no other land suitable for industry to grow into for 50 years. Mr. Ferrie asked the Board to use reason and fairness in its decision today and not to let process get in the way of good judgment.

Vice Chair Rogers commented that this has been a two-and-a-half year process and we are getting down to the very end of it. He recalled the marathon nine-hour session with Metro on March 15, 2011. Vice Chair Rogers said that the Cornelius proposal is one that he has always supported and thought that it make sense. He stated that the people in Helvetia do not want it up there (he understands why) and the people around Cornelius

should be able to bring in the 352 acres. Vice Chair Rogers explained that the reality is that there is no traction for that proposal. He reviewed that he made that motion and the motion died because there was no other support. Vice Chair Rogers appreciated the position and remarks but said that this is where we are. He anticipated that people would make their case at LCDC.

Commissioner Malinowski said that as a fallback position, Cornelius might look at just the exception land and be prepared to answer if Cornelius could live with just the exception land. He pointed out that they are both on the roads and where the bridges are. Commissioner Malinowski suggested that they consider that in their case to LCDC if that is something they could live with.

Richard Meyer, City of Cornelius, wished to speak about the staff role in this, which he believed has failed the public bodies in this planning process. He said that he, Washington County staff, the Board and other elected officials do what they do every day to be part of the great American experiment of local democratic self-governance. Mr. Meyer considered this as a wonderful vocation. He stated that part of that work, from a staff point of view, is making sure that process serves and informs public decisions. Mr. Meyer said that this is a situation where, at the end of the two-and-a-half years, the process has taken over. He recalled that every time the facts, findings and judgment in public meetings have been the basis for decision in the past 20 years, Cornelius has been approved for future urban development in this area. Mr. Meyer said that every time, process or procedure has trumped those decisions in some way. He stated that the public, particularly smaller cities and sometimes the County have a harder time fighting process battles due to a lack of resources. Mr. Meyer said that the Commissioners, including Commissioner Terry, have each voiced support for urban reserve land north of Cornelius. He stated that Washington County staff, Metro staff, and LCDC staff all agreed based on the facts. Mr. Meyer said that there was a switch of a vote and an omission of Cornelius land at the last minute. He stated that there are no findings and that we are tricked by the process. Mr. Meyer said that the only option for people is to come to the Board to challenge the verbal concerns of LCDC. He stated that the Board agrees on the right decision for Cornelius and yet, to save the whole process, it must say "no". Mr. Meyer appealed to the Board to make a decision that will be constructive to the experiment of local government in Washington County—with the risk that LCDC may look at it askance. He personally felt sure that Metro and LCDC would approve anything that the Board put back before them.

Commissioner Schouten asked for an explanation of the first map shown.

Mr. Meyer explained that it shows a larger picture while the other map shows detail.

Commissioner Schouten wanted to know the point of the map on display.

Mr. Meyer stated that it shows Cornelius connected to Forest Grove. He said that one of the things that it shows is that the broad floodplains and Tualatin River on the south and

Dairy Creek on the north are the most natural boundaries. Mr. Meyer recalled that LCDC, when verbalizing their change of mind, had a map that had all green around all of the communities and it looked like Cornelius was protruding out into all green while in fact it was tucked into an acute corner of Dairy Creek and the city itself. He said that it also shows that everyone got some land to grow into in the region except for the City of Cornelius.

Linda Peters, 25440 NW Dairy Creek Road, said that she intends to bring written testimony next week. She perceived two main things that have gone wrong with this process:

- Nobody from the beginning in Washington County, and not enough people throughout the region, took seriously the principle that it was about protecting farmland as much as it was about providing for urban growth. People did not come at it with the understanding that the smart growth that we were after, the flowery language we had from Metro about building a great place, depended primarily on us revitalizing the areas that we already have within our urban growth boundaries. That was not what was foremost in everyone's minds and the fact that it wasn't led us off into the wild blue yonder of fantastic aspirations that have nothing to do with building a good urban forum that is really livable and sustainable and that have nothing to do with where we need to be putting our attention, which is on getting those industrial areas and those businesses and those better, more walkable neighborhoods built inside the urban land we already have.
- After LCDC had reviewed all the materials we had all prepared and agonized over for two years, LCDC made a decision. Never mind what you think about the way they arrived at it or whether it was valid, they made a decision. This is the first time Ms. Peters can remember in anything that has ever come before LCDC where a decision never got written up. That decision was just as valid and just as final as anything they have ever written a staff report about but their own staff simply put off and put off the writing of the order. Because they did that, we have been wandering around in a legal fog. Everybody has just made up what is going to happen next and there is nothing to stop it.

Ms. Peters said that Cornelius has every right to be offended at the way they have had to proceed and Save Helvetia and the other groups who are trying to protect farmland have the right to be offended over the fact that they do not have findings to respond to. She stated that as much energy as we have all put into this process, we have muddled it pretty badly.

Tom Black, 870 NW Garibaldi Street, Hillsboro, Oregon, objected to Area 8A as designated in Ordinance 740. He said that Area 8A represents 2,700 acres of prime farmland in the heart of Washington County. Mr. Black stated that this area represents approximately 20% of the current proposed Ordinance 740. He said that it is located south of Highway 26, west of Glencoe Road, east of Shute Road and north of Evergreen

Road. Mr. Black stated that Washington County is blessed with fertile land that has fed generations of Oregonians and others around the world. He said that the question today is how and where we grow in the near future. Mr. Black stated that planning for 50 years is not an easy task and demands careful thought and collaborative planning by all citizens living in the county. He said that he has attended a number of hearings regarding Ordinance 740, previously known as Ordinance 733. Mr. Black stated that he witnessed the Planning Commission being forced to review and approve it in one evening. He heard members of the Planning Commission say they did not want to be a rubber stamp. Mr. Black took this as an indication that we did not do things collaboratively with all citizens. He did not want Area 8A to be urban reserve. Mr. Black charged the Board with ignoring State Goals 3 and 5. He said that Goal 3 addresses agriculturally valued land and that the 2,700 acres represent a significant portion of Oregon's prime farmland. Mr. Black stated that Goal 5 addresses scenic and historic places. He said that within these 2,700 acres lies the homestead of Joe Meek, one of the main influences who created the state as we know it today. Mr. Black felt that we should honor Mr. Meek and the land that he homesteaded for current and future generations.

Commissioner Malinowski thanked Linda Peters and Tom Black for coming and said that he appreciates what they are saying. He said that they have highlighted some of the iffy parts of what he has seen as a citizen activist.

Chair Duyck did not agree. As to Ms. Peter's remark about not taking seriously the protection of farmland, he believed that that is exactly why we are staying the course. Chair Duyck said that he would certainly not be supporting urban and rural reserves unless he felt that it was going to protect farmland. He stated that we have the largest number of rural acres of any of the three counties and we have restricted urban land far below what we know will probably be needed in the next 50 years because we believe that that will force us to have a tighter and more compact urban growth and, with that, better neighborhoods. Chair Duyck believed that we have taken this seriously.

It was moved to continue the public hearing to April 26, 2011 to conduct the second engrossment hearing required by Chapter X of the County Charter.

Motion – Rogers

2<sup>nd</sup> – Schouten

Vote – 4-0

As a procedural matter, Commissioner Schouten said that it would be possible to sabotage the process by doing a 2-2 vote in Commissioner Terry's absence. He stated that the Board could have interrupted Commissioner Terry's work elsewhere to get him on the phone for a 3-2 vote to forward this matter. Commissioner Schouten had concerns about the substantive piece of this but said it does little good to try to stop this at this point. He said we need to continue this on for the final hearing on April 26, 2011. Commissioner Schouten stated that in the beginning, when we had our overarching committee looking at urban and rural reserves as a county, it was nearly all cities, with

only one representative from the county and one from agricultural. He thought that we failed to include more landowners, more people from the business community and more people from the environmental community. Commissioner Schouten would have preferred to see a little less on the city side. That was where he saw some issues with the process.

Commissioner Malinowski said that what we were doing—setting ground for urban and farm—was good; his concern was with the process. He said that it was just a different process than what, as a citizen activist, he has been used to. Commissioner Malinowski had the same concern about the LCDC process.

Vice Chair Rogers complimented Commissioners Schouten and Malinowski for voting to continue this matter because he recognized that it could have been a 2-2 vote. He appreciated Commissioner Schouten's statesman-like comments and behavior. Vice Chair Rogers favored conducting business for the people rather than indulging in petty bickering.

6.b.

RO 11-23

Approve Resolution and Order Authorizing Local Improvement District (LID) Improvements to NW Hahn and NW Davidson Roads (CPO 8)

Dave Schamp was accompanied by Greg Clemmons, Operations Engineer, who has taken the lead in the development of this project and dealt with many of the citizens who are going to be impacted by the improvement district.

Mr. Schamp recalled that staff was contacted in early 2009 regarding interest in forming an LID and hard surfacing portions of Hahn Road and Davidson Road. He reviewed that a neighborhood meeting was held in July of 2009, at which time staff discussed options, processes and the steps that need to be followed in order to establish an LID and have improvements made. Mr. Schamp estimated 20 to 25 people attended that meeting. He said that a petition was then developed by the County and it was circulated through the neighborhood by a volunteer. Mr. Schamp stated that the County received a completed petition in late 2009, early 2010 and, because that petition was received so late in the process, there was not an opportunity to work it all the way through the Board process in time to be able to complete those improvements last summer and so the project has been delayed. He said that in October of 2010, staff notified property owners by letter that there was again an opportunity to move the LID petition forward and actually let them know that if they wanted to remove their names from that initial petition or if others wanted to add their names to that petition, that opportunity would be afforded to them. Mr. Schamp reported that one property owner added his name and two property owners asked to have their names removed, which staff did. He said that the property owners that removed their names were not counted in the agenda item provided to the Board on January 18, 2011.

Mr. Schamp said that there are 47 properties, with 42 property owners, and there were 24 signatures on the petition. He calculated that this is a support of 57% of the owners within the LID. Mr. Schamp acknowledged receipt of eight letters of remonstrance.

Mr. Schamp told the Board that the actual project includes a three shot chip seal that would begin at Harrison Road and proceed about 5,274 feet on Hahn Road. He said that it will also chip seal the entire southern portion of Davidson Road, beginning at the Hahn Road intersection and proceeding to its end. Mr. Schamp stated that the estimated cost is just under \$296,132. He said that a full share would be \$6,886.80 and a half share for any unimproved lots would be half of that, \$3,443.40. Mr. Schamp stated that the County has planned for and allowed for this work to be completed as a part of the 2011-2012 work program. He said that with Board approval, staff anticipates completing the project this coming summer.

Commissioner Schouten asked what the road would look like if we do not do these improvements.

Mr. Schamp responded that it is currently a gravel road, which gets the normal amount of treatment similar to any other gravel road in the rural portions of Washington County.

Commissioner Schouten asked if we would anticipate some measure of dust and particulate matter with a gravel road like that, which would then impact timber, farm and residential activities.

Mr. Schamp replied that gravel roads are dusty in the summer and tend to be muddy in the winter.

The public hearing was opened.

Robert Savage, 37641 NW Hahn Road, Banks, Oregon, said that he understood the proposal when he signed it and that he is in full support of it, in spite of the fact that he is being assessed 1.5 shares. He indicated that he owns one developed property and one undeveloped property.

Don Ediger, 15630 NW Davidson Road, Banks, Oregon, asked for the LID process to be set aside. He said that he signed the petition and then sent a letter rescinding approval of it. Mr. Ediger wanted the record to show that he is not on the petition. He stated that he and his wife do not have a fundamental problem with improvement of the road but they do not feel that it is the right thing to do at this time. Mr. Ediger clarified that it is a personal financial decision and added that other people on his road would experience more hardship than he would. He said that a relevant side issue is that people will not vote for the school bond if they also are paying for this improvement.

Vice Chair Rogers notified Mr. Ediger that he is listed as opposed in the Board's agenda materials.



Commissioner Schouten said that the Board has a letter from Mr. Ediger in opposition dated October 16, 2010 and received by LUT Operations on October 19, 2010.

Mr. Ediger stated that when he and his wife signed the petition, it was their fairly clear understanding that they were signing it for a process—not to put forward an approval.

Commissioner Malinowski asked how this impacts the school bond.

Mr. Ediger responded that it is a matter of whatever supporting the chip seal on the road means to peoples' finances. He said that while he is not on a fixed income, it would be a problem to support both the road improvement and the school bond.

Commissioner Malinowski asked what school district the speaker is in and was told it is Banks.

Dave Schamp verified that the letter of remonstrance was received prior to the submission of the petition to the Board and Mr. Ediger's name was removed.

Vern VanDomelen, 15970 NW Davidson Road, Banks, Oregon, said that he is delivering a letter of objection from another person today. He told the Board that he did not attend the original meeting. Mr. VanDomelen said that he signed the petition and allowed it to circulate at a Christmas party at his house. He related that his wife is worried about where they will come up with an extra almost \$7,000. Mr. VanDomelen has since submitted a letter of remonstrance.

Commissioner Malinowski asked if the speaker has three lots but just one house.

Mr. VanDomelen responded that he has two lots but only one residence. He said that the other property is flagged as a no-building-permit, non-residential.

Commissioner Malinowski asked if the speaker has one vacant lot that he could sell.

Mr. VanDomelen replied that it has a barn and a shop on it.

Commissioner Malinowski reasoned that he could market it separately and it would be buildable and that the speaker is being charged 1.5 shares.

Mr. VanDomelen responded that he was charged 2 shares.

Commissioner Malinowski thought that we are only charging half for an undeveloped lot.

Greg Clemmons said that staff understands the situation pertaining to multiple lots on fixed incomes. He stated that since a determination was made that there was one building on the additional lot, staff did not realize that it was a barn. Mr. Clemmons clarified that

a final decision is not made on this until the final assessment period. He anticipated that at that time, staff will review that and—if it is just a barn—will assess that as one-half share.

Knowing the area, Chair Duyck's guess was that it is not a buildable lot.

Commissioner Schouten commented that it sounds as if there may be some relief for Mr. VanDomelen on that point. He asked if the total amount has to be paid at one time or if it can be paid in installments.

Mr. Clemmons replied that people are given up to ten years to pay the full amount.

Chair Duyck asked if that is an assessment on the property tax bill.

Mr. Clemmons believed that it is a separate bill.

Jennie Applebee, 39495 NW Bledsoe Creek Lane, Banks, Oregon, testified that she and her husband, Michael, are in favor of the LID. She had a statement from two neighbors on Bledsoe Creek Lane, who are also in favor of the LID. Mrs. Applebee stated that she has both an improved and unimproved section and was made aware at the meeting how that would be assessed.

Chair Duyck asked Mrs. Applebee to submit the letters from her neighbors to Dave Schamp.

While the next speaker was coming up, Dave Schamp pointed out that the letter of remonstrance delivered by Mr. VanDomelen has been signed by only one of the two property owners. He indicated that the letter has been signed by Julie Walker but that it has not been signed by her husband, Tom.

Vern VanDomelen asked from his place in the audience if this could be corrected and resubmitted later.

Chair Duyck noted that the Board will be taking action on this today. He asked staff if this would change the outcome as far as the level of support.

Dave Schamp stated that two-thirds of the property owners would be required to remonstrate in order to significantly change the outcome.

Commissioner Schouten observed that the outcome that does not change is that we would still have 57% approval.

Bill Lowblad, 37623 NW Hahn Road, Banks, Oregon, told the Board that he owns and operates a vineyard along Hahn Road. He reported that a recent Oregon State study has determined that road dust is one of the most detrimental problems that vineyards face

today. Mr. Lowblad said that dust spreads various types of mites, all of which cause major crop damage. He stated that he farms organically and that there is no product to use during the growing season to eradicate the mite problem. Mr. Lowblad said that the dust coating both the leaves and grapes reduces photosynthesis to the point where his crop—within 100 feet of the road—is reduced by 25 to 50%. He stated that he currently pays to oil the road in front of his vineyard but said that it has marginal efficacy and is only done for a short period of time. Mr. Lowblad encouraged the Board to vote in favor of eliminating the dust problem.

John Wren, 38495 NW Harrison Road, Banks, Oregon, said that he has five letters from people who were unable to attend today's meeting and who are against the LID. He alleged that when people came around collecting signatures on the petition, they promised a lot of things and made estimates. Mr. Wren's understanding was that if you signed the petition, you were just trying to get a cost—not to follow through. He complained that the price has changed several times and he believed that, with the price of oil, this price can go up.

Dave Schamp responded that it is an estimated cost but added that the County's engineers have been very conservative in developing that cost. While he could not say with absolute certainty that the final cost will be lower, that was his expectation. Mr. Schamp expected the cost to go down as opposed to up.

Mr. Wren reiterated his concerns about the price of oil causing the LID cost to rise.

Mr. Schamp again let Mr. Wren know that the actual cost would be attributed to the LID. He said that the County has been in contact with its oil suppliers, which is the primary component of a chip seal and at this point they have guaranteed to hold their prices through this summer's construction season.

Mr. Wren said that staff failed to mention that this is an interest bearing loan.

Mr. Schamp affirmed that there is a rate of interest but was not familiar with what the exact rate would be.

Mr. Wren stated that he has two tax lots: one abuts the road and is listed as an improved piece of property which he disagrees with. He said that he is a vineyard owner with five acres located along the rock road. Mr. Wren disputed the fact that dust has any affect on his grapes at all. He was concerned about people on fixed incomes being able to afford the LID. Mr. Wren did not like the fact that the County is not putting money in to help with the cost of the LID. He asked why it takes two-thirds of the vote to refute this when it only took 51% to get it to where it is at, "even though the votes were collected under false pretenses".

Chair Duyck asked staff to speak to the ordinance and procedural question of two-thirds versus 51%.

Dan Olsen recalled that State law and the Charter originally had language about the two-thirds being able to stop a project. He said that that language was then put into the ordinance that now governs LIDs. Mr. Olsen explained that if you have over 50% signators, then you initiate the process. He said that, technically, two-thirds cannot cancel a project, they can only require that it be delayed six months and then the Board could go ahead and hold the project. Mr. Olsen noted that staff indicated that if someone chose to withdraw their signature on the petition, staff was permitting that to occur.

Mr. Schamp stated that that is correct; that was before the petition was actually submitted to the Board for consideration to establish the LID. He said that there were two individuals that made the request before January 18<sup>th</sup>; those names were removed and not calculated into the 57%. Mr. Schamp went on to say that one other individual asked their name to be added and staff actually received a petition from them and so that was calculated into the 57%.

Dan Olsen said that, technically, even though that is not required, staff has tried to make some adjustment based on people changing their mind over time (on the 57%).

Commissioner Schouten recalled from his courses on criminal law that the charge of “false pretenses” is a serious one. He asked for further information about this grave charge.

Dan Olsen was not aware of anything that went on in the formation of the LID. He said that it has been his experience that typically some neighbors want to form an LID, staff takes an initial look at it, and then estimates (and other things) change over time. Mr. Olsen did not recall ever seeing one where the final result of the LID was significantly different than the initial proposal. He said that there may have been a couple where some very unusual circumstances arose but that is not typical. As to false pretenses, Mr. Olsen stated that it may be that some people feel that they thought they had accurate information at the beginning and just because things change as you look more closely at a proposal, the information changed. He said that if there was some indication of untruthfulness, then we would want to have a specific allegation and take a look into that.

Commissioner Schouten asked the speaker to explain his charge of “false pretenses”.

Mr. Wren responded that the person who came around collecting signatures said several things about costs and that the road would be asphalt paved. He said that an asphalt road is very different from a chip seal road. Mr. Wren questioned what the County would do after the seven year life of a chip seal road: would the County take care of it or grind it up? He claimed that the person said misleading things. Mr. Wren stated that the people who signed thought that another vote would be taken as to whether the LID would actually take effect.

Commissioner Schouten asked staff to address the lifetime of chip seal material and possible subsequent scenarios when it breaks down.

Dave Schamp responded that when the County constructs a chip seal road, a life of seven years is expected. He said that the experience has been that they last much longer but the commitment is to make sure that the road is viable for the seven-year timeframe. Mr. Schamp stated that the road will be treated in accordance with the prioritization matrix and so, as funds are available, the County will maintain the road accordingly. He reported that our financial situation today is better than it was two years ago and in 1996, when we were actually faced with reverting roads. Mr. Schamp said that as long as things continue as they are today, there is no expectation that this road would be reverted back to gravel. However, he noted that we do not know what will happen with our economic situation in the future.

While the next speakers were coming forward, Chair Duyck commented that his experience has been that the County will guarantee that you have a road for seven years but oftentimes throughout the County, these roads have lasted easily 15-20 years. He said that it really depends on usage, such as if it is heavily used or if log trucks have started using it, for example.

Bill Zander, 17670 NW Davidson Road, Banks, Oregon, expressed support of the LID. He said that he lives at the end of the dead-end road. Mr. Zander stated that as the last house on the road, he is not affected by the dust but rather creates it for others. He said that he has cattle and drives a pick-up truck to haul hay, etc. Mr. Zander explained that the tires and suspension wear are dramatically different with a diesel pick-up than on a paved road. He said that he is aware that some other roads that have been chip sealed see increased usage but stated that things are not going to change on this dead-end road. Mr. Zander testified that he never saw the misunderstandings that were referred to earlier. He related that he came to the meeting held by staff not in favor of this because he did not think he could afford it but heard no misrepresentations. Mr. Zander said that he had the advantage of going to that first meeting and then following up on the information when the petition actually came around. He was confident in his decision to support this LID.

Vicki Ballou, 16465 NW Davidson Road, Banks, Oregon, told the Board that she never heard any misrepresentation. She expressed support of the paving project. Ms. Ballou felt sorry for the Gerrish's, who spent so much time and effort trying to bring everyone into the process, to have their integrity impugned by neighbors. She was concerned about due process issues and pointed out that if anyone was misled, the second letter sent out by the County in 2010 giving people the ability to change their vote should have removed any defect. Ms. Ballou believed that the neighbors on Davidson and Hahn Roads really value their senior citizens. She stated that if, for some reason, the senior citizen property tax deferral program is not helpful to them, she knew that the people on her road will work together to make sure that none of the senior citizens on the road are ever forced to leave their home because of the cost of the pavement.

Marilyn Bako, 63376 Brightwater Drive, Bend, Oregon, identified herself as a property owner—not a homeowner—involved in this. She stated that she has a small easement, undeveloped, to an undeveloped property that she has owned for more than 40 years. Ms. Bako said that her original plan was to build on that 10-acre property but all of the changes at LCDC over the years have resulted in it no longer being buildable. She stated that the property has a lot of trees and is taxed as forest land. Ms. Bako said that she was never informed of any meeting of the property owners and did not receive any written communication, other than from the County. She did receive the letter in 2010 indicating that there was a possible LID but she assumed it would be postponed. Ms. Bako then received a recent letter and traveled here today to get information. Her understanding was that she had until May 19, 2011 to submit an objection.

Greg Clemmons believed that remonstrances can be received up to 30 days after this hearing.

Ms. Bako said that she was never involved in any petition process. She was on a fixed income and said this would not be an easy expense, particularly since the property has been maintained as forest land.

Chair Duyck said that if the two-thirds threshold is reached, then this would be reversed. He stated that that is why the date is held open, namely to give her the opportunity to submit a remonstrance. In terms of process, Chair Duyck explained that there are three times that this comes before the Board of Commissioners:

1. Formation of the district
2. Authorization of the work to be done
3. Assessments

Commissioner Schouten asked which group the immediate past speaker is being included in.

Ms. Bako believed that she is, by default, part of the “in favors” because she did not submit a negative letter.

Greg Clemmons asked if the speaker signed the petition and she responded that she did not.

Commissioner Schouten reasoned that she is then not counted as part of the 58% in favor.

Ms. Bako seemed to understand now that she is not being counted as one who approves the LID.

Dawn Slifka, 38164 NW Hahn Road, Banks, Oregon, described the road as straight and then going down a hill, with her driveway a little before the hill. She said that she has three small children who catch a school bus every day. Ms. Slifka’s concern was speed

of traffic. She stated that drivers come up a blind hill and might not see the children waiting for the school bus or walking across the street to get the mail. Ms. Slifka wanted to know if anything is being done to make sure that there is some sort of speed zone there.

Greg Clemmons replied that as it is now, it is a basic rural road and there is not a lot that can be done to post it.

Ms. Slifka recalled having to do a speed study before building her house because her driveway was not far enough away from a blind corner. She wanted that to occur in some of the places on Hahn and Davidson that do have hills and corners. Ms. Slifka said that people already fly down the road on gravel and stated that they will just go faster on a paved road.

Greg Clemmons acknowledged Ms. Slifka's concern. He reported that it is a lot more serious when you lose control on gravel because it is a loose surface and he did not think people would lose control on chip seal.

Ms. Slifka said that drivers would lose control on chip seal if there was ice. Her concern was children, people who walk their dogs, joggers and the like. Ms. Slifka stated that there is no room to get off the road if the road is chip sealed unless you go into a ditch.

Chair Duyck empathized with the speaker but recognized that there is not an easy answer. He said that there are things that could be done to the road but they would increase the LID cost and that is a factor. Chair Duyck stated that there are also restrictions on what we do in the rural area. He explained that certain types of roads are restricted to basic rule, which means that it is incumbent on the driver to drive according to the conditions.

Commissioner Schouten asked about the letter status of this speaker.

Dave Schamp responded that one of the letters received at today's hearing is from Mark and Dawn Slifka.

The public hearing was closed.

Vice Chair Rogers called attention to the fact that LIDs are not initiated by the County or something that the Board is advocating for. He noted that this is a democracy and people can come forward with a petition containing the required number of signatures. Vice Chair Rogers said that the County goes through the work of determining if the project has feasibility and then people can remonstrate. He stated that he looks for a majority in support of the project and if there is a majority, he supports it. Vice Chair Rogers reiterated that the County is just the mechanism that has been placed in the law for citizens to use to achieve certain desired improvements. He said that this mechanism also allows for a ten-year payoff, to help citizens spread out the assessment. Vice Chair Rogers asked staff for a final count of people in favor.

Dave Schamp replied that before the start of the hearing, we had eight remonstrances and we received six letters during the hearing. He assumed that those submitted today are acceptable letters of remonstrance but pointed out that two have been signed by only one of the property owners and one is not signed at all. Mr. Schamp presented the new total of 14 remonstrances.

Vice Chair Rogers asked for further information.

Mr. Schamp said that the required two-thirds of the 42 properties represented would be 28.

Vice Chair Rogers wanted to know how many total assessed properties there are.

Mr. Schamp responded that there are 47 properties with 42 property owners.

Vice Chair Rogers asked what percentage results from 14 remonstrances out of 42.

Greg Clemmons calculated that to be one-third.

Vice Chair Rogers clarified that two-thirds are in favor or have not opposed it and one-third have opposed it.

Commissioner Schouten asked about the percentage of people supporting the LID.

Mr. Schamp replied that about 33% have remonstrated.

Commissioner Schouten wanted to know the number of people supporting the LID at this time.

Mr. Schamp reviewed that we received 24 signatures on the petition, which represents 57% of the properties involved. He said that we are now at a point where we have received 14 remonstrances, which would equal roughly 33% of the properties affected.

Commissioner Schouten still heard a substantial majority of supporters.

Mr. Schamp said that at this point, all he can answer is the question of how many are in opposition and must assume that the others are in support. He acknowledged that that is an assumption.

Commissioner Schouten stated that it is clear that enough notice has been provided such that everyone understands exactly what is involved here or at least had enough information to be able to call and make further inquiry. He felt confident that there is definitely a majority who understood what is involved, the estimated costs and other pertinent details. Commissioner Schouten was therefore prepared to vote for this.



It was moved to approve the Resolution and Order authorizing the LID improvements.

Motion – Schouten

2<sup>nd</sup> – Malinowski

Vote – 4-0

Commissioner Malinowski recalled that he was raised on a road similar to this and raised his son on that road. He advised getting in the ditch if you hear a car coming, depending on the depth of the ditch. Regarding the calculations, Commissioner Malinowski did not think the County should charge at all for an unimproved, unbuildable lot. He said that if a person has a lot that is unimproved and is buildable and they could put a “for sale” sign on it tomorrow, then the County should charge them half. Commissioner Malinowski stated that if they have an existing house or it is an improved lot that has traffic to and from it, they should pay a full share. He wanted to be clear since this was his first LID hearing like this since he joined the Board.

Dave Schamp explained that there are two options: either the lot is unimproved or improved.

1. If it is unimproved, you pay one-half share.
2. It is improved, you pay a full share.

Commissioner Malinowski said that if he owned six lots and none of them were buildable, the odds of them generating any traffic would be relatively small.

Chair Duyck said that these issues have been re-visited and done very thoughtfully. He stated that, for example, if you were an absentee vineyard owner, you are benefitting by the fact that there is no dust and so therefore you would pay half a share.

Commissioner Malinowski stated that it would be tricky for him if he had a seven-acre lot on one side of the road that was all vineyard and seven one-acre lots on the other side of the road that were all vineyard if he was told that he had to pay seven times as much as a neighbor. He asked if people have the ability to get rid of a lot or consolidate lots in order to save.

Vice Chair Rogers replied that they cannot do that after the assessment.

Commissioner Schouten said that all of the policy, weighing, balancing and assessing have been done and set in the rules. He was comfortable with them because whether or not it is buildable, you are getting some benefit that goes with the land and to you—whether it is in terms of the kind of damage you can avoid or in terms of better and more pleasant improved access to your land by way of a paved road as opposed to a gravel road. Commissioner Schouten pointed out that a clear majority of people want this.

Commissioner Malinowski sought staff's assurance regarding the level of support for this LID.

Dave Schamp said that he has not done a comparison of the remonstrances to the names that were initially on the petition. He stated that what he did do was to remove the names of people that asked to have their names removed from the petition prior to submitting that petition to the Board for consideration on January 18th. Mr. Schamp reviewed that at that count, 57% of the properties were in favor of going forward with the LID.

Commissioner Malinowski asked if there was any danger that the six people who came forward today and asked for their names to be removed caused the level of support to decline.

Mr. Schamp said that it is likely that one or more of the remonstrances received today are people who initially signed the petition in favor.

Commissioner Malinowski asked if staff still feels that support is on the high side of 50%.

Vice Chair Rogers explained that it will be two-thirds. He said that there were 42 that could vote as a unit and 16 have remonstrated.

Commissioner Malinowski noted that some probably did not vote at all.

Vice Chair Rogers said that that is okay. He clarified that if you do not vote, you are counted as a "yes" for this phase.

Commissioner Schouten advised people not to sleep on their rights. He said that there has clearly been enough notice here where everyone had the ability to either fully understand or know enough to ask follow-up questions if they needed to.

## **7. LAND USE AND TRANSPORTATION**

7.a.

RO 11-24

Adopt the Affordable Housing Program Guide for the North Bethany Subarea (CPO 7)

There was a motion to adopt the Affordable Housing Program Guide for the North Bethany Subarea Plan and to authorize the Chair to sign the Resolution and Order.

Motion – Rogers

2<sup>nd</sup> – Schouten

Vote – 4-0

**8. ORAL COMMUNICATION (5 MINUTE OPPORTUNITY)**

None.

**9. BOARD ANNOUNCEMENTS**

Chair Duyck announced that the next Board meeting will take place next Tuesday at 6:30 p.m.

**10. ADJOURNMENT: 12:46 p.m.**

Motion – Schouten

2<sup>nd</sup> – Rogers

Vote – 4-0

MINUTES APPROVED THIS 3 DAY May 2011

Barbara Hejmanek  
RECORDING SECRETARY

Andy Duyck  
CHAIRMAN

**AGENDA**

**WASHINGTON COUNTY BOARD OF COMMISSIONERS**

<b>Agenda Category:</b>	Public Hearing – Fourth Reading and Fourth Public Hearing Land Use & Transportation; County Counsel	(All rural CPOs and CPOs 9, 12F, 12C, 4B, 5, & 6)
-------------------------	--	---

**Agenda Title:** **PROPOSED A-ENGROSSED ORDINANCE NO. 740 – AN ORDINANCE AMENDING POLICY 29 OF THE RURAL/NATURAL RESOURCE PLAN TO MODIFY THE RURAL AND URBAN RESERVES MAP**

**Presented by:** Andrew Singelakis, Director; Dan Olsen, County Counsel

**SUMMARY:**

On March 29, 2011, the Board ordered engrossment of proposed Ordinance No. 740 to include the changes described in Attachments A and B of the March 29 staff report. The first public hearing on the engrossed ordinance was held on April 19, 2011. The second of two required public hearings on the engrossed ordinance will be a night meeting held April 26, 2011.

Proposed A-Engrossed Ordinance No. 740 is posted on the county's land use ordinance web page at the following link. The staff report will also be posted at this link prior to the hearing.

<http://www.co.washington.or.us/LUT/Divisions/LongRangePlanning/2011-land-use-ordinances.cfm>

Consistent with Board policy about public testimony, testimony about the ordinance is limited to 3 minutes for individuals and 12 minutes for a representative of a group.

**DEPARTMENT’S REQUESTED ACTION:**

Read A-Engrossed Ordinance No. 740 by title only and conduct the public hearing. At the conclusion of the hearing, adopt A-Engrossed Ordinance No. 740.

**COUNTY ADMINISTRATOR’S RECOMMENDATION:**

I concur with the requested action.

100-601000

Agenda Item No.	<b>5.b.</b>
Date:	04/26/11

# AGENDA

## WASHINGTON COUNTY BOARD OF COMMISSIONERS

**Agenda Category:** Action – Land Use & Transportation All rural  
CPOs and  
CPOs 9, 12F,  
12C, 4B, 5,  
& 6

**Agenda Title:** ADOPT FINDINGS FOR A-ENGROSSED ORDINANCE NO. 740

**Presented by:** Andrew Singelakis, Director

---

### SUMMARY:

A-Engrossed Ordinance No. 740 proposes to amend Policy 29 of the Rural/Natural Resource Plan to modify the Rural and Urban Reserves map.

As required by ORS 197.615, post acknowledgment comprehensive plan amendments (e.g., amendments made to the County's Comprehensive Plan after it was acknowledged by the State Department of Land Conservation and Development as complying with the Statewide Planning Goals) must be accompanied by findings setting forth the facts and analysis showing that the amendments are consistent with the applicable Statewide Planning Goals, Oregon Revised Statutes, State Administrative Rules and the applicable provisions of Washington County's Comprehensive Plan. Additionally, as required by Title 8 of Metro's Urban Growth Management Functional Plan, any amendment to a comprehensive plan or implementing ordinance shall be consistent with the requirements of the Functional Plan.

Attached is the Resolution and Order to adopt the findings for A-Engrossed Ordinance No. 740. The proposed findings will be provided to the Board prior to the hearing and will also be available at the Clerk's desk.

### DEPARTMENT'S REQUESTED ACTION:

Adopt the proposed findings for A-Engrossed Ordinance No. 740 and authorize the Chair to sign the Resolution and Order memorializing the action.

---

### COUNTY ADMINISTRATOR'S RECOMMENDATION:

I concur with the requested action.

100-601000

Agenda Item No.	<u>6.a.</u>
Date:	04/26/11

1 IN THE BOARD OF COUNTY COMMISSIONERS

2 FOR WASHINGTON COUNTY, OREGON

3 In the Matter of Adopting ) RESOLUTION AND ORDER  
4 Legislative Findings in Support )  
of A-Engrossed Ordinance No. 740 ) No. \_\_\_\_\_

5 This matter having come before the Washington County Board of Commissioners at its  
6 meeting of April 26, 2011; and

7 It appearing to the Board that the findings contained in Exhibit "A" summarize relevant facts  
8 and rationales with regard to compliance with the Statewide Planning Goals, Oregon Revised  
9 Statutes and Administrative Rules, Washington County's Comprehensive Plan, and titles of Metro's  
10 Urban Growth Management Functional Plan relating to A-Engrossed Ordinance No. 740; and

11 It appearing to the Board that the findings attached as Exhibit "A" constitute appropriate  
12 legislative findings with respect to the adopted ordinance; and

13 It appearing to the Board that the Planning Commission, at the conclusion of its public hearing  
14 on March 2, 2011, made a recommendation to the Board, which is in the record and has been  
15 reviewed by the Board; and

16 It appearing to the Board that, in the course of its deliberations, the Board has considered the  
17 record which consists of all notices, testimony, staff reports, and correspondence from interested  
18 parties, together with a record of the Planning Commission's proceedings, and other items submitted  
19 to the Planning Commission and Board regarding this ordinance; it is therefore,


20 RESOLVED AND ORDERED that the attached findings in Exhibit "A" in support of  
21 A-Engrossed Ordinance No. 740 are hereby adopted.

22 DATED this 26th day of April, 2011.

23 BOARD OF COUNTY COMMISSIONERS  
24 FOR WASHINGTON COUNTY, OREGON

25 APPROVED AS TO FORM:

\_\_\_\_\_  
Chairman

26  
27   
28 \_\_\_\_\_  
County Counsel  
For Washington County, Oregon

\_\_\_\_\_  
Recording Secretary

EXHIBIT A

**SUPPLEMENTAL FINDINGS IN SUPPORT OF A-ENGROSSED ORDINANCE  
NO. 740, AN ORDINANCE AMENDING POLICY 29 OF THE  
RURAL/NATURAL RESOURCE PLAN TO MODIFY THE RURAL AND  
URBAN RESERVES MAP**

April 26, 2011

**CONTENTS**

**Metro Reasons for Designation of Urban and Rural Reserves ..... Page 2**

- Background ..... Page 2**
- Overall Conclusions ..... Page 3**
- Overall Process of Analysis & Public Involvement ..... Page 11**
- Amount of Urban Reserves ..... Page 14**
- Implementing Urban Reserves ..... Page 17**

**Washington County Supplemental Reserves Findings ..... Page 18**

- Description of LCDC Oral Remand ..... Page 18**
- Developing the Oral Remand Response..... Page 19**
- Balancing Efforts in Washington County..... Page 21**
- Reserves Findings..... Page 33**
  - Rural Reserve Overview..... Page 33**
  - Supplemental Findings for Rural Reserve land near Cornelius ..... Page 35**
  - Supplemental Findings for Urban Reserve Area 7B ..... Page 40**
  - Supplemental Findings for Urban Reserve Area 8B ..... Page 59**
  - General Undesignated Lands Findings..... Page 73**

**Findings and Statement of Reasons for Foundation Agricultural Land  
as Urban Reserves..... Page 79**

**Matrix of Reserves Subareas and Associated Acreage..... Page 83**

## **Exhibit B to Ordinance No. 11-1255**

### **REASONS FOR DESIGNATION OF URBAN AND RURAL RESERVES**

#### **I. BACKGROUND**

The 2007 Oregon Legislature authorized Metro and Clackamas, Multnomah and Washington Counties (“partner governments”) to designate urban reserves and rural reserves following the process set forth in ORS 195.137 – 195.145 (Senate Bill 1011) and implementing rules adopted by the Land Conservation and Development Commission (LCDC) (OAR 660 Division 27). The Legislature enacted the new authority in response to a call by local governments in the region to improve the methods available to them for managing growth. After the experience of adding over 20,000 acres to the regional urban growth boundary (UGB) following the soil-capability-based priority of lands in ORS 197.298, cities and the partner governments wanted to place more emphasis on the suitability of lands for sustainable urban development, longer-term security for agriculture and forestry outside the UGB, and respect for the natural landscape features that define the region.

The new statute and rules make agreements among the partner governments a prerequisite for designation of urban and rural reserves. The remarkable cooperation among the local governments of the region that led to passage of Senate Bill 1011 and adoption of LCDC rules continued through the process of designation of urban reserves by Metro and rural reserves by Clackamas, Multnomah and Washington Counties. The partners’ four ordinances are based upon the separate, formal intergovernmental agreements between Metro and each county that are part of our record, developed simultaneously following long study of potential reserves and thorough involvement by the public.

The four governments submitted their ordinances with designated reserves to LCDC in periodic review on June 23, 2010. On October 29, 2010, the Commission gave its oral approval to the reserves designated in Clackamas and Multnomah Counties and to the rural reserves and most of the urban reserves in Washington County. The Commission, however, rejected the designation of Urban Reserve 7I, north of Cornelius, and directed reconsideration of Urban Reserve 7B, north of Forest Grove. The Commission authorized Metro and Washington County to consider designating as urban reserve, or leaving undesignated, land the County had previously designated rural reserve or left undesignated. In order to provide flexibility, the Commission also returned the rural reserves in Washington County for further consideration.

Washington County and Metro responded to LCDC’s oral decision by revising the intergovernmental agreement between them and adopting ordinances amending their respective comprehensive plan and regional framework plan maps (Washington County Ordinance No. 740; Metro Ordinance No. 11-1255). The ordinances made the following changes:

- The designation of Area 7I as urban reserve (623 acres) was removed
- 263 acres of Area 7I were designated rural reserves
- 360 acres of Area 7I were left undesignated



- The urban reserve designation of the 28-acre portion of Area 7B that lies east and north of Council Creek was removed; the portion was left undesignated
- 352 acres of undesignated land north of Highway 26, south of West Union Road, east of Groveland Road and west of Helvetia Road were designated urban reserve
- The rural reserve designation of 383 acres of Rural Reserve 6E south of Rosedale Road, west of 209<sup>th</sup> Avenue and north of Farmington Road was removed; the portion was left undesignated.

Metro Supp Rec. \_\_ (SR 2).

These revisions reduced the acres of urban reserves in Washington County by 299 acres, reduced the acres of rural reserves by 120 acres and increased the acres adjacent to the UGB left undesignated by 391 acres, all compared with the reserves submitted to LCDC in June, 2010. Overall, there are 13,525 acres of urban reserves and 151,209 acres of rural reserves in Washington County, in part reflecting refinements of boundaries as they relate to street rights-of-way, floodplains and improved tax lot alignments. Metro Supp Rec. \_\_ (SR 3).

## II. OVERALL CONCLUSIONS

With adoption of Metro Ordinance No. 11-1255, Metro has designated 28,256 gross acres as urban reserves, including urban reserves in each county. Metro Supp Rec. \_\_ (SR 3). These lands are now first priority for addition to the region's UGB when the region needs housing or employment capacity. As indicated in new policy in Metro's Regional Framework Plan in Exhibit A to Ordinance No. 10-1238A, the urban reserves are intended to accommodate population and employment growth for 50 years, to year 2060.

Clackamas County Ordinance No. ZDO-233 designates 68,713 acres as rural reserves in Clackamas County. Multnomah County Ordinance No. 2010-1161 designates 46,706 acres as rural reserves in Multnomah County. Washington County Ordinance No. 740, which revised the county's designation of rural reserves following LCDC's remand of urban and rural reserves in the county, designates 151,209 acres of rural reserves. Metro Supp Rec. \_\_ (SR 2). As indicated in new policies in the Regional Framework Plan and the counties' Comprehensive Plans, these rural reserves – 266,628 acres in total - are now protected from urbanization for 50 years. Metro Supp. Rec. \_\_ (SR 2). The governments of the region have struggled with the urban-farm/forest interface, always searching for a "hard edge" to give farmers and foresters some certainty to encourage investment in their businesses. No road, stream or floodplain under the old way of expanding the UGB offers the long-term certainty of the edge of a rural reserve with at least a 50-year lifespan. This certainty is among the reasons the four governments chose the longer, 50-year, reserves period.

The region's governments have also debated how best to protect important natural landscape features at the edges of the urban area. The partners' agreements and these ordinances now identify the features that will define the extent of outward urban expansion.

The region's urban and rural reserves are fully integrated into Metro's Regional Framework Plan and the Comprehensive Plans of Clackamas, Multnomah and Washington counties. Metro's plan includes a map that shows urban and rural reserves in all three counties. Each of the county plans includes a map that shows urban and rural reserves in the county. The reserves shown on each county map are identical to the reserves shown in that county on the Metro map. Each of the four plans contains new policies that ensure accomplishment of the goals for the reserves set by the four local governments and by state law. These new policies are consistent with, and carry out, the intergovernmental agreements between Metro and the three counties signed in February, 2010, and the supplemental agreement between Metro and Washington County signed on March 15, 2011. Metro Supp. Rec.\_\_\_\_.

Together, these reserves signal the region's long-term limits of urbanization, its commitment to stewardship of farmland and forests, and its respect for the natural landscape features that give the people of the region their sense of place. Urban reserves, if and when added to the UGB, will take some land from the farm and forest land base. But the partners understood from the beginning that some of the very same characteristics that make an area suitable for agriculture also make it suitable for industrial uses and compact, mixed-use, pedestrian and transit-supportive urban development. The most difficult decisions made by the four governments involved Foundation Agricultural Land<sup>1</sup> near the existing UGB and the circumstances in which this land should be designated as urban reserve to accommodate growth in a compact form and provide opportunities for industrial development, difficult or impossible on steep slopes. Metro designated 15 areas composed predominantly of Foundation Land as urban reserve, totaling 11,551 acres.<sup>2</sup>

Some important numbers help explain why the partners came to agree that the adopted system, in its entirety, best achieves this balance. Of the total 28,256 acres designated urban reserves, approximately 13,624 acres are Foundation (11,551 acres) or Important (2,073 acres) Agricultural Land. This represents only four percent of the Foundation and Important Agricultural Land studied for possible urban or rural reserve designation. If all of this land is added to the UGB over the next 50 years, the region will have lost four percent of the farmland base in the three-county area. Metro Supp.Rec.\_\_(SR 3; Att. 3).

There is a second vantage point from which to assess the significance for agriculture of the designation of urban reserves in the three-county region: the percentage of land zoned for exclusive farm use in the three counties that is designated urban reserve. Land zoned EFU<sup>3</sup> has

---

<sup>1</sup> Those lands mapped as Foundation Agricultural Land in the January, 2007, Oregon Department of Agriculture report to Metro entitled "Identification and Assessment of the Long-Term Commercial Viability of Metro Region Agricultural Lands.

<sup>2</sup> 1C (East of Gresham, portion); 1F (Boring); 5A (Sherwood North); 5B (Sherwood West); 6A (Hillsboro South, portion); 6B (Cooper Mt. Southwest); 6C (Roy Rogers West); 6D (Beef Bend South); 7B (Forest Grove North); 7C (Cornelius East); 7D (Cornelius South); 7E (Forest Grove South); 8A (Hillsboro North); 8B (Shute Road Interchange and new Area D); 8C (Bethany West)

<sup>3</sup> Includes all farm zones acknowledged to comply with statewide planning Goal 3, including Washington County's AF-20 zone.

emerged over 35 years of statewide planning as the principal land base for agriculture in the counties, and is protected for that purpose by county zoning. The inventory of Foundation and Important Agricultural Lands includes land that is “exception land”, no longer protected for agriculture for farming. Of the 28,256 acres designated urban reserves, some 13,746 acres are zoned EFU. Even including the 3,532 acres of these EFU lands that are classified by ODA as “conflicted”, these 13,746 acres represent slightly more than five percent of all land zoned EFU (266,372 acres) in the three counties. If the “conflicted” acres are removed from consideration, the percentage drops to less than four percent. Metro Supp.Rec.\_\_(SR 3; Att 3).

A third vantage point adds perspective. During an approximately 30-year period leading to establishment of the statewide planning program and continuing through the acknowledgement and early implementation of county comprehensive plans, the three counties lost more than 150,000 acres of farmland. Metro Supp. Rec. \_(SR 3; Att 3). By contrast, if all the zoned farmland that is designated urban reserve is ultimately urbanized, the regional will have lost only 13,746 acres over 50 years.

If the region’s effort to contain urban development within the existing UGB and these urban reserves for the next 50 years is successful, the UGB will have accommodated an estimated 74 percent increase in population on an 11-percent increase in the area within the UGB. No other region in the nation can demonstrate this growth management success. Most of the borders of urban reserves are defined by a 50-year “hard edge” of 266,628 acres designated rural reserves, nearly all of which lies within five miles of the existing UGB. Of these rural reserves, approximately 248,796 acres are Foundation or Important Agricultural Land. Metro Supp. Rec.\_\_(SR 3; Att 3). .

Why did the region designate *any* Foundation Agricultural Land as urban reserve? The explanation lies in the geography and topography of the region, the growing cost of urban services and the declining sources of revenues to pay for them, and the fundamental relationships among geography and topography and the cost of services. The region aspires to build “great communities.” Great communities are those that offer residents a range of housing types and transportation modes from which to choose. Experience shows that compact, mixed-use communities with fully integrated street, pedestrian, bicycle and transit systems offer the best range of housing and transportation choices. *State of the Centers: Investing in Our Communities*, January, 2009. Metro Rec.181-288. The urban reserves factors in the reserves rules derive from work done by the region to identify the characteristics of great communities. Urban reserve factors (1), (3), (4),and (6)<sup>4</sup> especially aim at lands that can be developed in a compact, mixed-use, walkable and transit-supportive pattern, supported by efficient and cost-effective services. Cost of services studies tell us that the best landscape, both natural and

---

<sup>4</sup> (1) Can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments;

(3) Can be efficiently and cost-effectively service with public schools and other urban-level public facilities and services by appropriate and financially capable providers;

(4) Can be designed to be walkable and service with a well-connected system of streets, bikeways, recreation trails and public transit by appropriate services providers;

(6) Includes sufficient land suitable for a range of needed housing types.

political, for compact, mixed-use communities is relatively flat, undeveloped land. *Core 4 Technical Team Preliminary Analysis Reports for Water, Sewer and Transportation*, Metro Rec. 1163-1187; *Regional Infrastructure Analysis*, Metro Rec. 440-481.

The region also aspires to provide family-wage jobs to its residents. Urban reserve factor (2) directs attention to capacity for a healthy economy.<sup>5</sup> Certain industries the region wants to attract prefer large parcels of flat land. Staff Report, June 9, 2010, Metro Rec. 172-178. Water, sewer and transportation costs rise as slope increases. *Core 4 Technical Team Preliminary Analysis Reports for Water, Sewer and Transportation*, Metro Rec. 1163-1187; *Regional Infrastructure Analysis*, Metro Rec. 440-481. Converting existing low-density rural residential development into compact, mixed-use communities through infill and re-development is not only very expensive, it is politically difficult. Metro Rec. 289-300.

Mapping of slopes, parcel sizes, and Foundation Agricultural Land revealed that most flat land in large parcels without a rural settlement pattern at the perimeter of the UGB lies in Washington County, immediately adjacent to Hillsboro, Cornelius, Forest Grove, Beaverton, and Sherwood. These same lands provide the most readily available supply of large lots for industrial development. *Business Coalition Constrained Land for Development and Employment Map*, Metro Rec. 301; 1105-1110. Almost all of it is Foundation Agricultural Land. Metro Supp. Rec. (SR 3). Had the region been looking only for the best land to build great communities, nearly all the urban reserves would have been around these cities. It is no coincidence that these cities told the reserves partners that they want significant urban reserves available to them, while most other cities told the partners they want little or no urban reserves. *Washington County Cities' Pre-Qualified Concept Plans*, WashCo Rec. 3036-3578. These facts help explain why there is more Foundation Agricultural Land designated urban reserve in Washington County than in Clackamas or Multnomah counties. Had Metro not designated some Foundation Land as urban reserve in Washington County, it would not have been possible for the region to achieve the "livable communities" purpose of reserves in LCDC rules [OAR 660-027-0005(2)].

Several urban reserves factors focus on the efficient, cost-effective installation, operation and maintenance of public services to urban reserves once they are included within the UGB.<sup>6</sup> Urban reserve factor (6) calls for land suitable for needed housing types. The partners began the analysis by examining lands within five miles of the UGB. Most of these lands initially studied are beyond the affordable reach of urban services. As noted above, water, sewer and transportation costs rise as slope increases. *Core 4 Technical Team Preliminary Analysis Reports for Water, Sewer and Transportation*, Metro Rec. 1163-1187; *Regional Infrastructure Analysis*, Metro Rec. 440-481. Not only does most of the Important Agricultural Land and the Conflicted Agricultural Land within five miles of the UGB exhibit steeper slopes than the Foundation Land close to the UGB; these non-Foundation Lands also exhibit rural residential development patterns on smaller parcels ("exception lands"). Metro Supp. Rec.\_\_(SR 3; Att 5); WashCo Rec. 1891-1894; 2905. With one exception (small portion of Urban Reserve 1F), designated urban reserves lie within two miles of the UGB. Metro Supp. Rec.\_\_(SR, Att 4).

<sup>5</sup> (2) Includes sufficient development capacity to support a healthy economy.

<sup>6</sup> Urban Reserve factors (1) (efficient use of public infrastructure); (3) (efficient and cost-effective public services); (4) (walkable, bikable and transit-supportive).

Despite these geopolitical and cost-of-services realities, the reserves partners designated extensive urban reserves that are *not* Foundation Agricultural Lands in order to meet the farm and forest land objectives of reserves, knowing these lands will be more difficult and expensive to urbanize. The following urban reserves are principally Conflicted and Important Agricultural Land:

- Urban Reserve 1D east of Damascus and south of Gresham (2,716 acres), ClackCo Rec. 1723;
- Urban Reserve 2A south of Damascus (1,239 acres), ClackCo Rec. 1722;
- Urban Reserves 3B, C, D, F and G around Oregon City (2,232 acres), ClackCo Rec. 1718-1720;
- Urban reserves 4A, B and C in the Stafford area (4,699 acres), ClackCo Rec. 1716;
- Urban reserves 4D, E, F, G and H southeast of Tualatin and east of Wilsonville (3,589 acres), ClackCo Rec. \_\_\_;
- Urban Reserve 5F between Tualatin and Sherwood (572 acres); WashCo Rec. 3517; 2998;
- Urban Reserve 5G west of Wilsonville (203 acres) ClackCo Rec. 711-712; and
- Urban Reserve 5D south of Sherwood (447 acres), WashCo Rec. 3481; 2998.

These non-Foundation Lands designated urban reserve, which total approximately 15,700 acres, (55 percent of all lands designated urban reserve), are the most serviceable among the non-Foundation Lands within the initial study area. Metro Supp Rec. \_\_\_(SR, Att 3); WashCo Re. 3006-3010; 3015.

Many areas of Important and Conflicted Agricultural Lands were not designated urban reserve in part because the presence of steep slopes, bluffs, floodplains, streams and habitat, limiting their suitability or appropriateness for urbanization:

- Rural Reserve 1B (West of Sandy River): the Sandy River Canyon and the county's scenic river overlay zone. MultCo Rec. 2961-2965; 2973-2985;
- Rural Reserve 2B (East Clackamas County): steep bluffs above the Clackamas River. ClackCo Rec. 560-563; 568-571;
- Rural Reserve 3E (East of Oregon City): steep slopes along Abernethy, Clear and Newell Creeks. ClackCo Rec. 748-755;
- Rural Reserve 3H (South of Oregon City): steep slopes drop to Beaver and Parrot Creeks. ClackCo. Rec. 557; 1718;
- Rural Reserve 4I (Pete's Mtn.): steep slopes. ClackCo Rec. 741-743;
- Rural Reserve 5C (East Chehalem Mtns): steep slopes and floodplain of Tualatin River; WashCo Rec. 2998-3027;
- Rural Reserve 5I (Ladd Hill): steep slopes and creek traverses. ClackCo. Rec. 592-595;
- Rural Reserve 6E (Central Chehalem Mtns.): steep slopes and floodplain of Tualatin River. WashCo Rec. 2998-3027;
- Rural Reserve 7G (West Chehalem Mtns.): steep slopes and floodplain of Tualatin River. WashCo Rec. 2997; 3006-3010; 3027;

- Rural Reserve 7H (West Fork of Dairy Creek); steep slopes on David Hill. WashCo. Rec. 3013; 3029; 3107;
- Rural Reserves 9A-9C (Powerlines/Germantown Road-South): steep slopes, many stream headwaters and courses. MultCo. Rec. 11; 329-330; 3004-3015;
- Rural Reserve 9D (West Hills South): steep slopes, many stream headwaters and courses. MultCo Rec. 2993-3033.

Metro Supp Rec.\_\_(SR,Att 4).

Urban reserve factors (5), (7) and (8)<sup>7</sup> seek to direct urban development away from important natural landscape features and other natural resources. Much of the Important and some Conflicted Agricultural Lands are separated from the UGB by, or include, important natural landscape features or rural reserves on Foundation or Important Agricultural Land:

- Rural Reserve 1B (West of Sandy River): the Sandy River Canyon (Wild and Scenic River). MultCo Rec. 2961-2965; 2973-2985;
- Rural Reserve 2B (East Clackamas County): Clackamas River and canyons of Deep, Clear and Newell Creeks. ClackCo. Rec. 1722;
- Rural Reserve 3E (East of Oregon City): Willamette River and canyons of Abernethy, Clear and Newell Creeks. ClackCo Rec. 560-563;
- Rural Reserve 3H (South of Oregon City): Willamette Narrows, Canemah Bluffs and canyons of Beaver and Parrot Creeks. ClackCo. Rec. 553-554;
- Rural Reserve 4I (Pete’s Mtn.): Willamette Narrows on eastern edge. ClackCo. Rec. 596;
- Rural Reserve 5C (East Chehalem Mtns.): Chehalem Mtns., floodplain of Tualatin River and Tualatin River National Wildlife Refuge. WashCo Rec. 2988-3027; 9677-9679;
- Rural Reserve 5I (Ladd Hill): Parrett Mtn., Willamette River, Tonquin Geological Area. ClackCo. Rec. 592-595;
- Rural Reserve 6E (Central Chehalem Mtns.): Chehalem Mtns., floodplain of Tualatin River. WashCo Rec. 2998-3027;
- Rural Reserve 7G (West Chehalem Mtns.): Chehalem Mtns., floodplain of Tualatin River. WashCo Rec. 3029; 3095; 3103;
- Rural Reserves 9A-9C (Powerlines/Germantown Road-South): steep slopes (Tualatin Mountains), stream headwaters (Abbey Creek and Rock Creek) and courses. MultCo. Rec. 11; 329-330; 3004-3015; 3224-3225; 3250-3253; 9322-9323;
- Rural Reserve 9D (West Hills South): steep slopes, many stream headwaters (Abbey Creek and Rock Creek) and courses. MultCo Rec. 2993-3033.

Metro Supp. Rec.\_(SR 4-5; Att 10).

---

<sup>7</sup> (5) Can be designed to preserve and enhance natural ecological systems;

(7) Can be developed in a way that preserves important natural landscape features included in urban reserves;

(8) Can be designed to avoid or minimize adverse effects on farm and forest practices, and adverse effects on important natural landscape features, on nearby land including land designated as rural reserves.

Third, much of the Important and Conflicted Agricultural Lands rates lower against the urban reserves factors in comparison to areas designated urban reserve, or remain undesignated for possible designation as urban reserve if the region's population forecast proves too low:<sup>8</sup>

- Clackamas Heights, ClackCo Rec. 1721;
- East Wilsonville, ClackCo Rec. 1715;
- West Wilsonville, ClackCo Rec. 1713;
- Southeast of Oregon City, ClackCo Rec. 1719;
- Southwest of Borland Road, ClackCo Rec. \_\_;
- Between Wilsonville and Sherwood, ClackCo Rec. \_\_;
- Powerline/Germantown Road-South, MultCo Rec. 2909-2910.

Lastly, some of the Important and Conflicted Agricultural Lands lie adjacent to cities in the region that have their own UGBs and want their own opportunities to expand over time:

- Estacada
- Sandy

The partners also considered the rural reserve factors when considering whether to designate Foundation Agricultural Land as urban reserve. The first set of rural reserve factors focuses on the suitability and capability of land for agriculture and forestry. The factors in this set that address agricultural suitability and capability derive from the January, 2007, Oregon Department of Agriculture report to Metro entitled "Identification and Assessment of the Long-Term Commercial Viability of Metro Region Agricultural Lands." All of the Foundation Lands designated urban reserve are potentially subject to urbanization [rural factor (2)(a)] due to their proximity to the UGB and suitability for urbanization, as described above. See, e.g., WashCo Rec. 2984-2985; 2971-2972; 3013-3014. All of the Foundation Lands designated urban reserve are also capable of sustaining long-term agricultural or forest operations [factor (2)(b)]. WashCo rec. 2972-2973; 2985; 3015. Similarly, all of the Foundation Lands designated urban reserve have soils and access to water that render them suitable [factor (2)(c)] to sustain agriculture. See, e.g., WashCo Rec. 2972-2975; 2985; 2998; 3016-3018. These lands also lie in large blocks of agricultural land and have parcelization, tenure and ownership patterns and agricultural infrastructure that make them suitable for agriculture. WashCo Rec. 2975; 2985; 3019-3024; 3027. The identification of these lands as Foundation Agricultural Land by the Oregon Department of Agriculture is a reliable general source of information to support these findings. See also WashCo Rec. 2976-2983; 3019-3025.

Notwithstanding these traits that make these lands suitable for agriculture and forestry, some of the urban reserves on Foundation Land rate lower on the rural reserve factors than Foundation Land *not* designated urban reserve. WashCo Rec. 2978; 3025. Urban Reserves 6A (portion),

---

<sup>8</sup> "Retaining the existing planning and zoning for rural lands (and not applying a rural or an urban reserves designation) is appropriate for lands that are unlikely to be needed over the next 40 years, or (conversely) that are not subject to a threat of urbanization." Letter from nine state agencies to the Metro Regional Reserves Steering Committee, October 14, 2009, page 15.

6B, 6C,6D, 5A, 5B and 1F lie within Oregon Water Resources Department-designated Critical or Limited Groundwater Areas and have less ready access to water [factor (2)(c)]. WashCo Rec. 2294-2302; 2340; 2978-2979; 3019-3023; 3025; 3058-3061; 3288; 3489-3490. Metro Supp. Rec. \_(SR 3-4; Att7). Urban Reserves 8A, 8B (with new Area D, 6A (portion), 6B, 6D (portion), 5A, 5B, 1C and 1D are not within or served by an irrigation district. Metro Supp. Rec. \_(SR 3; Att 6). WashCo Rec. 2340; 3019-3023; 3025 Urban Reserve 6A contains the Reserves Vineyards Golf Course. Metro Supp. Rec. \_(SR 3).

The second set of rural reserve factors focuses on natural landscape features. All of the Foundation Lands designated urban reserve are potentially subject to urbanization [factor (3)(a)] due to their proximity to the UGB and their suitability for urbanization, as described above. The identification of these lands as Foundation Agricultural Land by the Oregon Department of Agriculture is a reliable general source of information to support this finding. Because urban reserves are intended for long-term urbanization, the partners were careful to exclude from urban reserves large tracts of land constrained by natural disasters or hazards incompatible with urban development. Metro Rec. 301; 1105-1110; WashCo Rec. 2986. Small portions of these urban reserves are vulnerable to hazards, but city land use regulations will limit urban development on steep slopes, in floodplains and areas of landslides once the lands are added to the UGB. Metro Supp. Rec. \_(SR, Att 10); WashCo Rec. 2986.

Little of these Foundation Lands are mapped as significant fish, plant or wildlife habitat [factor (3)(c)], the mapping of which is largely subsumed on the landscape features map. For the same reasons, little of these lands are riparian areas or wetlands. As with all lands, these lands are important for protection of water quality. But the lands are subject to local, regional, state and federal water quality regulations. See, e.g., WashCo Rec.2986-2987.

There are several inventoried natural landscape features [factor (3)(e)] within the Foundation Lands designated urban reserve. Rock Creek flows through a portion of Urban Reserve 8C (Bethany West). The IGA between Washington County and Metro included a provision to limit development on approximately 115 acres of constrained land within the portion of the watershed in 8C, through application of the county's Rural/Natural Resources Plan Policy 29 and Clean Water Services programs developed to comply with Title 13 (Nature in Neighborhoods) of Metro's Urban Growth Management Functional Plan. Metro Rec.\_(SR, Att 10). Urban Reserve 6B includes portions of the slopes of Cooper Mountain. Metro's Cooper Mountain Nature Park lies within this area and protects much of the mountain's slopes. Metro Supp. Rec. (SR, Att 10). Urban Reserve 6D includes a segment of Tualatin River floodplain. King City will apply its floodplains ordinance to limit development there. WashCo. Rec. 3462-3463; Metro Supp. Rec. (SR, Att 10). There are such inventoried natural landscape features at the edges of Urban Reserves 6A (South Hillsboro, Tualatin River), 6C (Roy Rogers West, Tualatin River), 6D (Beef Bend, Tualatin River), 7C (Cornelius East, Dairy Creek), 7D (Cornelius South, Tualatin River), 7E (Forest Grove South, Tualatin River and Lower Gales Creek) and 8A (Hillsboro North, McKay Creek); Metro Supp. Rec. (SR, Att 10). These features serve as edges to limit the long-term extent of urbanization and reduce conflicts with rural uses [factor (3)(f)] .

Urban Reserves 1F, 8A and 8B (new Area D) lessen the separation [factor (3)(g)] between the Metro urban area and the cities of Sandy and North Plains, respectively. But significant



separation remains (Sandy: approximately 9,000 feet; North Plains: approximately 2,000 feet). Metro Supp. Rec. (SR, Att 2); WashCo Rec. 2987. Finally, because private farms and woodlots comprise most of these Foundation Lands, they do not provide easy access to recreational opportunities as compared to Important and Conflicted Lands.

As indicated above and in county findings in sections VI through VIII, these 15 urban reserves on Foundation Agricultural Land rate highly for urban reserves and rural reserves. In order to achieve a balance among the objectives of reserves, Metro chose these lands as urban reserves rather than rural reserves. The characteristics described above make them the best lands for industrial use and for compact, mixed-use, pedestrian-friendly and transit-supportive communities. Designation of these areas as urban reserve will have little adverse impact on inventoried natural landscape features. Notwithstanding the loss of these lands over time, urbanization of these lands will leave the agricultural and forest industries vital and viable in the region.

The record of this two and one-half-year effort shows that not every partner agreed with all urban reserves in each county. But each partner agrees that this adopted system of urban and rural reserves, in its entirety, achieves the region's long-range goals and a balance among the objectives of reserves: to accommodate growth in population and employment in sustainable and prosperous communities and neighborhoods, to preserve the vitality of the farms and forests of the region, and to protect defining natural landscape features. The partners are confident that this system of reserves will allow the continuation of vibrant and mutually-reinforcing farm, forest and urban economies for the next 50 years. And the partners agree this system is the best system the region could reach by mutual agreement.

### **III. OVERALL PROCESS OF ANALYSIS AND PUBLIC INVOLVEMENT**

#### **A. Analysis and Decision-Making**

The three counties and Metro began reserves work as soon as LCDC adopted the new rules on reserves (OAR Division 27). The four governments formed committees and began public involvement to raise awareness about reserves and help people learn how to engage in the process. Each of the four governments selected one of its elected officials to serve on the "Core 4", established to guide the designation process and formulate recommendations to the county boards and the Metro Council. The four governments also established a "Reserves Steering Committee" (RSC) to advise the Core 4 on reserves designation. The RSC represented interests across the region - from business, agriculture, social conservation advocacy, cities, service districts and state agencies (52 members and alternates).

The four governments established an overall Project Management Team (PMT) composed of planners and other professions from their planning departments. Each county established an advisory committee to provide guidance and advice to its county board, staffed by the county's planning department.

As part of technical analysis, staff gathered providers of water, sewer, transportation, education and other urban services to consider viability of future service provision to lands within the study area. The parks and open space staff at Metro provided guidance on how best to consider natural features using data that had been deeply researched, broadly vetted and tested for social and political acceptance among Willamette Valley stakeholders (Oregon Wildlife Conservation Strategy, Pacific Northwest Research Consortium, Willamette Valley Futures, The Nature Conservancy's Ecoregional Assessment). Business leaders, farm bureaus and other representative groups were consulted on an ongoing basis.

The first major task of the Core 4 was to recommend a reserves study area to the county boards and the Metro Council. With advice from the RSC, the county advisory committees and public comment gathered open houses across the region, the Core 4 recommended for further analysis some 400,000 acres around the existing urban area, extending generally five miles from the UGB. The four governments endorsed the study area in the fall of 2008. Then the task of applying the urban and rural reserve factors to specific areas began in earnest.

The county advisory committees reviewed information presented by the staff and advised the staff and county boards on how each "candidate area" rated under each reserves factor. The county staffs brought this work to the RSC for discussion. After a year's worth of work at regular meetings, the RSC made its recommendations to the Core 4 in October, 2009.

Later in the fall, each elected body held hearings to hear directly from their constituents on proposed urban and rural reserves. Public involvement included six open houses, three Metro Council hearings around the region and a virtual open house on the Metro web site, all providing the same maps, materials and survey questions.

Following this public involvement, the Core 4 submitted its final recommendations to the four governments on February 8, 2010. The recommendation included a map of proposed urban and rural reserves, showing reserves upon which there was full agreement (the large majority of proposed reserves) and reserves upon which disagreements were not resolved. The Core 4 proposed that these differences be settled in bilateral discussions between each county and Metro, the parties to the intergovernmental agreements (IGAs) required by ORS 195.141. Over the next two weeks, the Metro Council reached agreement on reserves with each county. By February 25, 2010, Metro had signed an IGA with Clackamas, Multnomah and Washington counties. Metro Rec.302; 312; 404.

The IGAs required each government to amend its plan to designate urban (Metro) or rural (counties) reserves and protect them for their intended purposes with plan policies. The IGAs also set times for final public hearings on the IGA recommendations and adoption of ordinances with these plan policies in May and June. The four governments understood that the IGAs and map of urban and rural reserves were not final decisions and, therefore, provided for final adjustments to the map to respond to public comment at the hearings. By June 15, 2010, the four governments had adopted their reserves ordinances, including minor revisions to the reserves map.

## **B. Public Involvement**

From its inception, the reserves designation process was designed to provide stakeholders and the public with a variety of ways to help shape the process and the final outcome. Most

significantly, the decision process required 22 elected officials representing two levels of government and 400,000 acres of territory to craft maps and agreements that a majority of them could support. These commissioners and councilors represent constituents who hold a broad range of philosophical perspectives and physical ties to the land. Thus, the structure of the reserves decision process provided motivation for officials to seek a final compromise that met a wide array of public interests.

In the last phase of the reserve process – adoption of ordinances that designate urban and rural reserves - each government followed its established procedure for adoption of ordinances: notice to citizens; public hearings before its planning commission (in Metro’s case, recommendations from the Metro Planning Advisory Committee) and public hearings before its governing body. But in the more-than-two years leading to this final phase, there were additional advisory bodies established.

The RSC began its work in early 2008. RSC members were expected to represent social and economic interests to the committee and officials and to serve as conduits of communication back to their respective communities. In addition, RSC meetings were open to the public and provided an additional avenue for citizens to voice their concerns—either by asking that a steering committee member represent their concern to the committee or by making use of the public testimony period at the beginning of each meeting.

Once the three county advisory committees got underway, they, like the RSC, invited citizens were to bring concerns to committee members or make statements at the beginning of each meeting.

Fulfilling the requirements of DLCD’s administrative rules on reserves and the reserves work program, the three counties and Metro developed a Coordinated Public Involvement Plan in early 2008 that provided guidance on the types of public involvement activities, messages and communications methods that would be used for each phase of the reserves program. The plan incorporated the requirements of Oregon law and administrative rules governing citizen involvement and reflects comments and feedback received from the Metro Council, Core 4 members, each jurisdiction’s citizen involvement committee, other county-level advisory committees and the RSC. The Citizen Involvement Advisory Committee of the Oregon Land Conservation and Development Commission (LCDC) reviewed and endorsed the Public Involvement Plan.

The four governments formed a public involvement team, composed of public involvement staff from each county and Metro, to implement the Public Involvement Plan. The team cooperated in all regional efforts: 20 open houses, two “virtual open houses” on the Metro web site, additional online surveys, presentations, printed materials and analysis and summaries of comments. The team members also undertook separate county and Metro-specific public engagement activities and shared methodologies, materials and results.

Elected officials made presentations to community planning organizations, hamlets, villages, city councils, advocacy organizations, civic groups, chambers of commerce, conferences, watershed councils, public affairs forums, art and architecture forums, and many other venues. Staff and elected officials appeared on television, on radio news broadcasts and talk shows, cable video broadcasts and was covered in countless news articles in metro outlets, gaining publicity that encouraged public engagement. Booths at farmers' markets and other public events, counter displays at retail outlets in rural areas, library displays and articles in organization newsletters further publicized the opportunities for comment. Materials were translated into Spanish and distributed throughout all three counties. Advocacy organizations rallied supporters to engage in letter email campaigns and to attend public meetings. Throughout the reserves planning process the web sites of each county and Metro provided information and avenues for feedback. While there have been formal public comment periods at key points in the decision process, the reserves project team invited the public to provide comment freely throughout the process.

In all, the four governments made extraordinary efforts to engage citizens of the region in the process of designating urban and rural reserves. The public involvement plan provided the public with more than 180 discrete opportunities to inform decision makers of their views urban and rural reserves. A fuller account of the public involvement process the activities associated with each stage may be found at Staff Report, June 9, 2010, Metro Rec.123-155; Metro Supp. Rec. \_\_ (Ray memo, 3/14).

Following remand of Urban Reserves 7B and 7I in Washington County by LCDC on October 29, 2010, Metro and Washington County signed a supplemental IGA to re-designate urban and rural reserves in the county. Metro Supp. Rec. \_\_. Each local government held public hearings prior to adoption of the supplemental IGA and prior to adoption of their respective ordinances amending their maps of urban and rural reserves. Metro Supp. Rec. \_\_.

#### **IV. AMOUNT OF URBAN RESERVES**

##### **A. Forecast**

Metro developed a 50-year "range" forecast for population and employment that was coordinated with the 20-year forecast done for Metro's UGB capacity analysis, completed in December, 2009. The forecast is based on national economic and demographic information and is adjusted to account for regional growth factors. The partner governments used the upper and lower ends of the 50-year range forecast as one parameter for the amount of land needed to accommodate households and employment. Instead of aiming to accommodate a particular number of households or jobs within that range, the partners selected urban reserves from approximately 400,000 acres studied that best achieve the purposes established by the Land Conservation and Development Commission [set forth in OAR 660-027-0005(2)] and the objectives of the partner governments.

##### **B. Demand and Capacity**

Estimating land demand over the next 50 years is difficult as a practical matter and involves much uncertainty. The Land Conservation and Development Commission (LCDC) recognizes

the challenge of estimating long-term need even for the 20-year UGB planning period. In the section of OAR Division 24 (Urban Growth Boundaries) on “Land Need”, the Commission says:

“The 20-year need determinations are estimates which, although based on the best available information and methodologies, should not be held to an unreasonably high level of precision.”

OAR 660-024-0040(1). The uncertainties loom much larger for a 40 to 50-year estimate. Nonetheless, Metro’s estimate of need for a supply of urban reserves sufficient to accommodate housing and employment to the year 2060 is soundly based in fact, experience and reasonable assumptions about long-range trends.

The urban reserves estimate begins with Metro’s UGB estimate of need for the next 20 years in its *Urban Growth Report 2009-2030*, January, 2010 (adopted December 17, 2009). Metro Rec. 646-648; 715. Metro relied upon the assumptions and trends underlying the 20-year estimate and modified them where appropriate for the longer-term reserves estimate, and reached the determinations described below.

The 50-year forecast makes the same assumption on the number of households and jobs needed to accommodate the population and employment coming to the UGB from the seven-county metropolitan statistical area (MSA) as in the *Urban Growth Report*: approximately 62 percent of the MSA residential growth and 70 percent of the MSA employment growth will come to the metro area UGB. *COO Recommendation, Urban Rural Reserves*, Appendix 3E-C, Metro Rec. 599; Appendix 3E-D, Metro Rec. 606-607.

Metro estimates the demand for new dwelling units within the UGB over the next 50 years to be between 485,000 and 532,000 units. *COO Recommendation, Urban Rural Reserves, Appendix 3E-C*, Metro Rec. 599. Metro estimates between 624,300 and 834,100 jobs will locate within the UGB by 2060. *COO Recommendation, Urban Rural Reserves, Appendix 3E-D, Table D-3*, Metro Rec. 607. Staff Report, June 9, 2010, Metro Rec.121-122.

The region will focus its public investments over the next 50 years in communities inside the existing UGB and, as a result, land within the UGB would develop close to the maximum levels allowed by existing local comprehensive plan and zone designations. This investment strategy is expected to accommodate 70 to 85 percent of growth forecasted over that period. No increase in zoned capacity within the UGB was assumed because, at the time of adoption of reserves ordinances by the four governments, the Metro Council will not have completed its decision-making about actions to increase the capacity of the existing UGB as part of Metro’s 2009 capacity analysis. For those areas added to the UGB between 2002 and 2005 for which comprehensive planning and zoning is not yet complete, Metro assumed the areas would accommodate all the housing and employment anticipated in the ordinances that added the areas to the UGB over the reserves planning period. Fifty years of enhanced and focused investment to accommodate growth will influence the market to use zoned capacity more fully.

Consistent with residential capacity analysis in the *Urban Growth Report*, vacant land in the existing UGB can accommodate 166,600 dwelling units under current zoning over the next 50 years. Infill and re-development over this period, with enhanced levels of investment, will

accommodate another 212,600 units. This would leave approximately 152,400 dwelling units to be accommodated on urban reserves through 2060. *COO Recommendation, Urban Rural Reserves, Appendix 3E-C, pp. 5-6, Metro Rec. 602-603.*

Based upon the employment capacity analysis in the *Urban Growth Report*, the existing UGB has sufficient capacity – on vacant land and through re-development over the 50-year reserves period - for overall employment growth in the reserves period. However, this supply of land does not account for the preference of some industrial employers for larger parcels. To accommodate this preference, the analysis of the supply of larger parcels was extrapolated from the *Urban Growth Report*. This leads to the conclusion that urban reserves should include approximately 3,000 acres of net buildable land that is suitable for larger-parcel industrial users. *COO Recommendation, Urban Rural Reserves, Appendix 3E-D, Metro Rec. 609-610; Staff Report, June 9, 2010, Metro Rec.122.*

Metro assumed residential development in urban reserves, when they are added to the UGB over time, would develop at higher densities than has been the experience in the past, for several reasons. First, the region is committed to ensuring new development at the edges of the region contributes to the emergence of “great communities”, either new communities or as additions to existing communities inside the UGB. Second, because many urban reserves are “greenfields”, they can be developed more efficiently than re-developing areas already inside the UGB. Third, demographic trends, noted in the *Urban Growth Report* that is the starting point for Metro’s 2010 capacity analysis, indicate increasing demand for smaller housing units. This reasoning leads to the assumption that residential development will occur in reserves, when added to the UGB, at 15 units per net buildable acre overall, recognizing that some areas (centers, for example) would settle at densities higher than 15 units/acre and others (with steep slopes, for example) would settle at densities lower than 15 units/acre. *COO Recommendation, Urban Rural Reserves, Appendix 3E-C, pp. 6-7; Staff Report, June 9, 2010, Metro Rec.121-122.*

Metro also assumed greater efficiencies in use of employment lands over the next 50 years. The emerging shift of industrial activity from production to research and development will continue, meaning more industrial jobs will be accommodated in high- floor-to-area-ratio (FAR) offices rather than low-FAR general industrial space. This will reduce the need for general industrial and warehouse building types by 10 percent, and increase the need for office space. Office space, however, will be used more efficiently between 2030 and 2060, reducing that need by five percent. Finally, the analysis assumes a 20-percent increase in FARs for new development in centers and corridors, but no such increase in FARs in industrial areas. *COO Recommendation, Urban Rural Reserves, Appendix 3E-C, Metro Rec. 603-604; Staff Report, June 9, 2010, Metro Rec.121-122.*

These assumptions lead to the conclusion that 28,256 acres of urban reserves are needed to accommodate 371,860 people and employment land targets over the 50-year reserves planning period to 2060. *COO Recommendation, Urban Rural Reserves, Appendix 3E-C, Metro Rec. 601-603; Appendix 3E-D, Metro Rec.607-610; Staff Report, June 9, 2010, Metro Rec.121-122.* The nine state agencies that served on the Reserves Steering Committee said the following about the amount of urban land the region will need over the long-term:

“The state agencies support the amount of urban reserves recommended by the Metro COO. That recommendation is for a range of between 15,000 and 29,000 acres. We believe that Metro and the counties can develop findings that, with this amount of land, the region can accommodate estimated urban population and employment growth for at least 40 years, and that the amount includes sufficient development capacity to support a healthy economy and to provide a range of needed housing types.” *Letter to Metro Regional Steering Committee, October 14, 2009, Metro Rec. 1373.*

Based upon the assumptions described above about efficient use of land, the four governments believe the region can accommodate 50 years’ worth of growth, not just 40 years’ of growth.

## **V. IMPLEMENTING URBAN RESERVES**

To ensure that urban reserves ultimately urbanize in a manner consistent with the Regional Framework Plan, Ordinance No. 10-1238A amended Title 11 (Planning for New Urban Areas) (Exhibit D) of Metro’s Urban Growth Management Functional Plan to require planning of areas of urban reserve prior to inclusion into the UGB. Title 11 now requires a “concept plan” for an urban reserve area prior to UGB expansion. A concept plan must show how development would achieve specified outcomes. The outcomes derive from the urban reserve factors in OAR 660-027-0050, themselves based in part on the characteristics of “great communities” identified by local governments of the region as part of Metro’s “Making the Greatest Place” initiative. Title 11 sets forth the elements of a concept plan, including:

- the general locations of types of uses
- the general locations of the urban services (including transportation systems) needed to support the uses
- estimates of the cost of the services to determine the feasibility of urbanization and to allow comparisons of urban reserves
- the locations of natural resources that will be subject to Title 3 and 13 of the UGMFP
- agreement among local governments and other service providers on provision of services to the area
- agreement among the local governments on annexation of the area to a city or cities and responsibility for planning and zoning.

Title 11 continues to limit development in areas added to the UGB to protect the opportunity for efficient urbanization during the time needed to adopt new local government plan provisions and land use regulations. Title 11, together with the comprehensive plans of the receiving local governments and Metro’s Regional Framework Plan (including the 2035 Regional Transportation Plan), will ensure land use and transportation policies and designations will allow mixed-use and pedestrian, bicycle and transit-supportive development once urban reserve areas are added to the UGB. Staff Report, June 9, 2010, Metro Rec.8-13.

## Description of the Land Conservation and Development Commission's Oral Remand

At its October 2010 hearing (held October 19th-22nd and 29th), the Land Conservation and Development Commission (LCDC) reviewed the regional Reserves planning work for possible acknowledgement. Urban and Rural Reserves in Multnomah and Clackamas counties were approved; however, the Commission voted against acknowledging two Urban Reserve areas and all Rural Reserves in Washington County. Specifically, LCDC's decision resulted in a remand for the following reasons:

- 1) Regarding Area 7I located north of Cornelius, LCDC explicitly rejected the Urban Reserve designation and remanded the area for reconsideration by Washington County and Metro.
- 2) Regarding Area 7B north of Forest Grove, LCDC directed that additional findings be provided to support the area's Urban Reserve designation. Additionally, LCDC voiced concerns about including lands north/east of Council Creek within the Urban Reserve.
- 3) LCDC remanded all Rural Reserves in Washington County to provide the opportunity for the county and Metro to consider revising designations to add additional Urban Reserves (to replace 7I and a portion of 7B) and more Undesignated land in Washington County, if desired.

By declining to acknowledge the county's Reserves, LCDC afforded Washington County the opportunity to replace Urban Reserve acres lost in Areas 7B and 7I with Urban Reserve designations on land elsewhere in the county. LCDC capped the number of new Urban Reserve acres at 624 acres included in Area 7I, plus the number of acres removed from 7B.

In response to LCDC's comments made during the October hearing (Washington County Record pages 10179-10191) and with guidance provided by the Board of County Commissioners, county staff looked to the following principles to guide the work of making adjustments to Reserves designations:

**Principle 1** - Replace Urban Reserve lost *gross* acres of land on an acre-for-acre basis.

**Principle 2** - Attempt to replace Urban Reserve *net* acres lost on an acre-for-acre basis.

**Principle 3** - Replace loss of land suitable for industrial/employment uses within Urban Reserves with land suitable for those uses.

**Principle 4** - Examine opportunities to leave additional lands Undesignated.



## Developing the Oral Remand Response

Utilizing the guidance offered by LCDC commissioners at the acknowledgement hearing in October 2010, and principles outlined by members of the Washington County Board of Commissioners, county staff moved forward with developing a draft Reserves map that was responsive to the oral remand by LCDC.

County staff listened to the audio recording of LCDC's proceedings on October 29, 2010 and prepared a partial transcript of the deliberations (Washington County Record pages 10179-10191). In framing a potential motion for LCDC's consideration, Chair VanLandingham offered the following thoughts:

*"So I think the motion is that we remand to Washington County and Metro to reject 7I, we remand to them to develop findings in regard to 7B, we remand Washington County's rural reserves for Washington County and Metro to consider whether to designate some of that rural reserve to urban reserve, capped at 7I as [Commissioner McPherson] described it, so that it is 7I plus the other amount, plus any amount of undesignated land that they want to designate. We are approving everything else, in all three counties and we are giving staff, we are determining any objection not specifically addressed in this motion is being denied."*

This motion, made by Commissioner Jenkins and seconded by Commissioner Pellett was voted on and approved 6-0.

LCDC's oral remand of Urban Reserves in Washington County was limited to two areas: lands located north of Forest Grove and north of Cornelius. All other Urban Reserves were acknowledged, and no changes were made to any areas left Undesignated. Rural Reserves were remanded back to the county for the primary purpose of allowing the county and Metro the option of replacing lost Urban Reserve lands, and to consider whether to leave any additional areas Undesignated.

In the following sections of this document, detailed findings are provided to supplement the original Rural and Urban Reserves decision findings prepared for the June 2010 adoption of A-Engrossed Ordinance No. 733 (Washington County Record pages 9616-9695). Unless modified by the findings contained herein, the county's prior findings for A-Engrossed Ordinance No. 733 remain valid. These sections include:

- 1) *Balancing Efforts for Washington County Reserves* describes the regional balancing process used to craft a revised Rural and Urban Reserves map for Washington County.
- 2) *Specific Reserves Factor Responses* were prepared for the following locations:
  - a) Rural Reserve Area 8E (Dairy Creek)
  - b) Urban Reserve 7B (Forest Grove North)
  - c) Urban Reserve 8B (North of Highway 26)

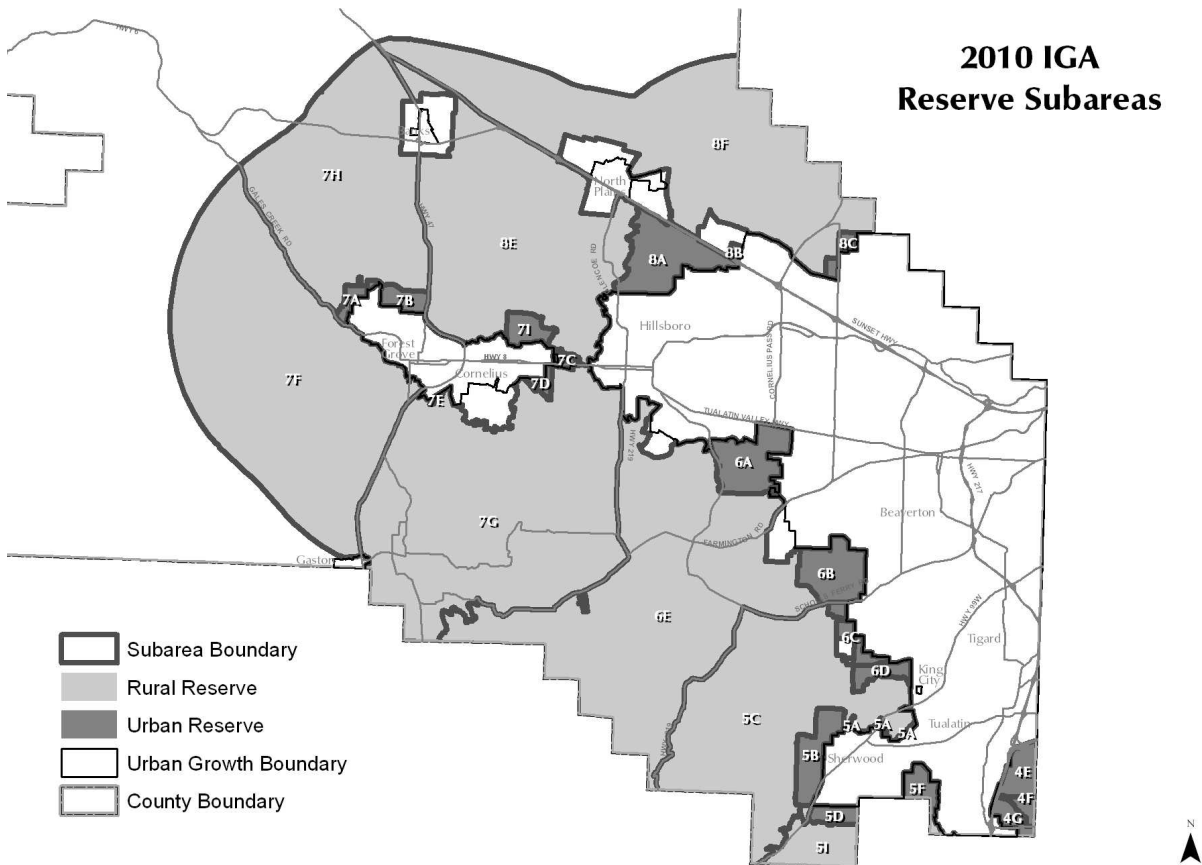
- 3) *General Findings for Undesignated Lands*, though not required by the Reserves Rule, were prepared to explain why certain areas were modified in response to LCDC's oral remand.

DRAFT

## Balancing Efforts on Reserves in Washington County

The overall objective of Reserves planning is to achieve "balance in the designation of urban and rural reserves that, in its entirety, best achieves livable communities, the viability and vitality of the agricultural and forest industries and protection of the important natural landscape features that define the region for its residents" (Washington County Record page 32). During the multi-year Reserves planning process, the county, Metro and other regional partners worked together to analyze land needs and determine which rural areas should be protected with Rural Reserve designations. At the acknowledgement hearing, LCDC appeared satisfied with the "balancing" measures taken over the course of the Reserves planning process. Following the oral remand, Washington County and Metro continued their efforts to balance the Reserves in the county by evaluating information and comments provided by the public and community partners.

Following LCDC's October 2010 oral remand of two Urban Reserves and all Rural Reserves in Washington County, county staff began the process of working with the Board of County Commissioners to develop a revised draft Reserves map for consideration. Because all other Reserves areas were acknowledged by LCDC, staff focused its analysis toward revising the county's Reserves map in specific geographic areas: 1) Area 7B north of Forest Grove, 2) Area 7I north of Cornelius, and 3) the Undesignated area north of Highway 26 near Helvetia Road. The county's analysis started from the Reserves map adopted by A-Engrossed Ordinance No. 733, shown below.



In early December 2010, the Board reviewed a proposal that would adopt a new Reserves map. The map included the following changes:

- Removed 28 acres of Urban Reserve land north of Forest Grove located east of Council Creek
- Changed approximately 430 acres north of Cornelius and west of Susbauer Road from Urban Reserve to Rural Reserve. This area was previously included in former Urban Reserve Area 7I
- The balance of former Urban Reserve Area 7I, located east of Susbauer Road, was changed from Urban Reserve to Undesignated
- North of Highway 26, a 585-acre Undesignated area located northwest of the intersection of Highway 26 and Helvetia Road was changed to Urban Reserve
- To the west of the 585-acre area described above, a 290-acre area previously designated Rural Reserve was changed to Undesignated

After reviewing the proposed map, the Board voted to approve the changes and adopted a Supplemental Intergovernmental Agreement (IGA) which included the revised map. Concurrently with the adoption of the Supplemental IGA, the Board directed staff to prepare and file a land use ordinance to amend the county's adopted Rural and Urban Reserves map. This ordinance, Ordinance No. 740 was filed on January 11, 2011. (Washington County Record pages 10320-10375).

Though the Washington County Board of Commissioners approved the Supplemental IGA in late 2010, by March 2011 the Metro Council had not yet considered the map changes during a public hearing, which effectively resulted in a rejection of the county's proposed oral remand response. Instead, Chair Andy Duyck and Metro Council President Tom Hughes worked together to craft a proposal - the Duyck/Hughes map, which differed from the Reserves map in the Supplemental IGA and in Ordinance No. 740 in two ways:

- The 290-acre area north of Highway 26 located just west of the Helvetia Road area proposed for Urban Reserve designation was returned to Rural Reserve designation
- South of Rosedale Road, approximately 383 acres designated Rural Reserve by A-Engrossed Ordinance No. 733 were proposed for Undesignated status

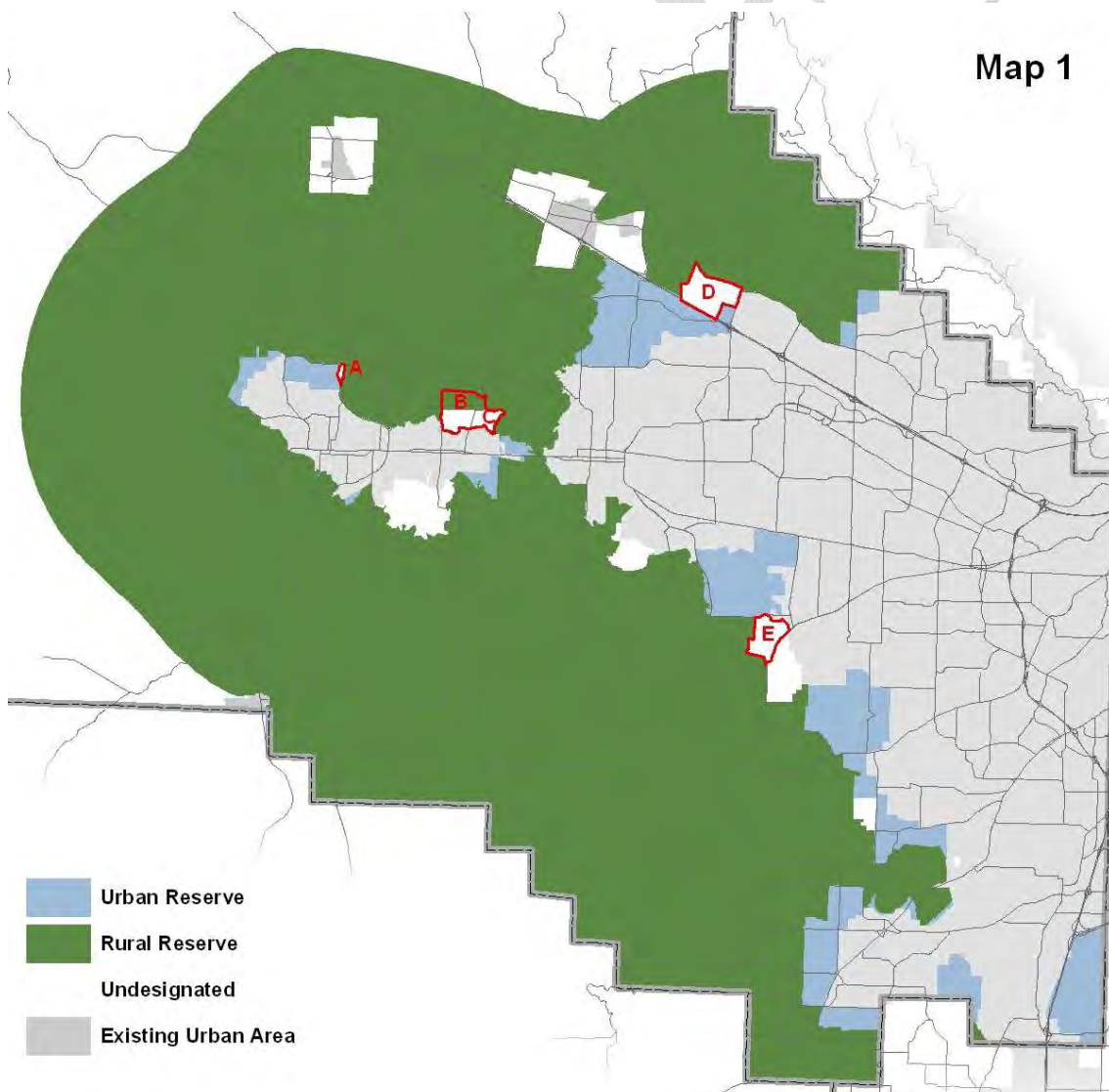
All other adjustment areas shown in Ordinance No. 740 were retained in the Duyck/Hughes proposal.

On March 15, 2011, the Board and Metro Council conducted a joint public hearing on a Supplemental IGA intended to modify the Reserves map. At the joint hearing, the Board and Metro Council heard testimony on the Supplemental IGA that was included in the record for

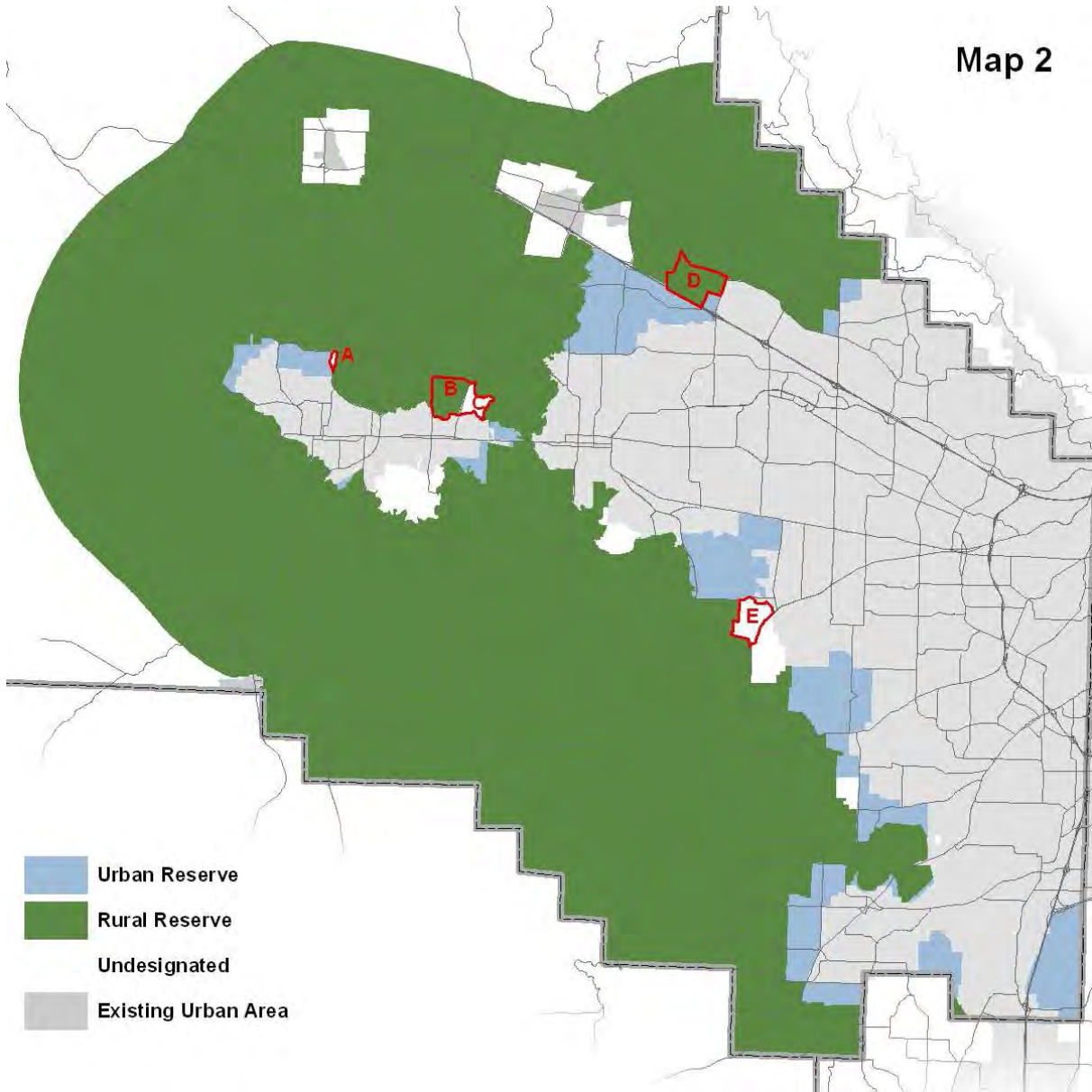
Ordinance No. 740 (written testimony provided at Washington County Record pages 10620-10911). Upon conclusion of public testimony, the Board and Council considered several iterations of the Supplemental Reserves IGA map. These iterations and the motions made by each legislative body are detailed in the following pages.

**Summary of Board and Council Motions at Joint Hearing on March 15, 2011**

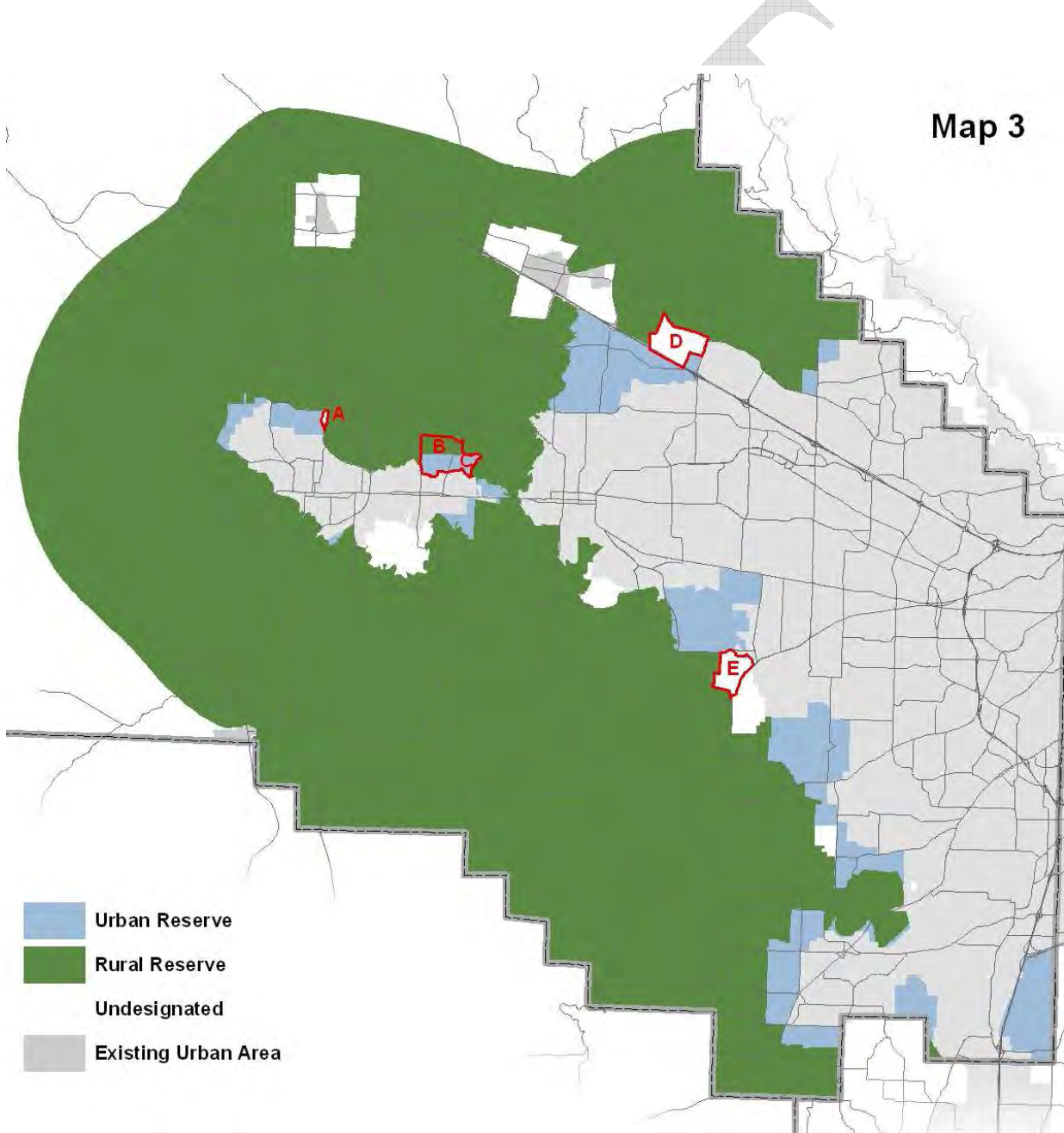
**Map 1 – Metro Council Discussion:** At the conclusion of testimony on the Supplemental Reserves IGA, the Council President Tom Hughes invited the Metro Council to share their opinions about the process. In the initial discussion by the Council, Councilors Collette and Burkholder made amendment suggestions to the proposed IGA map. Councilor Burkholder expressed concern about the area north of Sunset Highway and questioned whether the change from Undesignated to Urban Reserve would risk the success of the entire Reserves decision. He proposed that the area (Area D) be undesignated. North of Cornelius, Councilor Collette suggested that the area south of NW Hobbs Road in former Urban Reserve 7I be undesignated and that the land north of that area be Rural Reserve (Areas B & C on the map). With the other councilors generally agreeing to these amendments, President Hughes closed the discussion. *No vote was taken.*



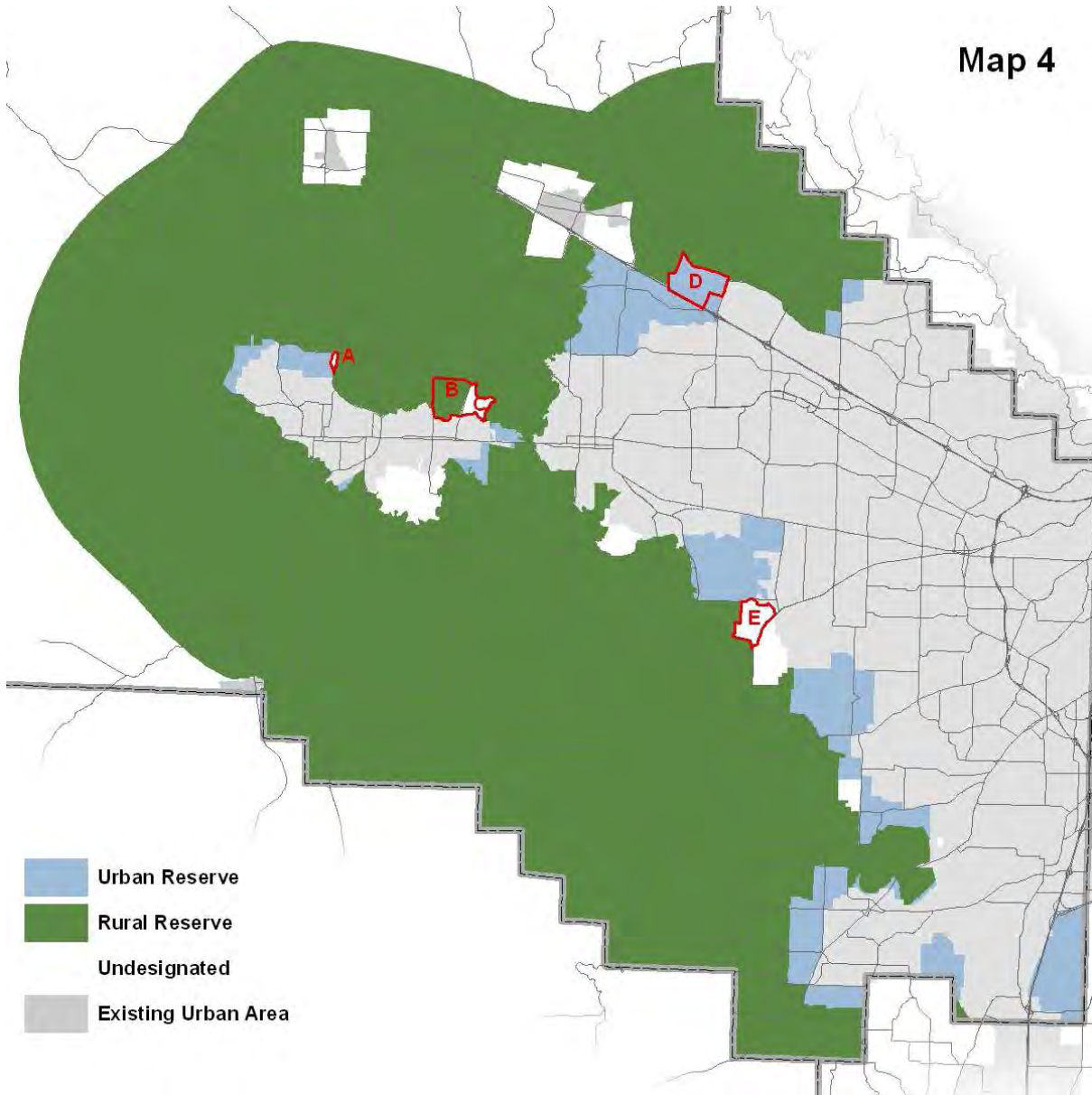
**Map 2 – Motion by Commissioner Schouten:** Following the Council’s discussion, the Board began its deliberations on the Supplemental IGA map proposed by Chair Duyck and Council President Hughes. After deliberation, Commissioner Schouten made a motion to make Area D on the Supplemental IGA map a Rural Reserve. Commissioner Malinowski seconded. *The motion failed to carry on a 1-4 vote.*



**Map 3 – Motion by Commissioner Rogers:** Commissioner Rogers moved to change Area A to Undesignated, to incorporate the changes shown in the Community/Farm map ("7I\*") put forth by the city of Cornelius and its supporters (making approximately 360 acres Urban Reserve on the southern portion of former Urban Reserve Area 7I, with the balance of the area designated Rural Reserves), and to change Area D to Undesignated. Chair Duyck seconded for the purposes of discussion, reserving the right to reconsider. Commissioner Terry commented that changing Area D to Undesignated would throw away investments already made in the area. After some discussion where it was apparent that the votes were not there to support, Commissioner Rogers and Chair Duyck withdrew their motion and second regarding the map. *No vote was taken.*

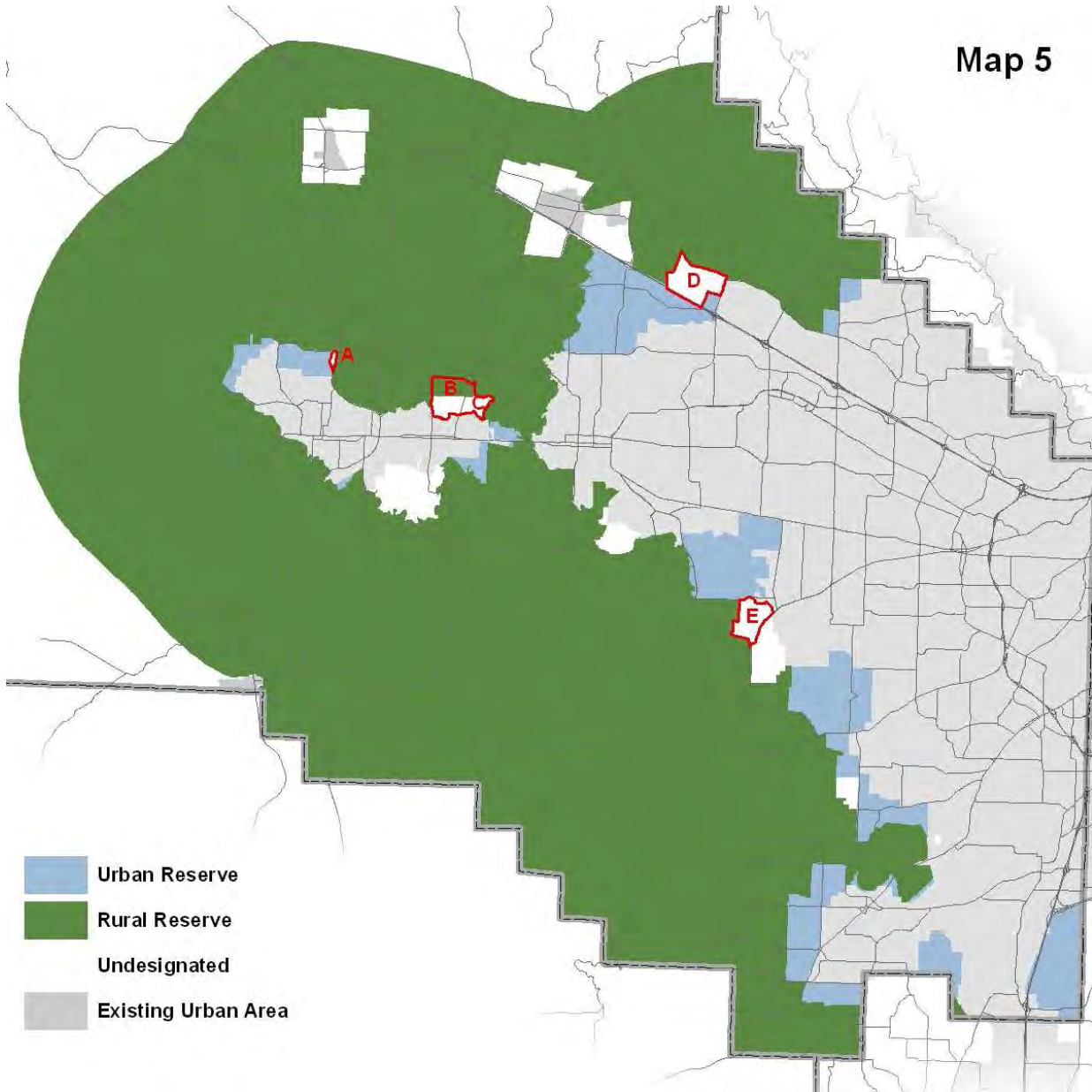


**Map 4 – Motion by Commissioner Terry:** Commissioner Terry made a motion to approve the Supplemental Reserves IGA map as proposed by Chair Duyck and President Hughes. Commissioners Schouten and Rogers both expressed reservations about the Urban Reserve designation for Area D north of the highway. *The motion to accept the Duyck/Hughes-proposed IGA map failed on a 2-3 vote.* At this point the Board recessed to allow the Council to convene.

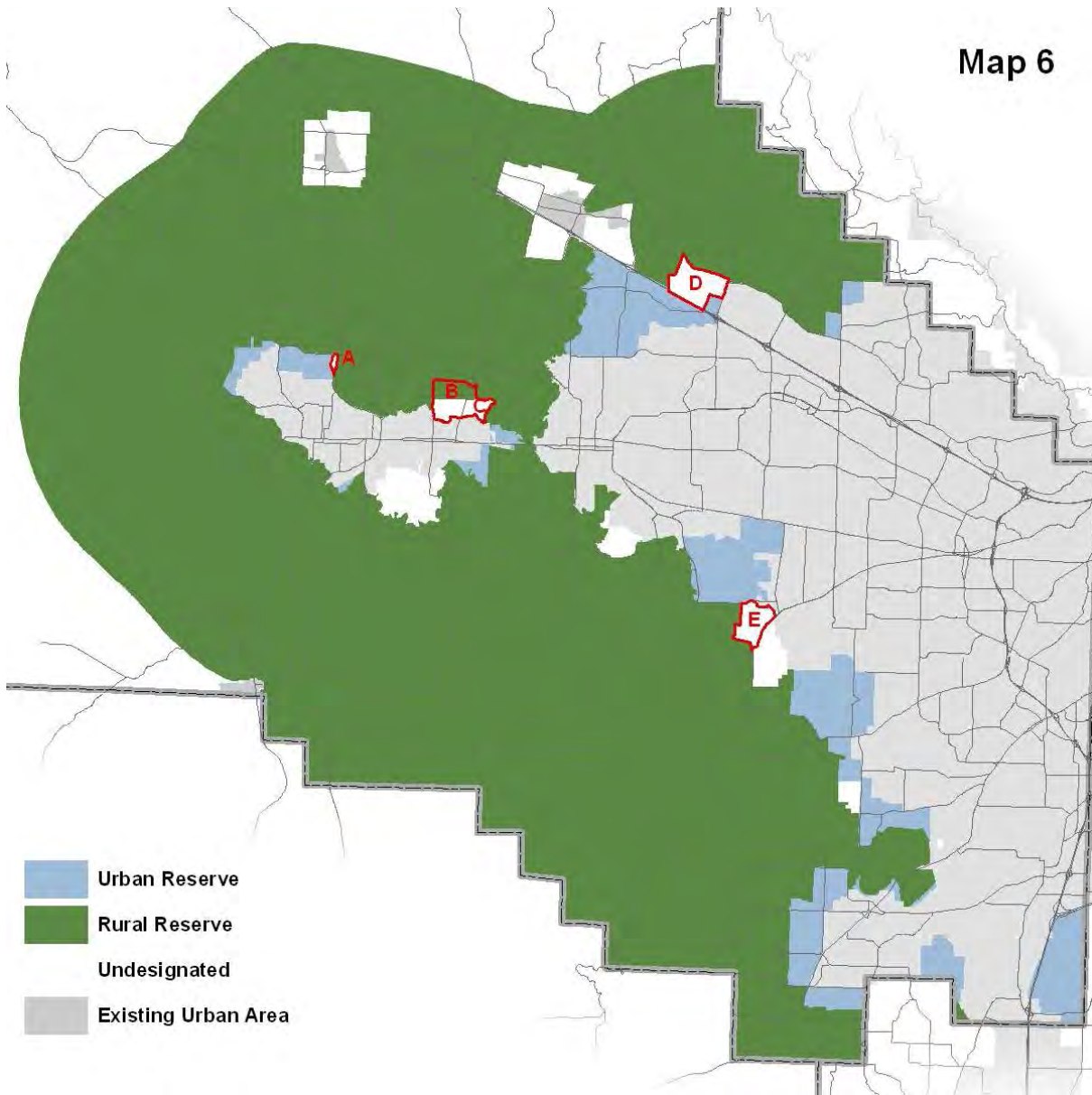




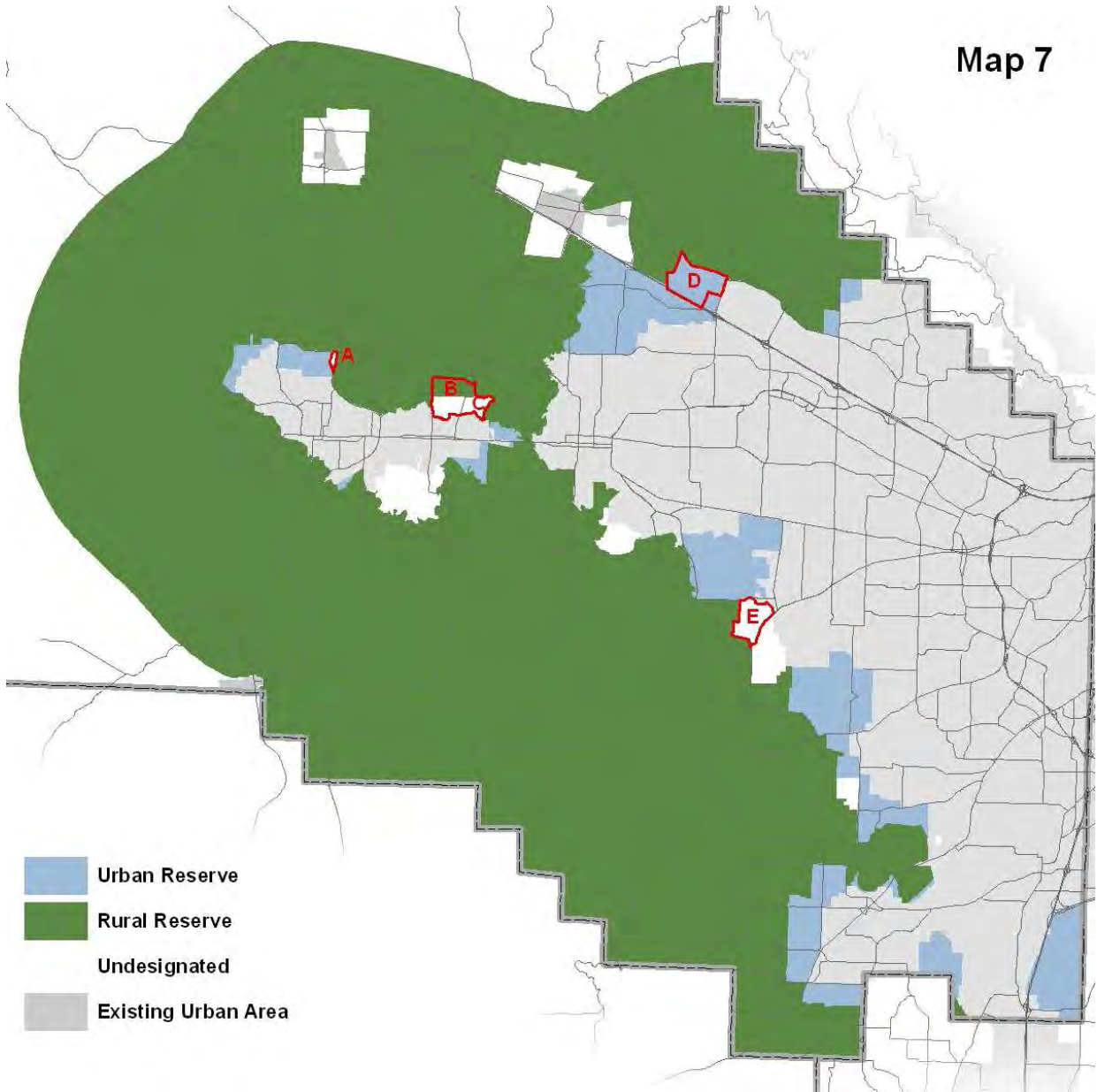
**Map 5 – Motion by Councilor Collette:** Councilor Collette moved to accept the Duyck/Hughes map with the following changes: 1) Make Area D Undesignated, and 2) Designate the 360-acre area known as 7I\* (located directly north of the existing city limits of Cornelius) Undesignated, with Rural Reserve north of that area. Following a brief discussion by the Council, *the motion was approved 7-0* (seconded by Burkholder).



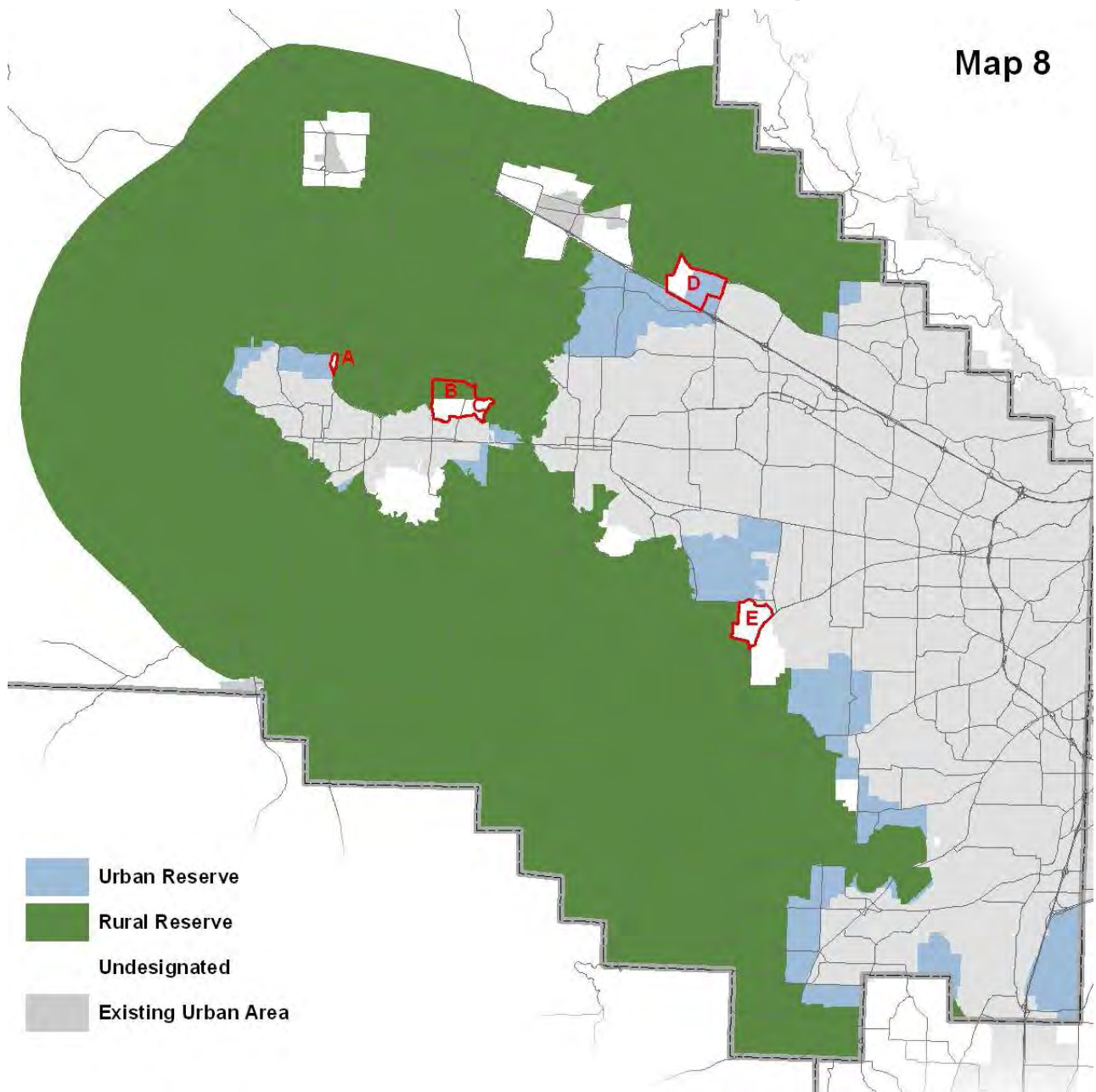
**Map 6 – Motion by Commissioner Schouten:** Commissioner Schouten moved to adopt the amendments as proposed by the Metro Council, making Area D undesignated along with the southern portion of former Urban Reserve Area 7I, and changing the northern portion of the former reserve area to Rural Reserve; Commissioner Malinowski seconded. Commissioner Terry noted that he wanted Urban Reserve replacement acreage "somewhere" - *motion failed on a 2-3 vote.*



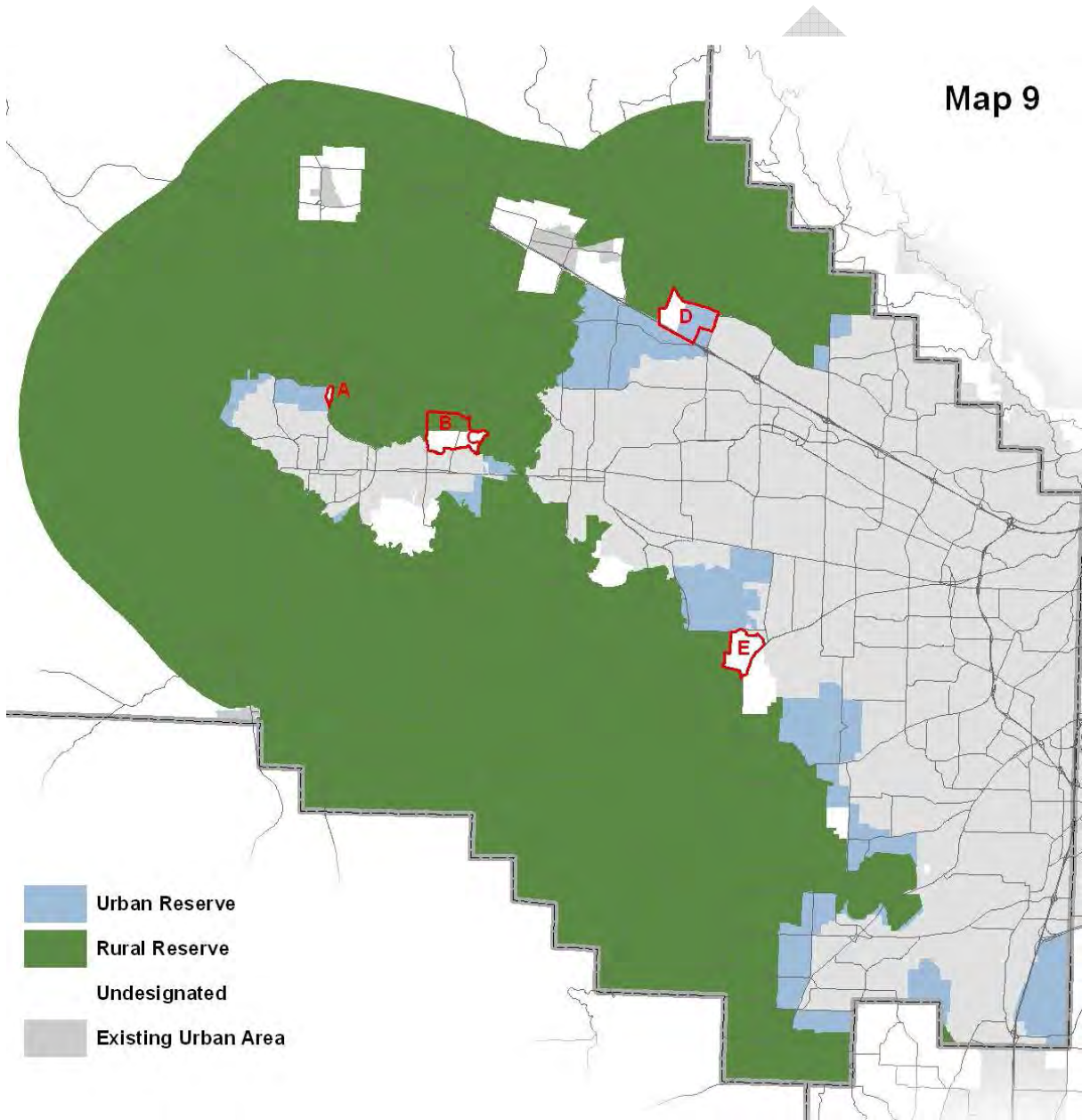
**Map 7 – Motion by Commissioner Terry:** Commissioner Terry moved to maintain Area D as an Urban Reserve as shown on the Duyck/Hughes-proposed IGA map and to change the southern portion of former Urban Reserve Area 7I near Cornelius to Undesignated, with the balance of the former urban reserve area designated Rural Reserve, as discussed under Councilor Collette's motion. *This motion passed 3-2, with Schouten and Malinowski opposed.*



**Map 8 – Motion by Councilor Collette:** Councilor Hosticka (w/Harrington second) moved to reconsider previous approval – the motion passed 7-0. Councilor Collette proposed a compromise on Area D; specifically, to divide Area D at NW Groveland Road. West of the road would be Undesignated; east of the road would be Urban Reserve. The Council agreed to make the same changes to the Cornelius area as was approved by the Board in its immediately prior action. *This motion carried on a 6-1 vote, with Councilor Craddick dissenting.*

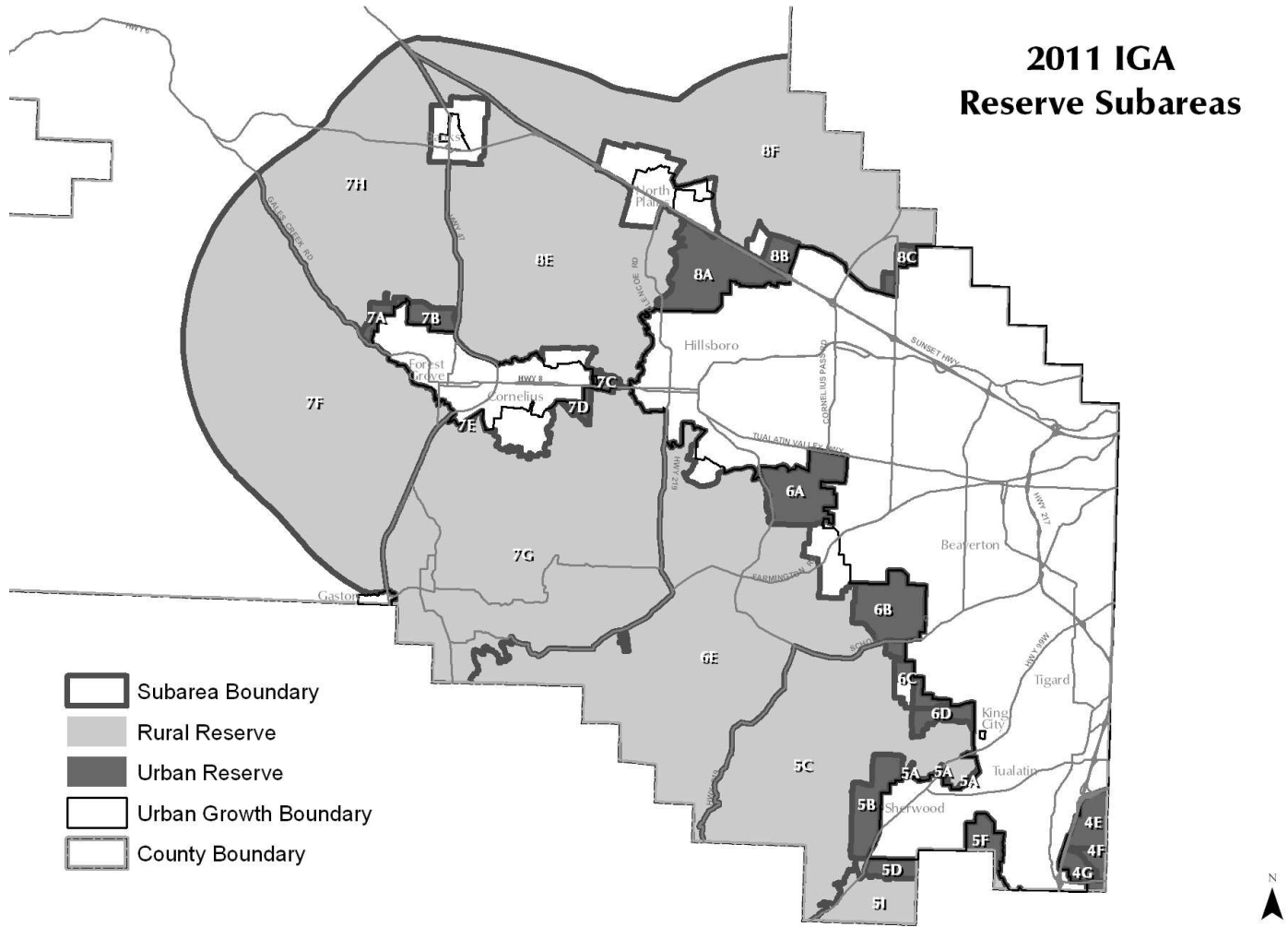


**Map 9 – Final Supplemental IGA Map:** Commissioner Rogers moved to accept the Metro proposal; Malinowski seconded. Commissioner Rogers stated his reluctance to support this proposal and asked that, in the event LCDC remands the Reserves work again, he hoped that adding Urban Reserve land north of Cornelius would be considered. Commissioner Rogers voted with Chair Duyck and Commissioner Terry to *accept the motion, which carried 3-2*. The Board’s motion also included authorizing the Long Range Planning Manager to prepare a map of the final action by both bodies for the Chair’s review prior to executing the Supplemental Reserves IGA.



**Final Motion by Metro:** The Council reconvened and Councilor Harrington moved to adopt Metro Resolution and Order 11-4245 with the IGA map as amended and approved by Washington County. Councilor Hosticka seconded the motion and the *Council adopted the motion 6-1*, with Councilor Craddick in dissent. Council then adjourned the joint public meeting. The final map adopted with the Supplemental Reserves IGA is shown below.

## 2011 IGA Reserve Subareas



The inclusion of the series of the preceding maps is intended to reflect the actions of the Washington County Board of Commissioners and Metro Council to achieve "balance in the designation of urban and rural reserves that, in its entirety, best achieves livable communities, the viability and vitality of the agricultural and forest industries and protection of the important natural landscape features that define the region for its residents" (Washington County Record page 32).

These two governing bodies sat together in an extended public hearing, took testimony from a number of groups and individuals and together considered how to achieve balance within the county. The map shown above depicts the efforts and substance of the balancing process in Washington County.

The Board held an additional public hearing on Ordinance No. 740, and at the close of testimony, ordered engrossment of the ordinance to reflect the changes to the Supplemental Reserves IGA map adopted by the Board and Metro Council on March 15, 2011. The changes are shown on Exhibit 1 of A-Engrossed Ordinance 740 (Washington County Record pages 11005-11061).

- 1) *North of Forest Grove* – The 28 acres within Area 7B located east of Council Creek are changed from Urban Reserve to Undesignated. This area was unaffected by the engrossment of the ordinance.
- 2) *North of Cornelius* – The 360 acres in the southern portion of former Urban Reserve Area 7I are changed from Urban Reserve to Undesignated.
- 3) *North of Cornelius* – The 263 acres in the northern portion of former Urban Reserve Area 7I are changed from Urban Reserve to Rural Reserve.
- 4) *North of Highway 26* – The 352 acres bounded on the west by Groveland Road, on the north by West Union Road, on the east by Helvetia Road and Urban Reserve Area 8B, and on the south by Highway 26 are changed from Undesignated to Urban Reserve. This acreage is added to the existing 88 acres of Urban Reserve Area 8B, which was designated through A-Engrossed Ordinance No. 733.
- 5) *South of SW Rosedale Road* – The 383 acres located northwest of the intersection of SW 209th and SW Farmington Road are changed from Rural Reserve to Undesignated.

Except for those specific changes set forth above, the Reserves map and applicable policy provisions originally adopted by A-Engrossed Ordinance No. 733 remain unchanged.

## **Reserves Findings**

### *Rural Reserves Analysis Overview*

#### Introduction

Provided below are general descriptions of how the county applied Rural Reserves factors within the Reserves study area, as well as an explanation of the rigorous application of additional data screens over the multiple-year process of Reserves planning efforts.

#### Agricultural and Forestry Considerations - OAR 660-027-0060(2):

The map results from the ODA analysis (Washington County Record pages 9748-9818) are limited to a total of three classifications in the 2007 Agricultural Lands Inventory: Foundation, Important, and Conflicted lands. The overwhelming majority of the acreage in Washington County was considered foundation land; this designation was broadly applied and made no further distinction among those agricultural areas. (As an example, the entirety of Hagg Lake and relatively large blocks of forestland were classified as foundation land). To better apply the rural reserve factors found under OAR 660-027-0060(2), staff believed a more intensive agricultural analysis was important to the rural reserve designation process. Some components of this

analysis included parcelization, dwelling density, potential crop productivity based on successive agricultural inputs, and possession of a water right or inclusion within the Tualatin Valley Irrigation District. (Washington County Record Pages 2971-2980).

Agricultural and forestry considerations were applied to the above rule separately when considering which areas were most suitable as rural reserves. For the farmland analysis, the entire reserve study area was divided into 41 subareas and through analysis ultimately classified into one of four tiers. The purpose of creating subareas was to account for area differences based on an application of the Rural Reserve factors. Tier 1 indicated candidate areas that were suitable for Rural Reserves, followed by Tier 2, Tier 3, and Tier 4. Each of the ten Tier 1 subareas had high productivity ratings and all but one was characterized by larger parcels. A composite map for all Tier 1 areas resulted in the map noting those areas most suitable for rural reserves. (Washington County Record Page 3024). Detailed information on subarea characteristics and tier determinations are contained in the September 23, 2009 Staff Report prepared for the Reserves Regional Steering Committee and submitted to the Land Conservation and Development Commission (LCDC) by Metro and the county as part of the consolidated findings. (Washington County Record Page 2978-2980; 2985-2987).

To map forestlands, county staff used the Oregon Department of Forestry's (ODF) Wildland Forest Inventory mapping data from 2008 (Washington County Record pages 9696-9747). This data more accurately assessed on-the-ground conditions relative to forest lands by including five land use categories for forestry and agricultural uses. ODF recommended larger blocks of forested land in the outer edges of the study area for protection. These areas (Wildland Forest) were included as Tier 1 candidates for rural reserve recommendation. The ODF Inventory states that *Wildland Forest* areas need to be protected in order to sustain long-term forestry operations for forest land. Tier ranking determinations for forestry were facilitated by this greater level of detail.

#### Natural Features Considerations - OAR 660-027-0060(3):

Natural feature considerations were applied to the above rule separately from agricultural and forestry considerations. Tier 1 areas for natural landscape features ranked as the highest priority for rural reserves. A composite map for Tier 1 forestry, agriculture, and natural feature areas resulted in a final map noting the areas most suitable for rural reserve designation. (Washington County Record Page 3024).

Metro's Natural Landscape Features map formed the basis of staff's natural landscape features analyses. This map included county floodplains as well as the Hagg Lake watershed and natural areas such as the Tonquin Scablands, Killin Wetlands, and Wapato Lake. (Washington County Record Page 3028). Staff additionally included the county's Goal 5 Significant Natural Resource inventory as suitable for rural reserve designation. County Goal 5 areas are managed for floodplain, riparian corridor, and/or wildlife habitat value. Areas with slopes over 25% were also included as pertinent information in determining rural reserve designation under this factor given constraints on urban development in these areas.

Finally, a factor that included a "sense of place" [factor (3)(e)] was addressed by including all areas above 350 feet in elevation as suitable for rural reserve designation in addition to those



natural areas that might shape and define a regional identity perspective. Limiting urban development above 350 foot elevation level helps provide a sense of place by preserving viewpoints and by minimizing residential density. The composite map for the above features revealed a reserves map that included all areas of the Chehalem Mountains as suitable for rural reserve designation.

*Supplemental Findings for new Rural Reserve land near Cornelius  
(Northern portion of former Area 7I)*

A-Engrossed Ordinance No. 740 includes changes to the Urban Reserve designation for Area 7I north of Cornelius. The area has been divided roughly in a 60/40 ratio, with 360 acres in the south half proposed as Undesignated and 263 acres in the north half proposed as Rural Reserve. The 263 acres of Rural Reserve will be folded into the surrounding Rural Reserve 8E (Dairy Creek). Findings that addressed OAR 660-027-0060 for Rural Reserve 8E were included with the submitted consolidated findings noted above. The addition of the 263 acres of rural designation to Rural Reserve 8E brings the total area for the reserve to 19,445 acres.

The initial findings for Rural Reserve 8E adopted by A-Engrossed Ordinance No.733 are also generally applicable to the 263 new rural reserve acres. However, further analysis and discussion of the factors pertinent to the 263 acres is contained below. The new area is suitable for urban development given the generally flat topography and proximity of urban services from Cornelius but it is also suitable for Rural Reserve designation as evidenced by existing agricultural uses and extensive surrounding agricultural uses, ready access to water, and the prevalence of high-value soils.

The county's analysis of this area rated it as a Tier 2 candidate reserve area. The area is included as part of Subarea 18, which extends from the Cornelius city boundary north past Verboort Road west to Highway 47 and east of Susbauer Road. The subarea had a high productivity rating, but was rated Tier 2 due to the dwelling density found throughout the entire subarea. The parcelization of the area did not exhibit a trend toward either larger or smaller parcels (Washington County Record page 3024).

**Agricultural Considerations Under Factor OAR 660-027-0060(2)**

**(2) Rural Reserve Factors: When identifying and selecting lands for designation as rural reserves intended to provide long-term protection to the agricultural industry or forest industry, or both, a county shall base its decision on consideration of whether the lands proposed for designation:**

- (a) Are situated in an area that is otherwise potentially subject to urbanization during the applicable period described in OAR 660-027-0040(2) or (3) as indicated by proximity to a UGB or proximity to properties with fair market values that significantly exceed agricultural values for farmland, or forestry values for forest land.**

The reserve area has a high subject to urbanization rating given its proximity to the city of Cornelius and the inclusion of the area in the city's Pre-Qualified Concept Plan submitted as part of the record for A-Engrossed Ordinance No. 733.

Staff compiled more than a dozen analysis variations to address fair market value. Because adequate data necessary to explore fair market value was not readily available, staff utilized real market values for individual parcels as recorded in Washington County's Department of Assessment and Taxation. The analysis did not show any correlation between property value and parcels in close proximity to the urban growth boundary. Staff determined that the notion of fair market value independent of other indicators does not provide a conclusive indication of land areas that may be subject to urbanization (Washington County Record page 9675).

- (b) Are capable of sustaining long-term agricultural operations for agricultural land, or are capable of sustaining long-term forestry operations for forest land.**
- (c) Have suitable soils where needed to sustain long-term agricultural or forestry operations and, for agricultural land, have available water where needed to sustain long-term agricultural operations.**

Aerial photos in county archives document agricultural use in the Rural Reserve area since at least 1980, but sustained agricultural use has occurred in the area for decades prior to this time. The predominant soil class is Class II, with one small area of Class I soil and fingers of Class III soils in the lower, wetter areas of the reserve. All three soil classes are suitable for farming and the capability of the area to sustain long-term agricultural use is evident. The area is rated as highly productive in the county analysis based on soil capability but also because of its inclusion in the Tualatin Valley Irrigation District and the presence of several established water rights on larger agricultural parcels.

- (d) Are suitable to sustain long-term agricultural or forestry operations, taking into account:**
  - (A) for farm land, the existence of a large block of agricultural or other resource land with a concentration or cluster of farm operations, or, for forest land, the existence of a large block of forested land with a concentration or cluster of managed woodlots.**
  - (B) The adjacent land use pattern, including its location in relation to adjacent non-farm uses or non-forest uses, and the existence of buffers between agricultural or forest operations and non-farm or non-forest uses.**
  - (C) The agricultural or forest land use pattern, including parcelization, tenure and ownership patterns.**

The land use pattern of the 263 acre area forms a sizable block of agricultural operations that is contiguous with extensive agricultural activity north to the city of Banks and Highway 26. The area has a range of parcel sizes, with at least nine taxlots at an acre or less and two taxlots over

60 acres. Two owners own two or more taxlots. Four taxlots, comprising no less than 45 percent of the total reserve area, are at least 30 acres in size and in existing agricultural use. Rural dwelling density is relatively high adjacent to Cornelius-Schefflin Road and Long Road. North of the proposed area is the Dairy Creek floodplain, which is a key agricultural area of the county and is comprised of larger agricultural parcels. Leasing activity was not available to staff but it is presumed that leased farming activity occurs across taxlot boundaries. Agricultural activity currently predominates in the 360 acre Undesignated area south of the new Rural Reserve area. The Undesignated land can effectively function as a buffer from more intensive urban development within the Cornelius Urban Growth Boundary.

**(D)The sufficiency of agricultural or forestry infrastructure in the area, whichever is applicable.**

Agricultural infrastructure in the form of drain tiles are established throughout much of the Dairy Creek basin. Agricultural supply outlets for fertilizer, animal feed, agricultural chemicals, and farm equipment sale and maintenance are available in both Cornelius and Hillsboro. Staff concludes that the sufficiency of agricultural infrastructure necessary to sustain long-term farming operations is adequate given the long-term farming history of the area and the positive market considerations that are highly likely given the certainty and long-term stability for agricultural use of this Rural Reserve area.

Based on the above, the area is determined to be suitable to sustain long-term agricultural operations.

**Forestry Considerations Under Factor OAR 660-027-0060(2)**

Staff relied on the Oregon Department of Forestry's (ODF) Metro-area analysis of forestland that encompassed the reserves study area (Washington County Record pages 9696-9747). The ODF analysis included five forestry and agricultural categories as shown on Map 4 of the September 23, 2009 Staff Report (Washington County Record Page 2999). The ODF analysis indicated that all forestlands within the *Wildland Forest* designation should be protected in order to sustain long-term forestry operations in the area. Forestlands within this classification were ranked as Tier 1 in the county analysis.

There are no Wildland Forestlands in this Rural Reserve area and commercial forestry operations are not present. One taxlot in the reserve has most of its 20 acres in unmanaged timber.

**Natural Landscape Feature Considerations Under Factor OAR 660-027-0060(3)**

Staff combined Metro's Natural Landscape Features Inventory with the county's mapped Goal 5 areas, constrained slopes over 25 percent, and all areas over 350 feet (to address factor (e) below) as the basis for applying the factors below. Potential candidate Rural Reserves areas were divided into three tiers based on the above and from additional input from staff's knowledge of county natural areas. The components within each tier are described at length on pages 37 and 38 of the September 2009 staff report. (Washington County Record pages 2987 and 2988). The proposed Rural Reserve east boundary is formed by Dairy Creek, a Tier 1 Natural Feature. No other Tier 1, 2, or 3 Natural Features are included within or adjacent to the reserve.

**(3) Rural Reserve Factors: When identifying and selecting lands for designation as rural reserves intended to protect important natural resource features, a county must consider those areas identified in Metro's February 2007 "Natural Landscaper Features Inventory" and other pertinent information, and shall base its decision on consideration of whether the lands proposed for designation:**

**(a) Are situated in an area that is otherwise potentially subject to urbanization during the applicable period described in OAR 660-027-0040(2) or (3);**

For Rural Reserve factor (3), staff considered the entire study area as equally subject to urbanization to allow for all natural features within the study area to be considered.

**(b) Are subject to natural disasters or hazards, such as floodplains, steep slopes and areas subject to landslides;**

The 100-year floodplain of Dairy Creek enters the northeast corner of this Rural Reserve. The floodplain area is entirely in agricultural use. In the west half of the reserve area an unnamed tributary of Council Creek flows south and has a narrow county-designated floodplain. The proposed reserve area is generally flat with the exception of a gradual rise in terrain at the west edge of Dairy Creek. There is little to no potential for landslides or other natural disasters in the reserve area.

**(c) Are important fish, plant or wildlife habitat;**

The area is almost entirely in agricultural use, which typically provides limited habitat capacity for wildlife. One unmanaged stand of timber of approximately 12 acres occurs as "island" habitat on the west side of the reserve and may provide a refuge for resident and migratory bird and mammal species. Dairy Creek is listed on Metro's Natural Feature Inventory and the county's Goal 5 inventory map and is ranked in the county analysis as Tier 1. The creek is important habitat for life-cycle development of anadromous and non-anadromous fish, with the Creek's riparian vegetation serving as an important dispersal corridor for bird, mammal and amphibian species moving through the Dairy Creek basin.

**(d) Are necessary to protect water quality or water quantity, such as streams, wetlands and riparian areas;**

Agricultural activities can negatively affect streams and riparian areas through chemical drift and localized accumulation as well as creating turbidity from farming too close to stream banks. However, maintaining the land in an agricultural base allows for stream and water table recharge through limitations on impervious surface area. A headwater stream to Council Creek originates at the northwest corner of the reserve and flows south but lacks adequate vegetative cover to minimize increase water temperatures necessary for water quality. Farm activity occurs up to the tributary edges.

**(e) Provide a sense of place for the region, such as buttes, bluffs, islands and extensive wetlands;**

Elevations over 350 feet were included as Tier 1 areas for Rural Reserves as one method staff used to address factor (3)(e) relative to a sense of place. The area rises gently on the west and east side of the reserve to an elevation between 170-180 feet. Dairy Creek is a significant riparian corridor and a defining natural feature in Washington County and likely provides a sense of place for area residents.

- (f) Can serve as a boundary or buffer, such as rivers, cliffs and floodplains, to reduce conflicts between urban uses and rural uses, or conflicts between urban uses and natural resource uses;**

The Dairy Creek floodplain is the defining natural boundary of the area but does not separate urban uses from either rural uses or natural resource uses. The additional Rural Reserve land north of Cornelius is folded into Rural Reserve 8E, an extensive area north of the proposed reserve land that takes in much of the Dairy Creek floodplain and important agricultural lands north of Cornelius-Schefflin Road and Zion Church Road. The nearest urban uses are south of the reserve area and are separated from those uses by a 360-acre area of undesignated land that is predominantly in agricultural use.

- g) Provide for separation between cities;**

Large areas of Rural Reserve land and the Dairy Creek floodplain exist between this Rural Reserve and the city of Banks to the north.

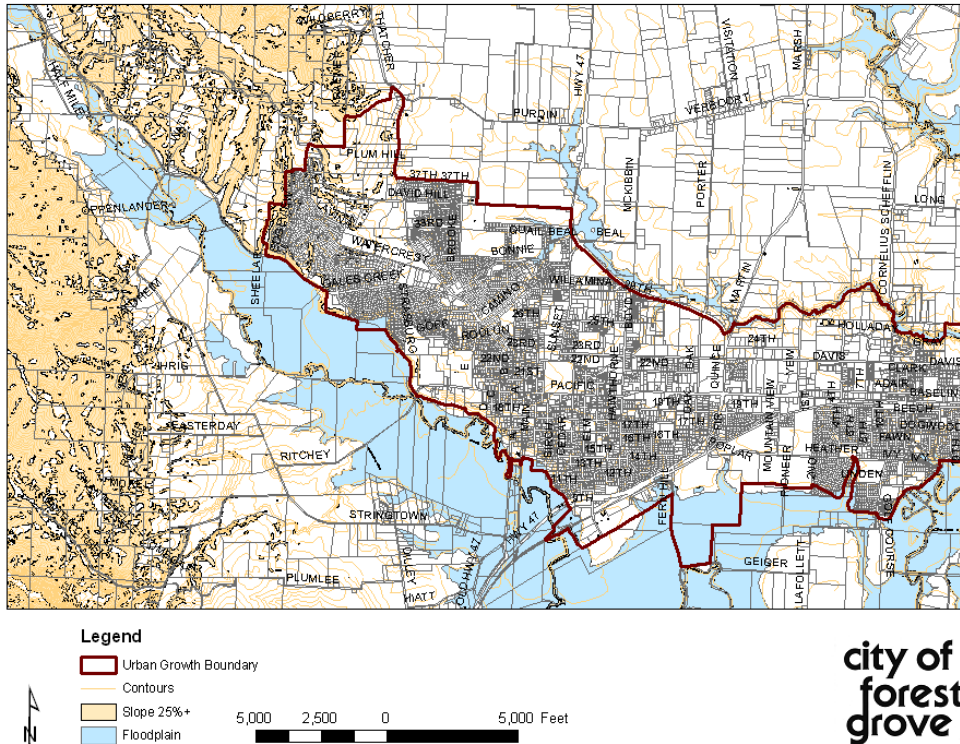
- h) Provide easy access to recreational opportunities in rural areas, such as rural trails and parks.**

There are no specific recreational activities planned within the Reserve area. Designation of the area as a Rural Reserve is not expected to alter access to potential recreational opportunities, such as biking or walking in the rural areas within and surrounding the proposed Reserve area.

*Supplemental Reserve Findings for Urban Reserve Area 7B  
(Forest Grove North)*

**Overview**

Forest Grove can only expand to the north or west. It cannot grow to the east because the community immediately abuts the City of Cornelius. It cannot grow to the south, other than the small 38-acre Urban Reserve Area 7E, because of the presence of the Tualatin River and Gales Creek floodplains (see map below). The most logical direction for Forest Grove to expand is to the north for several reasons.



Expanding to the west would be encroaching further on David Hill and the Gales Creek Valley. Expanding in this direction would elongate the shape of the community. This would increase service costs by extending services, particularly emergency services. Fire service is based on response times. To meet the Fire Department response times, an additional station would be needed. To be functional, the City would have to hire additional staff, equipment and training to make the station operational. These additional services would impose additional capital and ongoing costs to the City.

By comparison, growth to the north results in the community being more compact in shape. Distances from city hall would not increase when compared with the current Urban Growth Boundary (UGB). This situation eliminates the need for a new fire station or patrol area. The city would not have the capital and ongoing expenses that would be required if there is a westward expansion. Thus, growth to the north continues a pattern of development that can be efficiently served.

There are other issues associated with expanding onto David Hill. The David Hill area does not support the employment needs, particularly large lot industrial, required by the community.

There are slope and geological limitations for the David Hill area. A geologic report found that 18 out of 56 lots in the Summit Point final plat (one of the most recent developments in the David Hill area) required specially engineered foundations to address potential geologic constraints of the area (Washington County Record pages 11105-11107).

Slopes represent potential unstable ground. Various areas on David Hill have experienced landslides. Further, emergency access, particularly fire response, is greatly hampered by steep slopes. For this reason, the Forest Grove Development Code (Section 10.8.610 M) limits residential streets generally to a slope no greater than 12% with a maximum slope no greater than 15% for a maximum distance of 250 feet. Given these limitations, the City is concerned with the ability to accommodate development on steep slopes. As can be seen by the map above, a substantial portion of the David Hill area has slopes 25% or greater.

The best option for urban expansion for Forest Grove is to grow northward. Area 7B is in close proximity to the City's Town Center. The distance to the main intersection in the community, Pacific Avenue and Main Street, is between 1.35 to 1.94 miles from the closest and further point in the Urban Reserve area. This distance can be traversed by walking in about 27 to 39 minutes (assuming 3 mph speed) and 7 to 10 minutes by bicycle (assuming 12 mph speed). The topography is generally less than 10 percent slope, making walking and bicycling very feasible. In addition, it is due north of the Town Center area and road, pedestrian and bicycle connections can be achieved relatively easily with modest costs. This connection to the Town Center means that development of the area with land uses (industrial) complimentary to the Town Center would contribute to the development of the Town Center.

### **Urban Reserve Findings**

The following is a discussion of how the urban reserve factors (OAR 660-027-0050) apply to the Purdin Road area.

**Urban Reserve Factors: When identifying and selecting lands for designation as urban reserves under this division, Metro shall base its decision on consideration of whether land proposed for designation as urban reserves, alone or in conjunction with land inside the UGB:**

- (1) Can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments;**

Topography of the Purdin Road area is relatively flat with slopes generally 5 percent or less. The one exception is along Thatcher Road extending from the existing UGB northward where slopes reach up to 10 percent. These slopes are conducive to accommodate industrial and employment uses. As reflected in the most recent Pre-Qualifying Concept Plans (PQCP) developed by the City, this is the primary urban use for the area. This demonstrates that there are no physical

constraints in the area to preclude higher density development (Washington County Record pages 11107-11110).

Forest Grove provide water, electrical, police and fire protection, parks and recreation, municipal court, library services, land use planning, zoning, building inspection, street maintenance and general administrative services. As a full service city, Forest Grove has analyzed its ability to provide services to urban reserve areas in the most efficient way and by making use of its existing city infrastructure (Washington County Record pages 11112-11113).

Sewer service is provided by the City in partnership with Clean Water Services. The City's Sewer Master Plan shows a planned 12 inch sewer trunk line along Thatcher Road from near Purdin Road and extending through Urban Reserve Area 7B before connecting with an existing sewer line on Brooke Street within the current UGB. Substantial municipal infrastructure lines end at or near the urban growth boundary. Clean Water Services' Master Plan shows three future laterals and one future trunk line south of Purdin Road and west of Highway 47 – Urban Reserve Area 7B. There is also an existing trunk line that follows Council Creek and connects to the Rock Creek treatment plant. Based on analysis prepared by waste water treatment providers in the region, both Rock Creek and Forest Grove treatment plants have room to expand. These are just part of the reasons why the area has been shown as a high sewer suitability area on the Metro Urban and Rural Reserve Preliminary Sewer Service Suitability Map (February 2009) (Washington County Record pages 3321-3333). No major new facilities are needed to serve the area included within the potential urban reserve. As a result, the area can be efficiently served with sewer facilities.

Regarding water, the City's Water Master Plan (August 10, 2010), in part analyzed the adequacy of the City's water supply for the 40 year planning period of the plan. Taking into account water demand from projected development within the current UGB, the David Hill Urban Reserve area (Area 7A), the Purdin Road Urban (Area 7B), the South Industrial Urban Reserve area (Area 7E) and an additional area identified as the North Water Planning Area used as part of a high growth water demand alternative, the study concluded that the City does not need new sources of supply in the next 40 years, except possibly under the high growth scenario. In that scenario, the study identifies other options to augment water supply needs after the Year 2045.

Regarding water distribution, the City has a 5 million gallon reservoir and a 1 million gallon reservoir serving the community as well as 10 percent ownership in the 20 million gallon Joint Water Commission (JWC) reservoir. There is an existing 8" water line along Thatcher Road adjacent to Urban Reserve Area 7B and an 8" line along David Hill Road. For this reason, the Metro Urban and Rural Reserve Preliminary Water Service Suitability Map, dated February 2009, shows the proposed candidate urban reserve area as being within the high service suitability zone (Washington County Record pages 3334-3338). This means that only typical extensions of service such as general distribution lines and reservoirs are needed. No major facilities are required to serve the urban reserve area. As a result, the City has sufficient supply of water to serve the area and can also be efficiently served with water distribution facilities.



Efficient extension of transportation can be achieved. Highway 47 is an existing state facility that serves the area, and Main and B streets terminate near the urban reserve area and can be easily extended to serve the area.

A preliminary analysis of providing transportation service within urban reserve areas was completed in February 2009 (Washington County Record pages 3314-3320). The analysis shows that the Forest Grove potential candidate urban reserve area falls into the higher suitability category for system lane cost, added lane cost and connectivity. This means that the area is among the most suitable for providing a transportation system capable of accommodating urban levels of development.

Overall, Urban Reserve Area 7B meets Urban Reserve Factor 1 based on the above analysis.

**(2) Includes sufficient development capacity to support a healthy economy;**

The city views Urban Reserve Area 7B as the location for employment expansion, particularly industrial. The reason is that the David Hill Urban Reserve Area 7A is too hilly to accommodate any substantial employment growth and is too far away from main roads needed to connect to the regional transportation system for freight and employment movement. Area 7B is the best location for significant employment expansion due to its size, flatness of the area, proximity to the Town Center and proximity to the regional road network. Further, there are large parcels to meet the City's large lot industrial needs.

The City's Economic Opportunities Analysis (EOA) report (Washington County Record page 11129-11249) provided a justification for the amount of land need beyond current supply in the community for office, industrial, retail and other employment sectors. When taking into account current vacant land supply in the community, there is still a need for 284 to 1,520 acres of additional industrial land in order to meet the City's industrial need over the next 50 years (Washington County Record page 11192). Thus, this land in Area 7B is needed to achieve a "healthy economy."

The City's EOA report also addressed the community's 20 year need by parcel size. The report indicates there is a need for at least one large lot industrial site (50 to 100 acres in size) sometime during the next 20 years (Washington County Record page 11183). Currently, no such site exists in the community. The only parcel within the study area that could accommodate this large-lot need without having to assemble the land is a 115 acre parcel located in the northwest portion of 7B. Further, the property owner has indicated that the orchard currently on the property is nearing the end of its useful life and would be available for development within the next 2 to 5 years.

Besides the large-lot industrial need, the urban reserve area provides for a range of potential industrial sites for large, medium and small employers. In addition, locating industrial land near the Highway 47 corridor complements public investments in transportation made to improve traffic circulation in western-Washington County. Such improvements include construction of the Highway 47 Bypass, Martin Road/Verboort Road intersection improvements and road upgrades recently completed along Cornelius-Schefflin Road.

For the above reasons, Area 7B provides sufficient development capacity to support a healthy economy both for Forest Grove and the region.

**(3) Can be efficiently and cost-effectively served with public school and other urban-level public facilities and services by appropriate and financially capable service providers;**

Forest Grove provides water, electrical services, police and fire protection, parks and recreation, municipal court, library, land use planning, street maintenance, building inspection and general administrative services. In addition, the City of Forest Grove partners with Clean Water Services for storm water and sanitary sewer services. The City of Forest Grove employs approximately 164 full time employees (FTE) including 34 FTE in the Police Department and 20 FTE in the Fire Department. The City's total General Fund resources amount to over \$16 million. Across all city funds total resources amount to over \$65 million. The City of Forest Grove has a long tradition of providing cost-effective municipal services over 130 years.

Financially capable service providers offering urban-level public facilities include the City of Forest Grove, Washington County, Clean Water Services, and Forest Grove School District. The financial capacity of these organizations is illustrated from the Great Communities report as they characterize Clean Water Services capabilities:

“On one hand, if Clean Water Services in Washington County, for example, invests in new sewer lines and treatment capacity for the Forest Grove/Cornelius area, the \$78 million cost over the next 10 to 15 years may be financially feasible. Last year they collected \$70.7 million in user fees and had a beginning fund balance of \$81.9 million. On the other hand, a small sanitary district-with total sewer revenues of \$3.056 million and beginning cash at \$5.6 million-may view a \$22 million investment in new sewer lines and treatment costs as too costly and risky to undertake by itself.” (Washington County Record page 7858)

Since the area is primarily intended for employment use in general and industrial use in particular, the demand on school facilities is anticipated to be minimal. Any future school needs will be coordinated with the Forest Grove School District as part of comprehensive planning efforts (ORS 195.110).

The Purdin Road Urban Reserve area optimizes major public improvements to Martin Road and Highway 47. Martin Road, a Washington County facility, provides the most direct access to the Sunset Highway corridor via Verboort Road, Cornelius-Schefflin, Zion Church and Glencoe Roads. Martin Road was recently improved with two roundabouts at Verboort Road. Cornelius-Schefflin Road was improved in 2008 with new paving and striping and was widened in some locations to better accommodate farm equipment.

Oregon Highway 47 was realigned during the late-1990s and serves as a bypass route around Forest Grove's Town Center. The urban reserve area is adjacent to Highway 47. Highway 47 is a key corridor providing access to the city of Banks, Oregon Highway 6, and Oregon Highway

26 to the north and Yamhill County to the south. The Oregon Department of Transportation has identified Highway 47 as having additional capacity to accommodate future growth. In addition, the City's Transportation System Plan incorporates improvements (traffic circle) to the Highway 47/Purdin Road intersection planned by ODOT to address safety issues. To make the traffic circle function properly, ODOT requested the City to plan for an extension of Main Street to Purdin Road through Area 7B.

The potential extension of Main Street and B Street to serve this urban reserve area provides clear connectivity between the urban reserve area and the existing City of Forest Grove. In addition, Main and B Streets provide direct access to the Forest Grove Town Center. This direct connection provides an efficient route for future transit service and provides additional support for investments in the Town Center. This efficiency is due to the relatively short distance between the area and the Town Center, as substantiated above and the flatness of the terrain between the area and the town center.

As indicated above, the area is shown to be within an area of high suitability for water service, high sewer suitability area with no need of major sewer facility improvements to provide service and higher suitability category for system lane cost, added lane cost and connectivity (Washington County Record pages 3314-3338).

Based on the above discussion, the area can be efficiently and cost-effectively served with public school and other urban-level public facilities and services by appropriate and financially capable service providers.

**(4) Can be designed to be walkable and served with a well-connected system of streets, bikeways, recreation trails and public transit by appropriate service providers;**

Urban Reserve Area 7B can be designed to be walkable and integrated with the existing and planned system of well-connected streets, bikeways, recreation trails and public transit. The area is flat with no constraints that would prevent the development of a well-served transportation network for the area. The City's Transportation System Plan proposes the extension of Main Street and B Street that will serve the candidate reserve area. Both Main and B Streets provide direct access to the Forest Grove Town Center. Due to its proximity to the Town Center as noted above, there is easy access for pedestrian and bike connections to the Town Center and the existing transit line on Pacific and 19<sup>th</sup> Avenues. Both streets also provide a direct route for future transit service. A substantial portion of a potential transit route from the Town Center to this area is already planned for Medium (12 units per net acre) and High (20 units per net acre) density residential development. Based on input the City received from TriMet, these densities are of sufficient levels to support extension of transit service to the area. The higher intensity nodes of development can be integrated into the area to encourage a walkable, well-connected transportation system.

Urban Reserve Area 7B is proximate to the existing pedestrian pathway along Highway 47 as well as the planned Council Creek Regional Trail. In addition to the regional trail, the vegetated corridors in the urban reserve area provide an opportunity for multi-use trail connections supporting recreation and commute trips.

Based on this discussion, Area 7B meets Urban Reserve factor (4).

**(5) Can be designed to preserve and enhance natural ecological systems;**

Clean Water Services' regulations for vegetative corridors requirements will essentially restrict development (except for trails along the periphery of the corridor) along the stream areas and provide for vegetative restoration. The regulations calculate buffers based on the number of acres an intermittent stream drains and call for up to 50-foot buffers on slopes less than 25%, and up to 200 feet if the land features greater than 25% slopes (Washington County Record page 11114-11115). All the watercourses in this area are intermittent.

Although it has not been calculated, it is likely that the drainage area for Council Creek and its tributary includes more than 100 acres. It should be noted that based on measurements taken by city of Forest Grove staff, plowed areas adjacent to Council Creek and its tributaries are about seven feet from the channel edge.

Outside of the vegetative corridors, Article 5 of the Forest Grove Development Code implements Metro's Model Code developed for Nature in Neighborhoods (Title 13). At this time, these provisions limit development intrusion and encourage the use of clustering. Further, both the CWS and Article 5 standards would require re-vegetation of appropriate species to enhance water quality which would reinforce animal habitat.

In addition, Article 4 of the Development Code provides the framework for planned developments for residential, commercial and industrial projects. Planned developments are required to preserve, to the greatest extent possible, existing landscape features and amenities. Planned developments also incorporate such features into the project's design. Planned unit developments allow for clustering development to maximize the preservation of natural resources. In addition the relatively large parcel sizes in the area can allow for placement of industrial uses away from sensitive areas.

Based on the above analysis, existing requirements would require urban development to preserve and enhance ecological functions, therefore factor (5) can be met.

**(6) Includes sufficient land suitable for a range of housing types;**

The City intends for this area to be substantially developed for employment uses. However, a portion of the area next to an existing residential area on the western part of the area could be appropriately developed for residential uses. The City anticipates that the overall densities would be at least 10 units per acre, accommodating a variety of housing types. This would allow the creation of nodal development with higher densities (upward to 20 units per net acre – the highest densities currently allowed by the City) mixed with supportive office and small commercial development. This approach would support the extension of transit service into this area. This approach would provide opportunities for a variety of housing options. Further, it indicates that there are no anticipated constraints with the area to accommodate a variety of housing types.

After discounting for future development capacity within the current UGB, the City's Economic Opportunities Analysis shows a need for 1,073 to 3,905 acres for future residential development and 13,909 to 32,067 housing units. Within the current UGB, City staff estimates that current capacity for new development (including both raw land and redevelopment) would accommodate 4,600 units. Thus, any residential uses included in the Purdin Road area can help the City meet its long-term residential need (Washington County Record pages 11129-11249). This Urban Reserve factor can be met.

**(7) Can be developed in a way that preserves important natural landscape features included in urban reserves;**

As discussed above, Clean Water Services' vegetative corridors requirements will effectively restrict development (except for trails along the periphery of the corridor) along the stream areas and provide vegetative restoration. Outside of the vegetative corridors, Article 5 of the Forest Grove Development Code implements Metro's Model Code developed for Nature in Neighborhoods (Title 13). At this time, these provisions limit development intrusion, encourage the use of clustering and where applicable, require re-vegetation. In addition, Article 4 of the Development Code provides the framework for planned developments. Planned developments are required to preserve, to the greatest extent possible, existing landscape features and amenities. Planned developments also incorporate such features into the project's design. Planned unit developments allow for clustering development to maximize the preservation of natural resources. In addition, the large parcels would allow flexibility in the siting of industrial uses (Washington County Record pages 11129-11249).

**(8) Can be designed to avoid or minimize adverse effects on farm and forest practices and on important landscape features on nearby resource land, including land designated as rural reserves;**

In discussing this issue with the Farm Bureau, there appears to be two concerns. First is to minimize conflicts between urban development and farm practices due to proximity and the nature of various land uses. Industrial and employment uses are intended for the Urban Reserve area for most of Area 7B and all of the properties along Purdin Road. According to testimony received from the Farm Bureau, industrial activities are the most compatible urban use with agriculture (Washington County Record pages 11116-11124). Issues such as noise, time of operation, plowing and dust and spraying from agricultural activities would be less disturbing to industrial development than with other urban uses, particularly residential. In addition, it is the intent of the City to preserve this area for larger lot industrial. This provides opportunities for additional buffering through increased setbacks. It should also be noted that this additional buffering can be utilized for parking areas and landscaping.

Buffering would also be achieved through the presence of Purdin Road. The road currently is 20 feet in width (from fog line to fog line) with a total pavement width of about 22 feet. The road is located on a 60 foot wide right-of-way. However, this road would need to be at least a three lane road with wide shoulders and bike lanes. The wide shoulders would allow slower farm traffic to operate on the roadway. It would approach that of Cornelius-Schefflin Road in the vicinity of

Wren Road, which is three lanes with wide shoulders (but lacks a bike lane). That road is 38 feet in width (fog line to fog line) with a total pavement width of 52 feet (back of curb to back of curb) on a 98-foot wide right-of-way. In addition to the paved width, there is additional room beyond the curb to accommodate wide farm equipment. The curb is beveled rather than at 90 degrees to make it easier to “jump the curb”. This road design would provide an additional distance between the farm and urban activities. It should be noted that this road could be accommodated under the City’s arterial standard which is from 66 to 96 feet right-of-way width.

The following are photos of both roadways to provide comparison:



Purdin Road looking west from Council Creek



Cornelius-Schefflin Road

The Farm Bureau's second concern is the potential conflict of urban and agricultural traffic sharing the same road. Washington County has attempted to address this conflict by constructing roads with extra wide shoulders. This allows farm equipment to use the shoulders and allow faster traffic to safely pass. The portion of Cornelius-Schefflin Road noted above is an example of this approach. This additional width to allow "co-traffic" (urban and agricultural) can be accomplished relatively easily since most of the land holdings in Area 7B are large parcels intended for industrial and employment use.

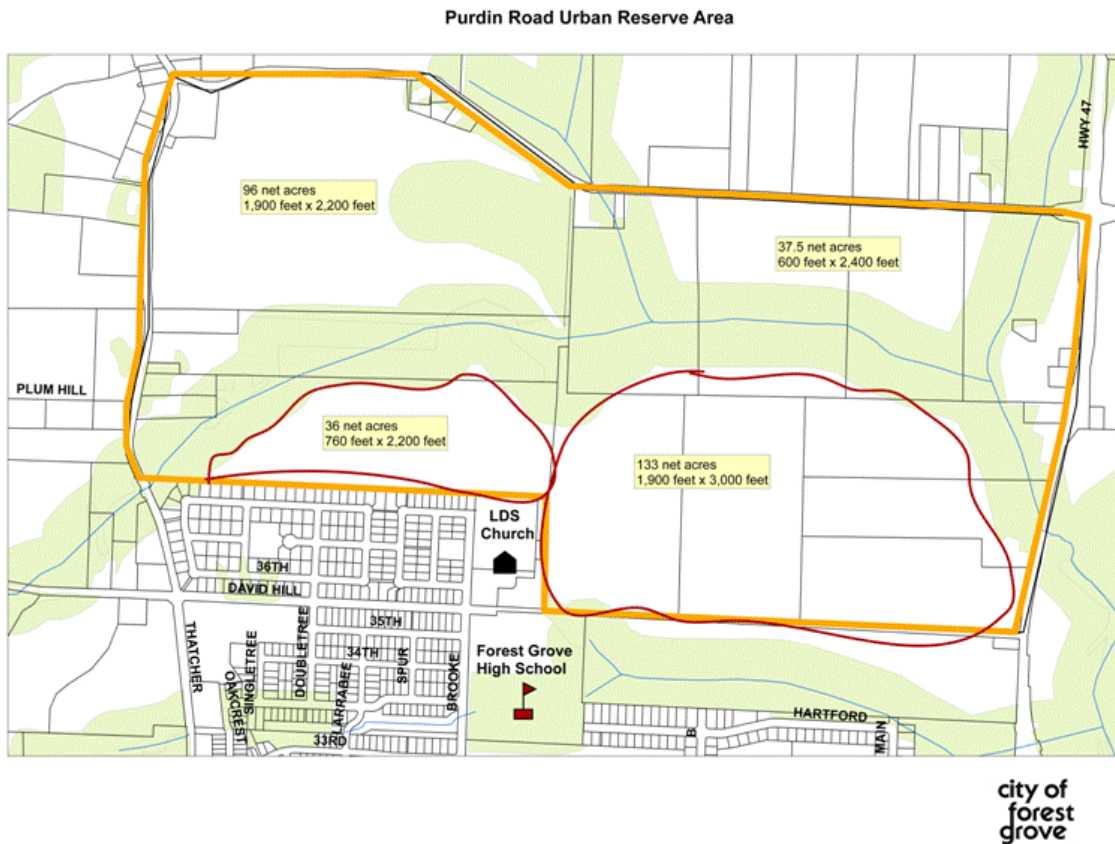
However, it is important to recognize that Purdin Road is already carrying urban levels of traffic. County trip data indicates average daily trip count in 2008 for the road was 2,249. The City also recently completed an update to its Transportation System Plan. Current afternoon peak hourly trips are 370 vehicles per hour (or about 6 cars per minute).

The road is the primary route residents living on the west side of the Forest Grove community use when they leave the community. Within the current UGB, there is sufficient vacant land west of Thatcher Road and north of Gales Creek Road to accommodate an additional 1,340 single family dwelling units. Based on the City's housing analysis, it is likely that this will develop within the next 20 years. Based on current trip generation rates, these additional units would add about an additional 13,400 average daily trips and an additional 1,340 peak hourly trips. Based on observations of current traffic, at a minimum a substantial portion of the peak hourly trips would use Purdin Road to commute to jobs east of the community or into Forest Grove (City staff estimates between 80 to 90 percent). This would result in a total peak hourly trip rate of 1,442 to 1,576 (or about 24 to 26 cars per minute). (Even if a conservative rate of 50

percent is used, the peak hourly trips would still total 1,040 or 17 vehicles per minute.) Thus, any conflict already exists and will worsen without any development outside the current UGB. The benefit of the Urban Reserve area is that it can accommodate additional jobs and possibly reduce commute trips through rural areas as well as allow for needed future road improvements.

Appropriate Boundary

LCDC remanded Urban Reserve area 7B to determine the appropriate location of a north boundary. The two locations considered were Purdin Road or a tributary of Council Creek which runs generally in an east-west direction through the area. The following map shows the Purdin Road area with the tributary bisecting the area. Based on City staff analysis, about 133 net acres are located north of the tributary and about 169 net acres are located south. Most importantly, to meet the need for large lot industrial, the one parcel that is over 50 acres in size (115 acres) lies north of the tributary and is available in the near term for industrial use. All the other parcels are between 21 to 39 acres in size (excluding the existing home sites) and properties would have to be aggregated to achieve the 50 acre size needed for large lot industrial.



From a land use standpoint, the City intends to plan for residential development on the 36 net acre area south of the tributary. This would avoid placing industrial uses adjacent to an existing residential neighborhood. In addition, conversations between City staff and property owners in



the entire area indicate that those owners with lands south of tributary prefer residential development if the land is to be developed. The following table estimates the jobs potential north and south of the tributary based on an employment rate for industrial uses provided in the City's Economic Opportunities Analysis.

North of the Tributary	2,248 jobs
South of the Tributary	
All Industrial	2,856 jobs
Only Eastern portion	2,248 jobs
No industrial	0 jobs

*Based on 16.9 employees per acre per the City's Economic Opportunities Analysis*

Thus, there is from a City standpoint a need to allow the entire area into the Urban Reserve to meet future industrial and large lot industrial demands. This is particularly important when taking in the long-term needs of the community as identified in the 2060 land area needs provided above under the discussion of Factor 2.

However, the criterion is directed at minimizing impacts on agricultural operations. Thus, the issue from the regional and state perspective is which makes the best buffer between agriculture and urban. The following is photo of the tributary in the area of discussion.

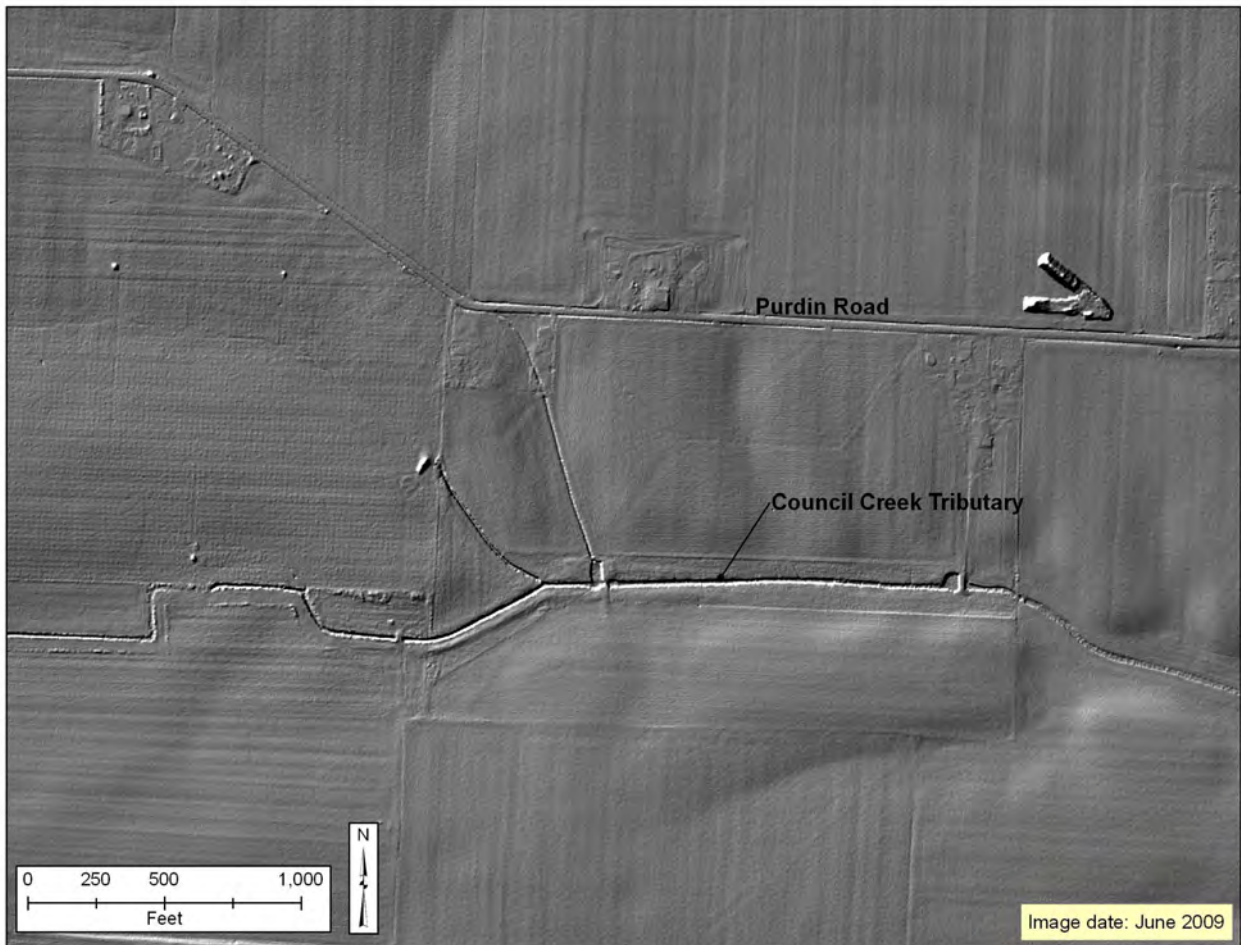


The following field measurements were taken:

Channel Width:	12 feet
Distance between outer edges of tall grass:	22 feet
Distance between plowed fields on each side of the channel:	26 feet

Disturbed soil is approximately seven feet from the edge of the channel which creates the opportunity for relatively high amounts of turbidity in the channel. By comparison, if this channel remains within the Urban Reserve, buffer areas would be required 50 feet from the channel edge with the requirement for replanting with appropriate vegetation to intercept suspended solids. Accordingly, there would be an environmental benefit to place the entire tributary corridor into urban reserve.

Further, this channel has been modified or is not a natural channel. The following is LiDAR imagery of the channel.



(Washington County Record page 11250)

As can be seen from the image, the tributary channel is fairly straight and takes a 90 degree turn in part of the channel course. These are indications of an unnatural stream course or at least one that is highly modified.

To date, there has not been any explanation why a stream course makes a better buffer than a roadway. From a distance standpoint, the stream would offer a narrower buffer width, even taking CWS standards into account. The buffer width would be 69 feet from plowed areas to the outside edge of a vegetative corridor on the urban reserve side of the tributary. This is based on the following:

Edge of plowing to channel edge	7 feet
Channel width	12 feet
Vegetative corridor width (on urban side of channel)	50 feet

By comparison, Purdin Road right-of-way would be 96 to 98 feet in width. This does not include any additional separation due to increased setbacks for development along Purdin Road which we would propose as part of the development requirements for this area. A reasonable distance would be 30 feet which is equal to the City's largest buffer requirements (which is between industrial and residential zoned properties).

The only explanation regarding the preference of the stream is that it avoids placing further traffic on a county road. However, as noted above, Purdin Road currently handles urban levels of traffic at least during peak hours that will substantially increase due to future development within the current UGB. By making Purdin Road the boundary, it will allow for improvements to the road to minimize existing and future conflicts between agricultural and urban traffic. This would be accomplished in two ways. Placing the road within the urban reserve area would allow for major improvement of the roadway itself without raising any issue related to road improvements outside Urban Growth Boundary. In addition, development along the south side of Purdin Road would help defray the costs of the roadway improvement. The City would receive Transportation Development Tax funds from the development to assist in construction. Leaving this road within the Rural Reserve or undesignated would require the County to make future improvements which may be difficult due to other pressing needs for limited County funds. Improvement of this road would likely be a low priority given demands in the more urbanized (and urbanizing) portions of Washington County.

Another consideration is that the Purdin Road boundary would allow the City to meet ODOT's request noted above. That is, ODOT is planning to construct a traffic circle at the Purdin Road/Highway 47 intersection and requested the City to extend Main Street north to connect with Purdin Road. The intent of this connection is to assure the circle would be functioning properly with similar traffic levels on all four legs of the intersection. Leaving the area east of Council Creek Undesignated provides the greatest degree of flexibility in dealing with any future road improvements, as the Reserves Rule prohibits transportation improvements that require an exception to Statewide Planning Goals.

One other issue associated with using a roadway as opposed to a creek would be the "single" loading of the street with urban development only on one side. The City currently is addressing

this situation with the extension of David Hill Road and has not posed a significant obstacle with either getting needed road improvements or farming the agricultural lands north of the roadway.

One other matter discussed by LCDC was the issue of urban reserve intrusion into agricultural areas. Currently, there is a disparity in the location of the UGB east and west of Thatcher Road. The UGB is about 0.75 miles further north on the west side of Thatcher Road. Establishing the urban reserve line to Purdin Road would extend the UGB essentially directly to the east of the existing UGB until reaching Council Creek. This straightening up of the UGB allows for more logical growth patterns and allows urban development on both sides of Thatcher Road. This means that the urban reserve would be bounded by the current UGB on two sides to the west and south. Overall, about 51 percent of the perimeter of 7A to Purdin Road would be adjacent to the existing UGB. If the tributary is used as the boundary, about 46 percent of the perimeter is adjacent to the UGB on only one side.

If the tributary is used, then concerns noted above about conflicts between agriculture and urban still remains. The only difference is that the issue is transferred from Purdin to Thatcher Road since there would be no potential change in the UGB if the tributary is the northern boundary.

### **Rural Reserve Factors**

**General Description:** The following is an analysis of Rural Reserve factors for the Purdin Road area. This area is bounded by Purdin Road to the north, Council Creek and Highway 47 to the east, the city of Forest Grove to the south and Thatcher Road to the west. Council Creek flows south through the east side of the reserve and a tributary of this creek bisects its center and runs east-west across the area. There is little variation in topography. The reserve is currently in agricultural and rural residential use. Highway 47 is classified as a principal arterial in the County's Transportation Plan. Thatcher and Purdin Roads are classified as collectors.

### **Agricultural Considerations Under Factor OAR 660-027-0060(2)**

**(2) Rural Reserve Factors: When identifying and selecting lands for designation as rural reserves intended to provide long-term protection to the agricultural industry or forest industry, or both, a county shall base its decision on consideration of whether the lands proposed for designation:**

- (a) Are situated in an area that is otherwise potentially subject to urbanization during the applicable period described in OAR 660-027-0040(2) or (3) as indicated by proximity to a UGB or proximity to properties with fair market values that significantly exceed agricultural values for farmland, or forestry values for forest land.**

Staff divided the subject to urbanization factor into three classifications: high, medium, and low. These three classifications were applied to the 41 sub-areas in the rural reserve study area. Areas considered highly subject to urbanization were the initial areas of interest by cities. Medium subject to urbanization areas began from the outer edge of the city interest areas and included areas where potential urbanization over the reserves 50-year timeframe was possible. Low

subject to urbanization areas were those areas in the study area beyond the medium subject areas, where urbanization potential was least likely. Fair market value was evaluated through a number of analytical iterations, yet staff found the application of "fair market value" independent of other indicators did not provide a conclusive indication of lands that may be subject to urbanization. (Washington County Record Page 2972).

The reserve area has a high subject to urbanization rating given its proximity to the city of Forest Grove and the inclusion of the area in the city's Pre-Qualified Concept Plan submitted as part of the record for A-Engrossed Ordinance No. 733.

**(b) Are capable of sustaining long-term agricultural operations for agricultural land, or are capable of sustaining long-term forestry operations for forest land.**

Land within the Purdin Road area is capable of sustaining long-term agricultural operations. The Oregon Department of Agriculture report Identification and Assessment of the Long-Term Commercial Viability of Metro Region Agricultural Lands (Washington County Record pages 9748-9818) describes the type of farming activity taking place in the Tualatin Valley. The report describes the area as being diversified with hay land, annual grasses, grass seed, nursery land and orchards. Many of these activities take place within the reserve area. The area has been designated as Foundation Farmland by the study. In addition, mapping by Washington County rates this area as high value farmland (Washington County Record page 3018).

There are a number of small residential lots within the concept area. Residences are mostly prevalent along Highway 47 and Thatcher Road. Conflict between residential and agricultural operations is a possibility depending on the type of agricultural operation within the reserve area.

**(c) Have suitable soils where needed to sustain long-term agricultural or forestry operations and, for agricultural land, have available water where needed to sustain long-term agricultural operations.**

The Purdin Road area has suitable soils needed to sustain long-term agricultural operations. Soils types within the reserve area include soil type 42 (Verboort silty clay loam) and 45A (Woodburn silt loam). These lands are predominately Class II capability and are designated as prime farmland.

Soil type 42 (Verboort silty clay loam) is described as being nearly level soil in narrow irregularly shaped, concave areas along drainage ways. Within the concept area this soil is found proximate to Council Creek and the east/west tributary. According to the Washington County Soil Survey, Verboort soils are suitable for grain, hay, irrigated pasture and wildlife habitat.

Soil type 45A (Woodburn silt loam) is described as nearly level soil with slight erosion and slow runoff characteristics. According to the Washington County Soil Survey, Woodburn soils are used for irrigated crops, pasture, recreation, home sites and wildlife habitat. The majority of the soil within the reserve area is Soil type 45A. (Washington County Record page 3016).

The Purdin Road area is also within the Tualatin Valley Irrigation District. Washington County has analyzed water service suitability for the reserve candidate areas. Map 11 included in the Washington County Urban and Rural Reserves Staff Report indicates that the Purdin Road area has water service suitability. (Washington County Record page 3006).

**(d) Are suitable to sustain long-term agricultural or forestry operations, taking into account:**

**(A) for farm land, the existence of a large block of agricultural or other resource land with a concentration or cluster of farm operations, or, for forest land, the existence of a large block of forested land with a concentration or cluster of managed woodlots.**

Taken together the urban reserve area features a large block of agricultural resource land with a concentration of farm operations. The largest parcel within the concept area is 115 acres. The smallest parcel, a small cemetery is 0.13 acres in area. The average parcel size in the Purdin Road area is 19.4 acres. The smallest parcels contain dwellings along Purdin Road although small residential parcels less than one acre in area are also found along Highway 47 and Thatcher Road.

**(B) The adjacent land use pattern, including its location in relation to adjacent non-farm uses or non-forest uses, and the existence of buffers between agricultural or forest operations and non-farm or non-forest uses.**

The adjacent land use pattern directly to the south of the area is residential and vacant residential land. The area directly to the west is developing residential. Few manmade or natural buffers exist between the existing residential development and the Purdin Road area.

Thatcher Road provides a buffer along the western boundary of the study area. A fence provides the only buffer between the area and the residential land to the south within the Forest Grove city limits.

**(C) The agricultural or forest land use pattern, including parcelization, tenure and ownership patterns.**

The urban reserve area is comprised of 18 individual ownerships and 28 parcels. The smallest parcels are located along Highway 47 and Thatcher Road. The parcelization pattern and ownership patterns in the concept area do not preclude agricultural operations. Most residences within the concept area are owner-occupied and the land is farmed by the property owners.

**(D) The sufficiency of agricultural or forestry infrastructure in the area, whichever is applicable.**

Agricultural infrastructure in the area includes the irrigation delivery system provided by the Tualatin Valley Irrigation District. A report prepared by the Oregon Department of Agriculture

in 2007 (Identification and Assessment of the Long-Term Commercial Viability of Metro Region Agricultural Lands) indicates the drainage infrastructure is well developed and being maintained and updated by area farmers. (Washington County Record pages 9748-9818).

### **Forestry Considerations Under Factor OAR 660-027-0060(2)**

The entirety of this reserve area is in agricultural use and is not mapped as forestland on the Oregon Department of Forestry Wildland Forest Inventory map (Washington County Record Page 2314).

### **Natural Landscape Features Under Factor OAR 660-027-0060(3)**

**(3) Rural Reserve Factors: When identifying and selecting lands for designation as rural reserves intended to protect important natural resource features, a county must consider those areas identified in Metro's February 2007 "Natural Landscape Features Inventory" and other pertinent information, and shall base its decision on consideration of whether the lands proposed for designation:**

- (a) Are situated in an area that is otherwise potentially subject to urbanization during the applicable period described in OAR 660-027-0040(2) or (3);**

For Rural Reserve factor (3), staff considered the entire study area as equally subject to urbanization to allow for all natural features to be considered equally.

- (b) Are subject to natural disasters or hazards, such as floodplains, steep slopes and areas subject to landslides;**

A tributary of Council Creek bisects the center of the Urban Reserve area. Council Creek flows south through the eastern third of the reserve area in the vicinity of Highway 47. The 100-year floodplain for Council Creek extends approximately 700 feet west up the tributary. The entire reserve area is generally flat and there is no potential for landslides.

- (c) Are important fish, plant or wildlife habitat;**

The area is not important for fish, plant or wildlife habitat given that the reserve is exclusively agricultural in nature. The Council Creek tributary that flows east through the reserve has been modified and lacks adequate year-round flow to support viable populations of fish. The limited amount of vegetation throughout the reserve is too isolated to provide for long-term habitat needs for birds and/or mammals.

- (d) Are necessary to protect water quality or water quantity, such as streams, wetlands and riparian areas;**

Sections of Council Creek, particularly east of the reserve area, are an important stream and riparian corridor for fish, amphibians, and wildlife. Maintaining water quality and quantity at the headwaters of the creek's tributaries is therefore important to the viability and vitality of wildlife

populations using this resource. Currently, agricultural practices do not provide adequate vegetative cover that would moderate tributary temperatures, with farming typically occurring up to the edges of the tributary..

**(e) Provide a sense of place for the region, such as buttes, bluffs, islands and extensive wetlands;**

Elevations over 350 feet were included as Tier 1 areas for rural reserves to address this factor. The area rises gently toward the west, with the highest elevation of approximately 260 feet adjacent to NW Thatcher Road. There are no distinctive physical features that might provide a sense of place in the proposed reserve, although the rural community of Verboort is slightly less than a mile from the northeast corner of the reserve.

**(f) Can serve as a boundary or buffer, such as rivers, cliffs and floodplains, to reduce conflicts between urban uses and rural uses, or conflicts between urban uses and natural resource uses;**

The floodplain of Council Creek forms the reserve's east boundary with Highway 47. This is the only defining natural boundary within or adjacent to the reserve area and will serve to separate existing rural and proposed urban uses. The tributary to Council Creek that bisects the reserve is an agricultural ditch for much of its length and is generally too narrow to form a defined boundary between existing rural use and future urban uses. Purdin Road forms the north boundary of the reserve area.

**(g) Provide for separation between cities;**

Large areas of Rural Reserve land and the Dairy Creek floodplain occurs between this Urban Reserve and city of Banks to the north.

**(h) Provide easy access to recreational opportunities in rural areas, such as rural trails and parks.**

There are no recreational activities within the reserve area. Designation of the area as an Urban Reserve is not expected to alter access to potential recreational opportunities, such as biking or walking, in rural areas north of Forest Grove.



*Supplemental Reserve Findings for Urban Reserve Area 8B  
(North of Highway 26)*

**Overview**

The following is an analysis of the application of urban reserve factors (OAR 660-027-0050) to Area 8B, located north of Highway 26 on the west side of Helvetia Road. During the joint public hearing between the Washington County Board of Commissioners and the Metro Council, the two bodies agreed to change 352 acres of Undesignated land to Urban Reserve. This undesignated land was adjacent to the west and northern boundaries of Urban Reserve 8B. Together with the 88 acres already designated Urban Reserve through the adoption of Ordinance No. 733 in June 2010, the modified Area 8B now contains approximately 440 acres. Findings and evidence in support of designated Urban Reserves for the North and South Hillsboro areas previously submitted are hereby incorporated by reference in to these findings and conclusions pertaining to “Area 8B” as identified in the attached Map Exhibit H.

In August 2009, the City of Hillsboro (“Hillsboro”) submitted as part of the record a preliminary concept plan and findings in support of proposed Urban Reserves in north Hillsboro of 7,890 gross acres and 4,261 net developable acres (Washington County Record pages 3115 & 3451). These reserves proposals were considered by the Washington County Reserves Coordinating Committee (WCRCC) and the Metro Council over the course of two years at documented WCRCC and Metro Council Reserves open houses and public hearings in Washington County and at the Metro Council Chambers documented in the Reserves Record. As a result of the Reserves review and deliberation processes, the Urban Reserves approved in 2010 for north Hillsboro in Areas 8A and 8B reduced this area to 2,754 gross and 1,744 net developable acres.

Area 8B contains 440 total acres and 340 buildable acres. The area is bounded by Highway 26 to the south, West Union Road to the north, Helvetia Road to the east and Groveland Road to the West. There are 233 acres of undesignated land that separates Area 8B from Rural Reserves to the west. This undesignated area contains riparian and upland State Goal 5 areas and resources to the west (Washington County Record page 11283).

**Urban Reserve Findings**

The following is a discussion of how the urban reserve factors (OAR 660-027-0050) apply to Area 8B.

**Urban Reserve Factors: When identifying and selecting lands for designation as urban reserves under this division, Metro shall base its decision on consideration of whether land proposed for designation as urban reserves, alone or in conjunction with land inside the UGB:**

- (1) Can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments;**

Hillsboro’s Pre-Qualifying Concept Plan (PQCP) for north Hillsboro outlines the City’s infrastructure service availability to Area 8B and the entire North Hillsboro Urban Reserves

areas. (Washington County Record pages 3117-3122). Highlights of the PQCP for Area 8B include:

- **Water:** The Hillsboro Water Department Master Plan (50-year planning horizon) includes shorter-term plans for a new reservoir to be constructed near the intersection of NW Evergreen and NW Glencoe Road to serve existing underserved area customers, in addition to serving areas north to Highway 26. This reservoir will be built regardless of whether Area 8B is designated as Urban Reserves for future urban growth boundary expansion, and only the size of the reservoir will be impacted based on potential future boundary expansion. (Washington County Record pages 3120 & 3306);
- **Sanitary sewer:** The city has an intergovernmental agreement with Clean Water Services regarding sanitary sewer services. (Washington County Record page 3118). Essentially, the city is responsible for all sewer wastewater collection facilities that are less than 24 inches in diameter. Larger trunk lines and treatment facilities are managed by Clean Water Services in accordance with the agency's master plan;
- **Storm Water:** City will consider applying methodologies in Metro's "Green Streets" manual, as well as other methods identified as part of the North Hillsboro Industrial Development Strategy, currently underway to provide for Area 8B storm water management and drainage (Washington County Record page 3121).
- **Electricity, Gas & Cable:** Electricity service in the existing surrounding industrial areas is designed to meet the unique needs of high-tech manufacturers and companies with power-sensitive operations, such as Intel's Ronler Acres campus (Washington County Record page 3119). Portland General Electric is in the process of locating two new substations in the Evergreen industrial area that will further enhance the reliability of power needed for existing and future industrial areas in North Hillsboro, including Area 8B.
- **Transportation:** The area's location adjacent to Highway 26 serves freight movement. Through the Oregon Jobs and Transportation Act, \$45,000,000 has been allocated toward the estimated \$70 million needed to improve the Brookwood Parkway interchange area to address existing capacity issues related to full development of North Hillsboro industrial lands within the existing UGB (see Washington County Record page 3112 referencing capacity expansions along Hwy 26; HB 2001 Sec. 64(2)(d)(2009)). Area 8B abuts this interchange.

Metro's studies of serviceability made the following conclusions regarding serviceability for Area 8B:

- **Water:** Highly suitable for water service, meaning it will only require typical extensions of service, including general distribution lines and reservoirs with no major facilities needed;

- **Sewer:** Area 8B was ranked as efficient – being an area that is the easiest and least costly to serve, requiring only upsizing of existing trunk lines or adding new trunk lines.
- **Transportation:** Metro studies show high connectivity suitability (the area is among the most suitable for providing a transportation system capable of accommodating new urban development) (Washington County Record pages 3120-3122 & 3308-3338).

Located at the northwest quadrant of the intersection of Helvetia Road and Highway 26 and adjacent to existing industrial areas, Area 8B is uniquely suitable for industrial development, as it is in the heart of “Silicon Forest”, and has the necessary infrastructure readily available (Washington County Record pages 3119-3122 & 3163). Hillsboro has a track record of successfully delivering infrastructure services to UGB expansion areas, and based on preliminary studies, it will be able to provide services to Area 8B.

**(2) Includes sufficient development capacity to support a healthy economy;**

A recent study by Johnson Reid indicated that, over the next 20 years, the West Washington County “Silicon Forest” will need approximately 1,200 acres for large lot industrial use north of Hillsboro (e.g., 50 acres or more) (Metro Record at 1641; Washington County Record pages 3208-3216; 11258-11260). This is consistent with Metro’s forecast need for 3,000 acres of industrial land region-wide over 50 years, as well as a study for West Washington County Cities indicating a 50-year need for 3,500 acres for industrial use in the West Washington County area to accommodate the long-term employment land needs of the five cities located there (Washington County Record pages 11262-11264). The need for large lot industrial uses is further supported by inquiries fielded by the city’s Economic Development Department between 2007 and 2009, which includes inquiries for 11 sites of 50 acres or more (Tables 1 & 2; Metro Record at 1860).

<b>PROJECT</b>	<b>LEAST ACRES</b>	<b>MOST ACRES</b>
<i>Sonnershien</i>	450	800
<i>Apricus</i>	250	300
<i>Tahoe</i>	80	150
<i>Parkway II</i>	75	200
<i>Hot</i>	75	75
<i>Parkway</i>	65	75
<i>Million</i>	65	75
<i>Sunbelt</i>	50	75
<i>Bright</i>	50	75
<i>August</i>	50	100
<i>Boss</i>	50	60
<i>Bee</i>	40	50
<i>Bright</i>	40	50
<i>Valencia</i>	40	50
<i>Monarch</i>	40	50
<i>DT/Apollo</i>	35	40
<i>MIT</i>	30	40
<i>Reddy</i>	26	40
<i>Harvester</i>	25	25
<i>GM</i>	20	25
<i>David II</i>	20	50
<i>Overview</i>	20	30
<i>SpectraWatt</i>	20	25
<i>Jade</i>	20	50
<i>Innovate</i>	15	25
<i>Ark</i>	15	20
<i>Cell</i>	10	25
<i>Cambridge</i>	10	20
<i>SAV</i>	10	20
<i>Champion</i>	10	15
<i>MS</i>	10	20
<i>Wick</i>	8	10
<i>Edison</i>	8	25
<i>Ferro</i>	5	10

**Table 2: Hillsboro Industrial Site Recruitments Over 3 Years**

	<b>Least Acres</b>	<b>Max. Acres</b>	<b>Percent</b>
<i>100+ Acres</i>	2	5	15% *
<i>50-99 Acres</i>	9	12	35% *
<i>25-49 Acres</i>	8	10	29%
<i>&lt; 25 Acres</i>	15	7	21%
<i>Total Sites</i>	34	34	100%

\*50% of total site inquiries for parcels over 50 acres in size

In 2010, Metro’s MPAC Employment Subcommittee acknowledged that “attracting and retaining traded-sector industrial companies is critical to the region’s economic prosperity” (Metro Record at 172-178). Likewise, in their comments into the record, the State agencies emphasized “the need for an adequate supply of employment lands in the Metro urban growth boundary” noting that the region “often ‘seeds’ traded-sector technologies and businesses that disperse throughout the state” (Washington County Record page 10640).

The Economic Productivity of Employment Land, Economic Mapping Pilot Project, prepared by the Oregon Business Development Department (June 2009; Washington County Record at 3429-3450), demonstrates the contribution of industrial uses in the North Hillsboro Area to the economy. Economic benefits of industrial lands, such as those currently located in North Hillsboro, include:

- Double the County average of market value/acre for industrial lands;
- Annual payroll yield of \$616,150 per net usable acre;
- Annual Property Tax Revenue of an average \$6,220/acre tax assessment land value as a result of State Measure 47/50 valuation constraints.
- Creation of high wage jobs in the existing

industry clusters (per State Employment data, the 2008, the average payroll per employee working in the three industry clusters was \$77,275.00) and each direct job in this traded sector generated 2.0-2.5 indirect jobs in the Regional/Statewide Economies (Washington County Record pages 3126 & 3429-3450).

Similarly, interviews with leaders for the three industry clusters in Washington County (high-tech, bio-tech/biopharma and photovoltaic solar panel manufacturing) and other economic experts identified the following seven key qualities crucial to attracting firms to the county's "Silicon Forest"):

*"According to interviewees, the question of "Why Hillsboro?" yielded a distinct mix of qualities highly desirable, if not integral, to a specific segment of the nation's high tech industry. The following qualities were frequently cited in a not replicable combination as distinct inputs required by targeted industry:*

1. **High-Capacity, Continuous Electrical Power at Competitive Rates**
2. **High-Capacity, High-Quality Water Supply**
3. **Highly-Skilled/Educated Workforce with Existing High-Tech Cluster Investment**
4. **Flat, Seismically Stable Land without Brownfield Costs & Risks**
5. **Proximate, Diverse Transportation Infrastructure (Freeway, Air, Rail)**
6. **Specialized, Existing Industrial Material Supply Infrastructure (Chemicals, Gases)**
7. **Unique Expertise and Experience of the City of Hillsboro**

All of the above factors are individually attracted to a wide swath of industry, including high-tech, but **the unique combination of all of the above distinguish Hillsboro from elsewhere in the State of Oregon and make the city uniquely competitive with other markets in North America** for high-tech industry that intrinsically depend heavily upon power, water, and highly-skilled labor." (Washington County Record 11258-11261, emphasis added).

A recent city review of large industrial lots currently available showed:

- West Washington County is presently uncompetitive for large lot industrial employers with only two State Certified large lots available for development and a maximum site assembly potential of 531 acres in the current UGB. The two development ready sites are:<sup>1</sup>
  - Approximately 128 gross acres (total of 110 net developable acres) along Brookwood Parkway just north of Genentech;<sup>2</sup> and
  - Approximately 73 (65.21 net developable) acres located at Brookwood Parkway and Huffman Roads (the "Nike" property)(Washington County Record page 11263).
- Competitive markets typically do not have constraints on the amount of land they can offer for development. Development-ready sites offered by competitors range from 1,125 to 2,000 acres and 11 to 25 sites of 50 acres or more.

---

<sup>1</sup> The Oregon prospector ([www.oregonprospector.com](http://www.oregonprospector.com)) also lists a 51 gross acre site north of Hwy 26. However, development of this site for high tech will require upgrades to the nearby West Union substation.

<sup>2</sup> This site is challenged due to a 150' wide BPA easement running east-west on the northern portion of the property. The result is 52 net acres to the south of the easement and 58 net acres to the north (Washington County Record page 11261). The area north of the BPA easement is further bifurcated by Waible Creek.

- To remain competitive, there is a need for 1,214 acres dedicated to industrial use in West Washington County for the next 20 years (Washington County Record pages 11258-11262).

CH2MHill has identified a total of ten (10) potential large industrial sites in and around the North Hillsboro Urban Reserves, including a site in Area 8B, that contain location, geographic, infrastructure serviceability and other physical and geo-political features that make them highly competitive/attractive for purely market reasons to new industrial companies seeking large sites (Washington County Record pages 11267-11282). Per CH2MHill, Area 8B ranks highest comparatively among the ten sites in terms of containing such site features.

The PQCP illustrates the potential for industrial development within Area 8B (Washington County Record pages 3125 & 3163). The addition of Area 8B to the Urban Reserves will provide for an additional 340 buildable acres of large, seismically stable, vacant sites for industrial uses located near

- A major highway interchange that is slated for improvements;
- Existing and planned infrastructure;
- Existing and planned housing, including the Tanasbourne/AmberGlen 2040 Regional Center;
- Skilled workforce; and
- Existing industrial clusters.

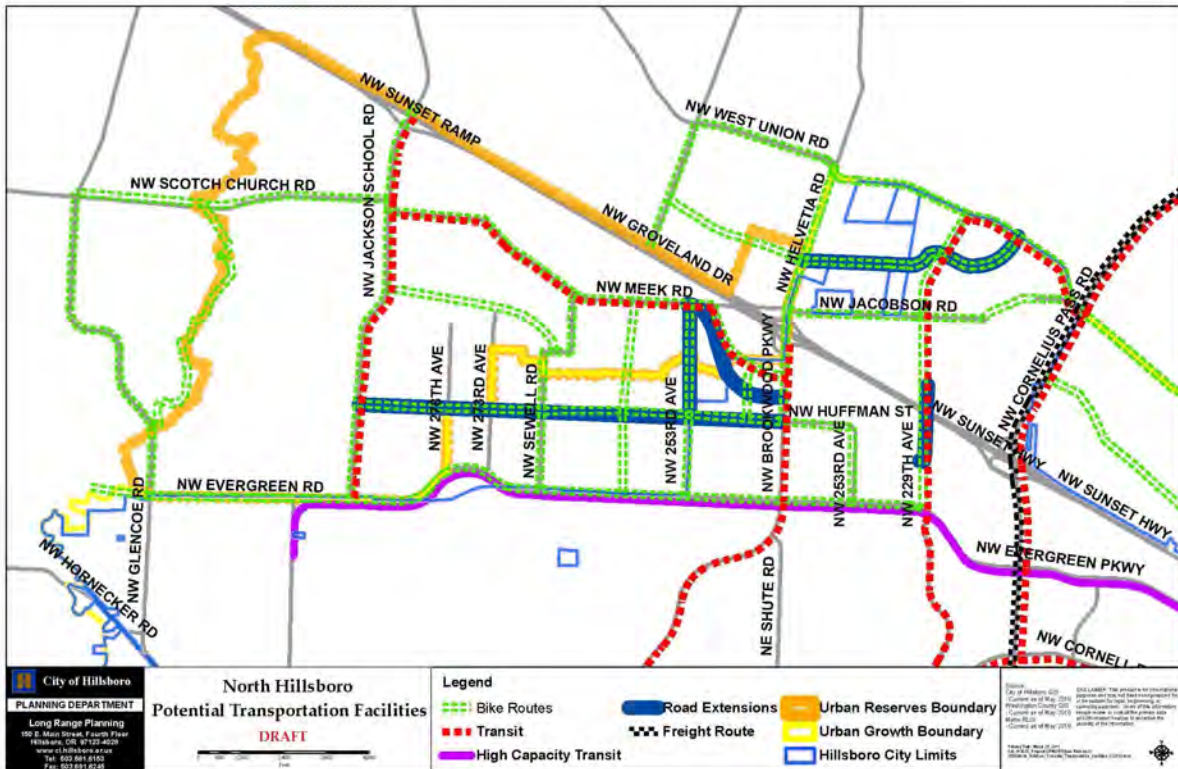
**(3) Can be efficiently and cost-effectively served with public school and other urban-level public facilities and services by appropriate and financially capable service providers;**

Area 8B would be targeted for industrial uses and, as such, schools and parks would be prohibited in the area by applicable provisions in the Metro Code and City Industrial Zoning rules. (The Hillsboro School District, as well as Hillsboro Parks and Recreation Department, participated in the PQCP Charrette hosted by the Planning Department to assist in the preparation of the PQCP.) As noted in the PQCP, the Hillsboro Comprehensive Plan requires that essential services be available within five (5) years of development approval (Washington County Record page 3129). The ability of the city to service the area with public services is addressed at Washington County Record pages 3129-3130.

**(4) Can be designed to be walkable and served with a well-connected system of streets, bikeways, recreation trails and public transit by appropriate service providers;**

Figure 1, below, is a refinement of the preliminary transportation systems set forth in the Hillsboro PQCP. Figure 1 generally illustrates how north Hillsboro proposed Urban Reserves, including Area 8B, could be served with multi-modal transportation (Washington County Record pages 3122 & 3132).

**Figure 1 – North Hillsboro Potential Transportation Facilities**



**Note – Concept planning will study opportunities to bring transit to Area 8B and further refine transportation to accommodate large-lot industrial use within Area 8B.**

Additionally, Area 8B is important to the Brookwood Parkway interchange improvements, as well as surrounding roads that support the interchange and neighborhoods.

**(5) Can be designed to preserve and enhance natural ecological systems;**

An outline identifying natural resources within Area 8B is provided in the PQCP (Washington County Record page 3133). It is Hillsboro’s intent to preserve and incorporate these areas as open space into future neighborhoods (Washington County Record pages 3133-3134). The City has adopted and enforces its Significant Natural Resource overlay zone to protect wildlife habitats, upland forest resources, riparian resources and corridors and other like-kind significant “Goal 5” natural resources located within area annexed to the City. Any development in these areas will be required to address preservation of wildlife habitat, natural vegetation, wetlands, water quality, open space and other natural resources important to the ecosystem (Washington County Record page 3136) Moreover, these extensive natural areas along the westerly edges of Area 8B will provide a strong, protected and enduring buffer between future industrial activities in the balance of Area 8B and the agricultural uses/activities north and west of, and beyond these natural areas.

The undesignated area to the immediate west of Area 8B will also serve to further this factor, as the undesignated area contains riparian and upland resources (Washington County Record pages

11283-11284). Not only will these resources remain untouched, they will serve as a buffer between potential urban uses to the east and rural reserves to the west.

**(6) Includes sufficient land suitable for a range of housing types;**

While a small portion of Area 8B was initially shown in the PQCP as including Employment/Mixed Use (Washington County Record page 3451), because of the reduction of the proposed Urban Reserves from the PQCP, this area would be targeted for large-lot industrial and employment uses if urbanized and annexed to the City. As addressed in Factor (8) below, targeting this area for industry, as opposed to housing development, will help alleviate potential conflict between urban and rural uses (see Washington County Record pages 11380-11381 - recognizing that industrial/business parks create less of a conflict between urban and rural uses; see also Washington County Record pages 11283-11265, p. 5-3, “Local or regional long-range planning should avoid, as far as is practicable, locating urban sensitive receptors, **primarily residential development**, in proximity to rural agricultural land. Where urban sensitive receptors must be located near rural agricultural land, buffering mechanisms should be used to minimize potential conflicts.” Emphasis added.)

The city will be able to provide an adequate mix of housing to support future industrial uses in Area 8B and the rest of the North Hillsboro Urban Reserves area as new housing developments come into the local housing market in the adopted Tanasbourne/AmberGlen Regional Center (high-density housing), downtown and South Hillsboro (mixed densities and housing types).

**(7) Can be developed in a way that preserves important natural landscape features included in urban reserves, and;**

Hillsboro’s Natural Resources Management Program includes a map that generally identifies the extent and location of significant wetlands, riparian corridors and wildlife habitat areas and their impact areas, as identified in the adopted “List of Significant Goal 5 Natural Resource Sites in the City of Hillsboro” and its supporting document the “City of Hillsboro Goal 5 Natural Resources Inventory and Assessment Report”, and the ESEE analyses, completed pursuant to the Goal 5 and Oregon Administrative Rules 660, Division 23 provisions. Natural resources in annexed areas are inventoried and those determined to be significant and their Impact Areas are added to the Significant Natural Resource Overlay? District as part of the rezoning process. These protection/preservation provisions would apply to the extensive natural resource areas along the west edges of Area 8B if and when it is urbanized.

Development projects located in or partially within the overlay area for the Natural Resources Management Program Ordinance map must address preservation of wildlife habitat, natural vegetation, wetlands, water quality, open space and other natural resources important to the ecosystem in the vicinity of the proposed development site. Also, in accordance with the Tualatin Basin Fish & Wildlife Habitat Program, land developers and property owners are encouraged to incorporate habitat friendly practices in their site design where technically feasible and appropriate.



The undesignated area to the immediate west of Area 8B will also serve to further this factor, as the undesignated area contains riparian and upland resources (Washington County Record pages 11283-11284). Not only will these resources be preserved, they will serve as a buffer between potential urban uses to the east and rural reserves to the west.

**(8) Can be designed to avoid or minimize adverse effects on farm and forest practices and on important natural landscape features on nearby resource land, including land designated as rural reserves.**

Although Oregon has long been a leader in creating an urban/rural divide through the use of urban growth boundaries, there is a surprising lack of research from the state on how to create transitions between these often conflicting uses. This subsection has been used throughout the urban/rural reserve process to promote the use of natural features to create such buffers.

In the past, there has been little consideration given to the urban/rural divide when expanding the UGB, often resulting in urban uses directly abutting farmland (Washington County Record pages 11283-11284). The designation of Urban Reserves affords the region the opportunity to look to other jurisdictions to learn how to enhance natural buffers, as well as plan for manmade transitional buffers (Washington County Record pages 11285-11454).

One such example is the Greater Bear Creek Valley Regional Plan (Washington County Record pages 11285-11367). The following relevant agricultural buffering standards have potential and suitable application to future urban use of Area 8B if it is designated Urban Reserves, added to the UGB and annexed to the City for industrial activities:

The central concept in buffering is adequate separation between conflicting uses. There are a number of strategies for achieving this separation through planning decisions and the use of planning controls:

- A well-designed vegetative buffering element will reduce the amount of land required for an effective buffer.
- Man-made or natural features should be incorporated in buffers whenever possible, such as infrastructure rights-of-way, roads, nonresidential structures, watercourses, wetlands, ridge lines, rock outcrops, forested areas, and steep slopes. (Washington County Record pages 11285-11367)

Area 8B can be adequately buffered through the following:

1. Natural features. To the immediate west of Area 8B are 233 acres of undesignated land. This undesignated area contains several Goal 5 features, including riparian corridors and upland features, such as flood plain, and a thickly forested wooded area (Washington County Record pages 11283-11284). These natural features will serve a buffer between the Urban Reserves of Area 8B and Rural Reserves to the west.

2. Industrial use. Industrial uses create less of a conflict with surrounding agricultural industrial uses (see Washington County Record pages 11348-11353). It is customary for industries, such as those currently located in Washington County, to use landscaping and berms to buffer operations from roads and surrounding uses (Washington County Record pages 11283-11284).
3. Man-made buffering. As suggested in the supplemental information regarding planning for urban/rural edges (Washington County Record pages 11285-11454), man-made buffering, including West Union Road and vegetative buffering can further reduce potential conflict between the urban and rural industrial uses. The planning process for Urban Reserves required by Title 11 of Metro's Urban Growth Management Functional Plan, can include provisions for road improvements and buffering on the urban side of development.

### **URBAN RESERVE DESIGNATION CONCLUSIONS**

Area 8B is uniquely suited to help accommodate the regional urban industrial needs for the next 50 years. Area 8B, as with Urban Reserve Area 8A, offers the characteristics sought by existing and emerging industry clusters in Washington County. The city has a proven track record of providing services and has demonstrated the ability to continue to do so in Area 8B and the surrounding Urban Reserves. In combination with on-going efforts inside the existing city, as well as in Urban Reserves in the north and south of the city, the city will be poised to provide an appropriate amount and mix of housing and jobs, complemented by multi-modal transportation. Both natural and man-made features will provide buffering between expected industrial and surroundings agricultural uses.

### **Rural Reserve Factors**

General Description: The following is an analysis of Rural Reserve factors for the new Urban Reserve area described in this section. The reserve is almost entirely in agricultural use with scattered rural dwellings. The Hillsboro school district owns property in the northeast corner of the reserve. There is little variation in topography across the area. The main stem of Waible Gulch flows south through the east half of the reserve and at least two headwater streams to Waible Gulch originate in the west half of the reserve. Highway 26 is classified as a principal arterial in the County's Transportation Plan. Helvetia and West Union Roads are designated arterials.

### **Agricultural Considerations Under Factor OAR 660-027-0060(2)**

- (2) **Rural Reserve Factors: When identifying and selecting lands for designation as rural reserves intended to provide long-term protection to the agricultural industry or forest industry, or both, a county shall base its decision on consideration of whether the lands proposed for designation:**
  - (a) **Are situated in an area that is otherwise potentially subject to urbanization during the applicable period described in OAR 660-027-0040(2) or (3) as**

**indicated by proximity to a UGB or proximity to properties with fair market values that significantly exceed agricultural values for farmland, or forestry values for forest land.**

Staff divided the subject to urbanization factor into three classifications: high, medium, and low. These three classifications were applied to the 41 sub-areas in the rural reserve study area. Areas considered highly subject to urbanization were the initial areas of interest by cities. Medium subject to urbanization areas began from the outer edge of the city interest areas and included areas where potential urbanization over the reserves 50-year timeframe was possible. Low subject to urbanization areas were those areas in the study area beyond the medium subject areas, where urbanization potential was least likely. Under this categorization and being adjacent to the existing Urban Growth Boundary, the subject area is rated as highly subject to urbanization.

Fair market value was evaluated through a number of analytical iterations, yet staff found the application of "fair market value" independent of other indicators did not provide a conclusive indication of lands that may be subject to urbanization. (Washington County Record Page 2972).

The reserve area has a high subject to urbanization rating given its proximity to the city of Hillsboro and the inclusion of the area in the city's Pre-Qualified Concept Plan submitted as part of the record for A-Engrossed Ordinance No. 733.

- (b) Are capable of sustaining long-term agricultural operations for agricultural land, or are capable of sustaining long-term forestry operations for forest land.**
- (c) Have suitable soils where needed to sustain long-term agricultural or forestry operations and, for agricultural land, have available water where needed to sustain long-term agricultural operations.**

Virtually all of the reserve is in existing agricultural use. Class I and Class II soils are found evenly throughout the 352 acres and the area is capable of sustaining long-term dry farming agricultural use. Soil types in the area are predominately Willamette 44A and Woodburn 45A & 45B soil types, which are suitable soil types for agricultural activity. Verboort, Huberly, and Amity soil types are also found in localized areas of the reserve. The area is outside the boundaries of the Tualatin Valley Irrigation District and Map 18 of the September 2009 Staff Report (Appendix 1) shows one property that holds a water right (Washington County Record Page 3015). Availability of water was an important consideration in staff's analysis of agricultural lands given assumptions of climate change impacts and potential reductions to in-stream flow over the reserves timeframe. The area has been designated as Foundation Farmland by the State Department of Agriculture. Mapping by Washington County rates this area as high value farmland (Washington County Record Page 3018).

There are no forestry operations in the reserve boundaries or adjacent to the reserve.

- (d) Are suitable to sustain long-term agricultural or forestry operations, taking into account:**

**(A) for farm land, the existence of a large block of agricultural or other resource land with a concentration or cluster of farm operations, or, for forest land, the existence of a large block of forested land with a concentration or cluster of managed woodlots.**

**(B) The adjacent land use pattern, including its location in relation to adjacent non-farm uses or non-forest uses, and the existence of buffers between agricultural or forest operations and non-farm or non-forest uses.**

The majority of this reserve area ranked as Tier 3 due to its inclusion within a subarea that included the Helvetia area, which has a relatively high dwelling density and slightly smaller parcels than other agricultural areas of the county. The reserve is suitable for farming as evidenced by the on-going agricultural activity that has occurred in the area over at least the last several decades. Agricultural productivity ratings developed by applying the Huddleston methodology were lower throughout this reserve than reserve areas in the Tualatin River floodplain and the Dairy Creek basin between Banks and Forest Grove given the relative limitations of available water.

The adjacent land use pattern is almost entirely in agricultural production. Rural residential dwellings are located immediately west of the Shute Road interchange with limited commercial development east of the interchange.

**(C) The agricultural or forest land use pattern, including parcelization, tenure and ownership patterns.**

Sixteen (16) taxlots are located within the reserve area, ranging in size from one acre to 59 acres. Ten of the 16 taxlots are owned by four owners, with one owner holding title to four lots. Almost all of the taxlots are in agricultural use. The Hillsboro School District owns an approximately 11-acre parcel in the northeast corner of the reserve at NW Helvetia and NW Union Roads and there is a one-acre residential parcel adjacent to NW Helvetia Road. There is one 30-acre hazelnut orchard on the west side of the area. Several farm dwellings are found in the reserve, principally on the edges adjacent to NW Helvetia Road and Highway 26.

**(D) The sufficiency of agricultural or forestry infrastructure in the area, whichever is applicable.**

Agricultural supply outlets for fertilizer, animal feed, agricultural chemicals, and farm equipment sale and maintenance are available in Hillsboro and surrounding cities. Staff concludes that the sufficiency of agricultural infrastructure necessary to sustain long-term farming operations is adequate given the long-term farming history of the area and the positive market considerations that are highly likely given the certainty and long-term stability for agricultural use of this Rural Reserve area.

Based on the information provided above, the area is determined to be suitable to sustain long-term agricultural operations.

### **Forestry Considerations Under Factor OAR 660-027-0060(2)**

Staff relied on the Oregon Department of Forestry's (ODF) Metro-area analysis of forestland that encompassed the reserves study area.<sup>3</sup> The ODF analysis included five forestry and agricultural categories as shown on Map 4 of the September 23, 2009 Staff Report (Washington County Record Page 2999). The ODF analysis indicated that all forestlands within the *Wildland Forest* designation should be protected in order to sustain long-term forestry operations in the area. Forestlands within this classification were ranked as Tier 1 in the county analysis.

There are no Wildland Forestlands in this Rural Reserve area and commercial forestry operations are not present. One taxlot in the reserve has most of its 20 acres in unmanaged timber.

### **Natural Landscape Features Under Factor OAR 660-027-0060(3)**

Staff combined Metro's Natural Landscape Features Inventory with the county's mapped Goal 5 areas, constrained slopes over 25 percent, and all areas over 350 feet (to address factor (e) below) as the basis for applying the factors below. Potential candidate Rural Reserves areas were divided into three tiers based on the above and from additional input from staff's knowledge of county natural areas. The components within each tier are described at length on pages 37 and 38 of the September 2009 staff report. (Washington County Record pages 2987-2988). There are no Tier 1 Natural Features areas within the reserve boundary. (Washington County Record page 3030).

**(3) Rural Reserve Factors: When identifying and selecting lands for designation as rural reserves intended to protect important natural resource features, a county must consider those areas identified in Metro's February 2007 "Natural Landscape Features Inventory" and other pertinent information, and shall base its decision on consideration of whether the lands proposed for designation:**

**(a) Are situated in an area that is otherwise potentially subject to urbanization during the applicable period described in OAR 660-027-0040(2) or (3);**

For Rural Reserve factor (3), staff considered the entire study area as equally subject to urbanization to allow for all natural features within the study area to be considered.

**(b) Are subject to natural disasters or hazards, such as floodplains, steep slopes and areas subject to landslides;**

The Waible Gulch floodplain occurs in the eastern half of the reserve. There is little relief between the floodplain and the surrounding area; hence the potential for landslides is not present. The only other tributary within the reserve is a drainage ditch that forms an upper tributary to Waible Gulch. The remainder of the area is relatively flat and is not subject to natural disasters.

---

<sup>3</sup> Criteria for Consideration of Forestlands Within Future Rural Reserves. *Oregon Department of Forestry. January 29, 2008*

**(c) Are important fish, plant or wildlife habitat;**

The area did not rate as high for fish, plant or wildlife habitat given that the reserve is almost exclusively agricultural in nature. Waible Gulch, located on the east side of the reserve, is an exception in that it provides some riparian vegetative cover and has a moderate stream flow for most of the year that may be suitable for localized populations of wildlife. Waible Gulch was not listed among those areas rated highest for protection on Metro's Natural Features Inventory Map. Staff ranked the Waible Gulch riparian area as a Tier 2 area (Washington County Record Page 3030). Areas of Oregon White Oak habitat occur in the uplands west of the Gulch. Hillsboro's Pre-Qualified Concept Plan included as part of the submitted findings for A-Engrossed Ordinance 733 a map the 100-year floodplain of Waible Gulch and mapped open space between the creek and Helvetia Road. (Washington County Record Page 3138). Findings for Urban Reserve Factor OAR 660-027-0050(7) above are also relevant to this factor.

**(d) Are necessary to protect water quality or water quantity, such as streams, wetlands and riparian areas;**

Waible Gulch is a tributary of McKay Creek, which is an important stream and riparian corridor for fish, amphibians, and wildlife. Maintaining water quality and quantity in the tributaries to McKay Creek is therefore important to the viability and vitality of wildlife populations using this resource. Current agricultural practices do not provide vegetative cover that would moderate temperatures in the reserve's tributaries, with farming typically occurring up to tributary edges. However, increased water temperatures are a corollary of an increase in impervious services typical of urban development. A rural reserve designation will allow for existing agricultural practices, including current rates of water usage, to continue.

**(e) Provide a sense of place for the region, such as buttes, bluffs, islands and extensive wetlands;**

Elevations over 350 feet were included as Tier 1 areas for Rural Reserves as one method staff used to address factor (3)(e) relative to a sense of place. The highest elevation within the reserve area is 220 feet. There are no distinctive physical features that might provide a sense of place for the region; however, agricultural activity in the reserve creates a bucolic setting adjacent to the heavily travelled Highway 26 corridor.

**(f) Can serve as a boundary or buffer, such as rivers, cliffs and floodplains, to reduce conflicts between urban uses and rural uses, or conflicts between urban uses and natural resource uses;**

There are no natural features that would provide a buffer between agricultural activities in the surrounding Rural Reserves and the expected urban development in Area 8B. West of NW Groveland Road, approximately 233 acres has been left undesignated that will function as a buffer between future urban and existing rural use. NW West Union Road can function as a buffer that separates urban and rural uses as it currently does further east. Comments specific to buffer and boundaries are made in the findings for Urban Reserve Factor OAR 660-027-0050(8) above and are similarly applicable to this factor.

**(g) Provide for separation between cities;**

The Undesignated area noted above and the Rural Reserve to the west of the reserve provides separation between the cities of Hillsboro and North Plains.

**(h) Provide easy access to recreational opportunities in rural areas, such as rural trails and parks.**

Recreational activities that occur in the Helvetia area, such as biking and running events, can be accessed from NW Helvetia Road. Designation of the area as Urban Reserve is not expected to alter this potential access to rural areas. A Rural Reserve designation may preclude future infrastructure improvements such as increased road width, sidewalks, and/or bike lanes that are not currently present and would add to capacity for recreational use.

**Undesignated Lands in Washington County**

As part of the LCDC oral remand on the initial review of proposed Urban and Rural Reserves, LCDC took the following actions:

- 1) Approved mapped Undesignated lands, not including any eventual designation of Areas 7I and 7B.
- 2) Approved Undesignated lands north of Highway 26 and west of Area 8B.
- 3) Rejected Urban Reserves for Area 7I with the implication that Area 7I must be changed to either Rural Reserve or Undesignated.
- 4) Invited Washington County and Metro to identify "any amount of Undesignated land that they want to designate."

Oregon Administrative Rule OAR 660-027 is the administrative rule for Urban and Rural Reserves in the Portland Metropolitan area. The rule establishes factors to be considered for the identification of Urban Reserves and Rural Reserves. The rule requires that counties adopt Rural Reserves if any Urban Reserves are to be designated. The amount of Urban Reserves acres is connected to a determination of the long-term need for potential urban land. There is no corresponding need requirement for Rural Reserves; only that *some* Rural Reserves must be designated if Urban Reserves are designated.

The Reserves Rule does not require that where the Rural Reserve factors are applied and a conclusion that a Rural Reserves designation may be considered a good fit with such factors, that such lands *must* be designated Rural Reserves. Therefore, the Rural Reserve factors, when considered, do not lead to a mandatory requirement to designate, nor is there any overall "need" requirement for Rural Reserves.

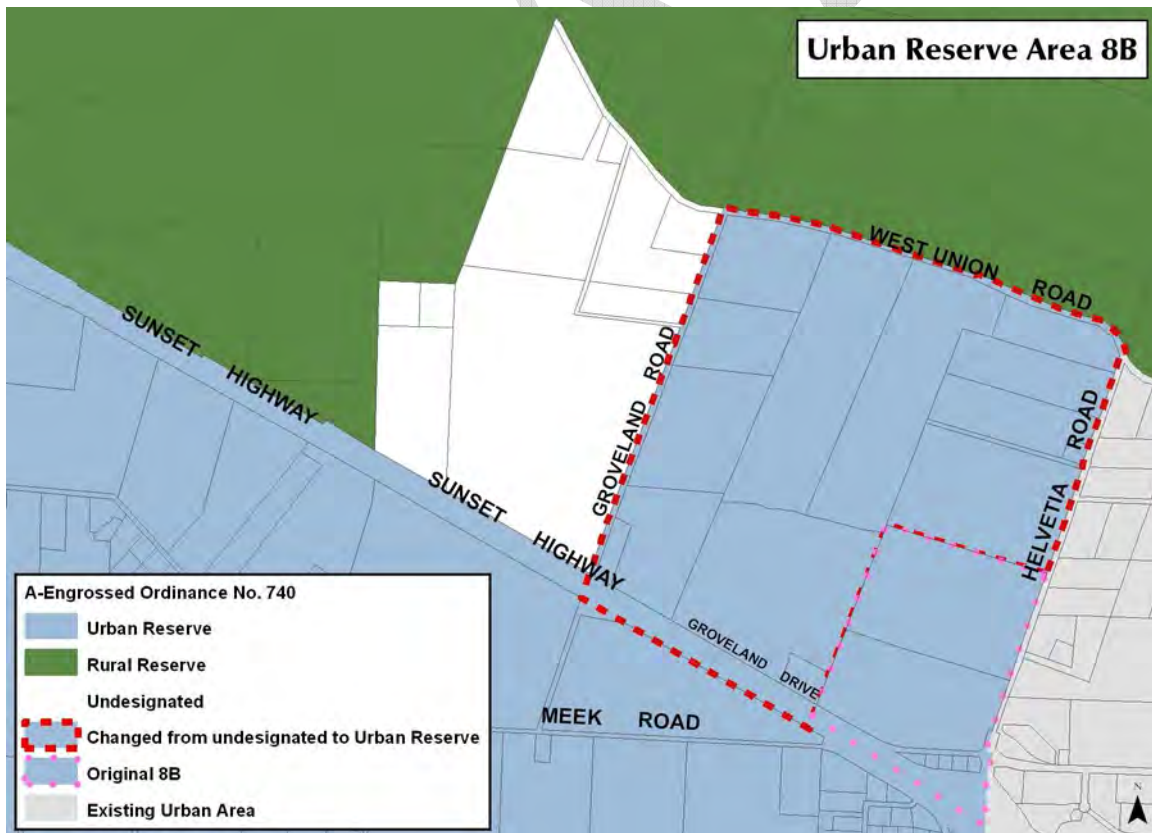
Consequently, Metro and Washington County may have lands which are not designated as either Urban Reserves or Rural Reserves. Such lands have come to be known as "Undesignated lands." The Rule contains no factors for the identification for Undesignated lands, and therefore there is no requirement under the Rule to explain or provide findings regarding "Undesignated lands." In fact, in his staff report to LCDC, Department of Land Conservation and Development Director Richard Whitman noted:

*"Nothing in statute or the Commission's rules requires the county to adopt findings concerning lands that it did not propose to designate as rural reserves. See, OAR 660-027-0060(2) ("\* \* \* a county shall base its decision on consideration of whether the lands proposed for designation"). [cite to page 103 of August 2010 DLCD staff report]*

Nonetheless, the very nature of LCDC's oral remand seems to require an explanation of how Metro and Washington County dealt with "Undesignated lands" issues. This explanation is provided in the following section.

### Undesignated Lands Explanation

#### 1) *Undesignated Land North of Highway 26*





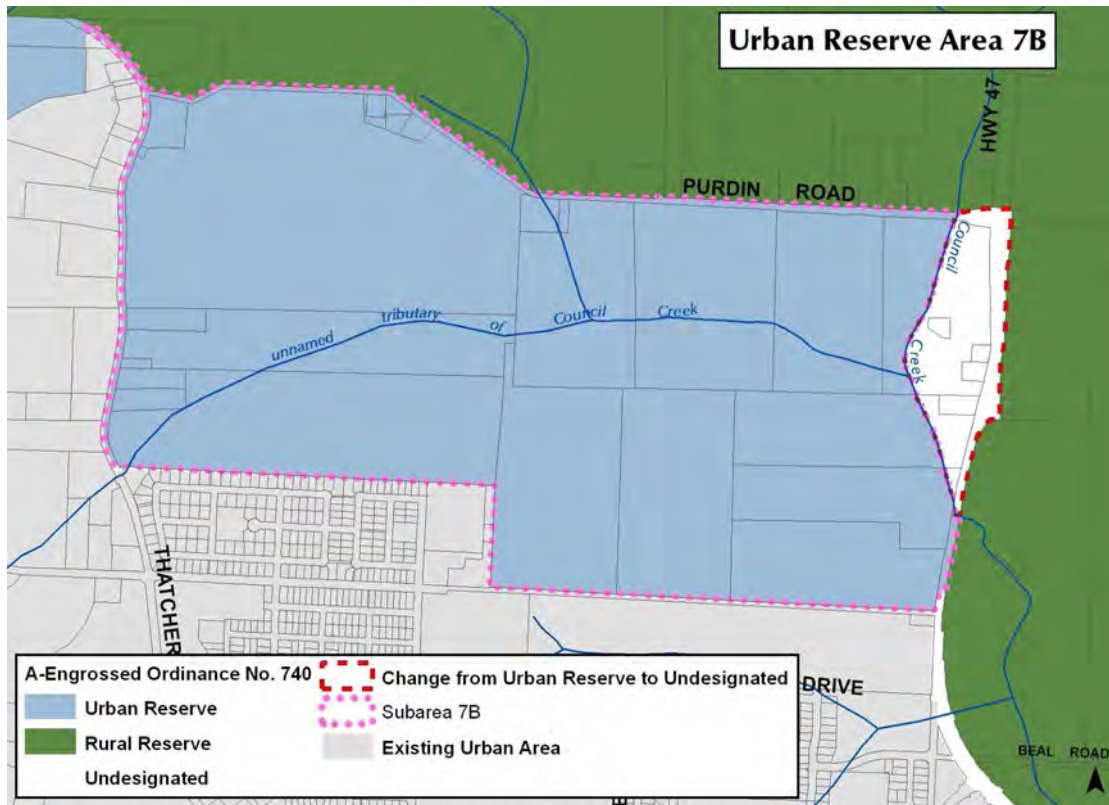
The initial LCDC approval in October 2010 included an undesignated area of 585 acres north of Highway 26, north and west of Urban Reserve Area 8B. Metro and Washington County eventually partially replaced Urban Reserve lands lost in Area 7I (Cornelius North) by converting approximately 352 acres of this area from Undesignated status to Urban Reserve (findings for this area's designation as an Urban Reserve can be found in the section titled "Urban and Rural Reserve Findings for Urban Reserve Area 8B (Highway 26 North)."

The remaining 233 acres within the former Undesignated area near Area 8B was left Undesignated. This adjustment responded to LCDC's invitation to replace Urban Reserve lands lost due to the rejection of Urban Reserve land north of the city of Cornelius (Area 7I) as well as retain or increase the number of acres of Undesignated lands within the county.

**2) *Urban Reserve Area 7B - Forest Grove North***

During its October 2010 hearing, LCDC asked for additional analysis and findings regarding Area 7B, which was initially proposed as Urban Reserves. There was considerable discussion centered on whether Purdin Road or the Council Creek flood plain provided a better demarcation between Urban Reserve lands and other rural lands, either Rural Reserve or Undesignated. In this area, LCDC asked for additional analysis regarding the location of Council Creek and the location of an un-named tributary of Council Creek. Analysis was intended to focus upon providing greater clarity regarding application of Urban Reserve factors and greater clarity regarding the location of Council Creek and its continued utility in being the demarcation point between Urban Reserves and Rural Reserves.

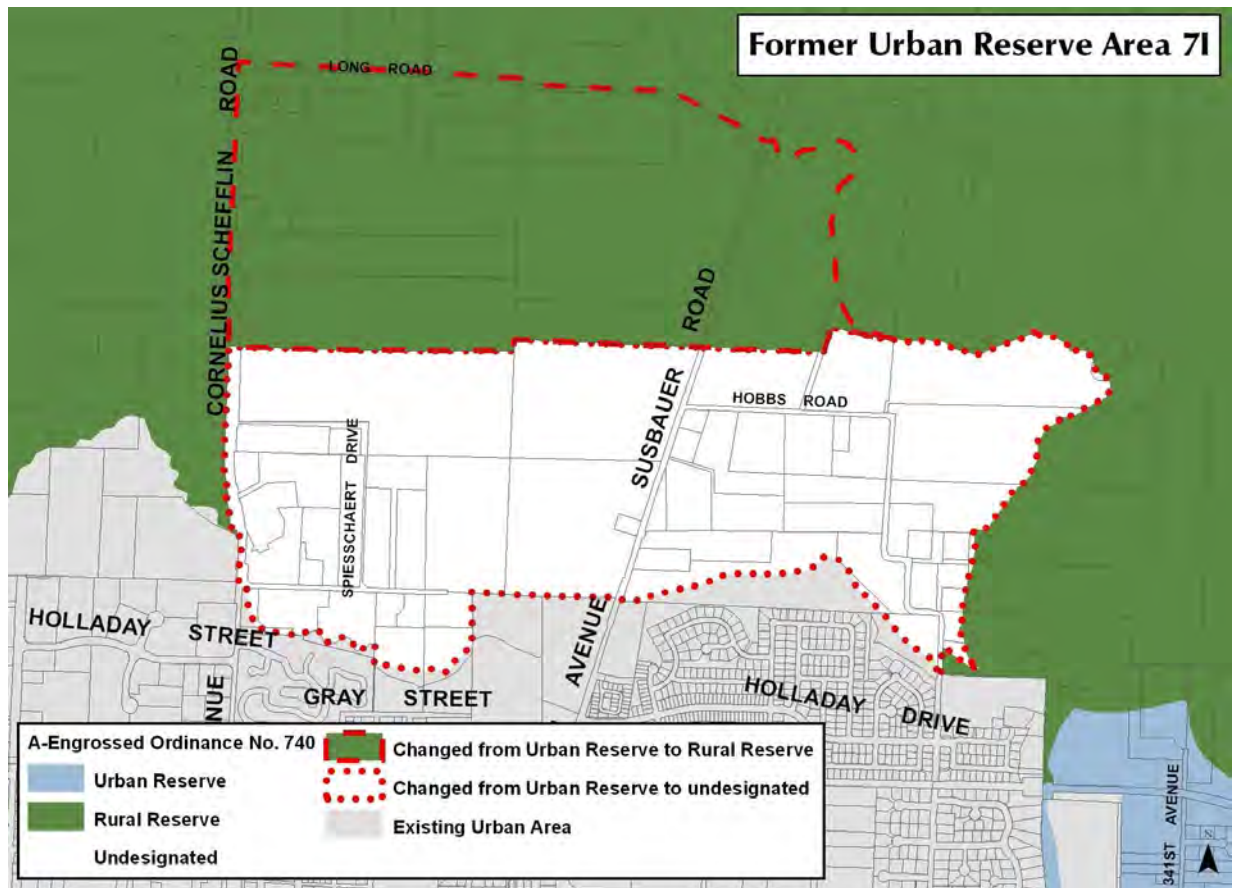
At various points during the hearing, LCDC provided very strong opinions about Council Creek being the best boundary between the existing city limits of Cornelius and farmland located north of town. Therefore, staff's first step in determining an appropriate boundary for Area 7B involved mapping Council Creek within the Reserve area. The mapping exercise showed that Council Creek runs roughly north-to-south across the northeast corner of Area 7B. An unnamed tributary of Council Creek runs west-to-east across Area 7B, dividing the Reserve into roughly two areas - north of the tributary and south of the tributary. A map of the area is provided on the following page.



Ultimately, Metro and Washington County determined that Council Creek was the superior demarcation point between Urban and Rural Reserves north of Forest Grove (see the section titled "Urban and Rural Reserve Findings for Urban Reserve Area 7B (Forest Grove North)" for more detail). This conclusion left an intervening portion of land east of Council Creek to the east edge of the Highway 47 right of way and north to the intersection with Purdin Road and the right of way of Purdin Road west to Council Creek. The area was left Undesignated to provide for the planned improvement of Highway 47 and its intersection with Purdin Road. The reason behind this decision is because the Urban and Rural Reserves Rule does not allow for plan amendments that require an exception to Statewide Planning Goals. Leaving this small area Undesignated provides the greatest flexibility in addressing the planned improvement. In this case, the Highway 47 and Purdin Road rights of way provide a superior demarcation point between Urban and Rural Reserves and offer the best opportunity for buffering between Reserve areas.

### 3) *Urban Reserve Area 7I - Cornelius North*

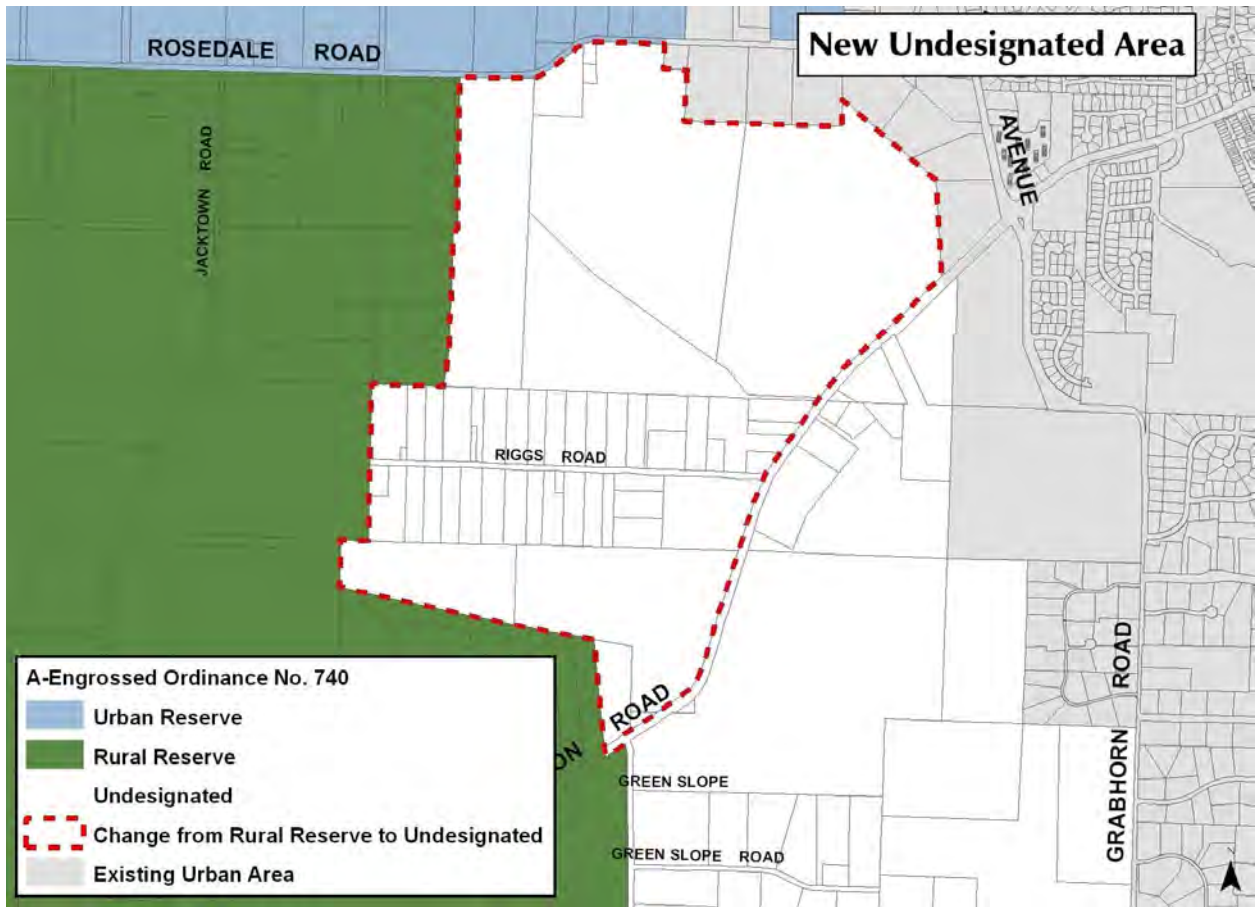
In its oral remand, LCDC rejected Area 7I as Urban Reserves. Area 7I was composed of 623 acres. The rejection of an Urban Reserve designation for this area left the theoretical possibility of designating some or all of Area 7I as Rural Reserve or leaving some or all of Area 7I as Undesignated. A map of Area 7I is provided below.



For the reasons stated above under the discussion of "Undesignated Lands" and because LCDC invited Metro and Washington County to provide more Undesignated lands, ultimately 363 acres directly north of the city of Cornelius were left Undesignated, with the northern remainder of former Urban Reserve Area 7I designated as Rural Reserve. The decision to leave 363 acres undesignated is ultimately best explained by the record of Metro and Washington County's joint public hearing on March 15, 2011. It was at that joint hearing that Metro and Washington County elected officials fulfilled the balancing objective of OAR 660-027-0005(2).

**4) Undesignated Lands South of Rosedale Road**

Metro and Washington County ultimately identified an additional 383 acres south of Rosedale Road as Undesignated lands. This area is bounded on the north by Urban Reserve Area 6A (Hillsboro South), on the east by existing urban land, and on the south by Farmington Road. Another Undesignated area is located across Farmington Road from the Rosedale Road Undesignated land area. This adjustment partially represents an opportunity to replace previous Undesignated lands north of Highway 26 which were redesignated Urban Reserves, while also accepting LCDC's invitation to explore the provision of additional Undesignated lands within Washington County. A map showing the Rosedale Road area is provided below.



DR

## **Findings and Statement of Reasons for Foundation Agriculture Land as Urban Reserves**

### Overview

OAR 660-027-0040(11) essentially requires Metro, and by implication Washington County, to explain why Foundation Agricultural lands were selected as Urban Reserves. Such an explanation must reference the Urban Reserve factors and the Rural Reserve factors and explain why Foundation Agricultural land was designated for Urban Reserves rather than other land otherwise available for consideration.

Washington County understands, at a minimum, the phrase "other land considered under this division" to mean land under study by the region and classified something other than Foundation Agricultural land in the ODA report entitled "Identification and Assessment of the Long-Term Agricultural Lands" (Washington County Record pages 9748-9818). The ODA report also classifies land as Important and Conflicted.

In a broader sense, Washington County understands the phrase "other land considered under this division" to mean that lands classified as forest land or as natural landscape features should also be evaluated under the Reserves factors. In the case of the David Hill area, the land qualified as Rural Reserve based on its forest capability. The Chehalem and Tualatin Mountains both qualified as Rural Reserves due to natural landscape features. The Tualatin River floodplain separating the Chehalem Mountains from the Cornelius and Forest Grove area was also largely designated as a Rural Reserve due to its natural landscape feature designation.

### ODA Classifications in Washington County

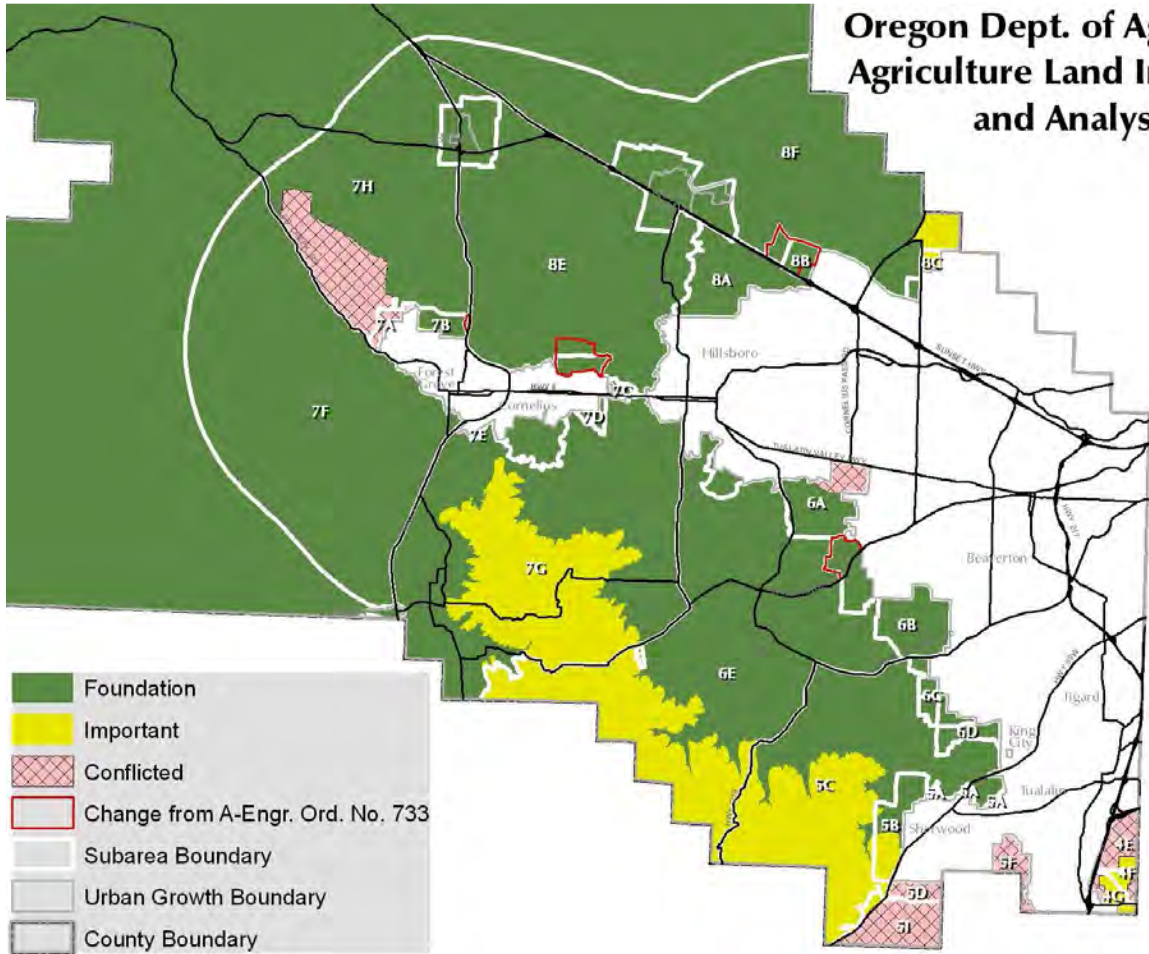
The ODA report classifies the vast majority of lands within the study area in Washington County as Foundation land. A much smaller portion of the study area is classified as Important and a very small portion of the study area in Washington County is classified as Conflicted. These areas are shown on the following page.

### Non-Foundation Lands in Washington County

As a general matter, ODA is of the opinion that Conflicted lands may be the most appropriate location for Urban Reserves. Conflicted lands are located in three general areas within the county: south of Hillsboro (the St. Mary's property), northwest of Forest Grove (the David Hill area), and south of the cities of Sherwood and Tualatin. Where possible, Urban Reserves were designated by Metro in these areas. However, these Conflicted lands typically featured topographic challenges which make urban service provision challenging, expensive and generally poorly suited to achieve urban residential capacity expectations or suitable for industrial/employment uses.

Another consideration regarding Conflicted lands dealt with the fact that, while the land may be "Conflicted" in terms of agricultural land, it nevertheless qualified for Rural Reserve designation under either forestry or natural landscape considerations. A brief description of Conflicted lands within Washington County is provided in the following section.

## Oregon Dept. of Agriculture Agriculture Land Inventory and Analysis



### Conflicted Lands

#### ***St. Mary's property***

The entirety of the St. Mary's property south of TV Highway, west of 209th and east of the Witch Hazel community was included in Urban Reserve Area 6A (Hillsboro South).

#### ***David Hill***

The large Conflicted lands northwest of Forest Grove are known as the David Hill area. The southern 340 acres of that Conflicted area were designated as Urban Reserve 7A (David Hill). The majority of the David Hill Conflicted area features steep slopes and presents difficulty for provision of urban services, however the 340 acres adjacent to the city of Forest Grove have fewer use limitations. The rest of the Conflicted lands have topographic, urban service and use constraints. The larger David Hill area qualified as a Rural Reserve based on its large block of Wildland Forest land (Washington County Record pages 2999 and 9201-9203).

#### ***Lands near Sherwood and Tualatin***

Some, but not all, Conflicted lands in the vicinity of Sherwood and Tualatin were designated Urban Reserve, but the remainder of remaining "Conflicted" lands were ill-suited for Urban Reserve designation for topographic, service provision and use constraints.

### Important Lands

The ODA report mapped Important agricultural lands in three areas within Washington County's study area. The largest area of Important lands is the Chehalem Mountain range. The second area is in north Washington County, generally north of the urban community of North Bethany, east of 185th Avenue and Cornelius Pass Road, and south and west of the county line. The third area of Important lands lies east of Interstate 5, southeast of the city of Tualatin.

### ***Chehalem Mountains***

The mapped Important agricultural lands of the Chehalem Mountains are separated from the urban area by the large Tualatin River floodplain. The Important agricultural lands of the Chehalem Mountains are contiguous to the western boundary of Sherwood. Metro and Washington County have included Urban Reserves in this area.

Elsewhere in the Important lands of the Chehalem Mountains, extension of necessary urban services would be very expensive and would create an illogical island of non-contiguous, expensive-to-serve land for many of the cities within the county. The northern boundary of Important lands is located near Forest Grove and Cornelius. The city of Forest Grove indicated that serving this land would be difficult due to the floodplain constraints (Washington County Record page 11106). Additionally, the challenging topographic nature of the Chehalem Mountains provides significant limitations in achieving necessary residential densities and would not be conducive to industrial/employment use.

Furthermore, the vast majority of the Chehalem Mountains are identified as an important natural landscape feature that defines the region for its residents (Washington County Record page 3000). Due to natural landscape feature considerations, the majority of Chehalem Mountain lands qualified for and were selected as Rural Reserves.

### ***Tualatin Mountains***

Another small area in the northern portion of the county was classified as Important agricultural lands. This area is located north of the North Bethany community. Generally, the lands north of Germantown Road become very steep and are associated with the Tualatin Mountains. The Tualatin Mountains are classified as an important landscape feature. Providing urban services to the steeply sloped lands north of Germantown Road would be very challenging and the topography of the area limits residential densities and is inappropriate for industrial/employment uses. This area was ultimately designated Rural Reserves because of its important natural landscape features and associated factors.

A portion of the Important land area located south of Germantown Road was designated Urban Reserves because it was not limited by topographic features and was in an area where roadway and sewer services to service existing UGB properties had previously been planned.

### ***Lands near Tualatin***

Important lands classified by ODA that area located southeast of Tualatin were included as Urban Reserves 4E, 4F and 4G.

### Conclusion

Twenty percent of the land within Washington County's study area is classified as Conflicted or Important agricultural lands. Just under 80% of the study area was classified as Foundation land by ODA. Where possible, Metro and the county utilized Conflicted and Important lands for Urban Reserves. Findings earlier in this report for Urban Reserves and Rural Reserves, including findings regarding overall regional balancing, explain the choices made when designating Foundation lands for Urban Reserves. Additional findings for Urban Reserves not discussed in this supplemental findings document were prepared for A-Engrossed Ordinance No. 733 (Washington County Record pages 9616-9695).

DRAFT



## Matrix of Reserves Subareas and Associated Acreage

The figures below replace the total acreage and buildable lands acreages provided in the legislative findings prepared for A-Engrossed Ordinance No. 733, adopted in June 2010. All other text in the individual subarea findings is unchanged by the adoption of these findings to support A-Engrossed Ordinance No. 740.

Subarea	Total Acres	Buildable Lands	
		Buildable	Unbuildable
4E - I5 East*	841	486	355
4F - I5 East*	270	210	60
4G - I5 East*	454	223	231
5A - Sherwood North	123	60	63
5B - Sherwood West	1,291	866	425
5C - East Chehalem Mountains	15,152		
5D - Sherwood South	439	204	235
5F - Tonquin*	565	143	422
5I - Parrett Mountain*	1,922		
6A - Hillsboro South	2,007	1,442	565
6B - Cooper Mountain Southwest	1,776	892	884
6C - Roy Rogers West	562	340	222
6D - Beef Bend South	521	253	268
6E - Central Chehalem Mountains	24,998		
7A - David Hill	340	134	206
7B - Forest Grove North	480	356	124
7C - Cornelius East	137	118	19
7D - Cornelius South	211	173	38
7E - Forest Grove South	38	36	2
7F - Hagg lake	25,652		
7G - West Chehalem Mountains	26,898		
7H - West Fork Dairy Creek	15,696		
8A - Hillsboro North	2,725	2,265	460
8B - Shute Road Interchange	440	340	100
8C - Bethany West	305	141	164
8E - Dairy Creek	19,445		
8F - Highway 26 North*	21,446		
<b>Urban Reserve Total</b>	<b>13,525</b>	<b>8,682</b>	<b>4,843</b>
<b>Rural Reserve Total</b>	<b>151,209</b>	<b>0</b>	<b>0</b>
<b>TOTAL</b>	<b>164,734</b>	<b>8,682</b>	<b>4,843</b>

\* Washington County portion of multi-county subarea



April 21, 2011

To: Washington County Board of Commissioners

From: Brent Curtis, Planning Manager *BC*  
Department of Land Use & Transportation

Subject: **PROPOSED A-ENGROSSED ORDINANCE NO. 740 AMENDING THE  
COMPREHENSIVE PLAN TO MODIFY THE RURAL AND URBAN  
RESERVES MAP**

**STAFF REPORT**

**For the April 26, 2011 Board of Commissioners Hearing**  
*(The public hearing will begin no sooner than 6:30 PM)*

**I. STAFF RECOMMENDATION**

Conduct the second public hearing on A-Engrossed Ordinance No. 740 and take public testimony. At the conclusion of the hearing, adopt A-Engrossed Ordinance No. 740 and associated findings.

**II. OVERVIEW**

Proposed A-Engrossed Ordinance No. 740 follows action by the Board to enter into a Supplemental Intergovernmental Agreement (IGA) with Metro concerning amendments to the Rural and Urban Reserves map adopted on June 15, 2010 through A-Engrossed Ordinance No. 733. On March 29, 2011, the Board ordered engrossment of Ordinance No. 740 to incorporate the changes reflected on the Supplemental Reserves IGA map adopted by the Board and Metro Council on March 15, 2011.

On April 19, the Board held the first of two required hearings on A-Engrossed Ordinance No. 740. Upon conclusion of public testimony, the Board voted to continue the hearing to April 26, 2011. Provided in the packet for the Board's April 26, 2011 hearing is a separate action item recommending adoption by resolution and order of the final version of the findings for A-Engrossed Ordinance No. 740. The adopted findings will be submitted to Metro, who will submit a consolidated set of findings to the Land Conservation and Development Commission (LCDC) in the manner of periodic review by May 13, 2011.

*S:\PLNG\WPSHARE\2011Ord\Ord740\_Reserves\Staff\_Reports\BCC\BCC\_04-26-11\AEngOrd740\_BCC\_SR4\_26.doc*



INDIVIDUAL SIGN-IN FORM

IF YOU WISH TO ADDRESS THE BOARD  
AND WERE UNABLE TO SIGN IN PRIOR TO THE MEETING,  
PLEASE CLEARLY PRINT YOUR NAME, ADDRESS AND  
TOPIC YOU WISH TO DISCUSS ON THIS SHEET.

PLEASE GIVE THIS FORM TO THE CLERK OF THE BOARD,  
LOCATED AT THE DESK TO THE LEFT OF THE DAIS.

THANK YOU.

PLEASE PRINT CLEARLY.

DATE: April 26, 2011

FIRST NAME	LAST NAME
JOSEPH	RAYHAWK

ADDRESS:

STREET	CITY	ZIP
5248 NW SEAMANTOWN ROAD	PORTLAND	97231

STATE YOUR TOPIC:

COMPLIMENT BALENT
FOR EARLIER TESTIMONY

INDIVIDUAL SIGN-IN FORM

IF YOU WISH TO ADDRESS THE BOARD  
AND WERE UNABLE TO SIGN IN PRIOR TO THE MEETING,  
PLEASE CLEARLY PRINT YOUR NAME, ADDRESS AND  
TOPIC YOU WISH TO DISCUSS ON THIS SHEET.

PLEASE GIVE THIS FORM TO THE CLERK OF THE BOARD,  
LOCATED AT THE DESK TO THE LEFT OF THE DAIS.

THANK YOU.

PLEASE PRINT CLEARLY.

DATE: 4/26/2011

FIRST NAME	LAST NAME
LINDA	PETERS

ADDRESS:

STREET	CITY	ZIP
25440 NW Dairy Cr. Rd.	N. Plains OR	97133

STATE YOUR TOPIC:

Ord. 740

INDIVIDUAL SIGN-IN FORM

IF YOU WISH TO ADDRESS THE BOARD  
AND WERE UNABLE TO SIGN IN PRIOR TO THE MEETING,  
PLEASE CLEARLY PRINT YOUR NAME, ADDRESS AND  
TOPIC YOU WISH TO DISCUSS ON THIS SHEET.

PLEASE GIVE THIS FORM TO THE CLERK OF THE BOARD,  
LOCATED AT THE DESK TO THE LEFT OF THE DAIS.

THANK YOU.

PLEASE PRINT CLEARLY.

DATE: 4/26/11

FIRST NAME	LAST NAME
Tom	Black

ADDRESS:

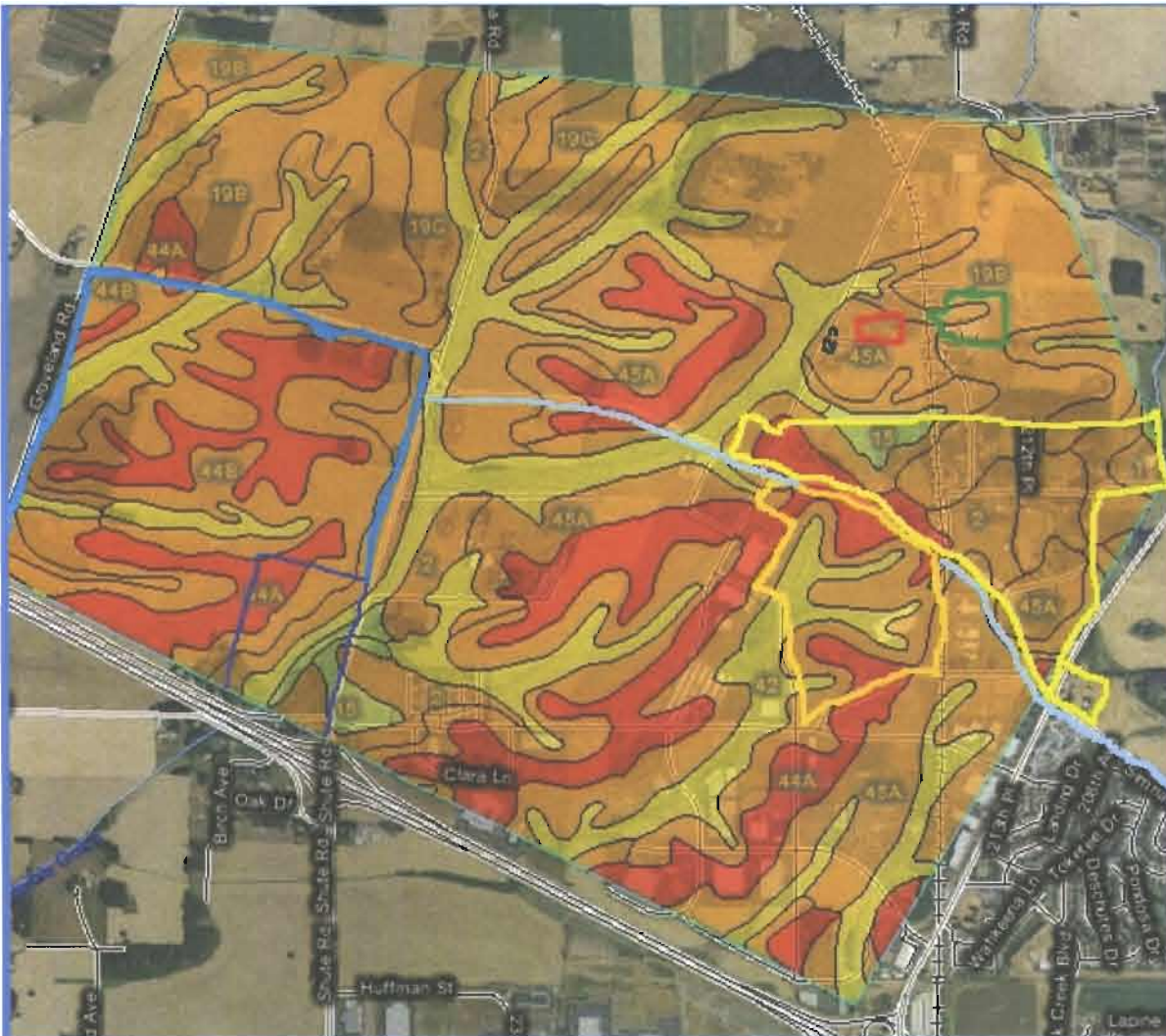
STREET	CITY	ZIP
870 NW Garibaldi St.	Hillsboro, OR	97124

STATE YOUR TOPIC:

Item 6a. Ordinance No. 740



Submitted by  
Steve Bobosky



**Class 1** soils have few limitations that restrict their use.

**Class 2** soils have moderate limitations .

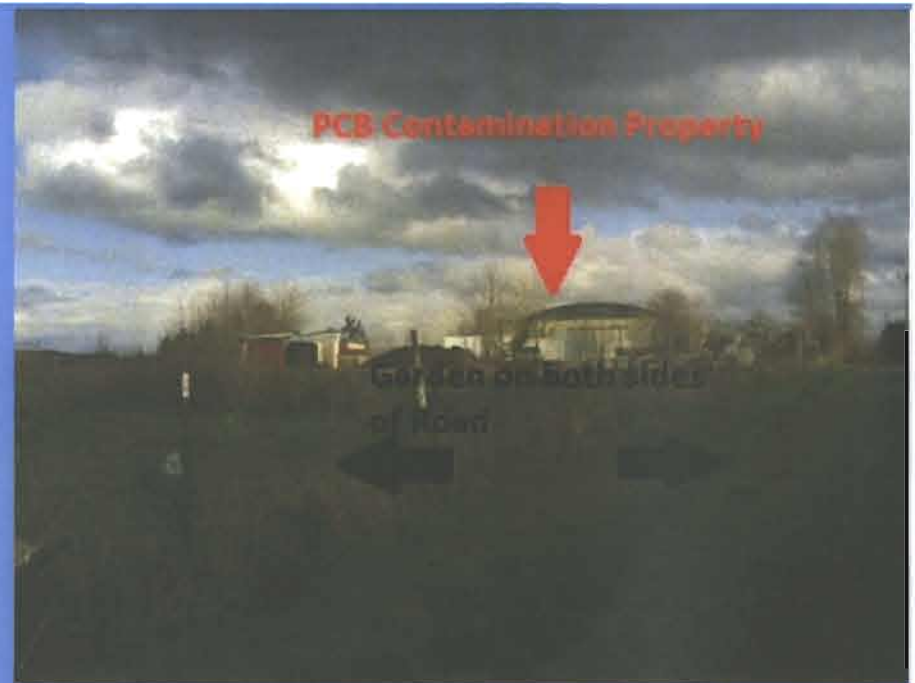
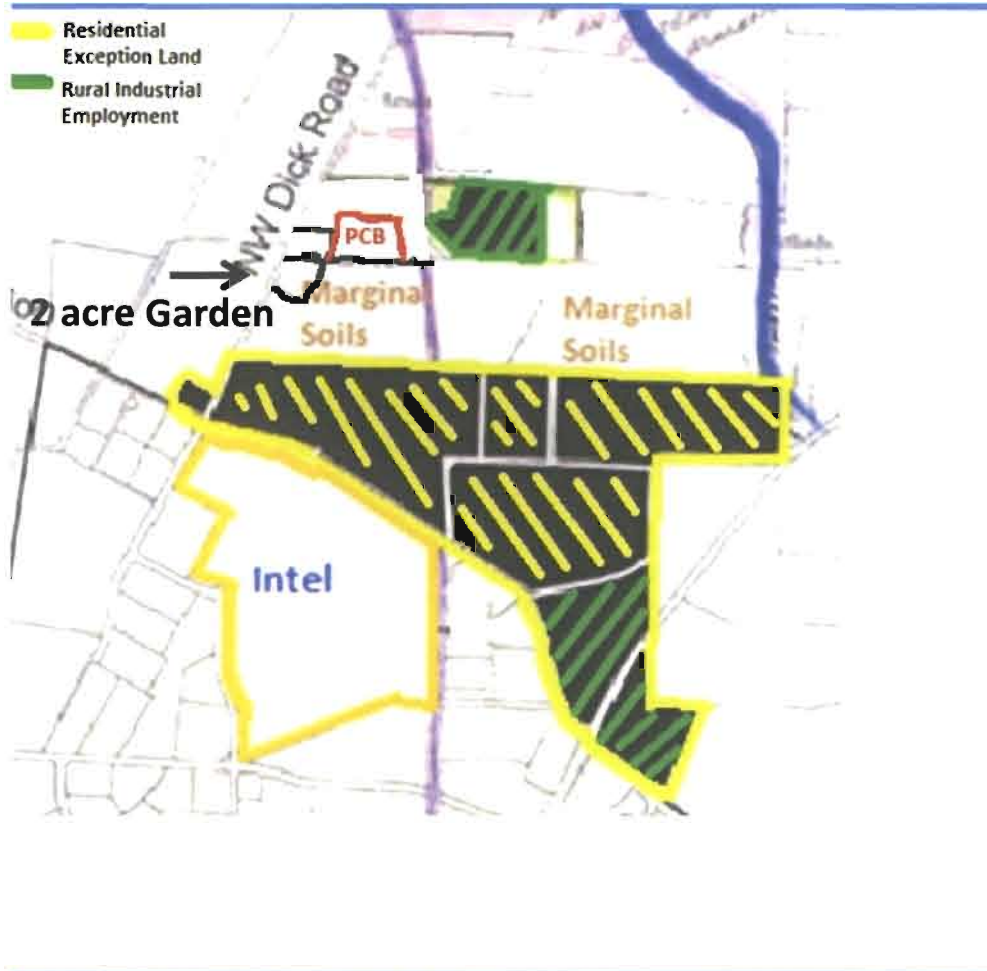
**Class 3** soils have severe limitations .

**Class 4** soils have very severe limitations .

Helvetia UR consists of type 1 **Willamette Silt loam (0-3% slope)** and type 2 **(3-7% slope)**.

Bendemeer RR exception 130 acres and the Area North of Bendemeer is inferior to the Helvetia soil and consists of **Amity Silt loam, Woodburn silt loam (0-3% slope), Helvetia Silt loam (3-7% Slope)** and Clay.





The LCDC did not remand Cornelius farmland, only so it could be replaced with even better farmland. They identified **Bendemeer as a possible replacement candidate.**

LCDC chairman **VanLandingham** said “To allow Washington County the option to think about whether it wants to add more urban reserve given our tentative remand to take out 71, we would have to not approve Rural Reserves designations in Washington County, **unless we designate the ones now.** We could do it right now, we could say “**OK Bobosky, you’re in**”.

## For the sake of comparison...



- Comprised of the best soil classification in the region
- Large Parcels that are actively in use for Agricultural Purposes and have been for some time
- Surrounded by even more Agricultural uses
- Not immediately adjacent to the UGB
- Nor adjacent to property owned by a major regional employer
- Served by a 2-lane road 'Helvetia'
- North of what could be a major buffer 'highway 26'
- No great natural buffers after it... where does the growth into Helvetia stop?
- Existing farmers are opposed to Urban Reserve Designation

## For the sake of comparison... Bendemeer is



- Highly parcelized exception land with over 60 homes in 130 acres, plus industrial zoning
- Not currently being farmed, nor will it ever be
- Immediately adjacent to the UGB
- Immediately adjacent to property owned by 'Intel' and other regional employers
- Surrounded by Industrial to the South, Rural Industrial and type 2/3 soils to the North.
- Served by a 5-lane road 'Cornelius Pass'
- Farmers are neutral or favor UR, with the exception of the 2 acre garden.
- Creek and Dick Road can be boundaries for any future growth

Thank you Chairman Duyck and County Commissioners for considering our proposal. My name is Dick Reynolds, Planning Manager for the City of Cornelius and a taxpaying, rural land owner in Washington County, here again in hopes that you will support the 'Farmland Compromise'. As you know this LCDC Remand does give you the opportunity to make changes from Ordinance # 733 that you adopted in 2010. The Oral Remand addressed Area 7I that was approximately 624 acres in size – the Farmland Compromise (Slide of Compromise) is a different proposal for LCDC to review.

As we have stated before the new, reduced Urban Reserve Area 7I\*:

- Is not a protrusion into farm land; and
- It does abut the wide Dairy Creek Floodplain; and
- The soils are not the 'best of the best' in Washington County, please note when compared to the soils in Area 8B, north of Hwy. 26 – Class 1 soils are in red (Slide of Soils N. Hwy 26) – to the soils of Area 7I\*, north of Cornelius (Slide of Soils N. Cornelius).

Last week at the Metro Hearing on Urban & Rural Reserves the Metro Council received testimony on Ordinance No. 11-1255, thankfully this was the first time since last September that anyone has had the opportunity to see a 'written report' demonstrating compliance with urban and rural reserve factors. We were glad to see that on page 84 of the Metro Staff Report written reasons showing how Urban Reserve Area 7I – Cornelius North met the Urban Reserve Factors. The Metro Staff Report never addresses a change to the Cornelius Urban Reserve designation the report only supports the Urban Reserve designation. Instead they have included the Washington County Staff Report for Ordinance # 740, as an exhibit to address the LCDC Remand. There are three points I would like to make about Ordinance # 740 Staff Report and it's attempt to address the Remand concerning Area 7I – Cornelius North:

1. Page 35 of the Staff Report under the subtitle *Supplemental findings for new Rural Reserve land near Cornelius – (Northern portion of former Area 7I)*, the findings to support Rural Reserves in this section are weak (Slide Aerial of Spieschaert Rd.), in fact they state,

*"The new area is suitable for urban development given the generally flat topography and proximity to urban services from Cornelius"* it goes on further to state in the same section *"the County's analysis of this area rated*

*it as Tier 2 candidate (rural) reserve area. Tier 2 was due to dwelling density found throughout the entire subarea". (Slides on Hobbs Road).*

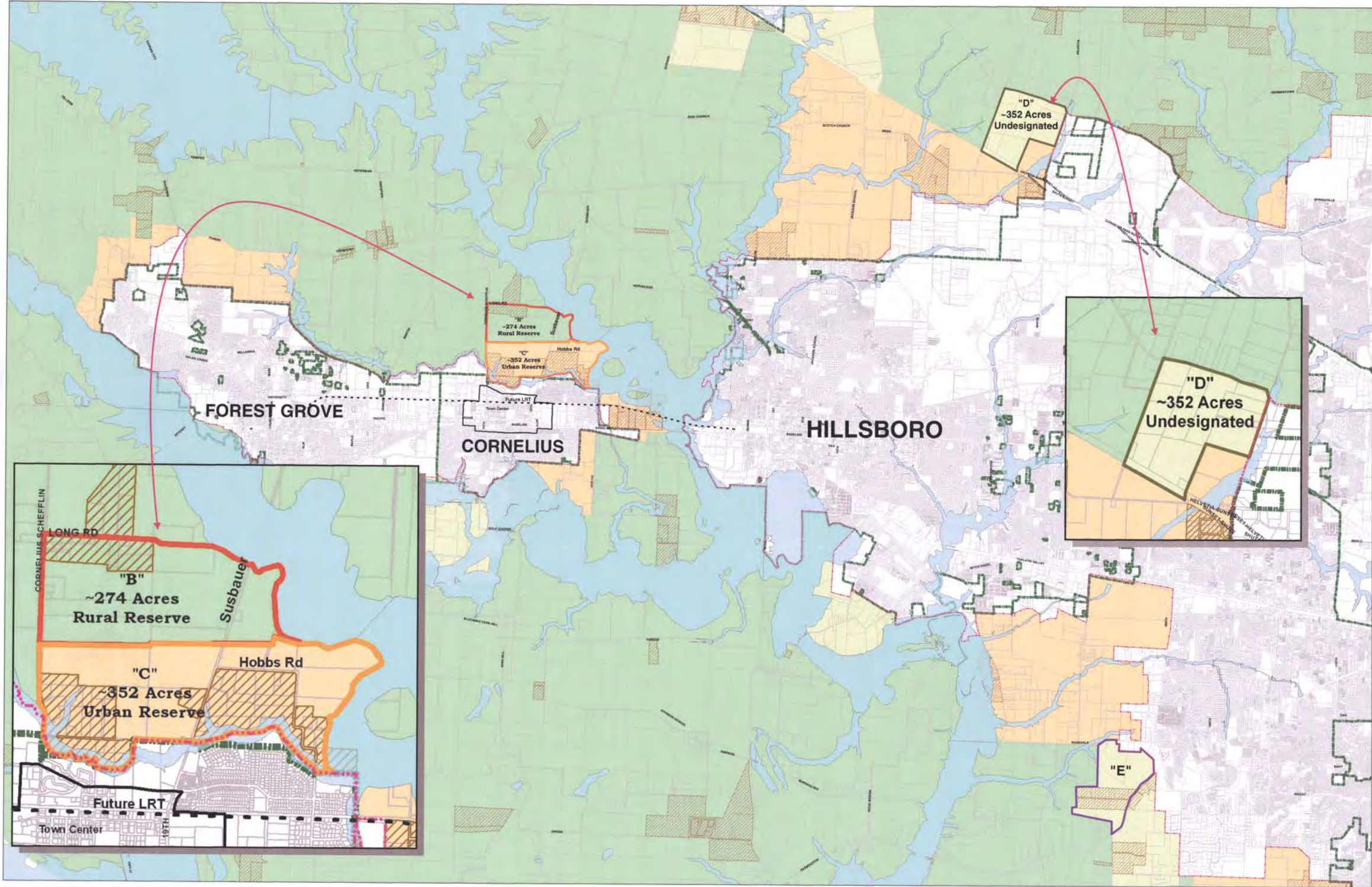
2. The second point about Ordinance # 740, I'd like to make ties into the first one, but it is in reference to Measure 37 and 49 claims that are not mentioned in any of the analysis. These are County land use approvals that increase residential density on rural lands. This is a Slide of M37 claims in and around Area 7I\*, the lands in red have approved Measure 37 claims, therefore they can partition new lots for residential development. Some of these have already been developed, (Slides Hobbs Houses) here are two recent Measure 37 dwelling units on Hobbs Road. More of this style of residential development will occur in Area 7I\*.
3. The third point, in regard to the LCDC Remand, on page 19 the County Staff Report states that Staff has listened to the audio recordings of the LCDC proceedings on October 29, 2010 and they offer a quote from Chair Van Landingham about the deliberations, in which he says: "*So, I **think the motion is** that we remand to Washington County and Metro to reject 7I...*

That is all that is in the Staff Report to address the LCDC Oral Remand on the land north of Cornelius (Area 7I), there is no further analysis, findings, reasons or interpretation of the LCDC audio recording of the October 29, 2010 hearing. As many of us suspect, LCDC and their staff are struggling to articulate any findings and conclusions that comply with the State factors to support the Remand. That's why it was sent back to the County and Metro – they want you to make the findings for a final decision.

4. Finally as I stated earlier the Remand is an opportunity, the Farmland Compromise with approximately 350 acres north of Cornelius is still supported in the Metro Staff Report for Ordinance No. 11-1255 and there are no findings, reasons or conclusions in the County Staff Report to demonstrate that Area 7I\* does not meet the Urban Reserves factors. Please consider (Slide of Area 8B – Helvetia) the Farmland Compromise to remove 352 acres of Urban Reserve north of Hwy. 26 and (Slide of Area 7I\*) move it back north of Cornelius where it is needed.

Thank you.

# Draft Community - Farmland Compromise



**Simple Trade**

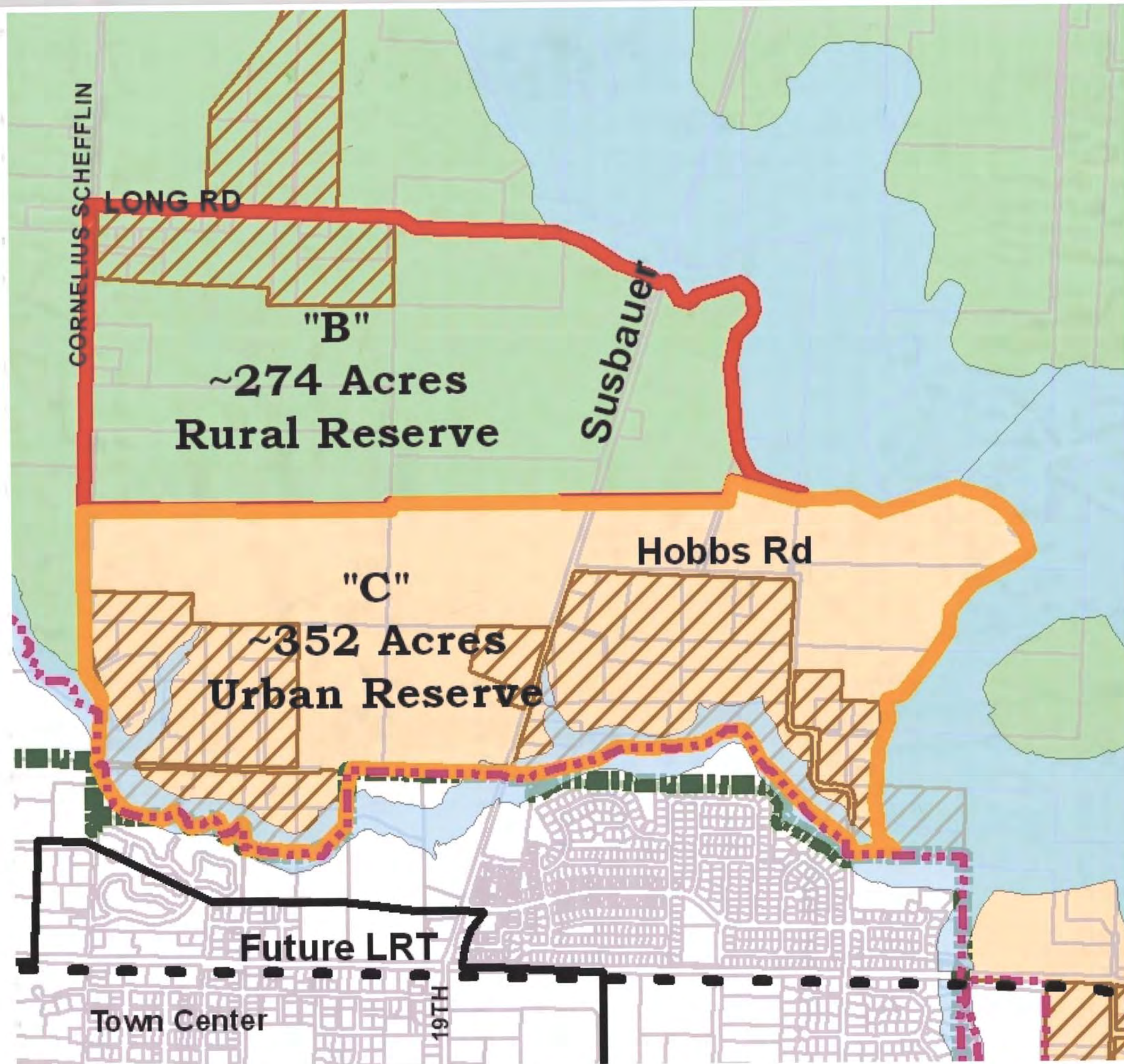
\* 352 Acres of Urban Reserve  
North of Sunset HWY. (Not wanted by Save Helvetia)

For

\* 352 Acres North of Cornelius (Wanted by Cornelius)

Legend			
	Area "B" to Rural		Undesignated
	Area "C" to Urban		Exception Land
	Area "D" to Undesignated		UGB
	Area "E" to Undesignated		Town Center
	Rural Reserve areas		Floodplain
	Urban Reserve areas		Future LRT

4/12

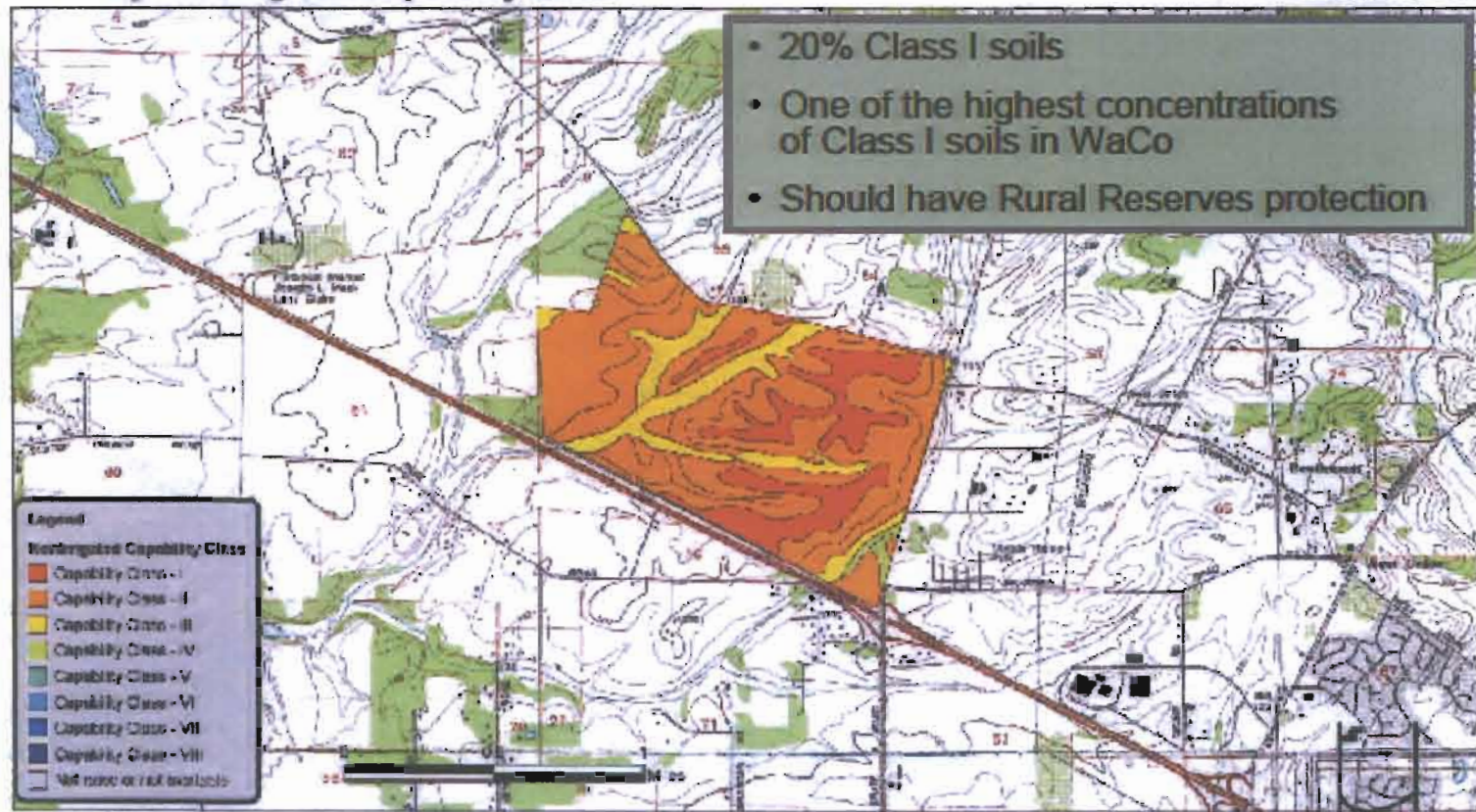




# Proposed Urban Reserves – Area D

Helvetia N of 26 proposed Urban Reserve  
Soils by nonirrigated capability class

Assisted By: Nathan P. Adelmann  
USDA-NRCS  
08 March 2011

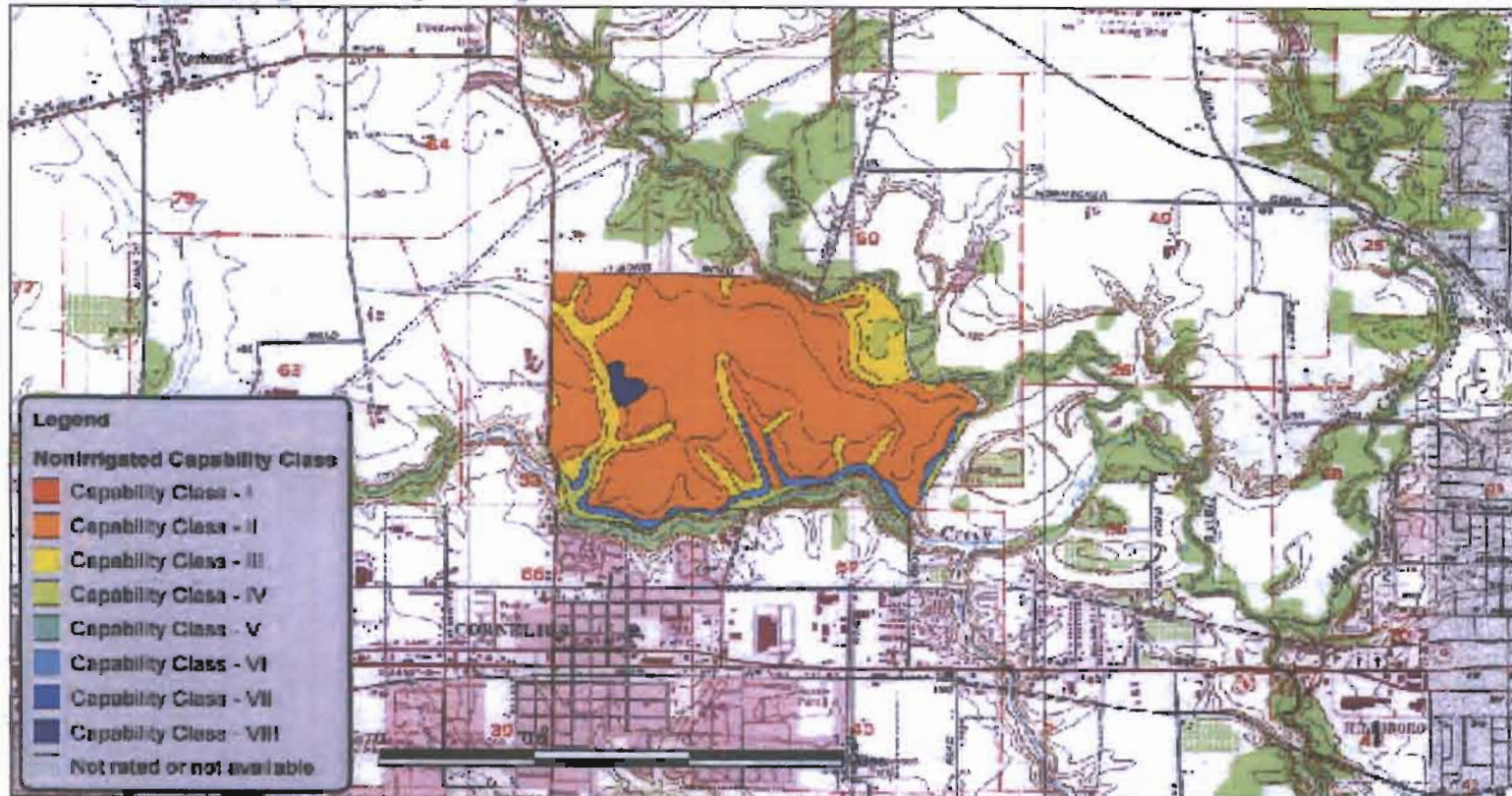


This map is for general planning purposes only.

# Cornelius north of Council Creek

## Cornelius N. of Council Creek Soils by nonirrigated capability class

Assisted By: Nathan P. Adelman  
USDA-NRCS  
05 March 2011



This map is for general planning purposes only.



M RD

© 2011 Google

2010 Go

Imagery Date: Aug 15, 2010

45° 31' 41.79" N 123° 03' 19.59" W

elev 178

Washington County Reserves - Page 11690 207

1



© 2011 Google

Google

Imagery Date: Aug 15, 2010

45°31'46.96" N 123°02'11.53" W elev 183 ft

Eye alt 1000 ft

#1

map size: [S](#) | [M](#) | [L](#) | [XL](#) | [XXL](#)      © ZoomIn   © ZoomOut   © Pan   © Identify   Taxlots ▾

**Refresh**

General Theme

- Streets
- Taxlots
- Major Roads
- Rivers
- Contour Lines
- UGB Buffer 1 Mile
- UGB Buffer 3 Mile
- Measure 37 Claims
- DHA Buffer
- Flood Plain
- Flood Plain Buffer
- Section Lines
- Use Violations - Active
- Use Violations
- Land Dev Casefiles
- Planning Designation
- Urban Growth Boundary
- Cities
- High Value Soils
- Goal 5
- 2006 Summer Countywide
- 2007 Urban
- 2008 Rural
- 2008 Urban
- 2009 Urban
- Washington County











*Helvetia*

© 2011 Google

Google



April 20, 2011



Washington County Board of Commissioners  
155 N 1<sup>st</sup> Avenue  
Hillsboro, OR 97123

Re: Urban and Rural Reserves: Opposition to A-Engrossed Ordinance 740, Area C,  
Farmland Inclusion in Undesignated Reserves North of Council Creek, Cornelius

Dear Chair Duyck and Members of the Commission:

On October 29, 2010, LCDC orally remanded the Urban Reserve of farmland located north of Council Creek (Cornelius). Subsequently, the County Commission and Metro Council amended to include 350+ acres as Undesignated Reserves in Ordinance 740.

I feel the Reserves process has been one of feeling obligated to the city of Cornelius for political and/or personal purposes. More than once during the public hearing process, city representatives reported that Cornelius has been *promised* this land. As provided in public testimony, Cornelius has large parcels of undeveloped land within the city UGB and this Reserves process has provided land for the city to grow through lands designated Urban and Undesignated Reserve northeast, southeast and southwest of the city. How can the city of Cornelius say they are being deprived when they are adding land through this process?

While my family has provided testimony at public hearings, I would like to share with you in my own words the concerns I have with Ordinance 740, and most specifically Area C that includes farmland north of Council Creek into the Urban/Undesignated Reserve classification.

**As the owner of a 153 acre Grade-A dairy farm operated by our family since 1957 and located ¼ mile north of Council Creek, I write to oppose the inclusion of all farmland north of Council Creek into "Undesignated" or "Urban" Reserves.**

**Dairy farming is a 365 day a year business that is especially sensitive to nearby urbanization, more so than many other types of agriculture given the need to ensure the health and well-being of livestock, and subsequent food safety of our products. Dairy farming requires a major investment in immobile capital, and is highly regulated to meet the Oregon Confined Feeding Animal Operation (CAFO) permit program, state and federal water quality guidelines, and food safety regulations.**

Cornelius did not define in the Undesignated Reserve area what type of industry they seek to bring to this foundation farmland and sensitive environmental area. Non-farm related businesses on abutting properties adversely impact the well-being of dairy livestock and food safety. Our farm has already been impacted by Cornelius business expansions just south of Council Creek and any future development north will only compound these impacts.

The air around Cornelius stinks. The Summit bio-fuel ethanol processing plant emits an odor similar to French Onion soup on a daily basis. There is also a composting plant in the same area. We experience the noise and odors of these facilities on a regular basis. There has been a direct impact to our livestock on days when the fumes are extremely strong, as the dairy cattle run the pasture – resulting in harm to our livestock and a loss in milk production.

On occasion, the overhead PA system from city businesses can be heard. One evening, the radios blared with music pumped out over the PA system and spooked our dairy cattle, putting the livestock at risk of breaking through barbwire fences in the middle of the night.

**Our family testified to the Board of County Commissioners and Metro Council to uphold Council Creek as a natural buffer, with all properties north of Council Creek designated Rural Reserves.** This is critical! The city does not understand or empathize with the impacts urbanization brings to farmland operations. Abutting urbanization next to farm operations will only compound existing issues we continually strive to mitigate. Council Creek as a natural barrier aids in keeping the “boundary challenged citizens” of Cornelius from trespassing on to farmland, reducing the number of incidents where citizens have:

- \* Opened livestock containment gates allowing cows to run thru the streets of Cornelius;
- \* Theft of farm property (e.g. irrigation pipe, crops), tossed trash and junk into the fields which has damaged expensive farm equipment, and injured livestock who ate the trash in hay and silage products; and
- \* Despite “no trespass signs”, we’ve caught youth who trespassed on our land to shoot guns and/or play near the irrigation pond encompassing nearly 2 acres in size. In addition, should LCDC approve the Reserve Plan, development will abut this sensitive water reservoir and may affect water quality used to raise our food commodities.

Extensive capital outlay has been invested into drainage tiling on farmland, both our land and the proposed reserve area. Construction on adjoining farmlands could ruin the drain lines, causing water to back-up on our property. In addition, lands north of Council Creek have Bureau of Reclamation liens with many years before the liens can be removed. Liens were imposed during the development of Scoggins Dam and Hagg Lake, that provides irrigation water to western Washington County farmlands.

The Duyck Dairy Farm is one of three dairy operations located within 5 miles north of Council Creek. As dairy operations are forced out of business due to incompatible land use issues as a result of urbanization and impacts to land valuations, the cost of milk transportation, etc. are passed on to the remaining dairy operations, creating added cost burdens and impacts to sustainable farming.

In closing, an Undesignated Reserve classification carries the same detrimental impacts as Urban Reserve to the sustainability in planning for capital asset purchases and future operations. Our family wants to achieve the “Century Farm” status, and this will only be possible with the **preservation of all farmland north of Cornelius as designated Rural Reserves.**

Sincerely,



Ethel J. Duyck, Owner  
Duyck Dairy Farm  
2125 NW Cornelius Schefflin Road  
Cornelius, OR 97113

Attachment: Aerial map of Duyck Dairy Farm Property



Linda B. Peters  
25440 NW Dairy Creek Road  
North Plains, OR 97133  
[lindabpeters@gmail.com](mailto:lindabpeters@gmail.com) (503) 647-2301

April 26, 2011

To: Washington County Board of Commissioners  
Re: Ordinance 740

I want to associate my testimony with that submitted by Save Helvetia, the Washington County Farm Bureau, and 1000 Friends of Oregon in regard to Ordinance 740 and its preceding Intergovernmental Agreement with Metro.

I also wish to reiterate in writing and in person – one last time – my concerns with serious procedural errors for which Metro, Washington County, and the State's Department of Land Use and Conservation have been responsible.

First, Goal 1 requires citizen involvement in all stages of land use decision-making. All agencies say that the processes of mapping urban and rural reserves for Inter-Governmental Agreements was "not Land Use", but that assertion has yet to be tested in court. To the extent that these IGA's bind jurisdictions to adopting predetermined Ordinance content, and in their immediate effects on market values of properties, they arguably constitute "Land Use" decisions to which Goal 1 applies.

Washington County involved only its cities, one Farm Bureau vote and two Board members in the Steering Committee whose proposals for urban and rural designations were forwarded directly to Metro's Core 4 without any review or approval by either its Citizen Participation Organizations, Planning Commission, or governing Board of Commissioners. As expected, its proposal was skewed inordinately toward urban expansion, with a staff report which stated that where land could qualify as either rural or urban reserve, the urban designation prevailed.

Although many hearings have been held since (largely due to the insistence of active citizens of unincorporated areas unrepresented in early stages of planning) we have seen little evidence of change in the County's institutional bias favoring a sort of "manifest destiny" for city expansion over the statutorily equivalent requirement that Foundation and Important Farmland under threat of urbanization be protected as rural reserves. And no citizen or other stakeholder involvement is documented in the preparation of proposed map changes for Ordinance 740.

Metro Council members voice their preference for preserving farmland and encouraging compact, livable urban forms in the region, and voted 7-0 on March 15<sup>th</sup> for a proposal which would have done so. But when pressed by Washington County to accept its demands for "replacement" of remanded urban reserves with other Foundation Farmland, they yielded. Hence the "compromise" before you tonight. Does yielding to the most stubborn really make