

SOUTH URBAN RESERVE AREA

Total Acres	940	Parcel Acres	914
Gross Vacant Buildable Acres	288	Net Vacant Buildable Acres	218

General Description (see attached map)

The South Urban Reserve Area is a large area on the south edge of Hillsboro, located north of SW Rosedale Road between SW River Road and SW 229th Avenue. The UGB forms the boundary on the eastern and northern sides and rural reserve land is to the west and south. The land is relatively flat with some minor slopes near the stream corridors. Access to the area is provided by SW Rosedale Road, SW River Road, SE Brookwood Ave and SW 229th Avenue. SW Rosa Road bisects the reserve area in an east west direction.

Parcelization, Building Values, Development Pattern (see attached aerial photo)

This large reserve area contains 111 parcels that range in size from 11,000 square feet to 221 acres in size. Seventy-two parcels are less than five acres in size and 93 parcels are less than ten acres. The 18 parcels greater than ten acres account for 615 acres or 67% of the parcel land area. Seventeen of the parcels along SW River Road are split by the urban reserve boundary due to the 100-year floodplain location. The area contains rural residences, agricultural lands, forested parcels, and the Reserve Vineyards and Golf Course, which comprises 310 acres with a building value of \$2.4 million. Witch Hazel Elementary School and South Meadows Middle School are located adjacent to the reserve area. Overall, 83 of the 111 parcels have improvements, with a median value of \$156,070. There are six rural residences with building values over \$400,000 and one of those is valued over \$600,000.

GOAL 14 LOCATIONAL FACTORS

Efficient accommodation of identified land needs

This large reserve area is generally flat with some minor slopes along the stream corridors that divide the area into some significant blocks of land. Golf courses are considered developed land in Metro's buildable land inventory, therefore the 310 acres of the Reserve Vineyards and Golf Course property is removed from the supply of potential buildable land. Even so, there is a significant block of land that has slopes less than 10% in the southern portion of the area that could accommodate employment uses from a topography standpoint. However this reserve area is a significant distance from Hillsboro's main employment center and Highway 26, reducing the efficiency for employment use. This area is able to accommodate a residential land need.

Orderly and economic provision of public facilities and services

Sanitary Sewer Services

Capacity of existing facilities to serve areas already inside the UGB

The City of Hillsboro provides sanitary sewer services that feed into the regional sanitary sewer system operated by Clean Water Services (CWS). CWS provides wastewater treatment through the Rock Creek Waste Water Treatment Plant and there is adequate capacity to meet current UGB needs.

Capacity of existing facilities to serve areas proposed for addition to the UGB

Sanitary sewer from the reserve area will flow to the Rock Creek treatment plant via the River Road Pump Station. CWS indicated that the Rock Creek treatment plant has enough capacity to handle additional flows from the reserve area.

Impacts to existing facilities that serve nearby areas already inside the UGB

The Rock Creek treatment plant is large facility, serving a broad area and small upgrades may be required in order to serve this reserve area. The upgrades and financial impacts are beyond the scope of this narrative. According to CWS, the existing River Road Pump Station was designed for expansion, and with a pump replacement, should be able to handle additional flows from this reserve area. Impacts to the wastewater system are primarily financial. New wastewater mains must be provided to allow development of the reserve area. The laterals off the mains are provided by the development community. The amount of any upsizing that would be needed is not known at this time.

Sanitary Sewer Piping Costs

Sanitary sewer piping costs	Cost (in millions)
Less than 12" pipe (gravity)	\$4.63
Force main	\$1.37
Pump station	\$0.75
Total	\$6.75

Water Distribution Services

Capacity of existing facilities to serve areas already inside the UGB

Water is provided to areas already inside the UGB by the City of Hillsboro a member of the Joint Water Commission (JWC). With regards to water supply, treatment, storage and piping, it appears that Hillsboro has capacity for areas inside the current UGB.

Capacity of existing facilities to serve areas proposed for addition to the UGB

The City of Hillsboro will be able to generate the water supply needed as this reserve area develops. Hillsboro is a partner of the Willamette Water Supply Project which will provide additional capacity to serve the reserve area. The City currently has three ground level reservoirs that provide water storage. The City is currently completing planning studies for this reserve area and it is possible that an existing water line in SE River Road will need to be upsized.

Impacts to existing facilities that serve nearby areas already inside the UGB

The City indicated that there would not be impacts to the existing water system that serves nearby areas already inside the UGB. Hillsboro is working with the Portland Water Bureau on an Inter-governmental Agreement to have the ability to get additional water in times of emergency via an inter-tie with the Tualatin Valley Water District. New water mains must be provided for development to occur and the laterals off the mains are provided by the development community. The amount of any upsizing that would be needed is unknown at this time.

Water Costs

Water piping/storage/pumping costs	Cost (in millions)
12" and smaller	\$3.62
18" and larger	\$5.58
Storage/pumping	\$3.26
Total	\$12.46

Storm Sewer Services

Capacity of existing facilities to serve areas already inside the UGB

There is no indication of capacity issues with existing stormwater facilities that serve the land inside the UGB.

Capacity of existing facilities to serve areas proposed for addition to the UGB

Stormwater will be conveyed, treated, and disposed of within the reserve area, therefore, it is not anticipated that existing facilities would be utilized.

Impacts to existing facilities that serve nearby areas already inside the UGB

Stormwater will be conveyed, treated, and disposed of within the reserve area; therefore, no impacts to existing facilities are anticipated.

Storm sewer conveyance and water quality/detention costs for roadways

Conveyance & water quality/detention costs	Cost (in millions)
Conveyance	\$10.37
Water quality/detention	\$9.77
Total	\$20.14

Transportation Services

Capacity of existing facilities to serve areas already inside the UGB

Roadway: Most of the roads in Hillsboro have an acceptable volume/capacity ratio (<0.9) for the 2015 pm peak. Three road sections have a congested volume/capacity ratio (<1.0): E Main Street east of NW Brookwood Parkway in both directions and Highway 26 east bound at NW Cornelius Pass Road and NW 185th Ave. A few road sections in nearby unincorporated Washington County also have a congested volume/capacity ratio (<1.0): SW Farmington Road between 198th Ave and SW Kinnaman Road in both directions, SW Tualatin Valley Highway (TV Highway) east of SW 198th Ave westbound, SW TV Highway east of SW 185th Ave in both directions, and SW TV Highway west of SW 170th Ave in both directions. The following road sections have a severely congested volume/capacity ratio (>1.0): W Baseline at SW 197th Ave westbound, NE Evergreen Road east of NW Jackson School Road westbound and SW TV Highway east of SW 170th Ave in both directions.

High injury corridors for automobiles include: SW/SE Baseline Road, W/E Main Street, S/N 1st Ave, NE Cornell Road, SW TV Highway, SE Winter Bridge Road, SW/SE/NE Brookwood Parkway and NW Evergreen Road. High injury corridors for bikes include: NW 185th Ave, SW TV Highway, SW 209th Ave, and SW/SE Oak Street to SE 10th Ave. High injury corridors for pedestrians include SE Baseline Street, SW TV Highway, and NE Century Boulevard between W Baseline Road and NE Cornell Road.

Transit: Seven TriMet bus routes provide service to Hillsboro or nearby unincorporated Washington County, mainly along the arterial streets in the central portion of the city, focusing on the Hillsboro and Tanasbourne-Amber Glen Regional Centers, the Orenco Town Center and employment areas. The MAX Light Rail Blue Line stops at nine stations within Hillsboro. There is no transit service to the southern and northern portions of the city.

Bike: Hillsboro has over 54 miles of dedicated bike lanes, 6.5 miles of established bikeways and numerous streets considered bike friendly that together create a fairly well connected system that is focused mostly in the central portion of the city and the regional centers. In addition there are some local trails that provide key connections to the greater bike network.

Pedestrian: A large proportion of the residential neighborhoods in Hillsboro have sidewalks although there are significant pockets that do not. The Hillsboro Regional Center is mostly served by sidewalks with the exception of the industrial area south of TV Highway. The other employment areas are fairly well served by sidewalks and trails such as the Rock Creek Trail that provides additional pedestrian opportunities.

Capacity of existing facilities to serve areas proposed for addition to the UGB

Roadway: The roads in Hillsboro near the reserve area have an acceptable volume/capacity ratio (<0.9) for the 2015 pm peak. Two nearby roadways in Washington County have a congested volume/capacity ratio (<1.0): SW Farmington Road and SW TV Highway as noted above.

Transit: TriMet bus route 57, which travels between Forest Grove and the Beaverton Transit Center, is just shy of a mile from the eastern edge of the reserve area along SE 67th Ave and just over a ½ mile from the middle of the reserve area along SE Brookwood Ave.

Bike: There is a dedicated bike lane on SW River Road north of the reserve area that connects to a bike lane on SE Davis Road 1,000 feet to the north that provides access to nearby South Meadows Middle School and Witch Hazel Elementary School. It appears the bike lane on SE Davis Road will be extended to the east as the area develops given the fact that there are bike lanes on those portions of SE Davis with new homes. The bike lane on SW River Road also extends south into the reserve area to SW Rosedale Road.

Pedestrian: Currently there is one adjacent residential development that has sidewalks that connect to the reserve area. These sidewalks connect to other residential developments as well as to South Meadows Middle School and Witch Hazel Elementary School. One can walk to TV Highway, but TV Highway itself does not have sidewalks.

Impacts to existing facilities that serve nearby areas already inside the UGB

Roadway: SW River Road and SE Brookwood Ave would see additional traffic that would funnel to TV Highway, thereby possibly adding to the congestion issues further to the east, especially as South Hillsboro develops. SW Rosedale Road would also see additional traffic that may funnel to SW Farmington Road, which could lead to additional congestion issues on SW Farmington between 198th Ave and SW Kinnaman Road.

Transit: TriMet bus route 57 could see additional use especially as sidewalks are constructed with new development along SE Brookwood Ave inside the UGB, although the ½ mile plus walking distance would most likely preclude a large amount of additional ridership. See transit analysis below.

Bike: The dedicated bike lane on SW River Road would most likely see additional use, although if bike lanes are constructed on SE Brookwood Ave which has a more direct route to South Meadows Middle School and Witch Hazel Elementary School, the overall increase in use may not be great as SE River Road is classified as an arterial. The bike lanes on SE Davis Road would also be expected to see additional use as it connects with bike lanes on SE Century Boulevard which may be extended north to TV Highway in the future.

Pedestrian: The sidewalks in the adjacent residential development would see additional use as they connect to South Meadows Middle School and Witch Hazel Elementary School, other residential developments and to TV Highway.

Need for new transportation facilities and costs (see attached transportation map)

SE River Road will need to be improved to urban arterial standards. The northern portion of the road is considered a ½ street improvement as the west side of the road is the responsibility of the land already inside the UGB. SW Rosa Road, SW Rosedale Road and SE Century Boulevard will need to be improved to urban collector standards. SW Rosedale Road is considered a ½ street improvement as the land on the south side of the road is rural and SE Century Boulevard is also considered a ½ street improvement as the east side of the road is the responsibility of the land already inside the UGB. Two new collectors will be needed one between SE Brookwood Ave and SE River Road and another from SE Century Boulevard to SE River Road.

Facility Class		
Arterials	Type	Cost (in millions)
	Existing/Improved	\$75.48
	Existing/Improved ½	\$4.95
Collectors	Type	Cost (in millions)
	Existing/Improved	\$21.19
	Existing/Improved ½	\$24.31
	New	\$35.73
Total		\$161.66

Provision of public transit service

TriMet evaluated the reserve area for providing transit service. TriMet could provide services to the reserve area although there is no guarantee of service. Actual service depends on the level of development in the expansion area and in the corridors leading to the reserve area. Service could be provided at 15/30 minute headways for all day service, six days a week by extending the future line that will serve the South Hillsboro area with two additional buses at a capital cost of \$800,000 (recurs every 16 years). Annual service cost is \$936,000 and grows 2% per year.

Prior to land being included in the UGB a more detailed concept plan, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11, is required. This concept plan process will develop more refined public facility and service needs and cost estimates.

Comparative environmental, energy, economic and social consequences (ESEE analysis)

Environmental

Gordon Creek flows west through the reserve area for approximately 4,560 feet, joining the Tualatin River just outside of the reserve area boundary. A series of four wetlands identified on the National Wetland Inventory (NWI) are associated with the stream and total 8.4 acres and extend for 3,200 feet in length. Almost half the stream and 5.8 acres of the wetlands are on the golf course. Most of the remainder of the stream is forested with a small portion flowing through an open field. A small tributary totaling 1,440 feet flows south through a forested area, joining Gordon Creek a short distance from the reserve area boundary. There is a significant amount of riparian and upland

habitat associated with the stream, especially along the forested sections and most of the stream corridor is in the floodplain. The golf course is considered developed land so no urbanization is expected, thus the stream, wetland and habitat areas on the golf course would not be impacted by future urbanization of the reserve area. Given the increased protection levels for streams, floodplains and habitat areas within the UGB, urbanization of the area can occur with minimal impact to Gordon Creek. However these two streams may be susceptible to impacts related to any east-west or north-south transportation connections.

A small unnamed tributary to the Tualatin River flows west through the middle portion of the area for approximately 2,000 feet. This stream also flows through a forested area with a few locations of slopes greater than 25%. There is a significant amount of riparian and upland habitat associated with the stream. Given the increased protection levels for streams and habitat areas within the UGB, urbanization of the area can occur with minimal impact to this stream corridor as its size and location would not inhibit the development of a well connected community.

Butternut Creek flows diagonally through the lower portion of the reserve area for approximately 1.4 miles. The entire stream is within the floodplain and 26.5 acres of NWI wetlands are identified along the entire length. There are a few small locations of slopes greater than 25% near the western edge of the reserve area. Two small tributaries flow into Butternut Creek near the eastern edge of the reserve area and combined total 2,400 feet. All three of the streams flow through forested riparian corridors. As you would expect there is a significant amount of riparian and upland habitat identified along the stream corridor. Butternut Creek separates the lower portion of the reserve area from the middle section and any north-south connection would impact habitat areas, floodplain and wetlands. Given the increased protection levels for, streams, wetlands, steep slopes and habitat areas within the UGB urbanization of the area can occur without impacting this stream corridor and habitat areas, especially if a north-south road connection is not made. Overall urbanization of the area could occur with minimal to moderate impacts to the stream corridors and habitat areas, depending on certain roadway connections and urban form.

Energy, Economic & Social

It is expected that urbanization of the reserve area will result in new housing or employment uses replacing the existing rural residences. This large reserve area is composed of three different land uses; the Reserve Vineyards and Golf Course, rural residences on forested parcels, and agricultural activities mostly occurring in the southern portion of the area. Gordon Creek and Butternut Creek and their associated habitat and floodplain areas tend to break up the area into smaller blocks of land that would result in a less dense development pattern. This combined with the golf course reduces the overall urbanization impact on the existing residents of the area in terms of loss of sense of place and rural lifestyle. In addition, directly to the east is the South Hillsboro area that was brought into the UGB in 2011 and is currently being urbanized. Once this area is developed the feeling of a rural lifestyle for the current residents of the reserve area will be less, as they will be closer to urban amenities. The combination of this area with the South Hillsboro area provides opportunities to create one urban community and develop efficiencies in infrastructure financing and delivery of services, as well as new educational, recreational and civic opportunities. Most of

the agricultural activities are in the southern portion of the area and the potential economic impact of urbanizing this area will outweigh the loss of the economic impact from these agricultural uses. The additional traffic generated through urbanization will impact SW River Road, SW Rosedale Road, and SW 229th Ave and ultimately Tualatin Valley Highway, which could provide negative energy impacts. This is especially true when the South Hillsboro area builds out. Numerous trails are planned for the South Hillsboro area including the Butternut Creek Trail, which will extend to the reserve area, and the Reedville Trail. These trails will lead to the future Neighborhood Center and Town Center in South Hillsboro, providing the opportunity for a reduction in some local automobile trips, thereby reducing VMT. Overall this reserve area has medium economic, social and energy consequences from urbanization.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB (see attached resource land map)

To the south is a large block of Exclusive Farm Use (EFU) zoned land that extends for a number of miles. All of the land directly adjacent to the reserve area on the south side of SW Rosedale Road is in agricultural production, including field crops, row crops and orchards. SW Rosedale Road would provide a buffer between the agricultural activities occurring in this location and a new urban area, however the road alone would not make the two uses compatible and there could still be complaints due to noise, odor, dust and the use of pesticides and fertilizer. In addition, the improvement of SW Rosedale Road to urban standards includes its own set of compatibility issues related to street light illumination, weeds and pedestrian movements that can reduce compatibility between the two uses, some of which may be addressed through road design. Urbanization of the reserve area would increase traffic on SW Rosedale Road which could impact the movement of both farm equipment and goods, although the amount of traffic may be reduced as Butternut Creek isolates the southern portion of the reserve area and SW 229th Ave and SW River Road provide more direct routes to the existing urban area. Thus, the proposed urban uses are not compatible with the extensive nearby agricultural activities occurring on the farm land to the south and mitigation measures on the urban land will be necessary.

The Tualatin River and its associated forested riparian corridor provide a buffer for the vast majority of the EFU land to the west. The land between the river and the reserve boundary along the central western edge is not zoned for farm use. In addition, a significant portion of the farm land west of the river is composed of the Meriwether National Golf Course. The parcels in the southwest corner of the reserve area are divided by the reserve area boundary and the portions of these parcels outside the reserve area are EFU land. A very minor portion of this land, approximately two and a half acres, is currently in agricultural production along with the portion of the parcel that is within the reserve area. Given the location of this very small area between the Tualatin River and the reserve boundary and the lack of an easy access point for farm equipment when urbanization occurs, the expectation is that if the area urbanized the agricultural activities on these remnants of land would not continue. Thus the proposed urban uses would be compatible with nearby agricultural activities in this small location.

There is a second small area of EFU land between the Tualatin River and the northwest corner of the reserve area boundary. It is composed of one 21 acre parcel that is almost entirely in agricultural production and also borders the UGB on the north side. Gordon Creek flows through a portion of the property and the forested riparian corridor provides a buffer for a significant portion of the agricultural land, resulting in about 225 feet of agricultural land fronting on SW River Road. SW River Road would provide a buffer for this small section of farm land and the new urban area, which may make the two uses compatible. However there could still be limited complaints due to noise, odor, dust and the use of pesticides and fertilizer. Urbanization of the reserve area would increase traffic on SW River Road which could impact the movement of both farm equipment and goods, especially given the limited access point to the roadway. Thus, the proposed urban uses are somewhat compatible with the nearby agricultural activities occurring on the farm land in this location.

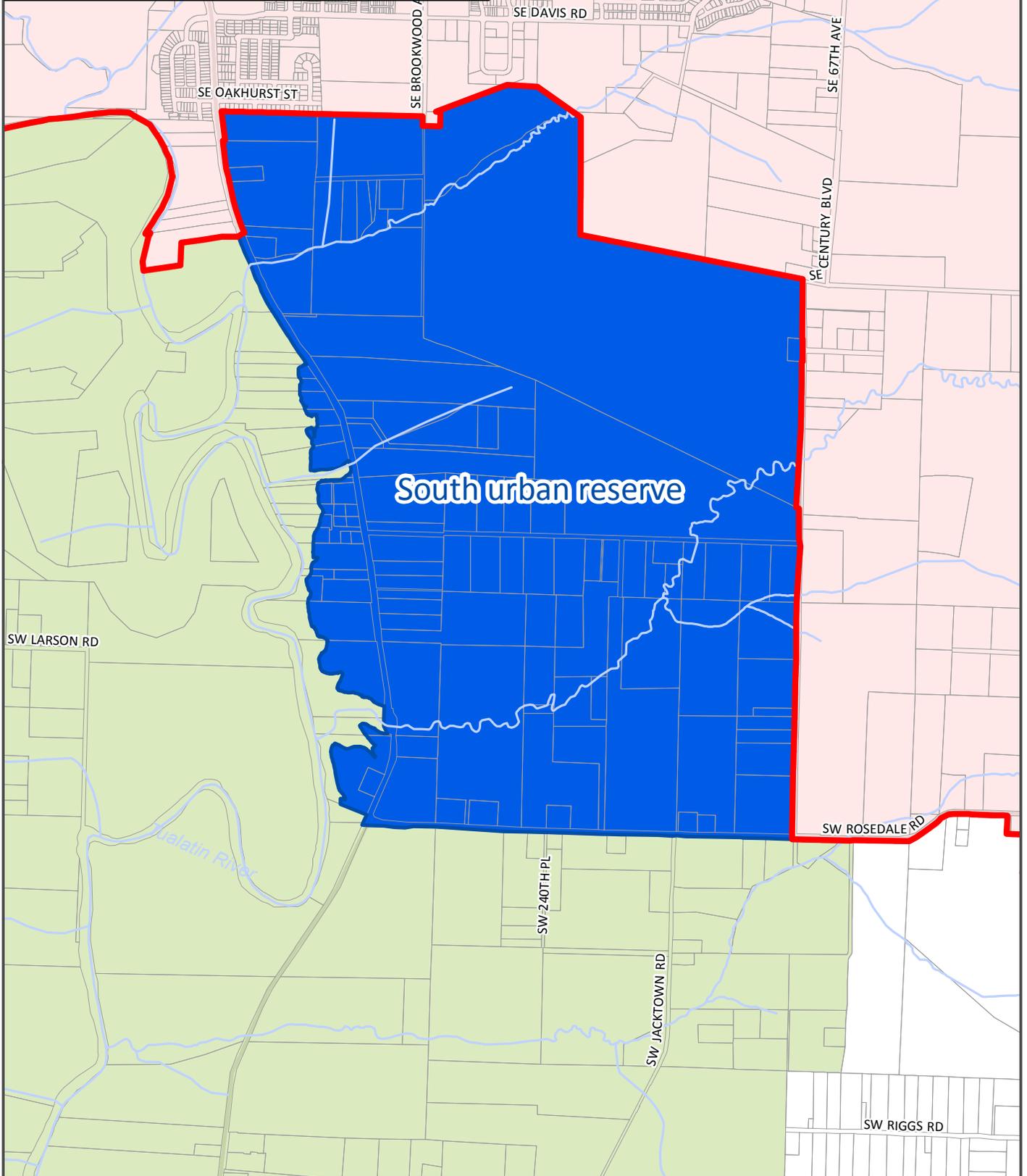
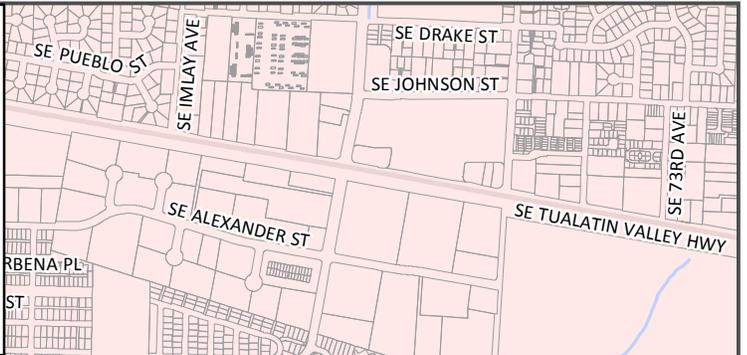
In summary, the proposed urban uses are generally compatible with nearby agricultural and forest activities occurring on farm and forest land outside the UGB to the west and not compatible with the agricultural activities occurring on the farm land to the south where mitigation measures on the urban land will be necessary. Overall, the proposed urban uses have medium compatibility with the nearby agricultural and forest activities occurring on farm and forest land outside the UGB.



Metro

Preliminary Urban Growth Boundary Alternatives Analysis South

-  Inside the Urban Growth Boundary
-  Rural reserve
-  Other urban reserve
-  Stream routes



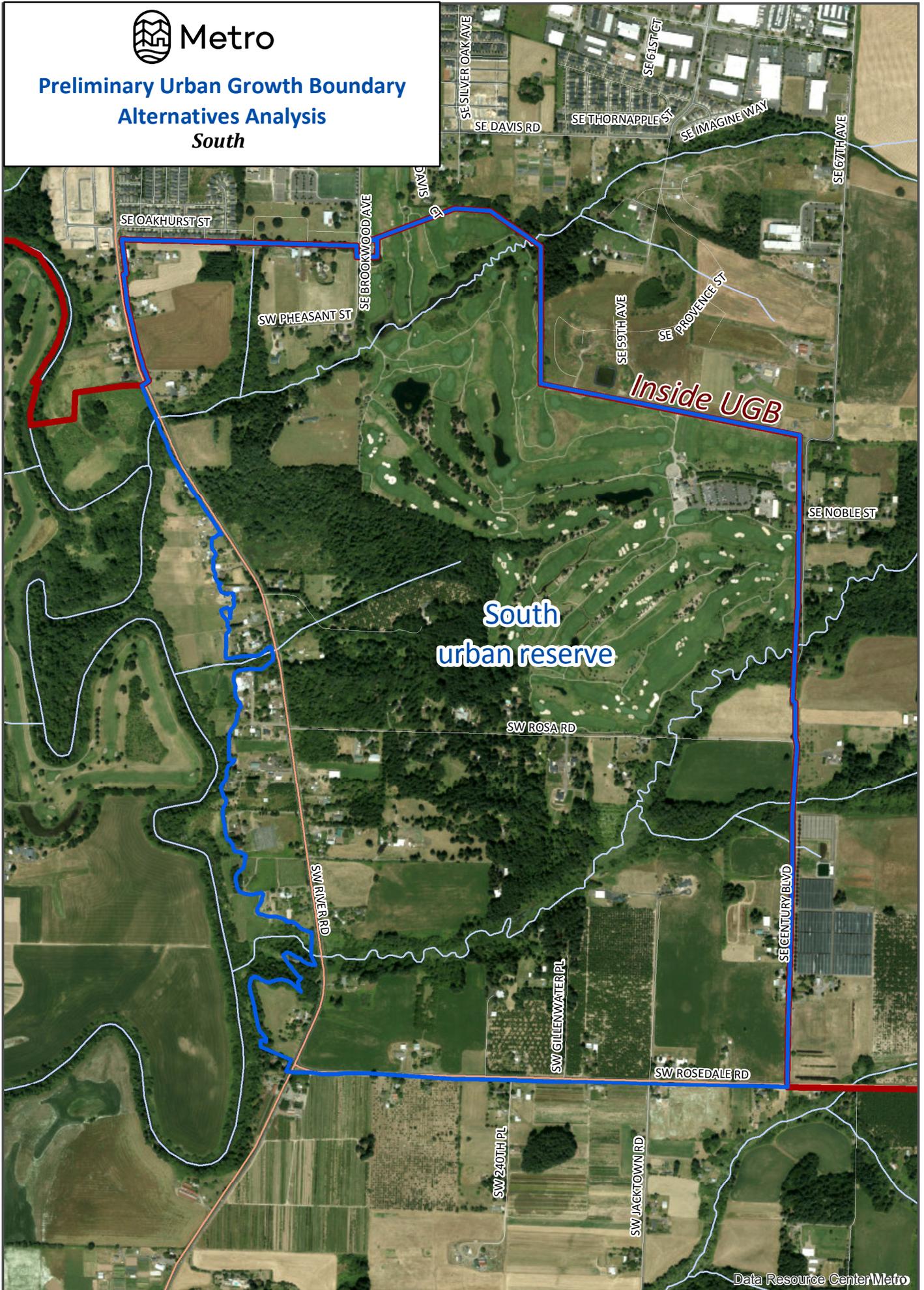
South urban reserve

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Preliminary Urban Growth Boundary
Alternatives Analysis
South



Data Resource Center Metro

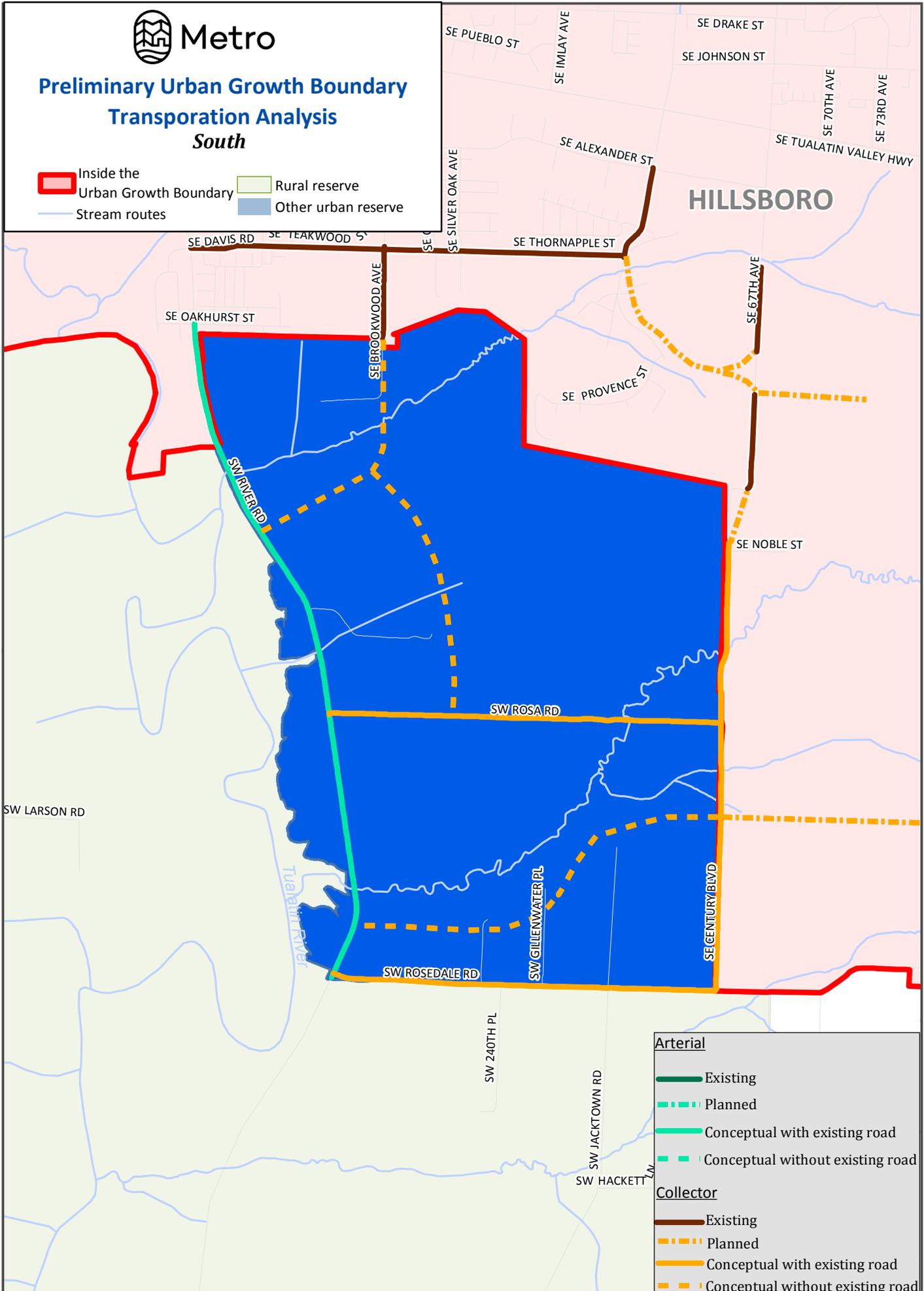
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Metro

Preliminary Urban Growth Boundary Transportation Analysis South

- Inside the Urban Growth Boundary
- Rural reserve
- Stream routes
- Other urban reserve



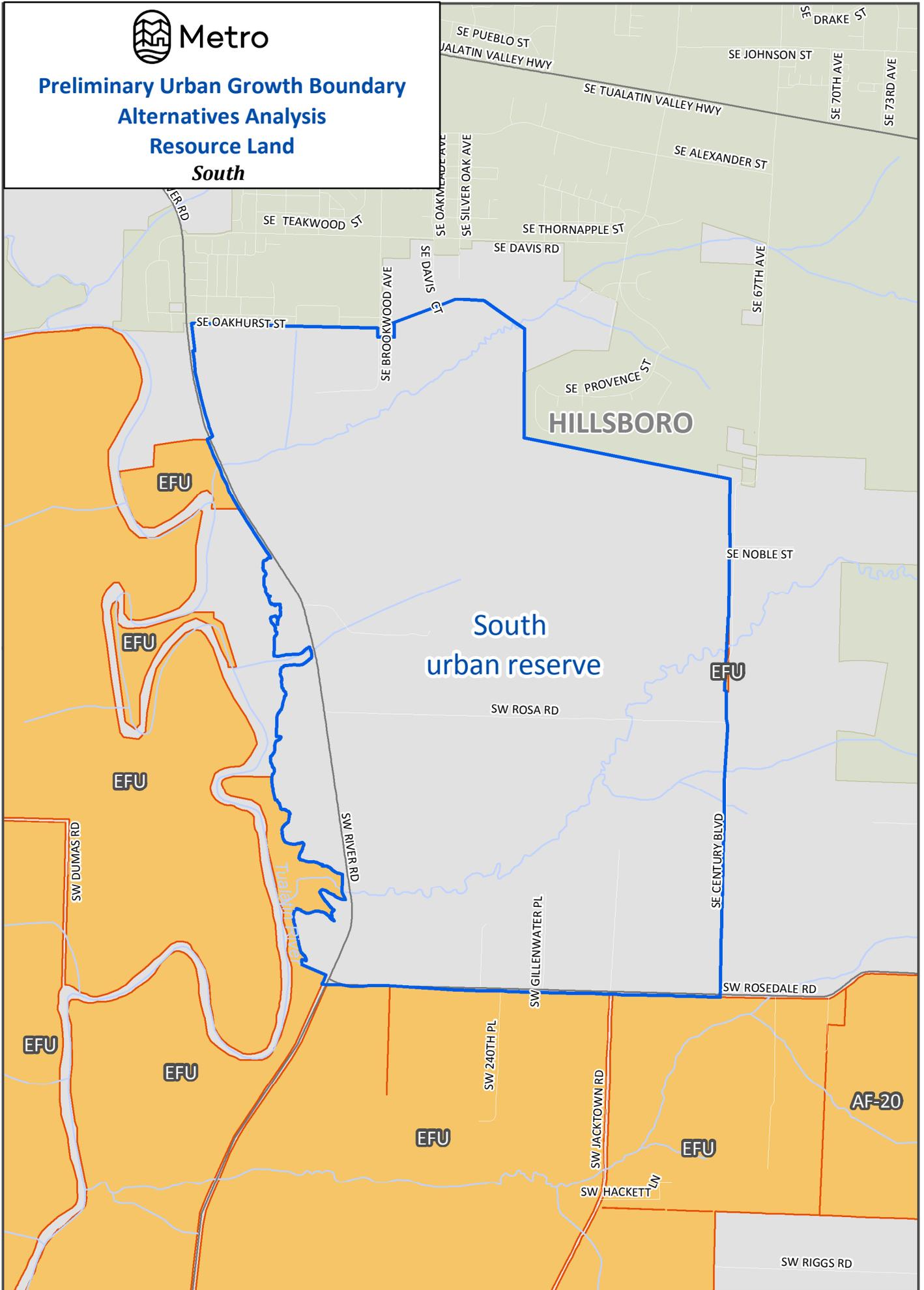
- Arterial**
- Existing
 - Planned
 - Conceptual with existing road
 - Conceptual without existing road
- Collector**
- Existing
 - Planned
 - Conceptual with existing road
 - Conceptual without existing road

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Metro

Preliminary Urban Growth Boundary
Alternatives Analysis
Resource Land
South



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