

## Eugene Urban Reserves Serviceability Analysis

### Preliminary Analysis of Orderly and Economic Provision of Public Facilities and Services

#### ***Background***

The following is a preliminary assessment of providing an urban level of public services to the Urban Reserves study area. Each subarea includes a high-level narrative description of the serviceability of each subarea (easy, moderate or difficult), based on a qualitative assessment by service providers and staff. Also included is a generalized cost estimate, which represents preliminary estimates for the major components of the individual systems. Cost information is provided on a \$ to \$\$\$\$ scale, with one dollar sign (\$) denoting the least cost and five dollar signs (\$\$\$\$) denoting the greatest cost. The scale used for each type of utility or service varies and is not comparable to other utilities or services. For example, a \$ for wastewater does not equate to a \$ for transportation.

Input on serviceability within the study area was provided by Urban Reserves Service Provider Working Group members. Meetings were held with Eugene's urban service providers as well as the rural service providers who currently serve the study area. The following preliminary analysis mainly comes from current urban service providers because it is assumed that they would eventually expand their service area coverage into the areas in question if they were designated as Urban Reserves and eventually brought into the UGB and then the city limits.

The following agencies and departments have contributed to this serviceability analysis: Eugene Water and Electric Board (EWEB), City of Eugene Public Works (Wastewater, Stormwater, Transportation and Parks and Open Space divisions), Metropolitan Wastewater Management Commission, Eugene Springfield Fire and EMS, Lane Transit District, Lane County Land Management Division and Transportation Planning, and Oregon Department of Transportation.

Service providers only considered developable land within the study area when providing the following information on serviceability. This means that land identified as occupied or containing natural hazard or natural resource land, such as large swaths of floodplain to the north and wetlands to the west, is not being considered for this analysis. The Eugene Urban Reserves Study Subarea Reports (Exhibit F, Appendix 2, Attachments 1-18) utilized information from the Urban Reserves Serviceability Analysis Report to evaluate the orderly and economic provision of public facilities and services for each of the 18 subareas.

## 01. Game Farm Subarea

### **General Description**

The Game Farm subarea is located to the northeast of Eugene adjacent to the UGB. It is bordered by I-5 to the east, North Game Farm Road to the south and west, and Coburg Road and the McKenzie River to the north. This area is primarily farmland and the floodplain covers most of the area. The only protected historic structure in the study area is located in this area near I-5. The subarea includes a small portion of Armitage park.



### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Moderate to serve. The existing downstream wastewater system appears to have adequate capacity to serve the additional area. The area may require a lift station or small pump station. Generalized cost estimate for improvements is \$\$\$.

**Water:** Easy to serve. Pipeline connections to existing infrastructure would be required. Generalized cost estimate ranges from \$ to \$\$\$.

**Fire Protection:** Easy to moderate to serve. Given the current locations of the city fire stations and existing street network, there are minor response time/service delay concerns. The closest station to this area is in Springfield. Generalized cost estimate is \$-\$\$\$.

**Transportation:** Easy to moderate to serve. Coburg Road and North Game Farm Road are already built and likely do not need major upgrades for expansion. Any additional streets in this area would likely be driven by development and relatively easy to construct. Generalized cost estimate for improvements is \$\$.

**Transit:** Easy to moderate to serve. The flat topography makes this area easy to access. It may be challenging to create efficient service in the area given the relative isolation and need to deviate from existing routes. Lane Transit District is potentially planning capital investments in areas close to this. Given that these routes may have capital investment, it would be difficult to change routing if development occurred at a later date. There are currently bus routes to the south of this area within the UGB as well as one that runs on Coburg Road along the boundary of this area. Generalized cost estimate is \$\$.

**Stormwater:** Easy to serve. This area has relatively flat topography and is adjacent to the UGB making it potentially easy to access and extend services to. Additionally, the soils in the area are likely suitable for infiltration. Generalized cost estimate is \$.

### **Other Service Information**

**Parks:** A small portion (approximately 5 acres) of Armitage Park (described in the previous section) extends from the McKenzie area into this area. Crescent Park is across North Game Farm Road.

**Electric:** EWEB provides electric service to the east side of I-5

**Schools:** This area is in the Eugene 4J school district.

Game Farm Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Moderate	Easy	Easy-Moderate	Easy-Moderate	Easy-Moderate	Easy
<b>Generalized cost estimate</b>	\$\$\$	\$-\$\$\$	\$-\$\$\$	\$\$	\$\$	\$

## 02. McKenzie Subarea

### **General Description**

This area is located to the north of Eugene and is bounded by the McKenzie River on the north, the Willamette River on the west, Coburg Road on the east and the UGB to the south. This area is primarily used for sand and gravel mining operations. Most of the area is in the floodplain. Armitage Park is in the eastern corner of this area and is considered occupied land.



### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Moderate to serve. The existing downstream wastewater system appears to have adequate capacity to serve the additional area. This area will likely require the construction of a pump station, which significantly increases the cost of serving the area. However, the existing wastewater network and the roads downstream would not be disrupted. Generalized cost for improvements is \$\$\$.

**Water:** Easy to serve. New pipeline connections to existing infrastructure would be required. Generalized cost estimate ranges from \$ to \$\$\$.

**Fire Protection:** Easy to moderate to serve. Given the current locations of the city fire stations and existing street network, there are minor response time/service delay concerns. Access to this area appears good, but response times would need to be modeled for additional details. Generalized cost estimate is \$-\$\$\$.

**Transportation:** Easy to moderate to serve. The 245 acres of buildable land border the UGB and are relatively close to Coburg Road. The topography is flat, making for good bicycle and pedestrian connections if the land within the UGB is urbanized as well. \$\$-\$\$\$?

**Transit:** Easy to moderate to serve. The flat topography makes this area easy to access. It may be challenging to create efficient service in the area given the relative isolation and need to deviate from existing routes. LTD is potentially planning capital investments in areas close to this. Given that these routes may have capital investment, it would be difficult to change routing if development occurred later. There are currently bus routes to the south of this area within the UGB as well as one that runs on Coburg Road along the boundary of this area. Generalized cost estimate is \$\$\$.

**Stormwater:** Easy to serve. This area has relatively flat topography and is adjacent to the UGB making it potentially easy to access and extend services to. Additionally, the soils are likely suitable for infiltration. Generalized cost estimate is \$.

### **Other Service Information**

**Parks:** The 62-acre Armitage park is located in this area on the eastern boundary.

**Electric:** EWEB provides electric service to the majority of this area.

**Schools:** This area is in the Eugene 4J school district.

McKenzie Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Moderate	Easy	Easy-Moderate	Easy-Moderate	Easy-Moderate	Easy
<b>Generalized cost estimate</b>	\$\$\$	\$-\$\$\$	\$-\$\$\$	\$\$-\$\$\$	\$\$\$	\$

### 03. Beacon/ River Loop Subarea

#### **General Description**

This area is located to the north of Eugene and includes land to the east of the Willamette River and up to the UGB. This area extends to River Road to the west. Most of this area is within the Willamette River floodplain and contains natural resource and natural hazard land. There is plentiful public parkland in several places along the river: Lane County's 53-acre Hileman Landing Park and 1.5-acre Whiteley Landing Park, the City of Eugene's 6-acre River Loop Park, Oregon Park and Recreation District's 60-acre Beacon Landing, and two other public properties totaling approximately 19 acres.



#### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Difficult to serve. Although a portion of the area near Beacon Road can be served by the existing gravity system without an additional pump station, a new pump station will be required to serve the remainder of the area. Developing this area would require installing a force main to the wastewater treatment plant as the existing infrastructure will not support additional flows. The needed pump stations are not included in the City's Wastewater Master Plan (1992), and the regional Public Facilities and Services Plan (2001). A significant amount, approximately 8,600 feet, of downstream pipe is undersized to serve this area. Additionally, it should be anticipated that Spring Creek Pump Station will need expansion, and potentially some of the existing gravity lines. Constructing the infrastructure required to serve this area is costly because it will disrupt both the existing roadway and the downstream pipes. Generalized cost estimate for the City's share of improvements is \$\$\$\$.

**Water:** Moderate to serve. Distribution facilities are adjacent to these areas, but ownership of these facilities is predominately by Santa Clara Water District. Some upsizing of mains, both for distribution and transmission, would be required to provide adequate fire protection. Improvements to portions of the Santa Clara Water District infrastructure would need to be made to facilitate delivery to these areas. Extension of water service to the River Loop area shown is problematic because it does not provide an opportunity to have a looped distribution system which results in poor water quality and lower reliability to customers on a single feed system. In preparing the cost estimate, EWEB assumed that necessary new streets or easements would be granted to accommodate pipe and that permits to bore under the storm drainage ditch would be attainable. Generalized cost estimate for improvements is \$\$.

**Fire Protection:** Easy to moderate to serve. Given the proximity to the nearest city fire stations and existing street network, it appears response times to this area would be acceptable; however, water availability may be problematic given the existing water system deficiencies in the vicinity. Generalized cost estimate is \$-\$\$\$.

**Transportation:** Easy to moderate to serve. A new street connection might be needed if UGB is expanded in this area. Based on Lane County's Beaver-Hunsaker Corridor planning effort, it was assumed a new street connection was not needed because the UGB would not expand in this area. Several streets need multimodal improvements to serve all users safely. Generalized cost estimate for improvements is \$\$.

**Transit:** Easy to moderate to serve. This area is easy to access given topography and street connectivity. The area along Beacon Drive is close to the existing #51 Santa Clara route which travels along Spring Creek between

Scenic and River Road. Although this area would be technically easy to serve, there would be challenges in providing efficient service. Because of the location of the area adjacent to existing service, LTD would have to choose between serving one or the other, and in this case, the choice would most likely be to remain on the current routing. Generalized cost estimate is \$\$\$.

**Stormwater:** Easy to moderate to serve. Drainage from these areas would be to Spring Creek and the East Santa Clara Waterway (also called the Willamette Overflow). The capacity of these waterways north of the current UGB has not been evaluated. The flat topography and potential downstream capacity constraints make extending a more traditional piped stormwater service into the area moderately challenging. Projecting into the future a couple of years, the trajectory of the city’s stormwater development standards may be to limit (for new development) and reduce (for existing development) flow volumes to receiving streams because of the adverse water quality impacts, which means more on-site infiltration/retention and less flow directed off-site compared to traditional stormwater management. Sites in this area are likely suitable for on-site infiltration to reduce post-development runoff and protect downstream water quality. Generalized cost estimate for improvements is \$\$.

**Other Service Information**

**Parks:** This area contains several parks along the Willamette River. Lane County’s 53-acre Hileman Landing Park and 1.5-acre Whiteley Landing Park, the City of Eugene’s 6-acre River Loop Park, Oregon Park and Recreation District’s 60-acre Beacon Landing, and two other public properties totaling approximately 19 acres.

**Electric:** EWEB provides electrical service to the eastern portion of this area, and Emerald People’s Utility District (EPUD) provides service to the area north of Beacon Drive.

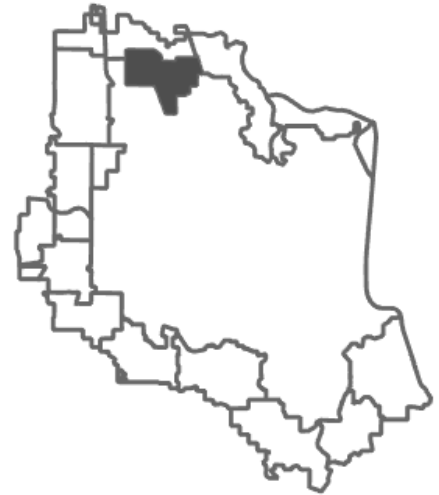
**Schools:** The majority of this area is in the Eugene 4J school district. The northern portion is in the Junction City school district.

Beacon/River Loop Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Difficult	Moderate	Easy-Moderate	Easy-Moderate	Easy-Moderate	Easy-Moderate
<b>Generalized cost estimate</b>	\$\$\$\$\$	\$\$	\$-\$\$\$	\$\$	\$\$\$	\$\$

## 04. Awbrey Subarea

### **General Description**

This area is located to the north of Eugene and is adjacent to the UGB, and generally includes land around Prairie Road, the Union Pacific railroad corridor and Beacon Drive, west of River Road. North of it is the Highway 99 subarea and east is the Beacon/River Loop subarea. This area is flat and primarily used for agriculture. Almost all of the land in this area to the west of Northwest Expressway is owned by Metropolitan Wastewater Management Commission (MWMC) and is considered occupied. There is another property owned by MWMC in the northern portion of the area.



### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Easy to serve. These areas can be served after construction of two new pump stations, which are planned for in the City's Wastewater Master Plan (1992), and the regional Public Facilities and Services Plan (2001). Because these pump stations are already included in the adopted plans, eventually expanding the UGB in this area would not result in any additional costs to the City. Additionally, the existing system likely will not have any capacity issues if this area is developed. Generalized cost estimate is \$.

**Water:** Easy to serve. EWEB service is already available adjacent to this area. Distribution and transmission systems would not have to be extended far to provide service. In preparing the cost estimate, EWEB assumed that permits to bore under the storm drainage channel on Awbrey Lane would be attainable. Generalized cost estimate for improvements is \$.

**Fire Protection:** Easy to moderate to serve. This area is currently served by Lane Fire Authority. Given the current locations of the city fire stations and existing street network, there may be response time/service delay concerns for emergency coverage. However, a detailed analysis may prove that the area could be served within existing capacity. Generalized cost estimate is \$-\$\$\$.

**Transportation:** Easy to serve. There are little to no traffic congestion concerns in this area, although there would be localized conditions to address such as reliance on unimproved roadways, the heavy mix of truck traffic and a lack of connectivity. Generalized cost estimate for improvements is \$.

**Transit:** Moderate to serve. Easy to access given topography and street connectivity; however, challenging to provide efficient service given isolated location from other routes and areas of higher levels of density. There are no existing routes in the immediate vicinity. The nearest route is to Junction City along Highway 99 and a deviation to serve the Awbrey area is unlikely given the prospects of the new Oregon State hospital site to the north, which would most likely be a higher priority deviation of the existing route. Generalized cost estimate is \$\$.

**Stormwater:** Easy to moderate to serve. Drainage from these areas would be to tributaries of Amazon Creek. Roadside ditches and pipe segments to receiving waterways exist, and their capacity would need to be evaluated. This subarea is close to existing systems, which makes extending service easy as long as the system



capacity either exists or can be increased. Stormwater development standards would need to be met for pollution reduction, and potentially flow controls which could present moderate challenges depending on soil types and space constraints. The entire area falls within the Junction City Water Control District and stormwater flood control requirements would need to be extended into this area. Generalized cost estimate for improvements is \$\$.

**Other Service Information**

**Parks:** There are no parks in this subarea.

**Electric:** EWEB provides service to a portion of the area, and the remainder of the area is served by EPUD.

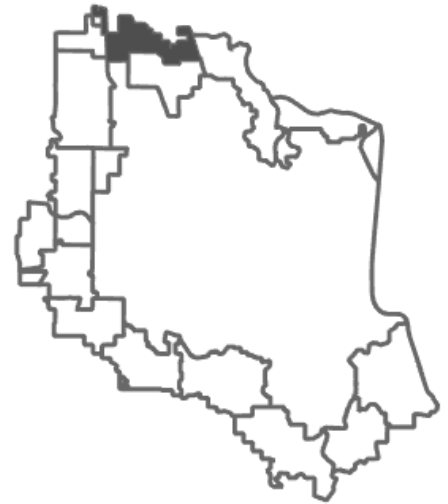
**Schools:** The southern portion of this area is in the Bethel School District and the northern portion is in the Junction City School District.

Awbrey Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Easy	Easy	Easy-Moderate	Easy	Moderate	Easy-Moderate
<b>Generalized cost estimate</b>	\$	\$	\$-\$\$\$	\$	\$\$	\$\$

## 05. Highway 99 Subarea

### **General Description**

This area is located to the north of Eugene and extends from west of Highway 99 on its northern edge to River Road to the east. It includes land on both sides of Prairie Rd. The land in the subarea also surrounds the Junction City UGB on three sides where adjacent to Highway 99. This area is flat and primarily used for agriculture.



### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Moderate to serve. Developing this area would cause minimal disruption to existing wastewater network and roads downstream; only a relatively small amount of the downstream piping is not large enough. However, a new pump station would likely need to be built to serve the area, which would be costly to design and construct. Generalized cost estimate is \$\$\$\$.

**Water:** Easy to moderate to serve. This is because distribution and transmission systems would have to be extended from incorporated areas within the UGB to provide service. Due to the flat topography, this can be done relatively efficiently along River Road, Prairie Road and Highway 99. There are no east-west roadways through the entire subarea; that and the existence of the Junction City UGB and two railroad corridors make east-west utility connections more complicated and costly. Generalized cost estimate is \$\$.

**Fire Protection:** Moderate to serve. This area is currently served by Lane Fire Authority. Given the current locations of the city fire stations and existing street network, there are response time/service delay concerns for truck coverage. There are also water supply issues. Generalized cost estimate is \$\$-\$\$\$.

**Transportation:** Easy to serve. This subarea has easy access to Highway 99 and Prairie Road, which serve as connections to Eugene and the regional network. Generalized cost estimate is \$.

**Transit:** Moderate to serve. The flat topography makes this subarea easy to access. It may be challenging to create efficient service in the area given the relative isolation and need to deviate from existing routes. The closest current route is on Highway 99 to Junction City and is separated from most of the developable land in this subarea. Deviating this route would also make service less efficient. Generalized cost estimate is \$\$.

**Stormwater:** Easy to moderate to serve. This subarea has flat topography and the soils are likely suitable for stormwater infiltration. Individual development sites are likely suitable for on-site infiltration to reduce post-development runoff and protect downstream water quality. If on-site detention is not feasible, neighborhood or regional detention facilities may be necessary, which would make the ease to serve this area 'moderate.' Some degree of a stormwater system exists already which would need to be evaluated for capacity and need for improvements. Generalized cost of improvements is \$\$.

**Other Service Information**

**Parks:** There are no parks in this subarea.

**Electric:** A portion of this area is served by Blachly-Lane Electric.

**Schools:** This subarea is within the Bethel School District.

Highway 99 Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Moderate	Moderate	Moderate	Moderate	Moderate	Easy-Moderate
<b>Generalized cost estimate</b>	\$\$\$\$	\$\$	\$\$-\$\$\$	\$\$	\$\$\$	\$\$

## 06. Airport North Subarea

### **General Description**

This area is located directly north of the airport and is not contiguous to the UGB. This area is bordered on the east by Highway 99, and Meadowview Road is the approximate northern boundary. The land in this area is flat and used for agriculture. Several smaller channels run through this area and include floodplain. The following serviceability input is based on the assumption that Highway 99 subarea would develop as well.



### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Difficult to serve. This area has significant downstream capacity issues. The downstream pump station should be evaluated for capacity and there is about 7000' of pipe, including a force main, that is undersized to handle expansion in this area. Furthermore, an additional pump station will likely need to be constructed to serve this subarea. Generalized cost estimate is \$\$\$\$.

**Water:** Easy to serve. EWEB service is already available adjacent to area. Distribution and transmission systems would have to be extended to provide service. In preparing the cost estimate, EWEB assumed that permits to bore under the storm drainage channel on Awbrey Lane would be attainable. Generalized cost estimate for improvements is \$.

**Fire Protection:** Moderate to serve. This area is currently served by Lane Fire Authority. Given the current locations of the city fire stations and existing street network, there are response time/service delay concerns for truck coverage. The airport fire station does not provide coverage to surrounding areas. Generalized cost estimate is \$\$-\$\$\$.

**Transportation:** Easy to serve. There are capacity issues with Greenhill Road, but not for the portion that is this far north. Highway 99 is close by and provides an important connection to downtown. Generalized cost estimate is \$.

**Transit:** Moderate to serve. This area is easy to access given topography. It may be challenging to create efficient service in the area given the relative isolation and need to deviate from existing routes. Route 95 is the closest route and deviation would likely make this service less efficient. Generalized cost estimate is \$\$\$.

**Stormwater:** Easy to moderate to serve. This area has flat topography and the soils are likely suitable for infiltration. Some degree of a stormwater system exists already which would need to be evaluated for capacity and need for improvements. The individual development sites are likely suitable for on-site infiltration to reduce post-development runoff and protect downstream water quality. If on-site detention is not feasible, neighborhood or regional detention facilities may be necessary, which would make the ease to serve this area 'moderate.' The applicability of Junction City Water Control District flood control requirements would need to be extended into this area. Generalized cost estimate for improvements is \$\$.

**Other Service Information**

**Parks:** There are no parks in this subarea.

**Electric:** Pacific Power and Light provides service to a portion of this area.

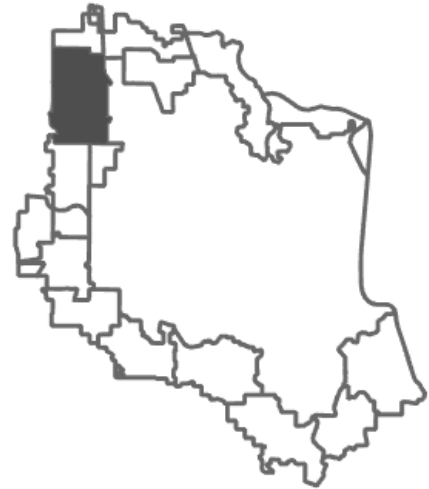
**Schools:** This subarea is within the Junction City School District.

Airport North Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Difficult	Easy	Moderate	Easy	Moderate	Easy-Moderate
<b>Generalized cost estimate</b>	\$\$\$\$	\$	\$\$-\$\$\$	\$	\$\$\$	\$\$

## 07. Airport Subarea

### **General Description**

This area is located to the northwest of Eugene. It is contiguous to the UGB. It includes land immediately north of the Eugene airport, south of Meadowview Road and west of Highway 99. Most of the subarea is south of Meadowview Road, but it also includes a small portion of land north of Meadowview Road around Green Hill Road. The subarea is approximately equidistant to downtown Eugene and downtown Junction City, as the crow flies.



### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Difficult to serve. This area has significant downstream capacity issues. The downstream pump station should be evaluated for capacity and there is about 7000' of pipe, including a force main, that is undersized to handle expansion in this area. Furthermore, an additional pump station will likely need to be constructed to serve this subarea. Generalized cost estimate is \$\$\$\$\$.

**Water:** Easy to serve. EWEB service is already available adjacent to area. Distribution and transmission systems would have to be extended to provide service. In preparing the cost estimate, EWEB assumed that permits to bore under the storm drainage channel on Awbrey Lane would be attainable. Generalized cost estimate for improvements is \$.

**Fire Protection:** Moderate to serve. This area is currently served by Lane Fire Authority. Given the current locations of the city fire stations and existing street network, there are response time/service delay concerns for truck coverage. The airport fire station does not provide coverage to surrounding areas. Generalized cost estimate is \$\$-\$\$\$.

**Transportation:** Easy to serve. There are capacity issues with Greenhill Road, but not for the portion that is this far north. Highway 99 is close by and provides an important connection to downtown. Generalized cost estimate is \$.

**Transit:** Moderate to serve. This area is easy to access given topography. It may be challenging to create efficient service in the area given the relative isolation and need to deviate from existing routes. Route 95 is the closest route and deviation would likely make this service less efficient. Generalized cost estimate is \$\$\$.

**Stormwater:** Easy to moderate to serve. This area has flat topography and the soils are likely suitable for infiltration. Some degree of a stormwater system exists already which would need to be evaluated for capacity and need for improvements. The individual development sites are likely suitable for on-site infiltration to reduce post-development runoff and protect downstream water quality. If on-site detention is not feasible, neighborhood or regional detention facilities may be necessary, which would make the ease to serve this area 'moderate.' The applicability of Junction City Water Control District flood control requirements would need to be extended into this area. Generalized cost estimate for improvements is \$\$.

**Other Service Information**

**Parks:** There are no parks in this subarea.

**Electric:** Pacific Power and Light provides service to a portion of this area.

**Schools:** This subarea is within the Junction City School District.

Airport Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Difficult	Easy	Moderate	Easy	Moderate	Easy-Moderate
<b>Generalized cost estimate</b>	\$\$\$\$\$	\$	\$\$-\$\$\$	\$	\$\$\$	\$\$

## 08. Clear Lake Subarea

### **General Description**

This area is to the northwest of Eugene and is bordered by Clear Lake Road to the north, Barger Drive to the south, Green Hill Road to the west and the UGB along its eastern edge. This area is currently used for agriculture.

### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Moderate to serve. Only a minimal amount of downstream pipe is undersized to serve the area. However, development of this area will likely require the construction of a pump station. Generalized cost estimate is \$\$\$.

**Water:** Easy to serve. EWEB service is already available adjacent to area. Distribution/ Transmission systems would have to be extended to provide service. In preparing the cost estimate, EWEB assumed that permits would be attainable. Generalized cost estimate for improvements is \$.

**Fire Protection:** Easy to moderate to serve. Lane Fire Authority currently provides service to this area. Given the proximity to the nearest city fire stations and existing street network, it appears response times to this area would be acceptable. Generalized cost estimate is \$-\$\$\$.

**Transportation:** Easy to serve. There are no significant transportation concerns within the subarea. The only potential concerns are related to where traffic from this area will go, specifically if they will use streets in the existing system that already have capacity issues. Generalized cost estimate for improvements is \$.

**Transit:** Moderate to serve. The flat topography makes this area easy to access. It may be challenging to create efficient service in the area given the relative isolation and need to deviate from existing routes. Route 95 and Route 41 are the closest routes and deviation would likely make this service less efficient. Generalized cost estimate is \$\$\$.

**Stormwater:** Easy to moderate to serve. Drainage from these areas would be to tributaries of Amazon Creek. Roadside ditches and pipe segments to receiving waterways exist, and their capacity would need to be evaluated. The flat topography and soils are less conducive to in-site infiltration, but it would still be desirable to employ green infrastructure wherever possible. The capacity of the downstream system requires further evaluation but appears to be good. Stormwater development standards would need to be met for pollution reduction, and potentially flow controls which could present moderate challenges depending on soil types and space constraints. The applicability of Junction City Water Control District flood control requirements would need to be extended into this area. Generalized cost estimate for improvements is \$\$.





**Other Service Information**

**Parks:** There are no parks in this area. The nearest parks are all inside the UGB in the Bethel neighborhood, such as Golden Gardens Park and Bethel Community Park.

**Electric:** EWEB provides electric service to a portion of this area.

**Schools:** This area is in the Bethel School District. Bethel School district owns 20 acres of land adjacent to Clear Lake Road and the UGB.

Clear Lake Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Moderate	Easy	Easy-Moderate	Easy	Moderate	Easy-Moderate
<b>Generalized cost estimate</b>	\$\$\$	\$	\$-\$\$\$	\$	\$\$\$	\$\$

## 09. Airport South Subarea

### **General Description**

This area is located south of the Eugene Airport at Clear Lake Road, west of Eugene. The subarea is contiguous to the UGB at its southern eastern boundary, at Barger and Green Hill Road. The Clear Lake subarea is directly to the east, along Clear Lake Road. The southern boundary of the subarea is the Amazon Diversion Channel. This area is primarily used for agriculture and floodplain from the Amazon channel covers most of this area.



### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Moderate to serve. Only a minimal amount of downstream pipe is undersized to serve the area. However, development of this area will likely require the construction of a pump station, which increases the cost of extending services. Generalized cost estimate is \$\$\$.

**Water:** Easy to serve. EWEB service is already available adjacent to this area. Distribution and transmission systems would have to be extended only a short distance to provide service. Generalized cost estimate for improvements is \$.

**Fire Protection:** Moderate to serve. Lane Fire Authority currently provides service to most of this area, except for a southern portion served by Zumwalt Rural Fire Protection District. Given the current locations of the city fire stations and existing street network, there may be response time/service delay concerns for truck coverage. The airport fire station does not provide coverage to surrounding areas. Generalized cost estimate is \$\$-\$\$\$.

**Transportation:** Easy to serve. There are no significant transportation concerns within the subarea. The only potential concerns are related to where traffic from this area will go, specifically if they will use streets in the existing system that already have capacity issues. Generalized cost estimate for improvements is \$.

**Transit:** Moderate to serve. Easy to access given topography. It may be challenging to create efficient service in the area given the relative isolation and need to deviate from existing routes. Route 95 is the closest route and deviation would likely make this service less efficient. Generalized cost estimate is \$\$\$.

**Stormwater:** Easy to moderate to serve. The portion of this subarea that is not in the floodplain has flat topography and soils that appear suitable for infiltration. Some degree of a stormwater system already exists in the area and would need to be further evaluated for capacity and needed improvements. The applicability of Junction City Water Control District flood control requirements would need to be extended into this area. Generalized cost estimate for improvements is \$\$.

### **Other Service Information**

**Parks:** There are no parks within this subarea. The 18-acre Fir Butte property is outside of this subarea and adjacent to it on the southwest.

**Electric:** EWEB provides electric service to a portion of this area.

**Schools:** This subarea is within the Bethel School District.

Airport South Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized Serviceability</b>	Moderate	Easy	Moderate	Easy	Moderate	Easy-Moderate
<b>Generalized cost estimate</b>	\$\$\$	\$	\$\$-\$\$\$	\$	\$\$\$	\$\$

## 10. Royal Subarea

### **General Description**

This area is to the west of Eugene and includes land on both sides of Royal Avenue. The southern boundary of this area is the edge of Oak Hill park and the northern boundary is the Amazon Creek diversion channel that goes to Fern Ridge reservoir. Green Hill Road and the current UGB are the eastern boundary of this area. This area has relatively flat topography. A Bonneville Power Administration easement goes through this area and there is some protected floodplain in the northern portion of this area, as well as scattered wetlands.



### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Moderate to serve. Although over half of the area could be served by gravity, a pump station and force main will need to be constructed to serve the remaining area. The trunk line running down Royal Avenue will need to be a 10-inch pipe. There is adequate pump station capacity. The existing downstream system would not have any capacity issues if this subarea was developed. Generalized cost estimate for the City's share of improvements \$\$\$.

**Water:** Moderate to serve. Distribution pipelines would be needed. Extension of water service to this subarea is problematic because it does not provide an opportunity to have a looped distribution system which results in poor water quality and lower reliability to customers on a single feed system. Pressure could be an issue here as some of this area is located on an elevated butte. Pumping facilities may be required and/or oversizing facilities to reduce friction loss in pipelines. In preparing this estimate, EWEB assumed that permits to bore under the storm drainage ditch on Royal Avenue would be attainable. Most of the land in this subarea is below 500' elevation, so pressure should be adequate and no new pumping stations are required. Generalized cost estimate for improvements is \$\$.

**Fire Protection:** Easy to moderate to serve. Zumwalt Rural Fire Protection District currently provides service to this area. Given the distance from the nearest city fire stations and existing street network, it appears response times to this area would be acceptable. Generalized cost estimate is \$-\$\$\$.

**Transportation:** Moderate to serve. Existing intersection deficiencies include Beltline at Roosevelt Boulevard and Beltline at West 11th Avenue. There are projected corridor constraints identified on West 11th Avenue and Roosevelt Boulevard near Beltline. There are programmed but unfunded projects to improve Royal Avenue between Terry Street and Green Hill Road to urban standards and the future project to extend Roosevelt Boulevard from Terry Street to Royal Avenue could facilitate development in this area. Generalized cost estimate for improvements is \$\$\$.

**Transit:** Moderate to serve. Easy to access given the topography and street connectivity; however, challenging to provide efficient service given isolated location from other routes and areas of higher levels of density. There are no existing routes in the immediate vicinity. We would need to deviate an existing route, and this may cause us to add lots of service in an unproductive area. Generalized cost estimate is \$\$\$.

**Stormwater:** Easy to moderate to serve. Drainage from this area would be to Amazon Creek. Roadside ditches along Green Hill Road exist and could be enhanced in conjunction with future street improvements. Given that informal systems, like roadside ditches and swales, already exist to convey runoff and this subarea is relatively close to the receiving waterway, extending stormwater service could be easy as long as there is adequate capacity. Stormwater development standards would need to be met for pollution reduction, and potentially flow controls which could present moderate challenges since soils are likely to be less suitable for infiltration. Generalized cost estimate for improvements is \$.

**Other Service Information**

**Parks:** This subarea does not contain any parks but has lots of park land surrounding it. The southern boundary is Oak Hill park, which is described under the W. 11<sup>th</sup>/Greenhill subarea. The eastern boundary, immediately inside the UGB, is the 404-acre Meadowlark Prairie. The northern boundary is the Greenhill to Fern Ridge waterway connection, which has a small buffer of Parks and Open Space-owned land around it.

**Electric:** EWEB provides electric service to this subarea.

**Schools:** The portion of this subarea south of Royal Avenue is in the Eugene 4J School District and the portion north of Royal Avenue is in the Bethel School District.

Royal Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Moderate	Moderate	Easy-Moderate	Moderate	Moderate	Easy-Moderate
<b>Generalized cost estimate</b>	\$\$\$	\$\$	\$-\$\$\$	\$\$\$	\$\$\$	\$

## 11. Fisher Road Subarea

### **General Description**

This area is located west of the Royal subarea and the W 11<sup>th</sup>/Greenhill subarea and is not adjacent to the UGB. The Fisher subarea extends just south of Highway 126 and the northern boundary is the Amazon diversion channel. Fern Ridge reservoir is located to the west of this area and the western boundary is the Fern Ridge wildlife area. The subarea is primarily used for agriculture with some forest land and rural residential development. This includes the Oak Hill cemetery as well as scattered wetlands and an area of steep slope. The following serviceability input is based on the assumption that the W 11<sup>th</sup>/Greenhill and Royal subareas would develop as well.



### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Moderate to serve. The downstream pipes have enough capacity to accommodate the wastewater load that development in this subarea would generate, so downstream upgrades are not needed. A pump station would need to be constructed to serve this subarea, or the pump station anticipated for the W 11<sup>th</sup>/Greenhill subarea would need to be larger and deeper. Either way, this will result in an additional pump station cost. Generalized cost estimate for the City's share of improvements is \$\$\$.

**Water:** Moderate to serve. Distribution pipelines would be needed. The extension of water service to this subarea provides an opportunity to have a large looped distribution system extending from the Royal and West 11<sup>th</sup>/Greenhill subareas (Greenhill Rd/Royal Ave/Fisher Rd/Hwy 126). This would assume land in the Royal and West 11<sup>th</sup>/Greenhill subareas would urbanize first. Most of the land in this subarea is below 500' elevation, so pressure will be adequate and no new pumping stations are required. Generalized cost estimate is \$\$.

**Fire Protection:** Easy to moderate to serve. Fire protection is currently provided by Zumwalt Rural Fire Protection District, who contracts with Eugene-Springfield Fire Department for fire protection. Given the proximity to the nearest city fire stations and existing street network, it appears response times to this area would be acceptable. Generalized cost estimate is \$-\$\$\$.

**Transportation:** Moderate to serve. Easy to access given topography and street connectivity. The flat topography makes this area well suited for multimodal transportation, but improvements such as sidewalks and bike lanes would need to be made to accommodate all users, particularly on Royal Ave and W 11th/Hwy 126. There is a programmed but unfunded project to improve Royal Avenue between Terry Street and Green Hill Road to urban standards, which would improve connectivity between the Fisher subarea and the current UGB. Development of this area may exacerbate identified capacity constraints and congestion on W 11th Ave. Based on input received on the W 11th/Greenhill and Royal subareas, generalized cost estimate is \$\$\$.

**Transit:** Moderate to serve. Easy to access given topography and street connectivity. EmX West is the closest route to this area. Deviating the Bus Rapid Transit system is not feasible at this time but may be possible in over 20 years if development continues to push out past the transit line. The area could be served by some type of

connector route, or through deviating an existing route, however, this would be challenging to do efficiently given isolated location from other routes and areas of higher levels of density. Generalized cost estimate is \$\$\$.

**Stormwater:** Moderate to serve. Drainage from this area would be to Amazon Creek. Given that the subarea is relatively close to the receiving waterway, extending stormwater service could be easy as long as there is adequate capacity. The existing stormwater system, composed of roadside ditches and along West 11th Avenue, would need to be evaluated for capacity. Soils in this subarea appear less suitable for infiltration, making onsite stormwater management more difficult. Generalized cost estimate is \$\$.

**Other Service Information**

**Parks:** There is no dedicated park property within this subarea. The Seesil property, owned by the BLM, is adjacent to this subarea to the northwest. Oak Hill Park, in the W 11<sup>th</sup>/Greenhill subarea, is also adjacent to the Fisher subarea.

**Electric:** EWEB provides electric service to the majority of this subarea.

**Schools:** This subarea is located within the Eugene 4J School District.

Fisher Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Moderate	Moderate	Easy-Moderate	Moderate	Moderate	Moderate
<b>Generalized cost estimate</b>	\$\$\$	\$\$	\$-\$\$\$	\$\$\$	\$\$\$	\$\$

## 12. W. 11<sup>th</sup>/ Greenhill Subarea

### **General Description**

This area is located to the west of Eugene adjacent to the UGB and generally includes land around West 11<sup>th</sup> Avenue/Highway 126. Green Hill Road demarcates the edge of the UGB and is the eastern boundary of this subarea. Beyond it is the Crow subarea to the south, the Fisher subarea to the west, and the Royal subarea to the north. Oak Hill Park, a Bonneville Power Administration substation and an Oregon Department of Transportation wetland mitigation bank are within the subarea.



### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Moderate to serve. The existing downstream system has no capacity issues if this area is developed. The expansion of the system into this subarea will likely require construction of a pump station outside of the current UGB, which increases the cost of serving this area. Generalized cost estimate for improvements is \$\$\$.

**Water:** Moderate to difficult to serve. Additional water storage and pumping capacity will be necessary. Most of this expense is due to the need for new pumping and storage facilities for the land in the southern portion of the subarea; however, there is some potential for cost savings if service was extended to the Crow, Royal and Fisher subareas as well if there are adequate roads and connections between them, such as a large loop system. However, if there were not adequate connections, each area would need its own pump station and reservoir. Water distribution and transmission facilities need to be sited in road right-of-ways and, therefore, expansion areas should take this into account and provide a clear means to bring delivery into a new area with a minimum of two separate routes. EWEB also owns property for water storage on Cantrell Road immediately adjacent to the subarea in the Crow subarea that is beneficial for water provision in the area. Generalized cost estimate for improvements is \$\$\$.

**Fire Protection:** Easy to moderate to serve. Fire protection is currently provided by Zumwalt Rural Fire Protection District. Given the proximity to the nearest city fire stations and existing street network, it appears response times to this area would be acceptable. There are possible fire flow/water supply concerns, per EWEB. Generalized cost estimate is \$-\$\$\$.

**Transportation:** Moderate to serve. There are projected capacity and congestion concerns with West 11<sup>th</sup> Avenue, which runs through this subarea and is the primary connection to downtown Eugene. Generalized cost estimate is \$\$\$.

**Transit:** Moderate to serve. EmX West is the closest route to this area. Deviating the Bus Rapid Transit system is not feasible at this time but may be possible in over 20 years if development continues to push out past the transit line. The area could be served by some type of connector route, or through deviating an existing route, however, this would be challenging to do efficiently. Generalized cost estimate is \$\$\$.



**Stormwater:** Moderate to serve. Flow controls would be needed in headwaters areas (over 500 ft in elevation). The soils in the flatter parts of this subarea are less conducive to infiltration. The existing stormwater system, composed of roadside ditches and along West 11<sup>th</sup> Avenue, would need to be evaluated for capacity. Detention facilities may be needed. Generalized cost estimate is \$\$.

**Other Service Information**

**Parks:** The northern boundary of this subarea is the 193-acre Oak Hill park.

**Electric:** EWEB provides electric service to this subarea.

**Schools:** This subarea is located within the Eugene 4J School District.

West 11th/Greenhill Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Moderate	Moderate-Difficult	Easy to Moderate	Moderate	Moderate	Moderate
<b>Generalized cost estimate</b>	\$\$\$	\$\$\$	\$-\$\$\$	\$\$\$	\$\$\$	\$\$

### 13. Crow Subarea

#### **General Description**

This area is to the southwest of Eugene and includes land around Willow Creek Road, which turns north and becomes Green Hill Road. Crow Road runs through the western portion of this area. Agricultural land is mostly along Crow Road in the southwest portion of the study area. The land in the subarea includes Townsend Woods, a park owned by the City of Eugene on Greenhill Road, and utility land owned by EWEB on Cantrell Road



#### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Easy to serve. There are no capacity issues, and all of the areas can be served by gravity wastewater to the existing system. The current master plan requires that the wastewater line in Green Hill Road at Terry Street be extended to the UGB, therefore adding these areas to the UGB would have little to no increased cost to the City. No new pump stations would need to be built, which makes the subarea easier to serve. There is about 6500 feet of downstream pipe that may have moderate capacity issues and require additional capacity, which would need to be examined if this area was eventually considered for UGB expansion. Generalized cost estimate for the City's share of improvements is \$\$.

**Water:** Difficult to serve. Additional water storage and pumping capacity are necessary assuming that any of the elevations in this subarea are above 500 feet. The distribution system would have to be looped from Willow Creek Road area out to Highway 126. Water distribution and transmission facilities need to be sited in road right-of-ways and, therefore, expansion areas should take this into account and provide a clear means to bring delivery into a new area with a minimum of two separate routes. In preparing this cost estimate, EWEB assumed that three separate pressure zones would be required to serve the area, one reservoir and two pump stations would be required, and property would have to be purchased at two sites. Generalized cost estimate for improvements is \$\$\$.

**Fire Protection:** Moderate to difficult to serve. There are response time/service delay concerns in the areas farther from the UGB, due to the topography and existing street system. This includes configuration, grade, widths, traffic calming and street connectivity. Also, there is potential wildfire risk due to wildland urban interface conditions, and water supply/fire flow concerns. Generalized cost estimate is \$\$\$-\$\$\$\$.

**Transportation:** Moderate to serve. There are projected capacity and congestion concerns on West 11th Avenue, and possibly along portions of West 18th Avenue, which would serve as the main connections to downtown Eugene. Generalized cost estimate for improvements is \$\$\$.

**Transit:** Moderate to serve. EmX West is the closest route to this area. Deviating our Bus Rapid Transit system is not feasible at this time. The area could be served by some type of connector route, or through deviating an existing route, however, this would be challenging to do efficiently. Generalized cost estimate is \$\$\$.

**Stormwater:** Moderate to difficult to serve. About half of this subarea eventually drains to Amazon Creek (via tributaries along Crow Road to the Green Hill Road roadside ditch and via Willow Creek Road west branch

tributaries, respectively). Capacity of the tributaries has not been evaluated in the City’s stormwater basin planning. Capacity of the west branch of Willow Creek was evaluated using 1998 Metro Plan land use designations (i.e. rural residential); some capacity constraints were identified, mainly private driveway culverts along Willow Creek Road. There is also a portion of the subarea that drains to the southwest to Coyote Creek and this area has not been evaluated for capacity and water quality considerations. Any sites over 500 feet in elevation would be in the “headwaters area” and would need to meet current headwater flow control requirements (i.e. maintaining peak flows at pre-development rates). Soils are likely to be less suitable for infiltration, making meeting the current flow control requirements moderately challenging. Flow controls would be needed for steep-sloped areas. There is a potential need for detention facilities due to steep slopes and hydric soils. Stormwater development standards would need to be met also for pollution reduction, and potentially expanded future flow control requirements. Generalized cost estimate for improvements is \$\$.

**Other Service Information**

**Parks:** This area contains the 34-acres Townsend Woods park.

**Electric:** Lane Electric Cooperative currently provides service to most of this area. EWEB already provides electric service to the northern portion of this area.

**Schools:** This area is located within the Eugene 4J School District.

Crow Road						
Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Easy	Difficult	Moderate-Difficult	Moderate	Moderate	Moderate-Difficult
<b>Generalized cost estimate</b>	\$\$	\$\$\$	\$\$\$-\$\$\$\$\$	\$\$\$	\$\$\$	\$\$\$

## 14. Bailey/ Gimpl Hill Subarea

### **General Description**

This area is located to the southwest of Eugene and contains the land around Bailey Hill Road and Gimpl Hill Road. The Nature Conservancy owns a large property on the northern boundary of this area adjacent to the UGB that is recognized as a protected natural area. Next to the Nature Conservancy property is the City of Eugene's Murray Hill Park. The area is heavily forested with steep slopes and high-risk landslide areas scattered throughout and concentrated in the southwest corner.



### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Difficult to serve. The adjacent residential area within the UGB does not currently have wastewater service. This area must be served before the subarea, which will require a pump station placed in the low point, and a force main constructed up Bailey Hill Road to the existing gravity system at the top of the hill. The estimated cost for serving the area currently inside the UGB is \$2,500,000, which does not include any needed property acquisition. This new pump station is not listed in the Public Facilities and Services Plan. The existing wastewater system does not appear to have capacity to serve this subarea. The main in Bertelson Rd will need to be expanded to carry additional load, requiring about 6300 feet of new pipe. Generalized cost estimate for the City's share of improvements is \$\$\$\$.

**Water:** Moderate to serve. Additional water storage and pumping capacity is necessary. Extension of water service to this area is problematic because it does not provide an opportunity to have a looped distribution system which results in poor water quality and lower reliability to customers on a single feed system. To get infrastructure to new expansion areas, infrastructure has to be extended from the current city limits (or the nearest place where capacity exists to extend) to the expansion area regardless of development that may or may not occur within the current UGB. EWEB is not able to split these costs apart. In preparing the cost estimate, EWEB assumed that water service would not be provided to property located 700 feet above Mean Sea Level, that looping would be accommodated with an easement or new street between Gimpl Hill Road and Bailey Hill Road, and that property is obtainable for a reservoir site (<\$150,000) and a pump station site (<\$150,000). Bringing service to this subarea requires going around the Willow Creek natural area that is located within the UGB, which does not need to be served, which increases the cost of improvements. Generalized cost estimate for improvements to serve both the expansion area and the adjacent area inside the current UGB is \$\$\$\$.

**Fire Protection:** Moderate to serve. The majority of this area is currently served by the Bailey-Spencer Rural Fire Protection District, except for a portion in the northwest that is served by Zumwalt Rural Fire Protection District. Given the proximity to nearest city fire stations, it appears response times to this area would be acceptable; however, there are wildland urban interface conditions and water supply/fire flow concerns per EWEB. Generalized cost estimate is \$\$-\$\$\$.

**Transportation:** Moderate to difficult to serve. There are capacity and congestion concerns at both West 11th and West 18<sup>th</sup> Avenue, as well as along Bailey Hill Road between West 11th Avenue and West 18th Avenue.

These areas of concern are within the UGB but serve as the main connections from this subarea. Generalized cost estimate for improvements is \$\$\$\$.

**Transit:** Moderate to serve. There is moderate access to this area given the topography and street connectivity. However, it is challenging to provide efficient transit service to areas such as this that are isolated from both other routes and areas of dense development. There are no existing routes in the immediate vicinity and the nearest route is on West 18<sup>th</sup> Avenue at Bertelsen Road and Bailey Hill Road. Generalized cost estimate is \$\$\$.

**Stormwater:** Moderate to difficult to serve. Approximately half of this area drains to Willow Creek/Amazon Creek. Capacity of the east branch of Willow Creek was evaluated using 1998 Metro Plan land use designations (rural residential), and one culvert deficiency was identified. Any sites over 500 feet in elevation would be in the “headwaters area” and would need to meet current headwater flow control requirements (i.e. maintaining peak flows at pre-development rates). Soils are likely to be less suitable for infiltration, making meeting the current flow control requirements moderately challenging. Stormwater development standards would need to be met for pollution reduction, and potentially expanded flow control requirements. The other portion of this subarea drains to the southwest to Spencer Creek and has not been evaluated for capacity and water quality considerations. Flow controls would be needed for steep-sloped areas. There is a potential need for detention facilities due to steep slopes and hydric soils. Generalized cost estimate for improvements is \$\$\$.

**Other Service Information**

**Parks:** This area contains a number of park lands. The 526-acre Willow Creek natural area is mostly inside the UGB but extends into this subarea. Within the Crow subarea and adjacent to Willow Creek is the 77-acre Murray Hill Park. The 13-acre Baily Hill park is adjacent to Baily Hill Road in the east portion of the subarea. Gimpl Ridge park is two separate pockets, 15 acres total, that are part of the ridgeline parks system.

**Electric:** Lane Electric Cooperative provides electrical service to the majority of this area with EWEB serving the remaining area.

**Schools:** This subarea is completely within the Eugene 4J School District.

Bailey/Gimpl Hill Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Difficult	Moderate	Moderate	Moderate-Difficult	Moderate	Moderate-Difficult
<b>Generalized cost estimate</b>	\$\$\$\$\$	\$\$\$\$	\$\$-\$\$\$	\$\$\$\$	\$\$\$	\$\$\$

## 15. Crest/ Chambers Subarea

### **General Description**

This area is located to the south of Eugene. It includes the land on both sides of Crest Drive, which turns into Lorane Highway. There is mostly rural residential development adjacent to the UGB and along Crest Drive and Blanton Road. The 250-acre city-owned Wild Iris Ridge Park is included in the subarea on its northwestern edge and the 193-acre city-owned South Eugene Meadows Park is included in the subarea on its southeastern edge. There is a Bonneville Power Administration easement which runs through the southern portion of the area.



### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Difficult to serve. A new pump station would need to be located in the southwest of this area. If the entire area were included, the pump station would require over 10,000 feet of force main and 15,000 feet of trunk sewer line. In addition, if the entire area was included, it is expected that a portion of the trunk line located in Chambers would need to be replaced due to under-sizing. The existing system appears to have approximately 7300' of pipe with inadequate capacity to handle full expansion of this area. Additionally, this area flows to the Fillmore pump station. Although the pump station recently went through a retrofit, the capacity of this station would need to be verified, and additional upgrades may be necessary. Generalized cost estimates for the City's share of improvements is \$\$\$\$\$.

**Water:** Moderate to difficult to serve. A portion of the area is already served by EWEB. Potentially there is sufficient capacity in existing facilities, however, there may be a need to increase capacity. Generalized cost estimate for improvements is \$\$\$.

**Fire Protection:** Difficult to serve. The eastern portion of this area is currently served by Eugene Rural Fire Protection District and the western portion is served by Bailey-Spencer Rural Fire Protection District. Given the current locations of the city fire stations and existing street network, there are response time/service delay concerns. Concerns with the existing street network include configuration grade, widths, traffic calming and street connectivity. Additionally, there is potential wildfire risk due to interface with rural forest lands, and fire flow concerns per EWEB. Generalized cost estimate is \$\$\$\$-\$\$\$\$\$.

**Transportation:** Difficult to serve. Although there are no existing or projected capacity concerns with the streets in the vicinity, there are localized concerns including the lack of connectivity and alternative routes in this area. Improvements to Lorane Highway and potentially other streets serving the area would be needed to support additional traffic loads. Generalized cost estimate for improvements is \$\$\$\$\$.

**Transit:** Difficult to serve. Access is difficult given the existing street system, much of which is unfriendly to safe use by transit vehicles. There are no existing routes in the immediate vicinity and the nearest is at 28<sup>th</sup> and Chambers. Generalized cost estimate is \$\$\$\$\$.

**Stormwater:** Moderate to difficult to serve. This area is located in the headwaters of the Spencer Creek watershed and drains to Fern Ridge Reservoir and the Long Tom River via Spencer Creek and Coyote Creek. If

developed to urban densities, urban runoff would flow through downstream agricultural and forested lands before discharging to Spencer Creek which has not been evaluated for capacity as the City primarily drains to the north. These sites themselves are not particularly steep but are over 500 feet in elevation; development would need to meet current headwater flow control requirements (i.e. maintaining peak flows at pre-development rates). Soils may be less suitable for infiltration, making meeting the current flow control requirements moderately challenging. Stormwater development standards would need to be met for pollution reduction, and potentially expanded flow control requirements. Regulatory aspects of stormwater management would be more complex, as the City would be included in any TMDLs associated with urban runoff within the Spencer Creek watershed. Generalized cost estimate for improvements is \$\$\$\$.

**Other Service Information**

**Parks:** The Southeast portion of this subarea contains South Eugene Meadows, a 193-acre undeveloped park. The northwest corner of this subarea is the 250-acre Wild Iris Ridge park, which is also part of the ridgeline park system.

**Electric:** Lane Electric provides electrical service to the western portion of this area, and EWEB provides service to the eastern portion.

**Schools:** This subarea is completely within the Eugene 4J School District.

Crest/Chambers Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Difficult	Moderate-Difficult	Difficult	Difficult	Difficult	Moderate-Difficult
<b>Generalized cost estimate</b>	\$\$\$\$\$	\$\$\$	\$\$\$\$-\$\$\$\$\$	\$\$\$\$\$	\$\$\$\$	\$\$\$\$

## 16. S. Willamette/ Fox Hollow Subarea

### **General Description**

This area is to the south of Eugene and includes the land around South Willamette Street and Fox Hollow Road extending to where they meet, approximately 2.5 miles south of the UGB. This area is bounded on the north by the UGB and the South Hills, much of which is part of the city's Ridgeline Park system. Spencer Butte Park is in the center of this subarea, with trail access from South Willamette Street and Fox Hollow Road. The area is characterized by steep slopes and is mostly large lot residential development on forest, marginal and rural residential designated County land.



### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, and stormwater serviceability:

**Wastewater:** Difficult to serve. There appears to be about 4,400' feet of downstream pipe in the existing system that will not be able to handle the additional load of development in this area. Additionally, serving the area would likely require the construction of at least one pump station because of the topography of the ridge. Generalized cost estimate is \$\$\$\$\$.

**Water:** Difficult to very difficult to serve. Will require significant infrastructure potentially requiring pump stations and reservoirs as well as a significant amount of piping. Generalized cost estimates for improvements is \$\$\$\$-\$\$\$\$\$ depending on where development occurs.

**Fire Protection:** Difficult to serve. This area is currently served by Eugene Rural Fire Protection District. Given the current locations of the city fire stations and existing street network, there are response time/service delay concerns. Additionally, there is potential wildfire risk due to wildland-urban interface conditions, and fire flow concerns per EWEB. Generalized cost estimate is \$\$\$\$-\$\$\$\$\$.

**Transportation:** Moderate to difficult to serve. Slope failures in this area could be expensive if additional capacity is needed. Bicycle/pedestrian access is difficult due to steep grades. Generalized cost estimate is \$\$\$\$\$.

**Transit:** Difficult to access because of topography and existing street system. The nearest current routes are Rt. 24 and Rt. 73. Generalized cost estimate to serve is \$\$\$\$.

**Stormwater:** Moderate to difficult to serve. This area is located in the headwaters of the Spencer Creek watershed and drains to Fern Ridge Reservoir and the Long Tom River via Spencer Creek and Coyote Creek. If developed to urban densities, urban runoff would flow through downstream agricultural and forested lands before discharging to Spencer Creek which has not been evaluated for capacity as the City primarily drains to the north. These sites themselves are not particularly steep but are over 500 feet in elevation; development would need to meet current headwater flow control requirements (i.e. maintaining peak flows at pre-development rates). Soils may be less suitable for infiltration, making meeting the current flow control requirements moderately challenging. Stormwater development standards would need to be met for pollution reduction, and potentially expanded flow control requirements. Regulatory aspects of stormwater management would be



more complex, as the City would be included in any TMDLs associated with urban runoff within the Spencer Creek watershed. Generalized cost estimate for improvements is \$\$\$\$.

**Other Service Information**

**Parks:** This area contains the 385-acre Spencer Butte Park, which is located between Willamette Street and Fox Hollow Road.

**Electric:** EWEB and Lane Electric provide electric service to the study area. service to this area.

**Schools:** This area is within the Eugene 4J School District.

S. Willamette/ Fox Hollow	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Difficult	Difficult-Very Difficult	Difficult	Moderate-Difficult	Difficult	Moderate-Difficult
<b>Generalized cost estimate</b>	\$\$\$\$	\$\$\$\$-\$\$\$\$	\$\$\$\$-\$\$\$\$	\$\$\$\$	\$\$\$\$	\$\$\$\$

## 17. Dillard Subarea

### **General Description**

This area is located to the southeast of Eugene and includes the area on both sides of Dillard Road. This area is bounded to the north by Mt. Baldy and the Ridgeline Trail, and Suzanne Arlie park property, as well as the UGB to the northwest. The western boundary of this area approximately follows Christensen Road. This area is predominantly forested and also contains some rural residential development.



### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, transit and stormwater serviceability:

**Wastewater:** Very difficult to serve. This area is located on the backside of the ridge and has an east to west ridge running through approximately the middle of it. This ridge adds considerable design constraints to any wastewater infrastructure. The middle ridge will require that two pump stations be built to serve the entire area, along with 19,000 feet of force main. In addition, about 8,000 feet of gravity line should be 10-inch pipe due to the large size of this basin. The pump stations would be fairly large, and therefore more costly than other options. The impact on the downstream infrastructure is unknown at this time but the initial analysis indicates that there is about 9500' of downstream pipe that will be unable to serve the additional load if this area is developed. A development of this magnitude would likely require a new parallel gravity system to the Filmore Pump Station (33,000 feet). These pump stations are not listed in the Public Facilities and Services Plan. Generalized cost estimate for the City's share of improvements is \$\$\$\$\$.

**Water:** Difficult to serve. The area has steep slopes, it is a long distance from the existing distribution system, the streets are not well connected and significant infrastructure, including water reservoirs and pump stations, is required to serve the area. Serving this area could also require significant upgrades in the existing system that extends into the Amazon Basin. In addition, extension of water service to this area is problematic, because it does not provide an opportunity to have a looped distribution system which results in poor water quality and lower reliability to customers. In preparing this estimate, EWEB assumed the following: infrastructure would have to be extended over the ridge; property is currently owned but may not be feasible to build a new reservoir (assumed to be sufficient for purposes of this estimate), and it is assumed that service could be provided to this area by adding a single pump station and reservoir (both on existing property). Generalized cost estimate for improvements is \$\$\$\$.

**Fire Protection:** Difficult to serve. The eastern portion of this area is currently served by Goshen Rural Fire Protection District and the western portion is served by Eugene Rural Fire Protection District. Given the current locations of the city fire stations and existing street network, there are response time/service delay concerns. Additionally, there is potential wildfire risk due to interface with rural forest lands, and fire flow concerns per EWEB. Generalized cost estimate is \$\$\$\$-\$\$\$\$\$.

**Transportation:** Difficult to serve. Although there are no existing capacity concerns in the vicinity, there are projected capacity and connectivity concerns with Dillard Road as it could not support such an increase in traffic. A larger roadway network would be needed. However, there are slope stability concerns with expanding the roadway network in this subarea. The sloped terrain and street configuration also pose significant challenges to

bicyclists and pedestrians, including safety challenges on Dillard Road. Generalized cost estimate for improvements is \$\$\$\$\$.

**Transit:** Difficult to serve/access, given that the study area is accessed from the City solely by Dillard Road, which would present challenges for bus travel given its narrow, extremely curvy nature in this area. There are no existing routes in the immediate vicinity. Generalized cost estimate is \$\$\$\$.

**Stormwater:** Moderate to difficult to serve. This area lies outside of the City’s stormwater basins, draining to the south and east. Current impervious surface area is low. The capacity of the downstream system has not been evaluated by the City given that it lies outside of the city’s stormwater basins and the 2002 planning area. Very steep sites located above 500 feet in elevation; development would need to meet current headwater flow control requirements (i.e. maintaining peak flows at pre-development rates). Soils may be less suitable for infiltration (assuming they are similar to the south end of the Amazon Basin), making meeting the current flow control requirements moderately challenging to difficult. Generalized cost estimate for improvements is \$\$\$\$.

**Other Service Information**

**Parks:** This subarea does not contain any City-owned park land beside the portion of the Ridgeline Trail that falls outside the UGB, and the Mt. Baldy trailhead. However, immediately inside the UGB on the northwest border of this subarea is the 244-acre Amazon Headwaters park land.

**Electric:** Lane Electric provides electrical service to this area.

**Schools:** The majority of this area is served by the Eugene 4J School District. There is an area adjacent to Dillard Road on the east side that is served by the Creswell School District. There is also a smaller portion on the east side of the area that is served by the Springfield School District.

Dillard Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Very Difficult	Difficult	Difficult	Difficult	Difficult	Moderate-Difficult
<b>Generalized cost estimate</b>	\$\$\$\$\$	\$\$\$	\$\$\$-\$\$\$\$\$	\$\$\$\$\$	\$\$\$	\$\$\$

## 18. Russel Creek Subarea

### **General Description**

The Russel Creek area is located to the southeast of Eugene. It is bound by the UGB on the north and west, Franklin Boulevard on the east, and the Suzanne Arlie park property on the south. Lane Community College and Oak Hill School are located in this area.

### **Orderly and Economic Provision of Public Facilities and Services**

The following is a preliminary assessment of wastewater, water, fire protection, transportation, transit, and stormwater serviceability:



**Wastewater:** Difficult to serve. To serve this area, two pump stations would need to be constructed, along with approximately 7,000 feet of force main. The Glenwood station was sized to serve the basin, so it is assumed to have capacity. The City of Springfield constructed a 30-inch wastewater line from the Glenwood pump station to the bridge crossing into Springfield, which should be a sufficient size to serve the area. Although these two needed pump stations are shown on the city's Wastewater Master Plan, they are not included in the Public Facilities and Services Plan. There are approximately 5,000 feet of undersized pipe downstream that would need to be upgraded. If the Goshen wastewater project proceeds it could potentially benefit the serviceability of this area. Generalized cost estimates for the City's share of improvements is \$\$\$\$.

#### **Water:**

Difficult to serve. There is a small area already served by EWEB to the north of 30<sup>th</sup> Ave, however, service is limited to an elevation of 600 feet above mean sea level. There are elevation challenges and connection challenges on both the north and the south side of 30<sup>th</sup> Ave which could require multiple facilities. Significant infrastructure, including multiple pump stations, reservoirs, and large diameter pipelines, would need to be constructed to serve the rest of this area. Generalized cost estimate for improvements is \$\$\$\$\$.

**Fire Protection:** Difficult to serve. Given the current locations of the city fire stations and existing street network, there are response time/service delay concerns. Additionally, there is potential wildfire risk due to interface with rural forest lands, and fire flow concerns per EWEB. Generalized cost estimate is \$\$\$\$-\$\$\$\$\$.

**Transportation:** Moderate to serve. The hill on 30<sup>th</sup> provides a challenge to bicyclists accessing the area from south Eugene. While the area has good access to 30<sup>th</sup> Avenue, I-5 and Springfield, which are all positives for vehicular connectivity, the interchange at 30<sup>th</sup> Avenue and McVay Highway is currently failing, and additional capacity would be very challenging to accommodate based on the lack of right-of-way. Generalized cost estimate for improvements is \$\$\$\$\$.

**Transit:** Easy to serve. Good access to transit currently exists in this subarea along 30<sup>th</sup> Avenue. The area is currently served by route #85 LCC/Springfield. Deviation of the bus is possible, though depending on the exact nature of the development, we may run into topographical issues or have to expand service in an unproductive area. Generalized cost estimate is \$\$.

**Stormwater:** Moderate to difficult to serve. The City has not conducted an analysis of the capacity of this system in the Russel Creek watershed as part of its stormwater planning; however, the area is currently served by an

informal system of roadside ditches, culverts, catch basins and pipes. The capacity of the system would need to be evaluated for higher impervious surface areas. The steep slopes in this area present challenges, but there is the potential for detention facilities. The regulatory side of stormwater management may be more complicated in this area. Generalized cost estimate is \$\$\$\$.

**Other Service Information**

**Parks:** Parks and open spaces are plentiful in this area. It contains the 24-acre Bloomberg City Park and the 99-acre Coryell Ridge natural area. The entire southern border of the area is the 515-acre Suzanne Arlie Park. In addition, the 40-acre Moon Mountain Park straddles the UGB and a portion of it is located in this area. The City of Eugene has recently acquired about 120 acres between the UGB and 30<sup>th</sup> Avenue, which will be Black Oak Basin park.

**Electric:** EWEB provides electrical service to this area.

**Schools:** The majority of this area falls within the Eugene School District. There is a portion of the area adjacent to I-5 and north of 30<sup>th</sup> Avenue that falls within the Springfield School District. There is also a smaller portion along the southeast boundary of the subarea that falls within the Springfield School District.

Russel Creek Subarea	Wastewater	Water	Fire	Transportation	Transit	Stormwater
<b>Generalized serviceability</b>	Difficult	Very Difficult	Difficult	Moderate	Easy	Moderate-Difficult
<b>Generalized cost estimate</b>	\$\$\$	\$\$\$\$	\$\$\$-\$\$\$\$	\$\$\$\$	\$	\$\$\$