



WITCH HAZEL VILLAGE SOUTH

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CONCEPT PLAN
May 2018

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VISION STATEMENT

WELCOMING

A community that welcomes a diverse mix of neighbors with multiple types of housing choices including single-family homes, townhomes and apartments. There are opportunities for community interaction via parks, pathways and open space.



CONNECTED

A community that provides residents and visitors with full multi-modal access. A community that seamlessly connects neighborhoods and easily transitions from urban to rural lands.



GREEN

A community that integrates open spaces with neighborhoods. A sustainable community that incorporates green development practices. Preservation and improvement of existing natural resources and wildlife corridors to create a beautiful and functional natural environment.



Figure 1: Witch Hazel Village South Concept Plan Map





INTRODUCTION

The Witch Hazel Village South (WHVS) Concept Plan has been prepared to help guide future development of an approximately 150-acre area located in Washington County adjacent to the southern edge of the City of Hillsboro. The Plan establishes a design vision for this new community and describes how it can be reasonably funded and readily integrated into the surrounding urban area. With a demonstrated shortage of land for single-family housing in Hillsboro even after the full build-out of South Hillsboro, and a regional need for more housing, WHVS will provide diverse housing opportunities in a well-planned and well-designed community with ready access to regional parks, schools, jobs

and retail services. This Plan addresses how land uses, transportation infrastructure, utilities, public services and natural resources will be integrated within WHVS and the surrounding community.

1.1 PROJECT OVERVIEW

The WHVS site is immediately south of the existing Witch Hazel Village development, west of The Reserve Golf Club and east of River Road, and is located within a larger 940-acre urban reserve area, designated by Metro as suitable for accommodating urban development over the next 50 years. The urban reserve area south

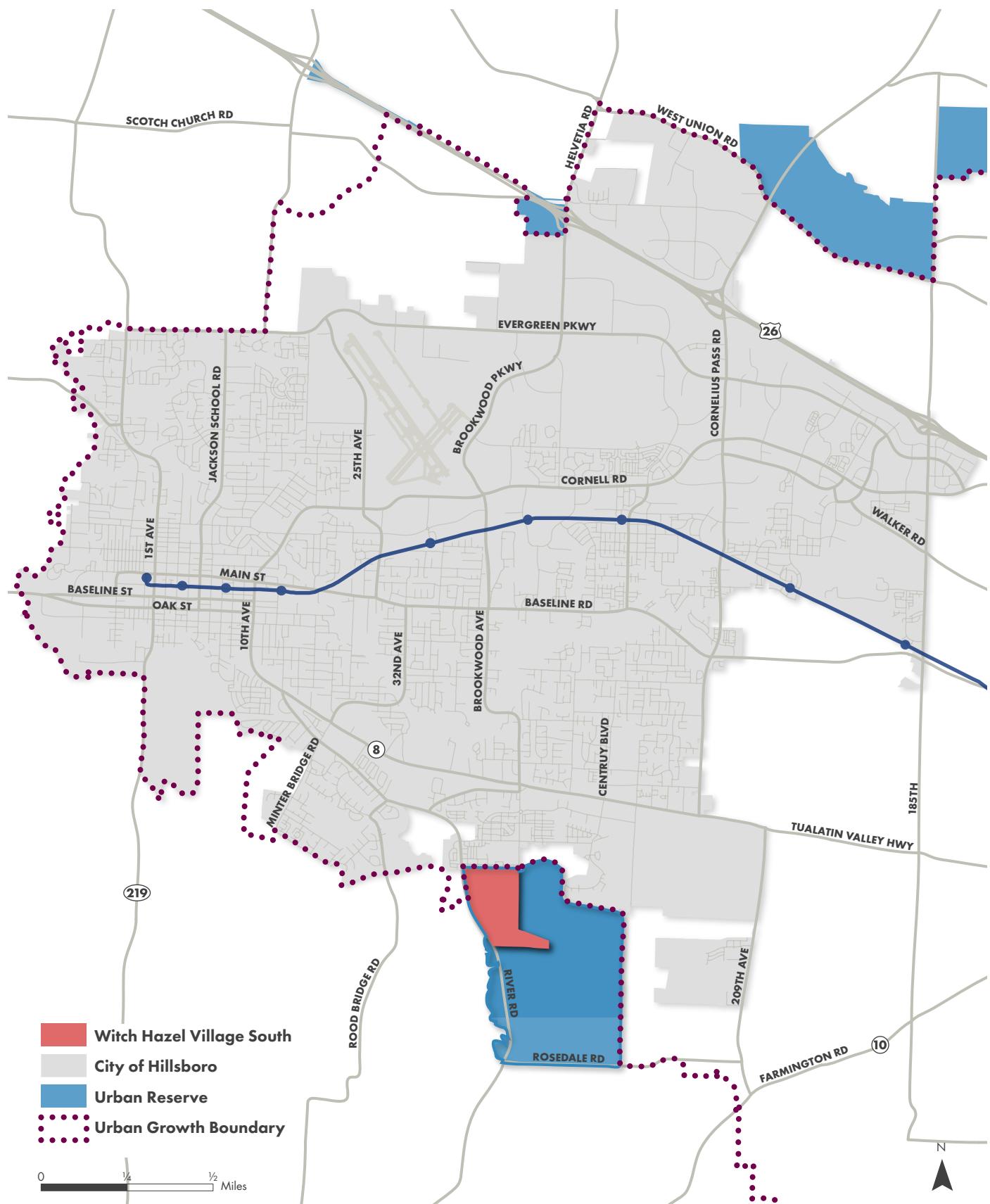
of WHVS is referred to as the South Urban Reserve Area (SURA). The 150-acre WHVS area is distinguished from the remaining urban reserve area because of its proximity to urban infrastructure and because it is composed of multiple property owners who have worked cooperatively to support planning efforts for future urban development.

The WHVS Concept Plan envisions a cohesive residential community providing a mix of housing types, parks and open spaces, and a high level of connectivity for vehicles, bikes and pedestrians. The Plan is intended to address Title 11 of Metro's Urban Growth Management Functional Plan (UGMFP), which provides the basic planning requirements for areas under consideration for an urban growth boundary expansion. Specifically, Title 11 calls for "long-range planning to ensure that areas brought into the UGB are urbanized efficiently and become or contribute to mixed-use, walkable, transit-friendly communities." The WHVS Concept Plan has been structured to ensure Title 11 compliance and includes a comprehensive guide for future land uses, housing types, public facilities, natural resource protection and agency coordination. The Concept Plan also identifies key infrastructure connections for the remaining South Urban Reserve Area to ensure those services can be logically and efficiently extended in the future.

Figure 2: Witch Hazel Village South Aerial Map



Figure 3: Context Map



1.2 PLANNING PROCESS

The WHVS Concept Plan was developed with critical input from stakeholders, community members and property owners. Community involvement was a priority throughout Plan development and was implemented through a series of public meetings and public hearings as further described in the WHVS Public Involvement Program (PIP) (See Appendix A). The PIP established public involvement goals and guiding principles, identified direct and indirect stakeholders, and defined a schedule for events and meetings. The PIP included:

- Property owners meeting
- Technical advisory committee meetings
- Two community meetings/open houses
- Two Planning Commission work sessions
- Public hearing before the Planning Commission



1.3 GUIDING PRINCIPLES

Guiding Principles were developed early in the planning process to identify the desired characteristics and outcomes for the development of WHVS and to serve as a template for decision making during the Plan development process. These guiding principles were endorsed by owners at the property owner meeting, and by project neighbors at the first community meeting/open house. These guiding principles are stated as follows:

The WHVS Concept Plan strives for:

- A vibrant community that reflects the values, aspirations, and priorities gathered from the project's public engagement process
- A diversity of housing choices that meets a broad range of needs and preferences for different ages, abilities, cultures, and incomes.
- Compact, mixed-use areas with effective transitions to lower-intensity residential neighborhoods with limited, locally-serving commercial services, particularly in the South Urban Reserve Area.
- Architectural and site design that enriches the lives and health of the community.
- A safe, interconnected, and efficient multi-modal transportation system.
- Development that adequately contributes to funding necessary on- and off-site utility, public facility and service improvements.

- Quality public realm including parks, open space, trails, streetscapes, schools, and community gathering spaces integrated with neighborhoods.
- Preservation and improvement of existing natural resources and wildlife corridors to effectively integrate the built and natural environment.
- Development that considers energy and water resource efficiency and accommodates renewable energy production.
- Public facility and community connections with South Hillsboro and Witch Hazel Village.

COMMUNITY PLANNING CONTEXT

Located in the Tualatin Valley between Portland and the Pacific Ocean, Hillsboro is Oregon's 5th largest city, with roughly 100,000 residents and one of the state's most diverse populations. The City provides complete services and is dedicated to providing visionary leadership, delivering responsive municipal services, and fostering collaborative partnerships that enhance Hillsboro's livability. The City has been recognized with award-winning urban planning that has helped provide a competitive cost of living, a strong economic base, and high-quality parks and natural areas.

Hillsboro has earned its reputation as a highly-desirable place to live. After its incorporation as a City in 1876, Hillsboro's prime location and surrounding agricultural production led to the nickname "Hub City," a moniker equally suited for Hillsboro's position today as one of the state's key economic anchors. To keep pace with housing needs, the City broke ground on South Hillsboro in 2016, setting the stage for the arrival of nearly 20,000 new residents in what is the largest master-planned community in Oregon's history. Hillsboro supports the state's fourth largest school district, two higher-education campuses, over 1,500 acres of designated

green spaces, and the region's only professional baseball team—the Hillsboro Hops.

While maintaining hometown values and agrarian roots, Hillsboro is helping shape Oregon's future through its innovation and ongoing evolution into one of Oregon's largest cities. The City will continue to provide opportunities that allow community members to live, work, and play in the same place. Hillsboro's residents, businesses, non-profits, and government take great pride in working side by side to maintain that tradition, giving as much attention to community and livability as development and industrial growth. With a healthy patchwork of history, business opportunities, neighborhoods, infrastructure, recreation, and culture, great things are growing in Hillsboro.

Continuing a tradition of rapid growth, Hillsboro's population is expected to increase by over 1.5 times from roughly 100,000 today to over 156,000 people by 2045, which is when the current supply of developable land inside the Urban Growth Boundary and urban reserve areas is expected to be built out. Following a steady trajectory over time, employment is expected to increase by 1.7 times over the same 30-year period.

To meet demand for this growth, the City will need to accommodate over 16,000 new housing units and almost 2,800 acres of employment uses through infill development, redevelopment, and expansion by 2036, according to the City's most recent Housing Needs Analysis and Economic Opportunities Analysis forecast. Developing communities, including North and South Hillsboro, Jackson East, and Witch Hazel Village South, will be instrumental in providing land for current and future Hillsboro residents and employees. Annexations to the City will likely increase considerably over the next decade as a result of the limited supply of land available to provide for the forecasted 20-year urban population growth.

2.1 RELATIONSHIP TO ADJACENT PLANNING AREAS

Witch Hazel Village

The WHVS site is immediately south of Witch Hazel Village. Properties in Witch Hazel Village were annexed into Hillsboro in 1999 and 2002 in an effort to address the 20-year housing need in the Metro region. It was born out of a vision to create a new urbanist neighborhood. The design of Witch Hazel Village reflects refinements of previous planning efforts that date back to 1997 when Metro initially identified the area for future Urban Growth Boundary (UGB) expansion. By implementing the core principles



of Great Communities from Metro's Region 2040 Growth Concept, Witch Hazel Village realizes the qualities of a healthy, safe and pleasant living environment. In addition to low and medium density housing, Witch Hazel Village features a north-south main street with a mix of uses along Brookwood Avenue. At final build out Witch Hazel Village will support the needs of approximately 4,100 new residents (approximately 1,500 new dwelling units). The neighborhood consists of an elementary and middle school, parks, civic and open spaces, and a main street.

South Hillsboro

Once the historic Ladd-Reed farm, South Hillsboro is 1,400 acres of open space, farmland and developed property that is in the process of becoming an entirely new part of Hillsboro's community. The South Hillsboro Community Plan area is inside the UGB, with some of the plan area within the Hillsboro City limits and some areas remaining in unincorporated Washington County. Bordered on the south by Rosedale Road, on the north by Tualatin Valley Highway, on the west by SW 229th Avenue and the existing Urban Growth Boundary and on the east by SW 209th Avenue, this new community will provide needed housing while creating a well-planned neighborhood. Gordon, Butternut, and Rosedale Creeks traverse the area generally from west to east, with upland and riparian wildlife habitat along the stream corridors. A majority of the South Hillsboro area currently consists of agricultural uses and forestlands, though the Plan area does contain some existing residences, commercial, and

institutional uses. The area within the City limits contains a mix of single family, multi-family, and mixed-use zoning; the unincorporated area is designated Future Development 20-Acre. South Hillsboro will include three unique districts which together will provide diverse residential neighborhoods located near jobs, retail centers, schools, parks, trails and greenways – all situated to make it easy to walk, bike and use public transit.

The 2014 South Hillsboro Community Plan envisions the area's long-term development over the next 20 years, building upon prior planning efforts in the area and guiding future development at the edge of the UGB. At full build out, South Hillsboro is anticipated to include:

- Approximately 8,000 residences of diverse types, architectural styles, and price ranges, designed to help meet the needs of the City's growing workforce, ultimately providing housing for nearly 20,000 residents.
- Mixed-Use Town and Village Centers providing a range of shopping, services, and gathering venues serving local neighborhoods, the City, and the broader region.
- 286 acres of new parks and open space with 15 miles of new multi-use trails, co-located with planned school facilities and placed such that all residents live within one quarter-mile of a park facility.
- A fully multi-modal transportation network including world-class bicycle infrastructure and expanded transit service.

Figure 4: Witch Hazel Village Community Plan

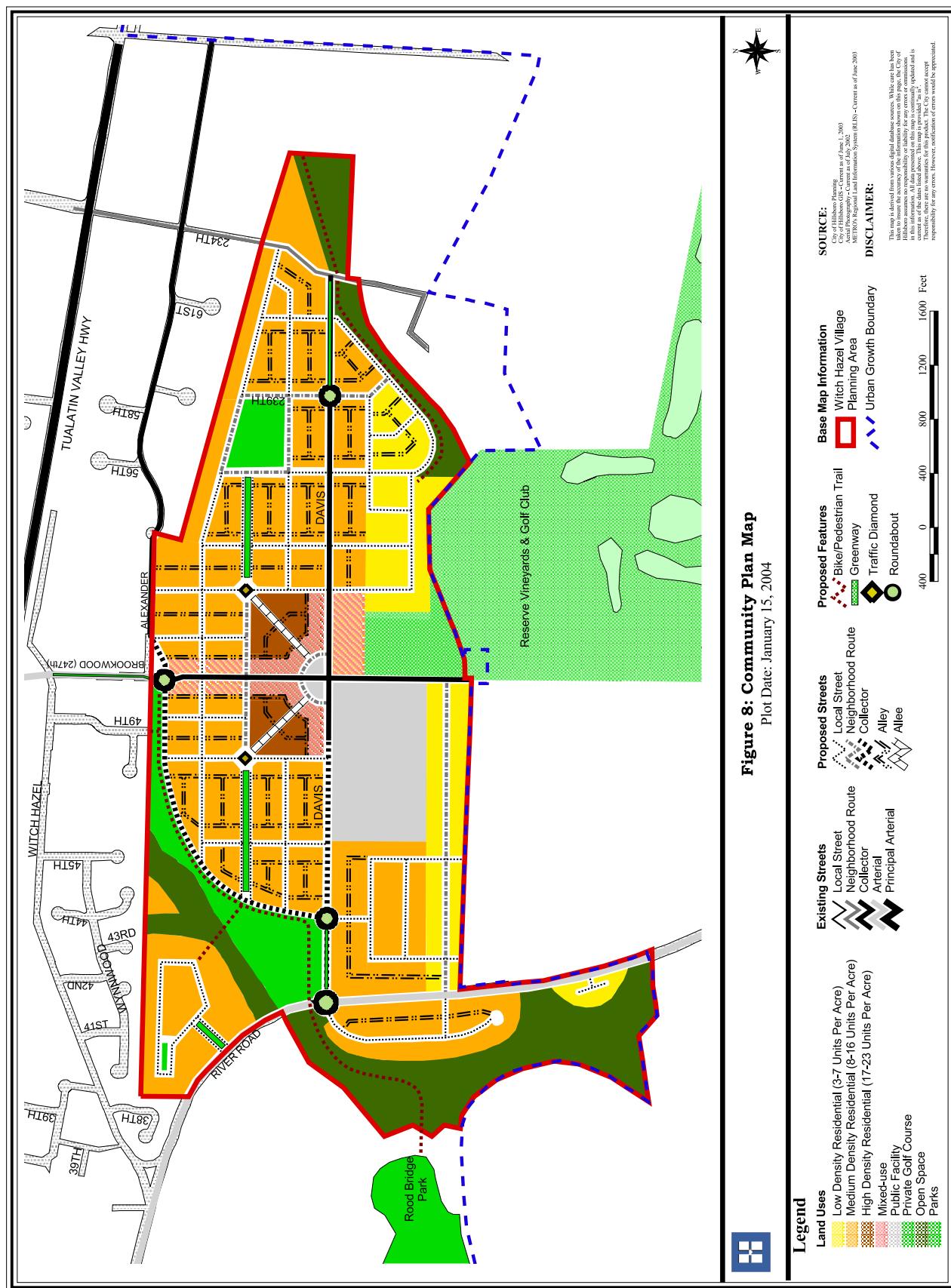
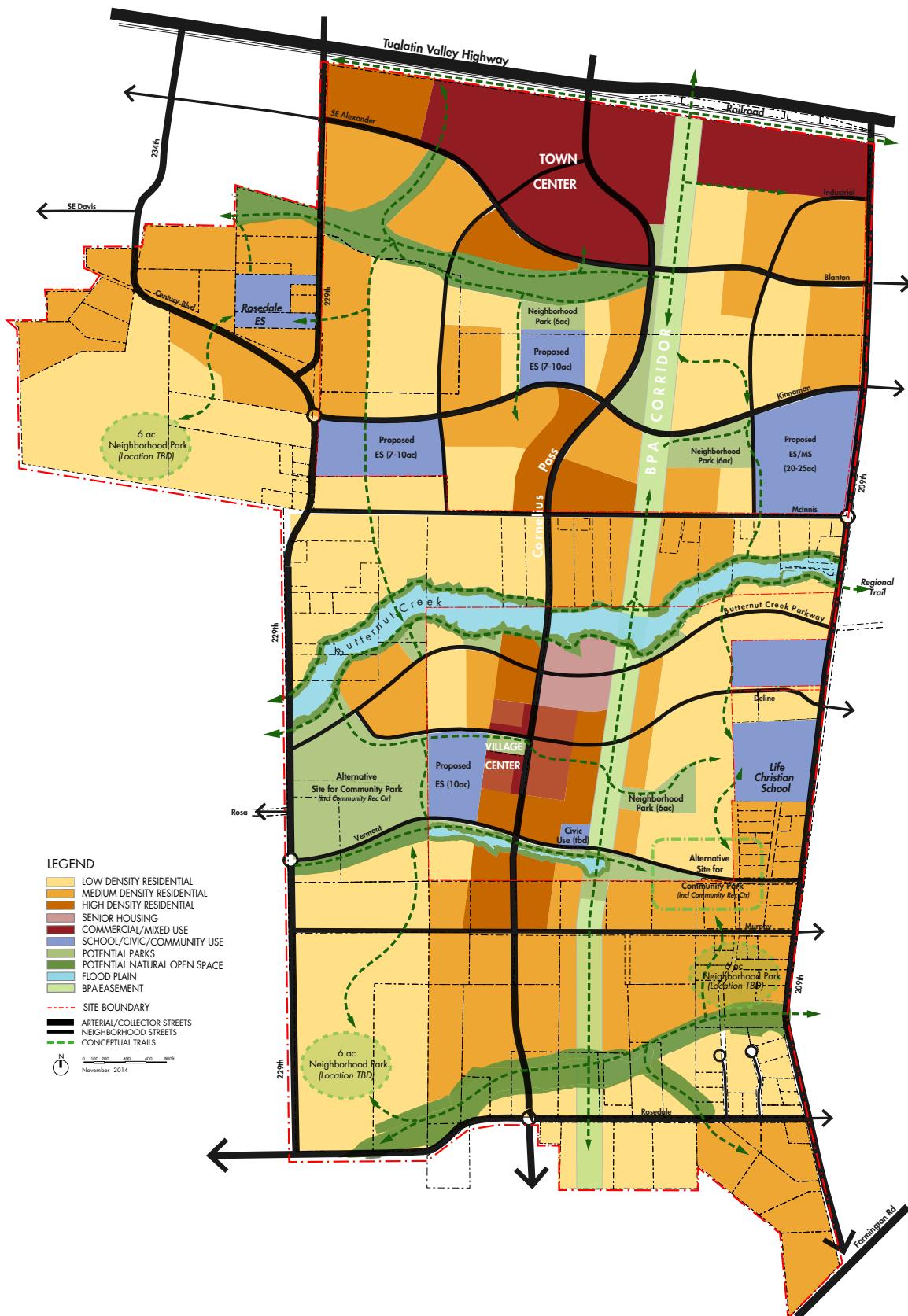
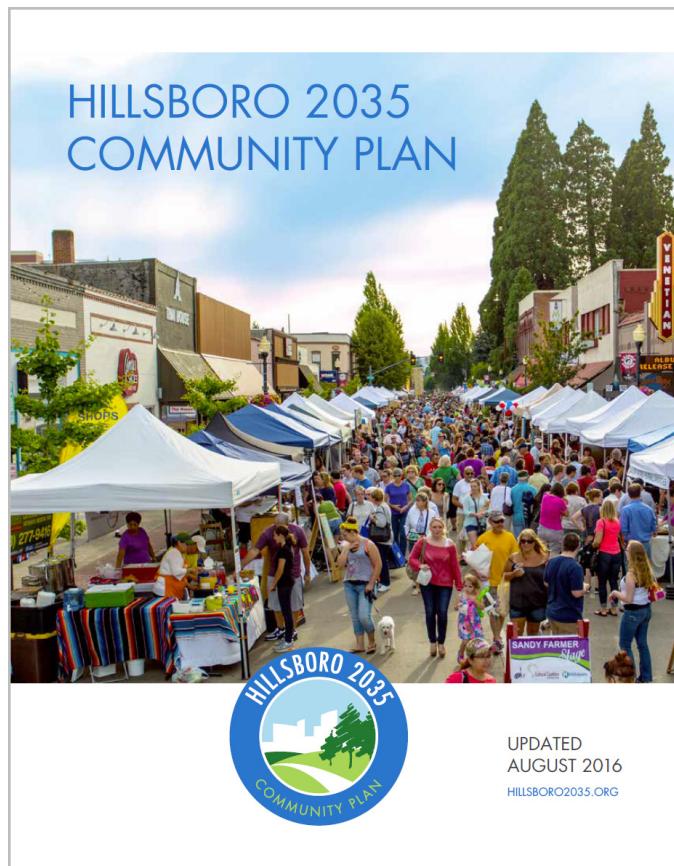


Figure 5: South Hillsboro Community Plan



2.2 HILLSBORO 2035

The Hillsboro 2035 Community Plan is the City's shared vision for the future and contains a detailed action plan for achieving a collective Vision. The ideas in the plan are based on input from thousands of community members in cooperation with local organizations who have agreed to share implementation responsibilities. The plan was developed by a volunteer, community-led task force representing a wide variety of interests to ensure the Vision retained a broad community focus.



The Hillsboro 2035 Community Plan is modeled after Hillsboro's original award-winning visioning effort, the Hillsboro 2020 Vision and Action Plan. For the past fifteen years, Hillsboro 2020 has served as a catalyst for a wide range of community enhancements, partnerships and investments. The overarching goal of the Hillsboro 2035 Community Plan is to extend that success into the future, and guide Hillsboro's future growth and evolution through coordinated, collaborative community engagement

Hillsboro 2035 Vision

In 2035, Hillsboro is a diverse, sustainable city known for success in blending urban lifestyle, a world-class economy, agricultural heritage, and a welcoming, family-friendly community for an outstanding quality of life.

The 2035 Community Plan has five focus areas:

- Health, Wellness and Safety
- Education and Community Involvement
- Economy and Infrastructure
- Livability and Recreation
- Environmental Sustainability

The plan includes a goal statement and initiatives and actions for each focus area. The WHVS Plan would help further many of the initiatives outlined in the Community Plan, such as those listed in Table 1 below.

Table 1: Hillsboro 2035 Community Plan Initiatives & Actions

Health, Wellness & Safety, Initiative 4: Increase the supply of affordable housing to serve Hillsboro's growing workforce and people at all income levels.	<i>Action C.</i> Facilitate development of innovative housing such as pocket-neighborhoods, micro-housing, aging-in-place and live-work spaces.
Livability & Recreation, Initiative 2: Foster distinct, vibrant neighborhoods featuring quality development, preserved landmarks, a variety of housing, and services safely accessible by walking, biking, transit, or short commute.	<i>Action A.</i> Identify locations and facilitate development of retail, dining and services within walking and biking distance of neighborhoods.
Livability & Recreation, Initiative 5: Continue to build a full-service, world-class parks system scaled to meet growing community demand.	<i>Action B.</i> Make parks and open space accessible to all neighborhoods.
Livability & Recreation, Initiative 7: Make Hillsboro walkable and bicycle-friendly citywide for daily living and recreation.	<i>Action C.</i> Develop new nature playgrounds.
Livability & Recreation, Initiative 7: Make Hillsboro walkable and bicycle-friendly citywide for daily living and recreation.	<i>Action B.</i> Add and promote off-street walking, running and hiking trails citywide.
Livability & Recreation, Initiative 7: Make Hillsboro walkable and bicycle-friendly citywide for daily living and recreation.	<i>Action C.</i> Improve on-street bicycle commute and recreation infrastructure by adding lanes, improving buffers and connections, and promoting designated travel routes.

2.3 HILLSBORO COMPREHENSIVE PLAN

The Comprehensive Plan reflects the vision established in the Hillsboro 2035 Community Plan and guides the City's actions toward implementing that vision. While Comprehensive Plans are locally-developed, locally-implemented, and locally-maintained, they are also the primary tool for achieving regional and state goals and must therefore demonstrate consistency with these larger land use planning efforts.

The Comprehensive Plan guides all activities related to land use and natural and man-made systems and services in Hillsboro. The plan helps manage expected population and employment growth through a set of goals, policies, and implementation measures that align with the community's vision. City leaders use the Comprehensive Plan to coordinate public investments and to make decisions about new development, existing neighborhoods, transportation, and a variety of other topics.

The City adopted an entirely new Comprehensive Plan in December of 2017. The WHVS planning process used the updated Comprehensive Plan as a guidance tool, from the determination of land use areas and densities, to the determination of how the plan area will integrate with capital facilities and public services.

2.4 HILLSBORO HOUSING NEEDS ANALYSIS

Statewide Planning Goal 10 (Housing) requires jurisdictions to maintain and plan for an adequate land supply to accommodate at least 20 years of future growth. The City must provide flexibility in housing location, type, and density to ensure the availability and prices of housing units are commensurate with the needs and financial capabilities of Oregon households. The City is further directed to specifically provide an overall density of 10 or more units per acre with the opportunity for 50 percent of new units to be attached single-family or multifamily. The Housing Needs Analysis (HNA) provides information about the factors that could affect housing development, including demographics, affordability trends, workforce housing availability, market health, and regulatory structure. The Comprehensive Plan specifically includes goals and policies derived from the findings of the HNA within the Housing section. Any policies related to housing included within other sections of the Comprehensive Plan must also be consistent with the HNA.

The HNA includes the City's buildable lands inventory for housing within the UGB. It analyzes existing development patterns and intensity, land and development values, existing land use designations and zoning, and building constraints to determine where there is vacant land and land that is likely to be redeveloped. The HNA compares the existing supply of residential



land to emerging trends and indicators for future demand to ensure that current use designations provide an adequate short- and long-term land supply for housing to meet existing needs and those of projected growth.

The HNA for 2016-2036 identified a deficit of land available for new household growth over the next 20 years. Higher density housing currently planned for Hillsboro urban infill areas will accommodate much of the city's current and future multi-family housing need, but will not fill the land supply shortage for single family detached homes even with the full build-out of South Hillsboro. The HNA shows that Hillsboro has a deficit of land needed to accommodate 1,354 new single-family detached dwelling units and a surplus of land for multifamily and single-family attached dwelling units.

Table 2: Hillsboro Housing Needs, 2012 to 2036

Housing Type	Capacity for New Housing	Demand for New Housing	Comparison (Capacity Minus Demand)
Single-Family Detached	6,666	8,020	-1,354
Single-Family Attached and Multifamily	12,903	8,020	4,883

Housing Choice & Tools for Affordability

Over the past several years, Hillsboro, like much of Washington County and the Portland Metropolitan Region, has experienced higher demand for housing, rising real estate costs, low vacancy rates, and significant rent increases. As average salaries have not kept pace, more Hillsboro residents are facing financial hardships and potential displacement due to rising housing costs. Low income families, fixed-income seniors, disabled and special needs communities are most impacted, and increasingly, working families of various income levels are now affected.

The 2017 Comprehensive Plan housing section focused on six goals: Housing Choice, Affordability, Livability, Supply, Innovation, and Sustainability. Below are two of these specific goals.

- **Housing Choice:** Provide opportunities for the development of a variety of housing choices that meet the need and preferences of current and future households.

- **Affordability:** Provide opportunities for housing at prices and rents that meet the needs of current and future households of all income levels.

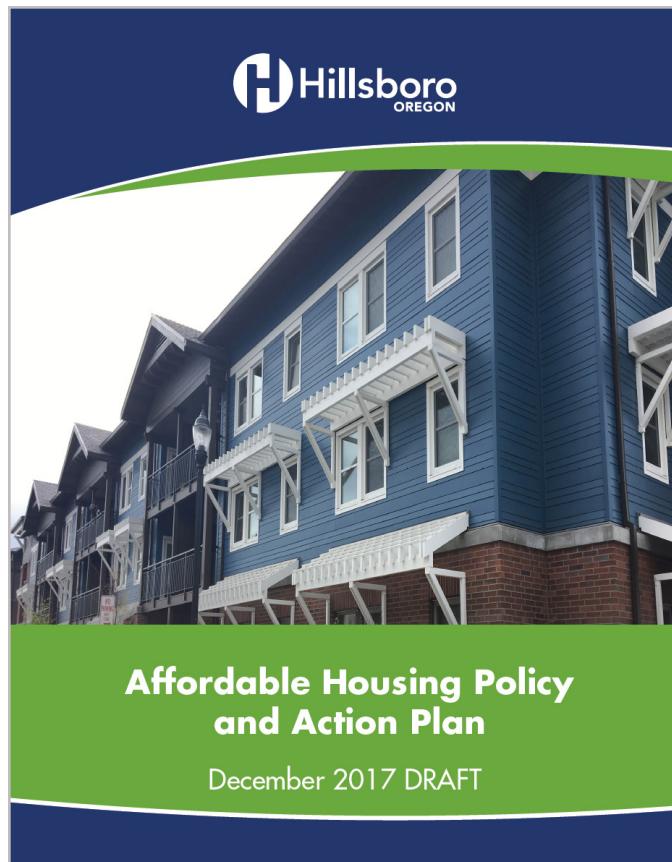
The WHVS Concept Plan provides a variety of housing choices that would be available at different income levels. These different housing types are discussed further in the development program section of the Plan.

Over the past year, Hillsboro's City Council has directed staff to explore different tools for fostering more affordable housing opportunities throughout the City. The City is further exploring the following near-term tools that could be applied City-wide.

- a. Reduced parking requirements to incent new construction.
- b. Participation in Washington County or other tax abatement programs to help preserve, and develop new, regulated affordable housing.
- c. Opportunities for land donation to support new construction.
- d. Opportunities for preservation of existing units (either through purchase by the City or through partnerships with non-profits),

beginning with an inventory of affordable properties appropriate/available for preservation or acquisition.

e. Evaluate use of general fund dollars as direct contributions to affordable housing projects to incent new construction and support the preservation of both regulated and non-regulated existing affordable housing.



Metro Desired Outcomes

To ensure that future urban planning reflects shared regional values, in 2010 the Metro Regional Council adopted policies seeking six desired outcomes for the region. These outcomes are as follows:

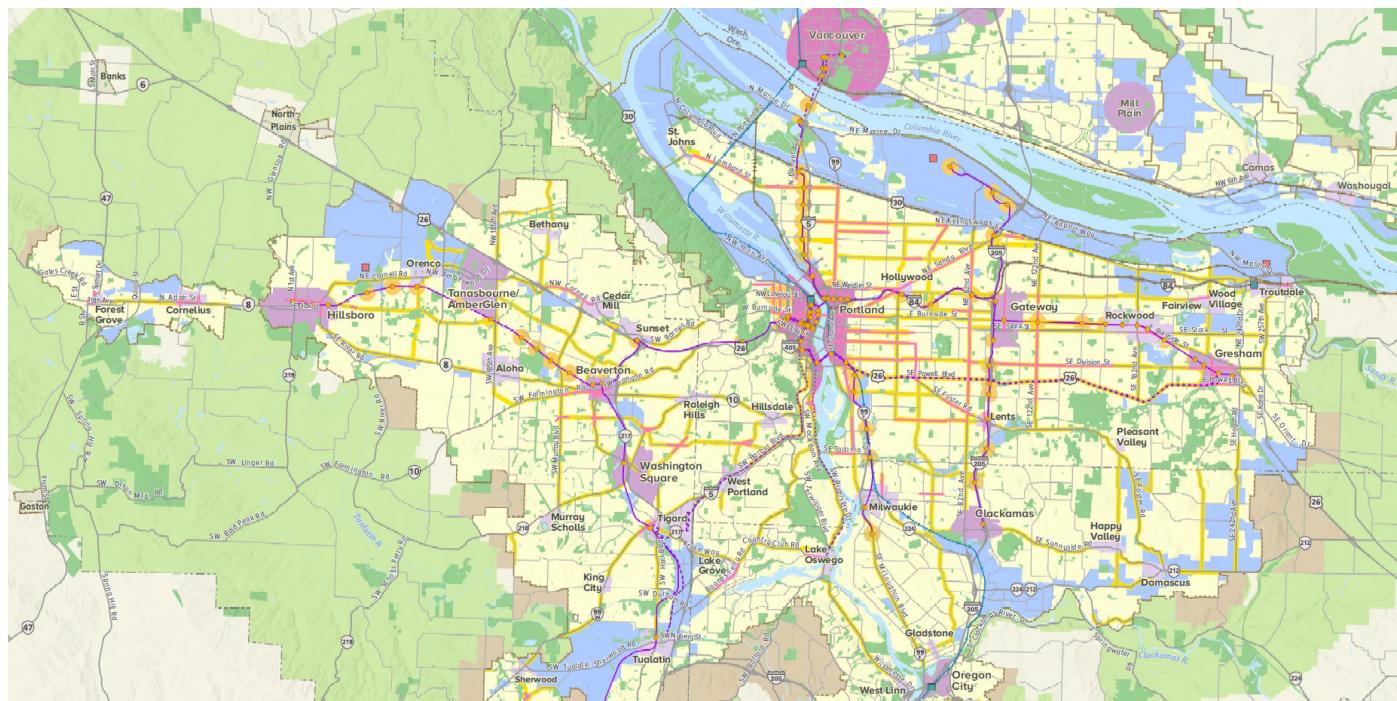
1. People live, work and play in vibrant communities where their everyday needs are easily accessible.
2. Current and future residents benefit from the region's sustained economic competitiveness and prosperity.
3. People have safe and reliable transportation choices that enhance their quality of life.
4. The region is a leader on climate change and on minimizing contributions to global warming.
5. Current and future generations enjoy clean air, clean water and healthy ecosystems
6. Equity exists relative to the benefits and burdens of growth and change to the region's communities.

The City of Hillsboro embraces Metro's desired outcomes and developed the concept plan with these principles woven throughout. The WHVS Concept Plan seeks to create a vibrant community where people can access their daily needs through close proximity to services via safe and reliable transportation choices such as roads, bicycle routes and sidewalks. Providing more housing choices within the City for those who work in Hillsboro could lower vehicle miles traveled therefore lessening the amount of carbon dioxide released into the air. Natural resource preservation in the plan area plays a crucial role for habitat as well as passive and active recreation opportunities.

2.5 METRO 2040 GROWTH CONCEPT

The 2040 Growth Concept establishes a set of urban design types for organizing regional growth and development and applies those design types on a conceptual map, focusing on infill development within the UGB. The Regional Framework Plan identifies policies for achieving the vision of the 2040 Growth Concept by providing guidance on regional planning and coordination, as well as natural resource protection, sustainability, and urban design and development patterns. And although the WHVS area is not designated on the 2040 Concept because the area isn't in the urban growth boundary, the guiding principles are still applicable.

The UGMFP provides the tools and guidance for local jurisdictions to implement the regional policies in the 2040 Growth Concept and the Regional Framework Plan and includes directives for changes to a local government's comprehensive plan, development code, and associated maps. It consists of 12 code titles pertaining to compliance procedures, as well as regulations for the following topics covering many sections in the Hillsboro Comprehensive Plan: housing capacity; water quality and flood management; industrial and other employment areas; centers, corridors, station communities, and main streets; housing choice; protection of residential neighborhoods; nature in neighborhoods; and the UGB. Title 11 of the UGMFP applies specifically to "Planning for New Urban Areas" which guides the planning of areas brought into the UGB for conversion from rural to urban uses.



PROJECT CONTEXT

3.1 REGIONAL CONTEXT

Land in WHVS is currently zoned Exclusive Farm Use (EFU) by Washington County and is used primarily for farming, forestry and small-scale livestock grazing. The area is part of the South Urban Reserve Area and has therefore been deemed suitable for accommodating urban development. WHVS currently consists of 16 tax lots (ranging in size from 0.7 acres to 31.5 acres) with 12 property owners.

The WHVS area has relatively flat topography, ranging from an approximately 170-foot elevation in the north portions of the site to an approximately 150-foot elevation in the southwestern corner. Gordon Creek flows from east to west through the middle of the WHVS area, creating a sloped riparian corridor through the center of the site. A short unnamed tributary to the Tualatin River runs through the southeast corner of study area.

Urban Reserve Area

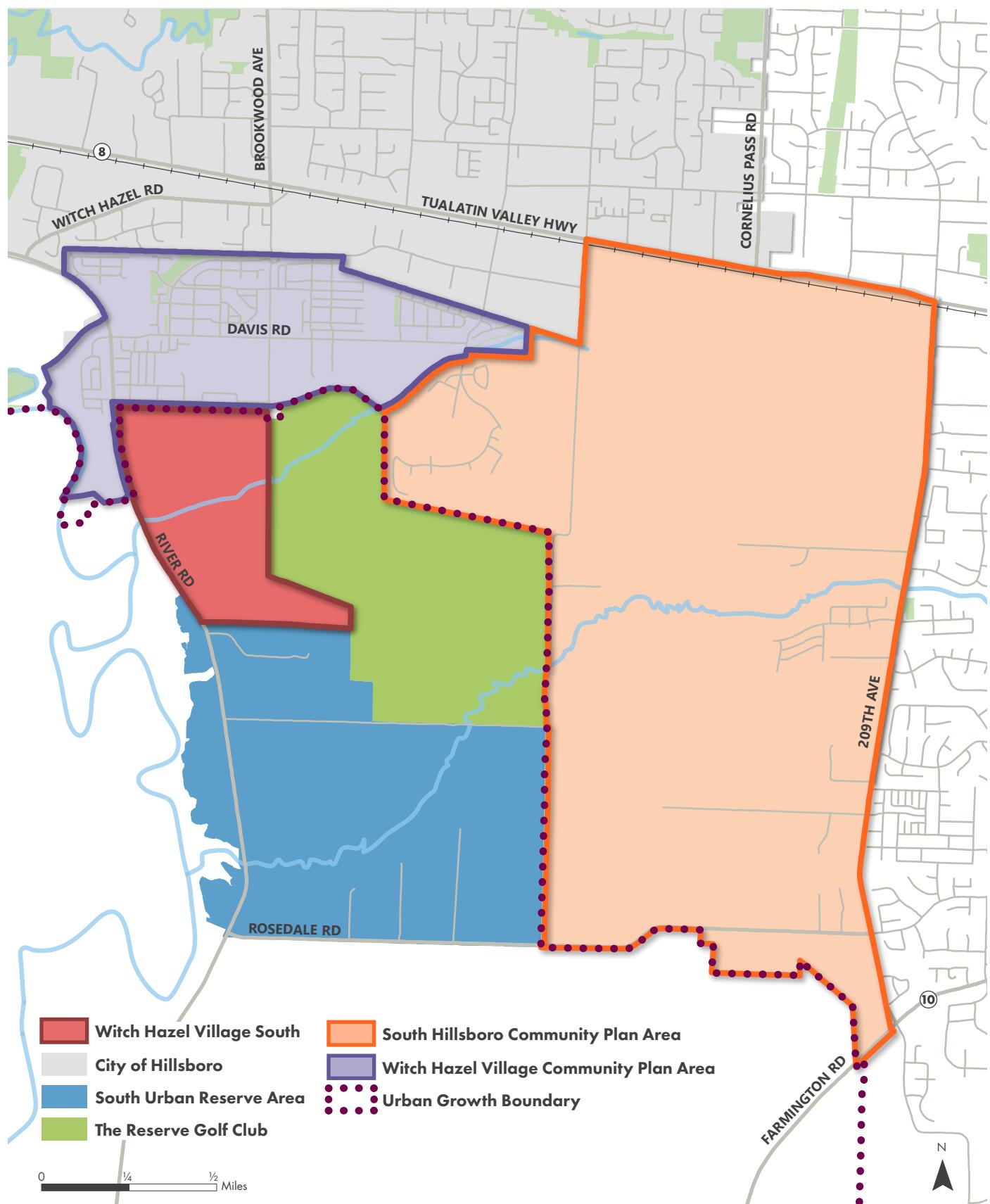
The primary purpose of this concept plan is to set the vision for the future development of Witch Hazel Village South and define the type, location, intensity and serviceability of future land uses within the plan area. While the focus of the plan is the 150-acres within WHVS, the planning effort included a preliminary analysis of the

greater South Urban Reserve Area to ensure that infrastructure and public service planning efforts were considered within a larger context.

The Urban Reserve Area, which includes WHVS, encompasses approximately 940 acres. All lots within the urban reserve are currently zoned EFU by Washington County. The area is comprised of three subareas, which include WHVS (150 acres), the South Urban Reserve Area (481 acres), and The Reserve Golf Club (311 acres). The Reserve Golf Club is not expected to redevelop within the 20-year planning horizon. Therefore, the golf course was generally not included in the infrastructure studies discussed later in this document. The South Urban Reserve Area was included in the study area for the purpose of assessing existing conditions for this plan.

The South Urban Reserve Area is generally bounded by WHVS and The Reserve Golf Club to the north, River Road to the west, Rosedale Road to the south, and the Reserve Golf Club and SE Century Boulevard to the east. SW Rosa Road runs east-west through the center of the area (see Figure 6). Like WHVS to the north, the South Urban Reserve Area is used primarily for farming, forestry and small-scale livestock grazing. The land north of SW Rosa Road is primarily forested, while the rest of the South Urban Reserve Area is a mix of forest and farmlands. Three Tualatin River tributaries run through the South Urban Reserve Area, including Butternut Creek

Figure 6: Plan Areas Vicinity Map



at the south end of the site, and two unnamed tributaries.

3.2 NATURAL RESOURCES

A preliminary inventory of natural resources within WHVS has been conducted by Environmental Science & Assessment, LLC who prepared summary findings in a December 27, 2017 technical memorandum included Appendix B. This Natural Resources (NR) inventory included both a mapping assessment and a field evaluation of resources within the area. Findings from this NR inventory are summarized and described further below.

Floodplains

The Federal Emergency Management Agency (FEMA) has mapped the 100-Year floodplain extending east from the Tualatin River, over River Road and into the lower reach of Gordon Creek in the north end of the WHVS study area. The creek originates off-site to the east, flowing west through The Reserve Golf Club property. The defined floodplain continues east into The Reserve Golf Club. A short segment of an unnamed tributary to the Tualatin River extends through the southern end of the study area. The 100-year floodplain is mapped in the off-site segment of the tributary between the Tualatin River and River Road but does not extend further east into the study area. See Figure 8 below.

Wetlands

An assessment of potential wetland areas within WHVS was conducted through both field evaluations and, where site access was not feasible, through an evaluation of National Wetland Inventory (NWI) mapping and other available mapping resources. As identified on Figure 8 below, the site includes mapped wetlands along the eastern segment of Gordon Creek. The mapped wetlands follow the creek channel and connect to off-site wetlands on The Reserve Golf Club to the east. The mapped wetlands also continue north along a Gordon Creek tributary that is unnamed and that extends into the northern one third of the site.



Additional wetland areas were identified in several other areas of the site, and these wetlands all generally drain towards River Road, through culverts and eventually to the Tualatin River basin to the west. The wetlands along the main channel of Gordon Creek and the northern tributary are associated with the stream hydrology. A forested wetland associated with the lower segments of Gordon Creek extends toward the western end of the study area and connects to an offsite wetland west of SW River Road.

Two linear forested wetlands are present in the southern end of WHVS, extending southwest to the edge of the River Road right-of-way. Forested wetlands are also associated with an unnamed Tualatin River tributary in the southeastern area of WHVS.

Most wetlands currently mapped are associated with the onsite drainages. However, there could be additional wetland conditions not necessarily associated with mapped drainages. See Figure 8.

Slope Hazard

The study area is comprised primarily of flat agricultural and forested lands with slopes generally less than 10 percent. Steep slopes (≥ 25 percent) are mapped by Metro along sections of the main stream corridors. Steep slopes border several areas along the lower segment of Gordon Creek and two smaller areas on the upper reach. A long section of steep slopes is located along

the unnamed tributary in the southeast corner of WHVS and extends off-site to the south.

Endangered & Threatened Species

Several database searches identified potential listed endangered or threatened species within the study area. Some of these species may occur within the study area if habitat is present. An Oregon Biodiversity Information Center (ORBIC) data report noted one federally threatened species within a two-mile radius of WHVS. The ORBIC report noted Steelhead, Upper Willamette River ESU, winter run, (*Oncorhynchus mykiss* pop. 33) were found in five locations, including the Tualatin River and its tributaries, which would potentially include the lower segment of Gordon Creek. All other documented occurrences are outside of the study area.

The U.S. Fish & Wildlife Service IPaC Trust Resources web report lists six threatened species and three endangered species potentially present onsite. None of these species are known to occur within the study area but could occur if there is suitable habitat present. An inventory of the study area would be necessary to document the presence of habitat for these species.

Figure 7: Study Area

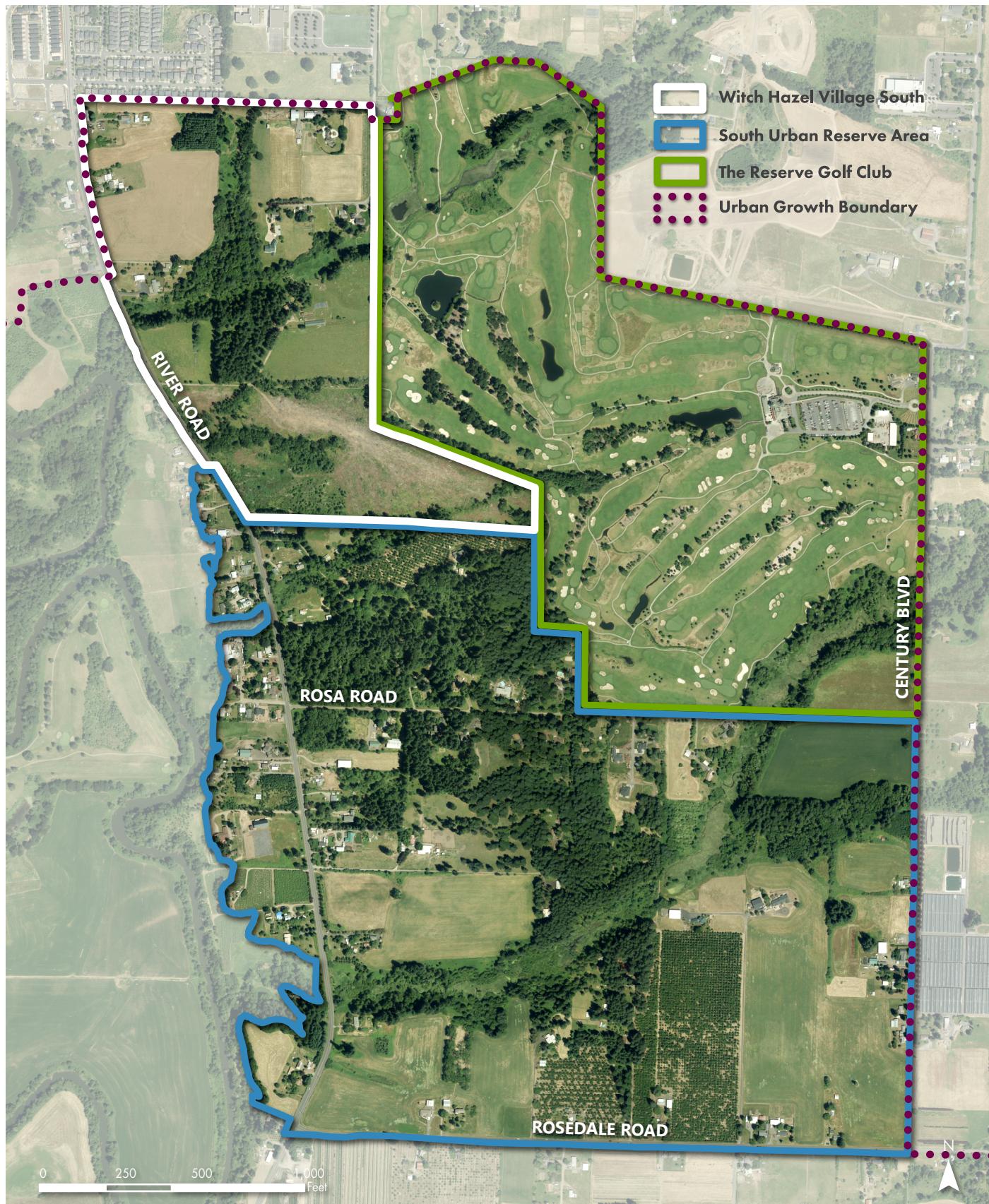


Figure 8: Natural Resources

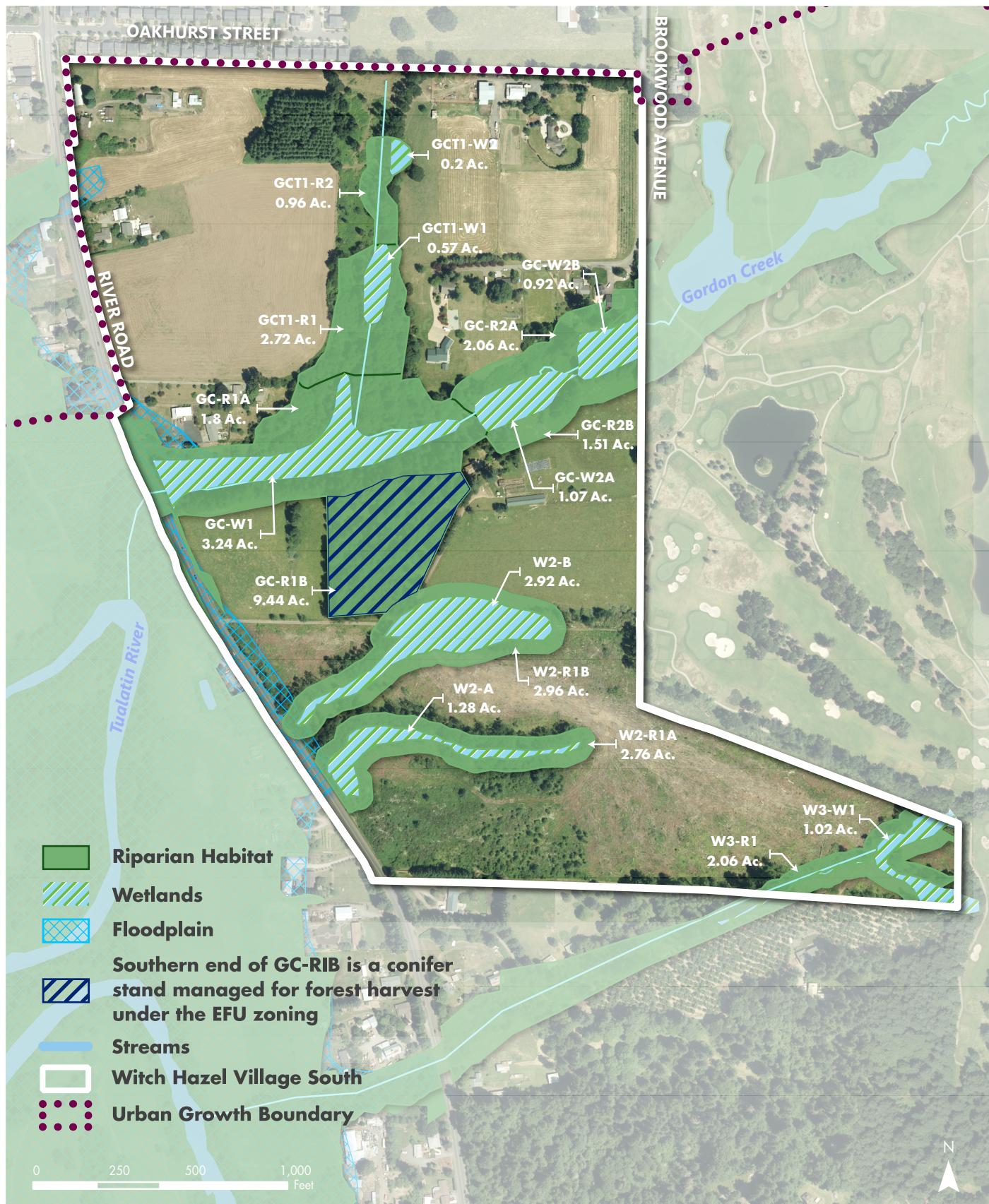


Table 3: Endangered & Threatened Species

Common Name	Scientific Name	Status	Comments
Birds			
Marbled Murrelet	<i>Brachyramphus marmoratus</i>	Threatened	Habitat not present
Northern Spotted Owl	<i>Strix occidentalis caurina</i>	Threatened	Habitat not present
Streaked Horned Lark	<i>Eremophila alpestris strigata</i>	Threatened	Potential if habitat present
Flowering Plants			
Bradshaw's Desert-Parsley	<i>Lomatium bradshawii</i>	Endangered	Potential if habitat present
Kincaid's Lupine	<i>Lupinus sulphureus ssp. Kincaidii</i>	Threatened	Potential if habitat present
Nelson's Checker-Mallow	<i>Sidalcea nelsoniana</i>	Threatened	Potential if habitat present
Water Howellia	<i>Howellia aquatillis</i>	Threatened	Habitat not present
Willamette Daisy	<i>Erigeron decumbens</i>	Endangered	Potential if habitat present
Insects			
Fender's Blue Butterfly	<i>Icaricia icarioides fenderi</i>	Endangered	Habitat not present

Significant Natural Resource Overlay

A preliminary inventory of natural resources was completed to identify resources required to be inventoried under Oregon's Statewide Planning Goal 5. Natural resources in the study area include wetlands, riparian corridor and upland wildlife habitat. No scenic or other natural areas with special designations are present within the study area.

The Witch Hazel Village South Natural Resources Inventory, included as Appendix B, identifies the natural resources that would require protections

under the Hillsboro Community Development Code (12.27.210) and Oregon Goal 5 (Metro Title 3 and 13). The inventory and mapping included in this study provide generalized descriptions of the natural resource areas and locations in the inventory summary sheets. Protection levels for the natural resources on site will be determined from the final recommendations of an Economic, Social, Environmental, and Energy (ESEE) Analysis.

Additionally, Vegetated Corridor requirements, which are part of Clean Water Services' Design and Construction Standards, will serve as a means for protecting and enhancing the

buffer adjacent to streams and wetlands once development is proposed on site.

3.3 CULTURAL RESOURCES

It is the City's practice to adopt designated Washington County cultural resources on the City's Cultural Resources Inventory upon annexation. Hillsboro's Cultural Resource Inventory shows no identified cultural resources within or near WHVS site or the larger South Urban Reserve Area.¹ In addition, the Oregon State Historic Preservation Office Oregon Historic Sites Map does not identify any historic resources within the South Urban Reserve Area.² The Oregon Commission on Historic Cemeteries does not list any historic cemeteries within the South Urban Reserve Area.³

In the event that an archaeological object or site (i.e., historic or prehistoric) is encountered during future site development activities, all ground disturbance at the location should cease immediately until a professional archaeologist can be contacted to evaluate the discovery. Under state law (ORS 358.905-955 & ORS 97.740) archaeological sites, objects and human remains are protected on both public and private land in Oregon.

3.4 TRANSPORTATION

The streets listed in Table 4 currently provide connections to and through the South Urban Reserve Area.

Table 4: Existing Streets

Street	Classification	Jurisdiction
229th Avenue	Collector	Hillsboro
Brookwood Avenue	Collector	Hillsboro
Rosa Road	Local	Washington County
Rosedale Road	Collector	Washington County
River Road	Arterial	Washington County

The Hillsboro Transportation System Plan (amended through 2017) contains several planned street extensions and other future transportation projects near the site. Brookwood Avenue is conceptually planned to extend southwest to River Road through WHVS. The South Hillsboro Community Plan proposes multiple connections to the east side of the South Urban Reserve Area. The connections

¹ Source: <https://www.hillsboro-oregon.gov/departments/planning/committees-boards/historic-landmarks-advisory-committee/cultural-resource-inventory>

² Source: <http://maps.prd.state.or.us/histsites/historicsites.html>

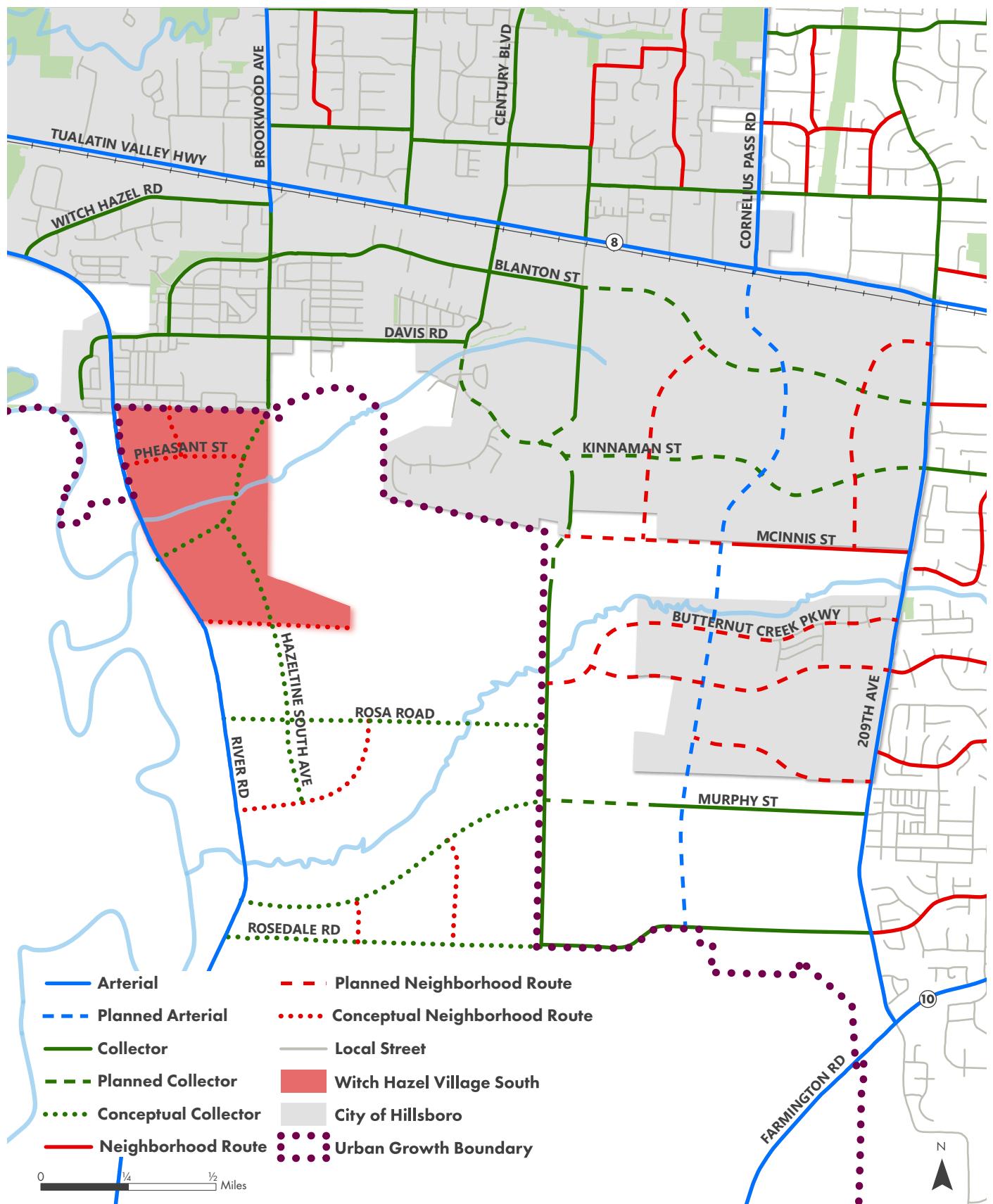
³ Source: http://www.oregon.gov/oprd/HCD/OCHC/docs/Cemetery_List.pdf

include two neighborhood routes (Butternut Creek Parkway and Murphy Lane).

Planned road improvements east of the study area will improve connectivity to the South Urban Reserve Area. The South Hillsboro Community Plan calls for multiple east-west collector and neighborhood routes, refining the alignment of 229th Avenue and extending Cornelius Pass Road from Tualatin Valley Highway to Rosedale Road. The Cornelius Pass Road extension will provide an important connection from Tualatin Valley Highway to the developing areas of South Hillsboro. The extension will likely be a five-lane arterial that supports local and regional traffic volumes to, from, and within the South Hillsboro area.

The new Rosedale Parks subdivision to the east in the developing South Hillsboro community will provide two local street connections to the South Urban Reserve Area dependent upon future development of the Reserve Golf Club. One north-south connection extends south from Rosedale Parks to the Reserve Golf Club, and a west-east connection extends to the Reserve Golf Club south of Gordon Creek.

Figure 9: Witch Hazel Village South & South Hillsboro Planned Transportation System



3.5 PARKS & TRAILS

No parks or trails currently exist within the WHVS or SURA study area. A City of Hillsboro community park (Rood Bridge Park) is currently located approximately one-mile northwest of WHVS. Rood Bridge Park has paved pathways through developed and natural areas of the park. Playgrounds, tennis courts, a rhododendron garden, several ponds and large lawn areas provide a wide range of options to residents throughout both Witch Hazel Village communities. Another community park is planned east of the study area at the intersection of 229th Avenue and Rosa Road. Rood Bridge Park and the future park at 229th Avenue and Rosa Road are within two miles of WHVS.

The Hillsboro Trails Master Plan (October 2015) recommends three trails through the study area: one regional greenway and two community greenways. The regional greenway would be part of the Crescent Park Greenway from Rood Bridge Park to Butternut Creek. The greenway would extend from the existing Rood Bridge Park along the River Road frontage of WHVS and through the southern reserve area. The intent of the Crescent Park Greenway is to provide a continuous trail around the city that follows waterways. The portion of the trail through the study area primarily follows the Tualatin River and would be designed for hiking and walking with a 12- to 14-foot concrete, natural surface boardwalk.

A community greenway connection from Rood Bridge Park to South Hillsboro via Gordon Creek

is recommended through WHVS and The Reserve Golf Club, when and if the Golf Club were to redevelop in the future. The route is a multi-use greenway, suitable for hiking and walking on a 10 to 12-foot concrete, natural surface boardwalk. In the eastern portion of the South Urban Reserve Area, another community greenway (Butternut Creek Trail) is recommended connecting the Crescent Park Greenway to South Hillsboro. The route is a multi-use greenway with a 10 to 12-foot concrete trail. Both the Butternut Creek trail and the Rood Bridge to South Hillsboro via Gordon Creek greenway are included in the South Hillsboro Community Plan.

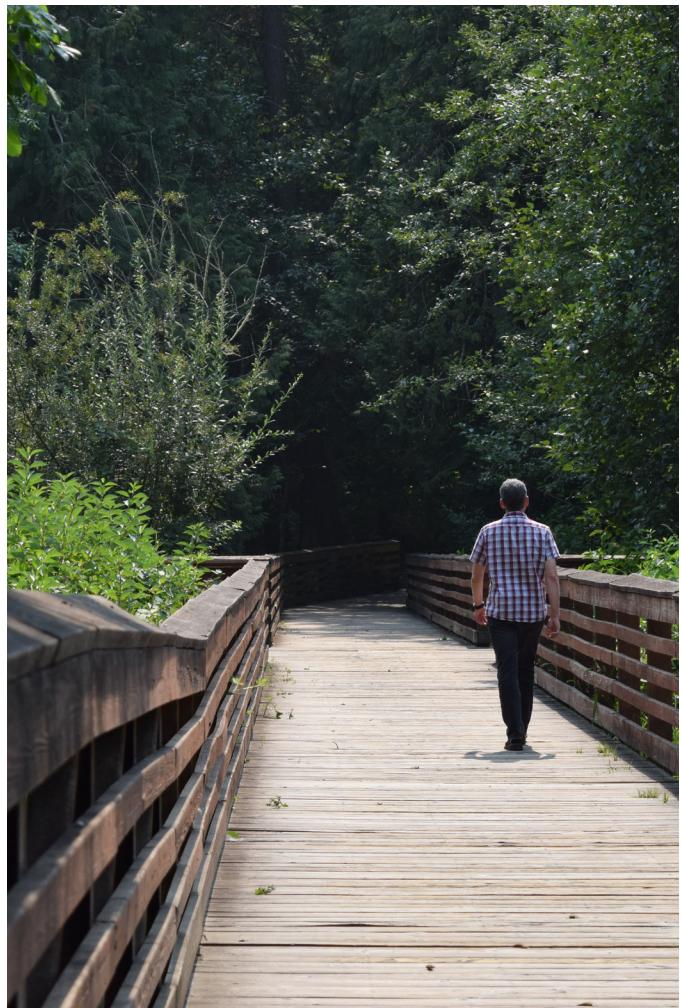
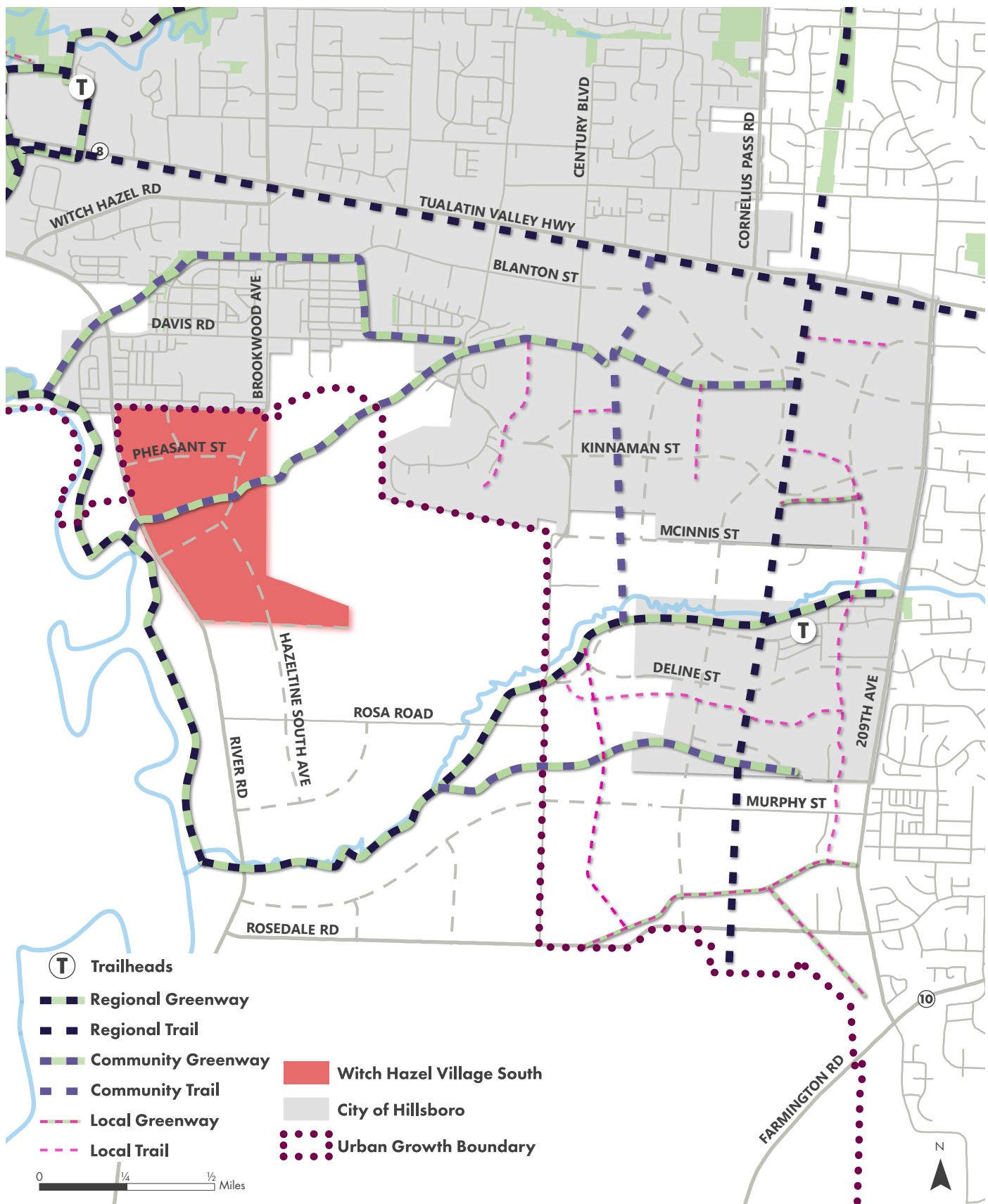


Figure 10: Hillsboro Trails Master Plan Excerpt



3.6 UTILITIES

Water System

The entire study area will be served by Hillsboro Water, but is not currently within a water service district and does not include existing public water infrastructure. The area directly north of WHVS is within the City of Hillsboro water service area. The adjacent areas east, west and south of the reserve are not within a water service district.

The Hillsboro Water System Master Plan (2009) anticipates adding the South Urban Reserve Area and South Hillsboro Community Plan Area to the City of Hillsboro Water Service District. Planned water pipelines for these areas are included in the master plan. Per the utility information for the Rosedale Parks neighborhood currently under development in the northwest corner of South Hillsboro, the area will include a system of 8- and 12-inch diameter mains within the proposed neighborhood street network. The Rosedale Parks water system will connect to existing water main stubs in SE Century Boulevard and SE 67th Avenue. The proposed system will provide four new water main connections to the existing network: one in the northwest corner of the site, one in the northeast corner of the site, and two along the northern boundary of The Reserve Golf Club. These connection points will potentially be available for future development in the South Urban Reserve Area.

Sanitary Sewer System

The entire study area will be served by Clean Water Services (CWS), but is not currently within a sanitary sewer service district, and there is no existing public sanitary sewer infrastructure within the study area. The area directly north of WHVS is within the CWS service area. The adjacent areas east, west and south of the study area are not within a sanitary sewer service district. The South Hillsboro Community Plan includes sanitary sewer improvements north and east of WHVS. These planned improvements are not anticipated to provide service to properties within WHVS. Figure 12 shows the location of existing sanitary sewer infrastructure in the vicinity of WHVS.

Stormwater System

The study area will be served by Clean Water Services, but is not within a stormwater service district. In the northwest corner of the study area along River Road, a 24-inch storm closed conveyance line extends approximately 340-feet south from the City of Hillsboro. Roadside ditches are located along the rest of River Road, and along SE Brookwood Avenue and SW Pheasant Street. Aside from the line in River Road, there is no other existing public stormwater infrastructure within the study area. The area directly north of WHVS is within the CWS service area. The adjacent areas east, west and south of the study area are not within a stormwater sewer service district.

Figure 11: Existing & Proposed Witch Hazel Village South Water System

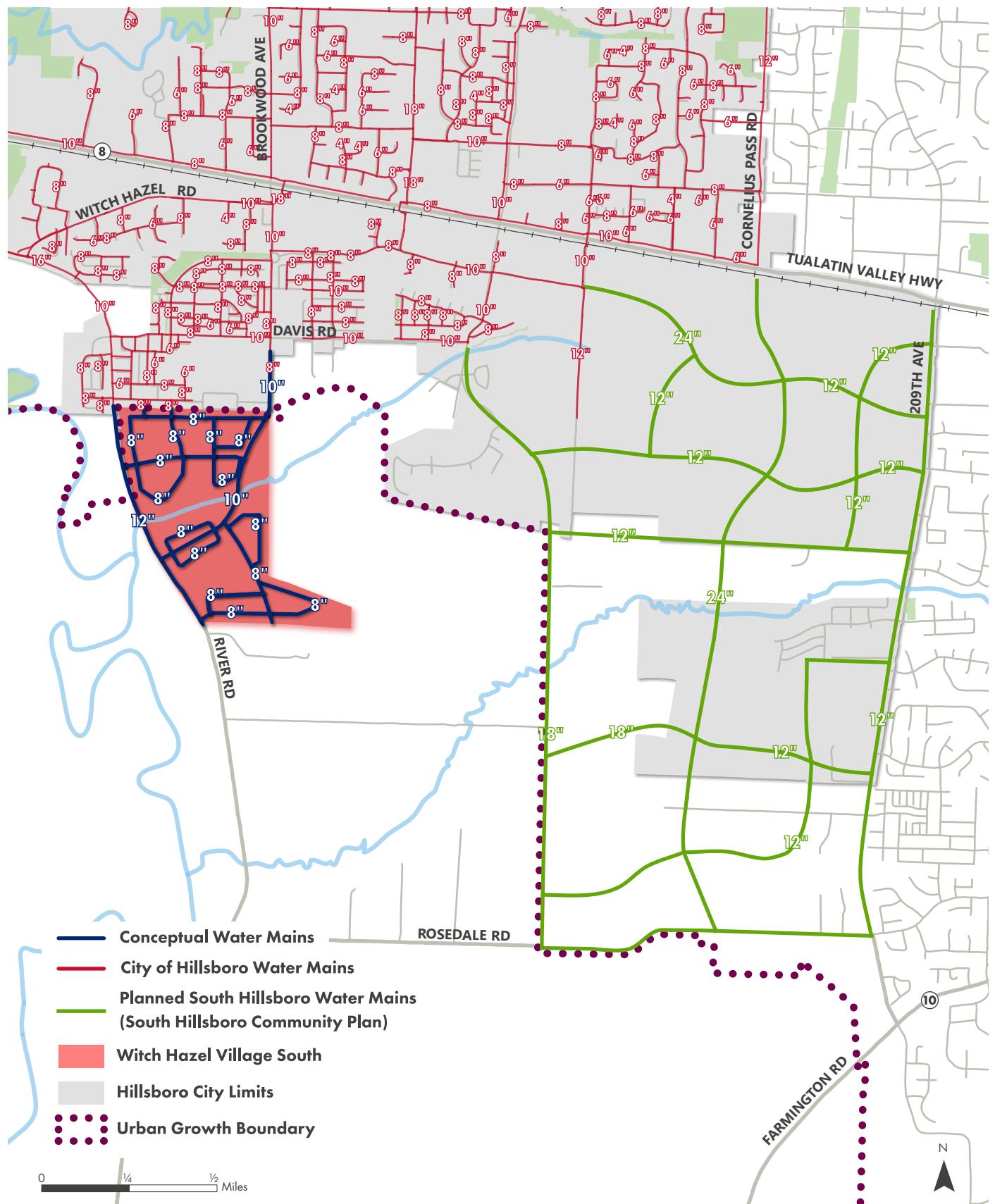
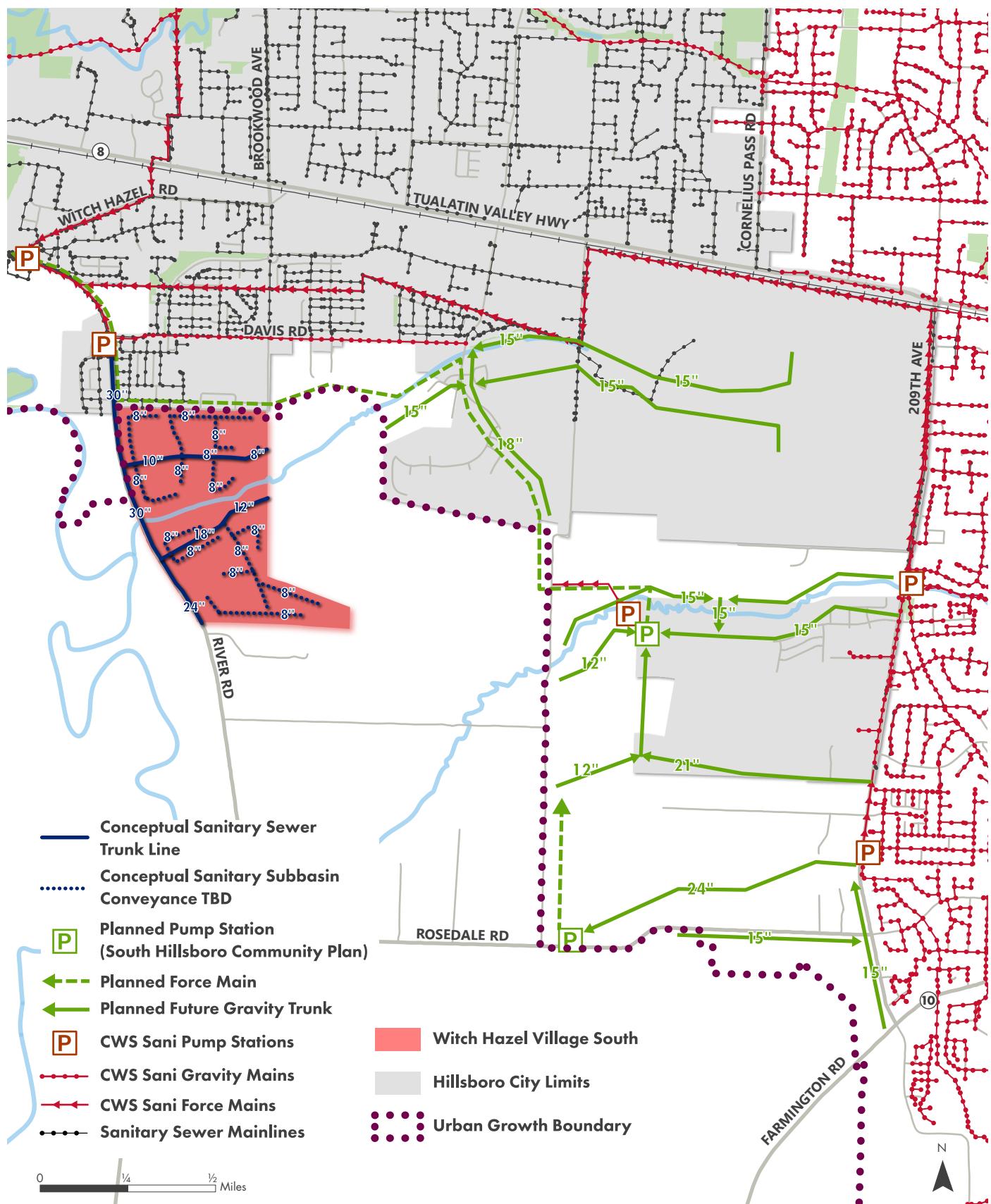


Figure 12: Existing & Proposed Witch Hazel Village South Sanitary Sewer System



Within South Hillsboro stormwater will be conveyed from inlets, catch basins and private property development to regional facilities and stream discharge points via a piped conveyance system per the South Hillsboro Community Plan. Piped conveyance systems will be designed and developed in conjunction with individual site development.

Witch Hazel Village South

Stormwater runoff generated from the WHVS study area generally drains from east to west through three tributaries to the Tualatin River, including Gordon Creek. Two tributaries are unnamed. The southern tributary is minor and does not have a defined channel. The northern unnamed tributary is conveyed through a 12-inch pipe through the Oakhurst residential development north of the study area where it discharges into an open channel. Gordon Creek runs through the center of the study area and has a defined floodplain. CWS has developed a hydraulic model of Gordon Creek that provides estimated channel flows and water surface elevations. The eastern portion of the Creek appears to be wider and contains a series of pools and wetland areas.

River Road was widened in approximately 1989 and culvert crossings were installed as part of that widening. A detailed assessment of the conveyance capacity of these culverts will be conducted with refined site development planning prior to development of WHVS.

Table 5: Witch Hazel Village South River Road Culverts Crossings

Tributary
North
Diameter (in): 73" x 55" Shape: Arch Length (ft): 85 Design Storm (yr): 100 Design Flows (cfs): 150
Gordon Creek
Diameter (in): 147" x 87" Shape: Arch Length (ft): 110 Design Storm (yr): 10 Design Flows (cfs): 283
South
Diameter (in): 18" Shape: Circular Length (ft): 106 Design Storm (yr): – Design Flows (cfs): –

South Urban Reserve Area

Stormwater from the South Urban Reserve Area also generally drains from east to west through three tributaries of the Tualatin River, including Butternut Creek. Two tributaries are unnamed. Butternut Creek runs through the south end of the study area. CWS has developed a hydraulic model of Butternut Creek that provides estimated flows and water surface elevations.

Existing stormwater infrastructure is very limited within the South Urban Reserve Area, with no infrastructure identified in available data. Roadside ditches are located along the rest of River Road, and along SW Rosa Road and SW Rosedale Road.

3.7 PUBLIC SERVICES

The City of Hillsboro will provide all public services to the Witch Hazel Village South area.

Police

The City of Hillsboro Police Department will provide police services in the WHVS area. Most services will be managed through the city's central police facility, which is located three miles northwest of WHVS, although a community policing office is expected to be located in the South Hillsboro Town Center to provide more direct access to South Hillsboro residents and businesses.



Fire

The City of Hillsboro Fire Station 2 Brookwood lies less than one mile north of the northern edge of Witch Hazel Village South. Hillsboro Fire Department is continually evaluating service plans into South Hillsboro as infrastructure builds out and is looking to site new facilities in the vicinity depending on development timing, adequacy of existing stations, traffic impacts and mutual aid agreements and timely unit availability with Tualatin Valley Fire & Rescue.



Schools

Hillsboro School District currently operates two schools just north of the study area, South Meadows Middle School and Witch Hazel Elementary School. Hillsboro High School is also just north. The student population in Hillsboro is anticipated to increase with development of WHVS, though the population increase is expected to occur in phases over 5 to 10 years after development commences. Per preliminary discussions with Hillsboro School District, no capacity constraints are anticipated to result

at the High School or Middle School from new housing at WHVS.

- **Elementary School:** WHVS is currently in the service area for the Witch Hazel Elementary School, which is located approximately 400 feet north of the northern limits of WHVS. Per discussions with the school district, it is anticipated that the service boundary for elementary schools in the immediate vicinity, including Witch Hazel Elementary School, may need to be modified to accommodate additional students from WHVS but that no district-wide capacity constraints are expected to result from WHVS. Timing of a boundary change will depend on the timing of development in WHVS. It is likely that any boundary change would be temporary until a future elementary school is developed in the South Urban Reserve Area. However, any such development would occur well into the future and likely after the buildout of WHVS. Also, in November 2017, voters in the Hillsboro school district approved a \$408 million School Construction Bond. This bond includes plans for a new elementary school in South Hillsboro and preliminary planning efforts have begun for the design and construction of this new school.

Figure 13: Hillsboro High School & South Meadows Middle School Service Boundary

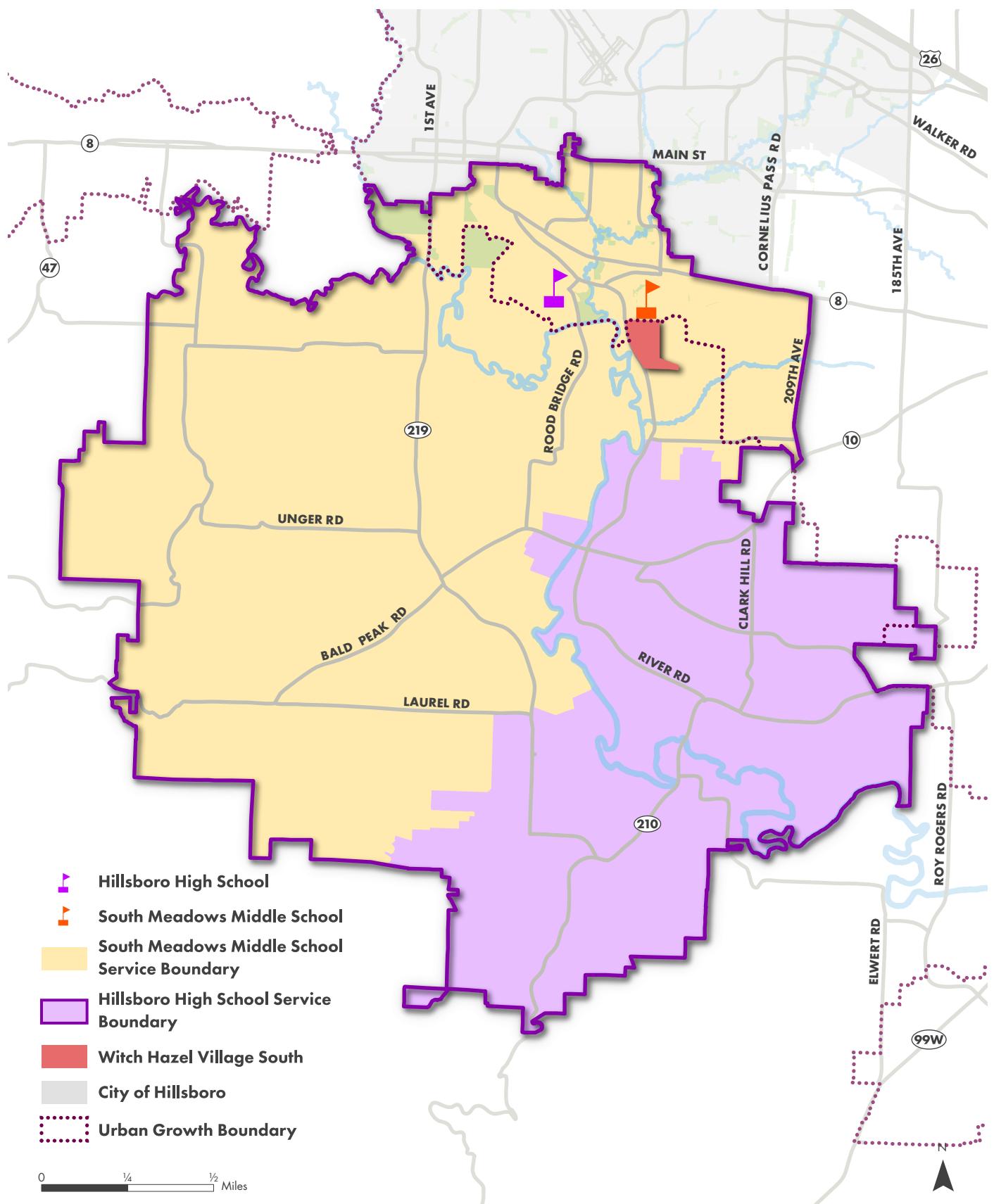
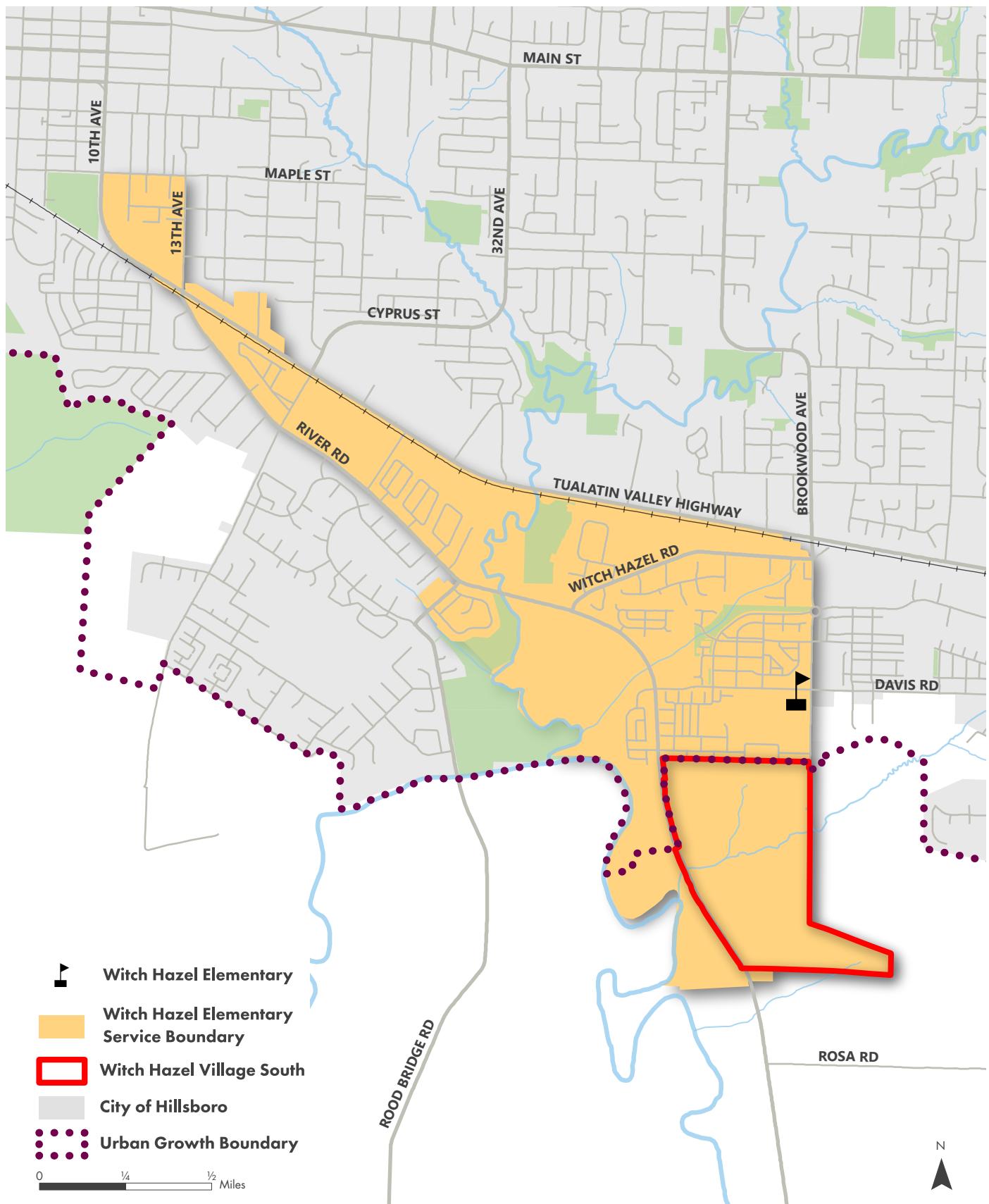


Figure 14: Witch Hazel Village Elementary School Service Boundary



DEVELOPMENT PROGRAM

This chapter describes the development program for Witch Hazel Village South and, to a broader extent, the remaining South Urban Reserve Area. The development program is the culmination of the concept planning process and establishes the plan for housing, transportation networks, parks and open space, and public utility infrastructure for WHVS and the surrounding area.

4.1 OVERALL CONCEPT PLAN

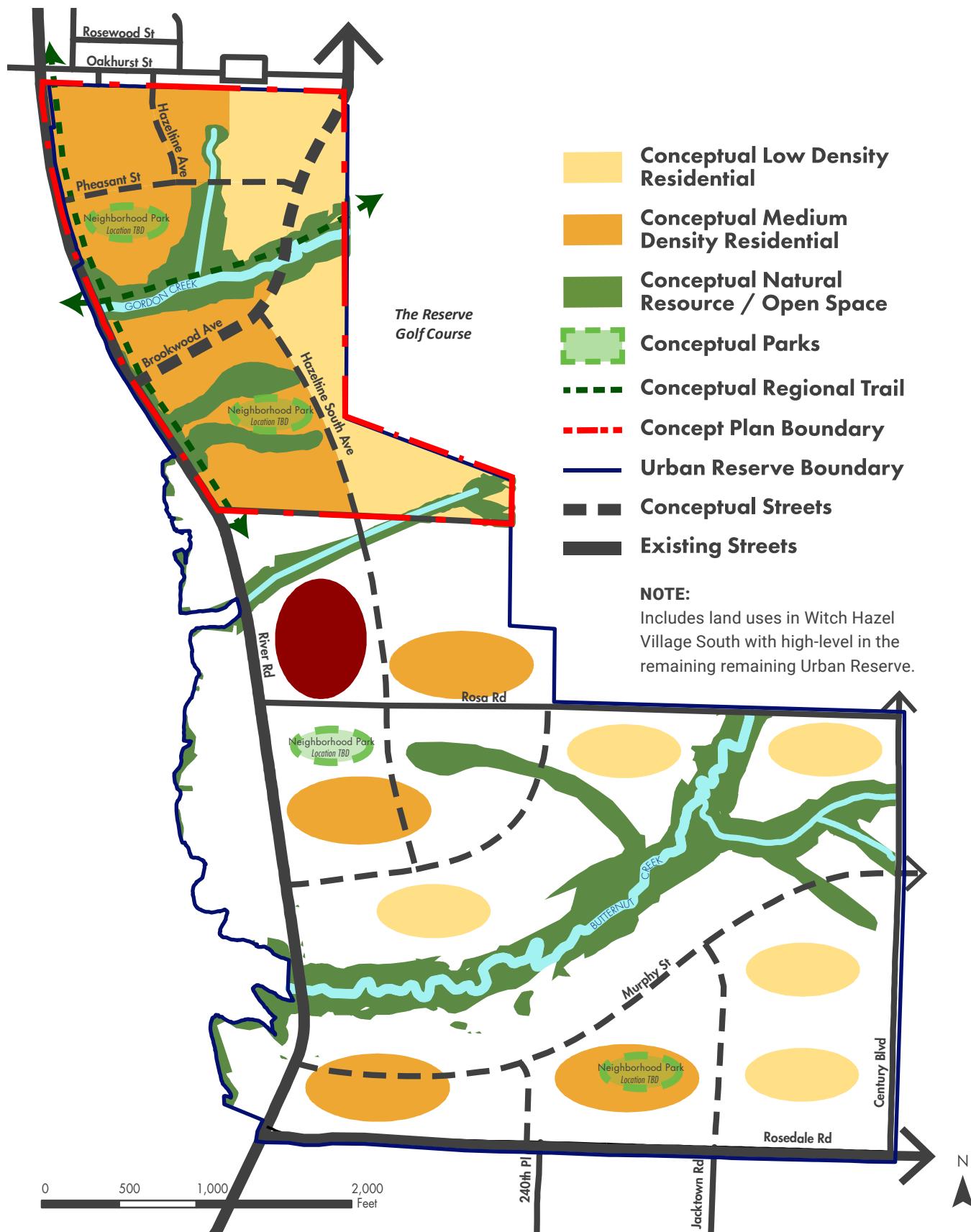
WHVS represents an opportunity to provide needed housing through an efficient extension of available public infrastructure through the development that has occurred in the Witch Hazel Village community to the north. Using infrastructure planning and design principles similar to those employed with the South Hillsboro Community Plan, WHVS can develop within a cohesive urban framework in step with the availability of public infrastructure and public services. It is envisioned that WHVS, together with Witch Hazel Village and the surrounding area, will be a complete community, will provide the opportunity to develop a variety of housing types and densities at a range of housing price points.

The Plan anticipates approximately 39 acres of medium density housing, with an average of 15.6 units per acre. The Plan area should support the development of single family attached and detached homes, apartments, and a variety of innovative “missing middle”⁴ housing types such as cottage clusters, duplexes, courtyard apartments, and townhomes. The Plan anticipates approximately 33 acres of land for low-density residential land at a density of approximately seven units per acre. The low-density areas are proposed along the eastern portion of the WHVS boundary to provide a gradual transition from the MDR-designated area within western portion of WHVS to the golf course open space to the east. As addressed further in Chapter 5, necessary public infrastructure will be developed concurrent with the ultimate phasing and construction that will occur at WHVS.

It is anticipated that neighborhoods within WHVS will be integrated with a series of trails and parks, including a regional greenway along Gordon Creek that would ultimately connect WHVS to the South Hillsboro community. New developments will be oriented for visual access to protected resource areas as well as the open space of

⁴ “Missing Middle is a range of multi-unit or clustered housing types compatible in scale with single-family homes that help meet the growing demand for walkable urban living.” <http://missingmiddlehousing.com/>

Figure 15: Witch Hazel Village South & South Urban Reserve Land Use Concept Map



The Reserve Golf Club. By integrating open spaces, trails and neighborhood parks into the community framework, WHVS will provide nice amenities to the residents living there.

Hillsboro Comprehensive Plan Policy H 3.1

Well-designed neighborhoods. Promote qualities of well-designed neighborhoods so that existing and new neighborhoods in Hillsboro are attractive, safe, and healthy places to live; respect surrounding context; and enhance community character.

The land uses, infrastructure systems, and facilities planned for WHVS do not extend beyond the 150-acre site boundaries and are buffered from the nearby Tualatin River and rural residential properties and more distant farm land by River Road, existing residential development west of River Road and by 481 acres of South Urban Reserve land across Rosa Road. The WHVS development will therefore have minimal impact on nearby farms, forests, and natural landscape features on nearby rural lands.

4.2 HOUSING

Within WHVS there are approximately 72 net buildable acres of the total 150-acre site. For the South Urban Reserve Area, approximately 356 net buildable acres are estimated. Net developable area is estimated by reducing the gross acreage by a combination of resource areas, estimated infrastructure areas, and parks. Infrastructure, such as right-of-way and on-site parking, is assumed to be approximately 30 percent of the

gross plan area after deductions are made for resource areas. Two future neighborhood parks further reduce the gross acreage.

To determine the anticipated number of housing units in WHVS, existing City of Hillsboro Comprehensive Plan designations were applied to the study area to estimate overall density, as follows.

- **Low-Density Residential (LDR)** housing will consist of detached single-family dwellings on lots that generally range from 6,000 to 8,000 square feet in size. The form, design, and intensity of housing found in the LDR-designated areas will be similar to those allowed in the City of Hillsboro's Single-Family Residential-6 (SFR-6) zone, which permits single family detached housing units at overall densities ranging from 6 to 7.5 dwelling units per net acre. There are approximately 33 acres of net buildable acres of LDR land within WHVS. It is assumed that an average overall density of approximately seven dwelling units per net acre will be achieved within these LDR areas, resulting in approximately 231 single family detached dwelling units in the LDR zone. Housing types within the LDR areas will typically be limited to single family detached housing. However, consistent with the City of Hillsboro code, Secondary Dwelling Units (SDUs) are permitted outright within the SFR-6 zone subject to design standards to ensure compatibility with neighboring uses.

- **Medium-Density Residential (MDR)** housing will generally consist of attached single-family dwellings, multiple-unit dwelling structures (apartments) and some small-lot single family detached dwellings. The form, design and intensity of housing found in the MDR-designated areas will be similar to those allowed in City of Hillsboro's Multi-Family Residential-1 (MFR-1) zone, which allows a broad range of housing types at densities between 11 and 16 dwelling units per net buildable acre. There are approximately 39 net buildable acres of MDR land identified within WHVS. It is assumed that overall densities will be approximately 15.6 units per acre within the MDR areas, resulting in approximately 614 units. Housing types could include for-rent apartment units, attached townhomes, duplexes and a variety of small-lot single family detached products such as cottage housing.

Range of Densities

As shown in the table below, the combination of LDR and MDR land designations in WHVS is expected to result in an overall average density of 11.7 units per acre. This exceeds the Metropolitan Housing Rule requirement of 10 dwelling units per net acre in UGB expansion areas for residential development. The South Urban Reserve Area is envisioned to contain low, medium, and high-density residential areas, as well as a small amount of commercial space; specific areas for these uses are yet to be determined. While the low-density areas will be limited to single-family detached homes, the medium and high-density areas may include a variety of housing types and densities.

Table 6: Residential Density & Unit Counts

Land Use	Gross Acres*	Net Acres	Average DU/Acre	Units
<i>Witch Hazel Village South</i>				
Low-Density Residential	47.1	33.0	7.0	231
Medium-Density Residential	67.5	39.3	15.6	614
Totals	114.6	72.2	11.7	845
<i>South Urban Reserve</i>				
Low-Density Residential	225.5	157.8	8.0	1,263
Medium-Density Residential	155.0	108.5	13.5	1,464
High-Density Residential	14.4	10.1	25.9	262
Commercial	7.3	5.1	—	—
Totals	402.2	281.5	—	2,989

*Excludes resource and open space areas.

Variety of Housing Types

According to the Hillsboro Housing Needs Analysis from 2015, Hillsboro had a deficit of about 4,000 dwelling units for households earning less than \$25,000 and a deficit of about 1,500 dwelling units for households earning more than \$100,000. To meet Hillsboro's future housing needs, a variety of housing types and densities will be required, commensurate with the needs and financial capabilities of Oregon households. WHVS aims to provide housing opportunities ranging from larger lot single-family homes to apartments, as well as a variety of "missing middle" housing types. Missing middle housing describes the range of multi-unit or clustered dwelling types compatible in scale with single-family homes, which can help increase supply of lower-cost rental and ownership housing opportunities. Missing middle housing includes duplexes, multiplexes, courtyard apartments, bungalow courts, and townhomes.

Hillsboro Comprehensive Plan Policy H 1.2

Housing for all incomes. Provide opportunities to develop housing that is appealing to people at all income levels that work at businesses in Hillsboro and want to live in the City.

In addition to public sector efforts to encourage housing that is attainable to residents at varying income levels, it is anticipated that the following private-sector efforts may be employed at WHVS:

- Utilize planned unit development allowances for reduced lots sizes and density increases to reduce relative infrastructure costs on a per unit basis and provide a broader range of housing price points.
- Encouragement and use of accessory dwelling units (ADU), also referred to in the City of Hillsboro code as "secondary dwelling units."
- Use of cottage clusters and other innovative housing types that allow for greater densities.

Hillsboro Comprehensive Plan Policy H 1.1

Variety of housing choice. Employ development standards that allow the opportunity for development of housing types such as single-family residences, single-story single-family housing, accessory dwellings, duplexes, apartments, attached single-family residences, cottage housing, co-op housing, condominiums, townhouses, government-assisted affordable housing, and manufactured housing.

Environmentally Sustainable Housing

The City would like to see the development of environmentally sustainable housing, as envisioned by the City of Hillsboro's Comprehensive Plan Goals and Policies on Energy and Climate Change, and Housing. By encouraging intelligent and sustainable housing and site design choices, this plan aims to realize the Comprehensive Plan goals and policies of:

- **High-performance building.** Facilitate high-performance building through innovative construction methods and technologies, such as a net-positive approach to energy, water, and other natural resources.
- **Energy-conserving features.** Promote the integration of energy-conserving features in new development, redevelopment, and retrofit.
- **Passive solar.** Advance energy efficiency by promoting passive solar in new site design and development.
- **Design for renewable energy production.** Pursue opportunities to integrate renewable energy production in new development and redevelopment through design, such as maximizing solar access in the division of land and siting of buildings.
- **Sustainable technologies.** Promote the use of sustainable and efficient technologies and materials in housing construction that increase the quality and useful life of new and existing housing.
- **Energy efficiency.** Promote energy-efficient design and construction, and construction methods, such as the installation of renewable energy, and water reuse to improve housing quality and reduce housing operating costs.
- **Green infrastructure.** Promote the use of vegetated stormwater facilities, pervious pavement and similar “green streets” elements compatible with publicly-maintained infrastructure, where site conditions are favorable to stormwater infiltration and it is technically feasible and appropriate.

Development in WHVS should therefore focus on construction of energy-efficient structures, utilization of renewable energy sources whenever possible, and utilization of features to increase energy and water use efficiency in building and system design and construction. Choices on building orientation, positioning in relation to the sun's path and prevailing wind patterns can also greatly reduce energy consumption. Vegetated stormwater facilities may be used, and can be compatible, with public and privately maintained infrastructure. Green infrastructure, should be used where technically feasible and appropriate. The use of sustainable materials, energy efficient features, building orientation, and site design techniques will help to make Witch Hazel Village South a sustainable housing development which works towards a cleaner and more efficient energy system while reducing utility costs for future residents.

4.3 DESIGN CHARACTER

Housing Design

A creative selection of innovative housing types and site designs will not only meet the needs of Hillsboro's diverse population, but will help to create more sustainable neighborhoods and a sense of community. This section illustrates the catalog of housing types and designs that can be developed within WHVS.

Housing Types

Duplexes



PCRI Duplex | Image: David Papazian, Fine Homebuilding Magazine



PCRI Duplex | Image: David Papazian, Fine Homebuilding Magazine

This duplex by Portland Community Reinvestment Initiatives (PCRI) is a great example of affordable, energy-efficient (LEED Gold certified) homes.

Townhomes & Rowhouses



Townhomes, Hood River, OR | Image: ECONorthwest



Townhomes | Image: DOWL

Apartments

Courtyard apartments:



Peninsula Park Commons, Portland, OR | Image: Orange Splot, LLC

Garden-style apartments:



Orchards at Orenco

Townhome-style apartments:



Townhomes, Corvallis, OR | Image: ECONorthwest

Cottage Cluster

Cottage cluster houses tend to have small building footprints and have common open space areas which help create a sense of community.



Danielson Grove, Kirkland, WA | Image: Ross Chapin Architects/The Cottage Company



Wyer's End, White Salmon, WA | Image: Smart Development Co./Ross Chapin Architects

Single-Family Detached

Low density:



Single Family Detached House | Image: West Bend Property Company



NorthWest Crossing, Bend, OR



Village Washington Square Apartments, Tigard, OR | Image: CPAH



Commons at NorthWest Crossing, Bend, OR | Image: Tyee Development



Oleson Woods Apartments, Portland, OR | Image: CPAH

Affordable Housing



Townhomes | Image: Eckert & Eckert Photography, courtesy of PCRI

These townhomes by PCRI will be available for rent by families earning up to 50 to 60 percent of Area Median Income.

These affordable apartments by Community Partners for Affordable Housing (CPAH) have convenient access to on-site and nearby amenities.

Accessory Dwelling Units

Examples of backyard detached accessory dwelling units:



ADU, Richmond Neighborhood, Portland, OR | Image: Ellen Bassett, courtesy of Orange Splot, LLC



ADU, Woodstock Gardens, Portland , OR | Image: Orange Splot, LLC

Innovative Site Design

The layout of a neighborhood can enhance walkability and sustainability, and can help create a sense of community.



WHVS envisions housing next to complete and connected streets.



Danielson Grove, Kirkland, WA | Image: Ross Chapin Architects

Courtyard style housing layouts create a shared common open space and places for gathering.

Hillsboro Comprehensive Plan Policy H 5.1

Innovative housing types. Support innovative design techniques that allow the opportunity for varied housing types such as, but not limited to, tiny houses, cottages, courtyard housing, cooperative housing, accessory dwelling units, single story units, and extended family and multi-generational housing.



NorthWest Crossing, Bend, OR

Building orientation can maximize natural light and increase energy efficiency.



Danielson Grove, Kirkland, WA | Image: Ross Chapin Architects/The Cottage Company

Space for gardens and native plantings provide transition between private and public space.

Hillsboro Comprehensive Plan Policy H 5.2
Innovative site design. Foster flexibility in the division of land and the siting of buildings and other improvements to allow for innovation.

Innovative Building Design

Missing middle style housing can visually blend in with single-family homes, giving a sense of lower density.



Wyer's End, White Salmon, WA | Image: Ross Chapin Architects/Smart Development Co.

Compact buildings and small building footprints can decrease energy consumption.





Greenwood Ave. Cottages, Shoreline, WA | Image: Ross Chapin Architects/
The Cottage Company

Porches facing common areas help create active community.



Cully Grove, Portland, OR | Image: Orange Splot, LLC

Renewable energy can be incorporated in to housing design.



Duplex, Portland, OR | Image: PCRI

Corner duplexes provide more privacy within the same amount of space.

Transportation Design

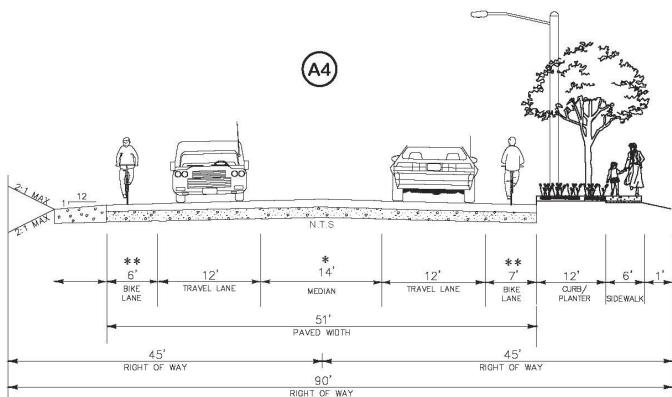
Transportation routes shown on the concept plan will provide connections for future WHVS residents to South Hillsboro's full spectrum of facilities and services. This plan describes the location and conceptual design of major transportation facilities in WHVS. Information about phasing, costs and funding of transportation facilities is found in the Transportation Infrastructure Plan section of this Chapter and in the Infrastructure Funding Evaluation included as Appendix D.

Roadway Location & Design

Figure 16 shows the approximate location of major roads in WHVS. These locations will be further refined with future community planning and site design efforts. Wherever possible, roads will be located and designed to minimize impacts on existing properties and structures, as well as to reduce impacts on streams, creeks and other natural resources. The design for each street classification, as shown in the cross sections below, will be consistent with those in the South Hillsboro Plan District.

Arterial roads carry the most traffic and tend to provide less direct access to adjacent properties, since driveways and intersecting roads must be spaced farther apart on arterial streets. River Road is designated as an arterial and has been modeled to become a 20-year design life asphaltic concrete three-lane cross-section, with one lane in each direction and a center turn lane.

Full improvements to this road will include bike lanes, landscaping, and sidewalks.



* Provision of landscaped medians subject to road agency approval and provision of private landscape maintenance agreements.

** Bike lane design as approved by road agency.

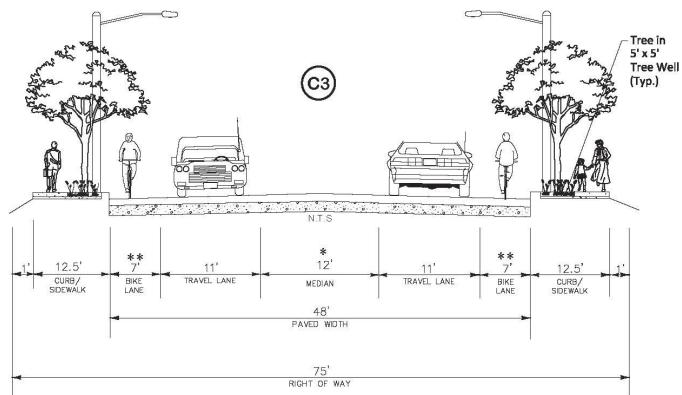
Cross Section: County 3-Lane Arterial at UGB Boundary

Brookwood Avenue is currently an arterial road north of Witch Hazel Road and a collector road south of Witch Hazel Road. Per the City of Hillsboro Transportation System Plan (TSP) (2004 amended through 2014), Brookwood Avenue is planned to expand to three lanes south of Tualatin-Valley Highway and to extend southwest across the WHVS area. The specific alignment of Brookwood Avenue through WHVS is subject to further refinement and studies. The Brookwood Avenue extension is included in Metro's 2014 Regional Transportation Plan (RTP) and intended to reduce travel demand and congestion on Tualatin Valley Highway. The Brookwood Avenue extension proposed in the WHVS Concept Plan is consistent with the intent of Hillsboro's TSP and Metro's RTP. Brookwood Avenue will extend southwest from Witch Hazel Village, crossing the WHVS plan area and connecting to River Road.

The extension of Brookwood Avenue through WHVS is anticipated to be constructed as a three-lane collector cross-section within a three-lane right of way. The Brookwood Avenue extension is anticipated to be constructed as a 40-year design life concrete street with raised cycle tracks, landscape planters, and sidewalks. Brookwood Avenue will provide access to residential communities within the Witch Hazel and WHVS.

Collector streets “collect” traffic from local neighborhood streets and are typically used to travel between neighborhoods or to access an arterial street. When fully built, collectors generally include three travel lanes (including turn lanes) as well as sidewalks and bicycle facilities. The preliminary WHVS concept plan anticipates that Hazeltine South Avenue will be designed as either a collector or a neighborhood route from Brookwood Avenue as it extends south towards Rosa Road to the limits of the WHVS study area, as shown in Figure 16. As a collector roadway, Hazeltine South Avenue would be constructed as a concrete 40-year design life three-lane cross-section with cycle tracks, on-street parking, landscape planters, and sidewalks. If Hazeltine South Avenue is a collector, a significant portion of the roadway’s costs would be creditable against Transportation Development Tax (TDT) assessments placed upon the adjacent developments. However, more detailed analysis may result in a Neighborhood Route designation, which would not be eligible for TDT credits. Further analysis is necessary to determine the final designation for this facility.

It is anticipated that Brookwood Avenue will be designated a collector as it will provide access to, and circulation within, the surrounding residential communities. New collectors within WHVS and extending from South Hillsboro are anticipated to eventually extend into the South Urban Reserve Area to facilitate regional travel.



* Provision of landscaped medians subject to road agency approval and provision of private landscape maintenance agreements.

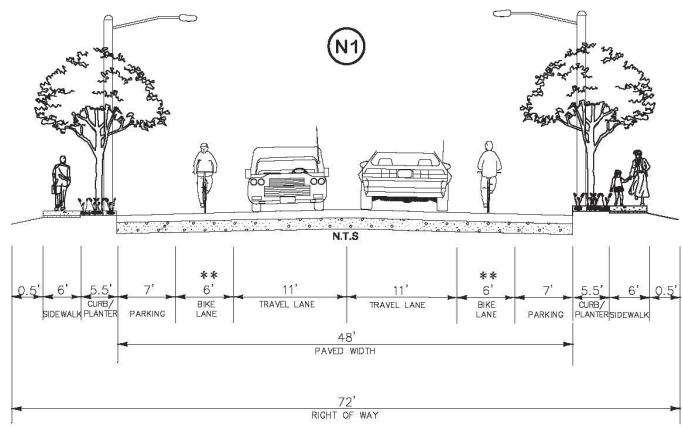
** Bike lane design as approved by road agency.

Cross Section: City 3-Lane Collector with 12-Foot Sidewalks

Neighborhood routes are similar to collectors but are intended to carry less traffic and primarily serve individual neighborhoods. They provide direct access to people's homes and businesses, as well as routes through neighborhoods to local destinations. They typically include two travel lanes, parking on one or both sides, and sidewalks with planting strips on both sides of the street. While not typically designed with bicycle facilities elsewhere in Hillsboro, Neighborhood Routes within WHVS are anticipated to include bike lanes or cycle tracks similar to those being provided in the South Hillsboro Community Plan Area. Further community planning will determine if WHVS Neighborhood Routes are designed consistent

with the City Green Neighborhood Route standard. The concept plan envisions an east-west SW Pheasant Street connecting between River Road and the Brookwood Avenue extension.

Local streets provide direct access to individual homes and businesses. They typically include enough room for on-street parking, travel in both directions, planting strips, and sidewalks. Bicycles generally share the travel lanes with cars on these streets. The location of these roads will be governed in large part by street spacing and block size per Hillsboro Development Code standards. The southbound extension of Hazeltine Avenue from Witch Hazel Village is envisioned as a local road. Additionally, it is anticipated that site specific developments within WHVS will provide local streets as necessary for public access within new neighborhoods.

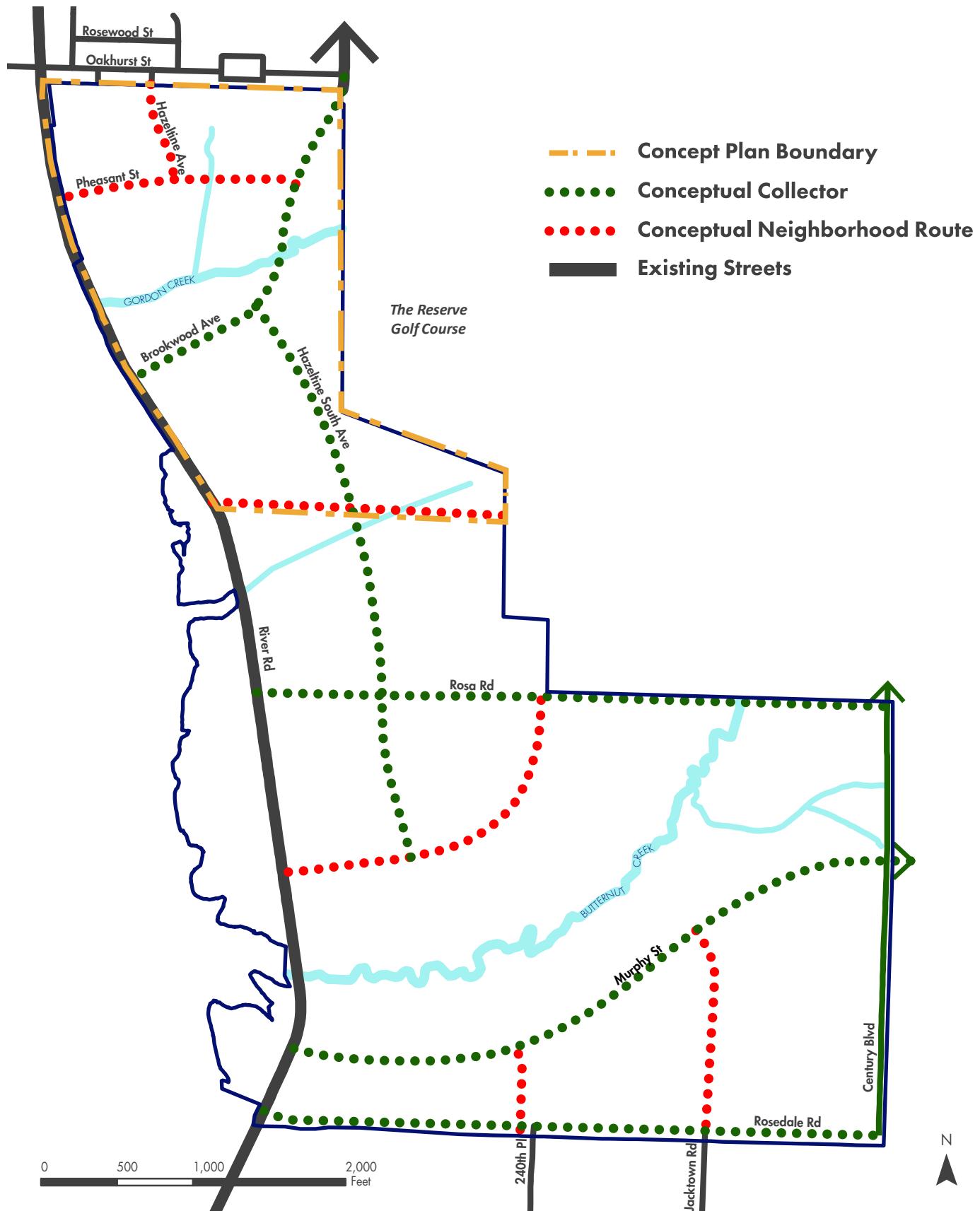


** Bike lane design as approved by road agency.

Cross Section: City Neighborhood Route

Additionally, the City will look for opportunities to provide electric vehicle charging stations for public use and accommodations for future shared autonomous vehicles.

Figure 16: Witch Hazel Village South Conceptual Transportation System





Hillsboro Comprehensive Plan Policy H 6.2
Green infrastructure. Promote the use of vegetated stormwater facilities, pervious pavement and similar “green streets” elements compatible with publicly-maintained infrastructure, where site conditions are favorable to stormwater infiltration and it is technically feasible and appropriate.



Stormwater Design

Effective stormwater management facilities throughout WHVS will protect area streams and riparian corridors, maintain a high level of water quality, and serve as amenities for this future community. WHVS may employ a variety of stormwater management design elements, including:

- **Channel restoration** may be used to increase stream corridor resiliency, including vegetated bank stabilization measures, which involves increasing channel “roughness” by planting the channel banks and installing large woody debris.



Rock Creek Tributary, an example of channel restoration

- **Regional stormwater facilities**, which can be designed to capture and manage large drainage areas. Common stormwater facilities include stormwater management ponds, wetlands, or swales and can be sized to address hydromodification concerns.



An example of a regional stormwater facility



An example of an on-site stormwater facility serving Magnolia Park



An example of a stormwater pond

- A **piped conveyance system** that bypasses high flows from the creeks and sends excess runoff directly to the Tualatin River west of SW River Road.

- **Low Impact Development Approaches (LIDA)**, which mimic the natural hydrologic cycle by allowing stormwater runoff to infiltrate as it would in an undeveloped environment. LIDA facilities can be provided via green roofs, pervious pavement, vegetated stormwater facilities, rain gardens, and bioretention facilities.



Stormwater planters filter runoff and create a pleasant transition



Bioswales in a residential development treat stormwater runoff



Sustainable design through permeable parking surfaces



Ecoroofs should be incorporated in building design whenever possible



Parks & Open Space

The WHVS Concept Plan includes parks and trails that provide a variety of opportunities for active and passive recreation⁵, such as areas for playgrounds, sports fields, and casual walks through nature. The Hillsboro Parks and Recreation Department has established a level of service goal of 10 acres of park land per 1,000 residents, a community park within two miles of all residents and a neighborhood park within a half-mile of all residents. These goals were considered when designing the parks and open

space concept for WHVS. Because Rood Bridge Park (a community park) is approximately one mile west of WHVS, residents within the plan area will have access to a community park. However, two neighborhood parks are proposed in WHVS to ensure the community will have access to public parks as necessary to meet the City's level of service standards. These neighborhood parks will likely be four to five acres, readily accessible by future trails and public accessways located along natural resource areas adjacent to the parks.

⁵ The Hillsboro Comprehensive Plan defines Active Transportation as "A type of recreation or activity that generally requires the use of designated areas and structure improvements, including, but not limited to, sports fields and courts, indoor and outdoor aquatic facilities, exercise facilities, and various forms of structured play equipment and facilities." Passive Recreation is defined as "Low-intensity recreational areas and activities that are generally non-structured in their design, including, but not limited to, walking and hiking paths, open fields and lawn areas, picnic facilities, nature viewing areas, and natural areas."

Hillsboro Comprehensive Plan Policy H 3.2

Livability amenities. Integrate amenities such as enhanced open space, community gardens, community gathering spaces, and multi-use paths for connectivity in single-family, multifamily, and mixed-use development.

Hillsboro Comprehensive Plan Policy H 3.12

Open space provisions. Foster the provision of land for open space and recreation for new and existing residents when developing housing.

Hillsboro Comprehensive Plan Policy PR 1.3

Open space provisions. Increase recreation opportunities consistent with the City's population growth while maintaining a balance between active recreation and passive recreation.

The WHVS plan identifies two parks and two trail projects intended to meet requirements in the Hillsboro Parks and Trails Master Plan. See Figure 17. Two approximately four-acre neighborhood parks are proposed in WHVS to meet the neighborhood park goal. These two parks will be located per Hillsboro Parks and Trails Master Plan locational guidelines. Neighborhood parks are smaller than community parks and provide nearby basic recreation opportunities. Neighborhood parks are intended to be easily accessible to pedestrians and bicyclists. Neighborhood park features include:

- playground or play features
- picnic tables and benches,
- American with Disabilities Act (ADA)-compliant internal pathway system

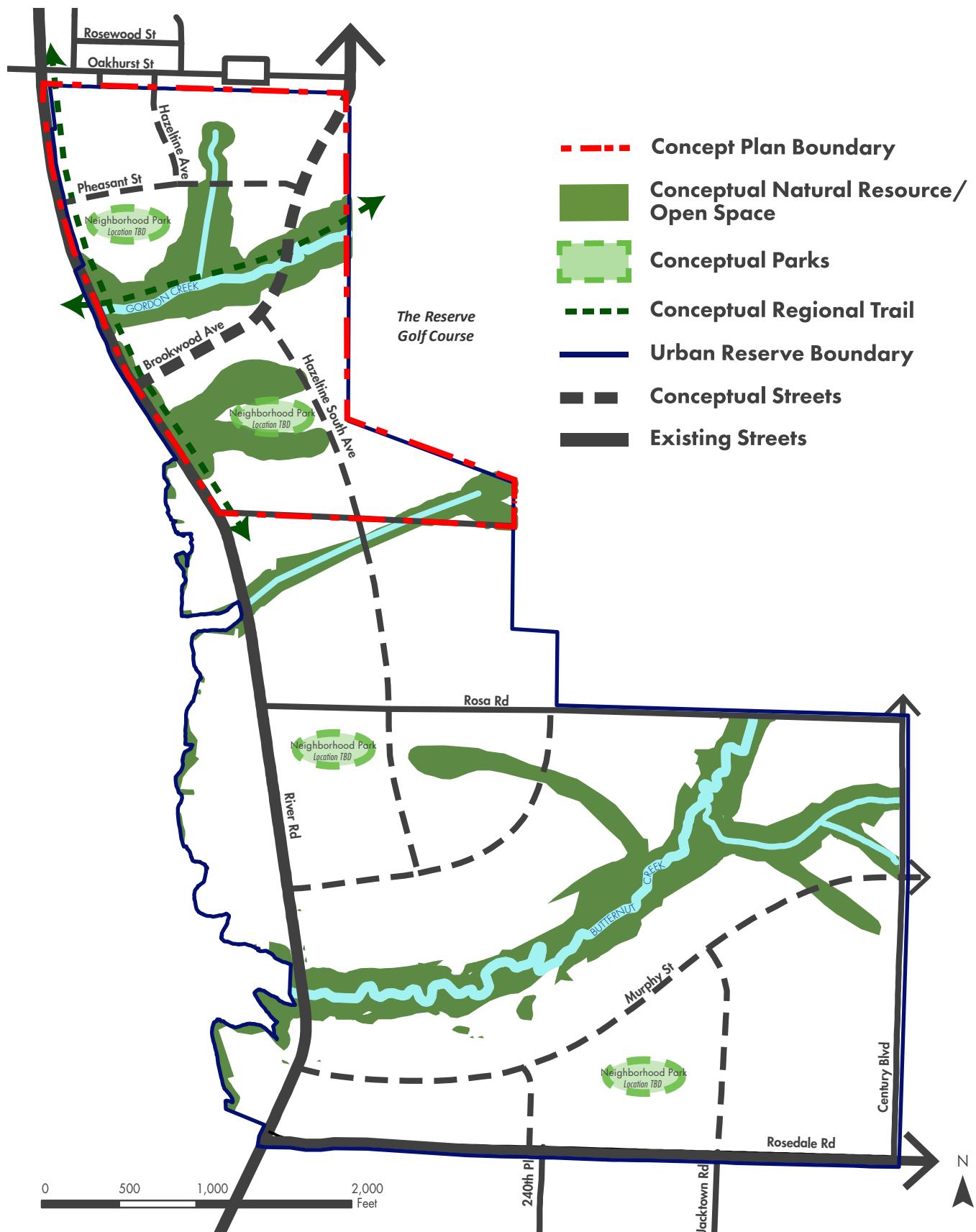
- open lawn area
- park identification sign
- site furnishings (trash receptacles, bike rack, etc.) appropriate for the scale of the park

Neighborhood Park 1: One conceptual neighborhood park location is just north of Gordon Creek at the western edge of WHVS. This park will be connected to the Gordon Creek Greenway trail and is intended to provide more active recreation amenities such as a playground, bike racks, and game courts. In addition, the park will include basic neighborhood park elements such as picnic tables, restrooms, landscaping and ADA-compliant pathways.

Neighborhood Park 2: The second conceptual neighborhood park location is south of the Brookwood Avenue extension in between two drainages. This park is intended for more passive park activities and will include typical neighborhood park features in addition to un-programmed open spaces.

Crescent Park Greenway Trail: Consistent with the Hillsboro Parks and Trails Master Plan, this regional greenway will run along the western portion of the WHVS site. The portion of the trail through the study area primarily will run along the eastern side of River Road for the entire length of the site and will be designed for hiking and walking with a 12 to 14-foot concrete path.

Figure 17: Witch Hazel Village South Conceptual Parks & Trails



Gordon Creek Greenway Trail: This trail is proposed to be consistent with the Hillsboro Parks and Trails Master Plan and provides a connection from the future Crescent Park Greenway into South Hillsboro along Gordon Creek. The trail is a multi-use greenway, suitable for hiking and walking on a 10-12-foot wide path. The trail will also include bike racks, benches, trash receptacles and landscaping.

South Urban Reserve Area Parks: Two conceptual four-acre parks are envisioned to serve the South Urban Reserve Area. The two parks will be located to the north and to the south of Butternut Creek respectively, though the precise location of each park is to be determined. Additionally, a large portion of the South Urban Reserve area lies within the 1/2-mile service area of a six-acre park planned in South Hillsboro; this South Hillsboro park is expected to absorb some of the park land needs for future development in the South Urban Reserve Area.

Butternut Creek Greenway Trail: A regional trail along Butternut Creek will be planned as part of South Urban Reserve area development. The trail will be a paved 12 to 14-foot multi-use greenway consistent with the Hillsboro Parks and Trails Master Plan.



Public Art

The Hillsboro Public Art Plan, adopted in 2008, includes the following vision statement:

Public art is a visible expression of Hillsboro's values. We value connections – connections between neighbors, old and new residents, rural and high-tech economies, the city and the natural environment. Art animates our public spaces, creating profound and memorable community experiences. Our investment in creating meaningful public spaces comes from the desire to strengthen connections between our citizens and our city and connections between the neighborhoods of Hillsboro. Public art is a part of our mental map of Hillsboro and is an important element of creating a community that future generations are proud to call home.

There are several goals in the Plan that should help shape some of the public spaces and gateway into Witch Hazel Village South. These goals include:

- Encourage art in all public places, in all parts of the city.
- Use public art as a tool to promote design excellence.
- Create inviting places for people to gather, connect to each other and their community.

There are numerous ways in which WHVS can apply some of the ideas explored in the Public Art Plan. These include features such as:

- Enhance bicycle and pedestrian pathways.
- Enrich neighborhood gathering spaces with art shelters, benches, water features, and sculpture.
- Strengthen park designs.
- Promote the stewardship of streams and wetlands with art that supports interpretation and stewardship.

4.4 TRANSPORTATION INFRASTRUCTURE PLAN

DKS Associates has prepared a Transportation Study, Appendix E, which assesses transportation impacts anticipated from development in the study area. The analysis describes proposed improvements needed to ensure efficient connectivity through the area, along with high-level cost estimates for those improvements.

Overall, an estimated \$32.9 million in on and off-site transportation improvements are expected to be needed to meet mobility targets in 2035, the anticipated date of full buildout of WHVS. Of this amount, approximately \$25 million represent the WHVS share of the costs. Table 7 below shows the transportation improvements needed to support new development within the Witch Hazel Village South Concept Plan area.

Table 7: Recommended Transportation Improvements & Funding Share

Location	Recommended Improvements	Cost Estimate	Witch Hazel Village South Cost Share
Intersections			
River Road & Minter Bridge Road	Add a northbound right turn lane	\$465,000	\$161,300
River Road & Rood Bridge Road	Add an eastbound right turn lane	\$712,000	\$176,000
River Road & Brookwood Avenue extension	Add a traffic signal and northbound right turn lane	\$836,000*	\$311,000
Brookwood Avenue & Davis Road	Add a traffic signal	\$450,000*	\$262,000
Brookwood Avenue & Witch Hazel Road	Add a raised center median on Brookwood Avenue to restrict left turn movements	\$74,000	\$28,000
Century Boulevard & Davis Road	Add a traffic signal	\$450,000*	\$262,000
Roadways			
River Road along Witch Hazel Village South frontage	Construct half-street arterial	\$9,600,000	\$7,800,000
Brookwood Avenue extension within Urban Growth Boundary	Construct three-lane collector	\$12,700,00	\$9,850,000
Hazeltine South Avenue south of Brookwood Avenue extension	Construct three-lane collector	\$7,600,000	\$6,150,000
Totals		\$32,887,000	\$25,000,000

Witch Hazel Village South costs contribution based on TDT cost sharing methodology.

*Cost estimate does not include turn lanes provided by roadway improvements or anticipated property frontage.

4.5 PUBLIC UTILITIES PLAN

Water

To serve the WHVS area, it is anticipated that connections to the existing water system will be made at the following locations:

- SW River Road via an existing 10-inch water line stub
- SE Fieldstone Avenue via an existing 8-inch water line stub
- SE Hazeltine Avenue via an existing 8-inch water line stub
- SE Brookwood Avenue via an existing 8-10-inch water line

In addition to these nearby public water distribution lines, there is a 42-inch transmission line approximately 2,000 feet north of SE Davis. The existing water system in the immediate vicinity of WHVS connects to this transmission line, most directly through a 10-inch line and pressure-reducing valve just north of SE 58th Court off SE Alexander Street. To reach this pressure-reducing valve, a 10-inch line runs north-south on SE Brookwood Avenue, then east-west on SE Alexander Street.

Water service improvements needed to serve WHVS are discussed in detail in Appendix F and are illustrated in Figure 4 of that document. In addition, a discussion of anticipated costs and funding mechanisms for public water

improvements is included in Chapter 5 of this document.

Sanitary Sewer

As discussed in the Sanitary Sewer System Analysis Memorandum in Appendix G, it is anticipated that the entire Witch Hazel Village South area can be serviced by gravity sanitary sewer facilities. The primary connection between WHVS and the CWS River Road pump station north of the site would be via a new gravity trunk line in River Road. Further details regarding the specific size and accommodations for sanitary sewer facilities is discussed in detail in Appendix G. Costs and funding mechanisms for utility infrastructure are discussed in detail in Chapter 5 of this document.

Stormwater

Stormwater management strategies will be employed at WHVS to ensure the protection of streams and riparian corridors, maintain a high level of water quality and serve as an amenity for this future community. A detailed discussion of stormwater strategies for WHVS is included in the Stormwater Management Memorandum included in Appendix H. Specifically, it is anticipated that the following stormwater strategies may be used to meet multiple stormwater management goals.

- **Channel Restoration:** Natural system enhancement may be used to increase stream corridor resiliency. Channel

improvements can include vegetated bank stabilization measures, which involves increasing channel “roughness” by planting the channel banks and installing large woody debris. Channel improvements can be completed to accommodate larger flows or allow for a floodplain connection during more frequent flood events. In-channel work must be completed during the in-water work periods and must obtain relevant permits. A geomorphology assessment of the channels would be required to determine what level of restoration is required. Possible locations for channel restoration are shown in Appendix H, Figure 1.

- **Regional Stormwater Facilities:** Public or privately owned stormwater quality and quantity facilities can be designed to capture and manage large drainage areas. Common stormwater facilities include stormwater management ponds, wetlands, or swales and can be sized to address hydromodification concerns. Regional facilities are often more efficient by requiring less space, therefore, they are typically less expensive to construct and maintain than several distributed facilities. Regional facilities would serve multiple owners and be publicly owned. However, there are several challenges in constructing regional facilities, including initial funding, phasing of development, and availability of a facility location. Washington County requires stormwater facilities to be located within city limits. Possible locations for stormwater ponds are shown in Figure 1 of Appendix H.

- **Piped Conveyance:** Construct a piped conveyance system that bypasses high flows from the creeks and sends excess runoff directly to the Tualatin River. The Tualatin River is located approximately 400 feet west of SW River Road. The Tualatin River watershed is 550 square miles, just downstream of Gordon Creek. The river is large enough to accept the increase in flow without degradation to the channel. For this option to work, land acquisition or a stormwater easement would be required. A new SW River Road crossing would also likely be required. The new outfall would trigger a joint Department of State Lands (DSL) and Army Corp of Engineers Removal-Fill permit and a 401 Water Quality Certification. Additionally, culverts crossing SW River Road would need to be evaluated for conveyance capacity.
- **Low Impact Development Approaches (LIDA):** This approach attempts to mimic the natural hydrologic cycle by allowing stormwater runoff to infiltrate as it would in an undeveloped environment. LIDA begins in the planning and design phase of a project. Specific LIDA promote stormwater infiltration, evaporation and flow attenuation through natural systems and green stormwater infrastructure and bioretention facilities. LIDA are often distributed throughout a development and can include reducing impervious area (green roofs, pervious pavement), vegetated stormwater facilities (rain garden, bioretention facilities) and underground infiltration facilities (roof

infiltration galleries). LIDA stormwater quality treatment and detention facilities, desired as amenities by private development, may be considered to augment the above stormwater management strategies.

IMPLEMENTATION

5.1 COSTS

This planning effort includes infrastructure studies that identify preliminary capital facilities improvements needed to serve future development at WHVS and their approximate cost. Appendices E, F, and G include cost estimates for anticipated improvements to transportation, water, and sanitary sewer systems respectively. Costs for parks, along with the other capital facilities improvements, are summarized in the Infrastructure Funding Evaluation in Appendix D. Developers will bear the cost for stormwater management facilities within the concept plan area. As detailed in Appendix D and shown in Table 8 below, total regional infrastructure costs, not including storm water infrastructure or local service connections, are estimated at \$46.6 million.

Table 8: Witch Hazel Village South Estimated Infrastructure Costs

Infrastructure Type	Infrastructure Costs
Water	\$3,204,750
Sanitary Sewer	\$5,456,000
Parks	\$5,010,489
Transportation	\$32,887,000
Total	\$48,558,239

Sources: Water Costs: DOWL, Water System Memo, 12-22-17; Sanitary Sewer Costs: DOWL, Sanitary System Master Plan Memo, 2018-01-11, ECONorthwest; Transportation Costs: DKS, Witch Hazel Village South Concept Plan Transportation Study, April 3, 2018, and City of Hillsboro staff discussions.

5.2 PRIMARY & SECONDARY FUNDING SOURCES

Local improvements, including roads, utility stubs, and minor infrastructure improvements to serve the development, will be paid for by developers within WHVS. Broad regional improvements will be incorporated in to the Capital Facilities Plan and funded by System Development Charges (SDCs). Funding sources for required infrastructure improvements will fall in to one of three categories:

- Local (non-regional) improvements to be paid for by the developer

- Improvements to be completed by the developer and partially reimbursed with SDC credits
- Regional improvements to be completed by the agency using SDCs as primary funding source, excluding stormwater improvements which are assumed will be local in nature and paid for by individual site developers.

A detailed assessment of infrastructure funding sources is included in Appendix D. As detailed in this report, SDCs generated by WHVS cover SDC eligible improvements for water and sanitary sewer. Parks indicate an SDC funding gap of roughly \$500,000, but it is assumed that developers in WHVS would build all necessary park improvements themselves, so the SDC gap is better characterized as excess credits that would be earned by developers in WHVS, but could not be redeemed within WHVS.

Total transportation costs are estimated to be \$32.9 million. Development within WHVS is expected to generate \$6.3 million in TDT revenue and \$7.9 million in TDT creditable transportation infrastructure costs, resulting in a TDT funding gap of roughly \$1.6 million. This gap indicates that additional funding sources will likely be required. Appendix D provides details on several strategies the City may consider to close this transportation funding gap. These approaches are summarized below:

- **Apply a sole source SDC in WHVS.** Sole source SDCs are charged inside of a particular geographic area and are used to fund investments in that area only.
- **Local improvement district, reimbursement district, or other kinds of partnerships.** Local improvement districts (LIDs) are special assessment districts in which property owners are assessed a fee to pay for capital improvements, such as streetscape enhancements underground utilities, or shared open space.
- **Consider developer-build approaches.** Partnerships with developers can leverage existing public funding sources to bring in additional private funds and lower costs. Reimbursement districts also fall into this category, allowing developers to construct the infrastructure in exchange for reimbursements through SDC credits or other funding sources.
- **Consider a financial management approach.** The City always seeks ways to be more efficient with the resource available as the infrastructure is invested. For example, the City may seek to acquire right-of-way up front and hold it until it is time to construct the facility. As land prices are likely to rise in the future, this can help to manage costs. There may also be opportunities to phase infrastructure investments over time to reduce the costs that are needed up front.
- **Find opportunities to reduce infrastructure costs,** such as seeking opportunities for value engineering as projects are more fully designed for implementation.

- **State or grant funding.** This funding source may be most appropriate for trail projects, but could potentially be used for other types of projects as well.

Phasing Plan

Witch Hazel Village South will be built out in phases, most likely beginning at the north end of the plan area, serviced from Brookwood Avenue and River Road. Phasing areas and timing will depend on a number of variables, including market demand, property owner readiness and construction costs among other factors. However, it is anticipated that phasing may occur as follows:

Phase 1: Phase 1 would likely include development of that portion of the WHVS the area north of Pheasant Street and the area east of Brookwood Avenue.

Phase 2: Phase 2 would likely include that portion of the WHVS between Pheasant Street and Brookwood Avenue (approximately 19.8 acres).

Phase 3: Phase 3 would likely include that portion of WHVS south of Brookwood Parkway and the Gordon Creek natural area (approximately 25.1 acres).

The extent of public improvements completed with each development phase will be determined based on future annexation agreements and more detailed traffic impact analyses.

5.3 GOVERNANCE & URBAN SERVICES

Services

The City of Hillsboro is proud to be a full-service City, one of only a few in the region providing complete direct services to citizens, including police and fire protection, parks and recreation, library, transportation, and utilities such as sanitary sewer and water. The City has a number of plans that help guide the provision of these services. These plans include:

- Hillsboro 2035 Vision (updated in 2015)
- Comprehensive Plan (full update adopted in 2017)
- Transportation System Plan (currently being updated)
- Hillsboro Environmental Sustainability Plan
- Infrastructure Master Plans such as,
 - Parks & Trails Master Plan
 - Trails Master Plan
 - Sanitary Sewer Master Plan
 - Storm Sewer Master Plan
 - Water Master Plan
 - Intelligent Transportation System (ITS) Plan (underway)

These plans will have a direct impact on the services that are provided to residents in WHVS. Of particular interest to residents will be the services described further below.

Police & Fire

The City of Hillsboro prioritizes public safety and provides comprehensive police and fire services to residents, businesses, and visitors. Community members value public safety and have identified effective police and fire services as a critical component of Hillsboro's vision. Recognizing these values and their importance, police and fire services make up a significant portion of the City's overall service portfolio.

Parks & Recreation

Hillsboro Parks & Recreation (HP&R) is a nationally accredited parks and recreation department within the City of Hillsboro. The HP&R system includes diverse parks, greenways and open space, trails, and recreation facilities that provide a wide variety of recreation opportunities and experiences that contribute to a high quality of life for community members. HP&R has 622 acres of developed park land and 167 acres of undeveloped park land. The City aims to continue meeting the recreation needs of a growing and changing population through careful planning. Hillsboro has come a long way over the past several decades in increasing its number and size of recreation opportunities. For example, Hillsboro had an average ratio of 1.8 acres of developed park land for every 1,000 people in 1985. Hillsboro currently has an average ratio of 6.4 acres of developed park land for every 1,000 residents. This is a remarkable accomplishment as the gains in service levels

occurred even as population was growing at a fast rate.

Library Services

Hillsboro has two public libraries and a circulation of materials and attendance that continues to grow. The Hillsboro Public Library remains the third busiest library in the state and boasts facilities in top-notch condition with a high ratio of space per resident. The City's approach to library services focuses on providing a system that is accessible and valuable for all members of the community and remains an integral part of the community's resources.

Transportation

The City works to ensure that the transportation network accommodates a variety of transportation needs and is implemented and operated to support livability today and into the future. Evolving commute patterns and an increasing share of transit, bicycle, and walking trips across the City indicate a need to proactively plan comprehensive networks for all modes to reduce overall dependence on the automobile.

The City is dedicated to working collaboratively internally and with agency partners to identify funding mechanisms for transportation maintenance and enhancement and continually works to identify opportunities for partnerships and collaboration between departments and agencies to share resources and ease

mutual financial and/or resource burdens. Washington County is a strong partner with the City and this partnership will ensure strong continued collaboration on all fronts including transportation.

Utilities

Hillsboro has been operating its own water system for over 75 years, withdrawing directly from the Tualatin River just south of Forest Grove. The City is also founding member of the Joint Water Commission, a network that serves over 360,000 customers in Washington County. The City will continue to emphasize strong leadership in coordination with other service providers in order to exceed water quality standards and make a concerted effort to encourage water and energy conservation, reuse and recycling, and renewable energy. Additionally, Tualatin Valley Water District (TVWD) and the City of Hillsboro are partnering to develop the water infrastructure necessary to obtain additional water supply from the mid-Willamette River at Wilsonville. While the City has adequate water supply today, this project will provide a redundant and more vigorous water supply system to meet future demands and provide greater reliability for the future needs of the community. This water supply partnership supports the region's plans for responsible growth within the urban growth boundary.

Collection and treatment of wastewater is vital to protecting public health, preserving the environment, and providing clean water. The

City takes its role as a regional leader in the protection, treatment, and delivery of high-quality water seriously, ensuring Hillsboro wastewater is treated to some of the highest standards in the nation before being returned to the environment. The City and Clean Water Services (CWS) share responsibility for the transmission of Hillsboro's wastewater, and CWS is solely responsible for maintaining regional wastewater treatment facilities. The City continues to work with CWS and other local and regional partners to provide responsible stewardship of the local watershed.

Governance

The City of Hillsboro is the primary or sole provider of multiple urban services and will be the ultimate source of local governance within Witch Hazel Village South. The City understands that coordinating strategies for public facilities planning and infrastructure and service provision over the long-term horizon is essential for meeting the needs of a rapidly community.

Infrastructure systems and service areas do not all follow the City boundaries as the Hillsboro Urban Service Area includes the Urban Growth Boundary (the 20-year growth threshold) and portions of Aloha, Reedville, and the Rock Creek neighborhood in unincorporated Washington County. As a result, the City partners with other local service providers and districts located outside of Hillsboro.

Cooperative intergovernmental urban service and planning agreements between Hillsboro,

Beaverton, Washington County, Metro, and various special districts identify the City of Hillsboro as the jurisdiction responsible for planning, service provision, and governance of adjacent urbanized unincorporated areas within the UGB. Effective collaboration is necessary for meeting the service requirements of state and federal regulations and effectively working with multiple private and public entities. Hillsboro desires to maintain and grow all of its public services for the future and will continue to explore assuming ownership and responsibility for public services provided by other local governments or utilities within City limits. Balance between the maintenance and operation of existing services and the extension of new public services is critical to providing reliable, resilient, cost-effective, and equitable services.

Statewide Planning Goal 2, Land Use Planning, requires consistency between City and County plans. This consistency has been ensured, in part, by the County's adoption of Urban Planning Area Agreements (UPAAAs) with cities. The UPAA tool has been used to identify the eventual boundaries of cities, transfer planning and road jurisdiction to cities, and to guide the transition of urban unincorporated lands when annexed by cities. Washington County and the City of Hillsboro adopted an updated UPAA with Washington County in 2017. The update was conducted primarily to include a process for coordinating concept planning with the county in Urban Reserve Areas and to designate the City as the planning authority for areas added to the UGB since 2004. Witch Hazel Village South

and the remaining urban reserves to the south are included in the UPAA. Washington County, Clean Water Services, the Oregon Department of Transportation and the Tualatin Valley Fire and Rescue have all provided letters of support for the City's UGB expansion request for WHVS.

It is anticipated that once the urban growth boundary has expanded to include the 150 acres of WHVS and annexation has occurred the City and County will coordinate on the specific timing and locations of roadway jurisdiction designations. City of Hillsboro Police and Fire will serve the area. The City will provide water and parks and will continue its partnership with Clean Water Services for the delivery of sanitary sewer.

Next Steps

Once a UGB expansion is approved for the WHVS area, the development process will likely proceed as follows:

1) Comprehensive Planning Phase

The City of Hillsboro plans to create a Community Plan for WHVS to guide the Comprehensive Planning that will occur after the area has been added to the urban growth boundary. The Plan will build upon engagement activities from earlier phases of planning work for the Concept Plan. A community engagement strategy will be developed to identify tools and approaches to engage stakeholders and the broader community. Modeling after the public participation work that was done for the South

Hillsboro Community Plan, public engagement strategies for WHVS may include: open houses, community forums, and other engagement efforts. Public feedback will also be obtained through email, letters, surveys, and comment cards. Locations of public infrastructure and plan designations may be refined through this community planning process.

2) Annexation

Annexation to the City of Hillsboro will be required before development can occur within WHVS. Prior to annexation, it is expected that the city and various property owners will enter into a Memorandum of Understanding that describes the parties' mutual expectations and commitments regarding the implementation of the WHVS Community Plan. The annexation application will require an annexation agreement between the City of Hillsboro and the property owners that outlines the terms of the annexation and the commitments agreed upon for both parties. Additionally, annexation to CWS will be required of any property that will connect to this public system for urban services. If a property owner requests annexation to CWS, the City must endorse the annexation petition. Endorsement from a city generally comes from the City Council and will be in the form of a Council resolution or a similar document that demonstrates the City's support.

3) Planned Unit Development & Site Development Requests

Once the WHVS area is brought in to Hillsboro City limits, land use applications will need to be filed with the City planning department to authorize land development in WHVS. These applications could include Planned Unit Development, Subdivision, Development Review or other possible requests depending on the circumstances of the development proposal(s). The City will work closely with project partners throughout the plan development process to ensure alignment between the City's vision for WHVS and market forces.

5.4 FUTURE PHASES: REMAINING URBAN RESERVE

In the future, the City of Hillsboro will continue to analyze whether it has a 20-year supply of land for housing. If the City of Hillsboro does not have a 20-year land supply for housing, the City may consider requesting urban reserve land to the immediate south of WHVS's 150 acres for an expansion. The key infrastructure connections identified in the WHVS Concept Plan for the South Urban Reserve Area will help inform future concept planning.