

# **Scholls Ferry Road Conceptual Design Plan**

## **Technical Memorandum—Existing Conditions**

*Prepared for*

**Multnomah County**

1600 SE 190th Avenue  
Portland, OR 97233

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## CITATION

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The contents of this document do not necessarily reflect views or policies of the State of Oregon.

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Technical Memorandum – Existing Conditions.  
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## CERTIFICATION

The technical material and data contained in this document were prepared under the supervision and direction of the undersigned, whose seal, as a professional engineer licensed to practice as such, is affixed below.

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## TABLE OF CONTENTS

<b>1. INTRODUCTION.....</b>	<b>1-1</b>
1.1 PURPOSE OF THIS TECHNICAL MEMORANDUM.....	1-1
1.2 CONTEXT AND ORGANIZATION .....	1-1
 <b>2. RELEVANT PLANS, POLICIES AND GUIDELINES .....</b>	<b>2-1</b>
2.1 OVERVIEW.....	2-1
2.2 TRANSPORTATION SYSTEM PLAN FOR THE URBAN POCKETS OF UNINCORPORATED MULTNOMAH COUNTY (2005).....	2-1
2.3 MULTNOMAH COUNTY DESIGN AND CONSTRUCTION MANUAL .....	2-2
2.4 AASHTO GEOMETRIC DESIGN OF HIGHWAYS AND STREETS.....	2-3
2.5 FEDERAL AMERICANS WITH DISABILITIES ACT (ADA) .....	2-4
2.6 OREGON BICYCLE AND PEDESTRIAN PLAN (1995) .....	2-4
On-Road Bikeways .....	2-5
Walkways .....	2-5
2.7 2035 REGIONAL TRANSPORTATION PLAN.....	2-6
2.8 CREATING LIVABLE STREETS: STREET DESIGN GUIDELINES FOR 2040 .....	2-6
2.9 GREEN STREETS: INNOVATIVE SOLUTIONS FOR STORMWATER AND STREAM CROSSINGS (2002).....	2-7
2.10 CITY OF PORTLAND STORMWATER MANAGEMENT MANUAL (2008) .....	2-7
 <b>3. KEY FEATURES OF THE STUDY AREA .....</b>	<b>3-1</b>
3.1 GEOLOGY & HYDROLOGY .....	3-1
3.2 LAND USE .....	3-4
3.3 TRANSPORTATION .....	3-4
 <b>4. ALTERNATIVE BICYCLE AND PEDESTRIAN CIRCULATION CORRIDORS .....</b>	<b>4-1</b>

### LIST OF FIGURES

1 Geology/Hydrology Map.....	3-3
2 Land Use Designations.....	3-5
3 Transportation Features .....	3-6

### LIST OF TABLES

1 Multnomah County Roadway Standards.....	2-2
2 Minimum County Design Standards for a Minor Arterial Roadway .....	2-3

## TABLE OF CONTENTS (CONTINUED)

3	NRCS Soil Types – Multnomah County .....	3-1
4	NRCS Soil Types – Washington County .....	3-2
5	Multnomah County Capital Improvement Projects in Study Area.....	3-8

## APPENDICES

- A Multnomah County Bicycle Map Excerpt
- B Scholls Ferry Road, Available Roadway Width

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## ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
ADA	(federal) Americans with Disabilities Act
ADAAG	ADA Accessibility Guidelines
DLCD	Oregon Department of Land Conservation and Development
NRCS	Natural Resources Conservation Services
OBPP	Oregon Bicycle and Pedestrian Plan
ODOT	Oregon Department of Transportation
RTP	Regional Transportation Plan
SSD	Stopping Site Distance
TGM	Transportation and Growth Management
TPR	Transportation Planning Rule
TSP	Transportation System Plan
USDOT	United States Department of Transportation

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# **1. INTRODUCTION**

The primary objective of the Scholls Ferry Road Conceptual Design Plan is to develop a proposed street treatment to better accommodate multi-modal circulation, to support adjacent land use and development, and to conceptually address options for handling stormwater runoff related to recommended improvements.

The Scholls Ferry Road Plan will be developed through a process that: (1) reviews relevant transportation and stormwater management standards, (2) identifies a range of reasonably feasible cross-sections that would allow Scholls Ferry Road to accommodate bicycle and pedestrian modes of transportation, (3) describe a range of approaches for dealing with stormwater run-off if the area of impervious surface is increased, (4) develops a proposed conceptual street design for Scholls Ferry Road for public review and comment, and (5) prepares a conceptual plan ready for inclusion in the City and County Transportation System Plans (TSP).

## **1.1 PURPOSE OF THIS TECHNICAL MEMORANDUM**

The intent of this technical memorandum is to document existing conditions within the study area and to provide guidance to undergird the development of design concepts. Specifically this memorandum will include:

- A summary of relevant plans, policies, and guidelines that will provide context and guidance for the development of improvement options. This includes such guidance as Multnomah County road standards, American Association of State Highway and Transportation Officials (AASHTO) guidelines, Americans with Disabilities Act (ADA), Oregon best practices for bicycle and pedestrian facility development, regional planning documents and guidance, and County/State stormwater management requirements.
- Highlights of existing and planned land uses, environmental and historic features, and transportation system characteristics as identified in greater detail in the base maps prepared for the study area. This discussion focuses on opportunities and constraints that these factors present that will influence the development of improvement options.
- Brief discussion of alternative bicycle and pedestrian transportation corridors including those previously identified by Multnomah and Washington Counties.

## **1.2 CONTEXT AND ORGANIZATION**

This report is divided into four chapters. Chapter 1 is this Introduction. Chapter 2 provides a summary of relevant plans, policies, standards and guidelines. Chapter 3 presents the base maps prepared for the study area which identify existing land use, transportation, and geologic/hydrologic features, and discusses the opportunities and constraints presented by each relevant factor in these maps. Chapter 4 identifies and discusses alternate bicycle and pedestrian corridors in the project area.

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## 2. RELEVANT PLANS, POLICIES AND GUIDELINES

### 2.1 OVERVIEW

The following section discusses county, regional, state, and federal goals, plans, policies, and standards that will affect planning and designing for future improvements to the bicycle and pedestrian system along Scholls Ferry Road. Recommended improvements to address the provision of these facilities should consider the standards and policies described below.

The following plans and guidelines are summarized and relevance to Scholls Ferry Road is discussed:

- Transportation System Plan (TSP) for the Urban Pockets of Unincorporated Multnomah County (2005)
- Multnomah County Design and Construction Manual
- Geometric Design of Highways and Streets, by the American Association of State Highway and Transportation Officials (AASHTO) (2004)
- Federal Americans with Disabilities Act (ADA)
- Oregon Bicycle and Pedestrian Plan, ODOT (1995)
- 2035 Regional Transportation Plan, Metro (2008)
- Creating Livable Streets: Street Design Guidelines for 2040, Metro (2002)
- Green Streets: Innovative Solutions for Stormwater and Stream Crossings (2002)
- City of Portland Stormwater Management Manual (2008)

### 2.2 TRANSPORTATION SYSTEM PLAN FOR THE URBAN POCKETS OF UNINCORPORATED MULTNOMAH COUNTY (2005)

In compliance with the Transportation Planning Rule (TPR) and Regional Transportation Plan (RTP), Multnomah County developed a TSP for urban unincorporated areas within the County. The Scholls Ferry Road study area is included in the TSP, making the policies and recommendations of that document specifically relevant to the development of corridor improvement recommendations.

The purpose of the County TSP was to convert Multnomah County street classifications to City policy designations to ensure consistency in the policy treatment of the Countywide street system. The TSP also establishes goals and policies to govern the development of street infrastructure improvements for the County. Listed below are relevant policies from the TSP:

- *Placing a priority on construction and maintaining the transportation system to improve the safety for bicyclists and pedestrians.*
- *Coordinating with surrounding jurisdictions and regional partners in the development of the bicycle and pedestrian system.*
- *Promoting bicycle and walking as a vital transportation choice.*

The TSP classifies Scholls Ferry Road as a Minor Arterial, City Bikeway, City Walkway and Community Connector. The TSP also identifies three proposed projects for Scholls Ferry Road. The first project includes the addition of bicycle and pedestrian facilities on Scholls Ferry Road from Humphrey Boulevard to the Washington County line. The second project

would provide a dedicated left-turn lane for the southbound direction at the intersection of Scholls Ferry Road with Patton Road. The third project identifies the widening of Scholls Ferry Road to four lanes to accommodate turns and uphill bike lanes from US 26 to the Washington County line.

## 2.3 MULTNOMAH COUNTY DESIGN AND CONSTRUCTION MANUAL

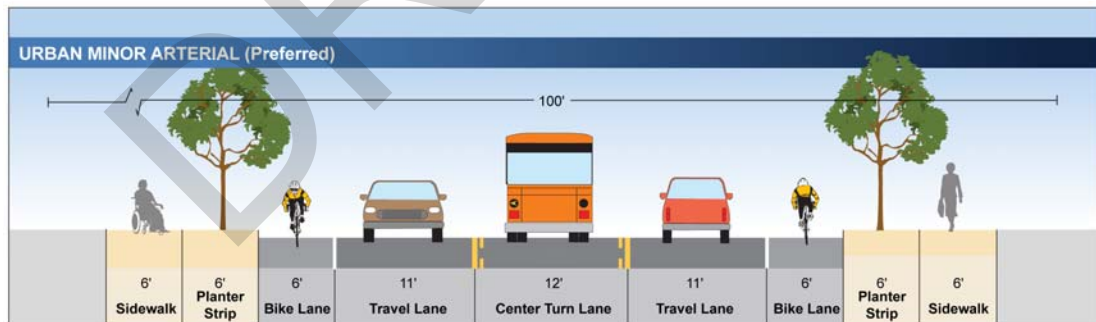
As noted above, this section of Scholls Ferry Road has been classified as a minor arterial by the County and will rely on the urban arterial cross-section as described in the *Multnomah County Design and Construction Manual* as a guide when designing roadway improvements. In areas where the corridor is constrained topographically, consideration will be given to combining the standard urban arterial cross-section with elements of the Multnomah County rural arterial cross-section to best accommodate vehicles, pedestrians, and bicycles within the limited available roadway right-of-way. The standard cross-sections for these two classifications are summarized in Table 1 and illustrated in Figures 1 and 2 below:

**Table 1. Multnomah County Roadway Standards**

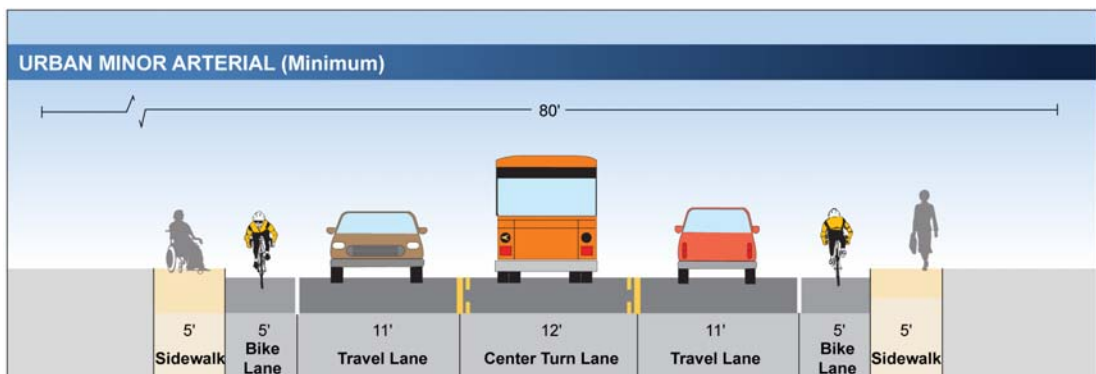
		Design Speed (MPH)	ROW (ft)	# of Lanes	Sidewalk (ft)	Planter Strip (ft)	Bike Lane (ft)	Shoulder (ft)	Travel Lanes (ft)	Center Turn Lane (ft)
<b>Urban Arterial</b>	Minimum	35	80	3	5	0	5	NA	11	12
	Maximum	45	115	5	8	8	6	NA	12	14
	Preferred	NA	100	3	6	6	6	NA	11	12

Source: Design and Construction Manual, Multnomah County, latest edition.

### Urban Arterial Cross-section (Preferred)



### Urban Arterial Cross-section (Minimum)



Where feasible, other standards from the Design and Construction Manual must also be used to guide the layout of a variety of design concepts. These include minimum stopping site distance (SSD), horizontal and vertical alignment gradients, and minimum vertical curve radius. These design standards are listed in Table 2 below:

**Table 2. Minimum County Design Standards for a Minor Arterial Roadway**

Design Element		Design Standard (35 MPH posted)
Stopping Site Distance (SSD)	Level Road	250 Feet
	6% Upgrade	229 Feet
	6% downgrade	271 Feet
Horizontal alignment curve	4% superelevation	490 Feet
	6% superelevation	440 Feet
Street Gradient	Maximum	10%
	Minimum	0.5%
Sag vertical curve length	Based on Algebraic Difference in grades ( $K = \text{Curve Length} / \text{Algebraic Difference in Grade}$ )	$K=50$
Crest vertical curve length	Based on Algebraic Difference in grades. ( $K = \text{Curve Length} / \text{Algebraic Difference in Grade}$ )	$K=30$

Source: Design and Construction Manual, Multnomah County, latest edition.

The existing alignment of Scholls Ferry Road contains horizontal curves that do not meet the County design standards for a minor arterial. Beginning at the intersection with Patton Road and proceeding north, there are at least seven horizontal curves with radii ranging from 230 feet to 430 feet, all below the 440 foot (assuming a 6% super) design standard for the 35 MPH posted speed. In addition, in many locations due to the poor visibility on these tight horizontal curves from barriers such as walls, cut slopes, and vegetation, the stopping sight distance is also below standards. Sight distance could be improved by trimming vegetation or flattening existing cut slopes, or in areas where the limited sight distance is caused by a man-made obstruction such as a wall, sight distance may be improved by adding a path or bike lane on the inside of these curves and shifting the lane away from the obstruction. For example, on an existing horizontal curve north of SW Woods Court, the sight distance is approximately 130 feet due to a retaining wall on the inside of the curve. By shifting the driving lane away from the wall through the addition of a bike lane, curb, and sidewalk; the sight distance could be improved above the minimum standard sight distance of 229 feet. Similar improvements in sight distance could be made on other curves, depending on the distance available and the distance that the road is shifted away from the obstruction.

## 2.4 AASHTO GEOMETRIC DESIGN OF HIGHWAYS AND STREETS

The Multnomah County Design Standards reference the requirement to meet the current version of the AASHTO Geometric Design of Highways and Streets. The design standards listed in Table 2 above were calculated using the 2004 version of the AASHTO Geometric Design of Highways and Streets for the existing posted speed of 35 MPH. This provides a guideline to determine the need for improvements to the existing horizontal and vertical geometry. In areas where reconstructing the roadway to current design standards is not completed, appropriate warning signs should be installed.

## 2.5 FEDERAL AMERICANS WITH DISABILITIES ACT (ADA)

The Americans with Disabilities Act (ADA) prohibits state and local governments from discriminating against people with disabilities in all programs, services, and activities. Under the ADA, the U.S. Access Board has developed and continues to maintain design guidelines for accessible buildings and facilities known as the *ADA Accessibility Guidelines* (ADAAG). These guidelines were adopted by United States Department of Transportation (USDOT) and are published as the ADA Standards for Accessible Design for transportation facilities. These guidelines are enforceable under the ADA.

Relevant to the development of pedestrian and bicycle facilities on Scholls Ferry Road is the requirement that public and private entities use available guidance from the ADAAG to design and construct sidewalks and trails to make them accessible to and usable by people with disabilities. Relevant sections include:

- Accessible Routes (ADAAG 4.3)
- Curb Ramps (ADAAG 4.7)
- Ramps (ADAAG 4.8)<sup>1</sup>

The selected option for adding pedestrian facilities to Scholls Ferry Road must meet the requirements of ADAAG which states the facility shall have a minimum clear width of 36 inches, with a maximum cross-slope of 2%. Any accessible route with a longitudinal slope greater than 5% is considered a ramp and shall comply with the requirements of Section 4.8. These requirements only apply to the curb cuts, ramps, and driveways along Scholl Ferry Road. However, during design every effort should be made to meet these requirements on the entire pedestrian network consistent with the ODOT Highway Design Manual which states that any sidewalk parallel to a roadway and built to the grade of the land can be constructed at the same grade as the road, even if the grade is steeper than 5% without requiring an exception. The current gradient of Scholls Ferry Road in the study area consists of the following vertical gradients:

<u>Slope</u>	<u>Lineal Feet</u>
Less than 5%	1,750
5% to 6.25%	2,250
6.25% to 8.33%	2,400
More than 8.33%	150

This indicates that for 1,750 feet of the corridor the existing roadway gradient will meet ADA standards for pedestrian facilities. For approximately 4,800 feet of the corridor, the pedestrian facilities will be steeper than 5% and would likely follow the gradient of the roadway.

## 2.6 OREGON BICYCLE AND PEDESTRIAN PLAN (1995)

The Oregon Bicycle and Pedestrian Plan (OBPP) set forth the standards and guidelines for bikeways, walkways, and other pedestrian facilities, including crossing treatments that should be followed within the State of Oregon. The OBPP is regularly used by local governments as

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<sup>1</sup> Federal Highway Administration, U.S. Department of Transportation. “Designing Sidewalks and Trails for Access, Part I of II: Review of Existing Guidelines and Practices” Barbara McMillen, Program Manager; Beneficial Designs, Inc. Author. Clay Butler, Illustrations. September 2001. <http://www.fhwa.dot.gov/environment/sidewalk2/>.

a guide for the planning and design of facilities for alternative travel modes. Many of the standards and guidelines described below are based on federal standards and guidelines.

## On-Road Bikeways<sup>2</sup>

Bicycles are legally classified as vehicles in the State of Oregon, and roadways must be designed to allow bicyclists to ride in a manner consistent with the vehicle code. A bikeway is created when a road has the appropriate design treatment to accommodate bicyclists, based on motor vehicle traffic volumes and speed. The basic design treatments to accommodate bicycle travel on the road are: shared roadway, shoulder roadway, or a bike lane. An additional type of facility separated from the roadway is a multi-use path.

There are no specific bicycle standards for most shared roadways; they are simply located on the roads as constructed. Shared roadways function well on local streets and minor collectors, and on low-volume rural roads and highways. Shared roadways are suitable in urban areas on streets with low speeds—25 mph or less—or low traffic volumes (3,000 Average Daily Traffic or less, depending on speed and land use). A wide curb lane may be provided where there is inadequate width to provide a bike lane. A key conflict point in the policies and standards that encourage the construction of bicycle and pedestrian facilities is the Oregon's Transportation Planning Rule (TPR) requiring bicycle lanes along arterials and collectors even if they do not generate significant bicycle traffic. The TPR would require bicycle lanes and walkways on Scholls Ferry Road due to its classification as a minor arterial.

## Walkways<sup>3</sup>

Pedestrian facilities include walkways, traffic signals, crosswalks, and other amenities such as illumination and benches.

A walkway is a transportation facility built for use by pedestrians and persons in wheelchairs. Walkways include both sidewalks and paths. Sidewalks are located along roadways, separated with a curb and/or planting strip, and have a hard, smooth surface.

Paths are typically used by pedestrians, cyclists, skaters, and joggers and are often referred to as Multi-Use Paths. Paths may be unpaved, constructed with packed gravel or asphalt grindings, if they are smooth and firm enough to meet ADA requirements.

- **Multi-Use Paths** – Well-planned and well-designed multi-use paths can provide good pedestrian and bicycle mobility. Paths can serve both commuter and recreational cyclists. The key components to successful paths include: continuous separation from traffic, scenic qualities, connection to land uses, well-designed street crossings, visibility, good design, and proper maintenance.<sup>4</sup>
- **Unpaved Paths** – The standard width of an unpaved path is the same for sidewalks. An unpaved path should not be constructed where a sidewalk is more appropriate. The surface material should be packed hard enough to be usable by wheelchairs and children on bicycles (the roadway should be designed to accommodate more experienced bicyclists).

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<sup>2</sup> Oregon Bicycle and Pedestrian Plan (1995), II.1. On-Road Bikeways.

<sup>3</sup> Oregon Bicycle and Pedestrian Plan (1995), II.4 Walkways, B. Standards.

<sup>4</sup> Oregon Bicycle and Pedestrian Plan (1995), II.6. Multi-Use Paths.

## 2.7 2035 REGIONAL TRANSPORTATION PLAN

The Regional Transportation Plan (RTP) is prepared and regularly updated by Metro, the Metropolitan Planning Organization for the Portland region. The RTP is intended to serve as a blueprint to guide transportation planning and investments in the Tri-County area. State law requires that the RTP be consistent with the Oregon Transportation Plan and relevant provisions of statute such as the Transportation Planning Rule (State Planning Goal 12). State law further requires consistency of local plans with the RTP for jurisdictions located within the Portland metropolitan area.

The 2035 RTP is currently in draft form with additional analysis and public input currently underway. Key goals of the draft plan with relevance for improving pedestrian and bicycle facilities along Scholls Ferry Road include: expanding transportation choices, emphasizing effective and efficient management of the existing transportation system, enhancing safety and security, promoting environmental stewardship, and enhancing human health.

According to the RTP, the Scholls Ferry Road study area is designated as a Community Street (intended to provide for a balance of all modes of travel), a Minor Arterial (required by the TPR to add bicycle and pedestrian facilities where feasible and strongly encouraged by the RTP), and a Regional On-street Bikeway. The RTP also calls for convenient and reliable regional transit bus service on the majority of arterials. Currently, there is no transit service provided along Scholls Ferry Road but this could change in the future. The provision of bus service would require consideration of safe non-motorized access to/from bus stops.

## 2.8 CREATING LIVABLE STREETS: STREET DESIGN GUIDELINES FOR 2040

This handbook outlines Metro's approach to designing streets of regional significance that improve livability and safety within a community and support the goals adopted in the Regional Transportation Plan (RTP) and 2040 Growth Concept. The guidelines are intended to be used as tools to improve existing streets and for designing new streets by linking street design that is based on traditional functional classification designations (e.g., mobility vs. accessibility) with multi-modal functions, community livability and economic vitality. The design guidelines are not standards, but are instead recommendations intended to complement existing standards and guidelines in adopted local plans.

The guidelines in the Creating Livable Streets Handbook address the following design issues that are relevant to the Scholls Ferry Road corridor:

- *“How regional street design can enhance the identity and livability of the region with principles and design guidelines for multi-modal street design;*
- *How streets can be retrofitted and upgraded with pedestrian-oriented amenities to promote walking, bicycling and transit use;*
- *How streets should integrate bikeways consistent with the regional street design types;*
- *How to ensure that pedestrian improvements do not preclude reasonable truck and bus movement at major intersections and that truck and bus improvements do not inhibit pedestrian movement;*
- *How to incorporate regional street design elements where right-of-way constraints limit desired design elements.”*



## 2.9 GREEN STREETS: INNOVATIVE SOLUTIONS FOR STORMWATER AND STREAM CROSSINGS (2002)

This handbook outlines Metro’s approach to designing green streets in the Portland metro area and provides stormwater management concepts. Metro defines a Green Street as a transportation facility that is designed to:

- *“Integrate a system of stormwater management within its right of way*
- *Reduce the amount of water that is piped directly to streams and rivers*
- *Be a visible component of a system of “green infrastructure” that is incorporated into the aesthetics of the community*
- *Make the best use of the street tree canopy for stormwater interception as well as temperature mitigation and air quality improvement*
- *Ensure the street has the least impact on its surroundings, particularly at location where it crosses a stream or other sensitive area.”<sup>5</sup>*

The following are goals in the Green Streets Handbook are applicable to the design and development of bicycle and pedestrian facilities on Scholls Ferry Road:

- *Maintain and restore natural processes*
- *Conserve, protect and restore habitat quantity and quality*
- *Improve water quality<sup>6</sup>*

The Green Streets Handbook also highlights that right of way for retrofitting existing roadways may be limited by adjacent development, in which case the following standard would apply:

- *Must ensure that installation of designs does not come at [the] expense of pedestrian and bicycle facilities.<sup>7</sup>*

## 2.10 CITY OF PORTLAND STORMWATER MANAGEMENT MANUAL (2008)

Multnomah County currently defers to the City of Portland (COP) stormwater standards for guidance. The City of Portland’s Stormwater Management Manual outlines required stormwater management for all development. The City’s approach is to treat and infiltrate stormwater onsite using vegetated surface facilities *to the maximum extent feasible<sup>8</sup>*, before discharging to a surface drainage canal or pipe system with limited capacity. The following is the City’s pollution reduction target for water treatment facilities:

- *70 percent removal of total suspended solids (TSS) is required from 90 percent of the average annual runoff.*

The above requirement is applicable to projects that develop or redevelop more than 500 square feet of impervious surface.

<sup>5</sup> What is a Green Street?, <http://www.oregonmetro.gov/index.cfm/go/by.web/id=26335>

<sup>6</sup> Green Streets: Innovative Solutions for Stormwater and Stream Crossings (2002), pg 9.

<sup>7</sup> Green Streets: Innovative Solutions for Stormwater and Stream Crossings (2002), pg 40.

<sup>8</sup> City of Portland Stormwater Management Manual (2008), pg. 1-9.

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### 3. KEY FEATURES OF THE STUDY AREA

This chapter presents a summary that highlights existing features and characteristics of the study area and focuses on identifying opportunities and constraints that will impact the development of design concepts for bicycle and pedestrian facilities along Scholls Ferry Road. Included in this chapter is:

- A map that illustrates existing topography study area as it influences the ability to add non-motorized transportation facilities, and existing soil types as they might affect stormwater management related to potential bicycle and pedestrian improvements.
- A map and short discussion of existing land uses in the study area.
- A map that shows key elements of the existing transportation system for the study area as a whole.

Each of these factors is discussed in the paragraphs below and illustrated in Figures 1 through 3 on the following pages.

#### 3.1 GEOLOGY & HYDROLOGY

As shown in Figure 1, much of the study area is bounded by steep slopes, some in excess of 40 percent. These steeper slopes are located predominantly around the northern end of the study area, with a gradual decrease in steepness as the road moves toward the southern end of the study area.

Any stormwater improvement made in conjunction with pedestrian and bicycle system improvements along Scholls Ferry Road may impact the Sylvan drainage system which is already experiencing problems with erosion, siltation and sedimentation. An increase in impervious surface and resulting increases in stormwater runoff could exacerbate existing flooding problems.

Tables 3 and 4 below describe existing Natural Resources Conservation Service (NRCS) soil types and infiltration characteristics in the study area for both Multnomah and Washington County. The soil types listed in these tables may be correlated with the information presented in Figure 1.

**Table 3. NRCS Soil Types – Multnomah County**

<b>Soil Type Code</b>	<b>Soil Type Name</b>	<b>Infiltration Characteristics</b>
10C	Cornelius silt loam, 8 to 15 percent slopes	Moderately well drained
10D	Cornelius silt loam, 15 to 30 percent slopes	Moderately well drained
11B	Cornelius-Urban land complex, 3 to 8 percent slopes	Moderately well drained
11C	Cornelius-Urban land complex, 8 to 15 percent slopes	Moderately well drained
14C	Delena silt loams, 3 to 12 percent slopes	Poorly drained
56E	Wauld very gravelly loam, 30 to 70 percent slopes	Well drained
7C	Cascade silt loam, 8 to 15 percent slopes	Somewhat poorly drained
7D	Cascade silt loams, 15 to 30 percent slopes	Somewhat poorly drained
7E	Cascade silt loams, 30 to 60 percent slopes	Somewhat poorly drained

**Table 3 Continued. NRCS Soil Types – Multnomah County**

<b>Soil Type Code</b>	<b>Soil Type Name</b>	<b>Infiltration Characteristics</b>
8B	Cascade-Urban land complex, 0 to 8 percent slopes	Somewhat poorly drained
8C	Cascade-Urban land complex, 8 to 15 percent slopes	Somewhat poorly drained
8D	Cascade-Urban land complex, 15 to 30 percent slopes	Somewhat poorly drained

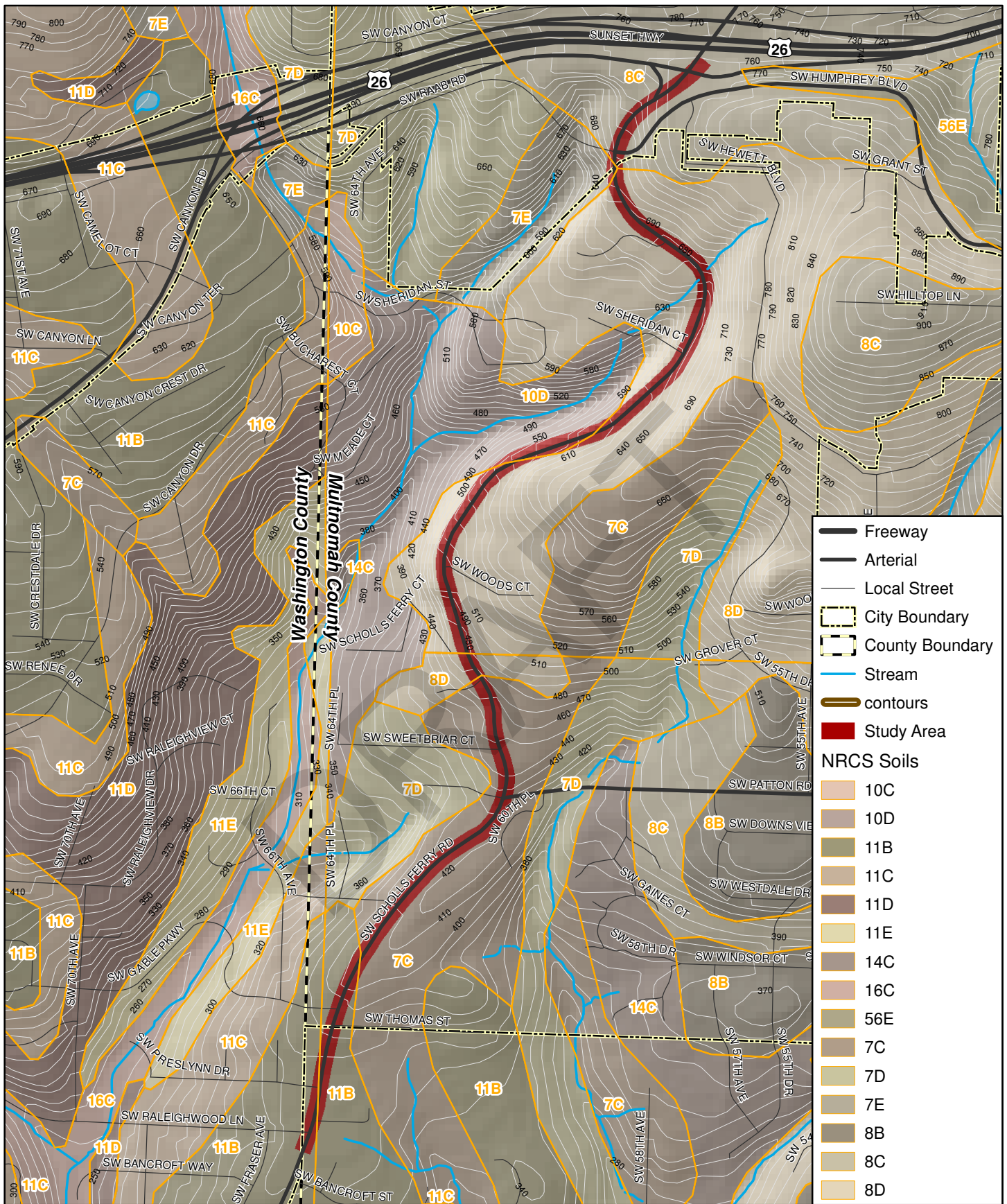
Source: Natural Resources Conservation Service; website, November 24, 2008

**Table 4. NRCS Soil Types – Washington County**

<b>Soil Type Code</b>	<b>Soil Type Name</b>	<b>Infiltration Characteristics</b>
11B	Cornelius and Kinton silt loams, 2 to 7 percent slopes	Moderately well drained
11C	Cornelius and Kinton silt loams, 7 to 12 percent slopes	Moderately well drained
11D	Cornelius and Kinton silt loams, 12 to 20 percent slopes	Moderately well drained
11E	Cornelis and Kinton silt loam, 20 to 30 percent slopes	Moderately well drained
16C	Delena silt loams, 3 to 12 percent slopes	Poorly drained
7C	Cascade silt loam, 7 to 12 percent slopes	Somewhat poorly drained
7D	Cascade silt loam, 12 to 20 percent slopes	Somewhat poorly drained
7E	Cascade silt loams, 20 to 30 percent slopes	Somewhat poorly drained

Source: Natural Resources Conservation Service; website, November 24, 2008

In summary, it should be noted that the majority of the study area includes slopes ranging from 10 to 25 percent and is generally affected by four different soil types. Much of the northern end of the study includes slopes ranging from 10 to 25 percent with soils that drain poorly. The central section of the study area is much steeper with slopes ranging from 25 to over 40 percent in certain locations. Soils vary from those that drain somewhat poorly to those that drain moderately well. At the southern end of the study area slopes range from 0 to 10 percent with soils typically draining poorly. Immediately adjacent to the Washington County line, soil drainage improves to moderate.



Analysis by C. Hainey: File Name: Geo\_Hydro.mxd

## Scholls Ferry Road Conceptual Design Plan

Figure 1: Geology/Hydrology Map

### **3.2 LAND USE**

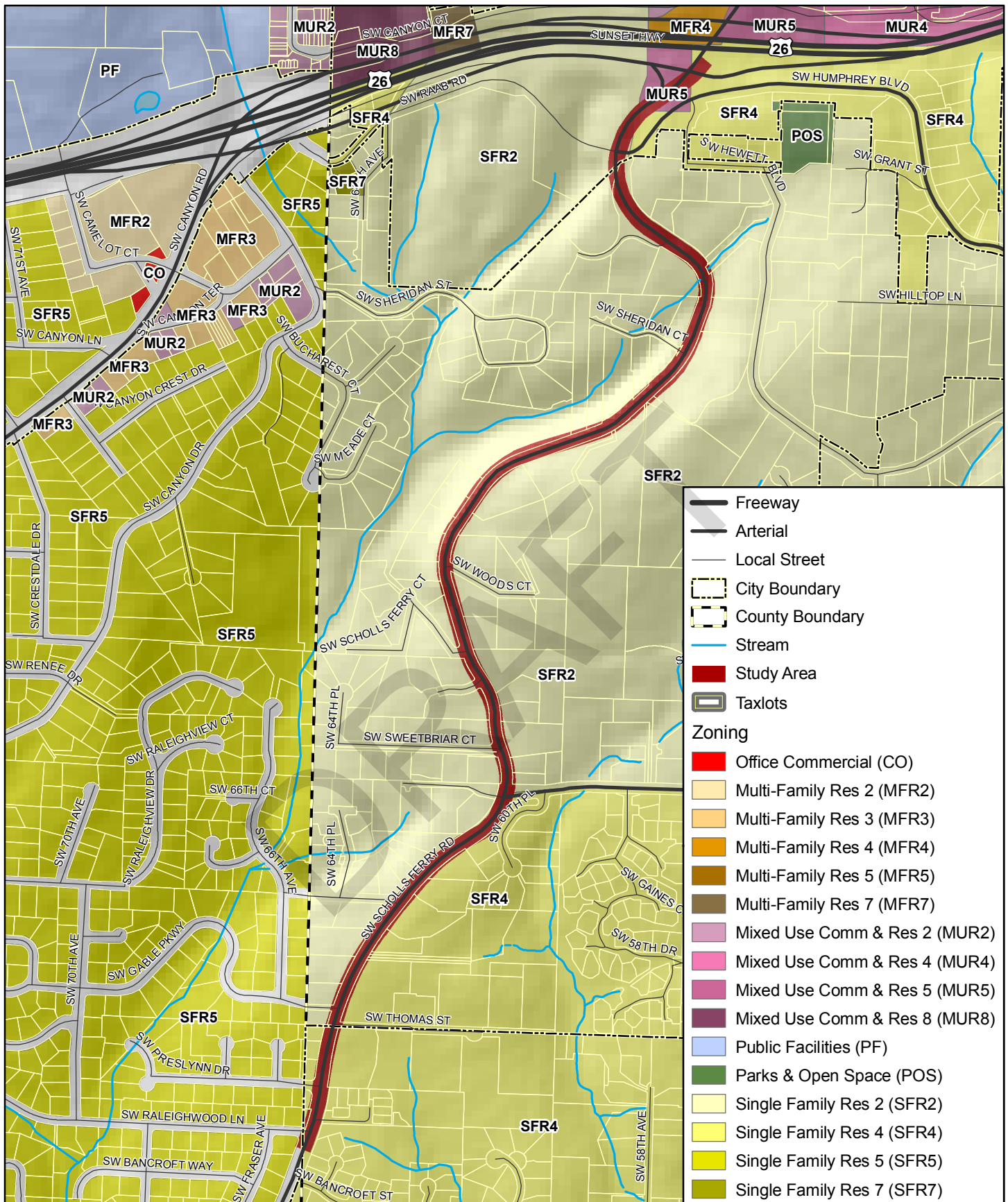
As seen in Figure 2, the study area is predominantly made up of single-family residential land uses, although there is some mixed-use development and a designated Open Spaces area at the north end near the US 26 interchange. There are no Commercial or Industrial uses along Scholls Ferry Road. The Raleigh Hills Center, a large commercial center, is located approximately ½ mile south of the study area. Given the topography of this area, it is reasonable to see why residential development is clustered around transportation facilities that offer a limited degree of access and connectivity.

### **3.3 TRANSPORTATION**

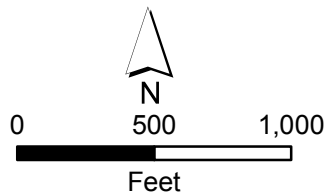
As shown in Figure 3, the Scholls Ferry Road corridor and its surrounding area offer limited provisions for bicycle and pedestrian circulation.

The existing and typical roadway cross-section for Scholls Ferry Road in the study area is detailed in the graphic below. Shown are three travel lanes, with one travel lane in the southbound





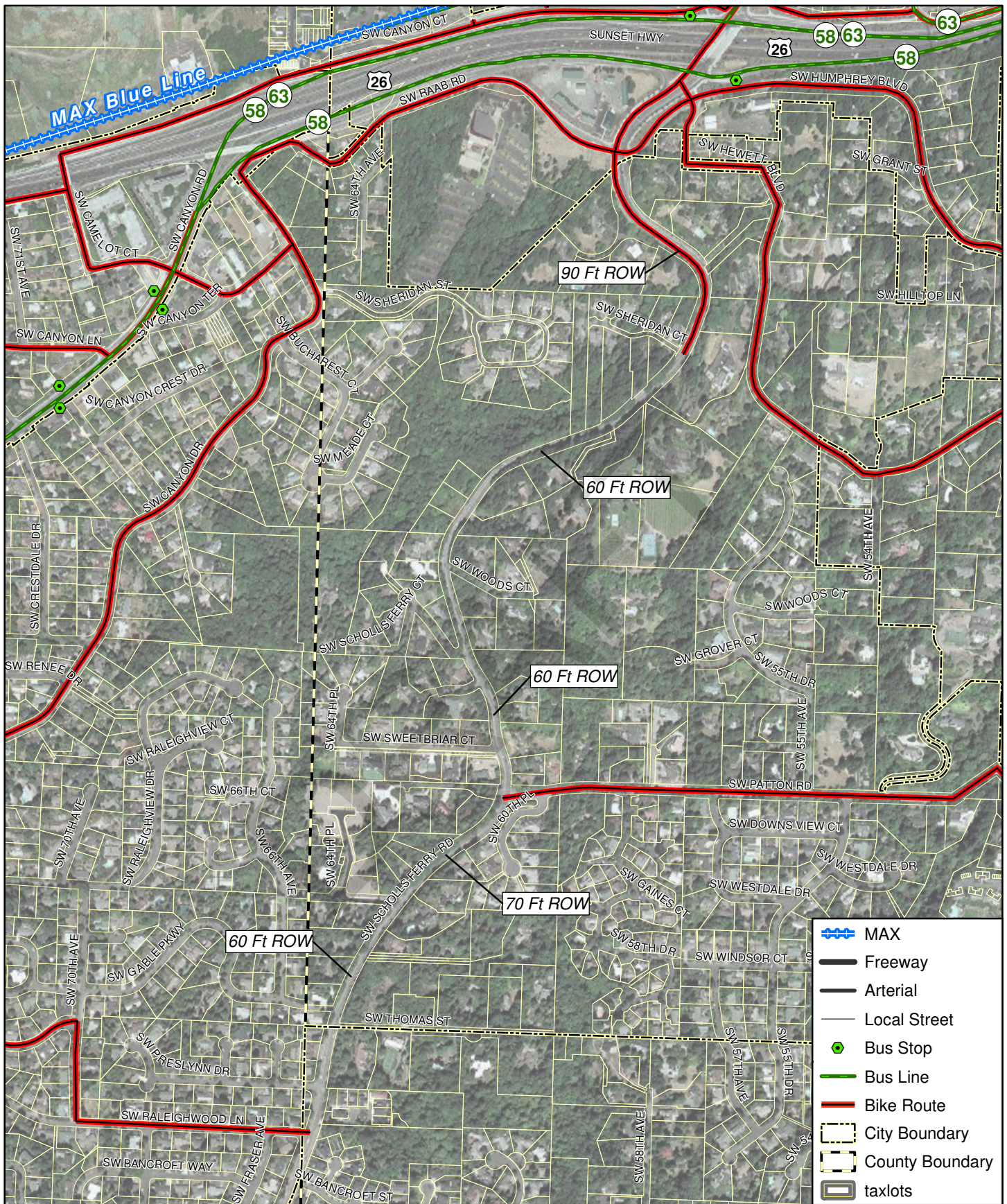
Analysis by P. Manson: File Name: LandUse2.mxd



## Scholls Ferry Road Conceptual Design Plan

Figure 2: Land Use Designations



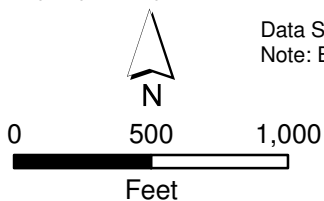


Analysis by C. Hailey: File Name: Trans\_Features.mxd Date: 12/29/08

Data Sources: 2008 Metro RLIS Data, ESRI.  
Note: Bike Route Locations Designated by Metro

## Scholls Ferry Road Conceptual Design Plan

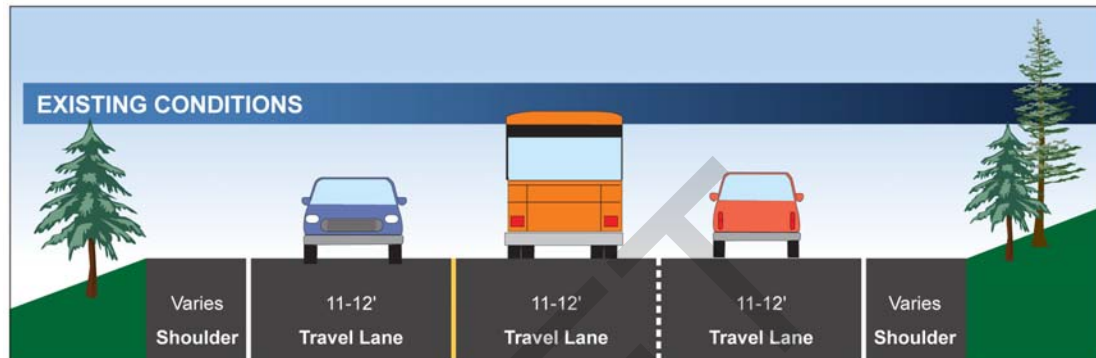
Figure 3: Transportation Features





direction and two travel lanes in the northbound direction, primarily to provide space for passing slow-moving vehicles going up the steep grade approaching US 26. Scholls Ferry Road also has varying shoulder width throughout the study corridor. Currently, a left-turn lane is provided at Patton Road for vehicles traveling southbound on Scholls Ferry Road.

#### Existing Conditions Cross-section



Roadway right of way along Scholls Ferry road is 60 feet with two exceptions:

- As Scholls Ferry Road approaches Patton Road at the south end of the study area, the right of way widens to the 70 feet.
- As Scholls Ferry Road approaches Humphrey Boulevard at the north end of the study area, the right of way widens to 90 feet.

Scholls Ferry Road is accessed on both sides by local streets and private driveways. Widening would be less desirable on the east side due to the steep cut slopes and retaining walls and would, therefore, have less of an impact on the grade of these roadways as they approach Scholls Ferry Road. Widening on the west side is more likely to occur by constructing retaining walls or embankments and could have a major impact on certain roadways. Widening on the west side would likely increase the profile grades for three driveways and the three local streets; Leber Street, Scholls Ferry Court, and Sheriden Court.

The 2005 Transportation System Plan (TSP) for urban pockets in Multnomah County indicates that the segment of Scholls Ferry Road south of the Sunset Highway was highly congested based on a 2000 travel demand model, with a volume-to-capacity (v/c) ratio of 1.28 during the weekday PM peak hour. The Plan further indicates that this high level of existing congestion will likely prevent significant traffic volume growth in the future and that the regional function of this roadway is expected to change over time. In 2000, the regional demand model indicated that approximately 63 percent of weekday PM peak period traffic along this segment of Scholls Ferry road is through traffic, by 2020 through volumes are expected to drop to 47 percent of total traffic.<sup>9</sup>

The County's 2005-2009 Capital Improvement Plan (CIP) and Program is based on the County's TSP and identifies several projects proposed to be constructed within the vicinity of

<sup>9</sup> Transportation System Plan for the Urban Pockets of Unincorporated Multnomah County, June 30, 2005

the Scholls Ferry Road corridor. Table 5 presents a short list of proposed projects taken from the CIP that have relevance to the enhancement of bicycle and pedestrian circulation in the project area.

**Table 5. Multnomah County Capital Improvement Projects in Study Area**

No.	Project Name	Project Description	Score	Total Cost
101	Scholls Ferry Road: US 26 to Wash. Co. Line	Widen roadway to add fourth lane for turns and uphill bike lanes	15	\$2,300,000
262	Hewitt Blvd: Humphrey Blvd-5200 ft W/o Patton Road	Shoulder Bikeway	12	\$250,000
265	Humphrey Blvd: Patton Road--Hewitt Blvd	Add a shared lane bikeway	31	\$113,000
279	Patton Road: Scholls Ferry Road-Hewitt Blvd	Shoulder/ Shared lane bikeway	52	\$358,000
774	Scholls Ferry Road at Patton Road	Improve safety and reduce delay at intersection. Improvements will include ADA, new signals, curb ramps and add permissive/protective phasing	10	\$307,000
283	Scholls Ferry Road: Hewitt Blvd--County Line	Widen to add an uphill bicycle lane. RCIP 101	53	\$572,000

Tri-Met's MAX Blue Line stops near the northern study boundary, providing light-rail service with an average headway of 7 minutes during morning and afternoon commute times. While there are no existing transit routes on this portion of Scholls Ferry Road itself, the area in the vicinity is also served by Tri-Met bus lines 58 (Canyon Road) and 63 (Washington Park). Line 58 operates seven days a week with an average headway of 30 minutes during commute periods increasing to 60 minutes in the off-peak. Line 63 operates seven days a week with an average headway of 60 minutes throughout the day.

Currently, bicycle facilities on Scholls Ferry Road are limited to striped bike lanes from US 26 to approximately Sheridan Circle. There are several bike routes in close proximity to Scholls Ferry Road. Bike routes near Scholls Ferry Road can be found on:

- Canyon Drive
- Canyon Lane
- Humphrey Boulevard
- Hewett Boulevard
- Patton Road
- Raleighwood Lane

Further discussion of these potential alternative corridors is presented in Chapter 4 and are illustrated in Appendix A.

## 4. ALTERNATIVE BICYCLE AND PEDESTRIAN CIRCULATION CORRIDORS

The lack of friendly bicycle and pedestrian facilities on Scholls Ferry Road may force users to seek out alternative routes. When options are available, pedestrians and bicyclists generally choose a route that provides the best balance of the following desirable characteristics:

- Directness between the origin and destination point
- Minimal gradients to be negotiated
- A high quality and well-maintained surface
- Lower volumes of motor vehicle traffic
- Adequate space for allowing faster traffic to safely pass
- Pleasant environmental surroundings
- Minimal number of stops or delays

In the vicinity of Scholls Ferry Road, there are potentially three alternative north/south routes that provide bicycle and pedestrian connectivity between US 26 and Beaverton-Hillsdale Highway and a more comfortable experience. These three routes are located on Canyon Drive/Laurelwood Drive, Hewett Road/Shattuck Road, and Hewett Road/Dosch Road and are Multnomah County and Metro designated bike routes. These routes are further described below and are illustrated in the graphic found in Appendix A.

- **Canyon Drive/Laurelwood Drive** – Located in Washington County, this route would begin at US 26 and Canyon Road turning onto Canyon Drive and following it to the south and west. At the intersection with 78<sup>th</sup> Avenue this route would turn south onto 78<sup>th</sup> until it intersected the Beaverton-Hillsdale Highway. This route is listed as a secondary bicycle route by Washington County, which is characterized by low traffic speeds.
- **Hewett Road/Shattuck Road** – This route would begin at US 26 and Scholls Ferry Road turning onto Hewett Road and following it south and east. At the intersection with Patton Road this route would turn west and follow Patton Road until it reached Shattuck Road. At the intersection with Shattuck Road, this route would turn south on Shattuck Road until it intersected with the Beaverton-Hillsdale Highway. It should be noted that Shattuck Road has been designated by the County as a Caution Area, where cyclists may encounter narrow travel lanes, high traffic volumes, sharp curves, limited visibility, large trucks, or difficult intersections. All these roadways function as shared lane facilities. Hewett Road is considered a low traffic street while Patton Road is considered a moderate traffic street.
- **Hewett Road/Dosch Road** – This route would begin at US 26 and Scholls Ferry Road turning onto Hewett Road and following it south and east. At the intersection with Patton Road this route would briefly turn onto Patton Road before continuing south on Dosch Road until it intersected the Beaverton-Hillsdale Highway. It should be noted that Dosch Road north of Hamilton Street has been designated by the County as a Caution Area, and south of Hamilton Street Dosch is designated as a High Traffic Street. All these roadways function as shared lane facilities. Hewett

Road is considered a low traffic street while Dosch Road is considered a moderate traffic street.

These routes do not have existing sidewalks and bike lanes, and minimal shoulders. These routes also lack the desirable characteristics of high quality facilities, minimum gradients and directness. The out of direction travel that would be required by pedestrians and bicyclist would be between 0.8 and 2.3 miles. As noted in Chapter 3, the County's CIP currently includes some projects that would enhance bicycle and/or pedestrian facilities in the vicinity of Scholls Ferry Road including:

- Project #262: Hewitt Blvd, Humphrey Blvd to Patton Road (shoulder bikeway)
- Project #265: Humphrey Blvd, Patton Road to Hewitt Blvd (add shared lane bikeway)
- Project #279: Patton Road, Scholls Ferry Road to Hewitt Blvd (shoulder/shared lane bikeway)

The SW Trails Plan recommends several bicycle system improvements in the larger Scholls Ferry Road study area and identifies the Hewitt Boulevard project as a priority.

There may be potential to create off-street connections that would link streets close to Scholls Ferry Road and provide non-motorized access to Raleigh Hills. One option that has been discussed includes seeking an access easement to create a multi-use path through the First church of the Nazarene at 6100 SW Raab Road, across a small piece of property to link with SE Sheridan Street and then to connect with SW Canyon Road. From this point connections could then be made via Se Ridgewood and SW 74<sup>th</sup> Avenue through the neighborhood to the Beaverton-Hillsdale Highway. Other options may also warrant consideration. The challenges to making these connections include topography and lack of available right-of-way. Opportunities to make these connections should be explored as they present themselves. Additionally, while these types of facilities may serve to connect the Sylvan area with Beaverton-Hillsdale Highway or neighborhoods/destinations to the east or west of Scholls Ferry Road, they do little to accommodate bicycle and/or pedestrian demand along Scholls Ferry Road itself due to their distance from this road.

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## **APPENDIX A**

### **Multnomah County Bicycle Map Excerpt**

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Source: *Bicycling Guide, East Multnomah County, West Hills and Sauvie Island*, Multnomah County

## LEGEND



SCALE  
1: 25,000

-  MULTI-USE PATH  
 BIKE LANES  
**SHARED LANES ON ROADWAYS**  
 LOW TRAFFIC STREETS  
 MODERATE TRAFFIC STREETS  
 HIGH TRAFFIC STREETS  
 CAUTION AREAS  
 LIGHT RAIL LINE AND STATIONS  
 PARKS AND OPEN SPACES  
 POINTS OF INTEREST

## Multnomah County Existing Bike Route Designations

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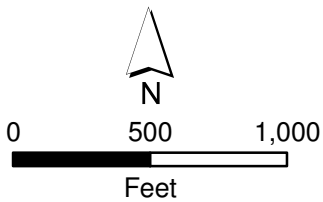
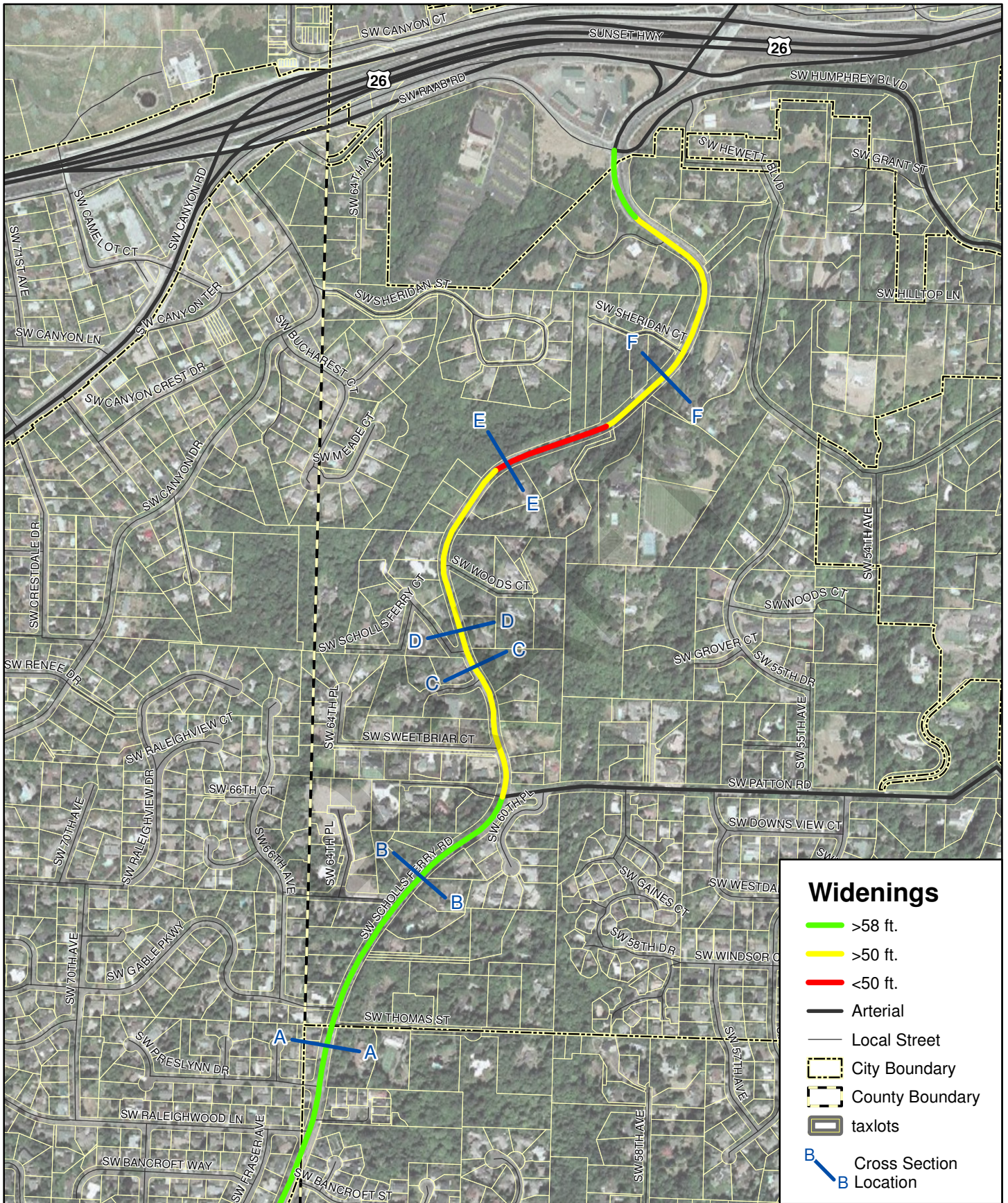
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## **APPENDIX B**

### **Scholls Ferry Road, Available Roadway Width**

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## Scholls Ferry Road Conceptual Design Plan

Available Widening Width

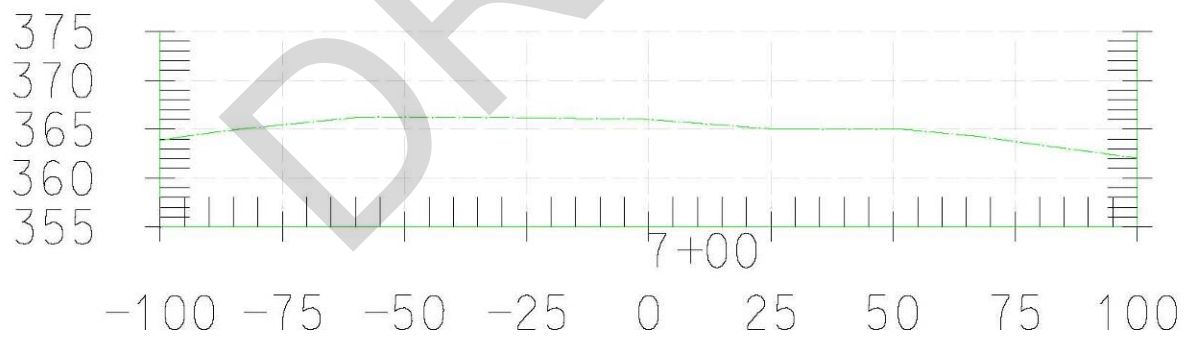


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## SECTION A-A



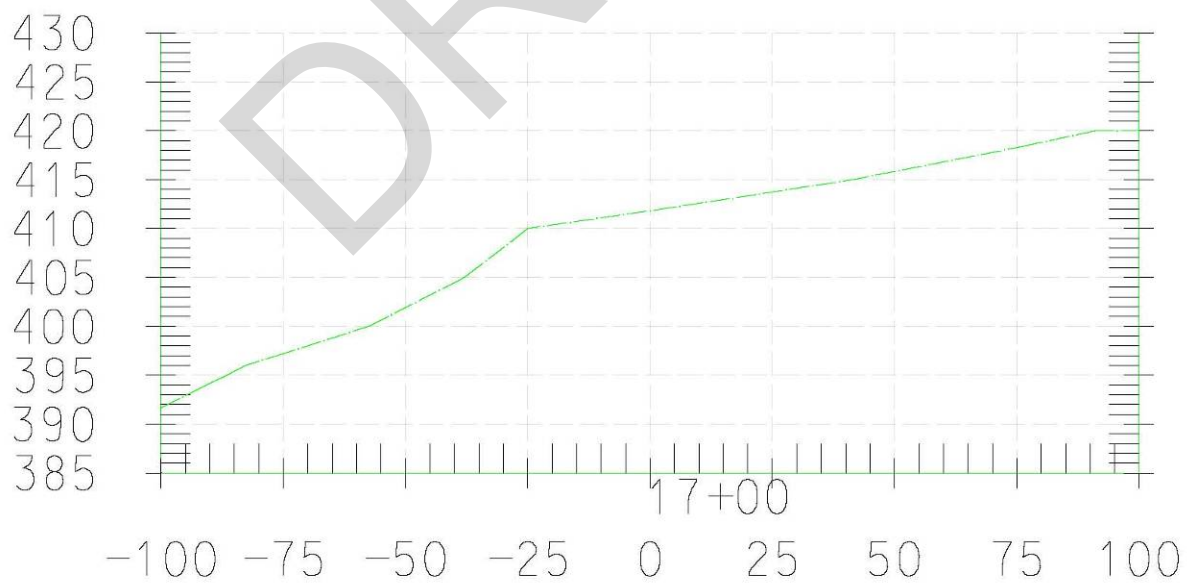
Looking North



## SECTION B-B



Looking North





## SECTION C-C



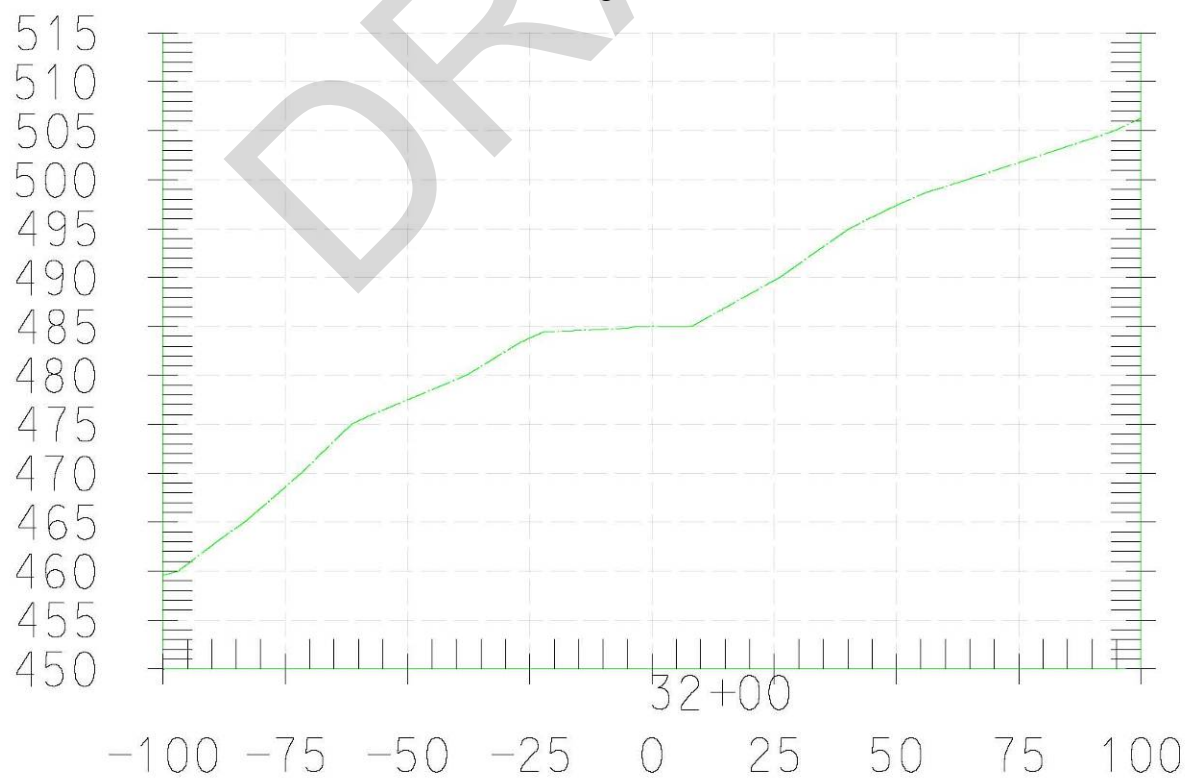
Looking South



## SECTION D-D



Looking North

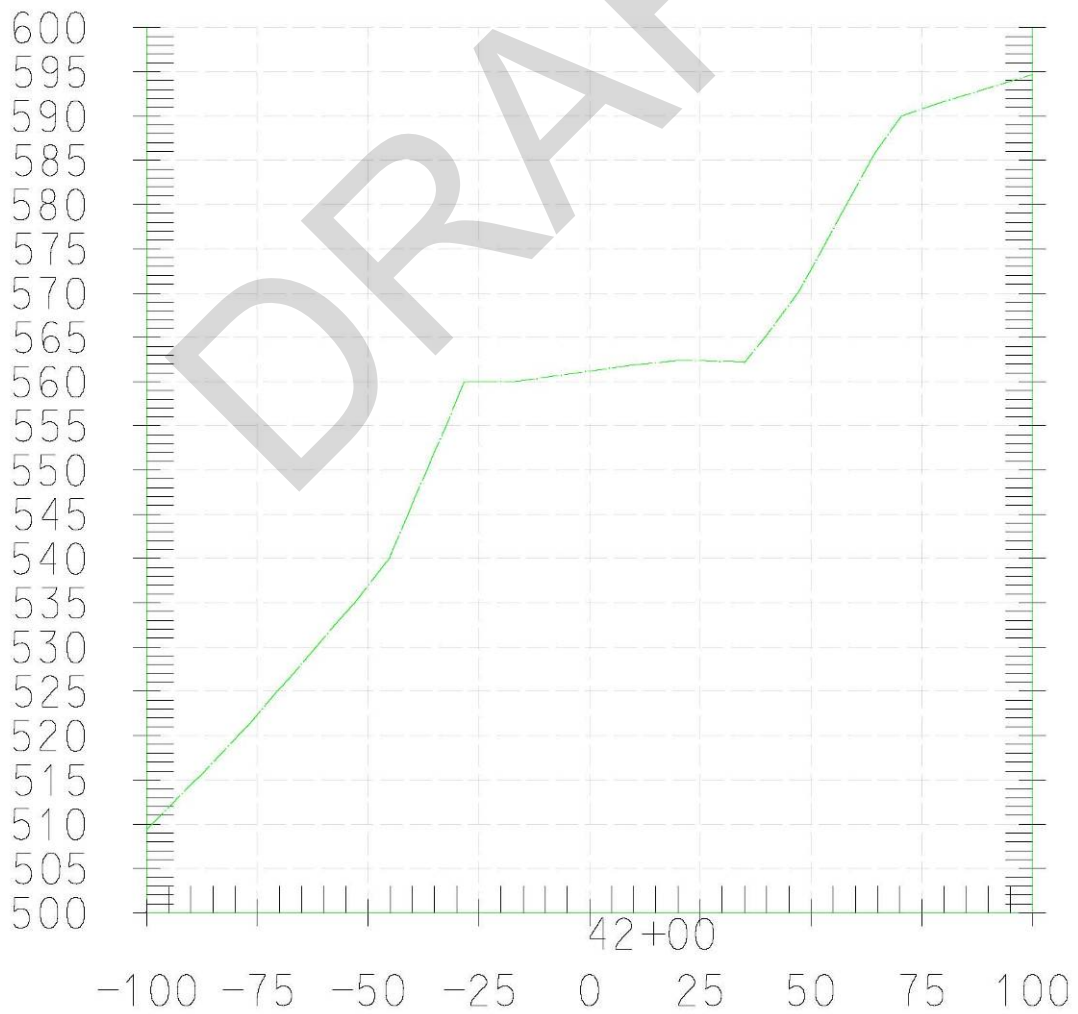




# SECTION E-E



Looking North



## SECTION F-F



Looking South

