



Westside Refinement Plan

Technical Advisory Committee Meeting
March 30, 2017

Process to Date

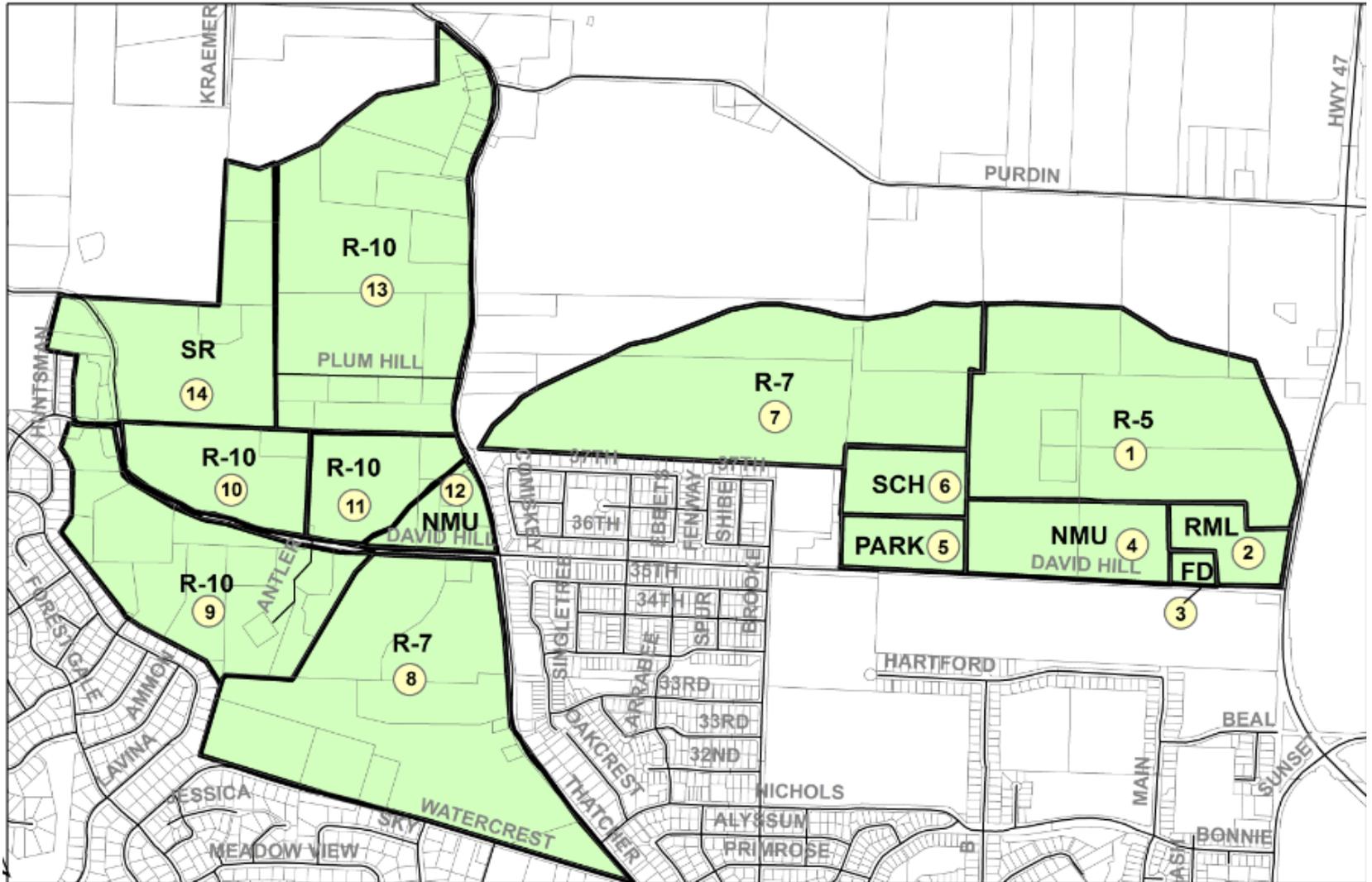
Public (Focus on Land Use)

- Stakeholder Interviews
- Two Planning Charrettes
- Planning Commission Work Session – July 6, 2015

Technical (Focus on Infrastructure)

- Background Analysis (on City website)
 - Infrastructure
 - Natural Resources
 - Transportation
 - Geologic and Geotech
- Infrastructure and Traffic Analysis (on City website)
- Technical Advisory Committee meetings
- Financial Strategy for Infrastructure

Planning Commission Direction to Staff



Westside Planning Area Dwelling Unit Yield Estimate Planning Commission Recommendation

Analysis Zone	Area	Gross Area (ac.)	Developable Area (ac.)	Net Area (ac.)	Slope Deduction	Current Dwelling Yield	New Dwelling Yield
1	Purdin (R-5)	86.18	71.60	57.28	0%	2	498
2	Purdin (RML)	10.82	10.82	8.66	0%	0	103
3	Fire Station (FD)	2.40	2.40	2.40	0%	0	0
4	Purdin (Mixed-Use/Commercial)	24.63	24.63	19.73(1)	0%	0	140
5	Purdin (Park)	6.00	6.00	6.00	0%	0	0
6	Purdin (School)	10.00	10.00	10.00	0%	0	0
7	Purdin (R-7)	98.62	87.02	69.62	0%	3	433
	<i>Subtotal - Purdin</i>	<i>238.65</i>	<i>212.47</i>	<i>173.69</i>		<i>5</i>	<i>1,174</i>
8	Watercrest (R-7)	99.75	70.63(2)	56.50	10%	221	316
9	South of David Hill (R-10)	57.38	12.99	10.39	20%	36	36
10	North of David Hill - West (R-10)	24.30	17.73	14.18	15%	52	52
11	North of David Hill - East (R-10)	21.42	15.06	12.05	15%	44	44
12	North David Hill (MU-Com)	8.50	3.60	2.90	0%	12	4
13	Thatcher (R-10)	98.66	95.81	76.65	10%	300	300
14	David Hill Suburban Residential	43.12	35.62	28.50	15%	24	24
	<i>Subtotal – David Hill</i>	<i>353.13</i>	<i>251.44</i>	<i>201.17</i>		<i>689</i>	<i>776</i>
	Grand Total	591.78	463.91	374.86		694	1,950

1. Assuming 50% of the Mixed-Use Commercial area develops as commercial this area could accommodate approximately 107,400 square feet of retail space.
2. The land area within Thatcher Park and Thatcher Woods has been deducted from the land area. This deduction is approximately 25.18 acres.

Infrastructure

- Types
 - Roads
 - Sewer
 - Water
 - Stormwater
- Focus
 - Area wide needs
 - Not specific properties
- Development Assumptions
 - 2,054 dwellings vs. PC Version of 1,950 units

Major Street System

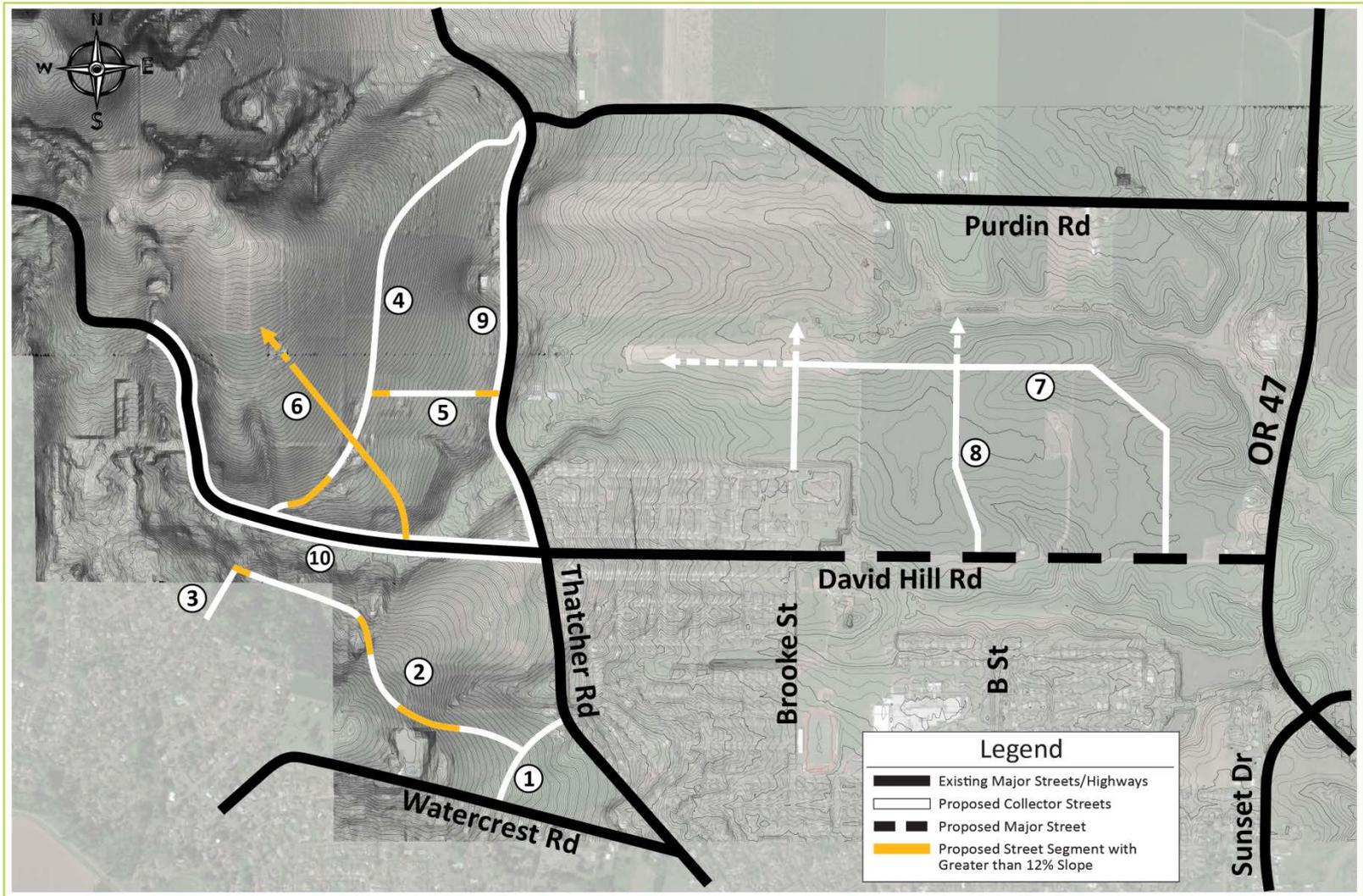


Figure 3
Proposed Street System

Major Sewer System

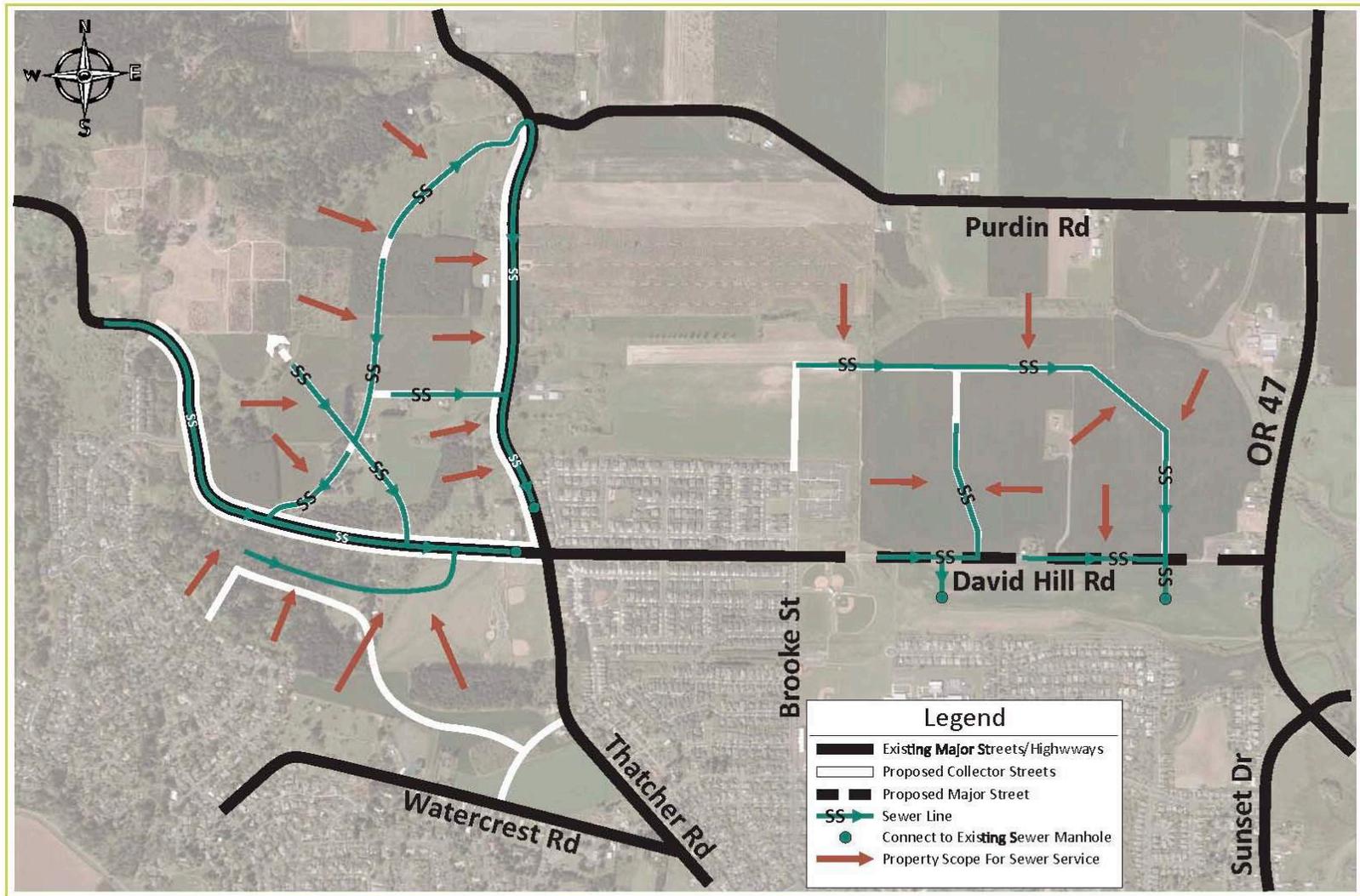


Figure 4
Sewer Utilities

Stormwater

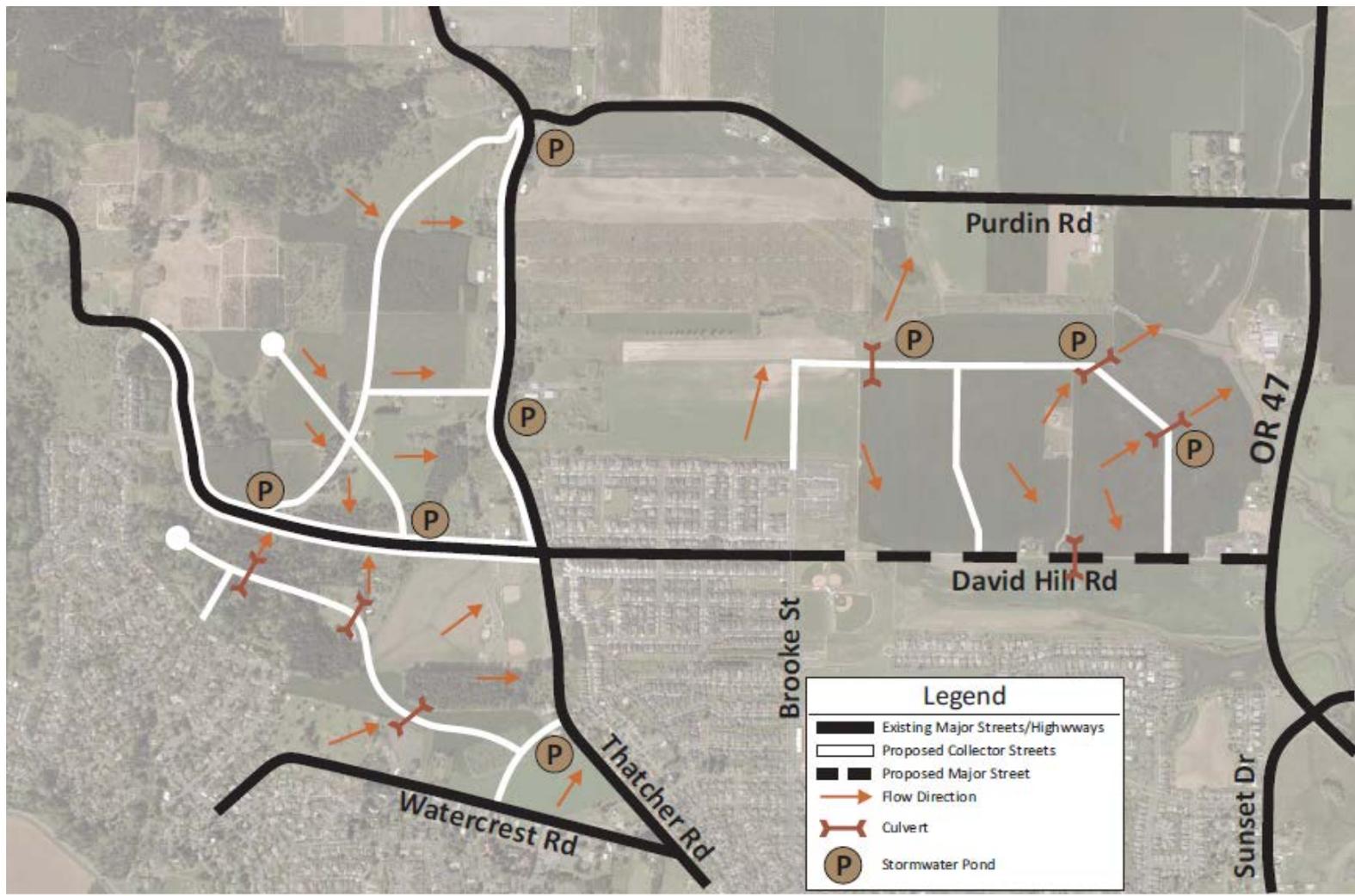


Figure 5
Stormwater Utilities

Westside Planning Project
Forest Grove, OR

Water

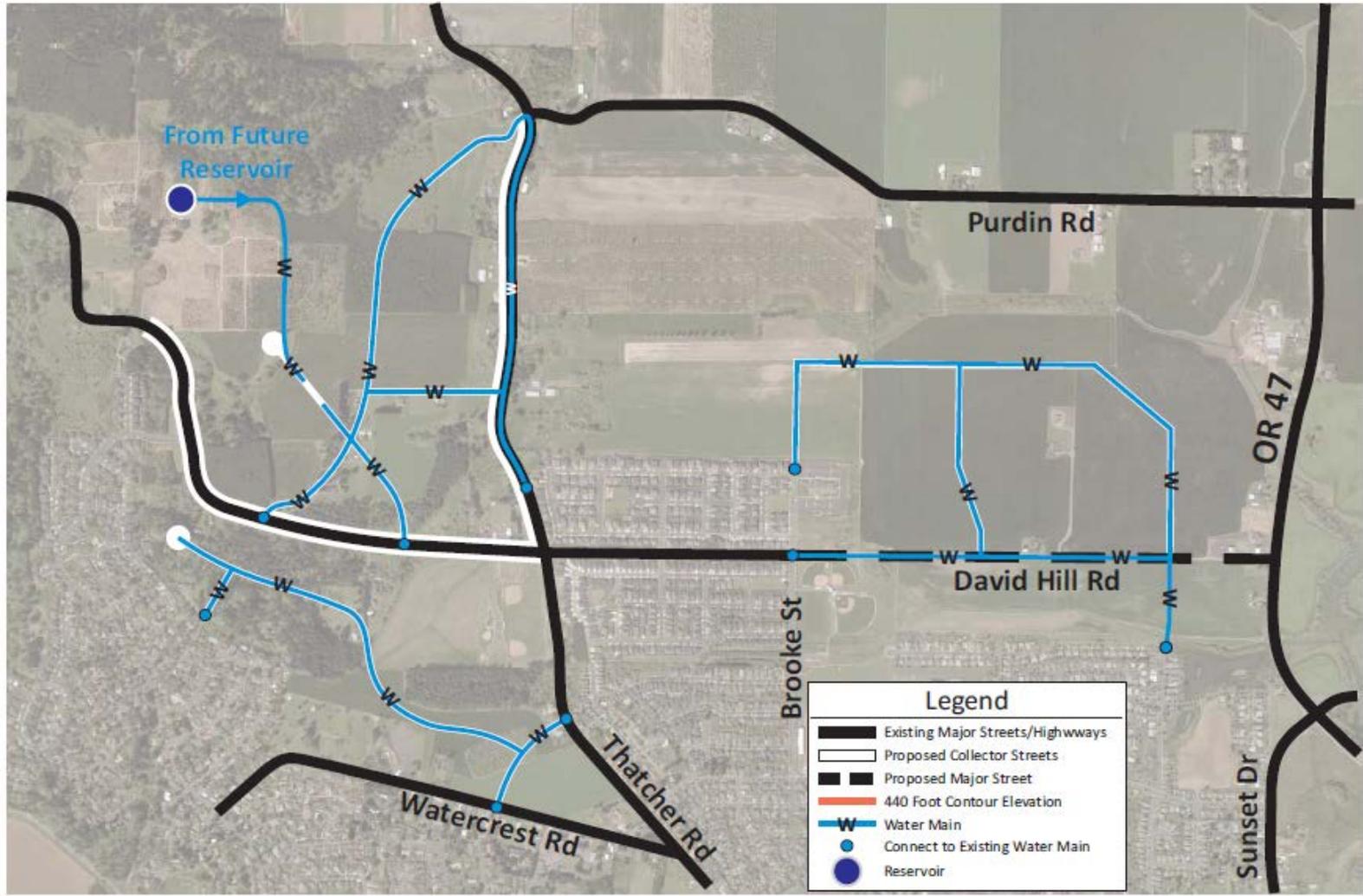


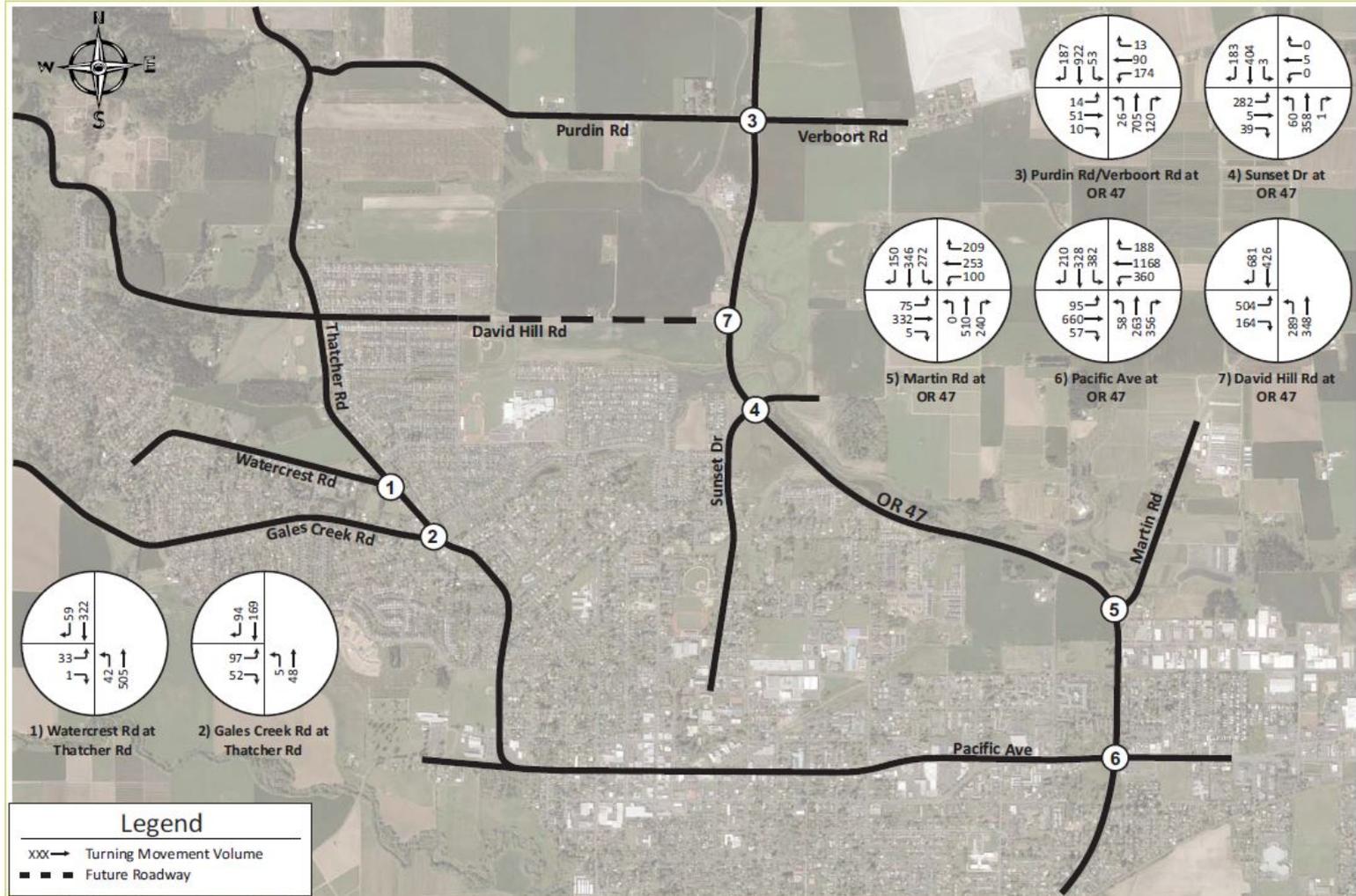
Figure 6
Water Utilities

Westside Planning Project
Forest Grove, OR

Traffic Analysis

- Worse Case 10/26/15 was used
- Purdin Road Area Not Considered in 2014 Transportation System Plan Update
- Potential Significant Impact on Highway 47 round-a-bouts at David Hill Road and Purdin/Verboort Road
- Traffic Analysis Revised earlier this month to address Highway 47 Impacts
- Transportation System Plan will be updated after the RTP update process to include mitigation.

2035 PM Peak Traffic Volumes



2035 PM Peak Traffic Volumes

Table 2. 2035 PM Peak Hour Intersection Operations with TSP Land Uses and Streets

No.	Intersection	Mobility Standard	Level of Service ¹	Average Delay (Sec)*	Volume / Capacity
<i>Unsignalized Intersections</i>					
1	Thatcher Road/Watercrest Road	LOS E/0.99	A/C	17.2 ²	0.09 ²
2	Gales Creek Road/Thatcher Road	LOS E/0.99	A/B	11.6 ²	0.24 ²
3	Highway 47/Verboort & Purdin	V/C=0.99	A/F	>200 ²	>2.00 ^{2,3}
5	Highway 47/Martin Road	V/C=0.99	A/F	>200 ²	>2.00 ²
7	Highway 47/David Hill Road	V/C=0.99	-/F	>200 ²	1.54 ^{2,4}
<i>Signalized Intersections</i>					
4	Highway 47/Sunset Drive	V/C=0.99	B	16.1	0.50
6	Pacific Avenue/Quince Street	V/C=0.99	D	53.4	0.97

* Minor street average delay reported for unsignalized intersections

1 For unsignalized intersections the first value is the free movement; second value is the worst stopped movement. At signalized locations the value is for the entire intersection.

2 Worst stopped movement.

3 Development of local street connections in Forest Grove may divert added WB traffic to this location requiring improvements. This analysis assumes existing lane configuration and traffic control. Subsequent to TSP preparation, improvement of the intersection as a single lane roundabout was undertaken.

4 Assumes stop control for side street traffic. Subsequent to TSP preparation, improvement of the intersection as a single lane roundabout was undertaken.

2035 PM Peak Traffic Volumes

Table 3. 2035 PM Peak Hour Intersection Operations with Westside Revised Land Use Scenario

No.	Intersection	Mobility Standard	Level of Service ¹	Average Delay (Sec)*	Volume / Capacity
<i>Unsignalized Intersections</i>					
1	Thatcher Road/Watercrest Road	LOS E/0.99	A/C	21.8 ²	0.15 ²
2	Gales Creek Road/Thatcher Road	LOS E/0.99	A/B	10.8 ²	0.21 ²
5	Highway 47/Martin Road	V/C=0.99	A/F	>200 ²	>2.00 ²
<i>Roundabouts</i>					
3	Highway 47/Verboort & Purdin	V/C=0.99	F	87.4 ^{2,3}	1.34 ^{2,3}
7	Highway 47/David Hill Road	V/C=0.99	F	91.4 ^{2,3}	1.33 ^{2,3}
<i>Signalized Intersections</i>					
4	Highway 47/Sunset Drive	V/C=0.99	C	33.4	0.60
6	Pacific Avenue/Quince Street	V/C=0.99	E	65.5	0.99

* Minor street average delay reported for unsignalized intersections

1 For unsignalized intersections the first value is the free movement; second value is the worst stopped movement. At signalized locations the value is for the entire intersection.

2 Worst stopped movement.

3 Pending single lane roundabout intersection improvements are assumed here.

2035 PM Peak Traffic Volumes

Table 4. Comparison of 2035 PM Peak Hour Traffic Operations with and without Mitigation at Key Highway 47 Intersections

No.	Intersection	Mobility Standard	Level of Service ¹	Average Delay (Sec)*	Volume / Capacity
Analysis Based on TSP Traffic Volumes					
<u>Without Roundabout (Unsignalized)</u>					
3	Highway 47/Verboort & Purdin	V/C=0.99	A/F	>200 ²	>2.00 ^{2,3}
7	Highway 47/David Hill Road	V/C=0.99	-/F	>200 ²	1.54 ^{2,4}
<u>With Proposed Roundabout</u>					
3	Highway 47/Verboort & Purdin	V/C=0.99	C	27.5	1.06
7	Highway 47/David Hill Road	V/C=0.99	A	7.8	0.81
<u>With Mitigated Roundabout</u>					
3	Highway 47/Verboort & Purdin	V/C=0.99	A	9.3 ⁶	0.89 ⁶
Analysis Based on Westside Traffic Volumes					
<u>With Proposed Roundabout</u>					
3	Highway 47/Verboort & Purdin	V/C=0.99	F	87.4 ⁵	1.34 ⁵
7	Highway 47/David Hill Road	V/C=0.99	F	91.4 ⁵	1.33 ⁵
<u>With Mitigated Roundabout</u>					
3	Highway 47/Verboort & Purdin	V/C=0.99	B	12.4 ⁷	0.92 ⁷
7	Highway 47/David Hill Road	V/C=0.99	B	14.6 ⁸	0.95 ⁸

* Minor street average delay reported for unsignalized intersections

1 For unsignalized intersections the first value is the free movement; second value is the worst stopped movement. At signalized locations the value is for the entire intersection.

2 Worst stopped movement.

3 Development of local street connections in Forest Grove may divert added WB traffic to this location requiring improvements. This analysis assumes existing lane configuration and traffic control. Subsequent to TSP preparation, improvement of the intersection as a single lane roundabout was undertaken.

4 Assumes stop control for side street traffic. Subsequent to TSP preparation, improvement of the intersection as a single lane roundabout was undertaken.

5 Pending single lane roundabout intersection improvements are assumed here.

6 Mitigation is addition of NB right-turn slip lane

7 Mitigation is addition of SB right-turn slip lane

8 Mitigation is addition of 2nd circulating lane to provide separate lanes for NB left-turn and NB through, as well as separate lane for SB right-turn.

Total Infrastructure Costs

- Roads \$30,230,800
- Sewer \$ 3,635,600
- Stormwater \$ 1,575,000
- Water \$ 8,533,000 (for WS Plan)
- Parks \$ 3,648,000

- Total Costs \$47,622,400

- *Overall Water System Cost - \$23,504,427*

Cost by Area

	David Hill	Purdin
• Roads	\$23,880,900	\$6,349,900
• Sewer	\$ 2,480,600	\$1,155,000
• Stormwater	\$ 1,067,500	\$ 507,500
• Water	\$ 6,855,400	\$1,677,600
• Parks	<u>\$ 648,000</u>	<u>\$3,000,000</u>
• Total Costs	\$34,932,400	\$12,690,000

Costs, Revenue and Net

	Cost	SDC (100%)	Net (+/(-))
• Collectors	\$30,230,800	\$16,254,437	(\$13,976,363)
• Sewer	\$ 3,635,600	\$435,448	(\$3,200,152)
• Stormwater	\$ 1,575,000	\$1,047,540	(\$527,460)
• Water	\$ 8,533,000	\$11,251,812	\$2,718,812
• Parks	\$ 3,648,000	\$ 6,162,000	\$2,514,000

- Note: Cannot commingle SDC's amongst infrastructure types
- Assumes all SDC's collected from Westside Planning Area are used in Westside Planning Area.

Use of SDC's

- SDC Elements
 - Cover system-wide costs from cumulative development
 - SDC's imposed by multiple jurisdictions
 - Paid at building permit for individual building construction
 - Incremental
 - Difficult to fund improvements needing up front funding
- SDC Coverage
 - What percentage of SDC's collected does the City want to use for improvements within the Westside Planning Area? 100%; 40%; 18%
 - Where current SDC's don't cover costs, what alternative method should be considered to pay for improvements?
 - Supplementary SDC's
 - Utility Fee
 - Local Option Levy
 - Local Improvement District/Reimbursement District

Consultant Recommendations

- Transportation
 - Use 40% of existing SDC's
 - Establish supplementary SDC of \$11,369 plus administrative fee
- Water System*
 - Use 100% of existing SDC's
- Sewer System*
 - 100% for both areas
 - Supplementary SDC of \$1,427 for David Hill
- Stormwater
 - 100% of SDC
 - \$7 per month supplemental stormwater rate surcharge phased in over 5 years
 - City may establish reimbursement district if surcharge is insufficient
- Parks
 - 100% of existing SDC's
- Market Feasible for higher fees

Potential Short Term Improvements David Hill Area

- Property with most interest developing early are farthest from existing services, particularly sewer; those properties closest to existing services are not
- Relatively small parcels makes it difficult to absorb offsite improvement costs
- Thatcher Road Improvement - \$1,454,000
- 0.5 mg water reservoir (WS fair share) - \$875,000
(overall cost of \$4,182,500)
- Sewer lines – DH and Thatcher roads - \$1,128,750
\$3,457,750
(overall cost of \$6,765,250)
- Minimum Improvements:
 - David Hill Sewer Line (700 feet) \$460,000
(Line costs plus contingencies)

Westside Plan Required Decisions

- All decisions require Planning Commission recommendation and City Council adoption by ordinance:
 - Adoption of Westside Area Refinement Plan
 - Comp Plan amendment (map and text amendment)
 - Transportation System Plan amendment (circulation system and cross sections, project list)
 - Zoning Map Amendment
 - Development Code Amendment – geo-tech requirements, road slope standards

Westside Plan Next Steps

- May – Planning Commission public hearings for Westside Plan recommendation
- June – City Council public hearing for Westside Plan adoption
- Remainder 2017 – Adoption of Implementation Measures
 - Revised SDC's
 - City Financing of initial improvements (if needed)
 - Master Plan amendments (Water, Sewer and Stormwater)